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Water Resources Data for New Mexico

Part 1. Surface Water Records

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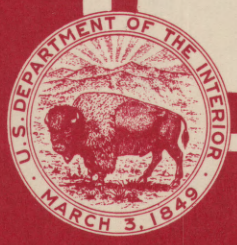

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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

CALENDAR FOR WATER YEAR 1970

OCTOBER 1969

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1970

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

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
Federal Highways Administration, 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

Water resources records, 1970, 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

1971

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FOR WHICH RECORDS ARE PUBLISHED

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WATER RESOURCES DATA FOR NEW MEXICO, 1970

PART 1. SURFACE-WATER RECORDS

INTRODUCTION

Surface-water records for the 1970 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 are published in a Geological Survey water-supply paper series entitled "Surface Water Supply of the United States 1961-65." There will be a similar series of water-supply papers for the water years 1966-70.

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 1970 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, 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 23 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.

Federal Highway Administration, 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 5 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.

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

Forest Service, U. S. Department of Agriculture; National Weather Service, 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 inch 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 number "08" and a 6-digit station number. In this report the complete number 08314500 appears just to the left of the station name. 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 consist 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 intervals0 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 text-books 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 gage heights or elevations at, 0800 hours, are included 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 1970 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. River mileage, given under "LOCATION" for some stations, is that determined and used by the Corps of Engineers or other agencies. 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. In the first paragraph headed "Current year:" the the data given are for the complete current water year unless otherwise specified. In the second paragraph usually headed "Period of record:" the data given are for the period of record given in the PERIOD OF RECORD paragraph otherwise the data given are for a shorter period and the heading shows the period for which extremes are available. 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."

Previous 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.

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.

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. 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 following MAX are the maximum daily discharges for the calendar and water years; likewise, those following MIN are the minimum daily discharges.

For reservoir stations the yearly summary gives the change in contents for the calenday 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 ususual 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 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 of some stations, as indicated by the monthly mean, may vary widely from natural runoff, due to the effects of diversions, consumptive use, regulation by storage, increases or decreases in evaporation due to artificial causes or other factors. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents.

Publications

Each volume of the 1960 series of U.S. Goelogical 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 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(7), 1312(8), and 1313(9); records for October 1950 to September 1960 have been compiled and published in Water-Supply Papers 1731(7), 1732(8), and 1733(9). 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.

Special reports on major floods or droughts or of other hydrologic studies for the area have been issued in publications other than water-supply papers. Information relative to these reports may be obtained from the district office.

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 of this report). 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 1970 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 151 percent of the medians for the base period, 1931-60.

For the first six months of the water year streamflow varied from considerably below median in the southern half of the State to excessive in the northern half. For the last six months streamflow was about half of median values in the southern part of State and generally above median in the northern part.

Storage in Navajo Reservoir increased during the year but storage in most all other major reservoirs decreased.

RECORDS OF DISCHARGE COLLECTED BY AGENCIES OTHER THAN THE GEOLOGICAL SURVEY

Records of discharge not published by the Geological Survey were collected at 76 sites in New Mexico during the 1970 water year by the following agencies: Records at 73 sites (in Pecos River basin) were collected by the office of the State Engineer; at 2 sites by the International Boundary and Water Commission, U.S. Department of State and at 1 site by the Bureau of Reclamation, U.S. Department of Interior, The Office of Water Data Coordination, Water Resources Division, U.S. Geological Survey, Washington, D. C., 20242, maintains an index of these sites. Information on records at specific sites can be obtained from that office upon request.

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 procedure, 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 instroduction and hydrologic definitions: U.S. Geol. Survey Water-Supply Paper 1541-A, 29 p.

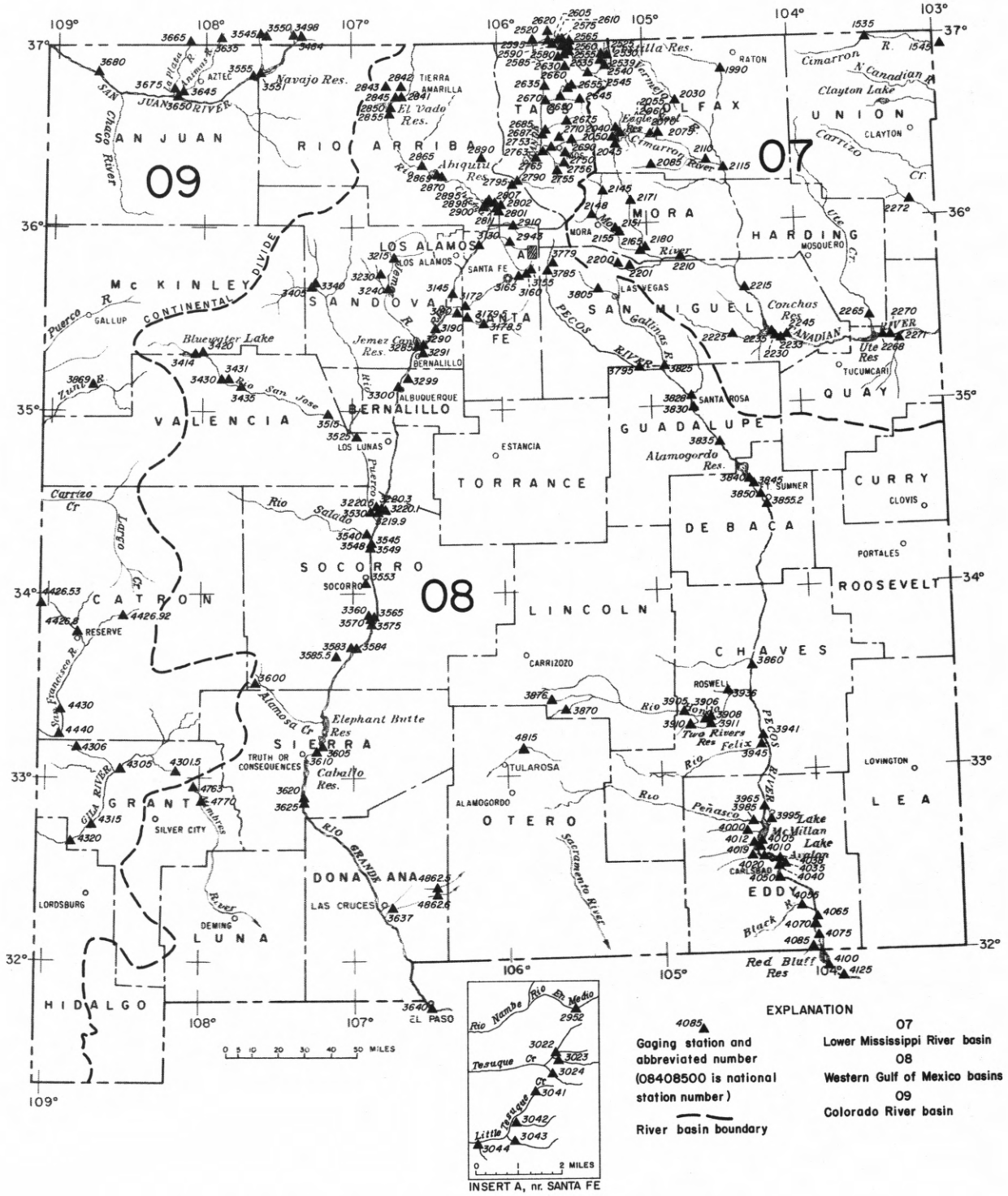

Figure I.—Map of New Mexico showing location of active gaging stations.

LOWER MISSISSIPPI RIVER BASIN

ARKANSAS RIVER BASIN

07153500 Dry Cimarron River near Guy, N. Mex.

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. Prior to October 1968, published as Cimarron River near Guy.

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.--28 years, 11.1 cfs (8,040 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 962 cfs July 23 (gage height, 5.15 ft); minimum, 0.21 cfs June 17, 18, 19.
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 poor. Diversions for irrigation of about 6,500 acres above station. Records of chemical analyses and water temperatures for the water year 1970 are published in Part 2 of this report.

REVISIONS.--WSP 1177: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	3.9	3.5	2.2	2.0	1.9	.90	3.0	.79	.79	9.7	.34
2	2.2	4.0	3.4	2.2	1.5	2.0	.90	3.5	.94	.79	1.4	.47
3	2.0	3.9	3.2	2.3	1.7	1.7	1.5	3.2	1.1	.79	.86	.43
4	2.3	3.5	3.7	2.4	1.6	1.4	1.4	2.7	1.2	.86	.52	.43
5	2.4	3.4	3.9	2.0	1.6	1.1	2.0	1.7	1.0	.86	.34	.38
6	2.3	3.4	3.3	1.8	1.8	1.1	1.9	.94	.79	.86	.30	.38
7	2.1	3.4	3.0	2.0	2.0	.94	1.4	.94	.79	1.7	.33	.34
8	1.8	3.0	2.9	2.2	2.0	.94	1.4	1.3	.79	2.7	5.0	.30
9	1.8	3.0	3.0	2.4	1.7	.94	1.4	1.3	.94	1.9	5.8	.30
10	1.7	3.0	3.2	2.9	1.4	.80	1.4	1.4	1.0	1.3	1.5	.27
11	2.0	3.0	3.5	3.5	1.2	.80	1.2	1.2	1.0	1.1	.79	.43
12	3.4	2.8	3.5	3.5	1.1	.90	1.9	.94	.72	1.2	.72	.43
13	3.0	2.8	3.5	3.5	1.1	1.0	2.1	1.0	.72	1.2	.64	7.1
14	2.8	3.0	2.7	3.5	1.0	1.1	2.4	1.3	.64	1.9	.52	3.5
15	2.5	3.0	2.7	3.5	1.2	1.2	2.4	1.5	.52	1.3	59	1.8
16	2.5	2.8	2.8	3.4	1.6	1.3	2.3	1.2	.34	1.2	42	1.4
17	2.5	2.8	2.5	3.3	1.9	1.1	2.8	.94	.27	1.0	3.4	1.2
18	2.5	3.0	2.7	3.2	1.7	1.2	3.5	1.2	.24	.86	1.7	1.2
19	2.5	3.2	2.5	3.4	1.9	1.2	3.2	1.3	.27	.86	1.0	1.1
20	2.4	3.5	2.7	3.4	1.7	1.2	2.7	1.1	13	1.7	1.4	1.0
21	2.5	3.0	2.5	3.4	1.9	1.3	2.5	1.2	12	2.1	1.4	.94
22	3.0	3.0	2.5	3.4	1.9	1.4	2.5	1.4	6.5	1.9	1.1	1.4
23	3.9	2.8	2.7	3.0	1.9	1.4	2.5	1.4	2.3	115	.86	1.8
24	3.2	3.0	2.7	2.8	2.0	1.3	2.4	1.4	1.8	2.5	.79	1.8
25	3.0	3.0	3.0	2.7	2.0	1.3	2.3	1.0	1.5	1.3	.79	1.5
26	3.0	3.0	3.2	2.4	2.0	1.2	2.3	3.0	1.3	195	.79	1.5
27	3.2	2.9	3.0	2.5	1.9	1.0	2.3	1.7	1.0	5.8	.72	1.7
28	3.4	2.6	2.5	2.5	2.0	1.2	2.0	1.2	.79	1.7	.43	1.8
29	3.9	2.9	2.3	2.2	------	1.4	2.0	.94	.72	7.4	.34	1.8
30	3.9	3.0	2.0	1.8	------	1.2	2.4	.79	.79	2.0	.34	1.8
31	3.5	------	2.2	1.9	------	.90	------	.64	------	1.0	.34	------
TOTAL	83.5	93.6	90.8	85.2	47.3	37.42	61.90	46.33	55.76	360.57	144.82	38.84
MEAN	2.69	3.12	2.93	2.75	1.69	1.21	2.06	1.49	1.86	11.6	4.67	1.29
MAX	3.9	4.0	3.9	3.5	2.0	2.0	3.5	3.5	13	195	59	7.1
MIN	1.7	2.6	2.0	1.8	1.0	.80	.90	.64	.24	.79	.30	.27
AC-FT	166	186	180	169	94	74	123	92	111	715	287	77

CAL YR 1969 TOTAL 1,684.60 MEAN 4.62 MAX 303 MIN 1.1 AC-FT 3,340
WTR YR 1970 TOTAL 1,146.04 MEAN 3.14 MAX 195 MIN .24 AC-FT 2,270

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

07154500 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.--20 years (1950-70), 25.9 cfs (18,760 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 418 cfs Aug. 8 (gage height, 7.81 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	8.9	9.0	3.1	2.4	1.9	4.1	4.2	3.5	0	0	0
2	16	9.4	9.0	2.7	2.7	1.7	3.2	4.6	3.1	0	0	0
3	15	12	9.0	2.9	2.7	1.3	3.0	4.0	2.7	0	0	0
4	11	12	9.0	3.0	2.8	1.6	3.1	4.1	2.3	0	0	0
5	9.8	12	8.7	2.7	2.2	1.8	2.6	2.2	1.0	0	0	0
6	7.5	12	8.8	2.9	2.8	1.6	2.0	.37	.51	0	0	0
7	7.3	11	7.1	3.0	2.4	1.5	2.1	.73	.01	0	0	0
8	6.5	9.9	8.7	2.6	2.3	1.9	2.2	.97	.28	0	6.1	0
9	6.4	8.7	8.4	2.4	1.8	2.0	1.9	.28	.69	0	42	0
10	6.7	8.0	8.3	2.3	2.5	1.9	1.9	.12	.05	0	.33	0
11	8.2	7.1	7.7	2.4	2.2	2.1	1.9	.05	0	0	.55	0
12	15	7.0	8.4	2.5	2.2	2.4	1.6	0	0	0	1.3	0
13	15	6.8	8.5	2.8	2.3	2.3	1.5	0	0	0	0	0
14	14	7.2	8.2	3.4	2.4	2.8	1.9	.41	0	0	0	0
15	15	7.6	7.8	3.7	2.0	2.2	2.0	1.8	0	0	0	0
16	12	7.3	7.6	3.5	2.2	2.1	2.2	2.2	0	0	53	0
17	12	6.9	6.7	3.5	2.1	2.6	4.6	2.0	0	0	14	0
18	12	6.8	7.2	2.4	1.9	3.0	7.8	.80	0	0	3.2	0
19	10	7.3	6.9	3.5	1.7	2.1	4.3	.96	0	0	2.2	0
20	8.9	7.1	5.3	2.9	2.2	2.3	2.6	1.3	0	0	4.1	0
21	7.2	7.1	4.2	3.5	2.4	2.5	1.7	.72	0	0	.10	0
22	8.9	7.3	4.2	3.5	2.1	2.2	1.3	.79	.05	0	0	0
23	14	6.8	3.8	3.2	2.1	1.9	2.4	.82	0	0	0	0
24	9.7	7.1	4.1	3.2	2.6	2.1	2.6	.59	0	1.4	0	0
25	7.9	5.8	3.6	2.9	2.4	1.8	2.2	1.8	0	.04	.35	0
26	7.9	4.7	4.4	2.7	2.6	1.7	2.2	3.4	0	0	0	0
27	8.4	5.5	4.4	2.9	2.4	3.2	2.0	4.0	0	8.9	0	0
28	8.2	7.5	3.2	2.7	2.4	3.5	1.9	3.5	0	.05	0	0
29	8.8	8.3	2.7	2.2	------	3.1	1.4	5.1	0	0	0	0
30	8.8	8.8	2.5	2.4	------	2.8	1.5	4.9	0	0	0	0
31	9.3	------	3.1	2.4	------	4.1	------	2.6	------	0	0	------
TOTAL	321.4	243.9	200.5	89.8	64.8	70.0	75.7	59.31	14.19	10.39	127.23	0
MEAN	10.4	8.13	6.47	2.90	2.31	2.26	2.52	1.91	.47	.34	4.10	0
MAX	16	12	9.0	3.7	2.8	4.1	7.8	5.1	3.5	8.9	53	0
MIN	6.4	4.7	2.5	2.2	1.7	1.3	1.3	0	0	0	0	0
AC-FT	637	484	398	178	129	139	150	118	28	21	252	0

CAL YR 1969 TOTAL 7,781.55 MEAN 21.3 MAX 2,430 MIN 0 AC-FT 15,430
WTR YR 1970 TOTAL 1,277.22 MEAN 3.50 MAX 53 MIN 0 AC-FT 2,530

PEAK DISCHARGE (BASE, 2,000 CFS).--No peak above base.

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.--24 years, 8.33 cfs (6,040 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,670 cfs Aug. 20 (gage height, 4.88 ft), from rating curve extended above 49 cfs as explained below; no flow at times.
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 1970 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	2.9	5.0	1.0	1.3	3.0	6.0	21	4.2	.02	.30	6.3
2	6.6	5.0	5.0	.80	1.3	2.5	6.8	20	3.8	.02	.20	.28
3	1.2	4.5	5.0	.80	1.3	2.5	7.2	22	3.0	0	.10	.10
4	.96	4.8	5.2	1.0	1.5	2.3	7.2	30	2.7	0	.10	.10
5	.96	3.8	5.2	1.0	2.5	2.3	7.3	19	2.1	.02	.10	.14
6	.96	3.2	4.5	.80	3.0	2.5	11	15	.40	.04	.10	.10
7	.96	3.6	4.0	.50	3.3	2.8	36	13	.28	.10	.10	.07
8	.87	3.6	3.5	.50	3.5	3.3	45	11	.23	5.1	.10	.04
9	.87	3.2	3.5	1.0	3.5	3.2	53	7.8	.18	.18	.04	.04
10	.78	3.6	4.0	2.0	3.8	3.2	70	5.2	.14	.07	.18	.04
11	.87	3.6	4.3	2.5	3.8	2.5	84	3.8	.10	.02	14	.04
12	4.6	3.8	4.5	2.5	3.4	2.8	81	2.8	.10	.02	1.1	.74
13	2.5	4.2	4.7	2.3	3.0	3.5	56	3.1	.10	.02	.18	1.8
14	1.1	4.2	4.7	2.5	3.0	4.0	49	1.5	.07	.10	.14	.10
15	.96	4.5	5.0	2.8	3.0	4.2	41	3.8	.07	.10	8.1	.07
16	.96	4.8	5.0	3.2	2.8	3.8	15	.87	.07	.07	2.7	.07
17	.78	4.8	5.0	3.5	2.8	3.5	28	.87	.07	.04	.50	.04
18	.62	4.2	5.5	3.2	2.7	3.3	56	.87	.07	.04	.20	.02
19	.54	3.6	5.5	3.5	2.5	3.3	73	.78	.07	.07	.20	.02
20	.54	2.5	5.2	4.0	2.5	3.3	47	.78	.10	.14	137	.02
21	.54	2.5	5.2	4.0	2.7	4.0	38	2.6	.14	.18	7.8	.02
22	5.4	2.5	5.2	4.5	2.7	4.8	31	12	.07	.28	1.5	4.7
23	7.8	3.5	4.8	5.0	2.5	4.8	29	7.3	.07	19	1.9	.07
24	7.3	6.5	5.2	5.0	2.7	5.0	27	5.6	.07	19	3.8	.04
25	6.0	6.5	5.5	3.8	2.7	4.8	25	5.6	.04	11	.23	0
26	6.8	6.0	5.5	3.5	3.0	4.5	22	5.2	.04	1.5	.14	.02
27	6.8	6.0	5.0	3.2	3.0	4.0	6.0	5.2	0	20	.10	.02
28	7.3	5.5	3.0	3.2	3.0	4.0	2.5	8.3	0	5.3	.04	.04
29	7.3	5.0	1.0	2.5	------	4.0	2.0	5.2	.10	2.0	.04	.04
30	6.8	5.0	.70	2.0	------	4.5	8.0	4.8	.04	1.0	.04	.02
31	4.5	------	.80	1.4	------	4.0	------	3.8	------	.50	.07	------
TOTAL	100.97	127.4	136.20	77.50	76.8	110.2	970.0	248.77	18.42	85.93	181.10	15.10
MEAN	3.26	4.25	4.39	2.50	2.74	3.55	32.3	8.02	.61	2.77	5.84	.50
MAX	7.8	6.5	5.5	5.0	3.8	5.0	84	30	4.2	20	137	6.3
MIN	.54	2.5	.70	.50	1.3	2.3	2.0	.78	0	0	.04	0
AC-FT	200	253	270	154	152	219	1,920	493	37	170	359	30

CAL YR 1969 TOTAL 4,974.20 MEAN 13.6 MAX 722 MIN .03 AC-FT 9,870
WTR YR 1970 TOTAL 2,148.39 MEAN 5.89 MAX 137 MIN 0 AC-FT 4,260

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.H.	DISCHARGE
8-20	1900	4.88	1,670

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.--46 years (1915-17, 1919-20, 1927-70), 19.3 cfs (13,980 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,960 cfs July 24 (gage height, 7.00 ft), from rating curve extended above 42 cfs as explained below; minimum daily discharge, 0.70 cfs Jan. 6-8.
1927-70: 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 poor. Diversions for irrigation of small acreage and mountain meadows above station. Records of chemical analyses and water temperatures for the water year 1970 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	17	7.5	1.0	7.0	3.5	7.0	31	38	12	14	15
2	12	14	8.0	1.0	5.5	4.0	8.0	35	32	9.4	13	23
3	11	13	8.5	1.0	7.0	4.2	10	30	29	12	13	13
4	11	12	9.0	1.5	9.0	4.0	14	33	26	17	13	10
5	11	12	8.0	1.0	7.0	4.0	13	35	29	15	13	11
6	11	13	6.0	.70	8.0	4.7	13	39	33	16	15	9.1
7	11	13	5.0	.70	8.0	4.7	15	41	39	22	30	9.1
8	11	13	4.5	.70	8.0	4.7	21	49	30	22	28	8.3
9	11	12	4.5	1.0	8.0	5.0	33	45	26	41	24	7.5
10	10	12	5.0	2.5	8.0	4.4	41	47	25	28	20	6.8
11	12	12	5.0	3.0	8.0	3.0	48	51	25	22	14	5.0
12	19	12	5.5	3.0	8.0	3.3	41	56	26	35	23	4.4
13	15	12	6.0	3.0	8.0	3.3	31	56	27	26	18	7.5
14	16	12	6.5	3.5	7.5	3.0	26	55	32	20	16	15
15	15	11	6.5	4.5	5.5	3.5	24	53	29	22	16	16
16	14	12	7.0	6.0	5.0	4.0	22	56	20	26	38	12
17	14	12	7.0	8.0	5.5	4.5	29	61	15	16	23	9.4
18	14	9.0	7.0	8.0	6.0	4.0	70	66	13	20	15	7.5
19	17	5.5	7.0	8.0	4.5	3.5	63	60	14	21	14	6.4
20	16	7.0	7.0	9.0	3.5	3.5	47	60	17	26	17	6.1
21	15	9.0	8.0	9.0	3.5	4.0	33	58	26	23	29	5.5
22	26	12	9.0	10	4.0	5.0	30	56	32	32	31	11
23	29	10	8.0	11	3.2	5.5	28	55	22	48	22	15
24	23	9.0	9.0	13	3.5	5.5	26	60	21	156	27	10
25	20	8.5	8.0	14	4.2	5.0	30	55	21	176	20	8.7
26	20	8.5	7.5	12	3.7	4.5	38	52	21	65	15	8.3
27	22	8.5	8.0	11	3.7	4.0	41	53	17	30	15	9.1
28	20	8.0	5.0	11	3.8	4.0	38	52	17	20	13	8.7
29	20	7.0	2.5	7.0	------	4.0	37	51	17	15	12	7.9
30	18	7.5	1.5	7.0	------	5.5	29	44	12	15	12	6.8
31	17	------	1.0	7.0	------	5.0	------	44	------	15	12	------
TOTAL	494	323.5	198.0	179.10	166.6	130.8	906.0	1,539	731	1,023.4	585	293.1
MEAN	15.9	10.8	6.39	5.78	5.95	4.22	30.2	49.6	24.4	33.0	18.9	9.77
MAX	29	17	9.0	14	9.0	5.5	70	66	39	176	38	23
MIN	10	5.5	1.0	.70	3.2	3.0	7.0	30	12	9.4	12	4.4
AC-FT	980	642	393	355	330	259	1,800	3,050	1,450	2,030	1,160	581

CAL YR 1969 TOTAL 6,154.10 MEAN 16.9 MAX 238 MIN 1.0 AC-FT 12,210
WTR YR 1970 TOTAL 6,569.50 MEAN 18.0 MAX 176 MIN .70 AC-FT 13,030

PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
7-24	2230	7.00	1,960	7-25	1900	6.75	1,780

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, 44 cfs May 14 (gage height, 2.49 ft); maximum gage height, 3.13 ft about Apr. 11 (backwater from ice); minimum discharge determined, 0.67 cfs Mar. 19, 28.
Period of record: Maximum discharge, 240 cfs Sept. 1, 1946 (gage height, 3.10 ft, site and datum then in use); maximum gage height, 3.45 ft July 13, 1969; no flow at times.

REMARKS.--Records good except those for March and April, which are fair. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8					3.2	2.8	22	13	3.2	1.6	2.1
2	2.6					3.1	2.0	23	12	3.1	1.7	2.0
3	2.5					2.9	2.9	25	12	3.1	1.6	2.0
4	2.3					3.1	3.5	24	10	3.1	1.6	1.8
5	2.3					2.9	4.4	22	11	2.9	1.3	1.8
6	2.3					2.9	6.0	23	9.6	2.8	1.2	2.0
7	2.3					2.8	10	29	9.4	2.8	1.4	2.1
8	2.5					3.2	18	31	8.8	2.6	2.1	1.8
9	2.3					3.4	30	32	7.2	2.5	2.3	1.6
10	2.2					3.1	34	34	7.2	2.1	2.0	1.4
11	2.3					2.6	35	34	7.7	2.0	1.7	1.3
12	3.4					2.8	25	37	7.0	1.8	1.7	1.4
13	4.4					2.8	20	40	5.7	1.6	1.6	3.1
14	6.1					3.4	20	41	5.0	1.6	1.5	3.2
15	6.3					4.3	18	39	5.2	1.8	1.5	2.6
16	4.8					4.1	17	36	4.4	2.2	1.6	2.1
17	4.8					3.7	20	34	3.6	2.0	2.0	1.7
18	13					2.9	22	32	3.4	2.0	2.0	1.6
19	14					2.4	20	32	4.3	2.1	3.4	1.6
20	12					3.2	18	30	5.2	2.1	3.2	1.5
21	11					2.8	20	30	5.4	2.1	3.2	1.3
22	17					3.1	19	26	6.3	2.1	2.9	2.0
23	16					3.6	18	25	7.5	2.2	2.8	2.3
24	16					4.1	19	24	6.8	2.2	2.8	2.1
25	15					3.9	21	22	5.9	2.8	2.9	1.8
26	15					3.4	24	24	5.0	2.3	2.8	1.7
27	15					2.8	26	28	4.6	2.0	2.5	1.6
28	14					2.1	23	28	4.3	2.0	2.2	1.7
29	15				------	2.7	22	20	3.7	1.6	2.1	1.7
30	13				------	3.5	20	17	3.4	1.6	2.0	1.6
31	12	------			------	3.2	------	14	------	1.5	1.7	------
TOTAL	254.2					98.0	540.6	878	204.6	69.8	64.9	56.5
MEAN	8.20					3.16	18.0	28.3	6.82	2.25	2.09	1.88
MAX	17					4.3	35	41	13	3.2	3.4	3.2
MIN	2.2					2.1	2.0	14	3.4	1.5	1.2	1.3
AC-FT	504					194	1,070	1,740	406	138	129	112

PEAK DISCHARGE (BASE, 50 CFS).--No peak above base.

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 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, 143 cfs Apr. 26 (gage height, 4.42 ft); minimum determined, 0.59 cfs Mar. 31.
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 fair. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9					4.5	2.9	38	9.4	3.2	3.3	4.4
2	3.6					5.0	2.5	35	8.9	3.1	4.4	2.8
3	3.4					4.7	3.5	38	8.6	3.1	3.3	3.1
4	3.4					4.1	4.5	56	8.4	3.5	3.6	2.2
5	3.4					3.9	7.0	63	9.1	3.1	2.7	2.2
6	3.4					3.9	10	64	9.1	3.0	2.1	2.4
7	3.4					3.5	15	70	8.2	4.0	3.9	2.6
8	3.5					4.1	28	69	7.7	4.5	12	2.1
9	3.5					4.2	42	57	7.0	3.9	10	1.8
10	3.4					4.4	39	54	6.4	3.0	5.3	1.5
11	3.4					3.3	37	52	7.5	2.2	4.8	1.5
12	4.5					4.5	23	49	8.4	1.8	4.9	1.7
13	5.1					3.9	20	46	6.4	1.6	5.9	4.8
14	5.1					4.7	20	42	5.3	1.4	4.2	4.8
15	5.1					5.9	18	40	5.3	5.4	3.3	3.4
16	4.7					5.3	18	35	4.5	6.2	2.8	2.5
17	5.0					4.7	24	32	3.6	3.0	2.7	2.2
18	7.7					3.5	31	28	3.4	2.5	2.6	1.9
19	6.6					4.1	26	26	3.2	2.3	3.0	2.1
20	5.3					4.1	22	24	3.2	3.8	2.8	2.5
21	5.7					4.7	24	21	4.4	10	3.2	1.9
22	11					5.3	25	17	9.9	4.2	3.2	2.7
23	12					5.1	22	16	7.3	6.4	2.8	3.6
24	9.4					5.5	22	14	5.7	12	3.2	2.8
25	8.2					5.7	34	13	5.0	9.1	3.5	2.4
26	7.7					4.8	69	14	4.5	6.2	2.6	2.3
27	8.2					4.5	81	18	4.0	4.4	2.2	2.3
28	8.0					3.5	76	21	3.7	5.0	1.8	2.4
29	9.7				------	4.0	58	15	3.5	3.5	1.8	2.5
30	9.7				------	4.5	43	13	3.4	3.1	1.8	2.3
31	8.9	------			------	3.5	------	11	------	2.6	2.4	------
TOTAL	185.9					137.4	847.4	1,091	185.0	131.1	116.1	77.7
MEAN	6.00					4.43	28.2	35.2	6.17	4.23	3.75	2.59
MAX	12					5.9	81	70	9.9	12	12	4.8
MIN	3.4					3.3	2.5	11	3.2	1.4	1.8	1.5
AC-FT	369					273	1,680	2,160	367	260	230	154

PEAK DISCHARGE (BASE, 70 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-26	2100	4.42	143	5- 7	2300	4.02	87
5- 4	2030	4.17	107				

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.--13 years (1931-32, 1958-70), 2.66 cfs (1,930 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 30 cfs May 13 (gage-height, 1.61 ft); minimum, 0.12 cfs Mar. 20, result of freezeup.
1930-55, 1958-70: 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. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	6.7	3.3	3.3	3.2	2.5	1.9	15	5.6	2.9	2.9	1.9
2	2.6	6.7	3.2	3.1	2.9	2.4	3.9	14	5.4	2.8	2.8	1.8
3	2.6	6.9	3.3	3.0	2.5	2.4	3.3	11	5.1	3.3	2.6	1.8
4	2.8	6.5	3.4	3.0	2.8	2.4	3.2	11	4.9	3.4	2.5	1.8
5	2.9	6.1	3.1	3.0	3.0	2.5	2.7	15	4.6	3.3	2.4	1.8
6	2.9	5.1	3.4	2.9	3.0	2.4	3.6	21	4.1	3.2	2.3	1.9
7	2.9	4.6	3.4	2.9	3.2	2.4	6.5	25	3.2	3.2	2.4	1.9
8	2.5	4.4	3.6	3.0	3.1	2.5	9.7	26	2.9	3.2	3.5	1.8
9	2.2	4.2	3.6	3.2	3.1	2.9	12	26	2.5	3.1	3.0	1.8
10	2.2	4.1	3.4	3.2	2.9	2.1	14	24	1.8	3.0	2.5	1.7
11	2.6	4.0	3.3	3.1	3.1	2.5	13	26	1.8	2.6	2.4	1.7
12	2.9	4.0	3.3	3.0	3.3	2.6	9.7	28	1.5	3.1	2.3	1.8
13	3.3	3.9	3.2	2.9	3.4	2.6	8.6	27	1.4	2.9	2.2	2.5
14	3.3	3.6	3.2	2.9	3.1	2.8	8.7	26	1.4	2.4	2.3	2.1
15	3.3	3.7	3.1	3.0	2.8	2.7	8.4	21	1.4	5.2	2.3	2.0
16	3.1	4.1	3.0	2.9	2.6	2.7	8.4	19	1.3	3.4	2.4	1.9
17	4.0	3.5	3.1	3.1	2.9	2.7	9.8	18	1.7	3.0	2.4	1.9
18	6.5	3.4	3.1	3.1	3.9	2.5	11	17	1.9	2.9	2.5	1.8
19	6.0	4.0	3.2	3.0	2.4	2.4	9.8	16	3.2	2.9	2.6	1.8
20	5.4	4.9	3.1	3.1	2.9	2.4	9.2	15	3.4	3.2	2.5	1.8
21	5.6	4.4	3.2	3.0	2.8	2.0	10	14	3.3	3.0	2.4	1.7
22	6.5	4.4	3.4	3.1	2.4	2.0	9.0	13	3.6	2.9	2.3	2.0
23	6.0	3.9	3.3	3.3	2.4	2.2	8.7	12	3.3	3.1	2.4	2.0
24	5.8	3.8	3.3	3.4	2.5	2.4	9.0	11	3.2	4.3	2.3	1.9
25	6.1	3.6	3.2	3.7	2.3	2.4	10	11	3.1	3.6	2.2	1.9
26	6.3	3.5	3.3	3.6	2.4	2.3	12	9.2	3.0	3.0	2.1	2.0
27	6.3	3.4	3.3	3.9	2.3	2.3	15	8.5	3.0	3.0	2.1	2.0
28	6.1	2.9	3.2	3.2	2.3	2.0	16	7.8	2.9	3.0	2.1	2.0
29	6.7	3.3	3.3	2.5	------	2.6	17	6.3	2.8	2.9	2.1	1.9
30	6.3	3.0	3.0	3.3	------	2.6	17	6.1	2.8	2.9	2.1	1.9
31	6.3	------	3.2	3.7	------	2.2	------	5.6	------	2.8	2.1	------
TOTAL	134.8	130.6	101.0	97.4	79.5	75.4	281.1	505.5	90.1	97.5	75.0	56.8
MEAN	4.35	4.35	3.26	3.14	2.84	2.43	9.37	16.3	3.00	3.15	2.42	1.89
MAX	6.7	6.9	3.6	3.9	3.9	2.9	17	28	5.6	5.2	3.5	2.5
MIN	2.2	2.9	3.0	2.5	2.3	2.0	1.9	5.6	1.3	2.4	2.1	1.7
AC-FT	267	259	200	193	158	150	558	1,000	179	193	149	113

CAL YR 1969 TOTAL 1,760.0 MEAN 4.82 MAX 21 MIN 1.2 AC-FT 3,490
WTR YR 1970 TOTAL 1,724.7 MEAN 4.73 MAX 28 MIN 1.3 AC-FT 3,420

PEAK DISCHARGE (BASE, 15 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-10	1700	1.51	23	5-13	1100	1.61	30
5- 2	1800	1.38	19	7-15	1630	1.43	19

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, 38,370 acre-ft June 9 (gage height, 116.60 ft); minimum observed, 25,560 acre-ft Oct. 14 (gage height, 107.35 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)

106.0	23,970	114.0	34,450
108.0	26,350	116.0	37,430
110.0	28,900	118.0	40,600
112.0	31,600		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	-	-	-	-	-	-	-	-	-	-	-	33,730
2	25,900	-	-	-	-	-	-	-	38,210	-	-	-
3	-	-	-	-	-	29,530	-	-	-	-	-	-
4	-	26,540	-	-	29,030	-	-	-	-	-	35,120	-
5	-	-	-	-	-	-	-	34,300	-	-	-	-
6	-	-	-	28,080	-	-	30,340	-	-	-	35,110	-
7	25,740	-	-	-	-	-	30,370	34,450	-	36,760	-	-
8	-	-	-	-	-	-	-	-	-	-	-	33,220
9	-	-	27,570	-	-	29,700	-	-	38,370	36,830	-	-
10	-	-	-	-	-	-	-	-	-	-	-	33,050
11	-	26,980	-	-	-	-	-	-	38,060	-	34,820	-
12	-	-	-	-	-	-	-	36,220	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-
14	25,560	-	-	-	-	-	31,330	-	-	36,370	-	-
15	-	-	-	-	-	-	-	-	-	-	-	32,870
16	-	-	-	-	-	-	-	-	37,900	-	-	-
17	-	-	-	-	-	29,970	-	-	-	-	-	-
18	-	27,100	27,800	-	-	-	-	-	-	-	34,450	-
19	-	-	-	-	-	-	-	37,280	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-
21	25,620	-	-	-	-	-	32,170	-	-	36,000	-	-
22	-	-	-	-	-	-	-	-	-	-	-	32,730
23	-	-	-	-	-	-	-	-	37,590	-	-	-
24	25,990	-	-	-	-	29,970	-	-	-	-	-	-
25	-	27,230	-	-	-	-	-	-	-	-	34,090	-
26	-	-	-	-	-	-	-	37,740	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	29,500	-	33,300	-	-	35,630	-	-
29	-	-	-	-	------	-	-	-	-	-	-	32,450
30	-	27,400	-	-	------	-	33,600	-	37,280	-	-	32,400
31	26,300	------	28,000	28,900	------	29,970	------	38,100	------	35,400	33,800	------
(†)	-	-	-	-	-	110.80	-	-	115.90	-	-	-
(‡)	+440	+1,100	+600	+900	+600	+470	+3,630	+4,500	-820	-1,880	-1,600	-1,400

CAL YR 1969..... ‡ +13,200
WTR YR 1970..... ‡ +6,540

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.
NOTE.--Monthend contents interpolated except Mar. 31 and June 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 topographic map). Prior to May 15, 1951, at datum 0.81 ft higher.

AVERAGE DISCHARGE.--20 years, 13.2 cfs (9,560 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 51 cfs July 15 (gage height, 1.27 ft); no flow at times.
Period of record: Maximum discharge, 205 cfs June 14, 1955 (gage height, 2.79 ft); no flow at times 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3		.04	.05	.05	.05	.17	11	2.3	33	40	35
2	10		1.3	.05	.05	.05	.17	5.7	2.3	33	39	36
3	10		1.3	.05	.05	.05	.17	.17	2.0	19	39	36
4	10		1.0	.05	.05	.05	.17	.10	2.0	12	39	36
5	11		.66	.05	.05	.05	.17	.10	12	24	39	32
6	13		.25	.05	.05	.05	.10	.05	16	29	39	30
7	13		.10	.05	.05	.05	.10	.05	16	33	38	30
8	13		.05	.05	.05	.05	.10	.05	16	35	38	30
9	13		.03	.05	.05	.05	.10	.05	13	35	38	30
10	13		.03	.05	.05	3.1	.17	.05	15	33	38	30
11	13		.03	.05	.05	4.8	.17	.05	20	32	38	30
12	14		.03	.05	.05	4.8	.17	.05	20	38	38	26
13	14		.03	.05	.05	4.8	.17	.05	24	41	38	21
14	9.9		.03	.05	.05	4.8	.17	.05	32	40	38	14
15	7.7		.03	.05	.05	5.1	.17	.05	32	44	35	14
16	7.7		.03	.05	.05	4.8	.17	.05	32	50	29	14
17	13		.03	.05	.05	7.7	.17	.05	32	50	30	14
18	28		.03	.05	.05	10	.17	.05	33	50	29	13
19	28		.03	.05	.05	10	.26	.05	39	50	29	13
20	22		.03	.05	.05	10	.26	.05	27	50	29	13
21	4.5		.03	.05	.05	12	.26	.10	38	45	29	13
22	3.6		.03	.05	.05	15	1.2	.17	45	42	29	13
23	.10		.04	.05	.05	15	.10	.17	42	42	29	13
24	.05		.04	.05	.05	15	.10	.17	40	42	29	13
25	.05		.04	.05	.05	15	.10	.17	40	26	29	13
26	.05		.04	.05	.05	15	7.6	1.0	40	33	29	13
27	.05		.04	.05	.05	12	12	2.9	40	40	30	14
28	.05		.04	.05	.05	3.3	12	2.9	40	40	34	19
29	.05		.04	.05	------	7.3	11	2.6	39	40	34	19
30	0		.04	.05	------	7.3	11	2.6	36	40	34	17
31	0	------	.04	.05	------	3.3	------	2.3	------	40	34	------
TOTAL	275.10	0	5.48	1.55	1.40	190.55	58.66	32.90	787.6	1,161	1,060	644
MEAN	8.87	0	.18	.050	.050	6.15	1.96	1.06	26.3	37.5	34.2	21.5
MAX	28	0	1.3	.05	.05	15	12	11	45	50	40	36
MIN	0	0	.03	.05	.05	.05	.10	.05	2.0	12	29	13
AC-FT	546	0	11	3.1	2.8	378	116	65	1,560	2,300	2,100	1,280

CAL YR 1969 TOTAL 2,749.75 MEAN 7.53 MAX 63 MIN 0 AC-FT 5,450
WTR YR 1970 TOTAL 4,218.24 MEAN 11.6 MAX 50 MIN 0 AC-FT 8,370

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.--20 years, 20.6 cfs (14,920 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 520 cfs Apr. 17 (gage height, 3.57 ft); minimum, 0.11 cfs Feb. 2, 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	13	7.5	4.0	4.5	4.7	10	47	48	36	44	39
2	8.8	13	7.5	4.5	5.0	4.7	8.9	43	45	37	43	40
3	14	13	7.5	4.0	5.5	4.4	10	39	43	38	43	40
4	15	12	7.0	3.5	6.0	4.2	12	41	40	26	43	40
5	15	12	6.5	4.0	5.5	4.4	14	43	37	23	42	39
6	15	12	6.0	3.5	5.4	4.7	20	48	41	33	41	35
7	17	11	5.6	3.0	5.4	4.1	27	55	41	39	41	35
8	17	11	5.6	3.5	5.4	4.6	29	61	39	42	43	30
9	17	10	5.6	3.5	5.3	4.4	30	61	36	41	43	27
10	17	10	6.0	4.0	5.2	4.7	31	61	31	37	41	27
11	18	10	5.0	4.0	5.2	4.3	34	65	37	35	41	28
12	19	9.7	5.5	4.0	5.4	6.3	31	72	39	37	41	27
13	19	9.5	6.0	4.0	5.3	6.3	27	74	40	40	40	26
14	19	9.1	5.0	4.0	5.3	7.2	26	77	47	38	38	19
15	16	8.9	6.0	4.0	5.3	8.2	23	75	47	40	40	15
16	15	8.9	6.0	4.5	4.9	8.4	23	72	45	49	39	9.4
17	14	9.3	5.0	5.4	5.2	8.4	100	66	45	51	38	8.8
18	28	7.0	7.0	5.0	5.0	9.5	66	68	44	50	38	8.5
19	33	5.0	7.0	4.7	5.0	10	38	71	46	53	45	8.4
20	33	7.0	6.5	5.0	4.7	11	34	69	43	54	40	8.6
21	22	7.8	6.3	5.0	5.0	13	31	64	40	56	38	8.3
22	27	8.4	6.3	5.4	5.3	14	27	60	57	50	37	11
23	21	8.2	6.0	5.7	4.7	15	25	58	54	50	37	10
24	17	8.0	6.0	5.8	4.9	16	25	55	50	49	38	9.4
25	16	8.0	5.8	5.4	5.2	17	26	53	47	46	36	9.2
26	15	8.0	5.8	5.2	4.8	17	33	55	46	38	35	9.2
27	15	8.0	5.8	5.2	4.7	18	46	61	46	46	35	8.9
28	14	7.5	5.2	4.8	4.9	14	50	64	45	46	38	10
29	15	7.5	6.0	2.6	------	12	50	56	41	46	38	12
30	14	7.0	5.0	3.0	------	13	49	52	39	44	38	13
31	14	------	4.5	4.0	------	13	------	50	------	44	39	------
TOTAL	547.4	279.8	186.5	134.2	144.0	286.5	955.9	1,836	1,299	1,314	1,233	611.7
MEAN	17.7	9.33	6.02	4.33	5.14	9.24	31.9	59.2	43.3	42.4	39.8	20.4
MAX	33	13	7.5	5.8	6.0	18	100	77	57	56	45	40
MIN	7.6	5.0	4.5	2.6	4.5	4.1	8.9	39	31	23	35	8.3
AC-FT	1,090	555	370	266	286	568	1,900	3,640	2,580	2,610	2,450	1,210
(†)	0	0	0	0	0	30	0	0	170	496	240	336

CAL YR 1969 TOTAL 8,139.8 MEAN 22.3 MAX 122 MIN 2.0 AC-FT 16,150 † 390
WTR YR 1970 TOTAL 8,828.0 MEAN 24.2 MAX 100 MIN 2.6 AC-FT 17,510 † 1,270

† Diversion, in acre-feet, by Philmont ditch; 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.--31 years (1915-25, 1927-28, 1950-70), 12.3 cfs (8,910 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 202 cfs Apr. 17 (gage height, 2.71 ft); minimum, 0.73 cfs Sept. 11, but may have been less during period of ice effect.
Period of record: Maximum discharge, 5,630 cfs June 17, 1965 (gage height, 11.13 ft), from rating curve extended above 110 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 for winter 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	20	5.7	2.8	3.1	3.0	5.8	58	35	6.3	5.7	3.9
2	3.2	17	5.7	2.5	2.5	3.2	7.0	48	32	5.4	6.0	3.6
3	3.0	15	5.8	2.5	3.0	3.0	7.7	50	28	5.7	4.6	2.8
4	3.0	17	6.0	2.3	3.0	2.8	9.8	65	28	6.6	4.2	2.2
5	3.2	16	5.8	2.1	3.0	3.5	12	85	27	6.3	4.0	2.2
6	3.2	14	5.4	2.0	4.0	3.8	18	98	22	6.6	3.4	1.7
7	3.2	13	5.0	1.9	4.0	3.5	29	113	21	7.9	4.0	1.6
8	3.0	12	4.5	2.1	3.8	3.5	34	119	19	8.9	6.6	1.6
9	2.8	11	5.0	2.2	3.5	3.2	41	113	18	11	7.1	1.2
10	2.6	12	5.0	2.2	4.0	3.8	44	108	16	8.2	5.0	.99
11	3.5	11	4.8	2.3	3.8	3.8	50	116	16	6.8	5.0	.89
12	6.1	11	4.7	2.3	3.8	4.0	43	124	15	6.6	4.4	1.1
13	5.8	11	4.6	2.1	3.8	3.8	37	126	14	5.7	4.0	2.9
14	6.4	10	4.5	2.2	4.3	4.0	37	126	13	5.2	3.4	3.8
15	7.3	9.8	5.0	2.5	3.8	3.8	34	122	13	5.4	3.0	3.8
16	6.1	11	5.5	2.8	3.5	3.8	31	112	11	6.3	4.4	3.0
17	5.5	9.8	5.5	2.9	3.5	3.5	65	106	10	5.4	4.8	2.6
18	9.4	7.0	5.6	2.7	3.8	3.5	71	102	9.6	5.2	3.8	2.0
19	11	7.3	5.8	2.8	4.0	3.5	51	100	9.3	6.1	3.4	1.7
20	8.5	6.5	6.0	2.8	3.5	3.0	42	94	9.3	12	6.2	1.4
21	8.9	7.7	6.0	2.8	4.0	3.5	36	87	12	11	12	1.1
22	23	8.9	6.4	2.9	4.0	3.8	35	80	14	15	7.9	3.0
23	21	7.0	6.0	3.5	3.5	3.5	32	74	14	16	6.3	3.6
24	25	8.9	6.1	4.0	3.5	3.5	33	65	11	15	5.4	2.9
25	28	8.9	6.0	3.0	4.3	4.0	39	60	9.6	16	4.8	2.6
26	28	8.0	5.5	2.9	3.2	4.0	55	61	8.6	23	3.8	2.6
27	27	7.0	6.4	3.1	3.2	4.9	69	56	7.9	11	3.0	2.6
28	26	5.5	5.8	2.8	3.8	4.3	71	55	7.4	9.3	2.6	2.4
29	27	5.6	5.0	2.8	------	5.5	67	45	7.1	7.6	2.3	2.4
30	24	5.6	4.5	2.5	------	6.4	63	39	6.8	6.6	2.3	2.3
31	22	------	3.5	3.1	------	5.5	------	36	------	5.7	2.6	------
TOTAL	360.2	314.5	167.1	81.4	101.2	118.9	1,169.3	2,643	464.6	273.8	146.0	70.48
MEAN	11.6	10.5	5.39	2.63	3.61	3.84	39.0	85.3	15.5	8.83	4.71	2.35
MAX	28	20	6.4	4.0	4.3	6.4	71	126	35	23	12	3.9
MIN	2.6	5.5	3.5	1.9	2.5	2.8	5.8	36	6.8	5.2	2.3	.89
AC-FT	714	624	331	161	201	236	2,320	5,240	922	543	290	140

CAL YR 1969 TOTAL 4,267.03 MEAN 11.7 MAX 91 MIN .63 AC-FT 8,460
WTR YR 1970 TOTAL 5,910.48 MEAN 16.2 MAX 126 MIN .89 AC-FT 11,720

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G.H.	DISCHARGE
4-17	1800	2.71	202

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 DISHCARGE.--51 years (1911-12, 1913-14, 1915-20, 1923-24, 1927-70), 14.5 cfs (10,510 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 236 cfs May 4 (gage height, 3.02 ft) from rating curve extended as explained below; minimum, 1.5 cfs Nov. 18.
1909-12, 1913-70: 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 periods 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	11	5.5	4.5	6.4	4.8	4.5	45	31	8.3	6.3	5.2
2	7.0	8.3	6.3	4.0	5.5	5.5	6.0	42	30	8.0	7.0	5.0
3	7.0	8.3	6.6	4.0	6.1	5.0	6.0	45	28	8.0	6.0	4.5
4	7.0	10	7.3	4.5	5.0	4.8	7.0	93	28	11	6.3	4.3
5	6.6	9.6	6.6	4.5	5.5	4.8	6.6	104	27	8.3	5.8	4.3
6	6.6	10	6.1	4.5	5.0	5.0	8.7	102	24	8.0	5.2	4.3
7	6.3	10	6.1	4.5	5.2	4.5	13	107	23	8.3	6.0	4.1
8	6.3	9.6	6.7	4.5	5.5	5.0	16	107	22	13	12	3.9
9	6.3	9.6	7.0	5.0	5.2	5.5	22	100	20	10	15	3.9
10	6.0	9.6	6.5	5.0	5.0	5.5	29	100	19	8.0	8.7	3.7
11	7.0	10	6.5	5.0	5.0	4.8	58	100	20	8.3	8.7	3.9
12	9.1	9.6	6.0	5.5	5.5	5.2	42	104	19	8.0	10	4.5
13	8.3	9.1	5.8	5.5	5.8	4.7	34	107	17	7.0	9.6	13
14	9.1	8.7	5.8	5.5	6.3	4.5	37	102	16	6.6	7.6	8.3
15	10	7.6	5.8	6.0	6.0	5.2	32	97	18	7.0	7.3	6.3
16	9.1	8.3	5.8	6.0	5.2	5.2	32	87	15	8.3	7.3	8.0
17	8.7	7.3	5.8	6.0	5.5	4.8	51	83	13	7.0	7.3	5.8
18	9.6	3.1	5.8	5.5	5.5	4.5	68	81	12	7.0	6.3	5.0
19	9.1	4.5	5.8	5.2	5.5	4.5	63	76	12	7.6	7.3	4.8
20	8.0	8.0	6.3	5.0	4.3	4.5	44	72	12	8.3	8.0	4.8
21	9.1	9.1	6.0	5.0	5.2	5.2	45	66	15	8.3	9.6	4.5
22	17	9.6	6.6	5.0	5.0	5.0	46	61	21	8.7	6.6	5.8
23	15	7.3	5.8	5.5	4.5	4.8	45	56	15	13	6.6	6.6
24	13	6.3	6.3	5.8	4.5	5.5	58	51	15	20	6.6	5.8
25	14	6.3	6.0	5.5	4.8	5.2	79	48	11	17	6.3	5.0
26	15	6.6	6.0	5.5	4.3	5.0	83	48	10	12	5.2	4.8
27	15	4.3	6.3	5.5	4.3	4.3	83	49	9.6	10	5.0	4.5
28	15	3.1	5.8	5.8	4.5	4.7	72	45	9.1	11	4.8	4.5
29	15	4.1	5.5	4.1	------	4.8	64	40	8.7	8.0	4.5	4.5
30	12	5.2	5.5	5.5	------	5.2	52	36	9.1	7.6	4.5	4.5
31	11	------	5.5	6.7	------	5.0	------	33	------	6.6	5.2	------
TOTAL	305.8	234.1	189.4	160.1	146.1	153.0	1,206.8	2,287	529.5	288.2	222.6	158.1
MEAN	9.86	7.80	6.11	5.16	5.22	4.94	40.2	73.8	17.7	9.30	7.18	5.27
MAX	17	11	7.3	6.7	6.4	5.5	83	107	31	20	15	13
MIN	6.0	3.1	5.5	4.0	4.3	4.3	4.5	33	8.7	6.6	4.5	3.7
AC-FT	607	464	376	318	290	303	2,390	4,540	1,050	572	442	314

CAL YR 1969 TOTAL 8,145.1 MEAN 22.3 MAX 268 MIN 2.3 AC-FT 16,160
WTR YR 1970 TOTAL 5,880.7 MEAN 16.1 MAX 107 MIN 3.1 AC-FT 11,660

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-25	2130	2.75	132	5- 4	2000	3.02	236

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 or 1731 for history of changes prior to July 17, 1942.

AVERAGE DISCHARGE.--46 years (1920-21, 1924-25, 1926-70), 18.2 cfs (13,190 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 376 cfs Apr. 18 (gage height, 4.77 ft); minimum, 0.63 cfs, Sept. 11.

1930-70: 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.

Maximum 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	13	9.5	12	9.0	11	13	111	18	3.4	8.2	2.4
2	5.8	14	9.5	11	15	10	13	154	18	2.8	6.6	2.3
3	4.5	13	9.5	10	13	10	12	136	16	3.7	5.3	2.3
4	4.5	16	9.0	9.0	13	9.1	13	140	14	3.4	4.3	2.2
5	4.1	25	15	8.0	10	9.1	16	186	14	3.4	3.0	2.1
6	4.5	24	13	7.0	12	9.7	15	112	14	3.0	2.5	1.9
7	4.5	20	13	6.0	12	9.1	11	103	13	3.5	2.5	1.8
8	4.9	19	12	6.0	13	8.5	20	146	14	4.3	3.9	1.7
9	4.9	19	9.0	6.0	12	8.5	25	174	13	5.8	2.8	1.6
10	4.1	20	12	6.0	12	9.1	24	186	11	4.8	2.4	1.0
11	4.9	20	13	7.0	13	10	23	182	10	3.7	2.2	.88
12	8.5	20	16	7.0	13	10	26	194	8.5	4.5	2.3	1.9
13	9.1	16	15	7.0	12	10	58	212	7.9	3.5	2.8	7.4
14	9.1	9.7	14	7.0	12	9.1	52	158	6.8	3.8	2.6	2.9
15	9.1	9.1	12	16	10	9.7	56	204	6.3	3.1	3.0	2.4
16	8.5	8.5	13	22	13	9.7	56	208	5.8	2.6	3.5	2.8
17	7.9	8.5	12	25	14	9.1	27	106	4.9	2.3	3.7	3.1
18	7.3	8.5	15	20	13	9.1	150	50	5.2	3.0	4.2	2.8
19	7.3	8.5	12	15	13	7.9	103	27	5.8	4.9	3.5	2.7
20	7.9	8.5	13	16	13	7.9	80	33	7.3	4.3	3.3	2.4
21	7.9	8.5	16	11	10	7.3	78	33	7.9	6.8	3.7	2.2
22	18	9.1	27	13	13	7.9	65	35	7.3	9.3	3.5	2.4
23	33	8.5	27	13	12	7.9	60	47	7.3	6.3	3.8	2.6
24	16	9.7	27	12	11	5.8	62	58	6.8	4.9	3.7	2.4
25	13	11	26	13	13	4.9	49	54	6.3	5.4	3.9	2.0
26	10	10	25	12	13	4.5	41	27	3.7	5.9	3.1	2.1
27	10	12	27	12	12	5.8	35	22	3.0	3.4	2.2	2.3
28	11	9.5	18	9.7	11	6.3	31	24	2.0	2.9	1.9	2.3
29	13	9.0	15	7.9	------	7.3	47	28	2.3	2.7	1.6	2.4
30	13	9.0	15	5.8	------	7.3	50	22	4.9	2.6	1.7	2.2
31	12	------	18	5.8	------	9.1	------	17	------	5.2	1.9	------
TOTAL	284.1	396.6	487.5	338.2	342.0	260.7	1,311	3,189	265.0	129.2	103.6	71.48
MEAN	9.16	13.2	15.7	10.9	12.2	8.41	43.7	103	8.83	4.17	3.34	2.38
MAX	33	25	27	25	15	11	150	212	18	9.3	8.2	7.4
MIN	4.1	8.5	9.0	5.8	9.0	4.5	11	17	2.0	2.3	1.6	.88
AC-FT	564	787	967	671	678	517	2,600	6,330	526	256	205	142

CAL YR 1969 TOTAL 5,953.18 MEAN 16.3 MAX 324 MIN .80 AC-FT 11,810
WTR YR 1970 TOTAL 7,178.38 MEAN 19.7 MAX 212 MIN .88 AC-FT 14,240

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, 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.--25 years (1939-58, 1964-70), 101 cfs (73,170 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,940 cfs July 24 (gage height, 5.08 ft); minimum, 2.6 cfs Sept. 9, but may have been less during period of ice effect.
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 fair except those for winter period and those for May, 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 current year 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	36	24	4.0	15	27	26	85	35	17	34	4.9
2	19	38	30	3.0	13	27	35	148	28	10	22	8.8
3	17	33	34	3.0	25	24	51	140	25	12	13	9.4
4	14	35	49	3.5	30	24	52	140	21	17	10	8.1
5	12	45	49	3.5	27	24	49	192	20	11	8.1	6.4
6	12	45	22	3.0	27	24	48	137	20	9.4	6.9	4.9
7	13	41	17	3.0	34	23	33	124	20	10	6.4	3.5
8	12	39	16	3.0	35	22	27	143	21	12	25	3.8
9	12	38	16	3.0	34	21	59	166	26	18	22	3.2
10	12	41	19	5.0	34	21	71	169	19	13	8.8	3.5
11	12	41	19	10	33	19	85	182	15	9.4	6.4	3.5
12	20	39	22	20	32	17	90	202	12	7.5	5.8	4.2
13	25	38	25	25	31	22	103	226	11	6.9	5.8	86
14	24	33	27	35	30	25	96	206	10	17	8.8	45
15	22	30	33	40	34	26	87	220	8.8	13	6.9	16
16	21	32	27	40	33	26	85	242	7.5	5.4	24	12
17	19	32	30	45	33	22	49	151	6.9	4.2	35	13
18	19	26	30	40	31	20	110	96	6.4	6.9	26	11
19	19	24	31	45	28	18	154	60	8.1	28	17	8.8
20	19	26	31	45	27	17	140	57	8.8	54	208	7.5
21	20	29	32	45	27	17	126	65	12	72	356	5.8
22	49	34	43	45	27	20	96	60	11	30	71	6.9
23	85	28	42	41	26	22	96	79	10	62	30	8.8
24	49	28	45	33	26	24	90	90	12	483	22	12
25	38	32	42	41	31	21	83	99	10	109	15	8.8
26	33	31	42	36	32	19	69	106	8.8	127	13	8.8
27	32	30	45	34	28	17	57	85	6.4	52	11	8.8
28	32	22	35	36	27	17	52	75	4.9	55	6.9	8.8
29	38	18	15	13	------	22	42	65	5.4	49	4.9	8.8
30	36	22	10	14	------	30	54	50	23	42	4.2	8.8
31	34	------	5.0	13	------	26	------	45	------	19	4.2	------
TOTAL	792	986	907.0	730.0	810	684	2,215	3,905	433.0	1,381.7	1,038.1	349.8
MEAN	25.5	32.9	29.3	23.5	28.9	22.1	73.8	126	14.4	44.6	33.5	11.7
MAX	85	45	49	45	35	30	154	242	35	483	356	86
MIN	12	18	5.0	3.0	13	17	26	45	4.9	4.2	4.2	3.2
AC-FT	1,570	1,960	1,800	1,450	1,610	1,360	4,390	7,750	859	2,740	2,060	694

CAL YR 1969 TOTAL 22,489.3 MEAN 61.6 MAX 1,970 MIN 5.0 AC-FT 44,610
WTR YR 1970 TOTAL 14,231.6 MEAN 39.0 MAX 483 MIN 3.0 AC-FT 28,230

PEAK DISCHARGE (BASE, 3,000 CFS).--No peak above base.

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.--17 years, 13.9 cfs (10,070 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 86 cfs May 13 (gage height, 1.98 ft); maximum gage height, 2.46 ft Nov. 29 (backwater from ice); minimum discharge, 1.7 cfs Jan. 29, Sept. 10.
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 good 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	20	12	8.0	8.5	7.2	9.0	45	21	9.0	13	4.0
2	11	20	11	7.0	8.0	6.6	11	43	21	9.0	11	4.4
3	11	19	11	8.0	7.5	7.2	9.8	42	20	8.3	9.8	3.6
4	11	18	11	9.0	8.0	6.6	12	42	17	8.3	9.8	4.0
5	11	18	11	8.5	7.5	6.6	12	46	18	8.3	8.3	4.0
6	11	17	11	8.5	7.5	7.2	14	57	15	8.3	8.3	4.0
7	9.8	17	11	8.5	7.5	6.1	18	64	13	11	9.0	3.6
8	9.0	17	10	8.5	7.5	5.6	23	72	14	12	9.0	3.6
9	9.0	17	8.0	9.0	7.2	5.6	29	76	12	14	9.0	3.3
10	9.0	17	8.0	10	7.2	5.6	33	76	12	9.8	8.3	2.4
11	9.8	17	9.0	9.0	6.6	6.6	34	80	12	9.8	8.3	2.7
12	12	17	9.0	8.5	6.6	6.6	28	82	11	9.0	8.3	2.7
13	11	17	9.0	8.3	6.1	7.2	26	84	9.0	9.0	8.3	6.6
14	13	17	9.5	8.3	6.1	6.6	28	80	9.8	8.3	7.7	5.6
15	12	15	9.5	8.3	6.1	6.6	25	76	11	12	7.7	4.8
16	11	16	9.8	8.0	6.1	5.2	26	69	9.0	13	7.2	4.8
17	11	17	9.8	8.0	6.1	6.6	31	64	8.3	11	7.2	4.4
18	11	14	9.0	7.5	6.1	6.6	35	57	7.7	9.8	7.2	4.4
19	11	14	9.0	7.5	6.1	6.6	32	55	7.7	9.0	9.0	4.4
20	9.8	15	9.8	7.6	6.1	7.2	28	52	7.7	13	9.0	4.4
21	13	16	9.8	7.6	7.2	9.0	25	48	11	13	9.0	4.4
22	28	17	9.8	8.5	6.6	7.7	25	42	13	11	7.7	4.8
23	21	17	11	7.6	6.6	7.2	25	37	11	13	7.7	5.2
24	20	15	9.0	7.6	7.2	8.3	28	33	9.8	12	7.7	4.0
25	20	16	9.0	8.2	6.6	7.2	34	32	11	13	7.2	4.0
26	22	15	9.0	7.7	6.1	7.7	40	33	11	11	6.1	4.0
27	23	15	9.0	8.3	7.2	7.2	49	33	11	12	5.6	4.0
28	22	13	8.8	7.7	7.2	8.3	52	31	9.8	13	5.6	4.0
29	22	13	8.6	8.0	------	8.3	51	26	11	11	4.8	4.0
30	20	12	8.4	8.0	------	8.3	46	23	11	9.8	4.4	4.0
31	20	------	8.0	9.0	------	9.0	------	21	------	9.0	4.0	------
TOTAL	445.4	488	297.8	254.2	193.1	218.3	838.8	1,621	365.8	329.7	245.2	124.1
MEAN	14.4	16.3	9.61	8.20	6.90	7.04	28.0	52.3	12.2	10.6	7.91	4.14
MAX	28	20	12	10	8.5	9.0	52	84	21	14	13	6.6
MIN	9.0	12	8.0	7.0	6.1	5.2	9.0	21	7.7	8.3	4.0	2.4
AC-FT	883	968	591	504	383	433	1,660	3,220	726	654	486	246

CAL YR 1969 TOTAL 8,081.7 MEAN 22.1 MAX 112 MIN 3.5 AC-FT 16,030
WTR YR 1970 TOTAL 5,421.4 MEAN 14.9 MAX 84 MIN 2.4 AC-FT 10,750

PEAK DISCHARGE (BASE, 150 CFS).--No peak above base.

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 September 1970 (discontinued). 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.--14 years, 14.4 cfs (10,430 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 166 cfs July 22(gage height, 3.11 ft); minimum, 1.5 cfs Mar. 7, 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	20	9.0	3.6	3.8	3.9	5.0	14	50	23	13	9.4
2	8.0	19	8.0	3.3	3.7	3.9	6.0	14	47	20	17	7.6
3	7.6	18	7.6	3.5	3.6	3.8	5.5	14	42	17	13	6.5
4	7.6	17	7.3	3.8	4.5	3.8	6.8	15	41	15	13	6.3
5	7.3	16	7.0	3.5	3.8	3.6	7.6	16	38	14	12	6.5
6	7.0	16	7.0	3.4	3.9	3.6	9.4	19	38	13	15	6.3
7	7.0	15	6.6	4.0	4.0	3.6	12	22	38	14	14	5.7
8	6.8	14	6.0	4.0	4.0	3.8	13	26	38	16	12	5.2
9	6.5	14	5.2	4.0	4.0	3.8	14	27	38	14	12	4.7
10	6.3	14	5.2	4.5	4.0	3.8	15	32	38	12	13	4.5
11	7.6	14	5.6	4.5	3.5	4.3	16	38	47	12	12	4.1
12	8.7	13	6.0	4.5	3.5	4.1	14	43	42	11	10	4.3
13	9.0	13	6.5	4.5	3.4	4.5	12	47	41	9.8	9.8	12
14	9.4	12	6.0	4.5	3.4	4.5	12	50	47	9.0	10	8.0
15	9.4	12	6.3	4.5	3.6	4.5	11	50	51	11	10	6.3
16	8.4	12	6.0	4.5	3.8	4.5	10	48	51	13	12	6.3
17	8.7	11	5.7	4.5	3.8	4.3	13	56	47	10	12	5.2
18	10	10	5.5	4.5	3.6	3.8	13	62	43	9.0	10	5.0
19	13	10	5.5	4.5	3.8	3.8	12	66	41	8.4	13	5.0
20	9.4	11	5.5	4.5	3.6	3.5	11	64	41	10	16	5.0
21	21	10	5.5	4.3	4.1	3.8	11	69	42	10	17	4.5
22	72	9.8	5.5	4.3	3.8	3.8	10	74	42	24	13	5.0
23	42	9.4	5.2	4.3	3.9	3.9	10	72	41	27	12	5.5
24	38	9.4	5.5	4.3	3.9	3.9	10	64	34	19	12	5.2
25	38	9.4	5.2	4.3	3.8	3.9	13	62	34	17	11	4.5
26	36	9.4	5.2	4.3	4.1	3.9	15	58	34	14	9.8	4.1
27	30	9.0	5.2	4.5	3.8	3.6	18	54	34	14	8.7	4.1
28	29	9.4	5.2	3.6	3.8	5.2	18	51	30	16	8.0	4.1
29	28	9.4	5.0	3.6	------	5.7	17	50	30	13	7.6	4.1
30	25	9.5	4.0	3.6	------	4.5	15	48	26	12	7.6	4.1
31	22	------	3.4	4.0	------	4.3	------	50	------	11	8.7	------
TOTAL	546.7	375.7	182.4	127.7	106.5	125.9	355.3	1,375	1,206	438.2	364.2	169.1
MEAN	17.6	12.5	5.88	4.12	3.80	4.06	11.8	44.4	40.2	14.1	11.7	5.64
MAX	72	20	9.0	4.5	4.5	5.7	18	74	51	27	17	12
MIN	6.3	9.0	3.4	3.3	3.4	3.5	5.0	14	26	8.4	7.6	4.1
AC-FT	1,080	745	362	253	211	250	705	2,730	2,390	869	722	335

CAL YR 1969 TOTAL 7,196.6 MEAN 19.7 MAX 115 MIN 1.8 AC-FT 14,270
WTR YR 1970 TOTAL 5,372.7 MEAN 14.7 MAX 74 MIN 3.3 AC-FT 10,660

PEAK DISCHARGE (BASE, 60 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-22	0500	2.90	100	7-22	1330	3.11	166
5-22	2200	2.80	83				

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.--43 years (1906-10, 1931-70), 28.4 cfs (20,580 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 331 cfs Oct. 22 (gage height, 4.50 ft); minimum, 3.3 cfs Mar. 18, 19.
1931-70: 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. Diversions above station for irrigation of about 7,000 acres, part of which is below station. See tabulation below for monthly and yearly diversion of La Cueva Canal, which bypasses gage on left bank.

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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	63	21	16	12	6.4	7.6	57	29	40	23	24
2	25	62	23	15	11	6.8	8.9	58	26	33	28	21
3	26	65	23	15	12	7.2	6.8	54	23	30	25	20
4	26	58	27	15	14	7.6	8.9	50	30	29	25	21
5	24	53	30	15	14	8.0	8.0	50	32	26	25	20
6	25	37	23	15	17	8.0	7.6	57	27	24	26	22
7	25	41	24	15	18	6.8	7.6	69	24	23	27	25
8	25	45	25	15	18	5.4	7.6	74	28	45	28	17
9	24	45	21	15	18	5.4	8.4	75	26	46	26	15
10	23	45	24	15	18	5.4	10	75	26	36	30	13
11	26	44	20	15	18	5.4	28	84	27	28	29	13
12	37	44	19	15	14	5.7	32	93	26	29	29	13
13	35	44	25	15	10	5.7	32	103	25	27	29	20
14	35	37	23	15	9.6	5.4	31	111	22	25	27	17
15	27	27	25	17	8.4	4.2	28	109	26	24	26	18
16	15	23	21	18	8.8	4.2	27	90	24	25	30	17
17	20	24	22	20	8.4	3.6	42	87	22	24	31	17
18	19	16	28	19	8.0	3.6	49	77	26	20	26	17
19	24	15	26	19	8.0	3.6	36	62	24	17	26	18
20	26	20	27	19	7.2	4.2	36	65	26	19	27	18
21	34	22	28	19	8.8	4.2	28	63	28	23	25	17
22	203	22	28	20	8.4	4.2	26	65	33	23	24	21
23	109	20	27	21	8.0	4.2	26	57	32	30	25	22
24	87	19	29	21	8.0	4.8	26	43	32	28	26	20
25	83	19	28	21	8.4	5.1	28	32	33	25	20	17
26	80	20	29	20	7.2	6.0	30	33	33	26	17	17
27	77	20	29	19	8.0	7.2	40	35	43	28	16	17
28	69	18	26	20	8.8	6.8	51	35	33	33	16	17
29	70	18	23	13	------	6.8	53	32	41	28	17	17
30	65	17	20	13	------	6.0	50	28	41	26	17	16
31	61	------	17	13	------	6.8	------	25	------	25	21	------
TOTAL	1,450	1,003	761	523	318.0	174.7	780.4	1,948	868	865	767	547
MEAN	46.8	33.4	24.5	16.9	11.4	5.64	26.0	62.8	28.9	27.9	24.7	18.2
MAX	203	65	30	21	18	8.0	53	111	43	46	31	25
MIN	15	15	17	13	7.2	3.6	6.8	25	22	17	16	13
AC-FT	2,880	1,990	1,510	1,040	631	347	1,550	3,860	1,720	1,720	1,520	1,080
(†)	354	653	191	96	344	423	476	653	583	429	281	245

CAL YR 1969 TOTAL 16,654.1 MEAN 45.6 MAX 232 MIN 1.1 AC-FT 33,030 † 4,360
WTR YR 1970 TOTAL 10,005.1 MEAN 27.4 MAX 203 MIN 3.6 AC-FT 19,850 † 4,730

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

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-22	0830	4.50	331				

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, 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, non-recording gage or water-stage recorder at present site at datum 1.0 ft higher.

AVERAGE DISCHARGE.--53 years (1915-20, 1921-22, 1923-70), 35.0 cfs (25,360 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 605 cfs Oct. 22 (gage height, 5.40 ft); minimum, 1.9 cfs Mar. 13, 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	81	32	25	17	12	15	50	21	34	21	24
2	30	80	31	20	17	12	14	56	20	27	33	21
3	30	83	28	22	16	12	19	55	19	23	23	20
4	29	75	35	25	25	11	18	47	20	24	23	20
5	26	70	36	23	23	11	23	47	26	21	21	20
6	23	53	33	22	25	11	21	51	24	20	21	19
7	25	53	32	25	25	9.6	24	61	19	19	21	21
8	24	55	34	28	25	9.9	25	63	23	35	23	15
9	24	54	30	28	25	9.2	26	63	20	49	22	11
10	23	53	33	30	25	7.3	27	61	18	34	22	10
11	26	53	32	28	24	7.3	31	65	21	24	24	8.6
12	38	51	30	28	23	7.3	36	74	21	24	26	9.9
13	35	50	34	28	17	7.6	32	82	20	24	27	22
14	36	50	32	28	16	8.6	30	90	18	21	25	15
15	35	39	34	28	16	8.3	29	94	20	21	24	16
16	20	34	31	29	15	8.0	29	82	19	21	24	22
17	23	34	31	30	15	7.3	33	73	18	19	30	16
18	24	35	37	29	15	7.3	74	69	22	18	22	15
19	25	25	35	28	15	7.3	45	52	21	19	23	16
20	29	31	36	28	13	7.3	46	56	22	28	25	16
21	33	32	37	28	15	7.3	35	56	24	20	28	15
22	341	31	37	28	16	7.6	33	56	26	18	23	17
23	232	27	35	29	15	6.7	32	49	25	26	24	14
24	179	27	36	29	13	8.6	32	37	25	25	25	15
25	140	27	34	28	14	9.2	34	26	27	24	23	13
26	117	27	34	27	13	8.9	35	26	25	24	17	15
27	110	28	35	26	13	11	38	28	31	25	16	15
28	100	27	34	26	13	12	46	30	27	35	15	15
29	97	28	29	17	------	12	50	26	27	29	15	16
30	89	28	25	16	------	12	47	24	33	25	15	16
31	83	------	23	18	------	13	------	18	------	24	19	------
TOTAL	2,078	1,341	1,015	804	504	289.6	979	1,667	682	780	700	488.5
MEAN	67.0	44.7	32.7	25.9	18.0	9.34	32.6	53.8	22.7	25.2	22.6	16.3
MAX	341	83	37	30	25	13	74	94	33	49	33	24
MIN	20	25	23	16	13	6.7	14	18	18	18	15	8.6
AC-FT	4,120	2,660	2,010	1,590	1,000	574	1,940	3,310	1,350	1,550	1,390	969

CAL YR 1969 TOTAL 19,795.8 MEAN 54.2 MAX 344 MIN 3.1 AC-FT 39,260
WTR YR 1970 TOTAL 11,328.1 MEAN 31.0 MAX 341 MIN 6.7 AC-FT 22,470

PEAK DISCHARGE (BASE, 400 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-22	1130	5.40	605				

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.--14 years, 10.0 cfs (7,240 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 137 cfs Apr. 17 (gage height, 3.05 ft); minimum, 2.4 cfs Mar. 24, 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	17	8.3	4.5	9.0	5.8	7.4	24	17	6.0	7.0	5.1
2	8.3	15	7.2	4.0	7.4	6.3	6.1	27	15	5.5	6.8	4.9
3	8.0	15	6.7	4.0	7.2	6.1	7.4	32	14	5.2	6.3	4.6
4	7.6	14	7.0	4.0	6.5	5.8	8.3	36	13	5.0	6.0	4.5
5	7.4	14	6.5	4.5	6.1	5.8	9.2	34	13	4.9	5.7	4.7
6	7.0	13	5.8	4.5	5.7	5.7	13	32	13	4.7	5.4	4.6
7	7.0	13	7.4	4.0	5.5	5.5	17	30	13	5.2	5.3	4.4
8	6.7	13	7.2	4.0	5.7	5.8	19	31	12	5.9	5.3	4.2
9	6.7	12	7.0	4.0	5.8	6.1	26	32	11	9.2	5.0	4.0
10	6.5	12	6.5	4.0	5.8	6.1	34	32	11	8.3	4.9	4.0
11	7.4	11	5.8	4.0	6.1	5.7	48	34	10	7.5	5.0	3.9
12	8.9	11	6.1	4.3	6.5	5.8	54	34	9.7	6.9	5.0	4.2
13	8.6	11	5.3	4.2	7.4	6.7	39	34	8.6	6.2	5.0	6.7
14	9.4	10	5.8	4.0	8.3	5.8	29	35	7.8	5.8	5.0	6.4
15	10	10	5.8	4.0	8.6	5.8	23	35	8.0	5.6	5.2	5.6
16	10	9.7	6.3	4.2	8.3	5.8	19	35	7.4	5.6	5.5	5.8
17	11	9.7	6.5	4.3	8.3	6.1	52	34	6.7	5.4	5.7	5.2
18	11	6.5	6.1	4.3	8.3	5.8	92	32	6.5	5.3	5.7	4.9
19	11	7.8	6.3	4.8	8.0	5.7	77	30	5.8	6.0	5.9	4.8
20	11	8.6	7.2	4.7	7.6	5.5	64	27	5.8	8.1	6.0	4.8
21	12	9.0	7.2	4.8	7.2	5.3	45	25	7.0	10	6.2	4.7
22	19	8.9	8.0	5.0	6.7	5.3	34	24	9.2	9.4	6.2	5.0
23	20	8.3	8.0	5.5	6.5	5.3	31	23	8.6	9.6	6.1	6.0
24	24	8.0	9.2	7.6	6.3	5.8	27	21	8.0	9.9	6.5	5.9
25	26	8.0	8.9	8.3	6.3	6.3	24	20	7.9	12	6.5	5.5
26	25	8.3	8.9	9.4	5.8	6.1	22	20	7.3	11	6.2	5.3
27	24	8.3	8.9	9.5	5.8	6.5	22	20	7.0	10	5.9	5.0
28	21	7.2	7.2	8.9	5.8	6.1	21	20	6.3	10	5.6	5.0
29	21	8.3	6.5	8.0	------	6.5	20	20	5.9	9.1	5.3	5.0
30	19	9.4	5.5	9.0	------	6.5	20	19	6.6	8.0	5.2	4.9
31	18	------	5.0	9.0	------	7.0	------	18	------	7.4	5.2	------
TOTAL	401.7	317.0	214.1	169.3	192.5	184.4	910.4	870	282.1	228.7	176.6	149.6
MEAN	13.0	10.6	6.91	5.46	6.88	5.95	30.3	28.1	9.40	7.38	5.70	4.99
MAX	26	17	9.2	9.5	9.0	7.0	92	36	17	12	7.0	6.7
MIN	6.5	6.5	5.0	4.0	5.5	5.3	6.1	18	5.8	4.7	4.9	3.9
AC-FT	797	629	425	336	382	366	1,810	1,730	560	454	350	297

CAL YR 1969 TOTAL 5,061.9 MEAN 13.9 MAX 112 MIN 2.0 AC-FT 10,040
WTR YR 1970 TOTAL 4,096.4 MEAN 11.2 MAX 92 MIN 3.9 AC-FT 8,130

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-17	2030	3.05	137				

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, 2.3 miles northeast of Golondrinas, and 2.7 miles upstream from mouth.

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.--42 years, 11.8 cfs (8,550 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 373 cfs July 25 (gage height, 4.20 ft); minimum, 0.34 cfs June 28-29. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	24	14	7.0	8.0	6.2	11	30	10	.49	4.0	1.6
2	12	24	15	7.0	8.0	7.1	9.0	33	9.0	.49	3.8	1.2
3	11	25	15	7.0	8.0	7.3	11	37	9.7	.57	3.4	1.2
4	12	23	16	7.0	8.0	7.6	11	35	11	.57	3.2	1.2
5	11	22	13	7.0	8.0	7.1	10	36	9.3	.65	3.0	1.2
6	11	20	12	7.0	8.0	7.1	8.4	34	7.9	.65	2.8	1.2
7	11	20	11	7.0	8.0	7.3	9.7	34	8.4	.65	2.8	1.2
8	10	19	10	7.0	8.0	6.5	13	30	8.2	9.2	4.2	1.2
9	9.0	19	10	7.0	8.0	5.5	14	30	6.5	3.5	3.2	1.2
10	9.0	19	11	7.0	8.4	6.0	26	26	4.0	1.6	2.5	1.2
11	9.0	18	11	7.0	7.3	6.0	34	26	3.6	1.3	1.6	1.2
12	12	18	12	7.0	8.0	6.0	40	24	3.6	2.3	1.2	1.4
13	12	18	12	7.0	8.4	6.5	39	25	3.4	2.3	.57	10
14	12	18	13	7.0	8.4	6.5	30	26	3.4	.95	.49	4.3
15	11	17	13	7.0	9.0	7.1	21	26	3.2	.84	.57	3.2
16	11	16	13	8.0	9.0	6.8	20	26	3.0	1.9	.65	3.6
17	12	15	13	8.0	9.3	4.7	21	22	2.8	2.4	.74	2.5
18	12	13	13	9.0	9.3	5.0	136	22	2.8	.95	.57	2.2
19	12	13	13	10	9.0	5.0	115	24	2.8	1.2	.57	1.8
20	12	14	13	11	9.0	5.0	90	22	3.4	3.7	.57	2.0
21	13	15	13	12	9.0	5.0	71	20	4.0	4.5	.84	2.0
22	51	18	13	13	10	5.0	58	17	4.0	9.3	.74	1.8
23	38	16	13	14	9.3	5.0	46	16	3.8	4.3	.74	1.8
24	32	15	13	13	9.3	4.7	40	13	3.2	3.8	2.6	2.0
25	30	15	13	14	8.7	4.7	36	13	3.4	41	1.3	2.2
26	30	14	13	13	8.4	5.2	30	12	3.4	12	1.2	2.0
27	30	13	13	12	6.8	6.0	28	12	2.5	5.5	1.1	2.0
28	28	12	12	11	6.5	7.0	26	13	.41	7.3	.95	1.8
29	30	12	11	10	------	8.2	26	11	.41	6.5	.95	1.8
30	26	13	10	9.0	------	8.7	25	12	.49	5.2	.95	1.8
31	25	------	8.0	8.0	------	9.0	------	12	------	4.3	1.5	------
TOTAL	557.0	518	385.0	280.0	235.1	194.8	1,055.1	719	141.61	139.91	53.30	63.8
MEAN	18.0	17.3	12.4	9.03	8.40	6.28	35.2	23.2	4.72	4.51	1.72	2.13
MAX	51	25	16	14	10	9.0	136	37	11	41	4.2	10
MIN	9.0	12	8.0	7.0	6.5	4.7	8.4	11	.41	.49	.49	1.2
AC-FT	1,100	1,030	764	555	466	386	2,090	1,430	281	278	106	127

CAL YR 1969 TOTAL 5,971.20 MEAN 16.4 MAX 109 MIN 1.6 AC-FT 11,840
WTR YR 1970 TOTAL 4,342.62 MEAN 11.9 MAX 136 MIN .41 AC-FT 8,610

PEAK DISCHARGE (BASE, 180 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
7-25	1930	4.20	373				

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.--19 years (1915-20, 1956-70), 22.6 cfs (16,370 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,440 cfs Aug. 20 (gage height, 6.30 ft), from rating curve extended above 350 cfs as explained below; minimum, 1.9 cfs July 18.
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. The flood of June 11, 1913 reached a peak discharge of 11,400 cfs at a site 3 miles downstream.

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.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	56	20	13	12	7.7	7.0	16	16	3.6	16	14
2	12	56	19	13	11	8.0	6.5	20	15	3.6	17	9.8
3	10	55	19	13	11	8.0	9.8	18	13	3.6	9.4	8.0
4	10	50	22	15	10	7.4	12	16	13	3.6	7.7	6.8
5	10	46	21	13	9.8	7.4	13	16	18	3.6	7.4	7.0
6	10	42	15	12	10	7.7	18	16	18	6.1	7.4	6.8
7	9.8	39	16	13	10	6.8	25	18	16	4.0	7.4	6.5
8	9.5	37	16	13	11	6.8	27	19	14	8.8	9.1	6.2
9	8.8	35	16	13	10	7.0	28	16	12	4.3	9.1	6.0
10	8.8	34	18	13	9.8	6.8	30	16	10	2.8	26	5.2
11	9.1	33	15	14	9.1	7.4	31	16	10	3.1	18	5.2
12	13	33	17	14	8.8	7.0	30	15	10	3.6	14	5.5
13	13	32	19	13	9.1	6.5	28	16	8.0	3.3	13	12
14	13	32	18	15	9.1	7.4	27	16	6.5	3.1	9.8	10
15	14	31	18	15	9.4	5.8	23	16	6.5	2.6	8.8	7.7
16	11	30	18	15	9.1	5.8	21	15	6.0	2.8	77	15
17	11	31	18	14	8.0	5.5	25	15	5.5	2.4	35	7.0
18	12	24	18	14	8.0	5.0	54	12	4.8	2.3	16	6.5
19	13	24	18	14	9.4	5.0	35	13	4.0	8.4	15	6.5
20	13	30	18	15	8.0	5.2	32	13	4.5	5.0	405	6.2
21	15	30	16	15	9.4	5.2	30	14	6.0	4.3	81	6.0
22	504	29	16	14	9.1	5.8	26	14	5.5	21	32	6.2
23	204	26	16	14	10	5.8	23	15	5.0	14	24	6.5
24	155	24	16	13	9.1	5.5	20	14	5.8	8.5	21	6.0
25	134	20	15	15	9.1	5.2	18	14	5.2	8.1	16	5.8
26	105	20	16	13	8.8	5.0	20	16	5.0	14	14	6.0
27	96	17	15	13	8.4	5.8	18	16	4.5	10	12	6.0
28	87	17	14	13	8.0	7.4	17	17	3.6	12	9.8	6.0
29	87	18	14	13	------	6.2	17	19	3.6	11	8.0	5.8
30	76	20	13	13	------	7.0	16	18	3.8	7.7	7.7	5.5
31	63	------	13	13	------	7.7	------	16	------	6.5	16	------
TOTAL	1,749.0	971	523	423	264.5	200.8	687.3	491	258.8	197.7	969.6	217.7
MEAN	56.4	32.4	16.9	13.6	9.45	6.48	22.9	15.8	8.63	6.38	31.3	7.26
MAX	504	56	22	15	12	8.0	54	20	18	21	405	15
MIN	8.8	17	13	12	8.0	5.0	6.5	12	3.6	2.3	7.4	5.2
AC-FT	3,470	1,930	1,040	839	525	398	1,360	974	513	392	1,920	432

CAL YR 1969 TOTAL 8,319.3 MEAN 22.8 MAX 504 MIN 2.7 AC-FT 16,500
WTR YR 1970 TOTAL 6,953.4 MEAN 19.1 MAX 504 MIN 2.3 AC-FT 13.790

PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-22	0800	4.90	1,430	8-20	1630	6.30	3,440
8 -16	1500	4.54	1,130				

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 1956 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.--Period of record: 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 1969 TO SEPTEMBER 1970

Month	Maximum	Minimum	Mean	Diversion in acre-feet
October	81	0	15.9	978
November	18	.07	5.43	323
December	.81	0	.21	13
CAL YR 1969	99	0	5.34	3,870
January	0	0	0	0
February	0	0	0	0
March	0	0	0	0
April	4.8	0	.99	59
May	16	0	2.72	167
June	.43	0	.021	1.3
July	2.2	0	.28	17
August	34	0	2.74	168
September	.38	0	.022	1.3
WTR YR 1970	81	0	2.39	1,730

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.--52 years (1914-18, 1919-24, 1927-70), 59.2 cfs (42,890 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,490 cfs July 20 (gage height, 4.89 ft); minimum, 2.8 cfs Mar. 18.
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.

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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75	160	62	44	43	23	6.4	44	33	6.8	73	8.8
2	70	158	70	43	43	23	5.5	69	26	5.7	77	11
3	65	158	80	42	45	22	5.7	72	25	5.5	48	8.8
4	60	153	84	42	48	21	6.4	74	19	5.7	35	7.2
5	59	145	86	42	47	19	8.0	69	19	5.7	27	5.5
6	55	132	68	42	45	10	11	69	24	5.7	24	5.2
7	53	117	60	44	42	10	9.6	74	27	5.7	21	4.4
8	53	117	70	45	28	6.8	12	81	19	8.0	19	4.4
9	51	117	62	43	27	5.2	21	76	22	8.5	22	4.4
10	47	113	57	47	25	5.2	22	78	19	13	21	4.4
11	48	111	67	54	36	3.5	32	66	12	7.6	21	4.9
12	59	108	55	58	35	3.0	40	60	8.4	7.2	28	5.2
13	72	106	70	60	36	3.8	59	69	8.0	8.4	16	5.7
14	70	106	68	65	32	3.8	55	74	7.6	8.4	12	65
15	68	102	68	70	32	3.8	41	86	8.4	8.4	11	50
16	68	93	65	72	32	3.3	34	95	10	8.8	10	37
17	56	84	60	75	31	3.3	28	75	11	8.8	13	37
18	52	83	63	74	28	3.3	86	63	8.8	8.8	28	31
19	52	68	70	72	29	3.6	179	55	7.6	9.2	17	28
20	56	68	68	68	30	3.8	136	46	11	131	29	28
21	63	82	68	65	28	3.8	113	45	8.8	228	117	27
22	333	86	66	68	29	3.8	84	41	8.8	52	47	26
23	596	84	68	69	28	3.6	68	37	10	47	27	28
24	363	80	66	69	26	3.3	51	37	11	62	31	27
25	276	76	68	66	27	3.6	50	30	12	48	31	24
26	237	75	66	62	25	3.6	41	33	8.8	85	24	24
27	216	70	66	59	24	4.4	38	30	8.4	62	17	26
28	205	66	64	58	24	8.0	28	29	7.2	47	14	26
29	187	62	52	47	------	8.8	34	28	7.2	50	13	25
30	192	62	48	37	------	8.0	39	28	7.6	44	11	24
31	170	------	45	40	------	5.2	------	37	------	36	10	------
TOTAL	4,027	3,042	2,030	1,742	925	236.5	1,343.6	1,770	415.6	1,037.9	894	612.9
MEAN	130	101	65.5	56.2	33.0	7.63	44.8	57.1	13.9	33.5	28.8	20.4
MAX	596	160	86	75	48	23	179	95	33	228	117	65
MIN	47	62	45	37	24	3.0	5.5	28	7.2	5.5	10	4.4
AC-FT	7,990	6,030	4,030	3,460	1,830	469	2,670	3,510	824	2,060	1,770	1,220

CAL YR 1969 TOTAL 29,666.5 MEAN 81.3 MAX 596 MIN 4.9 AC-FT 58,840
WTR YR 1970 TOTAL 18,076.5 MEAN 49.5 MAX 596 MIN 3.0 AC-FT 35,850

PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-22	2030	4.51	1,230	8- 1	2300	3.90	870
7-20	2100	4.89	1,490				

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.--37 years (1912-14, 1935-70), 216 cfs (156,500 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,560 cfs Oct. 22 (gage height, 8.52 ft); minimum, 2.5 cfs Sept. 12.
Period of record: Maximum discharge, 145,000 cfs June 18, 1965 (gage height, about 38.1 ft, from flood-marks, 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 poor. Diversions for irrigation of about 56,000 acres above station.

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, supersede those published in WSP 1311.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	121	244	100	65	70	62	25	85	67	7.5	98	29
2	113	241	102	70	65	59	31	96	71	6.5	91	44
3	109	232	107	57	67	57	34	121	70	6.0	97	78
4	96	226	120	60	70	55	34	210	58	8.5	78	116
5	83	221	125	56	75	53	37	204	52	6.0	64	58
6	81	207	127	50	84	53	37	202	47	8.0	52	34
7	77	201	120	50	88	50	36	223	41	13	43	23
8	71	192	113	53	84	47	35	188	37	13	39	14
9	64	188	108	55	89	41	33	180	38	16	36	8.2
10	61	184	118	60	82	39	33	200	41	13	33	5.1
11	61	179	89	70	81	40	30	212	34	12	30	3.5
12	73	174	85	75	75	38	45	217	30	13	30	2.7
13	73	169	113	77	76	36	82	202	29	14	51	2.7
14	83	167	102	79	80	33	100	202	25	9.0	42	4.7
15	89	165	116	80	81	33	124	210	20	13	32	303
16	89	160	113	95	79	33	117	196	15	11	28	170
17	91	151	113	108	74	33	108	221	12	14	33	100
18	93	140	113	114	73	32	108	221	9.6	35	24	64
19	79	136	111	116	74	30	92	171	9.0	24	22	52
20	73	136	116	114	70	30	201	140	8.0	21	20	41
21	77	125	116	120	68	28	263	114	9.0	127	94	33
22	1,380	125	116	121	68	27	227	99	9.6	242	338	36
23	1,430	132	116	120	68	25	198	88	9.0	191	270	33
24	840	134	116	120	66	24	169	86	7.5	246	148	32
25	542	130	123	117	64	24	152	82	8.0	437	91	30
26	402	127	123	116	64	24	135	85	7.5	196	61	27
27	341	121	125	114	62	26	125	86	5.5	154	55	25
28	306	118	125	108	62	27	110	89	5.5	175	45	24
29	282	114	120	102	------	26	99	85	6.5	120	32	24
30	264	105	92	95	------	25	89	73	7.0	122	25	25
31	257	------	80	80	------	25	------	72	------	96	21	------
TOTAL	7,801	4,944	3,463	2,717	2,059	1,135	2,909	4,660	788.7	2,369.5	2,123	1,441.9
MEAN	252	165	112	87.6	73.5	36.6	97.0	150	26.3	76.4	68.5	48.1
MAX	1,430	244	127	121	89	62	263	223	71	437	338	303
MIN	61	105	80	50	62	24	25	72	5.5	6.0	20	2.7
AC-FT	15,470	9,810	6,870	5,390	4,080	2,250	5,770	9,240	1,560	4,700	4,210	2,860

CAL YR 1969 TOTAL 70,002.0 MEAN 192 MAX 1,870 MIN 10 AC-FT 138,800
WTR YR 1970 TOTAL 36,411.1 MEAN 99.8 MAX 1,430 MIN 2.7 AC-FT 72,220

PEAK DISCHARGE (BASE, 4,500 CFS).--No peak above base.

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.--34 years, 17.1 cfs (12,390 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,800 cfs Oct. 22 (gage height, 4.80 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	3.5	.99	.50	.15	.22	.25	0	2.8	0	236	3.8
2	.74	3.4	.90	.50	.20	.22	.22	.02	3.2	0	23	24
3	.54	2.9	.90	.50	.37	.19	.14	.04	.82	0	14	2.9
4	.48	2.7	1.9	.55	.32	.22	.28	.03	.22	0	6.2	.67
5	.32	2.6	1.6	.50	.28	.25	.25	.01	.07	0	3.0	.28
6	.37	2.3	1.3	.45	.28	.25	.19	.01	.02	0	1.6	.08
7	.37	2.0	1.5	.40	.28	.25	.14	0	0	0	.90	.03
8	.28	1.7	1.4	.40	.28	.25	.14	0	0	17	.32	.01
9	.28	1.7	1.3	.50	.28	.19	.12	0	0	263	.19	0
10	.22	1.6	1.2	.60	.28	.19	.12	0	0	14	.08	0
11	.22	1.4	.99	.75	.25	.15	.08	0	0	16	.02	0
12	.67	1.3	.99	.82	.25	.15	.04	0	0	1.9	.01	0
13	.54	1.2	.90	.60	.25	.15	.02	0	0	.50	.01	0
14	.42	1.2	.90	.54	.22	.15	.03	0	0	.20	.04	0
15	.32	1.2	.90	.54	.22	.19	.01	0	0	.05	0	0
16	.28	1.2	.90	.54	.22	.14	.02	0	0	0	0	.04
17	.28	1.1	.90	.48	.22	.19	61	0	0	0	0	.04
18	.25	.99	.90	.42	.16	.16	1.5	0	0	0	0	.02
19	.25	.99	.82	.42	.22	.14	.48	0	0	0	0	.01
20	.19	.99	.82	.37	.28	.16	.22	0	0	0	.38	0
21	.28	.99	.82	.37	.28	.19	.14	0	0	0	136	0
22	510	.90	.82	.37	.28	.16	.03	0	0	0	20	.04
23	207	.90	.74	.37	.25	.14	.01	0	0	50	6.2	.08
24	64	1.1	.74	.37	.25	.08	.01	0	0	300	2.6	.03
25	34	.99	.67	.28	.22	.08	.03	0	0	27	1.3	0
26	18	.90	.74	.28	.22	.10	.04	0	0	8.0	.54	0
27	11	.90	.74	.28	.22	.12	.01	0	0	3.5	.22	0
28	7.8	.99	.74	.25	.22	.28	0	0	0	1.7	.08	0
29	6.0	.99	.65	.15	------	.22	0	0	0	.90	.04	0
30	4.5	.99	.60	.10	------	.14	0	0	0	.37	.01	0
31	3.9	------	.60	.10	------	.12	------	0	------	12	0	------
TOTAL	874.40	45.62	29.87	13.30	6.95	5.44	65.52	.11	7.13	716.12	452.74	32.03
MEAN	28.2	1.52	.96	.43	.25	.18	2.18	.004	.24	23.1	14.6	1.07
MAX	510	3.5	1.9	.82	.37	.28	61	.04	3.2	300	236	24
MIN	.19	.90	.60	.10	.15	.08	0	0	0	0	0	0
AC-FT	1,730	90	59	26	14	11	130	.2	14	1,420	898	64

CAL YR 1969 TOTAL 4,990.34 MEAN 13.7 MAX 628 MIN 0 AC-FT 9,900
WTR YR 1970 TOTAL 2,249.23 MEAN 6.16 MAX 510 MIN 0 AC-FT 4,460

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-22	1330	4.80	1,800	7-24	about 0500	4.75	1,760
7 - 9	0200	4.75	1,760				

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.--Period of record: 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 1969 TO SEPTEMBER 1970

Month	Maximum	Minimum	Mean	Diversion in acre-feet
October	0	0	0	0
November	0	0	0	0
December	0	0	0	0
CAL YR 1969	12	0	1.98	1,430
January	0	0	0	0
February	0	0	0	0
March	3.4	0	1.60	98
April	3.3	0	1.90	113
May	7.1	0	5.17	318
June	8.6	7.0	7.85	467
July	8.7	2.5	6.23	383
August	13	4.4	8.27	508
September	6.5	4.6	5.37	319
WTR YR 1970	13	0	3.05	2,210

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.--September 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.--Period of record: Maximum daily discharge, 751 cfs Aug. 31, 1961; no flow many days each year.
REMARKS.--Records good. 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 current year are published in Part 2 of this report.

