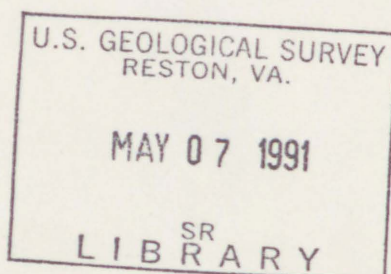


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Water Resources Data Wyoming Water Year 1990



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT WY-90-1
Prepared in cooperation with the State of Wyoming
and with other agencies

CALENDAR FOR WATER YEAR 1990

1989

OCTOBER

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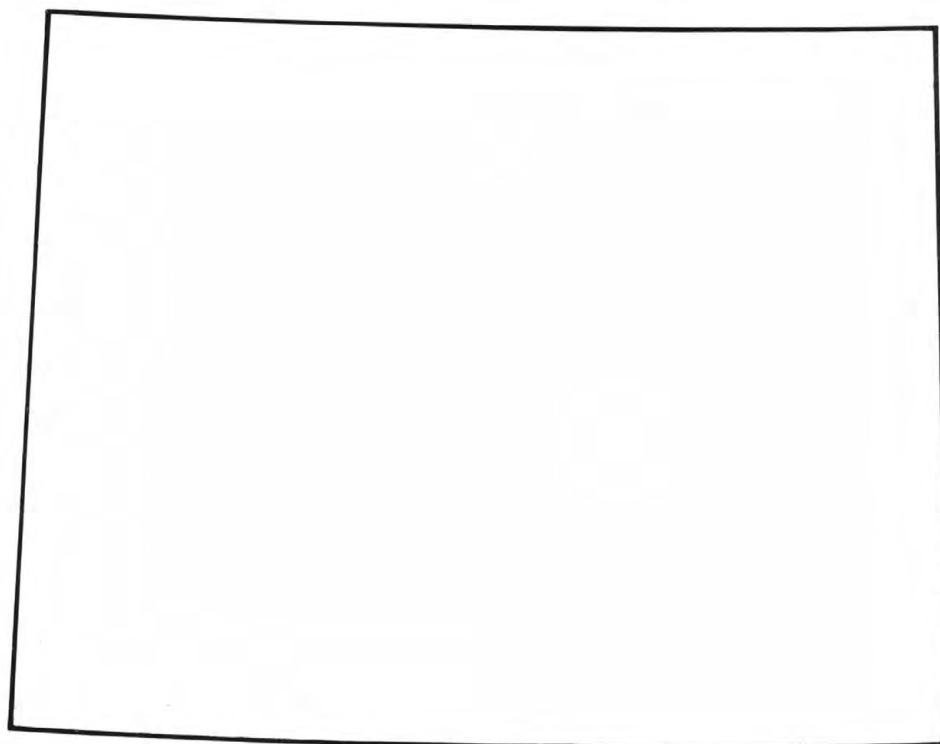
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Water Resources Data Wyoming Water Year 1990

by S.A. Druse, W.R. Glass, D.A. Peterson, M.L. Smalley



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT WY-90-1
Prepared in cooperation with the State of Wyoming
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

MANUEL LUJAN, JR., Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

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Cheyenne, Wyoming 82001

1991

WATER RESOURCES DATA - WYOMING, 1990

PREFACE

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

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

Most of the data were collected, computed, and processed from the Casper Field Headquarters, W. R. Glass, Chief and the Riverton Field Headquarters, P. B. McCollam, Chief. The following personnel are recognized for their significant contributions to this report:

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N. Friday	G. J. Metzger	M. E. Smith	
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K. J. Hedmark	T. A. Pointon	L. J. Sultz	

S. L. Green typed and assembled the text of the report.

This report was prepared in cooperation with the State of Wyoming and with other agencies; and under the general supervision of James E. Kircher, District Chief, Wyoming.

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16. Abstract (Limit: 200 words) Water resources data for the 1990 water year for Wyoming consists of records of stage, discharge and water quality of streams; stage and contents of lakes and reservoirs; and water levels and water quality of ground water. This report contains discharge records for 198 gaging stations; stage and contents for 16 lakes and reservoirs; water quality for 62 gaging stations, and 55 ungaged stations; and water levels for 5 observation wells. Additional water data were collected at various sites, not part of the systematic data collection program, and are published as miscellaneous measurements. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in Wyoming.			
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WATER RESOURCES DATA - WYOMING, 1990

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State, municipal, county, and Federal agencies, obtains a large amount of data pertaining to the water resources of Wyoming each water year. The accumulation of this data constitutes a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in this report series entitled "Water Resources Data - Wyoming" as part of the National Water Data System.

Water resources data for the 1990 water year for Wyoming consists of records of stage, discharge, and water quality of streams; stage and contents of lakes and reservoirs; and water levels and water quality of ground water. This report contains discharge records for 198 gaging stations; stage and contents for 16 lakes and reservoirs; water quality for 62 gaging stations, and 55 ungaged stations; and water levels for 5 observation wells. Locations of streamflow-gaging stations, water-quality stations, and observation wells are shown in figure 1. Additional water data were collected at various sites, not part of the systematic data collection program, and are published as miscellaneous measurements.

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

For water years 1961 through 1970, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for the years 1964 through 1970 were similarly released either in separate reports or in conjunction with streamflow records.

Beginning with the 1971 water year, water data for streamflow, water quality, and ground water are published in official Survey reports on a State-boundary basis. These official Survey reports carry an identification number consisting of the two letter State abbreviation, the last two digits of the water year, and the volume number. For example, this report is identified as "U.S. Geological Survey Water-Data report WY-90-1." Water-Data reports are for sale in paper copy or in microfiche, by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephone (307) 772-2153.

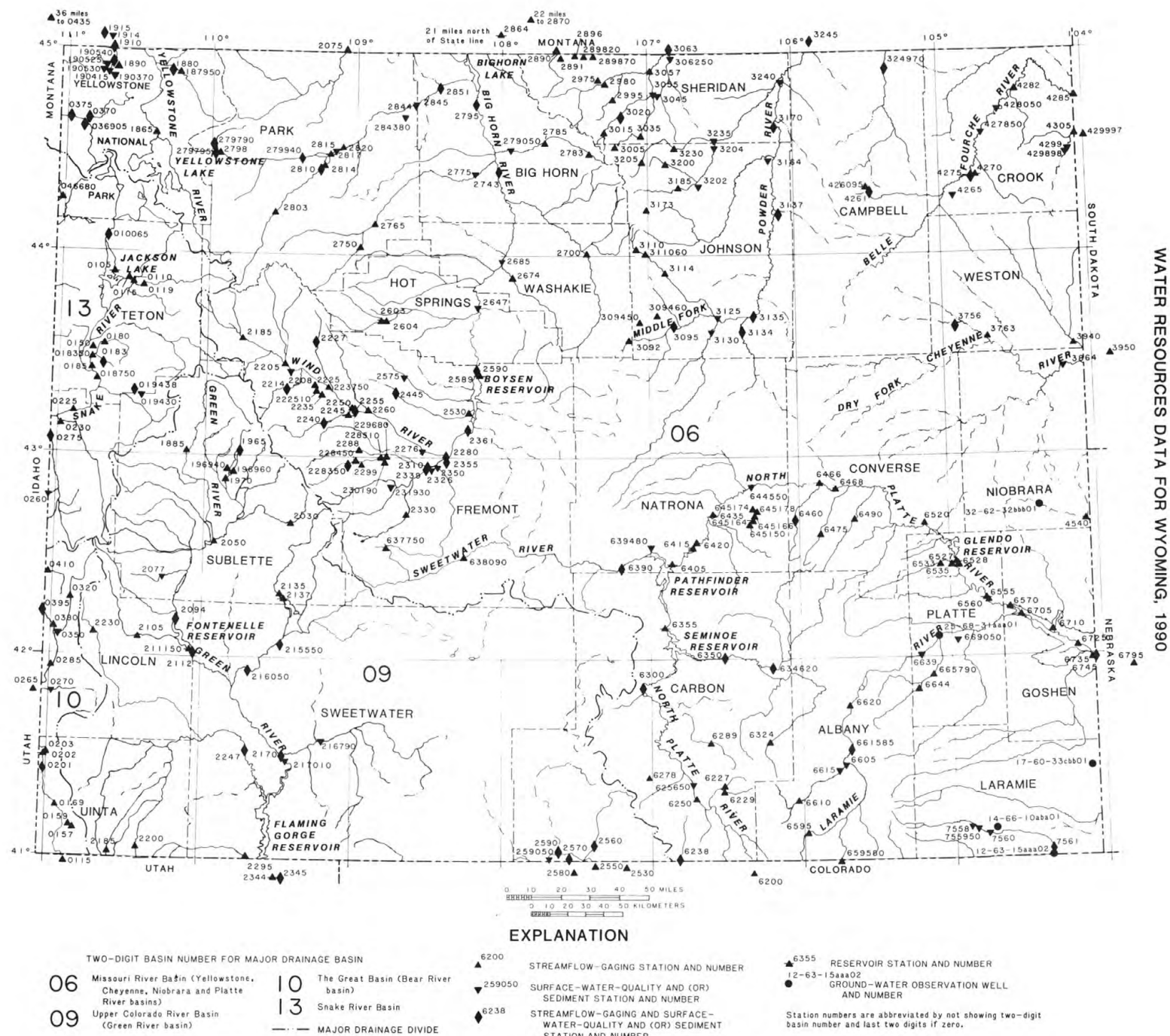


Figure 1.—Location of surface-water stations, water-quality stations, stage and/or content stations, and ground-water observation wells, 1990 water year.

COOPERATION

The U.S. Geological Survey and agencies of the State of Wyoming have had cooperative agreements for the systematic collection of streamflow records since 1895, for ground-water levels since 1940, and for water-quality records since 1946. Organizations that assisted in collecting data through cooperative agreement with the Survey are:

Wyoming State Engineer, Gordon W. Fassett

Wyoming Department of Agriculture, Donald Rolston, Commissioner of Agriculture

Wyoming Water Development Commission, Michael K. Purcell, Administrator

Wyoming Department of Environmental Quality, Dennis Hemmer, Director

Wyoming Attorney General, A. G. McClintock

Wyoming Water Research Center, Steven P. Gloss, Director

Wyoming Game and Fish Department, Francis E. Petera, Director

Fremont County, Weed and Pest District, Lars Baker, Supervisor

Teton County, County Commissioners

Uinta County, County Commissioners

Town of Evansville, Lois Ann Nation, Mayor

City of Gillette, H. A. Carter, Mayor

Midvale Irrigation District, Bill Brown, Manager

Shoshone and Arapaho Tribes, Wind River Environmental Quality Commission, Dr. Catherine Vandemoer, Director

Assistance in the form of funds and services was given by the Bureau of Reclamation, U.S. Department of the Interior for 6 streamflow-gaging stations, 5 water-quality stations, and 2 reservoir stations; by the Forest Service, U.S. Department of Agriculture for 3 streamflow-gaging stations and 2 water-quality stations; by the Corps of Engineers, U.S. Army for 2 streamflow-gaging stations; by the Federal Highway Administration, U.S. Department of the Transportation for 4 water-quality stations; and by the Bureau of Land Management, U.S. Department of the Interior for part of a streamflow-gaging station, published in this report.

SUMMARY OF HYDROLOGIC CONDITIONS

Drought conditions persisted throughout most of Wyoming during water year 1990, with only extreme eastern and extreme northwestern Wyoming having near normal conditions. The "Weekly Weather and Crop Bulletin," prepared and published by the National Oceanic and Atmospheric Administration and the U.S. Department of Agriculture Joint Agricultural Weather Facility, reported little change from 1989 in the area affected by severe and extreme drought during the summer months, as determined by the drought severity index (Palmer). The July 7 report showed the area of extreme drought included all of Wyoming except extreme eastern and extreme northwestern Wyoming and this condition prevailed through their September report. Water year 1990 was the third consecutive year of drought throughout most of Wyoming.

Precipitation

Precipitation during water year 1990 was greater than during the previous year; most of the State received more than 85 percent of the 1951-80 average. Precipitation and departures from normal (1951-80 average) for the major divisions (drainage basins) are published by the National Oceanic and Atmospheric Administration. The Bighorn and Lower [North] Platte basins received greater-than-average precipitation--The Bighorn basin in northwestern Wyoming received 108 percent and the Lower (North) Platte in eastern Wyoming received 125 percent (table 1). The Green/Bear River basins in southwestern Wyoming received the least--77 percent. The other drainages in the State (table 1 and figs. 1 and 2) received amounts ranging from 85 to 95 percent of average.

Drainage-basin precipitation and departures from the 1951-80 average (table 1) are cumulated into three groups of months to reflect seasonal variations of precipitation. Basins in eastern and north-central Wyoming received greater-than-average precipitation during the autumn and winter months (October through March), and the remainder of the basins recorded less-than-average precipitation during the period. The spring months (April through June) were dry throughout the State; with all basins recording less than average precipitation. Precipitation increased to near average or greater than average during the summer months (July through September); only the Powder/Little Missouri/Tongue River basins in northeastern Wyoming recorded less than near average precipitation.

Most of the precipitation stations used to compile the data in table 1 and figure 2 are in nonmountainous areas of the State and may not be indicative of precipitation in the mountains. Precipitation in the mountains, in the form of snow, provides most of Wyoming's annual water supply. For the third consecutive year, the snowpack in the mountains throughout most of the State was less than average. The U.S. Soil Conservation Service noted in the May 1, 1990 issue of "Basin Outlook Reports" that only the Bighorn Mountains had a snowpack that was near or slightly above average. The remainder of the State's mountains had snowpacks that were below average. Most were 75 to 90 percent of average; however, the Black Hills had a snowpack that was only 19 percent of average, mountains along the southwest edge had snowpacks that were 16 to 29 percent of average, and mountains in the upper Green River basin had snowpacks that were 55 percent of average. The report also noted that melting of the snowpacks started 2 1/2 to 3 weeks earlier than normal.

WATER RESOURCES DATA FOR WYOMING 1990

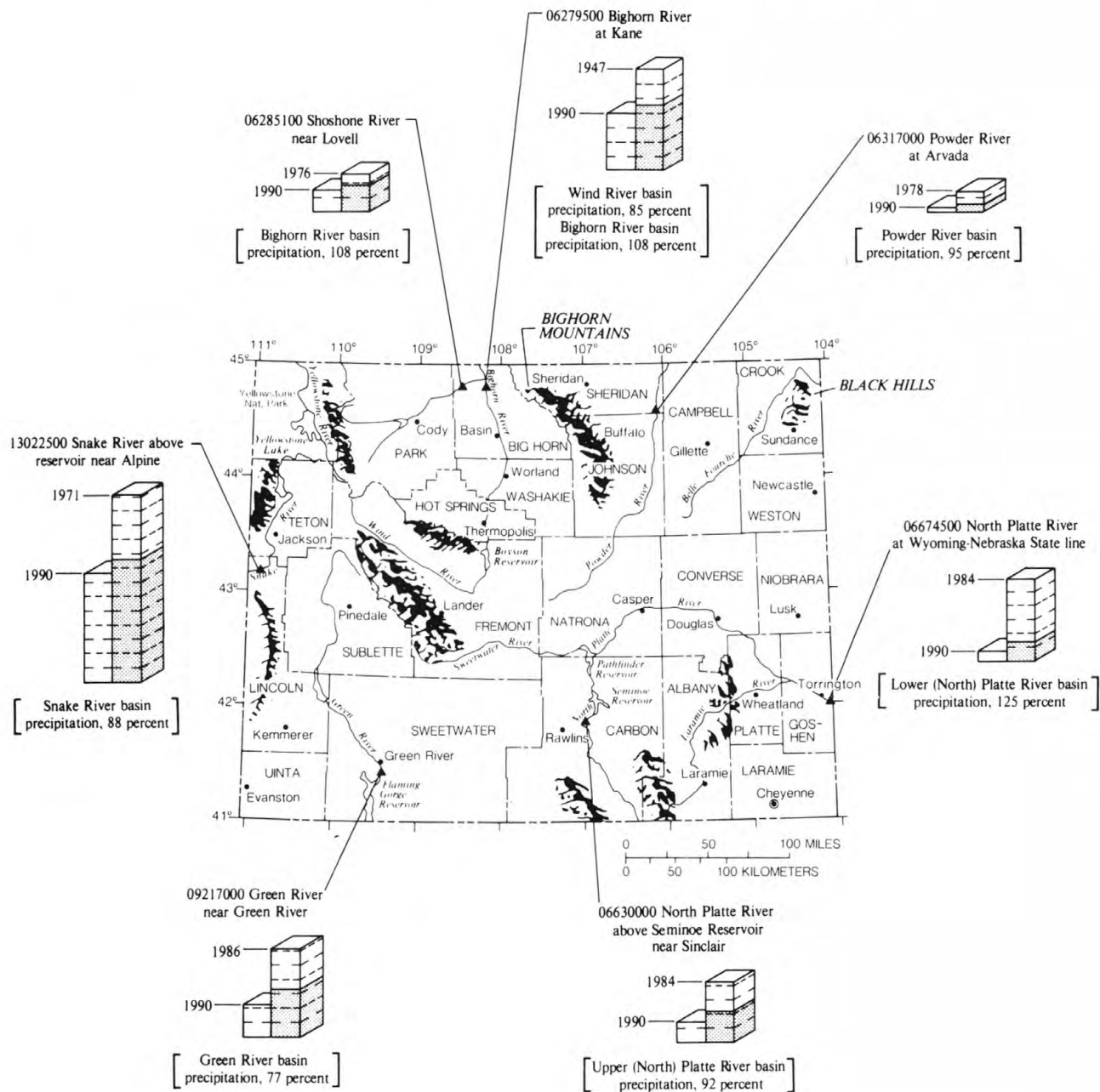
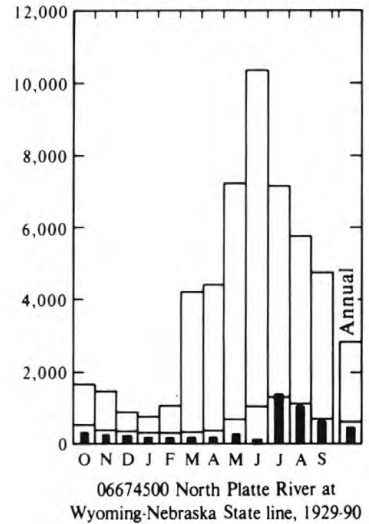
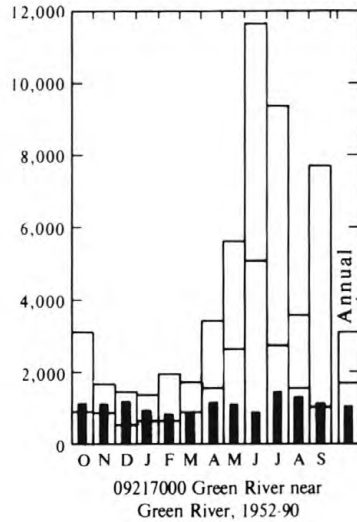
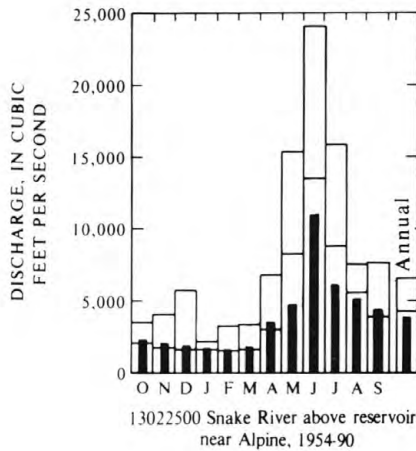
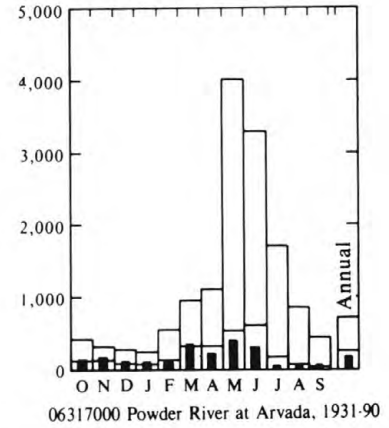
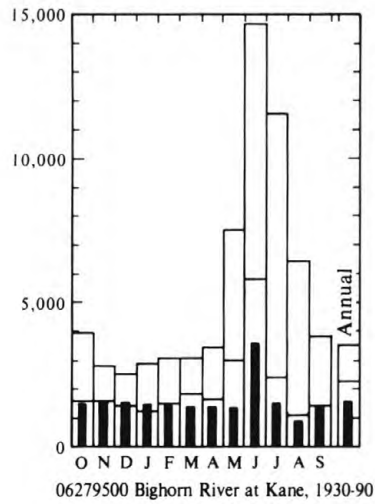
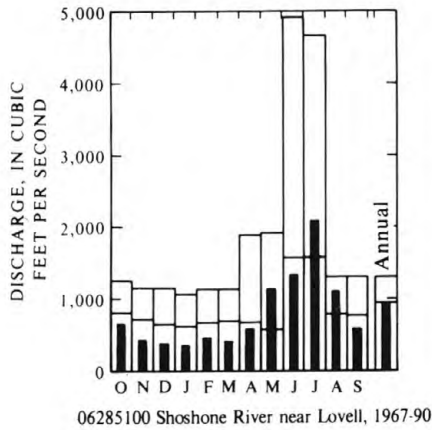


Figure 2.--Percentage of average precipitation, monthly and annual average discharge of major rivers in Wyoming for water year 1990, and monthly and annual maximum and median discharge for period of record.

WATER RESOURCES DATA FOR WYOMING 1990



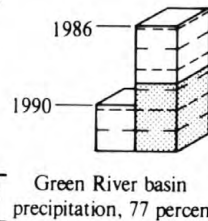
EXPLANATION

COMPARISON OF ANNUAL AVERAGE DISCHARGE

Data for water year 1990

Annual average discharge and water year

Percentage of average (1951-80) precipitation



Data for period of record

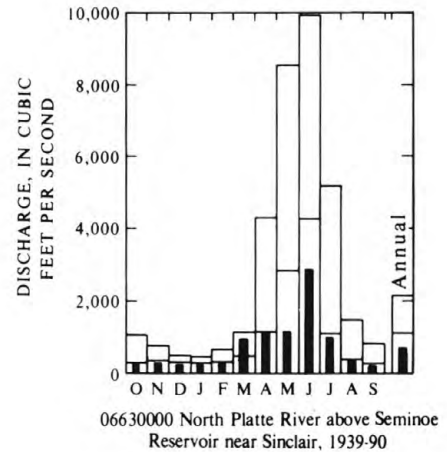
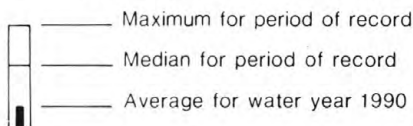
Maximum annual average discharge and water year of occurrence

Median value of the annual average discharge for period of record

1,000-cubic-foot-per-second increments

▲ STREAMFLOW-GAGING STATION SELECTED TO TYPIFY DRAINAGE BASIN—Station number and name shown below bar graph

MONTHLY OR ANNUAL DISCHARGE



WATER RESOURCES DATA - WYOMING, 1990

Table 1.--Precipitation for selected periods of water year 1990 and the departures from average (1951-80) by drainage basin
 [Source: Monthly publications of climatic data by National Oceanic and Atmospheric Administration]

Drainage basin	Precipitation (inches)							
	October through March		April through June		July through September		Annual	
	Total	Departure	Total	Departure	Total	Departure	Total	Percent of average
Wind River	1.88	-0.75	2.65	-2.15	3.50	1.49	8.03	85
Bighorn River	3.13	.53	4.23	-.28	2.95	.49	10.31	108
Powder/Little Missouri/Tongue River	4.87	.75	5.47	-1.13	3.04	-.32	13.38	95
Upper [North] Platte River	3.77	-.69	2.65	-1.46	4.17	1.17	10.59	92
Lower [North] Platte River	4.80	1.23	5.02	-1.26	7.17	3.40	16.99	125
Green/Bear River	2.20	-1.62	2.55	-.60	2.45	.03	7.20	77
Snake River	9.54	-2.49	5.63	-.01	3.78	-.05	18.95	88

Streamflow

Monthly and annual discharge in most streams reflected the drought conditions that were prevalent in a large part of the State. Graphs for the selected streamflow-gaging stations, shown in figure 2, typify the less-than-average discharge that was common in most streams. The annual average discharges at most of these stations were at or below the 25th percentile. Some stations recorded average flows for water year 1990 that were near the minimum for the period of record, but generally exceeded the average discharge for water year 1989, when several stations recorded new minimums.

The seasonal variation of discharge and a comparison of monthly and annual discharge for water year 1990 with the median and previous maximums for the period of record are shown for selected stations in figure 2. These stations generally are the most-downstream stations on the major rivers of Wyoming and give an indication of the water supply for each river basin. Discharge at these stations is mostly regulated, with the exception of stations 06317000, Powder River at Arvada, and station 06630000, North Platte River above Seminole Reservoir, near Sinclair, which have no large reservoirs upstream and only moderate withdrawals for irrigation.

Floods

Flooding, particularly that from snowmelt, was moderate throughout the State during water year 1990. The moderate maximum discharges generally reflected the continuing drought and the earlier-than-normal snowmelt. Summer thunderstorms, however, caused locally severe flooding in several streams. Of particular significance was the flood on Sybille Creek in Platte County on August 20. Maximum discharges of record were recorded at 06664400, Sybille Creek above Mule Creek, near Wheatland (19,900 cubic feet per second) and at station 06665790, Sybille Creek above Canal No. 3, near Wheatland (6,900 cubic feet per second). The flood at station 06664400 was six times greater than the theoretical 100-year flood as determined from station discharge records, and the flood at station 06665790 was three times greater. Damage was limited to roads and bridges, agricultural land, and livestock. Only one rural home was known to have sustained damage. The locations of the stations are shown in figure 1.

Chemical Quality of Streamflow

Specific conductance of streamflow during water year 1990 was not significantly different from that of the previous 10 years, based on data from five of seven water-quality stations. At the other two water-quality stations, the data indicated a significant difference in specific conductance. Specific conductance was chosen as an indicator of dissolved-solids concentration in water because the conductance varies directly with the concentration and species of ions in the water. These seven stations were selected to represent the major drainages of Wyoming.

The mean value of specific conductance at each station for water year 1990 was compared to the mean value for the previous 10 water years, 1980-89, using the Wilcoxon-Mann-Whitney rank sum test (table 2). This is a non-parametric counterpart to the common t-test and does not require the data to be normally distributed. The null hypothesis in each case is that the means are equal. A test statistic (t_R) was calculated from the ranks and a pooled standard deviation at all of the stations except the Bighorn River at Kane (06279500), where separate standard deviations were used because the standard deviations were significantly different at the 0.05 level. The test statistic (t_R) was compared to a table value (t_{tab}) of Student's t-Distribution, where the table value is $(1 - \alpha/2)$ and α (the level of significance) equals 0.05, at the appropriate degrees of freedom for each sample size. At five of the seven stations, the absolute value of the test statistic was less than the table value, indicating the means for water year 1990 were not significantly different from the means for the previous 10 years.

At station 06317000, Powder River at Arvada, and station 09217000, Green River near Green River, the rank sum tests indicated the mean specific conductance for water year 1990 was significantly different from the mean of the previous 10 years. The specific conductance in the Powder River was smaller in 1990 than in previous years, probably due to change in discharge from Salt Creek, a tributary upstream from station 06317000. Before 1990, about 25 to 30 percent of the dissolved solids of the Powder River came from Salt Creek according to a report from the Wyoming Department of Environmental Quality, "Wyoming 1988 water quality assessment" by D. W. Hogan. During 1990, discharges from oil and gas production along Salt Creek were substantially reduced (John Wagner, Wyoming Department of Environmental Quality, oral commun, 1990). The mean specific conductance of the Green River also was smaller in 1990 than in previous years, for unknown reasons.

Table 2.--Results of t-tests comparing mean values of specific conductance for water year 1990 with mean values for water years 1980-89 at selected water-quality sampling stations

[Specific conductance, in microsiemens per centimeter at 25° Celsius; t_R , calculated test statistic; t_{tab} , t-values from standard table.]

Drainage basin and station number	Specific conductance						Wilcoxon-Mann-Whitney rank sum test		
	Water year 1990			Water years 1980-89			t_R	t_{tab}	Null hypothesis
	Number of values	Stan- dard devia tion	Mean	Number of values	Stan- dard devia tion	Mean			
Bighorn River 06279500	6	938	45	101	958	192	1.44	2.18	Accepted
Shoshone River 06285100	9	845	254	74	919	256	.85	1.99	Accepted
Powder River 06317000	10	2,090	833	77	3,170	1,190	2.82	1.99	Rejected
North Platte River 06630000	6	410	102	82	415	126	.21	1.99	Accepted
North Platte River 06674500	11	912	100	84	849	148	-1.70	1.99	Accepted
Green River 09217000	8	508	94	72	621	173	2.16	1.99	Rejected
Snake River 13022500	8	317	39	103	322	65	.46	1.96	Accepted

Ground-Water Levels

Water levels in most wells in the Statewide observation-well network declined during water year 1990. Most of the 92 wells in the observation-well network are in areas of extensive ground-water withdrawal--mainly in southeastern Wyoming. Water in Niobrara, Goshen, and eastern Laramie Counties is withdrawn from the High Plains aquifer for irrigation; water in Platte County is withdrawn from alluvium for irrigation. Water in central Laramie County is withdrawn from the High Plains aquifer for domestic use.

Water levels generally showed a continued decline from the previous water year; however, the summer decline moderated from the previous year in southeastern Wyoming. The moderation can be attributed largely to the greater-than-average precipitation during the summer period in eastern Wyoming. Water levels in all but one of the network wells in Goshen County declined from the previous year; declines ranged from 0.3 foot to about 1.7 feet. The water level in one well declined 2.0 feet. Changes in water levels in Niobrara County ranged from a 0.3-foot rise in one well to declines of 1.9 feet or less in others. Measured changes in 18 network wells in Laramie County ranged from a rise of about 3.0 feet to a decline of 5.0 feet; the median change for all network wells in Laramie County was a decline of 0.6 foot. Water levels in 11 network wells in Platte County ranged from a 3.0-foot rise from the previous year to a decline of about 5 feet; the median change from 1989 levels was a decline of 0.8 foot.

Hydrographs for representative observation wells in southeastern Wyoming are shown in figure 3. The location of all wells in the observation-well network and hydrographs of water levels are published in separate reports by the U.S. Geological Survey. The most recent water-level report "Ground-Water Levels in Wyoming, 1980 Through September 1989," by Hugh I. Kennedy and Sharon L. Green, is available for inspection at the U.S. Geological Survey in Cheyenne.

WATER RESOURCES DATA FOR WYOMING 1990

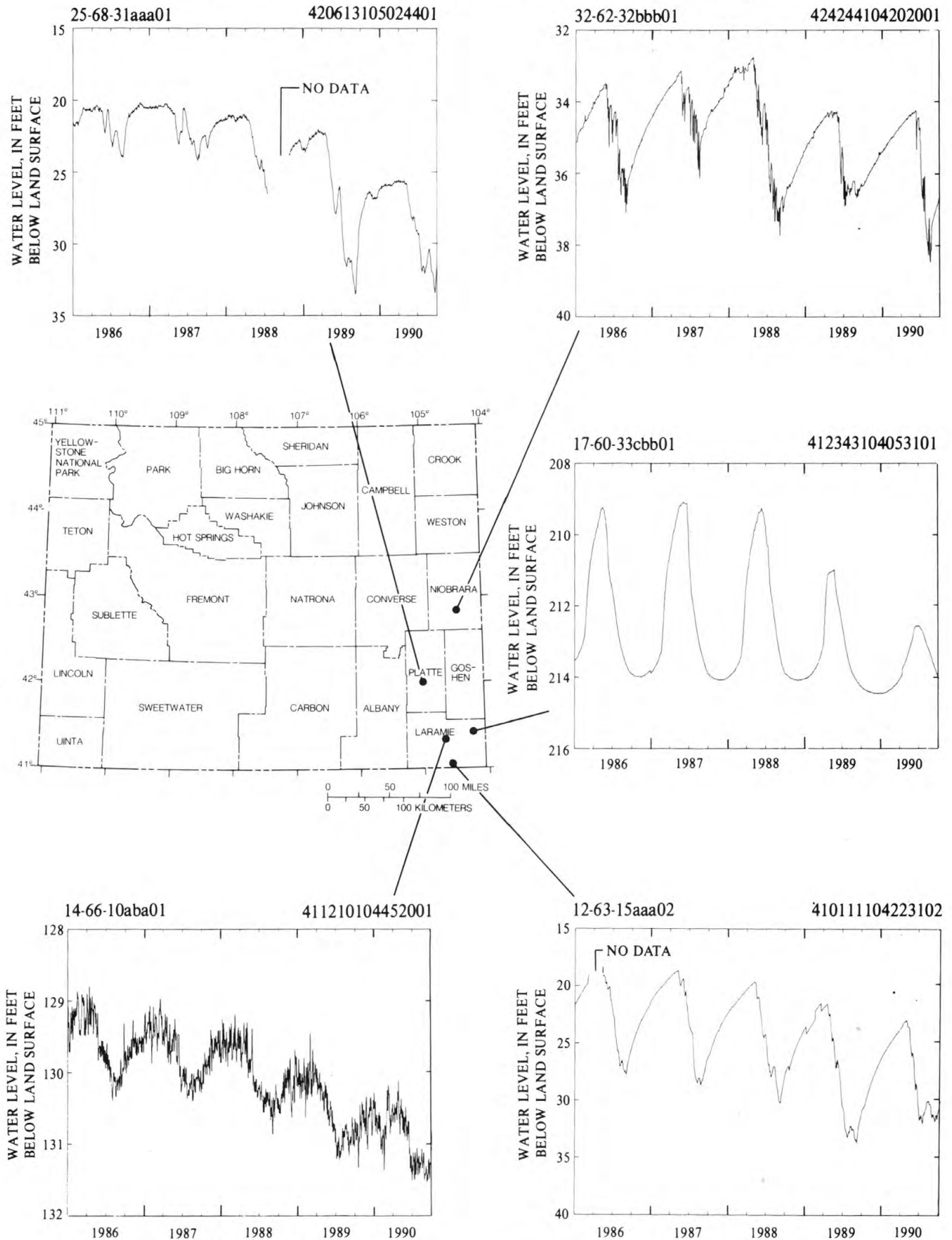


Figure 3.--Water-level hydrographs for observation wells in areas of extensive ground-water withdrawals, January 1986 to September 1990.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Network is a network of 57 small sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 1989 water year that began on October 1, 1988, and ended September 30, 1989. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface and ground water, and ground-water-level data. The locations of the stations and wells where the data were collected are shown in figure 1. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station, whether stream site or well, in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells and, in Wyoming, for surface-water stations where only infrequent measurements are made.

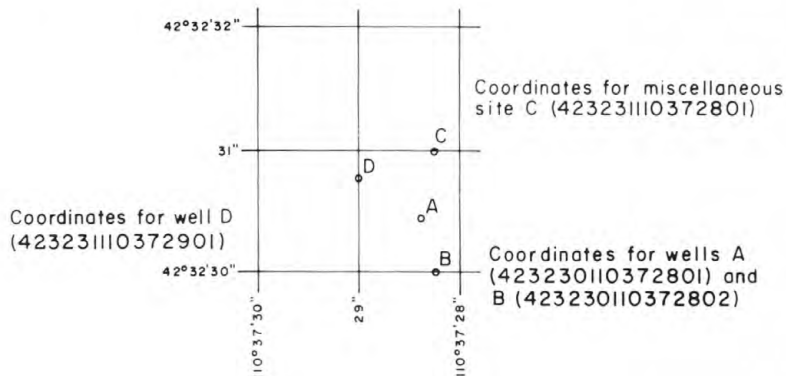
Downstream Order System

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

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete eight-digit number for each station, such as 06642000, which appears just to the left of the station name, includes the two-digit Part number "06" plus the six-digit downstream-order number "642000." The Part number designates the major river basin; for example, Part "06" is the Missouri River basin.

Latitude-Longitude System

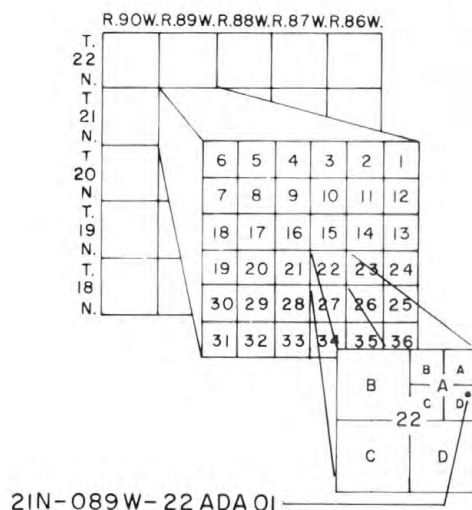
The identification numbers for wells and miscellaneous surface-water sites are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote the degrees, minutes,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



System for numbering wells and miscellaneous sites
(latitude and longitude).

In order to compare data for wells in other publications, such as the county ground-water studies, the wells in this report are also numbered according to a system based on the location in the public land classification of the U.S. Bureau of Land Management. The system is illustrated in the following figure. The first numeral denotes the township north of a base line, the second numeral denotes the range west of the fifth principal meridian, and the third numeral denotes the section in which the well is located. The letters A, B, C, and D designate, respectively, the northeast, northwest, southwest, and southeast quarter section, quarter-quarter section, and quarter-quarter-quarter section (10-acre or 4-hectare tract). For example, well 14-66-10aba01 is in the NE¼ NW¼ NE¼ sec.10, T.14 N., R.66 W. Consecutive terminal numbers are added if more than one well is recorded within a 10-acre tract.

For a small irregularly-shaped area in west central Wyoming, the well or miscellaneous site numbers are based on the Wind River Meridian and Base Line system. The uppercase letter that begins the number designates the quadrant of the system. The quadrants are lettered A, B, C, and D in a counter-clockwise direction beginning with A in the northeast quadrant. Otherwise, the well numbers are the same as given in the preceding paragraph.



System for numbering wells and miscellaneous sites (township and range).

Records of Stage and Water Discharge

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

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles. Records of miscellaneous discharge measurements or of measurements from special studies may be considered as partial records, but they are presented separately in this report. Location of all complete-record stations for which data are given in this report are shown in figure 1.

Data Collection and Computation

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

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

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

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

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

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

For some gaging stations there are periods when no gage-height record is obtained, or the recorded gage height is so 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 from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections. "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

Data Presentation

The records published for each gaging station consist of two parts, the manuscript or station description and the data table for the current water year. The manuscript provides, under various headings, descriptive information, such as station location; period of record; average discharge; historical extremes; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

LOCATION.--Information on locations is obtained from the most accurate maps available. The location of the gage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileages, given for only a few stations, were determined by methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

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

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

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

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

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

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

AVERAGE DISCHARGE.--The discharge value given is the arithmetic mean of the water-year mean discharges. It is computed only for stations having at least 5 water years of complete record, and only water years of complete record are included in the computation. It is not computed for stations where diversions, storage, or other water-use practices cause the value to be meaningless. If water developments significantly altering flow at a station are put into use after the station has been in operation for a period of years, a new average is computed as soon as 5 water years of record have accumulated following the development.

EXTREMES FOR PERIOD OF RECORD.--Extremes may include maximum and minimum stages and maximum and minimum discharges or content. Unless otherwise qualified, the maximum discharge or content is the instantaneous maximum corresponding to the highest stage that occurred. The highest stage may have been obtained from a graphic or digital recorder, a crest-stage gage, or by direct observation of a nonrecording gage. If the maximum stage did not occur on the same day as the maximum discharge or content, it is given separately. Similarly, the minimum is the instantaneous minimum discharge, unless otherwise qualified, and was determined and is reported in the same manner as the maximum.

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

EXTREMES FOR CURRENT YEAR.--Extremes given here are similar to those for the period of record, except the peak discharge listed may include secondary peaks. For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented under this heading. The peaks greater than the base discharge, excluding the highest one, are referred to as secondary peaks. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330. The minimum for the current water year appears below the table of peak data.

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

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

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

The daily table for stream-gaging stations gives mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, 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 also is usually expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN"), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. In the yearly summary below the monthly summary, the figures shown are the appropriate discharges for the calendar and water years. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversions or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

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

Identifying Estimated Daily Discharge

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

Accuracy of the Records

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

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

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for daily values less than 1 ft³/s; to the nearest tenth between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures for more than 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Records Available

Records of daily diversions of water from streams by canals are collected by and published in Hydrographers Annual Reports of the Wyoming Board of Control. Included are discharge records for streams and storage records for reservoirs not published in reports of the Geological Survey.