MONTHLY DIVERSION, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

Month	Maximum	Minimum	Mean	Diversion in acre-feet
October	183	0.27	61.8	3,800
November	.49	0	.10	5.8
December	0	0	0	0
CAL YR 1969	506	0	105	75,830
January	0	0	0	0
February	0	0	0	0
March	5.9	0	.35	21
April	200	0	89.6	5,330
May	386	140	291	17,920
June	444	178	310	18,420
July	390	148	262	16,110
August	369	100	223	13,690
September	333	0	162	9,660
WTR YR 1970	444	0	117	84,960

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 noncontributing.

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, 320,200 acre-ft Apr. 23 (elevation, 4,197.58 ft); minimum, 251,600 acre-ft Sept. 30 (elevation, 4,189.30 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)

4,188	241,900	4,194	288,900
4,190	256,900	4,196	306,100
4,192	272,500	4,198	324,100

CONTENTS, IN ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	285,600	302,300	308,000	313,100	317,000	319,100	318,900	318,200	304,500	281,500	275,100	262,100
2	285,300	302,600	308,000	313,200	317,000	319,100	318,900	318,100	304,200	280,800	274,900	261,700
3	285,000	303,100	308,100	313,300	317,200	319,100	318,900	317,800	303,700	280,500	274,900	261,000
4	284,600	303,400	308,800	313,300	317,200	319,200	319,100	317,700	303,200	280,100	274,500	260,400
5	284,100	303,700	308,800	313,300	317,200	319,200	319,100	317,300	303,000	279,500	274,200	259,900
6	284,000	304,100	309,000	313,500	317,300	319,200	319,100	317,200	302,400	278,800	274,000	259,200
7	283,900	304,400	309,300	313,500	317,400	319,300	318,800	316,800	302,000	278,400	273,500	258,600
8	283,600	304,400	309,500	313,500	317,500	319,300	318,300	316,300	301,300	278,200	273,000	257,900
9	283,100	304,700	309,700	313,600	317,700	319,200	317,900	315,800	300,400	278,000	272,500	256,900
10	282,500	305,100	309,800	313,700	317,900	319,200	317,500	315,500	300,000	277,600	271,700	256,100
11	282,600	305,300	309,900	313,800	318,000	319,200	317,100	315,200	299,300	277,400	271,100	255,300
12	282,300	305,400	310,000	313,900	318,100	319,300	316,600	314,700	298,500	276,900	270,300	254,600
13	282,000	305,500	310,200	314,100	318,200	319,300	316,300	314,300	297,400	276,200	269,500	254,000
14	281,900	305,800	310,400	314,200	318,200	319,300	316,000	313,700	296,700	275,400	268,700	253,500
15	281,700	305,900	310,500	314,300	318,300	319,200	315,700	313,400	295,700	274,500	268,100	253,300
16	281,600	306,200	310,600	314,500	318,400	319,100	315,700	312,800	294,900	273,500	267,400	253,800
17	281,700	306,200	310,800	314,500	318,400	319,100	317,900	312,400	294,100	272,500	266,600	254,000
18	281,800	306,300	311,000	314,700	318,400	319,100	318,900	312,100	293,100	271,600	265,700	254,100
19	281,800	306,500	311,200	315,000	318,500	319,000	319,100	311,600	292,000	270,600	264,800	254,100
20	281,800	306,600	311,300	315,200	318,500	319,100	319,100	311,200	290,900	269,700	264,000	254,000
21	282,000	306,800	311,500	315,400	318,600	319,000	319,500	310,500	289,900	268,900	265,700	253,700
22	290,800	306,800	311,700	315,600	318,700	318,900	319,800	309,900	288,800	268,200	265,800	253,800
23	294,900	307,000	311,900	315,900	318,900	318,900	320,000	309,400	287,900	271,800	266,100	253,500
24	297,100	307,100	312,000	316,000	318,800	318,800	319,900	308,800	287,000	275,500	266,000	253,100
25	298,300	307,300	312,100	316,200	318,900	318,700	319,900	308,300	286,300	275,800	265,900	252,800
26	299,200	307,300	312,400	316,300	319,000	318,600	319,800	307,900	285,400	275,800	265,500	252,500
27	299,800	307,500	312,400	316,600	319,100	318,800	319,600	307,300	284,500	275,500	264,900	252,300
28	300,400	307,700	312,500	316,600	319,100	318,800	319,200	306,700	283,600	275,300	264,300	252,100
29	301,000	307,800	312,800	316,600	------	318,800	318,800	306,300	282,900	275,100	263,500	251,900
30	301,300	307,900	313,000	316,800	------	318,800	318,400	305,800	282,100	274,900	262,800	251,600
31	301,700	------	313,000	316,900	------	318,900	------	305,100	------	274,900	262,100	------
MAX	301,700	307,900	313,000	316,900	319,100	319,300	320,000	318,200	304,500	281,500	275,100	262,100
MIN	281,600	302,300	308,000	313,100	317,000	318,600	315,700	305,100	282,100	268,200	262,100	251,600
(†)	4,195.50	4,196.20	4,196.78	4,197.21	4,197.45	4,197.43	4,197.38	4,195.89	4,193.18	4,192.29	4,190.68	4,189.30
(‡)	+16,000	+6,200	+5,100	+3,900	+2,200	-200	-500	-13,300	-23,000	-7,200	-12,800	-10,500

CAL YR 1969..... ‡ +103,900
WTR YR 1970..... ‡ -34,100

† 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. Water-year estimate for 1942 published in WSP 1311.

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.--29 years (1941-70), 77.2 cfs (55,930 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 529 cfs May 5 (gage height, 7.94 ft); minimum daily, 1.4 cfs Oct. 6.
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 regulated 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	2.5	3.0	1.8	1.6	2.2	1.9	2.6	3.2	3.2	2.6	6.4
2	1.5	2.6	3.0	1.8	1.6	2.3	2.0	2.8	3.2	3.2	2.6	6.4
3	1.5	2.5	3.0	1.8	1.6	2.3	2.0	3.0	3.2	2.8	2.6	6.0
4	1.5	2.5	3.5	1.8	1.6	2.3	2.0	3.0	3.3	2.6	2.6	5.8
5	1.6	2.5	3.3	1.8	1.7	2.3	2.0	114	3.5	2.6	2.6	5.4
6	1.4	2.6	3.0	1.8	1.7	2.3	2.2	11	3.5	2.8	2.6	5.4
7	1.5	2.8	3.0	1.8	1.8	2.3	2.2	4.3	3.5	2.8	2.6	5.0
8	1.5	2.8	3.0	1.8	1.7	2.3	2.2	3.8	3.3	3.6	2.6	4.8
9	1.5	2.8	2.8	1.8	1.8	2.3	2.2	3.5	3.3	7.0	2.6	4.6
10	1.6	2.8	2.6	1.8	1.8	2.2	2.2	3.2	3.3	3.3	2.6	4.5
11	1.8	2.8	2.6	1.8	1.8	2.2	2.0	3.8	3.2	2.8	2.6	4.5
12	2.4	2.8	2.6	1.8	1.8	2.0	1.9	3.8	3.2	2.8	2.6	4.5
13	1.8	2.6	2.6	1.8	1.9	2.0	1.8	3.8	3.0	2.8	2.6	4.5
14	1.8	3.0	2.5	1.8	1.9	2.0	1.9	3.6	3.0	3.2	2.8	4.3
15	1.7	3.0	2.4	1.7	2.0	2.0	1.8	3.5	2.8	3.2	2.8	4.3
16	1.6	3.0	2.4	1.6	2.0	1.9	1.8	3.5	2.6	3.2	3.0	4.1
17	1.7	2.8	2.3	1.6	2.2	1.9	3.9	3.6	2.6	3.2	3.6	4.3
18	1.7	2.8	2.3	1.6	2.2	1.8	4.6	3.6	2.8	3.2	3.5	4.6
19	1.7	2.8	2.3	1.6	2.2	1.8	2.5	3.6	2.8	3.2	3.2	4.6
20	1.7	2.8	2.2	1.6	2.3	1.8	2.2	3.6	2.8	3.2	2.8	4.5
21	1.9	2.8	2.2	1.6	2.3	1.8	2.2	3.8	2.8	3.0	2.8	4.5
22	4.5	2.8	2.2	1.5	2.3	1.8	2.0	3.8	3.0	3.0	2.6	4.8
23	2.8	2.8	2.2	1.5	2.2	1.9	2.4	3.9	3.0	6.8	2.4	4.8
24	2.0	2.8	2.0	1.5	2.2	2.0	2.4	3.6	3.0	13	2.4	4.6
25	2.2	2.8	1.9	1.5	2.0	1.9	2.4	3.3	3.0	3.6	2.6	4.1
26	2.2	2.8	1.9	1.5	2.2	1.9	2.5	3.3	3.0	3.0	3.0	3.9
27	2.3	3.0	1.9	1.5	2.2	1.8	2.6	3.3	3.0	2.8	3.6	3.8
28	2.4	3.0	1.9	1.5	2.2	2.0	2.6	3.3	3.0	2.8	4.1	3.6
29	2.4	3.0	1.8	1.5	------	2.0	2.6	3.3	2.8	2.8	4.6	3.3
30	2.5	3.0	1.8	1.5	------	1.9	2.6	3.3	3.2	2.8	5.6	3.9
31	2.5	------	1.8	1.5	------	1.8	------	3.3	------	2.8	5.6	------
TOTAL	60.7	83.6	76.0	51.5	54.8	63.0	69.6	225.8	91.9	111.1	94.8	139.8
MEAN	1.96	2.79	2.45	1.66	1.96	2.03	2.32	7.28	3.06	3.58	3.06	4.66
MAX	4.5	3.0	3.5	1.8	2.3	2.3	4.6	114	3.5	13	5.6	6.4
MIN	1.4	2.5	1.8	1.5	1.6	1.8	1.8	2.6	2.6	2.6	2.4	3.3
AC-FT	120	166	151	102	109	125	138	448	182	220	188	277

CAL YR 1969 TOTAL 953.89 MEAN 2.61 MAX 12 MIN .50 AC-FT 1,890
WTR YR 1970 TOTAL 1,122.60 MEAN 3.08 MAX 114 MIN 1.4 AC-FT 2,230

07226500 Ute Creek near Logan, N. Mex.

LOCATION.--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 ft above mean sea level. 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.--28 years, 27.3 cfs (19,780 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 740 cfs July 31 (gage height, 2.86 ft); no flow most of time.
1942-70: 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	11	.35	0	0		5.1	.09	0	.05	14	0
2	0	13	.27	0	0		4.9	0	0	0	0	0
3	0	13	.60	0	0		2.3	0	0	0	0	0
4	0	9.7	8.3	0	0		4.4	0	0	0	0	0
5	0	7.6	12	0	0		6.4	0	0	0	0	0
6	0	6.4	11	0	0		3.6	0	0	0	0	0
7	0	4.9	12	0	0		1.5	0	0	0	0	0
8	0	4.0	9.7	0	0		.33	0	0	.62	18	0
9	0	3.6	7.0	0	0		.05	0	0	8.9	3.9	0
10	0	3.2	6.4	.05	0		0	0	0	0	0	0
11	0	2.3	4.0	.15	.02		0	0	0	0	0	0
12	0	1.3	5.3	.20	0		0	0	0	0	16	0
13	0	.99	3.2	.75	0		0	0	0	.48	30	0
14	.01	.60	2.6	1.2	0		0	0	0	.21	2.0	0
15	.10	.50	2.6	2.5	0		0	0	0	0	0	0
16	0	.33	4.0	2.5	0		0	0	0	0	0	59
17	0	.09	4.9	2.5	0		3.5	0	0	0	0	.16
18	0	0	4.9	2.0	0		200	0	0	0	0	0
19	0	0	3.2	2.5	0		68	0	0	0	0	0
20	0	0	4.0	5.0	0		16	0	0	0	26	0
21	0	0	3.2	7.6	0		9.0	0	0	0	96	0
22	37	0	2.6	7.6	0		2.9	0	0	8.6	32	0
23	67	0	2.0	5.8	0		.50	0	.74	108	1.5	0
24	51	0	2.3	4.4	0		.41	0	.06	139	0	0
25	40	.50	1.5	3.2	0		.22	0	0	27	0	0
26	25	.50	1.3	2.3	0		.11	.03	0	1.2	0	0
27	17	.17	1.2	.99	0		0	0	0	0	0	0
28	17	.22	.71	.50	0		0	0	0	0	0	0
29	17	.41	.17	.07	------		0	0	0	0	0	0
30	13	.40	.17	.01	------		.04	0	0	0	0	0
31	11	------	.02	0	------		------	0	------	46	0	------
TOTAL	295.11	84.71	121.49	51.82	.02	0	329.26	.12	.80	340.06	239.4	59.16
MEAN	9.52	2.82	3.92	1.67	.0007	0	11.0	.004	.027	11.0	7.72	1.97
MAX	67	13	12	7.6	.02	0	200	.09	.74	139	96	59
MIN	0	0	.02	0	0	0	0	0	0	0	0	0
AC-FT	585	168	241	103	.04	0	653	.2	1.6	675	475	117

CAL YR 1969 TOTAL 16,503.74 MEAN 45.2 MAX 2,140 MIN 0 AC-FT 32,740
WTR YR 1970 TOTAL 1,521.95 MEAN 4.17 MAX 200 MIN 0 AC-FT 3,020

PEAK DISCHARGE (BASE, 4,500 CFS).--No peak above base.

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, 105,500 acre-ft Oct. 1 (elevation, 3,759.0 ft); minimum, 96,100 acre-ft Sept. 15 (elevation, 3,756.6 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 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 1970 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)

3,756	93,840
3,758	101,500
3,760	109,600

CONTENTS, IN ACRE-FEET, AT 0800, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105,500	99,170	100,300	100,300	100,700	100,300	99,950	103,100	101,900	99,950	100,900	97,630
2	104,700	100,700	100,300	100,300	100,700	100,300	99,950	103,100	101,900	99,950	100,500	97,250
3	104,100	101,100	100,300	100,300	100,700	100,300	99,950	103,100	101,900	99,950	100,300	97,250
4	103,300	101,100	100,300	100,300	100,700	100,300	99,950	102,700	101,900	99,950	99,760	97,250
5	102,500	101,100	100,300	100,300	100,700	100,300	99,950	102,700	101,900	99,560	99,170	97,250
6	101,900	101,100	100,300	100,300	100,700	99,950	99,950	102,700	101,900	99,560	98,400	97,250
7	101,100	101,100	100,300	100,300	100,700	99,950	99,950	102,700	101,500	99,560	98,020	97,250
8	100,500	101,100	100,300	100,300	100,700	99,950	99,950	102,700	101,500	99,560	98,020	96,860
9	99,760	101,100	100,300	100,300	100,700	99,950	99,560	102,700	101,500	99,560	98,020	96,860
10	99,170	101,100	100,300	100,300	100,700	99,950	99,560	102,700	101,500	99,170	98,020	96,860
11	98,400	101,100	100,300	100,300	100,700	99,950	99,560	102,700	101,500	99,170	98,210	96,860
12	97,630	101,100	100,300	100,300	100,700	99,950	99,560	102,700	101,500	99,170	98,210	96,860
13	96,860	100,700	100,300	100,300	100,700	99,950	99,560	102,700	101,500	99,170	98,020	96,860
14	96,860	100,700	100,300	100,300	100,700	99,950	99,560	102,700	101,100	99,170	98,090	96,480
15	96,860	100,700	100,300	100,300	100,700	99,950	99,560	102,700	101,100	99,170	97,900	96,100
16	96,860	100,700	100,300	100,300	100,700	99,950	99,560	102,700	101,100	99,170	97,630	97,250
17	96,860	100,700	100,300	100,300	100,700	99,950	99,560	102,700	101,100	99,170	97,630	98,400
18	96,860	100,700	100,300	100,300	100,700	99,950	102,300	-	101,100	98,790	97,630	98,400
19	96,860	100,700	100,300	100,700	100,700	99,950	103,100	-	100,700	98,790	97,630	98,400
20	96,860	100,700	100,300	100,700	100,700	99,950	103,100	-	100,700	98,790	97,630	98,400
21	96,860	100,700	100,300	100,700	100,700	99,950	103,100	102,300	100,700	98,790	98,400	98,020
22	97,060	101,700	100,300	100,700	100,700	99,950	103,100	102,300	100,700	98,790	99,170	98,020
23	99,170	100,300	100,300	100,700	100,300	99,950	103,100	102,300	100,700	99,560	98,400	98,020
24	99,170	100,300	100,300	100,700	100,300	99,950	103,100	102,300	100,300	100,300	98,020	98,020
25	99,170	100,300	100,300	100,700	100,300	99,950	103,100	102,300	100,300	102,300	98,020	98,020
26	99,170	100,300	100,300	100,700	100,300	99,950	103,100	102,300	100,300	103,100	98,020	98,020
27	99,170	100,300	100,300	100,700	100,300	99,950	103,100	102,300	100,300	103,300	98,020	98,020
28	99,170	100,300	100,300	100,700	100,300	99,950	-	102,300	100,300	103,100	98,020	97,630
29	99,170	100,300	100,300	100,700	------	99,950	103,100	102,300	100,300	102,700	97,630	97,630
30	99,170	100,300	100,300	100,700	------	99,950	103,100	101,900	99,950	101,900	97,630	97,630
31	99,170	------	100,300	100,700	------	99,950	------	101,900	------	101,300	97,630	------
MAX	105,500	101,700	100,300	100,700	100,700	100,300	103,100	103,100	101,900	103,300	100,900	98,400
MIN	96,860	99,170	100,300	100,300	100,300	99,950	99,560	101,900	99,950	98,790	97,630	96,100
(†)	3,757.4	3,757.7	3,757.7	3,757.8	3,757.7	3,757.6	3,758.4	3,758.1	3,757.6	3,757.95	3,757.0	3,757.0
(‡)	-7,130	+1,130	0	+400	-400	-350	+3,150	-1,200	-1,950	+1,350	-3,670	0

CAL YR 1969..... ‡ +5,330
WTR YR 1970..... ‡ -8,670

† 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; 8 years (1962-70), 39.0 cfs (28,260 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 363 cfs July 31 (gage height, 3.89 ft); minimum, 1.6 cfs July 15.
1930-70: 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 below 20 cfs, 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	306	3.1	2.6	2.9	3.1	3.6	3.4	4.3	2.9	5.8	314	4.6
2	310	3.4	2.9	3.1	3.1	3.6	3.1	3.6	2.9	4.1	314	4.6
3	314	2.9	2.9	3.1	3.1	3.1	3.6	3.4	2.6	3.4	314	3.8
4	323	3.1	3.6	3.1	3.1	3.6	4.3	3.1	2.6	3.4	314	3.8
5	318	3.1	2.3	3.8	3.1	3.8	3.8	3.1	2.6	3.1	314	3.6
6	314	3.4	2.1	4.1	2.9	3.1	3.6	3.1	2.6	2.4	314	3.6
7	327	3.4	2.1	3.8	2.9	3.8	3.6	3.1	2.6	2.0	165	3.6
8	327	3.1	2.1	3.4	2.9	3.4	3.4	2.9	2.6	2.0	19	3.6
9	323	3.4	2.1	3.1	2.9	2.9	3.1	2.9	2.3	6.6	11	3.4
10	327	3.6	2.1	2.9	2.9	2.6	3.1	2.9	2.3	3.1	11	3.4
11	323	3.1	2.0	2.9	2.9	3.1	2.6	2.6	2.3	2.0	7.6	6.4
12	306	3.1	2.0	2.9	3.1	3.1	2.6	2.4	2.3	2.0	8.0	2.9
13	138	3.1	2.0	2.9	2.9	3.1	2.6	2.4	2.3	1.8	7.6	9.9
14	14	3.1	2.0	2.9	2.9	3.1	2.9	2.9	2.4	1.8	6.9	122
15	8.3	3.6	2.0	2.9	3.1	2.9	2.4	3.1	2.4	1.7	6.6	65
16	6.2	3.4	2.0	2.9	3.4	2.9	2.6	3.1	2.4	2.0	6.2	13
17	4.8	2.4	2.0	2.9	3.1	3.1	7.5	3.1	2.4	2.4	5.8	8.3
18	4.3	2.1	2.0	3.4	3.1	3.1	3.6	2.9	2.6	2.4	5.5	7.2
19	3.6	3.1	2.0	2.9	3.4	3.4	2.9	10	2.8	2.4	4.8	6.9
20	3.6	3.1	2.0	3.1	3.4	3.4	3.1	4.8	3.0	2.9	4.8	6.9
21	3.1	3.1	2.0	3.1	3.8	3.4	4.3	3.6	3.1	2.6	4.8	6.9
22	8.0	2.4	2.3	3.1	3.6	3.1	3.6	2.9	2.6	2.6	164	6.9
23	4.8	2.4	3.1	2.9	3.6	3.4	3.8	2.9	3.4	3.6	314	6.9
24	3.4	2.4	2.9	2.9	3.6	3.1	4.1	2.6	4.3	2.4	201	6.9
25	2.9	2.3	3.1	2.6	3.6	2.9	3.8	3.1	2.6	2.1	13	6.9
26	2.9	2.6	3.1	2.6	3.8	3.4	3.8	3.1	2.6	2.1	8.8	6.9
27	3.1	2.6	2.9	2.6	3.8	3.1	3.6	2.6	2.3	47	6.9	6.9
28	3.1	2.6	3.1	2.3	3.6	5.8	3.1	2.6	2.1	323	6.2	6.9
29	2.9	2.6	3.4	2.4	------	3.8	3.1	2.9	2.7	314	5.2	6.9
30	2.6	2.6	3.1	3.1	------	3.4	3.4	2.6	4.8	314	4.8	6.9
31	2.4	------	3.1	3.4	------	3.4	------	2.6	------	318	4.6	------
TOTAL	4,040.0	88.2	76.9	94.0	90.7	103.5	104.4	101.2	81.4	1,388.7	2,887.1	355.5
MEAN	130	2.94	2.48	3.03	3.24	3.34	3.48	3.26	2.71	44.8	93.1	11.9
MAX	327	3.6	3.6	4.1	3.8	5.8	7.5	10	4.8	323	314	122
MIN	2.4	2.1	2.0	2.3	2.9	2.6	2.4	2.4	2.1	1.7	4.6	2.9
AC-FT	8,010	175	153	186	180	205	207	201	161	2,750	5,730	705

CAL YR 1969 TOTAL 56,759.3 MEAN 156 MAX 6,860 MIN 2.0 AC-FT 112,600
WTR YR 1970 TOTAL 9,411.6 MEAN 25.8 MAX 327 MIN 1.7 AC-FT 18,670

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, and 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.--11 years, 56.3 cfs (40,790 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 18,700 cfs Apr. 18 (gage height, 11.15 ft); minimum, 0.50 cfs Mar. 27.
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, at site 500 ft downstream at different datum), 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 vicinty of Tucumcari. Records of chemical analyses, water temperatures, and suspended sediment loads for current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	11	4.2	3.0	3.0	1.4	18	24	15	54	250	23
2	16	37	4.6	2.5	3.0	1.2	16	23	18	51	66	116
3	16	25	5.1	2.5	3.0	.98	11	23	18	37	33	56
4	12	23	12	2.5	3.0	.90	14	22	16	29	19	39
5	12	18	16	2.5	3.0	.98	28	21	16	27	11	37
6	11	12	11	2.0	3.0	1.1	12	18	14	24	9.2	32
7	12	12	9.6	2.0	3.0	1.2	6.7	18	13	31	6.3	31
8	13	9.6	7.0	2.0	3.0	1.2	4.6	14	12	29	22	30
9	12	7.8	6.0	2.0	2.8	1.2	4.0	16	11	39	441	27
10	11	8.2	5.4	2.5	3.0	.95	3.2	18	11	39	39	22
11	9.6	7.8	4.0	3.5	3.4	.90	2.8	16	11	27	21	21
12	45	7.8	4.0	4.5	3.0	1.4	3.2	16	12	27	46	21
13	54	7.4	4.0	5.0	2.6	1.8	30	16	11	171	28	60
14	36	7.4	4.0	5.0	2.4	1.5	20	15	11	29	24	74
15	43	7.0	3.8	5.0	2.3	1.4	11	16	12	20	25	63
16	42	7.0	3.8	5.0	2.1	1.2	7.4	21	10	19	31	1,500
17	37	6.0	3.8	5.1	2.1	1.2	1,880	25	11	20	22	580
18	36	5.4	4.0	5.0	1.8	1.1	7,580	24	12	23	25	88
19	34	5.1	3.8	5.0	1.8	1.5	367	21	14	22	27	40
20	31	4.6	3.6	5.1	1.6	1.8	97	26	16	26	32	30
21	31	4.4	3.2	5.1	1.6	2.6	61	51	16	28	918	21
22	413	4.8	3.2	5.1	1.8	2.6	39	18	23	30	206	14
23	258	4.6	3.2	5.1	2.0	2.3	31	18	18	40	68	14
24	43	4.6	3.2	5.1	1.7	2.0	27	19	25	51	39	12
25	22	4.4	3.2	4.2	1.8	1.5	24	23	23	51	28	11
26	18	4.4	3.2	3.6	1.8	1.4	18	18	22	51	26	10
27	21	4.2	3.2	3.2	1.8	1.1	15	17	22	46	23	14
28	22	4.0	3.0	3.0	1.6	3.6	12	19	21	415	21	16
29	16	3.8	3.0	2.4	------	58	15	19	21	237	20	16
30	14	4.4	2.8	2.6	------	52	24	24	39	68	19	12
31	12	------	3.0	2.8	------	28	------	16	------	220	19	------
TOTAL	1,368.6	272.7	153.9	113.9	67.0	180.01	10,381.9	635	494	1,981	2,564.5	3,030
MEAN	44.1	9.09	4.96	3.67	2.39	5.81	346	20.5	16.5	63.9	82.7	101
MAX	413	37	16	5.1	3.4	58	7,580	51	39	415	918	1,500
MIN	9.6	3.8	2.8	2.0	1.6	.90	2.8	14	10	19	6.3	10
AC-FT	2,710	541	305	226	133	357	20,590	1,260	980	3,930	5,090	6,010

CAL YR 1969 TOTAL 28,608.35 MEAN 78.4 MAX 9,400 MIN 0 AC-FT 56,740
WTR YR 1970 TOTAL 21,242.51 MEAN 58.2 MAX 7,580 MIN .90 AC-FT 42,130

PEAK DISCHARGE (BASE, 3,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-18	0400	11.15	18,700	9-16	1400	a7.00	5,990

a From floodmark.

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.

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, 9.6 cfs Oct. 25 (gage height, 4.28 ft); maximum gage height, 4.31 ft Feb. 4 (backwater from ice); no flow for many days.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	4.7	1.6	0	.80	.54	.89			0		
2	5.0	5.0	1.5	0	.80	.47	.79			0		
3	3.7	4.7	1.6	0	.80	.47	.62			0		
4	3.2	4.0	2.1	0	.90	.62	.62			0		
5	3.2	4.0	2.1	0	.90	.62	.62			0		
6	2.9	3.7	2.1	0	.80	.62	.47			0		
7	2.9	3.4	3.4	0	.80	.54	.40			0		
8	2.7	3.2	2.3	.10	.89	.62	.34			0		
9	2.5	2.7	2.3	.30	.79	.54	.28			0		
10	2.1	2.7	2.1	.60	.89	.47	.22			0		
11	2.0	2.5	2.1	.80	.79	.47	.04			0		
12	3.2	2.3	1.8	.90	.70	.62	.03			0		
13	2.9	2.1	1.4	.90	.70	.54	0			0		
14	2.7	2.1	1.2	.90	.70	.47	0			1.8		
15	2.7	2.0	1.1	.90	.79	.54	0			.01		
16	2.9	2.0	1.1	.80	.70	.40	0			0		
17	2.9	1.6	1.1	.80	.62	.47	.68			0		
18	2.9	1.4	1.1	.80	.54	.47	2.3			0		
19	2.7	1.6	1.2	.90	.54	.40	1.5			0		
20	2.3	2.1	1.1	.90	.54	.40	1.1			0		
21	2.3	1.5	1.0	.90	.54	.40	.89			0		
22	4.3	1.4	.89	.90	.54	.40	.54			0		
23	7.4	1.4	.89	1.0	.54	.40	.47			0		
24	7.9	1.4	1.0	1.0	.54	.34	.47			0		
25	8.4	1.4	1.1	1.0	.54	.28	.21			0		
26	7.9	1.5	1.1	.90	.54	.17	0			0		
27	7.4	1.4	1.1	.90	.54	.18	0			0		
28	6.8	1.6	.60	.80	.54	.44	0			0		
29	5.8	1.8	.20	.80	------	.89	0			0		
30	5.4	2.0	0	.80	------	.89	0			0		
31	4.7	------	0	.80	------	.89	------		------	0		------
TOTAL	130.0	73.2	42.18	19.40	19.31	15.57	13.48	0	0	1.81	0	0
MEAN	4.19	2.44	1.36	.63	.69	.50	.45	0	0	.058	0	0
MAX	8.4	5.0	3.4	1.0	.90	.89	2.3	0	0	1.8	0	0
MIN	2.0	1.4	0	0	.54	.17	0	0	0	0	0	0
AC-FT	258	145	84	38	38	31	27	0	0	3.6	0	0

CAL YR 1969 TOTAL 4,653.29 MEAN 12.7 MAX 1,010 MIN 0 AC-FT 9,230
WTR YR 1970 TOTAL 314.95 MEAN .86 MAX 8 MIN 0 AC-FT 625

PEAK DISCHARGE (BASE, 1,200 CFS).--No peak above base.

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, nonrecording gages at same site and datum.

AVERAGE DISCHARGE.--71 years, 602 cfs (436,100 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,930 cfs Sept. 18 (gage height, 3.80 ft); minimum daily, 44 cfs Sept. 4.
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 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 and diversions for irrigation, and return flow from irrigated areas. Records of chemical analyses and water temperatures for the water years 1969-70 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 210: Drainage area. WSP 1312: 1907 (monthly runoff).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	223	1,060	560	320	350	460	502	490	678	445	90	46
2	230	1,020	600	310	360	490	496	455	713	360	92	51
3	254	1,060	660	320	350	514	490	415	615	290	90	48
4	230	1,140	699	320	340	502	466	385	532	278	110	44
5	254	1,160	736	300	350	490	472	370	502	230	157	58
6	325	1,160	600	290	340	478	472	460	478	220	164	67
7	410	1,190	530	280	350	478	472	643	455	216	167	107
8	395	1,170	460	265	360	478	496	872	455	246	142	335
9	380	1,010	380	265	380	478	538	943	478	262	108	609
10	400	916	350	270	400	478	562	784	496	274	92	1,180
11	430	889	335	275	410	496	562	800	490	266	85	961
12	514	898	415	280	430	490	532	1,110	490	258	82	496
13	574	880	460	290	450	484	460	1,280	478	216	67	282
14	713	872	480	300	480	466	440	1,340	440	206	55	246
15	872	856	510	310	490	460	405	1,200	395	170	56	795
16	952	848	495	320	480	460	390	1,120	390	145	58	1,290
17	1,050	848	520	330	480	484	380	1,090	345	130	58	1,720
18	1,100	816	500	340	490	484	375	1,100	302	115	55	1,920
19	1,150	728	520	360	480	466	410	1,300	266	120	53	1,690
20	1,200	664	540	375	470	460	425	1,350	242	98	65	1,190
21	1,270	671	580	380	480	460	380	1,160	345	78	67	856
22	1,300	744	545	370	480	466	350	952	450	71	62	706
23	1,290	816	580	370	478	466	345	792	490	67	58	562
24	1,260	824	600	380	490	466	315	760	526	69	58	496
25	1,270	856	600	390	484	472	290	776	496	92	55	478
26	1,230	800	625	400	490	472	290	792	425	112	53	445
27	1,160	699	525	410	466	478	335	848	430	122	56	390
28	1,130	680	430	420	460	478	455	848	440	120	53	340
29	1,140	640	280	400	------	472	538	808	472	108	51	306
30	1,140	560	390	380	------	472	502	752	502	100	50	278
31	1,100	------	335	360	------	496	------	685	------	100	46	------
TOTAL	24,946	26,475	15,840	10,380	12,068	14,794	13,145	26,680	13,816	5,584	2,455	17,992
MEAN	805	883	511	335	431	477	438	861	461	180	79.2	600
MAX	1,300	1,190	736	420	490	514	562	1,350	713	445	167	1,920
MIN	223	560	280	265	340	460	290	370	242	67	46	44
AC-FT	49,480	52,510	31,420	20,590	23,940	29,340	26,070	52,920	27,400	11,080	4,870	35,690

CAL YR 1969 TOTAL 209,260 MEAN 573 MAX 2,670 MIN 139 ACFT 415,100
WAT YR 1970 TOTAL 184,175 MEAN 505 MAX 1,920 MIN 44 ACFT 365,300

08252000 Rio Grande at Colorado-New Mexico State line

LOCATION.--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.--17 years, 308 cfs (223,100 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,110 cfs Sept. 18 (gage height, 5.34 ft); minimum daily, 46 cfs Sept. 4.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	246	998	565	330	370	512	523	494	684	494	84	47
2	234	974	585	320	380	531	515	456	716	401	86	50
3	271	986	635	340	370	559	504	421	644	327	88	48
4	258	1,080	685	340	350	551	498	385	547	298	84	46
5	274	1,100	725	320	370	531	494	368	515	252	138	50
6	320	1,090	675	300	360	519	501	442	484	234	152	59
7	408	1,100	570	290	370	512	498	579	459	225	155	63
8	401	1,080	500	280	390	512	523	795	456	252	143	337
9	381	938	425	280	410	504	571	880	470	264	106	579
10	391	865	370	285	430	508	603	785	476	274	88	1,160
11	418	850	345	290	450	519	603	738	480	264	78	1,100
12	490	840	375	295	460	519	583	1,000	470	264	76	631
13	535	830	440	300	480	508	508	1,190	459	222	70	398
14	631	825	475	310	520	490	459	1,250	435	207	55	283
15	766	795	500	320	530	476	445	1,140	388	172	55	754
16	835	775	505	330	520	484	425	1,060	372	149	61	1,330
17	890	775	510	340	520	494	414	1,030	349	130	61	1,740
18	938	750	515	350	540	504	411	1,050	308	110	57	2,080
19	962	670	515	370	530	487	428	1,240	277	112	55	1,850
20	1,000	630	535	375	525	480	452	1,320	261	101	61	1,310
21	1,050	635	570	390	540	473	408	1,150	343	80	68	915
22	1,100	720	560	380	540	484	368	968	476	72	64	775
23	1,090	810	565	390	539	487	346	825	519	68	63	615
24	1,090	820	595	400	543	480	336	770	563	68	61	508
25	1,100	845	610	410	539	487	308	790	547	80	59	498
26	1,090	830	620	420	543	480	292	815	487	99	57	470
27	1,030	760	580	430	523	501	327	845	476	110	57	418
28	1,020	695	480	440	512	470	435	860	484	112	55	365
29	1,040	670	360	420	------	498	531	830	504	99	54	333
30	1,060	610	340	400	------	487	508	766	523	95	52	298
31	1,020	------	365	390	------	512	------	716	------	90	48	------
TOTAL	22,339	25,346	16,095	10,835	13,154	15,559	13,817	25,958	14,172	5,725	2,391	19,110
MEAN	721	845	519	350	470	502	461	837	472	185	77.1	637
MAX	1,100	1,100	725	440	543	559	603	1,320	716	494	155	2,080
MIN	234	610	340	280	350	470	292	368	261	68	48	46
AC-FT	44,310	50,270	31,920	21,490	26,090	30,860	27,410	51,490	28,110	11,360	4,740	37,900

CAL YR 1969 TOTAL 204,590 MEAN 561 MAX 2,400 MIN 143 ACFT 405,800
WAT YR 1970 TOTAL 184,501 MEAN 505 MAX 2,080 MIN 46 ACFT 366,000

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, 44 cfs May 7 (gage height, 2.70 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 except those for May, which are poor. 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. WSP 1923: 1937-50, drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								14	22	13	5.1	6.7
2								13	20	13	5.6	6.5
3								14	19	11	5.2	4.9
4								15	19	11	4.3	4.7
5								16	17	11	4.1	4.7
6								18	16	13	4.7	5.1
7								22	16	13	5.5	4.5
8								20	19	16	7.0	4.0
9								19	21	12	5.2	3.8
10								20	17	8.9	4.5	3.5
11								22	20	8.7	4.3	3.4
12								25	21	8.9	3.4	5.4
13								27	17	7.6	3.4	12
14								29	17	7.4	3.2	5.1
15								28	17	9.8	4.0	3.7
16								28	15	10	5.1	3.4
17								31	15	8.9	5.2	3.1
18								32	15	10	5.6	2.9
19								31	15	8.4	5.6	3.1
20								31	15	8.1	7.2	2.9
21								31	17	11	12	2.6
22								31	17	9.8	9.0	6.0
23								29	17	10	6.5	6.6
24								28	17	12	6.0	4.7
25								29	14	11	4.7	3.5
26								27	13	6.7	4.3	3.3
27								29	13	5.6	4.5	3.2
28								27	17	5.3	4.1	3.1
29					------			24	17	5.1	6.0	3.1
30					------			23	16	4.3	5.6	3.2
31		------			------		------	23	------	4.9	5.8	------
TOTAL								756	511	295.4	166.7	132.7
MEAN								24.4	17.0	9.53	5.38	4.42
MAX								32	22	16	12	12
MIN								13	13	4.3	3.2	2.6
AC-FT								1,500	1,010	586	331	263

PEAK DISCHARGE(BASE, 40 CFS)

DATE	TIME	G.H.	DISCHARGE
5-7	Un-known	2.70	44

NOTE.--No gage-height record May 1-12.

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, 43 cfs May 27 (gage height, 1.16 ft); minimum not determined. Period of record: Maximum discharge, 122 cfs June 11, 1957 (gage height, 1.72 ft); minimum not determined.

REMARKS.--Records poor prior to August and fair thereafter. 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. WSP 1923: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								8.8	34	24	8.4	10
2								8.0	32	20	8.0	11
3								9.8	31	18	7.7	9.3
4								9.8	31	17	7.3	8.8
5								10	29	15	8.4	9.3
6								11	29	15	8.8	9.3
7								14	29	13	10	8.8
8								15	31	14	10	8.0
9								15	27	15	8.0	7.7
10								14	23	12	9.3	7.7
11								16	25	11	7.7	7.3
12								17	26	11	6.9	10
13								18	23	11	6.5	17
14								19	23	10	6.1	11
15								22	25	9.8	6.5	8.8
16								23	23	11	8.0	8.4
17								26	23	11	8.4	7.3
18								29	24	11	8.0	6.1
19								31	24	8.8	7.3	5.8
20								32	26	11	8.0	5.8
21								34	26	11	11	5.4
22								35	28	11	9.8	7.7
23								37	28	9.8	11	8.5
24								38	28	10	11	8.0
25								39	27	11	10	6.5
26								40	26	9.8	9.8	6.3
27								40	26	9.8	9.8	6.2
28								39	27	9.3	9.3	6.2
29					------			37	26	9.8	10	5.8
30					------			35	26	9.3	9.8	6.1
31		------			------		------	35	------	8.8	9.8	------
TOTAL								757.4	806	378.2	270.6	244.1
MEAN								24.4	26.9	12.2	8.73	8.14
MAX								40	34	24	11	17
MIN								8.0	23	8.8	6.1	5.4
AC-FT								1,500	1,600	750	537	484

PEAK DISCHARGE(BASE, 50 CFS).--No peak above base.

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, 9.1 cfs Sept. 12 (gage height, 0.95 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 fair. No diversion above or below station.

REVISIONS.--WSP 1923: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5							.55	5.3	6.1	2.6	1.7
2	1.5							.73	5.3	6.1	2.4	1.7
3	1.5							.93	5.2	5.8	2.6	1.6
4	1.6							.86	5.3	5.7	2.6	1.6
5	1.5							1.1	5.3	5.6	2.4	1.4
6	1.5							1.3	5.0	5.5	2.4	1.5
7	1.4							1.4	5.1	5.5	2.7	1.4
8	1.5							1.5	5.2	5.5	2.4	1.4
9	1.5							1.6	5.1	5.2	2.2	1.3
10	1.4							1.9	5.0	4.7	2.2	1.3
11	1.4							2.3	5.2	4.7	2.1	1.2
12	1.2							2.4	5.3	4.7	1.9	1.9
13	1.6							2.5	5.5	4.5	1.9	2.0
14	1.7							2.6	5.3	4.4	1.9	1.6
15	1.5							2.8	5.3	4.3	2.1	1.4
16	1.5							2.9	5.3	4.2	2.2	1.4
17	1.6							3.3	5.3	4.2	2.0	1.3
18	1.7							3.7	5.3	4.1	2.0	1.3
19	1.5							4.0	5.3	3.7	2.1	1.3
20	1.4							4.2	5.5	3.6	2.3	1.1
21	1.4							4.5	5.8	4.1	2.4	1.1
22	1.4						.73	4.7	6.0	4.1	2.2	1.4
23	1.4						.80	5.0	6.1	3.7	2.1	1.5
24	1.4						.80	5.2	6.2	4.1	2.0	1.3
25	1.4						.70	5.5	6.2	3.7	1.9	1.2
26	1.4						1.0	5.2	6.2	3.2	1.9	1.2
27	1.3						1.0	5.7	6.2	3.0	1.9	1.2
28	1.2						.93	5.8	6.4	2.9	1.9	1.2
29	1.1				------		.86	5.6	6.2	2.8	2.0	1.1
30	1.2				------		.79	5.5	6.2	2.7	1.8	1.1
31	1.2	------			------		------	5.5	------	2.6	1.8	------
TOTAL	44.4							100.77	166.6	135.0	66.9	41.7
MEAN	1.43							3.25	5.55	4.35	2.16	1.39
MAX	1.7							5.8	6.4	6.1	2.7	2.0
MIN	1.1							.55	5.0	2.6	1.8	1.1
AC-FT	88							200	330	268	133	83

PEAK DISCHARGE (BASE, 6.0 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5-27	1900	0.74	6.6	7-18	1730	0.77	6.9
6- 8	1930	.75	6.2	7-21	1830	.83	7.6
6-24	1700	.84	7.6	7-24	2130	.84	7.4
7- 7	1530	.75	6.5	9-12	2230	.95	9.1

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 (from topographic map).

EXTREMES.--Current year: Maximum contents observed, 13,460 acre-ft May 26 (gage height, 9,507.2 ft); minimum observed, 3,990 acre-ft Sept. 11 (gage height, 9,473.9 ft).
Period of record: Maximum contents observed, 15,130 acre-ft 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 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.

REVISIONS.--WSP 1923: Drainage area.

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

9,470	3,260	9,500	10,880
9,480	5,270	9,510	14,540
9,490	7,790		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	-	-	-	-	-	-	-	11,020	13,200	11,500	-	4,830
2	-	-	-	-	-	-	-	11,050	13,240	11,290	-	-
3	-	-	-	-	-	-	-	11,090	13,240	11,190	7,430	4,740
4	-	6,950	-	-	-	-	-	11,120	13,200	-	7,270	4,680
5	-	-	-	-	-	-	-	11,220	13,200	11,120	7,080	-
6	-	-	-	-	-	-	-	11,260	13,280	10,950	-	-
7	-	-	-	-	-	-	-	11,360	13,350	10,850	6,560	4,330
8	6,090	-	-	-	-	-	-	11,430	13,350	10,680	-	4,250
9	-	-	-	-	-	-	-	11,500	13,280	10,550	-	4,210
10	-	-	-	-	-	-	-	11,570	13,160	10,320	6,510	4,050
11	-	-	-	-	-	-	-	11,640	13,090	-	6,220	3,990
12	-	-	-	-	-	-	-	11,780	13,010	10,220	6,020	-
13	-	-	-	-	-	-	-	11,850	13,050	10,220	5,780	-
14	-	-	-	-	-	-	-	11,920	13,120	10,090	5,570	4,050
15	-	-	-	-	-	-	-	12,030	13,090	9,860	-	4,050
16	-	-	-	-	-	-	-	12,170	13,050	9,730	-	4,050
17	-	-	-	-	-	-	-	12,280	12,980	9,580	5,480	4,050
18	-	-	-	-	-	-	-	12,460	12,870	-	5,320	-
19	-	-	-	-	-	-	-	12,570	12,790	-	5,140	-
20	-	-	-	-	-	-	-	12,720	-	9,450	4,920	-
21	-	-	-	-	-	-	-	12,870	12,760	9,260	4,980	4,050
22	-	-	-	-	-	-	10,410	13,010	12,720	9,110	-	-
23	-	-	-	-	-	-	-	-	12,540	8,810	-	-
24	-	-	-	-	-	-	-	13,390	12,390	8,660	4,810	-
25	-	7,520	-	-	-	-	-	-	12,210	-	4,850	4,070
26	-	-	-	-	-	-	-	13,460	11,990	-	4,830	-
27	-	-	-	-	-	-	-	-	-	8,510	4,870	-
28	-	-	-	-	9,200	-	-	13,390	11,990	8,310	4,830	-
29	-	-	-	-	------	-	-	13,310	11,920	-	-	4,170
30	-	7,600	-	-	------	-	11,000	13,310	11,600	7,850	-	4,200
31	6,800	------	8,300	8,800	------	9,700	------	13,240	------	7,650	4,830	------
(+)	-	-	-	-	-	-	-	9,506.6	9,502.1	9,489.5	9,478.0	-
(‡)	+1,000	+800	+700	+500	+400	+500	+1,300	+2,240	-1,640	-3,950	-2,820	-630

CAL YR 1969..... ‡ +2,100
WTR YR 1970..... ‡ -1,600

† 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, 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.--24 years (1944-47, 1949-70), 16.7 cfs (12,100 acre-ft per year).

EXTREMES.--Current year: 157 cfs June 28-30 (gage height, 2.05 ft); minimum, 0.03 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 periods of no gage-height record, which are poor. Flow regulated by Costilla Reservoir (see sta 08253900). Diversions for irrigation of about 1,300 acres above Reservoir.

REVISIONS.--WSP 1923: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.11	.09	.05	.07	.07	.07	.04	72	113	30	37
2	.03	.11	.09	.05	.07	.07	.07	.04	62	113	63	43
3	.03	.11	.09	.05	.07	.07	.07	.04	62	74	126	43
4	.03	.11	.09	.05	.07	.07	.07	.04	62	48	134	47
5	.03	.11	.09	.05	.07	.07	.07	.04	31	71	138	60
6	.03	.11	.09	.05	.07	.07	.07	.04	14	116	136	60
7	.03	.11	.09	.05	.07	.07	.07	.03	31	119	64	60
8	.03	.11	.09	.05	.07	.07	.07	.03	81	122	22	62
9	.03	.11	.09	.05	.07	.07	.07	.03	101	120	59	62
10	.03	.11	.09	.05	.07	.07	.07	.03	100	70	111	62
11	.03	.11	.09	.05	.07	.07	.07	.03	98	34	119	32
12	.03	.11	.09	.05	.07	.07	.07	.03	68	66	120	12
13	.04	.11	.09	.05	.07	.07	.07	.03	13	112	119	12
14	.04	.11	.09	.05	.07	.07	.07	.03	36	104	58	12
15	.05	.11	.09	.07	.07	.07	.07	.04	80	102	18	12
16	.05	.11	.09	.07	.07	.07	.07	.04	80	102	44	12
17	.05	.11	.09	.07	.07	.07	.07	.04	80	62	94	12
18	.07	.11	.09	.07	.07	.07	.07	.04	80	36	103	12
19	.07	.09	.09	.07	.07	.07	.07	.04	67	63	114	12
20	.07	.09	.09	.07	.07	.07	.07	.04	58	117	107	12
21	.07	.09	.09	.07	.07	.07	.07	.04	84	122	60	12
22	.11	.09	.09	.07	.07	.07	.07	.04	136	126	21	12
23	.11	.09	.09	.07	.07	.07	.07	.04	144	125	21	12
24	.11	.09	.09	.07	.07	.07	.07	.04	148	71	21	12
25	.11	.09	.09	.07	.07	.07	.05	50	141	36	18	6.2
26	.11	.07	.09	.07	.07	.07	.05	94	82	71	18	.04
27	.11	.07	.09	.07	.07	.07	.05	104	53	123	18	.04
28	.11	.07	.09	.07	.07	.07	.04	111	88	123	18	.04
29	.11	.07	.09	.07	------	.07	.04	97	157	122	17	.04
30	.11	.07	.09	.07	------	.07	.04	88	140	122	17	.04
31	.11	------	.07	.07	------	.07	------	88	------	58	22	------
TOTAL	1.97	2.96	2.77	1.89	1.96	2.17	1.95	632.88	2,449	2,863	2,030	730.40
MEAN	.064	.099	.089	.061	.070	.070	.065	20.4	81.6	92.4	65.5	24.3
MAX	.11	.11	.09	.07	.07	.07	.07	111	157	126	138	62
MIN	.03	.07	.07	.05	.07	.07	.04	.03	13	34	17	.04
AC-FT	3.9	5.9	5.5	3.8	3.9	4.3	3.9	1,260	4,860	5,680	4,030	1,450

CAL YR 1969 TOTAL 6,745.02 MEAN 18.5 MAX 143 MIN .02 ACFT 13,380
WAT YR 1970 TOTAL 8,720.95 MEAN 23.9 MAX 157 MIN .03 ACFT 17,300

NOTE.--No gage-height record Dec. 31 to Apr. 21.

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, 225 cfs Apr. 25 (gage height, 2.73 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 good. 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). WSP 1923: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.9						-	33	119	119	38	40
2	9.9						-	34	105	119	55	49
3	9.6						-	45	101	92	127	48
4	9.6						-	53	100	60	141	50
5	9.3						-	56	77	70	146	64
6	8.7						-	62	51	119	143	69
7	8.7						-	71	56	127	96	67
8	8.7						-	75	100	134	33	67
9	-						-	73	121	129	47	64
10	-						-	78	117	94	111	62
11	-						-	89	121	46	119	45
12	-						-	91	106	60	119	21
13	-						-	96	45	119	118	34
14	-						-	96	52	101	77	26
15	-						-	96	105	103	28	21
16	-						-	92	103	109	40	20
17	-						-	92	98	81	92	19
18	-						-	94	98	47	105	19
19	-						-	92	91	58	125	19
20	-						-	89	80	119	119	18
21	-						38	88	93	125	93	17
22	-						39	86	146	134	33	21
23	-						43	84	155	134	29	21
24	-						61	84	164	97	29	20
25	-						85	113	151	52	26	19
26	-						93	161	107	62	23	10
27	-						71	158	63	123	22	9.0
28	-						58	164	80	119	22	8.0
29	-				------		48	143	164	117	23	7.5
30	-				------		39	127	153	115	23	7.0
31		------			------		------	125	------	71	26	------
TOTAL	-						-	2,840	3,122	3,055	2,228	961.5
MEAN	-						-	91.6	104	98.5	71.9	32.1
MAX	-						-	164	164	134	146	69
MIN	-						-	33	45	46	22	7.0
AC-FT	-						-	5,630	6,190	6,060	4,420	1,910

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.--29 years (1941-70), 42.8 cfs (31,010 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 233 cfs Aug. 7 (gage height, 3.58 ft); minimum, 1.1 cfs Feb. 27, 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 prior to April and good thereafter. 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 1970 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	25	18	5.5	7.0	8.2	10	44	142	137	48	43
2	15	19	17	4.5	7.0	8.2	12	39	127	134	52	55
3	14	17	18	5.0	8.0	8.1	14	44	123	119	127	55
4	14	22	19	5.5	9.0	8.0	14	65	119	77	140	52
5	14	23	18	6.0	9.0	7.9	13	63	109	74	142	68
6	13	24	11	5.5	9.0	8.1	15	65	80	125	143	74
7	13	22	7.0	5.5	9.0	7.7	21	79	76	134	148	75
8	12	22	7.0	5.5	9.0	8.5	22	89	112	143	68	73
9	13	22	7.0	7.0	9.0	9.1	30	83	139	146	57	73
10	11	24	7.5	9.0	9.0	8.3	56	83	139	125	120	72
11	12	24	6.0	8.0	9.5	9.1	87	95	142	67	129	62
12	13	23	7.0	8.0	10	9.3	51	104	136	66	130	29
13	14	23	7.0	7.0	10	8.2	45	111	71	130	126	49
14	16	21	7.5	7.0	11	9.7	53	119	62	119	103	34
15	18	20	7.5	7.0	10	10	40	120	118	119	44	28
16	17	25	7.5	7.0	11	11	41	116	116	122	51	25
17	18	22	8.0	8.0	12	11	87	123	118	106	107	24
18	31	10	8.0	7.5	11	9.5	89	132	112	59	108	22
19	35	14	8.5	7.0	9.3	10	53	126	106	59	129	22
20	25	21	8.5	7.5	9.7	8.7	34	120	92	118	130	22
21	20	23	9.0	7.5	9.3	11	35	118	93	123	126	20
22	30	25	9.0	8.0	9.3	10	52	118	146	129	52	26
23	28	23	9.0	8.0	8.4	10	48	108	149	127	44	26
24	25	20	9.5	8.0	8.1	11	63	102	160	120	41	25
25	27	18	9.5	8.0	9.7	11	86	110	152	79	37	22
26	28	17	9.5	8.0	9.0	9.1	104	168	130	68	32	16
27	28	16	9.0	8.0	7.6	9.9	98	179	83	127	31	14
28	28	11	7.0	7.5	8.9	11	80	187	84	129	30	13
29	28	15	7.0	6.0	------	11	60	171	152	127	29	13
30	24	15	5.0	7.0	------	12	50	155	160	125	29	12
31	23	------	5.0	7.5	------	12	------	148	------	101	28	------
TOTAL	623	606	293.5	216.5	258.8	296.6	1,463	3,384	3,548	3,434	2,581	1,144
MEAN	20.1	20.2	9.47	6.98	9.24	9.57	48.8	109	118	111	83.3	38.1
MAX	35	25	19	9.0	12	12	104	187	160	146	148	75
MIN	11	10	5.0	4.5	7.0	7.7	10	39	62	59	28	12
AC-FT	1,240	1,200	582	429	513	588	2,900	6,710	7,040	6,810	5,120	2,270

CAL YR 1969 TOTAL 16,239.6 MEAN 44.5 MAX 172 MIN 5.0 ACFT 32,210
WAT YR 1970 TOTAL 17,848.4 MEAN 48.9 MAX 187 MIN 4.5 ACFT 35,400

PEAK DISCHARGE(BASE, 250 CFS).--No peak above base.

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, 127 cfs May 30 (gage height, 2.58 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 50 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.62						-	10	28	10	3.8	1.3
2	.62						-	9.3	15	9.9	4.2	.75
3	.60						-	13	13	21	11	.94
4	.56						-	42	11	21	4.5	.70
5	.56						-	31	23	4.9	3.5	1.2
6	.56						-	21	28	13	3.3	.47
7	.56						-	28	10	15	6.7	.38
8	-						-	38	11	15	2.0	.38
9	-						-	34	21	9.8	1.9	12
10	-						-	35	19	17	8.5	22
11	-						-	37	23	3.4	4.3	17
12	-						-	35	32	3.4	5.7	2.1
13	-						-	40	33	12	4.0	11
14	-						-	48	9.6	5.2	9.8	1.3
15	-						-	54	20	6.6	14	.29
16	-						-	54	14	7.6	5.3	.21
17	-						-	59	12	16	13	.14
18	-						-	39	8.4	21	4.1	.10
19	-						-	27	18	3.6	11	.06
20	-						-	25	34	4.6	18	.04
21	-						4.8	24	19	3.0	56	.03
22	-						17	26	22	3.7	3.2	.24
23	-						8.5	20	13	2.9	3.0	.14
24	-						18	15	24	15	2.8	.08
25	-						36	38	19	28	2.9	.05
26	-						49	58	26	3.6	2.7	.03
27	-						43	57	31	7.2	2.6	.02
28	-						35	61	6.7	3.6	2.2	.02
29	-				------		23	85	18	2.8	.64	.02
30	-				------		14	67	17	2.7	.36	.01
31	-	------			------		------	29	------	8.8	.31	------
TOTAL	-						-	1,159.3	578.7	301.3	215.31	73.00
MEAN	-						-	37.4	19.3	9.72	6.95	2.43
MAX	-						-	85	34	28	56	22
MIN	-						-	9.3	6.7	2.7	.31	.01
AC-FT	-						-	2,300	1,150	598	427	145

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, 124 cfs May 26 (gage height, 3.77 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 fair. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	2.0					-	9.5	29	12	2.7	.53
2	1.5	1.4					-	9.5	15	9.1	2.7	0
3	1.2	.76					-	18	11	19	9.2	0
4	2.0	.28					-	53	8.1	25	2.1	0
5	3.2	-					-	58	17	6.0	1.6	0
6	3.9	-					-	37	30	14	1.6	0
7	3.9	-					-	28	11	16	5.4	0
8	3.7	-					-	36	11	18	1.9	0
9	1.8	-					-	33	22	13	1.4	5.7
10	1.6	-					-	33	19	17	6.4	15
11	1.3	-					-	33	25	4.5	2.9	15
12	1.2	-					-	33	22	3.2	3.5	1.6
13	3.2	-					-	40	37	13	2.7	10
14	1.6	-					-	44	11	4.3	11	1.6
15	1.6	-					-	46	22	5.5	18	.01
16	1.6	-					-	45	14	7.1	4.1	0
17	1.5	-					-	47	12	17	14	0
18	5.5	-					-	33	7.6	24	2.6	0
19	10	-					-	24	15	3.2	8.7	0
20	3.5	-					-	22	38	4.3	15	0
21	1.6	-					-	21	18	2.0	47	0
22	4.4	-					12	23	24	2.2	2.9	0
23	3.5	-					6.0	19	12	1.6	2.2	0
24	2.4	-					12	16	25	13	2.0	0
25	3.2	-					28	35	21	28	2.0	0
26	3.5	-					38	58	27	2.5	1.9	0
27	3.1	-					34	48	34	6.1	1.7	0
28	3.1	-					28	51	5.8	2.1	1.7	0
29	3.2	-			------		19	74	20	1.1	1.2	0
30	1.7	-			------		11	65	18	1.1	.78	0
31	1.8	------			------		------	29	------	6.3	.03	------
TOTAL	88.0	-					-	1,121.0	581.5	301.2	180.91	49.44
MEAN	2.84	-					-	36.2	19.4	9.72	5.84	1.65
MAX	10	-					-	74	38	28	47	15
MIN	1.2	-					-	9.5	5.8	1.1	.03	0
AC-FT	175	-					-	2,220	1,150	597	359	98

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 1969 TO SEPTEMBER 1970

	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	-	-	-	777	284	319	-	123
November	-	-	-	-	-	-	-	157
December	-	-	-	-	-	-	-	0
CAL YR 1969	-	-	-	-	-	-	-	2,620
January	-	-	-	-	-	-	-	0
February	-	-	-	-	-	-	-	0
March	-	-	-	-	-	-	-	162
April	-	-	-	-	-	-	-	1,240
May	630	0.9	1.0	3,690	701	2,520	455	1,470
June	921	16	17	4,700	1,790	2,250	420	205
July	771	42	6.5	5,320	1,660	2,840	373	449
August	639	0	.04	4,050	1,550	1,820	360	203
September	459	0	3.9	1,650	462	780	177	18
WTR YR 1970	-	-	-	-	-	-	-	4,030

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 September 1970 (discontinued). 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.--33 years, 6.04 cfs (4,380 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, about 105 cfs Aug. 7 (gage height, 3.49 ft, backwater from debris); minimum, 1.6 cfs Oct. 12, 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 good except those for winter period and those subsequent to Aug. 6, which are poor. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	4.0	2.5	2.0	2.0	2.0	2.1	3.1	19	12	6.6	5.9
2	4.5	3.6	2.5	1.8	2.0	2.0	2.1	3.4	18	12	6.6	6.6
3	4.3	3.8	2.6	1.9	2.0	2.0	2.1	4.1	18	11	6.4	6.1
4	4.7	4.0	2.6	2.2	2.0	1.8	2.1	7.7	16	11	6.1	5.7
5	4.5	4.0	2.6	2.3	2.1	1.8	2.1	12	16	11	6.1	5.7
6	3.8	3.8	2.6	2.6	2.1	1.8	2.6	13	15	9.5	5.9	7.6
7	3.4	3.8	2.6	2.6	2.1	1.8	2.6	13	16	13	12	6.1
8	3.4	3.8	2.6	2.5	2.1	1.8	2.6	8.7	17	18	8.2	5.5
9	3.4	3.6	2.6	2.5	2.1	1.8	2.8	6.6	16	15	8.7	5.3
10	3.1	3.6	2.6	2.5	2.1	1.8	3.0	12	15	12	11	5.1
11	3.4	3.6	2.5	2.4	2.1	1.8	3.1	15	16	11	8.0	4.9
12	3.3	3.4	2.5	2.4	2.1	1.8	3.1	14	14	10	7.6	11
13	3.8	3.2	2.4	2.4	2.1	1.8	3.1	14	14	9.2	6.6	12
14	4.0	3.2	2.4	2.2	2.1	1.8	3.0	14	17	8.7	6.6	9.0
15	4.0	2.9	2.4	2.2	2.1	1.8	3.3	13	19	9.0	7.6	6.6
16	3.6	3.0	2.4	2.2	2.1	1.8	3.1	14	18	8.7	9.3	5.9
17	3.6	2.6	2.4	2.1	2.1	1.8	3.8	16	17	9.0	9.2	5.7
18	4.7	2.5	2.2	2.1	2.1	1.8	3.6	15	17	8.2	8.0	5.5
19	4.5	2.4	2.4	2.1	2.0	1.8	3.3	15	17	8.4	11	5.5
20	4.3	2.5	2.4	2.0	2.0	1.8	3.1	16	17	7.5	14	5.3
21	4.5	2.6	2.4	2.0	2.0	2.0	2.6	19	18	7.3	16	5.1
22	4.1	2.6	2.4	2.0	2.0	2.0	2.8	18	18	7.3	11	5.7
23	4.3	2.6	2.4	2.0	2.0	2.1	3.3	18	17	7.5	9.7	6.4
24	4.1	2.6	2.4	2.0	2.0	2.1	3.8	19	19	7.4	8.7	5.9
25	4.1	2.5	2.4	2.0	2.0	2.1	5.5	20	17	17	8.0	5.5
26	4.1	2.5	2.6	2.0	2.0	2.1	8.6	18	17	9.5	7.4	4.9
27	4.0	2.5	2.7	2.0	2.0	2.1	9.0	18	16	8.7	6.9	4.9
28	4.1	2.5	2.4	2.0	2.0	2.1	6.6	20	15	8.2	6.6	4.7
29	3.8	2.5	2.2	1.8	------	2.1	4.3	19	15	7.5	6.4	4.7
30	4.0	2.5	2.1	1.8	------	2.1	3.8	21	14	6.8	6.1	4.5
31	3.8	------	2.1	2.0	------	2.1	------	21	------	6.8	5.9	------
TOTAL	123.9	92.7	75.9	66.6	57.4	59.5	106.9	440.6	498	308.2	258.2	183.3
MEAN	4.00	3.09	2.45	2.15	2.05	1.92	3.56	14.2	16.6	9.94	8.33	6.11
MAX	4.7	4.0	2.7	2.6	2.1	2.1	9.0	21	19	18	16	12
MIN	3.1	2.4	2.1	1.8	2.0	1.8	2.1	3.1	14	6.8	5.9	4.5
AC-FT	246	184	151	132	114	118	212	874	988	611	512	364

CAL YR 1969 TOTAL 1,919.9 MEAN 5.26 MAX 20 MIN 1.5 AC-FT 3,810
WAT YR 1970 TOTAL 2,271.2 MEAN 6.22 MAX 21 MIN 1.8 AC-FT 4,500

PEAK DISCHARGE (BASE, 40 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
7- 8	2000	1.78	55	8-19	1700	†1.99	52
7-25	0600	1.74	53	8-20	2200	†2.00	55
8- 7	1530	†3.49	about 105	9-12	2230	1.70	52

† Backwater from debris.

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.--22 years, 366 cfs (265,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,050 cfs Sept. 18 (gage height, 8.46 ft); minimum, 87 cfs Sept. 2. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	273	1,060	545	346	399	545	569	543	720	545	140	91
2	254	1,030	575	340	407	555	563	523	740	473	135	88
3	262	1,020	605	360	403	579	553	483	732	391	132	93
4	287	1,130	682	360	391	598	547	443	615	333	128	91
5	273	1,160	722	340	401	577	535	408	563	311	136	88
6	297	1,160	620	320	397	561	543	412	533	269	179	93
7	376	1,160	612	310	410	549	543	549	507	256	190	103
8	429	1,160	539	300	426	545	547	762	487	254	191	163
9	399	1,080	464	300	445	543	587	932	490	289	172	430
10	405	932	386	310	477	545	630	914	510	294	139	946
11	416	896	358	320	489	547	655	765	520	300	127	1,220
12	481	872	337	325	503	555	635	950	520	292	120	840
13	533	863	426	328	541	551	589	1,210	500	277	115	548
14	575	860	450	335	585	541	523	1,300	460	245	110	367
15	700	836	491	351	589	523	487	1,280	430	233	105	452
16	760	812	519	367	583	519	469	1,160	420	197	105	1,170
17	860	797	503	384	581	525	458	1,140	380	180	110	1,540
18	920	785	527	390	612	539	445	1,120	340	160	105	1,980
19	940	698	511	403	587	537	448	1,220	310	150	110	1,930
20	980	583	531	407	579	517	487	1,390	300	160	125	1,490
21	1,030	615	547	418	598	517	475	1,270	400	150	120	1,080
22	1,100	685	587	414	600	519	422	1,110	450	140	115	902
23	1,100	773	555	424	600	525	391	917	501	130	110	720
24	1,100	812	587	431	581	521	371	845	535	125	105	591
25	1,100	821	612	443	579	527	357	833	561	130	100	543
26	1,100	809	612	458	569	523	330	857	515	140	98	527
27	1,080	740	632	464	573	539	328	881	475	150	97	491
28	1,050	675	535	479	551	505	376	908	483	165	99	429
29	1,070	630	437	466	------	549	523	902	505	170	96	382
30	1,090	547	290	443	------	535	569	833	529	160	96	355
31	1,080	------	399	426	------	543	------	788	------	150	94	------
TOTAL	22,320	26,001	16,196	11,762	14,456	16,754	14,955	27,648	15,031	7,219	3,804	19,743
MEAN	720	867	522	379	516	540	499	892	501	233	123	658
MAX	1,100	1,160	722	479	612	598	655	1,390	740	545	191	1,980
MIN	254	547	290	300	391	505	328	408	300	125	94	88
AC-FT	44,270	51,570	32,120	23,330	28,670	33,230	29,660	54,840	29,810	14,320	7,550	39,160

CAL YR 1969 TOTAL 209,272 MEAN 573 MAX 2,350 MIN 166 ACFT 415,100
WAT YR 1970 TOTAL 195,889 MEAN 537 MAX 1,980 MIN 88 ACFT 388,500

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
11-7	1500	6.74	1,180	9-11	1000	6.97	1,290
5-20	1830	7.36	1,440	9-18	2300	8.46	2,050

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.--7 years, 18.9 cfs (13,690 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 95 cfs May 22 (gage height, 2.78 ft); maximum gage height, 3.63 ft Apr. 3 (backwater from ice); minimum discharge recorded, 2.6 cfs Mar. 4, 5, 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); maximum gage height, 3.63 ft Apr. 3, 1970 (backwater from ice); minimum discharge 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	13	8.9	5.5	6.0	5.8	5.8	12	75	50	16	12
2	14	12	9.2	5.0	6.2	5.8	6.7	12	69	46	16	11
3	14	12	8.9	5.0	6.2	5.6	6.4	12	63	43	16	10
4	13	13	8.9	5.0	6.4	5.6	6.2	15	60	44	16	10
5	13	12	8.6	5.5	6.2	5.3	6.2	17	54	40	15	10
6	13	12	7.1	5.5	6.0	5.8	6.2	20	51	40	14	14
7	12	12	6.8	5.5	5.6	5.6	7.1	26	50	41	15	13
8	12	12	7.5	5.5	5.8	5.6	6.9	29	50	38	15	12
9	12	12	7.0	6.0	5.8	5.6	7.1	28	51	34	14	10
10	12	12	8.6	6.5	5.8	5.6	8.3	31	52	32	13	10
11	12	11	8.0	7.7	5.8	5.6	8.6	38	60	30	13	9.8
12	12	11	9.5	7.4	6.0	5.6	8.0	47	54	28	13	11
13	12	11	9.2	6.9	5.8	6.0	8.0	51	48	26	12	22
14	13	11	8.9	7.1	5.8	5.5	8.3	57	57	26	13	18
15	13	10	9.5	7.4	5.8	5.6	8.3	61	66	26	13	15
16	12	10	8.9	6.9	5.8	5.6	8.6	63	66	25	13	14
17	15	9.2	8.6	7.1	5.8	5.6	10	67	63	25	13	12
18	20	7.7	8.3	6.7	5.8	6.0	9.5	74	63	23	13	12
19	18	8.3	8.0	6.7	5.8	6.0	8.3	75	64	23	18	12
20	19	10	8.0	6.7	5.6	6.0	8.0	80	66	24	17	11
21	17	10	8.0	6.7	6.0	6.0	8.3	83	66	23	16	11
22	17	11	8.0	6.7	5.8	5.8	8.6	90	66	20	15	12
23	17	9.8	8.0	6.7	5.8	5.8	8.9	90	67	21	15	12
24	15	9.2	8.0	6.7	5.8	5.8	10	90	69	20	13	12
25	15	9.2	7.7	6.7	5.8	5.8	12	90	69	23	13	10
26	15	9.2	7.7	6.7	5.8	5.6	15	85	67	20	13	10
27	15	8.3	7.7	6.7	5.8	5.6	16	80	64	20	12	9.8
28	14	7.4	7.4	6.4	5.8	5.3	16	74	61	19	12	9.8
29	13	8.0	7.1	6.2	------	5.6	14	72	58	17	12	9.8
30	13	8.0	6.4	6.0	------	5.8	13	75	55	17	11	9.8
31	13	------	5.5	6.7	------	5.6	------	80	------	16	12	------
TOTAL	439	311.3	249.9	197.8	164.6	176.5	274.3	1,724	1,824	880	432	355.0
MEAN	14.2	10.4	8.06	6.38	5.88	5.69	9.14	55.6	60.8	28.4	13.9	11.8
MAX	20	13	9.5	7.7	6.4	6.0	16	90	75	50	18	22
MIN	12	7.4	5.5	5.0	5.6	5.3	5.8	12	48	16	11	9.8
AC-FT	871	617	496	392	326	350	544	3,420	3,620	1,750	857	704

CAL YR 1969 TOTAL 8,345.6 MEAN 22.9 MAX 115 MIN 4.0 AC-FT 16,550
WAT YR 1970 TOTAL 7,028.4 MEAN 19.3 MAX 90 MIN 5.0 AC-FT 13,940

PEAK DISCHARGE (BASE, 65 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5-22	2100	2.78	95	6-23	2400	2.63	72

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.--57 years (1912-25, 1926-70), 54.0 cfs (39,120 acre-ft per year).
EXTREMES.--Current year: Maximum discharge, 210 cfs May 23 (gage height, 3.51 ft); minimum, 2.0 cfs Apr. 1.
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 good 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	25	14	6.0	11	11	4.6	29	143	71	25	20
2	23	25	15	5.0	12	12	6.5	23	126	66	25	16
3	23	21	14	5.0	7.0	12	7.6	28	115	62	26	15
4	23	25	14	5.0	9.0	12	7.8	34	108	62	25	15
5	22	25	12	6.0	10	11	7.2	40	99	57	24	16
6	22	25	8.6	6.0	11	9.9	8.9	48	91	55	23	21
7	22	23	7.5	6.0	11	11	10	66	90	59	27	22
8	22	21	8.9	6.0	11	10	11	85	90	57	26	19
9	21	22	8.0	6.0	11	9.9	12	79	91	52	23	18
10	21	21	9.0	7.0	12	11	16	87	88	49	21	16
11	22	22	8.0	8.0	12	9.9	19	111	99	45	20	15
12	23	24	8.0	9.0	12	9.6	16	128	90	42	18	18
13	23	22	8.0	10	11	8.3	17	140	83	39	18	40
14	25	20	9.0	10	8.1	8.9	19	160	86	38	17	36
15	26	19	9.0	10	9.9	8.9	15	167	96	37	22	25
16	25	19	9.0	12	10	8.3	18	160	97	38	24	22
17	34	19	9.0	13	11	8.3	24	174	94	36	23	20
18	48	11	9.0	12	11	7.6	27	182	92	34	21	19
19	44	9.0	10	11	10	7.3	20	182	91	43	30	20
20	35	12	12	11	8.5	6.5	17	184	95	47	32	19
21	34	15	12	12	11	7.0	17	174	98	44	28	17
22	40	19	12	11	11	8.1	17	184	99	38	24	24
23	37	17	13	11	11	6.9	18	189	95	39	22	20
24	35	16	13	11	11	7.5	26	186	104	37	21	20
25	34	16	13	11	11	7.5	43	182	97	43	21	18
26	34	16	14	9.6	11	6.5	53	174	93	37	21	17
27	33	15	15	10	9.9	5.2	57	165	91	36	20	17
28	31	12	13	9.2	11	5.3	50	151	85	33	18	16
29	32	13	7.2	4.6	------	6.1	37	143	83	29	18	16
30	28	13	6.1	5.4	------	6.4	32	143	77	28	18	16
31	25	------	5.9	9.6	------	6.4	------	147	------	25	17	------
TOTAL	890	562.0	326.2	268.4	295.4	266.3	633.6	3,945	2,886	1,378	698	593
MEAN	28.7	18.7	10.5	8.66	10.6	8.59	21.1	127	96.2	44.5	22.5	19.8
MAX	48	25	15	13	12	12	57	189	143	71	32	40
MIN	21	9.0	5.9	4.6	7.0	5.2	4.6	23	77	25	17	15
AC-FT	1,770	1,110	647	532	586	528	1,260	7,820	5,720	2,730	1,380	1,180
(†)	18	2.7	0	0	0	0	9.8	104	86	58	30	13
(‡)	418	477	544	471	455	472	451	484	492	490	452	482

CAL YR 1969 TOTAL 15,293.2 MEAN 41.9 MAX 184 MIN 5.9 AC-FT 30,330 † 529 ‡ 4,310
WTR YR 1970 TOTAL 12,741.9 MEAN 34.9 MAX 189 MIN 4.6 AC-FT 25,270 † 322 ‡ 5,690

PEAK DISCHARGE (BASE, 160 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5-13	2230	3.43	192	7-19	1900	3.31	167
5-23	2300	3.51	210				

† Diversion, in acre-feet, by South ditch.
‡ Diversion, 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.--27 years, 9.59 cfs (6,950 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 84 cfs May 13 (gage height, 3.42 ft); minimum, 1.2 cfs Mar. 28, result of freezeup.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	7.3	5.6	2.8	4.7	4.3	3.6	10	11	16	9.3	6.1
2	6.7	6.2	5.6	1.8	4.9	4.3	3.5	9.1	11	16	9.5	5.8
3	6.5	5.5	5.8	1.9	4.9	4.2	4.2	9.4	9.5	16	9.0	5.9
4	6.7	6.3	5.8	2.0	4.9	4.1	4.4	11	8.5	16	8.7	5.7
5	6.7	6.8	5.7	2.3	4.8	4.3	4.0	13	8.4	16	8.4	5.7
6	6.6	6.9	4.4	2.4	4.8	4.2	4.6	17	8.5	14	8.2	6.0
7	5.5	7.0	5.3	2.7	4.7	4.2	5.2	22	9.2	12	10	6.2
8	4.0	7.2	5.4	3.1	4.6	4.4	5.3	25	8.5	11	8.5	6.2
9	3.9	7.1	4.8	3.7	4.5	4.5	5.8	26	8.0	9.2	8.4	6.0
10	3.8	7.2	5.7	4.5	4.6	4.5	6.3	29	8.8	9.3	7.6	6.0
11	4.3	7.4	4.5	4.4	4.5	4.5	8.2	41	9.2	9.4	7.3	6.1
12	4.8	7.2	5.5	4.4	4.5	4.5	7.4	45	9.4	10	6.9	6.7
13	4.7	7.2	5.6	4.4	4.4	4.1	7.1	62	9.2	10	6.7	9.7
14	4.9	6.9	5.5	4.4	4.3	4.3	7.4	62	11	9.6	6.6	7.8
15	5.1	6.5	5.5	4.6	4.3	4.5	6.9	62	12	10	7.1	7.2
16	5.0	6.9	5.5	4.7	4.3	4.3	6.9	61	8.6	11	7.7	6.9
17	6.1	6.6	5.5	4.7	4.4	4.3	8.1	59	10	11	7.0	6.7
18	6.7	3.5	5.5	4.7	4.3	3.8	8.5	52	11	10	6.9	6.6
19	7.4	2.7	5.5	4.8	4.3	4.0	7.5	38	10	11	8.3	6.5
20	6.7	4.5	5.5	4.9	4.0	3.7	6.9	35	11	12	7.8	6.4
21	7.0	5.9	5.4	4.9	4.3	4.0	6.8	34	12	12	8.5	6.2
22	7.6	6.6	5.5	5.0	4.2	4.2	6.1	33	17	11	7.7	6.8
23	7.1	6.4	5.4	4.9	4.2	4.1	5.9	30	18	10	6.8	6.9
24	6.9	6.1	5.4	4.9	4.2	4.3	6.6	29	18	9.3	6.5	6.8
25	7.0	6.0	5.4	4.8	4.2	4.3	8.4	27	18	10	6.4	6.8
26	7.1	5.9	5.3	4.8	4.2	3.8	11	27	17	10	6.2	6.8
27	7.2	6.0	5.4	4.9	4.2	3.9	12	27	17	11	6.2	6.6
28	7.2	4.6	4.4	4.7	4.2	3.4	12	25	16	11	6.0	6.5
29	7.5	5.2	3.7	3.4	------	4.0	11	23	17	11	6.1	6.5
30	7.2	5.2	3.1	4.3	------	4.1	10	18	17	10	5.9	6.4
31	7.0	------	2.8	5.0	------	3.9	------	16	------	9.7	6.0	------
TOTAL	191.7	184.8	160.0	124.8	124.4	129.0	211.6	977.5	359.8	354.5	232.2	196.5
MEAN	6.18	6.16	5.16	4.03	4.44	4.16	7.05	31.5	12.0	11.4	7.49	6.55
MAX	7.6	7.4	5.8	5.0	4.9	4.5	12	62	18	16	10	9.7
MIN	3.8	2.7	2.8	1.8	4.0	3.4	3.5	9.1	8.0	9.2	5.9	5.7
AC-FT	380	367	317	248	247	256	420	1,940	714	703	461	390
(†)	0	-	-	-	-	-	16	471	556	412	0	0

CAL YR 1969 TOTAL 3,448.8 MEAN 9.45 MAX 33 MIN 2.3 AC-FT 6,840
WTR YR 1970 TOTAL 3,246.8 MEAN 8.90 MAX 62 MIN 1.8 AC-FT 6,440

† 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.--20 years, 78.9 cfs (57,160 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 225 cfs May 14 (gage height, 3.69 ft); minimum, 33 cfs Jan. 29.
Period of record: Maximum discharge, 730 cfs Aug. 12, 1964 (gage height, 6.05 ft); minimum, 29 cfs Feb. 13, 1965.

REMARKS.--Records good. Diversions for irrigation of about 3,000 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	65	58	41	45	53	50	73	164	111	66	63
2	71	66	54	39	46	54	49	64	157	107	67	60
3	70	62	52	39	43	53	51	70	147	104	66	58
4	71	66	56	39	46	52	52	77	139	101	66	57
5	70	67	58	40	53	52	50	85	130	98	65	56
6	69	69	51	39	58	49	49	91	123	97	58	54
7	69	67	48	39	56	49	52	106	122	100	62	58
8	66	65	49	40	54	48	52	121	123	100	68	55
9	63	67	46	41	54	48	48	114	125	98	63	54
10	65	69	49	43	56	49	50	114	123	96	62	49
11	65	69	46	44	55	51	55	133	128	92	58	49
12	71	73	47	46	55	49	54	155	125	89	58	54
13	71	69	50	47	54	49	54	192	115	86	58	81
14	74	67	51	47	54	49	55	199	114	83	57	78
15	74	69	51	49	54	49	52	203	124	82	60	67
16	73	70	51	53	54	49	55	198	125	83	67	64
17	80	71	51	59	54	49	60	201	123	82	69	61
18	90	66	52	57	53	49	67	204	119	82	66	58
19	90	53	53	50	52	47	62	203	121	84	80	61
20	85	54	54	51	49	44	58	201	123	95	91	61
21	85	64	54	50	53	40	58	193	128	90	82	57
22	87	74	55	50	54	43	57	203	129	87	76	65
23	85	71	54	49	53	44	57	206	127	87	72	64
24	83	70	55	50	52	46	59	201	131	85	69	62
25	83	69	55	50	52	45	73	196	128	89	68	61
26	84	69	57	47	52	44	91	192	123	86	65	60
27	85	69	58	49	52	44	91	184	119	85	64	60
28	83	60	52	46	52	44	87	180	116	81	62	61
29	85	58	44	39	------	47	81	172	116	74	60	64
30	76	58	41	39	------	49	76	169	114	71	60	62
31	65	------	41	43	------	51	------	170	------	68	58	------
TOTAL	2,358	1,986	1,593	1,415	1,465	1,489	1,805	4,870	3,801	2,773	2,043	1,814
MEAN	76.1	66.2	51.4	45.6	52.3	48.0	60.2	157	127	89.5	65.9	60.5
MAX	90	74	58	59	58	54	91	206	164	111	91	81
MIN	63	53	41	39	43	40	48	64	114	68	57	49
AC-FT	4,680	3,940	3,160	2,810	2,910	2,950	3,580	9,660	7,540	5,500	4,050	3,600

CAL YR 1969 TOTAL 30,385 MEAN 83.2 MAX 218 MIN 36 AC-FT 60,270
WAT YR 1970 TOTAL 27,412 MEAN 75.1 MAX 206 MIN 39 AC-FT 54,370

PEAK DISCHARGE (BASE, 220 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5-14	0200	3.69	225				

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.--36 years, 35.3 cfs (25,570 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 124 cfs May 25 (gage height, 2.74 ft); maximum gage height, 4.81 ft Jan. 5 (ice jam); minimum discharge, 7.3 cfs Mar. 20, result of freezeup.
Period of record: Maximum discharge, 541 cfs May 13, 1941; maximum gage height, 4.81 ft Jan. 5, 1970 (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 diversions 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	24	17	12	12	11	11	22	103	61	25	20
2	24	22	16	11	12	11	10	21	98	57	25	20
3	24	20	16	11	12	11	11	21	89	55	25	19
4	23	21	17	11	12	11	12	24	80	56	25	19
5	23	21	16	10	12	11	12	30	73	54	24	19
6	23	21	15	10	12	11	16	39	71	48	24	23
7	23	21	15	10	12	11	18	50	70	46	25	21
8	22	21	15	11	12	11	18	53	66	42	25	19
9	22	21	14	12	12	11	20	49	63	40	23	18
10	22	21	15	13	12	11	21	49	59	37	22	18
11	22	21	14	14	12	11	22	56	66	34	21	18
12	23	21	14	14	12	11	20	68	67	33	21	20
13	22	21	14	13	12	11	18	77	66	31	20	32
14	23	20	14	13	12	11	17	86	66	29	21	26
15	22	20	14	13	12	11	16	93	66	31	21	22
16	22	20	14	13	12	11	16	94	68	30	22	21
17	27	19	14	14	12	11	18	96	68	28	21	21
18	30	15	14	14	12	11	18	103	67	27	21	20
19	30	15	14	14	12	11	16	110	67	28	21	20
20	26	18	14	14	12	11	16	111	69	29	20	20
21	26	19	14	13	12	11	16	111	70	28	21	19
22	27	18	14	13	12	11	15	114	72	33	20	21
23	26	18	14	13	12	11	15	118	72	29	20	21
24	26	18	14	13	12	11	17	118	71	26	19	21
25	26	18	14	13	11	12	20	118	69	34	20	21
26	26	18	14	13	11	11	26	119	68	29	19	20
27	26	17	14	13	11	11	30	118	64	28	19	20
28	25	16	14	12	11	10	30	114	63	27	19	20
29	27	16	13	12	------	11	27	110	63	26	19	20
30	24	16	13	12	------	11	24	110	62	26	19	19
31	23	------	13	12	------	11	------	111	------	25	20	------
TOTAL	760	577	447	386	332	341	546	2,513	2,116	1,107	667	618
MEAN	24.5	19.2	14.4	12.5	11.9	11.0	18.2	81.1	70.5	35.7	21.5	20.6
MAX	30	24	17	14	12	12	30	119	103	61	25	32
MIN	22	15	13	10	11	10	10	21	59	25	19	18
AC-FT	1,510	1,140	887	766	659	676	1,080	4,980	4,200	2,200	1,320	1,230

CAL YR 1969 TOTAL 14,323.2 MEAN 39.2 MAX 159 MIN 8.0 AC-FT 28,410
WTR YR 1970 TOTAL 10,410 MEAN 28.5 MAX 119 MIN 10 AC-FT 20,650

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5-25	1800	2.74	124				

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.

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. Sept. 11, 1963 to Apr. 2, 1969, at site 25 ft downstream on right bank at same datum.