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

Information used in the preparation of the records in this publication, such as discharge-measurement notes, gage-height records, temperature measurements, and rating tables are on file in the Wyoming District office. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the District office.

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies.

Classification of Records

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

A careful distinction needs to be made between "continuing records" as used in this report and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in figure 1.

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

Onsite Measurements and Sample Collection

In obtaining water-quality data, a major concern needs to be assuring that the data obtained represent the in situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made onsite when the samples are taken. To assure that measurements made in the laboratory also represent the in situ water, carefully prescribed procedures need to be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. All of these references are listed on pages 30 and 31 of this report. Also, detailed information on collecting, treating, and shipping samples may be obtained from the Geological Survey District office.

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

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

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the U.S.G.S. District Office whose address is given on the back of the title page of this report.

Water temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the District office.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

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

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

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

Laboratory Measurements

Samples for suspended sediment, turbidity, indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the Geological Survey National Water Quality Laboratory in Arvada, Colorado or in the Wyoming Department of Agriculture laboratory in Laramie, Wyoming. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used for chemical and biological analyses are given in TWRI, Book 1, Chap. D2; Book 5, Chap. A1, A2, A3, A4, A5, and A6. In March 1989 the National Water-Quality Laboratory discovered a bias in the turbidimetric method for sulfate analysis, indicating that values below 75 mg/L have a median positive bias of 2 mg/L above the true value for the period between 1982 and 1989. Sulfate values in this report have not been corrected for this bias.

Data Presentation

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

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

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

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

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

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

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

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

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

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

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remark Codes

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

<u>PRINTED OUTPUT</u>	<u>REMARK</u>
E	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown, which is the analytical detection limit
K	Results based on colony count outside the acceptable range (non-ideal colony count)
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant

Records of Ground-Water levels

Only selected water-level data from Wyoming's network of observation wells are given in this report. These data are intended to provide a sampling and historical record of water-level changes in the more important aquifers. Locations of the observation wells in this network in Wyoming are shown in figure 1.

Data Collection and Computation

Measurements of water levels are made in many types of wells under varying conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well ensure that measurements at each well are of consistent accuracy and reliability.

Tables of water-level data are presented by counties arranged in alphabetical order. The prime identification number for a given well is the 15-digit number that appears to the upper left corner of the table. The secondary identification number is the local well number, an alphanumeric number, derived from the township-range location of the well.

Water-level records are obtained from direct measurements with a steel tape or from the graph or punched tape of a water-stage recorder. The water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the elevation of the land-surface datum is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (eom).

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error of determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given to a tenth of a foot or a larger unit.

Data Presentation

Each well record consists of two parts, the station description and the data table of water levels observed during the water year. The description of the well is presented first through use of descriptive headings preceding the tabular data. The comments to follow clarify information presented under the various headings.

LOCATION.--This paragraph follows the well-identification number and reports the latitude and longitude (given in degrees, minutes, and seconds); a landline location designation; the hydrologic-unit number; the distance and direction from a geographic point of reference; and the owner's name.

AQUIFER.--This entry designates by name (if a name exists) and geologic age the aquifer(s) open to the well.

WELL CHARACTERISTICS.--This entry describes the well in terms of depth, diameter, casing depth and/or screened interval, method of construction, use, and additional information such as casing breaks, collapsed screen, and other changes since construction.

INSTRUMENTATION.--This paragraph provides information on both the frequency of measurement and the collection method used, allowing the user to better evaluate the reported water-level extremes by knowing whether they are based on weekly, monthly, or some other frequency of measurement.

DATUM.--This entry describes both the measuring point and the land-surface elevation at the well. The measuring point is described physically (such as top of collar, notch in top of casing, plug in pump base and so on), and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above (or below) National Geodetic Vertical Datum of 1929 (NGVD of 1929); it is reported with a precision depending on the method of determination.

REMARKS.--This entry describes factors that may influence the water level in a well or the measurement of the water level. It should identify wells that also are water-quality observation wells, and may be used to acknowledge the assistance of local (non-Survey) observers.

PERIOD OF RECORD.--This entry indicates the period for which there are published records for the well. It reports the month and year of the start of publication of water-level records by the U.S. Geological Survey and the words "to current year" if the records are to be continued into the following year. Periods for which water-level records are available, but are not published by the Geological Survey, may be noted.

EXTREMES FOR PERIOD OF RECORD.--This entry contains the highest and lowest water levels of the period of published record, with respect to land-surface datum, and the dates of their occurrence.

A table of water levels follows the station description for each well. Water levels are reported in feet below land-surface datum and all taped measurements of water level are listed. For wells equipped with recorders, only abbreviated tables are published; generally, only water-level lows are listed for every fifth day and at the end of the month (eom). The highest and lowest water levels of the water year and their dates of occurrence are shown on a line below the abbreviated table. Because all values are not published for wells with recorders, the extremes may be values that are not listed in the table. Missing records are indicated by dashes in place of water level.

Records of Ground-Water Quality

Records of ground-water quality in this report differ from other types of records in that for most sampling sites they consist of only one set of measurements for the water year. The quality of ground water ordinarily changes only slowly; therefore, for most general purposes one annual sampling, or only a few samples taken at infrequent intervals during the year, is sufficient. Frequent measurement of the same constituents is not necessary unless one is concerned with a particular problem, such as monitoring for trends in nitrate concentration. In the special cases where the quality of ground water may change more rapidly, more frequent measurements are made to identify the nature of the changes.

Data Collection and Computation

The records of ground-water quality in this report were obtained mostly as a part of special studies in specific areas. Consequently, a number of chemical analyses are presented for some counties but none are presented for others. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality statewide. Such a view can be attained only by considering records for this year in context with similar records obtained for these and other counties in earlier years.

Most methods for collecting and analyzing water samples are described in the "U.S. Geological Survey Techniques of Water-Resources Investigations" manuals listed on a following page. The values reported in this report represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. All samples were obtained by trained personnel. The wells sampled were pumped long enough to assure that the water collected came directly from the aquifer and had not stood for a long time in the well casing where it would have been exposed to the atmosphere and to the material, possibly metal, comprising the casings.

Data Presentation

The records of ground-water quality are published in a section titled QUALITY OF GROUND WATER immediately following the ground-water-level records. Data for quality of ground water are listed alphabetically by County, and are identified by well number. The prime identification number for wells sampled is the 15-digit number derived from the latitude-longitude locations. No descriptive statements are given for ground-water-quality records; however, the well number, depth of well, date of sampling, and other pertinent data are given in the table containing the chemical analyses of the ground water. The REMARK codes listed for surface-water-quality records are also applicable to ground-water-quality records.

ACCESS TO WATSTORE DATA

The National WATER Data STORage and RETrieval System (WATSTORE) was established for handling water data collected through the activities of the U.S. Geological Survey and to provide for more effective and efficient means of releasing the data to the public. The system is operated and maintained on the central computer facilities of the Survey at its National Center in Reston, Virginia.

WATSTORE can provide a variety of useful products ranging from simple data tables to complex statistical analyses. A minimal fee, plus the actual computer cost incurred in producing a desired product, is charged to the requester. Information about the availability of specific types of data, the acquisition of data or products, and user charges can be obtained locally from each of the Water Resources Division's District offices (see address given on the back of the title page).

General inquiries about WATSTORE may be directed to:

Chief Hydrologist
U.S. Geological Survey
437 National Center
Reston, Virginia 22092

DEFINITION OF TERMS

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

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

Adenosine triphosphate (ATP) is an organic, phosphate-rich, compound important in the transfer of energy in organisms. Its central role in living cells makes it an excellent indicator of the presence of living material in water. A measure of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter of the original water sample.

Algae are mostly aquatic single-celled, colonial, or multicelled plants, containing chlorophyll and lacking roots, stems, and leaves.

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

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

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

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

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C $\pm$ 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestine or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms that produce blue colonies within 24 hours when incubated at $44.5^{\circ}\text{C} \pm 0.2^{\circ}\text{C}$ on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in the intestine of warmblooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as Gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organism which produce red or pink colonies with 48 hours at $35^{\circ}\text{C} \pm 1.0^{\circ}\text{C}$ on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by micro-organisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2).

Dry mass refers to the mass of residue present after drying in an oven at 105°C for zooplankton and periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry-mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and the ash mass and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash and dry mass.

Wet mass is the mass of living matter plus contained water.

Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

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

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

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common green pigments in plants.

Color unit is produced by one milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

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 a 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.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of salt water.

Cubic foot per second (ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Cubic feet per second per square mile [$(\text{ft}^3/\text{s})/\text{mi}^2$] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

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

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

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

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

Dissolved-solids concentration of water is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

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

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

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

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

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

Hydrologic Bench-Mark Network is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

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

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

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

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

Methylene blue active substances (MBAS) are apparent detergents. The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

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

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

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

National Geodetic Vertical Datum of 1929 (NGVD of 1929) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

Organism is any living entity.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per unit area habitat, usually square meter (m²), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliter (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

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

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

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

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

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

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

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

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms.

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

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

Plankton is a community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment, and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algae mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton is dominated by small crustaceans and rotifers.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated by the plants (carbon method).

Milligrams of carbon per area or volume per unit time [$\text{mg C}/(\text{m}^2 \cdot \text{time})$] for periphyton and macrophytes and [$\text{mg C}/(\text{m}^3 \cdot \text{time})$] for phytoplankton are units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon 14). The carbon 14 method is of greater sensitivity than the oxygen light and dark bottle method, and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [$\text{mg O}/(\text{m}^2 \cdot \text{time})$] for periphyton and macrophytes and [$\text{mg O}/(\text{m}^3 \cdot \text{time})$] for phytoplankton are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

Radiochemical program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

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

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

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

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

Bed load is the sediment that is transported in a stream by rolling, sliding, or skipping along the bed and very close to it. In this report, bed load is considered to consist of particles in transit within 0.25 ft of the streambed.

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

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

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

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

Suspended-sediment discharge (tons/day) is the rate at which dry mass of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft^3/s) x 0.0027.

Suspended-sediment load is a general term that refers to material in suspension. It is not synonymous with either discharge or concentration.

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

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

7-day 10-year low flow ($7 Q_{10}$) is the discharge at the 10-year recurrence interval taken from a frequency curve of annual values of the lowest mean discharge for 7 consecutive days (the 7-day low flow).

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

Solute is any substance that is dissolved in water.

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

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

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

Substrate is the physical surface upon which an organism lives.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton.

Natural substrate refers to any naturally occurring emerged or submersed solid surface, such as a rock or tree, upon which an organism lives.

Surface area of a lake is that area outlined on the latest U.S.G.S. topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimetered. All areas shown are those for the stage when the planimetered map was made.

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

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

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

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituents.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 μ m membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, Hexagenia limbata, is the following:

Kingdom.....	Animal
Phylum.....	Arthropoda
Class.....	Insecta
Order.....	Ephemeroptera
Family.....	Ephemeridae
Genus.....	<u>Hexagenia</u>
Species.....	<u>Hexagenia limbata</u>

Thermograph is an instrument that continuously records variation of temperature on a chart. The more general term "temperature recorder" is used in the table headings and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

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

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

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

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

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

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

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

Water year in Geological Survey reports dealing with surface-water supply is the 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1989, is called the "1989 water year."

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

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

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

PUBLICATION OF TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

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

The reports listed below are for sale by the U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

- 1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Picke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.
- 2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F. P. Haeni: USGS--TWRI Book 2, Chapter D2. 1988. 86 pages.
- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacGarry: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
- 2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and Warren E. Teasdale: USGS--TWRI Book 2, Chapter F1. 1989. 97 pages.
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.
- 3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.
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MADISON RIVER BASIN

06036905 FIREHOLE RIVER NEAR WEST YELLOWSTONE, MT

LOCATION.--Lat 44°37'13", long 110°51'44", Yellowstone National Park, Hydrologic Unit 10020007, on right bank 1.6 mi south of Madison Junction, 12 mi east of West Yellowstone, and at river mile 1.8.

DRAINAGE AREA.--282 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1983 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 7,050 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. No regulation or diversions upstream from station.

AVERAGE DISCHARGE.--7 years, 320 ft³/s, 231,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,520 ft³/s, May 31, 1986, gage height, 5.48 ft; minimum, 195 ft³/s, Jan. 9, 1989, gage height, 2.76 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 589 ft³/s, May 24, gage height, 3.92 ft; minimum, 223 ft³/s, Dec. 11, gage height, 2.90 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	278	253	253	251	268	253	301	319	405	272	254	245
2	285	257	254	256	260	256	326	324	368	273	252	246
3	289	263	256	241	260	262	347	320	355	267	245	249
4	295	270	258	249	259	259	352	327	380	263	247	252
5	276	265	263	250	261	264	342	342	395	266	253	263
6	272	265	262	249	262	262	321	398	394	260	260	258
7	269	269	256	251	262	260	322	469	419	258	258	251
8	265	256	258	258	249	264	338	392	419	260	257	247
9	263	263	260	261	259	262	355	355	398	269	257	247
10	262	291	255	264	268	263	336	343	424	267	257	247
11	260	289	239	262	270	267	333	373	477	258	278	246
12	256	281	253	258	271	258	346	397	443	254	282	246
13	255	279	251	260	266	250	339	418	421	257	272	245
14	255	275	253	264	261	254	345	376	424	260	263	244
15	255	261	255	266	253	251	375	370	445	253	261	244
16	255	261	249	264	260	248	414	348	397	250	264	245
17	254	263	254	260	267	252	418	341	402	247	283	245
18	254	262	245	246	258	254	418	351	369	248	270	244
19	255	264	246	252	255	258	420	379	357	250	266	253
20	255	260	249	252	256	270	432	369	339	268	267	281
21	259	258	252	250	256	277	449	372	342	280	259	255
22	266	255	250	252	258	276	481	401	329	260	251	249
23	274	252	253	251	260	281	477	481	319	259	256	247
24	288	268	251	251	261	263	445	518	314	281	261	248
25	285	260	248	251	262	262	418	456	309	267	260	246
26	313	272	249	252	261	263	450	410	301	265	260	251
27	281	261	248	248	257	268	392	382	294	264	251	265
28	284	252	249	253	254	261	404	409	287	260	250	250
29	266	251	246	263	---	262	356	418	280	261	249	248
30	268	255	246	268	---	270	333	442	275	262	249	248
31	266	---	246	266	---	280	---	436	---	257	246	---
TOTAL	8358	7932	7807	7919	7294	8130	11385	12036	11081	8116	8038	7505
MEAN	270	264	252	255	260	262	379	388	369	262	259	250
MAX	313	291	263	268	271	281	481	518	477	281	283	281
MIN	254	251	239	241	249	248	301	319	275	247	245	244
AC-FT	16580	15730	15490	15710	14470	16130	22580	23870	21980	16100	15940	14890

CAL YR 1989 TOTAL 109495 MEAN 300 MAX 677 MIN 209 AC-FT 217200
WTR YR 1990 TOTAL 105601 MEAN 289 MAX 518 MIN 239 AC-FT 209500

06036905 FIREHOLE RIVER NEAR WEST YELLOWSTONE, MT--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1983 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: August 1983 to September 1986, October 1987 to September 1988.

WATER TEMPERATURE: August 1983 to current year.

INSTRUMENTATION.--Water-quality monitor Aug. 30, 1983 to Sept. 25, 1988. Water temperature recorder since Sept. 6, 1988.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water years 1983-86, 1988): Maximum, 633 microsiemens, Apr. 1 1988; minimum, 140 microsiemens, June 5, 1986.

WATER TEMPERATURE: Maximum, 30.0°C, June 24, 1988; minimum, 1.0°C, Dec. 24, 1983, Feb. 1, 1985, Feb. 5, 1989.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 29.0°C, July 12; minimum, 3.0°C, Feb. 8.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)
OCT					
11...	1300	261	528	23.0	15.5
DEC					
05...	1230	267	558	3.0	11.0
JAN					
25...	0915	--	554	-7.0	6.5
MAR					
07...	0930	259	581	-1.0	11.0
MAY					
01...	1430	302	491	8.0	17.0
JUN					
12...	0830	459	324	5.0	13.0
JUL					
25...	0845	274	503	13.0	18.5
SEP					
12...	0930	245	549	14.0	18.0

MADISON RIVER BASIN

06036905 FIREHOLE RIVER NEAR WEST YELLOWSTONE, MT--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	17.5	16.0	16.5	11.0	7.0	8.5	9.0	6.0	8.0	11.0	10.0	10.5
2	15.5	13.0	14.0	11.5	7.0	9.5	10.0	7.0	8.5	11.0	7.5	10.0
3	17.0	12.0	14.5	11.0	10.0	10.5	11.0	8.5	9.5	7.5	5.5	6.5
4	15.5	14.0	14.5	11.0	9.5	10.5	11.5	10.5	11.0	7.5	6.5	7.0
5	17.5	12.5	15.0	11.5	10.5	11.0	12.0	10.5	11.0	9.0	6.5	8.0
6	16.5	14.0	15.5	11.0	10.0	10.5	11.5	10.0	11.0	10.0	8.0	9.0
7	18.0	14.0	15.5	10.0	8.5	9.5	9.5	7.0	8.5	9.0	8.0	8.5
8	18.0	13.5	16.0	9.5	8.5	9.0	11.0	9.5	10.0	8.5	6.0	8.0
9	19.0	14.0	16.5	12.0	9.5	11.0	10.0	8.5	9.5	10.0	8.5	9.0
10	17.5	14.0	16.0	13.5	12.0	12.5	9.0	6.5	8.0	10.0	8.0	9.0
11	16.5	14.5	15.5	14.0	11.0	12.5	6.5	4.5	5.5	12.5	10.0	11.0
12	16.5	14.5	15.5	13.0	11.0	12.0	8.5	6.5	7.5	12.0	9.0	10.0
13	16.5	14.0	15.0	11.5	10.0	11.0	9.0	6.5	8.0	12.5	10.0	11.0
14	17.5	12.5	15.0	10.0	9.0	9.5	9.5	8.5	9.0	13.0	12.0	12.5
15	15.5	12.5	14.5	10.5	8.5	9.5	10.5	7.5	9.5	12.0	10.5	11.5
16	16.0	12.0	13.5	11.5	9.5	10.5	8.0	6.5	7.5	12.0	10.5	11.0
17	16.0	11.0	13.5	13.0	10.0	11.5	8.5	6.0	7.0	10.5	8.0	9.5
18	16.0	10.5	13.5	12.0	10.5	11.5	7.0	4.5	6.0	8.5	5.5	7.0
19	17.0	11.5	14.0	14.0	11.5	12.5	7.0	5.5	6.0	8.5	5.0	7.0
20	15.5	12.5	14.0	14.0	10.0	12.0	8.5	6.5	7.5	8.5	6.0	7.5
21	15.0	12.5	13.5	13.0	10.5	12.0	9.5	8.0	8.5	9.5	5.5	7.5
22	15.5	13.5	14.5	13.0	10.0	11.0	9.5	6.5	8.0	11.0	7.0	9.0
23	16.5	14.5	15.5	12.0	9.5	10.5	11.5	9.5	10.5	7.5	6.5	7.0
24	16.5	15.0	15.5	11.5	9.5	10.5	11.0	9.0	9.5	8.0	5.5	7.0
25	17.0	14.5	15.5	11.0	9.5	10.0	10.0	8.0	9.0	8.0	6.5	7.0
26	14.0	11.5	13.0	10.5	9.0	9.5	10.0	7.0	8.5	7.0	5.0	6.0
27	13.0	11.0	12.5	9.5	7.5	9.0	10.0	7.0	8.5	6.5	5.0	6.0
28	12.5	9.0	11.0	8.5	6.0	7.0	10.5	8.0	9.5	7.5	4.5	6.0
29	12.5	8.0	10.0	8.5	5.5	7.0	9.5	8.0	9.0	7.0	4.5	6.0
30	11.5	10.0	10.5	9.0	5.5	7.5	9.5	8.0	9.0	8.0	7.0	7.5
31	11.0	7.5	10.0	---	---	---	10.5	9.0	9.5	8.5	7.5	8.0
MONTH	19.0	7.5	14.0	14.0	5.5	10.5	12.0	4.5	8.5	13.0	4.5	8.5
FEBRUARY			MARCH			APRIL			MAY			
1	10.5	7.5	9.0	---	---	---	19.5	12.5	16.0	19.5	10.5	14.5
2	9.5	6.5	8.5	---	---	---	19.5	12.0	15.5	17.0	13.5	15.5
3	11.0	7.5	9.0	---	---	---	19.0	11.5	15.0	21.0	13.5	17.0
4	10.5	7.0	8.5	---	---	---	18.5	11.5	15.0	19.5	15.0	17.5
5	10.5	8.5	9.5	---	---	---	17.0	11.0	14.0	22.0	14.0	18.0
6	9.5	8.0	9.0	---	---	---	17.5	10.0	14.0	20.0	14.5	17.5
7	8.5	5.5	7.5	16.5	---	---	16.5	11.5	14.5	17.0	10.5	13.0
8	6.0	3.0	5.0	14.0	10.5	12.5	17.5	12.5	14.5	13.5	10.0	12.0
9	7.0	5.0	6.0	16.0	10.0	12.0	18.0	12.0	15.0	17.5	10.0	14.0
10	9.5	6.5	8.5	15.5	10.5	13.0	16.0	11.5	14.0	21.0	12.5	16.5
11	11.5	9.5	10.0	14.5	11.5	13.0	17.5	12.5	15.0	17.5	14.0	15.5
12	10.0	7.0	8.0	13.0	10.0	11.5	17.0	13.5	15.0	15.5	14.0	15.0
13	10.0	6.0	7.5	10.5	8.0	9.5	17.0	11.0	14.0	15.5	12.5	14.0
14	9.0	4.5	6.5	13.5	10.0	11.0	16.5	13.5	15.0	17.5	12.0	15.0
15	8.0	3.5	6.0	11.5	9.0	10.5	20.0	12.5	16.5	15.5	12.5	14.0
16	9.0	6.0	7.5	15.0	8.0	11.5	19.0	13.0	16.0	17.0	11.5	14.5
17	8.0	6.5	7.0	15.0	11.5	13.0	18.5	11.5	15.5	18.0	13.5	16.0
18	10.5	5.0	7.5	18.0	13.0	15.0	18.5	13.0	16.0	17.5	14.5	16.5
19	10.5	5.0	8.0	16.5	11.0	14.0	19.5	12.5	16.0	16.5	13.5	15.5
20	10.5	5.5	8.5	17.5	12.0	14.5	19.0	12.0	16.0	17.0	14.0	15.0
21	10.5	7.5	9.5	15.0	12.0	13.5	17.0	13.0	15.5	18.0	13.5	15.5
22	13.5	10.0	11.5	16.5	11.5	14.0	15.5	12.0	14.0	19.5	15.0	17.0
23	15.0	11.0	12.5	14.0	7.5	11.0	15.5	12.0	14.0	19.0	14.0	16.5
24	14.5	10.5	12.5	12.5	6.0	9.0	14.5	13.0	14.0	16.5	12.5	14.0
25	15.5	10.5	12.5	15.5	8.0	11.5	17.0	11.0	14.0	15.5	10.0	12.5
26	14.5	10.0	12.5	17.5	9.0	13.0	15.0	10.0	12.5	18.0	12.0	14.5
27	14.0	8.5	11.5	15.5	12.5	14.0	13.0	10.5	12.0	21.0	14.5	18.0
28	13.5	8.0	11.0	16.0	10.0	12.5	13.5	10.5	12.5	19.5	17.0	18.0
29	---	---	---	18.0	11.0	14.0	16.0	9.0	12.0	17.5	15.5	16.5
30	---	---	---	18.5	11.0	15.0	15.5	10.5	13.0	16.5	15.0	15.5
31	---	---	---	19.5	12.0	15.5	---	---	---	17.0	13.5	15.0
MONTH	15.5	3.0	9.0	19.5	6.0	12.5	20.0	9.0	14.5	22.0	10.0	15.5

MADISON RIVER BASIN

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06036905 FIREHOLE RIVER NEAR WEST YELLOWSTONE, MT--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

	JUNE			JULY			AUGUST			SEPTEMBER		
1	17.0	12.5	14.5	25.5	20.5	23.0	26.0	20.0	22.5	23.5	17.0	20.5
2	17.0	12.5	15.0	26.5	21.0	23.5	25.5	19.0	22.0	24.0	18.5	21.0
3	20.0	13.0	16.5	26.0	18.5	22.0	26.0	19.5	22.5	24.5	18.5	21.5
4	20.0	16.0	18.0	24.5	19.0	22.0	27.0	20.5	23.5	23.5	21.0	22.0
5	20.0	14.5	17.0	26.5	19.5	23.0	27.5	20.0	23.5	22.0	20.5	21.0
6	19.5	16.0	17.5	26.0	20.5	23.0	27.5	20.0	23.5	25.5	19.5	22.0
7	18.0	15.0	16.5	27.0	19.0	23.0	26.5	20.0	23.5	25.0	18.5	22.0
8	19.0	14.0	16.5	27.5	19.5	23.5	27.0	20.5	24.0	25.0	19.0	22.0
9	20.0	14.5	18.0	25.0	21.5	23.0	25.0	21.0	23.0	24.0	18.5	21.0
10	19.0	16.5	18.0	27.0	19.0	23.0	25.5	20.0	22.5	24.5	18.0	21.0
11	18.0	14.5	16.0	28.5	20.0	24.0	25.0	21.5	23.0	24.0	17.5	21.0
12	15.0	13.0	13.5	29.0	21.0	25.0	25.5	20.0	23.0	23.0	18.0	20.5
13	19.0	11.0	14.5	26.5	21.5	24.0	27.0	19.5	23.0	23.5	17.5	20.5
14	17.5	15.0	16.0	28.0	20.0	24.0	28.0	20.0	24.0	23.5	16.0	20.0
15	20.5	13.0	16.5	26.5	20.5	24.0	26.0	20.0	23.5	23.5	17.5	20.5
16	18.0	15.5	17.0	27.5	20.5	24.0	24.0	20.5	22.0	22.5	18.5	20.0
17	20.5	14.5	17.5	28.0	20.5	24.0	26.0	20.5	22.5	22.5	16.5	19.5
18	22.0	16.5	19.5	25.5	21.0	23.0	25.0	20.0	22.0	20.5	16.5	19.0
19	20.5	16.5	19.0	25.5	20.5	23.0	23.5	19.5	21.5	19.5	18.0	19.0
20	23.0	16.5	20.0	23.0	19.5	21.0	23.5	19.5	21.0	20.5	16.5	18.5
21	25.5	18.5	22.0	25.0	18.0	21.0	23.5	18.5	21.0	21.5	15.5	18.5
22	25.5	18.0	22.0	26.0	19.0	22.5	21.5	18.0	20.0	22.0	15.5	18.5
23	24.5	19.5	22.0	24.5	19.5	22.0	23.0	18.0	20.5	22.0	15.5	19.0
24	27.0	19.0	23.0	24.0	20.0	21.5	23.0	19.0	20.5	22.5	16.5	19.5
25	26.5	20.5	23.5	24.5	19.0	21.5	22.5	18.0	20.0	22.0	17.0	19.5
26	26.0	19.5	23.0	22.0	18.0	19.5	22.5	18.0	20.0	19.0	17.0	18.0
27	26.0	20.0	22.5	23.5	18.5	20.5	23.5	16.5	20.0	21.5	16.0	18.5
28	26.0	19.0	22.0	23.5	19.0	21.5	24.0	17.0	20.5	21.5	16.0	18.5
29	27.5	18.5	23.0	25.5	18.0	21.5	25.0	18.5	21.5	21.0	15.0	18.0
30	27.0	20.0	23.5	25.0	19.0	22.0	22.5	19.0	20.5	21.0	15.5	18.5
31	---	---	---	24.5	18.5	22.0	23.0	16.0	19.5	---	---	---
MONTH	27.5	11.0	19.0	29.0	18.0	22.5	28.0	16.0	22.0	25.5	15.0	20.0

MADISON RIVER BASIN

06037000 GIBBON RIVER NEAR WEST YELLOWSTONE, MT

LOCATION.--Lat 44°38'58", long 110°47'02", Yellowstone National Park, Hydrologic Unit 10020007, on right bank 0.6 mi downstream from Canyon Creek, 4.0 mi east of Madison Junction, 16.7 mi east of West Yellowstone, and at river mile 5.6.

DRAINAGE AREA.--118 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1913 to September 1916 (incomplete record most years), October 1983 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,940 ft above National Geodetic Vertical Datum of 1929, from topographic map. Nonrecording gage at site 0.1 mi downstream at different datum, 1913-1916.

REMARKS.--Estimated daily discharges: Nov. 29, Dec. 11, 18-19, Jan 3, 18-21, 27, Feb. 8, 13-20, and Mar. 24. Records good except those for estimated daily discharges and discharges over 350 ft³/s, which are fair. No regulation or diversions upstream of station.

AVERAGE DISCHARGE.--7 years, 112 ft³/s, 81,140 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,210 ft³/s, May 11, 1989, gage height, 4.53 ft; minimum, 47 ft³/s, Jan. 9, 1989, gage height, 2.20 ft, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 485 ft³/s, Apr. 20, gage height, 3.65 ft; minimum, 68 ft³/s, Mar. 1, 24, gage height, 2.39 ft, but may have been lower during period of ice effect.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	78	78	79	80	72	91	195	204	107	93	81
2	101	80	77	81	79	75	100	203	188	108	90	117
3	100	84	79	e72	78	76	113	181	177	105	89	103
4	104	87	79	76	78	75	125	177	167	104	89	90
5	95	88	85	79	79	74	132	180	161	105	88	97
6	93	86	84	78	78	74	122	214	155	102	88	93
7	91	86	81	78	79	74	125	288	155	101	87	85
8	91	81	84	83	e75	76	133	264	151	100	87	84
9	90	84	85	79	75	76	153	241	147	103	86	83
10	89	92	81	80	79	77	146	219	156	104	86	83
11	86	97	e74	80	79	78	138	217	167	100	98	82
12	82	92	78	77	81	76	155	216	155	97	93	80
13	81	88	81	81	e75	73	156	265	171	97	90	78
14	81	87	81	81	e72	75	174	257	182	98	87	77
15	81	81	84	81	e71	75	198	231	202	96	86	77
16	80	82	80	84	e70	72	241	202	161	95	89	77
17	79	84	77	80	e72	76	252	192	151	93	114	76
18	78	82	e75	e74	e74	75	310	196	143	92	95	76
19	79	82	e77	e72	e72	74	322	201	136	93	93	79
20	80	80	79	e74	e72	76	395	195	132	119	97	90
21	80	80	81	e76	75	80	391	192	133	125	92	81
22	80	79	80	78	76	80	404	193	127	104	88	78
23	82	78	81	80	76	79	407	218	122	102	91	77
24	85	86	82	77	75	e72	387	256	122	103	91	77
25	92	83	79	78	75	78	343	269	119	103	88	77
26	106	86	79	81	77	78	346	231	117	98	89	76
27	92	83	79	e76	74	80	283	205	117	98	84	78
28	91	76	79	78	72	76	300	199	113	98	82	77
29	85	e75	78	81	---	76	240	206	111	99	81	77
30	84	78	76	81	---	78	215	225	109	95	81	77
31	84	---	77	83	---	82	---	221	---	96	80	---
TOTAL	2717	2505	2470	2438	2118	2358	6897	6749	4451	3140	2772	2483
MEAN	87.6	83.5	79.7	78.6	75.6	76.1	230	218	148	101	89.4	82.8
MAX	106	97	85	84	81	82	407	288	204	125	114	117
MIN	78	75	74	72	70	72	91	177	109	92	80	76
AC-FT	5390	4970	4900	4840	4200	4680	13680	13390	8830	6230	5500	4930

CAL YR 1989 TOTAL 45379 MEAN 124 MAX 1020 MIN 60 AC-FT 90010
WTR YR 1990 TOTAL 41098 MEAN 113 MAX 407 MIN 70 AC-FT 81520

e Estimated

MADISON RIVER BASIN

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06037000 GIBBON RIVER NEAR WEST YELLOWSTONE, MT--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1983 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: September 1983 to September 1986, October 1987 to September 1988.

WATER TEMPERATURE: August 1983 to current year.

INSTRUMENTATION.--Water-quality monitor Aug. 31, 1983 to Sept. 26, 1988. Water temperature recorder since Sept. 26, 1988.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water years 1983-86, 1988): Maximum, 612 microsiemens, Dec. 30, 1987; minimum, 77 microsiemens, May 30, 1986.

WATER TEMPERATURE: Maximum, 25.5°C, June 24, 1988; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 25.0°C, July 12; minimum, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)
OCT					
11...	1450	88	396	24.0	12.0
DEC					
05...	0945	87	454	0.5	6.0
JAN					
25...	1030	80	465	-5.0	2.5
MAR					
07...	1400	76	487	7.5	11.0
MAY					
02...	0900	195	247	0.5	7.5
JUN					
12...	1130	147	284	9.5	10.5
JUL					
25...	1130	107	352	15.5	16.0
SEP					
12...	1300	80	387	24.5	17.0

MADISON RIVER BASIN

06037000 GIBBON RIVER NEAR WEST YELLOWSTONE, MT--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	12.5	10.0	11.0	5.5	1.0	3.0	3.5	.0	2.0	5.0	4.5	5.0
2	10.0	7.5	8.5	6.0	1.5	4.0	4.5	1.0	3.0	5.0	1.5	4.0
3	11.5	6.5	8.5	6.5	4.5	5.5	5.5	2.0	4.0	2.0	.0	1.0
4	10.0	8.5	9.5	6.0	4.5	6.0	6.0	4.5	5.5	2.5	1.5	2.0
5	13.0	7.0	9.5	6.5	4.5	5.5	7.0	5.5	6.0	3.5	1.0	2.5
6	11.5	9.0	10.0	6.0	4.0	5.0	6.5	3.5	5.5	5.0	2.5	3.5
7	13.5	9.0	10.5	5.5	3.5	4.5	4.5	1.0	3.0	4.5	2.0	3.5
8	13.5	8.5	11.0	4.5	2.5	3.5	6.0	4.5	5.0	4.5	3.5	4.0
9	14.0	9.0	11.0	7.5	4.5	6.0	5.5	3.0	4.5	6.0	4.0	5.0
10	14.0	9.0	11.0	9.5	7.5	8.0	4.0	1.0	2.5	5.5	4.0	5.0
11	13.0	10.0	11.0	9.0	6.5	8.0	1.0	.0	.0	6.5	4.0	5.0
12	13.0	9.5	11.0	8.0	5.5	7.0	3.5	1.0	2.0	6.0	2.0	4.0
13	12.0	9.0	10.0	7.0	5.0	6.5	3.5	1.5	2.5	6.5	4.0	5.0
14	12.0	7.5	9.5	6.0	4.0	5.0	4.0	3.5	4.0	7.5	5.0	6.5
15	11.0	7.5	9.5	5.0	3.0	4.0	5.5	2.5	4.5	6.5	5.0	5.5
16	11.5	6.0	8.5	6.5	4.5	5.0	3.0	.0	1.5	6.0	4.5	5.0
17	11.0	5.0	8.0	7.0	4.5	6.0	3.0	.5	1.5	5.5	1.5	4.0
18	11.0	5.5	8.0	7.0	6.0	6.5	.5	.0	.0	2.5	.0	1.0
19	11.5	6.0	8.5	9.0	6.5	7.5	2.0	.0	.5	3.0	.0	1.0
20	11.0	7.0	9.0	8.0	4.5	6.0	4.0	2.5	3.0	3.0	.0	1.0
21	10.0	7.5	9.0	8.0	5.0	6.0	4.5	2.5	3.5	3.5	.0	2.0
22	11.0	8.5	10.0	7.0	4.5	5.5	4.5	1.5	3.0	5.0	3.0	4.0
23	12.0	10.0	10.5	6.5	3.5	5.0	6.0	4.5	5.5	3.5	1.5	2.5
24	11.5	10.0	11.0	6.5	4.5	5.5	5.5	3.5	4.5	2.5	.5	2.0
25	12.0	9.0	10.5	5.5	4.0	4.5	4.5	2.0	3.5	3.5	1.5	2.5
26	9.0	7.0	8.5	6.0	3.5	4.5	4.5	1.5	3.0	3.0	.5	2.5
27	8.0	5.5	7.0	5.0	2.0	4.0	4.0	1.0	2.5	2.0	.0	.5
28	7.0	5.0	6.5	3.5	.0	1.5	5.0	2.5	3.5	2.0	1.0	1.5
29	6.5	3.0	5.0	3.0	.0	1.0	4.0	1.5	3.0	2.5	.5	1.5
30	6.0	5.0	5.5	3.5	.0	1.5	4.0	1.5	3.0	3.5	2.0	3.0
31	6.5	3.0	5.0	---	---	---	4.5	3.5	4.0	5.0	3.0	3.5
MONTH	14.0	3.0	9.0	9.5	.0	5.0	7.0	.0	3.0	7.5	.0	3.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	5.0	2.5	3.5	9.0	1.0	5.0	15.5	7.5	11.0	12.5	4.5	8.5
2	5.0	1.0	3.0	10.0	2.5	6.0	15.5	7.0	11.0	10.5	8.0	9.5
3	5.5	3.0	4.0	9.0	7.0	8.0	14.0	7.5	10.5	15.0	8.0	11.0
4	4.5	1.0	3.0	9.0	6.5	7.5	14.0	7.0	10.0	13.5	10.0	12.0
5	5.5	3.0	4.0	8.5	6.0	7.0	12.5	7.0	9.5	17.0	9.0	12.5
6	4.0	2.5	3.5	10.0	5.5	7.5	12.5	5.0	8.5	15.0	10.5	13.0
7	3.5	.5	2.5	11.5	4.5	8.0	11.5	6.5	9.0	12.5	8.5	10.0
8	1.5	.0	.5	9.0	6.0	7.0	12.0	7.5	9.0	9.0	6.0	7.5
9	3.5	1.0	2.0	8.5	5.5	6.5	12.5	7.0	9.5	11.5	5.5	8.5
10	5.5	3.0	4.5	11.5	5.0	7.5	10.5	7.5	9.0	14.5	7.5	11.0
11	6.5	5.0	5.5	9.5	6.5	8.0	12.0	6.5	9.5	12.0	9.5	10.5
12	5.0	1.5	3.5	8.0	4.5	6.0	11.5	8.5	10.0	11.5	9.0	10.0
13	4.5	.0	1.5	5.5	2.5	4.0	12.0	5.5	9.0	10.0	7.5	9.0
14	3.0	.0	.5	7.5	4.0	5.5	11.0	8.5	9.5	11.5	7.5	9.5
15	.5	.0	.0	7.0	3.5	5.5	13.5	7.0	10.0	10.5	7.0	9.0
16	3.0	.5	1.5	10.0	1.5	5.5	13.0	7.0	10.0	12.5	7.0	9.5
17	3.5	1.5	2.5	9.5	5.5	7.5	11.5	6.0	9.0	13.5	8.5	11.0
18	5.0	.0	2.0	14.0	7.0	9.5	11.0	7.0	9.0	12.5	10.0	11.0
19	5.0	.0	1.5	12.0	6.0	8.5	13.0	6.5	9.5	11.5	8.5	10.5
20	5.0	.0	2.0	13.5	6.5	9.5	12.5	6.5	9.5	11.0	9.5	10.5
21	5.5	3.0	4.5	11.0	7.5	9.0	11.5	8.0	10.0	13.0	9.0	11.0
22	8.5	4.5	6.0	12.5	6.5	9.0	10.0	7.5	9.0	14.5	10.5	12.5
23	9.5	5.5	7.0	7.5	2.5	4.5	10.0	7.5	9.0	16.0	10.5	12.5
24	10.0	5.5	7.0	7.0	.0	3.0	9.5	8.0	9.0	13.0	8.5	11.0
25	10.0	5.0	7.0	11.5	2.5	6.0	10.5	6.5	9.0	11.5	6.5	9.0
26	10.0	5.0	7.0	12.5	3.5	7.5	9.0	6.5	8.0	12.5	8.5	10.5
27	9.0	4.0	6.0	11.0	7.0	9.0	7.5	6.0	6.5	14.5	9.5	12.0
28	9.0	1.0	5.0	12.0	6.0	8.5	7.0	4.5	6.0	14.0	11.5	13.0
29	---	---	---	14.0	5.0	9.0	10.0	3.0	6.5	14.0	12.0	12.5
30	---	---	---	14.0	5.5	9.5	9.5	4.5	7.0	12.5	11.0	12.0
31	---	---	---	15.0	7.0	10.5	---	---	---	13.0	10.0	11.0
MONTH	10.0	.0	3.5	15.0	.0	7.5	15.5	3.0	9.0	17.0	4.5	10.5

MADISON RIVER BASIN

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06037000 GIBBON RIVER NEAR WEST YELLOWSTONE, MT--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

	JUNE			JULY			AUGUST			SEPTEMBER		
1	13.0	8.5	10.5	21.5	15.5	18.5	22.0	15.0	18.5	19.5	12.0	15.5
2	11.5	8.5	10.0	22.0	16.5	19.0	21.5	15.0	18.0	17.5	13.0	14.5
3	14.5	8.0	11.5	22.0	14.5	18.0	21.5	14.5	18.0	19.5	12.0	15.5
4	16.0	12.0	13.5	20.5	14.0	17.0	22.0	15.5	18.5	18.5	16.0	17.0
5	15.5	10.5	13.0	22.5	14.0	18.5	23.0	14.0	18.5	17.5	15.5	16.5
6	16.5	11.5	14.0	22.5	15.5	18.5	23.5	15.0	19.0	21.0	15.0	17.5
7	15.0	12.0	13.0	23.0	14.5	18.5	22.5	15.0	18.5	21.5	13.5	17.0
8	15.5	10.0	13.0	23.5	14.5	18.5	23.0	15.5	19.0	21.5	14.5	17.5
9	18.0	11.0	14.5	21.0	17.0	18.5	21.5	15.5	18.0	20.5	14.0	17.0
10	15.5	13.5	14.5	22.5	14.5	18.0	21.5	15.5	18.5	20.5	13.5	16.5
11	14.5	12.0	13.0	24.5	15.0	19.5	21.5	16.5	18.5	20.5	12.5	16.0
12	12.0	9.5	10.5	25.0	15.5	20.0	22.5	15.5	18.0	19.0	13.0	16.0
13	14.0	8.5	11.0	22.0	16.5	19.5	23.0	14.5	18.5	20.5	13.0	16.0
14	14.0	10.5	12.0	23.5	15.0	18.5	23.5	14.5	19.0	20.0	11.5	15.5
15	17.0	9.5	13.0	23.0	15.5	19.0	22.0	15.5	19.0	19.5	12.5	15.5
16	15.0	11.5	13.5	24.0	15.5	19.5	20.0	16.0	17.5	19.0	13.5	15.5
17	17.0	11.0	14.0	24.0	15.5	19.5	21.0	16.0	18.0	18.0	11.5	14.5
18	17.5	12.0	14.5	21.5	16.0	19.0	21.5	15.0	18.0	16.5	11.0	14.0
19	18.0	11.5	15.0	22.5	16.0	18.5	20.0	15.0	17.0	15.5	13.0	14.0
20	20.0	12.5	16.0	18.0	15.0	16.0	19.0	15.0	16.5	16.0	12.0	13.5
21	21.5	14.0	17.5	20.0	13.5	16.5	19.5	14.0	16.5	17.5	10.0	13.5
22	21.5	13.5	17.5	21.5	14.0	18.0	17.0	13.0	15.0	17.5	10.0	13.5
23	21.5	15.0	18.0	21.0	14.5	17.5	19.5	13.0	16.0	18.0	10.5	13.5
24	23.0	14.5	18.5	20.5	15.5	17.5	19.5	14.0	16.5	18.5	11.5	14.5
25	22.5	16.0	18.5	21.0	14.0	17.5	19.0	13.5	15.5	18.0	12.0	14.5
26	21.0	15.0	18.0	17.0	14.0	15.0	19.5	13.0	16.0	14.0	12.0	13.0
27	22.5	14.5	18.0	19.0	13.5	16.0	20.0	12.0	15.5	17.0	10.5	13.5
28	22.0	14.0	18.0	20.0	14.5	17.0	20.5	12.5	16.5	17.5	10.5	13.5
29	23.0	14.0	18.5	21.5	13.5	17.5	21.5	13.5	17.0	17.0	10.0	13.0
30	23.5	15.0	19.0	21.5	14.5	18.0	19.0	14.5	16.5	17.0	10.5	13.5
31	---	---	---	21.0	14.5	17.5	20.0	11.5	15.5	---	---	---
MONTH	23.5	8.0	14.5	25.0	13.5	18.0	23.5	11.5	17.5	21.5	10.0	15.0

MADISON RIVER BASIN

06037500 MADISON RIVER NEAR WEST YELLOWSTONE, MT

LOCATION.--Lat 44°39'25", long 111°04'03", in NE¼ NW¼ SW¼ sec.36, T.13 S., R.5 E., Gallatin County, Hydrologic Unit 10020007, Yellowstone National Park, on left bank 0.7 mi downstream of Montana-Wyoming stateline, 1.5 mi east of West Yellowstone, 16.4 mi downstream from Gibbon River, and at river mile 132.7.

DRAINAGE AREA.--420 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1913 to December 1917, July 1918 to October 1921, June 1922 to September 1973, August 1983 to September 1986, October 1988 to September 1989. Monthly discharge only for some periods, published in WSP 1309.

GAGE.--Water-stage recorder. Elevation of gage is 6,650 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 20, 1918, nonrecording gage, and Oct. 20, 1918 to June 29, 1930, nonrecording gage or water-stage recorder at sites 2.5 mi upstream at different datums. Supplementary nonrecording gage at site 0.3 mi downstream at different datum used at time during 1927-30.

REMARKS.--Estimated daily discharges: Nov. 29 to Dec. 1, Dec. 11-12, 18-19, Jan. 19-20, 27, Feb. 15-17, Mar. 23-24. Records good except those for estimated daily discharges, which are fair. No regulation or diversions upstream from station.

AVERAGE DISCHARGE.--63 years (1913-17, 1918-21, 1922-73, 1984-86, 1989-90), 489 ft³/s, 354,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,340 ft³/s, May 31, 1986, gage height, 3.56 ft, maximum gage height, about 10.0 ft, Jan. 8, 1937, ice jam; minimum discharge, 100 ft³/s, Feb. 7, 1933, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,070 ft³/s and maximums (*)

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 23	0800	*909	*2.47	No peak greater than base discharge.			

Minimum discharge, 313 ft³/s, Dec. 11, gage height, 1.80 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	391	374	e365	365	385	355	426	556	667	424	399	361
2	417	379	370	377	376	358	462	572	611	424	396	363
3	420	388	371	356	370	368	510	546	586	418	389	413
4	439	398	376	364	371	371	537	541	599	420	386	377
5	412	396	384	368	375	371	537	554	615	420	391	395
6	400	394	385	365	375	373	504	616	609	411	383	402
7	393	395	380	368	385	365	501	765	628	404	377	374
8	385	384	377	384	362	372	518	698	639	401	378	368
9	390	389	382	372	373	372	561	649	613	414	376	362
10	386	415	377	379	385	368	541	602	624	420	378	360
11	384	434	e350	376	385	378	520	616	712	406	404	355
12	377	420	e360	371	391	367	545	639	673	397	419	354
13	376	409	373	377	384	357	548	708	661	396	405	352
14	377	411	376	381	373	361	548	686	658	405	387	349
15	377	389	381	384	e350	359	608	645	730	402	383	348
16	376	385	370	388	e340	351	671	604	624	399	386	348
17	373	388	371	379	e360	357	698	586	629	391	439	352
18	370	385	e365	355	367	357	735	589	579	389	415	355
19	373	384	e360	e345	356	361	735	624	557	393	402	362
20	375	383	374	e355	362	375	787	617	536	416	414	410
21	377	381	373	367	364	398	798	615	528	479	403	380
22	384	375	369	367	363	393	853	630	512	420	389	364
23	399	371	370	368	364	e380	879	714	503	411	396	361
24	407	392	369	365	366	e370	845	810	492	429	401	360
25	423	384	364	364	366	380	778	788	482	432	395	358
26	465	400	364	370	367	380	787	707	472	414	396	361
27	423	390	363	e360	362	388	716	640	464	417	380	382
28	428	369	365	367	354	375	721	652	450	410	376	374
29	399	e360	361	384	---	374	651	666	441	411	373	369
30	396	e365	362	391	---	385	603	705	432	403	373	369
31	397	---	361	388	---	397	---	703	---	408	365	---
TOTAL	12289	11687	11468	11500	10331	11516	19123	20043	17326	12784	12154	11038
MEAN	396	390	370	371	369	371	637	647	578	412	392	368
MAX	465	434	385	391	391	398	879	810	730	479	439	413
MIN	370	360	350	345	340	351	426	541	432	389	365	348
AC-FT	24380	23180	22750	22810	20490	22840	37930	39760	34370	25360	24110	21890

CAL YR 1989 TOTAL 168209 MEAN 461 MAX 1700 MIN 320 AC-FT 333600
WTR YR 1990 TOTAL 161259 MEAN 442 MAX 879 MIN 340 AC-FT 319900

e Estimated

06037500 MADISON RIVER NEAR WEST YELLOWSTONE, MT--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1983-86, 1989 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1983 to July 1986.

WATER TEMPERATURE: July 1983 to July 1986.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water years 1983-86): Maximum, 558 microsiemens, Mar. 24, 25, 1986; minimum, 78 microsiemens, May 30, 1986.

WATER TEMPERATURE (water years 1983-86): Maximum, 25.5°C, Aug. 6, 9, 1983; minimum, 0.0°C, on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	CLOUD COVER (PER- CENT)	WEATHER (WMO CODE NUMBER)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	ARSENIC TOTAL (UG/L AS AS)				
OCT												
11...	1633	383	65	2	490	12.5	13.0	290				
DEC												
04...	1600	377	100	2	520	0.5	6.5	370				
MAR												
06...	1730	369	10	1	545	3.0	9.5	360				
MAY												
01...	1900	526	50	1	405	10.5	14.0	200				
JUN												
12...	1445	672	100	87	326	3.5	14.0	200				
JUL												
25...	1500	426	20	1	475	19.5	21.5	280				
SEP												
12...	1715	352	40	1	506	26.0	19.5	290				
DATE	TIME	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
AUG												
24...	1710	20	6.8	0.78	91	9	9.3	18	63	7.5	99	366
25...	0810	21	7.1	0.83	92	9	9.3	18	62	7.4	98	366
DATE		SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, INOR- GANIC, DIS- SOLVED (MG/L AS C)	SEDI- MENT, DIS- SUS- PEN- DED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PEN- DED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
AUG												
24...		0.50	394	<0.1	780	61	630	2	23	2	2.2	91
25...		0.50	387	<0.1	770	67	620	2	25	2	2.1	92

GALLATIN RIVER BASIN

06043500 GALLATIN RIVER NEAR GALLATIN GATEWAY, MT

LOCATION.--Lat 45°29'51", long 111°25'12", in SE¼ SE¼ SE¼ sec.7, T.4 S., R.4 E., Gallatin County, Hydrologic Unit 10020008, on left bank 0.3 mi downstream from Spanish Creek, 7.3 mi south of Gallatin Gateway and at river mile 47.7.

DRAINAGE AREA.--825 mi².

PERIOD OF RECORD.--August 1889 to September 1894, June 1930 to September 1969, annual maximum, water years 1970-71, October 1971 to September 1981, October 1984 to current year. Monthly discharge only for some periods, published in WSP 1309. Published as West Gallatin River near Bozeman 1889-94.

REVISED RECORDS.--WSP 1389: 1892(M), 1893-94. WSP 1559: Drainage area. WDR MT-85-1 (M).

GAGE.--Water-stage recorder. Datum of gage is 5,167.67 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 20, 1932, nonrecording gages at several different sites and datums within 0.8 mi of present site.

REMARKS.--Estimated daily discharges: Dec. 18-23, Jan. 30 to Feb. 2, and Feb. 13-18. Records good except those for estimated daily discharges, which are poor. Diversions for irrigation of about 1,400 acres upstream from station.

AVERAGE DISCHARGE.--60 years (1890-94, 1931-69, 1972-81, 1985-90), 805 ft³/s, 583,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,100 ft³/s, June 17, 1974, gage height, 7.38 ft; minimum, 117 ft³/s, Jan. 19, 1935, gage height, 0.68 ft, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,900 ft³/s and maximums (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 11	0115	*5,140	*4.97	June 24	0115	3,900	4.35

Minimum daily discharge, 179 ft³/s, Dec. 11, gage height, 0.98 ft, but may have been lower during period of ice effect.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	485	290	219	275	e210	255	369	866	2450	2500	714	465
2	507	334	241	290	e240	264	422	912	2180	2370	684	459
3	450	393	317	258	264	282	495	888	1980	2330	669	472
4	456	407	323	249	268	298	558	907	2110	1990	657	483
5	444	396	312	269	259	296	575	996	2250	1840	634	473
6	445	379	298	282	264	288	507	1300	2260	1780	616	484
7	439	371	286	279	269	283	529	1710	2590	1660	599	453
8	433	347	278	294	265	285	549	1500	2700	1530	591	444
9	440	365	291	287	252	296	563	1360	2680	1460	582	440
10	432	409	283	288	259	309	556	1280	3840	1390	594	435
11	441	399	205	284	267	323	532	1280	4800	1300	615	428
12	435	396	229	268	274	309	562	1200	3610	1250	605	422
13	430	395	254	270	e230	287	536	1250	2910	1210	583	413
14	413	374	281	287	e210	287	636	1230	2630	1170	557	409
15	402	338	287	290	e200	293	786	1280	2600	1110	543	404
16	384	362	264	292	e220	282	887	1190	2560	1060	539	397
17	369	374	253	278	e240	292	871	1160	2510	1010	615	396
18	365	360	e200	220	e250	300	997	1190	2690	965	605	397
19	381	354	e210	219	261	305	1140	1270	2930	932	574	398
20	374	341	e220	240	265	326	1340	1300	2880	920	579	400
21	371	349	e190	256	270	334	1540	1320	3080	908	555	398
22	369	334	e220	272	268	315	1630	1400	3220	854	528	392
23	365	318	e250	276	268	280	1680	1670	3440	827	529	386
24	386	366	279	271	268	269	1620	2210	3620	823	560	382
25	461	338	266	273	273	294	1420	2250	3600	834	541	381
26	441	343	273	274	275	294	1360	1950	3420	858	568	379
27	407	334	267	256	274	317	1200	1830	3270	836	527	400
28	407	272	267	265	266	305	1160	1950	3010	792	501	388
29	376	251	277	270	---	300	1000	2380	2720	771	485	382
30	366	235	274	e250	---	312	958	2670	2580	742	474	378
31	394	---	271	e220	---	333	---	2740	---	730	471	---
TOTAL	12868	10524	8085	8302	7129	9213	26978	46439	87120	38752	17894	12538
MEAN	415	351	261	268	255	297	899	1498	2904	1250	577	418
MAX	507	409	323	294	275	334	1680	2740	4800	2500	714	484
MIN	365	235	190	219	200	255	369	866	1980	730	471	378
AC-FT	25520	20870	16040	16470	14140	18270	53510	92110	172800	76860	35490	24870

CAL YR 1989 TOTAL 249873 MEAN 685 MAX 3970 MIN 180 AC-FT 495600
WTR YR 1990 TOTAL 285842 MEAN 783 MAX 4800 MIN 190 AC-FT 567000

e Estimated

YELLOWSTONE RIVER BASIN

39

06186500 YELLOWSTONE RIVER AT YELLOWSTONE LAKE OUTLET, YELLOWSTONE NATIONAL PARK

LOCATION.--Lat 44°34'03", long 110°22'48", Yellowstone National Park, Hydrologic Unit 10070001, on left bank 450 ft downstream from Fishing Bridge, 0.3 mi downstream from outlet of Yellowstone Lake, and at river mile 616.4.

DRAINAGE AREA.--1,006 mi².

PERIOD OF RECORD.--December 1922 to September 1982, October 1983 to September 1986, October 1, 1988 to current year. Prior to October 1926, gage heights only. Monthly discharge only for winter periods in water years 1927-30, 1932-33, 1935-38, 1940, 1942-46 published in WSP 1309; figures of daily discharge for these months published in WSP 646, 666, 686, 701, 731, 746, 786, 806, 826, 856, 896, 956, 976, 1006, 1036, and 1056, have been found to be unreliable and should not be used.

REVISED RECORDS.--WSP 1309: See PERIOD OF RECORD. WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7,729.58 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 2, 1928, nonrecording gage at site 450 ft upstream at datum 1.07 ft higher.

REMARKS.--Estimated daily discharges: Dec. 19 to Mar. 31. Records good except those for estimated daily discharges, which are poor. No artificial regulation.

AVERAGE DISCHARGE.--61 years (1927-82, 1984-86, 1989-90), 1,329 ft³/s, 962,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,170 ft³/s, June 28, 1974, gage height, 8.20 ft; minimum daily, 110 ft³/s, Feb. 13-15, 1989, ice affect; minimum gage height, 1.45 ft, Dec. 17, 1936.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,310 ft³/s, July 2, 3, gage height, 6.24 ft; minimum daily, 350 ft³/s, Feb. 13-17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	862	667	531	e450	e380	e380	455	999	1810	4150	2530	1360
2	853	660	528	e450	e380	e380	455	988	1850	4240	2460	1340
3	850	654	524	e440	e380	e380	453	992	1890	4290	2410	1310
4	850	647	519	e440	e380	e390	453	1000	1910	4250	2360	1290
5	840	636	519	e440	e380	e390	451	1010	1960	4230	2310	1270
6	834	634	515	e440	e380	e390	455	1030	2050	4210	2260	1260
7	828	631	515	e440	e370	e390	459	1060	2140	4160	2190	1250
8	804	624	506	e440	e370	e390	465	1100	2220	4090	2140	1220
9	804	616	504	e440	e370	e390	472	1130	2300	4040	2090	1200
10	811	625	493	e440	e360	e390	480	1140	2410	3990	2060	1180
11	789	604	489	e430	e360	e390	484	1150	2570	3930	2030	1170
12	769	601	484	e430	e360	e400	502	1200	2730	3840	2000	1140
13	763	606	484	e420	e350	e400	506	1230	2820	3780	1950	1110
14	749	609	484	e410	e350	e400	508	1240	2920	3710	1920	1090
15	735	606	484	e400	e350	e400	513	1260	2990	3630	1890	1080
16	729	594	484	e410	e350	e400	517	1270	3010	3560	1860	1070
17	718	587	478	e410	e350	e400	528	1260	3040	3500	1840	1040
18	710	582	476	e410	e360	e400	544	1280	3060	3420	1800	1010
19	707	572	e470	e420	e360	e400	572	1280	3100	3320	1770	1020
20	702	565	e470	e420	e360	e410	597	1290	3150	3260	1760	1020
21	707	558	e470	e420	e370	e410	634	1290	3240	3220	1730	1010
22	697	551	e470	e420	e370	e420	686	1300	3340	3150	1690	995
23	694	549	e470	e410	e370	e420	727	1350	3450	3090	1650	981
24	694	554	e470	e400	e370	e430	760	1420	3580	3030	1620	967
25	691	556	e460	e400	e370	e430	804	1460	3700	2990	1600	950
26	699	551	e460	e400	e380	e440	847	1480	3820	2910	1550	943
27	702	547	e460	e400	e380	e440	881	1500	3920	2830	1510	940
28	697	547	e450	e390	e380	e440	940	1530	4000	2760	1480	920
29	694	544	e450	e390	---	e440	981	1590	4060	2700	1450	901
30	686	537	e450	e390	---	e450	999	1670	4100	2640	1430	891
31	675	---	e450	e390	---	e450	---	1740	---	2590	1390	---
TOTAL	23343	17814	15017	12990	10290	12640	18128	39239	87140	109510	58730	32928
MEAN	753	594	484	419	367	408	604	1266	2905	3533	1895	1098
MAX	862	667	531	450	380	450	999	1740	4100	4290	2530	1360
MIN	675	537	450	390	350	380	451	988	1810	2590	1390	891
AC-FT	46300	35330	29790	25770	20410	25070	35960	77830	172800	217200	116500	65310

CAL YR 1989 TOTAL 450621 MEAN 1235 MAX 4470 MIN 110 AC-FT 893800
WTR YR 1990 TOTAL 437769 MEAN 1199 MAX 4290 MIN 350 AC-FT 868300

e Estimated

YELLOWSTONE RIVER BASIN

06187950 SODA BUTTE CREEK NEAR LAMAR RANGER STATION, YELLOWSTONE NATIONAL PARK

LOCATION.--Lat 44°52'06", long 110°09'53", Yellowstone National Park, Hydrologic Unit 10070001, on left bank, 4 mi southeast of Lamar Ranger Station, and at river mile 1.5.

DRAINAGE AREA.--99.0 mi².

PERIOD OF RECORD.--October 1988 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,630 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 1, 2, 23, 24, Nov. 28 to Dec. 2, Dec. 10-12, 15-29, Jan. 2-6, 12, Jan. 17 to Feb. 2, Feb. 4, 5, 7-9, 12-21, 24, 26, Feb. 28 to Mar. 2, and Mar. 13, 16, 23-27. Records good except those for estimated daily discharges, which are poor. No regulation or diversion upstream of station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,500 ft³/s, June 10, 1990, gage height, 5.30 ft; minimum, 11 ft³/s, Jan. 31, 1989, but may have been less during period of ice effect.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,500 ft³/s, June 10, gage height, 5.30 ft; minimum, 15 ft³/s, Mar. 16, 23, but may have been less during the period of ice affect.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	e27	e26	29	e25	e19	31	134	612	783	122	73
2	53	e28	e26	e29	e25	e19	37	134	535	754	114	70
3	51	35	27	e27	24	19	47	128	479	742	110	71
4	57	35	28	e28	e24	20	63	128	594	604	107	71
5	51	33	30	e28	e24	19	75	144	670	561	102	72
6	54	34	29	e28	24	20	69	226	674	565	97	70
7	50	33	28	29	e24	20	70	298	781	505	95	65
8	50	29	29	29	e23	20	69	237	788	439	92	63
9	50	32	30	27	e24	20	73	207	863	413	89	64
10	49	39	e25	29	25	21	69	196	1130	373	87	62
11	50	41	e20	27	24	20	66	202	1220	344	96	59
12	49	39	e25	e24	e23	20	71	185	892	325	103	57
13	49	39	26	25	e23	e20	67	188	693	316	112	55
14	48	38	27	26	e20	21	87	180	614	292	94	55
15	47	36	e26	25	e17	21	112	176	606	281	86	54
16	44	34	e25	26	e21	e21	119	165	580	265	88	54
17	42	37	e23	e25	e23	22	111	162	583	240	181	54
18	39	37	e21	e23	e21	23	125	166	651	220	110	54
19	39	37	e24	e22	e19	21	151	172	695	205	135	54
20	38	34	e20	e22	e20	23	212	179	747	246	163	61
21	38	35	e22	e24	e21	21	258	179	862	220	132	55
22	39	35	e25	e27	21	20	269	199	919	185	110	52
23	41	e28	e22	e26	21	e19	246	263	1020	178	105	51
24	42	e30	e24	e26	e21	e18	231	360	1090	168	105	50
25	44	33	e24	e26	21	e20	216	332	957	166	97	49
26	48	30	e25	e27	e21	e22	209	288	982	154	95	49
27	44	28	e26	e26	21	e23	185	288	886	140	88	52
28	43	e27	e27	e27	e18	24	176	370	867	136	84	50
29	37	e25	e28	e27	---	26	151	628	799	142	80	49
30	34	e26	28	e26	---	27	142	679	780	131	79	48
31	37	---	28	e26	---	28	---	698	---	125	77	---
TOTAL	1406	994	794	816	618	657	3807	7891	23569	10218	3235	1743
MEAN	45.4	33.1	25.6	26.3	22.1	21.2	127	255	786	330	104	58.1
MAX	57	41	30	29	25	28	269	698	1220	783	181	73
MIN	34	25	20	22	17	18	31	128	479	125	77	48
AC-FT	2790	1970	1570	1620	1230	1300	7550	15650	46750	20270	6420	3460

CAL YR 1989 TOTAL 55802 MEAN 153 MAX 1080 MIN 12 AC-FT 110700
WTR YR 1990 TOTAL 55748 MEAN 153 MAX 1220 MIN 17 AC-FT 110600

e Estimated

06188000 LAMAR RIVER NEAR TOWER FALLS RANGER STATION, YELLOWSTONE NATIONAL PARK

LOCATION.--Lat 44°55'40", long 110°23'35", Yellowstone National Park, Hydrologic Unit 10070001, on left bank 0.5 mi north of the Cooke City highway, 1.6 mi northeast of Tower Falls Ranger Station, 2.7 mi downstream from Slough Creek, and at river mile 0.5.

DRAINAGE AREA.--660 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1922, April 1923 to September 1969, May 1985 to September 1986 (seasonal records only), October 1988 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,000 ft above National Vertical Datum of 1929, from topographic map. Prior to Sept. 16, 1925, nonrecording gage and Sept. 16, 1925 to July 29, 1927, water-stage recorder at same site at datum 1.00 ft higher. July 29, 1927 to Sept. 30, 1969, water-stage recorder at same site and datum. May 1985 to September 1986, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Nov. 1-3, 8, Nov. 15 to Apr. 2. Records good except those for estimated daily discharges, which are poor. No regulation or diversion upstream of station.

AVERAGE DISCHARGE.--48 years (water years 1924-69, 1989-90), 834 ft³/s, 604,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,600 ft³/s, May 25, 1928, gage height, 9.75 ft; minimum 40 ft³/s, Mar. 16, 1945, result of discharge measurement, but may have been less during period of no gage-height record in winter.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,500 ft³/s and maximums (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 30	0145	5,830	6.48	June 24	0430	5,740	6.43
June 11	0200	*7,700	*7.46				

Minimum daily discharge, 80 ft³/s, Feb. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	179	e200	e170	e130	e110	e110	e300	1170	4400	3210	503	319
2	264	e170	e180	e130	e110	e120	e450	1210	3690	2950	480	309
3	258	e200	e190	e120	e120	e120	826	1110	3240	2920	453	312
4	322	233	e190	e120	e120	e120	1060	1180	4230	2400	441	329
5	296	215	e180	e120	e120	e110	1160	1340	4850	2150	419	344
6	328	206	e180	e120	e120	e110	952	2290	4650	2040	395	363
7	280	205	e170	e130	e120	e120	1030	3610	5270	1840	375	316
8	272	e200	e180	e130	e110	e120	1040	2550	5080	1610	373	290
9	275	213	e180	e140	e110	e130	1110	2010	5080	1520	352	288
10	278	228	e170	e140	e110	e140	1070	1840	6210	1360	348	278
11	284	245	e140	e140	e120	e150	915	2000	6870	1250	402	262
12	283	246	e150	e130	e110	e140	1030	1780	5200	1160	545	252
13	272	257	e160	e130	e95	e130	915	1830	3870	1100	542	242
14	262	232	e170	e120	e80	e120	1060	1700	3330	1030	411	235
15	252	e210	e170	e120	e85	e120	1440	1680	3490	936	359	229
16	241	e190	e160	e120	e90	e130	1820	1480	3340	865	343	227
17	222	e200	e150	e110	e90	e130	1640	1420	3260	793	650	223
18	197	e200	e140	e100	e85	e140	2040	1530	3630	721	501	220
19	208	e190	e150	e90	e85	e140	2280	1800	3970	678	487	220
20	215	e180	e140	e100	e90	e150	3100	1830	3950	741	762	293
21	213	e170	e150	e110	e95	e170	3660	1830	4500	967	633	272
22	220	e170	e160	e120	e100	e160	3640	2140	4720	665	486	237
23	232	e180	e150	e120	e100	e150	3240	3030	4880	619	458	223
24	240	e180	e150	e120	e100	e120	3030	3940	5100	614	471	213
25	276	e180	e140	e110	e110	e130	2680	3580	4780	631	461	209
26	289	e180	e140	e110	e110	e140	2540	2770	4720	577	440	204
27	269	e170	e140	e100	e110	e160	1980	2570	4340	560	400	226
28	251	e160	e140	e100	e100	e150	1770	3240	3970	545	373	226
29	207	e160	e140	e110	---	e160	1450	4840	3540	579	355	210
30	198	e170	e130	e110	---	e180	1300	5310	3330	558	341	200
31	219	---	e130	e110	---	e220	---	5220	---	518	339	---
TOTAL	7802	5940	4890	3660	2905	4290	50528	73830	131490	38107	13898	7771
MEAN	252	198	158	118	104	138	1684	2382	4383	1229	448	259
MAX	328	257	190	140	120	220	3660	5310	6870	3210	762	363
MIN	179	160	130	90	80	110	300	1110	3240	518	339	200
AC-FT	15480	11780	9700	7260	5760	8510	100200	146400	260800	75590	27570	15410

CAL YR 1989 TOTAL 350535 MEAN 960 MAX 7310 MIN 60 AC-FT 695300
WTR YR 1990 TOTAL 345111 MEAN 946 MAX 6870 MIN 80 AC-FT 684500

e Estimated

YELLOWSTONE RIVER BASIN

06188000 LAMAR RIVER NEAR TOWER FALLS RANGER STATION, YELLOWSTONE NATIONAL PARK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1985-86, August 1988 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: May 1985 to September 1986, August 1988 to current year (seasonal records only).

REMARKS.--Unpublished records of once-daily water temperature are available in files of Montana District office.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 8,950 mg/L, Aug. 13, 1990; minimum daily mean, 1 mg/L, on several days in August 1986, October 1988, and September 1989.

SEDIMENT LOAD: Maximum daily, 23,700 tons, June 4, 1986; minimum daily, 0.29 tons, Oct. 2, 15, 16, 1989.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION: Maximum daily mean, 8,950 mg/L, Aug. 13; minimum daily mean, 3 mg/L, July 28.

SEDIMENT LOAD: Maximum daily, 13,100 tons, Aug. 13; minimum daily, 2.3 tons, Sept. 24.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	CLOUD COVER (PER- CENT)	WEATHER (WMO CODE NUMBER)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 04...	1500	322	100	3	167	3.0	5.0	27	23	97
NOV 16...	1130	191	--	--	195	0.0	0.5	--	--	--
JAN 04...	1400	121	--	--	220	-6.0	0.0	--	--	--
FEB 13...	1100	106	--	--	208	-17.0	0.0	--	--	--
APR 03...	1545	743	0	0	124	18.0	4.0	256	514	90
MAY 10...	1445	1750	--	--	--	12.0	7.0	22	104	55
JUN 12...	1345	4990	--	--	80	6.0	5.0	192	2590	54
JUN 14...	1315	3300	--	--	94	12.0	5.0	--	--	--
JUL 24...	1015	608	20	1	143	20.0	13.0	5	8.2	--
SEP 03...	1400	310	--	--	180	20.0	11.0	8	6.7	89

YELLOWSTONE RIVER BASIN

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06188000 LAMAR RIVER NEAR TOWER FALLS RANGER STATION, YELLOWSTONE NATIONAL PARK--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	32	101	162	1920	78	676	11	15	8	6.9
2	---	---	26	85	79	787	71	566	8	10	8	6.7
3	---	---	15	45	59	516	66	520	6	7.3	8	6.7
4	---	---	17	54	103	1180	43	279	4	4.8	8	7.1
5	---	---	21	76	265	3470	34	197	4	4.5	8	7.4
6	---	---	100	618	176	2210	32	176	5	5.3	8	7.8
7	---	---	333	3250	256	3640	28	139	5	5.1	7	6.0
8	---	---	85	585	226	3100	22	96	5	5.0	6	4.7
9	---	---	38	206	162	2220	18	74	7	6.7	6	4.7
10	---	---	30	149	414	6940	14	51	4	3.8	6	4.5
11	---	---	47	254	662	12300	14	47	8	8.7	6	4.2
12	---	---	33	159	277	3890	14	44	8650	12700	6	4.1
13	---	---	26	128	95	993	12	36	8950	13100	6	3.9
14	---	---	18	83	73	656	19	53	255	283	6	3.8
15	---	---	16	73	83	782	10	25	83	80	6	3.7
16	---	---	17	68	73	658	6	14	49	45	5	3.1
17	---	---	13	50	52	458	5	11	681	1200	5	3.0
18	---	---	12	50	70	686	5	9.7	337	456	4	2.4
19	---	---	31	151	113	1210	5	9.2	306	402	4	2.4
20	---	---	18	89	95	1010	6	12	2800	5760	12	9.5
21	---	---	13	64	117	1420	78	204	3000	5130	10	7.3
22	---	---	31	179	126	1610	10	18	304	399	7	4.5
23	---	---	114	933	182	2400	6	10	72	89	4	2.4
24	113	924	215	2290	248	3410	5	8.3	64	81	4	2.3
25	81	586	139	1340	168	2170	10	17	41	51	5	2.8
26	86	590	53	396	157	2000	5	7.8	30	36	5	2.8
27	55	294	34	236	126	1480	5	7.6	26	28	9	5.5
28	50	239	121	1060	103	1100	3	4.4	22	22	8	4.9
29	43	168	451	5890	85	812	41	64	15	14	7	4.0
30	39	137	454	6510	79	710	12	18	9	8.3	6	3.2
31	---	---	397	5600	---	---	10	14	8	7.3	---	---
TOTAL	---	2938	---	30772	---	65738	---	3408.0	---	39967.8	---	142.3
TOTAL LOAD FOR YEAR:		142966.1		TONS.								

YELLOWSTONE RIVER BASIN

06189000 BLACKTAIL DEER CREEK NEAR MAMMOTH, YELLOWSTONE NATIONAL PARK

LOCATION.--Lat 44°56'50", long 110°35'07", Yellowstone National Park, Hydrologic Unit 10070001, on left bank 0.6 mile upstream from East Fork, 0.7 mile upstream from culvert on Mammoth-Tower Falls highway, and 6.0 mi southeast of Mammoth.

DRAINAGE AREA.--14.3 mi².

PERIOD OF RECORD.--December 1937 to October 1945, October 1988 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,680 ft above National Geodetic Vertical Datum of 1929, from topographic map. December 1937 to October 1945, water-stage recorder and Cippoletti weir at site 300 ft downstream at different datum.

REMARKS.--Estimated daily discharges: Nov. 1-4, Nov. 15-18, and Nov. 24 to Apr. 7. Records good except those for Apr. 9 to May 8 and Sept. 25-30, which are fair, and those for estimated daily discharges, which are poor. No diversion or regulation upstream of station.

AVERAGE DISCHARGE.--9 years (1939-45, 1989-90), 7.80 ft³/s, 5,650 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 168 ft³/s, June 1, 1943, gage height, 3.17 ft, site and datum then in use; no flow for short periods Dec. 23, 24, 1937, ice jams upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 35 ft³/s and maximums (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Apr. 19	2300	*114	*3.37	May 29	2115	48	2.43
May 16	2400	71	2.82	June 4	2300	41	2.30
May 23	2215	62	2.68	June 14	2030	54	2.54

Minimum daily discharge, 1.9 ft³/s, Feb. 28, Mar. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	e3.5	e3.0	e2.5	e2.2	e1.9	e4.0	19	35	12	5.2	3.3
2	5.0	e3.7	e3.2	e2.5	e2.2	e2.0	e5.0	20	32	12	5.0	3.4
3	4.5	e4.3	e3.5	e2.4	e2.2	e2.1	e6.0	19	31	11	4.8	3.6
4	4.8	e4.5	e3.8	e2.3	e2.2	e2.1	e7.0	20	34	11	4.6	3.8
5	4.6	4.8	e4.0	e2.3	e2.2	e2.0	e8.0	25	35	11	4.4	4.4
6	4.8	4.3	e4.0	e2.4	e2.2	e2.0	e7.5	40	33	9.7	4.3	4.2
7	4.9	4.2	e3.7	e2.4	e2.2	e2.0	e7.0	50	34	9.3	4.2	3.7
8	4.9	4.0	e3.5	e2.4	e2.1	e2.1	8.1	34	32	9.1	4.1	4.2
9	4.7	4.2	e3.3	e2.5	e2.1	e2.1	11	31	30	9.4	4.0	4.9
10	4.4	4.8	e2.9	e2.5	e2.1	e2.2	12	29	31	8.8	4.1	4.5
11	4.3	5.0	e2.5	e2.4	e2.2	e2.2	14	30	31	8.2	4.9	3.9
12	4.1	4.7	e2.7	e2.4	e2.3	e2.1	18	29	29	7.9	5.5	3.8
13	3.9	4.5	e2.9	e2.4	e2.3	e2.0	15	32	27	7.6	4.9	3.7
14	3.9	4.2	e3.0	e2.4	e2.1	e2.0	22	31	32	7.3	3.7	3.8
15	3.9	e3.8	e3.0	e2.4	e1.9	e2.0	33	29	31	7.1	3.7	3.8
16	3.8	e3.5	e2.9	e2.3	e2.0	e2.0	40	25	30	6.8	3.9	3.8
17	3.6	e3.6	e2.7	e2.3	e2.1	e2.0	42	23	28	6.5	8.0	3.8
18	3.8	e3.6	e2.4	e2.2	e2.0	e2.1	57	24	26	6.4	4.2	3.8
19	3.9	3.7	e2.5	e2.1	e2.0	e2.2	68	25	26	6.5	4.0	4.5
20	3.7	4.0	e2.2	e2.1	e2.1	e2.4	67	25	23	8.1	4.4	9.2
21	3.7	3.8	e2.4	e2.2	e2.1	e2.5	61	26	21	7.7	3.9	4.7
22	3.8	4.0	e2.7	e2.3	e2.1	e2.4	61	31	20	6.3	3.6	4.1
23	3.9	3.6	e2.6	e2.3	e2.1	e2.2	56	41	19	6.0	3.7	3.9
24	4.9	e3.4	e2.8	e2.2	e2.1	e2.0	47	48	18	6.0	4.3	3.9
25	5.8	e3.3	e2.7	e2.2	e2.1	e2.1	38	38	17	6.1	4.4	3.4
26	6.2	e3.3	e2.7	e2.2	e2.0	e2.2	34	32	16	5.9	4.4	2.5
27	4.7	e3.2	e2.6	e2.2	e2.0	e2.3	28	31	15	6.1	3.8	2.4
28	4.2	e3.2	e2.6	e2.2	e1.9	e2.3	27	34	14	6.8	3.6	2.5
29	3.9	e3.1	e2.5	e2.2	---	e2.4	22	39	14	6.3	3.5	2.5
30	4.4	e3.0	e2.4	e2.2	---	e2.6	21	40	13	5.4	3.4	2.4
31	4.2	---	e2.4	e2.2	---	e3.0	---	39	---	5.2	3.3	---
TOTAL	135.6	116.8	90.1	71.6	59.1	67.5	846.6	959	777	243.5	133.8	116.4
MEAN	4.37	3.89	2.91	2.31	2.11	2.18	28.2	30.9	25.9	7.85	4.32	3.88
MAX	6.2	5.0	4.0	2.5	2.3	3.0	68	50	35	12	8.0	9.2
MIN	3.6	3.0	2.2	2.1	1.9	1.9	4.0	19	13	5.2	3.3	2.4
AC-FT	269	232	179	142	117	134	1680	1900	1540	483	265	231

CAL YR 1989 TOTAL 3652.4 MEAN 10.0 MAX 104 MIN 1.3 AC-FT 7240
WTR YR 1990 TOTAL 3617.0 MEAN 9.91 MAX 68 MIN 1.9 AC-FT 7170

e Estimated

06190370 GARDNER RIVER ABOVE MAMMOTH SPRINGS OUTFLOW, NEAR MAMMOTH, YELLOWSTONE NATIONAL PARK

LOCATION.--Lat 44°58'05", long 110°40'46", Yellowstone National Park, Hydrologic Unit 10070001, on right bank 1,200 ft upstream from Mammoth Springs outflow and 0.5 mi upstream from foot bridge.

PERIOD OF RECORD.--Water years 1988 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	CLOUD COVER (PER- CENT)	WEATHER (WMO CODE NUMBER)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT									
03...	0930	104	100	75	225	-2.0	2.0	5.0	19
NOV									
06...	1650	88	--	1	243	0.0	2.0	--	--
15...	0900	83	--	0	271	-3.0	0.5	5.8	22
JAN									
03...	1100	45	100	3	293	-14.0	0.0	6.6	23
FEB									
16...	0800	E74	100	3	260	-11.0	0.0	6.4	22
APR									
04...	0915	115	50	1	227	4.0	3.0	6.1	20
MAY									
09...	1330	306	75	1	168	10.0	5.0	3.8	12
JUN									
13...	0830	575	90	2	145	6.0	3.0	1.8	7.4
JUL									
24...	1445	167	--	3	198	24.0	--	--	--
25...	0840	171	40	1	188	16.0	10.0	3.7	9.8
SEP									
05...	0810	109	--	--	223	14.0	12.0	--	--
06...	0800	115	100	3	219	12.0	11.0	5.1	18

E-Estimate

DATE	TIME	PH LAB (STAND- ARD UNITS)	HARD- NESS TOTAL (MG/L AS CaCO3)	CALCIUM DIS- SOLVED (MG/L AS Ca)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg)	SODIUM, DIS- SOLVED (MG/L AS Na)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
OCT								
03...	0930	8.2	95	27	6.6	9.2	0.4	2.3
MAY								
09...	1330	8.2	78	23	4.9	5.4	0.3	1.6

DATE	ALKA- LINITY LAB (MG/L AS CaCO3)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS Fe)
OCT								
03...	88	1.0	25	148	0.20	41.6	100	30
MAY								
09...	70	0.7	19	113	0.15	93.0	50	180

YELLOWSTONE RIVER BASIN

06190415 MAMMOTH SPRINGS OUTFLOW AT MAMMOTH, YELLOWSTONE NATIONAL PARK

LOCATION.--Lat 44°58'08", long 110°41'02", Yellowstone National Park, Hydrologic Unit 10070001, 2,000 ft upstream from mouth.