AVERAGE DISCHARGE.--54 years (1912-28, 1932-70), 27.8 cfs (20,140 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 74 cfs May 25 (gage height, 3.25 ft); minimum, 5.9 cfs Sept. 27.
1938-70: 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	16	21	17	20	19	16	10	54	16	8.2	9.0
2	11	16	22	13	20	18	16	11	50	16	8.8	9.7
3	11	20	22	12	18	18	16	10	43	15	9.1	8.7
4	11	20	23	13	21	17	16	11	40	16	9.2	8.4
5	10	20	24	14	21	17	17	17	39	16	8.8	8.3
6	10	20	21	14	21	17	21	21	34	16	8.8	9.1
7	11	19	23	15	21	17	21	25	29	16	8.8	8.3
8	11	19	24	17	21	17	18	32	28	16	8.8	7.9
9	11	19	22	20	21	17	18	31	26	15	9.5	7.3
10	11	19	24	25	20	18	19	29	25	13	9.0	7.2
11	11	19	21	25	21	18	20	27	26	12	8.9	7.3
12	14	19	24	23	21	18	18	25	26	12	8.5	8.8
13	12	21	26	22	20	17	18	29	24	11	8.2	8.5
14	12	23	24	21	20	16	17	31	23	9.7	8.3	7.7
15	12	22	24	21	20	15	19	40	22	9.8	8.4	6.9
16	12	23	25	21	20	15	19	39	20	9.8	9.0	6.9
17	16	23	24	21	20	15	21	42	20	11	8.9	7.3
18	15	20	23	21	19	15	23	48	20	10	8.7	6.9
19	19	19	23	21	19	15	21	49	20	8.6	9.9	7.0
20	16	24	23	21	19	15	20	50	20	8.6	9.8	7.2
21	17	21	23	21	19	16	19	50	21	9.0	9.8	7.0
22	17	21	23	21	19	15	16	54	20	8.7	9.8	9.0
23	17	21	23	21	19	14	13	54	19	9.2	10	8.1
24	16	19	22	21	19	14	12	52	18	8.8	9.8	7.7
25	16	19	22	21	19	14	12	54	16	11	9.4	7.4
26	15	19	22	21	19	14	12	64	16	9.0	9.5	7.3
27	16	19	22	21	19	14	11	65	16	9.0	9.1	7.2
28	16	18	21	20	19	15	11	60	17	8.7	9.0	8.3
29	18	19	18	17	------	15	11	59	18	8.4	8.5	8.4
30	16	19	16	18	------	16	10	57	16	8.3	8.4	8.2
31	15	------	17	19	------	17	------	55	------	8.1	8.6	------
TOTAL	427	596	692	598	555	498	501	1,201	766	355.7	279.5	237.0
MEAN	13.8	19.9	22.3	19.3	19.8	16.1	16.7	38.7	25.5	11.5	9.02	7.90
MAX	19	24	26	25	21	19	23	65	54	16	10	9.7
MIN	10	16	16	12	18	14	10	10	16	8.1	8.2	6.9
AC-FT	847	1,180	1,370	1,190	1,100	988	994	2,380	1,520	706	554	470

CAL YR 1969 TOTAL 9,085 MEAN 24.9 MAX 88 MIN 10 AC-FT 18,020
WTR YR 1970 TOTAL 6,706.2 MEAN 18.4 MAX 65 MIN 6.9 AC-FT 13,300

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.--7 years, 560 cfs (405,700 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,100 cfs Sept. 19 (gage height, 4.03 ft); minimum, 193 cfs Sept. 5, 6.
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 December, which are good. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	444	1,220	662	448	520	668	704	698	1,010	720	256	208
2	427	1,190	692	415	516	674	704	668	1,010	661	254	203
3	427	1,180	735	431	511	698	692	628	1,000	571	252	201
4	457	1,270	805	461	511	722	680	596	892	504	254	202
5	444	1,320	879	466	525	704	674	570	811	483	248	199
6	461	1,320	792	444	535	686	680	575	760	440	287	197
7	516	1,320	760	436	544	674	686	692	710	437	317	208
8	596	1,320	698	423	554	662	680	941	686	419	321	211
9	570	1,240	600	427	564	662	722	1,140	692	443	307	469
10	559	1,090	510	432	596	662	779	1,150	692	446	270	910
11	570	1,050	480	440	612	668	818	1,000	716	450	247	1,360
12	634	1,020	450	448	623	680	798	1,140	709	436	236	1,040
13	692	1,010	540	453	656	674	766	1,480	683	429	233	743
14	741	997	580	461	704	668	686	1,590	671	390	228	533
15	892	976	610	484	735	651	640	1,630	645	379	220	471
16	990	955	640	497	716	640	623	1,490	596	348	220	1,200
17	1,070	948	660	516	710	645	612	1,460	581	326	231	1,600
18	1,150	927	648	520	741	662	612	1,440	546	312	226	2,010
19	1,180	851	654	520	722	668	606	1,530	511	290	239	2,040
20	1,200	747	669	530	710	645	628	1,730	482	308	257	1,700
21	1,240	741	674	540	728	640	634	1,620	468	295	251	1,260
22	1,310	818	717	540	735	640	580	1,480	564	272	242	1,060
23	1,310	913	704	535	741	645	544	1,290	688	265	237	878
24	1,300	969	704	549	722	640	520	1,180	736	254	228	738
25	1,300	969	754	559	716	640	520	1,160	770	262	223	655
26	1,310	976	747	570	698	640	511	1,190	725	266	223	633
27	1,280	920	779	580	698	651	506	1,200	665	279	216	605
28	1,240	811	698	596	674	645	535	1,240	664	287	212	551
29	1,260	779	580	564	------	645	656	1,210	680	286	211	504
30	1,260	692	423	540	------	662	741	1,140	708	269	208	473
31	1,240	------	508	554	------	668	------	1,100	------	261	205	------
TOTAL	28,070	30,539	20,352	15,379	18,017	20,529	19,537	35,958	21,071	11,788	7,559	23,062
MEAN	905	1,018	657	496	643	662	651	1,160	702	380	244	769
MAX	1,310	1,320	879	596	741	722	818	1,730	1,010	720	321	2,040
MIN	427	692	423	415	511	640	506	570	468	254	205	197
AC-FT	55,680	60,570	40,370	30,500	35,740	40,720	38,750	71,320	41,790	23,380	14,990	45,740

CAL YR 1969 TOTAL 269,602 MEAN 739 MAX 2,520 MIN 330 AC-FT 534,800
WTR YR 1970 TOTAL 251,861 MEAN 690 MAX 2,040 MIN 197 AC-FT 499,600

PEAK DISCHARGE (BASE, 1,400 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5-20	2100	3.69	1,760	9-19	0215	4.03	2,100
9-11	1215	3.29	1,410				

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.--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.--25 years (1910-16, 1940-51, 1962-70), 29.5 cfs (21,370 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 144 cfs May 13 (gage height, 1.84 ft); minimum, 2.6 cfs Mar. 14, 23, 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	20	10	6.5	8.0	8.0	8.0	43	72	28	14	9.3
2	11	16	12	6.0	8.8	8.4	7.3	36	66	27	14	9.1
3	11	16	13	5.0	7.6	8.0	8.8	36	59	26	14	9.5
4	11	16	13	5.5	9.5	8.0	9.5	39	55	27	13	8.3
5	11	17	12	5.5	8.4	8.0	9.9	51	51	25	12	8.7
6	11	16	9.5	5.5	8.4	8.0	12	70	47	23	13	9.6
7	11	16	12	5.5	8.0	7.7	17	87	44	25	13	9.7
8	11	16	12	6.0	8.4	8.0	18	100	43	23	15	8.1
9	11	16	11	6.1	8.4	9.2	22	93	42	22	13	7.7
10	11	16	13	12	8.4	8.8	25	95	41	20	12	7.4
11	11	16	10	11	8.4	8.4	29	111	44	19	11	7.2
12	13	16	12	9.9	8.4	8.8	23	130	43	20	11	7.7
13	13	16	12	9.5	8.8	7.7	22	138	40	17	11	15
14	12	14	12	8.8	8.8	7.3	22	136	39	16	10	12
15	12	14	11	9.2	8.4	8.8	21	130	41	19	11	9.5
16	12	14	12	9.2	8.4	8.8	21	120	42	21	11	8.8
17	14	14	11	9.5	8.0	9.2	24	120	42	17	11	8.5
18	23	7.7	11	9.5	8.0	8.4	27	126	41	16	11	8.2
19	20	7.3	11	9.2	7.7	7.0	24	123	41	15	13	8.9
20	17	14	11	9.2	7.3	7.0	22	118	41	16	12	9.6
21	17	16	11	8.8	8.0	9.2	21	116	42	18	11	8.0
22	22	15	11	8.8	7.7	8.8	20	118	42	17	11	9.0
23	20	14	11	8.8	7.7	8.0	20	113	41	19	11	9.4
24	19	14	11	8.8	7.7	9.2	22	102	39	16	10	8.9
25	20	13	11	8.8	8.0	9.9	28	102	39	21	9.7	8.2
26	20	12	11	8.4	7.3	8.8	39	100	37	17	9.2	8.1
27	21	12	11	8.4	7.3	8.8	51	93	36	15	9.4	8.2
28	20	8.8	9.5	8.0	7.3	7.7	56	89	34	16	8.9	8.1
29	22	9.0	8.8	6.1	------	8.4	53	80	32	14	8.5	8.2
30	20	10	8.0	7.0	------	8.8	50	76	30	14	8.3	8.0
31	19	------	7.0	8.0	------	8.4	------	74	------	13	8.7	------
TOTAL	478	421.8	340.8	248.5	227.1	259.5	732.5	2,965	1,306	602	350.7	266.9
MEAN	15.4	14.1	11.0	8.02	8.11	8.37	24.4	95.6	43.5	19.4	11.3	8.90
MAX	23	20	13	12	9.5	9.9	56	138	72	28	15	15
MIN	11	7.3	7.0	5.0	7.3	7.0	7.3	36	30	13	8.3	7.2
AC-FT	948	837	676	493	450	515	1,450	5,880	2,590	1,190	696	529

CAL YR 1969 TOTAL 11,761.8 MEAN 32.2 MAX 161 MIN 5.0 AC-FT 23,330
WTR YR 1970 TOTAL 8,198.8 MEAN 22.5 MAX 138 MIN 5.0 AC-FT 16,260

PEAK DISCHARGE (BASE, 70 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5-13	2100	1.84	144				

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 (dishcarge 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.--31 years (1910-15, 1933-51, 1962-70), 22.7 cfs (16,450 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 81 cfs May 25 (gage height, 1.53 ft); minimum, 4.2 cfs Mar. 7, 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 good. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	15	9.0	7.4	6.0	6.3	6.8	15	58	36	18	12
2	15	14	9.0	7.1	6.0	6.3	6.5	13	55	35	18	12
3	15	15	9.8	7.1	6.0	6.3	7.0	14	51	34	17	12
4	15	14	8.7	7.0	6.0	6.3	7.1	17	45	34	17	12
5	15	14	8.7	7.0	6.0	6.0	7.4	23	42	31	16	12
6	14	14	7.9	6.8	6.0	6.0	9.0	29	38	30	16	14
7	14	14	7.9	6.8	6.0	6.0	10	33	36	31	16	12
8	14	14	7.9	7.0	6.0	6.0	10	34	35	28	16	11
9	14	14	7.9	7.0	6.0	6.3	12	31	35	27	15	11
10	13	14	7.9	7.0	6.0	6.3	12	31	34	25	14	11
11	14	14	7.9	7.0	6.0	6.0	14	36	36	24	14	11
12	14	13	7.9	7.1	6.3	6.3	12	42	36	23	13	12
13	14	13	7.9	7.1	6.3	6.0	11	45	34	21	14	18
14	14	12	7.9	7.1	6.3	6.0	11	50	37	20	13	15
15	14	11	7.9	7.1	6.3	6.3	11	55	42	21	13	14
16	13	11	7.9	7.1	6.0	6.0	11	55	45	20	15	14
17	15	10	7.9	7.1	6.0	6.0	12	62	47	19	14	13
18	17	8.0	7.9	6.8	6.0	6.0	12	63	47	19	14	13
19	16	8.0	7.9	6.8	6.0	5.8	10	63	48	19	14	13
20	15	9.0	7.9	6.8	6.0	5.8	9.4	63	48	19	14	13
21	16	9.5	8.3	6.8	6.0	5.8	9.4	65	48	20	14	12
22	18	9.5	8.3	6.8	6.0	6.0	8.7	72	48	20	15	13
23	18	9.5	8.3	6.8	6.0	6.3	9.0	72	47	21	15	13
24	16	9.6	8.3	6.6	6.0	6.6	11	72	47	19	14	12
25	16	9.8	7.9	6.6	6.0	6.6	13	74	47	24	13	12
26	17	9.8	7.9	6.3	5.8	6.3	18	72	46	21	13	11
27	17	9.0	7.9	6.6	6.0	6.3	23	63	44	21	13	11
28	16	8.7	7.9	6.0	6.3	6.0	23	62	43	20	12	11
29	16	8.7	7.6	6.0	------	6.5	19	55	41	19	12	11
30	15	8.7	7.6	6.0	------	6.8	16	58	38	18	12	11
31	15	------	7.6	6.0	------	6.6	------	62	------	18	13	------
TOTAL	470	343.8	251.3	210.7	169.3	191.8	351.3	1,501	1,298	737	447	372
MEAN	15.2	11.5	8.11	6.80	6.05	6.19	11.7	48.4	43.3	23.8	14.4	12.4
MAX	18	15	9.8	7.4	6.3	6.8	23	74	58	36	18	18
MIN	13	8.0	7.6	6.0	5.8	5.8	6.5	13	34	18	12	11
AC-FT	932	682	498	418	336	380	697	2,980	2,570	1,460	887	738

CAL YR 1969 TOTAL 9,272.1 MEAN 25.4 MAX 119 MIN 4.5 AC-FT 18,390
WTR YR 1970 TOTAL 6,343.2 MEAN 17.4 MAX 74 MIN 5.8 AC-FT 12,580

PEAK DISCHARGE (BASE, 70 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5-25	1630	1.53	81				

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.--14 years (1912-17, 1927-28, 1962-70), 6.65 cfs (4,820 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 51 cfs Aug. 7 (gage height, 1.35 ft); minimum, 0.24 cfs Nov. 19.
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 good. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.57	3.2	1.5	1.6	1.8	2.2	3.0	14	7.4	2.0	.81	1.0
2	.50	2.3	1.6	1.5	1.8	2.5	2.5	13	7.1	1.6	1.5	.91
3	.50	2.0	1.8	1.6	1.8	2.2	3.2	14	6.7	1.6	1.4	.64
4	.44	2.2	2.2	1.8	1.8	1.8	4.1	14	6.4	1.8	1.4	.57
5	.44	2.3	2.0	1.6	1.6	2.2	3.6	13	7.1	1.8	1.1	.57
6	.50	2.7	1.2	1.5	1.5	2.2	4.3	15	5.7	1.6	1.0	.57
7	.64	2.7	1.6	1.2	1.5	1.8	5.5	19	5.0	1.6	2.3	.72
8	.72	3.0	1.6	1.0	1.5	2.2	8.7	20	5.0	3.6	5.2	.72
9	.72	2.7	1.5	.81	1.6	2.5	13	22	5.0	2.8	2.7	.57
10	.72	2.8	2.0	.91	1.8	2.7	12	22	4.8	2.3	2.0	.44
11	.72	2.7	1.2	1.1	1.8	2.3	13	24	4.8	1.6	1.4	.38
12	1.1	2.7	1.4	1.2	1.8	2.5	8.4	27	4.8	1.5	1.0	.44
13	1.4	2.5	2.0	1.4	2.5	2.2	8.4	28	4.3	1.2	1.0	1.5
14	1.4	2.3	2.0	1.4	3.2	2.0	9.1	29	4.1	1.1	.91	2.0
15	1.2	2.2	2.0	1.4	2.5	3.0	9.1	28	3.8	1.0	.91	1.2
16	1.2	2.5	2.0	1.4	2.3	3.0	8.4	24	3.4	2.3	.81	.91
17	1.6	2.5	2.0	1.4	2.5	2.8	10	23	3.0	2.0	.81	.72
18	2.5	.72	2.0	1.5	3.2	2.2	13	21	2.8	1.4	.81	.64
19	2.2	.57	1.8	1.5	2.7	1.8	9.6	19	2.7	1.2	1.1	.64
20	1.8	.91	1.8	1.5	2.7	1.8	8.1	19	2.5	1.2	1.6	.64
21	1.6	1.4	1.8	1.5	2.8	2.8	9.1	17	3.4	1.6	1.5	.64
22	3.6	1.8	2.0	1.5	2.3	2.7	11	14	3.2	2.9	1.4	.64
23	3.8	2.0	2.0	1.5	1.8	2.7	8.8	13	3.0	3.0	1.0	.72
24	2.5	2.0	2.0	1.6	1.8	3.0	8.8	11	3.2	2.3	.81	.72
25	2.3	1.8	2.0	1.8	2.2	3.2	11	11	3.6	2.5	.72	.64
26	2.5	2.0	2.2	1.8	1.8	3.2	12	13	3.0	2.0	.57	.64
27	2.7	1.6	2.2	2.0	1.8	3.4	14	12	2.7	1.5	.50	.72
28	2.5	1.0	1.2	2.0	2.0	2.5	14	13	2.7	1.5	.44	.72
29	3.6	1.2	1.4	1.0	------	3.0	14	10	2.3	1.2	.38	.72
30	3.4	1.1	1.8	1.8	------	3.8	14	8.8	2.3	1.1	.38	.72
31	3.2	------	1.6	2.0	------	3.2	------	8.1	------	.81	.50	------
TOTAL	52.57	61.40	55.4	45.82	58.4	79.4	273.7	538.9	125.8	55.61	37.96	22.66
MEAN	1.70	2.05	1.79	1.48	2.09	2.56	9.12	17.4	4.19	1.79	1.22	.76
MAX	3.8	3.2	2.2	2.0	3.2	3.8	14	29	7.4	3.6	5.2	2.0
MIN	.44	.57	1.2	.81	1.5	1.8	2.5	8.1	2.3	.81	.38	.38
AC-FT	104	122	110	91	116	157	543	1,070	250	110	75	45

CAL YR 1969 TOTAL 1,974.72 MEAN 5.41 MAX 44 MIN .20 AC-FT 3,920
WAT YR 1970 TOTAL 1,407.62 MEAN 3.86 MAX 29 MIN .38 AC-FT 2,790

PEAK DISCHARGE (BASE, 25 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5-13	1430	1.15	30	8- 7	1630	1.35	51
7-22	0130	1.12	30				

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.--13 years, 28.6 cfs (20,720 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 103 cfs May 13 (gage height, 2.91 ft); maximum gage height, 3.48 ft Jan. 4 (backwater from ice); minimum discharge, 4.7 cfs July 15.
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 January, which are fair. Diversions for irrigation of about 9,000 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	46	21	15	19	20	35	43	55	11	8.5	7.5
2	24	42	22	13	19	22	34	36	48	9.0	8.0	9.0
3	23	40	22	10	18	21	35	30	39	8.0	9.0	6.7
4	22	39	25	11	21	20	31	25	36	8.5	12	7.1
5	22	39	25	11	21	20	25	32	36	10	12	8.0
6	22	38	21	10	21	19	27	44	32	10	12	9.5
7	23	36	22	11	21	18	31	60	31	9.5	12	9.5
8	23	36	24	12	21	18	34	72	30	11	10	7.5
9	23	32	21	14	21	18	45	72	30	11	8.5	9.0
10	22	29	25	18	21	19	47	75	28	7.5	8.5	8.5
11	22	30	21	21	21	21	52	87	31	5.9	8.0	9.5
12	31	30	23	21	21	24	44	88	28	6.7	7.1	10
13	31	30	25	20	22	20	36	93	25	8.5	7.1	16
14	28	30	26	20	23	20	35	95	22	6.7	7.1	12
15	27	28	27	21	23	21	33	91	21	6.3	8.5	11
16	27	30	27	21	24	20	32	82	22	10	10	12
17	36	33	27	24	27	18	34	82	22	24	10	12
18	50	25	28	25	25	16	39	87	20	12	9.5	12
19	42	21	29	24	22	16	36	88	17	8.5	10	12
20	39	25	30	24	21	17	33	81	14	8.5	9.0	13
21	36	29	30	24	22	21	31	75	14	8.5	8.0	12
22	49	32	29	25	22	21	28	74	12	11	8.0	15
23	46	28	26	25	21	18	27	72	12	14	10	14
24	45	26	25	25	20	21	29	67	14	14	8.0	13
25	44	25	24	25	21	22	31	67	14	16	9.0	12
26	44	25	23	22	19	20	36	68	14	14	9.5	12
27	46	24	23	22	18	22	45	67	12	13	9.0	12
28	46	19	17	21	20	19	52	66	12	12	7.5	12
29	55	19	17	16	------	22	52	58	14	10	7.1	12
30	48	20	16	19	------	25	49	55	13	10	6.7	12
31	45	------	14	19	------	30	------	55	------	10	5.9	------
TOTAL	1,065	906	735	589	595	629	1,098	2,087	718	325.1	275.5	327.8
MEAN	34.4	30.2	23.7	19.0	21.3	20.3	36.6	67.3	23.9	10.5	8.89	10.9
MAX	55	46	30	25	27	30	52	95	55	24	12	16
MIN	22	19	14	10	18	16	25	25	12	5.9	5.9	6.7
AC-FT	2,110	1,800	1,460	1,170	1,180	1,250	2,180	4,140	1,420	645	546	650

CAL YR 1969 TOTAL 15,783.6 MEAN 43.2 MAX 204 MIN 9.8 AC-FT 31,310
WAT YR 1970 TOTAL 9,350.4 MEAN 25.6 MAX 95 MIN 5.9 AC-FT 18,550

PEAK DISCHARGE (BASE, 130 CFS).--No peak above base.

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.

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, 1968 (corrected), water-stage recorder at site 1,000 ft downstream at lower datum.

AVERAGE DISCHARGE.--18 years, 20.1 cfs (14,560 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 133 cfs May 15 (gage height, 2.24 ft); minimum, 1.3 cfs Mar. 28, 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	12	8.0	4.5	8.3	7.7	6.8	22	46	12	9.4	8.1
2	7.2	11	8.3	3.6	7.7	7.7	5.9	20	43	12	10	9.6
3	6.8	10	8.1	3.3	7.6	7.7	6.9	21	39	11	17	7.6
4	7.2	11	8.1	3.7	8.9	6.8	8.1	22	35	11	14	7.3
5	7.7	12	7.7	4.0	8.3	7.2	6.8	26	33	10	13	7.5
6	8.1	12	5.3	3.4	6.8	7.2	7.7	32	31	9.6	12	7.8
7	8.1	11	6.9	3.5	6.5	6.2	8.5	41	28	11	13	8.5
8	8.1	11	6.8	3.5	6.5	6.8	8.5	55	27	16	22	6.8
9	8.1	11	6.9	4.0	6.5	7.0	9.6	60	25	13	19	6.2
10	7.7	11	7.7	4.5	6.5	7.4	11	68	24	11	19	5.8
11	8.5	11	5.3	5.0	6.8	7.7	13	82	24	9.5	18	5.6
12	11	11	7.4	5.4	6.8	7.7	11	101	24	9.0	16	5.8
13	9.6	11	7.7	5.4	7.2	5.8	9.6	118	21	8.4	15	13
14	10	10	6.8	6.0	7.2	6.8	9.0	127	19	7.9	14	12
15	10	9.6	6.8	7.0	6.8	8.5	8.5	128	20	8.4	14	8.2
16	10	11	6.9	7.2	7.0	7.7	8.1	121	19	10	13	7.1
17	11	11	6.5	7.2	7.2	7.2	10	120	18	9.1	13	6.6
18	12	4.6	6.5	7.7	8.1	6.1	11	124	17	8.6	12	6.4
19	12	4.3	6.5	6.8	7.7	6.1	9.6	122	17	7.6	12	6.2
20	12	7.2	6.5	7.7	6.1	6.7	8.1	115	16	8.3	13	6.3
21	12	11	6.5	7.7	8.1	8.1	6.8	103	18	9.6	11	5.9
22	20	12	6.5	7.2	7.2	7.2	6.1	93	18	9.5	11	6.4
23	18	11	6.5	6.8	7.7	6.8	6.1	86	17	16	9.9	7.0
24	15	9.6	6.5	6.8	6.8	7.7	6.8	79	16	12	9.0	6.5
25	14	8.5	6.5	6.8	7.2	8.5	8.5	73	16	13	8.6	6.0
26	13	8.5	6.5	7.2	6.8	6.8	13	73	14	11	8.7	6.1
27	14	8.5	6.5	6.8	6.8	7.7	18	70	13	9.9	8.4	6.2
28	14	4.8	5.6	6.5	7.2	4.9	21	64	14	15	8.0	6.3
29	16	6.6	4.9	3.7	------	6.2	22	57	13	11	7.9	6.2
30	13	6.8	4.6	6.4	------	8.1	21	52	13	9.4	7.9	6.1
31	12	------	5.8	8.1	------	7.7	------	49	------	8.7	8.1	------
TOTAL	343.3	290.0	207.1	177.4	202.3	221.7	307.0	2,324	678	328.5	386.9	215.1
MEAN	11.1	9.67	6.68	5.72	7.23	7.15	10.2	75.0	22.6	10.6	12.5	7.17
MAX	20	12	8.3	8.1	8.9	8.5	22	128	46	16	22	13
MIN	6.8	4.3	4.6	3.3	6.1	4.9	5.9	20	13	7.6	7.9	5.6
AC-FT	681	575	411	352	401	440	609	4,610	1,340	652	767	427

CAL YR 1969 TOTAL 11,216.2 MEAN 30.7 MAX 220 MIN 3.3 AC-FT 22,250
WTR YR 1970 TOTAL 5,681.3 MEAN 15.6 MAX 128 MIN 3.3 AC-FT 11,270

PEAK DISCHARGE (BASE, 75 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5-15	0430	2.24	133				

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.--13 years, 8.43 cfs (6,110 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 43 cfs May 13, 14 (gage height, 2.08 ft); minimum, 0.41 cfs Mar. 19, 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 January, which are fair. No diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	4.4	2.9	2.4	4.0	2.4	2.2	16	16	5.2	3.6	4.5
2	4.0	4.0	3.3	2.0	3.3	2.7	2.2	14	16	5.0	4.3	3.7
3	3.8	4.0	3.3	1.8	3.9	2.6	2.6	15	15	4.9	6.0	3.1
4	3.8	4.2	3.3	2.0	4.0	2.4	2.7	15	14	4.9	4.5	3.0
5	3.8	4.2	3.3	2.1	3.1	2.6	2.6	17	14	4.6	4.0	3.2
6	4.0	4.6	2.2	1.8	2.9	2.6	3.1	20	13	4.4	3.7	3.3
7	4.0	4.4	2.9	1.9	2.9	2.3	3.8	24	13	5.0	5.0	3.8
8	4.0	4.8	3.5	1.9	2.9	2.4	4.2	29	13	9.2	7.3	3.0
9	4.0	4.4	3.1	2.1	2.9	2.7	4.8	30	12	6.5	5.2	2.7
10	3.8	5.1	4.0	2.5	2.9	2.7	5.6	30	11	5.3	4.6	2.5
11	4.0	4.8	2.6	2.7	2.9	2.7	6.5	33	12	4.5	4.1	2.4
12	4.6	4.8	3.8	2.9	3.1	2.6	5.9	38	11	4.4	3.9	2.5
13	4.4	4.8	4.2	2.9	3.1	1.9	5.9	41	10	3.9	3.8	5.3
14	4.6	4.2	3.8	2.9	3.3	2.3	5.9	42	9.3	3.6	3.9	4.8
15	4.6	3.8	3.8	3.1	3.1	2.9	5.6	41	9.3	3.5	3.8	3.6
16	4.2	4.4	3.5	3.1	3.1	2.6	5.4	37	8.7	4.3	3.8	3.1
17	4.6	3.5	3.5	3.1	3.1	2.6	6.8	36	8.3	3.9	4.1	2.8
18	5.4	1.1	3.5	3.1	3.5	2.3	7.3	34	7.9	3.7	3.8	2.7
19	4.6	1.0	3.5	3.1	3.3	2.1	6.2	32	7.5	3.6	4.6	2.7
20	4.4	2.2	3.5	3.1	2.6	2.1	6.2	31	7.4	3.8	5.2	2.8
21	4.2	4.6	3.5	3.1	3.3	2.9	6.2	29	8.0	4.1	4.6	2.7
22	6.5	4.6	3.5	3.3	3.1	2.6	6.2	28	7.9	4.3	4.3	2.9
23	5.6	3.8	3.5	3.3	2.9	2.4	6.5	26	7.4	5.6	4.0	3.4
24	4.6	3.8	3.5	3.3	2.9	2.6	7.3	24	6.9	4.5	3.7	3.1
25	4.6	3.5	3.5	3.3	2.9	2.9	8.5	23	6.6	5.1	3.5	2.9
26	4.6	3.1	3.5	3.1	2.7	2.4	12	23	6.2	4.4	3.6	2.9
27	4.8	3.1	3.5	3.3	2.4	2.7	15	22	5.9	4.1	3.5	3.1
28	4.6	1.6	2.7	3.1	2.6	2.1	17	22	5.9	4.7	3.2	3.1
29	5.1	2.3	2.0	1.6	------	2.5	17	20	5.5	4.0	3.2	3.1
30	4.4	2.6	2.7	3.1	------	2.9	16	18	5.7	3.7	3.1	3.1
31	4.4	------	2.9	4.4	------	2.6	------	17	------	3.4	3.4	------
TOTAL	138.0	111.7	102.3	85.4	86.7	78.1	207.2	827	294.4	142.1	129.3	95.8
MEAN	4.45	3.72	3.30	2.75	3.10	2.52	6.91	26.7	9.81	4.58	4.17	3.19
MAX	6.5	5.1	4.2	4.4	4.0	2.9	17	42	16	9.2	7.3	5.3
MIN	3.8	1.0	2.0	1.6	2.4	1.9	2.2	14	5.5	3.4	3.1	2.4
AC-FT	274	222	203	169	172	155	411	1,640	584	282	256	190

CAL YR 1969 TOTAL 3,809.4 MEAN 10.4 MAX 63 MIN 1.0 AC-FT 7,560
WTR YR 1970 TOTAL 2,298.0 MEAN 6.30 MAX 42 MIN 1.0 AC-FT 4,560

PEAK DISCHARGE (BASE, 35 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5-13	0945	2.08	43				

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.--13 years, 50.0 cfs (36,220 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 312 cfs July 17 (gage height, 3.34 ft); maximum gage height, 3.47 ft Jan. 9 (backwater from ice); minimum discharge, 9.3 cfs July 11-12.
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: 1957(P), 1958.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	52	37	30	44	34	47	59	79	15	14	20
2	31	50	38	25	43	37	45	51	72	12	13	16
3	31	48	37	25	35	36	46	42	61	12	17	12
4	28	48	38	25	46	35	42	37	56	11	25	12
5	28	49	38	25	44	34	37	41	53	13	19	14
6	28	48	34	25	44	33	38	51	47	15	19	15
7	29	47	37	25	43	32	43	69	45	14	18	15
8	28	46	39	30	41	32	44	91	43	16	18	13
9	28	43	37	35	41	32	55	98	42	16	17	14
10	27	42	41	40	41	34	59	103	39	12	16	13
11	28	42	39	45	41	36	65	129	39	11	15	13
12	36	42	40	45	41	37	59	152	39	10	14	15
13	37	42	43	40	42	33	53	178	36	11	13	22
14	34	41	43	40	43	32	51	202	33	11	13	19
15	34	40	43	39	42	34	50	199	31	10	13	17
16	34	42	44	43	42	31	49	168	31	14	15	17
17	42	45	45	48	47	30	52	161	30	46	16	17
18	55	36	46	47	45	32	59	163	27	22	15	17
19	46	33	46	46	42	32	56	163	24	15	15	17
20	42	37	48	47	37	32	49	152	20	15	14	19
21	40	41	47	47	40	37	46	144	20	15	14	18
22	49	45	47	48	40	36	44	133	18	20	15	22
23	50	42	46	49	39	34	42	127	18	22	15	22
24	47	40	45	48	38	35	45	115	18	20	14	20
25	46	39	44	49	37	36	48	109	17	23	14	19
26	47	38	44	46	36	34	50	113	19	21	14	19
27	50	37	46	46	35	35	58	108	16	19	14	19
28	50	33	38	43	35	31	69	108	16	19	12	18
29	62	34	35	40	------	34	67	96	18	17	12	19
30	53	34	30	43	------	37	65	86	17	16	11	20
31	51	------	30	43	------	42	------	82	------	15	11	------
TOTAL	1,222	1,256	1,265	1,227	1,144	1,059	1,533	3,530	1,024	508	465	513
MEAN	39.4	41.9	40.8	39.6	40.9	34.2	51.1	114	34.1	16.4	15.0	17.1
MAX	62	52	48	49	47	42	69	202	79	46	25	22
MIN	27	33	30	25	35	30	37	37	16	10	11	12
AC-FT	2,420	2,490	2,510	2,430	2,270	2,100	3,040	7,000	2,030	1,010	922	1,020

CAL YR 1969 TOTAL 25,638 MEAN 70.2 MAX 451 MIN 15 AC-FT 50,850
WTR YR 1970 TOTAL 14,746 MEAN 40.4 MAX 202 MIN 10 AC-FT 29,250

PEAK DISCHARGE (BASE, 230 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
7-17	1730	3.34	312				

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.--45 years, 732 cfs (530,300 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,280 cfs Sept. 19 (gage height, 5.73 ft); minimum, 225 cfs Sept. 3, 4, 6.
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 19, 1905, May 29, 1920, and June 16, 1921, from comparison of records for stations near Lobatos and at Embudo.

REMARKS.--Records good. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	494	1,320	739	514	591	739	787	808	1,120	747	285	249
2	480	1,280	763	460	577	739	787	776	1,090	716	284	244
3	461	1,260	795	490	577	755	787	721	1,090	621	287	230
4	494	1,330	851	530	584	779	771	682	977	552	297	230
5	494	1,400	926	550	591	771	747	658	887	524	284	231
6	500	1,420	892	540	591	755	755	660	836	483	304	228
7	542	1,400	827	530	605	739	771	758	788	473	333	238
8	626	1,420	803	520	612	731	763	990	762	455	360	242
9	619	1,370	670	500	619	731	803	1,240	762	474	343	421
10	598	1,190	648	494	648	731	859	1,300	760	474	308	806
11	612	1,130	528	500	670	739	909	1,190	773	478	279	1,380
12	678	1,110	570	521	692	747	892	1,260	775	466	267	1,160
13	747	1,090	605	514	715	747	859	1,650	746	462	260	847
14	779	1,080	662	535	755	731	787	1,870	723	424	255	623
15	900	1,060	685	549	795	715	763	1,930	709	404	246	495
16	1,020	1,040	708	563	779	700	723	1,760	654	386	247	1,090
17	1,130	1,020	747	584	779	700	708	1,710	631	388	260	1,640
18	1,240	996	731	598	787	715	715	1,690	608	361	256	2,130
19	1,250	952	763	591	795	731	708	1,750	563	325	250	2,230
20	1,270	859	755	605	779	708	715	1,960	530	333	291	1,870
21	1,320	819	763	612	787	708	731	1,900	505	329	278	1,380
22	1,380	884	787	612	787	708	678	1,720	563	320	270	1,130
23	1,390	960	787	605	803	708	626	1,510	702	304	267	971
24	1,390	1,030	787	612	787	715	612	1,360	753	294	255	824
25	1,390	1,040	827	626	779	715	605	1,310	792	308	250	721
26	1,390	1,060	827	626	763	731	598	1,340	774	302	249	700
27	1,370	996	835	633	755	731	584	1,350	706	309	243	674
28	1,330	892	787	648	747	747	629	1,400	693	319	236	624
29	1,360	875	670	619	------	715	729	1,350	709	320	235	575
30	1,360	795	528	591	------	755	839	1,270	736	304	232	541
31	1,340	------	563	612	------	755	------	1,210	------	293	227	------
TOTAL	29,954	33,078	22,829	17,484	19,749	22,691	22,240	41,083	22,717	12,948	8,438	24,724
MEAN	966	1,103	736	564	705	732	741	1,325	757	418	272	824
MAX	1,390	1,420	926	648	803	779	909	1,960	1,120	747	360	2,230
MIN	461	795	528	460	577	700	584	658	505	293	227	228
AC-FT	59,410	65,610	45,280	34,680	39,170	45,010	44,110	81,490	45,060	25,680	16,740	49,040

CAL YR 1969 TOTAL 313,904 MEAN 860 MAX 2,890 MIN 411 AC-FT 622,600
WTR YR 1970 TOTAL 277,935 MEAN 761 MAX 2,230 MIN 227 AC-FT 551,300

PEAK DISCHARGE (BASE, 1,600 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5-15	0615	5.56	2,020	9-19	0215	5.73	2,280

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. Figures of daily discharge for July 6-25, 1932, published in WSP 733 are unreliable and should not be used.

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.--39 years (1923-25, 1926-55, 1962-70), 78.6 cfs (56,950 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,220 cfs July 15 (gage height, 5.84 ft), from rating curve extended above 410 cfs on basis of slope-area measurement at gage height 7.39 ft; minimum, 6.8 cfs Jan. 29, 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 poor. 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, 1933(M), 1935(M), 1937(M), 1938(P), 1941, 1947(M). See also PERIOD OF RECORD.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	64	36	23	25	28	37	120	134	26	50	12
2	39	62	47	21	25	31	32	105	124	23	51	12
3	38	63	50	17	25	28	39	98	117	20	50	13
4	36	63	53	16	28	25	42	110	113	19	50	14
5	34	63	49	18	30	28	36	117	118	24	50	14
6	32	63	28	17	33	27	40	136	105	23	50	14
7	31	62	36	20	35	24	50	165	100	43	58	15
8	31	62	46	22	35	26	50	190	98	52	47	16
9	32	61	33	25	33	31	61	182	92	49	45	16
10	35	62	44	29	34	30	62	169	90	40	45	17
11	36	63	29	36	33	30	74	187	96	32	45	17
12	60	63	34	34	33	28	64	190	90	25	43	18
13	51	60	44	30	38	23	63	199	90	21	41	28
14	49	60	43	27	36	30	62	202	75	19	40	36
15	47	56	42	26	29	36	62	202	87	92	40	33
16	46	61	39	25	28	30	62	192	73	82	40	32
17	52	61	43	30	29	28	70	214	60	81	46	31
18	59	31	44	28	30	26	80	214	52	75	45	31
19	54	30	44	27	31	23	74	214	42	65	58	31
20	51	50	44	28	23	26	68	212	37	75	56	31
21	50	64	42	29	36	32	62	209	49	60	48	31
22	88	64	43	32	35	31	55	209	60	48	44	32
23	68	58	38	38	30	27	60	202	46	59	40	34
24	64	52	42	39	30	29	64	178	38	47	36	34
25	63	47	39	42	33	31	77	167	44	44	32	33
26	63	48	42	35	26	27	96	167	39	46	28	32
27	67	44	40	34	27	31	120	180	36	47	25	33
28	66	30	21	30	27	23	131	180	28	53	21	34
29	77	30	23	22	------	29	134	162	31	51	17	34
30	67	33	24	20	------	36	127	146	29	50	14	34
31	66	------	25	25	------	38	------	142	------	51	12	------
TOTAL	1,593	1,630	1,207	845	857	892	2,054	5,360	2,193	1,442	1,267	762
MEAN	51.4	54.3	38.9	27.3	30.6	28.8	68.5	173	73.1	46.5	40.9	25.4
MAX	88	64	53	42	38	38	134	214	134	92	58	36
MIN	31	30	21	16	23	23	32	98	28	19	12	12
AC-FT	3,160	3,230	2,390	1,680	1,700	1,770	4,070	10,630	4,350	2,860	2,510	1,510

CAL YR 1969 TOTAL 32,513 MEAN 89.1 MAX 466 MIN 12 AC-FT 64,490
WTR YR 1970 TOTAL 20,102 MEAN 55.1 MAX 214 MIN 12 AC-FT 39,870

PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G.H.	DISCHARGE
7-15	1730	5.84	1,220

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.--81 years, 1,017 cfs (736,800 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,250 cfs May 21 (gage height, 5.26 ft); maximum gage height, 9.38 ft Jan. 6 (backwater from ice); minimum discharge, 231 cfs Aug. 31, Sept. 5.
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. WSP 1712: 1903(M). See also PERIOD OF RECORD.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	519	1,350	769	555	631	757	797	991	1,270	743	305	239
2	496	1,320	806	531	612	763	783	938	1,210	724	308	269
3	477	1,300	839	500	600	775	805	869	1,210	630	306	239
4	493	1,330	904	540	612	787	790	837	1,120	561	327	238
5	501	1,440	958	560	623	787	769	815	1,020	531	308	240
6	499	1,450	940	560	628	763	772	837	945	499	314	243
7	532	1,440	866	540	633	745	801	955	886	540	383	255
8	626	1,450	854	540	644	740	803	1,220	855	507	410	256
9	639	1,430	718	540	650	740	847	1,470	820	504	385	351
10	610	1,260	699	540	672	745	917	1,530	819	503	357	681
11	622	1,190	571	560	688	751	985	1,460	834	492	312	1,270
12	687	1,160	597	580	705	757	984	1,460	839	479	289	1,180
13	755	1,150	624	541	728	751	954	1,840	803	469	271	903
14	791	1,130	688	548	769	740	878	2,070	770	431	267	695
15	878	1,110	717	564	823	728	814	2,140	777	491	263	546
16	1,020	1,100	756	574	799	699	794	1,980	713	432	260	896
17	1,110	1,090	794	606	817	699	788	1,910	666	397	317	1,470
18	1,230	1,030	772	622	823	705	811	1,910	648	415	294	1,940
19	1,250	987	796	619	830	722	797	1,930	591	352	301	2,160
20	1,260	920	800	626	799	705	792	2,130	557	368	342	1,900
21	1,290	874	801	645	805	711	805	2,130	543	360	318	1,430
22	1,420	931	832	649	805	699	764	1,950	576	352	303	1,160
23	1,430	995	840	648	817	705	714	1,740	708	380	302	1,020
24	1,400	1,070	844	659	799	711	695	1,550	763	340	286	852
25	1,400	1,080	867	669	799	711	705	1,460	810	339	269	740
26	1,430	1,090	887	676	781	716	749	1,490	803	341	261	713
27	1,420	1,050	890	684	775	722	777	1,530	733	345	253	686
28	1,370	930	857	697	769	734	822	1,580	701	391	243	647
29	1,420	910	713	651	------	699	923	1,520	716	372	242	596
30	1,390	834	596	629	------	769	1,040	1,430	742	346	240	556
31	1,380	------	564	650	------	757	------	1,350	------	323	237	------
TOTAL	30,345	34,401	24,159	18,503	20,436	22,793	24,675	47,022	24,448	13,957	9,273	24,371
MEAN	979	1,147	779	597	730	735	823	1,517	815	450	299	812
MAX	1,430	1,450	958	697	830	787	1,040	2,140	1,270	743	410	2,160
MIN	477	834	564	500	600	699	695	815	543	323	237	238
AC-FT	60,190	68,230	47,920	36,700	40,530	45,210	48,940	93,270	48,490	27,680	18,390	48,340

CAL YR 1969 TOTAL 345,200 MEAN 946 MAX 3,090 MIN 437 AC-FT 684,700
WTR YR 1970 TOTAL 294,383 MEAN 807 MAX 2,160 MIN 237 AC-FT 583,900

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5-21	0400	5.26	2,250	9-19	1730	5.16	2,190

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.--7 years, 694 cfs (502,800 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,180 cfs May 21 (gage height, 3.09 ft); maximum gage height, 3.11 ft May 14; minimum discharge, 205 cfs Sept. 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.--Records good subsequent to June 30. 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 prior to Jan. 1. Gage-height record and discharge measurements furnished by Bureau of Reclamation Jan. 1 to June 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	537	1,440	814	616	648	747	791	1,050	1,310	705	300	227
2	515	1,400	830	586	624	747	773	980	1,220	696	295	247
3	495	1,370	880	535	609	755	791	883	1,190	616	295	225
4	508	1,380	940	557	624	782	782	818	1,110	557	325	224
5	523	1,510	1,000	593	624	791	764	773	1,020	521	305	227
6	515	1,540	960	580	624	764	755	773	921	495	305	239
7	545	1,540	900	560	632	747	782	874	874	514	346	244
8	630	1,540	880	593	648	747	818	1,160	845	528	401	247
9	662	1,520	760	586	655	738	864	1,460	800	495	384	268
10	630	1,360	720	609	679	747	940	1,550	791	514	335	493
11	654	1,280	600	609	696	747	1,010	1,500	818	495	290	1,070
12	738	1,230	620	609	713	747	1,020	1,500	836	501	272	1,110
13	800	1,240	640	624	730	747	980	1,850	791	481	263	870
14	827	1,220	720	586	773	747	912	2,040	773	437	263	660
15	905	1,210	740	601	827	730	854	2,060	791	458	258	512
16	1,070	1,180	780	616	791	705	818	1,930	713	481	268	675
17	1,160	1,180	809	648	800	696	800	1,870	655	413	281	1,360
18	1,320	1,110	782	663	809	705	827	1,850	640	425	310	1,810
19	1,360	1,060	818	663	809	730	818	1,870	579	378	276	2,040
20	1,360	977	818	655	782	721	791	2,010	543	476	314	1,850
21	1,420	925	836	671	791	705	818	2,080	543	401	292	1,390
22	1,560	977	865	671	800	696	782	1,960	550	384	277	1,090
23	1,620	1,030	875	671	800	713	713	1,760	671	395	277	975
24	1,580	1,060	865	679	791	730	679	1,580	755	407	261	813
25	1,580	1,090	895	688	782	721	663	1,460	800	340	241	704
26	1,590	1,100	935	688	773	721	696	1,510	791	356	232	662
27	1,590	1,070	935	696	764	730	730	1,560	730	377	232	638
28	1,550	1,010	915	705	764	738	764	1,630	696	401	228	596
29	1,540	961	755	663	------	688	883	1,570	713	378	222	543
30	1,500	880	662	640	------	782	1,060	1,480	730	346	230	510
31	1,460	------	583	663	------	755	------	1,380	------	325	225	------
TOTAL	32,744	36,390	25,132	19,524	20,362	22,819	24,678	46,771	24,199	14,296	8,803	22,519
MEAN	1,056	1,213	811	630	727	736	823	1,509	807	461	284	751
MAX	1,620	1,540	1,000	705	827	791	1,060	2,080	1,310	705	401	2,040
MIN	495	880	583	535	609	688	663	773	543	325	222	224
AC-FT	64,950	72,180	49,850	38,730	40,390	45,260	48,950	92,770	48,000	28,360	17,460	44,670
(†)	49	33	0	0	0	0	0	81	68	84	56	116
(††)	0	0	0	0	0	0	119	344	362	312	305	182
(‡)	336	70	0	0	0	0	49	381	388	392	119	161

CAL YR 1969 TOTAL 346,669 MEAN 950 MAX 3,000 MIN 461 AC-FT 687,600 † 711 †† 2,460 ‡ 2,490
WTR YR 1970 TOTAL 298,237 MEAN 817 MAX 2,080 MIN 222 AC-FT 591,600 † 487 †† 1,620 ‡ 1,900

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5-21	0800	3.09	2,180	9-19	0915	3.04	2,060

† Diversion, in acre-feet, by San Juan lateral.
†† Diversion, in acre-feet, by San Juan Pueblo ditch.
‡ Diversion, in acre-feet, by Guique ditch.

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.--15 years, 314 cfs (227,500 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,760 cfs May 13 (gage height, 5.19 ft); minimum recorded, 41 cfs July 18-19, but may have been less during period of ice effect.
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.
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).

REVISIONS(WATER YEARS).--WRD N.Mex. 1969: 1968(P).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	115	220	105	60	60	85	88	439	611	122	53	63
2	110	185	115	55	60	93	80	391	530	106	49	68
3	107	174	120	50	60	90	96	444	475	91	55	62
4	121	166	121	50	60	76	102	687	464	85	70	57
5	155	174	115	50	60	80	103	1,060	449	99	57	71
6	151	174	105	50	65	80	131	1,470	419	100	62	713
7	138	166	110	50	70	80	183	1,920	408	104	97	370
8	131	170	105	55	75	90	167	2,000	420	119	135	213
9	121	162	98	60	85	101	202	1,760	523	149	127	160
10	118	170	112	60	95	98	219	2,010	416	115	89	134
11	115	166	100	60	110	93	274	2,620	471	96	68	115
12	151	166	100	60	130	90	220	3,030	555	80	65	121
13	148	159	100	60	128	83	209	3,220	477	66	59	404
14	148	151	100	60	104	88	201	3,190	363	54	53	948
15	159	148	110	65	90	98	230	3,020	338	47	55	449
16	155	162	110	65	93	88	247	2,890	301	57	74	305
17	155	151	110	70	88	88	330	2,850	286	49	82	242
18	258	80	110	75	83	73	387	2,720	265	45	66	206
19	300	70	110	80	76	73	302	2,380	259	45	94	182
20	238	90	110	80	76	73	266	1,960	250	53	261	182
21	248	100	105	75	90	85	257	1,870	241	76	160	165
22	268	120	105	75	85	83	232	1,730	268	93	123	148
23	305	130	100	75	96	78	240	1,480	282	103	131	156
24	258	120	105	80	93	85	280	1,290	271	105	111	137
25	238	110	105	90	90	96	393	1,130	223	103	95	123
26	238	110	110	90	80	93	584	1,010	251	106	85	116
27	238	100	112	90	80	98	768	936	204	82	72	114
28	229	90	80	90	88	73	800	923	180	83	65	111
29	283	100	70	80	------	96	580	784	166	79	59	116
30	238	100	70	70	------	98	489	729	146	64	59	110
31	215	------	70	60	------	96	------	684	------	56	57	------
TOTAL	5,852	4,184	3,198	2,090	2,370	2,701	8,660	52,627	10,512	2,632	2,688	6,361
MEAN	189	139	103	67.4	84.6	87.1	289	1,698	350	84.9	86.7	212
MAX	305	220	121	90	130	101	800	3,220	611	149	261	948
MIN	107	70	70	50	60	73	80	391	146	45	49	57
AC-FT	11,610	8,300	6,340	4,150	4,700	5,360	17,180	104,400	20,850	5,220	5,330	12,620

CAL YR 1969 TOTAL 150,079 MEAN 411 MAX 2,850 MIN 45 AC-FT 297,700
WTR YR 1970 TOTAL 103,875 MEAN 285 MAX 3,220 MIN 45 AC-FT 206,000

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5- 7	2300	4.58	2,480	5-13	2330	5.19	4,760

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.--8 years, 10.5 cfs (7,610 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 739 cfs July 19 (gage height, 3.13 ft); no flow at times in December, January, and June.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.41	4.8	.45	.35	.58	1.4	2.4	3.4	.14	3.4	2.4	6.7
2	.34	4.4	.41	.32	.41	2.0	2.4	3.4	.05	2.7	2.5	2.0
3	.23	4.1	.41	.30	.28	3.2	2.7	2.9	.02	2.5	2.7	2.5
4	.34	3.1	.48	.30	.28	2.7	2.9	2.4	0	2.4	2.9	3.6
5	.48	2.4	.41	.30	.34	2.0	3.8	2.4	.23	2.7	4.1	2.9
6	.48	1.4	.41	.30	.58	1.6	5.4	2.4	.14	7.1	5.1	64
7	.41	1.1	.28	.30	.76	1.4	9.1	2.4	.23	6.7	19	12
8	.34	.87	.34	.40	1.1	1.4	6.4	2.4	1.2	4.4	12	2.5
9	.34	.87	.23	.40	1.4	1.7	6.7	2.4	5.4	3.8	8.7	1.1
10	.34	.87	.23	.50	1.7	2.9	6.1	2.0	4.4	3.6	8.7	.48
11	.28	.87	.28	.80	2.2	3.1	8.1	1.7	3.4	3.2	6.1	.28
12	1.1	1.1	.14	1.0	2.4	2.4	5.4	1.6	5.4	2.9	5.8	18
13	3.8	.98	.14	.80	3.8	2.2	4.2	1.3	5.4	2.5	5.8	64
14	2.2	.87	.14	.80	5.8	2.0	4.1	1.3	4.6	2.5	5.4	63
15	1.8	.67	.10	.80	3.6	2.7	5.3	1.2	4.1	2.4	5.1	7.1
16	1.8	1.1	.19	.60	2.7	2.7	5.0	1.2	3.4	2.2	5.6	3.1
17	2.7	2.9	.34	1.0	2.5	2.2	6.7	1.1	3.1	2.2	7.7	1.7
18	2.7	2.2	.23	.80	2.5	1.6	9.7	.76	3.2	2.2	6.7	1.1
19	3.2	1.1	.18	.70	2.0	1.2	7.7	.67	3.1	58	6.4	.58
20	2.9	.67	.34	.50	1.6	1.1	5.8	.48	3.4	7.0	6.1	.41
21	2.9	.87	.76	.40	1.8	1.1	5.6	.76	4.1	6.6	8.4	.28
22	4.5	.98	2.7	.80	1.6	.87	4.8	1.2	4.8	5.6	5.4	.23
23	12	1.2	2.5	2.0	1.6	.67	4.1	1.4	6.1	4.4	6.1	.23
24	8.3	1.2	2.4	3.0	1.6	.58	4.6	1.8	6.7	2.9	3.6	.23
25	4.8	1.3	2.0	5.0	1.6	.48	5.5	1.7	5.4	3.4	3.1	.23
26	3.6	1.1	1.5	7.0	1.6	1.1	5.9	2.0	4.6	4.6	2.0	.18
27	3.4	.98	1.2	8.0	1.6	1.2	5.4	2.5	4.6	3.6	1.2	.28
28	3.2	.67	1.0	4.8	1.4	1.1	4.4	1.8	4.4	4.1	.67	.34
29	22	.48	.80	2.5	------	1.2	4.8	1.2	4.4	3.6	.41	.28
30	11	.41	.50	1.3	------	1.8	4.4	.76	4.1	3.2	.28	.28
31	6.1	------	.25	.98	------	2.4	------	.34	------	2.7	9.7	------
TOTAL	107.99	45.56	21.34	47.05	49.33	54.00	159.4	52.87	100.11	169.1	169.66	259.61
MEAN	3.48	1.52	.69	1.52	1.76	1.74	5.31	1.71	3.34	5.45	5.47	8.65
MAX	22	4.8	2.7	8.0	5.8	3.2	9.7	3.4	6.7	58	19	64
MIN	.23	.41	.10	.30	.28	.48	2.4	.34	0	2.2	.28	.18
AC-FT	214	90	42	93	98	107	316	105	199	335	337	515

CAL YR 1969 TOTAL 7,340.79 MEAN 20.1 MAX 399 MIN .07 AC-FT 14,560
WAT YR 1970 TOTAL 1,236.02 MEAN 3.39 MAX 64 MIN 0 AC-FT 2,450

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H	DISCHARGE
7-19	1830	3.13	739				

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.--8 years, 1.11 cfs (804 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 380 cfs Sept. 13 (gage height, 3.06 ft), from rating curve extended as explained below; no flow many days.
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 prior to August and poor thereafter. Diversions above station for irrigation of meadows and for off-channel stock tanks.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.12	.01	.03	.02	.04	.34			0	0	.06
2	0	.05	.01	.01	0	.23	.23			0	0	0
3	0	.04	.01	.01	0	.23	.72			0	0	0
4	0	.03	.02	.01	0	.17	.60			0	0	0
5	0	.03	.03	.01	.02	.10	.66			0	0	2.0
6	0	.03	.03	0	.03	.08	.41			0	13	18
7	0	.03	.02	0	.05	.04	.31			0	13	.24
8	0	.02	.03	0	.05	.04	.14			0	1.4	.01
9	0	.02	.02	0	.04	.04	.05			0	.02	0
10	0	.02	.02	0	.03	.12	.03			0	0	0
11	0	.02	.02	0	.04	.27	.03			0	0	0
12	.12	.03	.02	0	.04	.12	.02			0	0	25
13	.01	.03	.01	0	.05	.06	0			0	0	42
14	.01	.03	.01	0	.14	.04	.01			0	0	5.9
15	.01	.03	.01	0	.06	.04	0			0	0	.20
16	0	.04	.01	0	.04	.02	0			0	1.5	.03
17	.02	.05	.01	0	.02	.03	0			0	.39	.01
18	.06	.04	.01	0	.01	.02	.12			0	0	0
19	.02	.02	.01	0	.01	.01	.12			0	0	0
20	0	.02	.05	0	.01	.03	.17			0	1.2	0
21	.01	.02	.06	.03	.01	.10	.05			0	3.7	0
22	4.5	.03	.08	.20	.02	.04	.01			.02	.82	0
23	.38	.03	.12	1.1	.03	.01	0			.11	.14	0
24	.06	.03	.08	1.1	.03	0	0			0	0	0
25	.03	.03	.05	1.2	.02	0	0			0	0	0
26	.02	.03	.05	1.4	.01	0	0			0	0	0
27	.02	.03	.03	.90	.02	.05	0			0	0	0
28	.11	.03	.04	.60	.02	.20	0			0	0	0
29	5.0	.02	.04	.17	------	.23	.02			0	0	0
30	.50	.01	.04	.04	------	.27	.02			0	0	0
31	.31	------	.04	.04	------	.31	------		------	0	.13	------
TOTAL	11.19	.96	.99	6.85	.82	2.94	4.06	0	0	.13	35.30	93.45
MEAN	.36	.032	.032	.22	.029	.095	.14	0	0	.004	1.14	3.12
MAX	5.0	.12	.12	1.4	.14	.31	.72	0	0	.11	13	42
MIN	0	.01	.01	0	0	0	0	0	0	0	0	0
AC-FT	22	1.9	2.0	14	1.6	5.8	8.1	0	0	.3	70	185

CAL YR 1969 TOTAL 828.88 MEAN 2.27 MAX 44 MIN 0 AC-FT 1,640
WAT YR 1970 TOTAL 156.69 MEAN .43 MAX 42 MIN 0 AC-FT 311

PEAK DISCHARGE (BASE, 50 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
8- 6	1630	2.34	130	9-12	2100	2.25	113
8- 7	1830	2.34	130	9-13	1930	3.06	380
9- 6	0630	2.20	105				

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.--33 years (1936-38, 1939-70), 20.7 cfs (15,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 375 cfs July 19; minimum, 0.06 cfs Mar. 23.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	5.8	3.1	1.4	1.4	2.0	4.0	4.1	1.7	15	8.1	23
2	2.9	4.8	3.6	1.1	.98	2.4	3.3	3.8	2.0	14	8.5	5.9
3	2.0	4.2	3.8	.86	.79	4.8	4.4	3.6	1.6	15	8.8	5.3
4	2.3	5.6	4.8	.78	.81	5.4	4.6	2.8	2.6	16	8.8	3.0
5	5.6	6.8	5.1	.88	.83	4.1	5.4	2.2	4.2	17	9.5	2.8
6	6.1	4.8	4.3	.76	.93	2.9	7.7	2.2	3.5	23	23	76
7	6.4	2.9	4.1	.86	1.7	2.6	11	2.2	3.9	23	40	29
8	7.1	2.4	3.6	.88	2.3	2.6	8.7	2.2	5.1	19	35	6.1
9	6.8	2.4	3.8	1.1	2.6	2.9	7.3	1.7	9.3	19	17	2.7
10	6.8	2.6	3.6	1.6	2.9	3.1	6.4	2.2	8.8	16	16	.81
11	6.2	4.6	3.3	2.1	4.3	4.6	7.9	3.7	13	16	12	.65
12	8.9	4.1	2.7	2.6	5.6	3.8	5.9	4.5	18	14	10	32
13	9.6	4.1	2.7	3.1	8.2	2.6	3.5	4.5	17	14	10	86
14	8.6	3.8	2.9	3.1	13	2.3	2.5	4.0	18	14	10	112
15	7.1	3.8	3.1	3.1	10	2.1	4.3	7.4	18	14	9.9	16
16	8.2	5.5	2.7	2.6	7.8	3.1	4.7	8.1	16	13	17	5.5
17	9.6	11	2.7	3.1	5.4	2.6	7.2	7.7	14	13	31	3.3
18	14	9.0	3.1	2.6	4.6	2.0	10	6.7	14	13	14	3.0
19	14	4.9	2.6	2.4	4.1	1.3	8.2	5.8	14	47	10	2.8
20	10	4.3	3.1	2.1	2.4	.96	6.5	5.5	14	25	11	2.8
21	5.1	3.9	4.1	1.5	2.9	1.2	5.4	4.2	15	17	15	2.8
22	9.5	5.2	6.8	2.5	2.7	.98	5.0	4.7	17	16	15	2.6
23	25	5.5	8.2	3.9	3.1	.64	4.0	5.0	22	16	14	2.6
24	16	4.9	8.6	5.7	3.1	1.3	4.5	5.0	22	13	10	2.6
25	7.4	4.6	5.6	10	2.7	1.0	5.8	5.0	19	13	8.2	2.6
26	5.0	4.8	5.6	13	2.6	1.0	6.1	4.5	18	15	5.0	2.5
27	3.9	4.8	4.3	14	2.4	1.4	5.6	4.8	17	14	2.3	2.5
28	5.6	3.8	3.1	13	2.3	1.7	4.8	4.8	17	15	1.4	2.6
29	46	3.6	2.4	5.9	------	2.0	4.8	3.7	18	12	1.2	2.8
30	18	3.1	1.7	3.1	------	2.7	4.8	2.8	17	10	.90	2.8
31	9.0	------	1.5	2.0	------	4.2	------	2.5	------	8.5	.99	------
TOTAL	296.3	141.6	120.6	111.62	102.44	76.28	174.3	131.9	380.7	509.5	383.59	445.06
MEAN	9.56	4.72	3.89	3.60	3.66	2.46	5.81	4.25	12.7	16.4	12.4	14.8
MAX	46	11	8.6	14	13	5.4	11	8.1	22	47	40	112
MIN	2.0	2.4	1.5	.76	.79	.64	2.5	1.7	1.6	8.5	.90	.65
AC-FT	588	281	239	221	203	151	346	262	755	1,010	761	883

CAL YR 1969 TOTAL 10,269.87 MEAN 28.1 MAX 437 MIN .30 AC-FT 20,370
WAT YR 1970 TOTAL 2,873.89 MEAN 7.87 MAX 112 MIN .64 AC-FT 5,700

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

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. Prior to October 1967, nonrecording gage only below gage height 2,879.3 ft. Datum of gage is 8.21 ft above mean sea level.

EXTREMES.--Current year: Maximum contents, 23,340 acre-ft May 12, 13 (gage height, 6,814.1 ft); minimum, 1,060 acre-ft Jan. 3-18, Feb. 28, and part or all of each day Dec. 18-29 (gage height, 6,775.0 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. Prior to October 1967, contents at about 0730 hours.

COOPERATION.--Records furnished by Bureau of Reclamation.

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

6,775	1,060	6,790	6,510	6,805	15,770
6,780	2,190	6,795	9,240	6,810	19,730
6,785	4,100	6,800	12,290	6,815	24,180

CONTENTS, IN ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21,270	21,100	13,690	1,100	1,100	1,100	1,110	12,360	21,180	21,450	21,100	21,180
2	21,270	21,010	13,020	1,100	1,080	1,100	1,100	12,880	21,180	21,450	21,100	21,270
3	21,270	21,100	12,290	1,060	1,100	1,100	1,110	13,420	21,270	21,360	21,100	21,270
4	21,360	21,180	11,710	1,060	1,100	1,080	1,130	14,320	21,270	21,270	21,100	21,180
5	21,360	21,360	11,590	1,060	1,100	1,080	1,130	16,000	21,100	21,270	21,100	21,100
6	21,100	21,270	11,520	1,060	1,080	1,100	1,140	18,410	21,100	21,270	21,270	21,710
7	21,100	21,180	11,400	1,060	1,080	1,100	1,190	21,270	21,270	21,100	20,920	21,180
8	20,920	21,270	11,090	1,060	1,100	1,100	1,310	21,100	21,450	20,920	20,920	21,100
9	21,010	21,450	10,540	1,060	1,100	1,100	1,500	21,270	21,710	21,010	21,010	21,180
10	20,920	21,450	9,530	1,060	1,100	1,110	1,790	21,890	21,620	21,010	21,100	21,180
11	20,920	21,450	8,720	1,060	1,100	1,100	2,160	22,610	21,270	21,100	21,180	21,180
12	20,920	21,450	7,510	1,060	1,110	1,100	2,380	23,070	21,360	21,180	21,180	20,920
13	20,920	21,530	6,360	1,060	1,110	1,080	2,590	22,340	21,450	21,180	21,100	21,270
14	21,010	21,530	5,360	1,060	1,110	1,100	2,770	21,800	21,180	21,180	21,010	21,980
15	20,920	21,620	4,100	1,060	1,100	1,100	2,990	21,800	21,100	21,180	21,010	21,180
16	21,010	21,710	2,700	1,060	1,100	1,100	3,260	21,450	21,270	21,180	21,100	21,100
17	21,100	21,530	1,370	1,060	1,100	1,100	3,670	21,890	21,360	21,270	21,180	21,180
18	21,010	21,270	1,060	1,080	1,110	1,080	4,240	21,800	21,180	21,270	21,180	21,270
19	21,010	20,920	1,060	1,080	1,100	1,080	4,690	21,100	21,180	21,100	21,180	21,180
20	21,010	20,490	1,060	1,080	1,080	1,080	5,020	21,450	21,360	21,100	21,360	21,270
21	20,840	19,810	1,060	1,080	1,100	1,110	5,360	22,250	21,450	21,100	21,180	21,180
22	20,920	19,150	1,080	1,080	1,100	1,100	5,600	22,070	21,180	21,180	21,270	21,100
23	20,920	18,410	1,060	1,080	1,100	1,100	5,900	21,270	21,270	21,010	21,180	21,180
24	20,920	17,690	1,080	1,080	1,080	1,100	6,250	21,180	21,270	21,100	21,270	21,270
25	21,010	17,300	1,060	1,080	1,080	1,110	6,770	21,100	21,360	21,180	21,180	21,180
26	21,100	16,990	1,100	1,100	1,080	1,110	7,620	21,270	21,450	21,270	21,180	21,180
27	20,840	16,370	1,080	1,100	1,080	1,130	8,840	21,530	21,530	21,270	21,180	21,180
28	20,920	15,770	1,060	1,100	1,080	1,100	10,180	21,360	21,530	21,180	21,180	21,180
29	21,010	15,110	1,080	1,080	------	1,110	11,020	21,180	21,530	21,180	21,100	21,270
30	20,920	14,460	1,100	1,100	------	1,130	11,780	21,270	21,450	21,180	21,100	21,270
31	21,010	------	1,100	1,100	------	1,130	------	21,270	------	21,180	21,100	------
MAX	21,360	21,710	13,690	1,100	1,110	1,130	11,780	23,070	21,710	21,450	21,360	21,980
MIN	20,840	14,460	1,060	1,060	1,080	1,080	1,100	12,360	21,100	20,920	20,920	20,920
(+)	6,811.5	6,803.2	6,775.2	6,775.2	6,775.1	6,775.4	6,799.2	6,811.8	6,812.0	6,811.7	6,811.6	6,811.8
(‡)	-170	-6,550	-13,360	0	-20	+50	+10,650	+9,490	+180	-270	-80	+170

CAL YR 1969..... ‡ +40
WTR YR 1970..... ‡ +90

\+ 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; 35 years (1935-70), 373 cfs (270,200 acre-ft per year), after completion of El Vado Dam.

EXTREMES.--Current year: Maximum discharge, 3,670 cfs May 13 (gage height, 5.68 ft); minimum, 6.2 cfs Apr. 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 January, 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	192	514	67	60	81	103	111	627	133	63	42
2	78	253	536	60	65	85	85	111	497	133	59	42
3	78	167	546	58	61	85	90	113	429	125	57	42
4	81	130	475	55	63	81	98	119	444	95	57	83
5	146	145	252	58	63	78	103	108	536	114	57	103
6	265	245	191	60	63	81	116	93	414	139	114	426
7	122	227	234	60	67	81	161	249	323	181	300	722
8	191	131	302	62	72	81	128	2,070	306	233	231	257
9	106	108	430	62	78	90	111	1,640	386	119	44	111
10	128	197	615	62	81	95	83	1,560	470	108	44	111
11	130	205	710	64	83	90	88	2,260	645	55	44	111
12	133	158	730	64	90	88	95	2,940	492	53	44	465
13	148	158	736	64	103	83	95	3,620	492	53	100	406
14	148	158	690	64	108	83	95	3,590	486	53	85	742
15	177	119	716	68	93	85	98	3,120	372	53	74	896
16	111	167	749	72	85	85	98	3,180	257	53	74	367
17	141	281	716	76	88	83	100	2,720	255	53	74	204
18	262	213	270	76	106	78	100	2,740	338	53	74	191
19	283	281	130	78	93	74	88	2,730	273	94	74	208
20	253	365	136	75	78	76	83	2,010	188	138	184	149
21	318	470	130	75	85	74	85	1,480	198	131	275	227
22	350	514	136	75	83	81	85	1,670	402	63	139	174
23	322	508	128	75	90	76	85	1,660	277	205	172	116
24	263	508	128	78	88	78	85	1,310	291	65	108	111
25	216	348	119	83	85	88	85	1,150	223	65	108	130
26	240	298	125	95	83	93	88	882	188	65	108	142
27	323	419	122	93	81	98	90	817	188	103	78	111
28	263	455	88	93	78	88	93	1,050	188	122	67	88
29	340	497	81	85	------	88	95	867	188	100	67	88
30	314	492	85	70	------	100	92	639	145	72	69	105
31	198	------	78	63	------	103	------	678	------	69	51	------
TOTAL	6,206	8,409	10,898	2,190	2,273	2,630	2,901	47,287	10,518	3,098	3,095	6,970
MEAN	200	280	352	70.6	81.2	84.8	96.7	1,525	351	99.9	99.8	232
MAX	350	514	749	95	108	103	161	3,620	645	233	300	896
MIN	78	108	78	55	60	74	83	93	145	53	44	42
AC-FT	12,310	16,680	21,620	4,340	4,510	5,220	5,750	93,790	20,860	6,140	6,140	13,830

CAL YR 1969 TOTAL 160,871 MEAN 441 MAX 2,940 MIN 39 ACFT 319,100
WAT YR 1970 TOTAL 106,475 MEAN 292 MAX 3,620 MIN 42 ACFT 211,200

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.--9 years 358 cfs (259,400 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,670 cfs May 13 (gage height, 7.05 ft); minimum, 35 cfs Jan. 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 measurement 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 January, 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 1970 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	165	510	72	72	85	128	134	710	122	66	55
2	84	247	554	65	74	92	128	143	550	124	66	45
3	79	202	554	62	70	97	119	139	471	124	208	45
4	82	155	577	60	72	91	119	141	415	106	63	45
5	88	119	347	65	70	82	115	151	532	97	59	97
6	227	194	182	68	74	82	119	151	478	152	63	177
7	184	256	221	68	79	85	151	161	351	106	222	847
8	146	186	247	70	86	84	191	1,680	301	313	569	458
9	145	115	338	70	95	86	143	1,860	334	139	88	137
10	112	130	575	70	102	98	139	1,560	418	117	52	119
11	124	229	700	72	103	106	103	2,160	673	94	50	115
12	137	178	745	72	113	102	119	2,770	501	58	46	163
13	147	161	770	72	130	97	117	3,380	505	55	46	835
14	145	159	735	73	141	91	117	3,620	505	55	103	396
15	149	153	730	75	122	92	117	3,160	450	58	74	1,240
16	168	121	795	75	103	94	119	3,350	283	108	91	400
17	128	251	765	80	100	91	124	2,820	198	59	136	341
18	262	251	516	90	106	88	139	2,810	330	58	114	147
19	300	243	159	98	112	84	139	2,830	256	67	113	258
20	296	300	132	102	92	79	124	2,430	234	148	92	161
21	234	454	141	94	86	84	113	1,630	153	197	359	204
22	739	532	130	94	95	84	112	1,700	370	113	106	229
23	550	532	141	100	89	89	113	1,760	331	231	198	149
24	345	532	130	112	94	84	115	1,430	310	187	110	119
25	224	490	136	117	91	88	117	1,300	229	78	103	115
26	219	229	124	122	88	98	122	1,040	178	68	102	145
27	302	411	137	130	85	106	128	820	176	66	100	134
28	293	426	95	130	85	112	143	1,050	176	128	72	106
29	366	510	79	91	------	94	153	1,030	176	115	70	92
30	354	505	86	78	------	108	137	712	165	94	69	91
31	259	------	77	74	------	126	------	705	------	70	74	------
TOTAL	6,980	8,436	11,428	2,621	2,629	2,879	3,823	48,627	10,759	3,507	3,684	7,465
MEAN	225	281	369	84.5	93.9	92.9	127	1,569	359	113	119	249
MAX	739	532	795	130	141	126	191	3,620	710	313	569	1,240
MIN	79	115	77	60	70	79	103	134	153	55	46	45
AC-FT	13,840	16,730	22,670	5,200	5,210	5,710	7,580	96,450	21,340	6,960	7,310	14,810

CAL YR 1969 TOTAL 172,870 MEAN 474 MAX 3,020 MIN 58 AC-FT 342,900
WAT YR 1970 TOTAL 112,838 MEAN 309 MAX 3,620 MIN 45 AC-FT 223,800

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, 48,740 acre-ft May 25 (elevation, 6,167.00 ft); minimum, 268 acre-ft Feb. 17 (elevation, 6,091.99 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 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 table (elevation, in feet, and contents, in acre-feet)

6,091	218	6,130	11,960
6,095	481	6,140	17,990
6,100	1,100	6,150	26,390
6,110	3,430	6,160	38,000
6,120	7,110	6,170	54,040

CONTENTS, IN ACRE-FEET, AT 0800 HOURS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3,900	2,060	1,990	2,130	2,000	1,790	2,090	2,200	42,920	2,100	3,420	3,980
2	3,910	1,980	1,930	2,230	2,060	1,930	2,040	2,300	40,720	2,080	3,690	4,030
3	3,900	2,300	1,960	2,050	2,080	2,000	2,010	2,200	38,070	2,070	3,660	3,970
4	3,910	2,030	2,010	1,880	2,080	2,040	1,960	2,200	35,110	2,060	3,620	3,970
5	3,940	1,990	2,120	1,940	2,100	2,030	2,030	2,290	32,190	2,000	3,610	3,970
6	3,960	2,100	1,980	2,060	2,120	2,010	2,090	2,260	29,440	2,030	3,600	4,110
7	4,140	2,110	1,880	2,110	2,060	2,020	2,100	2,210	26,490	2,230	3,610	4,310
8	3,970	2,100	2,160	2,070	2,060	2,030	2,130	2,270	23,380	2,350	4,020	4,450
9	4,020	2,030	2,150	2,070	2,050	2,050	2,160	4,960	20,060	2,380	3,870	4,140
10	3,900	2,070	2,130	2,080	2,070	2,060	2,110	6,150	16,830	2,310	3,920	4,120
11	3,960	1,990	2,180	2,100	2,110	2,100	2,180	7,950	13,740	2,320	3,900	4,110
12	4,050	2,330	2,250	2,080	2,130	2,050	2,050	11,350	11,100	2,270	3,840	4,100
13	3,970	2,060	2,260	2,040	2,050	2,040	2,110	15,770	7,800	2,250	3,810	4,980
14	3,970	2,060	2,240	2,140	1,640	2,010	2,160	21,180	4,490	2,270	3,810	3,790
15	3,980	2,160	2,180	2,130	1,190	2,000	2,180	26,440	2,250	2,250	3,960	3,590
16	3,920	2,110	2,120	2,060	753	2,000	2,230	30,700	1,930	2,280	4,000	3,560
17	3,960	2,030	2,190	2,060	463	2,000	2,220	34,860	1,840	2,350	4,180	2,510
18	4,100	2,300	2,130	2,090	281	1,990	2,320	38,280	2,010	2,400	3,980	2,450
19	4,170	2,130	1,940	2,070	432	1,960	2,270	41,480	2,110	2,370	4,290	2,440
20	3,920	2,020	2,040	2,050	583	1,990	2,160	44,710	2,080	2,390	4,060	2,460
21	2,500	2,090	1,960	2,150	705	2,020	2,190	46,240	1,990	2,660	4,300	2,330
22	1,480	2,100	2,020	2,130	838	2,050	2,180	46,850	2,000	3,320	3,960	2,500
23	3,060	2,110	2,000	2,050	978	2,030	2,200	47,730	2,420	3,130	4,080	2,360
24	2,200	2,120	2,050	2,050	1,120	2,020	2,260	48,570	2,030	3,570	4,330	2,400
25	1,900	2,120	2,140	2,100	1,270	1,990	2,350	48,700	2,390	3,390	3,980	2,310
26	2,300	2,340	2,140	2,130	1,410	2,000	2,450	48,620	2,480	3,460	4,010	2,320
27	2,190	2,050	2,120	2,120	1,540	2,050	2,590	48,100	2,220	3,440	3,990	2,380
28	2,240	1,940	2,120	2,120	1,670	2,090	2,740	47,580	2,060	3,630	4,080	2,330
29	2,060	1,970	2,000	2,110	------	2,120	2,340	47,010	2,050	3,370	4,040	2,370
30	2,240	2,050	1,990	2,100	------	1,920	2,320	46,080	2,020	3,380	3,980	2,380
31	2,090	------	2,080	2,080	------	2,000	------	44,630	------	3,400	3,930	------
MAX	4,170	2,340	2,260	2,230	2,130	2,120	2,740	48,700	42,920	3,630	4,330	4,980
MIN	1,480	1,940	1,880	1,880	281	1,790	1,960	2,200	1,840	2,000	3,420	2,310
(+)	6,105.04	6,104.86	6,104.98	6,105.00	6,103.12	6,104.66	6,105.99	6,164.50	6,104.75	6,109.93	6,111.61	6,106.25
(≠)	-1,820	-40	+30	0	-410	+330	+320	+42,310	-42,610	+1,380	+530	-1,550

CAL YR 1969..... ≠ +810
WTR YR 1970..... ≠ -1,530

\+ Elevation, in feet, at end of month.
≠ Change in contents, in acre-feet.
NOTE.--Contents on Dec. 31, 1968, from capacity table effective Aug. 1, 1969, is 1,270 acre-feet. Change in contents for 1969 calendar year obtained by using this value. Prior to Oct. 1, 1969, contents were determined at 2400 hrs.

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.--9 years, 384 cfs (278,200 acre-feet per year).

EXTREMES.--Current year: Maximum discharge, 2,620 cfs June 12 (gage height, 5.45 ft); minimum, 1.4 cfs Feb. 18. 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 (backwackwater 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 1970 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	112	250	494	59	89	51	150	212	1,750	156	78	88
2	83	222	494	106	83	66	162	226	1,910	157	157	90
3	86	292	499	110	107	92	153	256	2,030	159	162	71
4	75	233	499	33	107	97	125	256	2,120	157	102	59
5	77	125	440	24	107	102	114	284	2,100	136	76	59
6	124	198	255	46	122	92	136	301	2,110	121	75	156
7	205	280	153	81	133	90	162	301	2,130	169	140	478
8	172	256	214	86	125	90	194	677	2,160	289	400	557
9	160	151	320	86	125	90	208	1,100	2,270	296	249	264
10	132	174	479	79	103	95	178	980	2,370	152	88	125
11	104	179	620	124	142	125	205	573	2,350	141	88	124
12	161	229	689	113	150	125	162	608	2,470	106	79	125
13	169	208	708	75	228	117	142	689	2,550	73	62	706
14	153	138	721	122	327	112	150	850	1,900	76	55	904
15	178	188	714	130	323	107	159	940	887	76	64	866
16	169	181	708	114	284	107	175	1,010	401	89	79	824
17	150	175	721	114	283	109	185	1,020	236	94	158	499
18	192	276	607	136	48	109	219	1,030	267	87	124	162
19	325	300	190	127	51	97	241	1,070	316	93	160	210
20	672	276	159	88	50	88	191	1,150	274	94	133	217
21	853	413	149	132	50	88	159	1,240	226	223	345	162
22	479	499	130	156	50	102	185	1,250	227	395	293	222
23	790	499	155	126	50	109	175	1,250	406	277	119	181
24	608	505	112	120	50	109	188	1,250	296	304	171	137
25	209	415	150	139	51	104	237	1,240	219	217	142	127
26	200	363	147	153	51	97	378	1,240	266	96	119	128
27	314	416	147	153	51	107	421	1,240	273	107	100	144
28	389	396	150	156	51	117	412	1,360	215	198	95	118
29	373	427	98	115	------	160	354	1,430	214	175	102	98
30	412	494	59	95	------	139	272	1,410	188	113	104	99
31	352	------	59	120	------	120	------	1,510	------	84	90	------
TOTAL	8,478	8,758	11,040	3,318	3,391	3,213	6,192	27,953	35,131	4,910	4,209	8,000
MEAN	273	292	356	107	121	104	206	902	1,171	158	136	267
MAX	853	505	721	156	327	160	421	1,510	2,550	395	400	904
MIN	75	125	59	24	48	51	114	212	188	73	55	59
AC-FT	16,820	17,370	21,900	6,580	6,730	6,370	12,280	55,440	69,680	9,740	8,350	15,870

CAL YR 1969 TOTAL 189,778 MEAN 520 MAX 2,500 MIN 59 AC-FT 376,400
WTR YR 1970 TOTAL 124,593 MEAN 341 MAX 2,550 MIN 24 AC-FT 247,100

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.--38 years, 68.8 cfs (49,850 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 790 cfs May 12 (gage height, 5.32 ft); minimum, 5.0 cfs June 21-22.
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 March 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	46	21	20	20	22	40	166	46	6.5	8.9	15
2	11	41	23	18	19	23	32	124	42	6.3	7.7	13
3	10	37	24	20	18	23	46	137	35	6.5	7.8	9.6
4	11	36	26	20	18	21	58	248	31	6.4	8.2	9.4
5	11	37	25	19	20	21	56	391	35	6.6	7.6	9.2
6	13	36	20	18	20	21	72	479	43	7.3	7.8	9.5
7	14	35	20	17	20	21	93	550	37	8.0	7.9	14
8	14	34	22	17	20	22	107	514	34	8.1	16	13
9	14	33	21	17	20	23	168	465	29	9.3	15	11
10	14	33	27	18	20	24	181	519	19	10	11	9.9
11	13	34	24	20	20	24	216	581	18	7.7	9.3	9.6
12	18	34	25	20	20	26	150	583	29	7.2	7.6	11
13	19	34	27	21	21	22	114	518	22	6.7	7.6	35
14	18	33	28	21	22	24	122	482	16	6.1	7.4	35
15	18	31	27	21	20	26	127	435	15	55	7.8	27
16	21	32	23	21	20	25	122	387	12	18	13	16
17	22	34	23	22	20	26	151	367	8.6	12	9.3	13
18	54	25	23	23	23	23	160	337	7.1	8.6	11	11
19	56	18	23	22	20	22	116	289	6.6	8.5	11	11
20	42	27	23	20	18	22	103	225	6.2	11	16	11
21	35	37	23	20	23	23	98	193	6.3	9.9	24	10
22	45	39	24	21	21	26	111	171	5.3	15	17	9.1
23	59	33	22	21	21	24	114	133	6.1	12	15	9.3
24	58	30	25	22	20	26	127	108	7.5	14	14	9.6
25	52	30	24	22	21	29	183	89	6.8	17	13	9.1
26	51	28	24	23	20	28	264	80	6.5	17	12	9.1
27	52	28	25	21	20	30	368	80	6.6	16	12	9.3
28	48	21	16	22	22	24	390	124	6.3	12	10	9.2
29	55	20	15	18	------	32	241	82	6.2	12	9.5	9.2
30	55	21	19	18	------	40	183	72	6.7	10	9.7	9.1
31	50	------	21	20	------	38	------	55	------	9.7	11	------
TOTAL	964	957	713	623	567	781	4,313	8,984	555.8	360.4	345.1	386.2
MEAN	31.1	31.9	23.0	20.1	20.3	25.2	144	290	18.5	11.6	11.1	12.9
MAX	59	46	28	23	23	40	390	583	46	55	24	35
MIN	10	18	15	17	18	21	32	55	5.3	6.1	7.4	9.1
AC-FT	1,910	1,900	1,410	1,240	1,120	1,550	8,550	17,820	1,100	715	685	766

CAL YR 1969 TOTAL 27,425.5 MEAN 75.1 MAX 616 MIN 4.3 AC-FT 54,400
WTR YR 1970 TOTAL 19,549.5 MEAN 53.6 MAX 583 MIN 5.3 AC-FT 38,780

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5- 8	0045	5.25	670	7-15	1715	4.93	705
5-12	0145	5.32	790				

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.--58 years, 541 cfs (392,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,270 cfs June 13 (gage height, 5.65 ft); maximum gage height, 6.65 ft Oct. 22; minimum discharge, 6.3 cfs Aug. 16.
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 October and November, which are fair. 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 1970 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	124	163	530	70	124	78	172	500	1,720	106	40	47
2	74	206	530	60	102	78	186	368	1,790	95	41	72
3	67	149	540	120	102	96	190	418	1,900	89	135	50
4	67	235	570	80	113	107	190	454	1,990	93	96	24
5	67	113	570	50	113	113	163	560	1,980	106	40	12
6	78	113	390	45	110	113	149	767	1,900	76	46	16
7	142	186	250	65	131	105	195	922	1,960	61	55	154
8	172	195	225	105	120	102	218	1,030	1,980	105	140	549
9	131	145	328	100	117	102	293	1,440	2,030	345	375	392
10	149	105	463	90	120	105	313	1,600	2,050	135	79	84
11	105	167	600	99	120	110	320	1,310	2,080	95	24	44
12	224	117	670	154	127	142	328	1,290	2,120	86	20	69
13	246	218	690	127	154	124	224	1,250	2,200	59	16	277
14	206	120	723	117	286	127	218	1,330	2,000	43	9.7	1,070
15	195	135	723	158	306	124	241	1,330	1,290	64	8.3	768
16	212	158	734	138	300	124	241	1,360	540	105	16	955
17	190	145	767	127	266	127	272	1,400	356	51	57	721
18	190	163	767	124	215	124	306	1,380	197	83	161	222
19	234	241	409	145	78	127	313	1,340	320	40	75	136
20	385	206	135	117	85	124	286	1,330	259	70	168	198
21	994	279	293	102	91	120	195	1,410	264	51	77	133
22	965	481	138	149	93	120	235	1,410	183	302	445	140
23	724	500	266	154	85	131	241	1,410	304	383	138	216
24	922	510	142	127	88	135	246	1,380	418	240	85	105
25	350	520	181	135	85	135	306	1,380	173	368	155	101
26	100	376	190	149	83	131	445	1,380	189	125	53	90
27	325	445	172	149	81	131	778	1,380	257	96	46	104
28	360	436	163	145	78	142	734	1,480	193	96	34	121
29	445	400	138	138	------	145	723	1,560	167	224	32	93
30	306	520	99	93	------	201	530	1,550	163	116	26	75
31	400	------	75	127	------	177	------	1,550	------	71	28	------
TOTAL	9,149	7,747	12,471	3,559	3,773	3,820	9,251	37,269	32,973	3,979	2,721.0	7,038
MEAN	295	258	402	115	135	123	308	1,202	1,099	128	87.8	235
MAX	994	520	767	158	306	201	778	1,600	2,200	383	445	1,070
MIN	67	105	75	45	78	78	149	368	163	40	8.3	12
AC-FT	18,150	15,370	24,740	7,060	7,480	7,580	18,350	73,920	65,400	7,890	5,400	13,960
(†)	428	344	0	0	0	0	413	888	992	1,180	1,100	1,100
(‡)	420	624	155	0	0	0	501	1,170	1,110	759	851	905

CAL YR 1969 TOTAL 216,393 MEAN 593 MAX 2,420 MIN 51 AC-FT 429,200 † 5,410 ‡ 6,480
WTR YR 1970 TOTAL 133,750.0 MEAN 366 MAX 2,200 MIN 8.3 AC-FT 265,300 † 6,440 ‡ 6,490

† Diversion, in acre-feet, by Chamita ditch.
‡ Diversion, in acre-feet, by Hernandez ditch.

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.--40 years, 28.9 cfs (20,940 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 114 cfs July 27 (gage height, 2.49 ft); minimum, 1.2 cfs Mar. 19, 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	11	9.4	5.0	5.8	7.1	8.5	24	35	13	30	20
2	10	9.0	9.2	5.0	7.8	7.8	6.8	20	34	14	31	18
3	9.4	9.0	9.0	4.5	7.8	8.2	8.2	22	33	20	34	14
4	9.4	9.8	11	4.5	7.5	7.8	9.8	28	34	19	33	16
5	10	10	9.8	4.4	8.5	7.5	8.5	31	33	18	29	19
6	11	10	9.5	4.6	8.5	7.5	12	37	33	16	32	20
7	10	9.8	10	5.1	9.0	7.5	17	40	37	15	30	18
8	11	10	9.0	5.4	8.5	7.8	15	43	35	17	28	16
9	10	10	10	5.4	7.8	8.5	21	39	30	14	30	15
10	9.4	10	9.0	5.8	7.1	8.2	19	43	28	13	30	15
11	9.4	11	10	6.1	7.8	7.8	24	49	30	13	29	15
12	13	11	9.8	6.1	7.1	7.8	18	53	28	12	27	15
13	12	9.8	9.8	6.0	7.8	6.1	17	55	26	10	29	35
14	12	9.0	8.9	5.8	7.8	7.8	15	55	28	10	26	24
15	11	8.5	9.8	5.8	6.8	8.2	15	56	27	10	24	20
16	11	11	11	6.1	6.8	7.8	17	53	24	13	26	18
17	11	9.4	11	6.1	6.5	7.5	20	55	22	12	30	17
18	11	3.4	9.8	6.5	7.8	6.5	20	56	21	13	26	16
19	11	3.0	10	6.1	7.5	4.9	17	55	20	13	25	15
20	11	7.8	9.4	6.8	6.1	7.8	15	55	20	20	25	17
21	11	15	9.4	6.8	7.5	7.8	14	53	18	16	24	14
22	17	14	9.8	7.1	7.8	7.5	12	52	22	20	24	15
23	14	12	9.8	7.1	6.8	7.5	15	51	24	21	25	17
24	12	11	9.4	7.1	6.8	7.1	18	49	21	24	21	16
25	12	10	9.4	7.5	7.8	7.8	23	48	19	18	20	14
26	11	11	9.4	7.5	7.1	6.8	28	48	17	22	20	14
27	12	9.4	8.2	7.5	7.1	7.8	29	49	18	34	18	14
28	11	7.5	8.0	6.5	6.8	7.8	30	48	18	56	16	13
29	13	8.0	7.0	5.0	------	7.8	28	43	17	41	16	13
30	10	9.0	6.0	5.1	------	8.5	27	39	15	34	15	14
31	10	------	5.5	5.4	------	8.5	------	37	------	31	16	------
TOTAL	345.6	289.4	287.3	183.7	208.0	235.0	527.8	1,386	767	602	789	507
MEAN	11.1	9.65	9.27	5.93	7.43	7.58	17.6	44.7	25.6	19.4	25.5	16.9
MAX	17	15	11	7.5	9.0	8.5	30	56	37	56	34	35
MIN	9.4	3.0	5.5	4.4	5.8	4.9	6.8	20	15	10	15	13
AC-FT	686	574	570	364	413	466	1,050	2,750	1,520	1,190	1,560	1,010

CAL YR 1969 TOTAL 9,835.5 MEAN 26.9 MAX 103 MIN 3.0 AC-FT 19,510
WTR YR 1970 TOTAL 6,127.8 MEAN 16.8 MAX 56 MIN 3.0 AC-FT 12,150

PEAK DISCHARGE (BASE, 150 CFS).--No peak above base.

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.--7 years, 9.75 cfs (7,060 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 350 cfs July 22 (gage height, 2.23 ft), from rating curve extended above 44 cfs; minimum daily, 3.4 cfs Jan. 23, 24.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	8.0	6.0	4.4	3.7	4.5	4.5	6.8	21	9.4	15	15
2	6.1	7.2	5.9	4.4	3.7	4.5	4.0	6.8	20	9.4	17	16
3	6.1	6.8	5.8	4.4	3.8	4.3	4.0	6.8	19	9.8	17	14
4	6.1	7.2	5.7	4.4	3.8	4.3	4.3	8.0	18	9.4	16	14
5	6.5	7.2	5.6	4.4	3.8	4.3	4.3	8.9	18	9.4	14	14
6	6.5	6.8	5.5	4.4	3.8	3.8	4.5	9.4	17	8.5	16	13
7	6.5	6.6	5.3	4.4	4.0	4.3	4.5	11	19	8.5	14	13
8	6.8	6.3	5.2	4.3	3.5	4.8	4.3	13	20	8.0	13	11
9	6.5	6.5	5.1	4.3	3.5	4.8	4.8	13	19	7.6	14	10
10	6.5	6.5	5.0	4.2	3.8	4.5	4.5	15	17	7.6	14	9.8
11	6.8	6.5	4.9	4.1	4.0	4.3	4.8	17	17	7.2	14	9.4
12	7.4	6.5	4.7	4.1	4.0	4.0	4.3	18	17	6.8	13	9.4
13	7.2	6.5	4.6	4.0	4.0	3.8	4.3	20	17	7.2	13	14
14	6.5	6.5	4.5	3.9	4.3	4.3	4.1	20	17	7.2	13	10
15	6.8	6.5	4.4	3.9	4.5	4.0	4.3	20	17	7.2	13	8.9
16	6.8	6.5	4.3	3.8	4.5	4.3	4.5	21	16	9.4	13	8.5
17	6.8	6.5	4.1	3.8	4.8	4.5	4.8	21	15	8.5	17	7.6
18	6.8	6.3	4.2	3.7	5.4	4.3	4.8	22	14	8.0	16	7.6
19	7.2	6.3	4.2	3.6	5.1	3.5	4.5	23	14	7.6	16	8.5
20	7.2	6.3	4.2	3.6	4.5	4.8	4.5	23	14	9.4	19	8.9
21	7.6	6.2	4.2	3.5	4.8	5.8	4.3	22	14	8.9	19	8.5
22	11	6.2	4.2	3.5	4.8	5.4	4.0	24	14	17	17	8.9
23	10	6.2	4.3	3.4	4.5	5.4	4.3	25	14	14	16	9.4
24	7.2	6.2	4.3	3.4	4.5	6.1	4.8	25	13	14	14	9.4
25	8.0	6.1	4.3	3.5	4.5	6.1	5.8	24	13	14	14	8.9
26	8.0	6.1	4.3	3.5	4.5	6.4	6.5	22	12	12	15	9.4
27	8.0	6.1	4.3	3.5	4.3	5.8	8.0	23	12	14	15	9.4
28	8.0	6.1	4.3	3.6	4.5	6.4	7.6	22	11	21	14	9.4
29	8.5	6.0	4.3	3.6	------	5.8	7.2	21	11	18	14	9.4
30	7.6	6.0	4.3	3.6	------	5.4	6.8	21	10	17	14	9.4
31	7.6	------	4.4	3.7	------	4.8	------	21	------	16	14	------
TOTAL	225.1	194.7	146.4	120.9	118.9	149.3	147.9	553.7	470	332.0	463	314.7
MEAN	7.26	6.49	4.72	3.90	4.25	4.82	4.93	17.9	15.7	10.7	14.9	10.5
MAX	11	8.0	6.0	4.4	5.4	6.4	8.0	25	21	21	19	16
MIN	6.1	6.0	4.1	3.4	3.5	3.5	4.0	6.8	10	6.8	13	7.6
AC-FT	446	386	290	240	236	296	293	1,100	932	659	918	624

CAL YR 1969 TOTAL 4,102.3 MEAN 11.2 MAX 56 MIN 3.3 AC-FT 8,140
WTR YR 1970 TOTAL 3,236.6 MEAN 8.87 MAX 25 MIN 3.4 AC-FT 6,420

PEAK DISCHARGE (BASE, 40 CFS)

DATE	TIME	G.H.	DISCHARGE
7-22	0015	2.23	350

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.--7 years, 0.798 cfs (578 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 6.55 cfs Aug. 3 (gage height, 1.23 ft); minimum, 0.15 cfs Mar. 30. 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, 0.15 cfs Mar. 30, 1970.

REMARKS.--Records good.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.77	0.59	0.40	0.35	0.26	0.25	0.20	0.39	1.21	0.80	1.26	1.16
2	.77	.57	.40	.34	.26	.24	.20	.39	1.11	.77	1.31	1.16
3	.73	.57	.40	.33	.26	.24	.20	.44	1.11	.77	1.74	1.02
4	.73	.56	.42	.33	.26	.24	.20	.58	1.11	.80	1.65	1.02
5	.69	.56	.40	.33	.26	.24	.20	.71	1.06	.73	1.65	1.02
6	.69	.54	.40	.31	.25	.23	.23	.82	1.15	.78	2.03	1.06
7	.66	.54	.40	.30	.26	.23	.22	1.01	1.25	.77	1.84	.97
8	.66	.51	.40	.30	.26	.23	.24	1.02	1.21	.73	1.78	.93
9	.66	.51	.40	.30	.26	.23	.26	1.06	1.16	.69	1.78	.84
10	.66	.52	.39	.30	.26	.22	.28	1.33	1.06	.66	1.65	.84
11	.69	.52	.39	.30	.26	.22	.28	1.67	1.06	.66	1.47	.80
12	.69	.49	.39	.30	.26	.22	.28	1.94	1.06	.62	1.36	.96
13	.69	.49	.39	.30	.25	.21	.28	2.01	.97	.56	1.26	1.11
14	.69	.49	.39	.30	.25	.21	.27	2.10	1.06	.56	1.26	.97
15	.69	.48	.36	.30	.25	.21	.27	2.04	1.06	.66	1.16	.89
16	.66	.48	.36	.30	.26	.21	.28	2.04	1.02	.73	1.26	.84
17	.69	.48	.36	.29	.25	.21	.28	2.04	.97	.69	1.26	.80
18	.66	.47	.36	.28	.25	.21	.26	2.04	.93	.62	1.16	.77
19	.66	.48	.36	.28	.26	.21	.28	1.84	.93	.74	1.46	.80
20	.66	.45	.36	.28	.26	.21	.27	1.71	.93	.69	1.49	.80
21	.77	.45	.36	.27	.26	.20	.28	1.65	1.09	.78	1.59	.77
22	.62	.45	.36	.28	.26	.20	.28	1.65	1.06	1.34	1.65	.77
23	.69	.45	.35	.28	.25	.20	.28	1.65	1.02	1.49	1.53	.77
24	.66	.45	.35	.28	.25	.20	.33	1.59	.93	1.36	1.42	.73
25	.66	.45	.35	.27	.25	.20	.39	1.53	.89	1.21	1.42	.73
26	.67	.45	.35	.28	.25	.20	.43	1.47	.93	1.11	1.36	.73
27	.67	.44	.35	.28	.25	.20	.47	1.53	.89	1.21	1.31	.69
28	.64	.42	.35	.27	.25	.21	.47	1.42	.84	1.54	1.21	.69
29	.59	.40	.35	.28	------	.20	.44	1.31	.84	1.36	1.16	.69
30	.57	.40	.35	.27	------	.20	.41	1.31	.80	1.31	1.11	.66
31	.60	------	.35	.26	------	.20	------	1.26	------	1.21	1.20	------
TOTAL	20.94	14.66	11.60	9.14	7.16	6.68	8.76	43.55	30.71	27.95	44.79	25.99
MEAN	.675	.489	.374	.295	.256	.215	.292	1.405	1.024	.902	1.445	.866
MAX	.77	.59	.42	.35	.26	.25	.47	2.10	1.25	1.54	2.03	1.16
MIN	.57	.40	.35	.26	.25	.20	.20	.39	.80	.56	1.11	.66
AC-FT	41.5	29.1	23.0	18.1	14.2	13.2	17.4	86.4	60.9	55.4	88.8	51.6

CAL YR 1969: TOTAL 289.06 MEAN 0.792 MAX 3.15 MIN .22 AC-FT 573
WTR YR 1970: TOTAL 251.93 MEAN 0.690 MAX 2.10 MIN .20 AC-FT 500

PEAK DISCHARGE (BASE, 5.00 CFS)

DATE	TIME	G.H.	DISCHARGE
8- 3	1200	1.23	6.55

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.--8 years, 1.498 cfs (1,090 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 6.83 cfs Aug. 1 (gage height, 1.20 ft); minimum, 0.17 cfs Jan. 28, result of freezeup.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.11	0.84	0.64	0.56	0.48	0.47	0.56	1.16	3.06	1.53	1.82	1.42
2	1.11	.84	.60	.54	.47	.47	.57	1.16	2.97	1.53	1.84	1.42
3	1.06	.84	.60	.54	.45	.47	.57	1.16	2.80	1.47	2.23	1.31
4	1.06	.84	.62	.54	.45	.47	.57	1.26	2.72	1.42	2.11	1.36
5	1.02	.84	.64	.55	.45	.47	.64	1.42	2.64	1.36	2.25	1.31
6	1.02	.84	.64	.56	.45	.47	.97	1.59	2.78	1.31	3.02	1.36
7	1.06	.84	.64	.56	.47	.48	1.02	1.84	2.64	1.21	2.88	1.26
8	1.06	.77	.64	.56	.47	.51	1.26	2.04	2.48	1.16	3.06	1.16
9	1.02	.77	.64	.56	.47	.52	1.26	2.25	2.33	1.11	3.15	1.16
10	1.02	.77	.64	.56	.47	.51	1.38	2.40	2.25	1.06	3.15	1.11
11	1.02	.77	.64	.56	.48	.49	1.26	2.72	2.18	1.02	3.15	1.11
12	1.06	.77	.64	.54	.49	.51	1.26	3.24	2.04	.97	3.06	1.26
13	.97	.75	.62	.54	.49	.51	1.16	3.71	1.97	1.02	2.97	1.30
14	.97	.75	.64	.52	.47	.52	1.11	3.91	2.04	.97	2.80	1.16
15	.97	.75	.64	.52	.47	.54	1.21	4.22	1.97	1.12	2.56	1.11
16	.93	.75	.64	.51	.47	.54	1.26	4.22	1.90	1.11	2.56	1.11
17	.89	.62	.64	.51	.48	.51	1.16	4.33	1.90	1.11	2.33	1.06
18	.93	.60	.64	.52	.48	.51	.94	4.44	1.90	.97	2.04	1.06
19	.93	.70	.64	.52	.48	.51	.97	4.66	1.90	1.08	2.04	1.06
20	.89	.75	.64	.52	.48	.51	.89	4.66	1.90	1.06	1.97	1.02
21	1.06	.75	.64	.52	.48	.51	.89	4.66	1.90	1.02	1.90	1.02
22	1.06	.71	.64	.52	.49	.51	1.06	4.55	1.90	1.26	1.90	1.06
23	.97	.71	.62	.52	.48	.54	1.21	4.44	1.84	1.16	1.71	1.02
24	.97	.71	.62	.51	.48	.56	1.26	4.33	1.78	1.11	1.65	.97
25	.97	.71	.60	.49	.48	.56	1.25	4.22	1.71	1.02	1.65	.97
26	.93	.71	.60	.49	.48	.51	1.37	4.12	1.65	1.06	1.59	.97
27	.93	.69	.56	.49	.48	.52	1.47	4.12	1.59	1.23	1.53	.93
28	.89	.69	.56	.44	.48	.52	1.47	3.81	1.53	1.50	1.47	.93
29	.93	.64	.57	.40	------	.52	1.36	3.61	1.53	1.36	1.42	.93
30	.93	.62	.57	.44	------	.54	1.26	3.42	1.53	1.36	1.42	.93
31	.93	------	.57	.47	------	.51	------	3.24	------	1.47	1.47	------
TOTAL	30.67	22.34	19.23	16.08	13.27	15.79	32.62	100.91	63.33	37.14	68.70	33.85
MEAN	.989	.745	.620	.519	.474	.509	1.087	3.255	2.111	1.198	2.216	1.128
MAX	1.11	.84	.64	.56	.49	.56	1.47	4.66	3.06	1.53	3.15	1.42
MIN	.89	.60	.56	.40	.45	.47	.56	1.16	1.53	.97	1.42	.93
AC-FT	60.8	44.3	38.1	31.9	26.3	31.3	64.7	200	126	73.7	136	67.1

CAL YR 1969: TOTAL 582.01 MEAN 1.595 MAX 9.00 MIN .34 AC-FT 1,150
WTR YR 1970: TOTAL 453.93 MEAN 1.244 MAX 4.66 MIN .40 AC-FT 900

PEAK DISCHARGE(BASE, 7.00 CFS).--No peak above base.