PERIOD OF RECORD.--Water years 1988 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	CLOUD COVER (PER- CENT)	WEATHER (WMO CODE NUMBER)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT 03...	1045	1.8	100	3	2030	3.0	11.0	170	640
NOV 15...	1010	1.6	0	0	2040	0.0	8.0	170	620
JAN 03...	1230	1.7	--	--	2150	-7.0	7.0	170	650
FEB 16...	0845	1.6	100	3	2040	-11.0	4.0	160	650
APR 04...	1030	1.8	--	1	2020	4.0	12.0	170	570
MAY 09...	1415	1.6	75	1	2020	15.0	19.0	160	650
17...	1210	1.6	--	--	1980	14.5	19.5	--	--
JUN 13...	0830	1.5	90	2	1940	6.0	13.0	170	600
JUL 25...	0830	1.6	40	1	2040	18.0	17.0	170	640
SEP 06...	0840	1.5	50	2	2060	15.0	17.5	170	650

DATE	TIME	PH LAB (STAND- ARD UNITS)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
OCT 03...	1045	7.8	740	170	76	130	2	63
MAY 09...	1415	7.8	690	160	71	120	2	56

DATE	ALKA- LITY LAB (MG/L AS CACO3)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 03...	165	2.2	52	1410	1.91	6.83	3800	20
MAY 09...	173	2.1	47	1370	1.87	5.93	3900	12

YELLOWSTONE RIVER BASIN

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06190525 GARDNER RIVER SINKHOLE DIVERSION AT MAMMOTH, YELLOWSTONE NATIONAL PARK

LOCATION.--Lat 44°58'53", long 110°41'09", Yellowstone National Park, Hydrologic Unit 10070001, 0.3 mi upstream from Hot River, 1.0 mi northeast of Mammoth and at mile 3.7.

PERIOD OF RECORD.--Water years 1989 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	CLOUD COVER (PER- CENT)	WEATHER (WMO CODE NUMBER)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT 03...	1330	E5.9	50	1	310	7.0	5.0	8.3	32
NOV 07...	1230	4.1	--	1	285	3.0	2.5	--	--
15...	1205	E4.0	--	0	310	-1.0	0.5	9.6	39
JAN 03...	1430	E4.0	100	0	362	-9.0	0.0	12	45
FEB 16...	1015	E4.0	100	3	298	-8.0	0.0	10	38
APR 04...	1130	4.5	--	--	250	10.0	4.0	7.8	28
MAY 09...	1530	E9.0	50	1	180	14.0	7.0	4.3	12
16...	1710	8.6	--	3	210	10.0	8.0	--	--
JUN 13...	1600	9.3	50	1	155	21.5	9.0	3.2	9.6
JUL 25...	1110	8.9	30	1	209	13.0	11.0	5.8	17
SEP 06...	1100	8.0	10	1	253	22.0	11.0	8.6	28

E-Estimate.

DATE	TIME	PH LAB (STAND- ARD UNITS)	HARD- NESS TOTAL (MG/L AS CAO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
OCT 03...	1330	8.2	110	30	8.1	12	0.5	3.6
MAY 09...	1530	8.1	80	23	5.4	6.1	0.3	2.0

DATE	TIME	ALKA- LINITY LAB (MG/L AS CAO3)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 03...	92	1.0	26	176	0.24	E2.81	170	46	
MAY 09...	72	0.8	19	116	0.16	E2.82	70	71	

E-Estimate.

YELLOWSTONE RIVER BASIN

06190530 CLEMATIS CREEK AT MAMMOTH, YELLOWSTONE NATIONAL PARK

LOCATION.--Lat 44°58'29", long 110°42'07", Yellowstone National Park, Hydrologic Unit 10070001, on right bank at upstream side of wooden footbridge, 500 ft south of Mammoth Hotel in Mammoth, YNP.

PERIOD OF RECORD.--May to September 1990.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	CLOUD COVER (PER- CENT)	WEATHER (WMO CODE NUMBER)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)
MAY 16...	1515	1.7	--	3	346	5.0	5.0	--	--
JUN 13...	1015	1.2	--	50	245	8.5	4.5	2.5	45
JUL 25...	1010	0.32	30	1	324	18.0	11.0	2.1	57
SEP 06...	0930	0.16	20	1	412	17.0	11.0	3.0	73

06190540 HOT RIVER AT MAMMOTH, YELLOWSTONE NATIONAL PARK

LOCATION.--Lat 44°59'07", long 110°41'18", Yellowstone National Park, Hydrologic Unit 10070001, on left bank 50 ft downstream from outfall, 150 ft upstream of mouth, and 0.8 mile northeast of U.S. Post Office at Mammoth.

DRAINAGE AREA.--Indeterminate.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1988 to current year. Miscellaneous measurements made at this site 1938-44, 1966-67, and 1986-87 water years.

GAGE.--Water-stage recorder. Datum of gage is 5,666.11 ft above National Geodetic Vertical Datum of 1929. Levels by U.S. National Park Service.

REMARKS.--Estimated daily discharges: Jan. 4, 5, Mar. 3 to Apr. 4. Records good except those for estimated daily discharges, which are fair. No regulation or diversion upstream of station, however, flow is added from sinkholes upstream from spring.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30 ft³/s, on many days in 1989, gage height, 1.38 ft; minimum, 18 ft³/s, Jan. 29, Feb. 2, 5, 6, 1990, gage height, 1.12 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 29 ft³/s, on many days, gage height, 1.37 ft; minimum, 18 ft³/s, Jan. 29, Feb. 2, 5, 6, gage height, 1.12 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	22	23	25	25	22	e23	27	27	28	28	28
2	24	23	22	25	22	23	e23	27	27	28	27	28
3	24	23	23	23	24	e25	e23	27	27	28	27	28
4	24	23	23	e23	23	e25	e23	27	27	28	27	28
5	24	23	22	e23	22	e25	25	27	27	28	27	28
6	24	23	23	23	22	e25	25	27	27	28	27	28
7	24	23	22	24	24	e25	26	27	27	28	28	28
8	24	23	22	24	24	e25	26	27	27	28	28	28
9	24	23	22	24	23	e25	26	27	27	28	27	28
10	24	23	20	24	23	e25	26	27	27	28	27	28
11	24	23	24	25	23	e25	26	27	27	28	27	28
12	24	23	24	23	23	e25	27	27	27	28	27	28
13	24	23	24	25	23	e24	26	27	27	28	27	28
14	24	23	25	25	23	e25	27	27	27	28	27	28
15	24	22	24	25	23	e25	27	27	27	28	27	28
16	24	23	23	25	25	e24	27	27	27	28	28	28
17	24	23	21	24	24	e24	27	28	27	28	28	28
18	24	23	23	23	24	e24	28	28	27	28	28	28
19	24	23	24	24	24	e24	29	28	27	28	28	28
20	24	23	25	25	e24	e24	28	28	27	28	28	28
21	24	23	25	25	e24	e24	29	28	27	28	28	28
22	24	23	25	24	e24	e24	28	28	27	28	28	28
23	24	22	24	24	e24	e23	29	28	27	28	28	28
24	24	23	24	24	e24	e23	29	28	28	28	28	28
25	24	23	22	24	e24	e22	29	27	28	28	28	28
26	24	23	24	24	e24	e21	29	27	28	28	28	28
27	24	22	23	23	e24	e22	29	27	28	28	28	28
28	23	21	25	24	22	e22	28	27	28	28	28	28
29	23	22	24	23	---	e22	28	27	28	28	28	28
30	23	22	25	24	---	e22	28	27	28	28	28	28
31	23	---	25	25	---	e23	---	27	---	28	28	---
TOTAL	740	682	725	746	658	737	804	845	817	868	856	840
MEAN	23.9	22.7	23.4	24.1	23.5	23.8	26.8	27.3	27.2	28.0	27.6	28.0
MAX	24	23	25	25	25	25	29	28	28	28	28	28
MIN	23	21	20	23	22	21	23	27	27	28	27	28
AC-FT	1470	1350	1440	1480	1310	1460	1590	1680	1620	1720	1700	1670

CAL YR 1989 TOTAL 9502 MEAN 26.0 MAX 30 MIN 20 AC-FT 18850
WTR YR 1990 TOTAL 9318 MEAN 25.5 MAX 29 MIN 20 AC-FT 18480

e Estimated

YELLOWSTONE RIVER BASIN

06190540 HOT RIVER AT MAMMOTH, YELLOWSTONE NATIONAL PARK--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1988 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1988 to September 1990 (discontinued).

WATER TEMPERATURE: October 1988 to September 1990 (discontinued).

INSTRUMENTATION.--Water-quality monitor since Sept. 13, 1988.

REMARKS.--No water temperature records Jan. 17-30 (probe not in water). No specific conductance or water temperature records Sept. 6-30 (monitor not working). Records for the period June 23 to Sept. 5 are questionable (erratically fluctuating values).

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 2,410 microsiemens, Jan. 29, 1990; minimum, 1,500 microsiemens, July 17, 22-23, 1990.

WATER TEMPERATURE: Maximum, 55.5°C, Feb. 28, 1990; minimum, 38°C, June 16, 17, 1989, Apr. 19, 1990.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 2,410 microsiemens, Jan. 29; minimum, 1,500 microsiemens, July 17, 22-23.

WATER TEMPERATURES: Maximum, 55.5°C, Feb. 28; minimum, 38°C, Apr. 19.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	CLOUD COVER (PER- CENT)	WEATHER (WMO CODE NUMBER)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT 03...	1400	24	70	13	--	7.0	47.0	120	470
NOV 06...	1210	23	--	--	1850	4.0	48.0	--	--
15...	1239	23	0	0	1880	0.0	48.5	130	500
JAN 02...	1545	25	--	--	1750	-4.0	47.0	--	--
03...	1400	25	100	0	1760	-9.0	47.0	120	450
FEB 02...	0730	18	--	--	2090	-12.0	55.0	--	--
14...	1445	23	--	--	1950	-9.0	48.0	--	--
16...	1030	25	100	3	1780	-8.0	44.0	120	470
APR 04...	1445	23	--	--	1880	13.0	48.0	130	480
MAY 09...	1730	27	50	1	1620	18.0	42.0	110	400
15...	1712	--	--	--	1630	8.0	42.0	--	--
JUN 13...	1400	27	40	1	1550	17.0	42.0	110	400
JUL 24...	1630	28	--	--	1620	20.0	44.0	--	--
25...	1200	28	20	1	1630	21.5	43.5	110	400
SEP 06...	1240	28	--	1	1660	22.0	44.0	110	460

DATE	TIME	PH LAB (STAND- ARD UNITS)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
OCT 03...	1400	7.0	750	210	55	99	2	43
MAY 09...	1730	6.9	620	170	47	84	1	38

DATE	ALKA- LINITY LAB (MG/L AS CACO3)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 03...	261	2.5	47	1210	1.64	78.1	2600	17
MAY 09...	333	2.2	41	1090	1.49	79.8	2500	57

YELLOWSTONE RIVER BASIN

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06190540 HOT RIVER AT MAMMOTH, YELLOWSTONE NATIONAL PARK--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C.), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	1910	1880	1900	2230	1940	2060	1890	1840	1860	1790	1770	1780
2	1910	1880	1900	2000	1920	1970	2080	1830	1880	2170	1780	1810
3	1920	1900	1910	1970	1950	1960	1840	1830	1840	2180	1790	1940
4	1920	1900	1910	1970	1950	1960	1850	1840	1840	1890	1770	1810
5	1930	1900	1920	1950	1930	1950	1860	1840	1850	2210	1780	1880
6	1930	1910	1920	1950	1930	1940	1860	1850	1860	1850	1780	1800
7	1930	1910	1920	1960	1930	1940	2050	1860	1920	1820	1810	1810
8	1920	1910	1920	1950	1930	1940	1890	1870	1880	1830	1810	1820
9	1920	1910	1920	1930	1920	1930	1890	1880	1880	1830	1820	1820
10	1930	1900	1920	1930	1900	1910	2090	1830	2040	1830	1820	1830
11	1920	1910	1910	1910	1880	1900	1870	1800	1840	1990	1820	1830
12	1930	1910	1920	1910	1890	1900	1790	1740	1760	2220	1800	1980
13	1920	1900	1920	1910	1890	1900	1770	1760	1760	1840	1810	1820
14	1920	1900	1910	1910	1890	1900	1760	1740	1750	1840	1830	1830
15	1920	1900	1910	2060	1870	1930	1940	1740	1750	1840	1820	1830
16	1920	1900	1910	1910	1870	1890	2220	1730	1880	1850	1830	1840
17	1930	1910	1910	1900	1890	1900	2190	1760	1980	2100	1840	1900
18	1940	1900	1920	1900	1880	1890	2010	1750	1860	2050	1930	1990
19	1930	1900	1920	1900	1890	1900	1740	1700	1720	2000	1860	1930
20	1930	1910	1920	1910	1890	1900	1750	1700	1720	1870	1820	1850
21	1920	1910	1910	1910	1900	1900	1780	1730	1750	1860	1810	1830
22	1910	1900	1910	1920	1890	1910	1770	1740	1750	1900	1860	1880
23	1910	1890	1900	2140	1880	1920	1740	1730	1730	1920	1900	1910
24	1900	1880	1890	1890	1880	1890	1950	1730	1760	2370	1890	1950
25	1900	1880	1890	1910	1880	1890	2090	1720	1900	1900	1890	1890
26	1910	1880	1890	1900	1880	1890	1960	1700	1750	2110	1890	1940
27	1920	1900	1910	2180	1880	1950	2210	1720	1830	2030	1910	1960
28	1940	1910	1930	2120	1870	1990	1740	1720	1730	1930	1910	1920
29	1970	1920	1950	2070	1840	1930	2090	1730	1790	2410	1920	1980
30	1990	1940	1970	1950	1840	1890	1770	1740	1750	1900	1870	1880
31	2150	1950	1970	---	---	---	1770	1760	1760	1880	1880	1880
MONTH	2150	1880	1920	2230	1840	1920	2220	1700	1820	2410	1770	1870
	FEBRUARY			MARCH			APRIL			MAY		
1	1880	1870	1880	2370	1890	2090	2120	2070	2100	1790	1740	1760
2	2390	1840	2030	2380	1860	2030	2140	2000	2070	1760	1730	1750
3	1860	1830	1840	1910	1890	1890	2020	1970	2010	1760	1740	1750
4	2280	1810	1930	1910	1890	1890	1980	1830	1940	1750	1710	1740
5	2250	1810	1960	1900	1890	1890	1890	1830	1860	1760	1720	1740
6	2390	1820	1990	1900	1890	1890	1880	1790	1850	1740	1690	1720
7	2010	1820	1850	2150	1890	1930	1820	1770	1810	1690	1670	1680
8	2010	1930	1960	1950	1940	1950	1710	1670	1700	1700	1670	1680
9	1930	1920	1930	1970	1930	1950	1700	1670	1680	1720	1680	1700
10	1930	1910	1920	1950	1940	1950	1700	1670	1680	1720	1700	1710
11	1920	1890	1910	1960	1940	1950	1720	1690	1700	1700	1670	1690
12	1930	1880	1890	1960	1940	1950	1710	1680	1700	1680	1650	1670
13	2050	1950	1990	2170	1920	2000	1720	1680	1700	1650	1610	1640
14	2070	1940	2010	1960	1940	1950	1690	1650	1680	1640	1610	1620
15	2000	1890	1950	1970	1940	1950	1680	1620	1660	1630	1610	1620
16	1890	1830	1860	2160	1920	1990	1650	1620	1630	1640	1620	1630
17	1930	1860	1890	1970	1950	1960	1670	1600	1640	1650	1630	1640
18	1940	1870	1910	1970	1940	1960	1590	1510	1570	1660	1630	1640
19	1970	1880	1940	1960	1930	1950	1580	1520	1550	1660	1630	1650
20	1940	1900	1920	1940	1910	1940	1590	1530	1560	1660	1640	1650
21	1960	1930	1940	1930	1910	1920	1600	1550	1570	1670	1650	1660
22	1960	1950	1950	1930	1910	1920	1600	1580	1590	1670	1660	1670
23	1970	1960	1970	2040	1930	1970	1630	1600	1610	1660	1650	1660
24	1980	1960	1970	2240	1990	2110	1640	1610	1630	1650	1630	1650
25	1970	1950	1970	2340	2000	2080	1680	1640	1660	1650	1630	1640
26	1980	1960	1970	2270	2020	2140	1690	1670	1680	1660	1630	1650
27	1980	1960	1970	2180	2100	2140	1730	1700	1710	1680	1640	1660
28	2380	1920	2080	2190	2150	2170	1740	1710	1720	1670	1650	1660
29	---	---	---	2160	2130	2150	1780	1720	1750	1660	1630	1650
30	---	---	---	2140	2130	2140	1770	1740	1750	1650	1640	1640
31	---	---	---	2140	2110	2120	---	---	---	1640	1620	1630
MONTH	2390	1810	1940	2380	1860	2000	2140	1510	1730	1790	1610	1670

YELLOWSTONE RIVER BASIN

06190540 HOT RIVER AT MAMMOTH, YELLOWSTONE NATIONAL PARK--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C.), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	1630	1610	1620	1640	1560	1600	1670	1590	1640	1680	1640	1670
2	1630	1600	1620	1650	1570	1600	1660	1530	1600	1650	1580	1620
3	1620	1590	1610	1630	1550	1600	1650	1570	1610	1670	1590	1630
4	1600	1570	1590	1620	1560	1600	1670	1550	1630	1670	1630	1660
5	1580	1560	1570	1630	1590	1610	1670	1610	1640	1670	1570	1620
6	1590	1540	1570	1620	1570	1600	1670	1580	1640	---	---	---
7	1580	1530	1570	1610	1540	1580	1650	1580	1620	---	---	---
8	1590	1550	1570	1590	1530	1560	1650	1520	1580	---	---	---
9	1590	1560	1580	1600	1550	1580	1650	1530	1590	---	---	---
10	1590	1570	1580	1600	1550	1580	1650	1510	1580	---	---	---
11	1590	1560	1570	1610	1540	1580	1620	1550	1580	---	---	---
12	1600	1560	1580	1600	1530	1570	1650	1550	1580	---	---	---
13	1590	1560	1580	1590	1520	1550	1630	1550	1600	---	---	---
14	1590	1530	1570	1590	1520	1560	1640	1570	1610	---	---	---
15	1600	1550	1580	1590	1540	1570	1640	1580	1610	---	---	---
16	1600	1590	1590	1610	1530	1570	1630	1540	1590	---	---	---
17	1620	1590	1600	1600	1500	1560	1640	1580	1610	---	---	---
18	1630	1600	1610	1610	1530	1570	1720	1580	1650	---	---	---
19	1620	1600	1610	1610	1520	1580	1720	1600	1680	---	---	---
20	1640	1610	1620	1600	1510	1580	1700	1580	1670	---	---	---
21	1640	1610	1630	1590	1530	1560	1720	1670	1690	---	---	---
22	1640	1620	1630	1600	1500	1580	1670	1650	1660	---	---	---
23	1650	1580	1630	1590	1500	1570	1670	1600	1640	---	---	---
24	1650	1570	1620	1650	1560	1600	1660	1590	1620	---	---	---
25	1640	1590	1620	1680	1630	1660	1670	1570	1630	---	---	---
26	1630	1600	1620	1660	1570	1610	1670	1640	1660	---	---	---
27	1630	1600	1620	1670	1630	1660	1680	1650	1670	---	---	---
28	1640	1600	1620	1670	1620	1650	1690	1660	1670	---	---	---
29	1640	1580	1620	1650	1600	1630	1680	1590	1650	---	---	---
30	1670	1560	1630	1650	1540	1600	1680	1560	1620	---	---	---
31	---	---	---	1660	1560	1640	1680	1620	1670	---	---	---
MONTH	1670	1530	1600	1680	1500	1590	1720	1510	1630	1680	1570	1640

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	48.0	47.0	47.5	52.0	47.0	49.0	47.0	46.0	46.5	43.5	43.0	43.0
2	47.0	46.5	47.0	48.0	46.5	47.5	51.5	46.0	47.0	51.0	43.0	43.5
3	47.0	46.5	47.0	48.0	47.0	47.5	46.0	46.0	46.0	51.0	42.5	46.0
4	47.5	47.0	47.0	48.0	48.0	48.0	46.5	46.0	46.0	44.5	42.0	43.0
5	47.5	46.5	47.0	48.0	47.5	48.0	47.0	46.5	46.5	51.5	42.5	44.5
6	47.5	47.0	47.0	48.0	47.5	47.5	47.0	46.5	46.5	44.0	42.0	42.5
7	47.5	47.0	47.5	48.0	47.5	48.0	50.5	46.5	47.5	43.0	43.0	43.0
8	48.0	47.0	47.5	48.0	48.0	48.0	47.0	46.5	46.5	43.5	43.0	43.0
9	48.0	47.0	47.5	48.0	48.0	48.0	47.0	46.5	47.0	43.5	43.0	43.0
10	48.0	47.0	47.5	48.5	48.0	48.0	51.0	45.0	50.0	43.5	43.0	43.0
11	47.5	47.5	47.5	48.0	48.0	48.0	45.5	44.0	45.0	45.5	42.5	43.0
12	48.0	47.5	47.5	48.5	48.0	48.0	44.0	43.5	43.5	51.0	42.0	46.0
13	48.0	47.0	47.5	48.0	48.0	48.0	43.5	43.0	43.5	43.0	42.5	42.5
14	47.5	47.0	47.0	48.0	48.0	48.0	43.5	43.0	43.0	43.0	43.0	43.0
15	47.0	46.5	47.0	51.0	47.5	48.5	47.0	43.0	43.0	43.0	42.5	43.0
16	47.0	46.5	47.0	48.0	47.5	48.0	53.5	42.5	46.0	43.0	42.5	43.0
17	47.5	46.5	47.0	48.0	47.5	48.0	53.0	43.0	48.5	---	---	---
18	47.5	46.5	47.0	48.0	47.5	48.0	49.0	43.0	45.5	---	---	---
19	47.5	46.5	47.0	48.0	48.0	48.0	43.0	42.0	42.5	---	---	---
20	47.5	47.0	47.0	48.0	47.5	48.0	43.5	42.0	42.5	---	---	---
21	47.5	47.0	47.0	48.0	47.5	48.0	44.0	43.0	43.5	---	---	---
22	47.5	47.0	47.5	48.0	47.5	47.5	44.0	43.5	43.5	---	---	---
23	47.5	47.5	47.5	52.0	47.0	48.0	43.5	43.0	43.5	---	---	---
24	47.5	47.0	47.5	47.5	47.0	47.5	48.5	43.5	44.0	---	---	---
25	47.5	47.0	47.0	47.5	47.0	47.0	51.5	43.5	47.5	---	---	---
26	47.0	46.5	47.0	47.5	47.0	47.0	49.0	43.0	44.0	---	---	---
27	47.5	47.0	47.0	53.0	46.5	48.0	53.5	42.5	45.0	---	---	---
28	47.5	47.0	47.0	52.0	46.5	49.0	43.0	42.5	43.0	---	---	---
29	48.0	47.0	47.5	51.0	45.5	47.5	50.5	42.5	44.0	---	---	---
30	48.0	47.5	47.5	48.0	46.0	47.0	43.0	42.5	43.0	---	---	---
31	51.0	47.0	47.5	---	---	---	43.0	42.5	43.0	44.0	44.0	44.0
MONTH	51.0	46.5	47.0	53.0	45.5	48.0	53.5	42.0	45.0	51.5	42.0	43.5

YELLOWSTONE RIVER BASIN

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06190540 HOT RIVER AT MAMMOTH, YELLOWSTONE NATIONAL PARK--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	44.0	44.0	44.0	55.0	44.5	48.5	50.0	49.0	49.5	43.0	42.0	42.5
2	54.0	43.0	47.0	55.0	44.5	47.5	49.5	48.5	49.0	43.0	42.0	42.5
3	43.5	43.0	43.0	45.5	45.0	45.5	49.0	48.0	48.5	43.5	42.5	43.0
4	52.5	42.5	45.0	45.5	45.0	45.5	48.5	45.5	47.5	44.0	42.5	43.0
5	52.0	42.5	45.5	45.5	45.0	45.0	46.5	45.5	46.0	44.0	42.0	43.0
6	54.5	43.0	46.5	45.5	45.0	45.0	46.0	44.5	45.5	44.0	42.5	43.0
7	47.0	42.5	43.5	50.5	45.0	45.5	45.5	44.0	45.0	43.0	41.5	42.0
8	47.0	45.5	46.0	45.5	45.0	45.5	43.0	42.0	42.5	42.0	41.0	41.5
9	45.5	45.0	45.5	46.5	45.5	45.5	43.0	42.0	42.0	42.0	41.0	41.5
10	45.5	45.5	45.5	46.0	45.5	46.0	42.0	41.5	42.0	43.0	41.5	42.5
11	45.5	45.0	45.5	46.5	45.5	46.0	43.0	42.0	42.5	42.5	41.5	42.0
12	45.5	44.5	45.0	46.0	45.5	45.5	42.5	42.0	42.5	42.0	42.0	42.0
13	48.5	46.0	47.0	49.5	44.5	46.5	42.5	41.5	42.0	42.0	41.0	41.5
14	48.5	46.0	47.5	46.0	45.5	45.5	42.0	41.5	42.0	42.0	41.0	41.5
15	47.5	45.0	46.0	46.0	45.5	46.0	42.0	40.5	41.5	42.0	41.0	41.5
16	45.0	44.0	44.0	50.0	45.5	46.5	41.5	40.0	40.5	42.0	41.0	41.5
17	46.0	44.5	45.0	46.5	46.0	46.5	42.0	40.0	40.5	43.0	41.5	42.0
18	46.0	44.5	45.5	47.0	46.5	46.5	40.5	38.5	39.5	42.5	41.5	42.0
19	47.0	45.0	46.0	47.0	46.0	46.5	40.0	38.0	39.0	42.5	41.5	42.0
20	46.5	45.0	45.5	47.0	46.0	46.5	40.5	38.5	39.5	42.5	41.5	42.0
21	46.5	46.0	46.5	47.0	46.0	46.5	40.5	39.0	39.5	43.0	41.5	42.0
22	46.5	46.0	46.5	46.0	45.5	46.0	40.5	39.5	40.0	43.0	42.0	42.5
23	47.0	46.5	47.0	48.5	45.5	47.0	41.0	40.0	40.5	43.0	41.5	42.0
24	47.0	47.0	47.0	53.0	47.5	50.0	41.0	40.0	40.5	42.5	41.5	42.0
25	47.0	47.0	47.0	54.5	48.0	49.0	42.0	40.0	41.0	42.0	41.0	41.5
26	47.0	47.0	47.0	53.0	48.5	50.5	41.5	40.5	41.0	42.5	41.5	42.0
27	47.5	47.0	47.0	50.5	50.0	50.0	42.0	41.0	41.5	43.0	41.5	42.5
28	55.5	46.0	48.5	50.5	50.0	50.5	42.0	41.5	41.5	43.0	42.0	42.5
29	---	---	---	50.5	50.0	50.0	42.0	41.5	42.0	43.0	42.0	42.5
30	---	---	---	50.0	49.5	50.0	42.5	42.0	42.0	42.5	42.0	42.0
31	---	---	---	50.0	49.5	50.0	---	---	---	42.5	41.5	42.0
MONTH	55.5	42.5	46.0	55.0	44.5	47.0	50.0	38.0	42.5	44.0	41.0	42.0
	JUNE			JULY			AUGUST			SEPTEMBER		
1	42.5	41.5	42.0	44.5	43.0	44.0	45.0	44.0	44.5	45.0	43.5	44.5
2	43.0	41.5	42.0	44.5	43.0	44.0	45.5	44.0	44.5	45.0	44.0	44.5
3	43.5	41.5	42.5	44.0	42.5	43.5	45.0	43.0	44.5	45.0	43.5	44.5
4	43.5	42.0	43.0	43.5	42.0	43.0	46.0	44.0	45.0	45.0	44.5	44.5
5	43.0	41.5	42.0	44.5	42.5	43.5	46.0	44.0	45.0	44.5	44.0	44.5
6	43.0	42.0	42.5	44.5	42.5	43.5	46.0	44.0	45.0	---	---	---
7	43.0	42.0	42.5	44.5	42.5	43.5	45.5	43.5	44.5	---	---	---
8	43.0	41.5	42.5	44.5	42.5	43.5	45.5	43.5	44.5	---	---	---
9	43.5	42.0	42.5	44.0	43.5	44.0	45.0	44.0	44.5	---	---	---
10	43.0	42.0	42.5	44.5	43.0	43.5	45.0	44.0	44.5	---	---	---
11	42.0	41.0	41.5	45.0	43.0	44.0	45.0	44.0	44.5	---	---	---
12	41.5	40.5	41.0	45.0	43.0	44.0	45.5	44.0	44.5	---	---	---
13	43.0	41.0	41.5	45.0	43.5	44.0	45.5	44.0	44.5	---	---	---
14	42.5	41.0	42.0	45.5	43.5	44.0	46.0	44.0	45.0	---	---	---
15	43.0	41.0	42.0	44.5	43.5	44.0	46.0	44.0	45.0	---	---	---
16	42.5	42.0	42.0	45.5	43.5	44.5	45.5	44.5	45.0	---	---	---
17	43.5	41.5	42.5	45.5	43.5	44.5	45.5	43.0	44.5	---	---	---
18	43.5	42.0	43.0	44.5	43.5	44.0	45.5	44.0	44.5	---	---	---
19	43.0	42.0	42.5	44.5	43.5	44.0	45.0	43.0	44.5	---	---	---
20	43.5	42.0	42.5	44.0	43.0	43.5	45.0	44.0	44.5	---	---	---
21	44.0	42.0	43.0	44.5	43.0	43.5	45.5	43.5	44.5	---	---	---
22	44.0	42.0	43.0	45.0	43.0	44.0	45.0	44.0	44.5	---	---	---
23	44.0	42.0	43.0	44.5	43.5	44.0	45.0	43.5	44.5	---	---	---
24	44.0	42.0	43.0	45.0	43.5	44.0	45.0	43.5	44.5	---	---	---
25	44.0	42.5	43.5	45.0	43.0	44.0	44.5	43.5	44.0	---	---	---
26	44.0	42.0	43.0	44.5	43.5	44.0	45.0	44.0	44.5	---	---	---
27	44.0	42.0	43.0	44.5	43.5	44.0	45.0	43.5	44.5	---	---	---
28	44.0	42.0	43.5	44.5	43.0	44.0	45.5	43.5	44.5	---	---	---
29	44.5	42.5	43.5	45.0	43.0	44.0	45.5	43.5	44.5	---	---	---
30	44.5	42.5	44.0	45.0	43.5	44.5	45.0	43.5	44.5	---	---	---
31	---	---	---	45.5	43.5	44.5	45.0	43.5	44.5	---	---	---
MONTH	44.5	40.5	42.5	45.5	42.0	44.0	46.0	43.0	44.5	45.0	43.5	44.5

YELLOWSTONE RIVER BASIN

06191000 GARDNER RIVER NEAR MAMMOTH, YELLOWSTONE NATIONAL PARK

LOCATION.--Lat 44°59'33", long 110°41'26", Yellowstone National Park, Hydrologic Unit 10070001, on left bank at Wyoming-Montana State line, 400 ft upstream from highway bridge, 0.5 mi downstream from Hot River (formerly Boiling River), 1.5 mi north of Mammoth, and at river mile 2.9.

DRAINAGE AREA.--202 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to September 1972, April 1984 to current year. Prior to October 1959, published as Gardiner River near Mammoth.

REVISED RECORDS.--WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,623.97 ft above National Geodetic Vertical Datum of 1929 (levels by U. S. National Park Service).

REMARKS.--No estimated daily discharges. Records good. No regulation or diversion upstream of station.

AVERAGE DISCHARGE.--40 years (1938-72, 1985-90), 214 ft³/s, 155,000 acre ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,080 ft³/s, June 4, 1956, gage height, 4.46 ft; maximum gage height, 4.78 ft, June 16, 1962, backwater from logs and debris; minimum discharge, 35 ft³/s, Mar. 28, 1942, gage height, 1.08 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft³/s and maximums (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 11	1100	*852	*3.63	No other peak greater than base discharge.			

Minimum discharge, 50 ft³/s, Mar. 24, gage height, 1.77 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	127	96	102	90	92	88	106	266	458	371	170	125
2	134	112	108	97	90	92	116	266	420	359	165	127
3	132	115	116	82	90	94	131	253	396	350	160	132
4	135	115	117	95	90	94	143	254	445	326	156	134
5	129	114	115	92	90	94	143	267	490	310	153	139
6	128	114	112	94	91	93	134	326	484	293	151	137
7	125	110	106	91	90	92	141	446	561	279	148	128
8	123	107	112	90	81	93	161	382	581	265	148	125
9	122	112	110	106	87	91	177	336	555	260	145	127
10	119	116	102	105	89	93	176	315	646	254	146	122
11	117	122	79	105	90	94	180	328	800	241	151	121
12	117	121	109	103	90	92	200	319	668	231	151	119
13	115	118	114	108	87	92	198	344	550	225	147	117
14	115	111	114	107	72	92	225	336	529	220	142	117
15	115	109	112	105	80	92	270	321	529	212	139	117
16	114	112	104	105	94	90	316	293	470	207	141	116
17	113	112	99	102	98	91	342	280	452	198	172	116
18	114	112	84	75	95	92	436	288	463	194	151	116
19	115	111	98	90	100	92	492	304	499	193	148	117
20	114	109	105	92	107	95	529	301	482	220	151	129
21	114	111	100	96	111	96	581	296	502	215	146	119
22	115	107	100	94	98	94	603	317	512	197	141	117
23	114	107	102	90	92	86	590	376	536	188	141	116
24	119	113	99	86	90	84	527	462	565	184	150	115
25	131	109	90	86	92	97	462	450	556	185	143	115
26	138	111	92	86	90	92	434	388	527	185	140	114
27	125	109	86	80	90	92	362	356	494	183	134	115
28	120	98	89	83	85	91	345	366	454	209	131	114
29	113	88	86	81	---	92	309	417	418	207	129	114
30	109	97	89	82	---	94	285	475	389	185	127	113
31	112	---	89	86	---	98	---	499	---	176	126	---
TOTAL	3733	3298	3140	2884	2551	2862	9114	10627	15431	7322	4543	3633
MEAN	120	110	101	93.0	91.1	92.3	304	343	514	236	147	121
MAX	138	122	117	108	111	98	603	499	800	371	172	139
MIN	109	88	79	75	72	84	106	253	389	176	126	113
AC-FT	7400	6540	6230	5720	5060	5680	18080	21080	30610	14520	9010	7210

CAL YR 1989 TOTAL 73776 MEAN 202 MAX 988 MIN 54 AC-FT 146300
WTR YR 1990 TOTAL 69138 MEAN 189 MAX 800 MIN 72 AC-FT 137100

06191000 GARDNER RIVER NEAR MAMMOTH, YELLOWSTONE RIVER BASIN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1985, 1988 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1984 to September 1985.

WATER TEMPERATURE: October 1984 to September 1985.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water year 1985): Maximum, 941 microsiemens, Mar. 4, 1985; minimum, 186 microsiemens, May 26, 1985.

WATER TEMPERATURE (water year 1985): Maximum, 22.5°C, July 22, 26, 1985; minimum, 4.0°C, Apr. 20, May 12, 1985.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	CLOUD COVER (PER- CENT)	WEATHER (WMO CODE NUMBER)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT									
02...	1715	141	--	--	595	-1.0	10.0	--	--
03...	1515	132	90	71	592	6.0	14.0	28	120
NOV									
06...	1530	112	--	--	601	3.5	12.0	--	--
15...	1440	115	0	0	662	0.0	10.5	33	130
JAN									
02...	1730	100	--	--	720	-6.0	8.0	--	--
03...	1310	62	100	3	906	-8.0	13.5	53	190
FEB									
16...	1130	94	100	3	692	-8.0	10.0	39	150
26...	1415	94	--	--	713	12.0	13.0	--	--
28...	0835	64	--	--	915	-11.0	12.5	--	--
APR									
04...	1715	138	--	--	539	12.0	14.5	30	100
MAY									
08...	1730	365	--	--	285	8.0	10.0	--	--
09...	1830	329	20	1	310	18.0	11.0	13	42
17...	1130	287	--	--	366	14.0	11.0	--	--
JUN									
12...	1930	610	--	--	207	6.5	7.5	--	--
13...	1730	520	60	1	245	17.0	12.0	7.8	29
JUL									
25...	1415	185	20	1	440	23.0	19.0	19	80
SEP									
03...	0815	130	--	--	570	14.0	17.0	--	--
06...	1330	138	10	1	538	26.0	21.5	31	100

DATE	TIME	PH LAB (STAND- ARD UNITS)	HARD- NESS TOTAL (MG/L AS CaCO3)	CALCIUM DIS- SOLVED (MG/L AS Ca)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg)	SODIUM, DIS- SOLVED (MG/L AS Na)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
OCT								
03...	1515	7.9	220	61	16	28	0.8	11
MAY								
09...	1830	7.9	130	36	9.1	13	0.5	4.8

DATE	ALKA- LINITY LAB (MG/L AS CaCO3)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS Fe)
OCT								
03...	146	1.3	29	383	0.52	136	650	15
MAY								
09...	93	0.8	20	195	0.26	173	260	60

YELLOWSTONE RIVER BASIN

06191400 LADUKE (CORWIN) HOT SPRINGS NEAR CORWIN SPRINGS, MT

LOCATION.--Lat 45°05'26", long 110°46'28", in NW¼ SE¼ SW¼ sec.32, T.8 S., R.8 E., Park County, Hydrologic Unit 10070001, downstream end of concrete culvert under U.S. Highway 89, about 4.5 mi north of Gardiner, and 3 mi south of Corwin Springs.

PERIOD OF RECORD.--Water years 1988 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	CLOUD COVER (PER- CENT)	WEATHER (WMO CODE NUMBER)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT 03...	1615	0.19	100	88	2610	7.0	62.5	42	1300
NOV 15...	1545	0.19	0	0	2580	4.0	62.5	44	1300
JAN 03...	0800	0.20	100	3	2680	-11.0	62.0	45	1300
FEB 16...	1230	0.19	--	3	2810	-8.0	61.0	46	1400
MAR 08...	1215	0.20	--	3	2650	4.0	62.5	--	--
APR 04...	1840	0.19	--	--	2600	11.0	63.0	45	1200
MAY 09...	1930	0.20	10	1	2600	19.0	62.5	42	1400
JUN 13...	1830	0.21	40	1	2550	16.0	63.0	43	1300
JUL 25...	1630	0.21	20	1	2550	25.0	63.0	46	1200
SEP 05...	1645	0.21	30	1	2580	25.0	63.5	42	1300

DATE	TIME	PH LAB (STAND- ARD UNITS)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
OCT 03...	1615	7.3	1100	350	59	230	3	24
MAY 09...	1930	7.6	1000	310	60	240	3	25

DATE	ALKA- LINITY LAB (MG/L AS CACO3)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 03...	224	3.8	50	2190	2.98	1.13	500	140
MAY 09...	128	3.8	46	2200	3.00	1.19	510	180

06191500 YELLOWSTONE RIVER AT CORWIN SPRINGS, MT

LOCATION.--Lat 45°06'43", long 110°47'37", in NW¼ SE¼ NW¼ sec.30, T.8 S., R.8 E., Park County, Hydrologic Unit 10070002, on left bank 20 ft downstream from county road bridge at Corwin Springs, 1.3 mi upstream from Mol Heron Creek, 7 mi northwest of Gardiner, and at river mile 549.7.