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.--8 years, 0.300 cfs (217 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2.91 cfs Aug. 3 (gage height, 1.06 ft); minimum, 0.078 cfs Mar. 31 to Apr. 2.
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 May through August, which are fair.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.23	0.18	0.11	0.11	0.095	0.095	0.078	0.17	0.50	0.29	0.30	0.28
2	.25	.17	.11	.11	.095	.095	.078	.16	.50	.29	.29	.27
3	.25	.17	.12	.11	.095	.095	.082	.18	.50	.28	.43	.25
4	.25	.17	.12	.11	.090	.090	.082	.23	.50	.27	.30	.25
5	.25	.17	.12	.11	.086	.086	.086	.30	.50	.26	.27	.25
6	.25	.17	.12	.11	.086	.086	.11	.32	.54	.27	.36	.25
7	.24	.16	.12	.11	.086	.082	.12	.36	.53	.26	.26	.24
8	.24	.16	.12	.11	.090	.086	.13	.36	.50	.25	.25	.22
9	.24	.16	.12	.11	.090	.086	.15	.37	.48	.24	.30	.22
10	.23	.16	.12	.11	.095	.086	.14	.43	.48	.22	.36	.22
11	.23	.16	.12	.11	.095	.086	.14	.48	.46	.22	.40	.21
12	.23	.16	.12	.11	.095	.086	.12	.50	.43	.22	.45	.26
13	.22	.15	.12	.11	.095	.086	.12	.55	.43	.21	.45	.28
14	.22	.15	.12	.11	.095	.086	.12	.60	.43	.21	.50	.22
15	.22	.14	.13	.11	.095	.090	.13	.60	.40	.23	.50	.21
16	.22	.15	.13	.11	.095	.090	.15	.60	.39	.23	.50	.20
17	.22	.15	.13	.11	.090	.086	.15	.60	.38	.27	.50	.20
18	.21	.14	.13	.11	.090	.082	.12	.60	.38	.22	.44	.20
19	.21	.13	.13	.11	.090	.082	.11	.60	.38	.24	.44	.20
20	.20	.13	.13	.11	.095	.082	.10	.55	.38	.22	.44	.20
21	.24	.13	.12	.11	.095	.082	.11	.55	.39	.24	.42	.19
22	.24	.13	.12	.11	.095	.082	.12	.55	.38	.30	.40	.20
23	.21	.13	.12	.11	.095	.082	.13	.55	.38	.25	.38	.19
24	.20	.13	.12	.11	.095	.090	.17	.55	.37	.22	.36	.18
25	.20	.13	.12	.11	.095	.090	.22	.55	.36	.21	.34	.18
26	.20	.13	.12	.11	.095	.090	.25	.55	.35	.20	.33	.17
27	.20	.12	.12	.10	.095	.086	.26	.60	.32	.21	.31	.17
28	.20	.12	.12	.099	.095	.086	.24	.55	.31	.28	.30	.17
29	.18	.12	.12	.095	------	.082	.22	.55	.31	.22	.29	.17
30	.18	.11	.12	.095	------	.082	.19	.55	.30	.21	.29	.17
31	.18	------	.11	.095	------	.078	------	.50	------	.20	.30	------
TOTAL	6.84	4.38	3.75	3.344	2.603	2.673	4.226	14.61	12.56	7.44	11.46	6.42
MEAN	.221	.146	.121	.108	.0930	.0862	.141	.471	.419	.240	.370	.214
MAX	.25	.18	.13	.11	.095	.095	.26	.60	.54	.30	.50	.28
MIN	.18	.11	.11	.095	.086	.078	.078	.16	.30	.20	.25	.17
AC-FT	13.6	8.69	7.44	6.63	5.16	5.30	8.38	29.0	24.9	14.8	22.7	12.7

CAL YR 1969: TOTAL 114.492 MEAN .314 MAX 1.69 MIN .070 AC-FT 227
WTR YR 1970: TOTAL 80.306 MEAN .220 MAX .60 MIN .078 AC-FT 159

PEAK DISCHARGE (BASE, 1.70 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
8- 1	1800	1.01	2.52	8- 6	0500	.92	2.05
8- 3	1300	1.06	2.91				

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.--8 years, 0.249 cfs (180 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 0.77 cfs Aug. 3 (gage height, 0.61 ft); minimum discharge recorded, 0.099 cfs Jan. 29, 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, which are poor.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.17	0.15	0.12	0.12	0.10	0.11	0.11	0.14	0.41	0.20	0.16	0.21
2	.17	.15	.13	.11	.10	.11	.11	.14	.43	.19	.20	.22
3	.17	.15	.13	.11	.10	.11	.11	.14	.45	.19	.25	.20
4	.17	.15	.13	.11	.10	.11	.11	.15	.45	.18	.20	.20
5	.17	.15	.13	.11	.10	.11	.11	.17	.45	.18	.18	.20
6	.17	.15	.13	.11	.10	.11	.12	.18	.45	.18	.26	.20
7	.17	.15	.13	.11	.10	.11	.13	.20	.44	.18	.21	.19
8	.17	.15	.13	.11	.10	.11	.14	.19	.42	.18	.19	.18
9	.17	.15	.13	.11	.10	.11	.15	.18	.40	.17	.18	.18
10	.17	.15	.13	.11	.10	.11	.15	.20	.37	.16	.17	.18
11	.17	.15	.13	.11	.10	.11	.15	.22	.36	.16	.16	.18
12	.17	.15	.13	.11	.10	.11	.15	.23	.34	.16	.16	.19
13	.17	.14	.13	.11	.10	.11	.15	.23	.33	.15	.16	.20
14	.17	.14	.13	.11	.10	.11	.15	.23	.33	.15	.16	.15
15	.17	.14	.12	.11	.10	.11	.15	.22	.30	.16	.16	.15
16	.17	.14	.12	.11	.10	.11	.15	.21	.30	.17	.16	.15
17	.17	.13	.12	.11	.11	.11	.15	.21	.28	.20	.17	.15
18	.17	.13	.12	.11	.11	.11	.15	.21	.26	.17	.16	.15
19	.17	.14	.12	.11	.11	.11	.14	.21	.25	.18	.16	.15
20	.17	.15	.12	.11	.11	.11	.13	.20	.25	.16	.16	.15
21	.18	.14	.12	.11	.11	.11	.13	.20	.25	.16	.17	.15
22	.19	.13	.12	.11	.11	.11	.13	.20	.25	.18	.18	.15
23	.17	.13	.12	.11	.11	.11	.14	.20	.24	.17	.18	.15
24	.17	.13	.12	.11	.11	.11	.15	.20	.23	.15	.19	.14
25	.16	.13	.12	.11	.11	.11	.16	.20	.22	.15	.20	.13
26	.17	.13	.12	.11	.11	.11	.16	.21	.22	.15	.20	.13
27	.17	.13	.12	.11	.11	.11	.18	.22	.22	.15	.20	.13
28	.16	.13	.12	.10	.11	.11	.17	.22	.20	.21	.20	.13
29	.16	.13	.12	.099	------	.11	.16	.22	.20	.16	.20	.13
30	.15	.12	.12	.10	------	.11	.15	.30	.20	.16	.20	.13
31	.15	------	.12	.10	------	.11	------	.37	------	.15	.22	------
TOTAL	5.23	4.21	3.85	3.379	2.92	3.41	4.24	6.40	9.50	5.26	5.75	4.95
MEAN	.169	.140	.124	.109	.104	.110	.141	.206	.317	.170	.185	.165
MAX	.19	.15	.13	.12	.11	.11	.18	.37	.45	.21	.26	.22
MIN	.15	.12	.12	.099	.10	.11	.11	.14	.20	.15	.16	.13
AC-FT	10.4	8.35	7.64	6.70	5.79	6.76	8.41	12.7	18.8	10.4	11.4	9.82

CAL YR 1969: TOTAL 95.787 MEAN .262 MAX 1.89 MIN .063 AC-FT 190
WTR YR 1970: TOTAL 59.099 MEAN .162 MAX .45 MIN .099 AC-FT 117

PEAK DISCHARGE (BASE, 1.30 CFS).--No peak above base.

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.

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.--8 years, 0.171 cfs (124 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 0.97 cfs July 28 (gage height, 0.68 ft); minimum, 0.029 cfs July 13. 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 those for April, which are poor.

REVISIONS.--WRD N.Mex. 1969: Drainage area.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.082	0.090	0.050	0.060	0.053	0.060	0.060	0.17	0.11	0.063	0.078	0.078
2	.082	.090	.045	.060	.053	.060	.063	.16	.11	.063	.12	.074
3	.082	.086	.045	.060	.053	.060	.067	.16	.11	.063	.28	.057
4	.082	.090	.050	.060	.053	.060	.070	.18	.12	.070	.20	.070
5	.086	.090	.055	.060	.053	.060	.078	.20	.12	.060	.11	.070
6	.086	.090	.055	.060	.057	.060	.099	.22	.12	.060	.24	.078
7	.086	.090	.055	.060	.057	.060	.11	.23	.12	.074	.18	.070
8	.082	.086	.055	.060	.057	.060	.12	.22	.11	.063	.12	.060
9	.086	.090	.055	.060	.057	.060	.15	.20	.11	.057	.099	.053
10	.078	.090	.055	.060	.057	.063	.16	.21	.10	.047	.11	.053
11	.086	.090	.055	.060	.057	.063	.18	.25	.12	.044	.082	.053
12	.10	.090	.060	.060	.057	.063	.17	.25	.10	.044	.074	.075
13	.090	.086	.060	.060	.057	.060	.16	.23	.095	.042	.070	.15
14	.090	.082	.060	.060	.057	.060	.16	.22	.10	.042	.070	.078
15	.090	.082	.060	.060	.057	.063	.16	.21	.10	.064	.067	.074
16	.090	.086	.060	.060	.057	.063	.16	.19	.090	.074	.082	.063
17	.090	.078	.060	.060	.057	.063	.18	.19	.090	.16	.099	.060
18	.090	.060	.065	.060	.060	.063	.17	.19	.086	.096	.082	.060
19	.090	.060	.065	.060	.060	.060	.16	.18	.082	.069	.070	.063
20	.090	.078	.065	.060	.060	.060	.15	.16	.090	.086	.067	.063
21	.13	.086	.065	.060	.060	.060	.14	.16	.10	.082	.074	.057
22	.17	.082	.065	.060	.060	.060	.15	.15	.099	.11	.074	.067
23	.12	.078	.065	.060	.060	.060	.16	.14	.090	.12	.067	.063
24	.11	.074	.065	.060	.060	.063	.18	.13	.082	.095	.060	.057
25	.099	.074	.065	.060	.060	.067	.20	.13	.078	.078	.063	.053
26	.11	.074	.065	.060	.060	.067	.22	.13	.074	.063	.060	.060
27	.11	.074	.065	.060	.060	.067	.25	.16	.074	.074	.060	.060
28	.10	.074	.065	.058	.060	.063	.23	.14	.070	.26	.057	.060
29	.10	.074	.060	.055	------	.063	.21	.13	.082	.095	.057	.060
30	.090	.060	.060	.053	------	.063	.19	.12	.067	.070	.057	.057
31	.090	------	.060	.053	------	.063	------	.11	------	.060	.074	------
TOTAL	2.967	2.434	1.830	1.839	1.609	1.917	4.557	5.52	2.899	2.448	3.003	1.996
MEAN	.0957	.0811	.0590	.0593	.0575	.0618	.152	.178	.0966	.0790	.0969	.0665
MAX	.17	.090	.065	.060	.060	.067	.25	.25	.12	.26	.28	.15
MIN	.078	.060	.045	.053	.053	.060	.060	.11	.067	.042	.057	.053
AC-FT	5.89	4.83	3.63	3.65	3.19	3.80	9.04	10.9	5.75	4.86	5.96	3.96

CAL YR 1969: TOTAL 70.786 MEAN .194 MAX 1.16 MIN .045 AC-FT 140
WTR YR 1970: TOTAL 33.019 MEAN .0905 MAX .28 MIN .042 AC-FT 65.5

PEAK DISCHARGE(BASE, 1.00 CFS).--No peak above base.

NOTE.--No gage-height record Nov. 27 to Jan. 29.

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.--6 years, 0.110 cfs (79.7 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 0.19 cfs Oct. 22 (gage height, 0.360 ft); maximum gage height, 0.48 ft May 24 (backwater from debris); no flow July 4-30, Aug. 31 to Sept. 30.
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.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.009	0.036	0.013	0.023	0.020	0.023	0.027	0.082	0.020	0.001	0.010	
2	.009	.036	.012	.023	020	.023	.027	.074	.018	.001	.010	
3	.009	.034	.012	.023	.020	.025	.032	.074	.018	.001	.037	
4	.009	.032	.020	.023	.020	.025	.039	.095	.020	0	.091	
5	.008	.029	.023	.023	.020	.025	.050	.13	.021	0	.042	
6	.007	.029	.025	.023	.020	.023	.060	.14	.018	0	.062	
7	.007	.029	.025	.023	.021	.023	.090	.13	.016	0	.067	
8	.007	.029	.025	.023	.021	.023	.099	.12	.015	0	.044	
9	.008	.029	.025	.023	.023	.023	.11	.099	.012	0	.034	
10	.008	.029	.025	.023	.023	.027	.11	.095	.011	0	.029	
11	.009	.029	.025	.023	.023	.027	.12	.099	.009	0	.023	
12	.009	.029	.027	.023	.023	.027	.090	.095	.009	0	.020	
13	.010	.029	.027	.023	.023	.027	.086	.086	.009	0	.015	
14	.013	.029	.027	.023	.023	.027	.086	.078	.007	0	.013	
15	.016	.027	.027	.023	.023	.029	.086	.070	.006	0	.013	
16	.018	.027	.027	.023	.023	.032	.086	.063	.006	0	.011	
17	.018	.027	.027	.023	.023	.032	.10	.053	.006	0	.010	
18	.020	.027	.029	.023	.023	.032	.095	.050	.004	0	.009	
19	.020	.020	.029	.023	.023	.027	.074	.047	.003	0	.009	
20	.020	.013	.029	.023	.023	.023	.063	.044	.002	0	.009	
21	.023	.012	.029	.023	.023	.023	.060	.042	.002	0	.009	
22	.11	.016	.029	.023	.023	.023	.067	.039	.002	0	.009	
23	.074	.023	.029	.023	.023	.023	.074	.036	.002	0	.008	
24	.053	.023	.029	.023	.023	.025	.086	.032	.002	0	.006	
25	.044	.023	.029	.023	.023	.029	.11	.027	.002	0	.005	
26	.042	.023	.029	.023	.023	.032	.13	.032	.002	0	.004	
27	.042	.023	.029	.023	.023	.032	.15	.042	.002	0	.003	
28	.042	.023	.029	.023	.023	.029	.13	.053	.002	0	.002	
29	.042	.020	.027	.023	------	.029	.11	.036	.002	0	.001	
30	.042	.016	.027	.023	------	.027	.090	.027	.001	0	.001	
31	.039	------	.025	.021	------	.027	------	.023	------	.005	0	------
TOTAL	.787	.771	.790	.711	.622	.822	2.537	2.113	.249	.008	.606	0
MEAN	.0254	.0257	.0255	.0229	.0222	.0265	.0846	.0682	.0083	.0003	.0195	0
MAX	.11	.036	.029	.023	.023	.032	.15	.14	.021	.005	.091	0
MIN	.007	.012	.012	.021	.020	.023	.027	.023	.001	0	0	0
AC-FT	1.56	1.53	1.57	1.41	1.23	1.63	5.03	4.19	.49	.016	1.20	0

CAL YR 1969: TOTAL 57.388 MEAN .157 MAX 1.59 MIN .002 AC-FT 114
WTR YR 1970: TOTAL 10.016 MEAN .0274 MAX .15 MIN 0 AC-FT 19.9

PEAK DISCHARGE(BASE, 1.50 CFS).--No peak above base.

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.--7 years, 0.0353 cfs (25.6 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 0.036 cfs Apr. 11 (gage height, 0.180 ft); 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							0	0.016				
2							0	.010				
3							0	.002				
4							0	0				
5							0	0				
6							0	0				
7							0	0				
8							.013	0				
9							.025	.002				
10							.032	.001				
11							.034	0				
12							.025	0				
13							.023	0				
14							.021	0				
15							.018	0				
16							.013	0				
17							.015	0				
18							.016	0				
19							.015	0				
20							.013	0				
21							.011	0				
22							.008	0				
23							.005	0				
24							.003	0				
25							.002	0				
26							.001	0				
27							.002	0				
28							.007	0				
29					------		.013	0				
30					------		.016	0				
31		------			------		------	0	------			------
TOTAL	0	0	0	0	0	0	0.331	0.031	0	0	0	0
MEAN	0	0	0	0	0	0	.0110	.0010	0	0	0	0
MAX	0	0	0	0	0	0	.034	.016	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	.66	.061	0	0	0	0

CAL YR 1969: TOTAL 28.797 MEAN .0789 MAX 1.76 MIN 0 AC-FT 57.1
WTR YR 1970: TOTAL 0.362 MEAN .0010 MAX .034 MIN 0 AC-FT .72

PEAK DISCHARGE(BASE, 0.40 CFS).--No peak above base.

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.--8 years, 0.0101 cfs (7.32 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 0.016 cfs Apr. 18 (gage height, 0.135 ft); no flow June 29 to Aug. 2, Sept. 8-30.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.002	0.002	0.002	0.004	0.004	0.003	0.005	0.011	0.006		0	0.001
2	.001	.002	.002	.004	.004	.003	.005	.010	.006		0	.001
3	.001	.002	.002	.004	.004	.004	.006	.010	.006		.001	.001
4	.001	.002	.002	.004	.004	.004	.007	.009	.005		.004	.001
5	.001	.002	.002	.004	.004	.005	.008	.009	.005		.004	.001
6	.001	.002	.002	.004	.004	.006	.009	.009	.005		.002	.001
7	.001	.002	.002	.004	.004	.007	.010	.009	.004		.002	.001
8	.001	.002	.002	.004	.004	.007	.010	.009	.004		.002	0
9	.001	.002	.002	.004	.004	.007	.010	.009	.004		.001	0
10	.001	.002	.002	.004	.004	.008	.011	.009	.004		.001	0
11	.001	.002	.002	.004	.004	.008	.012	.010	.004		.001	0
12	.001	.002	.002	.004	.004	.007	.012	.010	.003		.001	0
13	.001	.002	.002	.004	.004	.007	.011	.010	.003		.001	0
14	.001	.002	.003	.004	.004	.007	.011	.010	.002		.001	0
15	.001	.002	.003	.004	.004	.007	.012	.010	.002		.001	0
16	.001	.002	.003	.004	.004	.008	.012	.010	.002		.002	0
17	.001	.002	.003	.004	.004	.008	.012	.009	.002		.002	0
18	.001	.002	.003	.004	.004	.008	.015	.009	.002		.002	0
19	.001	.002	.003	.004	.004	.008	.015	.009	.002		.002	0
20	.001	.002	.003	.004	.004	.008	.015	.009	.002		.002	0
21	.002	.002	.003	.004	.004	.008	.015	.009	.002		.002	0
22	.004	.002	.003	.004	.004	.006	.013	.008	.002		.002	0
23	.004	.002	.003	.004	.004	.006	.013	.008	.002		.002	0
24	.004	.002	.003	.004	.004	.006	.012	.008	.001		.001	0
25	.003	.002	.004	.004	.004	.006	.011	.008	.001		.001	0
26	.003	.002	.004	.004	.004	.006	.011	.008	.001		.001	0
27	.003	.002	.004	.004	.003	.006	.011	.008	.001		.001	0
28	.003	.002	.004	.004	.003	.006	.011	.008	.001		.001	0
29	.003	.002	.004	.004	------	.006	.011	.008	0		.001	0
30	.002	.002	.004	.004	------	.005	.011	.007	0		.001	0
31	.002	------	.004	.004	------	.005	------	.007	------		.001	------
TOTAL	.054	.060	.087	.124	.110	.196	.327	.277	.084	0	.046	.007
MEAN	.0017	.0020	.0028	.0040	.0039	.0063	.0109	.0089	.0028	0	.0015	.0002
MAX	.004	.002	.004	.004	.004	.008	.015	.011	.006	0	.004	.001
MIN	.001	.002	.002	.004	.003	.003	.005	.007	0	0	0	0
AC-FT	.11	.12	.17	.25	.22	.39	.65	.55	.17	0	.091	.014

CAL YR 1969: TOTAL 4.927 MEAN .0135 MAX .15 MIN 0 AC-FT 9.77
WTR YR 1970: TOTAL 1.372 MEAN .0038 MAX .015 MIN 0 AC-FT 2.72

PEAK DISCHARGE(BASE, 0.09 CFS).--No peak above base.

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.--71 years (1895-1905, 1909-70), 1,530 cfs (1,108,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5,860 cfs July 22 (gage height, 6.58 ft); minimum, 232 cfs Sept. 6.
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 620,000 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 1970 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 CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	726	1,710	1,470	758	846	923	1,120	1,400	2,950	887	386	312
2	690	1,780	1,500	676	804	938	1,100	1,240	3,040	846	364	372
3	660	1,600	1,560	664	745	952	1,110	1,210	3,120	765	431	335
4	630	1,780	1,640	726	798	1,000	1,100	1,230	3,220	707	436	297
5	590	1,680	1,680	695	798	1,030	1,070	1,360	3,140	688	377	282
6	576	1,660	1,500	658	846	1,010	1,030	1,550	3,040	640	352	258
7	682	1,780	1,210	720	859	982	1,080	1,750	3,070	588	412	377
8	839	1,810	1,140	804	873	960	1,160	1,990	3,040	707	511	825
9	832	1,760	1,180	791	866	960	1,250	2,800	3,050	859	859	726
10	818	1,530	1,260	778	894	967	1,350	3,100	3,160	752	543	658
11	778	1,550	1,380	765	887	1,010	1,380	2,910	3,170	640	394	1,180
12	930	1,410	1,480	825	945	1,030	1,410	2,760	3,200	628	331	1,330
13	1,070	1,560	1,500	811	997	1,010	1,220	3,010	3,300	582	300	1,230
14	1,070	1,400	1,600	745	1,170	1,000	1,140	3,410	3,080	516	278	1,870
15	1,120	1,400	1,590	832	1,270	990	1,100	3,500	2,270	455	260	1,320
16	1,300	1,430	1,610	839	1,250	945	1,060	3,440	1,420	701	272	1,650
17	1,390	1,410	1,640	846	1,190	938	1,070	3,300	1,140	516	356	2,060
18	1,520	1,350	1,630	880	1,180	938	1,140	3,280	945	565	486	2,050
19	1,650	1,430	1,370	887	1,010	945	1,180	3,230	960	475	465	2,180
20	1,850	1,330	1,070	873	982	938	1,100	3,360	887	533	522	2,100
21	2,290	1,320	1,140	852	997	923	997	3,530	887	694	522	1,680
22	2,420	1,610	1,050	916	1,010	916	967	3,380	818	1,420	777	1,420
23	2,180	1,650	1,140	938	1,000	923	945	3,170	930	982	511	1,370
24	2,310	1,730	1,040	902	997	938	902	2,900	1,210	900	431	1,110
25	1,970	1,740	1,080	909	982	930	923	2,790	1,040	752	455	967
26	1,670	1,580	1,140	930	967	938	1,070	2,790	997	594	368	902
27	1,850	1,640	1,150	945	952	952	1,370	2,830	1,000	506	323	880
28	1,820	1,560	1,140	952	938	990	1,410	2,980	923	616	308	859
29	2,060	1,460	990	902	------	952	1,490	3,050	923	670	286	765
30	1,870	1,520	825	818	------	1,100	1,380	2,940	960	554	289	726
31	1,990	------	658	832	------	1,070	------	2,810	------	460	300	------
TOTAL	42,151	47,170	40,363	25,469	27,053	30,098	34,624	83,000	60,890	21,198	12,905	32,091
MEAN	1,360	1,572	1,302	822	966	971	1,154	2,677	2,030	684	416	1,070
MAX	2,420	1,810	1,680	952	1,270	1,100	1,490	3,530	3,300	1,420	859	2,180
MIN	576	1,320	658	658	745	916	902	1,210	818	455	260	258
AC-FT	83,610	93,560	80,060	50,520	53,660	59,700	68,680	164,600	120,800	42,050	25,600	63,650

CAL YR 1969 TOTAL 587,183 MEAN 1,609 MAX 4,910 MIN 522 ACFT 1,165,000
WAT YR 1970 TOTAL 457,012 MEAN 1,252 MAX 3,530 MIN 258 ACFT 906,500

PEAK DISCHARGE (BASE, 5,200 CFS)

DATE	TIME	G.H.	DISCHARGE
7-22	0200	6.58	5,860

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 September 1970 (discontinued). 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.--46 years, 1,305 cfs (945,500 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,750 cfs July 22 (gage height, 6.13 ft); minimum, 125 cfs Aug. 31.
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. Diversions above station for irrigation of about 620,000 acres in Colorado and about 81,000 acres in New Mexico. Cochiti eastside main canal, on left bank, and Sili main canal, on right bank, bypass gage for irrigation of about 6,000 acres below station. See tabulation below for monthly and yearly diversion, as furnished by Bureau of Reclamation.

REVISIONS(WATER YEARS).--WSP 1312: 1925-29. WSP 1512: 1931-33, 1935, 1939-40(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	768	1,830	1,470	800	886	997	957	1,220	2,800	675	339	151
2	691	1,800	1,470	700	877	1,010	946	1,120	2,840	644	363	210
3	610	1,670	1,500	650	828	1,050	959	1,050	2,960	643	337	221
4	650	1,730	1,560	700	854	1,080	962	1,030	3,060	615	327	156
5	735	1,760	1,640	700	853	1,100	942	1,110	3,050	566	281	143
6	640	1,670	1,590	650	868	1,090	881	1,250	2,990	530	237	142
7	630	1,760	1,320	700	894	1,070	903	1,480	3,020	467	303	174
8	768	1,900	1,220	800	907	1,040	968	1,740	2,990	536	365	542
9	790	1,850	1,210	800	896	1,000	1,050	2,670	2,950	601	647	623
10	724	1,650	1,250	800	896	964	1,170	3,170	3,000	662	593	487
11	757	1,540	1,350	800	892	978	1,220	2,990	3,070	512	358	757
12	862	1,500	1,420	807	960	1,010	1,320	2,570	3,070	510	248	1,130
13	910	1,530	1,460	821	970	1,050	1,190	2,770	3,220	476	181	1,160
14	874	1,500	1,520	769	1,070	1,050	1,090	3,180	3,230	402	162	1,720
15	898	1,420	1,620	802	1,210	1,070	1,030	3,330	2,310	338	154	1,230
16	1,050	1,440	1,640	842	1,230	946	997	3,390	1,340	533	196	1,370
17	1,220	1,460	1,670	841	1,180	906	979	3,330	1,050	417	327	1,870
18	1,440	1,410	1,720	868	1,190	902	1,060	3,260	838	377	417	1,980
19	1,590	1,440	1,560	904	1,020	907	1,150	3,110	728	413	460	2,150
20	1,700	1,410	1,210	897	973	901	1,070	3,130	698	374	461	2,220
21	2,300	1,360	1,120	874	983	901	968	3,380	731	575	453	1,720
22	2,730	1,520	1,150	904	1,010	935	933	3,340	664	1,090	490	1,320
23	2,280	1,640	1,150	953	1,030	852	916	3,080	672	957	572	1,230
24	2,540	1,730	1,170	948	1,070	847	870	2,870	904	860	351	1,060
25	2,150	1,800	1,070	957	1,060	854	879	2,670	824	710	309	877
26	1,800	1,640	1,180	976	1,060	856	1,000	2,650	781	737	276	795
27	1,780	1,640	1,190	977	1,030	876	1,260	2,650	810	454	184	794
28	1,810	1,600	1,240	989	1,020	949	1,300	2,800	773	627	172	770
29	2,040	1,480	1,140	969	------	966	1,360	2,930	720	550	159	674
30	1,880	1,500	900	910	------	913	1,250	2,820	711	549	192	589
31	1,950	------	700	835	------	945	------	2,760	------	394	161	------
TOTAL	41,567	48,180	41,410	25,943	27,717	30,015	31,580	78,850	56,804	17,794	10,075	28,265
MEAN	1,341	1,606	1,336	837	990	968	1,053	2,544	1,893	574	325	942
MAX	2,730	1,900	1,720	989	1,230	1,100	1,360	3,390	3,230	1,090	647	2,220
MIN	610	1,360	700	650	828	847	870	1,030	664	338	154	142
AC-FT	82,450	95,570	82,140	51,460	54,980	59,530	62,640	156,400	112,700	35,290	19,980	56,060
(†)	3,280	0	0	0	0	2,140	4,580	5,460	5,490	5,230	4,320	5,200
(‡)	2,380	44	0	0	0	1,120	1,980	2,600	2,540	2,260	1,630	1,880

CAL YR 1969 TOTAL 574,986 MEAN 1,575 MAX 5,120 MIN 434 AC-FT 1,140,000 † 27,150 ‡ 15,510
WTR YR 1970 TOTAL 438,200 MEAN 1,201 MAX 3,390 MIN 142 AC-FT 869,200 † 35,700 ‡ 16,430

PEAK DISCHARGE (BASE, 4,500 CFS)

DATE	TIME	G.H.	DISCHARGE
7-22	0630	6.13	4,750

† Diversion, in acre-feet, by Cochiti eastside main canal.
‡ Diversion, in acre-feet, by Sili main canal.

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, 2,060 acre-ft Oct. 1-2 (gage height, 88.4 ft); minimum, 1,030 acre-ft Sept. 25-30 (gage height, 69.5 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)

69	1,010	85	1,840
75	1,280	90	2,160
80	1,550		

CONTENTS, IN ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,060	1,950	1,940	1,810	1,510	1,360	1,430	1,520	1,480	1,190	1,140	1,100
2	2,060	1,960	1,940	1,810	1,500	1,360	1,440	1,520	1,470	1,190	1,150	1,090
3	2,050	1,960	1,940	1,800	1,500	1,360	1,440	1,520	1,460	1,180	1,160	1,090
4	2,040	1,970	1,930	1,800	1,480	1,360	1,440	1,520	1,450	1,170	1,160	1,090
5	2,040	1,970	1,930	1,790	1,470	1,360	1,440	1,520	1,440	1,170	1,160	1,080
6	2,030	1,970	1,930	1,780	1,470	1,360	1,450	1,520	1,420	1,160	1,170	1,080
7	2,030	1,970	1,920	1,780	1,460	1,370	1,450	1,520	1,410	1,150	1,170	1,080
8	2,020	1,980	1,920	1,770	1,450	1,370	1,460	1,520	1,400	1,150	1,180	1,070
9	2,020	1,980	1,920	1,760	1,440	1,370	1,460	1,520	1,390	1,140	1,180	1,060
10	2,010	1,990	1,920	1,750	1,430	1,380	1,470	1,520	1,380	1,130	1,180	1,060
11	2,010	1,990	1,920	1,740	1,420	1,380	1,470	1,520	1,370	1,130	1,180	1,050
12	2,000	1,990	1,910	1,740	1,410	1,380	1,480	1,520	1,360	1,120	1,180	1,050
13	2,000	1,990	1,910	1,720	1,400	1,380	1,480	1,520	1,340	1,110	1,180	1,050
14	2,000	2,000	1,900	1,710	1,390	1,380	1,490	1,520	1,330	1,110	1,170	1,050
15	1,990	2,000	1,900	1,700	1,380	1,390	1,490	1,520	1,320	1,100	1,170	1,050
16	1,990	1,990	1,890	1,690	1,370	1,390	1,490	1,520	1,310	1,090	1,170	1,050
17	1,990	1,990	1,890	1,670	1,370	1,390	1,500	1,530	1,300	1,090	1,170	1,050
18	1,980	1,990	1,890	1,670	1,360	1,400	1,500	1,530	1,280	1,080	1,170	1,050
19	1,970	1,980	1,880	1,660	1,350	1,400	1,510	1,540	1,270	1,070	1,160	1,050
20	1,970	1,980	1,870	1,640	1,350	1,400	1,510	1,540	1,260	1,070	1,160	1,040
21	1,970	1,970	1,870	1,630	1,350	1,400	1,520	1,540	1,260	1,060	1,150	1,040
22	1,970	1,970	1,870	1,620	1,350	1,410	1,520	1,540	1,250	1,060	1,150	1,040
23	1,970	1,970	1,860	1,600	1,350	1,410	1,530	1,540	1,240	1,070	1,140	1,040
24	1,970	1,970	1,860	1,590	1,350	1,410	1,530	1,540	1,230	1,070	1,140	1,040
25	1,970	1,960	1,860	1,580	1,350	1,410	1,530	1,540	1,230	1,090	1,130	1,030
26	1,970	1,950	1,850	1,570	1,350	1,420	1,530	1,540	1,220	1,090	1,130	1,030
27	1,970	1,950	1,840	1,560	1,350	1,420	1,530	1,530	1,210	1,100	1,120	1,030
28	1,960	1,950	1,840	1,550	1,360	1,420	1,530	1,520	1,210	1,110	1,120	1,030
29	1,960	1,950	1,830	1,540	------	1,420	1,520	1,510	1,200	1,120	1,110	1,030
30	1,950	1,940	1,830	1,540	------	1,420	1,520	1,510	1,200	1,130	1,110	1,030
31	1,950	------	1,820	1,520	------	1,430	------	1,500	------	1,140	1,100	------
MAX	2,060	2,000	1,940	1,810	1,510	1,430	1,530	1,540	1,480	1,190	1,180	1,100
MIN	1,950	1,940	1,820	1,520	1,350	1,360	1,430	1,500	1,200	1,060	1,100	1,030
(†)	86.8	86.6	84.6	79.5	76.4	77.8	79.5	79.0	73.2	71.8	71.1	69.5
(‡)	-110	-10	-120	-300	-160	+70	+90	-20	-300	-60	-40	-70

CAL YR 1969..... ‡ -490
WTR YR 1970..... ‡ -1,030

† 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.--57 years, 8.10 cfs (5,870 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 14 cfs May 13 to June 3; maximum gage height, 2.08 ft May 15-30; minimum discharge, 0.50 cfs many days.
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 except those below 1 cfs, which are fair. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	.86	3.6	3.9	6.4	.50	.50	3.9	14	6.4	7.6	6.2
2	5.2	.86	3.6	3.9	6.4	.50	.56	3.9	14	6.2	7.6	5.9
3	5.2	.86	3.6	3.9	6.4	.50	.56	3.9	14	6.2	7.8	5.6
4	4.7	.86	3.6	3.9	6.2	.50	.56	3.6	13	6.2	8.1	5.4
5	4.7	.86	3.6	3.9	6.2	.50	.56	3.6	13	5.9	8.1	5.2
6	4.7	.86	3.6	3.6	5.9	.50	.56	3.6	13	5.6	8.4	4.9
7	4.7	.80	3.6	6.0	5.9	.50	.56	3.6	13	5.4	8.4	4.9
8	4.7	.80	3.6	8.4	5.9	.50	.56	5.6	12	5.4	8.4	4.5
9	4.7	.80	3.6	8.4	5.9	.50	.56	7.3	12	5.2	8.4	4.3
10	4.7	.80	3.9	8.4	5.6	.50	.56	7.3	12	5.2	8.4	4.1
11	4.7	.80	3.9	8.4	5.6	.50	.56	7.3	12	4.9	8.4	3.9
12	4.7	.80	3.9	8.4	5.6	.50	.56	7.0	12	4.7	8.4	3.6
13	4.7	.80	3.9	8.4	5.6	.50	.56	10	12	4.5	8.4	3.9
14	4.7	2.3	3.9	8.1	5.6	.50	.50	14	12	4.5	8.4	3.9
15	4.7	3.9	3.9	8.1	5.4	.50	.50	14	12	5.2	8.4	3.9
16	4.7	3.9	3.9	8.1	5.4	.50	.50	14	11	6.2	8.4	3.6
17	4.7	3.9	3.9	7.8	5.4	.50	.50	14	11	5.9	8.1	3.6
18	4.7	3.9	3.9	7.8	5.2	.50	.56	14	11	5.6	8.1	3.4
19	4.7	3.9	3.9	7.8	2.9	.50	.56	14	10	5.4	7.8	3.3
20	4.7	3.9	3.9	7.6	.50	.50	.50	14	10	5.2	7.8	3.1
21	4.7	3.9	3.9	7.6	.50	.50	.50	14	10	4.9	7.8	3.0
22	4.7	3.9	3.9	7.6	.50	.50	.50	14	9.8	4.9	7.6	3.0
23	4.7	3.9	3.9	7.3	.50	.50	.50	14	9.8	5.2	7.6	3.0
24	4.7	3.9	3.9	7.3	.50	.50	2.2	14	7.8	5.2	7.6	2.7
25	4.7	3.9	3.9	7.0	.50	.50	3.9	14	6.7	5.6	7.3	2.5
26	4.7	3.9	3.9	7.0	.50	.50	3.9	14	6.4	6.2	7.0	2.4
27	4.7	3.9	3.9	7.0	.50	.50	3.9	14	6.4	6.4	7.0	2.4
28	4.7	3.6	3.9	7.0	.50	.50	3.9	14	6.4	6.7	6.7	2.2
29	4.7	3.6	3.9	7.0	------	.50	3.9	14	6.4	7.0	6.4	2.2
30	4.7	3.6	3.9	6.7	------	.50	3.9	14	6.4	7.0	6.4	2.1
31	2.8	------	3.9	6.7	------	.50	------	14	------	7.3	6.2	------
TOTAL	145.3	74.56	118.2	213.0	112.00	15.50	37.94	322.6	319.1	176.2	241.0	112.7
MEAN	4.69	2.49	3.81	6.87	4.00	.50	1.26	10.4	10.6	5.68	7.77	3.76
MAX	5.2	3.9	3.9	8.4	6.4	.50	3.9	14	14	7.3	8.4	6.2
MIN	2.8	.80	3.6	3.6	.50	.50	.50	3.6	6.4	4.5	6.2	2.1
AC-FT	288	148	234	422	222	31	75	640	633	349	478	224

CAL YR 1969 TOTAL 2,909.86 MEAN 7.97 MAX 44 MIN .80 ACFT 5,770
WAT YR 1970 TOTAL 1,888.10 MEAN 5.17 MAX 14 MIN .50 ACFT 3,750

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 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, 542 acre-ft Oct. 31 (gage height, 161.9 ft); minimum, 229 acre-ft July 25 (gage height, 146.8 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, 685 acre-ft between gage heights 121.2 ft (bottom of lower operational gate) and 167.0 ft (crest of spillway). Dead storage, 14 acre-ft. Water is for municipal use of city of Santa Fe.

COOPERATION.--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)

146	217	160	491
150	279	165	625
155	375		

CONTENTS, IN ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	486	539	407	308	380	410	398	263	375	424	302	382
2	482	539	405	306	380	410	398	262	384	412	315	380
3	477	536	400	306	380	410	398	260	389	400	329	380
4	477	536	398	304	380	407	400	259	394	391	342	386
5	472	534	396	306	382	407	400	257	394	377	354	391
6	470	534	391	312	382	407	396	256	398	369	365	396
7	468	531	389	315	382	405	389	254	405	360	380	400
8	463	526	382	319	380	405	380	253	421	350	394	405
9	461	518	380	323	377	405	373	253	435	340	407	407
10	458	504	375	329	377	403	365	253	449	333	417	410
11	456	486	371	331	377	403	360	253	463	327	419	410
12	454	465	367	335	377	403	352	253	475	315	424	405
13	452	447	365	338	384	403	346	253	489	298	424	400
14	449	435	363	340	391	403	338	253	502	283	419	396
15	447	431	360	342	398	403	331	253	510	271	417	391
16	447	426	358	348	405	403	327	253	520	263	414	386
17	452	421	356	352	412	403	321	254	528	259	412	380
18	458	417	352	356	417	403	315	254	523	253	410	375
19	463	412	350	360	421	400	308	254	515	248	407	369
20	470	407	346	362	421	400	302	256	502	243	407	365
21	477	403	344	363	421	400	296	256	491	239	410	360
22	484	400	340	367	419	400	290	256	482	236	417	354
23	491	403	338	367	419	400	285	256	470	233	428	348
24	499	407	336	369	417	400	279	256	463	231	438	342
25	504	410	333	371	417	400	276	263	458	229	442	336
26	512	412	331	371	414	398	273	283	452	236	442	331
27	518	417	329	373	412	398	271	304	447	245	442	325
28	523	419	325	375	412	398	270	321	440	256	435	319
29	531	414	321	377	------	398	266	336	438	266	421	312
30	536	412	317	377	------	398	265	352	431	276	405	306
31	542	------	313	377	------	398	------	365	------	288	391	------
MAX	542	539	407	377	421	410	400	365	528	424	442	410
MIN	447	400	313	304	377	398	265	253	375	229	302	306
(+)	161.9	156.6	151.8	155.1	156.6	156.0	149.1	154.5	157.4	150.5	155.7	151.4
(ǂ)	+53	-130	-99	+64	+35	-14	-133	+100	+66	-143	+103	-85

CAL YR 1969..... ǂ +9
WTR YR 1970..... ǂ -183

\+ Gage height, in feet, at end of month.
ǂ Change in contents, in acre-feet.

08317200 Santa Fe River above Cochiti Reservoir, N. Mex.

LOCATION.--Lat 35°32'49", long 106°13'41", in NW¼ sec.8, T.15 N., R.7 E., Santa Fe County, in Mesita de Juana Lopez Grant, at foot of La Bajada Hill, 5.0 miles upstream from Cochiti Dam, and 6.3 miles east of Pena Blanca.

DRAINAGE AREA.--231 sq mi.

PERIOD OF RECORD.--March to September 1970.

GAGE.--Water-stage recorder. Altitude of gage is 5,505 ft (from topographic map).

EXTREMES.--Maximum discharge during period, 414 cfs Aug. 3 (gage height, 3.60 ft), from rating curve extended above 27 cfs; minimum, 0.08 cfs Sept. 1.

REMARKS.--Records fair except those below 1 cfs, which are poor. Surface and ground water diversions and returns for municipal supply of city of Santa Fe in upper part of basin. Diversions for irrigation of about 400 acres above station. See tabulation below for the results of discharge measurements, made at point adjacent to gage, of an unnamed ditch on right bank which diverts water 0.4 mile upstream and bypasses gage; ditch flow not included in record.

Discharge measurements, in cubic feet per second, of ditch

March to September 1970

Date	Discharge	Date	Discharge	Date	Discharge
Apr. 9	*2.5	June 3	0	July 16	*1.6
30	.79	24	0	Aug. 4	0
May 19	.53	July 1	.41	Sept. 1	1.3

* estimate

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						-	9.5	3.9	.69	.51	3.6	.14
2						-	8.1	4.8	.71	.43	13	2.5
3						-	7.7	4.2	.97	.36	49	2.2
4						-	7.4	3.9	1.2	.30	12	2.1
5						-	7.2	3.9	1.7	.32	4.7	2.9
6						-	6.6	4.2	1.1	.29	3.8	3.2
7						-	5.4	4.3	1.8	.28	3.4	2.8
8						-	4.2	3.9	1.5	.27	2.9	1.8
9						-	3.6	3.0	1.1	.28	2.8	.95
10						-	4.0	1.5	.77	.31	2.0	.50
11						-	3.7	1.1	.85	.29	1.6	1.5
12						-	4.6	.82	.77	.28	1.9	1.3
13						-	4.9	.34	1.1	.33	1.7	2.4
14						-	6.0	.17	.94	.34	1.2	3.0
15						-	5.8	.15	.86	.62	.80	1.9
16						-	5.7	.28	.79	.22	1.3	1.9
17						-	5.5	.40	.60	.22	2.0	2.5
18						-	6.2	.13	.60	3.1	1.1	2.0
19						-	6.6	.12	.63	9.0	1.5	3.4
20						8.7	5.2	.12	.58	14	1.7	3.8
21						8.9	5.2	.16	8.3	2.1	1.8	2.8
22						8.4	5.5	.17	4.9	8.0	2.2	2.6
23						7.6	6.1	.22	2.2	31	2.2	3.6
24						7.6	5.7	.19	1.7	8.5	1.3	3.1
25						6.4	4.5	.19	1.4	8.4	.88	3.8
26						6.9	3.5	.22	.76	6.2	1.5	3.4
27						8.3	3.6	.42	.71	4.4	.61	4.0
28						9.3	1.7	1.5	.50	31	.26	4.1
29					------	9.5	1.4	2.4	.40	3.7	.20	4.3
30					------	8.8	2.8	2.0	.60	2.8	.14	3.7
31		------			------	8.8	------	.99	------	2.3	.14	------
TOTAL						-	157.9	49.69	40.73	140.15	123.23	78.19
MEAN						-	5.26	1.60	1.36	4.52	3.98	2.61
MAX						-	9.5	4.8	8.3	31	49	4.3
MIN						-	1.4	.12	.40	.22	.14	.14
AC-FT						-	313	99	81	278	244	155

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
7-23	1715	3.55	394	8- 3	1530	3.60	414

08317850 Galisteo Creek above Galisteo Reservoir, N. Mex.

LOCATION.--Lat 35°26'58", long 106°09'08" in NE¼NW¼ sec.13, T.14 N., R.7 E., Santa Fe County, in Mesita de Juana Lopez Grant, on right bank at abandoned railroad bridge at Waldo, 800 ft downstream from Waldo Gulch, 1.8 miles northwest of Cerrillos, and 4.0 miles upstream from Galisteo Dam.

DRAINAGE AREA.--567 sq mi.

PERIOD OF RECORD.--May to September 1970.

GAGE.--Water-stage recorder. Altitude of gage is 5,595 ft (from topographic map).

EXTREMES.--Maximum discharge during period, 4,880 cfs Aug. 21 (gage height 6.75 ft), from rating curve extended above 200 cfs; minimum daily, 0.20 cfs Aug. 28-30.

REMARKS.--Records poor. Diversions for irrigation of about 50 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								1.1	.50	.76	9.5	2.2
2								1.1	.43	.86	129	1.8
3								.98	.50	1.1	39	1.4
4								.98	.50	7.2	42	1.0
5								.86	2.2	5.2	12	4.0
6								.86	6.5	2.9	6.8	1.5
7								.67	6.4	2.7	8.0	1.0
8								.58	.98	9.2	4.0	.60
9								.58	.67	1.9	49	.50
10								.58	.67	.43	20	.40
11								.67	.76	.36	27	.60
12								.50	.76	.36	5.2	.50
13								.58	.76	.30	1.7	7.2
14								.58	.98	.30	1.2	39
15								.50	.86	230	.50	6.0
16								.58	.76	64	23	2.5
17								.58	.76	17	5.6	2.0
18								.50	.86	10	1.1	1.6
19								.50	.76	30	.67	1.4
20								.50	.98	248	.50	1.2
21								.50	272	138	554	1.0
22								.50	15	18	10	1.0
23								.43	5.2	13	3.1	.98
24								.50	2.7	12	1.7	.43
25								.58	2.1	38	1.0	.43
26								.58	1.7	10	.60	.43
27								.67	1.2	139	.40	.50
28								.67	.86	216	.20	.50
29					------			.58	.76	110	.20	.50
30					------			.50	.67	30	.20	.43
31		------			------		------	.43	------	16	.50	------
TOTAL								19.72	329.78	1,372.57	957.67	82.60
MEAN								.64	11.0	44.3	30.9	2.75
MAX								1.1	272	248	554	39
MIN								.43	.43	.30	.20	.40
AC-FT								39	654	2,720	1,900	164

PEAK DISCHARGE (BASE, 2,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
7-15	2000	5.50	2,940	7-27	2300	6.10	3,710
7-20	2200	5.50	2,720	8-21	0200	6.75	4,880

08317950 Galisteo Creek below Galisteo Dam, N. Mex.

LOCATION.--Lat 35°27'56", long 106°12'57", in SE¼SE¼ sec.5, T.14 N., R.7 E., Santa Fe County, in Mesita de Juana Lopez Grant, on right bank, 0.6 mile downstream from Galisteo Dam and 5.5 miles northwest of Cerrillos.

DRAINAGE AREA.--597 sq mi.

PERIOD OF RECORD.--March to September 1970.

GAGE.--Water-stage recorder. Altitude of gage is 5,450 ft (from topographic map).

EXTREMES.--Maximum discharge during period, 1,080 cfs Aug. 21 (gage height, 7.03 ft); maximum gage height, 7.30 ft June 21, from floodmark; no flow many days.

REMARKS.--Records fair. Flow regulated by Galisteo Reservoir 0.6 mile upstream. Diversions for irrigation of about 50 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						-	3.9	.38	0	0	15	.05
2						-	2.1	.48	0	0	93	.10
3						-	1.6	.39	0	0	35	0
4						-	1.3	.34	0	1.9	37	0
5						-	1.2	.22	0	3.6	9.1	5.2
6						-	1.1	.29	0	1.7	6.2	.36
7						-	.92	.23	0	.56	7.5	.36
8						-	.87	.13	0	13	4.7	.06
9						-	.63	.13	3.0	20	13	.01
10						-	.69	.13	.05	3.0	38	0
11						-	1.0	.03	0	.17	23	0
12						-	.30	.04	0	0	5.8	0
13						-	.27	.05	0	0	2.4	5.1
14						-	.23	.07	0	0	1.3	40
15						-	.11	0	0	107	.74	5.4
16						-	.38	.01	0	207	97	2.2
17						-	.60	.02	0	15	31	1.2
18						-	1.1	.02	0	6.9	.95	.66
19						-	1.0	.01	0	6.1	.31	.60
20						2.7	.31	.05	20	58	.09	.93
21						2.9	.33	.04	200	412	521	.10
22						1.9	.06	0	350	18	21	.03
23						1.5	.28	0	12	21	6.4	.17
24						1.4	.18	0	3.9	8.5	3.0	.13
25						1.3	.28	0	1.4	30	2.2	.02
26						1.4	.21	0	.31	14	1.7	0
27						2.9	.09	.30	.01	8.0	.98	.01
28						6.9	.05	.40	0	395	.36	.01
29					------	3.4	.08	.01	0	81	.01	.03
30					------	2.6	.24	0	0	25	0	.08
31		------			------	2.4	------	0	------	18	.39	------
TOTAL						-	21.41	3.77	590.67	1,474.43	978.13	62.81
MEAN						-	.71	.12	19.7	47.6	31.6	2.09
MAX						-	3.9	.48	350	412	521	40
MIN						-	.05	0	0	0	0	0
AC-FT						-	42	7.5	1,170	2,920	1,940	125

08318000 Galisteo Creek at Domingo, N. Mex.

LOCATION.--Lat 35°30'43", long 106°19'01", in SW¼SW¼ sec.21, T.15 N., R.6 E., Sandoval County, in Santo Domingo Pueblo Grant, on left bank 160 ft downstream from highway bridge, 0.2 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.--29 years, 10.2 cfs (7,390 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,100 cfs Aug. 3 (gage height, 3.80 ft); no flow most of time.
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 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 1970 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1148: 1942, 1943(M), 1944, 1945(M), 1946-47. Revised figures of discharge, in cubic feet per second, for September 1967, superseding figures published in WRD N. Mex. 1967, are given below:

Sept. 25, 1967. . . . . 2.7

	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
September 1967.....	203.85	93	0	6.80	404
WTR YR 1967.....	6,131.44	1,450	0	16.8	12,160
CAL YR 1967.....	6,139.77	1,450	0	16.8	12,180

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0		0						0	0	14	0
2	0		0						0	0	58	.48
3	0		0						0	0	213	0
4	0		1.5						0	0	26	0
5	0		0						0	0	2.3	.18
6	0		0						0	0	0	0
7	0		0						0	0	0	0
8	0		0						0	0	0	0
9	0		0						0	.20	0	0
10	0		0						0	0	43	0
11	.03		0						0	0	12	0
12	.19		0						0	0	2.9	0
13	0		0						0	0	.47	.30
14	0		0						0	0	.03	29
15	0		0						0	84	0	4.3
16	0		0						0	256	127	.48
17	0		0						0	2.1	76	.07
18	0		0						0	0	0	0
19	0		0						0	0	0	.63
20	0		0						12	11	0	.41
21	1.4		0						90	356	495	0
22	95		0						374	2.3	16	0
23	12		0						0	2.8	0	0
24	1.5		0						0	3.4	0	0
25	.50		0						0	7.8	0	0
26	0		0						0	10	0	0
27	0		0						0	1.1	0	0
28	0		0						0	333	0	0
29	0		0		------				0	61	0	0
30	0		0		------				0	3.0	0	0
31	0	------	0		------		------		------	0	0	------
TOTAL	110.62	0	1.5	0	0	0	0	0	476	1,133.70	1,085.70	35.85
MEAN	3.57	0	.048	0	0	0	0	0	15.9	36.6	35.0	1.20
MAX	95	0	1.5	0	0	0	0	0	374	356	495	29
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	219	0	3.0	0	0	0	0	0	944	2,250	2,150	71

CAL YR 1969 TOTAL 5,203.47 MEAN 14.3 MAX 1,110 MIN 0 AC-FT 10,320
WAT YR 1970 TOTAL 2,843.37 MEAN 7.79 MAX 495 MIN 0 AC-FT 5,640

08319000 Rio Grande at San Felipe, N. Mex.

LOCATION.--Lat 35°26'39", long 106°26'23", 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, 0.8 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.--45 years, 1,387 cfs (1,005,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,650 cfs July 22 (gage height, 5.33 ft); minimum, 155 cfs Aug. 29.
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 June, July and August, 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 sta 08285000 and Abiquiu Reservoir (see sta 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	794	2,070	1,490	728	919	1,050	1,170	1,490	2,880	760	629	211
2	726	1,980	1,480	719	897	1,040	1,170	1,380	2,980	750	647	245
3	608	1,850	1,520	655	831	1,070	1,150	1,290	3,090	710	776	324
4	586	1,850	1,600	677	820	1,120	1,160	1,270	3,210	660	550	227
5	644	1,930	1,720	665	853	1,160	1,160	1,270	3,250	610	570	205
6	555	1,880	1,640	673	853	1,190	1,060	1,440	3,170	590	500	200
7	534	1,930	1,380	629	853	1,160	1,060	1,670	3,190	570	470	197
8	712	2,030	1,220	656	902	1,140	1,150	1,960	3,150	550	470	472
9	806	2,020	1,200	753	897	1,120	1,210	2,640	3,090	640	620	808
10	747	1,980	1,210	765	892	1,120	1,340	3,130	3,170	700	920	657
11	769	1,850	1,310	809	911	1,150	1,360	3,110	3,170	760	524	801
12	851	1,800	1,340	820	954	1,130	1,480	2,770	3,230	620	476	1,420
13	952	1,730	1,520	908	994	1,160	1,330	2,830	3,360	590	453	1,390
14	1,020	1,700	1,580	842	1,100	1,150	1,180	3,170	3,380	540	446	1,830
15	1,050	1,600	1,620	842	1,350	1,190	1,080	3,360	2,670	449	446	1,640
16	1,200	1,670	1,670	941	1,380	1,080	1,020	3,360	1,960	853	418	1,580
17	1,330	1,620	1,740	930	1,330	1,020	980	3,300	1,460	566	524	2,100
18	1,530	1,550	1,790	974	1,370	1,030	1,080	3,300	1,010	433	476	2,220
19	1,690	1,540	1,620	996	1,160	1,020	1,150	3,190	842	539	596	2,300
20	1,790	1,550	1,240	1,020	1,060	1,030	1,090	3,210	842	494	500	2,400
21	2,350	1,400	1,100	963	1,060	1,030	996	3,380	908	1,130	801	2,040
22	3,000	1,560	1,170	974	1,080	1,060	930	3,360	1,160	1,080	594	1,800
23	2,660	1,720	1,080	1,040	1,060	975	908	3,090	743	1,140	810	1,500
24	2,730	1,790	1,200	1,020	1,100	970	864	2,920	974	1,200	540	1,400
25	2,360	1,840	1,050	1,010	1,060	975	842	2,770	1,030	1,120	336	1,200
26	1,940	1,730	1,170	1,020	1,080	976	963	2,770	908	1,210	386	1,000
27	1,880	1,700	1,180	1,040	1,050	992	1,250	2,900	860	701	232	900
28	1,970	1,640	1,210	1,040	1,060	1,070	1,460	2,980	800	985	200	800
29	2,220	1,480	1,120	1,030	------	1,120	1,500	3,040	780	692	176	800
30	2,150	1,540	934	930	------	1,060	1,490	2,940	800	674	195	750
31	2,170	------	756	842	------	1,160	------	2,880	------	647	230	------
TOTAL	44,324	52,530	41,860	26,911	28,876	33,518	34,583	82,170	62,067	22,963	15,511	33,417
MEAN	1,430	1,751	1,350	868	1,031	1,081	1,153	2,651	2,069	741	500	1,114
MAX	3,000	2,070	1,790	1,040	1,380	1,190	1,500	3,380	3,380	1,210	920	2,400
MIN	534	1,400	756	629	820	970	842	1,270	743	433	176	197
AC-FT	87,920	104,200	83,030	53,380	57,280	66,480	68,600	163,000	123,100	45,550	30,770	66,280
(†)	1,200	0	0	0	0	907	2,020	2,240	2,330	2,140	2,070	2,010

CAL YR 1969 TOTAL 615,051 MEAN 1,685 MAX 5,050 MIN 491 AC-FT 1,220,000 † 10,340
WTR YR 1970 TOTAL 478,730 MEAN 1,312 MAX 3,380 MIN 176 AC-FT 949,600 † 14,920

PEAK DISCHARGE (BASE, 5,000 CFS).--No peak above base.

† 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°38'52", 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. Prior to May 1951, at sites 3,000 ft upstream, at different datums and on separate channels.

AVERAGE DISCHARGE.--13 years (1949-50, 1958-70), 26.2 cfs (18,980 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 542 cfs Oct. 22 (gage height, 3.48 ft); minimum, 6.5 cfs Mar. 21. 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 January 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	50	16	15	16	20	32	36	20	12	21	46
2	15	44	17	14	15	22	35	34	19	13	20	67
3	15	45	19	13	15	20	42	34	19	13	30	40
4	15	40	22	13	17	17	44	32	21	13	38	25
5	15	37	21	12	19	18	48	32	41	12	26	25
6	15	35	16	12	22	17	65	32	49	12	39	30
7	14	33	19	12	27	18	226	32	54	15	49	47
8	18	31	21	12	31	20	292	32	37	14	66	32
9	25	30	21	13	32	21	274	31	30	16	59	22
10	14	30	20	15	29	22	165	30	26	15	60	18
11	14	29	18	17	28	20	147	28	26	13	54	17
12	26	28	20	18	29	19	73	28	28	13	32	24
13	27	27	21	17	32	23	58	27	23	11	28	91
14	30	26	20	17	33	21	63	26	21	11	27	102
15	28	24	19	17	25	23	56	25	24	15	39	72
16	21	29	20	18	22	29	49	25	21	25	53	32
17	19	45	20	18	20	29	53	24	17	21	78	25
18	20	21	20	17	21	21	60	23	15	17	62	22
19	20	19	20	17	19	22	52	23	14	16	42	21
20	19	23	21	17	15	20	53	23	14	24	51	20
21	27	27	22	17	18	21	54	22	17	51	45	18
22	301	28	25	17	18	26	50	21	38	62	29	17
23	173	27	23	20	20	47	43	21	28	35	43	20
24	130	24	23	22	20	75	43	20	24	33	46	20
25	87	22	20	30	20	78	44	20	21	39	41	18
26	64	20	20	32	19	52	46	31	16	32	29	17
27	53	19	18	26	20	37	44	37	15	26	24	18
28	49	15	11	24	19	28	42	44	13	31	22	18
29	82	16	12	24	------	32	39	31	13	44	20	18
30	88	16	13	21	------	30	37	25	12	27	20	17
31	59	------	14	19	------	32	------	22	------	25	22	------
TOTAL	1,499	860	592	556	621	880	2,329	871	716	706	1,215	959
MEAN	48.4	28.7	19.1	17.9	22.2	28.4	77.6	28.1	23.9	22.8	39.2	32.0
MAX	301	50	25	32	33	78	292	44	54	62	78	102
MIN	14	15	11	12	15	17	32	20	12	11	20	17
AC-FT	2,970	1,710	1,170	1,100	1,230	1,750	4,620	1,730	1,420	1,400	2,410	1,900

CAL YR 1969 TOTAL 13,269.1 MEAN 36.4 MAX 358 MIN 3.3 AC-FT 26,320
WTR YR 1970 TOTAL 11,804 MEAN 32.3 MAX 301 MIN 11 AC-FT 23,410

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-22	1530	3.48	542	9-13	1930	2.15	149
4-7	2400	3.26	496				

08323000 Rio Guadalupe at Box Canyon near Jemez, N. Mex.

LOCATION.--Lat 35°43'52", long 106°45'44", 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.

AVERAGE DISCHARGE.--12 years (1958-70), 32.6 cfs (23,620 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 442 cfs May 12 (gage height, 5.35 ft); minimum 3.5 cfs Jan. 6, result of freezeup.
Period of record: Maximum discharge determined, 1,440 cfs Apr. 21, 1958 (gage height, 7.6 ft, from floodmarks), from rating curve extended above 750 cfs on basis of 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 winter period, 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	28	12	11	13	14	21	98	55	15	20	22
2	11	25	13	11	13	15	19	86	48	16	24	16
3	10	22	15	10	13	14	22	87	44	16	24	16
4	9.5	22	16	9.5	13	13	24	109	45	15	32	15
5	9.3	22	15	9.0	13	14	27	159	72	16	22	15
6	9.6	21	14	8.4	12	14	33	214	105	16	28	16
7	9.7	19	16	7.9	12	13	48	280	89	17	32	26
8	9.6	19	16	8.4	13	15	49	306	66	16	28	17
9	9.4	19	15	9.0	13	17	69	260	59	19	24	15
10	9.3	18	15	10	13	17	75	273	51	16	35	13
11	9.3	19	12	11	13	16	85	321	51	15	32	12
12	12	18	13	12	14	17	69	329	58	14	25	13
13	13	18	14	13	15	16	65	311	62	13	23	38
14	12	18	15	12	16	16	69	285	46	11	22	29
15	12	16	15	12	14	19	75	247	48	12	22	21
16	12	19	15	13	12	20	73	205	38	15	59	16
17	12	22	15	13	13	20	86	192	33	18	38	15
18	13	13	15	14	13	17	93	188	30	17	31	13
19	16	12	15	14	13	16	79	169	28	16	27	13
20	15	16	15	14	11	16	71	151	27	26	29	12
21	15	17	15	14	13	19	67	139	27	51	94	12
22	40	17	15	14	12	18	72	125	30	38	33	11
23	40	15	14	15	13	19	71	110	30	44	27	12
24	33	15	14	15	13	21	78	100	26	29	25	13
25	31	14	13	15	13	23	97	94	22	23	23	12
26	30	14	14	15	12	21	115	111	19	24	19	11
27	29	14	13	15	12	23	150	104	17	20	16	11
28	28	11	10	15	13	20	170	129	16	20	15	11
29	33	12	10	15	------	22	134	90	16	23	15	11
30	30	12	10	12	------	22	112	73	16	29	18	11
31	28	------	11	13	------	21	------	62	------	22	20	------
TOTAL	561.7	527	430	380.2	363	548	2,218	5,407	1,274	642	882	468
MEAN	18.1	17.6	13.9	12.3	13.0	17.7	73.9	174	42.5	20.7	28.5	15.6
MAX	40	28	16	15	16	23	170	329	105	51	94	38
MIN	9.3	11	10	7.9	11	13	19	62	16	11	15	11
AC-FT	1,110	1,050	853	754	720	1,090	4,400	10,720	2,530	1,270	1,750	928

CAL YR 1969 TOTAL 17,969.6 MEAN 49.2 MAX 299 MIN 8.3 AC-FT 35,640
WTR YR 1970 TOTAL 13,700.9 MEAN 37.5 MAX 329 MIN 7.9 AC-FT 27,180

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-28	0800	4.59	188	8-21	0500	5.16	369
5-12	0030	5.35	442				

08324000 Jemez River near Jemez, N. Mex.

LOCATION.--Lat 35°39'42", long 106°44'34", 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.--22 years (1936-40, 1949-50, 1953-70), 65.6 cfs (47,530 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 912 cfs Oct. 22 (gage height, 6.00 ft); minimum, 10 cfs Feb. 3, result of freezeup.

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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	89	31	24	28	35	59	143	78	25	43	51
2	29	81	35	24	24	38	51	122	71	23	43	86
3	26	76	40	20	21	38	66	120	62	56	57	64
4	25	75	47	20	25	34	73	135	61	29	52	49
5	25	72	45	19	25	35	79	176	97	25	57	46
6	30	69	46	19	26	33	94	223	142	40	63	50
7	29	64	37	17	27	31	252	269	133	34	83	71
8	27	60	41	15	29	35	392	289	111	36	86	57
9	26	60	43	20	29	38	464	251	90	38	89	42
10	25	61	44	23	33	41	210	257	80	34	83	36
11	26	62	25	26	35	40	231	303	78	24	103	30
12	60	61	39	30	37	39	145	292	90	22	61	38
13	47	59	44	29	42	34	128	269	89	21	54	159
14	47	57	39	29	43	39	132	251	75	18	54	144
15	48	53	38	30	36	42	137	224	77	19	80	111
16	41	56	39	30	31	48	133	193	68	37	107	63
17	36	80	40	31	31	49	147	184	57	37	108	50
18	35	44	43	31	34	39	169	179	49	29	93	45
19	41	37	41	31	32	34	154	166	46	49	73	42
20	38	49	43	31	26	35	145	155	42	62	76	35
21	42	53	46	30	32	34	145	144	39	96	126	34
22	471	58	49	31	29	42	143	134	67	100	72	33
23	275	50	48	34	33	56	133	123	68	82	83	38
24	176	51	48	37	33	85	135	111	56	68	74	41
25	125	44	45	41	36	98	154	104	48	63	70	34
26	98	42	46	50	32	73	171	127	38	59	56	28
27	87	41	34	44	32	63	193	134	30	49	42	27
28	82	29	23	43	34	44	205	158	25	58	39	27
29	114	31	24	28	------	57	174	121	24	77	35	30
30	138	31	23	27	------	60	149	100	25	59	33	28
31	101	------	24	30	------	55	------	88	------	54	36	------
TOTAL	2,397	1,695	1,210	894	875	1,424	4,863	5,545	2,016	1,423	2,131	1,589
MEAN	77.3	56.5	39.0	28.8	31.3	45.9	162	179	67.2	45.9	68.7	53.0
MAX	471	89	49	50	43	98	464	303	142	100	126	159
MIN	25	29	23	15	21	31	51	88	24	18	33	27
AC-FT	4,750	3,360	2,400	1,770	1,740	2,820	9,650	11,000	4,000	2,820	4,230	3,150

CAL YR 1969 TOTAL 33,417 MEAN 91.6 MAX 503 MIN 16 AC-FT 66,280
WTR YR 1970 TOTAL 26,062 MEAN 71.4 MAX 471 MIN 15 AC-FT 51,690

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

08328500 Jemez Canyon Reservoir near Bernalillo, N. Mex.

LOCATION.--Lat 35°23'40", long 106°32'50", in SW¼SW¼ sec.32, T.14 N., R.4 E., Sandoval County, at corner of outlet works control tower of Jemez Canyon Dam on Jemez River, 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 September 1965 (monthend contents only), October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).

EXTREMES.--Current year: Maximum contents, 3,200 acre-ft Oct 23 (elevation, 5,160.6 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.--Records furnished by Corps of Engineers.

Capacity tables, water year 1969-70 (elevation, in feet, and contents, in acre-feet)

5,137.9	1	5,148	192	5,158	2,180
5,140	4	5,150	376	5,160	2,960
5,142	16	5,152	643	5,162	3,850
5,144	36	5,154	1,020	5,164	4,860
5,146	86	5,156	1,510	5,166	5,980

CONTENTS, IN ACRE-FEET, AT 0800, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0		0	0	12	6	0	673	0	0	0	0
2	0		0	0	12	4	0	673	0	0	192	0
3	0		0	0	20	2	0	651	0	0	283	0
4	0		0	0	21	4	0	618	0	0	0	0
5	0		4	0	28	1	0	614	1	0	0	0
6	0		0	0	27	0	0	675	1	0	8	0
7	0		0	0	21	1	0	731	120	0	87	0
8	0		0	0	20	0	109	786	161	81	0	0
9	0		5	0	17	0	439	757	45	34	0	0
10	0		32	0	19	0	680	669	0	0	0	0
11	0		30	13	23	8	654	587	0	0	39	0
12	0		33	29	22	63	611	567	0	0	47	0
13	0		35	10	19	63	488	587	0	0	0	0
14	0		56	10	29	2	519	575	0	0	0	174
15	0		62	13	56	0	538	497	0	0	0	118
16	0		67	0	70	1	587	435	0	0	0	0
17	0		71	0	60	0	594	343	0	0	116	0
18	0		78	0	33	0	608	239	0	0	0	0
19	0		89	0	1	0	684	226	0	0	0	0
20	0		96	0	0	0	729	216	0	6	1	0
21	0		96	1	6	0	706	193	0	0	0	0
22	135		108	0	19	0	662	140	0	43	0	0
23	3,200		115	0	41	0	665	128	0	56	0	0
24	1,250		136	2	39	0	689	112	0	10	0	0
25	0		145	7	37	4	709	77	0	0	0	0
26	0		161	7	29	2	747	0	0	0	0	0
27	0		33	25	16	0	833	36	0	0	0	0
28	0		0	44	8	0	759	121	0	0	0	0
29	0		0	26	------	0	724	173	0	0	0	0
30	0		2	4	------	0	709	164	0	0	0	0
31	0	------	0	2	------	0	------	120	------	0	0	------
MAX	3,200	0	161	44	70	63	833	786	161	81	283	174
MIN	0	0	0	0	0	0	0	0	0	0	0	0
(†)	0	0	0	5,138.98	5,140.91	0	5,152.40	5,146.80	0	0	0	0
(‡)	0	0	0	+2	+6	-8	+709	-589	-120	0	0	0

CAL YR 1969 . . . . . ‡ 0
WTR YR 1970 . . . . . ‡ 0

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

08329000 Jemez River below Jemez Canyon Dam, N. Mex.

LOCATION.--Lat 35°23'24", long 106°32'03", in NE¼ sec.5, T.13 N., R.4 E., Sandoval County, on right bank 0.8 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 0.8 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.--28 years (1936-37, 1943-70), 51.7 cfs (37,460 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,000 cfs Oct. 22 (gage height, 9.27 ft); no flow for several 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 sta 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	104	6.0	16	21	23	44	117	35	0	8.1	.43
2	1.3	86	7.5	15	19	26	37	111	30	0	44	1.9
3	.91	82	14	15	17	27	28	113	34	0	282	3.3
4	.35	78	23	15	18	29	36	104	33	0	14	3.6
5	.10	74	24	15	20	24	29	90	51	0	7.5	4.9
6	0	72	24	15	22	24	34	126	58	0	27	6.4
7	.24	68	26	15	24	28	36	180	74	1.0	32	12
8	.52	57	23	15	28	26	82	231	140	0	13	20
9	.59	38	25	15	30	23	237	239	122	0	56	14
10	.65	41	24	20	35	20	266	231	16	0	79	7.9
11	.60	36	19	20	36	24	234	226	15	0	138	7.0
12	2.2	34	21	40	34	27	103	229	19	0	194	6.0
13	2.9	35	26	43	36	49	117	238	26	0	32	8.0
14	4.1	32	28	54	34	30	92	237	40	0	35	158
15	7.2	34	29	30	30	13	84	216	40	0	29	159
16	11	38	23	20	33	18	92	181	48	0	50	20
17	20	44	28	20	32	25	104	180	42	0	178	7.8
18	30	58	38	20	27	32	96	138	29	0	43	6.6
19	37	40	38	20	20	29	99	116	21	2.9	23	125
20	57	42	40	25	15	29	114	123	10	48	51	72
21	211	45	45	31	21	32	121	127	9.0	88	41	4.8
22	1,100	52	38	32	27	24	105	102	8.0	140	51	3.2
23	1,290	50	40	37	29	21	69	83	8.7	264	32	3.1
24	1,390	46	43	29	28	26	66	79	11	210	49	2.7
25	393	46	45	36	26	43	65	114	8.0	53	21	2.2
26	200	37	57	40	28	42	62	69	5.2	51	12	1.1
27	130	26	72	38	27	51	130	88	3.5	18	6.0	1.0
28	110	18	36	36	25	60	160	89	2.4	34	2.8	.60
29	140	14	10	34	------	32	151	86	1.2	22	.99	1.2
30	179	10	12	24	------	60	132	81	.10	25	.40	1.9
31	114	------	16	26	------	56	------	71	------	13	.13	------
TOTAL	5,436.26	1,437	900.5	811	742	973	3,025	4,415	940.10	969.9	1,551.92	665.63
MEAN	175	47.9	29.0	26.2	26.5	31.4	101	142	31.3	31.3	50.1	22.2
MAX	1,390	104	72	54	36	60	266	239	140	264	282	159
MIN	0	10	6.0	15	15	13	28	69	.10	0	.13	.43
AC-FT	10,780	2,850	1,790	1,610	1,470	1,930	6,000	8,760	1,860	1,920	3,080	1,320

CAL YR 1969 TOTAL 35,107.59 MEAN 96.2 MAX 1,390 MIN 0 AC-FT 69,640
WTR YR 1970 TOTAL 21,867.31 MEAN 59.9 MAX 1,390 MIN 0 AC-FT 43,370

08329100 Bernalillo floodwater retarding reservoir No. 1 (Piedra Lisa Arroyo), near Bernalillo, N. Mex.

LOCATION.--Lat 35°18'50", long 106°31'44", Sandoval County in Bernalillo Grant, 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.--15 years, 0.011 cfs (7.97 acre-ft per year).

EXTREMES.--No flow during the water year.
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.

REMARKS.--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.

NOTE.--No flow at outflow station during water year 1970.

08329900 North Floodway Channel near Alameda, N. Mex.

LOCATION.--Lat 35°11'58", long 106°35'53", Bernalillo County, in Elena Gallegos Grant, 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, 3,780 cfs Aug. 10 (gage height, 5.25 ft), from rating curve extended above 750 cfs; no flow most of time.
Period of record: Maximum discharge, 3,780 cfs Aug. 10, 1970 (gage height, 5.25 ft) from rating curve extended above 750 cfs; 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0		0			0	3.6	0	0	1.4	3.6	0
2	0		0			0	4.5	0	0	12	0	5.8
3	0		0			0	4.5	0	0	28	60	0
4	0		76			0	4.5	0	3.2	2.7	23	0
5	0		23			0	5.4	0	8.1	0	116	0
6	0		6.3			0	2.1	0	5.4	0	75	2.0
7	0		0			0	0	0	20	0	0	0
8	0		0			0	0	0	30	0	6.9	0
9	0		0			0	0	0	14	0	0	0
10	0		0			1.3	0	0	7.2	0	189	0
11	0		0			48	0	0	1.0	0	0	0
12	17		0			4.5	0	0	0	0	0	40
13	0		0			2.7	0	1.4	0	0	0	122
14	0		0			0	0	5.4	5.5	0	0	3.6
15	0		0			0	0	0	4.3	43	4.5	2.7
16	0		0			0	0	0	0	6.4	9.9	1.4
17	0		0			0	6.5	0	9.0	0	0	0
18	0		0			0	6.2	0	4.5	0	0	0
19	0		0			0	0	0	2.0	23	0	11
20	0		0			0	0	0	0	14	5.6	8.3
21	62		0			0	0	0	0	117	4.8	0
22	252		0			0	0	0	0	0	0	0
23	151		0			0	0	0	5.0	0	0	0
24	0		0			0	0	0	8.1	9.0	0	0
25	0		0			0	0	0	5.4	0	0	0
26	0		0			0	0	0	0	0	0	0
27	0		0			29	0	24	1.5	25	0	0
28	0		0			12	0	9.0	0	18	0	0
29	7.8		0		------	0	0	6.3	0	0	0	0
30	0		0		------	0	0	2.2	1.5	0	0	0
31	0	------	0		------	0	------	0	------	1.4	0	------
TOTAL	489.8	0	105.3	0	0	97.5	37.3	48.3	135.7	300.9	498.3	196.8
MEAN	15.8	0	3.40	0	0	3.15	1.24	1.56	4.52	9.71	16.1	6.56
MAX	252	0	76	0	0	48	6.5	24	30	117	189	122
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	972	0	209	0	0	193	74	96	269	597	988	390

CAL YR 1969 TOTAL 1,638.8 MEAN 4.49 MAX 252 MIN 0 ACFT 3,250
WAT YR 1970 TOTAL 1,909.9 MEAN 5.23 MAX 252 MIN 0 ACFT 3,790

08330000 Rio Grande at Albuquerque, N. Mex.

LOCATION.--Lat 35°05'21", long 106°40'48", Bernalillo County, in Atrisco Grant, 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.--29 years, 1,069 cfs (774,500 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5,840 cfs October 23 (gage height, 6.65 ft); minimum, 7.9 cfs Sept. 9 (gage height 3.09).
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. Records of water temperatures and suspended sediment loads for the current year are published in Part 2 of this report.

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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	558	2,280	1,850	709	1,000	926	806	1,180	2,680	320	261	15
2	350	2,040	1,680	700	1,090	878	806	1,210	2,780	385	241	13
3	301	1,990	1,620	700	1,040	886	830	1,240	2,600	365	210	10
4	257	1,820	1,700	655	937	870	814	1,310	2,680	270	385	9.3
5	255	1,920	1,700	518	886	910	822	1,320	2,790	220	237	8.7
6	299	1,800	1,630	498	894	894	814	1,380	3,080	180	257	7.9
7	231	1,740	1,380	486	910	902	726	1,600	3,090	172	185	7.2
8	233	1,850	1,200	452	946	902	798	1,790	3,170	155	185	7.2
9	416	1,900	1,170	479	898	902	846	2,160	3,150	221	192	11
10	486	1,920	1,150	573	947	862	1,010	2,620	3,120	245	504	101
11	505	1,780	1,220	691	1,020	902	1,150	2,660	3,000	315	428	83
12	686	1,900	1,300	828	1,020	854	1,130	2,640	2,910	170	312	302
13	747	1,800	1,490	894	1,150	814	1,010	2,890	2,950	130	284	736
14	752	2,040	1,590	928	1,210	814	928	3,420	2,990	131	261	878
15	840	1,790	1,660	910	1,330	782	955	3,710	2,620	76	242	1,300
16	883	1,760	1,630	868	1,500	734	910	3,590	1,850	62	210	991
17	1,080	1,690	1,720	936	1,530	663	928	3,490	1,110	292	190	1,320
18	1,230	1,630	1,830	951	1,440	670	946	3,550	862	192	187	1,770
19	1,500	1,560	1,810	984	1,320	642	955	3,500	680	125	149	1,820
20	1,610	1,670	1,550	1,030	1,190	642	982	3,460	540	233	186	2,250
21	2,060	1,640	1,220	1,010	1,190	649	902	3,590	560	344	208	1,910
22	3,110	1,600	1,200	907	1,140	670	806	3,640	800	686	483	1,390
23	4,240	1,700	1,180	902	1,100	593	734	3,350	720	630	274	1,180
24	4,270	1,760	1,230	894	967	524	663	2,880	570	673	318	1,100
25	3,230	1,870	1,170	876	920	579	628	2,760	660	649	140	863
26	2,620	1,850	1,160	937	909	663	586	2,490	610	661	59	681
27	2,200	1,900	1,190	964	941	758	656	2,640	510	477	50	588
28	2,110	2,000	1,140	932	917	814	1,000	2,630	460	399	40	551
29	2,100	1,880	1,030	937	------	838	1,050	2,730	416	524	28	504
30	2,280	1,780	1,010	982	------	798	1,090	2,630	360	375	20	466
31	2,070	------	902	991	------	742	------	2,650	------	315	18	------
TOTAL	43,509	54,860	43,312	25,122	30,342	24,077	26,281	80,710	54,318	9,992	6,744	20,873.3
MEAN	1,404	1,829	1,397	810	1,084	777	876	2,604	1,811	322	218	696
MAX	4,270	2,280	1,850	1,030	1,530	926	1,150	3,710	3,170	686	504	2,250
MIN	231	1,560	902	452	886	524	586	1,180	360	62	18	7.2
AC-FT	86,300	108,800	85,910	49,830	60,180	47,760	52,130	160,100	107,700	19,820	13,380	41,400
(†)	12,000	2,690	1,820	1,300	1,540	9,660	12,770	14,680	14,340	14,750	13,320	14,400

CAL YR 1969 TOTAL 561,258 MEAN 1,538 MAX 5,120 MIN 231 AC-FT 1,113,000 † 117,100
WTR YR 1970 TOTAL 420,140.3 MEAN 1,151 MAX 4,270 MIN 7.2 AC-FT 833,300 † 113,300

PEAK DISCHARGE(BASE),4,000 CFS).--Oct. 23 (0330) 5,840 cfs (6.65 ft); May 15 (0600) 4,060 cfs (6.44 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°24'52", long 106°48'11", 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.--18 years (1952-70), 487 cfs (352,800 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 fair except those for May and June which are poor. 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 current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	282	1,300	904	864	863	953	518	971	776	2.4	51	0
2	215	1,280	896	752	868	908	567	931	700	1.2	33	0
3	188	1,410	892	780	881	767	548	920	600	1.3	22	0
4	133	1,490	969	730	858	692	525	994	752	1.3	1.7	0
5	91	1,450	969	650	825	751	409	930	750	.90	43	0
6	127	1,450	927	600	833	730	567	708	700	.90	88	0
7	123	1,350	836	520	840	769	524	550	714	1.1	145	0
8	127	1,300	871	354	860	754	283	853	726	.90	93	0
9	98	1,170	1,080	437	863	718	210	1,350	763	.75	76	0
10	86	1,040	1,090	486	885	673	340	1,130	743	.60	98	0
11	99	920	1,070	605	885	717	305	1,000	700	.52	154	0
12	131	913	1,140	822	925	756	1,280	1,190	650	.44	142	0
13	151	990	1,160	1,050	957	749	1,030	916	600	.32	82	0
14	211	1,020	1,180	1,200	1,020	686	750	901	600	0	30	0
15	277	1,070	1,270	1,150	1,070	658	505	743	942	0	31	16
16	359	1,060	1,310	1,130	1,290	687	507	1,020	1,150	18	13	199
17	581	1,140	1,290	1,120	1,380	677	410	1,160	889	.40	24	18
18	819	1,270	1,370	1,140	1,340	697	376	960	433	0	11	52
19	1,110	1,260	1,560	1,100	1,280	626	843	640	225	0	16	264
20	1,310	1,210	1,460	1,040	1,200	614	871	911	102	0	16	562
21	1,050	1,190	1,240	1,010	1,060	635	759	908	61	0	18	1,070
22	1,560	1,150	1,010	965	1,090	603	619	890	69	0	12	831
23	1,630	1,140	1,140	916	1,020	610	346	805	71	110	40	598
24	1,470	1,080	1,010	938	988	547	290	829	131	334	31	540
25	1,560	955	1,120	967	1,010	429	125	764	34	458	9.4	515
26	1,410	905	998	887	1,040	321	149	890	15	346	.32	416
27	1,280	864	1,090	903	1,040	331	376	893	12	235	0	185
28	1,140	1,020	1,200	912	1,010	549	146	829	6.6	316	0	226
29	1,000	997	1,210	909	------	730	606	755	29	149	0	252
30	1,140	917	1,100	941	------	760	890	722	19	211	0	275
31	1,380	------	969	922	------	629	------	747	------	48	0	------
TOTAL	21,138	34,311	34,331	26,800	28,181	20,726	15,674	27,810	13,962.6	2,238.03	1,280.42	6,019
MEAN	682	1,144	1,107	865	1,006	669	522	897	465	72.2	41.3	201
MAX	1,630	1,490	1,560	1,200	1,380	953	1,280	1,350	1,150	458	154	1,070
MIN	86	864	836	354	825	321	125	550	6.6	0	0	0
AC-FT	41,930	68,060	68,100	53,160	55,900	41,110	31,090	55,160	27,690	4,440	2,540	11,940

CAL YR 1969 TOTAL 277,924.70 MEAN 761 MAX 1,730 MIN 6.2 AC-FT 551,300
WTR YR 1970 TOTAL 232,471.05 MEAN 637 MAX 1,630 MIN 0 AC-FT 461,100

08332010 Rio Grande floodway near Bernardo, N. Mex.

LOCATION.--Lat 34°25'01", 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.
12 years (1958-70) 243 cfs (176,100 acre-ft per year). Floodway only.
12 years (1958-70) 858 cfs (621,600 acre-ft per year). Includes flow of floodway, conveyance channel, Bernardo interior drain, and Lower San Juan Riverside drain.

EXTREMES.--Current year: Maximum discharge, 2,860 cfs May 15 (gage height, 5.53 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 current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	1,220	540	0	1.6		0	0	1,770			0
2	0	930	550	0	0		0	0	2,020			0
3	0	592	560	0	0		0	0	1,950			0
4	0	400	570	0	0		0	0	1,910			0
5	0	424	600	0	0		0	0	2,320			0
6	0	498	580	0	0		0	0	2,410			0
7	0	472	580	0	0		0	0	2,350			0
8	0	480	450	0	0		0	0	2,540			0
9	0	625	140	0	0		0	133	2,320			0
10	0	764	110	0	0		0	1,340	2,050			0
11	0	728	128	0	0		0	1,550	2,470			0
12	0	552	174	0	0		0	1,290	2,380			0
13	0	525	205	0	0		.62	1,280	2,200			0
14	0	525	266	45	0		0	1,800	2,350			0
15	0	525	314	3.2	0		0	2,150	1,790			0
16	0	432	360	0	0		0	1,980	891			0
17	0	489	392	1.1	0		0	1,890	355			0
18	0	260	352	2.1	0		0	1,930	20			0
19	0	250	238	.52	0		0	2,260	0			0
20	0	290	164	0	0		0	1,910	0			178
21	0	340	40	0	0		0	1,850	0			64
22	888	380	6.0	0	0		0	2,180	0			31
23	1,450	320	3.0	0	0		0	2,150	0			0
24	1,170	580	1.0	0	0		0	2,120	0			0
25	960	800	0	0	0		0	1,810	0			0
26	1,020	852	0	0	0		0	1,410	0			0
27	960	852	0	0	0		0	1,590	0			0
28	700	592	0	.31	0		0	1,930	0			0
29	940	561	0	5.0	------		0	1,790	0			0
30	960	625	0	9.2	------		0	1,950	0			0
31	904	------	0	8.5	------		------	1,810	------			------
TOTAL	9,952	16,883	7,323.0	74.93	1.6	0	.62	40,103	34,096	0	0	273
MEAN	321	563	236	2.42	.057	0	.021	1,294	1,137	0	0	9.10
MAX	1,450	1,220	600	45	1.6	0	.62	2,260	2,540	0	0	178
MIN	0	250	0	0	0	0	0	0	0	0	0	0
AC-FT	19,740	33,490	14,530	149	3.2	0	1.2	79,540	67,630	0	0	542
(†)	74,640	107,800	88,760	58,650	60,730	51,440	42,340	148,400	106,700	16,030	14,640	19,650

CAL YR 1969 TOTAL 181,979.00 MEAN 499 MAX 4,280 MIN 0 AC-FT 361,000 † MEAN 1,432 AC-FT 1,037,000
WTR YR 1970 TOTAL 108,707.15 MEAN 298 MAX 2,540 MIN 0 AC-FT 215,600 † MEAN 1,091 AC-FT 789,800

† 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°24'51", long 106°47'34", 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 (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, 204 cfs May 24, 1970; no flow for several days during 1963.

REMARKS.--This drain is one of four channels (see sta 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	146	78	68	58	61	49	117	161	182	104	115	64
2	110	74	68	57	60	57	113	154	179	103	128	63
3	146	72	68	56	59	83	114	162	155	116	121	61
4	156	71	68	55	59	90	122	154	168	122	121	60
5	136	71	68	55	59	100	109	130	181	136	116	58
6	136	70	68	55	58	112	128	148	182	126	133	57
7	124	70	68	55	58	109	128	176	165	117	111	55
8	130	69	68	55	58	109	110	177	175	123	141	53
9	131	69	66	55	58	92	119	165	156	123	154	48
10	119	69	66	55	57	98	139	163	146	115	142	40
11	121	69	65	55	58	119	153	172	152	145	127	44
12	122	69	65	56	58	115	131	146	137	138	126	41
13	120	69	65	56	58	115	145	135	151	116	134	48
14	131	69	65	57	57	110	132	139	153	93	117	57
15	131	69	65	58	57	111	141	142	117	79	123	53
16	121	69	65	59	57	119	151	132	125	83	125	53
17	138	68	65	58	57	146	140	180	131	82	123	64
18	142	69	64	59	56	110	146	152	126	83	108	68
19	142	68	64	60	55	116	155	147	114	81	101	88
20	107	68	64	60	55	138	117	157	107	74	93	82
21	116	68	63	60	55	117	125	165	109	73	104	83
22	131	68	62	60	54	115	148	173	115	71	99	95
23	125	68	61	59	52	115	119	191	121	77	111	108
24	110	68	61	60	51	125	119	204	121	84	100	101
25	107	68	60	60	51	100	131	179	127	114	91	111
26	103	68	60	61	51	116	147	155	125	128	83	124
27	100	68	59	60	50	121	115	168	115	115	71	126
28	97	69	59	60	50	130	123	181	115	94	70	131
29	98	68	60	61	------	134	117	182	133	84	69	138
30	97	68	59	61	------	134	142	165	114	104	67	123
31	97	------	58	61	------	114	------	175	------	110	66	------
TOTAL	3,790	2,081	1,985	1,797	1,569	3,419	3,896	5,030	4,197	3,213	3,390	2,297
MEAN	122	69.4	64.0	58.0	56.0	110	130	162	140	104	109	76.6
MAX	156	78	68	61	61	146	155	204	182	145	154	138
MIN	97	68	58	55	50	49	109	130	107	71	66	40
AC-FT	7,520	4,130	3,940	3,560	3,110	6,780	7,730	9,980	8,320	6,370	6,720	4,560

CAL YR 1969 TOTAL 36,084 MEAN 98.9 MAX 178 MIN 47 ACFT 71,570
WAT YR 1970 TOTAL 36,664 MEAN 100 MAX 204 MIN 40 ACFT 72,720

08332050 Bernardo interior drain near Bernardo, N. Mex.

LOCATION.--Lat 34°24'56", 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, 187 cfs Aug. 7, 1970; 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 current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	37	38	29	32	32	79	68	72	90	110	29
2	76	35	39	28	32	32	58	65	56	86	83	31
3	80	35	39	28	32	31	65	68	62	86	61	34
4	84	36	40	28	31	32	66	52	70	118	62	42
5	94	36	40	28	30	38	86	70	74	108	83	42
6	92	37	40	27	29	41	68	54	83	99	123	45
7	89	37	40	27	30	51	64	54	71	70	187	42
8	82	37	39	26	30	50	61	50	59	74	124	30
9	80	37	38	26	30	57	52	55	61	76	142	28
10	71	37	37	26	30	51	52	67	61	85	133	29
11	79	37	37	26	31	51	56	75	59	81	120	31
12	97	37	37	27	31	53	44	74	58	83	149	36
13	110	36	37	27	31	59	45	69	58	94	124	31
14	94	35	37	28	31	57	48	60	54	61	98	43
15	102	36	37	28	31	61	48	65	51	48	80	43
16	102	35	36	28	31	62	58	65	32	43	83	46
17	72	34	36	29	32	67	55	67	25	47	89	45
18	101	34	36	29	31	70	46	63	22	50	75	43
19	131	33	36	29	32	75	62	53	25	55	75	45
20	96	34	35	29	32	77	46	52	28	70	63	55
21	131	34	34	30	32	78	69	57	27	62	74	50
22	100	35	34	30	32	78	58	57	23	79	72	40
23	93	35	33	30	31	64	71	54	25	66	76	42
24	80	36	32	31	31	66	72	47	48	100	74	49
25	73	36	32	31	31	72	60	47	50	81	64	56
26	68	37	32	31	31	70	58	45	45	107	66	55
27	63	37	31	31	31	72	47	49	60	116	52	52
28	62	37	31	32	31	47	55	60	72	135	46	75
29	67	38	31	32	------	60	57	73	63	140	48	67
30	107	38	30	32	------	66	68	63	68	111	40	59
31	93	------	29	32	------	72	------	68	------	113	34	------
TOTAL	2,746	1,078	1,103	895	869	1,792	1,774	1,866	1,562	2,634	2,710	1,315
MEAN	88.6	35.9	35.6	28.9	31.0	57.8	59.1	60.2	52.1	85.0	87.4	43.8
MAX	131	38	40	32	32	78	86	75	83	140	187	75
MIN	62	33	29	26	29	31	44	45	22	43	34	28
AC-FT	5,450	2,140	2,190	1,780	1,720	3,550	3,520	3,700	3,100	5,220	5,380	2,610

CAL YR 1969 TOTAL 26,589 MEAN 72.8 MAX 160 MIN 27 AC-FT 52,740
WTR YR 1970 TOTAL 20,344 MEAN 55.7 MAX 187 MIN 22 AC-FT 40,350

08334000 Rio Puerco above Arroyo Chico, near Guadalupe, N. Mex.

LOCATION.--Lat 35°38'08", long 107°09'56", 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. Prior to July 14, 1966 at datum 1.01 ft higher.

AVERAGE DISCHARGE.--19 years, 12.8 cfs (9,270 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,420 cfs July 22 (gage height, 8.43 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	5.2	.06	.02	.01	.01	15	15	19	.03	16	.02
2	.08	3.0	.05	.01	.01	.01	12	12	18	.02	26	3.0
3	.10	1.8	.05	.01	.02	.01	13	11	4.9	.02	.15	.54
4	.12	1.4	.05	0	.02	.01	12	12	3.6	.02	0	.30
5	.08	.96	.05	0	.02	.01	10	14	19	.02	6.0	.10
6	.07	.62	.05	0	.03	.01	5.0	16	26	.03	137	0
7	.07	.62	.05	0	.03	.01	4.8	40	32	11	3.6	0
8	.07	.72	.05	0	.04	.01	4.3	63	26	9.8	5.4	0
9	.07	.62	.06	0	.04	.01	4.3	54	16	1.4	.96	0
10	.07	.72	.06	.01	.05	.03	4.8	43	14	.28	29	0
11	.07	.96	.08	.01	.05	.10	5.2	60	11	.19	2.4	0
12	.15	1.1	.10	.01	.06	.19	6.0	80	7.3	.15	50	.22
13	.08	.96	.08	.01	.06	2.0	5.2	86	7.8	.12	10	116
14	.07	.50	.06	.01	.07	.82	4.8	78	10	.12	.54	30
15	.06	.08	.08	.01	.07	1.4	4.3	71	7.8	.12	2.0	10
16	.07	.10	.08	.01	.07	.96	4.0	56	3.6	3.5	42	2.0
17	.07	.08	.07	.02	.08	.72	3.5	43	2.0	1.8	26	.40
18	.06	.08	.08	.02	.08	.96	3.0	43	1.4	1.4	8.2	.40
19	.06	.08	.08	.02	.05	.47	3.0	40	.82	45	3.3	.35
20	.07	.08	.08	.02	.05	.40	6.9	38	.62	46	9.6	.35
21	35	.10	.07	.02	.05	.40	8.2	34	.62	16	19	.30
22	632	.10	.07	.02	.05	.35	8.2	33	14	437	12	.30
23	198	.10	.06	.02	.05	.35	8.5	34	4.3	11	2.0	.25
24	8.2	.12	.06	0	.03	.30	8.5	31	.96	.10	.40	.25
25	5.0	.12	.05	0	.02	.30	8.5	29	.10	.07	.40	.20
26	5.0	.12	.05	0	.02	.30	8.7	30	.03	.23	.02	.20
27	4.0	.12	.04	0	.02	.28	8.7	32	.02	.23	0	.15
28	3.3	.12	.04	0	.01	.28	12	39	.02	.23	0	.15
29	15	.10	.03	0	------	.28	25	33	.03	.23	0	.10
30	15	.08	.03	0	------	.96	16	22	.02	.28	0	.10
31	7.3	------	.02	0	------	3.0	------	20	------	.28	0	------
TOTAL	929.37	20.76	1.84	.25	1.16	14.94	243.4	1,212	250.94	586.67	411.97	165.68
MEAN	30.0	.69	.059	.008	.041	.48	8.11	39.1	8.36	18.9	13.3	5.52
MAX	632	5.2	.10	.02	.08	3.0	25	86	32	437	137	116
MIN	.06	.08	.02	0	.01	.01	3.0	11	.02	.02	0	0
AC-FT	1,840	41	3.7	.5	2.3	30	483	2,400	498	1,160	817	329

CAL YR 1969 TOTAL 5,650.86 MEAN 15.5 MAX 632 MIN 0 AC-FT 11,210
WTR YR 1970 TOTAL 3,838.98 MEAN 10.5 MAX 632 MIN 0 AC-FT 7,610

PEAK DISCHARGE (BASE, 1,800 CFS).--July 22 (0030) 2,420 cfs (8.43 ft).

08340500 Arroyo Chico near Guadalupe, N. Mex.

LOCATION.--Lat 35°35'33", long 107°11'19", 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.--27 years, 23.8 cfs (17,240 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 9,000 cfs Oct. 22 (gage height, 9.40 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 of slope-area measurements at gage heights 11.6 and 14.8 ft, present datum; no flow for many days each year.

REMARKS.--Records poor. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	4.9	1.1	.03	.35	.27	11	0	0	0	0	16
2	0	2.4	.89	0	.59	.35	2.6	0	0	0	65	.27
3	.02	1.6	1.1	0	.40	.40	1.9	0	0	0	31	0
4	.03	1.5	3.2	0	.35	.35	3.2	0	0	0	1.9	0
5	.03	1.4	5.7	0	.59	.35	1.5	0	0	0	.89	0
6	.01	1.4	1.9	0	.81	.31	1.2	0	0	0	208	0
7	.02	1.2	1.8	0	1.1	.27	.40	0	0	0	93	0
8	.04	1.2	1.5	0	.98	.19	.10	0	0	95	22	0
9	.03	1.2	1.6	0	.89	.10	.03	0	0	37	4.4	0
10	0	1.1	2.6	.04	.81	.27	.01	0	0	1.0	19	0
11	0	1.1	1.5	.02	.89	1.3	0	0	0	0	1.0	0
12	.10	1.2	1.2	.08	.98	1.8	0	0	0	0	.50	34
13	.04	1.0	.81	.16	.89	1.1	0	0	0	0	0	116
14	.04	1.0	1.3	.23	.89	.59	0	0	0	0	0	180
15	.02	.81	1.1	.35	.81	.40	0	0	0	3.1	0	6.2
16	.04	.98	1.2	.81	.52	.16	0	0	0	283	60	.81
17	.06	.89	1.1	1.9	.52	.06	0	0	0	6.2	322	.13
18	.03	.73	1.8	2.4	.35	.31	0	0	0	0	22	.06
19	.03	.73	1.5	1.5	.27	.46	0	0	0	63	1.4	.04
20	.02	.81	1.6	1.4	.10	.52	0	0	0	35	9.9	.04
21	.23	.66	1.3	1.4	.13	.59	0	0	0	156	14	.01
22	2,890	.66	1.2	1.8	.35	.40	0	0	0	415	1.0	.01
23	898	1.3	1.1	2.4	.46	.27	0	0	0	162	0	.01
24	149	1.5	.98	1.6	.40	.06	0	0	0	11	0	0
25	49	1.4	.89	1.9	.35	0	0	0	0	88	0	0
26	17	1.4	.73	1.2	.23	0	0	0	0	5.0	0	0
27	11	1.3	.66	1.2	.27	.09	0	25	0	1.0	0	0
28	6.2	1.1	.27	1.5	.27	1.3	0	87	0	65	0	0
29	6.2	1.3	.16	1.0	------	1.9	0	16	6.4	33	0	0
30	22	1.1	.16	.70	------	1.8	0	4.2	0	1.0	0	0
31	12	------	.05	.59	------	2.8	------	.27	------	0	0	------
TOTAL	4,061.19	38.87	42.00	24.21	15.55	18.77	21.94	132.47	6.4	1,460.3	876.99	353.58
MEAN	131	1.30	1.35	.78	.56	.61	.73	4.27	.21	47.1	28.3	11.8
MAX	2,890	4.9	5.7	2.4	1.1	2.8	11	87	6.4	415	322	180
MIN	0	.66	.05	0	.10	0	0	0	0	0	0	0
AC-FT	8,060	77	83	48	31	37	44	263	13	2,900	1,740	701

CAL YR 1969 TOTAL 8,038.19 MEAN 22.0 MAX 2,890 MIN 0 AC-FT 15,940
WTR YR 1970 TOTAL 7,052.27 MEAN 19.3 MAX 2,890 MIN 0 AC-FT 13,990

PEAK DISCHARGE (BASE, 2,500 CFS).--Oct. 22 (0800) 9,000 cfs (9.40 ft); July 21 (2200) 3,550 cfs (7.00 ft).

08341400 Bluewater Lake near Bluewater, N. Mex.

LOCATION.--Lat 35°17'31", long 108°06'40", in SE¼ sec.9, T.12 N., R.12 W., Valencia County, at Bluewater Dam on Bluewater Creek 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 (monthend contents only).

GAGE.--Water-stage recorder. Datum of gage is 7,345.57 ft above mean sea level. July 1958 to January 1961, non-recording gage at nearby site, same datum. Gage heights have been converted to sea-level elevations.

EXTREMES.--Current year: Maximum contents, 7,040 acre-ft Oct. 23 (elevation, 7,374.2 ft); minimum, 5,170 acre-ft Sept. 30 (elevation, 7,370.4 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.

Month-end elevations and contents, water year October 1969 to September 1970

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	7,374.1	6,980	-
Oct. 31	7,374.0	6,920	-60
Nov. 30	7,373.7	6,760	-160
Dec. 31	7,373.4	6,600	-160
Calendar year 1969			+1,760
Jan. 31	7,373.2	6,490	-110
Feb. 28	7,372.9	6,330	-160
Mar. 31	7,372.7	6,230	-100
Apr. 30	7,373.1	6,430	+200
May 31	7,372.4	6,080	-350
June 30	7,371.6	5,700	-380
July 31	7,371.2	5,510	-190
Aug. 31	7,371.1	5,470	-40
Sept. 30	7,370.4	5,170	-300
Water year 1969-70	-	-	-1,810

08342000 Bluewater Creek near Bluewater, N. Mex.

LOCATION.--Lat 35°17'40", 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). See WSP 1732 or 1923 for history of changes prior to Mar. 18, 1939.

AVERAGE DISCHARGE.--48 years (1912-15, 1916-18, 1927-70), 9.24 cfs (6,690 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 75 cfs Nov. 18 (gage height, 4.00 ft); minimum, 0.54 cfs Apr. 23.
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); 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 June, which are poor. Flow regulated by Bluewater Lake (see sta 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	2.0	1.6	2.4	1.6	1.2	1.2	1.8	2.2	2.4	.99	.75
2	1.3	2.1	1.6	2.4	1.6	1.3	1.0	1.8	2.3	2.4	.92	.89
3	1.2	2.1	1.7	2.6	1.5	1.4	.97	1.7	2.3	2.6	1.4	.66
4	1.3	2.5	1.7	3.0	1.5	1.2	.88	1.7	2.3	2.2	2.6	.70
5	1.2	2.3	1.6	3.0	1.5	1.2	.94	1.3	2.3	2.5	1.5	.98
6	1.3	2.2	1.6	3.0	1.5	1.2	.92	1.1	2.3	2.7	1.5	1.1
7	1.5	2.3	1.6	2.9	1.4	1.1	.80	1.1	2.3	3.1	2.0	.96
8	1.5	2.1	1.5	2.8	1.4	1.1	.88	1.2	2.3	3.5	3.3	.79
9	1.5	2.2	1.6	2.7	1.4	1.1	.80	1.0	2.3	2.4	1.7	.64
10	1.4	2.2	1.6	2.6	1.6	1.1	.81	1.2	2.3	1.5	1.4	.62
11	1.5	2.3	1.5	2.5	1.6	1.2	.71	1.0	2.3	1.6	1.1	.74
12	1.8	2.1	1.6	2.4	1.3	1.1	.81	1.1	2.3	1.2	.93	.61
13	1.7	2.0	1.6	2.4	1.1	1.1	.69	1.3	2.3	.86	2.6	.94
14	1.7	1.9	1.6	2.3	1.0	1.0	.64	1.3	2.3	1.2	2.6	.80
15	1.5	1.9	1.6	2.2	1.1	1.1	.64	2.1	2.3	1.9	2.3	.70
16	1.6	2.2	1.6	2.2	1.0	1.0	.70	2.1	2.3	1.9	1.3	.61
17	1.6	2.0	1.6	2.1	1.0	1.0	.60	2.1	2.3	1.5	1.7	.63
18	1.6	6.2	1.7	2.1	.94	1.2	.70	2.0	2.4	1.3	1.4	.60
19	1.7	1.6	1.5	2.0	.92	1.1	.72	2.0	2.4	1.5	.94	.60
20	1.6	1.7	1.5	2.0	1.0	1.4	.61	2.2	2.4	1.7	.80	.57
21	3.5	1.8	1.5	2.0	1.0	1.3	.65	2.1	2.4	1.4	.74	.58
22	7.0	1.8	1.4	1.9	.96	1.2	.61	1.9	2.4	2.2	.81	.69
23	2.9	1.7	1.4	1.9	.99	1.1	.54	1.7	2.4	1.9	.90	.82
24	2.3	1.6	1.2	1.8	1.1	1.1	.56	1.9	2.4	1.4	.80	.84
25	2.0	1.5	1.2	1.8	.95	.97	.57	2.0	2.4	1.5	.73	.62
26	2.1	1.7	1.2	1.8	.96	.98	1.1	2.2	2.4	1.4	.80	.83
27	2.1	10	1.4	1.8	1.1	1.3	1.9	2.4	2.4	1.1	.90	.90
28	2.0	1.5	1.4	1.7	1.2	1.4	1.7	2.5	2.4	1.3	1.0	.84
29	2.3	1.5	1.6	1.7	------	1.2	1.8	2.1	2.4	1.4	1.8	1.2
30	2.1	1.6	1.8	1.7	------	1.1	1.9	2.1	2.4	1.0	1.8	1.0
31	2.1	------	2.0	1.6	------	1.3	------	2.1	------	1.1	1.4	------
TOTAL	60.1	70.6	48.0	69.3	34.22	36.05	27.35	54.1	70.2	55.66	44.66	23.21
MEAN	1.94	2.35	1.55	2.24	1.22	1.16	.91	1.75	2.34	1.80	1.44	.77
MAX	7.0	10	2.0	3.0	1.6	1.4	1.9	2.5	2.4	3.5	3.3	1.2
MIN	1.2	1.5	1.2	1.6	.92	.97	.54	1.0	2.2	.86	.73	.57
AC-FT	119	140	95	137	68	72	54	107	139	110	89	46

CAL YR 1969 TOTAL 2,279.76 MEAN 6.25 MAX 29 MIN .34 AC-FT 4,520
WTR YR 1970 TOTAL 593.45 MEAN 1.63 MAX 10 MIN .54 AC-FT 1,180

08343000 Rio San Jose at Grants, N. Mex.

LOCATION.--Lat 35°09'16", long 107°52'11", 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). See WSP 1732 or 1923 for history of changes prior to Jan. 1, 1926.

AVERAGE DISCHARGE.--29 years (1912-13, 1914-20, 1921-22, 1923-25, 1949-66, 1968-70), 4.12 cfs (2,980 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 99 cfs Oct. 22 (gage height, 2.68 ft); no flow most of year.
Period of Record 1949-66, 1968-70: 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0											
2	0											
3	0											
4	0											
5	0											
6	0											
7	0											
8	0											
9	0											
10	0											
11	0											
12	0											
13	0											
14	0											
15	0											
16	0											
17	0											
18	0											
19	0											
20	0											
21	0											
22	36											
23	34											
24	6.0											
25	1.3											
26	.36											
27	0											
28	0											
29	0				------							
30	0				------							
31	0	------			------		------		------			------
TOTAL	77.66	0	0	0	0	0	0	0	0	0	0	0
MEAN	2.51	0	0	0	0	0	0	0	0	0	0	0
MAX	36	0	0	0	0	0	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	154	0	0	0	0	0	0	0	0	0	0	0

CAL YR 1969 TOTAL 82.93 MEAN .23 MAX 36 MIN 0 AC-FT 164
WAT YR 1970 TOTAL 77.66 MEAN .21 MAX 36 MIN 0 AC-FT 154

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

08343100 Grants Canyon at Grants, N. Mex.

LOCATION.--Lat 35°09'39", 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.--9 years, 0.219 cfs (159 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 315 cfs Oct. 21 (gage height, 2.15 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0							0		0	0	
2	0							0		0	0	
3	0							0		0	13	
4	0							0		0	0	
5	0							0		0	0	
6	0							0		0	31	
7	0							0		0	0	
8	0							0		0	0	
9	0							0		0	0	
10	0							0		0	0	
11	0							0		0	0	
12	0							0		0	0	
13	0							0		0	0	
14	0							0		0	0	
15	0							0		0	0	
16	0							0		0	5.9	
17	0							0		0	0	
18	0							0		0	0	
19	0							0		0	0	
20	0							0		0	0	
21	7.3							0		0	0	
22	39							0		0	0	
23	2.0							0		0	0	
24	0							0		0	0	
25	0							0		0	0	
26	0							9.9		0	0	
27	0							0		0	0	
28	0							0		.26	0	
29	0				------			0		0	0	
30	0				------			0		0	0	
31	0	------			------		------	0	------	0	0	------
TOTAL	48.3	0	0	0	0	0	0	9.9	0	.26	49.9	0
MEAN	1.56	0	0	0	0	0	0	.32	0	.008	1.61	0
MAX	39	0	0	0	0	0	0	9.9	0	.26	31	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	96	0	0	0	0	0	0	20	0	.5	99	0

CAL YR 1969 TOTAL 135.30 MEAN .37 MAX 39 MIN 0 AC-FT 268
WAT YR 1970 TOTAL 108.36 MEAN .30 MAX 39 MIN 0 AC-FT 215

PEAK DISCHARGE (BASE, 175 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-21	2400	2.15	315	8- 6	1700	2.09	297
5-26	1800	2.02	276	8-16	1730	1.69	192
8-3	2100	1.95	258				

08343500 Rio San Jose near Grants, N. Mex.

LOCATION.--Lat 35°04'27", long 107°45'01", 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.--34 years, 6.49 cfs (4,700 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 485 cfs Oct. 22 (gage height, 3.33 ft); minimum, 3.6 cfs at times.
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 except those for December which are poor. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	5.8	4.6	6.2	5.3	5.8	5.3	4.3	3.7	4.9	5.8	4.5
2	4.6	5.7	4.7	6.2	5.4	5.8	5.3	4.3	4.0	5.3	5.8	4.9
3	4.6	5.7	4.7	6.3	5.6	5.8	5.3	4.3	4.0	4.9	5.9	4.9
4	4.6	5.7	4.8	6.4	6.1	5.8	4.9	3.7	4.3	4.9	5.9	5.0
5	4.6	5.9	4.8	6.4	6.3	5.9	4.9	3.7	4.3	4.9	6.3	5.2
6	4.7	6.0	4.9	6.5	6.1	5.8	4.9	3.7	4.6	4.9	5.4	4.9
7	5.1	6.1	4.9	7.0	6.1	5.8	4.9	4.0	4.6	5.0	14	4.9
8	5.4	6.1	5.0	7.0	6.1	5.8	5.3	4.0	4.3	5.0	8.4	4.9
9	5.5	6.1	5.0	7.0	6.1	5.8	4.9	4.0	4.6	5.2	5.8	5.0
10	5.5	5.9	5.1	7.5	6.3	5.9	4.9	4.0	4.6	5.5	6.2	5.0
11	5.4	5.9	5.1	8.0	6.3	6.0	4.9	4.0	4.6	5.7	6.2	5.0
12	5.4	6.0	5.2	8.0	6.3	5.7	4.9	4.3	4.3	6.5	5.4	5.1
13	5.4	5.4	5.2	7.5	6.3	5.7	4.9	4.0	4.0	6.5	5.4	5.6
14	5.4	5.4	5.3	8.0	6.3	5.7	4.9	4.0	4.3	6.9	4.7	5.4
15	5.5	5.5	5.3	8.0	6.1	5.7	4.9	4.0	4.3	7.0	4.5	5.5
16	5.4	5.7	5.4	8.0	6.0	5.3	4.9	4.0	4.0	6.6	4.7	5.5
17	5.4	5.6	5.4	8.5	5.9	5.7	5.3	4.3	4.0	6.3	7.9	5.5
18	6.1	5.2	5.5	7.5	6.3	5.7	5.3	4.0	4.3	6.7	6.9	5.7
19	6.3	5.2	5.5	7.5	6.2	5.4	4.9	4.3	4.3	6.7	4.9	5.6
20	6.5	5.7	5.6	7.5	5.9	5.6	4.3	4.3	4.3	6.6	4.8	5.6
21	19	5.7	5.6	7.5	6.2	5.5	4.3	4.3	4.6	6.2	4.8	5.6
22	242	5.8	5.7	7.5	6.3	5.4	4.3	4.0	4.6	5.9	4.9	5.6
23	45	5.3	5.7	7.0	6.0	5.0	4.3	4.0	4.6	6.3	4.6	5.7
24	21	5.2	5.8	7.0	5.9	5.0	4.3	4.0	4.6	6.6	4.6	5.8
25	11	5.2	5.8	7.0	5.8	5.0	4.3	3.7	4.3	6.2	4.6	6.2
26	7.3	5.2	5.9	6.1	5.8	4.9	4.3	4.0	4.3	6.3	4.7	6.2
27	6.0	4.8	5.9	6.5	5.9	5.3	4.3	9.5	4.6	6.0	4.5	6.1
28	5.5	4.7	7.5	6.1	5.8	5.3	4.3	7.0	4.9	6.0	3.8	5.9
29	6.0	4.6	6.5	5.7	------	5.3	4.3	5.3	4.9	5.9	4.2	6.0
30	5.9	4.6	6.0	5.4	------	5.3	4.3	4.3	4.9	5.8	4.3	5.9
31	5.9	------	6.0	5.4	------	5.3	------	3.7	------	5.8	4.4	------
TOTAL	481.0	165.7	168.4	216.2	168.7	172.0	142.8	135.0	131.7	183.0	174.3	162.7
MEAN	15.5	5.52	5.43	6.97	6.03	5.55	4.76	4.35	4.39	5.90	5.62	5.42
MAX	242	6.1	7.5	8.5	6.3	6.0	5.3	9.5	4.9	7.0	14	6.2
MIN	4.6	4.6	4.6	5.4	5.3	4.9	4.3	3.7	3.7	4.9	3.8	4.5
AC-FT	954	329	334	429	335	341	283	268	261	363	346	323

CAL YR 1969 TOTAL 2,403.0 MEAN 6.58 MAX 242 MIN 3.6 AC-FT 4,770
WTR YR 1970 TOTAL 2,301.5 MEAN 6.31 MAX 242 MIN 3.7 AC-FT 4,570

BASE DISCHARGE (BASE, 100 CFS).--Oct. 22 (0900) 485 cfs (3.33 ft).

08351500 Rio San Jose at Correo, N. Mex.

LOCATION.--Lat 34°58'05", long 107°11'11", 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.--27 years, 11.7 cfs (8,480 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,890 cfs Oct. 22 (gage height, 4.27 ft), from rating curve extended above 700 cfs on basis of slope-area measurement at a gage height of 4.28 ft; 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 many days.
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 winter period, 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.12	20	4.4	0	0	5.5	5.0	0	0	0	1.5	0
2	.07	19	3.9	0	0	5.7	5.4	0	0	0	.19	0
3	.04	18	6.7	0	2.5	5.0	5.1	0	0	0	.04	0
4	.01	16	9.0	0	12	5.2	2.9	0	0	0	0	0
5	0	15	12	0	15	5.4	3.3	0	0	0	74	0
6	0	10	12	0	8.7	6.4	3.6	0	0	0	123	0
7	0	9.1	9.1	0	6.5	6.2	3.1	0	0	0	40	0
8	0	8.3	8.3	0	6.1	5.9	2.2	0	0	0	163	0
9	0	7.6	7.8	0	5.8	5.3	.37	0	0	0	129	0
10	0	7.3	6.7	0	5.0	5.7	2.0	0	0	0	300	0
11	0	7.1	5.8	0	4.4	6.4	.72	0	0	0	210	0
12	0	6.1	13	0	4.8	7.1	0	0	0	0	150	0
13	0	5.4	15	0	4.4	5.3	0	0	0	0	110	24
14	0	4.7	10	0	4.1	6.1	0	0	0	0	80	21
15	0	4.2	9.9	15	4.7	5.5	0	0	0	0	30	.35
16	0	4.6	10	32	4.4	6.6	0	0	0	0	10	0
17	0	4.3	10	16	4.4	5.9	0	0	0	0	10	0
18	0	2.6	6.0	9.2	3.9	2.1	0	0	0	0	20	0
19	0	4.3	6.1	7.6	3.6	4.8	0	0	0	0	50	0
20	0	4.4	7.0	5.7	4.1	7.4	0	0	0	0	10	0
21	13	7.6	7.0	3.2	6.7	7.8	0	0	0	0	6.0	0
22	1,210	7.4	6.2	2.0	6.7	3.2	0	0	0	0	.51	0
23	725	3.9	6.8	1.1	7.0	6.2	0	0	0	1.3	2.3	0
24	200	4.8	6.0	1.1	7.2	5.5	0	0	0	9.7	.15	0
25	80	4.8	6.1	.80	6.5	4.5	0	0	0	33	.04	0
26	40	5.2	6.3	.66	5.3	3.7	0	0	0	28	0	0
27	10	5.3	5.6	.43	5.6	4.5	0	0	0	34	0	0
28	60	8.2	3.8	.20	5.3	5.2	0	0	0	34	0	0
29	75	4.8	8.6	0	------	6.8	0	0	0	25	0	0
30	30	4.3	5.0	0	------	6.7	0	0	0	111	0	0
31	25	------	1.0	0	------	6.1	------	0	------	22	0	------
TOTAL	2,468.24	234.3	235.1	94.99	154.7	173.7	33.69	0	0	298.0	1,519.73	45.35
MEAN	79.6	7.81	7.58	3.06	5.53	5.60	1.12	0	0	9.61	49.0	1.51
MAX	1,210	20	15	32	15	7.8	5.4	0	0	111	300	24
MIN	0	2.6	1.0	0	0	2.1	0	0	0	0	0	0
AC-FT	4,900	465	466	188	307	345	67	0	0	591	3,010	90

CAL YR 1969 TOTAL 7,124.61 MEAN 19.5 MAX 1,210 MIN 0 AC-FT 14,130
WTR YR 1970 TOTAL 5,257.80 MEAN 14.4 MAX 1,210 MIN 0 AC-FT 10,430

PEAK DISCHARGE (BASE, 800 CFS).--Oct. 22 (1200) 1,890 cfs (4.27 ft); Aug. 10 (0330) 942 cfs (3.43 ft).

08352500 Rio Puerco at Rio Puerco, N. Mex.

LOCATION.--Lat 34°47'38", long 106°59'20", in NW¼ sec.31, T.7 N., R.1 W., Valencia County, in San Clemente Grant, 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 above mean sea level.

AVERAGE DISCHARGE.--36 years (1934-70), 59.0 cfs (42,750 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 7,100 cfs Oct. 23 (gage height, 4.24 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 many days.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	30	0	0	0	2.5	.43	0	16	0	20	0
2	3.4	24	0	0	0	2.3	.07	0	13	0	14	0
3	2.9	21	.02	0	0	2.4	.04	0	5.1	0	55	0
4	.89	16	4.3	0	0	2.1	0	0	1.0	0	22	0
5	0	12	5.4	0	0	1.7	0	0	.50	0	23	0
6	0	8.7	5.1	0	.04	2.1	0	0	0	0	166	0
7	0	6.4	5.7	0	2.6	1.9	0	0	0	0	361	0
8	0	5.3	5.7	0	3.1	2.6	0	0	0	0	237	0
9	0	4.6	4.3	0	2.8	2.4	0	0	0	0	165	0
10	0	4.3	4.5	0	2.9	1.6	0	0	0	27	347	0
11	0	4.1	1.2	0	2.8	1.8	0	9.0	0	4.3	246	0
12	0	2.7	2.0	0	2.1	2.3	0	10	0	0	160	0
13	0	2.8	1.0	0	2.1	2.4	0	16	0	0	46	11
14	0	1.9	2.2	0	2.1	2.0	0	31	0	0	58	153
15	0	1.4	2.2	0	1.9	1.2	0	29	0	0	24	192
16	0	1.2	1.7	0	1.6	.32	0	30	0	0	16	54
17	0	.86	1.7	4.4	1.5	.25	0	26	0	119	9.5	20
18	0	.12	2.2	6.7	1.3	.40	0	19	0	44	236	10
19	0	0	2.4	2.1	.88	.12	0	13	0	13	146	8.0
20	0	0	2.0	1.6	.47	0	0	12	0	670	32	4.0
21	21	0	1.9	1.2	1.8	.55	0	12	0	57	14	2.0
22	1,970	0	2.1	.93	3.5	2.2	0	9.9	0	366	4.3	1.0
23	5,550	0	2.0	.22	3.8	1.4	0	7.3	0	360	6.5	.80
24	650	.28	2.0	.27	3.6	.01	0	6.4	0	174	9.5	.60
25	108	.10	.82	0	3.5	0	0	6.1	0	46	4.9	.40
26	54	.13	1.2	0	3.6	0	0	5.6	0	92	3.4	.20
27	16	.35	1.4	0	3.2	0	0	5.5	0	48	1.4	.10
28	92	0	.10	0	2.7	0	0	13	0	39	2.1	.08
29	112	0	.01	0	------	.07	0	54	0	48	1.4	.06
30	45	0	0	0	------	.16	0	36	0	129	.85	.04
31	35	------	0	0	------	.64	------	22	------	61	.56	------
TOTAL	8,664.29	148.24	65.15	17.42	53.89	37.42	.54	372.8	35.60	2,297.3	2,432.41	457.28
MEAN	279	4.94	2.10	.56	1.92	1.21	.018	12.0	1.19	74.1	78.5	15.2
MAX	5,550	30	5.7	6.7	3.8	2.6	.43	54	16	670	361	192
MIN	0	0	0	0	0	0	0	0	0	0	.56	0
AC-FT	17,190	294	129	35	107	74	1.1	739	71	4,560	4,820	907

CAL YR 1969 TOTAL 22,263.95 MEAN 61.0 MAX 5,550 MIN 0 AC-FT 44,160
WTR YR 1970 TOTAL 14,582.34 MEAN 40.0 MAX 5,550 MIN 0 AC-FT 28,920

PEAK DISCHARGE (BASE, 2,000 CFS).--Oct. 23 (0945) 7,100 cfs (4.24 ft); July 22 (1745) 4,000 cfs (3.23 ft).

08353000 Rio Puerco near Bernardo, N. Mex.

LOCATION.--Lat 34°24'33", long 106°51'09", 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, are 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.--30 years (1940-70), 50.5 cfs (36,590 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 6,940 cfs Oct. 24 (gage height, 13.30 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 current year are published in Part 2 of this report.

REVISIONS(WATER YEARS).--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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	20	0					0	.10	0	30	0
2	0	10	0					0	.10	10	15	0
3	0	5.0	0					0	.10	2.0	10	0
4	0	1.0	50					0	0	0	50	0
5	0	0	5.0					0	0	0	5.0	0
6	0	0	0					0	0	0	100	0
7	0	0	0					0	0	0	200	0
8	0	0	0					0	0	0	425	0
9	0	0	0					0	0	0	225	0
10	0	0	0					0	0	0	375	0
11	.30	0	0					0	0	0	175	0
12	.40	0	0					0	0	10	200	0
13	.20	0	0					0	0	2.0	85	0
14	.10	0	0					0	0	0	45	5.0
15	0	0	0					0	0	0	65	250
16	0	0	0					10	0	0	15	65
17	0	0	0					30	0	0	5.0	2.0
18	0	0	0					5.0	0	100	50	.50
19	0	0	0					1.0	0	40	180	0
20	0	0	0					.50	0	2.0	75	0
21	40	0	0					.50	0	580	5.0	0
22	981	0	0					.50	0	35	0	0
23	3,120	0	0					.50	0	500	0	0
24	4,600	0	0					.50	0	180	0	0
25	40	0	0					.20	0	50	0	0
26	10	0	0					.20	0	35	0	0
27	4.0	0	0					.20	0	30	0	0
28	1.0	0	0					.20	0	30	0	0
29	28	0	0		------			.20	0	30	0	0
30	35	0	0		------			.10	0	40	0	0
31	32	------	0		------		------	.10	------	100	0	------
TOTAL	8,892.00	36.0	55.0	0	0	0	0	49.70	.30	1,776.0	2,335.0	322.50
MEAN	287	1.20	1.77	0	0	0	0	1.60	.010	57.3	75.3	10.8
MAX	4,600	20	50	0	0	0	0	30	.10	580	425	250
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	17,640	71	109	0	0	0	0	99	.6	3,520	4,630	640

CAL YR 1969 TOTAL 22,199.20 MEAN 60.8 MAX 4,600 MIN 0 AC-FT 44,030
WTR YR 1970 TOTAL 13,466.50 MEAN 36.9 MAX 4,600 MIN 0 AC-FT 26,710

PEAK DISCHARGE (BASE, 2,000 CFS).--Oct. 24 (1130) 6,940 cfs (13.30 ft).

08354000 Rio Salado near San Acacia, N. Mex.

LOCATION.--Lat 34°17'50", long 106°53'59", 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.--23 years, 13.9 cfs (10,070 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,980 cfs Aug. 16 (gage height, 3.43 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 1,400 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 current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0									0	0	0
2	0									0	0	0
3	0									0	0	2.0
4	0									0	0	0
5	0									0	0	0
6	0									0	30	0
7	0									0	64	0
8	0									0	132	0
9	0									0	16	0
10	0									0	771	0
11	0									0	30	0
12	0									0	0	0
13	0									0	253	101
14	0									0	10	212
15	0									0	0	25
16	0									120	1,030	5.0
17	0									90	669	1.0
18	0									80	40	0
19	0									70	0	0
20	0									64	0	0
21	198									85	0	0
22	928									60	0	0
23	40									40	278	0
24	3.0									28	30	0
25	0									5.0	5.0	0
26	0									0	0	0
27	0									23	0	0
28	0									393	0	0
29	0				------					40	0	0
30	0				------					10	0	0
31	0	------			------		------		------	0	0	------
TOTAL	1,169.0	0	0	0	0	0	0	0	0	1,108.0	3,358.0	346.0
MEAN	37.7	0	0	0	0	0	0	0	0	35.7	108	11.5
MAX	928	0	0	0	0	0	0	0	0	393	1,030	212
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	2,320	0	0	0	0	0	0	0	0	2,200	6,660	686

CAL YR 1969 TOTAL 4,219.50 MEAN 11.6 MAX 928 MIN 0 AC-FT 8,370
WTR YR 1970 TOTAL 5,981.00 MEAN 16.4 MAX 1,030 MIN 0 AC-FT 11,860

PEAK DISCHARGE (BASE, 3,000 CFS).--Aug. 10 (0930) 3,300 cfs (3.10 ft); Aug. 16 (0600) 4,980 cfs (3.43 ft).

08354500 Socorro main canal north at San Acacia, N. Mex.

LOCATION.--Lat 34°15'17", long 106°53'43", 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 September 1964 (monthly discharge only), October 1964 to current year.

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.

EXTREMES.--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 sta 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 sta 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	154	0	0	0	0	0	189	216	223	142	116	55
2	159	0	0	0	0	100	195	211	221	145	132	49
3	159	0	0	0	0	125	197	221	226	148	152	50
4	159	0	0	0	0	135	196	219	228	152	130	53
5	162	0	0	0	0	146	200	222	224	172	152	71
6	165	0	0	0	0	140	213	219	221	181	141	73
7	176	0	0	0	0	139	220	217	219	168	164	72
8	179	0	0	0	0	139	219	218	220	140	90	57
9	177	0	0	0	0	134	221	212	221	148	74	51
10	178	0	0	0	0	138	220	210	221	151	131	54
11	177	0	0	0	0	139	223	219	220	145	162	54
12	174	0	0	0	0	141	228	222	220	173	173	50
13	174	0	0	0	0	138	227	223	221	176	163	73
14	175	0	0	0	0	139	227	224	221	150	161	94
15	168	0	0	0	0	142	226	228	220	118	162	156
16	171	0	0	0	0	145	225	221	224	154	160	175
17	173	0	0	0	0	148	189	235	222	126	164	177
18	166	0	0	0	0	150	190	230	226	117	161	170
19	168	0	0	0	0	145	231	224	234	186	165	161
20	163	0	0	0	0	151	224	225	233	160	173	152
21	70	0	0	0	0	161	230	226	202	174	161	152
22	15	0	0	0	0	158	226	228	194	191	155	152
23	15	0	0	0	0	177	223	225	203	125	164	152
24	16	0	0	0	0	192	220	216	112	140	173	151
25	36	0	0	0	0	199	219	220	118	154	155	154
26	51	0	0	0	0	208	211	225	163	153	128	154
27	90	0	0	0	0	205	216	230	150	153	92	156
28	107	0	0	0	0	192	206	228	146	45	64	155
29	109	0	0	0	------	187	217	227	161	34	59	157
30	108	0	0	0	------	186	215	215	160	65	62	155
31	90	------	0	0	------	190	------	224	------	105	58	------
TOTAL	4,084	0	0	0	0	4,689	6,443	6,880	6,074	4,391	4,197	3,385
MEAN	132	0	0	0	0	151	215	222	202	142	135	113
MAX	179	0	0	0	0	208	231	235	234	191	173	177
MIN	15	0	0	0	0	0	189	210	112	34	58	49
AC-FT	8,100	0	0	0	0	9,300	12,780	13,650	12,050	8,710	8,320	6,710

CAL YR 1969 TOTAL 42,975.00 MEAN 118 MAX 229 MIN 0 AC-FT 85,240
WTR YR 1970 TOTAL 40,143.00 MEAN 110 MAX 235 MIN 0 AC-FT 79,620

08354800 Rio Grande conveyance channel at San Acacia, N. Mex.

LOCATION.--Lat 34°14'54", long 106°54'04", 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. 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.--12 years, 502 cfs (363,700 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 sta 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 current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	248	1,590	1,420	995	1,010	953	477	737	1,650	3.2	116	1.3
2	196	1,580	1,460	850	930	839	476	735	1,640	3.2	79	0
3	153	1,580	1,430	904	1,020	726	447	684	1,630	3.5	30	0
4	185	1,590	1,580	837	972	670	435	792	1,630	3.6	16	0
5	154	1,580	1,760	733	907	685	323	526	1,640	4.0	13	0
6	142	1,590	1,770	672	913	717	338	450	1,630	4.2	270	0
7	122	1,580	1,780	643	913	736	388	381	1,620	4.3	475	0
8	100	1,560	1,600	604	909	753	191	450	1,630	4.3	1,030	0
9	97	1,560	1,370	567	893	708	130	798	1,600	4.3	747	0
10	64	1,560	1,280	594	890	621	134	1,420	1,610	4.4	777	0
11	61	1,540	1,300	666	921	685	258	1,650	1,620	4.4	516	0
12	79	1,530	1,380	792	951	740	663	1,650	1,610	4.4	325	0
13	128	1,530	1,460	1,060	1,000	729	1,070	1,570	1,610	4.4	280	0
14	144	1,540	1,520	1,230	1,060	645	674	1,600	1,620	4.2	81	0
15	234	1,670	1,570	1,210	1,110	565	563	1,610	1,620	3.4	52	110
16	217	1,550	1,660	1,080	1,250	630	492	1,600	1,500	42	293	293
17	327	1,560	1,640	1,060	1,390	575	447	1,620	1,050	0	213	27
18	438	1,590	1,680	1,130	1,360	622	384	1,620	399	0	108	78
19	583	1,560	1,730	1,000	1,310	565	433	1,640	206	5.6	245	330
20	866	1,510	1,710	964	1,320	584	719	1,650	58	3.2	85	510
21	1,370	1,550	1,460	982	1,180	624	484	1,660	32	383	12	1,050
22	1,610	1,470	1,180	982	1,160	587	541	1,660	30	32	5.4	879
23	1,540	1,470	1,300	943	1,100	611	428	1,650	29	494	22	675
24	1,460	1,690	1,180	961	1,050	542	324	1,650	79	402	73	588
25	1,400	1,720	1,260	1,040	1,020	438	254	1,660	5.4	346	15	543
26	1,530	1,780	1,130	982	1,040	313	128	1,670	3.6	260	5.6	507
27	1,640	1,740	1,150	989	1,050	338	276	1,670	3.4	137	5.0	351
28	1,660	1,650	1,280	995	1,040	464	147	1,690	3.4	711	4.4	333
29	1,670	1,650	1,290	1,040	------	699	118	1,660	3.6	380	3.6	345
30	1,680	1,530	1,230	1,080	------	677	633	1,630	3.4	312	2.8	312
31	1,610	------	1,100	1,080	------	555	------	1,640	------	232	2.2	------
TOTAL	21,708	47,600	44,660	28,665	29,669	19,596	12,375	41,423	27,765.8	3,799.6	5,902.0	6,932.3
MEAN	700	1,587	1,441	925	1,060	632	413	1,336	926	123	190	231
MAX	1,680	1,780	1,780	1,230	1,390	953	1,070	1,690	1,650	711	1,030	1,050
MIN	61	1,470	1,100	567	890	313	118	381	3.4	0	2.2	0
AC-FT	43,060	94,410	88,580	56,860	58,850	38,870	24,550	82,160	55,070	7,540	11,710	13,750

CAL YR 1969 TOTAL 344,772.0 MEAN 945 MAX 1,780 MIN 1.0 AC-FT 683,900
WTR YR 1970 TOTAL 290,095.70 MEAN 795 MAX 1,780 MIN 0 AC-FT 575,400

08354900 Rio Grande floodway at San Acacia, N. Mex.

LOCATION.--Lat 34°15'23", long 106°53'18", 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.
12 years (1958-70), 278 cfs (201,400 acre-ft per year), flow of floodway only.
12 years (1958-70), 867 cfs (628,100 acre-ft per year), combined flow of floodway, conveyance channel and Socorro main canal north.

EXTREMES.--Current year: Maximum discharge, 10,640 cfs Oct. 24 (gage height, 9.80 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 sta 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 current year are published in Part 2 of this report.

REVISIONS(WATER YEARS).--WSP 1242: 1951. WSP 1732: 1958(M). WRD 1969: 1967.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	776	9.5	2.8	3.9	15	7.2	17	703	13	4.1	0
2	15	693	6.8	2.8	3.9	14	6.7	8.3	525	11	4.3	0
3	18	564	5.5	2.8	3.6	15	9.5	26	507	11	6.8	0
4	11	426	6.1	2.7	3.4	13	9.2	14	471	13	3.9	0
5	14	354	23	6.7	3.5	14	8.1	22	832	15	3.4	1.4
6	13	372	12	7.9	3.5	14	14	18	889	16	59	2.6
7	12	261	6.4	6.8	3.5	15	12	15	819	15	35	2.3
8	19	319	6.0	4.3	3.5	13	16	16	920	15	584	2.4
9	8.3	486	6.5	4.0	3.7	11	14	56	794	14	15	2.6
10	11	431	5.8	4.2	4.0	11	17	584	700	14	124	2.0
11	13	340	4.5	4.0	7.1	15	15	913	632	14	21	1.8
12	20	250	4.8	6.2	11	9.7	44	463	568	13	23	1.5
13	20	134	11	15	9.5	8.6	13	137	338	11	12	2.0
14	17	55	7.7	9.5	7.1	13	7.6	362	584	10	6.3	3.2
15	26	125	6.0	6.5	7.1	11	7.4	714	750	9.5	7.8	9.1
16	16	37	6.2	4.3	7.0	11	6.6	929	260	6.9	164	23
17	41	17	16	3.9	7.4	13	15	884	43	2.1	27	2.4
18	45	16	33	3.8	6.7	11	16	791	46	2.2	2.6	4.9
19	39	9.0	33	3.5	6.4	10	25	584	36	3.4	3.7	3.4
20	49	9.8	23	3.1	5.8	17	22	522	22	39	3.4	4.0
21	160	16	9.8	2.9	5.0	9.4	16	661	16	80	3.5	16
22	3,160	13	12	2.5	4.8	13	14	810	14	13	2.4	8.2
23	5,940	7.6	7.1	2.3	9.5	9.8	12	851	12	244	20	4.3
24	8,080	17	7.7	1.9	9.2	8.7	12	713	124	7.1	4.6	8.0
25	3,650	6.8	5.8	1.6	8.0	8.8	13	644	79	31	2.3	2.7
26	1,420	15	4.8	7.2	8.0	9.1	12	360	4.6	3.9	0	6.0
27	672	11	4.3	9.1	6.6	11	21	244	7.9	3.4	0	6.6
28	275	11	3.9	7.1	5.8	22	15	809	11	254	0	14
29	344	8.5	3.7	5.9	------	16	20	813	13	5.5	0	7.2
30	481	10	3.5	4.7	------	9.1	20	921	13	7.8	0	4.5
31	618	------	3.1	4.3	------	7.9	------	789	------	4.3	0	------
TOTAL	25,225.3	5,790.7	298.5	154.3	168.5	379.1	440.3	14,690.3	10,733.5	902.1	1,143.1	146.1
MEAN	814	193	9.63	4.98	6.02	12.2	14.7	474	358	29.1	36.9	4.87
MAX	8,080	776	33	15	11	22	44	929	920	254	584	23
MIN	8.3	6.8	3.1	1.6	3.4	7.9	6.6	8.3	4.6	2.1	0	0
AC-FT	50,030	11,490	592	306	334	752	873	29,140	21,290	1,790	2,270	290
(†)	101,200	105,900	89,170	57,170	59,180	48,920	38,200	125,000	88,410	18,040	22,300	20,750

CAL YR 1969 TOTAL 152,021.98 MEAN 416 MAX 8,080 MIN .66 AC-FT 301,500 † MEAN 1,479 AC-FT 1,071,000
WTR YR 1970 TOTAL 60,071.80 MEAN 165 MAX 8,080 MIN 0 AC-FT 119,200 † MEAN 1,219 AC-FT 774,200

† Combined flow, in acre-ft and mean, in cfs, of floodway, conveyance channel, and Socorro main canal north.

08355300 Arroyo de la Matanza near Socorro, N. Mex.

LOCATION.--Lat 34°01'51", long 106°54'04", in Town of Socorro Grant, on left abutment of former highway bridge, and 1.9 miles south of Socorro.

DRAINAGE AREA.--46.0 square miles.

PERIOD OF RECORD.--January 1969 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,760 ft (from topographic map).

EXTREMES.--January to September 1969: Maximum discharge during period, 990 cfs July 31 (gage height, 5.25 ft), no flow most of time.
Water year 1970: Maximum discharge, 1,580 cfs July 28 (gage height, 6.20 ft); no flow most of time.

REMARKS.--Record 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	7.9	0
2										0	0	0
3										0	0	0
4										0	3.1	0
5										0	.20	6.9
6										0	0	.98
7										0	0	0
8										0	0	0
9										0	0	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	.23	0
19										0	6.7	0
20										0	0	0
21										0	0	0
22										0	0	0
23										0	0	0
24										0	7.4	0
25										0	0	0
26										0	0	0
27										1.5	0	0
28										0	0	0
29					------					0	16	0
30					------					0	.21	0
31		------			------		------		------	36	0	------
TOTAL				0	0	0	0	0	0	37.5	41.74	7.88
MEAN				0	0	0	0	0	0	1.21	1.35	.26
MAX				0	0	0	0	0	0	36	16	6.9
MIN				0	0	0	0	0	0	0	0	0
AC-FT				0	0	0	0	0	0	74	83	16

PEAK DISCHARGE (BASE, 175 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
7-31	2230	5.25	990	8-29	1800	3.49	267
8-24	1600	3.16	177				

08355300 Arroyo de la Matanza near Socorro, N. Mex.--Concluded

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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	.99	
7	0									0	0	
8	0									0	0	
9	0									0	0	
10	0									0	1.9	
11	0									0	.20	
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	4.0	
19	0									21	0	
20	0									5.0	0	
21	30									0	0	
22	38									0	0	
23	0									0	0	
24	0									0	0	
25	0									0	0	
26	18									0	0	
27	2.3									0	0	
28	0									79	0	
29	0				------					0	0	
30	0				------					0	0	
31	0	------			------		------		------	0	0	------
TOTAL	88.3	0	0	0	0	0	0	0	0	105.0	7.09	0
MEAN	2.85	0	0	0	0	0	0	0	0	3.39	.23	0
MAX	38	0	0	0	0	0	0	0	0	79	4.0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	175	0	0	0	0	0	0	0	0	208	14	0

CAL YR 1969 TOTAL 175.42 MEAN .48 MAX 38 MIN 0 AC-FT 348
WTR YR 1970 TOTAL 200.39 MEAN .55 MAX 79 MIN 0 AC-FT 397

PEAK DISCHARGE (BASE, 175 CFS)

DATE	TIME	G.H .	DISCHARGE	DATE	TIME	G.H .	DISCHARGE
10-26	2100	3.25	198	7-28	0215	6.20	1,580
7-19	1900	3.57	291				

08356000 Socorro main canal south near San Antonio, N. Mex.

LOCATION.--Lat 33°53'28", long 106°51'54", 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 1.8 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, 59 cfs June 5, 1970; 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 1969 to September 1970

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	50	9.2	32.3	1,990
November	0.36	0	0.01	0.9
December	0	0	0	0
Calendar year 1969	50	0	16.8	12,190
January	0	0	0	0
February	0	0	0	0
March	51	0	28.2	1,730
April	58	6.3	27.2	1,620
May	58	20	40.5	2,490
June	59	3.8	29.5	1,760
July	52	3.6	29.3	1,800
August	57	0	29.7	1,820
September	56	0	19.0	1,130
Water year 1969-70	59	0	19.8	14,340

RIO GRANDE BASIN

08356500 San Antonio Riverside drain near San Antonio, N. Mex.

LOCATION.--Lat 33°53'24", long 106°51'04", 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 fair. 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 1969 to September 1970

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	30	13	20.4	1,250
November	29	20	25.0	1,490
December	24	19	21.2	1,300
Calendar year 1969	77	7.3	26.4	19,100
January	20	16	17.7	1,090
February	22	18	19.3	1,070
March	29	16	20.3	1,250
April	48	21	30.2	1,800
May	60	24	42.6	2,620
June	60	3.3	37.8	2,250
July	69	.42	9.81	603
August	25	6.7	16.3	1,000
September	22	5.7	12.1	722
Water year 1969-70	69	.42	22.7	16,440

08357000 Elmendorf interior drain near San Antonio, N. Mex.

LOCATION.--Lat 33°52"12", long 106°51'39", Socorro County, 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 channel entering north boundary of Bosque del Apache Grant.

Monthly discharge, in cubic feet per second, water year October 1969 to September 1970

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	43	19	29.9	1,840
November	6.3	1.8	2.42	144
December	2.6	.02	1.70	105
Calendar year 1969	53	0	19.6	14,210
January	2.5	1.8	2.12	130
February	4.9	1.6	2.80	156
March	38	3.6	22.5	1,380
April	40	10	22.8	1,360
May	45	15	31.2	1,920
June	48	4.8	25.1	1,490
July	44	7.0	28.7	1,760
August	37	0.52	15.6	961
September	34	2.6	14.1	841
Water year 1969-70	48	.02	16.7	12,080

RIO GRANDE BASIN

08357500 San Antonio Riverside drain near San Marcial, N. Mex.

LOCATION.--Lat 33°44'31", long 106°55'28", 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 1969 to September 1970

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	92	32	64.5	3,970
November	31	21	25.0	1,490
December	57	25	37.3	2,290
Calendar year 1969	143	9.4	59.7	43,250
January	40	25	30.5	1,870
February	41	25	28.9	1,610
March	105	24	72.5	4,460
April	99	26	65.8	3,920
May	158	60	113	6,960
June	139	23	88.7	5,280
July	94	16	72.0	4,430
August	97	14	70.0	4,310
September	90	2.9	38.6	2,300
Water year 1969-70	158	2.9	59.2	42,860

08358300 Rio Grande conveyance channel at San Marcial, N. Mex.

LOCATION.--Lat 33°41'07", long 106°59'40", Socorro County, in Pedro Armendaris Grant No. 34, 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 Rio Grande at San Marcial (sta 08358500). 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.--16 years, 508 cfs (368,000 acre-ft per year).

EXTREMES.--1954-70: 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 current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	371	1,550	1,600	1,070	1,080	980	629	740	1,910	174	335	29
2	314	1,610	1,700	959	948	907	613	913	1,820	158	294	27
3	272	1,540	1,700	978	1,030	851	571	723	1,850	161	249	22
4	286	1,600	1,720	951	1,060	786	578	1,040	1,820	148	187	21
5	270	1,650	1,910	913	958	784	505	683	1,860	149	187	21
6	248	1,710	2,060	800	943	888	469	607	1,880	172	300	21
7	248	1,710	2,000	749	970	862	485	530	1,850	169	499	21
8	228	1,690	1,850	737	941	906	443	533	1,840	151	919	20
9	237	1,670	1,530	721	936	860	359	693	1,830	139	822	27
10	226	1,690	1,440	689	914	805	338	1,190	1,810	154	722	34
11	196	1,700	1,420	709	954	875	524	1,650	1,790	148	801	39
12	226	1,700	1,460	760	939	857	810	1,680	1,780	134	499	45
13	240	1,730	1,560	953	984	869	1,430	1,580	1,760	155	499	54
14	306	1,750	1,540	1,160	1,010	816	983	1,610	1,800	168	354	63
15	380	1,800	1,640	1,340	1,060	720	808	1,700	1,800	144	273	56
16	413	1,770	1,750	1,210	1,110	813	727	1,630	1,740	126	363	192
17	467	1,670	1,800	1,040	1,330	709	603	1,750	1,330	150	358	169
18	530	1,820	1,780	1,240	1,340	786	594	1,800	746	134	275	144
19	550	1,790	1,900	1,140	1,320	790	498	1,810	422	116	340	210
20	766	1,650	1,940	1,060	1,330	786	773	1,830	356	195	283	456
21	1,170	1,670	1,690	1,060	1,200	806	542	1,850	316	389	236	970
22	1,780	1,630	1,350	1,090	1,170	814	586	1,890	327	250	184	864
23	1,310	1,610	1,390	1,050	1,190	798	493	1,910	266	296	146	694
24	1,310	1,760	1,350	1,040	1,130	774	444	1,920	238	582	154	600
25	1,170	1,920	1,330	1,070	1,090	758	430	1,950	264	416	168	519
26	1,380	1,960	1,310	1,070	1,090	646	367	1,940	174	446	130	498
27	1,510	2,040	1,190	1,010	1,120	574	366	1,930	186	398	108	409
28	1,620	1,830	1,360	998	1,070	686	413	1,970	183	826	73	350
29	1,670	1,870	1,400	1,070	------	806	368	1,930	176	479	55	371
30	1,710	1,770	1,310	1,120	------	836	529	1,880	179	338	45	340
31	1,690	------	1,180	1,110	------	767	------	1,890	------	341	38	------
TOTAL	23,094	51,860	49,160	30,867	30,217	24,915	17,278	45,752	34,303	7,806	9,896	7,286
MEAN	745	1,729	1,586	996	1,079	804	576	1,476	1,143	252	319	243
MAX	1,780	2,040	2,060	1,340	1,340	980	1,430	1,970	1,910	826	919	970
MIN	196	1,540	1,180	689	914	574	338	530	174	116	38	20
AC-FT	45,810	102,900	97,510	61,220	59,940	49,420	34,270	90,750	68,040	15,480	19,630	14,450

CAL YR 1969 TOTAL 387,836 MEAN 1,063 MAX 2,060 MIN 103 AC-FT 769,300
WTR YR 1970 TOTAL 332,434 MEAN 911 MAX 2,060 MIN 20 AC-FT 659,400

08358400 Rio Grande floodway at San Marcial, N. Mex.

LOCATION.--Lat 33°40'50", long 106°59'30", 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.
12 years (1958-70), 186 cfs (134,800 acre-ft per year), flow in floodway only.
12 years (1958-70), 778 cfs (563,700 acre-ft per year), includes flow of floodway and conveyance channel.

EXTREMES.--Current year: Maximum discharge, 5,120 cfs Oct. 25 (gage height, 13.90 ft); no flow for most of time.
Period of record: Maximum discharge, about 50,000 cfs Oct. 11, 1904; no flow for most of time.

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 current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	419						0	436	0	0	
2	0	492						0	356	0	0	
3	0	372						0	257	0	0	
4	0	317						0	266	0	0	
5	0	179						0	352	0	0	
6	0	203						0	592	0	0	
7	0	168						0	572	0	0	
8	0	124						0	612	0	62	
9	0	162						0	632	0	152	
10	0	233						0	532	0	41	
11	0	191						69	432	0	41	
12	0	136						248	376	0	10	
13	0	25						110	376	0	0	
14	0	4.4						39	287	0	0	
15	0	0						166	492	0	0	
16	0	0						484	412	0	3.8	
17	0	0						620	96	0	37	
18	0	0						680	6.5	0	9.2	
19	0	0						580	0	0	4.3	
20	0	0						444	0	0	0	
21	0	0						376	0	0	0	
22	783	0						452	0	0	0	
23	3,480	0						560	0	0	0	
24	4,100	0						468	0	49	0	
25	4,560	0						317	0	40	0	
26	1,760	0						293	0	27	0	
27	828	0						203	0	4.5	0	
28	388	0						140	0	141	0	
29	200	0			------			484	0	56	0	
30	254	0			------			480	0	2.0	0	
31	372	------			------		------	468	------	0	0	------
TOTAL	16,725	3,025.4	0	0	0	0	0	7,681	7,084.5	319.5	360.3	0
MEAN	540	101	0	0	0	0	0	248	236	10.3	11.6	0
MAX	4,560	492	0	0	0	0	0	680	632	141	152	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	33,170	6,000	0	0	0	0	0	15,240	14,050	634	715	0
(†)	78,980	108,900	97,510	61,220	59,940	49,420	34,270	106,000	82,090	16,110	20,340	14,450

CAL YR 1969 TOTAL 99,906.8 MEAN 274 MAX 4,560 MIN 0 ACFT 198,200 (†) MEAN 1,336 AC-FT 967,500
WAT YR 1970 TOTAL 35,195.7 MEAN 96.4 MAX 4,560 MIN 0 ACFT 69,810 (†) MEAN 1,007 AC-FT 729,200

(†) Combined flow, in acre-ft and mean, in cfs, of Floodway and Conveyance Channel.

08358550 Milligan Gulch near San Marcial, N. Mex.

LOCATION.--Lat 33°39'37", long 107°05'25", in SE¼NE¼ sec.36, T.7 S., R.3 W., near center of span on downstream side of bridge on U.S. Highway 85, and 7.2 miles southwest of San Marcial.

DRAINAGE AREA.--413 sq mi.

PERIOD OF RECORD.--July 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,720 ft (from topographic map).

EXTREMES.--July to September 1968: Maximum during period, 187 cfs Aug. 7 (gage height 2.74 ft) from rating curve extended as explained below, no flow most of time.
Water year 1969: Maximum discharge 2,740 cfs Aug. 29 (gage height 4.50 ft) from rating curve extended as explained below, no flow most of time.
Period of record: Maximum discharge 3,710 cfs July 26 (gage height 4.77 ft) from rating curve extended above 3 cfs on basis of slope-area measurement of peak flow; no flow most of time.

REMARKS.--Records poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										0	6.1	0
2										0	0	0
3										0	0	0
4										0	1.8	0
5										0	0	0
6										0	3.1	0
7										0	2.5	0
8										0	2.9	0
9										0	1.6	0
10										0	.27	1.7
11										0	.26	2.1
12										0	.08	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										1.2	2.9	0
26										2.0	.08	0
27										0	.24	0
28										0	.05	0
29										0	0	0
30					------					0	3.6	0
31		------			------		------		------	0	0	------
TOTAL										3.2	25.48	3.8
MEAN										.10	.82	.13
MAX										2.0	6.1	2.1
MIN										0	0	0
AC-FT										6.4	51	7.5

PEAK DISCHARGE (BASE, 50 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
8-1	2200	2.74	187	8-25	1900	2.56	122
8-8	2300	2.30	60	8-30	0030	2.37	75

08358550 Milligan Gulch near San Marcial, N. Mex., continued

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
2										0	.83	0
3										0	4.0	0
4										0	.42	0
5										0	0	0
6										0	0	0
7										0	0	0
8										0	0	0
9										0	0	0
10										0	0	0
11										0	0	0
12										.73	0	0
13										0	3.1	0
14										0	3.3	0
15										0	0	0
16										0	0	0
17										0	0	0
18										0	0	0
19										0	0	6.8
20										0	0	2.0
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										.60	0	0
29					------					0	180	0
30					------					0	13	0
31		------			------		------		------	0	8.3	------
TOTAL	0	0	0	0	0	0	0	0	0	1.33	212.95	8.8
MEAN	0	0	0	0	0	0	0	0	0	.043	6.87	.29
MAX	0	0	0	0	0	0	0	0	0	.73	180	6.8
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	0	2.6	422	17

WTR YR 1969 TOTAL 223.08 MEAN .61 MAX 180 MIN 0 AC-FT 442

PEAK DISCHARGE (BASE, 50 CFS).--AUGUST 13 (2300) 57 CFS (2.28 FT); AUGUST 29 (1800) 2,740 CFS (4.50 FT).

08358550 Milligan Gulch near San Marcial, N. Mex., concluded

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0									0		
2	0									0		
3	0									0		
4	0									0		
5	0									0		
6	0									0		
7	0									0		
8	0									0		
9	0									0		
10	0									0		
11	0									0		
12	0									0		
13	0									0		
14	0									0		
15	0									0		
16	0									0		
17	0									0		
18	0									0		
19	0									0		
20	0									0		
21	22									0		
22	4.0									0		
23	0									0		
24	0									0		
25	0									0		
26	0									224		
27	0									84		
28	0									0		
29	0				------					0		
30	0				------					0		
31	0	------			------		------		------	0		------
TOTAL	26.0	0	0	0	0	0	0	0	0	308	0	0
MEAN	.84	0	0	0	0	0	0	0	0	9.94	0	0
MAX	22	0	0	0	0	0	0	0	0	224	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	52	0	0	0	0	0	0	0	0	611	0	0

CAL YR 1969 TOTAL 249.08 MEAN .68 MAX 180 MIN 0 AC-FT 494
WTR YR 1970 TOTAL 334.00 MEAN .92 MAX 224 MIN 0 AC-FT 662

PEAK DISCHARGE (BASE, 50 CFS).--OCTOBER 21 (2215) 66 CFS (2.33 FT); JULY 26 (2200) 3,710 CFS (4.77 FT).

08360000 Alamosa Creek near Monticello, N. Mex.

LOCATION.--Lat 33°34'09", long 107°35'33", in SE¼ 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, and 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. See WSP 1732 or 1923 for history of changes prior to July 27, 1958.

AVERAGE DISCHARGE.--22 years (1931-41, 1958-70), 8.31 cfs (6,020 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5,090 cfs July 28 (gage height, 9.14 ft); minimum, 5.2 cfs Oct. 11, 12.

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 August, which are fair. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	6.8	6.8	6.4	7.5	7.3	7.3	6.2	5.8	7.0	7.0	8.1
2	6.2	6.8	7.0	6.6	7.3	7.3	7.3	6.2	5.8	7.3	6.8	7.5
3	6.2	6.8	7.0	6.6	7.3	7.3	7.3	6.0	5.8	7.0	6.8	8.0
4	6.2	7.0	7.0	6.8	7.0	7.3	7.3	6.2	6.0	7.0	6.8	8.0
5	6.0	7.0	6.8	7.0	7.0	7.3	7.3	6.4	6.0	7.3	6.8	7.8
6	5.8	7.0	6.8	6.6	6.8	7.3	7.0	6.4	6.0	7.3	6.8	7.5
7	5.6	7.0	6.8	6.8	6.8	7.0	6.8	6.4	6.0	7.5	6.8	7.3
8	5.6	7.0	6.8	6.8	6.8	7.0	6.8	6.4	6.0	7.5	6.8	7.3
9	5.4	7.0	6.8	6.8	7.0	7.0	6.8	6.4	5.8	7.5	6.8	7.0
10	5.6	6.8	6.8	7.0	6.8	7.0	6.8	6.4	5.8	7.5	7.8	7.0
11	5.2	6.8	6.8	7.0	6.6	7.0	6.8	6.2	6.0	7.3	7.3	7.0
12	5.2	6.8	6.8	7.0	6.6	7.0	6.8	6.2	6.0	7.0	7.3	6.8
13	5.6	6.8	6.8	7.0	6.4	7.0	6.8	6.2	6.0	7.0	7.5	7.0
14	5.8	7.0	7.0	7.0	6.4	7.0	6.6	6.2	6.2	7.0	7.0	6.8
15	6.0	6.8	7.0	7.0	6.4	7.3	6.4	6.2	6.2	7.0	7.5	6.8
16	6.2	6.8	6.8	7.3	6.6	7.0	6.4	6.2	6.0	6.8	6.6	6.8
17	6.4	6.6	6.8	7.3	6.6	6.8	6.4	6.2	6.0	6.8	6.6	6.6
18	6.6	6.6	6.8	7.3	6.6	7.0	6.4	6.0	6.2	6.6	6.6	6.8
19	6.6	6.4	6.8	7.3	6.8	7.0	6.6	6.0	6.2	6.8	6.6	6.8
20	6.8	6.4	6.8	7.0	6.8	7.3	6.4	6.2	6.2	6.8	6.6	6.8
21	7.5	6.4	6.6	7.0	6.8	7.0	6.2	6.2	6.4	34	6.8	6.8
22	7.5	6.4	6.6	7.3	6.8	7.0	6.2	6.2	6.2	9.6	6.8	6.6
23	7.3	6.4	6.6	7.0	7.0	7.3	6.2	6.2	6.2	8.6	6.8	6.6
24	7.0	6.6	6.4	7.0	7.3	7.3	6.2	6.2	6.2	9.1	7.0	6.6
25	7.3	6.6	6.4	7.3	7.3	7.0	6.4	6.2	6.4	30	6.8	6.6
26	7.0	6.6	6.2	7.3	7.3	7.0	6.4	6.2	6.4	7.0	6.8	6.6
27	6.8	6.4	6.2	7.3	7.3	7.0	6.2	6.2	6.4	7.0	6.8	6.4
28	6.6	6.4	6.4	7.3	7.3	7.0	6.2	6.2	6.6	268	6.8	6.4
29	6.6	6.6	6.4	7.3	------	7.3	6.0	6.0	6.6	35	6.8	6.6
30	6.8	6.8	6.2	7.3	------	7.3	6.2	5.8	6.6	7.3	6.8	6.6
31	6.8	------	6.2	7.5	------	7.3	------	5.8	------	7.3	7.0	------
TOTAL	196.4	201.4	207.2	218.2	193.2	220.7	198.5	191.8	184.0	564.9	214.0	209.5
MEAN	6.34	6.71	6.68	7.04	6.90	7.12	6.62	6.19	6.13	18.2	6.90	6.98
MAX	7.5	7.0	7.0	7.5	7.5	7.3	7.3	6.4	6.6	268	7.8	8.1
MIN	5.2	6.4	6.2	6.4	6.4	6.8	6.0	5.8	5.8	6.6	6.6	6.4
AC-FT	390	399	411	433	383	438	394	380	365	1,120	424	416

CAL YR 1969 TOTAL 2,344.2 MEAN 6.42 MAX 86 MIN 5.2 AC-FT 4,650
WAT YR 1970 TOTAL 2,799.8 MEAN 7.67 MAX 268 MIN 5.2 AC-FT 5,550

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
7-21	0300	5.64	1,360	7-28	0130	9.14	5,090
7-25	1800	6.38	2,120				

08360500 Elephant Butte Reservoir at Elephant Butte, N. Mex.

LOCATION.--Lat 33°09'15", long 107°11'28", 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.--January 1940 to September 1965 (monthend contents only), October 1965 to current year. March 1915 to December 1939 (monthend contents only published in WSP 1312).

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, non-recording gages.

EXTREMES.--Current year: Maximum daily contents, 544,200 acre-ft February 8 (gage height, 4,339.43 ft); minimum daily, 167,400 acre-ft Sept. 16 (gage height, 4,303.02 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, 2,137,000 acre-ft (survey of 1969) 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, 1961 and 1969. 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 1969-70 (gage heights, in feet, and contents, in thousands of acre-feet)

Oct. 1 to Dec. 31				Jan. 1 to Sept. 30					
4,300	169.1	4,320	346.6	4,295	118.2	4,315	263.5	4,335	485.1
4,305	207.2	4,325	402.9	4,300	147.6	4,320	311.4	4,340	552.0
4,310	249.1	4,330	463.4	4,305	181.4	4,325	364.1	4,345	624.0
4,315	295.5	4,335	528.2	4,310	220.1	4,330	422.2	4,350	701.7

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	274,900	348,800	446,800	487,000	534,900	530,300	486,300	434,400	443,600	393,400	287,100	185,600
2	275,500	355,000	449,600	488,900	536,400	529,100	484,400	433,100	443,500	389,800	283,900	184,200
3	275,900	358,400	452,800	490,300	537,800	527,700	482,900	431,900	443,600	386,100	280,600	183,000
4	276,200	361,800	456,200	491,900	539,600	526,900	481,200	430,800	443,400	382,500	276,800	181,700
5	276,500	365,400	459,300	493,300	540,900	525,700	479,500	429,700	443,300	378,700	273,400	180,300
6	276,700	368,700	462,600	494,300	542,300	524,400	477,700	428,500	442,800	374,700	269,700	179,100
7	277,100	372,100	466,000	495,400	543,800	522,900	475,500	426,700	441,800	371,000	266,200	177,800
8	277,500	375,700	469,200	496,300	544,200	521,800	474,100	424,900	441,000	367,400	263,100	176,100
9	278,000	379,700	472,200	497,500	543,000	520,500	472,700	423,300	440,800	363,400	260,700	175,500
10	278,300	382,400	474,900	498,500	542,000	518,700	470,500	422,000	440,800	359,900	258,500	173,900
11	278,400	385,800	477,300	499,500	540,900	517,400	468,400	421,300	440,900	356,100	255,800	172,700
12	278,800	389,000	479,700	500,300	539,400	515,400	466,200	421,800	440,700	352,400	253,500	171,400
13	278,800	392,400	482,300	501,200	538,700	514,000	464,500	422,500	440,500	348,400	250,310	170,600
14	279,200	395,700	484,800	503,000	537,900	512,800	463,400	423,100	440,400	344,400	247,300	169,500
15	279,500	398,600	487,400	504,900	537,100	511,800	462,400	423,400	439,900	340,600	244,000	168,000
16	280,100	401,800	490,200	506,900	536,100	509,900	461,000	423,800	439,700	336,900	240,600	167,400
17	280,700	404,900	493,300	509,000	536,000	509,100	459,600	424,900	439,400	333,100	237,000	167,700
18	281,200	407,400	496,500	510,900	535,700	507,500	458,100	426,300	438,400	329,500	234,000	168,000
19	282,000	410,400	499,400	512,400	535,600	506,100	456,400	427,600	436,100	325,700	230,800	168,300
20	283,100	413,500	503,000	514,200	535,200	505,100	454,800	429,400	433,100	321,600	227,400	168,600
21	286,000	416,600	506,000	516,000	535,300	503,700	453,200	430,400	429,900	317,500	224,700	169,100
22	290,100	419,500	508,300	517,900	535,200	502,400	451,400	431,600	426,100	314,300	221,700	170,200
23	294,800	422,900	510,400	519,500	534,200	500,500	451,000	433,000	422,500	310,900	218,000	171,600
24	303,400	424,700	512,900	521,100	533,800	498,800	448,000	434,600	419,200	307,900	214,500	173,000
25	313,900	427,500	514,700	522,800	533,300	497,500	446,300	435,800	415,900	305,100	210,900	174,300
26	324,700	430,800	517,000	524,500	532,500	495,800	444,400	436,900	412,500	302,300	207,200	175,300
27	331,100	434,000	519,000	526,100	531,800	494,000	442,200	438,300	409,000	300,100	203,500	176,400
28	335,800	437,200	521,000	528,000	531,100	492,300	439,900	439,100	405,200	297,700	199,700	177,600
29	339,800	440,600	523,400	529,400	------	490,300	438,100	440,000	400,800	295,500	196,100	178,200
30	343,100	443,800	525,800	531,300	------	488,700	436,000	441,300	396,900	293,300	192,500	179,100
31	346,800	------	a528,200	531,700	------	487,300	------	442,800	------	290,400	188,700	------
MAX	346,800	443,800	528,200	531,700	544,200	530,300	486,300	442,800	443,600	393,400	287,100	185,600
MIN	274,900	348,800	446,800	487,000	531,100	487,300	436,000	421,300	396,900	290,400	188,700	167,400
(†)	4,320.01	4,328.42	4,335.00	4,338.51	4,338.47	4,335.17	4,331.12	4,331.67	4,327.88	4,317.86	4,305.99	4,304.68
(‡)	+72,800	+97,000	+84,400	+46,600	-600	-43,800	-51,300	+6,800	-45,900	-106,500	-101,700	-9,600

CAL YR 1969 . . . . . ‡ +194,600
WTR YR 1970 . . . . . ‡ -64,300

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

a. Contents from capacity table used prior to Jan. 1, 1970; contents Dec. 31, 1969, from capacity table used subsequent to Jan. 1, 1970, is 485,100 acre-feet.

NOTE.--Contents on Sept. 30, 1969, from capacity table effective Jan. 1, 1970 is 243,400 acre-feet. Change in contents for 1970 water year obtained by using this value.

08361000 Rio Grande below Elephant Butte Dam, N. Mex.

LOCATION.--Lat 33°08'54", long 107°12'22", 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, are unreliable.

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.--55 years, 1,009 cfs (731,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,160 cfs July 8 (gage height, 6.27 ft); minimum, 1.1 cfs Nov. 15.
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 November and April to July, which are fair. Flow regulated by Elephant Butte Reservoir (see sta 08360500). Diversion for irrigation of about 800,000 acres above station.

REVISIONS(WATER YEARS).--WSP 1562: 1920. WSP 1632: Drainage area. WSP 1732: 1917, 1920. See also PERIOD OF RECORD.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.8	2.3	11	11	6.5	1,350	1,360	1,410	1,880	2,070	2,000	667
2	7.6	1.4	8.5	11	6.6	1,350	1,350	1,420	1,890	2,070	1,990	641
3	9.0	1.4	9.0	11	9.0	1,350	1,360	1,450	1,890	2,070	1,960	644
4	9.2	2.2	11	11	10	1,350	1,350	1,450	1,900	2,070	1,950	638
5	8.2	8.0	9.1	9.5	62	1,350	1,350	1,460	1,910	2,070	1,940	636
6	8.0	32	9.3	8.5	13	1,350	1,340	1,450	1,910	2,080	1,920	636
7	7.9	25	11	8.5	13	1,340	1,330	1,450	1,920	2,080	1,900	635
8	8.0	18	11	8.5	1,250	1,340	1,320	1,430	1,930	2,090	1,890	633
9	8.8	13	9.8	8.5	1,340	1,350	1,310	1,410	1,940	2,100	1,870	633
10	9.1	11	9.5	8.9	1,320	1,350	1,320	1,400	1,940	2,100	1,850	638
11	11	8.8	9.9	9.0	1,360	1,350	1,330	1,390	1,950	2,100	1,840	631
12	9.7	7.2	10	8.9	1,390	1,340	1,330	1,380	1,960	2,100	1,830	629
13	9.0	29	9.0	8.7	1,390	1,350	1,320	1,370	1,970	2,090	1,830	629
14	8.8	2.6	8.6	8.7	1,390	1,340	1,340	1,360	1,980	2,090	1,820	629
15	8.7	1.1	8.3	8.5	1,390	1,340	1,340	1,360	1,990	2,080	1,820	648
16	9.0	1.8	8.4	8.5	1,380	1,340	1,320	1,380	1,990	2,080	1,810	42
17	9.2	1.8	8.7	8.4	1,380	1,350	1,300	1,400	1,990	2,090	1,800	15
18	10	5.2	7.9	8.7	1,350	1,340	1,290	1,410	2,000	2,080	1,790	14
19	10	5.2	8.3	8.5	1,380	1,350	1,280	1,410	2,000	2,080	1,810	13
20	9.5	5.0	8.0	8.5	1,390	1,360	1,260	1,410	2,000	2,080	1,830	12
21	41	8.0	7.7	9.0	1,380	1,360	1,270	1,410	2,000	2,070	1,420	11
22	16	7.5	7.3	9.5	1,380	1,370	1,270	1,390	2,000	2,060	1,840	11
23	11	7.6	7.0	9.0	1,380	1,370	1,260	1,390	2,010	2,050	1,860	11
24	10	6.9	9.1	9.0	1,380	1,370	1,280	1,380	2,020	2,030	1,880	11
25	9.8	6.5	9.0	8.5	1,370	1,370	1,290	1,370	2,030	2,030	1,900	10
26	10	7.0	9.9	8.0	1,370	1,370	1,320	1,350	2,040	2,030	1,910	9.5
27	7.5	7.0	9.9	8.0	1,370	1,370	1,330	1,340	2,040	2,010	1,930	9.5
28	5.8	7.0	7.5	7.0	1,350	1,370	1,330	1,320	2,050	2,020	1,950	9.5
29	3.2	7.0	8.1	6.5	------	1,380	1,340	1,310	2,050	2,000	1,970	9.5
30	2.8	7.2	9.4	6.5	------	1,380	1,360	1,310	2,060	2,000	1,990	14
31	2.6	------	10	7.0	------	1,370	------	1,320	------	2,010	2,010	------
TOTAL	298.2	253.7	281.2	270.8	28,810.1	42,020	39,550	43,090	59,240	63,980	58,110	9,769.0
MEAN	9.62	8.46	9.07	8.74	1,029	1,355	1,318	1,390	1,975	2,064	1,875	326
MAX	41	32	11	11	1,390	1,380	1,360	1,460	2,060	2,100	2,010	667
MIN	2.6	1.1	7.0	6.5	6.5	1,340	1,260	1,310	1,880	2,000	1,420	9.5
AC-FT	591	503	558	537	57,140	83,350	78,450	85,470	117,500	126,900	115,300	19,380

CAL YR 1969 TOTAL 346,572.1 MEAN 950 MAX 2,260 MIN 1.1 AC-FT 687,400
WTR YR 1970 TOTAL 345,673.0 MEAN 947 MAX 2,100 MIN 1.1 AC-FT 685,600

08362000 Caballo Reservoir near Arrey, N. Mex.

LOCATION.--Lat 32°53'47", 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, 84,180 acre-ft Mar. 9 (gage height, 4,150.68 ft); minimum daily, 20,540 acre-ft Sept. 20 (gage height, 4,132.73 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 1969-70 (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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38,430	40,640	41,430	43,170	44,450	83,780	47,070	53,060	51,700	60,020	51,020	48,470
2	38,460	40,670	41,560	43,230	44,520	83,830	45,720	53,470	52,600	59,400	52,150	46,620
3	38,430	40,670	41,620	43,260	44,520	83,930	44,690	53,920	53,360	59,030	53,320	44,590
4	38,460	40,670	41,720	43,260	44,560	83,520	44,210	54,420	54,110	59,200	54,420	42,610
5	38,590	40,710	41,920	43,330	44,620	82,970	43,730	54,930	54,970	59,320	54,810	40,610
6	38,620	40,770	41,980	43,430	44,830	82,620	43,400	55,520	56,000	59,530	55,880	39,060
7	38,590	40,800	41,980	43,430	44,900	82,220	43,170	56,080	57,180	59,770	57,060	37,680
8	38,620	40,900	42,020	43,460	45,380	82,620	43,200	56,590	58,490	59,200	58,530	36,490
9	38,650	40,940	42,080	43,490	48,460	84,180	43,300	56,790	60,100	58,860	60,150	35,150
10	38,720	40,970	42,180	43,530	49,840	83,880	43,560	57,020	61,510	57,890	61,880	33,820
11	38,720	41,000	42,250	43,560	52,380	83,070	44,140	57,100	62,800	57,380	63,540	32,480
12	38,750	41,030	42,280	43,590	54,770	82,170	44,760	57,140	63,920	56,830	64,350	31,310
13	38,750	41,070	42,310	43,630	57,300	81,210	45,520	57,020	64,740	56,350	64,650	30,160
14	38,750	41,100	42,380	43,660	59,770	79,800	46,140	56,710	65,430	55,680	64,700	29,210
15	38,780	41,230	42,410	43,700	62,170	79,350	46,620	56,310	66,080	54,530	64,350	28,140
16	38,840	41,230	42,510	43,760	64,440	77,000	46,960	55,600	66,720	53,510	63,060	25,960
17	38,870	41,260	42,540	43,800	66,720	75,190	47,070	55,090	66,640	52,450	61,550	23,100
18	38,870	41,300	42,610	43,870	69,140	73,330	47,100	54,570	66,510	51,090	60,060	21,430
19	38,870	41,300	42,640	43,900	71,380	71,060	47,140	54,110	66,290	49,740	58,620	20,560
20	39,030	41,230	42,670	43,940	73,750	68,910	47,460	53,280	65,730	48,190	57,260	20,540
21	39,620	41,260	42,710	43,970	76,220	66,900	47,750	52,490	65,170	46,930	55,360	20,720
22	40,340	41,300	42,740	44,000	78,640	64,960	48,190	51,770	64,520	45,790	53,400	20,760
23	40,610	41,300	42,770	44,110	80,710	62,800	48,620	51,390	64,220	44,660	51,770	20,880
24	40,640	41,260	42,870	44,180	81,520	60,770	49,010	51,200	63,710	43,660	50,420	20,970
25	40,710	41,260	42,900	44,210	82,020	58,950	49,560	50,980	63,230	43,360	49,380	21,060
26	40,770	41,260	42,900	44,280	82,470	56,940	50,280	50,830	62,850	43,630	49,230	21,100
27	40,640	41,300	42,900	44,280	83,020	55,010	50,830	50,830	62,500	44,860	49,120	21,170
28	40,610	41,300	43,030	44,310	83,520	53,170	51,390	50,900	62,010	45,420	49,050	21,240
29	40,610	41,330	43,100	44,350	------	51,280	52,150	51,050	61,390	47,000	48,870	21,290
30	40,610	41,360	43,100	44,350	------	49,480	52,640	51,170	60,770	48,440	48,800	21,390
31	40,610	------	43,100	44,380	------	47,820	------	51,320	------	49,840	48,760	------
MAX	40,770	41,360	43,100	44,380	83,520	84,180	52,640	57,140	66,720	60,020	64,700	48,470
MIN	38,430	40,640	41,430	43,170	44,450	47,820	43,170	50,830	51,700	43,360	48,760	20,540
(†)	4,140.09	4,140.32	4,140.85	4,141.23	4,150.55	4,142.22	4,143.53	4,143.18	4,145.58	4,142.78	4,142.48	4,133.10
(‡)	+2,240	+750	+1,740	+1,280	+39,140	-35,700	+4,820	-1,320	+9,450	-10,930	-1,080	-27,370

CAL YR 1969 . . . . . .‡ -1,830
WTR YR 1970 . . . . . .‡ -16,980

† 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°17'31", 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, 1.2 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.--32 years, 885 cfs (641,200 acre-ft per year).

EXTREMES.--Current year: Maximum daily discharge, 2,690 cfs August 23, minimum daily, 1.0 cfs Oct. 30, Nov. 18, 19, 24, 25, Dec. 23 to 31.
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, 2,137,000 acre-ft, 1969 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 by passes 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	1.2	1.3	1.3	1.2	1,090	1,800	1,040	1,260	2,260	1,330	1,680
2	2.2	1.2	1.3	1.3	1.3	1,150	1,840	1,030	1,400	2,170	1,330	1,660
3	2.1	1.3	1.5	1.3	1.4	1,320	1,680	1,040	1,540	1,940	1,310	1,620
4	2.3	1.3	1.5	1.3	1.4	1,450	1,490	1,040	1,480	1,760	1,540	1,550
5	2.2	1.4	1.5	1.3	1.5	1,450	1,460	1,010	1,400	1,730	1,530	1,480
6	2.2	1.4	1.3	1.3	1.4	1,410	1,460	985	1,300	1,700	1,350	1,390
7	2.2	1.4	1.3	1.3	1.4	1,260	1,360	997	1,260	1,930	1,280	1,290
8	2.0	1.3	1.4	1.3	1.3	426	1,320	1,070	1,110	2,150	1,200	1,240
9	1.9	1.3	1.4	1.3	1.2	757	1,240	1,160	1,060	2,140	1,100	1,280
10	1.8	1.2	1.4	1.3	1.2	1,620	1,130	1,200	1,200	2,090	1,020	1,260
11	1.6	1.2	1.2	1.3	1.1	1,610	1,020	1,220	1,190	2,050	1,210	1,240
12	1.4	1.2	1.2	1.4	1.1	1,610	988	1,260	1,290	2,040	1,570	1,200
13	1.2	1.2	1.2	1.4	1.2	1,810	969	1,380	1,380	2,050	1,730	1,160
14	1.2	1.2	1.2	1.4	1.2	1,940	1,050	1,460	1,430	2,250	1,840	1,140
15	1.2	1.2	1.3	1.4	1.2	1,930	1,110	1,490	1,440	2,380	2,220	1,370
16	1.2	1.2	1.4	1.4	1.2	1,920	1,140	1,550	1,610	2,300	2,490	1,640
17	1.3	1.2	1.4	1.4	1.2	2,230	1,240	1,520	1,880	2,410	2,570	1,270
18	1.4	1.0	1.4	1.4	1.2	2,340	1,270	1,480	1,880	2,570	2,600	719
19	1.5	1.0	1.2	1.5	1.2	2,340	1,160	1,570	1,980	2,630	2,580	356
20	1.7	1.2	1.2	1.5	1.2	2,320	1,070	1,660	2,110	2,560	2,570	8.5
21	2.1	1.2	1.2	1.5	1.2	2,310	1,080	1,640	2,100	2,480	2,590	8.0
22	2.0	1.2	1.1	1.5	1.2	2,300	1,090	1,500	2,020	2,460	2,650	7.0
23	1.7	1.2	1.0	1.5	318	2,300	1,080	1,370	2,060	2,450	2,690	5.0
24	1.6	1.0	1.0	1.5	939	2,250	1,010	1,370	2,100	2,260	2,620	3.0
25	1.5	1.0	1.0	1.5	944	2,220	957	1,370	2,070	1,870	2,180	3.0
26	1.4	1.1	1.0	1.5	953	2,210	890	1,290	2,070	1,720	1,900	3.0
27	1.2	1.1	1.0	1.5	968	2,200	892	1,220	2,060	1,700	1,900	3.0
28	1.1	1.1	1.0	1.5	934	2,180	943	1,230	2,130	1,460	1,850	2.8
29	1.1	1.2	1.0	1.5	------	2,160	1,000	1,240	2,110	1,240	1,870	2.8
30	1.0	1.3	1.0	1.5	------	2,150	1,040	1,250	2,200	1,200	1,910	2.8
31	1.1	------	1.0	1.5	------	1,940	------	1,260	------	1,260	1,770	------
TOTAL	50.6	36.0	37.9	43.6	5,083.5	56,203	35,779	39,902	50,120	63,210	58,300	24,593.9
MEAN	1.63	1.20	1.22	1.41	182	1,813	1,193	1,287	1,671	2,039	1,881	820
MAX	2.3	1.4	1.5	1.5	968	2,340	1,840	1,660	2,200	2,630	2,690	1,680
MIN	1.0	1.0	1.0	1.3	1.1	426	890	985	1,060	1,200	1,020	2.8
AC-FT	100	71	75	86	10,080	111,500	70,970	79,150	99,410	125,400	115,600	48,780
(†)	0	0	0	0	0	241	83	49	119	178	143	146

CAL YR 1969 TOTAL 336,611.0 MEAN 922 MAX 2,930 MIN 1.0 ACFT 667,700
WAT YR 1970 TOTAL 333,349.5 MEAN 913 MAX 2,690 MIN 1.0 ACFT 661,200

† 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°17'15", long 106°43'43", Dona Ana County, in Dona Ana Bend Colony Grant, 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.--8 years, 0.22 cfs (159 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 66 cfs Oct. 21 (gage height, 2.03 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 current year 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 1969 to September 1970

Flow event	Date	Outflow (hours)	Maximum (cfs)	Cfs-days	Runoff (acre-ft)
43	Oct. 8, 9, 10	28.25	24.0	6.7	13
44	Oct. 21, 22, 23, 24	72.50	66.0	89	176
Totals		100.75	-	95.7	189

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 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.--33 years (1937-70), 534 cfs (386,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,420 cfs July 25 (gage height, 6.44 ft); minimum, 50.4 cfs Feb. 20.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	256	126	112	111	76.2	482	825	430	729	949	829	1,020
2	241	102	117	108	77.3	402	684	477	709	963	745	889
3	217	143	133	101	77.1	385	719	499	696	1,030	766	781
4	202	132	166	102	77.0	480	728	531	684	951	760	667
5	199	130	140	102	75.5	534	741	604	700	1,060	661	608
6	191	122	142	112	73.1	754	768	516	679	973	684	657
7	191	117	134	102	71.6	759	754	508	690	885	773	719
8	186	116	130	99.8	69.5	825	763	478	704	790	577	714
9	180	114	124	92.0	65.7	840	681	461	709	778	661	676
10	171	114	120	84.4	68.7	499	656	498	647	916	689	491
11	165	113	118	86.2	70.8	212	675	596	511	925	653	512
12	162	111	114	88.1	69.9	616	577	609	562	948	429	541
13	149	113	112	90.0	68.6	757	598	627	584	1,100	329	589
14	150	109	114	88.2	68.2	768	565	627	621	1,080	362	580
15	150	106	112	88.3	65.4	987	527	661	726	1,010	590	538
16	144	114	112	86.5	62.8	1,000	516	701	827	1,050	644	468
17	138	109	112	84.7	64.0	953	539	748	772	1,050	945	471
18	134	105	112	84.8	63.5	909	581	861	795	990	1,210	509
19	134	102	108	84.9	58.9	904	679	871	821	1,180	1,280	571
20	136	104	108	86.8	53.3	861	796	759	836	1,480	1,170	488
21	151	109	104	85.0	54.4	882	764	797	960	1,540	1,130	803
22	234	112	106	65.7	54.7	805	645	873	1,110	1,280	1,240	436
23	212	109	108	94.8	56.3	830	601	859	1,030	1,160	1,340	382
24	275	106	108	86.0	66.5	849	591	855	1,140	1,190	1,450	340
25	197	109	106	123	59.3	741	604	798	1,020	1,810	1,470	290
26	157	119	108	92.2	165	707	638	769	900	1,100	1,240	260
27	143	117	112	82.9	430	762	593	802	831	1,260	967	250
28	150	119	110	81.5	546	876	529	768	817	1,240	892	250
29	163	113	108	75.9	------	911	479	648	853	1,080	884	254
30	155	110	106	75.5	------	1,150	459	657	919	1,270	954	256
31	133	------	104	77.4	------	946	------	683	------	872	1,010	------
TOTAL	5,466	3,425	3,620	2,822.6	2,809.3	23,386	19,275	20,571	23,582	33,910	27,334	16,010
MEAN	176	114	117	91.1	100	754	642	664	786	1,094	882	534
MAX	275	143	166	123	546	1,150	825	873	1,140	1,810	1,470	1,020
MIN	133	102	104	65.7	53.3	212	459	430	511	778	329	250
AC-FT	10,842	6,793	7,180	5,599	5,572	46,386	38,232	40,803	46,775	67,260	54,217	31,756

CAL YR 1969 TOTAL 184,223.6 MEAN 505 MAX 1,660 MIN 23.4 AC-FT 365,407
WTR YR 1970 TOTAL 182,210.9 MEAN 499 MAX 1,810 MIN 53.3 AC-FT 361,415

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.--7 years, 28.0 cfs (20,290 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 158 cfs May 17 (gage height, 2.47 ft); minimum, 2.6 cfs Mar. 23, 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 1970 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	30	8.8	4.5	2.9	5.0	7.7	31	62	27	29	28
2	18	27	9.4	4.2	2.9	5.0	7.7	27	59	26	34	26
3	18	27	9.8	4.2	2.8	5.0	9.4	27	55	25	32	24
4	17	26	10	4.2	2.8	5.0	10	30	55	24	30	22
5	16	24	10	4.2	2.8	4.9	10	38	52	22	27	23
6	16	23	8.4	4.1	2.9	5.0	12	42	52	20	33	21
7	15	23	7.0	4.1	2.9	5.2	20	49	51	21	30	20
8	15	22	7.0	4.1	2.9	5.2	19	60	48	26	28	18
9	15	22	7.0	4.2	3.0	5.2	21	62	45	22	26	17
10	14	22	7.0	4.3	3.0	4.8	21	73	43	19	44	16
11	15	22	6.6	4.6	3.0	4.5	22	93	46	18	38	15
12	19	21	7.0	5.0	3.1	4.7	19	110	42	16	36	17
13	16	20	7.2	5.2	3.1	5.0	18	123	39	16	34	38
14	17	19	7.4	5.4	3.2	5.2	18	130	41	15	33	25
15	17	18	7.4	5.4	3.3	5.4	16	135	41	22	33	22
16	15	21	7.4	5.4	3.4	5.4	18	133	37	25	35	20
17	16	18	7.4	5.4	3.4	5.0	22	140	34	19	43	19
18	18	15	7.4	5.4	3.4	4.6	21	145	32	17	39	18
19	20	6.0	7.4	5.6	3.3	4.3	18	142	30	19	49	17
20	17	7.0	7.4	5.8	3.1	4.0	16	135	30	22	53	17
21	20	9.0	7.4	5.8	3.0	4.6	16	130	40	20	57	15
22	42	9.0	7.4	5.8	3.3	5.4	15	125	50	21	51	16
23	36	9.0	7.4	5.4	3.7	5.8	17	115	47	27	46	16
24	36	8.8	7.6	5.4	4.0	6.4	20	103	38	29	44	15
25	37	8.8	7.8	5.0	4.3	7.0	25	97	35	31	41	14
26	38	8.4	8.1	4.0	4.7	7.6	33	96	35	33	38	14
27	36	8.0	7.8	3.5	5.0	7.2	39	92	34	32	34	13
28	35	7.4	7.2	3.0	5.0	9.0	41	85	31	43	31	13
29	35	8.0	6.2	2.8	------	9.0	39	77	30	38	28	13
30	32	8.4	5.6	2.9	------	8.4	35	71	28	33	27	12
31	29	------	5.2	3.0	------	8.2	------	66	------	28	30	------
TOTAL	709	497.8	234.7	141.9	94.2	177.0	605.8	2,782	1,262	756	1,133	564
MEAN	22.9	16.6	7.57	4.58	3.36	5.71	20.2	89.7	42.1	24.4	36.5	18.8
MAX	42	30	10	5.8	5.0	9.0	41	145	62	43	57	38
MIN	14	6.0	5.2	2.8	2.8	4.0	7.7	27	28	15	26	12
AC-FT	1,410	987	466	281	187	351	1,200	5,520	2,500	1,500	2,250	1,120

CAL YR 1969 TOTAL 13,321.4 MEAN 36.5 MAX 258 MIN 3.5 AC-FT 26,420
WTR YR 1970 TOTAL 8,957.4 MEAN 24.5 MAX 145 MIN 2.8 AC-FT 17,770

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.H.	DISCHARGE
5-17	2330	2.47	158

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.--51 years, 98.1 cfs (71,070 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 338 cfs May 17 (gage height, 3.16 ft); minimum, 2.2 cfs Mar. 19, 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, 2.2 cfs Mar. 19, 1970, 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. Records of chemical analyses and water temperatures for the water year 1970 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 898: Drainage area. WSP 1312: 1932(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	72	32	22	21	23	19	83	170	76	121	85
2	53	63	30	21	20	23	18	70	161	75	140	78
3	52	65	32	20	20	22	21	70	151	75	127	68
4	50	63	34	22	20	21	27	85	154	70	119	65
5	48	62	35	20	20	21	29	106	149	70	107	68
6	48	60	33	18	20	21	38	114	146	63	126	64
7	47	56	28	19	21	20	50	132	149	73	120	62
8	46	56	28	20	20	21	48	156	146	85	118	55
9	46	55	28	21	20	21	58	156	132	71	104	52
10	46	56	28	21	20	21	52	178	125	62	120	50
11	47	55	28	21	20	22	63	213	134	57	116	49
12	65	55	29	21	20	21	50	246	131	55	101	52
13	55	52	30	20	20	26	48	268	123	51	96	126
14	55	48	30	20	20	23	48	282	132	50	95	79
15	56	47	32	20	19	22	47	290	137	64	96	64
16	53	55	31	20	20	19	50	286	122	82	97	61
17	55	48	30	21	22	19	60	302	115	71	119	56
18	60	26	29	21	21	17	62	309	109	59	107	52
19	68	50	29	20	21	16	52	309	104	62	120	51
20	58	52	30	21	22	17	46	294	103	76	132	52
21	56	56	30	22	19	23	42	282	115	66	138	48
22	102	52	30	23	21	18	41	275	121	92	119	50
23	89	47	30	23	20	17	46	264	132	128	114	54
24	85	42	31	22	21	18	55	250	109	122	103	53
25	83	42	30	22	20	19	70	239	104	133	99	47
26	83	40	30	21	21	19	93	236	97	141	93	44
27	81	38	30	21	21	19	112	233	95	123	89	44
28	78	30	28	19	22	23	114	220	88	203	82	43
29	80	34	25	17	------	20	108	201	87	160	78	43
30	72	33	23	18	------	20	95	186	83	135	75	41
31	70	------	23	22	------	19	------	178	------	121	81	------
TOTAL	1,940	1,510	916	639	572	631	1,662	6,513	3,724	2,771	3,352	1,756
MEAN	62.6	50.3	29.5	20.6	20.4	20.4	55.4	210	124	89.4	108	58.5
MAX	102	72	35	23	22	26	114	309	170	203	140	126
MIN	46	26	23	17	19	16	18	70	83	50	75	41
AC-FT	3,850	3,000	1,820	1,270	1,130	1,250	3,300	12,920	7,390	5,500	6,650	3,480

CAL YR 1969 TOTAL 36,943 MEAN 101 MAX 524 MIN 12 AC-FT 73,280
WTR YR 1970 TOTAL 25,986 MEAN 71.2 MAX 309 MIN 16 AC-FT 51,540

PEAK DISCHARGE (BASE, 310 CFS)

DATE	TIME	G.H.	DISCHARGE
5-17	2330	3.16	338

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.--57 years (1910-15, 1916-24, 1926-70), 134 cfs (97,080 acre-ft per year).
EXTREMES.--Current year: Maximum discharge, 9,320 cfs July 20 (gage height, 11.22 ft); minimum, 0.08 cfs Dec. 31, result of freezeup. 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. Records of chemical analyses and water temperatures for the water year 1970 are published in Part 2 of this report.
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 1969 to September 1970

DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE
Oct. 15	44.8	Feb. 11	0	June 3	23.4
Nov. 5	*14	Mar. 13	0	4	*1
26	12.7	Apr. 9	42.2	Sep. 9	0
Dec. 15	14.4	28	34.1		
Jan. 14	*2	May 19	*28		

* Estimate

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	123	37	11	25	23	25	49	114	2.7	181	46
2	62	99	46	11	25	23	24	44	105	3.9	275	92
3	35	92	51	11	27	23	18	42	95	10	180	88
4	31	91	54	12	25	25	9.5	32	97	9.9	163	76
5	25	89	55	9.0	29	24	9.3	19	105	9.4	131	68
6	24	90	51	12	35	23	9.9	28	107	7.2	87	61
7	17	86	42	27	32	23	9.6	37	101	8.1	83	51
8	17	83	39	30	32	24	12	49	100	10	95	49
9	15	82	40	29	26	23	15	73	88	55	80	43
10	15	81	42	35	26	22	24	84	83	42	222	38
11	14	80	43	40	27	27	32	100	69	13	156	38
12	14	80	38	50	26	30	23	119	68	13	190	36
13	26	68	48	60	25	28	32	154	72	11	213	37
14	32	44	51	50	23	27	32	184	64	34	144	257
15	22	43	42	43	28	22	44	204	54	26	127	154
16	22	42	25	42	28	23	49	225	53	71	116	97
17	23	41	24	39	25	20	35	222	29	45	255	85
18	21	43	24	32	22	22	35	228	21	26	146	74
19	35	41	26	36	24	24	33	238	19	21	158	63
20	38	39	25	37	27	26	30	250	14	1,330	194	318
21	45	43	24	37	28	24	29	236	12	400	582	89
22	952	53	24	37	27	24	28	230	16	111	197	69
23	348	54	23	38	32	22	29	222	21	423	157	64
24	213	53	23	36	27	25	25	200	30	1,380	139	69
25	146	50	23	34	27	23	12	188	27	994	150	66
26	133	48	23	31	26	24	6.6	201	20	490	122	67
27	132	46	22	29	26	30	12	190	12	317	98	61
28	123	44	21	28	23	30	31	184	10	449	70	54
29	131	38	14	25	------	32	47	172	26	493	57	57
30	150	31	10	25	------	24	51	145	8.6	278	44	54
31	138	------	12	24	------	22	------	128	------	221	33	------
TOTAL	3,069	1,897	1,022	960.0	753	762	771.9	4,477	1,640.6	7,304.2	4,845	2,421
MEAN	99.0	63.2	33.0	31.0	26.9	24.6	25.7	144	54.7	236	156	80.7
MAX	952	123	55	60	35	32	51	250	114	1,380	582	318
MIN	14	31	10	9.0	22	20	6.6	19	8.6	2.7	33	36
AC-FT	6,090	3,760	2,030	1,900	1,490	1,510	1,530	8,880	3,250	14,490	9,610	4,800

CAL YR 1969 TOTAL 48,943.8 MEAN 134 MAX 1,680 MIN 1.0 AC-FT 97,080
WTR YR 1970 TOTAL 29,922.7 MEAN 82.0 MAX 1,380 MIN 2.7 AC-FT 59,350

PEAK DISCHARGE (BASE, 3,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
7-20	2000	11.22	9,320	7-23	2400	10.29	7,640

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.--54 years (1916-70), 19.6 cfs (14,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 166 cfs Oct. 22 (gage height, 2.40 ft); minimum, 3.8 cfs July 13, 14, 15.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	50	12	8.0	8.5	7.0	9.2	26	19	5.5	29	14
2	16	45	13	8.0	8.5	7.7	8.0	25	18	5.2	37	13
3	15	41	14	8.5	8.5	7.4	11	22	17	7.9	25	11
4	15	37	15	9.0	8.5	6.7	13	22	17	6.6	21	10
5	14	33	14	8.5	8.0	7.2	15	23	19	5.7	18	11
6	14	32	12	8.5	8.0	7.4	20	25	19	5.2	19	9.6
7	13	31	12	9.0	7.4	6.2	27	30	17	4.7	18	8.5
8	12	29	12	9.0	7.4	6.7	27	34	16	6.3	18	8.1
9	12	27	12	9.0	7.2	7.2	31	34	14	6.8	19	7.4
10	11	27	13	9.0	7.2	7.2	30	34	12	5.2	72	7.0
11	11	26	14	9.0	7.2	6.7	33	37	12	4.8	52	6.9
12	15	26	14	9.0	6.7	6.4	31	40	12	4.4	50	7.2
13	15	25	12	8.5	7.2	6.7	27	43	10	4.2	44	20
14	15	24	11	8.0	7.0	7.2	25	43	10	3.9	35	19
15	15	23	11	8.0	6.7	8.3	22	43	10	4.1	30	13
16	13	23	12	8.5	6.4	8.6	21	40	8.9	5.5	26	12
17	13	23	11	9.5	7.0	7.2	23	37	8.0	5.2	27	10
18	13	15	10	8.9	7.4	7.7	26	38	7.4	4.7	23	9.1
19	14	17	10	8.6	7.2	6.4	24	38	7.4	4.6	25	8.9
20	14	19	10	8.6	6.4	7.2	23	36	7.0	5.6	26	9.1
21	15	20	10	8.6	7.7	6.7	21	34	9.4	8.8	34	8.0
22	113	18	10	8.3	7.2	7.4	20	31	15	11	29	8.1
23	99	17	9.8	8.6	7.0	7.2	20	29	11	8.6	27	9.4
24	99	16	8.9	8.6	7.0	8.6	21	27	8.9	8.7	27	8.6
25	88	15	8.9	8.3	7.4	8.9	22	26	7.5	20	26	7.7
26	82	14	8.9	8.3	6.7	7.2	25	27	6.8	38	22	7.9
27	75	13	10	8.3	7.0	8.9	30	24	6.3	25	19	7.3
28	69	11	9.5	8.6	7.0	8.3	30	23	5.5	55	17	7.2
29	71	12	9.5	7.5	------	8.6	30	22	5.1	52	15	7.1
30	61	12	9.0	8.0	------	9.2	27	21	6.8	35	14	6.9
31	55	------	9.0	9.0	------	8.9	------	19	------	27	13	------
TOTAL	1,105	721	347.5	265.2	205.4	233.0	692.2	953	343.0	395.2	857	293.0
MEAN	35.6	24.0	11.2	8.55	7.34	7.52	23.1	30.7	11.4	12.7	27.6	9.77
MAX	113	50	15	9.5	8.5	9.2	33	43	19	55	72	20
MIN	11	11	8.9	7.5	6.4	6.2	8.0	19	5.1	3.9	13	6.9
AC-FT	2,190	1,430	689	526	407	462	1,370	1,890	680	784	1,700	581

CAL YR 1969 TOTAL 7,961.8 MEAN 21.8 MAX 113 MIN 2.9 AC-FT 15,790
WTR YR 1970 TOTAL 6,410.5 MEAN 17.6 MAX 113 MIN 3.9 AC-FT 12,720

PEAK DISCHARGE (BASE, 250 CFS).--No peak above base.