DRAINAGE AREA.--2,623 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1889 to November 1893 (published as "at Horr"), September 1910 to current year. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 1309: 1912. WSP 1509: 1889-94, 1911, 1913, 1916-18, 1920-21, 1925, 1927. WSP 1559: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,079.09 ft above National Geodetic Vertical Datum of 1929. Aug. 12, 1889, to Nov. 4, 1893, nonrecording gages at site 2 mi upstream at different datums. Sept. 2, 1910, to Apr. 19, 1935, nonrecording gages on bridge at present datum.

REMARKS.--Estimated daily discharges: Dec. 12, 19-22, Jan. 21, Feb. 13-18. Records good except those for estimated daily discharges, which are poor. Natural storage in Yellowstone Lake. Diversions for irrigation of about 960 acres of which 40 acres lies downstream from station. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--84 years, (1890-93, 1911-90) 3,092 ft³/s, 2,240,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 32,000 ft³/s, June 14, 15, 1918, gage height, 11.5 ft, from rating curve extended above 18,000 ft³/s; minimum, 343 ft³/s, Feb. 2, 1989, gage height, 0.12 ft, result of freezeup; minimum gage height observed, 0.05 ft, Feb. 23, Mar. 5, 9, 1937.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 12,000 ft³/s and maximums (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 11	0415	*15,300	*7.38	June 24	0500	13,600	6.92

Minimum discharge, 672 ft³/s, Mar. 24, gage height, 0.70 ft, result of freezeup, but may have been lower during periods of estimated daily discharge.

YELLOWSTONE RIVER BASIN

06191500 YELLOWSTONE RIVER AT CORWIN SPRINGS, MT--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1440	1090	951	894	811	837	1210	3160	9090	9900	3670	2110
2	1540	1110	973	912	810	854	1370	3280	7960	9500	3550	2060
3	1520	1240	1020	853	809	883	1770	3080	7090	5470	3460	2050
4	1570	1260	1080	828	823	924	2150	3200	8480	8490	3370	2100
5	1550	1230	1070	858	821	922	2360	3400	9870	8020	3280	2100
6	1540	1200	1040	860	841	918	2090	4670	9520	7770	3200	2100
7	1490	1200	988	862	847	915	2160	7200	10600	7400	3120	2010
8	1460	1130	1020	878	819	933	2190	5660	10900	6940	3060	1950
9	1460	1190	1020	879	791	930	2300	4720	10600	6720	2980	1920
10	1450	1210	964	910	827	955	2310	4400	12600	6450	2930	1890
11	1450	1240	925	914	847	967	2120	4620	14600	6170	2970	1850
12	1440	1220	e880	877	878	953	2260	4360	12200	5950	3160	1810
13	1400	1240	907	875	e800	886	2180	4570	9900	5790	3040	1780
14	1370	1210	935	903	e760	876	2280	4420	8980	5640	2840	1740
15	1350	1120	948	918	e700	915	2860	4390	9270	5450	2730	1720
16	1300	1140	925	915	e720	884	3580	4050	8920	5270	2670	1700
17	1270	1180	892	908	e750	932	3560	3920	8890	5100	3100	1690
18	1230	1150	864	798	e780	943	4250	4080	9400	4930	2910	1650
19	1240	1140	e800	768	804	953	4590	4440	10200	4800	2730	1630
20	1240	1100	e740	813	804	991	5730	4490	9930	4810	2950	1790
21	1240	1080	e700	e840	802	1010	6710	4470	11000	5090	2890	1750
22	1240	1080	e780	870	811	985	7050	4810	11600	4630	2650	1670
23	1260	1020	902	856	821	937	6440	6000	11900	4470	2580	1620
24	1270	1120	943	835	835	825	6080	7610	12600	4410	2570	1600
25	1350	1100	868	823	856	883	5520	7500	12500	4440	2520	1580
26	1410	1080	865	837	874	970	5370	6240	12400	4280	2470	1560
27	1340	1020	863	789	878	1020	4480	5750	11700	4150	2370	1560
28	1330	966	864	789	850	991	4180	6490	11300	4060	2300	1560
29	1230	938	865	803	---	962	3660	8840	10500	4020	2230	1520
30	1210	945	871	797	---	996	3440	10100	10100	3900	2190	1490
31	1260	---	875	808	---	1080	---	10100	---	3760	2170	---
TOTAL	42450	33949	28338	26470	22769	29030	106250	164020	314600	181780	88660	53560
MEAN	1369	1132	914	854	813	936	3542	5291	10490	5864	2860	1785
MAX	1570	1260	1080	918	878	1080	7050	10100	14600	9900	3670	2110
MIN	1210	938	700	768	700	825	1210	3080	7090	3760	2170	1490
AC-FT	84200	67340	56210	52500	45160	57580	210700	325300	624000	360600	175900	106200

CAL YR 1989 TOTAL 1062315 MEAN 2910 MAX 13800 MIN 380 AC-FT 2107000
WTR YR 1990 TOTAL 1091876 MEAN 2991 MAX 14600 MIN 700 AC-FT 2166000

e Estimated

YELLOWSTONE RIVER BASIN

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06191500 YELLOWSTONE RIVER AT CORWIN SPRINGS, MT--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965, 1969-74, 1977-81, 1984-87, 1988 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1984 to September 1985.

WATER TEMPERATURE: June 1977 to September 1981, March 1984 to September 1985.

SUSPENDED-SEDIMENT DISCHARGE: May 1985 to September 1987, September 1988 to current year.

REMARKS.--Unpublished records of once-daily water temperature are available in files of Montana District office.

EXTREMES FOR PERIOD OF DAILY RECORDS.--

SPECIFIC CONDUCTANCE (water years 1984-85): Maximum, 311 microsiemens, Feb. 5, 1985; minimum, 71 microsiemens, June 21, 22, 1984.

WATER TEMPERATURE (water years 1977-81, 1984-85): Maximum, 21.5°C, July 22, 23, 1977; minimum, 0.0°C, on many days during winter periods most years.

SEDIMENT CONCENTRATION: Maximum daily mean, 650 mg/L, May 11, 1989; minimum daily mean, 1 mg/L, on several days in September 1987.

SEDIMENT LOAD: Maximum daily, 29,200 tons, June 3, 1986; minimum daily, 2.7 tons, Sep. 29, 1987.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION: Maximum daily mean, 625 mg/L, Apr. 20; minimum daily mean, 2 mg/L, Sept. 12, 13, and 14.

SEDIMENT LOAD: Maximum daily, 21,200 tons, June 11; minimum daily, 7.6 tons, Nov. 29.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	CLOUD COVER (PER- CENT)	WEATHER (WMO CODE NUMBER)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT												
05...	1130	1550	10	1	212	9.0	8.0	<0.01	26	6	25	88
NOV												
15...	1630	1070	--	0	251	2.0	3.0	--	--	--	--	--
JAN												
02...	1230	--	--	--	292	-1.0	1.0	--	--	--	--	--
FEB												
12...	1730	894	--	--	302	-12.0	1.0	--	--	13	31	66
28...	1305	844	--	--	291	3.0	4.0	--	--	--	--	--
APR												
02...	1530	1380	0	0	229	22.0	10.0	--	--	27	101	91
MAY												
07...	1215	7810	60	3	111	10.0	8.0	--	--	315	6640	61
JUN												
11...	1215	14700	--	--	88	11.5	8.0	--	--	573	22700	48
JUL												
23...	1345	4430	--	--	140	22.0	17.0	--	--	17	203	69
SEP												
05...	1110	2080	--	--	190	14.0	15.0	--	--	8	45	81

YELLOWSTONE RIVER BASIN

06191500 YELLOWSTONE RIVER AT CORWIN SPRINGS, MT--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)	
	LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)	
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	6	23	4	12	3	7.7	8	19	5	11	5	11
2	6	25	4	12	3	7.9	8	20	5	11	5	12
3	6	25	4	13	3	8.3	8	18	5	11	5	12
4	6	25	4	14	3	8.7	7	16	5	11	5	12
5	6	25	4	13	3	8.7	7	16	5	11	5	12
6	6	25	4	13	3	8.4	7	16	5	11	5	12
7	6	24	4	13	3	8.0	6	14	5	11	5	12
8	5	20	4	12	4	11	5	12	4	8.8	7	18
9	4	16	4	13	4	11	5	12	4	8.5	8	20
10	4	16	4	13	4	10	5	12	6	13	8	21
11	3	12	4	13	4	10	5	12	9	21	8	21
12	3	12	4	13	4	9.5	5	12	11	26	8	21
13	3	11	4	13	4	9.8	5	12	10	22	7	17
14	3	11	4	13	4	10	5	12	8	16	6	14
15	3	11	4	12	6	15	6	15	5	9.5	6	15
16	3	11	4	12	6	15	6	15	4	7.8	6	14
17	3	10	4	13	6	14	6	15	4	8.1	6	15
18	3	10	5	16	6	14	6	13	4	8.4	6	15
19	4	13	5	15	7	15	6	12	4	8.7	6	15
20	4	13	5	15	8	16	6	13	5	11	6	16
21	4	13	5	15	8	15	6	14	5	11	6	16
22	4	13	5	15	8	17	6	14	6	13	6	16
23	4	14	6	17	8	19	6	14	6	13	6	15
24	4	14	7	21	8	20	7	16	6	14	6	13
25	4	15	7	21	8	19	13	29	6	14	6	14
26	4	15	7	20	8	19	24	54	6	14	6	16
27	4	14	6	17	8	19	10	21	6	14	10	28
28	4	14	4	10	9	21	5	11	5	11	10	27
29	4	13	3	7.6	9	21	5	11	---	---	9	23
30	4	13	3	7.7	9	21	5	11	---	---	8	22
31	4	14	---	---	8	19	5	11	---	---	9	26
TOTAL	---	490	---	414.3	---	428.0	---	492	---	349.8	---	521
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	17	56	21	179	144	3530	80	2140	11	109	6	34
2	24	89	24	213	82	1760	81	2080	10	96	6	33
3	109	521	13	108	47	900	80	2050	9	84	5	28
4	180	1040	16	138	102	2340	57	1310	8	73	9	51
5	188	1200	24	220	265	7060	51	1100	7	62	8	45
6	69	389	95	1200	177	4550	49	1030	7	60	6	34
7	53	309	235	4570	231	6610	43	859	6	51	5	27
8	42	248	69	1050	217	6390	39	731	6	50	5	26
9	42	261	34	433	174	4980	39	708	6	48	4	21
10	35	218	30	356	379	12900	45	784	6	47	4	20
11	24	137	28	349	539	21200	39	650	16	128	3	15
12	29	177	22	259	252	8300	29	466	393	3350	2	9.8
13	22	129	24	296	121	3230	30	469	284	2330	2	9.6
14	23	142	26	310	87	2110	29	442	182	1400	2	9.4
15	82	633	26	308	106	2650	22	324	52	383	4	19
16	263	2540	19	208	66	1590	21	299	24	173	4	18
17	119	1140	15	159	62	1490	19	262	232	1940	4	18
18	216	2480	16	176	107	2720	18	240	165	1300	3	13
19	198	2450	23	276	138	3800	17	220	46	339	3	13
20	625	9670	23	279	92	2470	19	247	102	812	17	82
21	572	10400	15	181	169	5020	51	701	243	1900	9	43
22	410	7800	24	312	195	6110	21	263	90	644	6	27
23	148	2570	77	1250	177	5690	16	193	38	265	5	22
24	111	1820	227	4660	239	8130	16	191	22	153	3	13
25	74	1100	147	2980	185	6240	15	180	17	116	3	13
26	59	855	56	943	173	5790	13	150	15	100	3	13
27	37	448	42	652	141	4450	11	123	14	90	5	21
28	31	350	90	1580	132	4030	23	252	12	75	5	21
29	26	257	356	8500	118	3350	14	152	9	54	4	16
30	22	204	416	11300	95	2590	50	526	7	41	4	16
31	---	---	331	9030	---	---	19	193	7	41	---	---
TOTAL	---	49633	---	52475	---	151980	---	19335	---	16314	---	730.8
TOTAL LOAD FOR YEAR:		293162.9		TONS.								

06207500 CLARKS FORK YELLOWSTONE RIVER NEAR BELFRY, MT

LOCATION.--Lat 45°00'37", long 109°03'53", in NW¼ SW¼ NW¼ sec.32, T.9 S., R.22 E., Carbon County, Hydrologic Unit 10070006, on left bank 0.2 mi upstream from county road bridge and Big Sand Coulee, 0.8 mi north of Wyoming-Montana State line, 9.5 mi southwest of Belfry, and at river mile 71.2.

DRAINAGE AREA.--1,154 mi².

PERIOD OF RECORD.--July 1921 to current year. Monthly discharge only for some periods, published in WSP 1309. Published as Clarks Fork at Chance prior to October 1956 and as Clarks Fork Yellowstone River at Chance October 1956 to September 1968.

REVISED RECORDS.--WSP 1309: 1922 (M). WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,986.24 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Nov. 15, 1934, nonrecording gage, and Nov. 15, 1934, to July 26, 1951, water-stage recorder at bridge 0.4 mi downstream of different datum. July 27, 1951 to Sept. 30, 1953, water-stage recorder at present site at datum 0.98 ft higher.

REMARKS.--Estimated daily discharges: Dec. 10-26, Jan. 11,12, 16-21, Jan. 27 to Feb. 19, and Mar. 22-26. Records good except those for estimated daily discharges, which are poor. Diversions for irrigation of about 11,100 acres upstream from station.

AVERAGE DISCHARGE.--69 years, 935 ft³/s, 677,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,800 ft³/s, June 9, 1981, gage height, 9.97 ft; minimum observed, 32 ft³/s, Apr. 26, 1961, result of discharge measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,400 ft³/s and maximums (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 11	0630	*6,640	*6.63	June 25	0330	6,390	6.51

Minimum discharge, 86 ft³/s, Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	248	257	271	e180	224	309	666	3350	4490	896	244
2	106	199	259	274	e210	235	377	627	2710	4420	878	226
3	133	240	298	252	e240	244	491	611	2180	4520	812	213
4	149	261	312	220	e250	256	605	595	2520	4070	763	206
5	169	267	305	227	e250	262	631	593	3140	3340	727	204
6	189	257	300	248	e250	245	511	799	3270	3120	675	207
7	197	252	293	271	e230	238	478	1420	3490	3150	617	200
8	182	248	271	307	e210	236	477	1340	3760	2820	572	186
9	194	239	303	290	e230	252	544	1130	3700	2510	533	180
10	195	261	e250	310	e270	264	562	972	4720	2180	498	193
11	206	278	e210	e250	e280	257	489	925	6190	1960	517	178
12	187	283	e220	e240	e240	278	506	865	5030	1860	643	171
13	181	288	e240	280	e180	247	532	840	3510	1860	636	162
14	172	311	e270	284	e150	250	502	845	2640	1820	627	159
15	177	283	e270	279	e170	239	732	767	2320	1700	575	156
16	173	235	e250	e270	e190	229	884	674	2270	1630	512	146
17	195	290	e230	e230	e220	229	752	618	2140	1530	504	134
18	190	285	e200	e200	e240	236	820	588	2380	1420	586	122
19	181	284	e220	e190	e250	234	947	645	3070	1270	545	121
20	184	276	e200	e210	261	253	1200	679	3240	1250	710	123
21	180	271	e190	e240	255	282	1540	684	4060	1600	722	132
22	176	277	e170	274	253	e260	1750	793	4740	1260	685	122
23	179	253	e200	251	256	e220	1650	1090	5150	1090	616	115
24	190	259	e230	240	245	e200	1570	1530	5860	989	542	108
25	192	280	e270	239	241	e220	1490	1780	5810	1010	507	101
26	195	257	e310	255	243	e250	1370	1510	5650	925	446	92
27	194	265	316	e220	235	261	1130	1290	5330	830	388	96
28	187	231	313	e200	227	260	1020	1450	5000	748	340	103
29	201	215	296	e190	---	241	865	2570	4570	836	311	99
30	218	238	283	e180	---	231	756	3670	4400	885	284	98
31	242	---	265	e170	---	255	---	3740	---	843	269	---
TOTAL	5612	7831	8001	7562	6456	7588	25490	36306	116200	61936	17936	4597
MEAN	181	261	258	244	231	245	850	1171	3873	1998	579	153
MAX	242	311	316	310	280	282	1750	3740	6190	4520	896	244
MIN	98	199	170	170	150	200	309	588	2140	748	269	92
AC-FT	11130	15530	15870	15000	12810	15050	50560	72010	230500	122900	35580	9120

CAL YR 1989 TOTAL 331349 MEAN 908 MAX 6910 MIN 50 AC-FT 657200
WTR YR 1990 TOTAL 305515 MEAN 837 MAX 6190 MIN 92 AC-FT 606000

e Estimated

YELLOWSTONE RIVER BASIN

06218500 WIND RIVER NEAR DUBOIS, WY

LOCATION.--Lat 43°34'43", long 109°45'33", in NW¼ NE¼ sec.25, T.42 N., R.108 W., Fremont County, Hydrologic Unit 10080001, on left bank 2.5 mi upstream from Warm Springs Creek and 6.7 mi northwest of Dubois.

DRAINAGE AREA.--232 mi².

PERIOD OF RECORD.--October 1945 to current year.

REVISED RECORDS.--WSP 1709: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7,188.71 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

REMARKS.--Estimated daily discharges: Oct. 30 to Nov. 4, Nov. 15-17, and Nov. 24 to Apr. 3. Records good except those for estimated daily discharges, which are poor. Diversions upstream from station for irrigation of about 2,300 acres.

AVERAGE DISCHARGE.--45 years, 175 ft³/s, 126,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,940 ft³/s, June 8, 1972, gage height, 5.48 ft; maximum gage height, 5.66 ft, June 2, 1956; minimum daily discharge, 26 ft³/s, Feb. 5, 1982.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 850 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 18	1200	ice jam	*4.76	No other peak greater than base discharge.			
June 11	0600	*966	4.50				

Minimum daily discharge, 42 ft³/s, Feb. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	76	58	54	52	44	70	130	429	454	155	91
2	93	70	58	58	52	45	82	131	352	453	148	92
3	99	84	56	56	50	46	110	127	310	446	140	93
4	105	92	54	54	49	47	148	126	439	380	138	90
5	97	105	60	54	49	48	136	134	580	380	144	89
6	97	100	66	54	50	49	106	171	554	363	135	94
7	92	94	62	52	50	50	113	254	557	337	129	89
8	90	85	60	54	52	50	109	236	580	305	125	86
9	88	102	58	58	52	52	126	190	594	304	122	83
10	85	103	56	62	52	52	127	175	689	284	120	81
11	83	98	54	60	54	54	123	191	859	247	125	79
12	82	92	54	60	56	52	126	188	658	227	125	79
13	82	94	54	60	54	50	116	186	484	216	125	79
14	81	94	54	58	54	47	126	168	408	214	125	76
15	82	94	56	58	50	48	146	163	359	203	115	74
16	83	100	54	58	48	49	168	152	376	194	110	74
17	81	94	54	54	47	50	135	147	350	182	118	75
18	81	90	54	50	46	50	139	154	356	172	115	75
19	81	93	53	47	44	52	146	172	412	164	112	93
20	83	88	54	45	42	52	166	161	413	163	121	120
21	82	91	56	47	45	54	193	161	514	270	139	112
22	86	85	58	49	47	52	200	188	557	210	132	99
23	85	81	56	52	50	49	193	237	568	188	121	91
24	87	82	56	54	49	45	183	310	640	191	115	87
25	86	88	54	54	48	47	177	291	635	246	113	84
26	89	92	54	52	47	48	168	260	599	190	112	84
27	84	86	54	50	46	49	141	272	581	172	105	87
28	93	82	52	50	45	50	154	307	525	164	99	85
29	82	70	52	50	---	54	136	438	477	168	96	82
30	74	60	52	52	---	58	130	502	453	170	94	80
31	82	---	52	52	---	64	---	464	---	160	93	---
TOTAL	2686	2665	1725	1668	1380	1557	4193	6786	15308	7817	3766	2603
MEAN	86.6	88.8	55.6	53.8	49.3	50.2	140	219	510	252	121	86.8
MAX	105	105	66	62	56	64	200	502	859	454	155	120
MIN	74	60	52	45	42	44	70	126	310	160	93	74
AC-FT	5330	5290	3420	3310	2740	3090	8320	13460	30360	15510	7470	5160

CAL YR 1989 TOTAL 63769 MEAN 175 MAX 976 MIN 27 AC-FT 126500
WTR YR 1990 TOTAL 52154 MEAN 143 MAX 859 MIN 42 AC-FT 103400

YELLOWSTONE RIVER BASIN

63

06220500 EAST FORK WIND RIVER NEAR DUBOIS, WY

LOCATION.--Lat 43°27'16", long 109°27'57", in SE¼ SW¼ NW¼ sec.34, T.6 N., R.6 W., Fremont County, Hydrologic Unit 10080001, Wind River Indian Reservation, on left bank 1.0 mi upstream from mouth and 9.9 mi southeast of Dubois.

DRAINAGE AREA.--427 mi².

PERIOD OF RECORD.--April 1950 to September 1957, October 1975 to current year. Prior to October 1953, published as North Fork Wind River near Dubois.

GAGE.--Water-stage recorder. Elevation of gage is 6,440 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Sept. 30, 1957, at site 50 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Oct. 28 to Mar. 28. Records good except those for estimated daily discharges, which are poor. Diversions for irrigation of about 2,000 acres upstream from station.

AVERAGE DISCHARGE.--22 years, 247 ft³/s, 179,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,980 ft³/s, June 9, 1981, gage height, 7.69 ft, from rating curve, extended above 2,600 ft³/s; maximum gage height, 9.27 ft, June 30, 1957; minimum daily discharge, 18 ft³/s, Jan. 9, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 11	0300	*2,420	*5.78	July 20	2400	2,390	5.76
June 23	2330	2,260	5.68	July 25	0300	2,240	5.67

Minimum daily discharge, 22 ft³/s, Dec. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	107	54	35	54	49	52	143	100	503	999	358	151
2	119	47	38	50	48	54	175	118	320	1060	311	149
3	126	44	42	47	48	58	269	108	281	1030	283	146
4	144	39	49	50	50	58	320	123	749	752	327	140
5	140	45	45	52	49	54	283	142	1040	693	355	141
6	151	52	43	54	48	58	138	320	799	727	321	140
7	139	60	38	54	47	58	153	475	798	645	268	127
8	120	68	35	56	46	58	121	258	875	535	245	106
9	120	72	32	56	47	60	140	175	1050	541	229	97
10	116	76	29	58	52	58	133	145	1450	511	228	98
11	125	72	28	59	56	56	126	177	1700	423	279	94
12	131	64	29	54	52	58	144	170	839	388	261	93
13	129	54	32	50	46	60	112	170	499	650	249	89
14	127	47	33	45	30	58	127	140	450	914	241	86
15	127	45	35	39	31	60	163	129	373	486	207	79
16	126	43	33	36	34	62	277	105	451	397	204	87
17	117	42	31	33	37	60	138	101	376	383	223	86
18	106	44	28	31	40	62	178	108	533	333	201	83
19	103	46	29	32	34	64	230	116	766	280	223	147
20	110	43	31	35	45	62	318	113	786	457	293	347
21	108	40	27	39	48	60	333	98	1180	1010	263	229
22	110	38	22	42	50	64	271	122	1220	540	226	195
23	110	36	30	45	54	59	205	186	1370	403	202	205
24	110	35	37	48	58	56	183	383	1550	360	204	159
25	108	35	45	49	60	57	179	287	1340	895	202	120
26	109	34	56	46	58	59	182	212	1250	558	194	131
27	95	34	62	42	54	64	129	206	1250	424	176	139
28	102	33	58	43	50	70	152	260	1100	363	167	121
29	89	32	54	45	---	57	106	792	1000	387	162	124
30	71	33	60	48	---	65	96	811	1040	470	157	116
31	64	---	58	50	---	90	---	687	---	397	156	---
TOTAL	3559	1407	1204	1442	1321	1871	5524	7337	26938	18011	7415	4025
MEAN	115	46.9	38.8	46.5	47.2	60.4	184	237	898	581	239	134
MAX	151	76	62	59	60	90	333	811	1700	1060	358	347
MIN	64	32	22	31	30	52	96	98	281	280	156	79
AC-FT	7060	2790	2390	2860	2620	3710	10960	14550	53430	35720	14710	7980

CAL YR 1989 TOTAL 86912 MEAN 238 MAX 2000 MIN 22 AC-FT 172400
WTR YR 1990 TOTAL 80054 MEAN 219 MAX 1700 MIN 22 AC-FT 158800

YELLOWSTONE RIVER BASIN

06220800 WIND RIVER ABOVE RED CREEK, NEAR DUBOIS, WY

LOCATION.--Lat 43°25'49", long 109°26'41", in SE¼ NW¼ NW¼ sec.11, T.5 N., R.6 W, Fremont County, Hydrologic Unit 10080001, Wind River Indian Reservation, 1.2 mi upstream from Little Red Creek, 1.8 miles downstream from East Fork Wind River, and 12.2 miles southeast of Dubois.

PERIOD OF RECORD.--October 1986 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)
SEP 15...	1215	232	10.0	<0.01	<0.01	<0.01	<0.01	<0.01

DATE	SILVEX, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)
SEP 15...	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)
NOV 07...	1730	E186	328	1.0	150	41	12	12	0.4	2.3	130
JAN 30...	1715	E125	440	0.0	180	50	14	12	0.4	3.2	150
MAR 28...	1800	120	314	5.0	160	43	12	13	0.5	2.8	120
MAY 31...	1315	1200	153	8.5	59	17	4.1	7.1	0.4	1.3	58
JUL 24...	1930	E1000	195	15.0	84	23	6.4	6.1	0.3	1.7	80
SEP 25...	1445	E400	274	15.5	120	34	9.2	7.9	0.3	2.5	110

E-Estimate.

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
NOV 07	22	4.6	0.4	20	192	0.26	E96.4	<0.1	0.03	<1
JAN 30...	33	4.0	0.4	22	229	0.31	E77.3	0.1	0.03	<5
MAR 28...	39	3.9	0.3	21	208	0.28	67.3	0.2	<0.03	<5
MAY 31...	17	1.7	0.1	19	103	0.14	332	0.1	0.07	<1
JUL 24...	18	1.8	0.1	17	123	0.17	E332	0.2	0.04	<5
SEP 25...	25	2.8	0.4	17	169	0.23	E183	0.9	0.04	<5

E-Estimate.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 07...	1	30	1	<10	0.5	<1.0	<10
MAY 31...	<1	50	1	<10	<0.1	<1.0	<10

E-Estimate.

[illegible]

YELLOWSTONE RIVER BASIN

06221400 DINWOODY CREEK ABOVE LAKES, NEAR BURRIS, WY

LOCATION.--Lat 43°20'44", long 109°24'34", in SE¼ SE¼ sec.1, T.4 N., R.6 W., Fremont County, Hydrologic Unit 10080001, Wind River Indian Reservation, on left bank 0.5 mi upstream from Upper Dinwoody Lake, 7.0 mi west of Burris, and 17 mi southeast of Dubois.

DRAINAGE AREA.--88.2 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1957 to September 1978, October 1988 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,500 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 30 to Nov. 4, Nov. 28 to Mar. 24, and Mar. 30 to Apr. 12. Records good except those for estimated daily discharges, which are poor. No diversion upstream from station.

AVERAGE DISCHARGE.--23 years (water years 1958-78, 1989-90), 141 ft³/s, 102,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,450 ft³/s, July 25, 1977, gage height, 4.44 ft; minimum daily, 1.0 ft³/s Jan. 9, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 3	1100	*812	*3.83	No other peak greater than base discharge.			

Minimum daily discharge, 3.8 ft³/s, Feb. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	23	19	9.4	6.2	4.0	10	47	186	525	315	258
2	76	25	20	9.4	6.0	4.1	11	46	141	547	306	263
3	71	26	19	9.0	6.0	4.2	12	45	116	717	301	224
4	73	26	19	9.0	5.9	4.4	14	44	154	598	308	249
5	64	27	18	8.0	5.6	4.5	16	45	246	498	281	280
6	70	27	17	7.4	5.4	4.5	14	55	242	477	292	288
7	65	25	17	7.6	5.0	5.0	15	98	257	481	307	281
8	60	24	17	7.8	4.7	5.2	16	102	254	432	320	273
9	60	28	15	8.0	5.2	5.4	18	81	275	422	316	257
10	55	27	14	8.2	5.2	5.6	19	65	339	384	316	235
11	52	28	14	8.2	5.0	5.6	21	70	440	375	322	223
12	48	28	14	8.2	4.6	5.4	23	69	363	372	324	214
13	45	26	15	8.1	4.3	5.4	23	71	263	386	311	219
14	43	21	15	8.2	3.8	5.8	23	60	204	399	294	202
15	41	24	14	8.4	3.9	6.0	28	62	176	391	290	212
16	42	24	12	8.4	4.1	6.2	38	49	183	390	288	219
17	39	24	11	7.8	4.3	6.2	41	51	170	388	293	188
18	35	24	10	7.0	4.4	6.2	51	57	185	371	315	157
19	36	24	9.0	7.2	4.5	6.2	57	54	232	364	304	194
20	40	22	9.8	7.8	4.5	6.2	72	56	266	365	284	248
21	36	21	9.4	8.0	4.5	6.2	88	52	340	442	272	250
22	36	20	9.0	7.8	4.5	5.9	103	68	356	388	265	226
23	34	19	9.4	7.0	4.5	5.8	99	92	378	346	222	196
24	33	21	9.8	7.0	4.5	5.8	95	154	455	358	202	182
25	32	19	10	7.0	4.3	5.7	87	146	487	383	197	183
26	32	19	10	6.2	4.1	6.1	78	121	506	386	160	179
27	24	19	10	6.0	4.0	5.8	64	109	496	364	172	176
28	31	17	10	6.0	4.0	5.4	58	132	484	337	187	179
29	28	18	10	6.2	---	8.4	48	183	453	319	193	160
30	26	20	10	6.2	---	9.0	49	209	438	319	237	140
31	25	---	9.4	6.2	---	9.7	---	191	---	314	305	---
TOTAL	1431	696	405.8	236.7	133.0	179.9	1291	2684	9085	12838	8499	6555
MEAN	46.2	23.2	13.1	7.64	4.75	5.80	43.0	86.6	303	414	274	218
MAX	79	28	20	9.4	6.2	9.7	103	209	506	717	324	288
MIN	24	17	9.0	6.0	3.8	4.0	10	44	116	314	160	140
AC-FT	2840	1380	805	469	264	357	2560	5320	18020	25460	16860	13000

CAL YR 1989 TOTAL 44013.0 MEAN 121 MAX 597 MIN 3.7 AC-FT 87300
WTR YR 1990 TOTAL 44034.4 MEAN 121 MAX 717 MIN 3.8 AC-FT 87340

YELLOWSTONE RIVER BASIN

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06221400 DINWOODY CREEK ABOVE LAKES, NEAR BURRIS, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1988 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT- ANCE LAB (US/CM)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)
NOV 16...	1035	23	89	2.0	44	11	3.9	3.8	0.3	0.8	30
FEB 21...	1130	4.5	194	1.0	80	20	7.2	5.5	0.3	1.2	57
MAY 24...	1525	163	34	8.0	13	3.5	1.1	2.4	0.3	0.7	12
AUG 22...	1105	276	29	10.0	11	2.9	1.0	0.7	0.1	<0.2	8.0

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
NOV 16...	8.3	4.4	0.1	4.6	56	0.08	3.49	0.3	0.03	<1
FEB 21...	8.0	13	0.1	4.9	95	0.13	1.16	0.3	<0.03	<1
MAY 24...	--	<1.0	0.2	4.7	--	--	--	0.1	<0.03	<5
AUG 22...	2.6	<1.0	<0.1	1.6	E15	E0.02	E11.2	0.2	<0.03	<5

E-Estimate.

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)
NOV 16...	1035	--	<1	<100	<10	<1.0	1
FEB 21...	1130	10	7	<100	10	<1.0	3

DATE	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 16...	1	10	1	<10	<0.1	<1.0	<10
FEB 21...	1	20	<1	<10	<0.1	<1.0	10

YELLOWSTONE RIVER BASIN

06222500 DRY CREEK NEAR BURRIS, WY

LOCATION.--Lat 43°20'11", long 109°17'55", in NW¼ NE¼ SW¼ sec. 12, T.4 N., R.5 W., Fremont County, Hydrologic Unit 10080001, Wind River Indian Reservation, on left bank 0.9 mi upstream from Dry Creek Canal headgate and 2.4 mi southwest of Burris.

DRAINAGE AREA.--57 mi², approximately.

PERIOD OF RECORD.--June 1921 to September 1940, October 1988 to current year. Published as "near Lenore" 1921 to 1924.

GAGE.--Water-stage recorder. Elevation of gage is 6,430 ft (revised) above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 5, 1934, at site 50 ft downstream at datum 4.07 ft higher. Nov. 5, 1934 to September 1940, at site 5 ft downstream at datum 3.00 ft higher.

REMARKS.--Estimated daily discharges: Oct. 29 to Nov. 3, Nov. 13-15, Nov. 22 to Dec. 2, Dec. 6 to Feb. 26, Feb. 28 to Mar. 2, and Mar. 13-16, 24-26. Records good except those for estimated daily discharges, which are poor. Adjudicated diversion upstream for irrigation of 267 acres.

AVERAGE DISCHARGE.--21 years (water years 1922-40, 1989-90), 43.9 ft³/s, 31,810 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,400 ft³/s, about June 12, 1921, gage height, 3.9 ft, from floodmark, site and datum then in use, from rating curve extended above 580 ft³/s; no flow Mar. 1 to Apr. 11, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 200 ft³/s, June 11, gage height, 3.90 ft; minimum daily, 1.1 ft³/s, Feb. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	8.4	5.6	2.5	1.9	1.9	2.4	24	99	135	68	48
2	20	12	5.4	2.4	1.8	2.0	2.5	24	87	139	61	47
3	22	12	6.4	2.2	1.7	2.1	2.6	23	74	166	56	50
4	24	12	7.2	2.1	1.7	2.0	2.8	23	90	157	67	49
5	23	11	7.7	2.2	1.6	2.0	3.0	24	111	133	63	51
6	22	11	7.0	2.2	1.5	2.0	3.1	29	105	119	59	54
7	22	9.8	7.0	2.2	1.4	1.9	3.3	47	110	111	56	51
8	21	9.1	7.0	2.2	1.3	2.0	3.6	53	113	100	54	49
9	21	9.1	6.2	2.3	1.4	2.1	5.2	44	111	97	52	47
10	20	9.3	6.0	2.3	1.5	2.2	4.7	38	125	96	50	44
11	19	9.2	5.4	2.4	1.6	2.3	5.2	37	183	91	51	41
12	18	9.0	6.0	2.4	1.5	2.0	6.0	39	159	87	51	38
13	17	7.6	6.4	2.4	1.3	1.9	6.4	41	119	84	52	34
14	16	7.0	5.0	2.4	1.2	1.8	7.2	38	105	83	53	32
15	15	6.0	5.0	2.3	1.1	1.9	9.9	35	100	81	48	31
16	15	8.1	4.6	2.1	1.2	1.9	15	33	97	78	45	30
17	15	8.0	4.5	1.9	1.2	1.9	13	32	94	74	48	30
18	15	7.7	4.5	1.8	1.2	1.9	17	33	91	71	48	29
19	15	7.9	4.0	1.8	1.3	1.9	19	35	95	70	47	45
20	14	7.7	4.1	1.9	1.3	2.0	22	34	99	78	46	66
21	14	7.2	2.9	2.1	1.3	2.1	31	33	113	107	50	62
22	13	6.0	2.7	2.2	1.3	2.0	41	37	120	98	55	60
23	13	6.6	3.0	2.1	1.4	1.9	43	55	126	89	52	59
24	12	6.0	3.1	2.0	1.5	1.8	41	85	158	87	49	58
25	12	4.9	3.2	1.9	1.7	1.6	37	81	164	86	47	58
26	12	5.0	3.3	1.7	1.9	1.7	35	69	170	86	43	59
27	11	5.2	3.0	1.6	2.0	1.9	32	69	172	85	39	59
28	12	5.4	2.9	1.7	1.8	2.0	30	87	169	80	35	60
29	11	5.6	2.8	1.8	---	1.9	27	100	149	76	32	60
30	10	5.6	2.7	1.8	---	2.0	25	100	133	78	33	56
31	10	---	2.6	1.9	---	2.1	---	100	---	73	45	---
TOTAL	504	239.4	147.2	64.8	41.6	60.7	495.9	1502	3641	2995	1555	1457
MEAN	16.3	7.98	4.75	2.09	1.49	1.96	16.5	48.5	121	96.6	50.2	48.6
MAX	24	12	7.7	2.5	2.0	2.3	43	100	183	166	68	66
MIN	10	4.9	2.6	1.6	1.1	1.6	2.4	23	74	70	32	29
AC-FT	1000	475	292	129	83	120	984	2980	7220	5940	3080	2890

CAL YR 1989 TOTAL 15950.97 MEAN 43.7 MAX 308 MIN .40 AC-FT 31640
WTR YR 1990 TOTAL 12703.6 MEAN 34.8 MAX 183 MIN 1.1 AC-FT 25200

06222510 DRY CREEK CANAL AT HEADGATE, NEAR BURRIS, WY

LOCATION.--Lat 43°20'38", long 109°17'25", in NW¼ NE¼ NE¼ sec.12, T.4 S., R.5 W., Fremont County, Hydrologic Unit 10080001, Wind River Indian Reservation, on left bank 200 ft downstream from headgate and 1.7 miles southwest of Burris.

PERIOD OF RECORD.--April 1989 to current year (no winter records).

GAGE.--Water-stage recorder. Elevation of the gage is 6,360 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to April 1, 1990, at datum 1.00 ft higher.

REMARKS.--Estimated daily discharges: Apr. 1, May 26-30, and Sept. 17-30. Records fair. Flow is diverted from Dry Creek for irrigation.

EXTREMES FOR PERIOD OF RECORD.--239 ft³/s, June 9, 1990, gage height 3.61 ft; no flow during most of non-irrigation periods.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 239 ft³/s, June 9, gage height, 3.61 ft; minimum daily during period of operation, 0.05 ft³/s, Apr. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	.05	39	197	234	146	206
2	---	---	---	---	---	---	.06	50	188	234	148	203
3	---	---	---	---	---	---	.06	65	173	233	145	202
4	---	---	---	---	---	---	.08	67	183	233	147	198
5	---	---	---	---	---	---	.12	66	198	233	148	193
6	---	---	---	---	---	---	.15	67	195	233	146	192
7	---	---	---	---	---	---	.14	76	220	235	146	195
8	---	---	---	---	---	---	.16	87	219	237	164	202
9	---	---	---	---	---	---	.24	85	225	222	168	199
10	---	---	---	---	---	---	.25	78	213	200	184	196
11	---	---	---	---	---	---	.23	75	160	198	195	192
12	---	---	---	---	---	---	.26	76	181	203	194	187
13	---	---	---	---	---	---	.25	78	209	196	194	184
14	---	---	---	---	---	---	.25	77	205	206	193	183
15	---	---	---	---	---	---	.31	74	206	210	191	181
16	---	---	---	---	---	---	.36	79	206	206	189	180
17	---	---	---	---	---	---	.34	97	206	210	188	180
18	---	---	---	---	---	---	.34	81	205	210	188	180
19	---	---	---	---	---	---	.31	79	204	210	187	180
20	---	---	---	---	---	---	.29	81	211	206	188	180
21	---	---	---	---	---	---	.27	78	212	169	193	180
22	---	---	---	---	---	---	.22	81	222	168	200	180
23	---	---	---	---	---	---	.17	94	220	159	198	181
24	---	---	---	---	---	---	.14	105	216	146	199	181
25	---	---	---	---	---	---	.11	104	216	147	199	181
26	---	---	---	---	---	---	1.2	125	218	147	193	181
27	---	---	---	---	---	---	39	130	225	148	193	182
28	---	---	---	---	---	---	43	150	231	147	192	183
29	---	---	---	---	---	---	42	170	233	148	188	184
30	---	---	---	---	---	---	39	193	234	148	189	185
31	---	---	---	---	---	---	---	194	---	149	199	---
TOTAL	---	---	---	---	---	---	169.36	2901	6231	6025	5592	5631
MEAN	---	---	---	---	---	---	5.65	93.6	208	194	180	188
MAX	---	---	---	---	---	---	43	194	234	237	200	206
MIN	---	---	---	---	---	---	.05	39	160	146	145	180
AC-FT	---	---	---	---	---	---	336	5750	12360	11950	11090	11170

YELLOWSTONE RIVER BASIN

06222700 CROW CREEK NEAR TIPPERARY, WY

LOCATION.--Lat 43°34'37", long 109°15'42", in sec.20, T.7 N., R.4 W., Fremont County, Hydrologic Unit 10080001, Wind River Indian Reservation, on right bank just above Crow Creek Canyon, 2.0 mi downstream from Trail Creek, 5.0 mi north of Tipperary, and 19 mi north of Crowheart.