08382500 Gallinas River near Colonias, N. Mex.

LOCATION.--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.--19 years, 16.1 cfs (11,660 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,180 cfs Oct. 22 (gage height, 6.72 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	8.4	2.1	.10						0	72	0
2	.49	8.0	1.9	.05						0	244	0
3	.13	7.8	2.1	.15						0	91	0
4	0	8.0	2.9	.25						0	31	0
5	0	7.2	3.5	.10						0	13	0
6	0	6.2	2.7	.05						0	7.0	0
7	0	5.5	2.9	.05						0	4.5	0
8	0	5.1	2.9	.15						0	3.0	0
9	0	4.9	2.9	.10						0	1.8	0
10	0	4.7	2.9	.50						0	4.0	0
11	0	4.3	2.4	1.2						0	7.2	0
12	0	3.9	2.2	1.1						0	3.3	0
13	0	3.7	2.4	.49						0	1.1	0
14	0	3.5	2.4	.07						0	.25	0
15	0	3.9	2.4	0						0	0	32
16	0	3.5	2.2	0						0	0	34
17	0	3.5	2.1	0						0	0	11
18	0	3.3	2.1	0						0	0	4.9
19	0	3.0	2.2	0						0	0	2.4
20	0	2.9	2.1	0						0	1.7	.94
21	0	2.7	2.1	0						328	110	.05
22	489	2.5	2.1	0						100	35	0
23	372	2.7	1.8	0						55	23	7.5
24	132	3.2	1.5	0						98	9.8	3.5
25	58	3.2	1.7	0						29	5.1	1.3
26	32	3.1	1.7	0						18	2.1	.16
27	23	2.9	1.5	0						10	0	0
28	18	2.9	1.0	0						4.7	0	0
29	17	2.5	.50	0	------					16	0	0
30	12	2.2	.25	0	------					55	0	0
31	9.4	------	.10	0	------		------		------	35	0	------
TOTAL	1,164.22	129.2	63.55	4.36	0	0	0	0	0	748.7	669.85	97.75
MEAN	37.6	4.31	2.05	.14	0	0	0	0	0	24.2	21.6	3.26
MAX	489	8.4	3.5	1.2	0	0	0	0	0	328	244	34
MIN	0	2.2	.10	0	0	0	0	0	0	0	0	0
AC-FT	2,310	256	126	8.7	0	0	0	0	0	1,490	1,330	194

CAL YR 1969 TOTAL 6,335.24 MEAN 17.4 MAX 841 MIN 0 ACFT 12,570
WAT YR 1970 TOTAL 2,877.63 MEAN 7.88 MAX 489 MIN 0 ACFT 5,710

PEAK DISCHARGE (BASE, 1,700 CFS).--No peak above base.

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 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 (from topographic map).

EXTREMES.--Maximum not determined; minimum discharge 10 cfs July 18.

REMARKS.--Records poor. Diversions for irrigation of about 12,000 acres (1959 determination) above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	93	24	15	17	17	19	14	36	16	-	20
2	29	81	24	13	17	16	17	14	27	15	-	19
3	27	67	24	14	18	16	16	14	26	15	-	18
4	26	63	27	15	19	16	17	14	20	15	152	18
5	25	55	24	13	19	16	16	14	18	14	101	19
6	25	47	25	12	19	17	16	14	22	14	97	18
7	23	39	25	12	18	17	16	14	21	13	48	18
8	23	36	25	14	18	16	15	13	22	14	75	18
9	25	33	24	16	18	16	15	14	18	13	55	18
10	18	30	24	22	18	17	15	14	17	12	30	16
11	23	26	24	25	18	19	15	13	15	12	113	17
12	28	25	24	26	17	18	16	13	15	15	84	17
13	23	25	24	24	17	18	17	13	15	16	102	19
14	23	26	24	22	16	17	17	15	15	12	129	19
15	23	27	24	21	16	16	16	42	16	12	77	71
16	21	25	24	22	16	16	17	72	15	14	85	98
17	20	25	24	20	16	16	18	98	15	11	54	53
18	20	25	24	20	16	16	18	98	15	13	148	31
19	20	25	24	20	16	17	17	104	15	36	67	25
20	20	25	25	20	17	17	16	121	16	18	87	30
21	22	25	24	22	18	18	16	130	17	-	-	159
22	-	24	23	21	18	16	15	126	16	-	-	62
23	-	25	22	21	17	16	15	122	15	-	170	45
24	-	24	22	21	17	15	15	120	15	-	90	30
25	228	24	22	19	16	16	14	98	14	-	70	21
26	160	24	22	19	18	17	14	90	15	-	78	21
27	130	23	22	19	17	18	13	106	14	-	44	21
28	120	24	23	19	17	19	13	85	14	-	33	22
29	111	24	21	19	------	17	13	79	15	-	22	21
30	104	24	17	19	------	17	14	71	16	-	22	20
31	102	------	18	18	------	17	------	46	------	-	20	------
TOTAL	-	1,039	723	583	484	520	471	1,801	530	-	-	984
MEAN	-	34.6	23.3	18.8	17.3	16.8	15.7	58.1	17.7	-	-	32.8
MAX	-	93	27	26	19	19	19	130	36	-	-	159
MIN	-	23	17	12	16	15	13	13	14	-	-	16
AC-FT	-	2,060	1,430	1,160	960	1,030	934	3,570	1,050	-	-	1,950

CAL YR 1969	TOTAL	--	MEAN	--	MAX	--	MIN	--	AC-FT	--
WAT YR 1970	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.

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, at datum 4.16 ft lower than primary gage.

AVERAGE DISCHARGE.--54 years (1912-24, 1928-70), 141 cfs (102,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 11,400 cfs July 21 (gage height, 8.73 ft); minimum, 8.0 cfs Apr. 11, 12.
1930-70: 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 1970 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	100	27	19	25	19	18	18	46	16	226	17
2	34	89	27	17	27	19	14	21	34	15	160	19
3	32	69	27	18	24	18	13	21	29	14	378	16
4	31	60	34	19	26	18	11	19	26	14	177	16
5	29	49	31	16	24	16	11	19	21	13	101	19
6	29	46	31	14	24	21	11	18	21	13	97	17
7	27	40	29	15	24	21	9.7	18	32	14	51	16
8	27	38	29	15	24	22	9.7	18	31	15	80	17
9	29	34	29	20	24	22	9.7	18	27	15	92	19
10	27	32	29	26	24	21	9.7	19	22	15	31	17
11	27	31	29	28	22	21	8.8	19	19	14	62	20
12	40	29	29	29	22	22	8.8	19	18	16	101	24
13	27	29	29	27	24	21	8.8	19	19	27	82	27
14	27	29	27	27	22	22	9.7	18	19	16	160	31
15	27	29	27	27	22	22	11	37	21	16	153	59
16	24	27	27	27	22	22	12	75	19	18	108	143
17	24	26	29	27	22	22	14	100	21	18	58	88
18	26	26	29	26	21	22	16	96	21	16	176	56
19	26	26	27	26	21	24	14	100	21	39	101	41
20	26	26	27	27	21	22	13	113	19	26	138	29
21	27	26	27	26	22	24	14	128	26	2,380	381	179
22	730	26	29	26	22	22	15	132	24	415	376	94
23	1,440	26	27	26	22	19	15	144	21	353	173	56
24	496	27	27	27	22	18	16	128	19	1,630	108	37
25	260	26	26	26	22	18	18	110	16	442	75	24
26	178	26	27	26	21	19	18	86	15	1,670	75	22
27	136	26	27	27	21	21	18	100	14	346	54	22
28	132	26	26	27	19	26	16	100	13	248	39	22
29	120	26	22	23	------	22	18	96	14	433	25	20
30	110	27	18	23	------	19	18	89	15	408	22	20
31	106	------	19	22	------	18	------	60	------	242	20	------
TOTAL	4,306	1,097	848	729	636	643	398.9	1,958	663	8,917	3,880	1,187
MEAN	139	36.6	27.4	23.5	22.7	20.7	13.3	63.2	22.1	288	125	39.6
MAX	1,440	100	34	29	27	26	18	144	46	2,380	381	179
MIN	24	26	18	14	19	16	8.8	18	13	13	20	16
AC-FT	8,540	2,180	1,680	1,450	1,260	1,280	791	3,880	1,320	17,690	7,700	2,350

CAL YR 1969 TOTAL 52,788.0 MEAN 145 MAX 5,410 MIN 13 ACFT 104,700
WAT YR 1970 TOTAL 25,262.9 MEAN 69.2 MAX 2,380 MIN 8.8 ACFT 50,110

PEAK DISCHARGE (BASE, 4,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
7-21	0700	8.73	11,400	7-26	0545	5.53	5,300
7-24	1000	4.93	4,340				

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.--32 years, 217 cfs (157,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 8,700 cfs July 23 (gage height 6.67 ft); minimum, 54 cfs June 15, 17-19.
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 and biological analyses, and water temperatures for the water year 1970 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1512: 1939.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	110	182	101	98	105	92	96	82	138	84	295	83
2	104	172	102	96	105	92	95	86	104	79	298	82
3	100	159	102	100	106	93	93	83	94	73	320	80
4	97	144	119	103	104	95	95	80	87	73	326	81
5	96	138	117	100	106	97	93	77	84	72	207	84
6	96	123	107	88	107	97	93	77	82	70	165	82
7	100	118	106	95	103	97	91	76	80	72	148	78
8	97	110	104	100	103	106	90	75	100	129	116	76
9	97	110	102	106	103	107	90	73	83	113	175	76
10	93	106	100	114	103	105	87	73	74	82	118	75
11	95	101	101	113	101	111	87	71	68	80	86	75
12	112	98	101	112	100	112	86	72	64	75	135	75
13	112	95	101	111	101	109	84	73	63	74	140	94
14	99	94	101	107	99	100	85	73	65	85	150	83
15	97	95	101	106	96	97	84	74	64	78	187	78
16	95	95	100	105	95	95	84	96	59	92	692	175
17	94	94	103	108	94	97	107	131	58	80	181	175
18	94	98	104	107	94	95	133	154	58	74	123	130
19	92	96	103	105	94	94	87	153	60	74	229	104
20	91	95	106	106	95	94	83	162	593	105	173	94
21	95	96	107	105	98	96	83	182	273	2,100	1,340	107
22	1,140	99	106	104	102	96	79	187	104	660	625	236
23	1,740	99	108	108	96	94	80	186	90	883	379	149
24	633	100	106	111	94	90	81	183	88	2,410	257	113
25	397	100	104	109	94	87	83	172	85	717	200	95
26	299	97	105	108	96	89	85	154	84	1,520	154	85
27	253	96	105	108	93	92	84	142	81	530	149	89
28	210	100	105	105	92	97	79	154	76	369	127	89
29	190	99	100	100	------	98	82	161	120	375	109	89
30	180	98	90	99	------	95	81	156	127	527	94	82
31	175	------	100	103	------	93	------	156	------	356	88	------
TOTAL	7,283	3,307	3,217	3,240	2,779	3,012	2,660	3,674	3,206	12,111	7,786	3,014
MEAN	235	110	104	105	99.3	97.2	88.7	119	107	391	251	100
MAX	1,740	182	119	114	107	112	133	187	593	2,410	1,340	236
MIN	91	94	90	88	92	87	79	71	58	70	86	75
AC-FT	14,450	6,560	6,380	6,430	5,510	5,970	5,280	7,290	6,360	24,020	15,440	5,980

CAL YR 1969 TOTAL 86,071 MEAN 236 MAX 7,500 MIN 72 AC-FT 170,700
WTR YR 1970 TOTAL 55,289 MEAN 151 MAX 2,410 MIN 58 AC-FT 109,700

PEAK DISCHARGE (BASE, 5,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
7-21	1245	6.28	7,650	7-23	2400	6.67	8,700

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, approximately (contributing area).

PERIOD OR RECORD.--December 1938 to September 1965 (monthend contents only), October 1965 to current year. Monthend elevations September 1937 to November 1938 published in reports of Pecos River Commission.

GAGE.--Nonrecording gage. Datum of gage is at mean sea level (Bureau of Reclamation datum). April 1, 1946,to Sept. 30, 1957, water-stage recorder above elevation 4,234.25 ft, nonrecording gage below.

EXTREMES.--Current year: Maximum contents, 85,290 acre-ft Apr. 5-9 (elevation, 4,268.90 ft); minimum, 27,440 acre-ft Aug. 15 (elevation, 4247.10 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 at elevation 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. Figures given herein represent contents computed from elevations at 0800 hours.

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(M)(m).

CONTENTS, IN ACRE-FEET, AT 0800, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52,720	64,260	69,610	74,910	80,170	84,360	84,730	83,620	63,800	48,470	43,270	37,020
2	52,850	64,560	69,770	75,080	80,170	84,360	84,920	83,620	62,580	48,470	41,670	36,910
3	52,720	64,870	69,940	75,260	80,340	84,360	84,920	83,620	60,950	48,470	40,120	36,810
4	52,580	65,170	70,420	75,430	80,520	84,180	85,100	83,440	58,900	48,470	38,800	36,700
5	52,580	65,480	70,580	75,600	80,700	84,180	85,290	83,440	57,180	48,470	37,120	36,600
6	52,580	65,640	70,750	75,780	80,700	84,180	85,290	83,440	55,350	48,340	35,500	36,500
7	52,450	65,800	70,910	75,950	80,880	84,180	85,290	83,440	53,530	48,340	35,090	36,400
8	52,450	65,960	71,070	76,120	81,060	83,990	85,290	83,440	51,500	48,210	34,490	36,300
9	52,450	66,110	71,230	76,300	81,240	83,990	85,290	83,250	49,650	48,470	33,430	36,300
10	52,310	66,430	71,400	76,470	81,420	83,990	84,920	83,070	47,700	48,600	32,460	36,100
11	52,180	66,580	71,560	76,470	81,600	83,990	84,920	83,070	47,330	48,600	31,610	35,900
12	52,180	66,740	71,730	76,640	81,780	83,810	84,920	82,880	47,200	48,600	30,480	35,800
13	52,180	66,900	71,890	76,990	81,960	83,810	84,920	82,700	47,080	48,470	29,380	35,800
14	52,180	67,060	72,060	77,160	82,140	83,810	84,550	82,700	46,950	48,470	28,320	35,700
15	52,040	67,210	72,230	77,340	82,330	83,990	84,550	82,510	46,820	48,470	27,440	35,700
16	52,040	67,370	72,400	77,510	82,510	83,990	84,550	82,510	46,700	48,340	27,960	36,500
17	52,040	67,530	72,560	77,680	82,700	83,990	84,550	82,330	46,570	48,210	29,020	36,900
18	51,900	67,680	72,730	77,860	82,700	83,990	84,550	82,330	46,570	46,450	29,200	37,230
19	51,900	67,840	72,900	78,030	82,880	83,990	84,550	82,330	46,450	44,480	29,200	37,540
20	51,900	68,000	73,070	78,200	82,880	83,990	84,550	82,140	46,320	42,590	29,200	37,750
21	51,900	68,160	73,230	78,380	83,070	83,990	84,550	82,140	48,080	40,770	33,720	38,070
22	52,580	68,310	73,400	78,550	83,250	83,990	84,550	81,060	48,210	43,270	35,500	38,280
23	57,040	68,480	73,570	78,730	83,440	83,990	84,550	79,270	48,340	42,470	36,300	38,700
24	59,920	68,640	73,740	78,730	83,620	83,990	84,550	77,680	48,340	46,700	36,700	38,900
25	61,100	68,800	73,740	78,910	83,810	83,990	84,550	75,950	48,470	49,120	36,910	39,130
26	61,540	68,960	73,910	79,090	83,810	83,990	84,180	74,240	48,470	48,210	37,120	39,240
27	62,280	69,120	74,070	79,450	83,990	83,990	83,990	72,560	48,470	49,380	37,120	39,350
28	62,740	69,290	74,240	79,630	84,180	83,990	83,990	70,910	48,340	48,210	37,120	39,570
29	63,190	69,290	74,410	79,630	------	84,180	83,810	69,120	48,340	46,950	37,120	39,790
30	63,500	69,450	74,580	79,810	------	84,360	83,810	67,530	48,340	45,690	37,120	39,900
31	63,950	------	74,740	79,810	------	84,550	------	65,800	------	44,600	37,120	------
(†)	+11,230	+5,500	+5,290	+5,070	+4,370	+370	-740	-18,010	-17,460	-3,740	-7,480	+2,780
MAX	63,950	69,450	74,740	79,810	84,180	84,550	85,290	83,620	63,800	49,380	43,270	39,900
MIN	51,900	64,260	69,610	74,910	80,170	83,810	83,810	65,800	46,320	40,770	27,440	35,700

WAT YR 1970 MAX 85,290 MIN 27,440

CAL YR 1969: (†) +8,310
WAT YR 1970: (†) -12,820

† Change in contents, in acre-feet.

08384000 Alamogordo Reservoir near Fort Sumner, N. Mex.--Continued

ELEVATION, IN FEET, AT 0800, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4,258.70	4,262.70	4,264.40	4,266.00	4,267.50	4,268.65	4,268.75	4,268.45	4,262.55	4,257.10	4,255.00	4,252.15
2	4,258.75	4,262.80	4,264.45	4,266.05	4,267.50	4,268.65	4,268.80	4,268.45	4,262.15	4,257.10	4,254.30	4,252.10
3	4,258.70	4,262.90	4,264.50	4,266.10	4,267.55	4,268.65	4,268.80	4,268.45	4,261.60	4,257.10	4,253.60	4,252.05
4	4,258.65	4,263.00	4,264.65	4,266.15	4,267.60	4,268.60	4,268.85	4,268.40	4,260.90	4,257.10	4,253.00	4,252.00
5	4,258.65	4,263.10	4,264.70	4,266.20	4,267.65	4,268.60	4,268.90	4,268.40	4,260.30	4,257.10	4,252.20	4,251.95
6	4,258.65	4,263.15	4,264.75	4,266.25	4,267.65	4,268.60	4,268.90	4,268.40	4,259.65	4,257.05	4,251.40	4,251.90
7	4,258.60	4,263.20	4,264.80	4,266.30	4,267.70	4,268.60	4,268.90	4,268.40	4,259.00	4,257.05	4,251.20	4,251.85
8	4,258.60	4,263.25	4,264.85	4,266.35	4,267.75	4,268.55	4,268.90	4,268.40	4,258.25	4,257.00	4,250.90	4,251.80
9	4,258.60	4,263.30	4,264.90	4,266.40	4,267.80	4,268.55	4,268.90	4,268.35	4,257.55	4,257.10	4,250.35	4,251.80
10	4,258.55	4,263.40	4,264.95	4,266.45	4,267.85	4,268.55	4,268.80	4,268.30	4,256.80	4,257.15	4,249.85	4,251.70
11	4,258.50	4,263.45	4,265.00	4,266.45	4,267.90	4,268.55	4,268.80	4,268.30	4,256.65	4,257.15	4,249.40	4,251.60
12	4,258.50	4,263.50	4,265.05	4,266.50	4,267.95	4,268.50	4,268.80	4,268.25	4,256.60	4,257.15	4,248.80	4,251.55
13	4,258.50	4,263.55	4,265.10	4,266.60	4,268.00	4,268.50	4,268.80	4,268.20	4,256.55	4,257.10	4,248.20	4,251.55
14	4,258.50	4,263.60	4,265.15	4,266.65	4,268.05	4,268.50	4,268.70	4,268.20	4,256.50	4,257.10	4,247.60	4,251.50
15	4,258.45	4,263.65	4,265.20	4,266.70	4,268.10	4,268.55	4,268.70	4,268.15	4,256.45	4,257.10	4,247.10	4,251.50
16	4,258.45	4,263.70	4,265.25	4,266.75	4,268.15	4,268.55	4,268.70	4,268.15	4,256.40	4,257.05	4,247.40	4,251.90
17	4,258.45	4,263.75	4,265.30	4,266.80	4,268.20	4,268.55	4,268.70	4,268.10	4,256.35	4,257.00	4,248.00	4,252.10
18	4,258.40	4,263.80	4,265.35	4,266.85	4,268.20	4,268.55	4,268.70	4,268.10	4,256.35	4,256.30	4,248.10	4,252.25
19	4,258.40	4,263.85	4,265.40	4,266.90	4,268.25	4,268.55	4,268.70	4,268.10	4,256.30	4,255.50	4,248.10	4,252.40
20	4,258.40	4,263.90	4,265.45	4,266.95	4,268.25	4,268.55	4,268.70	4,268.05	4,256.25	4,254.70	4,248.10	4,252.50
21	4,258.40	4,263.95	4,265.50	4,267.00	4,268.30	4,268.55	4,268.70	4,268.05	4,256.95	4,253.90	4,250.50	4,252.65
22	4,258.65	4,264.00	4,265.55	4,267.05	4,268.35	4,268.55	4,268.70	4,267.75	4,257.00	4,255.00	4,251.40	4,252.75
23	4,260.25	4,264.05	4,265.60	4,267.10	4,268.40	4,268.55	4,268.70	4,267.25	4,257.05	4,254.65	4,251.80	4,252.95
24	4,261.25	4,264.10	4,265.65	4,267.10	4,268.45	4,268.55	4,268.70	4,266.80	4,257.05	4,256.40	4,252.00	4,253.05
25	4,261.65	4,264.15	4,265.65	4,267.15	4,268.50	4,268.55	4,268.70	4,266.30	4,257.10	4,257.35	4,252.10	4,253.15
26	4,261.80	4,264.20	4,265.70	4,267.20	4,268.50	4,268.55	4,268.60	4,265.80	4,257.10	4,257.00	4,252.20	4,253.20
27	4,262.05	4,264.25	4,265.75	4,267.30	4,268.55	4,268.55	4,268.55	4,265.30	4,257.10	4,257.45	4,252.20	4,253.25
28	4,262.20	4,264.30	4,265.80	4,267.35	4,268.60	4,268.55	4,268.55	4,264.80	4,257.05	4,257.00	4,252.20	4,253.35
29	4,262.35	4,264.30	4,265.85	4,267.35	------	4,268.60	4,268.50	4,264.25	4,257.05	4,256.50	4,252.20	4,253.45
30	4,262.45	4,264.35	4,265.90	4,267.40	------	4,268.65	4,268.50	4,263.75	4,257.05	4,256.00	4,252.20	4,253.50
31	4,262.60	------	4,265.95	4,267.40	------	4,268.70	------	4,263.20	------	4,255.55	4,252.20	------
MEAN	4,259.38	4,263.64	4,265.23	4,266.74	4,268.04	4,268.57	4,268.40	4,267.38	4,257.79	4,256.57	4,249.72	4,252.32
MAX	4,262.60	4,264.35	4,265.95	4,267.40	4,268.60	4,268.70	4,268.90	4,268.45	4,262.55	4,257.45	4,255.00	4,253.50
MIN	4,258.40	4,262.70	4,264.40	4,266.00	4,267.50	4,268.50	4,258.85	4,263.20	4,256.25	4,253.90	4,247.10	4,251.50

WAT YR 1970 MEAN 4,261.95 MAX 4,268.90 MIN 4,247.10

08384500 Pecos River below Alamogordo Dam, N. Mex.

LOCATION.--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; 34 years (1936-70), 214 cfs (155,000 acre-ft per year).

EXTREMES.--Current year: Maximum daily discharge, 1,070 cfs June 8, 9 (gage height, 3.27 ft); minimum daily discharge, 0.35 cfs Sept. 21-28.
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 station 08384000).

REVISIONS (WATER YEARS).--WSP 1512: 1932. WSP 1632: 1942. WSP 1712: 1944.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75	3.2	5.9	3.3	4.9	40	8.1	85	1,060	75	988	105
2	92	3.4	6.2	3.4	4.7	99	8.2	86	1,060	74	991	105
3	90	3.6	6.2	3.5	5.1	100	8.2	87	1,060	73	991	105
4	89	3.7	6.1	3.4	4.8	100	6.8	88	1,060	74	992	106
5	94	4.1	5.4	3.3	4.9	100	33	86	1,060	74	991	106
6	101	3.8	4.2	3.2	5.3	98	89	86	1,060	82	765	106
7	102	3.7	4.4	3.2	5.8	102	90	87	1,060	87	546	95
8	102	4.2	4.4	3.1	4.8	100	92	88	1,070	88	544	104
9	100	4.4	4.2	3.2	5.2	104	93	88	1,070	92	540	105
10	100	4.4	4.0	3.3	5.4	102	93	88	625	91	548	106
11	100	4.4	3.9	3.4	5.5	100	91	88	104	92	553	107
12	101	4.2	4.4	3.3	5.6	85	91	89	103	92	551	103
13	99	4.1	4.9	3.5	5.4	70	91	87	104	92	549	101
14	100	4.1	5.1	3.7	5.3	71	91	86	105	93	291	93
15	100	4.2	5.5	4.0	6.0	71	91	87	105	95	101	90
16	106	4.2	6.2	4.1	6.3	67	92	89	106	93	102	49
17	103	4.4	6.1	4.1	5.6	68	92	90	101	547	103	.45
18	102	4.0	6.2	3.8	6.0	66	93	92	101	992	103	.45
19	102	4.0	6.1	3.5	6.2	66	90	88	102	988	103	.45
20	100	4.3	5.8	3.1	6.3	66	90	87	104	990	104	.45
21	102	4.5	5.4	3.5	6.3	67	91	580	102	993	106	.35
22	38	4.7	4.4	3.3	6.3	66	80	1,060	86	982	103	.35
23	1.8	4.7	3.2	3.5	6.3	67	67	1,060	76	983	102	.35
24	1.8	4.7	3.2	3.8	6.9	65	68	1,070	78	988	102	.35
25	2.4	4.8	3.6	4.2	6.9	62	68	1,060	78	990	102	.35
26	3.0	5.0	3.9	4.7	6.8	62	72	1,060	79	989	103	.35
27	3.0	5.0	3.9	4.8	6.5	62	84	1,060	71	989	103	.35
28	3.0	5.3	3.6	4.6	6.2	19	84	1,060	72	986	103	.35
29	2.8	5.4	3.0	4.6	------	7.9	85	1,060	74	984	104	.38
30	2.9	5.7	3.1	5.1	------	8.4	84	1,060	75	980	104	.38
31	3.1	------	3.4	5.3	------	8.4	------	1,060	------	983	104	------
TOTAL	2,121.8	130.2	145.9	116.8	161.3	2,169.7	2,216.3	12,942	12,011	15,731	11,592	1,591.36
MEAN	68.4	4.34	4.71	3.77	5.76	70.0	73.9	417	400	507	374	53.0
MAX	106	5.7	6.2	5.3	6.9	104	93	1,070	1,070	993	992	107
MIN	1.8	3.2	3.0	3.1	4.7	7.9	6.8	85	71	73	101	.35
AC-FT	4,210	258	289	232	320	4,300	4,400	25,670	23,820	31,200	22,990	3,160

CAL YR 1969 TOTAL 85,606.7 MEAN 235 MAX 1,230 MIN 1.8 AC-FT 169,800
WTR YR 1970 TOTAL 60,929.36 MEAN 167 MAX 1,070 MIN .35 AC-FT 120,900

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 (published in WSP 1732), April 1954 to current year (monthly discharge 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, 112 cfs June 11; 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71					0	0	77	96	76	86	98
2	80					40	0	79	100	71	86	98
3	88					88	0	79	100	67	92	98
4	86					93	0	79	100	70	96	98
5	86					94	2.9	79	97	68	95	98
6	92					98	44	76	98	70	95	98
7	96					95	80	76	99	84	95	94
8	96					101	83	76	97	83	96	96
9	96					93	84	76	97	89	96	98
10	94					102	85	76	98	94	95	100
11	94					102	87	76	112	84	95	100
12	99					98	86	76	107	85	96	101
13	97					76	83	77	105	89	96	103
14	95					70	85	71	104	84	93	99
15	96					69	85	73	103	82	94	105
16	97					68	85	73	100	85	93	58
17	98					66	94	72	99	82	93	0
18	97					66	96	76	96	95	94	0
19	95					69	90	85	95	92	94	0
20	94					73	85	80	95	92	95	0
21	96					71	88	79	101	94	98	0
22	48					68	86	86	96	91	97	0
23	0					69	68	95	71	91	96	0
24	0					69	67	96	75	90	97	0
25	0					64	66	102	72	84	98	0
26	0					66	65	99	72	83	98	0
27	0					65	73	97	70	83	98	0
28	0					32	79	96	70	84	98	0
29	0				------	0	78	95	71	83	98	0
30	0				------	0	76	93	72	84	98	0
31	0	------			------	0	------	92	------	84	98	------
TOTAL	1,991	0	0	0	0	2,065	2,000.9	2,562	2,768	2,593	2,949	1,542
MEAN	64.2	0	0	0	0	66.6	66.7	82.6	92.3	83.6	95.1	51.4
MAX	99	0	0	0	0	102	96	102	112	95	98	105
MIN	0	0	0	0	0	0	0	71	70	67	86	0
AC-FT	3,950	0	0	0	0	4,100	3,970	5,080	5,490	5,140	5,850	3,060

CAL YR 1969 TOTAL 19,094.0 MEAN 52.3 MAX 111 MIN 0 ACFT 37,870
WAT YR 1970 TOTAL 18,470.9 MEAN 50.6 MAX 112 MIN 0 ACFT 36,640

08385520 Pecos River below Fort Sumner, N. Mex.

LOCATION.--Lat 34°20'53", 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 Sept. 15, 1970 (discontinued). (Operated as a low-flow station only). Records prior to 1966 published in WSP 1923.

GAGE.--Water-stage recorder. Altitude of gage is 3,915 ft (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 station 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	41	26	20	18	16	28	25	-	34	-	36
2	42	41	26	20	18	17	28	25	-	34	-	33
3	41	41	26	18	18	39	26	27	-	33	-	33
4	41	40	26	18	17	20	26	29	-	39	-	33
5	42	40	26	20	17	20	26	31	-	38	-	35
6	41	39	26	18	16	21	25	31	-	42	-	36
7	43	36	26	18	16	22	25	29	-	42	-	39
8	44	36	25	21	16	21	25	25	-	37	-	37
9	44	35	25	20	16	23	25	23	-	29	-	36
10	42	35	24	21	16	21	28	21	-	32	-	42
11	44	35	24	21	16	20	27	21	287	28	-	38
12	47	35	23	20	16	29	23	20	106	24	-	36
13	48	34	23	19	16	33	21	20	84	45	-	43
14	55	34	23	19	16	25	21	22	72	26	-	50
15	48	33	23	19	16	21	21	19	66	20	160	77
16	47	33	23	19	16	24	22	23	59	18	93	-
17	50	32	23	19	16	25	31	23	50	17	77	-
18	46	32	23	19	16	23	336	25	47	-	63	-
19	45	32	23	19	15	28	60	20	45	-	59	-
20	47	30	23	18	15	30	49	18	47	-	58	-
21	60	30	23	18	16	23	45	18	54	-	129	-
22	613	29	23	18	16	23	47	-	48	-	77	-
23	196	28	22	18	16	22	44	-	44	-	63	-
24	89	28	21	18	16	23	40	-	42	-	59	-
25	67	28	21	18	16	25	44	-	40	-	52	-
26	64	27	21	18	16	25	40	-	40	-	41	-
27	63	27	21	18	16	27	35	-	34	-	40	-
28	56	27	21	17	16	49	32	-	32	-	38	-
29	50	26	22	16	------	44	31	-	37	-	39	-
30	45	26	23	17	------	31	25	-	32	-	35	-
31	42	------	21	17	------	30	------	-	------	-	38	------
TOTAL	2,249	990	726	579	454	800	1,256	-	-	-	-	-
MEAN	72.5	33.0	23.4	18.7	16.2	25.8	41.9	-	-	-	-	-
MAX	613	41	26	21	18	49	336	-	-	-	-	-
MIN	41	26	21	16	15	16	21	-	-	-	-	-
AC-FT	4,460	1,960	1,440	1,150	901	1,590	2,490	-	-	-	-	-

CAL YR 1969	TOTAL	--	MEAN	--	MAX	--	MIN	--	AC-FT	--		
WAT YR 1970	TOTAL	--	MEAN	--	MAX	--	MIN	--	AC-FT	--		

08386000 Pecos River near Acme, N. Mex.

LOCATION.--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 (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 at site opposite base gage at same datum.

AVERAGE DISCHARGE.--33 years (1937-70), 200 cfs (144,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 7,280 cfs Sept. 17 (gage height, 9.19 ft); no flow Sept. 11-16.
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 station 08384000). Diversions for irrigation of about 20,000 acres (1959 determination) above station. Records of chemical analyses and water temperatures for the water year 1970 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	118	33	19	20	20	33	17	820	82	820	16
2	60	105	33	23	21	19	28	17	734	43	724	24
3	51	101	33	23	22	18	25	18	782	28	782	16
4	50	94	35	24	22	18	23	17	753	18	782	13
5	44	84	41	24	22	17	20	16	753	13	800	9.3
6	39	77	57	22	22	18	20	16	820	8.1	791	6.0
7	38	63	44	25	22	28	18	15	791	5.3	753	3.6
8	39	63	39	23	22	25	18	14	850	4.4	608	2.0
9	39	60	35	28	21	22	17	14	840	2.7	557	.81
10	34	57	33	34	21	21	17	14	820	1.6	1,540	.36
11	36	53	31	39	21	23	15	14	830	.72	437	.30
12	50	51	30	51	20	26	14	14	486	.45	437	.03
13	32	50	30	47	20	29	15	14	240	.81	437	0
14	32	49	30	43	20	30	14	13	188	7.2	423	0
15	34	46	30	36	19	27	14	13	120	3.9	416	0
16	32	46	30	32	19	33	13	13	80	33	395	1,080
17	37	46	30	30	19	32	13	12	60	12	184	4,300
18	34	44	30	27	20	29	12	12	50	4.2	125	604
19	30	43	29	26	19	27	247	12	45	.81	90	324
20	32	41	30	23	19	28	110	11	55	271	92	235
21	43	41	29	22	19	29	56	11	45	582	62	195
22	533	43	28	20	20	29	39	11	90	634	50	160
23	1,050	40	27	20	21	29	30	82	57	762	45	122
24	335	38	26	22	22	28	27	525	68	1,250	84	105
25	258	37	26	21	21	24	25	706	131	1,510	56	90
26	347	37	26	20	21	22	25	706	68	910	45	77
27	550	35	26	22	20	20	20	744	30	830	39	71
28	335	34	25	21	20	22	18	744	30	791	31	66
29	235	34	24	20	------	24	18	734	62	810	23	63
30	195	34	21	20	------	24	17	762	410	810	18	60
31	130	------	18	20	------	29	------	715	------	850	18	------
TOTAL	4,817	1,664	959	827	575	770	961	6,026	11,108	10,279.19	11,664	7,643.40
MEAN	155	55.5	30.9	26.7	20.5	24.8	32.0	194	370	332	376	255
MAX	1,050	118	57	51	22	33	247	762	850	1,510	1,540	4,300
MIN	30	34	18	19	19	17	12	11	30	.45	18	0
AC-FT	9,550	3,300	1,900	1,640	1,140	1,530	1,910	11,950	22,030	20,390	23,140	15,160

CAL YR 1969 TOTAL 88,901.00 MEAN 244 MAX 3,680 MIN 3.9 ACFT 176,300
WAT YR 1970 TOTAL 57,293.59 MEAN 157 MAX 4,300 MIN 0 ACFT 113,600

PEAK DISCHARGE (BASE, 2,500 CFS)

DATE	TIME	G.H	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
7-25	0200	7.02	2,940	9-17	0830	9.19	7,280
8-10	0800	6.74	2,530				

08387000 Rio Ruidoso at Hollywood, N. Mex.

LOCATION.--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.--17 years, 11.8 cfs (8,550 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 33 cfs Apr. 11 (gage height, 1.41 ft); minimum, 2.3 cfs July 11.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	14	6.8	5.0	6.5	6.7	17	16	6.2	3.7	5.3	6.9
2	12	14	7.7	4.0	6.0	8.1	17	15	6.3	3.2	7.7	4.5
3	11	13	7.2	6.0	5.5	8.6	18	13	6.0	3.0	6.5	3.8
4	11	12	9.4	7.0	6.0	7.9	19	13	6.0	2.9	5.8	3.6
5	9.7	12	10	7.0	6.7	8.3	22	12	6.0	2.8	7.8	3.6
6	9.3	11	7.1	6.0	6.5	8.0	25	12	5.9	2.6	10	3.6
7	9.0	11	7.0	6.0	6.6	7.9	30	13	7.0	2.7	9.2	3.5
8	8.5	10	7.0	8.0	6.4	7.9	32	14	7.2	2.5	7.7	3.3
9	8.0	9.8	7.7	9.0	6.3	8.3	32	14	6.1	2.5	7.7	3.2
10	7.5	9.5	7.6	10	6.7	9.0	31	13	5.6	2.6	8.8	3.0
11	7.4	9.2	7.0	12	6.9	8.0	32	13	5.3	2.5	8.0	2.8
12	7.7	8.8	7.4	10	7.1	7.0	32	13	4.7	3.7	7.0	2.9
13	7.0	8.6	7.8	10	8.4	11	30	13	4.1	3.0	7.3	2.9
14	7.1	8.5	8.2	10	6.5	12	29	14	3.8	3.2	6.7	3.1
15	6.8	8.3	8.2	11	6.4	14	29	14	3.7	3.0	5.9	2.9
16	6.7	9.8	10	11	5.5	16	28	14	3.4	3.0	5.8	3.0
17	6.5	9.7	12	11	5.8	16	26	14	3.1	2.9	5.5	3.2
18	6.3	7.8	13	11	6.2	15	26	13	3.0	2.9	4.9	3.3
19	6.1	7.6	13	12	5.0	15	25	12	3.1	3.3	4.9	3.8
20	7.4	9.7	13	13	4.5	15	23	12	3.3	3.4	4.9	3.6
21	13	10	13	13	6.0	14	21	11	3.4	3.5	4.9	3.2
22	15	7.8	14	13	7.3	14	20	9.2	3.8	3.9	5.5	3.1
23	12	7.7	14	13	6.5	13	19	9.4	3.8	5.6	5.2	3.3
24	11	7.3	13	13	6.3	13	19	8.7	3.5	7.3	3.9	3.2
25	11	7.6	13	13	6.3	15	19	8.1	3.5	6.4	3.4	3.2
26	15	7.5	12	13	6.5	17	18	7.8	3.4	6.3	3.3	3.2
27	15	7.3	11	12	6.3	18	17	7.1	2.9	5.7	3.2	3.4
28	15	7.2	9.0	11	6.7	18	17	7.8	2.9	5.6	3.2	3.5
29	15	7.1	6.0	11	------	18	17	6.8	2.7	4.8	3.4	3.9
30	15	6.9	4.0	10	------	17	16	6.6	3.1	5.0	3.6	3.8
31	15	------	3.0	7.0	------	17	------	6.5	------	4.8	4.6	------
TOTAL	320.0	280.7	289.1	308.0	177.4	383.7	706	356.0	132.8	118.3	181.6	104.3
MEAN	10.3	9.36	9.33	9.94	6.34	12.4	23.5	11.5	4.43	3.82	5.86	3.48
MAX	15	14	14	13	8.4	18	32	16	7.2	7.3	10	6.9
MIN	6.1	6.9	3.0	4.0	4.5	6.7	16	6.5	2.7	2.5	3.2	2.8
AC-FT	635	557	573	611	352	761	1,400	706	263	235	360	207
(†)	22	5.0	6.6	.6	1.9	4.6	41	173	107	57	14	21

CAL YR 1969: TOTAL 5,758.5 MEAN 15.8 MAX 83 MIN 3.0 AC-FT 11,420
WTR YR 1970: TOTAL 3,357.9 MEAN 9.20 MAX 32 MIN 2.5 AC-FT 6,660

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

† Diversion, in acre-feet, by F. Herrera ditch-S.

08387600 Eagle Creek below South Fork, near Alto, N. Mex.

LOCATION.--Lat 33°23'33", long 105°43'16", in SE¼SW¼ sec.31, T.10 S., R.13 E., Lincoln County, at right bank, 100 ft downstream from culvert under State Road No. 532, 0.1 mile downstream from South Fork and 2.4 miles west of Alto.

DRAINAGE AREA.--8.14 sq mi.

PERIOD OF RECORD.--August 1969 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 7,600 ft (from topographic map).

EXTREMES.--August to September 1969: Maximum discharge during period, 26 cfs Sept. 8 (gage height, 2.94 ft); minimum, not determined. Water year 1970: Maximum discharge, 63 cfs July 25 (gage height, 3.24 ft); minimum daily, 0.20 cfs Dec. 31.

REMARKS.--Records poor prior to Mar. 31, 1970, good thereafter. No diversions for irrigation above station. Some water is stored in small unregulated recreational ponds on the Mescalero Apache Indian Reservation upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, AUGUST TO SEPTEMBER 1969

DAY	AUG	SEP	DAY	AUG	SEP	DAY	AUG	SEP	DAY	AUG	SEP	DAY	AUG	SEP
1		13	7		7.0	13		9.4	19		4.7	25		2.3
2		10	8		10	14		19	20		3.4	26		2.1
3		8.7	9		12	15		18	21		3.2	27	1.4	1.9
4		7.0	10		14	16		12	22		2.9	28	1.4	1.6
5		7.3	11		12	17		7.8	23		2.7	29	2.8	1.5
6		6.0	12		8.7	18		5.8	24		2.4	30	13	1.6
												31	19	

Total, September 1969	-	218.0
Max	-	19
Min	-	1.5
Mean	-	7.27
Runoff in acre-feet	-	432

PEAK DISCHARGE (BASE, 25 CFS).--Sept. 8 (1430) 26 cfs (2.94 ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	4.2	1.0	.40	.60	.68	2.9	2.8	.88	.97	3.4	.73
2	1.4	3.7	.98	.30	.50	.93	2.6	2.6	.92	.63	3.3	.60
3	1.3	3.2	1.1	.50	.50	1.0	2.9	2.2	.88	.52	1.9	.53
4	1.2	2.9	1.4	.60	.50	1.0	3.0	2.0	1.0	.48	1.6	.50
5	1.2	2.6	1.2	.70	.60	1.1	3.2	2.0	1.1	.83	2.8	.48
6	1.1	2.3	.90	.60	.75	1.0	3.5	2.3	1.0	1.1	2.5	.48
7	1.1	2.2	.70	.60	.77	1.2	3.8	2.6	1.1	.73	2.4	.44
8	1.1	2.0	.70	.70	.74	1.1	4.0	2.7	.94	.55	3.6	.42
9	1.0	1.9	.80	.80	.70	1.2	4.2	2.6	.82	.36	3.5	.42
10	.95	1.8	.90	.90	.70	1.4	4.2	2.4	.69	.34	3.0	.40
11	.94	1.6	.90	1.0	.74	.90	4.3	2.3	.63	.34	2.6	.39
12	1.0	1.5	1.2	.95	.69	1.1	4.4	2.3	.57	.35	2.3	.35
13	1.0	1.5	1.5	1.0	.73	2.2	4.2	2.2	.50	.35	2.1	.33
14	.96	1.5	1.4	.95	.60	2.7	4.2	2.2	.47	.33	1.8	.32
15	.84	1.5	1.5	.90	.55	2.8	4.6	2.1	.44	.34	1.5	.30
16	.82	1.8	1.6	.75	.50	3.0	4.4	2.0	.42	.34	1.3	.35
17	.79	1.8	2.0	.65	.60	3.0	4.0	1.8	.43	.40	1.0	.30
18	.81	1.2	2.2	.60	.61	2.9	4.4	1.7	.46	.57	.88	.30
19	.84	1.2	2.3	.70	.55	2.8	4.4	1.7	.38	.66	.61	.30
20	1.2	1.2	2.2	.70	.40	2.5	3.6	1.7	.39	.59	.61	.30
21	3.5	1.3	2.2	.60	.60	2.2	3.1	1.5	.42	.39	.61	.29
22	4.5	1.3	2.1	.70	.70	2.5	2.9	1.8	.66	2.2	.69	.29
23	3.8	1.3	2.0	.70	.60	2.3	2.8	1.7	.57	2.5	.73	.29
24	3.5	1.2	2.0	.69	.70	2.2	2.8	1.5	.46	2.3	.63	.30
25	2.9	1.1	1.9	.67	.77	2.2	3.0	1.4	1.3	5.1	.52	.30
26	5.6	1.2	1.8	.65	.76	2.3	3.3	1.3	1.3	5.3	.56	.30
27	7.1	1.2	1.4	.63	.77	2.6	3.5	1.9	.63	3.1	.63	.30
28	6.8	1.2	1.0	.57	.71	2.6	3.3	1.6	.52	2.2	.90	.31
29	6.5	1.1	.40	.62	------	2.7	3.1	1.2	.51	1.6	1.0	.33
30	5.9	.98	.30	.50	------	2.6	3.0	.99	1.7	2.2	.99	.33
31	5.1	------	.20	.60	------	2.7	------	.89	------	1.5	.98	------
TOTAL	76.15	53.48	41.78	21.23	17.94	61.41	107.6	59.98	22.09	39.17	50.94	11.28
MEAN	2.46	1.78	1.35	.68	.64	1.98	3.59	1.93	.74	1.26	1.64	.38
MAX	7.1	4.2	2.3	1.0	.77	3.0	4.6	2.8	1.7	5.3	3.6	.73
MIN	.79	.98	.20	.30	.40	.68	2.6	.89	.38	.33	.52	.29
AC-FT	151	106	83	42	36	122	213	119	44	78	101	22

CAL YR 1969	TOTAL --	MEAN --	MAX --	MIN --	AC-FT --
WTR YR 1970	TOTAL 563.05	MEAN 1.54	MAX 7.1	MIN .20	AC-FT 1,120

PEAK DISCHARGE (BASE, 25 CFS).--July 25 (1300) 63 cfs (3.24 ft).

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 (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.--31 years (1939-70), 23.6 cfs (17,100 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,470 cfs Sept. 19 (gage height, 15.65 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	30	0	7.9					0	0	0	0
2	3.2	22	0	7.9					0	0	0	0
3	.88	24	0	7.1					0	0	0	0
4	1.9	26	0	7.9					0	0	0	0
5	.88	26	.14	7.9					0	0	0	0
6	0	23	0	6.0					0	0	0	0
7	0	22	0	9.0					0	0	0	0
8	0	20	0	6.0					0	0	0	0
9	0	19	0	0					0	0	0	0
10	0	19	0	14					0	0	93	0
11	0	17	.11	1.2					0	0	113	0
12	0	15	1.9	1.1					0	0	.30	0
13	0	11	2.0	3.5					0	0	0	0
14	0	12	1.9	.10					0	0	0	0
15	0	10	1.2	0					0	0	0	0
16	0	15	0	0					0	0	0	0
17	0	10	0	0					0	0	0	0
18	0	10	0	0					0	0	0	0
19	0	10	0	0					0	0	0	93
20	0	16	0	0					0	0	0	.10
21	0	10	0	0					0	0	0	0
22	0	10	0	0					0	0	0	0
23	0	9.1	0	0					0	15	0	0
24	8.6	7.9	0	0					0	0	0	0
25	3.1	3.2	0	0					0	0	0	0
26	9.6	.15	0	0					0	0	0	0
27	14	0	0	0					0	0	0	0
28	33	0	1.0	0					0	0	0	0
29	28	0	2.0	0	------				4.2	0	0	0
30	26	0	7.0	0	------				0	0	0	0
31	27	------	6.7	0	------		------		------	0	0	------
TOTAL	160.16	397.35	23.95	79.60	0	0	0	0	4.2	15	206.30	93.10
MEAN	5.17	13.2	.77	2.57	0	0	0	0	.14	.48	6.65	3.10
MAX	33	30	7.0	14	0	0	0	0	4.2	15	113	93
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	318	788	48	158	0	0	0	0	8.3	30	409	185

CAL YR 1969 TOTAL 4,740.26 MEAN 13.0 MAX 862 MIN 0 ACFT 9,400
WAT YR 1970 TOTAL 979.66 MEAN 2.68 MAX 113 MIN 0 ACFT 1,940

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
8-10	2330	12.70	1,040	9-19	1545	15.65	1,470

08390600 Two Rivers Reservoir near Roswell, N. Mex.

LOCATION.--Rio Hondo Reservoir: Lat 33°17'55", long 104°43'20", in SW¼SE¼NE¼ sec.4, T.12 S., R.22 E., Chaves County, near center of Diamond A Dam on Rio Hondo, 13 miles southwest of Roswell, Rocky Arroyo Reservoir: 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.--1,027 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: No contents during year.
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 3,980.0 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 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 at 2400 hours (in table, reservoirs separated as indicated).

Cooperation.--Records furnished by Corps of Engineers.

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.--7 years, 7.63 cfs (5,530 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 294 cfs Sept. 19 (gage height, 3.46 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 poor. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	33							0	0	0	0
2	1.1	26							0	0	0	0
3	.07	25							0	0	0	0
4	0	27							0	0	0	0
5	0	26							0	0	0	0
6	0	23							0	0	0	0
7	0	19							0	0	0	0
8	0	19							0	0	0	0
9	0	18							0	0	0	0
10	0	16							0	0	10	0
11	0	14							0	0	98	0
12	0	11							0	0	3.6	0
13	0	7.2							0	0	.02	0
14	0	6.9							0	0	0	0
15	0	8.0							0	0	0	0
16	0	11							0	0	0	0
17	0	7.6							0	0	0	0
18	0	6.6							0	0	0	0
19	0	7.6							0	0	0	43
20	0	13							0	0	0	20
21	0	7.7							0	0	0	.06
22	0	7.6							0	0	0	0
23	0	5.8							0	0	0	0
24	0	4.6							0	13	0	0
25	0	2.4							0	0	0	0
26	.01	.37							0	0	0	0
27	3.6	0							0	0	0	0
28	28	0							0	0	0	0
29	30	0			------				23	0	0	0
30	37	0			------				1.6	.20	0	0
31	34	------			------		------		------	.14	0	------
TOTAL	135.58	353.37	0	0	0	0	0	0	24.6	13.34	111.62	63.06
MEAN	4.37	11.8	0	0	0	0	0	0	.82	.43	3.60	2.10
MAX	37	33	0	0	0	0	0	0	23	13	98	43
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	269	701	0	0	0	0	0	0	49	26	221	125

CAL YR 1969 TOTAL 3,853.79 MEAN 10.6 MAX 386 MIN 0 ACFT 7,640
WAT YR 1970 TOTAL 701.57 MEAN 1.92 MAX 98 MIN 0 ACFT 1,390

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.--7 years, 1.12 cfs (811 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,240 cfs Sept. 19 (gage height, 4.96 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 1969 TO SEPTEMBER 1970

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	0									0		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		104
20	0									0		12
21	0									0		0
22	0									0		0
23	0									0		0
24	0									4.8		0
25	0									0		0
26	12									0		0
27	1.9									0		0
28	0									0		0
29	0				------					0		0
30	0				------					0		0
31	0	------			------		------		------	0		------
TOTAL	13.9	0	0	0	0	0	0	0	0	4.8	0	116
MEAN	.45	0	0	0	0	0	0	0	0	.15	0	3.87
MAX	12	0	0	0	0	0	0	0	0	4.8	0	104
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	28	0	0	0	0	0	0	0	0	9.5	0	230

CAL YR 1969 TOTAL 123.9 MEAN .34 MAX 61 MIN 0 ACFT 246
WAT YR 1970 TOTAL 134.7 MEAN .37 MAX 104 MIN 0 ACFT 267

PEAK DISCHARGE (BASE, 90 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-26	1945	2.73	100	9-19	1915	4.96	1,240

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.--7 years, 2.57 cfs 1,860 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 10 cfs Sept. 20 (gage height, 2.69 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									0			0
2									0			0
3									0			0
4									0			0
5									0			0
6									0			0
7									0			0
8									0			0
9									0			0
10									0			0
11									0			0
12									0			0
13									0			0
14									0			0
15									0			0
16									0			0
17									0			0
18									0			0
19									0			0
20									0			7.3
21									0			3.3
22									0			.28
23									0			0
24									0			0
25									0			0
26									0			0
27									0			0
28									0			0
29					------				.44			0
30					------				0			0
31		------			------		------		------			------
TOTAL	0	0	0	0	0	0	0	0	.44	0	0	10.88
MEAN	0	0	0	0	0	0	0	0	.015	0	0	.36
MAX	0	0	0	0	0	0	0	0	.44	0	0	7.3
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	.9	0	0	22

CAL YR 1969 TOTAL 99.28 MEAN .27 MAX 62 MIN 0 ACFT 197
WAT YR 1970 TOTAL 11.32 MEAN .031 MAX 7.3 MIN 0 ACFT 22

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 (from topographic map).

AVERAGE DISCHARGE.--12 years, 0.042 cfs (30 acre-ft per year).

EXTREMES.--Current year: Maximum discharge 31 cfs June 29 (gage height 3.18 ft); no flow most of time.
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.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									0	0		
2									0	0		
3									0	0		
4									0	0		
5									0	0		
6									0	0		
7									0	0		
8									0	0		
9									0	0		
10									0	0		
11									0	0		
12									0	0		
13									0	0		
14									0	0		
15									0	0		
16									0	0		
17									0	0		
18									0	0		
19									0	0		
20									0	0		
21									0	0		
22									.01	0		
23									0	0		
24									0	.21		
25									0	0		
26									0	0		
27									0	0		
28									0	0		
29					------				1.1	0		
30					------				1.4	0		
31		------			------		------		------	0		------
TOTAL	0	0	0	0	0	0	0	0	2.51	.21	0	0
MEAN	0	0	0	0	0	0	0	0	.084	.007	0	0
MAX	0	0	0	0	0	0	0	0	1.4	.21	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	5.0	.4	0	0

CAL YR 1969 TOTAL 0.00 MEAN .000 MAX .00 MIN 0 ACFT .0
WAT YR 1970 TOTAL 2.72 MEAN .007 MAX 1.4 MIN 0 ACFT 5.4

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, 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.--Current year: Maximum discharge not determined; minimum, 5.4 cfs Sept. 14.
Period of record: Maximum discharge not determined; minimum, 4.2 cfs June 10, 1968.

REMARKS.--Records fair except those above 1,000 cfs, which are poor. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	110	178	66	52	51	46	35	30	795	230	837	31
2	99	159	67	52	51	44	45	29	802	100	858	26
3	94	143	72	55	51	42	50	30	746	54	844	25
4	84	136	73	51	51	41	45	33	760	44	858	27
5	80	127	76	55	48	38	42	34	753	31	872	18
6	75	118	94	51	48	39	40	33	802	23	900	17
7	69	108	118	54	49	38	34	33	767	20	900	14
8	67	101	101	58	48	37	33	31	908	17	893	11
9	66	97	89	58	49	50	31	28	774	14	500	9.6
10	65	94	80	55	49	46	30	29	781	13	1,160	10
11	61	90	76	58	48	46	31	28	781	13	1,060	9.6
12	62	87	73	73	48	46	31	28	696	10	450	7.9
13	78	84	67	85	48	45	28	28	267	8.9	483	8.2
14	66	79	65	89	47	47	27	27	200	8.5	483	7.6
15	62	78	64	87	47	56	26	20	134	8.5	461	6.2
16	61	78	62	79	46	51	25	29	87	9.2	478	10
17	60	78	62	73	46	46	27	24	69	11	328	2,900
18	62	73	62	67	45	55	27	17	57	18	164	2,350
19	65	72	62	66	45	49	128	16	51	12	154	466
20	60	70	61	64	45	46	210	16	47	8.5	127	290
21	78	70	61	61	46	47	143	15	56	354	118	251
22	128	70	61	60	48	47	95	16	47	542	89	237
23	900	72	58	60	49	47	73	19	54	760	78	216
24	681	70	58	57	48	47	58	162	67	865	66	173
25	268	67	57	56	47	47	54	548	55	2,050	90	143
26	203	67	56	57	47	40	50	711	83	980	72	120
27	643	66	55	55	47	37	45	704	64	844	58	114
28	472	65	56	55	47	34	41	732	38	809	50	105
29	290	64	64	54	------	37	35	802	26	802	42	95
30	270	65	60	51	------	36	31	774	173	858	37	94
31	223	------	51	52	------	36	------	753	------	816	32	------
TOTAL	5,602	2,726	2,127	1,900	1,339	1,363	1,570	5,779	10,940	10,333.6	13,542	7,792.1
MEAN	181	90.9	68.6	61.3	47.8	44.0	52.3	186	365	333	437	260
MAX	900	178	118	89	51	56	210	802	908	2,050	1,160	2,900
MIN	60	64	51	51	45	34	25	15	26	8.5	32	6.2
AC-FT	11,110	5,410	4,220	3,770	2,660	2,700	3,110	11,460	21,700	20,500	26,860	15,460

CAL YR 1969 TOTAL 93,573.0 MEAN 256 MAX 3,700 MIN 11 ACFT 185,600
WAT YR 1970 TOTAL 65,013.7 MEAN 178 MAX 2,900 MIN 6.2 ACFT 129,000

08394500 Rio Felix at old highway bridge, near Hagerman, N. Mex.

LOCATION.--Lat 33°07'30", long 104°20'40", in SW¼SW¼SE¼ sec.4, 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, owing to inflow between sites.

GAGE.--Water-stage recorder. Datum of gage is 3,403.40 ft above mean sea level.

AVERAGE DISCHARGE.--31 years, 15.3 cfs (11,080 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 44 cfs Oct. 21 (gage height, 4.70 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	13			0							
2	0	13			0							
3	0	14			0							
4	0	10			0							
5	0	13			0							
6	0	14			0							
7	0	12			0							
8	0	9.4			0							
9	0	8.4			0							
10	0	6.3			0							
11	0	4.4			0							
12	0	4.3			0							
13	0	4.1			0							
14	0	3.3			0							
15	0	3.6			6.7							
16	0	2.9			10							
17	0	3.3			4.3							
18	.49	3.0			.05							
19	2.4	2.9			0							
20	.28	3.2			0							
21	9.0	3.3			0							
22	23	3.5			0							
23	31	3.3			0							
24	6.1	2.3			0							
25	3.8	0			0							
26	3.5	1.0			0							
27	14	.21			0							
28	12	3.3			0							
29	12	3.2			------							
30	17	3.0			------							
31	14	------			------		------		------			------
TOTAL	148.57	171.21	0	0	21.05	0	0	0	0	0	0	0
MEAN	4.79	5.71	0	0	.75	0	0	0	0	0	0	0
MAX	31	14	0	0	10	0	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	295	340	0	0	42	0	0	0	0	0	0	0

CAL YR 1969 TOTAL 1,303.30 MEAN 3.57 MAX 302 MIN 0 ACFT 2,590
WAT YR 1970 TOTAL 340.83 MEAN .93 MAX 31 MIN 0 ACFT 676

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

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.--32 years, 259 cfs (187,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,760 cfs Sept. 18 (gage height, 7.70 ft); minimum, 2.1 cfs July 15, 16.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	188	73	56	60	45	17	4.0	721	286	662	8.5
2	91	176	73	62	60	49	19	3.0	771	142	706	13
3	83	164	76	60	58	46	26	5.0	719	78	670	6.4
4	75	155	84	65	59	41	35	16	725	36	662	7.1
5	70	145	84	55	60	41	37	28	730	19	697	16
6	72	142	91	50	57	45	35	26	756	16	683	8.2
7	66	134	103	47	57	46	24	38	752	7.9	667	11
8	54	125	121	70	57	42	22	31	774	4.8	651	8.4
9	53	119	103	84	56	39	16	24	763	5.0	442	5.0
10	57	115	95	74	57	43	18	14	697	4.6	696	7.4
11	50	108	87	67	57	36	17	19	722	4.1	1,140	8.3
12	50	105	83	72	55	40	25	14	705	4.7	454	5.7
13	59	100	82	83	56	34	30	13	372	4.4	387	4.0
14	66	102	79	95	55	34	24	19	168	3.8	379	7.1
15	53	91	77	96	54	27	20	17	151	2.5	348	6.6
16	52	89	75	93	54	30	18	12	77	2.6	346	15
17	52	88	75	87	57	21	21	15	50	2.5	350	1,340
18	55	86	76	80	55	16	23	13	36	3.6	203	2,480
19	69	81	74	76	54	21	23	11	26	6.7	122	697
20	73	82	74	73	42	21	155	8.8	22	3.3	94	429
21	94	81	75	71	46	29	133	8.2	45	65	74	292
22	143	81	76	70	52	23	78	8.9	50	401	74	226
23	858	81	74	68	55	24	43	9.0	30	493	55	193
24	730	80	73	68	50	18	30	12	37	667	54	150
25	328	79	73	65	39	21	19	427	54	1,440	35	127
26	247	76	71	64	38	21	16	620	51	848	62	112
27	438	75	71	64	37	21	17	668	97	696	32	97
28	533	73	72	63	36	19	9.0	695	65	685	19	97
29	351	73	65	61	------	21	11	708	50	701	14	95
30	252	73	55	59	------	29	5.0	693	31	698	13	91
31	218	------	55	58	------	16	------	697	------	682	23	------
TOTAL	5,492	3,167	2,445	2,156	1,473	959	966.0	4,876.9	10,247	8,013.5	10,814	6,563.7
MEAN	177	106	78.9	69.5	52.6	30.9	32.2	157	342	259	349	219
MAX	858	188	121	96	60	49	155	708	774	1,440	1,140	2,480
MIN	50	73	55	47	36	16	5.0	3.0	22	2.5	13	4.0
AC-FT	10,890	6,280	4,850	4,280	2,920	1,900	1,920	9,670	20,320	15,890	21,450	13,020

CAL YR 1969 TOTAL 88,663.3 MEAN 243 MAX 3,390 MIN 3.3 AC-FT 175,900
WTR YR 1970 TOTAL 57,173.1 MEAN 157 MAX 2,480 MIN 2.5 AC-FT 113,400

PEAK DISCHARGE (BASE, 2,500 CFS).--Sept. 18 (0600) 3,760 cfs (7.70 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. Records for Aug. 22-31, 1934 and October 1936 to April 1937, published in WSP 763 and 828, respectively are not reliable and should not be used. Prior to February 1936, published as "near Dayton."

GAGE.--Water-stage recorder. Datum of gage is 3,291.05 ft (Bureau of Reclamation bench mark). Prior to Aug. 27, 1914, nonrecording 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; 34 years (1936-70), 279 cfs (202,100 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,050 cfs Sept. 18 (gage height, 11.93 ft); minimum, 1.6 cfs Sept. 15.
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 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 and bio-chemical analyses, water temperatures, and suspended sediment loads for the water year 1970 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	104	203	78	68	62	41	11	6.5	713	204	681	23
2	94	176	78	72	62	50	10	6.5	748	206	692	11
3	91	165	81	70	62	53	12	9.0	745	106	707	12
4	81	158	92	72	63	49	19	14	707	48	658	7.5
5	76	151	91	65	64	46	26	17	724	19	692	7.1
6	73	146	98	55	63	53	28	29	739	7.8	698	15
7	69	141	102	48	60	54	26	31	753	8.5	687	7.5
8	62	132	125	65	62	53	18	37	736	4.4	678	7.8
9	54	125	127	74	60	48	26	31	823	3.5	593	5.2
10	53	124	111	102	62	49	14	26	727	2.4	455	6.8
11	52	119	102	83	62	49	19	18	745	3.8	1,200	5.9
12	45	109	94	73	62	45	21	21	727	3.3	606	6.5
13	48	108	91	84	60	49	29	16	550	4.2	396	4.0
14	57	103	88	96	60	42	34	14	205	4.7	377	2.5
15	63	98	83	104	58	40	28	18	139	3.8	356	2.3
16	52	97	80	102	53	36	23	19	83	3.5	337	11
17	56	92	78	96	53	36	22	14	44	2.6	363	391
18	56	92	80	84	59	27	24	15	32	2.0	262	2,580
19	63	91	80	80	45	23	26	13	23	1.8	125	754
20	80	90	80	80	51	31	61	12	16	3.0	83	446
21	97	91	80	76	50	29	142	9.9	22	2.3	51	300
22	127	91	80	74	56	38	76	10	46	247	47	228
23	415	88	80	70	57	18	35	12	42	441	43	198
24	828	85	80	70	59	16	15	8.5	23	624	32	158
25	406	85	78	68	51	16	11	149	35	1,230	25	124
26	274	84	80	65	44	15	6.8	538	31	1,190	23	109
27	285	81	81	67	42	17	5.9	646	55	713	44	97
28	511	81	84	65	40	23	6.2	660	83	690	19	96
29	426	78	91	64	------	28	5.2	681	51	687	12	103
30	285	78	80	63	------	24	7.5	692	41	698	7.8	97
31	230	------	65	62	------	23	------	669	------	684	11	------
TOTAL	5,213	3,362	2,718	2,317	1,582	1,121	787.6	4,442.4	10,408	7,848.6	10,960.8	5,816.1
MEAN	168	112	87.7	74.7	56.5	36.2	26.3	143	347	253	354	194
MAX	828	203	127	104	64	54	142	692	823	1,230	1,200	2,580
MIN	45	78	65	48	40	15	5.2	6.5	16	1.8	7.8	2.3
AC-FT	10,340	6,670	5,390	4,600	3,140	2,220	1,560	8,810	20,640	15,570	21,740	11,540

CAL YR 1969 TOTAL 87,241.4 MEAN 239 MAX 2,590 MIN 4.0 ACFT 173,000
WAT YR 1970 TOTAL 56,576.5 MEAN 155 MAX 2,580 MIN 1.8 ACFT 112,200

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
7-26	unknown	--	about 2,050	9-18	1400	11.93	3,050

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.--19 years, 5.99 cfs (4,340 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 271 cfs June 8 (gage height, about 1.70 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 1970 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1242: 1951(M). WSP 1512: 1956. WSP 1923: 1955.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.04						0	0		0	
2	0	.04						0	0		0	
3	0	.03						0	0		0	
4	0	.02						0	0		0	
5	0	.02						0	0		0	
6	0	0						0	0		0	
7	0	0						0	0		0	
8	0	0						0	52		0	
9	0	0						0	1.8		0	
10	0	0						0	.03		13	
11	0	0						0	0		.22	
12	0	0						0	0		.04	
13	0	0						0	0		.04	
14	0	0						0	0		.04	
15	0	0						0	0		.04	
16	0	0						0	0		.03	
17	0	0						0	0		.03	
18	0	0						0	0		.03	
19	0	0						0	0		.03	
20	.01	0						0	0		.03	
21	8.6	0						12	0		.04	
22	1.5	0						4.6	0		.06	
23	.14	0						.03	0		.04	
24	.09	0						.01	0		.04	
25	.08	0						0	0		.04	
26	.08	0						0	0		.04	
27	.08	0						0	0		.03	
28	.06	0						0	0		.02	
29	.08	0			------			0	0		0	
30	.06	0			------			0	0		0	
31	.04	------			------		------	0	------		0	------
TOTAL	10.82	.15	0	0	0	0	0	16.64	53.83	0	13.84	0
MEAN	.35	.005	0	0	0	0	0	.54	1.79	0	.45	0
MAX	8.6	.04	0	0	0	0	0	12	52	0	13	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	21	.3	0	0	0	0	0	33	107	0	27	0

CAL YR 1969 TOTAL 1,797.64 MEAN 4.93 MAX 647 MIN 0 ACFT 3,570
WAT YR 1970 TOTAL 95.28 MEAN .26 MAX 52 MIN 0 ACFT 189

PEAK DISCHARGE (BASE, 750 CFS).--No peak above base.

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.--20 years, 155 cfs (112,300 acre-ft per year).

EXTREMES.--Current year: Maximum daily discharge, 1,880 cfs Sept. 18; 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	117	235	77	60	60	39	14	8.7	674	102	674	15
2	99	190	77	65	62	47	9.6	5.8	709	219	682	12
3	96	175	77	65	62	50	10	7.7	728	112	706	4.9
4	85	163	86	68	60	48	12	10	687	58	671	6.4
5	76	151	89	60	62	47	23	15	709	22	696	3.1
6	72	145	92	50	62	48	26	23	714	8.3	701	2.9
7	71	140	95	45	59	52	24	30	736	4.0	698	6.4
8	64	131	111	58	58	51	20	31	725	4.2	690	2.1
9	49	124	129	66	58	48	19	28	798	1.5	650	1.9
10	47	119	108	90	58	42	19	28	733	0	490	2.1
11	45	116	98	92	58	49	13	19	731	0	1,190	1.6
12	38	108	91	82	57	42	18	17	736	0	604	.26
13	34	105	88	82	58	45	19	17	628	0	401	.68
14	43	100	85	95	57	40	29	12	280	0	407	.46
15	50	96	81	106	55	40	26	11	144	0	407	0
16	40	93	78	106	51	33	21	16	102	0	377	.24
17	39	92	77	105	49	33	20	15	52	0	393	84
18	40	89	77	93	52	28	20	11	35	0	328	1,880
19	43	88	76	84	47	22	23	11	23	0	144	1,020
20	57	84	76	85	44	24	40	10	16	0	88	458
21	92	85	76	81	47	30	130	8.3	12	0	62	318
22	106	86	76	81	49	31	90	10	39	127	46	252
23	311	85	76	78	55	25	40	24	48	409	51	210
24	1,070	84	75	77	57	18	23	14	23	569	38	175
25	426	84	75	76	53	13	14	37	22	1,010	31	129
26	290	82	75	72	43	18	9.6	482	36	1,360	21	111
27	264	78	75	71	42	13	6.1	633	35	722	40	99
28	601	77	73	67	41	18	6.1	647	85	682	24	89
29	407	77	74	65	------	24	7.0	660	56	666	13	92
30	318	77	60	66	------	24	4.9	671	42	677	9.0	91
31	271	------	57	64	------	24	------	652	------	674	10	------
TOTAL	5,361	3,359	2,560	2,355	1,516	1,066	736.3	4,164.5	10,358	7,427.0	11,342.0	5,068.04
MEAN	173	112	82.6	76.0	54.1	34.4	24.5	134	345	240	366	169
MAX	1,070	235	129	106	62	52	130	671	798	1,360	1,190	1,880
MIN	34	77	57	45	41	13	4.9	5.8	12	0	9.0	0
AC-FT	10,630	6,660	5,080	4,670	3,010	2,110	1,460	8,260	20,550	14,730	22,500	10,050

CAL YR 1969 TOTAL 83,333.43 MEAN 228 MAX 1,880 MIN 0 ACFT 165,300
WAT YR 1970 TOTAL 55,312.84 MEAN 152 MAX 1,880 MIN 0 ACFT 109,700

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.--19 years, 3.47 cfs (2,510 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 316 cfs May 22 (gage height, 2.98 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 since at least 1920.

REMARKS.--Records good. No surface diversions above station.

REVISIONS (WATER YEARS).--WRD 1968: 1967.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0							0				
2	0							0				
3	0							0				
4	0							0				
5	0							0				
6	0							0				
7	0							0				
8	0							0				
9	0							0				
10	0							0				
11	0							0				
12	0							0				
13	0							0				
14	0							0				
15	0							0				
16	0							0				
17	0							0				
18	0							0				
19	0							0				
20	.06							0				
21	14							0				
22	.33							42				
23	0							.06				
24	0							0				
25	0							0				
26	0							0				
27	0							0				
28	0							0				
29	0				-------			0				
30	0				-------			0				
31	0	-------			-------		-------	0	-------			-------
TOTAL	14.39	0	0	0	0	0	0	42.06	0	0	0	0
MEAN	.46	0	0	0	0	0	0	1.36	0	0	0	0
MAX	14	0	0	0	0	0	0	42	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	29	0	0	0	0	0	0	83	0	0	0	0

CAL YR 1969 TOTAL 14.39 MEAN .039 MAX 14 MIN 0 ACFT 29
WAT YR 1970 TOTAL 56.45 MEAN .15 MAX 42 MIN 0 AC-FT 112

PEAK DISCHARGE (BASE, 200 CFS).--May 22 (0200) 316 cfs (2.98 ft).

08400500 Lake McMillan near Lakewood, N. Mex.

LOCATION.--Lat 32°35'42", long 104°20'49", in NE¼NE¼ sec.11, T.20 S., R.26 E., Eddy County, near outlet gates 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 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.--Nonrecording gage. Datum of gage is 3,241.6 ft above mean sea level (Bureau of Reclamation datum).

EXTREMES.--Current year: Maximum contents, 33,620 acre-ft at times during December, January (gage height, 26.10 ft); minimum, 3,710 acre-ft May 26 (gage height, 17.70 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 McMillan Dam, an earthfill structure, 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 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. Figures given herein represent usable contents and are computed from daily readings at 0800 hours. 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, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32,520	32,250	32,790	33,340	33,340	32,790	30,380	10,180	7,720	14,960	15,660	17,120
2	32,520	32,250	32,790	33,340	33,340	32,790	29,860	15,840	8,200	14,960	16,380	16,740
3	32,520	32,250	32,790	33,340	33,340	32,520	28,820	12,210	9,110	15,300	17,120	16,560
4	32,520	32,250	32,790	33,340	33,340	32,520	27,800	8,980	10,040	15,480	18,080	16,380
5	32,520	32,520	32,790	33,340	33,340	32,520	26,800	8,850	11,020	15,480	19,080	16,020
6	32,520	32,520	33,060	33,340	33,060	32,520	25,820	8,850	12,060	15,300	19,900	15,480
7	32,250	32,520	33,340	33,340	33,060	32,520	24,860	8,720	13,140	15,130	20,960	14,960
8	32,250	32,520	33,620	33,340	33,060	32,520	23,900	8,720	14,280	14,960	21,840	14,620
9	31,980	32,520	33,620	33,340	33,060	32,520	22,980	8,720	15,300	14,790	22,520	14,110
10	31,440	32,520	33,620	33,340	33,060	32,520	22,060	8,720	16,380	14,620	22,750	13,780
11	30,640	32,520	33,620	33,340	33,060	32,520	21,180	8,590	17,500	14,450	23,210	13,460
12	30,120	32,520	33,620	33,340	33,060	32,520	20,320	8,460	18,480	14,450	25,100	13,140
13	29,860	32,520	33,340	33,340	33,060	32,250	19,480	8,460	19,690	13,940	25,580	12,660
14	29,600	32,520	33,340	33,340	33,060	32,250	18,480	8,200	20,530	13,300	25,580	12,360
15	29,080	32,520	33,340	33,340	33,060	32,250	17,880	7,960	20,530	12,660	25,340	12,210
16	29,080	32,520	33,340	33,620	33,060	32,250	16,930	7,600	20,320	12,060	25,340	12,210
17	28,820	32,520	33,340	33,620	33,060	31,980	16,200	7,120	19,900	11,310	25,340	12,360
18	28,560	32,520	33,340	33,620	32,790	31,980	15,660	6,660	19,280	10,600	25,580	12,820
19	28,300	32,520	33,340	33,620	32,790	31,980	14,960	6,200	18,280	9,900	25,580	15,660
20	28,050	32,520	33,340	33,620	32,790	31,710	14,620	5,850	17,500	9,110	25,100	17,690
21	29,860	32,520	33,340	33,620	32,790	31,710	14,450	5,300	16,740	8,330	24,620	18,480
22	29,860	32,790	33,340	33,620	32,790	31,710	14,280	4,860	16,200	7,480	23,670	19,080
23	30,380	32,790	33,340	33,620	32,790	31,710	14,110	4,640	15,660	6,770	22,980	19,280
24	31,440	32,790	33,340	33,620	32,790	31,440	14,110	4,120	15,480	6,880	22,520	19,480
25	32,790	32,790	33,340	33,620	32,790	31,440	13,780	3,910	15,300	6,660	22,060	19,690
26	32,520	32,790	33,340	33,620	32,790	31,170	13,140	3,710	15,130	9,500	20,960	19,690
27	32,790	32,790	33,340	33,620	32,790	31,170	12,510	4,330	14,790	11,760	20,110	19,900
28	32,520	32,790	33,340	33,620	32,790	30,900	11,760	5,190	14,620	12,660	19,900	20,110
29	32,790	32,790	33,340	33,340	------	30,900	11,310	5,740	14,280	13,620	19,280	20,110
30	32,790	32,790	33,620	33,340	------	30,640	10,740	6,310	14,790	14,280	18,680	20,320
31	32,520	------	33,620	33,340	------	30,640	------	6,880	------	14,960	17,880	------
(†)	0	+270	+830	-280	-550	-2,150	-19,900	-3,860	+7,910	+170	+2,920	+2,440
MAX	32,790	32,790	33,620	33,620	33,340	32,790	30,380	15,840	20,530	15,480	25,580	20,320
MIN	28,050	32,250	32,790	33,340	32,790	30,640	10,740	3,710	7,720	6,660	15,660	12,210

CAL YR 1969: (†) +29,910
WAT YR 1970: (†) -12,200

†Change in contents, in acre-feet.

08400500 Lake McMillan near Lakewood, N. Mex.--Continued

GAGE HEIGHT, IN FEET, AT 0800, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.90	25.85	25.95	26.05	26.05	25.95	25.50	20.45	19.50	22.00	22.20	22.60
2	25.90	25.85	25.95	26.05	26.05	25.95	25.40	22.25	19.70	22.00	22.40	22.50
3	25.90	25.85	25.95	26.05	26.05	25.90	25.20	21.15	20.05	22.10	22.60	22.45
4	25.90	25.85	25.95	26.05	26.05	25.90	25.00	20.00	20.40	22.15	22.85	22.40
5	25.90	25.90	25.95	26.05	26.05	25.90	24.80	19.95	20.75	22.15	23.10	22.30
6	25.90	25.90	26.00	26.05	26.00	25.90	24.60	19.95	21.10	22.10	23.30	22.15
7	25.85	25.90	26.05	26.05	26.00	25.90	24.40	19.90	21.45	22.05	23.55	22.00
8	25.85	25.90	26.10	26.05	26.00	25.90	24.20	19.90	21.80	22.00	23.75	21.90
9	25.80	25.90	26.10	26.05	26.00	25.90	24.00	19.90	22.10	21.95	23.90	21.75
10	25.70	25.90	26.10	26.05	26.00	25.90	23.80	19.90	22.40	21.90	23.95	21.65
11	25.55	25.90	26.10	26.05	26.00	25.90	23.60	19.85	22.70	21.85	24.05	21.55
12	25.45	25.90	26.10	26.05	26.00	25.90	23.40	19.80	22.95	21.85	24.45	21.45
13	25.40	25.90	26.05	26.05	26.00	25.85	23.20	19.80	23.25	21.70	24.55	21.30
14	25.35	25.90	26.05	26.05	26.00	25.85	22.95	19.70	23.45	21.50	24.55	21.20
15	25.25	25.90	26.05	26.05	26.00	25.85	22.80	19.60	23.45	21.30	24.50	21.15
16	25.25	25.90	26.05	26.10	26.00	25.85	22.55	19.45	23.40	21.10	24.50	21.15
17	25.20	25.90	26.05	26.10	26.00	25.80	22.35	19.25	23.30	20.85	24.50	21.20
18	25.15	25.90	26.05	26.10	25.95	25.80	22.20	19.05	23.15	20.60	24.55	21.35
19	25.10	25.90	26.05	26.10	25.95	25.80	22.00	18.85	22.90	20.35	24.55	22.20
20	25.05	25.90	26.05	26.10	25.95	25.75	21.90	18.70	22.70	20.05	24.45	22.75
21	25.40	25.90	26.05	26.10	25.95	25.75	21.85	18.45	22.50	19.75	24.35	22.95
22	25.40	25.95	26.05	26.10	25.95	25.75	21.80	18.25	22.35	19.40	24.15	23.10
23	25.50	25.95	26.05	26.10	25.95	25.75	21.75	18.15	22.20	19.10	24.00	23.15
24	25.70	25.95	26.05	26.10	25.95	25.70	21.75	17.90	22.15	19.15	23.90	23.20
25	25.95	25.95	26.05	26.10	25.95	25.70	21.65	17.80	22.10	19.05	23.80	23.25
26	25.90	25.95	26.05	26.10	25.95	25.65	21.45	17.70	22.05	20.20	23.55	23.25
27	25.95	25.95	26.05	26.10	25.95	25.65	21.25	18.00	21.95	21.00	23.35	23.30
28	25.90	25.95	26.05	26.10	25.95	25.60	21.00	18.40	21.90	21.30	23.30	23.35
29	25.95	25.95	26.05	26.05	------	25.60	20.85	18.65	21.80	21.60	23.15	23.35
30	25.95	25.95	26.10	26.05	------	25.55	20.65	18.90	21.95	21.80	23.00	23.40
31	25.90	------	26.10	26.05	------	25.55	------	19.15	------	22.00	22.80	------
MEAN	25.64	25.91	26.04	26.07	25.99	25.80	22.93	19.31	22.05	21.16	23.73	22.31
MAX	25.95	25.95	26.10	26.10	26.05	25.95	25.50	22.25	23.45	22.15	24.55	23.40
MIN	25.05	25.85	25.95	26.05	25.95	25.55	20.65	17.70	19.50	19.05	22.20	21.15

WAT YR 1970 MEAN 23.90 MAX 26.10 MIN 17.70

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, No. 1 and 2, since July 9, 1960, and Apr. 6, 1960, respectively, were discontinued Sept. 30, 1970.

AVERAGE DISCHARGE.--25 years (1906-7, 1939-40, 1947-70), 101 cfs (73,170 acre-ft per year).

EXTREMES.--Current year: Maximum daily discharge, 493 cfs Oct. 29, includes flow of spillways; no flow for many days.
1939-40, 1947-70: 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.95	130	1.2	23	5.1	.88	59	217	215	.35	244	141
2	.68	126	1.2	11	18	1.2	416	191	174	.30	171	75
3	.53	102	1.2	12	6.3	1.2	416	106	159	.26	132	60
4	1.2	27	2.9	11	5.1	.63	412	62	130	.26	134	59
5	9.1	.91	16	25	9.9	.63	412	.23	116	.26	136	142
6	7.6	44	28	11	5.1	8.3	427	.20	85	.26	134	185
7	3.9	66	14	7.6	10	.17	492	.20	69	.30	134	141
8	3.9	68	16	6.3	9.9	.03	431	.17	69	.35	212	121
9	148	66	16	6.3	3.9	.03	389	.15	71	.41	255	121
10	316	66	23	6.3	3.9	.36	389	.15	71	.49	258	121
11	292	68	67	7.6	11	.36	364	36	71	.49	198	121
12	181	66	84	11	2.9	0	343	51	71	59	137	121
13	141	22	84	9.1	1.9	0	343	92	71	220	137	109
14	121	1.9	79	9.1	2.9	0	340	111	71	220	285	77
15	88	.63	48	12	7.6	0	340	109	71	233	285	77
16	71	.63	7.7	18	1.2	2.8	340	120	145	326	330	26
17	72	.88	6.3	18	1.2	0	297	165	264	326	130	.30
18	72	12	9.1	20	2.9	3.2	198	165	350	326	130	.26
19	71	.63	6.3	18	2.9	.34	106	163	357	326	220	.26
20	64	.63	6.3	20	1.9	0	106	163	326	343	273	.30
21	.41	.63	7.6	18	1.2	0	106	161	241	420	310	.35
22	.31	.63	6.3	18	1.2	.16	106	188	181	416	291	.35
23	.36	3.9	7.6	18	1.9	0	106	205	85	313	225	.07
24	42	.88	7.6	14	1.2	0	106	141	62	130	147	0
25	426	1.2	9.1	16	.88	.20	181	108	62	60	275	0
26	302	.63	6.3	14	.88	0	223	106	62	62	412	0
27	484	14	6.3	11	.88	5.1	220	108	62	86	199	0
28	492	.48	31	22	.88	.36	217	192	64	200	129	0
29	493	.88	31	16	------	.36	217	310	65	244	188	0
30	446	.88	18	6.3	------	.88	217	313	20	241	317	0
31	127	------	18	6.3	------	.48	------	247	------	241	294	------
TOTAL	4,477.94	893.32	666.0	421.9	122.62	27.67	8,319	3,831.10	3,860	4,795.73	6,722	1,698.89
MEAN	144	29.8	21.5	13.6	4.38	.89	277	124	129	155	217	56.6
MAX	493	130	84	25	18	8.3	492	313	357	420	412	185
MIN	.31	.48	1.2	6.3	.88	0	59	.15	20	.26	129	0
AC-FT	8,880	1,770	1,320	837	243	55	16,500	7,600	7,660	9,510	13,330	3,370

CAL YR 1969 TOTAL 42,237.27 MEAN 116 MAX 1,230 MIN 0 ACFT 83,780
WAT YR 1970 TOTAL 35,836.17 MEAN 98.2 MAX 493 MIN 0 ACFT 71,080

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.--7 years, 7.00 cfs (5,070 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,220 cfs Oct. 20 (gage height, 9.68 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. Probable date of flood, Oct. 7, 1954.

REMARKS.--Records poor. No known diversions above gage.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0							0	0		0	0
2	0							0	0		0	0
3	0							0	0		0	0
4	0							0	0		0	0
5	0							0	0		0	0
6	0							0	0		0	0
7	0							0	0		0	0
8	0							0	0		0	0
9	0							0	0		0	0
10	0							0	0		5.2	0
11	0							0	0		0	0
12	0							0	0		0	0
13	0							0	0		0	0
14	0							0	0		0	0
15	0							7.8	0		0	0
16	0							0	0		0	185
17	0							0	0		0	0
18	0							0	0		0	0
19	0							0	0		0	0
20	130							0	0		0	0
21	151							9.2	0		0	0
22	5.8							45	0		0	0
23	0							0	0		0	0
24	0							0	0		0	0
25	0							0	0		0	0
26	10							0	0		0	0
27	1.1							0	0		0	0
28	0							0	0		0	0
29	0				------			0	258		0	0
30	0				------			0	102		0	0
31	0	------			------		------	0	------		0	------
TOTAL	297.9	0	0	0	0	0	0	62.0	360	0	5.2	185
MEAN	9.61	0	0	0	0	0	0	2.00	12.0	0	.17	6.17
MAX	151	0	0	0	0	0	0	45	258	0	5.2	185
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	591	0	0	0	0	0	0	123	714	0	10	367

CAL YR 1969 TOTAL 305.85 MEAN .84 MAX 151 MIN 0 ACFT 607
WAT YR 1970 TOTAL 910.1 MEAN 2.49 MAX 258 MIN 0 ACFT 1,810

PEAK DISCHARGE (BASE, 450 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-20	2345	9.68	2,220	9-16	1030	9.60	2,160
6-29	2300	9.50	2,080				

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.--7 years, 11.9 cfs (8,620 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 28,500 cfs Oct. 20 (gage height, 14.90 ft), from rating curve extended above 5,500 cfs as explained below; 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0							0	0	4.2		0
2	0							0	0	0		0
3	0							0	0	0		0
4	0							0	0	0		0
5	0							0	0	0		0
6	0							0	0	0		0
7	0							0	0	0		0
8	0							0	0	0		0
9	0							0	0	0		0
10	0							0	0	0		0
11	0							0	0	0		0
12	0							0	0	0		0
13	0							0	0	0		0
14	0							0	0	0		0
15	0							0	0	0		0
16	0							0	0	0		537
17	0							0	0	0		19
18	0							0	0	0		.05
19	0							0	0	0		0
20	2,040							0	0	0		0
21	934							.51	0	0		0
22	200							0	0	0		0
23	16							0	0	0		0
24	3.6							0	0	0		0
25	.77							0	0	0		0
26	.33							0	0	0		0
27	.44							0	0	0		0
28	.11							0	0	0		0
29	0				------			0	373	0		0
30	0				------			0	165	0		0
31	0	------			------		------	0	------	0		------
TOTAL	3,195.25	0	0	0	0	0	0	.51	538	4.2	0	556.05
MEAN	103	0	0	0	0	0	0	.017	17.9	.14	0	18.5
MAX	2,040	0	0	0	0	0	0	.51	373	4.2	0	537
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	6,340	0	0	0	0	0	0	1.0	1,070	8.3	0	1,100

CAL YR 1969 TOTAL 3,196.46 MEAN 8.76 MAX 2,040 MIN 0 ACFT 6,340
WAT YR 1970 TOTAL 4,294.01 MEAN 11.8 MAX 2,040 MIN 0 ACFT 8,520

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-20	1945	14.90	28,500	9-16	0915	8.62	3,670
6-29	1815	8.15	2,910				

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.--27 years, 169 cfs (122,400 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, about 40,000 cfs Oct. 20 (gage height, 18.04 ft), includes estimated bypass flow from Spencer Draw upstream; minimum, 32 cfs July 12.
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 ground-water 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). WSP 1712: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	177	54	64	48	55	45	237	240	66	244	196
2	58	174	54	67	55	54	347	234	219	39	210	123
3	55	169	55	61	55	54	409	142	191	38	149	89
4	56	110	58	61	52	54	405	121	172	36	152	87
5	56	62	56	64	52	55	409	54	144	35	152	125
6	56	66	81	66	54	56	413	39	126	34	154	202
7	55	110	67	58	54	55	484	36	89	33	154	180
8	55	115	64	55	54	54	440	34	90	34	193	142
9	93	115	64	55	54	52	398	35	85	33	262	139
10	302	115	64	54	54	54	398	34	85	33	262	139
11	305	113	74	55	54	55	372	36	85	33	237	137
12	222	113	121	56	55	54	354	72	87	33	162	139
13	193	98	121	56	52	54	354	94	89	208	162	137
14	166	58	121	56	52	54	350	139	89	234	262	102
15	144	58	115	60	52	54	346	146	90	234	272	98
16	115	55	66	62	54	52	343	139	134	308	315	790
17	117	54	60	62	50	52	329	191	247	312	191	59
18	117	55	60	62	52	54	265	193	326	312	164	36
19	117	56	60	62	52	52	142	193	346	312	188	35
20	3,550	55	60	62	52	52	142	193	346	308	278	35
21	2,050	55	60	62	54	52	139	199	262	387	298	34
22	281	55	58	61	54	52	139	415	228	387	302	34
23	74	55	58	61	54	49	139	231	128	346	253	33
24	60	55	58	61	55	46	139	193	87	179	193	34
25	338	55	58	61	54	49	182	144	87	87	214	35
26	312	55	58	61	54	48	244	142	85	78	421	34
27	424	56	56	60	54	49	244	139	83	78	258	35
28	448	60	62	54	55	45	244	174	83	178	139	36
29	448	55	85	69	------	45	244	312	503	240	185	38
30	440	55	69	54	------	45	240	322	698	244	305	36
31	212	------	66	52	------	45	------	288	------	244	308	------
TOTAL	10,979	2,484	2,163	1,854	1,491	1,601	8,699	4,921	5,524	5,123	7,039	3,339
MEAN	354	82.8	69.8	59.8	53.3	51.6	290	159	184	165	227	111
MAX	3,550	177	121	69	55	56	484	415	698	387	421	790
MIN	55	54	54	52	48	45	45	34	83	33	139	33
AC-FT	21,780	4,930	4,290	3,680	2,960	3,180	17,250	9,760	10,960	10,160	13,960	6,620

CAL YR 1969 TOTAL 58,185 MEAN 159 MAX 3,550 MIN 10 ACFT 115,400
WAT YR 1970 TOTAL 55,217 MEAN 151 MAX 3,550 MIN 33 ACFT 109,500

PEAK DISCHARGE (BASE, 1,700 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-20	2015	18.04	† about 40,000	9-17	1030	6.77	3,180
6-29	1900	6.39	2,810				

† Includes estimated bypass flow from Spencer Draw upstream.

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.

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, 408 cfs Apr. 7; 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. About 1,600 acres (most of it above gaging station on Pecos River at Carlsbad), is irrigated on the left bank. The remaining acreage (most of which is downstream from Pecos River at Carlsbad gage), is on right bank.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	142					0	324	209	162	21	249	162
2	198					0	349	142	159	49	187	111
3	222					0	360	87	164	31	207	115
4	203					0	337	51	152	29	151	139
5	193					0	314	37	121	38	105	146
6	182					0	376	50	84	69	147	132
7	182					0	408	22	68	88	185	164
8	191					0	393	56	96	102	228	144
9	213					0	376	58	98	127	218	144
10	207					0	366	49	107	173	256	164
11	175					0	351	84	115	209	198	146
12	110					0	334	115	119	253	178	127
13	113					0	330	113	90	290	220	88
14	116					0	341	110	60	276	222	84
15	107					0	337	151	93	296	224	132
16	110					0	300	189	161	310	194	26
17	94					0	282	162	194	312	220	0
18	74					0	243	159	224	302	288	0
19	68					0	173	164	222	294	282	0
20	92					0	185	196	185	330	288	0
21	40					0	200	230	144	334	296	0
22	.60					0	185	216	173	312	282	14
23	.20					0	203	198	127	256	230	38
24	.20					0	220	157	121	209	224	49
25	.20					87	218	226	100	142	251	61
26	.20					175	200	209	119	107	268	82
27	.20					243	194	198	124	161	256	71
28	.20					249	187	176	107	173	249	60
29	.20				------	241	198	218	147	151	228	43
30	0				------	276	222	191	97	180	203	40
31	0	------			------	326	------	134	------	209	216	------
TOTAL	3,034.00	0	0	0	0	1,597	8,506	4,357	3,933	5,833	6,950	2,482
MEAN	97.9	0	0	0	0	51.5	284	141	131	188	224	82.7
MAX	222	0	0	0	0	326	408	230	224	334	296	164
MIN	0	0	0	0	0	0	173	22	60	21	105	0
AC-FT	6,020	0	0	0	0	3,170	16,870	8,640	7,800	11,570	13,790	4,920

CAL YR 1969 TOTAL 38,138.60 MEAN 104 MAX 404 MIN 0 ACFT 75,650
WAT YR 1970 TOTAL 36,692.00 MEAN 101 MAX 408 MIN 0 ACFT 72,780

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 gage 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.--Nonrecording gage. Datum of gage is 3,157.0 ft above mean sea level (levels by Bureau of Reclamation).

EXTREMES.--Current year: Maximum contents, 5,420 acre-ft Oct. 30, 31 (gage height, 20.85 ft); minimum, 472 acre-ft Aug. 30.
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 Avalon Dam, an earthfill structure. 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. Figures given herein represent usable contents and are computed from daily readings at 0800 hours. 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, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3,490	5,220	4,970	5,020	4,970	4,970	1,640	1,580	1,540	3,890	1,130	900
2	3,210	5,070	4,970	5,020	4,970	4,970	1,040	1,640	1,640	3,810	1,130	955
3	3,210	5,070	4,970	4,970	4,970	4,970	1,160	1,840	1,840	3,730	1,130	982
4	2,480	5,070	4,970	4,970	4,970	4,970	1,250	1,910	1,700	3,690	982	872
5	2,160	5,070	4,970	4,970	4,970	4,970	1,440	2,020	1,700	3,610	1,010	738
6	1,840	5,070	4,970	4,970	4,970	4,970	1,580	1,940	1,740	3,530	1,070	818
7	1,670	5,070	4,970	4,970	4,970	4,970	1,640	1,880	1,770	3,370	1,010	872
8	1,280	5,070	5,020	4,970	4,970	4,970	1,770	1,840	1,770	3,170	872	872
9	928	5,070	5,020	4,970	4,970	4,970	1,840	1,740	1,740	2,970	872	845
10	791	5,070	5,020	4,970	4,970	4,970	1,880	1,640	1,640	2,700	900	818
11	1,010	5,070	5,020	4,970	4,970	4,970	1,940	1,510	1,580	2,360	955	791
12	1,280	5,070	5,070	4,970	4,970	4,970	1,940	1,410	1,480	2,020	982	764
13	1,480	5,070	5,070	4,970	4,970	4,970	1,980	1,250	928	1,410	900	791
14	1,580	5,020	5,070	4,970	4,970	4,970	1,980	1,250	1,410	1,250	791	872
15	1,640	5,020	5,070	4,970	4,970	4,970	1,980	1,220	1,440	1,100	872	845
16	1,640	5,020	5,120	4,970	4,970	4,970	2,020	1,160	1,350	982	1,010	900
17	1,640	5,020	5,070	4,970	4,970	4,920	2,120	1,070	1,320	928	1,220	2,550
18	1,640	5,020	5,070	4,970	4,970	4,920	2,190	1,100	1,410	928	1,040	2,590
19	1,740	5,020	5,020	4,970	4,970	4,920	2,160	1,100	1,610	928	791	2,590
20	1,770	4,970	5,020	4,970	4,970	4,920	2,050	1,100	1,840	900	612	2,620
21	5,170	4,970	5,020	4,970	4,970	4,920	1,910	1,040	2,190	845	564	2,620
22	5,070	4,970	5,020	4,970	4,970	4,920	1,770	1,320	2,360	928	661	2,660
23	5,170	4,970	5,020	4,970	4,970	4,920	1,640	1,410	2,360	1,100	636	2,550
24	5,170	4,970	5,020	4,970	4,970	4,920	1,440	1,440	2,360	1,220	686	2,480
25	5,270	4,970	5,020	4,970	4,970	4,920	1,280	1,380	2,300	1,160	540	2,400
26	5,220	4,970	5,020	4,970	4,970	4,700	1,220	1,190	2,220	1,040	587	2,260
27	5,370	4,970	5,020	4,970	4,970	4,300	1,320	982	2,120	928	818	2,080
28	5,370	4,970	5,020	4,970	4,970	3,810	1,410	845	1,980	791	738	1,980
29	5,370	4,970	5,020	4,970	------	3,570	1,480	872	1,880	845	517	1,940
30	5,420	4,970	5,020	4,970	------	2,850	1,540	1,040	3,530	982	472	1,910
31	5,420	------	5,020	4,970	------	2,300	------	1,350	------	1,070	738	------
(†)	+1,810	-450	+50	-50	0	-2,670	-760	-190	+2,180	-2,460	-332	+1,170
MAX	5,420	5,220	5,120	5,020	4,970	4,970	2,190	2,020	3,530	3,890	1,220	2,660
MIN	791	4,970	4,970	4,970	4,970	2,300	1,040	845	928	791	472	738

WAT YR 1970 MAX 5,420 MIN 472

CAL YR 1969: (†) +3,000
WAT YR 1970: (†) -1,700

† Change in contents, in acre-feet.

08403800 Lake Avalon near Carlsbad, N. Mex.--Continued

GAGE HEIGHT, IN FEET, AT 0800, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.70	20.65	20.40	20.45	20.40	20.40	16.20	16.10	16.05	19.20	15.40	15.00
2	18.35	20.50	20.40	20.45	20.40	20.40	15.25	16.20	16.20	19.10	15.40	15.10
3	18.35	20.50	20.40	20.40	20.40	20.40	15.45	16.50	16.50	19.00	15.40	15.15
4	17.40	20.50	20.40	20.40	20.40	20.40	15.60	16.60	16.30	18.95	15.15	14.95
5	16.95	20.50	20.40	20.40	20.40	20.40	15.90	16.75	16.30	18.85	15.20	14.70
6	16.50	20.50	20.40	20.40	20.40	20.40	16.10	16.65	16.35	18.75	15.30	14.85
7	16.25	20.50	20.40	20.40	20.40	20.40	16.20	16.55	16.40	18.55	15.20	14.95
8	15.65	20.50	20.45	20.40	20.40	20.40	16.40	16.50	16.40	18.30	14.95	14.95
9	15.05	20.50	20.45	20.40	20.40	20.40	16.50	16.35	16.35	18.05	14.95	14.90
10	14.80	20.50	20.45	20.40	20.40	20.40	16.55	16.20	16.20	17.70	15.00	14.85
11	15.20	20.50	20.45	20.40	20.40	20.40	16.65	16.00	16.10	17.25	15.10	14.80
12	15.65	20.50	20.50	20.40	20.40	20.40	16.65	15.85	15.95	16.75	15.15	14.75
13	15.95	20.50	20.50	20.40	20.40	20.40	16.70	15.60	15.05	15.85	15.00	14.80
14	16.10	20.45	20.50	20.40	20.40	20.40	16.70	15.60	15.85	15.60	14.80	14.95
15	16.20	20.45	20.50	20.40	20.40	20.40	16.70	15.55	15.90	15.35	14.95	14.90
16	16.20	20.45	20.55	20.40	20.40	20.40	16.75	15.45	15.75	15.15	15.20	15.00
17	16.20	20.45	20.50	20.40	20.40	20.35	16.90	15.30	15.70	15.05	15.55	17.50
18	16.20	20.45	20.50	20.40	20.40	20.35	17.00	15.35	15.85	15.05	15.25	17.55
19	16.35	20.45	20.45	20.40	20.40	20.35	16.95	15.35	16.15	15.05	14.80	17.55
20	16.40	20.40	20.45	20.40	20.40	20.35	16.80	15.35	16.50	15.00	14.45	17.60
21	20.60	20.40	20.45	20.40	20.40	20.35	16.60	15.25	17.00	14.90	14.35	17.60
22	20.50	20.40	20.45	20.40	20.40	20.35	16.40	15.70	17.25	15.05	14.55	17.65
23	20.60	20.40	20.45	20.40	20.40	20.35	16.20	15.85	17.25	15.35	14.50	17.50
24	20.60	20.40	20.45	20.40	20.40	20.35	15.90	15.90	17.25	15.55	14.60	17.40
25	20.70	20.40	20.45	20.40	20.40	20.35	15.65	15.80	17.15	15.45	14.30	17.30
26	20.65	20.40	20.45	20.40	20.40	20.10	15.55	15.50	17.05	15.25	14.40	17.10
27	20.80	20.40	20.45	20.40	20.40	19.65	15.70	15.15	16.90	15.05	14.85	16.85
28	20.80	20.40	20.45	20.40	20.40	19.10	15.85	14.90	16.70	14.80	14.70	16.70
29	20.80	20.40	20.45	20.40	------	18.80	15.95	14.95	16.55	14.90	14.25	16.65
30	20.85	20.40	20.45	20.40	------	17.90	16.05	15.25	18.75	15.15	14.15	16.60
31	20.85	------	20.45	20.40	------	17.15	------	15.75	------	15.30	14.70	------
MEAN	17.94	20.46	20.45	20.40	20.40	20.07	16.26	15.80	16.46	16.43	14.89	16.01
MAX	20.85	20.65	20.55	20.45	20.40	20.40	17.00	16.75	18.75	19.20	15.55	17.65
MIN	14.80	20.40	20.40	20.40	20.40	17.15	15.25	14.90	15.05	14.80	14.15	14.70

WAT YR 1970 MEAN 17.95 MAX 20.85 MIN 14.15

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 nonrecording gage at site 0.5 mile upstream at different datum.

AVERAGE DISCHARGE.--19 years (1951-70), 36.0 cfs (26,080 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 20,000 cfs Oct. 20 (gage height 14.98 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 deacribed 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	167	12	26	18	9.1						
2	0	144	11	25	14	10						
3	0	135	11	24	15	7.8						
4	0	103	14	22	15	4.6						
5	0	58	14	23	14	4.0						
6	0	36	24	20	14	12						
7	0	42	25	22	13	10						
8	0	55	22	21	14	9.1						
9	0	60	23	18	13	7.8						
10	0	64	18	19	12	7.3						
11	0	64	18	16	13	7.8						
12	0	62	36	16	10	4.3						
13	0	62	55	16	13	4.6						
14	0	39	62	16	9.6	5.6						
15	0	24	65	18	8.7	6.0						
16	0	20	50	18	8.2	6.9						
17	0	15	30	20	9.1	3.4						
18	0	7.8	22	19	9.6	3.7						
19	0	8.7	18	21	7.8	4.0						
20	1,140	9.6	16	21	7.8	3.4						
21	4,290	11	15	20	11	5.2						
22	233	12	15	20	13	6.0						
23	29	14	12	20	12	4.0						
24	28	11	13	22	14	4.6						
25	365	11	11	18	11	2.5						
26	92	12	11	18	9.6	.09						
27	288	14	12	18	10	0						
28	540	14	13	18	11	0						
29	274	14	22	14	------	0						
30	394	12	26	15	------	0						
31	278	------	26	15	------	0	------		------			------
TOTAL	7,951	1,301.1	722	599	330.4	153.79	0	0	0	0	0	0
MEAN	256	43.4	23.3	19.3	11.8	4.96	0	0	0	0	0	0
MAX	4,290	167	65	26	18	12	0	0	0	0	0	0
MIN	0	7.8	11	14	7.8	0	0	0	0	0	0	0
AC-FT	15,770	2,580	1,430	1,190	655	305	0	0	0	0	0	0

CAL YR 1969 TOTAL 11,671.41 MEAN 32.0 MAX 4,290 MIN 0 ACFT 23,150
WAT YR 1970 TOTAL 11,057.29 MEAN 30.3 MAX 4,290 MIN 0 ACFT 21,930

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 December 1969 (discontinued). 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.--Maximum discharge during period October to December 1969, 19,400 cfs Oct. 21 (gage height, 13.91 ft); minimum, 0.23 cfs Nov. 19.

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 fair. 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 1970 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1632: 1903-6, 1936, 1938. WSP 1682, 1923: 1916(M), 1933(M). See also PERIOD OF RECORD.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	194	36									
2	15	165	34									
3	15	156	34									
4	16	137	38									
5	16	94	42									
6	16	65	55									
7	16	59	54									
8	15	77	54									
9	16	95	53									
10	17	100	62									
11	17	101	48									
12	17	104	60									
13	15	98	83									
14	15	90	107									
15	17	38	107									
16	15	42	109									
17	17	67	76									
18	19	78	44									
19	22	15	51									
20	296	28	58									
21	5,460	28	39									
22	287	14	52									
23	52	49	32									
24	46	20	42									
25	328	32	24									
26	94	35	51									
27	292	38	28									
28	656	36	34									
29	240	36	61		------							
30	394	36	53		------							
31	312	------	53		------		------		------			------
TOTAL	8,764	2,127	1,674									
MEAN	283	70.9	54.0									
MAX	5,460	194	109									
MIN	11	14	24									
AC-FT	17,380	4,220	3,320									

CAL YR 1969 TOTAL 17,017 MEAN 46.6 MAX 5,460 MIN .48 ACFT 33,750
WAT YR 1970 TOTAL -- MEAN -- MAX -- MIN -- AC-FT --

08405200 Pecos River below Dark Canyon, at Carlsbad, N. Mex.

LOCATION.--Lat 32°24'37", long 104°12'58", in NE¼SW¼NW¼ sec.8, T.22 S., R.27 E., Eddy County, on left bank, 700 ft downstream from mouth of Dark Canyon, 0.3 mile downstream from lower Tansill Dam and Bataan recreational area, 0.8 mile downstream from bridge on U.S. Highway 62-180 in Carlsbad.

DRAINAGE AREA.--18,550 sq mi, approximately (contributing area).

PERIOD OF RECORD.--January to September 1970. Records during period are equivalent to those for the discontinued station, Pecos River at Carlsbad, upstream.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 3,075.19 ft above mean sea level.

EXTREMES.--Maximum discharge during period January to September 1970, 371 cfs Mar. 6 (gage height, 1.79 ft); minimum, 0.24 cfs Jan. 30. The flood of Aug. 23, 1966, reached a stage of about 22 ft (discharge not determined). 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. 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 1970 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				53	38	34	17	22	16	24	17	11
2				53	8.7	61	19	22	22	14	17	10
3				55	43	55	21	23	21	16	14	10
4				34	47	19	19	23	18	16	11	11
5				51	45	65	21	23	18	16	12	12
6				49	20	176	22	23	22	16	12	11
7				53	33	131	22	23	21	16	12	9.4
8				53	47	66	21	25	19	16	14	12
9				45	47	62	22	22	18	16	16	6.9
10				55	21	57	22	21	17	16	12	8.5
11				29	47	57	21	21	19	14	11	8.5
12				48	47	57	21	19	16	14	12	10
13				37	39	55	22	17	17	14	13	10
14				41	47	55	23	18	21	10	18	11
15				43	27	55	25	23	26	12	16	13
16				55	25	53	25	13	23	11	13	48
17				57	49	53	23	16	16	13	14	17
18				55	22	49	26	17	15	12	13	17
19				53	28	47	19	18	15	13	17	17
20				49	28	32	25	18	12	15	17	18
21				47	34	2.1	26	34	13	12	17	17
22				29	36	2.4	28	13	26	13	14	17
23				40	38	.94	28	12	17	13	10	13
24				51	39	.94	29	18	16	14	10	17
25				49	38	.48	26	19	18	18	10	19
26				31	34	.38	23	18	12	19	9.4	13
27				54	34	.48	23	17	13	19	10	14
28				48	36	.33	25	19	13	18	8.5	23
29				26	------	11	23	19	17	14	8.5	19
30				10	------	22	22	18	26	13	9.4	19
31		------		3.3	------	23	------	21	------	13	10	------
TOTAL				1,356.3	997.7	1,303.05	689	615	543	460	397.8	442.3
MEAN				43.8	35.6	42.0	23.0	19.8	18.1	14.8	12.8	14.7
MAX				57	49	176	29	34	26	24	18	48
MIN				3.3	8.7	.33	17	12	12	10	8.5	6.9
AC-FT				2,690	1,980	2,580	1,370	1,220	1,080	912	789	877

CAL YR 1969 TOTAL -- MEAN -- MAX -- MIN -- AC-FT --
WAT YR 1970 TOTAL -- MEAN -- MAX -- MIN -- AC-FT --

NOTE.--No inflow from Dark Canyon occurred during period January to September 1970.

08405500 Black River above Malaga, N. Mex.

LOCATION.--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.--23 years (1947-70), 14.8 cfs (10,720 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 7,040 cfs Oct. 21 (gage height, 8.33 ft); minimum, 1.5 cfs Oct. 15.
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).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	12	4.5	8.0	13	4.9	8.0	8.4	7.2	27	10	6.0
2	3.6	11	4.5	8.0	14	4.9	11	10	8.0	13	7.2	6.0
3	4.5	11	4.5	8.0	14	6.0	12	10	8.4	11	6.8	14
4	4.9	11	4.5	8.0	13	5.6	12	10	8.8	11	6.8	12
5	5.6	11	4.9	8.4	14	4.5	11	10	8.8	10	9.7	8.4
6	11	10	7.2	8.0	13	4.9	11	10	8.8	10	10	6.4
7	6.8	8.0	6.0	8.0	13	5.6	11	10	8.8	9.7	8.0	5.6
8	6.0	7.2	5.6	8.4	14	4.9	11	9.7	9.3	9.7	7.6	5.6
9	4.9	7.2	5.6	10	14	4.5	11	9.7	8.8	10	6.8	6.0
10	3.1	7.2	5.6	12	14	4.2	12	9.7	8.4	11	12	7.6
11	2.2	6.8	5.2	12	14	4.2	12	9.7	8.0	11	8.0	6.8
12	1.9	6.8	5.2	12	14	4.2	11	9.7	7.6	11	6.8	6.4
13	1.6	6.4	4.9	12	14	4.2	11	9.7	8.0	11	6.4	6.4
14	1.6	6.4	4.9	12	12	4.2	11	9.7	8.0	9.3	6.0	6.4
15	1.6	6.4	4.9	13	8.4	4.2	12	10	8.0	8.8	6.0	40
16	1.7	6.4	4.9	13	6.8	3.9	11	10	8.0	8.8	6.0	383
17	1.7	6.4	4.5	13	5.6	3.9	12	9.7	8.0	8.8	6.0	43
18	1.7	6.0	4.9	12	4.9	3.9	12	9.3	8.0	8.0	6.0	17
19	1.6	4.5	4.9	13	4.5	3.9	11	10	8.0	7.2	6.0	12
20	2.4	3.9	5.2	13	5.6	4.2	11	10	7.6	6.8	6.0	8.4
21	1,910	3.9	5.2	13	5.2	4.9	11	9.7	7.6	6.8	6.0	6.4
22	126	3.9	5.2	13	5.2	4.5	11	11	131	7.2	5.6	5.6
23	37	3.9	5.2	13	4.9	4.2	11	10	19	7.6	5.6	4.5
24	26	3.9	5.2	13	5.2	4.2	11	9.3	12	7.2	5.2	4.5
25	24	3.9	5.6	13	5.2	4.2	11	7.2	9.7	7.2	5.2	4.9
26	15	4.5	6.0	13	5.2	4.5	9.3	6.0	9.7	6.8	5.6	4.5
27	13	4.5	7.2	13	6.4	4.9	7.2	6.0	9.7	6.8	5.6	4.2
28	13	4.9	7.6	13	5.2	4.5	5.6	6.0	9.3	6.8	5.6	5.6
29	13	4.9	8.4	13	------	4.2	5.6	5.6	9.3	6.8	5.6	6.0
30	12	4.9	8.0	13	------	4.2	5.6	5.6	14	15	5.6	6.0
31	12	------	8.0	13	------	4.2	------	5.6	------	15	5.6	------
TOTAL	2,272.7	198.8	174.0	354.8	268.3	139.3	312.3	277.3	395.8	306.3	209.3	659.2
MEAN	73.3	6.63	5.61	11.4	9.58	4.49	10.4	8.95	13.2	9.88	6.75	22.0
MAX	1,910	12	8.4	13	14	6.0	12	11	131	27	12	383
MIN	1.6	3.9	4.5	8.0	4.5	3.9	5.6	5.6	7.2	6.8	5.2	4.2
AC-FT	4,510	394	345	704	532	276	619	550	785	608	415	1,310

CAL YR 1969 TOTAL 6,064.3 MEAN 16.6 MAX 1,910 MIN 1.6 ACFT 12,030
WAT YR 1970 TOTAL 5,568.1 MEAN 15.3 MAX 1,910 MIN 1.6 ACFT 11,040

PEAK DISCHARGE (BASE, 450 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-21	0600	8.33	7,040	9-16	0030	4.77	1,780
6-22	0130	3.65	944				

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; 34 years (1936-70) 211 cfs (152,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 29,800 cfs Oct. 21 (gage height, 24.34 ft); minimum, 16 cfs Aug. 26-30.
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 and bio-chemical analyses, water temperatures, and suspended sediment loads for the water year 1970 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	344	65	93	53	55	21	32	22	27	21	20
2	20	256	65	93	43	54	22	33	21	27	20	22
3	19	220	64	92	60	56	25	34	21	30	19	21
4	22	209	64	93	59	85	26	36	21	27	19	20
5	20	183	64	89	56	65	25	33	23	25	23	21
6	37	143	76	70	52	60	26	28	23	27	23	24
7	26	112	78	74	52	214	24	26	23	27	20	25
8	21	95	76	76	52	161	23	27	23	27	19	24
9	19	97	76	77	52	94	24	24	24	27	19	24
10	19	112	74	79	64	79	23	27	23	28	25	28
11	19	120	74	78	60	76	22	30	22	26	25	26
12	18	121	75	80	47	77	22	30	22	24	25	25
13	17	116	76	69	49	75	23	31	23	23	23	23
14	18	110	85	70	57	72	23	31	22	23	22	22
15	19	107	111	69	52	69	24	31	21	23	21	24
16	18	94	117	72	54	58	24	29	24	22	21	778
17	19	70	115	76	48	55	25	31	24	23	22	234
18	25	66	93	86	41	56	24	30	22	24	21	59
19	21	86	75	86	53	55	27	28	21	23	23	35
20	26	78	63	84	47	55	27	29	21	21	22	29
21	9,900	62	63	81	45	56	24	29	21	20	22	26
22	990	60	65	82	52	45	24	27	111	21	21	27
23	379	60	61	81	56	33	26	35	39	22	20	26
24	138	58	58	70	58	27	25	34	26	24	18	27
25	86	60	57	71	58	25	24	28	24	23	17	26
26	362	63	49	78	58	24	23	26	25	23	16	25
27	141	63	53	77	56	23	23	28	23	22	16	26
28	424	65	82	63	55	23	22	27	22	21	16	34
29	498	67	78	63	------	23	24	24	23	21	16	33
30	357	66	76	65	------	22	29	23	24	20	16	31
31	452	------	91	58	------	21	------	22	------	20	18	------
TOTAL	14,152	3,363	2,319	2,395	1,489	1,893	724	903	784	741	629	1,765
MEAN	457	112	74.8	77.3	53.2	61.1	24.1	29.1	26.1	23.9	20.3	58.8
MAX	9,900	344	117	93	64	214	29	36	111	30	25	778
MIN	17	58	49	58	41	21	21	22	21	20	16	20
AC-FT	28,070	6,670	4,600	4,750	2,950	3,750	1,440	1,790	1,560	1,470	1,250	3,500

CAL YR 1969 TOTAL 28,556 MEAN 78.2 MAX 9,900 MIN 12 AC-FT 56,640
WTR YR 1970 TOTAL 31,157 MEAN 85.4 MAX 9,900 MIN 16 AC-FT 61,800

PEAK DISCHARGE (BASE, 1,800 CFS).--Oct. 21 (0730) 29,800 cfs (24.34 ft).

08407000 Pecos River at Pierce Canyon Crossing, near Malaga, N. Mex.

LOCATION.--Lat 32°11'18", long 103°58'44", in SW¼SW¼NW¼ 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.--22 years,171 cfs (123,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge not determined; minimum, 4.7 cfs Aug. 3.
Period of record: Maximum gage height, 31.6 ft, from floodmarks, Aug. 23, 1966 (discharge not determined); 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 1970 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	335	65	94	57	55	22	32	19	27	9.0	17
2	20	251	65	96	46	55	20	36	18	17	8.8	18
3	18	218	65	95	58	50	25	36	15	21	5.7	19
4	19	209	65	96	60	72	28	39	13	23	11	17
5	20	192	65	90	58	68	27	37	14	22	15	16
6	33	162	66	76	55	59	29	26	18	25	18	25
7	35	130	71	73	54	140	26	22	15	19	16	28
8	32	112	74	77	52	165	24	21	16	19	14	21
9	28	106	75	78	52	100	25	21	19	20	14	17
10	26	118	75	79	60	82	25	24	19	25	18	22
11	24	126	75	80	65	78	23	31	17	25	25	26
12	21	127	75	81	51	81	22	29	16	21	20	25
13	20	121	76	76	51	84	22	31	16	18	19	22
14	20	116	76	72	55	80	23	31	17	15	17	22
15	21	110	94	72	57	79	24	35	16	16	15	23
16	20	104	113	73	52	70	24	31	11	16	16	541
17	21	87	113	76	54	64	23	29	12	16	16	283
18	23	78	99	84	44	63	25	30	15	17	18	88
19	26	76	85	90	51	65	24	29	13	19	23	45
20	23	85	70	87	48	66	28	29	10	17	21	32
21	9,000	75	65	83	47	68	24	28	11	16	24	31
22	1,400	69	67	83	50	61	22	25	82	16	20	32
23	440	65	62	83	54	43	24	30	62	14	17	20
24	181	63	60	74	59	33	25	32	27	15	17	20
25	120	61	57	72	59	27	24	32	22	12	17	22
26	308	63	52	77	59	25	23	28	18	11	14	21
27	213	62	54	78	58	26	23	28	16	10	8.1	20
28	291	64	76	65	57	23	22	27	16	10	8.6	27
29	546	65	80	65	------	25	22	20	19	9.2	14	30
30	295	66	78	66	------	24	27	18	22	9.5	18	25
31	405	------	86	62	------	24	------	18	------	8.6	21	------
TOTAL	13,671	3,516	2,299	2,453	1,523	1,955	725	885	604	529.3	498.2	1,555
MEAN	441	117	74.2	79.1	54.4	63.1	24.2	28.5	20.1	17.1	16.1	51.8
MAX	9,000	335	113	96	65	165	29	39	82	27	25	541
MIN	18	61	52	62	44	23	20	18	10	8.6	5.7	16
AC-FT	27,120	6,970	4,560	4,870	3,020	3,880	1,440	1,760	1,200	1,050	988	3,080

CAL YR 1969 TOTAL 27,820.5 MEAN 76.2 MAX 9,000 MIN 7.3 AC-FT 55,180
WTR YR 1970 TOTAL 30,213.5 MEAN 82.8 MAX 9,000 MIN 5.7 AC-FT 59,930

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 gage is 2,850.05 ft above mean sea level.

AVERAGE DISCHARGE.--33 years, 201 cfs (145,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 17,600 cfs Oct. 21 (gage height, 17.98 ft); minimum, 4.3 cfs Aug. 29.
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 08405000, 08406500.)

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 and bio-chemical analyses, suspended sediment loads, and water temperatures for the water year 1970 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	398	70	92	58	55	26	27	17	71	8.2	17
2	21	283	68	92	54	55	23	32	19	28	8.2	13
3	18	234	68	94	60	52	23	35	17	19	8.2	16
4	17	214	68	94	62	56	28	38	15	23	8.8	16
5	18	204	67	95	61	78	29	38	13	24	9.7	14
6	117	173	76	88	58	67	30	33	16	22	13	13
7	44	140	82	71	53	79	29	22	19	25	15	22
8	32	116	83	78	52	211	27	20	17	17	15	22
9	23	105	80	79	51	126	26	20	17	19	12	17
10	20	110	80	80	52	92	27	19	20	20	24	14
11	20	134	79	80	68	82	24	24	20	24	21	19
12	19	125	80	80	61	82	24	28	18	24	25	22
13	18	124	79	80	47	88	22	28	17	19	21	20
14	18	118	82	71	50	86	22	28	18	16	17	20
15	18	113	95	74	59	86	23	32	19	14	15	21
16	18	110	113	72	53	82	24	32	17	14	14	415
17	18	95	116	76	55	71	26	29	12	14	15	467
18	18	74	111	80	48	70	25	29	12	13	14	142
19	19	74	92	89	39	70	24	29	14	15	16	64
20	26	94	76	88	53	74	27	28	12	15	22	41
21	7,680	79	66	84	51	74	28	28	11	14	19	32
22	4,620	66	65	84	47	72	24	27	64	14	20	29
23	782	64	67	84	54	55	24	25	111	14	15	26
24	271	64	61	82	61	40	24	34	44	18	14	22
25	152	62	58	71	61	32	24	30	27	18	13	24
26	282	67	55	75	61	27	22	34	24	11	12	24
27	575	68	46	80	60	27	21	27	18	10	10	24
28	222	71	55	79	56	26	21	30	18	9.7	9.1	28
29	608	71	88	64	------	25	20	24	17	10	5.6	32
30	280	71	79	65	------	27	21	19	26	9.7	8.6	31
31	425	------	80	67	------	27	------	18	------	9.7	15	------
TOTAL	16,423	3,721	2,385	2,488	1,545	2,094	738	867	689	574.1	443.4	1,667
MEAN	530	124	76.9	80.3	55.2	67.5	24.6	28.0	23.0	18.5	14.3	55.6
MAX	7,680	398	116	95	68	211	30	38	111	71	25	467
MIN	17	62	46	64	39	25	20	18	11	9.7	5.6	13
AC-FT	32,580	7,380	4,730	4,930	3,060	4,150	1,460	1,720	1,370	1,140	879	3,310

CAL YR 1969 TOTAL 30,616.5 MEAN 83.9 MAX 7,680 MIN 6.4 ACFT 60,730
WAT YR 1970 TOTAL 33,634.5 MEAN 92.1 MAX 7,680 MIN 5.6 ACFT 66,710

PEAK DISCHARGE (BASE, 1,800 CFS).--Oct. 21 (1700) 17,600 cfs (17.98 ft).

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" 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.--33 years (1937-70), 14.6 cfs (10,580 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 35,700 cfs Oct. 21 (gage height, 17.84 ft); no flow at times.
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.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	13	6.0	5.9	5.2	5.5	4.5	3.7	.03	21	1.5	.96
2	2.5	12	5.9	5.9	5.3	5.2	4.5	3.8	.01	7.0	1.5	63
3	2.1	11	5.9	5.9	5.5	5.0	4.6	3.9	0	5.0	1.4	7.5
4	1.9	9.4	6.0	5.9	5.5	4.9	4.5	4.0	0	4.0	6.7	2.0
5	1.8	9.1	6.0	5.9	5.3	4.8	4.5	4.1	0	3.5	55	1.4
6	38	8.8	7.0	5.6	5.3	5.1	4.5	4.0	0	2.5	10	1.5
7	8.2	8.5	6.5	5.6	5.2	5.5	4.4	4.0	0	.51	3.1	.72
8	3.0	7.8	6.0	5.6	5.2	5.2	4.4	3.9	0	.32	3.2	.69
9	2.3	7.8	5.9	5.9	5.1	4.8	4.4	3.7	0	.28	2.6	1.1
10	1.8	7.8	5.8	5.6	5.1	3.4	4.3	3.6	0	.22	28	.88
11	1.4	7.7	5.6	5.6	5.2	.57	4.3	3.5	0	.18	5.7	.76
12	1.4	7.5	5.6	5.6	5.1	.42	4.2	3.5	0	.16	3.4	.72
13	1.4	7.2	5.6	5.2	5.2	1.3	4.2	3.4	0	.15	2.4	.69
14	1.5	7.0	5.6	5.2	5.1	4.6	4.2	3.3	0	.20	1.9	.72
15	1.5	7.0	5.6	5.2	5.1	4.6	4.2	3.3	.33	.15	1.5	1.9
16	1.4	7.1	5.6	5.2	5.0	4.6	4.0	3.3	.60	.15	1.2	6.3
17	1.4	7.2	5.6	5.2	5.1	4.6	4.1	3.3	.48	.10	1.2	120
18	1.5	6.4	5.6	5.2	5.0	4.5	4.2	3.2	.40	.10	1.2	19
19	1.4	6.3	5.9	5.2	5.0	4.5	4.1	3.1	.34	.10	1.0	16
20	181	6.3	6.0	5.1	5.1	4.9	4.0	2.7	.34	.40	10	8.5
21	7,850	6.4	5.9	5.1	5.3	5.1	4.0	2.5	.42	.80	3.7	5.7
22	680	6.6	6.0	5.1	5.7	5.1	4.0	2.8	550	.80	1.9	4.6
23	66	6.4	5.9	5.3	5.6	4.7	3.9	3.2	15	.75	1.7	4.1
24	34	6.3	5.9	5.2	6.3	4.6	4.0	3.3	5.0	.75	1.1	3.7
25	28	6.3	5.6	5.1	6.1	4.5	4.0	2.8	1.9	10	.88	3.4
26	55	6.7	5.6	5.2	5.6	4.5	4.0	.48	1.1	7.0	.72	3.1
27	383	6.4	5.6	5.0	5.5	4.4	3.9	.24	.80	5.0	.66	3.1
28	37	6.7	5.8	5.0	5.5	4.5	3.8	.18	.66	3.5	.63	4.2
29	19	6.6	6.1	4.9	------	4.5	3.6	.13	.63	3.0	.60	4.6
30	15	6.3	5.9	4.9	------	4.5	3.6	.10	150	2.5	.54	4.6
31	13	------	5.9	5.0	------	4.7	------	.07	------	2.0	.69	------
TOTAL	9,438.4	229.6	181.9	166.3	149.2	135.09	124.9	87.10	728.04	82.12	155.62	295.44
MEAN	304	7.65	5.87	5.36	5.33	4.36	4.16	2.81	24.3	2.65	5.02	9.85
MAX	7,850	13	7.0	5.9	6.3	5.5	4.6	4.1	550	21	55	120
MIN	1.4	6.3	5.6	4.9	5.0	.42	3.6	.07	0	.10	.54	.69
AC-FT	18,720	455	361	330	296	268	248	173	1,440	163	309	586

CAL YR 1969 TOTAL 11,621.37 MEAN 31.8 MAX 7,850 MIN 0 AC-FT 23,050
WTR YR 1970 TOTAL 11,773.71 MEAN 32.3 MAX 7,850 MIN 0 AC-FT 23,350

PEAK DISCHARGE (BASE, 1,700 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-21	0300	17.84	35,700	6-22	0200	†11.3	about 6,500

† from floodmarks.

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, 105,600 acre-ft Mar. 21-27 (gage height, 2,817.3 ft); minimum observed, 36,380 acre-ft Oct. 4-6 (gage height, 2,798.9 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 1969 TO SEPTEMBER 1970

Date	Gage height (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	2,799.3	37,320	-
Oct. 31	2,814.5	91,500	+54,180
Nov. 30	2,815.5	96,500	+5,000
Dec. 31	2,816.1	99,500	+3,000
CAL YR 1969	-	-	+43,700
Jan. 31	2,816.8	103,000	+3,500
Feb. 28	2,816.8	103,000	0
Mar. 31	2,817.8	104,600	+1,600
Apr. 30	2,816.0	99,000	-5,600
May 31	2,813.7	87,650	-11,350
June 30	2,812.8	83,600	-4,050
July 31	2,810.7	74,300	-9,300
Aug. 31	2,808.1	63,900	-10,400
Sept. 30	2,806.5	58,250	-5,650
WTR YR 1970	-	-	+20,930

08412500 Pecos River near Orla, Tex.

LOCATION(revised).--Lat 31°52'21", long 103°49'52", Reeves County, on right bank at bridge on Farm Road 652, 5.5 miles downstream from Salt (Screwbean) Draw, 5.9 miles northeast of Orla, and 8.5 miles downstream from Red Bluff Reservoir. Prior to Nov. 6, 1969, at site 6.9 miles downstream.

DRAINAGE AREA(revised).--21,210 sq mi, approximately (contributing area).

PERIOD OF RECORD.--May 1937 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,730.86 ft above mean sea level. Prior to Nov. 6, 1969, at site 6.9 miles downstream at datum 12.81 ft lower.

AVERAGE DISCHARGE.--33 years, 196 cfs (142,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,560 cfs Oct. 22 (gage height, 13.72 ft, site and datum then in use); minimum, 7.0 cfs Oct. 11-12.
Period of record: Maximum discharge 23,700 cfs Sept. 29, 1941 (gage height, 20.74 ft, site and datum then in use); no flow at times in 1946 and 1965.

REMARKS.--Records good. Flow largely regulated by Red Bluff Reservoir (see sta 08410000) 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 1970 are published in Part 2 of report for Texas.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	109	16	13	11	12	11	88	84	96	838	192	102
2	109	16	12	11	11	11	88	86	91	445	189	103
3	109	16	12	11	10	10	87	86	82	300	187	105
4	109	16	12	11	10	10	92	83	83	273	187	103
5	109	16	12	11	16	10	130	84	83	219	210	106
6	197	15	12	11	12	13	130	84	74	106	205	182
7	27	15	12	11	10	13	110	86	31	131	107	192
8	10	15	12	11	10	12	83	269	36	159	114	194
9	9.0	15	12	11	10	12	82	500	65	187	138	194
10	7.6	14	16	12	10	11	83	500	65	187	168	194
11	7.0	14	18	12	10	11	83	500	67	219	196	194
12	7.0	14	12	12	10	11	82	300	71	264	189	194
13	7.6	14	11	12	9.8	9.8	80	102	80	264	187	194
14	7.6	14	11	12	9.8	9.1	69	126	82	217	187	197
15	8.3	14	10	12	9.8	9.1	68	127	78	141	184	210
16	9.0	14	10	12	9.8	9.8	67	131	58	142	142	415
17	9.0	13	9.8	13	9.8	10	68	179	58	144	137	831
18	9.8	13	9.8	14	51	10	69	181	64	145	137	409
19	9.8	12	9.1	13	415	9.8	68	181	80	147	138	281
20	9.8	12	9.1	13	103	11	68	181	97	133	142	228
21	1,830	12	9.1	13	102	12	67	181	192	107	142	219
22	3,020	12	9.8	13	102	11	65	182	1,760	109	140	210
23	1,340	12	10	13	100	12	45	184	1,090	109	138	210
24	214	12	10	13	93	12	14	186	95	110	138	179
25	72	12	10	12	19	11	12	152	53	112	140	127
26	46	12	10	12	14	58	11	93	50	112	140	126
27	131	13	10	12	13	134	11	95	43	112	128	124
28	81	13	10	12	12	133	11	95	151	112	106	103
29	75	13	12	12	------	124	11	95	155	116	105	33
30	25	13	11	11	------	89	26	96	194	114	103	31
31	20	------	11	11	------	88	------	98	------	193	102	------
TOTAL	7,734.5	412	347.7	370	1,204.0	897.6	1,968	5,327	5,224	5,967	4,718	5,990
MEAN	250	13.7	11.2	11.9	43.0	29.0	65.6	172	174	192	152	200
MAX	3,020	16	18	14	415	134	130	500	1,760	838	210	831
MIN	7.0	12	9.1	11	9.8	9.1	11	83	31	106	102	31
AC-FT	15,340	817	690	734	2,390	1,780	3,900	10,570	10,360	11,840	9,360	11,880

CAL YR 1969 TOTAL 26,538.3 MEAN 72.7 MAX 3,020 MIN .59 ACFT 52,640
WAT YR 1970 TOTAL 40,159.8 MEAN 110 MAX 3,020 MIN 7.0 ACFT 79,660

08476300 Mimbres River at McKnight damsite, near Mimbres, N. Mex.

LOCATION.--Lat 32°56'14", long 108°00'55", 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.--6 years (1964-70), 5.18 cfs (3,750 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 90 cfs Aug. 7 (gage height, 2.24 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 most of the time many years.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1											0	
2											0	
3											0	
4											0	
5											0	
6											0	
7											4.5	
8											0	
9											0	
10											0	
11											0	
12											0	
13											0	
14											0	
15											0	
16											0	
17											3.2	
18											.01	
19											0	
20											0	
21											0	
22											0	
23											3.5	
24											.37	
25											0	
26											0	
27											0	
28											0	
29					------						0	
30					------						0	
31		------			------		------		------		0	------
TOTAL	0	0	0	0	0	0	0	0	0	0	11.58	0
MEAN	0	0	0	0	0	0	0	0	0	0	.37	0
MAX	0	0	0	0	0	0	0	0	0	0	4.5	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	0	23	0

CAL YR 1969 TOTAL 2.37 MEAN .0065 MAX 1.4 MIN 0 ACFT 4.7
WAT YR 1970 TOTAL 11.58 MEAN .032 MAX 4.5 MIN 0 ACFT 23

PEAK DISCHARGE (BASE, 250 CFS).--No peak above base.

08477000 Mimbres River near Mimbres, N. Mex.

LOCATION.--Lat 32°52'28", long 107°59'05", 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.--40 years, 10.4 cfs (7,530 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 188 cfs Aug. 3 (gage height, 3.91 ft); minimum, 1.8 cfs many days. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	2.4	2.6	5.0	4.4	3.9	2.8	2.7	15	3.1	4.9	3.0
2	2.9	2.4	2.6	4.9	4.4	4.0	2.6	2.6	9.5	3.8	4.9	3.0
3	2.9	2.4	3.8	4.8	4.3	3.9	2.6	2.6	2.7	2.4	19	3.0
4	2.8	2.5	4.8	4.8	4.3	3.8	2.6	2.5	2.6	2.3	9.7	3.0
5	2.9	2.7	5.2	4.8	3.3	3.8	2.6	2.3	2.6	2.4	6.8	2.7
6	3.3	2.8	4.9	4.8	1.9	3.9	2.6	2.3	2.4	2.5	6.4	2.6
7	3.0	2.7	4.8	4.7	1.9	4.0	2.5	2.2	2.4	2.7	11	2.5
8	3.0	2.7	4.8	4.7	1.9	4.2	2.6	2.2	2.3	2.7	5.5	2.4
9	3.1	2.6	4.8	4.7	1.9	4.3	2.6	2.3	2.4	2.7	4.3	2.3
10	3.1	2.6	4.8	4.7	1.9	3.4	2.9	2.4	2.5	2.6	4.1	2.2
11	3.2	2.6	4.8	4.7	1.8	2.8	3.3	2.4	2.6	2.3	3.9	2.2
12	3.4	2.7	5.0	4.7	1.8	3.3	4.1	2.4	2.5	2.2	3.9	2.1
13	3.2	2.7	5.0	4.6	1.8	3.1	3.1	2.4	2.5	2.3	3.8	2.1
14	2.5	2.8	4.9	4.6	1.9	2.7	3.0	2.4	2.6	2.2	3.4	2.1
15	2.3	2.8	4.8	4.6	1.9	2.9	2.9	2.4	2.4	2.2	3.2	2.2
16	2.3	2.9	4.7	4.6	1.9	2.8	2.9	2.4	2.7	2.2	2.9	2.3
17	2.3	2.9	4.5	4.5	2.0	2.7	2.9	2.3	2.8	2.2	4.6	2.4
18	2.4	2.7	4.5	4.5	2.1	2.8	3.2	2.3	2.7	2.2	5.6	2.3
19	2.4	2.5	4.4	4.5	2.2	2.9	4.3	2.3	2.5	2.3	4.7	2.4
20	2.5	2.5	4.3	4.5	2.8	2.9	4.3	2.3	2.5	2.3	4.1	2.4
21	2.8	2.5	4.3	4.4	4.4	3.1	3.6	2.2	2.6	2.3	2.7	2.4
22	2.6	2.5	4.2	4.5	4.3	3.5	3.1	2.2	2.7	2.3	2.7	2.3
23	2.5	2.5	4.6	4.5	4.0	4.1	3.1	2.2	3.4	2.4	3.0	2.3
24	2.4	2.5	5.4	4.5	4.0	3.6	2.9	2.3	3.3	2.5	4.1	2.4
25	2.4	2.5	5.4	4.4	3.8	3.5	3.0	2.3	2.9	2.8	3.0	2.4
26	2.3	2.7	5.3	4.4	3.7	3.5	3.0	2.4	2.7	3.2	3.0	2.5
27	2.3	2.6	5.2	4.4	3.8	4.1	2.8	2.7	2.9	3.1	2.8	2.4
28	2.3	2.6	5.4	4.4	3.8	3.0	2.6	2.4	3.0	3.6	2.7	2.5
29	2.4	2.6	5.4	4.4	------	2.9	2.5	2.3	2.9	4.3	2.6	2.5
30	2.4	2.6	5.2	4.4	------	2.8	2.5	2.2	2.8	4.2	2.7	2.5
31	2.4	------	5.1	4.4	------	2.8	------	5.9	------	4.8	2.8	------
TOTAL	83.3	78.5	145.5	142.4	82.2	105.0	89.5	76.8	99.4	85.1	148.8	73.4
MEAN	2.69	2.62	4.69	4.59	2.94	3.39	2.98	2.48	3.31	2.75	4.80	2.45
MAX	3.4	2.9	5.4	5.0	4.4	4.3	4.3	5.9	15	4.8	19	3.0
MIN	2.3	2.4	2.6	4.4	1.8	2.7	2.5	2.2	2.3	2.2	2.6	2.1
AC-FT	165	156	289	282	163	208	178	152	197	169	295	146

CAL YR 1969 TOTAL 1,200.9 MEAN 3.29 MAX 7.6 MIN 1.4 AC-FT 2,380
WTR YR 1970 TOTAL 1,209.9 MEAN 3.31 MAX 19 MIN 1.8 AC-FT 2,400

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 northwest 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.--22 years (1948-70), 9.44 cfs (6,840 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, about 1,700 cfs July 2; minimum, 0.55 cfs July 13.
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 1970 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1312: 1949(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.7	11	9.1	12	12	12	13	6.3	3.7	7.8	6.0	5.9
2	7.8	11	9.1	12	12	15	12	6.5	4.7	47	6.0	6.4
3	7.9	11	10	11	12	15	13	5.2	7.4	6.8	6.0	6.3
4	9.1	10	11	12	12	14	9.7	5.1	7.2	6.6	6.0	5.1
5	8.8	10	11	12	12	12	6.8	7.0	7.6	6.5	5.7	5.0
6	8.6	10	10	12	11	11	6.5	9.4	7.7	6.6	5.0	4.2
7	10	9.1	10	13	11	11	8.2	8.8	7.9	4.6	4.9	4.8
8	10	9.1	11	15	11	11	11	8.8	6.3	3.7	4.4	4.6
9	11	9.1	10	13	11	10	10	7.7	4.9	4.5	2.9	8.2
10	12	9.1	11	13	11	10	8.1	7.1	5.2	4.7	3.8	8.0
11	12	9.1	12	13	11	11	7.9	6.5	5.0	4.5	3.4	8.0
12	12	9.1	12	13	11	11	7.2	7.8	4.8	2.1	5.4	8.2
13	13	9.1	12	13	11	11	7.9	7.3	4.2	2.1	4.7	8.5
14	13	9.1	12	13	11	11	7.0	6.5	3.4	3.2	4.7	8.4
15	14	9.1	11	14	12	10	5.2	6.9	3.3	5.0	4.7	8.5
16	14	9.1	11	13	12	12	5.7	8.0	4.2	3.5	5.3	7.7
17	13	9.1	12	13	11	12	7.8	5.7	6.9	4.6	4.9	8.2
18	12	9.1	12	13	12	12	6.5	5.2	6.8	5.0	5.5	6.2
19	9.6	9.1	11	13	13	11	5.8	6.6	6.6	5.9	5.0	9.4
20	11	9.1	11	13	13	12	4.7	9.3	5.4	5.6	5.5	5.0
21	10	10	11	13	12	11	4.6	9.4	6.2	4.6	4.9	5.0
22	11	10	11	13	12	11	5.9	9.6	5.1	5.4	5.4	5.5
23	10	9.1	11	13	12	11	7.0	9.0	3.9	5.8	3.5	9.8
24	11	9.1	12	14	12	11	7.8	8.7	4.7	10	3.1	10
25	11	9.1	12	13	11	11	8.0	7.4	5.6	25	3.0	9.8
26	13	9.1	12	13	11	11	7.9	6.4	5.4	6.5	5.3	10
27	12	9.1	11	12	13	10	7.4	6.8	5.4	3.5	5.7	9.1
28	11	9.1	12	12	13	10	6.5	6.5	3.4	3.5	6.6	10
29	11	9.1	11	12	------	10	6.7	6.5	3.1	3.5	6.1	11
30	11	9.1	12	13	------	10	6.3	6.6	4.1	4.5	5.3	11
31	11	------	12	12	------	12	------	3.4	------	6.0	4.3	------
TOTAL	338.5	283.2	345.2	396	328	352	232.1	222.0	160.1	218.6	153.0	227.8
MEAN	10.9	9.44	11.1	12.8	11.7	11.4	7.74	7.16	5.34	7.05	4.94	7.59
MAX	14	11	12	15	13	15	13	9.6	7.9	47	6.6	11
MIN	7.7	9.1	9.1	11	11	10	4.6	3.4	3.1	2.1	2.9	4.2
AC-FT	671	562	685	785	651	698	460	440	318	434	303	452

CAL YR 1969 TOTAL 3,250.9 MEAN 8.91 MAX 18 MIN 2.4 AC-FT 6,450
WTR YR 1970 TOTAL 3,256.5 MEAN 8.92 MAX 47 MIN 2.1 AC-FT 6,460

PEAK DISCHARGE (BASE, 125 CFS).--July 2 (1500) about 1,700 cfs; July 24, discharge not determined.

NOTE.--No gage-height record July 2.

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).

AVERAGE DISCHARGE.--5 years, .094 cfs (68 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 188 cfs July 27 (gage height, 3.41 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 CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0									0		
2	0									0		
3	0									0		
4	0									0		
5	0									0		
6	0									0		
7	0									0		
8	0									0		
9	0									0		
10	0									0		
11	0									0		
12	0									0		
13	0									0		
14	0									0		
15	0									0		
16	0									0		
17	0									0		
18	0									0		
19	0									0		
20	.70									0		
21	.40									0		
22	0									0		
23	0									0		
24	0									0		
25	0									1.1		
26	0									0		
27	0									4.5		
28	0									.31		
29	0				------					0		
30	0				------					0		
31	0	------			------		------		------	0		------
TOTAL	1.10	0	0	0	0	0	0	0	0	5.91	0	0
MEAN	.036	0	0	0	0	0	0	0	0	.19	0	0
MAX	.70	0	0	0	0	0	0	0	0	4.5	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	2.2	0	0	0	0	0	0	0	0	12	0	0

CAL YR 1969 TOTAL 71.70 MEAN .20 MAX 67 MIN 0 ACFT 142
WAT YR 1970 TOTAL 7.01 MEAN .019 MAX 4.5 MIN 0 ACFT 14

PEAK DISCHARGE (BASE, 50 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-21	UNK	2.80	72	7-27	2300	3.41	188
7-25	0200	2.79	71				

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).

AVERAGE DISCHARGE.--5 years, .110 cfs (80 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 221 cfs July 25 (gage height, 3.62 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 CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0								0	0	0	
2	0								0	0	0	
3	0								0	0	0	
4	0								0	0	0	
5	0								0	0	15	
6	0								0	0	0	
7	0								0	0	0	
8	0								0	0	0	
9	0								0	0	0	
10	0								0	0	0	
11	0								0	0	0	
12	0								0	0	0	
13	0								0	0	0	
14	0								0	0	0	
15	0								0	0	0	
16	0								0	0	0	
17	0								0	0	0	
18	0								0	0	0	
19	0								0	0	0	
20	0								0	0	0	
21	.22								0	0	0	
22	.11								0	0	0	
23	0								0	1.0	0	
24	0								0	0	0	
25	0								0	9.5	0	
26	0								0	0	0	
27	0								0	4.4	0	
28	0								0	.05	0	
29	0				------				0	0	0	
30	0				------				.23	0	0	
31	0	------			------		------		------	0	0	------
TOTAL	.33	0	0	0	0	0	0	0	.23	14.95	15	0
MEAN	.011	0	0	0	0	0	0	0	.007	.48	.48	0
MAX	.22	0	0	0	0	0	0	0	.23	9.5	15	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	.7	0	0	0	0	0	0	0	.5	30	30	0

CAL YR 1969 TOTAL 47.80 MEAN .13 MAX 43 MIN 0 ACFT 95
WAT YR 1970 TOTAL 30.51 MEAN .084 MAX 15 MIN 0 ACFT 61

PEAK DISCHARGE (BASE, 350 CFS).--No peak above base.

09346400 San Juan River near Carracas, Colo.

LOCATION.--Lat 37°00'43", long 107°18'34", 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.--9 years, 632 cfs (457,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 9,730 cfs Sept. 6 (gage height, 8.34 ft), from rating curve extended as explained below; minimum, 76 cfs Feb. 16.
Period of record: Maximum discharge, 9,730 cfs Sept. 6, 1970 (gage height, 8.34 ft), from rating curve extended above 5,700 cfs on basis of slope-area measurement of peak flow; minimum, about 5 cfs Dec. 10, 1961, result of freezeup.
Other major floods occurred Sept. 5 or 6, 1909; Oct. 5, 1911; 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, water temperatures, and biochemical analyses for the current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	304	386	193	92	137	130	184	535	1,860	880	188	294
2	289	354	203	110	132	173	189	475	1,660	743	198	260
3	281	318	218	122	130	179	207	530	1,620	655	231	228
4	382	308	232	129	122	158	235	709	1,610	618	288	200
5	454	312	218	130	138	149	238	1,000	1,400	603	251	876
6	391	306	189	130	150	140	274	1,180	1,330	594	217	6,450
7	399	297	182	130	158	148	382	1,440	1,290	657	378	2,870
8	414	296	182	130	162	174	356	1,480	1,440	695	553	1,620
9	410	287	148	130	160	207	393	1,240	1,440	872	309	1,120
10	413	298	164	130	161	200	421	1,120	1,330	691	268	844
11	394	292	148	130	168	184	490	1,390	1,480	556	218	668
12	439	285	192	132	168	168	404	1,860	1,430	492	176	662
13	422	274	215	135	169	162	383	2,050	1,350	431	174	2,330
14	408	259	220	135	165	165	367	2,160	1,270	391	157	6,120
15	429	243	220	137	150	195	366	2,320	1,340	344	155	4,030
16	446	271	220	138	134	194	373	2,420	1,390	354	253	2,380
17	417	305	218	138	138	192	457	2,740	1,420	328	290	1,690
18	446	227	220	132	161	162	501	2,880	1,440	389	222	1,330
19	504	173	230	132	142	146	438	2,770	1,500	326	271	1,060
20	444	178	235	132	123	146	399	2,490	1,530	393	370	924
21	461	215	196	132	128	122	391	2,420	1,490	576	496	772
22	552	273	184	137	138	123	355	2,560	1,540	439	464	692
23	601	266	160	132	151	116	339	2,590	1,570	482	495	656
24	476	244	173	131	138	116	358	2,530	1,430	482	400	596
25	471	234	153	130	138	116	438	2,550	1,390	435	345	518
26	488	228	166	128	130	150	642	2,420	1,320	364	324	480
27	472	229	162	125	126	199	900	2,170	1,260	301	277	450
28	453	211	136	125	131	165	866	2,000	1,250	289	237	425
29	729	185	126	125	------	184	705	1,870	1,140	262	204	395
30	453	191	115	120	------	199	599	1,900	1,040	223	182	355
31	404	------	105	140	------	188	------	2,080	------	207	260	------
TOTAL	13,646	7,945	5,723	3,999	4,048	5,050	12,650	57,879	42,560	15,072	8,851	41,295
MEAN	440	265	185	129	145	163	422	1,867	1,419	486	286	1,377
MAX	729	386	235	140	169	207	900	2,880	1,860	880	553	6,450
MIN	281	173	105	92	122	116	184	475	1,040	207	155	200
AC-FT	27,070	15,760	11,350	7,930	8,030	10,020	25,090	114,800	84,420	29,900	17,560	81,910

CAL YR 1969 TOTAL 283,300 MEAN 776 MAX 3,250 MIN 71 AC-FT 561,900
WTR YR 1970 TOTAL 218,718 MEAN 599 MAX 6,450 MIN 92 AC-FT 433,800

PEAK DISCHARGE (BASE 2,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5-18	0630	5.30	3,580	9-14	1730	7.30	7,860
9-6	1500	8.34	9,730				

09349800 Piedra River near Arboles, Colo.

LOCATION.--Lat 37°05'18", long 107°23'50", 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.--8 years, 328 cfs (237,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 8,370 cfs Sept. 6 (gage height, 6.38 ft recorded, 7.55 ft from flood mark), from rating curve extended as explained below; minimum, 41 cfs Jan. 30.
Period of record: Maximum discharge, 8,370 cfs Sept. 6, 1970 (gage height, 6.38 ft recorded, 7.55 ft from floodmarks) from rating curve extended above 3,100 cfs on basis of slope-area measurement of peak flow; minimum, 11 cfs Dec. 9, 1963, Oct. 1, 1966.
Other major floods occurred Sept. 5 or 6, 1909; Oct. 5, 1911.

REMARKS.--Records good except those for winter periods, which are poor. Diversions for irrigation of about 2,800 acres above station. Record of chemical analyses, water temperatures, and biochemical measurements for the current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	198	290	123	63	72	67	86	340	871	297	70	161
2	184	256	125	64	66	75	87	295	811	253	66	162
3	210	231	129	66	70	76	98	324	804	236	89	149
4	284	241	144	70	69	75	105	434	794	224	98	134
5	267	232	138	68	66	73	109	634	683	213	110	508
6	261	227	124	68	66	71	144	777	621	214	96	5,360
7	275	217	124	70	61	71	278	999	663	227	89	2,340
8	296	210	122	73	61	77	320	995	709	219	173	1,290
9	313	208	105	74	65	88	449	863	700	260	150	878
10	314	210	126	80	69	99	431	817	668	246	123	652
11	294	209	105	82	73	92	449	1,000	690	203	105	532
12	293	209	103	90	78	83	382	1,190	603	185	91	440
13	270	198	119	100	87	75	322	1,220	530	162	81	1,090
14	266	187	126	98	95	78	271	1,270	531	143	75	3,370
15	265	181	119	82	81	89	289	1,330	585	128	85	2,650
16	257	201	119	80	72	92	309	1,380	600	112	136	1,630
17	256	200	119	86	75	97	368	1,520	603	108	247	1,160
18	283	146	119	88	76	84	369	1,560	605	105	176	926
19	368	128	115	80	70	73	296	1,540	599	105	163	774
20	321	149	117	76	63	76	293	1,350	587	126	273	658
21	314	161	117	82	67	76	272	1,290	566	122	363	532
22	390	178	112	84	68	72	238	1,410	572	119	303	450
23	435	166	110	80	67	76	225	1,430	597	159	255	420
24	366	152	108	71	67	101	244	1,370	528	165	220	380
25	360	147	108	72	63	168	311	1,400	488	128	189	332
26	348	146	103	67	63	136	434	1,270	453	128	171	304
27	343	146	105	68	62	120	573	1,060	417	119	161	284
28	328	127	98	67	67	86	550	1,040	393	103	151	264
29	355	122	85	63	------	95	440	970	373	92	136	244
30	321	127	92	59	------	97	373	986	361	83	127	224
31	305	------	70	81	------	82	------	1,030	------	70	170	------
TOTAL	9,340	5,602	3,529	2,352	1,959	2,720	9,115	33,094	18,005	5,054	4,742	28,298
MEAN	301	187	114	75.9	70.0	87.7	304	1,068	600	163	153	943
MAX	435	290	144	100	95	168	573	1,560	871	297	363	5,360
MIN	184	122	70	59	61	67	86	295	361	70	66	134
AC-FT	18,530	11,110	7,000	4,670	3,890	5,400	18,080	65,640	35,710	10,020	9,410	56,130

CAL YR 1969 TOTAL 158,948 MEAN 435 MAX 2,000 MIN 46 AC-FT 315,300
WTR YR 1970 TOTAL 123,810 MEAN 339 MAX 5,360 MIN 59 AC-FT 245,600

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5-19	0800	3.55	1,690	9-14	1800	4.91	4,140
9-6	1130	6.38	8,370				

09354500 Los Pinos River at La Boca, Colo.

LOCATION.--Lat 37°00'37", long 107°35'49", 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.--20 years, 192 cfs (139,100 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,160 cfs Sept. 6 (gage height, 7.68 ft); minimum 31 cfs Mar. 24, result of freezeup.
Period of record: Maximum discharge, 6,400 cfs July 27, 1957 (gage height, 8.95 ft) from rating curve extended above 5,100 cfs; minimum determined, 13 cfs Apr. 23, 1951 (may have been lower during periods of freezeup).
A major flood occurred Oct. 5, 1911 at this location.

REMARKS.--Records good except those for January, 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, water temperatures, and biochemical measurements for the current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	319	466	174	100	115	57	56	62	505	137	135	150
2	308	524	181	100	123	79	54	54	396	151	147	155
3	434	513	181	100	118	88	57	51	234	175	167	146
4	584	498	185	100	116	82	56	56	201	176	160	178
5	386	494	187	100	119	71	54	53	408	185	153	572
6	361	493	181	100	118	65	61	74	399	198	195	1,640
7	354	494	181	100	80	64	71	81	376	206	204	270
8	349	490	177	100	69	63	81	89	340	190	180	167
9	355	507	176	100	65	62	95	93	479	202	198	172
10	349	516	177	100	63	64	96	88	460	179	175	263
11	368	508	172	100	60	68	106	87	538	161	153	339
12	396	468	175	100	62	64	100	102	453	159	145	441
13	392	297	128	100	64	61	96	101	331	156	141	579
14	415	273	119	100	64	63	92	97	249	153	144	1,110
15	441	268	117	100	60	56	81	102	190	147	160	1,320
16	434	312	121	110	60	46	40	97	152	152	183	1,450
17	443	324	123	120	58	45	41	93	148	149	195	1,430
18	456	273	121	120	57	40	53	98	142	155	190	1,400
19	451	265	121	120	54	37	48	103	191	143	177	1,300
20	445	270	125	120	53	39	43	115	259	141	277	1,110
21	447	264	128	124	60	38	42	116	269	140	194	1,080
22	614	150	131	126	56	39	47	122	279	159	171	811
23	580	122	128	124	56	36	43	143	286	159	171	790
24	484	105	123	119	55	33	43	192	278	143	160	783
25	466	171	119	116	53	36	43	144	270	145	153	761
26	462	178	119	116	52	37	47	197	270	144	151	694
27	464	179	117	113	53	58	60	378	276	135	146	541
28	471	176	111	112	53	45	71	453	262	144	143	531
29	512	170	110	105	------	48	65	463	157	137	142	504
30	473	171	100	124	------	53	59	478	148	128	149	493
31	463	------	100	123	------	54	------	494	------	131	154	------
TOTAL	13,476	9,939	4,408	3,392	2,016	1,691	1,901	4,876	8,946	4,880	5,213	21,180
MEAN	435	331	142	109	72.0	54.5	63.4	157	298	157	168	706
MAX	614	524	187	126	123	88	106	494	538	206	277	1,640
MIN	308	105	100	100	52	33	40	51	142	128	135	146
AC-FT	26,730	19,710	8,740	6,730	4,000	3,350	3,770	9,670	17,740	9,680	10,340	42,010

CAL YR 1969 TOTAL 110,833 MEAN 304 MAX 1,320 MIN 50 AC-FT 219,800
WTR YR 1970 TOTAL 81,918 MEAN 224 MAX 1,640 MIN 33 AC-FT 162,500

09355000 Spring Creek at La Boca, Colo.

LOCATION.--Lat 37°00'46", long 107°35'42", 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.--20 years, 28.7 cfs (20,790 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,980 cfs Sept. 6 (gage height, 4.62 ft), from rating curve extended as explained below; minimum 1.4 cfs Jan. 8, April 15.
Period of record: Maximum discharge, 1,980 cfs Sept. 6, 1970 (gage height, 4.62 ft), from rating curve extended above 160 cfs on basis of field estimate of peak flow; maximum gage height, 5.98 ft. Mar. 9, 1960 (backwater from ice); 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 CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	18	5.0	4.6	7.0	3.1	9.0	13	57	53	59	55
2	40	15	4.9	4.5	7.6	7.1	6.1	28	56	58	64	52
3	93	7.4	4.8	4.3	6.0	7.0	4.4	22	52	65	67	49
4	137	18	4.6	2.1	5.6	5.7	3.1	28	54	77	56	68
5	52	23	4.6	3.2	5.7	4.4	3.0	36	80	89	62	303
6	48	23	9.3	2.8	5.8	3.8	3.6	30	78	93	81	778
7	46	23	7.0	2.5	6.0	3.4	4.4	35	94	102	78	64
8	44	24	6.1	2.2	6.2	3.2	3.5	27	95	80	76	49
9	44	25	5.4	1.9	6.4	3.3	3.2	33	97	98	85	46
10	43	13	5.0	4.1	6.6	3.5	2.9	30	102	83	83	57
11	45	8.8	5.5	9.5	5.7	4.5	2.7	31	98	66	69	62
12	52	8.1	6.2	9.0	4.8	4.9	2.5	31	75	60	65	72
13	44	7.9	7.0	8.5	4.6	3.7	2.2	28	80	55	60	84
14	39	7.4	7.8	8.2	5.2	3.1	2.2	34	75	60	60	220
15	27	6.9	9.6	7.2	4.7	3.0	2.0	42	68	59	68	44
16	27	6.9	9.3	9.0	3.8	2.8	44	45	69	60	83	31
17	30	6.9	8.9	9.0	3.7	2.9	37	47	63	58	102	27
18	28	6.9	8.7	9.1	3.4	3.9	20	52	54	64	69	31
19	27	6.8	9.0	9.2	3.3	4.0	20	53	63	64	73	29
20	25	6.6	8.4	9.2	3.9	3.2	13	56	70	63	118	28
21	24	6.5	8.4	9.4	3.4	3.5	7.4	51	67	61	87	27
22	131	6.4	8.3	9.5	3.7	2.9	6.8	48	73	72	87	27
23	54	6.2	8.2	9.6	3.7	2.8	9.5	55	73	74	101	29
24	29	5.6	8.1	9.8	3.5	2.8	9.6	56	75	64	85	34
25	26	5.6	8.0	9.9	3.3	2.7	9.3	57	64	66	63	34
26	27	5.2	8.0	8.4	3.4	2.6	9.3	52	62	65	51	36
27	24	4.7	5.9	7.0	3.2	3.3	9.4	59	61	60	48	36
28	26	5.4	5.4	5.9	3.0	5.9	11	64	66	67	47	35
29	34	5.3	5.2	6.2	------	5.1	12	53	51	62	51	35
30	21	5.2	4.8	7.5	------	5.5	13	55	51	56	57	36
31	19	------	4.7	7.8	------	5.5	------	57	------	59	60	------
TOTAL	1,347	318.7	212.1	211.1	133.2	123.1	286.1	1,308	2,123	2,113	2,215	2,478
MEAN	43.5	10.6	6.84	6.81	4.76	3.97	9.54	42.2	70.8	68.2	71.5	82.6
MAX	137	25	9.6	9.9	7.6	7.1	44	64	102	102	118	778
MIN	19	4.7	4.6	1.9	3.0	2.6	2.0	13	51	53	47	27
AC-FT	2,670	632	421	419	264	244	567	2,590	4,210	4,190	4,390	4,920

CAL YR 1969 TOTAL 14,374.7 MEAN 39.4 MAX 244 MIN 3.0 AC-FT 28,510
WTR YR 1970 TOTAL 12,868.3 MEAN 35.3 MAX 778 MIN 1.9 AC-FT 25,520

PEAK DISCHARGE (BASE, 180 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10- 3	2330	2.40	355	8-23	1615	2.55	425
10-22	1500	2.14	256	9- 6	0415	4.62	1,980
8-20	1615	2.23	286	9-14	0915	2.66	530

09355100 Navajo Reservoir near Archuleta, N. Mex.

LOCATION.--Lat 36°48'28", long 107°36'31", 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, 5.5 miles east of Archuleta, 33 miles east of Farmington, and at mile 145.0.

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, 1,266,000 acre-ft Sept. 21, 22, 23, 24 (elevation, 6,053.77 ft); minimum daily, 857,600 acre-ft Apr. 5, 6 (elevation, 6,014.23 ft).
Period of record: Maximum daily contents, 1,266,000 acre-ft Sept. 21, 22, 23, 24, 1970 (elevation, 6,053.77 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 1969-70 (elevation, in feet, and usable contents, in thousands of acre-feet)

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
6,030	1,006.0	6,055	1,281.3

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,143	1,129	1,098	1,041	1,009	922.1	858.7	877.8	1,033	1,130	1,145	1,150
2	1,141	1,130	1,097	1,038	1,006	919.3	858.5	878.9	1,037	1,131	1,145	1,149
3	1,140	1,129	1,095	1,035	1,002	916.8	858.1	879.8	1,041	1,132	1,145	1,149
4	1,140	1,128	1,094	1,033	999.5	913.8	857.8	881.2	1,045	1,133	1,145	1,149
5	1,140	1,127	1,093	1,030	996.3	910.7	857.6	883.5	1,048	1,134	1,145	1,155
6	1,139	1,127	1,091	1,028	993.4	907.7	857.6	886.2	1,052	1,135	1,145	1,184
7	1,138	1,126	1,089	1,027	990.2	904.6	858.0	890.2	1,055	1,137	1,146	1,194
8	1,137	1,125	1,087	1,026	987.2	901.4	858.5	894.0	1,059	1,138	1,147	1,199
9	1,136	1,124	1,085	1,026	984.0	899.0	859.3	897.4	1,063	1,140	1,147	1,201
10	1,135	1,122	1,084	1,026	980.8	897.1	860.2	900.4	1,067	1,141	1,148	1,203
11	1,135	1,122	1,082	1,026	977.7	895.1	861.2	904.1	1,071	1,142	1,148	1,203
12	1,134	1,121	1,080	1,026	974.7	893.1	861.9	908.9	1,075	1,142	1,147	1,205
13	1,133	1,119	1,078	1,025	971.9	890.9	862.5	914.8	1,078	1,143	1,147	1,210
14	1,132	1,118	1,076	1,025	969.1	888.7	862.7	920.5	1,081	1,143	1,147	1,230
15	1,131	1,116	1,074	1,025	965.9	886.7	863.0	926.4	1,084	1,143	1,146	1,242
16	1,130	1,115	1,072	1,025	963.0	884.7	863.3	932.8	1,087	1,143	1,146	1,250
17	1,130	1,114	1,070	1,025	959.7	882.7	864.3	940.2	1,090	1,143	1,147	1,255
18	1,129	1,113	1,068	1,025	956.7	880.1	865.2	947.8	1,093	1,143	1,147	1,259
19	1,129	1,112	1,066	1,025	953.7	878.4	866.0	955.1	1,096	1,144	1,147	1,262
20	1,129	1,111	1,064	1,024	950.3	876.1	866.4	961.6	1,100	1,144	1,148	1,265
21	1,128	1,109	1,062	1,024	947.2	874.1	866.9	967.8	1,103	1,144	1,149	1,266
22	1,129	1,108	1,060	1,024	944.1	871.6	867.2	974.1	1,107	1,145	1,150	1,266
23	1,130	1,106	1,059	1,024	941.0	869.3	867.3	980.8	1,110	1,145	1,151	1,266
24	1,130	1,104	1,057	1,024	937.7	866.8	867.6	987.3	1,113	1,146	1,151	1,266
25	1,129	1,103	1,056	1,024	934.4	865.3	868.3	993.8	1,116	1,146	1,151	1,265
26	1,129	1,101	1,054	1,024	931.2	864.1	869.6	1,000	1,120	1,146	1,151	1,265
27	1,129	1,100	1,052	1,023	927.9	863.4	871.7	1,006	1,122	1,146	1,151	1,264
28	1,129	1,099	1,050	1,022	924.9	862.3	873.9	1,012	1,125	1,146	1,150	1,263
29	1,130	1,099	1,048	1,019	------	861.1	875.4	1,017	1,127	1,146	1,150	1,262
30	1,129	1,099	1,046	1,016	------	860.3	876.6	1,022	1,129	1,146	1,150	1,261
31	1,129	------	1,043	1,012	------	859.2	------	1,028	------	1,145	1,150	------
MAX	1,143	1,130	1,098	1,041	1,009	922.1	876.6	1,028	1,129	1,146	1,151	1,266
MIN	1,128	1,099	1,043	1,012	924.9	859.2	857.6	877.8	1,033	1,130	1,145	1,149
(†)	6,041.77	6,039.01	6,033.70	6,030.63	6,021.59	6,014.41	6,016.35	6,032.18	6,041.79	6,043.29	6,043.70	6,053.34
(‡)	-15.0	-30.0	-56.0	-31.0	-87.0	-66.0	+18.0	+151.0	+101.0	+16.0	+5.0	+111.0

CAL YR 1969: ‡ +69.4
WTR YR 1970: ‡ +117.0

(†) 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°48'05", long 107°41'51", in N½ sec.20, T.30 N., R.8 W., in San Juan County, on left bank, 0.5 mile upstream from Gobernador Canyon, 0.8 mile northeast of Archuleta, 7.2 miles downstream from Navajo Dam, and at mile 136.8.

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). Prior to Dec. 29, 1959, at site 5.0 miles upstream at altitude 55 ft higher. Dec. 29, 1959 to Oct. 15, 1964, at site 0.4 mile upstream at altitude 5 ft higher.

AVERAGE DISCHARGE.--15 years, 1,121 cfs (812,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,020 cfs Feb. 1 (gage height, 4.69 ft); minimum, 116 cfs Nov. 2. 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 sta 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 current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,350	1,240	540	1,500	2,000	1,920	636	370	498	510	516	716
2	1,600	588	1,080	1,500	2,000	1,920	486	370	475	510	516	716
3	1,600	1,550	1,440	1,500	2,000	1,880	480	370	486	510	516	708
4	1,630	1,560	1,450	1,500	2,000	1,920	480	410	486	546	504	732
5	1,630	1,550	1,450	1,500	2,000	1,930	480	405	486	516	504	799
6	1,640	1,580	1,450	1,480	2,000	1,940	480	480	486	504	516	790
7	1,640	1,600	1,450	978	2,000	1,960	480	482	486	480	534	510
8	1,630	1,600	1,460	438	2,000	1,960	374	486	505	510	522	540
9	1,630	1,620	1,470	438	2,000	1,750	374	480	486	510	522	772
10	1,630	1,620	1,500	432	2,000	1,410	374	480	492	504	528	1,180
11	1,630	1,630	1,500	438	2,000	1,430	374	486	492	498	528	1,370
12	1,620	1,620	1,500	438	2,000	1,440	374	480	492	504	534	1,400
13	1,480	1,620	1,510	432	2,000	1,440	374	480	498	504	540	1,380
14	1,620	1,560	1,520	432	2,000	1,450	374	480	498	504	588	1,390
15	1,620	1,550	1,520	426	2,000	1,450	480	480	498	504	684	1,390
16	1,600	1,620	1,530	426	2,000	1,450	480	480	498	498	768	1,390
17	1,580	1,620	1,530	432	2,000	1,450	480	480	498	498	732	1,380
18	1,550	884	1,530	432	2,000	1,450	480	480	498	504	708	1,370
19	1,550	1,070	1,530	432	2,000	1,440	486	474	504	504	762	1,360
20	1,490	1,370	1,520	432	1,990	1,440	486	480	504	498	780	1,350
21	1,510	1,480	1,520	432	1,990	1,430	480	480	504	498	716	1,660
22	1,550	1,480	1,530	438	1,990	1,430	498	486	504	498	716	1,880
23	1,520	1,480	1,540	438	1,980	1,420	486	498	504	504	716	1,880
24	1,520	1,480	1,530	438	1,980	1,420	444	498	504	492	716	1,880
25	1,510	1,460	1,530	438	1,960	1,410	380	486	504	504	716	1,870
26	1,520	1,460	1,530	438	1,940	1,140	380	492	510	504	716	1,860
27	1,510	1,450	1,530	438	1,930	920	380	486	510	504	716	1,860
28	1,490	836	1,510	892	1,920	920	385	492	510	510	716	1,840
29	1,520	415	1,510	2,000	------	910	380	498	510	504	708	1,820
30	1,510	410	1,510	2,000	------	884	375	498	510	510	708	1,810
31	1,520	------	1,510	2,000	------	868	------	504	------	510	716	------
TOTAL	48,400	41,003	45,230	25,538	55,680	45,782	13,220	14,551	14,936	15,654	19,662	39,603
MEAN	1,561	1,367	1,459	824	1,989	1,477	441	469	498	505	634	1,320
MAX	1,640	1,630	1,540	2,000	2,000	1,960	636	504	510	546	780	1,880
MIN	1,350	410	540	426	1,920	868	374	370	475	480	504	510
AC-FT	96,000	81,330	89,710	50,650	110,400	90,810	26,220	28,860	29,630	31,050	39,000	78,550

CAL YR 1969 TOTAL 555,822 MEAN 1,523 MAX 2,030 MIN 410 ACFT 1,102,000
WAT YR 1970 TOTAL 379,259 MEAN 1,039 MAX 2,000 MIN 370 ACFT 752,300

09363500 Animas River near Cedar Hill, N. Mex.

LOCATION.--Lat 37°02'17", 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.--37 years, 891 cfs (645,500 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 12,140 cfs Sept. 6 (gage height, 11.30 ft); minimum, 165 cfs Feb. 21, Mar. 8.
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 station 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, water temperatures, and biochemical measurements for the current year are published in Part 2 of this report.

REVISIONS(WATER YEARS).--WSP 1563: 1940 and 1946 (monthly figures only).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	539	726	395	240	265	279	268	549	2,800	1,620	411	429
2	540	654	400	220	246	317	270	525	2,570	1,400	500	458
3	576	606	405	210	263	318	284	514	2,650	1,260	521	486
4	860	606	390	210	265	291	298	638	2,810	1,220	621	498
5	708	588	390	200	265	274	295	990	2,380	1,230	626	1,290
6	696	576	390	190	258	271	320	1,270	2,030	1,240	570	8,220
7	708	552	395	200	264	256	372	1,670	2,130	1,390	604	6,200
8	750	540	400	220	256	244	408	1,770	2,230	1,540	637	2,780
9	852	535	386	250	260	244	413	1,540	2,260	1,550	671	2,110
10	852	530	400	300	260	255	433	1,280	2,130	1,470	586	1,800
11	828	495	370	340	264	266	470	1,470	2,150	1,300	499	1,590
12	828	510	370	390	273	258	465	2,000	1,970	1,150	457	1,480
13	768	495	370	360	276	251	424	2,210	1,780	1,050	404	2,590
14	762	485	360	340	270	249	420	2,500	1,730	975	379	5,300
15	708	470	360	320	266	247	420	2,740	1,780	914	383	3,970
16	732	510	360	330	264	246	417	3,080	1,820	872	469	2,740
17	727	525	350	320	270	246	431	3,870	1,890	820	698	2,170
18	699	450	350	309	274	259	465	4,460	2,040	821	714	1,850
19	774	415	340	306	266	256	444	4,820	2,230	845	778	1,630
20	750	430	330	294	250	253	412	4,370	2,340	823	855	1,360
21	741	460	340	298	246	258	394	3,940	2,360	769	745	1,180
22	836	470	340	298	265	241	401	3,840	2,260	763	660	1,080
23	940	460	330	302	261	235	387	3,870	2,100	891	611	1,020
24	868	450	320	294	264	235	381	3,660	2,080	802	582	947
25	852	440	310	292	260	242	420	3,650	2,210	697	547	871
26	828	435	300	286	262	254	551	3,500	2,230	665	556	804
27	812	425	290	282	251	272	750	3,210	2,060	616	583	756
28	812	415	290	280	251	269	795	3,290	2,080	582	537	722
29	828	405	270	250	------	258	692	2,960	1,980	552	496	679
30	780	395	260	240	------	279	607	2,810	1,790	518	452	654
31	756	------	240	250	------	271	------	3,050	------	488	427	------
TOTAL	23,710	15,053	10,801	8,621	7,335	8,094	13,107	80,046	64,870	30,833	17,579	57,664
MEAN	765	502	348	278	262	261	437	2,582	2,162	995	567	1,922
MAX	940	726	405	390	276	318	795	4,820	2,810	1,620	855	8,220
MIN	539	395	240	190	246	235	268	514	1,730	488	379	429
AC-FT	47,030	29,860	21,420	17,100	14,550	16,050	26,000	158,800	128,700	61,160	34,870	114,400

CAL YR 1969 TOTAL 371,258 MEAN 1,017 MAX 4,480 MIN 198 AC-FT 736,400
WTR YR 1970 TOTAL 337,713 MEAN 925 MAX 8,220 MIN 190 AC-FT 669,900

PEAK DISCHARGE (BASE, 4,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5-19	1430	7.85	5,170	9-14	0600	8.14	5,910
9- 6	1800	11.30	12,140				

09364500 Animas River at Farmington, N. Mex.

LOCATION.--Lat 36°43'12", long 108°12'08", 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.--59 years, 926 cfs (670,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 10,940 cfs Sept. 7 (gage height, 8.25 ft); minimum, 78.0 cfs Mar. 23.
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 fair. Diversions for irrigation of about 30,000 acres above station. Records of chemical analyses, water temperatures, suspended sediment loads, and bio-chemical measurements for the current year 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	400	855	448	280	294	220	230	400	2,300	1,320	255	230
2	400	810	464	270	288	276	170	344	2,060	1,170	250	230
3	498	656	456	260	250	351	190	270	2,090	1,090	225	250
4	1,010	600	464	270	270	312	215	306	2,210	1,030	288	270
5	696	616	504	260	324	265	200	688	2,060	1,020	324	781
6	608	584	456	250	324	294	156	1,160	1,500	1,060	312	5,650
7	608	584	365	240	306	294	240	1,500	1,630	1,140	324	7,690
8	648	568	372	250	306	265	294	1,540	1,810	1,280	379	3,420
9	712	600	490	260	294	270	288	1,350	1,810	1,460	400	2,330
10	801	600	576	300	294	255	351	1,080	1,720	1,230	358	1,770
11	828	528	504	400	294	265	386	1,080	1,720	1,140	312	1,430
12	828	488	496	410	300	270	416	1,530	1,720	1,000	240	1,350
13	801	520	536	390	318	245	306	1,820	1,530	855	210	1,720
14	756	496	552	370	324	235	351	2,060	1,450	801	180	5,130
15	765	440	536	370	306	240	456	2,280	1,450	720	175	4,640
16	747	448	496	358	270	230	351	2,660	1,490	688	200	3,300
17	875	624	488	365	270	215	324	3,300	1,540	640	324	2,580
18	927	504	480	358	280	225	448	3,850	1,700	576	496	2,160
19	963	399	480	464	276	215	400	3,990	1,970	584	528	1,840
20	1,020	424	432	393	245	220	351	3,810	2,140	608	772	1,520
21	972	480	456	424	250	195	306	3,400	2,160	560	979	1,280
22	1,460	520	464	432	265	148	324	3,320	2,060	544	696	1,130
23	1,450	496	448	424	250	142	288	3,440	1,880	632	560	1,030
24	1,090	496	424	424	250	166	245	3,170	1,820	616	520	954
25	1,000	448	400	408	235	170	220	3,130	1,850	576	386	855
26	981	424	365	386	225	156	240	2,980	2,030	536	330	774
27	945	456	344	379	195	235	632	2,770	1,860	464	344	729
28	918	440	330	358	205	230	801	2,600	1,850	448	324	696
29	1,010	386	318	318	------	156	680	2,400	1,790	386	270	664
30	927	408	265	240	------	195	496	2,210	1,550	312	230	624
31	873	------	270	245	------	245	------	2,360	------	270	255	------
TOTAL	26,517	15,898	13,679	10,556	7,708	7,200	10,355	66,798	54,750	24,756	11,446	57,027
MEAN	855	530	441	341	275	232	345	2,155	1,825	799	369	1,901
MAX	1,460	855	576	464	324	351	801	3,990	2,300	1,460	979	7,690
MIN	400	386	265	240	195	142	156	270	1,450	270	175	230
AC-FT	52,600	31,530	27,130	20,940	15,290	14,280	20,540	132,500	108,600	49,100	22,700	113,100

CAL YR 1969 TOTAL 343,032 MEAN 940 MAX 3,930 MIN 220 ACFT 680,400
WAT YR 1970 TOTAL 306,690 MEAN 840 MAX 7,690 MIN 142 ACFT 608,300

PEAK DISCHARGE (BASE, 4,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
9-7	0500	8.25	10,940	5-19	2000	5.97	4,360
9-14	1230	6.55	6,320				

09365000 San Juan River at Farmington, N. Mex.

LOCATION.--Lat 36°43'22", long 108°13'30", in SE¼ sec.17, T.29 N., R.13 W., San Juan County, on left bank, 360 ft downstream from highway bridge, 4,000 ft downstream from Animas River, 1 mile west of Farmington and at mile 97.4.

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; discharge records for January to December 1905, published in WSP 175, have been found to be unreliable and should not be used), September 1912 to current year. Monthly discharge only for some periods, published in WSP 1313.

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.--58 years (1912-70), 2,436 cfs (1,765,000 acre-ft per year), unadjusted.

EXTREMES.--Current year: Maximum discharge, 11,500 cfs Sept. 7 (gage height, 6.78 ft); minimum, 380 cfs Apr. 26, Aug. 14, 15.
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 current year 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,670	2,240	799	1,920	2,290	2,350	1,120	710	2,820	1,690	550	689
2	1,970	1,390	1,390	1,920	2,340	2,370	690	635	2,510	1,460	550	673
3	2,110	1,910	1,560	1,910	2,330	2,340	658	541	2,550	1,270	540	666
4	2,630	2,050	1,580	1,850	2,320	2,320	647	504	2,740	1,200	571	664
5	2,230	2,020	1,610	1,850	2,370	2,320	616	861	2,610	1,290	569	1,270
6	2,190	1,990	1,620	1,860	2,380	2,300	601	1,320	2,040	1,280	648	8,190
7	2,240	2,020	1,610	1,720	2,400	2,330	601	1,730	2,170	1,400	618	9,140
8	2,260	2,010	1,620	864	2,410	2,350	644	2,040	2,410	1,720	1,720	4,350
9	2,340	2,010	1,670	925	2,430	2,270	612	1,860	2,520	2,220	915	3,110
10	2,310	2,030	1,700	990	2,400	1,800	634	1,530	2,460	1,980	717	2,760
11	2,310	2,020	1,720	1,120	2,480	1,740	701	1,460	2,560	1,720	619	2,680
12	2,310	2,010	1,680	1,120	2,470	1,680	788	2,030	2,470	1,480	493	2,850
13	2,350	2,020	1,790	1,080	2,530	1,690	747	2,480	2,140	1,250	437	4,170
14	2,240	2,010	1,840	1,090	2,560	1,760	736	2,600	2,040	1,120	396	7,190
15	2,190	1,930	1,860	1,090	2,520	1,880	812	2,920	2,040	997	506	6,350
16	2,190	2,040	1,860	1,060	2,510	1,730	743	3,410	2,090	946	685	4,780
17	2,180	2,130	1,860	1,070	2,460	1,620	731	4,030	2,130	886	1,350	4,000
18	2,180	1,970	1,900	1,000	2,480	1,550	786	4,570	2,300	835	1,100	3,580
19	2,230	1,310	1,920	951	2,440	1,550	764	4,840	2,530	848	1,190	3,260
20	2,230	1,510	1,900	962	2,410	1,570	743	4,650	2,740	916	1,680	2,940
21	2,150	1,870	1,910	975	2,360	1,600	681	4,200	2,790	871	1,920	2,780
22	3,830	1,910	1,970	972	2,400	1,590	691	4,110	2,670	871	1,430	2,970
23	2,880	1,860	2,050	989	2,350	1,630	670	4,080	2,450	984	1,190	2,870
24	2,370	1,830	2,100	1,020	2,340	1,670	680	3,900	2,320	1,010	1,150	2,870
25	2,270	1,730	2,030	1,030	2,340	1,600	610	3,770	2,320	947	1,000	2,810
26	2,270	1,650	2,000	1,020	2,320	1,500	440	3,660	2,350	854	922	2,760
27	2,270	1,590	1,990	982	2,290	1,260	663	3,450	2,320	825	911	2,540
28	2,310	1,460	1,990	979	2,290	1,240	982	3,310	2,190	770	854	2,460
29	2,560	732	2,020	2,140	------	1,190	919	3,030	2,150	706	790	2,360
30	2,370	738	1,960	2,200	------	1,170	788	2,700	1,910	615	736	2,200
31	2,270	------	1,970	2,280	------	1,160	------	2,890	------	571	740	------
TOTAL	71,910	53,990	55,479	40,939	67,220	55,130	21,498	83,821	71,340	35,532	27,497	99,932
MEAN	2,320	1,800	1,790	1,321	2,401	1,778	717	2,704	2,378	1,146	887	3,331
MAX	3,830	2,240	2,100	2,280	2,560	2,370	1,120	4,840	2,820	2,220	1,920	9,140
MIN	1,670	732	799	864	2,290	1,160	440	504	1,910	571	396	664
AC-FT	142,600	107,100	110,000	81,200	133,300	109,400	42,640	166,300	141,500	70,480	54,540	198,200

CAL YR 1969 TOTAL 889,520 MEAN 2,437 MAX 5,830 MIN 554 AC-FT 1,764,000
WTR YR 1970 TOTAL 684,288 MEAN 1,875 MAX 9,140 MIN 396 AC-FT 1,357,000

PEAK DISCHARGE (BASE, 5,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-22	1445	4.10	5,000	9- 7	0500	6.78	11,500
5-19	2100	4.36	5,320	9-14	1545	5.28	8,000

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 1713 or 1733 for history of changes prior to Mar. 17, 1934.

AVERAGE DISCHARGE.--50 years, 33.1 cfs (23,980 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,150 cfs Aug. 3 (gage height, 6.02 ft, from floodmarks), by slope-area measurement of peak flow; minimum daily, 1.4 cfs Aug. 1.
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. Records of chemical analyses and water temperatures for the water years 1969-70 are published in Part 2 of this report for Colorado.

REVISIONS (WATER YEARS).--WSP 1313: 1934(M), 1936(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	18	15	10	16	8.0	8.0	20	48	16	1.4	3.5
2	1.8	17	11	9.5	15	7.5	6.0	16	48	14	1.5	3.2
3	32	15	9.8	9.5	16	7.0	6.4	8.6	52	16	113	3.2
4	29	13	10	11	18	5.0	6.4	10	58	15	6.2	3.5
5	12	13	11	10	18	7.2	6.4	18	61	15	4.2	80
6	7.6	12	10	10	16	6.4	8.6	25	50	19	5.2	512
7	6.4	12	10	11	17	6.0	10	66	50	21	3.2	185
8	5.6	11	9.0	12	18	6.4	8.6	67	46	17	3.8	82
9	5.6	11	10	13	18	8.6	8.6	45	52	51	4.0	53
10	5.6	12	10	14	19	12	10	44	46	29	4.0	36
11	6.0	11	9.0	12	17	13	6.4	59	45	21	3.8	28
12	7.2	10	10	13	17	9.8	5.2	71	34	15	3.2	46
13	7.2	10	12	12	18	7.2	3.2	78	21	8.6	2.8	135
14	7.2	9.8	13	12	19	5.6	6.4	82	23	6.4	3.2	157
15	7.2	9.2	14	14	15	7.6	12	92	30	9.2	3.2	82
16	7.6	13	13	12	13	8.6	15	91	43	13	4.8	32
17	7.2	16	13	13	13	6.8	15	97	41	13	5.2	19
18	7.2	15	13	14	12	6.4	20	85	45	13	23	12
19	7.6	12	13	13	10	6.0	20	70	45	7.2	2.8	16
20	8.0	10	14	13	11	3.8	12	77	42	6.8	22	15
21	9.8	11	14	13	6.4	2.0	8.0	77	44	4.4	18	13
22	34	12	15	15	4.8	2.0	8.6	75	39	8.5	8.6	13
23	49	12	13	15	5.2	2.2	6.8	81	43	8.0	6.4	13
24	34	12	15	15	6.0	2.5	6.8	96	43	9.8	4.8	21
25	34	11	14	18	6.0	6.0	7.2	88	35	4.0	4.0	18
26	34	11	15	18	7.0	9.2	11	72	30	1.5	3.8	15
27	41	11	15	17	10	11	24	51	20	4.8	3.5	15
28	41	10	15	16	9.0	10	36	43	26	5.6	3.2	15
29	28	13	14	12	------	9.8	34	47	26	3.5	3.2	14
30	25	15	12	13	------	10	23	74	20	2.8	3.2	13
31	21	------	10	16	------	8.6	------	75	------	1.8	3.2	------
TOTAL	530.3	368.0	381.8	406.0	370.4	222.2	359.6	1,900.6	1,206	380.9	282.4	1,653.4
MEAN	17.1	12.3	12.3	13.1	13.2	7.17	12.0	61.3	40.2	12.3	9.11	55.1
MAX	49	18	15	18	19	13	36	97	61	51	113	512
MIN	1.5	9.2	9.0	9.5	4.8	2.0	3.2	8.6	20	1.5	1.4	3.2
AC-FT	1,050	730	757	805	735	441	713	3,770	2,390	756	560	3,280

CAL YR 1969 TOTAL 15,769.95 MEAN 43.2 MAX 330 MIN .75 AC-FT 31,280
WAT YR 1970 TOTAL 8,061.60 MEAN 22.1 MAX 512 MIN 1.4 AC-FT 15,990

09367500 La Plata River near Farmington, N. Mex.

LOCATION.--Lat 36°44'23", long 108°14'51", 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.--32 years, 23.6 cfs (17,100 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,550 cfs Sept. 6 (gage height, 5.76 ft), from rating curve extended above 450 cfs on basis of slope-area measurement at gage height 5.93 ft; minimum, 0.1 cfs few days.
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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	7.5	23	12	20	3.7	2.7	1.3	1.3	1.6	.60	.10
2	3.7	7.2	24	10	20	3.3	2.4	1.6	1.2	1.9	.60	.10
3	321	8.3	24	8.3	20	2.7	2.2	1.8	1.6	1.9	.60	.10
4	127	8.3	20	7.5	18	2.2	2.2	1.8	1.8	2.2	28	1.3
5	13	8.3	20	8.4	16	2.2	2.4	1.8	1.8	2.2	2.2	246
6	13	7.2	20	8.0	16	2.2	2.0	1.8	8.5	2.2	4.5	917
7	12	7.5	20	7.6	16	2.2	1.9	1.8	3.6	2.2	2.4	222
8	11	7.5	21	8.6	16	2.2	1.9	1.8	1.8	22	5.1	242
9	11	7.5	20	9.5	16	1.8	1.9	1.8	4.5	5.1	2.5	33
10	11	7.5	21	10	16	1.8	1.9	1.3	4.5	3.9	1.8	30
11	11	6.9	20	11	15	2.0	1.8	.90	6.6	3.5	1.3	23
12	11	6.9	19	12	12	1.9	1.3	1.4	5.7	2.9	1.3	23
13	10	6.9	20	15	12	1.9	1.6	1.4	4.8	2.5	1.3	99
14	10	6.6	23	20	12	1.8	1.6	1.0	5.4	2.4	1.4	249
15	10	7.2	22	22	11	1.8	1.6	1.0	5.4	2.4	1.6	110
16	10	10	21	22	10	1.8	1.3	1.0	5.7	2.2	2.0	31
17	11	12	17	22	6.9	1.4	1.6	1.6	6.0	2.2	1.9	16
18	9.5	14	16	22	6.9	1.6	1.9	2.5	5.4	2.2	9.0	14
19	9.5	14	14	24	6.9	1.4	1.4	.80	6.0	2.1	15	9.5
20	8.7	16	14	24	6.9	1.4	1.3	.70	6.3	2.0	20	7.9
21	30	18	14	21	6.3	1.4	1.3	.70	4.5	.50	171	7.9
22	414	18	14	20	4.8	1.8	1.4	.70	3.9	.50	20	7.9
23	38	18	12	20	4.8	1.8	1.4	.70	3.1	1.1	.30	7.9
24	35	17	12	20	4.5	1.8	1.4	1.2	3.7	.60	.20	7.9
25	34	18	11	19	3.5	1.8	1.3	1.2	3.1	.50	.20	6.9
26	33	18	12	19	3.5	1.8	1.4	.90	3.1	.40	.10	4.8
27	32	18	12	19	3.5	2.2	1.3	1.3	2.4	.40	.10	5.4
28	32	16	14	20	3.5	2.0	1.8	1.3	2.4	.40	.10	6.9
29	45	15	13	20	------	2.0	1.6	1.3	2.9	.40	.10	6.9
30	9.5	19	14	21	------	2.5	1.3	1.3	1.8	.60	.10	6.6
31	8.7	------	13	20	------	2.4	------	1.3	------	.60	.10	------
TOTAL	1,337.1	352.3	540	502.9	308.0	62.8	51.1	41.00	118.8	75.60	295.40	2,343.10
MEAN	43.1	11.7	17.4	16.2	11.0	2.03	1.70	1.32	3.96	2.44	9.53	78.1
MAX	414	19	24	24	20	3.7	2.7	2.5	8.5	22	171	917
MIN	2.5	6.6	11	7.5	3.5	1.4	1.3	.70	1.2	.40	.10	.10
AC-FT	2,650	699	1,070	998	611	125	101	81	236	150	586	4,650

CAL YR 1969 TOTAL 12,322.90 MEAN 33.8 MAX 414 MIN .50 ACFT 24,440
WAT YR 1970 TOTAL 6,028.10 MEAN 16.5 MAX 917 MIN .10 ACFT 11,960

09368000 San Juan River at Shiprock, N. Mex.

LOCATION.--Lat 36°47'52", long 108°43'52", in SW¼ sec.22, T.30 N., R.18 W., San Juan County, on left bank, 3 miles west of Shiprock and 6 miles downstream from Chaco River, and at mile 61.0

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.--44 years (1926-70), 2,237 cfs (1,621,000 acre-ft per year), unadjusted.

EXTREMES.--Current year: Maximum discharge, 15,400 cfs Oct. 22 (gage height, 7.65 ft); minimum, 226 cfs Aug. 15.
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 sta 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, water temperatures, and suspended sediment loads for the current year 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,530	2,320	967	1,780	2,770	2,420	1,120	614	2,790	1,630	347	616
2	1,790	1,770	1,260	1,740	2,710	2,500	861	578	2,510	1,390	294	616
3	2,870	1,590	1,770	1,680	2,640	2,560	766	455	2,410	1,260	299	602
4	3,430	1,970	1,940	1,720	2,480	2,430	676	399	2,460	1,160	378	630
5	2,640	2,220	2,060	1,710	2,420	2,460	672	406	2,670	1,150	408	1,650
6	2,450	2,260	2,060	1,700	2,320	2,400	666	1,010	2,310	1,140	445	8,470
7	2,420	2,100	2,010	1,720	2,300	2,430	687	1,200	2,120	1,200	461	11,300
8	2,550	2,140	1,970	1,170	2,360	2,370	721	1,600	2,120	1,380	892	5,130
9	2,450	2,160	1,990	894	2,370	2,230	787	1,550	2,190	1,920	949	3,140
10	2,380	2,200	2,050	950	2,450	1,890	768	1,360	2,250	1,860	758	2,670
11	2,680	2,120	1,840	902	2,440	1,860	718	1,220	2,330	1,560	573	2,620
12	2,680	2,100	1,960	967	2,470	1,690	748	1,490	2,370	1,370	459	2,740
13	2,680	2,140	1,970	1,040	2,530	1,700	797	2,370	2,140	1,140	298	3,930
14	2,500	2,140	2,010	1,020	2,620	1,670	757	2,560	2,120	963	255	6,810
15	2,400	2,090	2,100	1,030	2,580	1,690	809	2,850	2,010	851	239	6,120
16	2,300	2,140	2,060	997	2,550	1,660	791	3,140	1,930	788	400	4,510
17	2,320	2,210	2,080	1,060	2,400	1,640	830	3,620	2,130	744	955	3,630
18	2,300	2,110	2,030	1,100	2,520	1,640	805	4,410	2,020	672	870	3,130
19	2,300	1,680	2,030	1,070	2,400	1,650	778	4,460	2,210	657	940	2,870
20	2,300	1,690	1,960	1,050	2,440	1,740	680	4,040	2,440	691	1,230	2,600
21	3,920	1,820	1,940	1,070	2,450	1,610	570	3,290	2,480	683	1,840	2,390
22	11,300	2,000	1,990	1,070	2,380	1,600	492	3,110	2,300	671	1,370	2,520
23	8,500	2,010	1,940	1,070	2,480	1,610	504	3,250	2,190	682	1,100	2,750
24	3,670	2,010	2,010	1,040	2,420	1,510	531	3,230	2,120	785	1,020	2,680
25	2,960	1,970	1,960	1,030	2,470	1,590	515	3,170	2,000	768	900	2,280
26	2,770	1,980	1,920	995	2,420	1,470	422	3,240	1,990	710	816	2,270
27	2,760	1,950	1,920	980	2,390	1,340	489	3,290	2,050	728	700	2,130
28	2,550	1,960	1,750	1,000	2,530	1,300	435	2,970	2,000	784	686	2,090
29	2,550	1,370	1,800	1,710	------	1,240	421	2,900	1,840	538	644	2,130
30	2,550	1,030	1,780	2,700	------	1,090	558	2,470	1,820	479	623	2,130
31	2,300	------	1,890	2,930	------	1,220	------	2,500	------	392	609	------
TOTAL	94,800	59,250	59,017	40,895	69,310	56,210	20,374	72,752	66,320	30,746	21,758	97,154
MEAN	3,058	1,975	1,904	1,319	2,475	1,813	679	2,347	2,211	992	702	3,238
MAX	11,300	2,320	2,100	2,930	2,770	2,560	1,120	4,460	2,790	1,920	1,840	11,300
MIN	1,530	1,030	967	894	2,300	1,090	421	399	1,820	392	239	602
AC-FT	188,000	117,500	117,100	81,120	137,500	111,500	40,410	144,300	131,500	60,980	43,160	192,700

CAL YR 1969 TOTAL 921,984 MEAN 2,526 MAX 11,300 MIN 578 AC-FT 1,829,000
WTR YR 1970 TOTAL 688,586 MEAN 1,887 MAX 11,300 MIN 239 AC-FT 1,366,000

PEAK DISCHARGE (BASE 6,000 CFS)

DATE	TIME	G.H	DISCHARGE	DATE	TIME	G.H	DISCHARGE
10-22	1430	7.65	15,400	9-14	1530	6.20	9,010
9-7	0400	7.26	14,300				

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, USGS). Prior to Mar. 16, 1927, chain gages at sites about 1,700 ft downstream at different datums.