DRAINAGE AREA.--30.2 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR-76-1: Drainage area. WDR WY-86: 1985(M).

GAGE.--Water-stage recorder. Elevation of gage is 8,600 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 27, 1983, at site 50 ft downstream at present datum.

REMARKS.--Estimated daily discharges: Oct. 27 to Nov. 10, Nov. 14 to Mar. 17, and Mar. 23-29. Records good except those for estimated daily discharges, which are poor. No diversion upstream from station.

AVERAGE DISCHARGE.--28 years, 20.7 ft³/s, 15,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 855 ft³/s, July 27, 1987, gage height, 6.89 ft, from rating curve extended above 260 ft³/s; minimum daily discharge, 0.48 ft³/s, Jan. 9, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 180 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 10	2000	*151	*4.74	No peak greater than base discharge.			

Minimum daily discharge, 2.2 ft³/s, Jan. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.4	4.7	5.6	3.7	2.8	3.0	9.8	22	67	46	15	7.6
2	7.4	4.9	5.8	3.6	2.9	3.2	11	21	54	52	13	7.5
3	7.4	5.6	6.0	3.5	3.0	3.1	13	21	56	47	12	7.3
4	8.1	6.4	6.2	3.4	3.0	3.1	16	25	88	41	14	7.1
5	7.3	6.8	5.8	3.4	3.1	3.0	14	27	87	41	13	7.8
6	7.9	7.0	5.6	3.6	3.0	3.0	17	49	77	40	14	7.1
7	7.5	7.0	5.4	3.8	2.9	3.0	17	51	81	35	13	6.7
8	7.4	7.2	5.2	3.7	2.8	3.2	13	38	83	32	12	6.6
9	7.1	7.2	5.0	3.6	3.1	3.2	12	34	94	30	11	6.6
10	7.0	7.6	4.8	3.5	3.4	3.2	13	30	109	26	12	6.4
11	6.9	7.6	4.7	3.4	3.6	3.3	13	29	93	25	14	6.2
12	6.8	7.6	4.8	3.3	3.3	3.3	14	28	61	24	16	6.0
13	6.8	7.8	5.0	3.1	3.0	3.4	14	26	50	25	16	5.9
14	6.7	8.0	4.8	3.0	2.8	3.4	18	24	50	26	15	5.9
15	6.7	7.8	4.6	2.9	2.7	3.6	25	24	49	22	13	5.8
16	6.4	7.6	4.4	2.8	2.7	3.7	27	23	50	21	12	6.0
17	5.7	7.4	4.0	2.5	2.8	3.8	20	23	45	19	15	5.9
18	5.4	7.2	3.8	2.3	2.9	3.9	27	25	58	17	12	5.9
19	5.7	7.4	3.7	2.2	3.0	4.0	26	24	60	15	12	11
20	5.6	7.6	3.6	2.4	3.2	4.2	33	25	69	36	11	11
21	5.5	7.2	3.4	2.6	3.3	4.3	42	26	71	38	14	9.1
22	5.6	6.8	3.2	2.7	3.2	4.3	42	30	73	27	11	8.6
23	5.5	6.4	3.1	2.8	3.0	4.1	42	45	83	23	11	7.8
24	5.4	6.0	3.0	2.9	2.9	3.9	34	53	83	22	11	7.3
25	5.2	6.0	3.2	2.8	2.8	4.2	30	42	70	24	10	7.1
26	5.3	5.8	3.5	2.6	2.8	5.0	28	40	74	21	9.4	7.8
27	5.2	5.8	3.9	2.5	2.8	5.8	27	40	68	18	8.8	8.2
28	5.6	5.6	4.1	2.6	2.8	5.6	21	50	59	17	8.4	7.8
29	5.4	5.4	4.2	2.6	---	5.6	26	95	56	16	8.1	7.7
30	5.2	5.2	4.0	2.7	---	5.7	28	86	54	15	8.1	7.5
31	5.0	---	3.8	2.7	---	7.1	---	79	---	15	7.7	---
TOTAL	196.1	200.6	138.2	93.2	83.6	123.2	672.8	1155	2072	856	372.5	219.2
MEAN	6.33	6.69	4.46	3.01	2.99	3.97	22.4	37.3	69.1	27.6	12.0	7.31
MAX	8.1	8.0	6.2	3.8	3.6	7.1	42	95	109	52	16	11
MIN	5.0	4.7	3.0	2.2	2.7	3.0	9.8	21	45	15	7.7	5.8
AC-FT	389	398	274	185	166	244	1330	2290	4110	1700	739	435

CAL YR 1989 TOTAL 6785.1 MEAN 18.6 MAX 141 MIN 1.8 AC-FT 13460
WTR YR 1990 TOTAL 6182.4 MEAN 16.9 MAX 109 MIN 2.2 AC-FT 12260

YELLOWSTONE RIVER BASIN

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06222700 CROW CREEK NEAR TIPPERARY, WY--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
AUG 05...	1540	15	76	7.8	14.5	28	7.5	2.3	5.3	0.4	1.2

DATE	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)
AUG 05...	38	3.3	1.0	<0.1	26	69	0.09	2.72	<0.1	0.09

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)
OCT 05...	1040	6.0	92	3.0
NOV 13...	1225	8.1	100	3.5
JAN 16...	0955	2.8	80	0.0
MAR 19...	0935	4.4	91	0.0
MAY 31...	1525	72	60	9.5
JUN 14...	1345	43	64	5.0
JUL 23...	0800	30	70	11.0
AUG 05...	1540	15	76	14.5
06...	1440	14	78	18.0
SEP 25...	1130	8.0	95	8.0

YELLOWSTONE RIVER BASIN

06223500 WILLOW CREEK NEAR CROWHEART, WY

LOCATION.--Lat 43°17'00", long 109°11'08", in SE¼ NW¼ NW¼ sec.36, T.4 N., R.4 W., Fremont County, Hydrologic Unit 10080002, Wind River Indian Reservation, on left bank 1000 ft upstream from Willow Creek Canal diversion and 2.0 mi south of Crowheart.

DRAINAGE AREA.--50 mi², approximately.

PERIOD OF RECORD.--June to October 1909 (published as "J. K. Ranch Post Office"), June 1921 to September 1922 (published as "near Lenore"), May and June 1923, May 1925 to September 1940, October 1988 to current year.

REVISED RECORDS.--WSP 1309: 1939 (M).

GAGE.--Water-stage recorder. Elevation of gage is 6,080 ft above National Geodetic Vertical Datum of 1929, from topographic map. May 17 to October 31, 1909, nonrecording gage 1.9 mi downstream at different datum, May 16, 1921 to Aug. 24, 1923, nonrecording gage 200 ft upstream at different datum, and May 1925 to September 1940, water-stage recorder 600 ft downstream at different datum.

REMARKS.--Estimated daily discharges: Oct. 30 to Nov. 1, 2, 15, 16, 22, 23, Nov. 25 to Mar. 4, Mar. 13-16, 24-26, and Aug. 17-22. Records good except those for estimated daily discharges, which are poor. Diversions for irrigation of 60.1 acres upstream from station.

AVERAGE DISCHARGE.--18 years (water years 1922, 1926-40, 1989-90), 15.5 ft³/s, 11,230 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,100 ft³/s, May 31, 1939, gage height, 5.40 ft, site and datum then in use, on basis of flow-over-dam measurement of peak flow; minimum not determined prior to September 1940, minimum daily discharge after October 1988, 3.0 ft³/s, Dec. 22, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 169 ft³/s, June 10, gage height, 3.42 ft, from rating curve extended above 73 ft³/s; maximum gage height, 3.47 ft, Jan. 21 (backwater from ice); minimum daily discharge, 3.0 ft³/s, Dec. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	9.0	6.0	4.0	4.0	4.4	4.8	6.4	39	26	13	6.5
2	11	8.2	5.8	4.0	3.9	4.6	4.8	6.2	25	25	12	6.7
3	12	7.5	5.8	4.1	3.9	4.8	4.8	6.2	28	27	11	6.6
4	12	8.0	5.6	4.0	3.9	4.4	4.9	6.3	61	21	12	6.4
5	11	8.2	5.6	3.9	3.9	4.4	5.0	6.3	73	19	12	6.7
6	11	8.2	5.4	3.7	3.8	4.5	5.1	6.1	64	18	11	6.8
7	10	8.1	5.0	3.7	3.8	4.5	5.0	6.1	69	17	11	6.5
8	11	8.7	4.6	3.7	3.9	4.7	5.0	6.4	64	16	10	6.3
9	11	8.2	4.3	3.7	4.1	4.8	6.5	6.5	69	16	10	6.3
10	10	8.2	4.1	3.8	4.3	4.7	6.0	6.5	98	16	10	6.4
11	9.7	8.3	4.2	3.9	4.7	4.7	5.7	6.5	103	14	11	6.2
12	9.6	8.0	4.3	4.0	4.5	4.5	5.5	6.9	52	14	11	6.1
13	9.4	7.8	4.4	4.0	4.3	4.4	5.5	6.8	39	14	10	6.0
14	9.3	7.6	4.4	4.0	4.0	4.4	5.6	6.7	38	15	9.7	6.1
15	9.1	10	4.1	4.0	4.2	4.4	5.6	6.5	43	14	10	6.3
16	9.4	10	3.8	3.9	4.3	4.4	6.1	6.5	45	13	10	6.5
17	9.0	7.6	3.5	3.8	4.4	4.6	6.6	6.3	36	12	10	6.5
18	8.7	7.6	3.2	3.4	4.6	4.6	6.4	6.3	41	12	10	6.6
19	8.9	7.6	3.3	3.5	5.0	4.8	6.2	6.3	50	13	9.8	9.4
20	9.1	6.9	3.4	3.7	5.2	4.7	6.3	6.5	54	15	10	11
21	9.0	6.9	3.2	3.8	5.4	4.7	6.2	6.4	57	22	9.8	7.9
22	8.9	6.8	3.0	3.9	5.4	4.6	6.9	6.7	47	16	9.9	7.4
23	8.6	6.8	3.1	3.9	5.4	4.5	7.6	8.1	53	16	8.5	7.2
24	8.9	7.1	3.3	3.9	5.2	4.4	7.7	29	56	16	8.5	7.2
25	8.8	6.8	3.4	3.9	5.0	4.5	7.8	19	49	16	8.0	7.2
26	8.8	6.6	3.5	3.8	4.7	4.5	7.2	15	47	15	7.5	7.2
27	8.1	6.4	3.6	3.7	4.5	4.6	7.1	17	40	13	7.2	8.1
28	8.7	6.2	3.7	3.8	4.2	4.9	7.1	25	33	14	6.6	7.8
29	7.4	6.2	3.8	3.9	---	4.8	6.6	34	28	14	6.5	7.7
30	8.2	6.0	3.9	4.0	---	4.9	6.5	34	25	14	6.5	7.5
31	8.6	---	4.0	4.0	---	4.8	---	39	---	14	6.5	---
TOTAL	295.2	229.5	129.3	119.4	124.5	142.5	182.1	361.5	1526	507	299.0	211.1
MEAN	9.52	7.65	4.17	3.85	4.45	4.60	6.07	11.7	50.9	16.4	9.65	7.04
MAX	12	10	6.0	4.1	5.4	4.9	7.8	39	103	27	13	11
MIN	7.4	6.0	3.0	3.4	3.8	4.4	4.8	6.1	25	12	6.5	6.0
AC-FT	586	455	256	237	247	283	361	717	3030	1010	593	419

CAL YR 1989 TOTAL 6223.1 MEAN 17.0 MAX 134 MIN 3.0 AC-FT 12340
WTR YR 1990 TOTAL 4127.1 MEAN 11.3 MAX 103 MIN 3.0 AC-FT 8190

YELLOWSTONE RIVER BASIN

73

06223750 WIND RIVER ABOVE BULL LAKE CREEK, NEAR CROWHEART, WY

LOCATION.--Lat 43°15'10", long 109°02'59", in NW¼ SW¼ NW¼ sec.7, T.3 N., R.2 W., Fremont County, Hydrologic Unit 10080001, 1.8 mi upstream from Bull Lake Creek and 4.3 mi southeast of Crowheart Butte.

PERIOD OF RECORD.--April to September 1990.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)				
APR 19...	1325	492	330	8.7	14.0	54	72				
JUN 28...	1210	2290	--	--	11.0	548	3390				
JUL 26...	1100	1410	--	8.6	15.5	186	708				
SEP 06...	0925	600	340	8.4	--	27	44				
20...	1400	1300	290	7.4	12.0	14100	49500				
DATE	TIME	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. FALL DIAM. % FINER THAN .062 MM	SED. SUSP. FALL DIAM. % FINER THAN .125 MM	SED. SUSP. FALL DIAM. % FINER THAN .250 MM	SED. SUSP. FALL DIAM. % FINER THAN .500 MM	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM
JUL 26...	1100	--	--	--	--	--	72	80	87	99	100
SEP 20...	1400	35	47	59	72	87	94	99	100	--	--

YELLOWSTONE RIVER BASIN

06224000 BULL LAKE CREEK ABOVE BULL LAKE, WY

LOCATION.--Lat 43°10'37", long 109°12'08", in NE¼ SW¼ sec.2, T.2 N., R.4 W., Fremont County, Hydrologic Unit 10080001, Wind River Indian Reservation, on right bank 1.2 mi upstream from high-water line of Bull Lake and 9.0 mi south of Crowheart.

DRAINAGE AREA.--187 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1941 to December 1953, October 1966 to current year. Monthly discharge only for some periods, published in WSP 1309. Prior to October 1950, published as "above Bull Lake Reservoir."

GAGE.--Water-stage recorder. Elevation of gage is 5,874 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 15, 27, 28, Dec. 6-12, 16-23, Jan. 3, 17-19, 26-28, Feb. 7, 8, 13-16, Feb. 28 to Mar. 2, May 14-21. Records good except those for estimated daily discharges, which are poor. No diversions upstream from station. U.S. Bureau of Reclamation satellite telemeter at station.

AVERAGE DISCHARGE.--36 years (water years 1942-53, 1967-90), 296 ft³/s, 214,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,470 ft³/s, June 9, 1981, gage height, 7.98 ft; minimum, 5.2 ft³/s, Jan. 28, 1970, gage height, 1.44 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 11	1300	*1,730	*5.32	June 26	1100	1,560	5.10

Minimum daily discharge, 16 ft³/s, Jan. 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	155	68	48	23	25	18	26	142	538	1080	411	326
2	151	70	46	23	25	19	28	135	442	1120	386	315
3	154	68	51	19	25	20	32	129	375	1280	364	314
4	160	69	53	24	25	19	37	126	455	1260	355	307
5	156	68	50	24	24	18	42	127	695	1060	356	309
6	151	66	48	24	23	19	36	159	738	943	346	331
7	148	64	43	25	20	20	38	257	784	923	350	329
8	142	63	40	26	19	21	36	246	807	868	360	317
9	138	65	35	27	25	21	46	215	838	796	362	304
10	131	64	27	28	24	21	49	205	1000	714	357	287
11	124	64	26	28	23	21	49	206	1620	640	350	269
12	110	63	30	28	22	20	53	208	1310	607	368	252
13	104	60	39	28	20	17	58	206	873	606	377	242
14	97	59	41	28	17	21	61	190	669	606	364	235
15	91	56	41	29	17	20	76	170	581	601	345	226
16	90	58	30	29	19	20	96	150	546	586	336	223
17	90	56	23	25	21	21	95	150	509	562	348	221
18	86	55	22	22	22	20	119	160	493	538	372	208
19	86	55	22	23	22	20	146	160	578	514	368	240
20	83	53	23	26	23	20	179	170	686	498	357	305
21	80	51	23	29	23	20	233	180	863	704	361	318
22	78	48	21	27	23	19	263	198	990	766	393	311
23	77	47	25	25	23	18	271	292	1080	658	365	307
24	75	49	32	24	22	17	253	431	1290	639	329	305
25	72	43	30	27	22	19	245	412	1410	658	303	298
26	71	48	29	19	21	20	231	360	1490	633	272	294
27	69	40	27	16	20	21	201	343	1430	602	244	281
28	71	33	26	21	18	21	196	390	1370	535	231	266
29	75	48	25	27	---	21	174	481	1210	481	229	251
30	74	48	25	25	---	23	156	509	1100	450	239	235
31	72	---	23	26	---	24	---	523	---	429	310	---
TOTAL	3261	1699	1024	775	613	619	3525	7630	26770	22357	10508	8426
MEAN	105	56.6	33.0	25.0	21.9	20.0	117	246	892	721	339	281
MAX	160	70	53	29	25	24	271	523	1620	1280	411	331
MIN	69	33	21	16	17	17	26	126	375	429	229	208
AC-FT	6470	3370	2030	1540	1220	1230	6990	15130	53100	44350	20840	16710

CAL YR 1989 TOTAL 98582 MEAN 270 MAX 1770 MIN 12 AC-FT 195500
WTR YR 1990 TOTAL 87207 MEAN 239 MAX 1620 MIN 16 AC-FT 173000

06224000 BULL LAKE CREEK ABOVE BULL LAKE, WY--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)
NOV 20...	1135	50	5.0	83	38	9.8	3.3	4.3	0.3	0.7	31
MAR 19...	1025	19	5.0	110	42	11	3.6	4.7	0.3	1.1	36
MAY 01...	1140	136	5.0	50	18	4.9	1.5	1.5	0.2	0.6	17
AUG 07...	1130	352	15.5	24	9	2.9	0.5	--	--	0.5	9.0

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
NOV 20...	7.0	2.2	0.1	3.7	51	0.07	6.83	0.2	0.03	<1
MAR 19...	7.5	4.4	0.1	4.9	60	0.08	3.07	0.2	<0.03	<5
MAY 01...	9.4	1.6	0.4	4.8	35	0.05	13.0	0.1	<0.03	<5
AUG 07...	1.8	<1.0	0.1	1.5	--	--	--	0.1	<0.03	<5

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)
NOV 20...	1135	<1	<100	10	<1.0	<1	1

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 20...	<10	<1	<10	<0.1	<1.0	<10

YELLOWSTONE RIVER BASIN

06224000 BULL LAKE CREEK ABOVE BULL LAKE, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)
OCT				
24...	1318	78	205	8.0
NOV				
20...	1135	50	84	5.0
JAN				
16...	1055	30	218	0.0
MAR				
19...	1025	19	90	5.0
MAY				
01...	1140	136	38	5.0
JUN				
25...	1135	1440	32	12.0
JUL				
18...	1130	556	22	14.5
AUG				
07...	1130	352	82	15.5
SEP				
13...	1135	263	27	15.0

YELLOWSTONE RIVER BASIN

77

06225000 BULL LAKE CREEK NEAR LENORE, WY

LOCATION.--Lat 43°14'33", long 109°01'20", in NE¼ NW¼ sec.17, T.3 N., R.2 W., Fremont County, Hydrologic Unit 10080001, Wind River Indian Reservation, on left bank 700 ft upstream from mouth, 2.8 mi downstream from Bull Lake, and 8.5 mi southeast of Lenore.

DRAINAGE AREA.--213 mi², of which 12 mi² is probably noncontributing.

PERIOD OF RECORD.--May 1918 to current year.

REVISED RECORDS.--WSP 1309: 1921 (M, date only), 1925(M), 1926(M), 1930(M). WSP 1709: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5,654 ft above National Geodetic Vertical Datum of 1929, from topographic map. May 18, 1918, to Sept. 30, 1922, at site 10 ft upstream at datum 0.86 ft higher; Oct. 1, 1922, to Oct. 3, 1934, at present site at datum 2.00 ft lower.

REMARKS.--Estimated daily discharges: Nov. 21-23, 28, 29, Dec. 10-13, 16-25, 31, Jan. 3-5, 17-20, 23-25, 27-30, Feb. 2, 3, 8, 9, 14-20, and March 13, 15, 24. Records good except those for estimated daily discharges, which are poor. Flow completely regulated by Bull Lake 2.8 mi upstream since April 1938. (See station 06224500.) Diversions upstream from station for irrigation of about 730 acres downstream. U.S. Bureau of Reclamation satellite telemeter at station.

AVERAGE DISCHARGE.--72 years, 277 ft³/s, 200,700 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,200 ft³/s, Aug. 8, 1951, gage height, 7.09 ft, result of automatic spillway gates releasing on Bull Lake Dam, from rating curve extended above 2,000 ft³/s on basis of slope-area measurement of peak flow; minimum prior to construction of Bull Lake Dam not determined, probably occurred during period of ice effect in March 1933; no flow Feb. 28 to Apr. 7, 1937 (result of regulation).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,290 ft³/s, June 4, gage height, 3.79 ft; minimum daily, 22 ft³/s, June 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	107	58	38	33	39	38	33	61	668	38	300	1000
2	131	58	38	34	39	38	33	84	880	38	301	997
3	176	58	38	33	38	38	33	182	1100	38	344	996
4	175	58	38	32	40	37	33	183	1200	42	407	1030
5	175	57	38	34	39	38	33	183	761	44	408	1050
6	173	57	37	35	39	37	33	183	285	45	408	1030
7	172	57	36	35	39	38	33	181	218	45	411	1020
8	173	57	36	34	39	38	33	151	170	45	409	1010
9	173	56	36	34	40	38	35	114	106	45	483	1010
10	172	57	36	34	40	38	33	124	48	46	560	1010
11	173	57	35	34	39	38	33	210	45	65	640	994
12	172	57	34	34	40	37	67	359	45	189	696	988
13	172	56	33	34	40	37	153	360	45	254	747	1010
14	170	48	37	34	39	36	149	359	177	302	894	1030
15	169	39	35	34	38	34	150	432	697	303	884	1030
16	169	39	35	34	39	33	127	619	840	314	881	1050
17	179	39	34	33	40	33	56	701	839	352	880	996
18	189	38	33	33	40	33	60	761	794	398	876	978
19	187	38	33	32	40	33	60	850	580	536	872	935
20	156	38	34	33	40	33	60	845	500	607	867	736
21	92	38	35	34	39	34	60	845	329	603	785	557
22	92	38	35	34	39	34	60	925	63	604	710	538
23	84	39	34	29	40	34	59	1110	22	604	674	538
24	64	40	35	30	40	34	61	1120	31	603	677	488
25	62	39	36	30	40	35	60	1010	32	601	679	406
26	60	39	37	31	39	34	59	1070	33	525	677	411
27	60	39	36	29	38	34	60	1110	33	360	764	406
28	64	38	35	30	38	34	60	1190	33	300	814	407
29	61	38	34	32	---	34	60	1170	34	300	900	395
30	60	38	34	35	---	33	60	811	36	300	1000	359
31	59	---	33	39	---	33	---	651	---	301	1000	---
TOTAL	4121	1408	1098	1026	1100	1098	1846	17954	10644	8847	20948	24405
MEAN	133	46.9	35.4	33.1	39.3	35.4	61.5	579	355	285	676	813
MAX	189	58	38	39	40	38	153	1190	1200	607	1000	1050
MIN	59	38	33	29	38	33	33	61	22	38	300	359
AC-FT	8170	2790	2180	2040	2180	2180	3660	35610	21110	17550	41550	48410

CAL YR 1989 TOTAL 53452 MEAN 146 MAX 1000 MIN 11 AC-FT 106000
WTR YR 1990 TOTAL 94495 MEAN 259 MAX 1200 MIN 22 AC-FT 187400

YELLOWSTONE RIVER BASIN

06225500 WIND RIVER NEAR CROWHEART, WY

LOCATION.--Lat 43°14'33", long 109°00'35", in NW¼ NW¼ sec.16, T.3 N., R.2 W., Fremont County, Hydrologic Unit 10080001, Wind River Indian Reservation, on right bank 0.9 mi downstream from Bull Lake Creek and 9.0 mi southeast of Crowheart.

DRAINAGE AREA.--1,891 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1945 to current year.

REVISED RECORDS.--WSP 1116: 1946-47. WSP 1709: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5,635 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 9 to Feb. 9, and Feb. 13-17, and Mar. 24-26. Records good except those for estimated daily discharges, which is poor. Some regulation by Bull Lake on Bull Lake Creek. (See station 06224500.) Diversions for irrigation of about 25,000 acres upstream from station. U.S. Bureau of Reclamation satellite telemeter at station.

AVERAGE DISCHARGE.--45 years, 1,216 ft³/s, 881,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft³/s, June 16, 1963, gage height, 9.16 ft; maximum gage height, 9.59 ft, June 9, 1981; minimum daily discharge, 130 ft³/s, Feb. 5, 1982.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 29, 1927, reached a discharge of 13,000 ft³/s; discharge measurement made by Bureau of Reclamation at site 1.0 mi downstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,200 ft³/s, June 11, gage height, 8.71 ft; minimum daily, 170 ft³/s, Feb. 8, 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	717	523	408	340	230	301	396	545	2330	2520	1630	1690
2	757	499	407	320	210	315	467	546	2240	2500	1530	1710
3	838	515	437	300	190	329	558	634	2290	2820	1480	1710
4	867	576	459	300	200	333	679	618	2740	2660	1580	1720
5	870	586	463	320	220	319	717	624	3020	2500	1600	1750
6	844	556	447	340	220	303	529	751	2490	2400	1530	1770
7	836	550	410	350	220	289	441	1110	2380	2240	1440	1780
8	804	534	400	350	170	288	438	1050	2430	2050	1390	1740
9	786	542	400	360	230	301	483	805	2510	1950	1440	1710
10	781	581	350	350	277	307	493	684	2870	1870	1460	1690
11	764	581	300	330	297	309	457	773	3810	1650	1610	1640
12	763	567	270	320	267	303	494	1020	3170	1650	1730	1590
13	756	557	280	310	220	269	564	993	2280	1880	1830	1620
14	741	550	300	290	170	239	524	936	1990	2230	1930	1630
15	734	492	340	270	210	264	581	924	2350	1990	1850	1580
16	736	463	350	250	230	263	724	1100	2420	1890	1800	1570
17	736	502	300	240	270	261	626	1180	2270	1850	1800	1580
18	737	503	270	230	271	284	549	1260	2150	1750	1810	1560
19	718	514	300	240	268	281	622	1370	2200	1820	1820	1790
20	692	520	340	250	299	286	732	1430	2180	2020	1860	2030
21	623	500	270	280	277	310	884	1370	2550	2920	1880	1820
22	625	496	250	290	301	320	935	1500	2570	2560	1690	1590
23	624	491	300	260	315	305	908	1840	2670	2320	1560	1500
24	597	479	340	250	319	300	865	2240	3040	2210	1490	1380
25	592	490	380	250	323	280	865	2220	3090	2640	1450	1190
26	592	434	400	240	329	290	789	2080	2980	2370	1430	1180
27	582	468	390	240	333	313	712	2090	2980	2010	1460	1230
28	572	369	380	230	316	352	659	2300	2810	1800	1470	1210
29	596	354	360	250	---	321	626	2770	2580	1750	1550	1170
30	549	357	330	250	---	315	570	2780	2480	1830	1640	1090
31	507	---	310	250	---	330	---	2440	---	1710	1640	---
TOTAL	21936	15149	10941	8850	7182	9280	18887	41983	77870	66360	50380	47220
MEAN	708	505	353	285	256	299	630	1354	2596	2141	1625	1574
MAX	870	586	463	360	333	352	935	2780	3810	2920	1930	2030
MIN	507	354	250	230	170	239	386	545	1990	1650	1390	1090
AC-FT	43510	30050	21700	17550	14250	18410	37460	83270	154500	131600	99930	93660

CAL YR 1989 TOTAL 360877 MEAN 989 MAX 4660 MIN 160 AC-FT 715800
WTR YR 1990 TOTAL 376038 MEAN 1030 MAX 3810 MIN 170 AC-FT 745900

YELLOWSTONE RIVER BASIN

79

06225500 WIND RIVER NEAR CROWHEART, WY--Continued

WATER-QUALITY DATA

PERIOD OF RECORD.--October 1986 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT- ANCE LAB (US/CM)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)
OCT 06...	1225	806	285	11.0	130	34	10	12	0.5	2.9	110
DEC 21...	1205	274	324	0.0	170	46	14	15	0.5	3.3	--
FEB 27...	1200	344	378	7.0	170	45	13	15	0.5	2.5	140
APR 10...	1155	497	319	5.0	140	37	11	16	0.6	2.3	120
JUN 05...	1230	3450	142	13.5	57	16	4.2	7.1	0.4	1.3	67
AUG 15...	1435	1800	210	18.0	85	23	6.6	6.9	0.3	1.0	75

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
OCT 06...	35	2.8	0.3	13	176	0.24	383	<0.1	<0.03	<5
DEC 21...	49	3.3	0.3	16	--	--	--	0.1	0.05	<5
FEB 27...	39	2.9	0.3	15	217	0.30	202	0.1	<0.03	<1
APR 10...	43	3.1	0.7	15	200	0.27	269	0.1	0.05	<5
JUN 05...	14	1.3	0.4	11	96	0.13	895	0.1	0.08	<1
AUG 15...	17	1.8	0.2	12	113	0.15	551	<0.1	<0.03	<5

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)
FEB 27...	1200	10	1	<100	30	<1.0	3
JUN 05...	1230	70	3	<100	20	<1.0	2

DATE	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
FEB 27...	3	20	<1	<10	<0.1	<1.0	50
JUN 05...	1	50	<1	<10	<0.1	<1.0	<10

YELLOWSTONE RIVER BASIN

06225500 WIND RIVER NEAR CROWHEART, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)
JUN 05...	1230	3450	13.5	<0.01	<0.01	0.01	<0.01	<0.01
SEP 06...	1245	1760	16.5	<0.01	<0.01	<0.01	<0.01	<0.01

DATE	SILVEX, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)
JUN 05...	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SEP 06...	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY)
APR 18...	1010	510	63	87
JUN 28...	1015	3580	639	6180
SEP 06...	1245	1760	8	.38
20...	1400	2190	2390	14100

YELLOWSTONE RIVER BASIN

81

06226000 WYOMING CANAL NEAR LENORE, WY

LOCATION.--Lat 43°13'45", long 108°53'40", in SE¼ SE¼ sec.17, T.3 N., R.1 W., Fremont County, Hydrologic Unit 10080001, on right bank 3.3 mi downstream from diversion dam on Wind River and 15 mi southeast of Lenore.

PERIOD OF RECORD.--May 1941 to September 1945 (irrigation season only), May 1949 to September 1982, April 1988 to current year. No winter record 1977-1978, and 1988 to current year. Monthly discharge only for some periods, published in WSP 1309.

GAGE.--Water-stage recorder. Datum of gage is 5,560.85 ft above National Geodetic Vertical Datum of 1929. May 1, 1941, to Sept. 30, 1945, nonrecording gage at site 3.2 mi upstream at different datum. May 3, 1949, to Oct. 2, 1952, and Apr. 12 to May 15, 1971, water-stage recorder at site 3.0 mi upstream at different datum.

AVERAGE DISCHARGE.--31 years (water years 1950-76, 1979-82), 540 ft³/s, 391,200 acre ft/yr.

REMARKS.--Estimated daily discharges: Apr. 1-5, and Aug. 9-10. Records good. Flow used for irrigation on Riverton project. U.S. Bureau of Reclamation satellite telemeter at station. Result of discharge measurement, in cubic feet per second, made during the period when the station was not in operation, is given below:

Oct. 06 . . . 738

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,860 ft³/s, June 11-12, 1990; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 1,860 ft³/s, June 11-12; no flow Apr. 1-3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	.00	313	1560	1770	988	1020
2	---	---	---	---	---	---	.00	304	1400	1770	898	1040
3	---	---	---	---	---	---	.00	381	1450	1830	826	1040
4	---	---	---	---	---	---	168	371	1650	1790	903	1070
5	---	---	---	---	---	---	215	359	1820	1750	943	1150
6	---	---	---	---	---	---	434	448	1670	1680	873	1160
7	---	---	---	---	---	---	331	585	1570	1550	783	1190
8	---	---	---	---	---	---	337	602	1610	1330	732	1150
9	---	---	---	---	---	---	371	546	1620	1190	720	1110
10	---	---	---	---	---	---	403	327	1720	1110	827	1100
11	---	---	---	---	---	---	368	377	1860	936	964	1040
12	---	---	---	---	---	---	239	592	1860	1010	1120	1000
13	---	---	---	---	---	---	218	556	1570	1130	1160	1000
14	---	---	---	---	---	---	226	530	1190	1390	1320	1030
15	---	---	---	---	---	---	270	482	1560	1230	1230	990
16	---	---	---	---	---	---	414	624	1680	1080	1160	981
17	---	---	---	---	---	---	428	702	1610	1030	1150	994
18	---	---	---	---	---	---	311	734	1540	1000	1160	993
19	---	---	---	---	---	---	380	810	1640	1090	1180	1050
20	---	---	---	---	---	---	475	853	1640	1230	1210	1060
21	---	---	---	---	---	---	495	803	1750	1690	1160	1150
22	---	---	---	---	---	---	369	843	1770	1760	972	1030
23	---	---	---	---	---	---	247	1130	1770	1650	904	942
24	---	---	---	---	---	---	218	1470	1800	1540	831	864
25	---	---	---	---	---	---	212	1510	1800	1670	782	783
26	---	---	---	---	---	---	203	1300	1780	1630	768	775
27	---	---	---	---	---	---	230	1290	1850	1400	770	803
28	---	---	---	---	---	---	258	1500	1750	1160	791	814
29	---	---	---	---	---	---	256	1670	1790	1120	852	813
30	---	---	---	---	---	---	289	1730	1770	1200	969	807
31	---	---	---	---	---	---	---	1680	---	971	957	---
TOTAL	---	---	---	---	---	---	8365.00	25422	50050	42687	29903	29949
MEAN	---	---	---	---	---	---	279	820	1668	1377	965	998
MAX	---	---	---	---	---	---	495	1730	1860	1830	1320	1190
MIN	---	---	---	---	---	---	.00	304	1190	936	720	775
AC-FT	---	---	---	---	---	---	16590	50420	99270	84670	59310	59400

YELLOWSTONE RIVER BASIN

06227600 WIND RIVER NEAR KINNEAR, WY

LOCATION.--Lat 43°08'34", long 108°42'32", in SW¼ SE¼ SW¼ sec.13, T.2 N., R.1 E., Fremont County, Hydrologic Unit 10080001, Wind River Indian Reservation, at upstream side of bridge on Wyoming State Secondary Highway 132, and 1.7 mi southwest of Kinnear.

DRAINAGE AREA.--2,194 mi².

PERIOD OF RECORD.--Water years 1985 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
APR								
18...	1140	295	324	8.1	10.0	47	37	--
JUN								
28...	0930	2880	--	--	13.0	502	3900	32
28...	1130	4180	--	--	13.5	1850	20800	25
28...	1215	5060	--	--	14.0	2240	30600	49
28...	1315	1950	--	--	14.0	1410	7420	59
JUL								
26...	0930	928	--	8.2	19.0	320	802	--
26...	1420	1850	--	8.3	20.0	1160	5790	--
26...	1445	2490	--	8.3	21.0	2320	15600	--
26...	1520	1830	--	8.3	21.0	2420	12000	--
SEP								
06...	1445	593	--	--	18.0	20	32	--
20...	1300	549	280	8.8	9.5	2700	4000	--

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)
OCT											
11...	1730	133	13.0	3.3	<0.4	2.9	1.3	2.4	1.2	0.21	4.0
JAN											
25...	1100	E250	0.0	4.1	<0.4	4.3	0.6	3.2	0.6	0.19	3.2

E-Estimate.

06228000 WIND RIVER AT RIVERTON, WY

LOCATION.--Lat 43°00'38", long 108°22'32", in NE¼ NW¼ NW¼ sec.2, T.1 S., R.4 E., Fremont County, Hydrologic Unit 10080001, Wind River Indian Reservation, on left bank 265 ft downstream from bridge on State Highway 789, 1.1 mi southeast of post office in Riverton, and 1.5 mi upstream from Little Wind River.

DRAINAGE AREA.--2,309 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May to August 1906, August to December 1907, May to October 1908, May 1911 to current year. Monthly discharge only for some periods, published in WSP 1309. Published as Big Wind River near Arapahoe Agency 1906 and as Big Wind River near Riverton 1907-08.

REVISED RECORDS.--WSP 1509: 1935. WSP 1709: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,901.56 ft above National Geodetic Vertical Datum of 1929. See WSP 1729 for history of changes prior to Oct. 13, 1930. Oct. 13, 1930, to Apr. 15, 1968, water-stage recorder at site 280 ft upstream at datum 2.00 ft higher. Apr. 16 to Nov. 17, 1968, water-stage recorder at site 880 ft upstream at datum 2.00 ft higher. Nov. 18, 1968, to July 28, 1970, water-stage recorder at site 225 ft upstream at datum 2.00 ft higher. July 29, 1970, to Sept. 30, 1977, water-stage recorder at present site at datum 2.00 ft higher.

REMARKS.--Estimated daily discharges: Nov. 9-14 and Nov. 22 to Mar. 13. Records good except those for estimated daily discharges, which are poor. Some regulation by Bull Lake beginning in 1938 (see station 06224500) and Pilot Butte Reservoir beginning in 1926, combined capacity, 182,000 acre-ft. Diversions upstream from station for irrigation of about 128,000 acres upstream and downstream from station. The Wyoming canal of the Riverton project is the major diversion. This diversion began in 1926 and part of it can be returned to the river upstream from station through Pilot wasteway. Additional waste water returns to river downstream from station through Fivemile and Muddy Creeks. U.S. Bureau of Reclamation satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,300 ft³/s, June 15, 1935, gage height, 10.15 ft, present datum, from rating curve extended above 7,200 ft³/s; maximum gage height, 10.80 ft, Dec. 30, 1983 (backwater from ice); minimum daily discharge, 9.8 ft³/s, May 28, July 16, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,480 ft³/s, June 11, gage height, 6.27 ft; maximum gage height, 7.31 ft, Jan. 10 (backwater from ice); minimum daily discharge, 108 ft³/s, May 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	176	549	340	330	380	290	434	292	236	547	249	252
2	204	544	350	330	380	300	510	244	298	495	240	252
3	200	538	360	320	380	300	562	237	302	682	233	270
4	187	584	370	310	370	300	528	218	328	624	240	310
5	177	636	370	320	370	290	316	191	812	424	245	273
6	177	592	380	330	360	310	254	176	431	309	246	255
7	178	612	380	330	340	330	244	162	274	245	251	252
8	173	565	370	350	330	320	241	128	259	224	252	242
9	172	545	360	370	340	330	270	108	271	199	237	240
10	170	560	350	430	360	350	241	121	396	240	230	242
11	164	590	330	410	340	360	231	163	1210	236	260	242
12	281	585	310	390	310	360	216	156	1420	162	289	253
13	772	570	270	390	290	350	372	156	515	209	249	254
14	805	475	310	400	250	328	384	163	269	237	269	260
15	770	451	330	410	260	368	387	156	255	262	251	265
16	776	420	330	380	280	394	388	151	273	202	245	275
17	794	439	270	350	290	388	346	157	295	203	250	285
18	768	499	200	320	310	396	318	152	291	197	253	289
19	801	503	320	330	310	418	272	172	240	208	248	330
20	835	505	300	360	310	401	241	195	242	227	250	366
21	763	481	170	400	330	423	236	172	390	659	308	389
22	717	440	210	400	330	432	401	121	541	568	321	373
23	691	450	260	360	330	431	651	160	624	384	279	358
24	670	450	300	340	320	412	649	158	964	314	257	351
25	655	430	330	370	300	387	672	186	1230	402	259	289
26	656	420	400	350	290	375	617	185	1090	538	261	265
27	642	400	370	330	280	378	581	172	1040	295	248	261
28	659	360	360	320	280	432	429	173	994	251	254	260
29	698	330	350	340	---	438	419	207	714	281	255	255
30	620	330	340	360	---	400	351	691	561	277	259	206
31	586	---	330	380	---	397	---	386	---	297	263	---
TOTAL	15937	14853	10020	11110	9020	11388	11761	6109	16765	10398	7951	8414
MEAN	514	495	323	358	322	367	392	197	559	335	256	280
MAX	835	636	400	430	380	438	672	691	1420	682	321	389
MIN	164	330	170	310	250	290	216	108	236	162	230	206
AC-FT	31610	29460	19870	22040	17890	22590	23330	12120	33250	20620	15770	16690

CAL YR 1989 TOTAL 143751 MEAN 394 MAX 3360 MIN 13 AC-FT 285100
WTR YR 1990 TOTAL 133726 MEAN 366 MAX 1420 MIN 108 AC-FT 265200

YELLOWSTONE RIVER BASIN

06228000 WIND RIVER AT RIVERTON, WY--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1947-58, 1960 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV											
15...	1020	511	378	8.3	1.0	645	6.6	11.4	95	K4	K8
JAN											
26...	0935	E275	440	8.2	0.0	627	1.5	11.2	93	K3	62
MAR											
21...	1300	411	470	8.4	9.5	636	3.0	10.6	112	<1	K8
MAY											
22...	1140	111	310	8.6	13.0	638	4.2	9.4	107	K14	450
JUL											
18...	1100	197	308	8.4	18.5	--	10	--	--	100	K1200
SEP											
05...	0945	271	278	8.4	17.5	632	6.7	8.8	111	120	300

E-Estimate.

K-Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
NOV											
15...	170	46	13	20	0.7	2.2	60	60	149	151	52
JAN											
26...	190	53	15	25	0.8	2.6	0	203	166	176	68
MAR											
21...	180	50	14	22	0.7	2.4	2	191	160	158	42
MAY											
22...	110	30	7.5	21	0.9	1.6	1	114	95	102	50
JUL											
18...	110	32	8.2	20	0.8	2.0	0	125	102	107	42
SEP											
05...	100	29	7.6	18	0.8	1.6	12	93	96	96	42

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
NOV										
15...	3.3	0.3	15	246	242	0.33	339	<0.01	<0.10	0.01
JAN										
26...	4.4	0.3	17	302	286	0.41	--	0.01	0.24	0.02
MAR										
21...	6.5	1.6	15	266	250	0.36	295	<0.01	<0.10	0.02
MAY										
22...	4.3	0.3	9.0	190	181	0.26	56.9	0.01	<0.10	0.01
JUL										
18...	3.9	0.1	12	168	182	0.23	89.4	<0.01	<0.10	0.03
SEP										
05...	4.0	<0.1	7.4	151	167	0.21	110	<0.01	<0.10	<0.01

YELLOWSTONE RIVER BASIN

85

06228000 WIND RIVER AT RIVERTON, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE		NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV											
15...		0.02	0.03	0.29	0.3	0.04	<0.01	0.01	23	32	--
JAN											
26...		0.03	0.04	--	<0.2	0.05	0.02	0.01	6	--	--
MAR											
21...		0.01	0.01	0.18	0.2	0.04	0.02	<0.01	49	54	52
MAY											
22...		0.02	0.03	0.79	0.8	0.06	0.05	0.04	22	6.6	41
JUL											
18...		<0.01	--	--	<0.2	0.05	0.01	<0.01	27	14	--
SEP											
05...		0.01	0.01	--	0.3	<0.01	<0.01	<0.01	22	16	79
DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV											
15...	1020	<10	<1	56	<0.5	<1.0	2	<3	2	5	1
MAR											
21...	1300	<10	1	62	<0.5	<1.0	<5	<3	<10	9	<10
JUL											
18...	1100	30	1	46	0.7	<1.0	<1	<3	3	26	<1
SEP											
05...	0945	30	1	40	<0.5	1.0	<1	<3	2	13	1
DATE		LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV											
15...		15	5	<0.1	<10	1	<1	<1.0	260	<6	<3
MAR											
21...		13	8	<0.1	<10	<10	<1	<1.0	260	<6	7
JUL											
18...		9	4	<0.1	<10	2	<1	<1.0	190	<6	<3
SEP											
05...		9	2	<0.1	<10	<1	<1	<1.0	190	<6	<3
DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)
OCT											
04...	1550	200	13.0	5.7	<0.4	2.6	3.2	2.1	2.7	0.13	7.0
JAN											
26...	0935	E275	0.0	5.5	<0.4	4.9	0.4	3.8	<0.4	0.22	4.6

E-Estimate.

YELLOWSTONE RIVER BASIN

06228350 SOUTH FORK LITTLE WIND RIVER ABOVE WASHAKIE RESERVOIR, NEAR FORT WASHAKIE, WY

LOCATION.--Lat 42°58'06", long 109°02'13", in SE¼ SW¼ SE¼ sec.18, T.1 S., R.2 W., Fremont County, Hydrologic Unit 10080002, Wind River Indian Reservation, on right bank 1.9 mi upstream from Washakie Dam and 8.0 mi southwest of Fort Washakie.

DRAINAGE AREA.--90.3 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 6,440 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 27 to Nov. 3, Nov. 28 to Dec. 1, Dec. 8-12, Dec. 17 to Feb. 8, Feb. 14-16, and Aug. 9 to Sept. 4. Records good except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--14 years, 124 ft³/s, 89,840 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,080 ft³/s, June 9, 1981, gage height, 8.21 ft; minimum daily, 4.5 ft³/s, Feb. 1-9, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 740 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 11	0800	*1,100	*6.22	No other peak greater than base discharge.			

Minimum daily discharge, 11 ft³/s, Feb. 15.DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	38	36	16	17	12	23	66	346	460	117	70
2	64	42	36	16	17	12	28	64	239	458	107	69
3	69	45	38	14	17	12	33	62	203	483	99	68
4	72	48	38	15	16	12	38	60	347	466	93	65
5	68	45	37	17	15	13	41	62	439	418	92	64
6	66	46	34	17	14	13	33	89	451	375	87	64
7	64	42	32	17	13	14	33	179	509	357	81	64
8	61	43	31	18	13	15	32	123	518	327	79	62
9	59	45	27	18	15	15	39	99	534	321	82	61
10	57	46	25	19	15	16	40	96	660	288	79	59
11	54	47	25	19	15	16	40	100	1030	249	78	55
12	52	46	30	19	15	15	47	105	672	226	76	55
13	50	43	33	19	15	15	51	105	444	215	77	55
14	48	42	32	19	13	15	59	90	419	207	74	52
15	48	37	31	19	11	14	83	83	357	210	71	51
16	51	46	29	20	12	14	84	76	351	201	69	52
17	50	44	25	19	13	14	63	76	304	185	116	51
18	49	43	21	16	13	14	82	92	317	171	123	51
19	49	43	21	17	14	14	99	103	397	161	119	72
20	49	42	22	18	14	15	113	96	462	169	109	108
21	46	39	21	19	14	16	144	101	552	260	104	117
22	45	34	20	19	15	16	154	157	579	253	96	114
23	46	37	21	18	14	15	141	264	590	220	89	107
24	45	37	22	17	14	14	118	328	640	218	81	99
25	44	33	21	18	14	15	120	233	654	212	77	95
26	45	38	20	15	14	15	107	187	663	187	72	93
27	38	37	18	12	13	16	85	212	627	167	66	93
28	39	30	18	14	13	16	77	284	587	151	62	95
29	40	33	18	16	---	17	75	323	523	139	60	103
30	40	37	18	18	---	18	71	312	477	133	61	98
31	39	---	17	17	---	20	---	342	---	125	73	---
TOTAL	1610	1228	817	535	398	458	2153	4569	14891	8012	2669	2262
MEAN	51.9	40.9	26.4	17.3	14.2	14.8	71.8	147	496	258	86.1	75.4
MAX	72	48	38	20	17	20	154	342	1030	483	123	117
MIN	38	30	17	12	11	12	23	60	203	125	60	51
AC-FT	3190	2440	1620	1060	789	908	4270	9060	29540	15890	5290	4490

CAL YR 1989 TOTAL 42126.2 MEAN 115 MAX 802 MIN 8.0 AC-FT 83560
WTR YR 1990 TOTAL 39602 MEAN 108 MAX 1030 MIN 11 AC-FT 78550

06228350 SOUTH FORK LITTLE WIND RIVER ABOVE WASHAKIE RESERVOIR, NEAR FORT WASHAKIE, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)
OCT 12...	1210	51	66	8.0	27	7.6	2.0	4.8	0.4	0.3	23
DEC 28...	1055	18	105	0.0	40	10	3.7	3.0	0.2	1.9	33
FEB 07...	1150	13	136	0.0	47	12	4.2	4.3	0.3	1.3	37
APR 20...	1340	99	58	6.0	22	5.9	1.8	2.8	0.3	0.5	18
JUN 18...	1230	296	28	9.0	13	3.5	1.0	2.0	0.2	0.6	11
AUG 03...	1335	101	40	19.0	16	4.6	1.0	3.1	0.3	0.4	14

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
OCT 12...	4.1	3.5	0.1	3.8	41	0.05	5.58	0.1	<0.03	<1
DEC 28...	5.1	6.7	0.1	6.8	58	0.08	2.80	0.1	0.05	<5
FEB 07...	4.1	8.1	0.1	6.2	63	0.09	2.21	0.1	0.03	<1
APR 20...	9.8	2.3	0.3	5.9	41	0.05	10.8	0.1	<0.03	<5
JUN 18...	5.2	1.3	0.1	3.8	25	0.03	20.0	0.2	<0.03	<5
AUG 03...	3.2	1.3	0.1	2.3	26	0.04	7.14	0.4	<0.03	<5

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)
OCT 12...	1210	--	<1	<100	20	<1.0	3
FEB 07...	1150	20	<1	100	<10	<1.0	2

DATE	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 12...	2	50	1	<10	<0.1	<1.0	<10
FEB 07...	1	40	<1	<10	<0.1	<1.0	<10

YELLOWSTONE RIVER BASIN

06228450 SOUTH FORK LITTLE WIND RIVER BELOW WASHAKIE RESERVOIR, NEAR FORT WASHAKIE, WY

LOCATION.--Lat 42°59'04", long 108°59'57", in SW¼ SW¼ SE¼ sec.9, T.1 S., R.2 W., Fremont County, Hydrologic Unit 10080002, Wind River Indian Reservation, on right bank 0.7 mi downstream from Washakie Reservoir, 2.3 mi upstream from Timmoco Creek, and 6.2 mi west of Fort Washakie.

DRAINAGE AREA.--93.5 mi².

PERIOD OF RECORD.--October 1988 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,280 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Feb. 2-10, 13-17, Feb. 27 to Mar. 1, and Mar. 23-25. Records good except those for estimated daily discharges, which are poor. Flow regulated by Washakie Reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 879 ft³/s, June 17, 1989, gage height, 4.39 ft; minimum daily, 4.1 ft³/s, Nov. 7-10, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 694 ft³/s, June 26, gage height, 4.08 ft; minimum daily, 9.2 ft³/s, Apr. 16-18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	36	39	30	13	12	12	73	236	416	181	179
2	31	37	39	29	12	13	12	73	237	412	177	177
3	20	37	39	27	12	13	11	72	237	436	162	177
4	21	38	39	27	11	13	11	71	238	431	147	174
5	21	39	39	27	11	13	10	73	242	396	138	171
6	21	39	38	27	11	13	9.8	73	248	334	137	170
7	22	38	38	27	11	13	9.8	73	251	328	136	167
8	22	38	38	27	11	13	9.7	72	257	316	119	164
9	22	39	38	27	11	13	9.8	74	263	309	118	163
10	23	39	37	26	12	13	9.4	74	269	295	132	157
11	23	39	37	24	13	13	9.6	73	280	271	131	151
12	23	39	37	24	13	13	9.5	75	487	263	131	146
13	23	40	36	24	12	13	9.3	74	459	264	132	143
14	23	40	36	23	10	13	9.4	75	394	263	130	141
15	23	39	36	23	11	13	9.3	75	392	262	131	138
16	23	39	35	21	11	13	9.2	74	390	263	130	137
17	24	40	35	19	12	13	9.2	75	391	264	130	115
18	26	40	36	20	13	13	9.2	90	388	261	129	92
19	28	40	36	20	13	13	20	113	387	245	129	92
20	29	40	36	20	14	13	39	127	388	219	128	92
21	28	40	36	20	13	13	40	127	323	208	129	93
22	28	40	36	20	14	13	41	163	302	212	129	93
23	29	39	36	18	14	12	41	190	495	198	128	94
24	29	40	35	17	13	11	42	205	614	195	128	94
25	32	39	36	17	14	12	43	229	636	205	129	94
26	36	39	35	17	13	13	61	228	648	218	128	94
27	37	39	35	17	12	13	73	227	607	222	127	94
28	37	39	34	16	11	13	73	228	553	230	144	93
29	37	39	32	17	---	13	73	230	484	228	154	93
30	36	39	32	15	---	13	72	231	434	227	153	93
31	36	---	32	13	---	13	---	235	---	206	169	---
TOTAL	850	1169	1123	679	341	398	797.2	3872	11530	8597	4266	3881
MEAN	27.4	39.0	36.2	21.9	12.2	12.8	26.6	125	384	277	138	129
MAX	37	40	39	30	14	13	73	235	648	436	181	179
MIN	20	36	32	13	10	11	9.2	71	236	195	118	92
AC-FT	1690	2320	2230	1350	676	789	1580	7680	22870	17050	8460	7700

CAL YR 1989 TOTAL 38856.7 MEAN 106 MAX 807 MIN 5.6 AC-FT 77070
WTR YR 1990 TOTAL 37503.2 MEAN 103 MAX 648 MIN 9.2 AC-FT 74390

06228510 RAY CANAL AT HEADWORKS, NEAR FORT WASHAKIE, WY

LOCATION.--Lat 43°00'02", long 108°55'56", in NW¼ SW¼ SW¼ sec.6, T.1 S., R.1 W., Fremont County, Hydrologic Unit 10080002, Wind River Indian Reservation, on right bank 160 ft downstream from headgate, 300 ft upstream from culvert on County Road 43, 2.0 mi upstream from Crooked Creek, and 2.4 mi west of Fort Washakie.

PERIOD OF RECORD.--April 1989 to current year (no winter records).

GAGE.--Water-stage recorder. Elevation of gage is 5,710 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: May 12-29. Records fair except those for estimated daily discharges, which are poor. Flow is diverted from the South Fork Little Wind River for irrigation. Results of discharge measurements, in cubic feet per second, made during period when the station was not in operation are given below:

Oct. 6 . . . 26.8
Mar. 27 . . . 1.52

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 444 ft³/s, June 23, 1990, gage height, 4.07 ft; minimum daily during periods of operation, 0.58 ft³/s, Apr. 1, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 444 ft³/s, June 23, gage height, 4.07 ft; minimum daily during period of operation, 0.58 ft³/s, Apr. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	.58	98	303	300	182	165
2	---	---	---	---	---	---	.75	97	310	310	163	180
3	---	---	---	---	---	---	1.0	96	306	333	145	179
4	---	---	---	---	---	---	.99	95	309	334	133	175
5	---	---	---	---	---	---	.95	93	318	324	130	175
6	---	---	---	---	---	---	.91	95	320	310	128	176
7	---	---	---	---	---	---	.89	102	323	318	126	175
8	---	---	---	---	---	---	.90	105	326	316	125	173
9	---	---	---	---	---	---	1.2	104	327	312	127	170
10	---	---	---	---	---	---	.96	104	331	306	137	168
11	---	---	---	---	---	---	.93	105	333	300	148	162
12	---	---	---	---	---	---	.94	105	322	305	148	149
13	---	---	---	---	---	---	1.0	105	286	301	147	144
14	---	---	---	---	---	---	.94	105	305	298	151	145
15	---	---	---	---	---	---	.92	105	321	294	154	150
16	---	---	---	---	---	---	1.1	105	319	295	152	146
17	---	---	---	---	---	---	1.2	105	316	294	152	146
18	---	---	---	---	---	---	1.1	100	313	293	155	137
19	---	---	---	---	---	---	7.1	100	319	279	156	105
20	---	---	---	---	---	---	73	105	327	260	157	115
21	---	---	---	---	---	---	66	110	311	244	157	127
22	---	---	---	---	---	---	58	130	326	240	157	126
23	---	---	---	---	---	---	57	170	363	232	156	124
24	---	---	---	---	---	---	55	200	336	219	158	124
25	---	---	---	---	---	---	55	220	344	217	158	125
26	---	---	---	---	---	---	56	240	348	216	157	126
27	---	---	---	---	---	---	85	270	315	217	155	126
28	---	---	---	---	---	---	102	270	302	215	152	127
29	---	---	---	---	---	---	101	270	301	215	156	127
30	---	---	---	---	---	---	100	270	305	212	169	126
31	---	---	---	---	---	---	---	293	---	208	162	---
TOTAL	---	---	---	---	---	---	832.36	4472	9585	8517	4653	4393
MEAN	---	---	---	---	---	---	27.7	144	319	275	150	146
MAX	---	---	---	---	---	---	102	293	363	334	182	180
MIN	---	---	---	---	---	---	.58	93	286	208	125	105
AC-FT	---	---	---	---	---	---	1650	8870	19010	16890	9230	8710

YELLOWSTONE RIVER BASIN

06228800 NORTH FORK LITTLE WIND RIVER NEAR FORT WASHAKIE, WY

LOCATION.--Lat 43°01'38", long 109°00'02", in SW¼ SW¼ SE¼ sec.28, T.1 N., R.2 W., Fremont County, Hydrologic Unit 10080002, Wind River Indian Reservation, on left bank 0.2 mi upstream from North Fork Diversion Canal and 5.9 mi northeast of Fort Washakie.

DRAINAGE AREA.--112 mi².

PERIOD OF RECORD.--October 1988 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,160 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 16, Nov. 29 to Feb. 20, Feb. 28 to Mar. 2, and Mar. 13-16, 24-26. Records good except those for estimated daily discharges, which are poor. Diversions for irrigation of 80 acres upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 744 ft³/s, June 11, 1989, gage height, 4.14 ft; minimum daily, 6.5 ft³/s, Feb. 3, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 723 ft³/s, June 11, gage height, 4.12 ft; minimum daily, 11 ft³/s, Feb. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	47	36	16	17	14	24	82	331	347	149	70
2	80	48	36	16	17	15	28	82	288	332	137	69
3	84	48	38	16	17	15	35	79	251	331	130	69
4	90	49	38	16	17	15	36	76	289	333	121	68
5	89	49	37	17	16	15	40	76	462	324	114	67
6	87	46	34	17	15	15	29	87	469	297	109	66
7	87	46	32	17	15	16	29	133	477	266	103	66
8	86	44	31	18	15	17	28	120	479	243	99	65
9	84	45	27	18	15	17	34	109	481	235	95	64
10	83	46	25	19	15	18	35	112	480	240	91	62
11	80	49	25	19	15	18	35	111	617	220	87	61
12	76	50	30	19	15	17	39	110	524	202	87	58
13	70	47	33	19	15	14	43	115	468	188	85	55
14	66	45	32	19	13	14	47	110	412	180	86	52
15	61	40	31	19	11	14	67	100	352	172	86	50
16	60	40	29	20	12	14	73	96	309	170	85	49
17	59	44	25	19	13	16	55	93	286	163	91	48
18	55	43	21	16	13	15	72	98	272	152	94	48
19	55	43	21	17	14	16	85	103	292	145	94	71
20	53	42	22	18	16	17	91	101	319	152	94	88
21	51	41	21	19	18	18	114	103	376	190	99	92
22	49	38	20	19	18	17	126	128	425	203	97	92
23	47	38	21	18	17	16	126	162	435	210	97	96
24	46	37	22	17	17	15	116	220	443	227	97	100
25	44	34	21	16	17	15	127	244	448	232	93	102
26	44	36	20	15	17	15	116	221	432	225	89	102
27	43	37	20	16	16	17	100	216	438	208	84	100
28	44	33	19	16	14	18	101	247	434	189	79	98
29	49	33	19	16	---	18	90	282	409	174	74	99
30	49	37	18	18	---	18	85	298	364	171	72	97
31	50	---	17	17	---	20	---	314	---	163	72	---
TOTAL	2002	1275	821	542	430	499	2026	4428	12062	6884	2990	2224
MEAN	64.6	42.5	26.5	17.5	15.4	16.1	67.5	143	402	222	96.5	74.1
MAX	90	50	38	20	18	20	127	314	617	347	149	102
MIN	43	33	17	15	11	14	24	76	251	145	72	48
AC-FT	3970	2530	1630	1080	853	990	4020	8780	23920	13650	5930	4410

CAL YR 1989 TOTAL 43450.7 MEAN 119 MAX 695 MIN 6.5 AC-FT 86180
WTR YR 1990 TOTAL 36183 MEAN 99.1 MAX 617 MIN 11 AC-FT 71770

91

LOCATION.--Lat 43°04'56", long 108°53'34", in NE¼ NE¼ NE¼ sec.8, T.1 N., R.1 W., Fremont County, Hydrologic Unit 10080002, Wind River Indian Reservation, on left bank 1,500 ft upstream from Norkok Meadows Creek, 0.6 mi north of U.S. Highway 287, and 5.3 mi north of Fort Washakie.

PERIOD OF RECORD.--July to September 1990.

REMARKS.--Estimated daily discharges: July 13-16, 25-31. Records fair except those for estimated daily discharges and discharges greater than 10 ft³/s, which are poor. Natural flow of stream affected by diversions for irrigation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of operation, 27 ft³/s, July 22, gage height, 2.98 ft, from rating curve extended above 6.0 ft³/s; minimum daily discharge during period of operation, 1.2 ft³/s, Sept. 12, 15.

[illegible]

YELLOWSTONE RIVER BASIN

06229900 TROUT CREEK NEAR FORT WASHAKIE, WY

LOCATION.--Lat 42°57'04", long 108°56'54", in SE¼ NW¼ NW¼ sec.25, T.1 S., R.2 W., Fremont County, Hydrologic Unit 10080002, Wind River Indian Reservation, 50 ft upstream of Blue Trail Crossing, and 5.0 miles southwest of Fort Washakie.

DRAINAGE AREA.--16.1 mi².

PERIOD OF RECORD.--Annual maximum, water years 1961-68, 1970-84. May to September 1990.

GAGE.--Water-stage recorder. Elevation of gage is 5,935 ft above National Geodetic Vertical Datum of 1929, from topographic map. Oct. 1, 1961 to Sept. 30, 1968, crest-stage gage at site 100 ft downstream at datum 1.05 ft lower. Oct. 1, 1969 to Sept. 30, 1984, crest-stage gage at present site at datum 1.05 ft lower.

REMARKS.--No estimated daily discharges. Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 470 ft³/s, June 10, 1978, gage height, 5.56 ft, from rating curve extended above 120 ft³/s; maximum gage height, 6.61 ft, June 11, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 25 ft³/s, June 5, gage height, 4.48 ft; minimum daily during period of operation, 3.7 ft³/s, Sept. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	20	7.9	5.6	4.0
2	---	---	---	---	---	---	---	---	18	7.8	5.3	3.9
3	---	---	---	---	---	---	---	---	17	7.6	5.1	3.9
4	---	---	---	---	---	---	---	---	19	7.4	5.0	3.8
5	---	---	---	---	---	---	---	---	23	7.3	5.0	3.9
6	---	---	---	---	---	---	---	---	22	7.0	4.9	3.9
7	---	---	---	---	---	---	---	---	23	6.8	4.9	3.8
8	---	---	---	---	---	---	---	---	22	6.7	4.8	3.8
9	---	---	---	---	---	---	---	---	21	6.8	4.8	3.8
10	---	---	---	---	---	---	---	---	22	6.8	4.7	3.8
11	---	---	---	---	---	---	---	---	23	6.4	4.9	3.8
12	---	---	---	---	---	---	---	---	19	6.2	5.2	3.8
13	---	---	---	---	---	---	---	---	18	6.2	4.9	3.8
14	---	---	---	---	---	---	---	---	17	6.2	5.0	3.8
15	---	---	---	---	---	---	---	---	17	6.4	4.7	3.7
16	---	---	---	---	---	---	---	---	16	6.3	4.6	3.8
17	---	---	---	---	---	---	---	---	14	5.9	5.0	3.8
18	---	---	---	---	---	---	---	13	13	5.8	4.8	3.8
19	---	---	---	---	---	---	---	14	13	5.9	4.5	4.4
20	---	---	---	---	---	---	---	13	12	6.3	4.4	4.9
21	---	---	---	---	---	---	---	14	12	8.1	4.4	4.5
22	---	---	---	---	---	---	---	16	12	7.4	4.4	4.2
23	---	---	---	---	---	---	---	17	11	6.7	4.3	4.1
24	---	---	---	---	---	---	---	19	11	6.5	4.3	4.0
25	---	---	---	---	---	---	---	18	10	6.2	4.2	3.9
26	---	---	---	---	---	---	---	17	9.8	6.0	4.1	3.9
27	---	---	---	---	---	---	---	18	9.6	5.9	4.0	3.9
28	---	---	---	---	---	---	---	18	9.1	5.7	4.0	3.9
29	---	---	---	---	---	---	---	19	8.7	5.8	4.0	4.0
30	---	---	---	---	---	---	---	19	8.2	5.8	4.0	3.8
31	---	---	---	---	---	---	---	19	---	5.7	4.0	---
TOTAL	---	---	---	---	---	---	---	---	470.4	203.5	143.8	118.4
MEAN	---	---	---	---	---	---	---	---	15.7	6.56	4.64	3.95
MAX	---	---	---	---	---	---	---	---	23	8.1	5.6	4.9
MIN	---	---	---	---	---	---	---	---	8.2	5.7	4.0	3.7
AC-FT	---	---	---	---	---	---	---	---	933	404	285	235

06230190 MILL CREEK ABOVE RAY LAKE OUTLET CANAL, NEAR FORT WASHAKIE, WY

LOCATION.--Lat 42°56'50", long 108°48'29", in SW¼ SE¼ NW¼ sec.30, T.1 S., R.1 E., Fremont County, Hydrologic Unit 10080002, Wind River Indian Reservation, on right bank 70 ft upstream from bridge on secondary road south of U.S. Highway 287, 900 ft upstream from Ray Lake Outlet Canal, and 5.4 mi southeast of Fort Washakie.

DRAINAGE AREA.--15.8 mi².

PERIOD OF RECORD.--May to September 1990.

GAGE.--Water-stage recorder. Elevation of gage is 5,505 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: May 1-10. Records good except those for estimated daily discharges, which are poor. Some diversion for irrigation upstream from station.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 33 ft³/s, Aug. 2, gage height, 2.30 ft; minimum daily during period of operation, 1.5 ft³/s, May 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	6.0	10	5.2	15	12
2	---	---	---	---	---	---	---	6.0	9.5	4.2	24	15
3	---	---	---	---	---	---	---	5.8	9.2	2.5	5.6	14
4	---	---	---	---	---	---	---	5.6	9.0	2.4	2.5	14
5	---	---	---	---	---	---	---	5.4	8.8	2.5	2.2	11
6	---	---	---	---	---	---	---	6.2	11	2.4	2.0	11
7	---	---	---	---	---	---	---	8.0	13	2.2	1.8	11
8	---	---	---	---	---	---	---	8.4	12	2.4	1.6	9.1
9	---	---	---	---	---	---	---	8.0	9.8	2.4	1.6	9.6
10	---	---	---	---	---	---	---	8.4	10	2.4	1.8	10
11	---	---	---	---	---	---	---	8.0	9.9	2.4	6.2	10
12	---	---	---	---	---	---	---	7.9	10	2.3	6.8	9.1
13	---	---	---	---	---	---	---	9.9	12	2.2	6.5	8.5
14	---	---	---	---	---	---	---	6.8	12	2.5	7.3	7.8
15	---	---	---	---	---	---	---	1.6	14	2.7	5.9	7.6
16	---	---	---	---	---	---	---	1.5	16	4.4	3.2	7.4
17	---	---	---	---	---	---	---	1.6	14	9.4	3.2	7.3
18	---	---	---	---	---	---	---	3.6	13	10	3.2	5.6
19	---	---	---	---	---	---	---	3.5	12	9.2	3.3	8.4
20	---	---	---	---	---	---	---	4.7	12	11	3.2	10
21	---	---	---	---	---	---	---	4.6	12	11	3.0	6.4
22	---	---	---	---	---	---	---	3.4	7.3	7.9	2.8	5.7
23	---	---	---	---	---	---	---	6.8	7.5	7.1	3.5	5.8
24	---	---	---	---	---	---	---	6.8	6.4	7.5	3.8	6.8
25	---	---	---	---	---	---	---	6.4	6.0	7.4	4.6	6.4
26	---	---	---	---	---	---	---	6.8	6.1	6.6	5.1	2.7
27	---	---	---	---	---	---	---	6.9	5.9	6.8	5.6	2.7
28	---	---	---	---	---	---	---	6.8	4.7	7.2	5.8	4.9
29	---	---	---	---	---	---	---	7.3	4.5	7.4	6.1	11
30	---	---	---	---	---	---	---	6.8	4.6	7.3	7.2	12
31	---	---	---	---	---	---	---	8.7	---	9.8	7.1	---
TOTAL	---	---	---	---	---	---	---	188.2	292.2	170.7	161.5	262.8
MEAN	---	---	---	---	---	---	---	6.07	9.74	5.51	5.21	8.76
MAX	---	---	---	---	---	---	---	9.9	16	11	24	15
MIN	---	---	---	---	---	---	---	1.5	4.5	2.2	1.6	2.7
AC-FT	---	---	---	---	---	---	---	373	580	339	320	521

YELLOWSTONE RIVER BASIN

06231000 LITTLE WIND RIVER ABOVE ARAPAHOE, WY

LOCATION.--Lat 42°57'35", long 108°29'51", in NW¼ NW¼ SW¼ sec.23, T.1 S., R.3 E., Fremont County, Hydrologic Unit 10080002, Wind River Indian Reservation, on left bank 0.4 mi southwest of Arapahoe School, 1.2 mi upstream from Popo Agie River, and 5.4 mi downstream from Seventeen Mile Bridge.

DRAINAGE AREA.--660 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1906 to December 1909, May 1911 to November 1918, October 1979 to current year. Prior to October 1979, intermittent record. Monthly discharge only for some periods, published in WSP 1309.

GAGE.--Water-stage recorder. Elevation of gage is 4,990 ft above National Geodetic Vertical Datum of 1929, from topographic map. May 1906 to December 1909, nonrecording gage 300 ft upstream at different datum, and May 1911 to November 1918, nonrecording gage 0.3 mi downstream at different datum.

REMARKS.--Estimated daily discharges: Nov. 16-17, Nov. 23 to Mar. 9, and July 7-20. Records good except those for estimated daily discharges, which are poor. Some regulation by Washakie Reservoir, 34 mi upstream, capacity 7,940 acre-ft, and return flow from irrigation. Diversions for irrigation of about 26,000 acres upstream from station.

AVERAGE DISCHARGE.--11 years (water years 1980-90), 184 ft³/s, 133,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 3,840 ft³/s, June 17, 1911, gage height, 6.60 ft, datum then in use; maximum gage height, 12.15 ft, June 10, 1981, June 13, 1983; minimum daily discharge recorded, 6.7 ft³/s, Sept. 5, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 13	0500	*730	*9.03	No peak greater than base discharge.			

Minimum daily discharge, 15 ft³/s, May 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	190	160	82	56	76	90	83	74	91	349	116	25
2	179	156	80	58	80	88	84	75	103	351	106	26
3	179	179	80	60	80	86	86	62	81	329	91	27
4	165	183	80	62	82	83	91	62	60	314	74	29
5	159	207	80	66	82	80	93	63	71	329	61	28
6	151	198	82	64	80	78	100	63	166	287	56	22
7	138	183	84	66	80	76	93	63	185	250	48	20
8	134	168	86	70	78	78	88	78	228	210	37	19
9	134	162	88	74	74	73	93	100	284	180	27	20
10	132	159	84	76	70	69	143	93	290	170	25	20
11	131	156	72	78	66	72	121	82	392	180	28	17
12	126	155	60	78	62	69	109	64	631	170	51	21
13	123	156	58	76	60	63	108	58	681	130	64	24
14	120	145	60	76	58	57	109	47	499	90	49	21
15	119	134	62	74	60	58	105	33	389	66	39	20
16	118	120	58	72	60	58	114	19	360	45	35	23
17	119	120	52	70	62	61	131	17	373	80	33	26
18	114	140	45	66	64	63	131	17	326	68	32	26
19	113	140	43	68	66	63	128	16	284	56	30	28
20	112	139	43	72	66	58	122	15	274	80	28	45
21	112	135	40	72	68	56	94	19	279	184	27	98
22	112	131	35	74	70	58	111	21	299	240	26	106
23	110	120	40	72	80	57	136	17	321	200	24	89
24	109	110	50	68	90	54	135	25	538	181	23	86
25	106	110	54	68	100	55	140	42	616	188	20	83
26	104	110	60	66	100	56	133	49	620	171	20	90
27	112	110	64	64	96	59	119	41	611	145	21	89
28	112	94	64	68	92	63	91	31	549	138	21	99
29	122	90	62	70	---	67	84	57	492	139	18	109
30	122	86	60	72	---	67	77	91	407	137	17	115
31	140	---	58	74	---	75	---	96	---	126	19	---
TOTAL	4017	4256	1966	2150	2102	2090	3252	1590	10500	5583	1266	1451
MEAN	130	142	63.4	69.4	75.1	67.4	108	51.3	350	180	40.8	48.4
MAX	190	207	88	78	100	90	143	100	681	351	116	115
MIN	104	86	35	56	58	54	77	15	60	45	17	17
AC-FT	7970	8440	3900	4260	4170	4150	6450	3150	20830	11070	2510	2880

CAL YR 1989 TOTAL 51880.5 MEAN 142 MAX 1200 MIN 9.5 AC-FT 102900
WTR YR 1990 TOTAL 40223 MEAN 110 MAX 681 MIN 15 AC-FT 79780

WATER-QUALITY DATA

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)
OCT 02...	1205	184	--	--	11.0	--	--	--	--	--	280
DEC 20...	1115	43	830	8.0	0.0	635	12.0	99	K2	26	320
JAN 24...	1040	69	680	8.3	0.0	637	10.3	85	K4	35	--
FEB 28...	1400	93	--	--	0.0	--	--	--	<1	24	290
APR 19...	1100	130	--	--	11.5	--	--	--	--	--	310
MAY 31...	1000	131	510	8.4	15.0	633	9.2	110	250	620	--
JUN 19...	0940	279	462	8.1	15.5	636	10.0	121	150	210	170
JUL 20...	1140	63	860	8.5	21.0	675	11.4	145	70	150	--
SEP 04...	1140	30	1020	8.3	21.0	632	8.0	109	140	87	380
26...	1445	93	--	--	18.5	--	--	--	210	120	--

K-Results based on colony count outside the acceptable range (non-ideal colony count).

[illegible]

YELLOWSTONE RIVER BASIN

06231000 LITTLE WIND RIVER ABOVE ARAPAHOE, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
OCT 02...	436	0.59	216	--	<0.1	--	--	--	0.03	<1
DEC 20...	498	0.68	57.8	0.2	0.3	0.03	0.17	0.2	0.02	<5
JAN 24...	--	--	--	0.2	--	0.02	0.18	0.2	0.02	--
FEB 28...	454	0.62	114	0.2	0.1	0.04	--	<0.2	0.02	<5
APR 19...	508	0.69	178	--	0.1	--	--	--	0.04	<5
MAY 31...	--	--	--	<0.1	--	0.01	0.49	0.5	0.07	--
JUN 19...	262	0.36	197	<0.1	0.4	0.01	0.49	0.5	0.05	<1
JUL 20...	--	--	--	<0.1	--	0.02	0.28	0.3	0.04	--
SEP 04...	--	--	--	<0.1	<0.1	<0.01	--	0.6	<0.01	<5
26...	--	--	--	<0.1	--	<0.01	--	0.7	0.01	--

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)
OCT 02...	1205	--	<1	<100	110	2.0	2
JUN 19...	0940	20	1	<100	70	<1.0	2

DATE	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 02...	2	30	<1	10	0.1	<1.0	<10
JUN 19...	2	40	3	20	<0.1	<1.0	10

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)
OCT 02...	1205	184	11.0	4.4	1.8	4.5	2.4	3.9	2.0	0.38	6.5
JAN 24...	1040	69	0.0	8.6	0.4	5.0	0.4	3.7	0.4	0.77	5.3

YELLOWSTONE RIVER BASIN

06231930 BALDWIN CREEK BELOW DICKINSON CREEK, AT LANDER, WY

LOCATION.--Lat 42°51'00", long 108°43'25", in NW¼ SW¼ NW¼ sec.8, T.33 N., R.99 W., Fremont County, Hydrologic Unit 10080003, 100 ft downstream from mouth of Dickinson Creek and 0.5 mi north of Lander.

PERIOD OF RECORD.--October 1989 to September 1990.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT						
03...	1020	24	8.0	<1	22	1.4
MAY						
09...	1420	17	10.0	<2	67	3.1
JUN						
14...	1240	38	11.0	<1	108	11
JUL						
23...	1410	36	18.5	--	142	14

06232600 POPO AGIE RIVER AT HUDSON SIDING, NEAR LANDER, WY

LOCATION.--Lat 42°51'59", long 108°41'04", in NW¼ NE¼ sec.30, T.2 S., R.2 E., Fremont County, Hydrologic Unit 10080003, Wind River Indian Reservation, on left bank at bridge on private road, 1.2 mi downstream from North Popo Agie River, and 3.2 mi northeast of Lander.

PERIOD OF RECORD.--October 1984 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN									
14...	1115	380	9.0	<0.01	0.04	0.07	<0.01	<0.01	<0.01
JUL									
30...	1530	199	19.0	0.02	0.10	0.03	<0.01	<0.01	<0.01
AUG									
15...	1205	88	19.5	0.02	0.10	0.01	<0.01	<0.01	<0.01

06233000 LITTLE POPO AGIE RIVER NEAR LANDER, WY

LOCATION.--Lat 42°43'00", long 108°38'34", in NE¼ SE¼ sec.27, T.32 N., R.99 W., Fremont County, Hydrologic Unit 10080003, on left bank 700 ft downstream from bridge on State Highway 28, 2.5 mi downstream from Red Canyon Creek, and 9.5 mi southeast of post office in Lander.

DRAINAGE AREA.--125 mi².

PERIOD OF RECORD.--March 1946 to current year (no winter records since 1971).

REVISED RECORDS.--WSP 1709: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,436.49 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: June 5, 6. Records good. Diversions for irrigation of about 540 acres upstream from station. Slight regulation by Christina Lake, capacity, about 3,860 acre-ft.

AVERAGE DISCHARGE.--25 years (water years 1947-71), 80.3 ft³/s, 58,180 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD: Maximum discharge, 2,010 ft³/s, June 16, 1963, gage height, 6.64 ft; minimum daily during period of operation, 12 ft³/s, Jan. 20, 21, Feb. 26 to Mar. 2, 1960, Jan. 10, 11, 18, 19, 1963.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 350 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 11	2400	*455	*3.94	No other peak greater than base discharge.			

Minimum daily discharge during period of operation, 27 ft³/s, Aug. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	28	63	198	156	96	55
2	---	---	---	---	---	---	29	62	193	148	83	57
3	---	---	---	---	---	---	39	60	154	153	73	59
4	---	---	---	---	---	---	37	56	153	148	65	62
5	---	---	---	---	---	---	39	55	205	129	64	62
6	---	---	---	---	---	---	30	62	251	121	59	59
7	---	---	---	---	---	---	31	80	268	113	54	59
8	---	---	---	---	---	---	33	89	265	101	51	57
9	---	---	---	---	---	---	39	81	252	94	50	56
10	---	---	---	---	---	---	33	87	285	93	49	57
11	---	---	---	---	---	---	34	83	449	91	47	56
12	---	---	---	---	---	---	35	83	308	83	47	55
13	---	---	---	---	---	---	38	83	207	73	55	54
14	---	---	---	---	---	---	40	91	167	73	50	53
15	---	---	---	---	---	---	51	85	161	69	46	51
16	---	---	---	---	---	---	57	81	180	69	45	51
17	---	---	---	---	---	---	46	81	164	64	51	54
18	---	---	---	---	---	---	51	87	153	59	51	55
19	---	---	---	---	---	---	62	93	177	59	47	62
20	---	---	---	---	---	---	63	100	193	67	45	76
21	---	---	---	---	---	---	80	98	217	126	41	76
22	---	---	---	---	---	---	93	103	212	115	41	73
23	---	---	---	---	---	---	96	123	215	96	39	69
24	---	---	---	---	---	---	91	158	230	91	38	65
25	---	---	---	---	---	---	87	172	230	91	35	62
26	---	---	---	---	---	---	81	159	233	83	34	60
27	---	---	---	---	---	---	71	146	221	73	31	60
28	---	---	---	---	---	---	78	153	204	65	31	59
29	---	---	---	---	---	---	69	161	181	64	29	59
30	---	---	---	---	---	---	62	175	164	80	27	56
31	---	---	---	---	---	---	---	181	---	109	44	---
TOTAL	---	---	---	---	---	---	1623	3191	6490	2956	1518	1789
MEAN	---	---	---	---	---	---	54.1	103	216	95.4	49.0	59.6
MAX	---	---	---	---	---	---	96	181	449	156	96	76
MIN	---	---	---	---	---	---	28	55	153	59	27	51
AC-FT	---	---	---	---	---	---	3220	6330	12870	5860	3010	3550

YELLOWSTONE RIVER BASIN

06233900 POPO AGIE RIVER NEAR ARAPAHOE, WY

LOCATION.--Lat 42°56'47", long 108°30'34", in NE¼ NE¼ SW¼ sec.27, T.1 S., R.3 E., Fremont County, Hydrologic Unit 10080003, Wind River Indian Reservation, on left bank 1.4 mi southwest of Arapahoe School and 3.0 mi upstream from Little Wind River.