AVERAGE DISCHARGE.--56 years, 2,612 cfs (1,892,000 acre-ft per year), unadjusted.

EXTREMES.--Current year: Maximum discharge, 52,000 cfs Sept. 6 (gage height, 26.62 ft); minimum, 433 cfs Aug. 4.
1914-17, 1927-70: 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 1970 will be published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,590	2,400	981	1,690	2,340	2,320	1,320	836	2,620	1,830	580	796
2	1,550	2,320	981	1,740	2,370	2,520	1,200	750	2,730	1,600	580	674
3	4,380	2,240	1,230	1,680	2,340	2,480	1,070	669	2,400	1,430	520	669
4	7,420	2,150	1,790	1,690	2,310	2,480	827	639	2,370	1,280	520	634
5	4,210	2,080	1,940	1,620	2,370	2,380	842	544	2,530	1,160	520	6,240
6	2,700	2,140	1,980	1,670	2,370	2,370	811	532	2,670	1,240	600	34,700
7	2,390	2,100	1,950	1,650	2,340	2,320	782	522	2,150	1,350	700	15,500
8	2,330	2,070	1,910	1,600	2,320	2,340	796	1,030	2,250	1,350	3,000	10,300
9	2,340	2,090	1,870	1,090	2,340	2,320	811	1,500	2,370	1,970	1,500	4,960
10	2,340	2,070	1,890	811	2,360	2,280	834	1,520	2,490	2,580	1,000	3,780
11	2,400	2,070	1,870	873	2,360	1,950	834	1,260	2,490	2,080	774	3,250
12	2,520	2,010	1,820	955	2,360	1,790	789	1,090	2,720	1,780	724	3,770
13	2,490	1,940	1,800	930	2,380	1,760	774	1,120	2,650	1,560	697	10,200
14	2,380	1,910	1,820	981	2,440	1,720	819	1,910	2,320	1,340	645	5,620
15	2,310	1,890	1,840	955	2,490	1,720	804	2,220	2,170	1,150	583	7,460
16	2,280	1,910	1,860	964	2,420	1,700	804	2,450	2,120	1,060	552	6,230
17	2,240	2,090	1,860	981	2,340	1,710	863	2,760	2,060	971	532	4,500
18	2,240	2,180	1,870	981	2,300	1,770	883	3,520	2,080	946	866	3,740
19	2,260	2,040	1,840	1,020	2,330	1,700	905	4,290	2,090	867	1,430	3,300
20	2,280	1,700	1,870	998	2,320	1,680	894	4,440	2,240	817	2,070	3,030
21	2,390	1,340	1,840	990	2,270	1,700	847	4,180	2,520	813	3,150	2,830
22	9,740	1,710	1,830	990	2,260	1,670	765	3,710	2,580	861	2,360	2,550
23	13,800	1,980	1,880	990	2,260	1,660	700	3,670	2,490	827	1,500	2,860
24	4,970	2,010	1,860	1,050	2,310	1,670	683	3,670	2,270	813	1,250	2,740
25	3,310	1,970	1,830	1,050	2,280	1,590	692	3,500	2,060	829	1,200	2,650
26	2,820	1,970	1,860	1,040	2,280	1,650	653	3,400	2,070	924	1,100	2,560
27	2,680	1,960	1,870	1,020	2,260	1,700	642	3,300	2,180	849	976	2,510
28	2,570	1,940	1,820	1,020	2,250	1,540	568	3,180	2,140	800	883	2,440
29	2,610	1,910	1,750	998	------	1,340	606	3,020	1,930	804	747	2,390
30	2,790	1,360	1,790	1,560	------	1,320	880	2,860	2,030	782	735	2,320
31	2,510	------	1,710	2,220	------	1,320	------	2,490	------	631	767	------
TOTAL	104,840	59,550	55,012	37,807	65,370	58,470	24,698	70,582	69,790	37,294	33,061	155,203
MEAN	3,382	1,985	1,775	1,220	2,335	1,886	823	2,277	2,326	1,203	1,066	5,173
MAX	13,800	2,400	1,980	2,220	2,490	2,520	1,320	4,440	2,730	2,580	3,150	34,700
MIN	1,550	1,340	981	811	2,250	1,320	568	522	1,930	631	520	634
AC-FT	208,000	118,100	109,100	74,990	129,700	116,000	48,990	140,000	138,400	73,970	65,580	307,800

CAL YR 1969 TOTAL 977,032 MEAN 2,677 MAX 13,800 MIN 731 AC-FT 1,938,000
WTR YR 1970 TOTAL 771,677 MEAN 2,114 MAX 34,700 MIN 520 AC-FT 1,531,000

PEAK DISCHARGE (BASE, 8,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10- 4	0600	9.86	8,760	9- 6	1000	26.62	52,000
10-23	0900	13.30	15,700	9-13	0530	13.01	14,700
8 - 4	1900	9.98	8,940	9-15	0900	9.78	8,240

09386900 Rio Nutria near Ramah, N. Mex.

LOCATION.--Lat 35°16'57", long 108°33'10", in NW¼SW¼ sec.8, T.12 N., R.16 W., on Zuni Indian Reservation, at mouth of Nutria Canyon, 0.9 mile upstream from Nutria Diversion Dam, 1.3 miles northeast of Upper Nutria, and 10.4 miles northwest of Ramah.

DRAINAGE AREA.--71.4 sq mi.

PERIOD OF RECORD.--October 1969 to September 1970.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 7,000 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 365 cfs Aug. 17 (gage height, 4.25 ft); no flow for many days.
Period of record: Maximum discharge, 365 cfs Aug. 17, 1970 (gage height 4.25 ft) from rating curve extended above 10 cfs on basis of slope-area measurement of peak flow; no flow for many days.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.05	.08	.08	.15	.25	3.0	.53	.10	.05	.08	.17
2	0	.05	.08	.08	.10	.87	5.9	.53	.10	.05	.08	.11
3	0	.05	.08	.08	.08	.66	8.2	.48	.10	.05	.08	.10
4	0	.08	.08	.08	.08	.60	4.6	.32	.08	.05	.07	.11
5	0	.08	.10	.08	.08	.42	3.6	.25	.08	.10	.08	.15
6	0	.08	.08	.08	.10	.53	3.8	.20	.08	.12	9.6	.75
7	0	.08	.08	.08	.10	.37	4.2	.20	.08	.12	1.0	.14
8	0	.08	.08	.08	.12	.32	2.5	.15	.08	.15	.16	.09
9	0	.08	.08	.08	.28	.32	2.2	.15	.08	2.3	.12	.09
10	0	.08	.08	.08	.37	.32	1.9	.15	.08	.42	.11	.08
11	0	.08	.08	.08	.37	.37	1.9	.15	.08	.10	.10	.08
12	0	.08	.08	.08	.37	.42	1.5	.12	.08	.08	3.6	.09
13	0	.08	.08	.08	.42	.53	1.3	.12	.08	.08	.70	.09
14	0	.08	.08	.08	.48	.42	1.1	.12	.08	.08	.31	.08
15	0	.08	.08	.08	.28	.37	.79	.12	.08	.08	.28	.08
16	0	.28	.08	.10	.20	.37	.72	.12	.08	.08	.40	.08
17	0	2.2	.08	.12	.25	.32	.95	.12	.05	.05	22	.08
18	0	.37	.08	.12	.25	.32	1.6	.12	.05	.05	6.5	.08
19	0	.15	.08	.10	.20	.25	1.6	.12	.05	.05	.62	.08
20	0	.10	.08	.08	.12	.28	2.5	.12	.08	.05	.24	.08
21	.48	.10	.08	.08	.12	.32	1.5	.12	.08	.05	.11	.08
22	1.3	.10	.10	.08	.12	.37	.87	.10	.05	.20	.10	.08
23	1.3	.08	.12	.12	.20	.32	.60	.10	.05	.08	.09	.08
24	.42	.08	.12	.12	.28	.32	.53	.10	.05	.08	.08	.08
25	.20	.08	.10	.10	.32	.32	.48	.10	.05	.08	.08	.08
26	.10	.08	.10	.10	.25	.25	.48	.12	.05	.08	.08	.08
27	.08	.08	.10	1.4	.25	.42	.42	.20	.05	.08	.08	.08
28	.05	.08	.10	1.3	.20	.48	.37	.12	.05	.08	.08	.08
29	.05	.08	.10	.60	------	1.3	.42	.12	.05	.09	.08	.08
30	.05	.08	.10	.25	------	1.0	.53	.12	.05	.08	.08	.08
31	.05	------	.08	.28	------	1.9	------	.10	------	.08	.08	------
TOTAL	4.08	5.05	2.72	6.15	6.14	15.31	60.06	5.49	2.10	5.09	47.07	3.41
MEAN	.13	.17	.088	.20	.22	.49	2.00	.18	.070	.16	1.52	.11
MAX	1.3	2.2	.12	1.4	.48	1.9	8.2	.53	.10	2.3	22	.75
MIN	0	.05	.08	.08	.08	.25	.37	.10	.05	.05	.07	.08
AC-FT	8.1	10	5.4	12	12	30	119	11	4.2	10	93	6.8

CAL YR 1969	TOTAL	MEAN	MAX	MIN	AC-FT
WTR YR 1970	TOTAL 162.67	MEAN .45	MAX 22	MIN 0	AC-FT 323

09430150 Sapillo Creek below Lake Roberts, near Silver City, N. Mex.

LOCATION.--Lat 33°01'56", long 108°10'06", 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.

AVERAGE DISCHARGE.--6 years, 5.18 cfs (3,750 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 136 cfs Aug. 2 (gage height, 2.73 ft); minimum, 0.65 cfs Oct. 3, 4, 10.
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 except those for August and September, which are poor. Flow regulated by Lake Roberts. The dam is earthfill with a concrete spillway. The reservoir capacity is 1,870 acre-ft.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.80	1.5	1.8	1.6	1.1	1.4	1.3	1.1	1.6	1.6	2.4	2.2
2	.76	1.5	1.8	1.6	1.1	2.3	1.3	1.2	1.6	2.6	9.0	2.2
3	.70	1.5	2.0	1.6	1.1	3.5	1.3	1.2	1.6	2.4	20	2.3
4	.69	1.5	2.3	1.6	1.1	2.3	1.7	1.3	1.7	1.6	40	2.3
5	.73	1.5	2.7	1.6	1.2	1.9	3.5	1.5	1.8	1.5	9.0	2.3
6	.75	1.6	2.5	1.6	1.2	1.7	3.6	1.5	2.0	1.2	4.9	2.3
7	.79	1.6	2.3	1.6	1.2	1.6	3.6	1.4	2.1	1.1	3.4	2.3
8	.87	1.6	2.1	1.6	1.2	1.4	3.5	1.3	2.2	1.0	2.5	2.3
9	.94	1.7	2.0	1.6	1.2	.84	3.6	1.3	2.0	1.0	2.1	2.4
10	.79	1.7	2.0	1.5	1.2	.96	3.5	1.7	1.7	.89	1.8	2.4
11	.76	1.8	1.9	1.4	1.3	1.2	3.1	2.1	1.4	.84	1.7	2.4
12	.91	1.7	1.8	1.3	1.3	1.4	2.7	2.1	1.3	.89	1.5	2.4
13	.93	1.7	1.8	1.4	1.3	1.4	1.1	2.1	1.3	.84	1.4	2.4
14	.97	1.7	1.8	1.3	1.2	1.4	1.2	1.9	1.4	.78	1.4	2.5
15	.96	1.7	1.8	1.4	1.1	2.1	1.1	2.1	1.3	.78	1.3	2.5
16	1.0	2.1	1.7	1.4	1.1	2.4	1.1	2.3	1.2	1.0	1.5	2.5
17	1.1	2.7	1.7	1.3	1.1	1.9	1.3	2.5	1.3	.89	2.0	2.5
18	1.2	2.2	1.8	1.3	1.1	1.6	1.7	2.4	1.3	.73	2.0	2.5
19	1.3	2.0	1.7	1.3	1.0	1.5	1.4	2.4	1.5	.73	2.0	2.6
20	1.4	1.8	1.7	1.3	1.1	1.4	1.4	2.4	2.5	.78	2.0	2.6
21	3.3	1.8	1.7	1.3	1.6	1.4	1.5	2.4	4.7	.89	2.0	2.6
22	2.7	1.8	1.7	1.3	1.7	1.3	1.3	2.2	5.9	.94	2.0	2.6
23	2.2	1.9	1.6	1.3	1.8	1.3	1.2	1.4	5.5	1.0	2.1	2.6
24	1.9	1.9	1.6	1.3	2.3	1.3	1.2	1.8	7.2	1.2	2.1	2.6
25	1.7	2.0	1.6	1.3	1.9	1.3	1.5	2.2	4.7	1.2	2.1	2.7
26	1.8	2.0	1.6	1.3	1.7	1.3	1.6	2.0	1.3	1.3	2.1	2.7
27	1.9	1.9	1.6	1.3	1.6	1.5	1.0	2.0	1.6	1.2	2.1	2.7
28	1.8	1.9	1.6	1.2	1.5	1.6	1.0	1.9	1.7	1.8	2.2	2.7
29	1.7	1.8	1.6	1.2	------	1.5	1.0	1.7	2.1	2.7	2.2	2.7
30	1.5	1.8	1.6	1.2	------	1.4	1.0	1.6	1.9	2.3	2.2	2.8
31	1.5	------	1.6	1.1	------	1.3	------	1.7	------	2.1	2.2	------
TOTAL	40.35	53.9	57.0	43.1	37.3	49.40	55.3	56.7	69.4	39.78	135.2	74.6
MEAN	1.30	1.80	1.84	1.39	1.33	1.59	1.84	1.83	2.31	1.28	4.36	2.49
MAX	3.3	2.7	2.7	1.6	2.3	3.5	3.6	2.5	7.2	2.7	40	2.8
MIN	.69	1.5	1.6	1.1	1.0	.84	1.0	1.1	1.2	.73	1.3	2.2
AC-FT	80	107	113	85	74	98	110	112	138	79	268	148

CAL YR 1969 TOTAL 561.03 MEAN 1.54 MAX 13 MIN .21 AC-FT 1,110
WTR YR 1970 TOTAL 712.03 MEAN 1.95 MAX 40 MIN .69 AC-FT 1,410

NOTE.--No gage height record Aug. 17 to Sept. 30.

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.--43 years (1927-70), 128 cfs (92,740 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 439 cfs Sept. 18 (gage height, 3.47 ft); minimum, 23 cfs July 18. 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	61	68	67	60	74	102	95	56	28	59	41
2	43	61	67	65	60	109	98	91	53	34	91	42
3	43	61	68	64	60	247	95	86	50	83	93	40
4	42	61	72	62	60	266	93	83	47	41	130	43
5	41	61	78	62	61	216	93	78	47	36	102	50
6	41	61	81	62	62	200	91	78	49	32	83	50
7	41	61	78	62	62	180	89	81	49	29	88	48
8	41	61	77	60	62	170	88	81	54	28	78	46
9	41	61	75	60	61	174	91	88	56	27	72	44
10	41	62	74	61	61	182	95	91	47	27	75	42
11	40	62	72	62	64	197	96	91	44	27	77	41
12	40	62	71	64	64	197	98	91	41	28	81	41
13	40	62	69	64	64	192	104	91	38	26	77	44
14	42	61	69	64	64	194	107	96	37	24	81	43
15	43	61	68	64	61	210	107	98	36	24	80	41
16	43	72	68	64	62	216	105	98	34	26	75	39
17	44	129	67	64	62	213	105	98	32	24	89	37
18	45	96	67	61	61	202	118	98	30	24	102	57
19	48	86	68	61	62	187	115	100	29	24	102	50
20	51	81	68	61	62	167	105	102	28	30	91	43
21	68	78	67	61	68	156	102	100	29	40	78	39
22	89	74	67	61	71	143	96	96	33	40	69	37
23	86	72	67	61	72	132	93	95	33	38	65	35
24	77	71	67	61	83	122	89	86	34	43	74	34
25	72	69	67	61	77	115	88	80	33	48	72	34
26	68	69	64	61	75	113	86	78	30	53	61	34
27	69	68	64	61	72	113	86	78	29	53	57	34
28	67	68	67	61	71	113	88	80	29	53	51	34
29	67	68	69	61	------	111	91	72	30	91	48	34
30	64	68	69	60	------	109	93	67	28	69	45	35
31	62	------	68	59	------	88	------	61	------	69	43	------
TOTAL	1,643	2,088	2,161	1,922	1,824	5,108	2,907	2,708	1,165	1,219	2,389	1,232
MEAN	53.0	69.6	69.7	62.0	65.1	165	96.9	87.4	38.8	39.3	77.1	41.1
MAX	89	129	81	67	83	266	118	102	56	91	130	57
MIN	40	61	64	59	60	74	86	61	28	24	43	34
AC-FT	3,260	4,140	4,290	3,810	3,620	10,130	5,770	5,370	2,310	2,420	4,740	2,440

CAL YR 1969 TOTAL 26,968 MEAN 73.9 MAX 326 MIN 19 ACFT 53,490
WAT YR 1970 TOTAL 26,366 MEAN 72.2 MAX 266 MIN 24 ACFT 52,300

PEAK DISCHARGE (BASE, 600 CFS).--No peak above base.

09430600 Mogollon Creek near Cliff, N. Mex.

(Hydrologic bench-mark station)

LOCATION.--Lat 33°10'00", long 108°38'57", 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, 377 cfs July 30 (gage height, 4.01 ft); no flow at times.
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; no flow at times.

REMARKS.--Records good. Records of chemical analysis, water temperatures, suspended sediment loads and bio chemical analysis made during the current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	1.8	4.2	5.5	5.9	12	15	20	1.9	0	23	1.6
2	0	1.6	3.8	6.0	5.7	64	13	20	1.7	.56	14	1.4
3	0	1.6	4.6	6.0	5.4	75	13	19	1.5	.84	9.9	1.2
4	0	1.5	10	6.0	5.1	56	14	20	1.4	.92	7.7	3.9
5	0	1.5	24	6.0	4.8	56	16	21	1.3	1.2	6.9	15
6	0	1.5	17	6.5	4.6	39	21	22	1.3	.91	8.9	35
7	0	1.5	13	6.0	4.4	40	25	21	1.4	.70	6.7	40
8	0	1.5	11	5.8	4.1	65	27	20	1.6	.26	31	18
9	.01	1.4	9.2	6.0	3.9	79	29	19	1.3	.13	40	12
10	.01	1.4	8.3	6.2	3.7	73	28	19	1.1	0	55	8.5
11	0	1.5	7.6	6.7	4.3	63	33	18	.86	0	19	6.2
12	0	1.5	8.0	5.3	4.9	53	33	19	.73	0	13	5.1
13	0	1.5	8.2	5.2	4.8	44	30	18	.63	0	12	4.7
14	0	1.4	8.5	5.3	4.6	55	29	17	.56	0	9.6	3.9
15	0	1.5	8.6	5.6	4.7	72	24	16	.45	0	11	3.1
16	0	24	8.8	5.6	4.6	82	20	16	.32	0	17	2.6
17	.06	117	9.2	5.5	4.4	69	20	15	.20	0	13	2.2
18	.22	46	10	5.8	4.2	58	22	13	.10	0	9.5	1.9
19	.32	21	10	5.8	4.1	43	22	12	.01	0	6.2	2.1
20	.44	14	9.5	5.8	4.4	33	22	9.6	0	0	6.5	2.4
21	5.9	11	8.8	5.8	5.1	26	21	8.4	0	0	5.2	1.8
22	9.2	9.7	8.6	6.0	5.4	22	21	7.3	0	2.9	4.4	1.4
23	4.8	8.5	8.7	6.2	9.7	21	21	6.2	0	1.4	5.3	1.2
24	3.1	7.6	8.2	6.2	13	25	20	5.8	0	26	7.5	1.1
25	2.5	6.6	7.3	6.0	16	32	22	6.1	0	18	5.9	.92
26	2.2	5.9	6.7	6.0	14	35	22	5.3	0	16	4.4	.78
27	2.0	5.4	6.2	5.5	14	34	21	4.8	0	11	3.4	.71
28	1.9	5.3	6.8	5.6	13	27	22	4.1	0	70	2.7	.65
29	2.5	5.0	6.5	5.6	------	23	21	3.2	0	48	2.1	.75
30	2.2	4.7	6.5	5.8	------	20	20	2.7	0	53	1.6	.76
31	2.0	------	6.5	6.0	------	18	------	2.3	------	21	1.6	------
TOTAL	39.36	314.4	274.3	181.3	182.8	1,414	667	410.8	18.36	272.82	364.0	180.87
MEAN	1.27	10.5	8.85	5.85	6.53	45.6	22.2	13.3	.61	8.80	11.7	6.03
MAX	9.2	117	24	6.7	16	82	33	22	1.9	70	55	40
MIN	0	1.4	3.8	5.2	3.7	12	13	2.3	0	0	1.6	.65
AC-FT	78	624	544	360	363	2,800	1,320	815	36	541	722	359

CAL YR 1969 TOTAL 3,979.57 MEAN 10.9 MAX 126 MIN 0 AC-FT 7,890
WTR YR 1970 TOTAL 4,320.01 MEAN 11.8 MAX 117 MIN 0 AC-FT 8,570

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
11-17	0630	3.32	178	7-30	1445	4.01	377
7-28	1600	3.43	203				

09431500 Gila River near Redrock, N. Mex.

LOCATION.--Lat 32°43'37", 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 February 1905 (gage heights only). May 1905 to December 1906, January to December 1907 and July to October 1908 (gage heights only). November 1908 to December 1910, January 1911 to January 1912 and May to June 1912 (gage heights only). August 1912 to September 1955, October 1962 to current year. Monthly or annual discharge only for some periods, published in WSP 1313. Published as "near Cliff" 1904-7.

GAGE.--Water-stage recorder. Altitude of gage is 4,090 ft (planetable survey). Prior to Dec. 31, 1907, non-recording gage at site 13.5 miles upstream at different datum. May 14, 1908, to July 16, 1909, nonrecording gage at site 0.2 mile downstream at different datum.

AVERAGE DISCHARGE.--54 years (1905-6, 1908-10, 1912-55, 1962-70), 194 cfs (140,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,330 cfs Sept. 18 (gage height, 11.18 ft); minimum, 8.8 cfs Oct. 15. 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 except those for June, July, and August, which are poor. 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 1926: 1955. WRD N. Mex. 1967: 1966.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	46	66	69	75	101	98	75	59	20	110	26
2	40	48	66	71	77	111	94	72	50	22	207	24
3	38	46	69	76	77	190	104	75	46	30	148	26
4	32	42	78	73	75	302	108	82	44	23	116	27
5	24	43	91	69	77	237	104	80	46	23	112	30
6	17	42	95	69	74	213	107	73	43	24	100	30
7	23	42	87	68	68	184	102	71	41	25	93	29
8	22	48	85	65	66	179	92	70	46	25	100	26
9	24	43	85	66	69	188	92	69	48	24	74	26
10	22	43	85	74	82	206	102	66	50	23	82	28
11	20	41	84	82	84	234	101	79	50	22	101	28
12	21	42	97	72	86	244	106	70	46	21	76	17
13	25	46	89	72	83	240	118	65	35	20	71	20
14	14	45	86	79	73	229	122	67	30	18	74	28
15	11	48	85	79	69	232	118	68	25	16	58	18
16	22	52	84	80	85	274	118	72	25	14	60	12
17	29	73	80	80	84	281	116	85	24	14	57	24
18	27	130	77	79	81	284	118	94	24	14	53	66
19	25	86	77	79	70	257	112	83	23	14	61	174
20	20	74	77	77	70	236	108	84	22	14	71	55
21	35	67	76	75	72	225	103	80	22	21	59	46
22	46	65	75	71	75	211	99	73	22	22	54	41
23	42	61	78	76	82	198	96	70	21	32	52	37
24	42	60	80	77	112	177	99	80	22	27	52	40
25	41	66	89	76	106	155	99	75	23	43	55	44
26	40	65	90	73	103	150	94	67	23	88	55	43
27	42	60	86	78	100	155	90	63	23	38	48	30
28	40	59	78	79	94	153	84	62	22	52	42	29
29	42	62	83	79	------	143	79	65	22	34	34	28
30	42	67	79	78	------	137	75	64	21	67	33	27
31	42	------	74	76	------	117	------	65	------	90	30	------
TOTAL	955	1,712	2,531	2,317	2,269	6,243	3,058	2,264	998	920	2,338	1,079
MEAN	30.8	57.1	81.6	74.7	81.0	201	102	73.0	33.3	29.7	75.4	36.0
MAX	46	130	97	82	112	302	122	94	59	90	207	174
MIN	11	41	66	65	66	101	75	62	21	14	30	12
AC-FT	1,890	3,400	5,020	4,600	4,500	12,380	6,070	4,490	1,980	1,820	4,640	2,140

CAL YR 1969 TOTAL 30,024 MEAN 82.3 MAX 500 MIN 8.0 AC-FT 59,550
WTR YR 1970 TOTAL 26,684 MEAN 73.1 MAX 302 MIN 11 AC-FT 52,930

PEAK DISCHARGE (BASE, 3,000 CFS).--No peak above base.

09432000 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 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 usptream from intake of Sunset Canal. June 1 to July 7, 1931, nonrecording gage at present site and datum.

AVERAGE.--43 years (1927-70), 169 cfs (122,400 acre-ft per year); median of yearly mean discharges, 130 cfs (94,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,130 cfs Sept. 19 (gage height, 7.45 ft); minimum, 6.0 cfs July 21 (gage height, 2.76 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	53	81	74	74	103	115	72	60	13	90	24
2	36	57	79	70	77	106	109	69	52	14	183	16
3	32	54	77	80	79	144	113	69	45	13	100	15
4	28	47	91	80	78	248	115	72	37	12	92	16
5	26	46	99	71	78	242	107	72	41	14	97	20
6	25	46	109	75	79	231	109	69	37	18	82	20
7	24	45	100	80	72	208	110	66	43	21	81	23
8	25	49	99	80	69	203	108	63	42	21	79	20
9	24	52	99	80	65	209	100	63	46	20	66	31
10	24	47	99	80	80	217	107	60	46	18	92	23
11	24	46	97	80	86	231	108	63	48	17	93	24
12	23	44	104	80	89	238	108	64	45	16	76	21
13	23	45	104	80	87	235	115	54	38	11	73	19
14	23	49	99	80	77	227	117	53	30	11	70	22
15	22	48	92	80	67	224	116	57	26	9.0	70	24
16	22	55	94	80	77	244	112	57	23	8.4	60	22
17	25	59	92	80	84	248	110	63	20	7.8	60	22
18	26	146	87	80	83	248	110	75	20	7.6	60	88
19	23	129	86	80	71	235	106	75	20	7.0	50	442
20	23	106	84	80	69	220	101	77	19	7.3	60	80
21	32	90	85	80	73	212	97	72	17	6.8	60	61
22	52	88	82	80	73	198	93	66	16	21	50	54
23	51	85	82	80	80	190	91	62	15	20	50	49
24	56	78	84	80	104	178	90	64	15	65	50	42
25	53	81	92	80	111	155	88	69	17	47	40	48
26	50	85	96	80	109	147	84	62	18	113	40	37
27	52	76	96	80	108	147	80	62	15	50	30	32
28	52	76	85	78	99	147	79	58	15	108	30	30
29	52	72	88	78	------	147	74	62	14	60	30	30
30	53	80	85	78	------	140	72	61	14	50	30	26
31	53	------	79	75	------	136	------	62	------	40	30	------
TOTAL	1,074	2,034	2,826	2,439	2,298	6,058	3,044	2,013	894	846.9	2,074	1,381
MEAN	34.6	67.8	91.2	78.7	82.1	195	101	64.9	29.8	27.3	66.9	46.0
MAX	56	146	109	80	111	248	117	77	60	113	183	442
MIN	22	44	77	70	65	103	72	53	14	6.8	30	15
AC-FT	2,130	4,030	5,610	4,840	4,560	12,020	6,040	3,990	1,770	1,680	4,110	2,740

CAL YR 1969 TOTAL 31,356.4 MEAN 85.9 MAX 535 MIN 5.3 ACFT 62,200
WAT YR 1970 TOTAL 26,981.9 MEAN 73.9 MAX 442 MIN 6.8 ACFT 53,520

PEAK DISCHARGE (BASE, 1,900 CFS).--No peak above base.

09442653 Trout Creek near Luna, N. Mex.

LOCATION.--Lat 33°53'24", long 109°00'38", 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.--Current year: Maximum discharge, 36 cfs Mar. 24 (gage height 3.12 ft); no flow at times.
Period of record: Maximum discharge, 605 cfs Sept. 11, 1969 (gage height 5.50 ft) from rating curve extended above 15 cfs on basis of slope-area measurement of peak flow; no flow at times.

REMARKS.--Records fair except those for January, which are poor. Flow is slightly regulated by unnamed reservoir 3 miles upstream on Romero Creek.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.74	.69	.58	.41	.53	1.4	10	2.9	.15	.02	.88	0
2	.62	.64	.57	.38	.66	2.0	10	3.1	.13	.03	.83	0
3	.54	.57	.63	.36	.67	2.9	9.6	3.8	.12	.03	.30	0
4	.48	.55	.93	.33	.61	2.7	9.9	3.3	.12	.04	.20	0
5	.43	.57	1.6	.31	.69	3.4	8.4	2.7	.17	.05	.16	.01
6	.36	.57	1.1	.28	1.1	3.2	8.0	2.1	.17	.03	.17	.93
7	.44	.55	1.2	.25	2.2	3.4	7.6	1.9	.17	.03	.13	.67
8	.57	.51	1.1	.33	4.7	5.6	7.5	1.5	.17	.02	.13	.24
9	.52	.56	1.0	.71	3.4	9.4	6.9	1.3	.16	.05	.24	.17
10	.39	.65	.86	.71	2.9	11	6.6	1.1	.14	.09	.62	.11
11	.34	1.1	.71	.74	2.2	7.2	6.4	.92	.12	.10	.30	.09
12	.39	.87	.69	.93	3.2	5.5	6.6	.84	.11	.13	.16	.14
13	.36	.77	.78	1.1	2.5	5.4	6.5	.72	.09	.12	.10	.23
14	.35	.66	.96	1.1	1.5	5.6	6.4	.60	.09	.09	.07	.19
15	.34	.61	1.0	1.2	1.4	5.0	5.9	.53	.09	.04	.10	.14
16	.34	.93	.89	1.1	1.5	5.5	4.6	.48	.07	0	.10	.10
17	.32	1.1	.83	1.1	1.5	6.3	4.4	.45	.06	0	.09	.08
18	.27	.66	.96	1.1	1.2	5.1	4.3	.44	.06	0	.09	.07
19	.23	.53	1.2	1.0	.93	4.7	7.1	.42	.07	0	.15	.07
20	.41	.47	1.0	.95	.78	6.8	8.7	.26	.08	0	.16	.05
21	4.6	.49	.92	.95	.85	6.5	15	.20	.09	0	.09	.04
22	5.1	.54	.83	.95	.94	7.5	8.9	.18	.08	.04	.06	.03
23	3.3	.50	.72	.90	1.6	10	5.7	.16	.12	.15	.05	.02
24	2.2	.49	.67	.90	1.9	17	5.2	.14	.11	.15	.06	0
25	1.6	.50	.58	.90	2.3	15	4.7	.14	.10	.18	.05	0
26	1.2	.49	.57	.90	2.0	13	4.5	.15	.10	.35	.06	1.6
27	1.1	.49	.49	.88	1.7	9.4	4.3	.20	.08	.37	.04	1.7
28	1.1	.58	.48	.86	1.5	8.1	4.0	.27	.07	.31	.03	1.1
29	.88	.69	.47	.82	------	15	3.5	.20	.07	.16	.02	.35
30	.70	.63	.45	.78	------	12	2.9	.17	.04	.11	0	.16
31	.72	------	.43	.65	------	9.8	------	.14	------	.11	0	------
TOTAL	30.94	18.96	25.20	23.88	46.96	225.4	204.1	31.31	3.20	2.80	5.44	8.29
MEAN	1.00	.63	.81	.77	1.68	7.27	6.80	1.01	.11	.090	.18	.28
MAX	5.1	1.1	1.6	1.2	4.7	17	15	3.8	.17	.37	.88	1.7
MIN	.23	.47	.43	.25	.53	1.4	2.9	.14	.04	0	0	0
AC-FT	61	38	50	47	93	447	405	62	6.3	5.6	11	16

CAL YR 1969 TOTAL 928.38 MEAN 2.54 MAX 113 MIN 0 AC-FT 1,840
WTR YR 1970 TOTAL 626.48 MEAN 1.72 MAX 17 MIN 0 AC-FT 1,240

09442680 San Francisco River near Reserve, N. Mex.

LOCATION.--Lat 33°44'24", long 108°46'22", 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.--11 years, 22.6 cfs (16,370 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 496 cfs July 22 (gage height, 2.38 ft); minimum, 1.6 cfs Dec. 30, 31, Feb. 19.
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 August and September, which are poor. Possible minor regulation by Luna Lake, 27 miles upstream. Diversions for irrigation of about 500 acres above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	8.0	6.5	3.0	3.6	8.0	20	9.2	3.9	2.6	24	3.5
2	3.9	8.1	6.7	3.5	4.8	13	21	9.2	3.8	2.9	22	3.0
3	3.8	7.9	7.6	3.5	4.9	15	22	7.8	3.7	5.3	13	3.5
4	3.7	8.1	8.3	3.9	7.0	15	20	7.2	3.7	3.6	8.9	3.5
5	3.5	8.2	8.4	3.5	7.3	16	18	6.6	4.2	3.1	6.2	3.5
6	3.5	8.3	7.0	3.5	5.1	16	17	6.0	4.6	3.1	9.7	4.5
7	3.5	8.2	7.7	4.0	5.8	14	15	5.0	4.4	3.4	15	5.2
8	4.0	8.1	7.9	5.0	5.7	14	12	5.0	4.6	4.0	29	5.0
9	4.6	8.5	7.7	5.9	5.7	14	9.2	5.6	4.4	3.4	25	5.0
10	4.5	8.7	7.3	6.5	5.6	14	11	5.0	4.1	3.2	17	5.0
11	4.5	9.7	5.8	7.1	5.5	15	11	5.0	3.6	3.1	9.1	5.0
12	4.6	8.9	6.9	8.1	5.3	13	14	4.6	3.4	2.9	6.6	4.5
13	4.7	8.5	7.2	8.4	5.2	12	9.2	4.6	3.4	2.8	6.0	5.2
14	5.2	8.3	6.5	7.5	5.3	11	7.2	4.6	3.2	2.6	6.9	5.4
15	5.7	8.2	6.3	8.3	5.4	10	3.8	4.8	3.1	2.6	4.6	5.2
16	5.9	9.8	6.4	7.8	4.6	9.7	3.5	6.6	3.0	2.7	5.4	7.0
17	5.7	10	7.2	8.1	4.3	12	3.8	5.6	3.1	2.9	4.0	6.0
18	5.8	7.4	6.7	7.9	4.2	13	9.9	5.6	2.9	3.0	4.5	5.8
19	5.8	6.9	6.4	7.3	3.9	12	11	5.0	2.7	3.7	4.0	5.6
20	6.8	7.7	6.3	6.4	4.4	17	14	5.0	2.7	4.1	3.5	5.6
21	18	8.2	6.3	6.3	4.9	16	7.8	5.0	2.8	20	4.5	5.5
22	16	8.3	6.3	5.5	5.1	15	8.5	4.6	3.6	34	3.0	5.1
23	13	7.2	6.3	5.8	5.8	18	11	4.6	3.1	22	2.5	5.6
24	10	7.3	6.3	5.9	9.2	24	4.2	4.6	3.0	11	2.5	5.6
25	8.9	6.5	6.2	5.8	7.9	23	4.2	4.6	2.8	5.4	2.6	5.6
26	7.9	6.9	6.4	5.5	7.6	19	9.2	5.0	2.9	4.6	2.5	5.5
27	7.6	7.0	6.6	5.4	7.8	18	8.5	6.6	2.8	4.6	2.3	5.5
28	8.4	7.4	6.5	5.3	7.7	17	8.5	6.0	2.5	11	2.4	5.6
29	8.2	7.1	5.4	3.6	------	22	9.2	5.6	2.5	7.1	2.5	5.6
30	7.9	6.8	3.4	4.2	------	23	9.2	5.0	2.5	5.9	2.6	5.6
31	7.7	------	3.5	3.7	------	21	------	4.6	------	5.5	3.0	------
TOTAL	207.6	240.2	204.0	176.2	159.6	479.7	332.9	174.2	101.0	196.1	254.8	152.2
MEAN	6.70	8.01	6.58	5.68	5.70	15.5	11.1	5.62	3.37	6.33	8.22	5.07
MAX	18	10	8.4	8.4	9.2	24	22	9.2	4.6	34	29	7.0
MIN	3.5	6.5	3.4	3.0	3.6	8.0	3.5	4.6	2.5	2.6	2.3	3.0
AC-FT	412	476	405	349	317	951	660	346	200	389	505	302

CAL YR 1969 TOTAL 3,936.5 MEAN 10.8 MAX 162 MIN 2.8 AC-FT 7,810
WTR YR 1970 TOTAL 2,678.5 MEAN 7.34 MAX 34 MIN 2.3 AC-FT 5,310

PEAK DISCHARGE (BASE, 450 CFS).--JULY 22 (1430) 496 CFS (2.38 FT).

09442692 Tularosa River above Aragon, N. Mex.

LOCATION.--Lat 33°53'29", long 108°30'54", 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, 3.7 cfs May 17 (gage height, 1.02 ft), minimum, 2.1 cfs July 14, 17. 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, except for winter period which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	2.8	2.9	2.9	3.0	2.9	2.8	2.7	2.8	2.6	2.7	2.8
2	2.8	2.8	2.9	2.9	3.0	3.1	2.8	2.7	2.7	2.7	2.7	2.7
3	2.8	2.8	2.9	2.9	3.0	3.1	2.8	2.7	2.8	2.6	2.7	2.7
4	2.9	2.9	2.9	2.9	3.0	3.0	2.9	2.7	2.8	2.6	2.7	2.8
5	2.9	2.9	2.8	2.9	3.0	3.0	2.8	2.7	2.8	2.6	2.7	2.8
6	2.9	2.9	2.8	2.9	3.0	2.9	2.8	2.8	2.8	2.6	2.7	2.9
7	2.9	2.8	2.8	2.9	3.0	2.9	2.8	2.8	2.9	2.6	2.7	2.9
8	2.9	2.8	2.8	2.9	3.0	2.9	2.8	2.8	2.9	2.6	2.8	2.9
9	2.9	2.8	2.8	2.9	3.0	2.9	2.8	2.8	2.8	2.6	2.8	2.8
10	2.8	2.8	2.9	2.9	3.0	2.9	2.8	2.8	2.8	2.7	2.8	2.8
11	2.8	2.9	2.9	2.9	3.0	3.0	2.8	2.8	2.8	2.6	2.8	2.9
12	2.8	2.9	2.9	2.9	3.0	2.9	2.7	2.8	2.8	2.6	2.8	2.8
13	2.9	2.9	2.8	2.9	3.0	2.9	2.7	2.9	2.7	2.6	2.8	2.9
14	2.8	2.8	2.8	2.9	3.0	2.9	2.7	2.8	2.8	2.6	2.8	2.8
15	2.9	2.8	2.8	2.9	3.0	2.9	2.7	2.8	2.7	2.6	2.8	2.8
16	2.9	2.9	2.9	2.9	3.0	2.8	2.7	2.8	2.7	2.6	2.8	2.8
17	2.9	2.9	2.9	2.9	3.0	2.8	2.7	2.9	2.7	2.6	2.8	2.8
18	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.8	2.7	2.6	2.8	2.8
19	2.9	2.8	2.8	2.9	2.8	2.8	2.8	2.8	2.7	2.6	2.8	2.8
20	2.9	2.8	2.8	3.0	2.9	3.0	2.7	2.8	2.6	2.6	2.7	2.9
21	3.0	2.8	2.8	3.0	2.9	2.9	2.7	2.9	2.7	2.8	2.7	2.9
22	2.9	2.9	2.8	3.0	2.9	2.8	2.7	2.9	2.7	2.8	2.7	2.8
23	2.9	2.9	2.9	3.0	3.0	2.9	2.7	2.9	2.7	2.7	2.7	2.8
24	2.9	2.8	2.9	3.0	3.0	2.8	2.7	2.8	2.7	2.8	2.8	2.8
25	2.9	2.8	2.9	3.0	2.9	2.8	2.7	2.9	2.7	2.7	2.7	2.8
26	2.8	2.9	2.8	3.0	2.9	2.8	2.7	2.9	2.7	2.7	2.7	2.8
27	2.9	2.9	2.8	3.0	3.0	2.9	2.7	3.0	2.7	2.7	2.7	2.8
28	2.9	2.9	2.9	3.0	2.9	2.8	2.6	2.9	2.7	2.7	2.7	2.8
29	2.8	2.9	2.9	3.0	------	2.9	2.7	2.9	2.6	2.7	2.7	2.8
30	2.8	2.8	2.8	3.0	------	2.8	2.7	2.9	2.5	2.7	2.7	2.8
31	2.8	------	2.8	3.0	------	2.8	------	2.8	------	2.7	2.7	------
TOTAL	88.9	85.5	88.3	91.1	83.1	89.7	82.3	87.5	82.0	82.2	85.0	84.5
MEAN	2.87	2.85	2.85	2.94	2.97	2.89	2.74	2.82	2.73	2.65	2.74	2.82
MAX	3.0	2.9	2.9	3.0	3.0	3.1	2.9	3.0	2.9	2.8	2.8	2.9
MIN	2.8	2.8	2.8	2.9	2.8	2.8	2.6	2.7	2.5	2.6	2.7	2.7
AC-FT	176	170	175	181	165	178	163	174	163	163	169	168

CAL YR 1969 TOTAL 1,083.7 MEAN 2.97 MAX 6.5 MIN 2.6 AC-FT 2,150
WTR YR 1970 TOTAL 1,030.1 MEAN 2.82 MAX 3.1 MIN 2.5 AC-FT 2,040

PEAK DISCHARGE (BASE, 20 CFS).--No peak above base.

09443000 San Francisco River near Alma, N. Mex.

LOCATION.--Lat 33°22'05", 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, nonrecording gages at various sites, within 500 ft of each other, 0.8 mile upstream, at different datums. Aug. 11, 1912, to Feb. 2, 1914, nonrecording gage at approximately present site and datum.

AVERAGE DISCHARGE.--6 years, (1964-70), 63.0 cfs (45,640 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,630 cfs Aug. 7 (gage height, 3.42 ft); no flow several days.
1964-70: 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 except those for November and December, which are fair. Diversions for irrigation of about 1,500 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	14	15	16	3.4	3.4	14	12	.82	0	40	0
2	0	13	15	13	5.0	7.6	14	11	.84	0	60	0
3	0	13	16	10	6.4	18	11	11	.83	0	50	0
4	0	13	17	8.0	7.8	16	11	9.9	.71	0	30	0
5	0	13	17	11	10	19	11	7.4	.65	0	20	0
6	0	13	16	15	9.7	20	10	6.1	.64	0	12	0
7	0	13	15	13	8.3	18	11	1.9	.81	0	94	0
8	0	13	15	5.8	6.8	17	11	1.4	.57	0	29	0
9	0	13	14	7.5	6.0	17	11	.96	.47	0	110	0
10	0	13	13	8.1	5.7	17	6.4	.82	.43	0	43	0
11	0	13	13	9.8	6.8	22	3.2	1.1	.09	0	20	0
12	0	14	13	11	7.4	24	1.3	1.1	.04	0	15	0
13	0	14	13	13	7.1	22	2.6	1.1	0	0	30	0
14	0	12	14	13	6.6	19	4.6	1.0	0	0	43	0
15	0	13	14	15	6.4	19	3.7	.92	0	0	13	.50
16	0	15	13	15	5.9	21	4.1	.58	.12	0	9.2	7.0
17	0	22	13	13	5.2	20	3.5	.84	.31	0	42	0
18	0	19	13	13	4.0	18	4.9	.71	.18	0	14	0
19	0	21	12	13	3.6	20	5.4	.53	.10	0	16	0
20	.90	17	11	11	4.4	17	8.1	.44	.05	0	28	0
21	13	16	11	11	5.1	17	9.3	.27	0	130	9.8	0
22	18	17	10	11	4.7	17	9.4	.20	0	30	3.8	0
23	22	17	11	9.7	4.8	15	9.1	.60	0	71	3.0	0
24	21	17	11	9.3	4.6	13	10	.80	0	25	5.0	0
25	19	16	11	8.8	3.4	16	12	1.1	0	45	3.4	0
26	16	16	11	8.0	3.5	12	10	1.4	0	32	2.0	0
27	16	16	11	7.3	2.6	9.0	7.9	1.6	0	23	.50	0
28	16	16	14	6.8	2.7	10	7.3	1.6	0	125	0	0
29	16	16	15	6.5	------	11	8.2	1.5	0	65	0	0
30	14	15	15	7.9	------	12	9.9	1.3	0	47	0	0
31	14	------	17	5.2	------	14	------	.98	------	30	0	------
TOTAL	185.90	453	419	325.7	157.9	501.0	244.9	82.15	7.66	623	745.70	7.50
MEAN	6.00	15.1	13.5	10.5	5.64	16.2	8.16	2.65	.26	20.1	24.1	.25
MAX	22	22	17	16	10	24	14	12	.84	130	110	7.0
MIN	0	12	10	5.2	2.6	3.4	1.3	.20	0	0	0	0
AC-FT	369	899	831	646	313	994	486	163	15	1,240	1,480	15

CAL YR 1969 TOTAL 5,687.46 MEAN 15.6 MAX 230 MIN 0 AC-FT 11,280
WTR YR 1970 TOTAL 3,753.41 MEAN 10.3 MAX 130 MIN 0 AC-FT 7,440

PEAK DISCHARGE (BASE, 1,000 CFS).--AUG. 7 (1730) 1,630 CFS (3.42 FT).

09444000 San Francisco River near Glenwood, N. Mex.

LOCATION.--Lat 33°14'48", long 108°52'47", 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.--43 years, 65.9 cfs (47,740 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 820 cfs Aug. 7 (gage height, 4.08 ft); minimum, 3.8 cfs Sept. 22.
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. Diversions for irrigation of about 2,000 acres above station. Records of chemical analyses, and water temperatures for the current year 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 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	33	31	28	21	20	33	30	24	24	69	17
2	18	28	31	33	20	24	33	27	25	26	71	16
3	18	31	33	35	21	34	32	32	21	24	67	17
4	18	32	37	38	22	39	34	29	21	23	49	17
5	17	32	36	39	24	36	30	31	21	23	34	17
6	17	32	36	42	26	41	32	29	27	17	26	18
7	17	32	36	43	26	39	33	33	43	14	89	25
8	17	31	35	46	24	38	32	38	41	14	91	26
9	17	30	35	46	23	39	33	42	40	16	92	23
10	17	31	33	48	22	36	25	41	29	11	143	23
11	17	31	32	44	23	43	16	50	27	13	61	23
12	17	30	27	44	24	43	14	54	23	17	40	20
13	16	31	28	43	24	43	17	54	18	13	63	24
14	16	29	26	44	22	41	19	54	26	12	89	22
15	16	29	30	44	19	41	19	58	24	11	70	19
16	16	33	30	45	19	43	18	58	26	9.6	51	22
17	16	44	27	43	18	45	26	61	28	12	65	21
18	16	56	29	42	19	44	30	59	24	11	51	17
19	16	42	29	41	18	49	29	55	22	9.0	43	15
20	15	34	27	42	19	54	31	51	28	11	58	11
21	16	33	29	35	22	53	30	43	25	142	38	7.5
22	33	35	29	34	23	56	32	41	23	50	20	5.7
23	49	35	29	32	23	57	33	38	21	111	20	6.3
24	50	34	29	32	23	55	25	46	25	66	21	12
25	48	33	30	31	20	55	34	40	22	59	19	10
26	45	32	30	32	19	42	39	36	20	79	14	17
27	42	32	36	27	19	28	34	35	17	44	12	16
28	42	33	41	22	18	28	35	38	18	33	13	14
29	40	33	44	21	------	30	37	34	21	171	14	18
30	37	31	44	21	------	30	36	28	19	40	18	14
31	34	------	30	21	------	31	------	23	------	37	18	------
TOTAL	771	1,002	999	1,138	601	1,257	871	1,288	749	1,142.6	1,529	513.5
MEAN	24.9	33.4	32.2	36.7	21.5	40.5	29.0	41.5	25.0	36.9	49.3	17.1
MAX	50	56	44	48	26	57	39	61	43	171	143	26
MIN	15	28	26	21	18	20	14	23	17	9.0	12	5.7
AC-FT	1,530	1,990	1,980	2,260	1,190	2,490	1,730	2,550	1,490	2,270	3,030	1,020

CAL YR 1969 TOTAL 13,084.0 MEAN 35.8 MAX 249 MIN 9.0 AC-FT 25,950
WTR YR 1970 TOTAL 11,861.1 MEAN 32.5 MAX 171 MIN 5.7 AC-FT 23,530

PEAK DISCHARGE (BASE, 800 CFS).--AUG. 7 (2115) 820 CFS (4.08 FT).

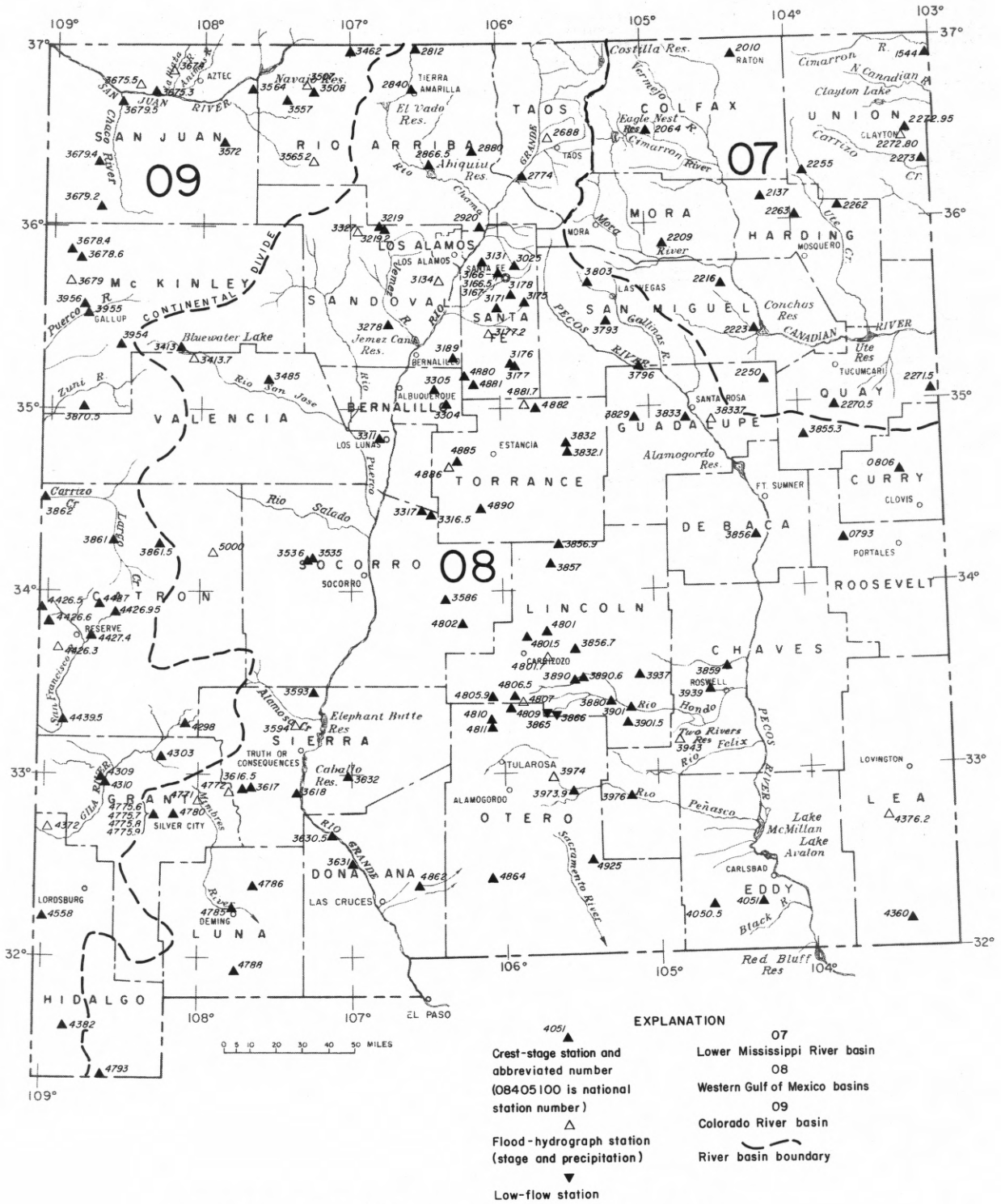

Figure 2.—Map of New Mexico showing location of partial-record stations.

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	1953-70	12- 2-69 3- 5-70 6-29-70 9-16-70	5.78 4.54 1.92 1.24
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	1953-70	12- 1-69 3- 5-70 6-29-70 9-16-70	2.12 3.28 2.93 2.37

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-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	1953-70	1970	(c)	<100
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	1953-70	1970	(h)	-
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+ 1968-70	6-21-70	2.02	30
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	1954-70	1970	-	0
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.	18.4	1954-70	7-20-70	10.78	3,100
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	1961-70	7-23-70	f1.7	(+)
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	1959-70	7-23-70	6.61	2,340
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	1954-70	7-24-70	2.65	480
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	1953-70	1970	(c)	(+)
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, on right upstream wingwall of culvert on State Road 102 at Bueyeros.	a34	1957-70	1970	(h)	-
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	1954-70	1970	(c)	d <50
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	1952-70	4-17-70	7.60	300
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	1961-70	9-16-70	3.27	(+)
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	1968-70	8-20-70	10.55	(+)

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)
		Arkansas River basin--Continued					
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	1952-70	7-20-70	.22	14
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	1953-70	7-20-70	2.78	(+)
		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	1963-70	9-15-70	.43	(+)
08080600	Running Water Draw near Clovis, N. Mex.	In NE¼ sec.31, T.4 N., R.36 E., Curry County, 0.25 mile upstream from Highway 18 and 8 miles north of Clovis.	109	1953-56 1957-64‡ 1965-70	9-16-70	4.18	720
		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	1968-70	1970	-	0
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	1952-70	1970	(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	1959-70	5-11-70	d2.76	d500
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	1957-70	1970	(c)	<150
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	1965-70	7-23-70	f8.1	2,450
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‡ 1952-70i	4-28-70	3.48	320
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‡ 1952-70i	1970	(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 Canjon Grande ditch, 1 mile above Little Tesuque Creek, and 4 miles northeast of Santa Fe.	11.7	1936-51‡ 1953-70i	7-22-70	4.84	d200

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					
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 1952-70	1970	-	0
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	1962-70	8-18-70	1.17	5
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	1958-70i	7-22-70	5.44	d150
08316650	Arroyo de los Frijoles, Locust Tree Reach, near Santa Fe, N. Mex.	Lat 35°42'13", long 105°58'19", Santa Fe County, within city limits of Santa Fe and 2.2 miles northwest of State Capitol in Santa Fe.	1.30	1957-70i	8- 2-70	5.16	d200
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	1957-70i	8- 2-70	11.06	d240
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.	.47	1957-70	7-28-70	.98	25
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 1959-70	8-21-70	4.32	1,520
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	1955-70	7-27-70	9.24	4,250
08317700	Tarhole Canyon 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	1952-70	8-20-70	16.36	515
08317720 S	Canada de la Cueva near Galisteo, N. Mex.	Lat 35°26'13", long 106°00'45", Santa Fe County, 6.4 miles east of Cerrillos and 4.8 miles northwest of Galisteo.	1.79	1970	8- 9-70	2.60	83
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	1952-70	7-15-70	1.27	d13
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	1953-70	10-22-69	1.60	1,100
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	1957-70	8-15-70	4.06	300

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					
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	1960-70i	1970	2.43	(+)
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	1961-70	7-19-70	2.83	(+)
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	1959-70	1970	-	0
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# 1958-70	10-22-69	2.35	650
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 1955-70	1970	-	0
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	1961-70	8-10-70	2.48	275
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	1954-70	1970	(c)	<40
08332700 S	San Pablo Creek near Cuba, N. Mex.	Lat 35°56'55", long 106°56'44", Sandoval County, upstream from bridge on old section of State Highway 44 and 5.6 miles south of Cuba.	12.8	1970	8- 9-70	f4.1	d120
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	1953-70	8-17-70	3.09	210
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	1969-70	8-17-70	2.34	(+)
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# 1959-70	1970	(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	1957-70	8-16-70	1.58	460
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	1957-70	8-16-70	.45	(+)

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					
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	1961-70	8-12-61 8- 2-62 8- 7-63 7-11-64 9- 8-65 6-25-66 8- 4-67 1968 1969 7-26-70	2.94 3.06 3.39 1.78 4.23 m2.58 f3.23 - - 3.25	295 315 370 125 525 d250 350 0 0 350
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	1959-70	1970	(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	1952-70	7-26-70	5.48	694
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	1953-70	1970	(c)	<250
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	1957-70	1970	(c)	<400
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	1953-70	7-27-70	1.56	640
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.	8.40	1959-70	9-19-70	1.72	(+)
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	1955-70	9-18-70	6.52	217
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.	25.4	1959-70	7- 1-70	5.63	1,150
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	1954-70	8- 2-70	5.44	520
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	1952-70	7-24-70	1.75	40
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 1961-70	10-22-69	1.11	28
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	1961-70	7-24-70	1.31	d70

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					
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	1952-70	7-20-70	1.89	78
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	1959-70	1970	-	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	1959-70	8-20-70	4.33	(+)
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	1961-70	8-20-70	f15.39	1,450
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	1962-70	4-17-70	3.32	155
08385600	Yeso Creek 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 1952-70	9-15-70	2.11	
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	1961-70	6-30-70	2.96	130
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	1959-70	1970	-	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	1957-70	8- 2-70	2.88	47
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	1952-70	10-20-69	.34	(+)
08388000	Rio Ruidoso 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‡ 1956-70i	8- 5-70	5.17	571
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	1955-70	1970	(c)	<600
08389060	Rio Bonito 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	1955-70	1970	(c)	d <10
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‡ 1963-70	1970	(c)	<300

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					
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	1962-70	1970	(c)	(+)
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.	16.7	1962-70	8-17-70	3.59	(+)
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 1952-70	1970	(c)	<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	1968-70	b7-10-69 1970	1.56 -	(+) 0
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	1959-70	1970	(c)	(+)
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	1953-70	7-22-70	1.08	(+)
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‡ 1963-70	b8-31-69 1970	11.88 (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	1959-70	10-21-69	2.00	55
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	1959-70	9- 8-69 10-21-69	6.46 6.88	b2,750 2,950
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	1963-70	10-21-69	2.06	(+)
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	1968-70	1970	-	0
		Mimbres River basin					
08477100 S	Willow Springs Canyon at Mimbres, N. Mex.	Lat 32°51'20", long 107°58'35", Grant County, about 600 ft downstream from State Road 61, 0.2 mile north of post office in Mimbres.	3.84	1970	7-31-70	3.14	158
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	1955-70	9- 8-69 8- 7-70	4.02 3.59	d11 d5

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					
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	1959-70	7-27-70	0.82	d220
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	1958-70	9-18-70	2.10	154
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	1958-70	9-18-70	1.53	d<100
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	1958-70	1970	(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	1954-70	7-27-70	2.47	(+)
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	1954-70	7-26-70	2.36	760
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	1959-70	7-26-70	2.39	159
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	1967-70	8- 4-67 11-27-67 1969 7-22-70	7.30 2.95 - 3.72	222 49 0 74
		Playas Valley					
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	1959-70	9- 5-70	.96	115
		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	1961-70	6-21-70	1.51	(+)
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 1961-70	6-21-70	5.12	2,050
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	1968-70	7-23-70	1.40	(+)
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	1961-70	1970	-	0

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					
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	1958-70	1970	(c)	(+)
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	1956-70	7-31-56	0.96	685
					7-26-57	f4.00	2,180
					6-17-58	2.42	1,220
					8-22-59	f6.00	4,970
					1960	(c)	d <50
					7- 4-61	ef14.00	3,250
					1962	f11.1	d600
					8- -63	f13.1	2,300
					1964	(h)	-
					8-28-65	f11.1	d600
					8-29-66	11.29	d750
					9-25-67	12.14	1,440
					8- 5-68	11.15	d650
					9- 8-69	11.72	d1,080
					7-31-70	11.17	d660
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‡ 1959-70	6-30-70	2.53	14
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‡ 1959-70	1969	(c)	bd <100
					1970	(c)	<100
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	1956-70	7-31-70	4.40	3,700
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	1952-70	1970	-	0
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	1959-70	10-21-69	1.03	(+)
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	1959-70	1970	(c)	(+)
		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 1961-70	1970	(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	1962-70	1970	(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	1968-70	8-14-70	6.65	78

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)
		Estancia Valley--Continued					
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	1961-70	7-20-70	3.30	435
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	1954-70	7-29-70	1.64	275
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	1969-70	7-29-70	f4.50	1,140
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	1953-70	1970	-	0
		Salt basin					
08492500	Fleming Draw near Pinon, 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.	16.6	1959-70	1959	bf3.6	380
					1960	(c)	<200
					8- -61	b7.49	3,500
					7- -62	5.06	1,140
					8- -63	5.92	b1,800
					8-14-64	5.12	1,220
					6-10-65	5.86	b1,720
					8-22-66	4.61	b880
					1967	(c)	<200
					1968	(c)	<200
					1969	8.75	5,800
					1970	3.99	550
		San Augustin Plains Basin					
08500000 S	Swingle Canyon near Datil, N. Mex.	Lat 34°11'17", long 107°53'55", Catron County, about 0.3 mile upstream from U. S. Highway 60, and 4.3 miles northwest of Datil.	6.35	1970	8- 9-70	1.67	(+)
		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	1956-70	10-12-69	3.92	450
09350700 S	Ruben Canyon near Gobernador, N. Mex.	Lat 36°44'26", long 107°14'33", Rio Arriba County, in Carson National Forest, upstream from culvert on State Highway 17, and 6.5 miles east of Gobernador.	5.06	1970	9- 5-70	4.00	d50
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	1956-70	9- 5-70	3.18	165
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	1956-70	9-12-70	7.57	1,160
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	1956-70	9-12-70	f1.69	(+)

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					
09356520 S	Burro Canyon near Lindrith, N. Mex.	Lat 36°16'21", long 107°14'46", Rio Arriba County, upstream from culvert on State Highway 537, 11.5 miles west of Lindrith.	9.11	1970	1970	(c)	<1
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	1952-70	9- 5-70	4.90	335
09367400 S	La Plata River tributary near Farmington, N. Mex.	Lat 36°47'10", long 108°13'31", San Juan County, about 700 ft upstream from culvert on State Highway 17 and 4.1 miles northwest of Farmington.	1.03	1970	9- 5-70	2.50	43
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	1951-70	10-21-69	1.58	92
09367550 S	Stevens Arroyo near Kirtland, N. Mex.	Lat 36°46'00", long 108°22'10", San Juan County, upstream from gravel road to Young's Lake, 0.6 mile north of El Paso Natural Gas, San Juan Plant and 2.3 miles north of Kirtland.	4.59	1970	9- 5-70	2.49	d57
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 1956-70	8-17-70	4.37	385
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	1953-70	9- 5-70	4.15	1,750
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	1954-70	8-17-70	.83	496
09367920	Coyote Wash tributary (formerly 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	1967-70	9- 6-70	f5.87	569
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	1967-70	9- 6-70	f10.5	1,480
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	1959-70	1970	(h)	-
		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	1954-70	8- 9-70	1.57	155
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	1952-70	8- 9-70	1.16	(+)

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					
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	1957-70	8- 9-70	0.14	(+)
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	1957-70	9- 5-70	6.40	660
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 1953-70	1970	(c)	(+)
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# 1956-70	9- 6-70	4.13	1,250
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	1951-70	9- 5-70	.44	33
		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	1957-70	1970	(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.	3.95	1963-70	7- 2-70	1.46	(+)
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	1957-70	1970	(c)	<1,100
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# 1952-70i	9-18-70	5.51	1,180
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	1968-70	1970	(c)	(+)
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	1959-70	9- 5-70	3.48	225
09442630 S	Mail Hollow near Luna, N. Mex.	Lat 33°47'38", long 108°56'59", Catron County, upstream from culvert on U. S. Highway 180, 2.3 miles south of Luna.	4.20	1970	8-19-70	3.07	83

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					
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.	10.8	1958-70	b9-11-69 3-24-70	8.90 8.67	113 72
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	1954-70	b9-11-69 3-24-70	2.61 1.17	430 40
09442695 S	Negro Canyon 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.	9.62	1958-70	8- 8-70	.78	(+)
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	1957-70	1970	(c)	<100
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	1956-70	7-21-70	1.62	48
09443950	Red 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.	b3.00	1959-70	1970	(c)	(+)
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.	b1.26	1959-70	9- 6-70	1.85	(+)

< 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.
m Doubtful.

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 1970

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‡ 1966-69	10- 1-69	a3.0
					10-29-69	5.6
					11-19-69	2.2
					12-10-69	a5.0
					1- 8-70	a2.0
					2- 3-70	4.1
					3- 5-70	2.2
					4- 8-70	14
					5- 7-70	25
					6- 2-70	5.7
					6-15-70	.72
					7- 7-70	.82
					8- 8-70	3.0
					9- 1-70	1.1
					9-23-70	a2.5
Canadian River	Arkansas River	Lat 35°22'44", long 103°15'30", in sec.6, T.14 N., R.35 E., Quay County at ranch headquarters, 9.0 miles east of Logan, N. Mex.	-	-	10-21-69	22
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.	-	1969	10-21-69	38
					11-12-69	20
					1- 6-70	17
					2-24-70	11
					3-23-70	9.7
					4-29-70	25
					5-12-70	17
					6-10-70	14
					7-15-70	48
					8- 6-70	334
					9- 3-70	128
Unnamed tributary	Cramer Creek	Lat 35°46', long 103°08', in SE¼NE¼ sec.29, T.18 N., R.36 E., Harding County, 0.3 mile upstream from culvert on State Highway 18, and 11.3 miles north of Nara Visa, N. Mex.	16.2	-	- -69	†1,100
					4-17-70	†470
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	10-10-69	56
				1965-66	11-15-69	52
				1969	12-18-69	41
					1-22-70	38
					2-13-70	42
					2-19-70	38
					3-12-70	26
					4-22-70	43
					6-24-70	105
					7-13-70	68
					8- 4-70	52
					8-26-70	55
					9-17-70	53
Rio Chama	Rio Grande	Lat 36°39'44", long 106°41'58", Rio Arriba County, at river mile 86.1, 0.3 miles above Willow Creek, and 8.5 miles southwest of Tierra Amarilla, N. Mex.	-	1965-69	10- 1-69	112
					9- 3-70	68

Measurements at miscellaneous sites

Discharge measurements made at miscellaneous sites during water year 1970

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
		Rio Grande basin--Continued				
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	1965-69	10- 1-69 9- 3-70	3.1 5.4
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.	-	1965-69	9- 3-70	68
Spring Creek	Pecos River	Lat 35°11'23", long 105°00'07", Guadalupe County, at mouth, 3½ miles east of Dilia, N. Mex.	-	1955, 1961, 1963-64	5-24-70	.4
Pecos River	Rio Grande	Lat 35°11'34", long 104°58'18", Guadalupe County, at river mile 305, at ford, 5 miles east of Dilia, N. Mex.	-	1955, 1961, 1963-64	5-24-70	207
Pecos River	Rio Grande	Lat 35°08'58", long 104°55'21", Guadalupe County, at river mile 295, 2.6 miles below Gallinas River, 4.5 miles northwest of Colonias, N. Mex.	-	1955, 1961, 1963-64	5-24-70 5-28-70 6- 4-70 6-11-70 6-15-70 6-23-70	160 171 52.4 41.3 5.7 0
Pecos River	Rio Grande	Lat 35°04'57", long 104°47'39", Guadalupe County, at river mile 283.6, below Canyon de Uta, 3.2 miles southeast of Colonias, N. Mex.	-	1955, 1961, 1963-64	5-24-70	96
Pecos River	Rio Grande	Lat 35°03'20", long 104°44'33", Guadalupe County, at river mile 278.1, above River Ranch, 8½ miles northwest of Santa Rosa, N. Mex.	-	1955, 1961, 1963	5-24-70 5-25-70 5-27-70 5-28-70 6- 4-70 6-11-70 6-16-70 6-17-70 6-24-70 7- 1-70 7- 8-70 7-14-70	112 98 105 92 18 *15 *16 *16 *17 *16 *16 *16
Pecos River	Rio Grande	Lat 35°03'00", long 104°43'21", Guadalupe County, at river mile 276.3, below River Ranch, 8.3 miles northwest of Santa Rosa, N. Mex.	-	1961, 1964	5-25-70 5-27-70 5-28-70 6- 4-70 6-11-70 6-16-70 6-17-70 6-24-70 7- 1-70 7- 8-70 7-14-70	85 105 90 *14 *13 *12 *13 *13 *12 *13 *11
Pecos River	Rio Grande	Lat 35°02'36", long 104°42'35", Guadalupe County, at river mile 275.3, 8 miles north of Santa Rosa, N. Mex.	-	1964	5-28-70 6-16-70 6-17-70	82 *16 *16

Measurements at miscellaneous sites

Discharge measurements made at miscellaneous sites during water year 1970

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 35°03'52", long 104°40'35", Guadalupe County, above mouth of Los Esteros Creek, at river mile 272, 9 miles north of Santa Rosa, N. Mex.	-	1955, 1961, 1963-64	5-25-70 5-27-70 5-28-70 6-16-70 6-17-70	96 104 78 17 *16
Black River	Pecos River	Lat 32°04'05", long 104°28'41", NE¼SE¼, sec.3, T.26 S., R.24 E., Eddy County, below Mayes Ranch, 9.6 miles southwest of White City, N. Mex.	-	1953-69	12-30-69 3-10-70	b.66 b.83
Rattlesnake Springs	Black River	Lat 32°06'34", long 104°28'17", 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.	-	1952-69	12-30-69 3-18-70	c2.8 b2.1
Blue Springs	Black River	Lat 32°11'05", long 104°17'00" 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, 1952-69	12-30-69 3-18-70	b13 b13
Pecos River	Rio Grande	Lat 32°13'05", long 104°00'08", 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, 1962-69	10- 2-69 12-31-69 2- 6-70 2-27-70 4-30-70 5-27-70 6-26-70 7-29-70 8-31-70	*20 91 50 56 27 32 *23 *12 13
Pecos River	Rio Grande	Lat 32°10'42", long 103°59'50", NW¼NW¼, sec.33, T.24 S., R.29 E., in Eddy County, at First Ford 2.6 miles below Pierce Canyon Crossing and 5.6 miles southeast of Malaga, N. Mex.	-	1959, 1961-64 1966-69	10- 2-69 12-31-69 2- 6-70 2-27-70 4-30-70 5-27-70 6-26-70 7-29-70 8-31-70	*22 90 52 56 26 31 *24 11 24

* Base flow.
\+ Peak flow.
‡ Operated as a continuous record gaging station.
a Estimated.
b Spring flow.
c Flow affected by pumpage for Carlsbad Caverns water supply.

Pecos River Seepage Investigation - Acme to Kaiser Channel

REACH.--From the gaging station Pecos River near Acme (08386000), river mile 94.0 to the gaging station Pecos River (Kaiser Channel) near Lakewood (08399500), a distance of about 95 river miles. The streambed is mostly sand with an occasional rock outcrop. Banks are relatively low and salt-cedar covered. The Bureau of Reclamation in accordance with the Pecos River Water Salvage Program started clearing salt cedars beginning at the Bob Crosby bridge, river mile 97.0, in April 1966. At the time of this investigation the salt cedars had been cleared down to the gaging station Pecos River near Artesia (08396500), river mile 12.4. In addition to the salt cedar clearing, annual maintenance work had been performed on most of the reach. The river channel from the "near Artesia" gage to the head of Kaiser Channel has been realigned during recent years and many of the former elbows have been eliminated. U. S. G. S. Plan and Profile of the Pecos River, Lake McMillan to Pecos N Mex. maps used for river mile and the U. S. G. S. topographic maps for land locations.

PREVIOUS INVESTIGATIONS.--At least once a year 1953-60, 1962-66, 1968, 1969.

DATE.--Jan. 27, 1970. Used Mountain Standard Time, 0000 - 2400 hours time increments.

WEATHER.--On Oct. 21-23 a considerable amount of rainfall was received in the Pecos drainage, causing above normal flow in the Pecos River. During Dec. 29-31 a considerable amount of snow was received throughout the southeastern part of the state. Temperatures were below normal for the first nine days of January, and near normal thereafter. Between Jan. 18-21 small amounts of precipitation fell in that part of the Pecos River drainage covered by this investigation. The temperature was slightly above normal; there was no precipitation and very little wind during the period Jan. 22-26. On Jan. 27 there was no precipitation, the skies were clear, air temperatures were above normal, and there were light winds starting about 1400 hours.

SUMMARY.--This investigation was completed in one day, Jan. 27. The number of main stream, Pecos River sites, were the same as in 1969, which was considerably less than for most previous years. A total of ten sites, including five regular gaging stations and two temporary recorders, "below mouth of Rio Hondo " and "river mile 41.9" were measured on the main stream. The two temporary recorders were installed on Jan. 22 and operated through Jan. 29. There were no diversions from the Pecos River during the period Jan. 25-29. All of the known surface inflows were measured. The only exception was possible inflow from Brainard Lake between the site at river mile 3.4 and "Kaiser Channel." It was learned subsequent to this investigation that there had been some inflow from Brainard Lake about one week earlier. There was no surface inflow from the left bank in the reach. Due to precipitation in late December and the middle of January the soil moisture was above normal at the time of this investigation. There was little groundwater usage during the period and the base flow was near or slightly above normal. As can be seen from the accompanying graphs, there were less than usual fluctuations in flow and the results of this investigation should be good. Chemical analyses for all sites measured are published in part two of this report.

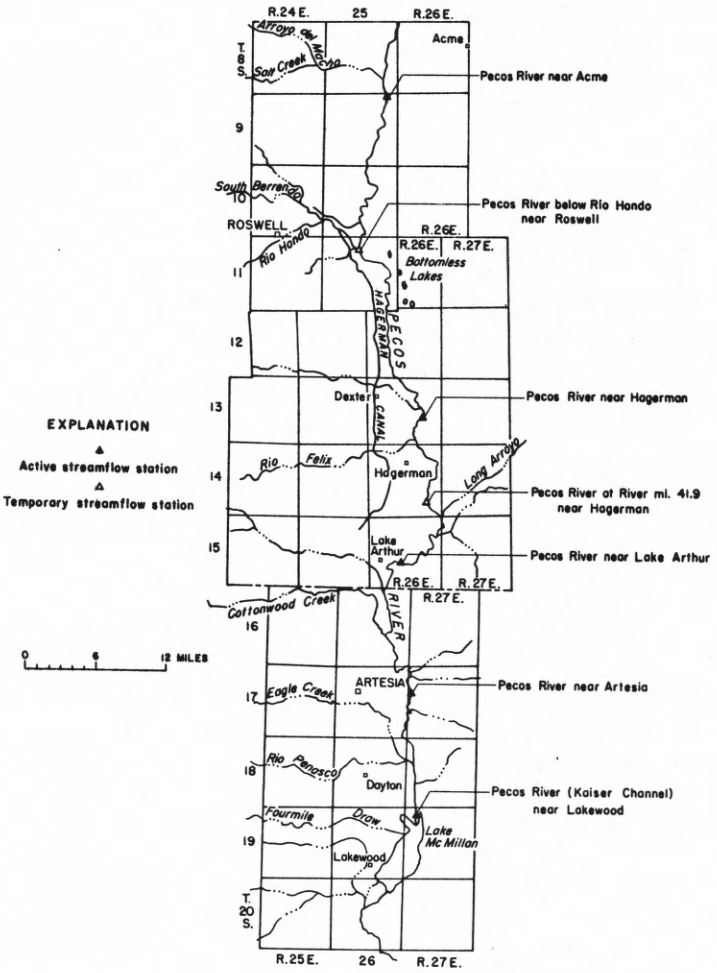

Figure 3.--Map of Pecos River showing reach of seepage intestivation.

Pecos River Seepage Investigation - Acme to Kaiser Channel

Pecos River mile	Stream	Location	Time	Water Temp. °C	Discharge, in cfs: Main Stream	Discharge, in cfs: Tributary or Diversion	Discharge, in cfs: Indicated gain or loss
		January 27, 1970					
94.0	Pecos River	NE¼SW¼NW¼ sec.14, T.9 S., R.25 E., near Acme (sta 08386000)	0825	4	21.3	-	-
84.9	Inflow*	NE¼SW¼SW¼ sec.11, T.10 S., R.25 E., at Bitter Lakes, at mouth of old river channel	0905	8.5	-	.48	-
78.4	Bitter Creek*	NE¼NE¼NE¼ sec.33, T.10 S., R.25 E., at mouth	1010	9	-	5.36	-
-	Hagerman Canal	NW¼SW¼NE¼ sec.31, T.10 S., R.25 E., at head	1000	10	-	(5.18)	-
-	Roswell Drainage District X-Line	NW¼SE¼NW¼ sec.5, T.11 S., R.25 E., at entrance to Hagerman Canal	1030	12	-	(.04)	-
-	South Spring Creek*	SE¼SE¼SE¼ sec.8, T.11 S., R.25 E., at entrance to Hagerman Canal	1100	10	-	(1.10)	-
-	Pamona Drain*	NW¼NW¼SE¼ sec.22, T.11 S., R.25 E., at entrance to Hagerman Canal	1525	14	-	(.21)	-
-	South Spring Drain*	SE¼NW¼SE¼ sec.9, T.11 S., R.25 E., at road crossing (tributary to Rio Hondo)	1140	14	-	(.87)	-
74.6	Rio Hondo*	NE¼NE¼SE¼ sec.9, T.11 S., R.25 E., at mouth	1110	12	-	7.32	-
74.5	Pecos River	SE¼NE¼SE¼ sec.9, T.11 S., R.25 E., below Rio Hondo (temporary recorder)	1150	10	40.5	-	+6.0
74.1	East Grand Plains Drainage District "D" line*	SE¼SW¼SW¼ sec.10, T.11 S., R.25 E., at mouth	1240	15	-	.48	-
73.6	East Grand Plains Drainage District "A-B-C" line*	NW¼SW¼NE¼ sec.15, T.11 S., R.25 E., at mouth	1320	15	-	.20	-
72.7	Gravel Pit Drain*	SE¼SE¼NW¼ sec.14, T.11 S., R.25 E., at mouth	1435	11.5	-	1.05	-
64.5	Pecos River	S½NE¼NE¼ sec.17, T.12 S., R.26 E., at Transwestern pipeline crossing	1335	11	46.1	-	+3.9
61.4	Nine Mile Draw*	SW¼SE¼SE¼ sec.29, T.12 S., R.26 E., at mouth	0915	9	-	4.90	-
58.4	Zuber Hollow Wasteway*	SE¼SE¼SE¼ sec.4, T.13 S., R.26 E., at mouth	1010	9	-	.23	-
53.2	Pecos River	SE¼SW¼SE¼ sec.23, T.13 S., R.26 E., near Hagerman (sta 08394100)	1530 0830	12 8	55.0 59.0	- -	+3.8 -
-	Rio Felix*	SW¼SE¼SE¼ sec.34, T.13 S., R.26 E., ¾ mi. about mouth	0940	10	-	.53	-
46.7	Pecos River	SE¼NE¼NE¼ sec.12, T.14 S., R.26 E., at Hagerman bridge	1025	10	62.3	-	+2.8
41.9	do.	NE¼SW¼SW¼ sec.25, T.14 S., R.26 E. (temporary recorder)	1140	10	65.3	-	+3.0
30.6	do.	NE¼SW¼NE¼ sec.27, T.15 S., R.26 E., near Lake Arthur (sta 08395500)	1300 0940	13 9	66.2 66.0	- -	+.9 -
20.6	Cottonwood Creek*	NE¼SE¼NW¼ sec.26, T.16 S., R.26 E., at mouth	1120	9	-	.11	-
12.4	Pecos River	SE¼NW¼NW¼ sec.18, T.17 S., R.27 E., near Artesia (sta 08396500)	1305	12	68.3	-	+2.2
3.4	do.	NW¼NW¼SE¼ sec.7, T.18 S., R.27 E.	1420	13	68.2	-	-.1
-	do.	NE¼NW¼SE¼ sec.5, T.19 S., R.27 E., (Kaiser Channel) near Lakewood (sta 08399500)	1545	11.5	70.6	-	+2.4

Note.--Measurements not involved in the computation of gains or losses of the Pecos River are enclosed in parentheses.
* Right bank.

Pecos River Seepage Investigation - Acme to Kaiser Channel

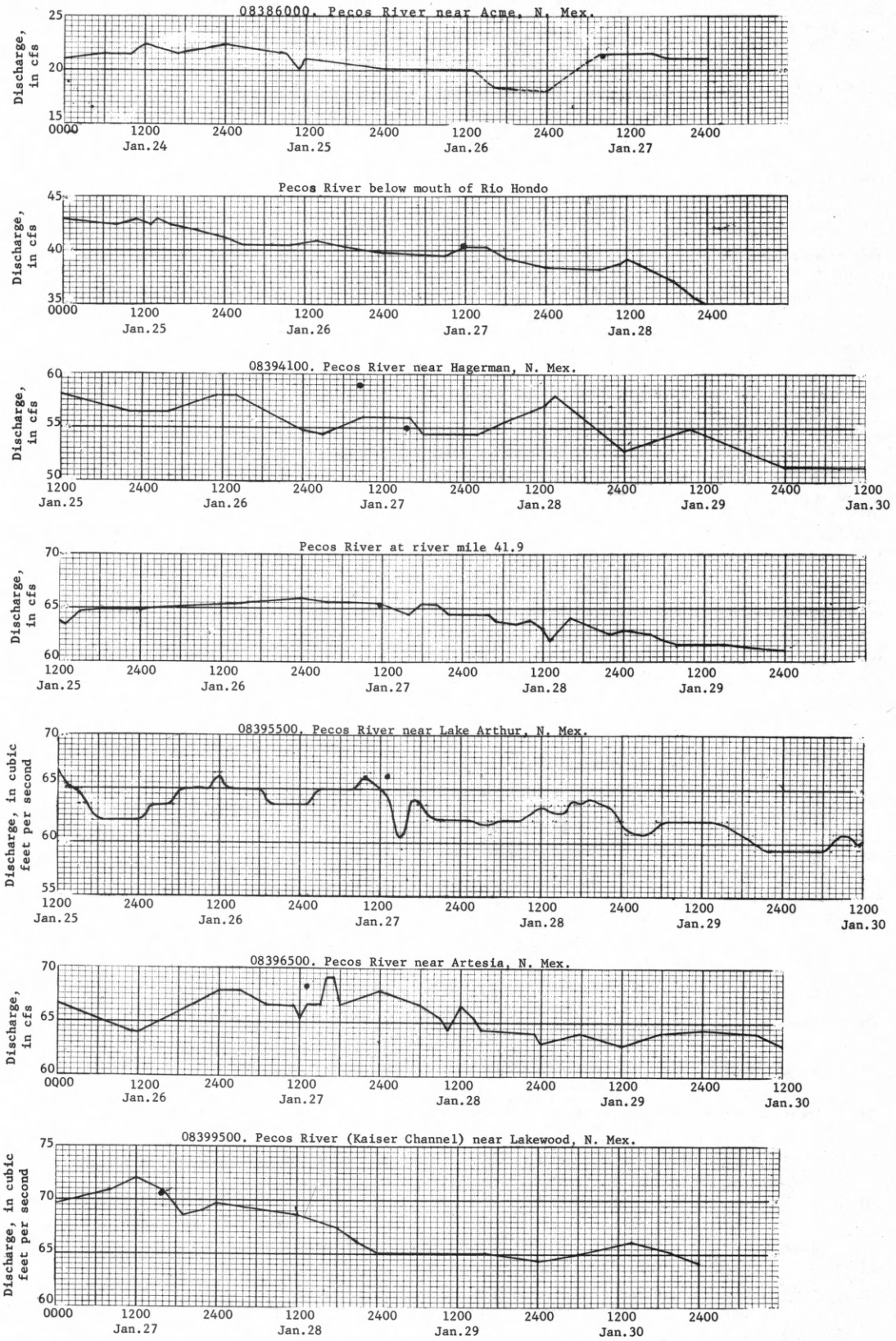

Figure 4.--Hydrographs showing hourly discharge at gaging stations in the reach of the Pecos River from near Acme to Kaiser Channel near Lakewood. ° Discharge measurement. --- Estimated.

Pecos River Seepage Investigation - Carlsbad to mouth of Delaware River

REACH.--From the gage, Pecos River at Carlsbad (Sta 08405000) to the mouth of the Delaware River, a distance of about 50 miles. The streambed above the "near Malaga" regular gage (Sta 08406500) is mostly conglomerate rock overlain with small boulders, gravel, and silt. Below this site the streambed is mostly sand overlying gravel and rock. Throughout the entire reach there are many long pools. The banks, in general, were densely covered with salt cedar growth. The initial clear of the salt cedars was done during 1969. Used U. S. G. S. topographic maps, U. S. G. S. Plan and Profile of Malaga Bend and New Mexico Highway Department maps for locations.

PREVIOUS INVESTIGATIONS.--February 1955, March 1959, January, October, 1961, March 1962, July 1963, February, July 1964, May, July, and August 1966.

DATE.--March 24, 25, 1970. Used Mountain Standard Time, 0000 - 2400 hours time increments.

WEATHER.--On March 20 the general area received snow amounting to about 0.50 inch of precipitation, as recorded at Carlsbad and Malaga. Between March 21-25, the temperatures were mild with gusty winds on most days. On March 24 the sky was clear with no wind at 0800 hours. By 1000 hours a wind started blowing from the west. The winds became quite strong. The weather continued clear on March 25 with moderate north winds during the early morning hours and strong winds thereafter. The strong winds during both days had some effect on the measured discharges.

SUMMARY.--The sites measured during this investigation were essentially the same as those measured in 1966. There were four stream-gaging stations, Nos. 0840500, 08406500, 08407000, and 08407500, and a gage operated by the Pecos River Watermaster on the Harroun Canal at head, in the reach of this investigation.

On March 5-7 Tansill Lake in Carlsbad was drained to facilitate repairs to recreational areas in the lake. On March 20 the gates in Tansill Dam were closed. The lake did not fill and start spilling until March 29. This investigation was started on March 24 when it was hoped that the streamflow throughout the reach had stabalized. As can be seen from the accompanying graphs, the discharge was still decreasing at Pecos River at Red Bluff (Sta 08407500) on March 25. The indicated gains through the lower portion of the reach are erroneous as a result of the decreasing flow.

At the time of this investigation Sixmile Lake was full and spilling. On March 24 the diversion rate for the Harroun canal was increased at about 0500 hours, therefore, no attempt was made to compute a gain or loss between this site and the one upstream. There was no flow over the Harroun Dam at the time of this investigation and conditions indicated that there probably hadn't been any spill for 2 or 3 days. The Harroun canal was the only operating diversion in the reach at the time of this investigation. All known surface inflows were either estimated or measured.

Results of this investigation are considered as fair to good down to site No. 338.5 and poor thereafter. The measurements made during the investigation were rated from good to poor. The discharge for the Carlsbad sewer effluent was furnished by the city of Carlsbad.

No chemical samples were taken during this investigation.

Site numbers included in the tabulation are used for filing purposes and have no relation to river mile.

Site No.	Stream	Location	Time	Water temp. °C	Discharge, in cfs: Main stream	Discharge, in cfs: Tributary or Diversion	Discharge, in cfs: Indicated gain or loss
		March 24, 1970					
309.2	Pecos River	SE¼NW¼NW¼ sec.8, T.22 S., R.27 E. (Sta 08405000)	0850	15.0	0.80	-	-
310	do.	NW¼SW¼ sec.9, T.22 S., R.27 E., above Carlsbad sewage inflow	1020	-	2.14	-	+1.34
310.5	Carlsbad sewage inflow†	SE¼NW¼ sec.10, T.22 S., R.27 E.	0930	-	-	a3.12	-
311	Pecos River	NW¼SE¼ sec.10, T.22 S., R.27 E., below sewage inflow	1130	-	6.80	-	+1.54
312	CID drain "A"*	NW¼NW¼ sec.14, T.22 S., R.27 E., at mouth	-	-	-	b.02	-
312.2	CID drain "B"*	SE¼SE¼ sec.14, T.22 S., R.27 E., at mouth	-	-	-	b.03	-
313	Pecos River	NW¼NE¼ sec.24, T.22 S., R.27 E., below Six Mile Dam	1320	20.0	8.62	-	+1.77
314.4	do.	NW¼SW¼ sec.29, T.22 S., R.28 E., below Dickson Crossing	1410	19.5	9.28	-	+.66
315.2	do.	SE¼NW¼ sec.5, T.23 S., R.28 E., above Cass Draw	1520 0910	18.0 13.0	8.43 8.25	- -	-.85 -
315	Cass Draw*	SE¼NW¼ sec.5, T.23 S., R.28 E., at mouth	1540	-	-	.25	-
315.6	Pecos River	NE¼NW¼ sec.9, T.23 S., R.28 E., above Harroun Dam	1020	15.5	14.6	-	+6.10
316	Harroun canal†	SW¼SE¼ sec.11, T.23 S., R.28 E., at State Engineer gage	1125	13.5	-	17.4	c -
318	Pecos River	SE¼SW¼ sec.11, T.23 S., R.22 E., below Harroun Dam.	1220	18.0	.48	-	d -
318.3	do.	NE¼NW¼ sec.24, T.23 S., R.28 E., at slab crossing.	1315	17.0	3.92	-	+3.44
318.4	do.	NE¼SE¼ sec.30, T.23 S., R.29 E., east of Loving.	1350	17.0	7.07	-	+3.15
332	Black River*	SW¼SE¼ sec.2, T.24 S., R.28 E., ½ mile above mouth.	1520	18.0	-	3.88	-
333	Pecos River	SW¼SW¼ sec.1, T.24 S., R.28 E., at Harroun's Crossing	1450	17.0	18.4	-	+7.45
333.5	do.	NE¼NW¼ sec.19, T.24 S., R.29 E., near Malaga (Sta 08406500)	1620	16.5	26.8	-	+8.4

Pecos River Seepage Investigation - Carlsbad to mouth of Delaware River -- Continued

Site No.	Stream	Location	Time	Water temp. °C	Discharge, in cfs: Main stream	Tributary or Diversion	Indicated gain or loss
		March 25, 1970					
333.5	Pecos River	NE¼NW¼ sec.19, T.24 S., R.29 E., near Malaga (Sta 08406500)	0915	-	24.2	-	-
334	do.	SE¼NE¼ sec.17, T.24 S., R.29 E., at Fishing Rock Crossing	1010	14.5	24.9	-	+.7
335	do.	SE¼NE¼ sec.16, T.24 S., R.29 E., above Dogtown drain	1240	18.0	24.0	-	-.9
337.2	do.	NE¼NE¼ sec.20, T.24 S., R.29 E., near well USGS 11	1120	16.0	25.4	-	+1.4
338.2	do.	NW¼SW¼ sec.27, T.24 S., R.29 E., at Pierce Canyon Crossing (Sta 08407000)	1345	17.0	27.7	-	+2.3
338.5	do.	SE¼NW¼ sec.33, T.24 S., R.29 E., at first ford.	1450 0855	19.5 14.0	26.2 27.0	- -	-1.5 -
340	do.	NW¼SE¼ sec.6, T.25 S., R.29 E., above Reed's pump.	0945	15.5	29.2	-	+2.2
341	do.	SE¼SW¼ sec.13, T.25 S., R.28 E., above Salt Draw.	1055	17.0	30.1	-	+.9
341.5	do.	SW¼NE¼ sec.25, T.25 S., R.28 E., at mouth of arroyo from right bank.	1210	16.5	30.9	-	+.8
342	do.	NW¼NE¼ sec.1, T.26 S., R.28 E., at Red Bluff (Sta 08407500)	1330	18.5	31.7	-	+.8
343	do.	SW¼SE¼ sec.5, T.26 S., R.29 E., above pipeline crossing.	1410	18.0	32.3	-	+.6
344	do.	NW¼NE¼ sec.19, T.26 S., R.29 E., above mouth of Delaware River	1500	17.5	32.7	-	+.4
344.5	Delaware River	NW¼NE¼ sec.19, T.26 S., R.29 E., at mouth	1530	16.5	4.81	-	-

* Right bank.
† Left bank.
a Discharge furnished by city of Carlsbad.
b Estimate.
c Not computed, diversion rate increased at 0500 hours.
d No flow over dam.

Pecos River Seepage Investigation - Carlsbad to mouth of Delaware River

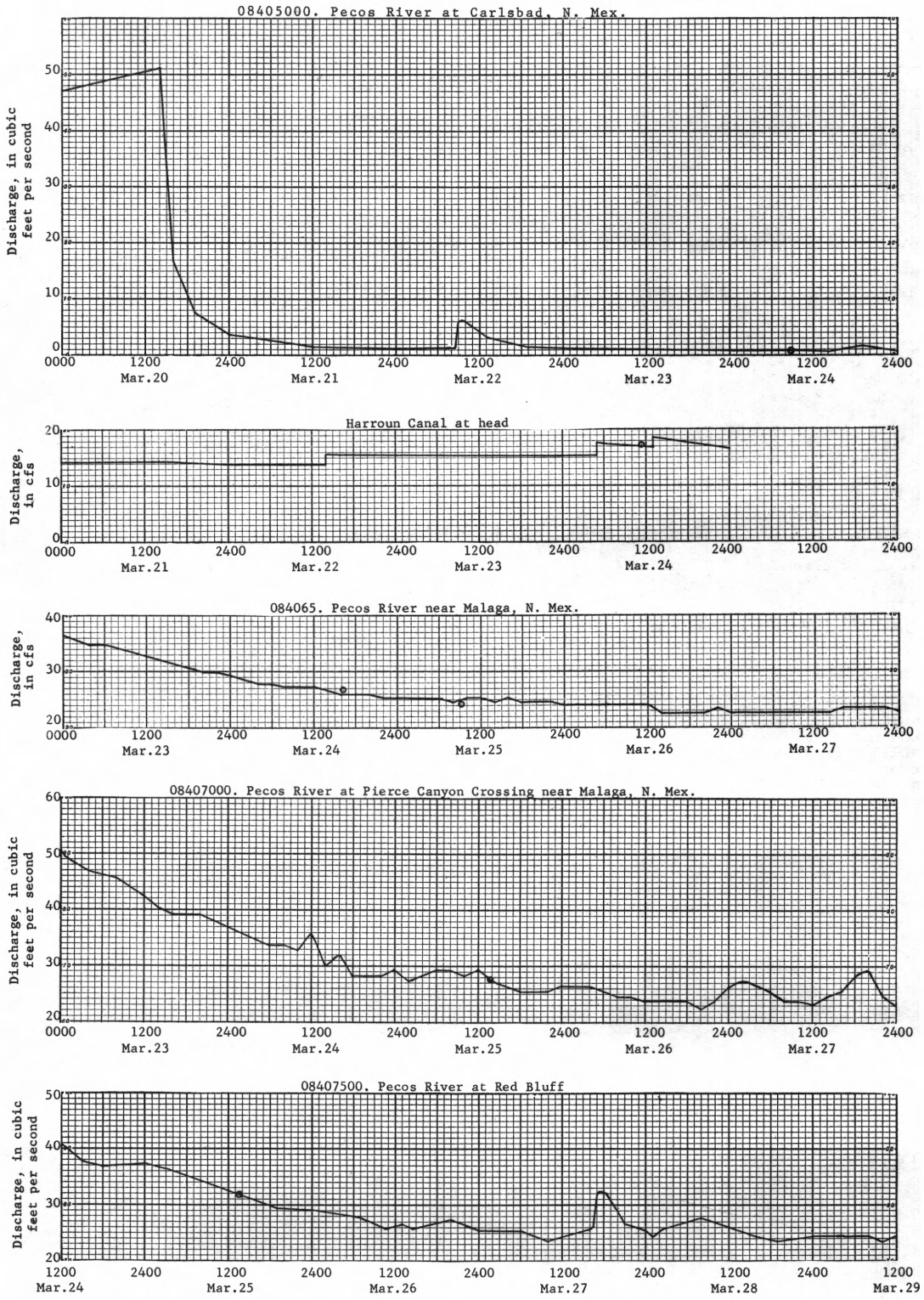

Figure 5.--Hydrographs showing hourly discharge at gaging stations in the reach of the Pecos River from Carlsbad to mouth of Delaware River.

o Discharge measurement.

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