DRAINAGE AREA.--796 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 4,995.72 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 16, 17, Nov. 27 to Mar. 13, and June 13-20. Records good except those for estimated daily discharges, which are poor. Diversions for irrigation of about 36,900 acres upstream from station.

AVERAGE DISCHARGE.--11 years, 336 ft³/s, 243,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD: Maximum discharge, 4,240 ft³/s, June 12, 1983, gage height, 9.93 ft; minimum daily, 17 ft³/s, Aug. 3, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 11	2100	*2,340	*7.64	No other peak greater than base discharge.			
Minimum daily discharge, 64 ft ³ /s, Aug. 30.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	209	160	140	83	100	100	142	241	459	578	314	90
2	201	175	140	80	100	98	138	237	449	592	263	106
3	208	187	150	76	96	98	147	219	298	632	203	127
4	217	208	150	80	94	100	158	204	267	628	176	135
5	217	222	140	86	88	101	159	192	558	566	169	135
6	202	191	130	90	83	109	157	180	732	490	157	135
7	196	183	120	91	79	110	138	229	856	441	137	132
8	188	177	110	92	80	120	144	295	982	414	117	141
9	180	174	100	96	86	120	166	267	956	385	105	152
10	173	175	96	110	90	120	188	239	1040	371	92	145
11	169	178	98	110	90	120	157	194	1920	342	89	133
12	168	176	110	110	90	120	158	196	1680	295	225	135
13	161	174	120	110	90	120	177	164	1200	276	159	132
14	153	169	120	110	83	118	173	164	1000	284	142	122
15	149	160	110	110	74	109	193	153	780	287	119	105
16	159	140	100	100	82	107	228	136	700	322	96	96
17	163	150	94	100	91	102	232	111	600	264	88	105
18	160	162	84	94	100	103	206	107	620	232	123	121
19	161	164	80	100	110	103	247	115	660	233	127	237
20	166	168	84	110	110	103	273	143	700	232	118	360
21	161	158	86	110	110	110	311	109	796	663	116	402
22	157	153	91	110	120	116	385	125	851	680	114	319
23	155	143	100	110	110	110	407	191	855	523	114	294
24	157	154	110	110	110	97	379	362	934	446	110	274
25	153	149	99	110	110	100	496	425	949	467	106	246
26	140	140	100	90	110	102	366	333	963	410	97	233
27	160	130	94	74	120	98	313	255	889	376	89	223
28	152	120	90	84	110	117	291	292	809	330	83	214
29	180	120	90	110	---	118	267	365	705	301	74	216
30	154	130	90	110	---	116	261	391	624	293	64	213
31	162	---	90	100	---	127	---	388	---	329	67	---
TOTAL	5331	4890	3316	3056	2716	3392	7057	7022	24832	12682	4053	5478
MEAN	172	163	107	98.6	97.0	109	235	227	828	409	131	183
MAX	217	222	150	110	120	127	496	425	1920	680	314	402
MIN	140	120	80	74	74	97	138	107	267	232	64	90
AC-FT	10570	9700	6580	6060	5390	6730	14000	13930	49250	25150	8040	10870
CAL YR 1989	TOTAL 87885	MEAN 241	MAX 1460	MIN 51	AC-FT 174300							
WTR YR 1990	TOTAL 83825	MEAN 230	MAX 1920	MIN 64	AC-FT 166300							

06233900 POPO AGIE RIVER NEAR ARAPAHOE, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1980 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)
OCT 02...	0945	205	10.0	757	340	83	33	53	1	3.2	150
DEC 20...	1005	84	0.0	823	410	100	39	58	1	3.2	190
FEB 27...	1530	115	0.5	837	340	82	33	53	1	2.3	160
APR 19...	1345	267	13.5	540	220	53	21	32	0.9	1.7	110
JUN 19...	1200	656	16.5	427	170	41	16	25	0.8	1.8	93
AUG 02...	1430	265	21.0	605	260	63	24	35	1	1.4	120

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
OCT 02...	270	4.5	0.3	5.2	542	0.74	300	<0.1	0.03	<1
DEC 20...	300	6.4	0.4	9.9	633	0.86	144	0.6	0.03	<5
FEB 27...	260	4.7	0.3	8.8	543	0.74	169	0.6	0.03	<5
APR 19...	160	3.6	0.5	6.9	345	0.47	249	0.1	0.06	<5
JUN 19...	110	2.6	0.1	8.2	262	0.36	464	0.3	0.08	<5
AUG 02...	180	3.2	0.3	7.2	387	0.53	277	0.2	0.04	<5

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT 02...	0945	<1	<100	90	<1.0	2	3

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 02...	30	<1	30	0.1	<1.0	<10

06233900 POPO AGIE RIVER NEAR ARAPAHOE. WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

[illegible]

YELLOWSTONE RIVER BASIN

103

06235000 BEAVER CREEK NEAR ARAPAHOE, WY

LOCATION.--Lat 42°57'16", long 108°25'39", in NW¼ NE¼ sec.29, T.1 S., R.4 E., Fremont County, Hydrologic Unit 10080002, Wind River Indian Reservation, at former gaging station, 1.0 mi upstream from mouth, and 3.8 mi east of Arapahoe.

DRAINAGE AREA.--354 mi².

PERIOD OF RECORD.--Water years 1950-53, 1968-81, October 1984 to current year.

REMARKS.--No flow observed Jan. 25.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)					
OCT 03...	1120	0.71	8.5	<1	264	0.51					
JAN 25...	1200	0.0	0.0	--	--	--					
MAR 29...	1105	20	4.5	<3	1280	69					
JUL 30...	1135	375	13.0	3	49900	50500					
DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)
OCT 03...	1120	0.71	8.5	7.8	4.1	18	11	16	8.7	1.6	12

YELLOWSTONE RIVER BASIN

06235500 LITTLE WIND RIVER NEAR RIVERTON, WY

LOCATION.--Lat 42°59'51", long 108°22'29", in NE¼ NW¼ sec.11, T.1 S., R.4 E., Fremont County, Hydrologic Unit 10080002, Wind River Indian Reservation, on right bank 1.8 mi upstream from mouth and 1.9 mi southeast of Riverton.

DRAINAGE AREA.--1,904 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1941 to current year. Prior to October 1958, published as Popo Agie River near Riverton.

REVISED RECORDS.--WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,901.84 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 19, 1956, at site 600 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 15, 16, Nov. 27 to Mar. 9, and Mar. 12-16. Records good except those for estimated daily discharges, which are poor. Diversions for irrigation of about 62,900 acres upstream from station. U.S. Bureau of Reclamation satellite telemeter at station.

AVERAGE DISCHARGE.--49 years, 574 ft³/s, 415,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,700 ft³/s, June 17, 1963, gage height, 10.85 ft; minimum daily, 41 ft³/s, Aug. 7, 1960.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 11	2400	*2,970	*5.98	No peak greater than base discharge.			

Minimum daily discharge, 110 ft³/s, Dec. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	377	314	200	180	220	170	227	332	570	805	383	137
2	363	290	210	180	220	170	229	319	642	812	333	154
3	375	323	210	180	220	170	233	303	473	818	281	167
4	375	344	220	180	220	170	252	280	374	813	247	178
5	362	374	220	180	210	170	263	265	548	779	229	166
6	349	349	220	190	200	180	278	247	918	688	223	158
7	327	325	220	200	190	190	272	248	1080	572	202	156
8	319	315	210	200	190	180	264	322	1280	527	181	158
9	308	308	210	210	200	190	271	344	1290	489	161	161
10	299	311	200	220	200	190	326	302	1360	478	151	159
11	293	310	190	230	190	189	305	273	2220	456	142	152
12	287	311	170	220	180	190	294	246	2390	401	215	151
13	282	309	180	230	160	200	300	223	1620	347	241	146
14	276	305	190	230	150	190	308	208	1150	338	218	138
15	265	280	190	220	160	190	308	189	953	332	181	136
16	273	240	180	210	170	180	344	168	934	352	165	133
17	280	304	160	190	170	190	366	142	988	335	152	134
18	276	295	140	190	180	179	347	127	806	292	166	144
19	271	290	160	200	180	180	361	124	775	281	178	195
20	275	296	170	220	190	183	380	140	844	288	167	301
21	270	290	130	230	190	183	379	138	906	608	162	379
22	268	280	110	220	190	181	452	130	974	894	155	347
23	258	272	140	200	190	175	511	153	943	694	151	323
24	256	282	160	200	180	169	492	294	1150	582	150	300
25	252	284	190	200	180	168	654	474	1270	620	145	290
26	250	265	210	200	170	168	533	397	1320	569	138	291
27	264	250	210	190	160	173	455	333	1290	458	136	285
28	263	210	200	190	170	188	405	328	1180	404	135	293
29	294	200	200	200	---	203	373	440	1040	375	124	297
30	279	200	190	210	---	197	343	542	901	506	119	297
31	281	---	190	220	---	207	---	534	---	391	117	---
TOTAL	9167	8726	5780	6320	5230	5663	10525	8565	32189	16304	5748	6326
MEAN	296	291	186	204	187	183	351	276	1073	526	185	211
MAX	377	374	220	230	220	207	654	542	2390	894	383	379
MIN	250	200	110	180	150	168	227	124	374	281	117	133
AC-FT	18180	17310	11460	12540	10370	11230	20880	16990	63850	32340	11400	12550

CAL YR 1989 TOTAL 144343 MEAN 395 MAX 2540 MIN 79 AC-FT 286300
WTR YR 1990 TOTAL 120543 MEAN 330 MAX 2390 MIN 110 AC-FT 239100

06235500 LITTLE WIND RIVER NEAR RIVERTON, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1949-58, 1960-64, 1966 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT 02...	1510	369	760	8.0	11.0	640	10.0	108	31	<1	24	24
JUN 20...	1125	966	420	8.0	16.0	638	8.4	102	K80	<1	60	156
JUN 21...	1630	1170	388	7.8	17.5		8.1	--	K74	<2	190	600
JUL 19...	0930	257	720	8.5	18.0	640	9.6	121	K31	<2	34	24

K-Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS-SOLVED (UG/L AS U)
OCT 02...	1510	369	11.0	6.1	0.9	6.8	2.7	6.1	2.2	0.15	7.4
JAN 23...	1445	199	0.0	15	0.4	6.5	0.4	4.9	0.4	0.33	6.6

YELLOWSTONE RIVER BASIN

06236100 WIND RIVER ABOVE BOYSEN RESERVOIR, NEAR SHOSHONI, WY

LOCATION.--Lat 43°07'45", long 108°13'24", in SE¼ SE¼ SE¼ sec.24, T.2 N., R.5 E., Fremont County, Hydrologic Unit 10080001, on left bank 5.3 mi upstream from Boysen Reservoir and 9.4 mi southwest of Shoshoni.

DRAINAGE AREA.--4,390 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May to September 1990.

GAGE.--Water-stage recorder. Elevation of gage is 4,775 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: May 1-15. Records good except those for estimated daily discharges, which are poor. Natural flow affected by Bull Lake, Pilot Butte Reservoir, and several small reservoirs, combined capacity, 190,000 acre-ft, and diversions for irrigation of about 191,000 acres upstream from station. Satellite telemeter at station.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,010 ft³/s, June 12, gage height, 5.94 ft; minimum daily during period of operation, 328 ft³/s, May 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	610	848	1640	949	522
2	---	---	---	---	---	---	---	560	956	1650	815	539
3	---	---	---	---	---	---	---	530	844	1690	734	569
4	---	---	---	---	---	---	---	490	742	1790	652	607
5	---	---	---	---	---	---	---	470	1090	1520	643	586
6	---	---	---	---	---	---	---	450	1490	1270	634	525
7	---	---	---	---	---	---	---	440	1300	1050	619	526
8	---	---	---	---	---	---	---	470	1460	937	581	510
9	---	---	---	---	---	---	---	470	1500	893	555	507
10	---	---	---	---	---	---	---	450	1610	906	531	510
11	---	---	---	---	---	---	---	470	2810	891	581	515
12	---	---	---	---	---	---	---	440	4350	784	634	515
13	---	---	---	---	---	---	---	425	2710	676	715	515
14	---	---	---	---	---	---	---	425	1670	702	686	503
15	---	---	---	---	---	---	---	420	1410	753	631	507
16	---	---	---	---	---	---	---	402	1410	700	599	508
17	---	---	---	---	---	---	---	382	1560	693	567	531
18	---	---	---	---	---	---	---	343	1360	636	600	553
19	---	---	---	---	---	---	---	337	1260	622	614	634
20	---	---	---	---	---	---	---	407	1340	665	589	833
21	---	---	---	---	---	---	---	416	1400	1070	583	1020
22	---	---	---	---	---	---	---	328	1930	2010	647	966
23	---	---	---	---	---	---	---	349	1910	1420	656	903
24	---	---	---	---	---	---	---	473	2310	1140	575	842
25	---	---	---	---	---	---	---	713	2900	1210	576	773
26	---	---	---	---	---	---	---	661	2900	1370	571	713
27	---	---	---	---	---	---	---	604	2810	1100	553	708
28	---	---	---	---	---	---	---	571	2660	901	538	716
29	---	---	---	---	---	---	---	677	2230	872	524	719
30	---	---	---	---	---	---	---	1100	1830	1040	514	682
31	---	---	---	---	---	---	---	1030	---	940	519	---
TOTAL	---	---	---	---	---	---	---	15913	54600	33541	19185	19057
MEAN	---	---	---	---	---	---	---	513	1820	1082	619	635
MAX	---	---	---	---	---	---	---	1100	4350	2010	949	1020
MIN	---	---	---	---	---	---	---	328	742	622	514	503
AC-FT	---	---	---	---	---	---	---	31560	108300	66530	38050	37800

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
AUG 03...	1350	1150	540	8.6	21.5	200	51	17	37	1	2.3

DATE	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)
AUG 03...	145	130	4.2	0.4	11	340	0.46	1060	<0.1	0.1

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN- (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2, 4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2, 4, 5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 26...	0930	2640	18.0	0.01	0.01	0.03	<0.01	<0.01	<0.01
JUL 30...	1230	918	20.0	0.06	0.02	0.22	<0.01	<0.01	<0.01
AUG 29...	1215	511	20.0	0.02	0.01	<0.01	<0.01	<0.01	<0.01

[illegible]

YELLOWSTONE RIVER BASIN

06244500 FIVEMILE CREEK ABOVE WYOMING CANAL, NEAR PAVILLION, WY

LOCATION.--Lat 43°18'05", long 108°42'08", in SE¼ SW¼ SE¼ sec.24, T.4 N., R.1 E., Fremont County, Hydrologic Unit 10080005, on left bank 1,700 ft upstream from Wyoming Canal siphon and 4.0 mi north of Pavillion.

DRAINAGE AREA.--118 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1949 to September 1975, October 1988 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,500 ft above National Geodetic Vertical Datum of 1929, from topographic map. Aug. 27, 1948, to Mar. 28, 1950, at site 0.2 mi downstream at different datum. Mar. 29, 1950, to Apr. 23, 1974, at site 325 ft downstream at present datum. Apr. 24, 1974, to September 30, 1975, at site 25 ft downstream at present datum.

REMARKS.--Estimated daily discharges: Nov. 6-8, Nov. 27 to Feb. 19, Mar. 26 to May 10 and Aug. 4 to Sept. 27. Records poor. Flow regulated by reservoir system approximately 10.5 mi upstream. Diversions for irrigation of about 320 acres upstream from station.

AVERAGE DISCHARGE.--28 years (water years 1950-75, 1989-90), 2.42 ft³/s, 1,750 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,750 ft³/s, Sept. 6, 1951, gage height, 5.60 ft, from floodmarks, from rating curve extended above 350 ft³/s; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in September 1948 reached a stage of about 6.1 ft, discharge, 2,600 ft³/s, on basis of slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14 ft³/s, Feb. 22, gage height, 2.22 ft; minimum daily, 0.10 ft³/s, July 3-4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	4.6	3.0	3.0	5.4	10	10	5.6	7.2	.11	1.3	.42
2	2.3	4.7	3.5	3.3	5.4	9.9	12	5.8	7.8	.11	1.3	.43
3	2.5	4.2	3.5	3.3	5.4	10	11	5.8	7.0	.10	1.5	.43
4	2.8	4.3	4.0	3.3	5.4	11	10	5.8	8.1	.10	1.6	.42
5	2.6	4.3	4.0	3.8	5.3	10	9.0	6.0	3.4	.11	1.5	.42
6	2.8	4.6	4.3	4.0	5.2	10	9.0	6.0	2.6	.11	1.3	.45
7	2.7	5.0	4.5	4.0	5.0	10	9.0	6.4	2.2	.11	1.1	.48
8	2.6	5.2	4.7	4.5	5.0	9.6	9.5	6.4	1.9	.11	.90	.49
9	2.8	6.7	4.5	4.5	5.6	8.9	9.0	6.0	1.7	.11	.84	.50
10	2.9	6.5	4.2	5.0	6.0	9.0	7.0	5.5	1.6	.11	.78	.52
11	2.9	6.3	4.0	5.0	6.0	9.1	7.4	5.2	1.7	.11	.84	.58
12	3.2	5.5	4.5	4.5	5.6	8.6	8.0	5.4	1.6	.12	1.4	.62
13	3.4	5.3	4.7	4.5	5.4	7.9	8.5	6.0	1.7	.14	1.1	.64
14	3.7	4.5	5.0	4.5	5.0	8.2	8.0	6.2	1.9	.14	.92	.62
15	2.4	4.1	5.0	4.5	6.0	8.0	7.0	5.6	2.5	.14	.72	.62
16	2.5	3.9	4.9	4.0	7.0	8.1	7.2	5.0	3.8	.14	.60	.60
17	2.8	5.1	4.8	4.0	8.0	8.0	7.4	4.6	6.0	.14	.52	.62
18	3.0	6.7	4.7	4.0	8.5	7.7	7.0	4.8	3.1	.14	.49	.64
19	3.5	7.3	4.7	4.0	9.0	8.1	6.8	5.0	2.0	.14	.47	.72
20	3.4	6.7	4.5	4.0	9.7	8.7	6.2	5.2	1.6	4.2	.46	5.2
21	3.3	6.8	3.5	4.5	11	8.0	6.0	4.8	1.7	5.7	.45	4.6
22	3.7	5.8	2.8	5.0	11	7.5	5.6	4.7	1.7	7.5	.44	4.5
23	4.0	5.3	3.0	5.0	11	6.3	6.0	4.6	1.7	7.5	.43	4.3
24	3.8	5.5	3.3	5.0	11	6.5	6.2	4.5	1.2	6.3	.43	4.5
25	3.8	5.2	3.5	4.7	11	6.3	6.4	4.4	.77	6.7	.42	4.6
26	3.2	4.1	3.7	4.5	11	9.3	6.0	4.4	.46	3.8	.43	4.2
27	3.6	3.6	3.7	4.5	10	8.5	6.0	4.5	.33	2.4	.44	3.8
28	3.7	3.2	3.5	4.5	9.9	8.0	5.8	5.4	.23	1.9	.43	2.0
29	3.7	2.9	3.2	5.0	---	8.5	5.4	6.2	.12	2.0	.42	3.1
30	4.3	2.8	3.5	5.2	---	9.0	5.6	8.5	.11	2.0	.41	3.3
31	4.7	---	3.5	5.4	---	11	---	7.2	---	1.6	.42	---
TOTAL	99.4	150.7	124.2	135.0	209.8	269.7	228.0	171.5	77.72	53.89	24.36	54.32
MEAN	3.21	5.02	4.01	4.35	7.49	8.70	7.60	5.53	2.59	1.74	.79	1.81
MAX	4.7	7.3	5.0	5.4	11	11	12	8.5	8.1	7.5	1.6	5.2
MIN	2.3	2.8	2.8	3.0	5.0	6.3	5.4	4.4	.11	.10	.41	.42
AC-FT	197	299	246	268	416	535	452	340	154	107	48	108

CAL YR 1989 TOTAL 1705.56 MEAN 4.67 MAX 36 MIN .02 AC-FT 3380
WTR YR 1990 TOTAL 1598.59 MEAN 4.38 MAX 12 MIN .10 AC-FT 3170

06244500 FIVEMILE CREEK ABOVE WYOMING CANAL, NEAR PAVILLION, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1950-58, 1961-75, October 1987 to current year..

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
OCT 12...	1215	3.3	13.0	3530	1700	460	130	300	3	12	160	1800
DEC 20...	1115	4.5	1.0	3410	1700	460	140	290	3	13	200	1800
FEB 05...	1440	5.3	0.0	2990	1500	400	110	230	3	0.5	120	1600
APR 30...	1200	5.0	7.0	3320	1500	370	130	270	3	13	140	1900
JUN 14...	1625	2.0	15.0	3570	1600	430	130	300	3	13	140	2200
JUL 19...	1415	0.13	27.0	4790	1800	460	170	520	5	13	160	2500

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT 12...	64	1.0	9.2	2870	3.91	25.6	<1.0	<0.03	<1	2	0.02
DEC 20...	63	1.1	13	2900	3.95	35.3	0.3	0.04	<5	--	--
FEB 05...	54	1.3	11	2480	3.37	35.5	<0.1	0.03	<5	39	0.56
APR 30...	61	1.2	8.8	2840	3.86	38.3	<0.1	<0.03	<5	7	0.09
JUN 14...	63	0.9	7.0	3230	4.39	17.4	<0.1	<0.03	<1	9	0.05
JUL 19...	82	0.6	4.9	3850	5.23	1.35	<0.1	<0.03	<5	52	0.02

DATE	TIME	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)
OCT 12...	1215	--	<1	<100	620	<1.0	4
JUN 14...	1625	20	<1	<100	640	<1.0	10

DATE	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT 12...	1	30	<1	50	<0.1	<1.0	<10
JUN 14...	3	30	<1	40	<0.1	<1.0	30

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

[illegible]

YELLOWSTONE RIVER BASIN

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06253000 FIVEMILE CREEK NEAR SHOSHONI, WY

LOCATION.--Lat 43°13'20", long 108°13'06", in NW¼ SW¼ sec.19, T.3 N., R.6 E., Fremont County, Hydrologic Unit 10080005, on right bank 1.2 mi upstream from normal high-water line of Boysen Reservoir at elevation 4,725 ft and 5.0 mi west of Shoshoni.

DRAINAGE AREA.--418 mi², of which 133 mi² is probably noncontributing.

PERIOD OF RECORD.--May 1941 to September 1942, August 1948 to September 1983, and October 1988 to current year.

REVISED RECORDS.--WSP 1709: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,750 ft above National Geodetic Vertical Datum of 1929, from topographic map. May 10, 1941 to Sept. 30, 1942, nonrecording gage at site 1.0 mi downstream at different datum. Aug. 28, 1948 to Sept. 30, 1983, at same site and datum.

REMARKS.--Estimated daily discharges: Nov. 29 to Dec. 3, Dec. 6 to May 11, May 22, 23, May 25 to June 19, and Aug. 24-29. Records fair except those for estimated daily discharges, which are poor. Natural flow of stream affected by regulation from reservoir system in the headwaters, diversions for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE.--38 years (water years 1942, 1949-83, 1989-90), 158 ft³/s, 114,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,390 ft³/s, June 15, 1962, gage height, 7.85 ft; maximum gage height, 9.61 ft, Dec. 27, 1954 (backwater from ice); minimum daily discharge, 1.0 ft³/s, Jan. 4-6, 1942.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 24, 1923, discharge, 3,500 ft³/s, from estimate provided by Bureau of Reclamation, gage height not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 456 ft³/s, sometime during period June 4-9, gage height, 3.70 ft, from floodmarks; maximum gage height recorded, 3.90 ft, Dec. 26 (backwater from ice); minimum daily discharge, 29 ft³/s, Feb. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	335	116	52	47	37	46	100	230	390	316	318	294
2	344	110	58	46	37	46	105	220	410	345	303	300
3	339	111	66	45	36	47	110	210	440	353	306	326
4	321	113	56	45	35	49	115	200	460	353	306	321
5	306	111	55	46	35	50	120	190	450	355	310	352
6	289	108	50	46	35	50	110	180	450	335	313	360
7	265	106	49	47	35	52	120	180	440	317	327	338
8	271	103	48	47	35	52	125	180	440	327	317	334
9	237	105	50	48	36	52	130	170	440	328	286	347
10	199	103	43	49	37	54	135	170	430	305	299	349
11	155	100	38	50	38	56	140	170	430	327	316	348
12	140	98	40	49	38	58	145	158	420	303	352	321
13	141	98	45	47	33	60	150	164	410	310	368	320
14	133	97	48	45	29	62	155	180	400	325	383	325
15	137	93	46	43	30	66	160	171	390	331	395	328
16	130	87	42	40	31	70	170	183	400	345	384	339
17	123	84	37	39	32	74	180	190	410	324	361	355
18	122	85	32	38	32	76	190	210	420	313	364	354
19	123	85	34	39	33	78	200	187	420	332	368	380
20	122	84	54	39	35	80	210	197	392	342	383	427
21	120	85	41	40	36	80	220	206	341	368	403	435
22	120	84	33	41	38	78	230	230	346	395	380	454
23	119	85	40	42	39	76	240	212	346	417	365	434
24	119	87	44	41	40	68	250	240	335	411	350	429
25	119	81	48	40	42	76	260	250	356	399	320	436
26	118	81	52	39	44	82	270	260	359	407	300	426
27	117	80	54	38	45	84	260	270	339	373	280	406
28	117	76	52	38	46	88	260	280	310	366	280	419
29	118	72	50	37	---	92	250	290	300	368	274	376
30	116	54	49	37	---	94	240	310	299	370	274	374
31	115	---	48	37	---	98	---	350	---	353	283	---
TOTAL	5530	2782	1454	1325	1019	2094	5350	6638	11773	10813	10268	11007
MEAN	178	92.7	46.9	42.7	36.4	67.5	178	214	392	349	331	367
MAX	344	116	66	50	46	98	270	350	460	417	403	454
MIN	115	54	32	37	29	46	100	158	299	303	274	294
AC-FT	10970	5520	2880	2630	2020	4150	10610	13170	23350	21450	20370	21830

CAL YR 1989 TOTAL 52332 MEAN 143 MAX 387 MIN 10 AC-FT 103800
WTR YR 1990 TOTAL 70053 MEAN 192 MAX 460 MIN 29 AC-FT 139000

LOCATION.--Lat 43°21'46, long 108°36'08", in NW¼ sec.35, T.5 N., R.2 E., Fremont County, Hydrologic Unit 10080005, 600 ft upstream from Wyoming Canal siphon, 4.1 mi downstream from Sheep Creek, and 9.2 mi northeast of Pavillion.

PERIOD OF RECORD.--Water years 1949-58, 1961-73, October 1988 to current year.

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CaCO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CaCO3)
JUN 20...	1345	0.04	3490	21.5	1400	280	180	350	4	7.8	320
SEP 27...	1145	E1.0	2970	15.0	990	200	120	330	5	7.0	180

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
0...	1900	38	0.8	12	2960	4.03	0.32	<0.1	0.04	<1
7...	1300	37	1.4	11	2110	2.88	--	<0.1	0.03	<5

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)
JUN 20...	1345	10	<1	390	<1.0	4	1

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
JUN 20...	30	<1	140	1.4	<1.0	50

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)
JUN 20...	1345	0.04	21.5	<0.01	<0.01	<0.01	<0.01	<0.01

[illegible]

06259000 WIND RIVER BELOW BOYSEN RESERVOIR, WY

LOCATION.--Lat 43°25'30", long 108°10'42", in NW¼ SW¼ sec.9, T.5 N., R.6 E., Fremont County, Hydrologic Unit 10080005, on right bank 0.6 mi downstream from Boysen Dam and 13 mi north of Shoshoni.

DRAINAGE AREA.--7,701 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1951 to current year.

REVISED RECORDS.--WSP 1709: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,608.58 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Boysen Reservoir (station 06258900) since October 1951. Natural flow also affected by Bull Lake, Pilot Butte Reservoir, and several small reservoirs, combined capacity, 190,000 acre-ft, and diversions for irrigation of about 196,000 acres upstream from station. U.S. Bureau of Reclamation satellite telemeter at station.

AVERAGE DISCHARGE.--39 years, 1,413 ft³/s, 1,024,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,500 ft³/s, July 7, 1967, gage height, 13.35 ft; minimum daily, 4.7 ft³/s, Apr. 3, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,920 ft³/s, July 1, gage height, 5.64 ft; minimum daily, 917 ft³/s, Sept. 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	951	1090	1160	1130	1090	940	929	974	1140	1450	1240	1190
2	960	1090	1160	1130	1090	929	930	979	1310	1370	1250	1190
3	964	1070	1160	1120	1080	932	935	978	1600	1400	1250	1200
4	969	1060	1160	1120	1090	928	944	974	1460	1410	1250	1200
5	964	1060	1180	1130	1090	935	939	977	1330	1400	1250	1180
6	962	1050	1240	1120	1080	938	943	979	1320	1450	1240	1190
7	962	1130	1350	1120	1090	927	946	986	1320	1470	1220	1200
8	972	1070	1420	1120	1080	930	953	987	1320	1460	1210	1210
9	982	1150	1420	1110	1040	932	950	991	1320	1460	1200	1200
10	1010	1150	1420	1110	1040	934	934	1020	1310	1470	1200	1200
11	1040	1140	1380	1110	1040	936	937	1070	1320	1470	1200	1190
12	1040	1140	1240	1100	1040	936	940	1080	1320	1440	1200	1180
13	1060	1140	1160	1100	1040	939	938	1090	1320	1450	1220	1170
14	1060	1150	1160	1110	1040	940	944	1080	1320	1470	1200	1130
15	1070	1150	1160	1100	1030	941	943	1090	1320	1450	1210	1110
16	1060	1150	1150	1100	1030	926	949	1090	1320	1440	1210	1110
17	1050	1160	1150	1100	1030	928	945	1090	1320	1430	1210	1110
18	1060	1160	1140	1100	1030	929	954	1160	1320	1400	1190	1110
19	1060	1150	1150	1100	1030	922	958	1240	1320	1390	1180	1110
20	1060	1160	1160	1090	1040	925	964	1220	1310	1390	1180	1070
21	1060	1160	1160	1090	1030	933	966	1230	1320	1370	1170	1020
22	1070	1160	1150	1100	1030	928	965	1260	1310	1360	1190	1030
23	1070	1160	1150	1100	1040	928	973	1320	1320	1330	1200	1010
24	1060	1160	1150	1100	1040	934	967	1310	1320	1280	1210	969
25	1060	1160	1140	1100	1040	932	971	1310	1320	1270	1200	927
26	1070	1160	1130	1100	997	925	963	1310	1310	1280	1200	917
27	1070	1160	1130	1090	931	930	962	1320	1320	1270	1190	925
28	1070	1150	1130	1090	939	932	971	1330	1310	1240	1200	930
29	1080	1150	1130	1090	---	929	969	1320	1310	1240	1200	929
30	1080	1150	1120	1090	---	928	972	1320	1310	1240	1180	925
31	1080	---	1120	1090	---	921	---	1320	---	1240	1190	---
TOTAL	32026	33990	37030	34260	29167	28867	28554	35405	39770	42790	37440	32832
MEAN	1033	1133	1195	1105	1042	931	952	1142	1326	1380	1208	1094
MAX	1080	1160	1420	1130	1090	941	973	1330	1600	1470	1250	1210
MIN	951	1050	1120	1090	931	921	929	974	1140	1240	1170	917
AC-FT	63520	67420	73450	67950	57850	57260	56640	70230	78880	84870	74260	65120

CAL YR 1989 TOTAL 318079 MEAN 871 MAX 1420 MIN 290 AC-FT 630900
WTR YR 1990 TOTAL 412131 MEAN 1129 MAX 1600 MIN 917 AC-FT 817500

YELLOWSTONE RIVER BASIN

06259000 WIND RIVER BELOW BOYSEN RESERVOIR, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1954, 1961 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1953 to September 1954, December 1960 to September 1981.

WATER TEMPERATURES: December 1953 to September 1954, December 1960 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)
OCT								
16...	1315	1060	--	2	<100	60	<1.0	2
DEC								
21...	1040	1170	<10	1	100	120	<1.0	2
FEB								
01...	1150	1090	20	2	200	80	<1.0	2
MAY								
23...	1440	1330	10	2	<100	80	<1.0	2
JUN								
19...	1125	1320	40	2	<100	80	<1.0	2
SEP								
11...	1155	1300	20	2	<100	80	1.0	<1

DATE	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT								
16...	3	20	<1	60	<0.1	1	<1.0	10
DEC								
21...	1	20	1	<10	0.3	<1	<1.0	10
FEB								
01...	6	<10	24	<10	<0.1	<1	<1.0	20
MAY								
23...	2	70	1	<10	0.2	<1	<1.0	<10
JUN								
19...	7	20	1	<10	0.8	<1	<1.0	50
SEP								
11...	2	10	1	<10	<0.1	<2	<1.0	10

YELLOWSTONE RIVER BASIN

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06260400 SOUTH FORK OWL CREEK BELOW ANCHOR RESERVOIR, WY

LOCATION.--Lat 43°39'57", long 108°47'34", in sec.25, T.43 N., R.100 W., Hot Springs County, Hydrologic Unit 10080007, on left bank 1.6 mi downstream from Anchor Dam and 30 mi west of Thermopolis.

DRAINAGE AREA.--131 mi².

PERIOD OF RECORD.--April 1959 to current year (no winter records since 1988).

REVISED RECORDS.--WDR WY-76-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 6,120 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Anchor Dam (see station 06260300). No diversion upstream from station. Results of discharge measurements, in cubic feet per second, made during the period when station was not in operation are given below:

Oct. 13 . . . 12.0
Mar. 29 . . . 5.68

AVERAGE DISCHARGE.--29 years (water years 1960-88), 22.2 ft³/s, 16,080 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 373 ft³/s, May 26, 1967, gage height, 3.64 ft; maximum gage height, 3.72 ft, June 7, 1986; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 143 ft³/s, June 9, 25, gage height, 3.21 ft; minimum daily during period of operation, 5.2 ft³/s, Apr. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	5.2	13	111	77	59	16
2	---	---	---	---	---	---	9.3	13	101	66	57	16
3	---	---	---	---	---	---	11	13	83	75	54	16
4	---	---	---	---	---	---	12	13	75	64	51	15
5	---	---	---	---	---	---	15	12	84	55	52	15
6	---	---	---	---	---	---	32	12	100	54	50	15
7	---	---	---	---	---	---	26	18	110	48	41	15
8	---	---	---	---	---	---	14	29	129	41	36	14
9	---	---	---	---	---	---	7.8	30	134	43	35	13
10	---	---	---	---	---	---	8.0	28	128	43	32	13
11	---	---	---	---	---	---	8.0	36	125	33	36	13
12	---	---	---	---	---	---	8.2	37	125	30	41	12
13	---	---	---	---	---	---	8.0	37	114	30	37	12
14	---	---	---	---	---	---	8.2	36	96	43	35	12
15	---	---	---	---	---	---	8.4	35	78	36	32	12
16	---	---	---	---	---	---	8.4	21	68	33	29	12
17	---	---	---	---	---	---	8.6	14	56	28	29	12
18	---	---	---	---	---	---	8.8	17	59	24	29	12
19	---	---	---	---	---	---	11	17	85	22	28	20
20	---	---	---	---	---	---	12	15	102	43	26	28
21	---	---	---	---	---	---	12	14	105	66	27	24
22	---	---	---	---	---	---	13	19	92	74	28	22
23	---	---	---	---	---	---	13	20	106	74	24	20
24	---	---	---	---	---	---	13	23	115	72	23	19
25	---	---	---	---	---	---	13	31	128	70	22	19
26	---	---	---	---	---	---	13	42	120	69	21	20
27	---	---	---	---	---	---	13	43	111	64	19	24
28	---	---	---	---	---	---	13	34	97	53	18	22
29	---	---	---	---	---	---	13	39	79	49	17	21
30	---	---	---	---	---	---	13	61	80	55	17	20
31	---	---	---	---	---	---	---	88	---	57	17	---
TOTAL	---	---	---	---	---	---	358.9	860	2996	1591	1022	504
MEAN	---	---	---	---	---	---	12.0	27.7	99.9	51.3	33.0	16.8
MAX	---	---	---	---	---	---	32	88	134	77	59	28
MIN	---	---	---	---	---	---	5.2	12	56	22	17	12
AC-FT	---	---	---	---	---	---	712	1710	5940	3160	2030	1000

YELLOWSTONE RIVER BASIN

06264700 BIGHORN RIVER AT LUCERNE, WY

LOCATION.--Lat 43°44'10", long 108°09'38", in SE¼ sec.32, T.44 N., R.94 W., Hot Springs County, Hydrologic Unit 10080007, at bridge on Black Mountain road, 0.7 mi upstream from Kirby Creek, 0.8 mi east of Lucerne, and 1.0 mi downstream from Owl Creek.

PERIOD OF RECORD.--Water years 1966 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
OCT 12...	1100	790	705	8.0	14.0	651	11.1	127	73
FEB 07...	1500	1160	990	8.0	2.0	648	11.9	102	21
MAY 24...	1300	1200	850	8.3	17.0	639	11.8	147	K11
JUL 17...	1500	1820	735	8.6	23.5	650	12.8	178	30

K-Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 12...	<0.1	0.01	0.29	0.3	0.06	1	--	--
FEB 07...	<0.1	<0.01	--	0.3	0.03	1	4	13
MAY 24...	<0.1	<0.01	--	0.3	0.03	<1	32	104
JUL 17...	<0.1	0.04	0.96	1.0	0.05	<1	30	147

06267400 EAST FORK NOWATER CREEK NEAR COLTER, WY

LOCATION.--Lat 43°54'55", long 107°55'46", in SE¼ NE¼ sec.31, T.46 N., R.92 W., Washakie County, Hydrologic Unit 10080007, on right bank 30 ft upstream from county road, 1.8 mi upstream from mouth, 5.2 mi southeast of Colter, and 7.0 mi south of Worland.

DRAINAGE AREA.--149 mi².

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

REVISED RECORDS.--WDR WY-75-1: 1972-73.

GAGE.--Water-stage recorder. Elevation of gage is 4,165 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 31 to Nov. 2, and Jan. 11 to Mar. 7. Records fair except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--19 years, 4.28 ft³/s, 3,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,040 ft³/s, May 18, 1978, gage height, 6.65 ft; no flow for most of each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 1	1600	315	2.04	Apr. 25	0100	*384	*2.19

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	.72	.00	.00	.00	.00	.00	.51	28	.00	.00	.00
2	9.7	.00	.00	.00	.00	.20	.00	.00	11	.00	.00	.00
3	.41	.00	.00	.00	.00	.50	.00	.00	.31	.00	.00	.07
4	.00	.25	.00	.00	.00	1.0	.00	.00	.00	.00	.00	.07
5	.00	7.2	.00	.00	.00	2.0	.00	.00	.00	.00	.00	.00
6	.00	2.2	.00	.00	.00	5.0	.00	.00	.00	.00	.00	.00
7	.00	1.3	.00	.00	.00	14	.00	.00	.00	.00	.00	.00
8	.00	.50	.00	.00	.00	44	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	52	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.50	50	5.3	.00	.00	.00	.00	.00
11	.00	.00	.00	2.0	.75	33	.86	.00	.00	.00	.00	.00
12	.00	.00	.00	4.0	1.0	23	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	3.0	.00	27	.00	3.0	.00	.00	.00	.00
14	.00	.00	.00	1.0	.00	23	.00	31	.00	.00	.00	.00
15	.00	.00	.00	.50	.00	9.2	.00	.63	.00	.00	.00	.00
16	.00	.00	.00	.30	.00	3.2	.00	.00	57	.00	.00	.00
17	.00	.00	.00	.20	.00	.11	.00	.00	26	.00	.00	.00
18	.00	.00	.00	.00	.00	.81	.00	.00	.55	.00	.00	.00
19	.00	.00	.00	.00	.00	2.1	.00	.00	.05	.00	.00	.00
20	.00	.00	.00	.00	.00	.29	.00	.00	.00	.01	.00	16
21	.00	.00	.00	.00	.00	.59	.00	.00	18	45	.00	.15
22	.00	.00	.00	.50	.00	.00	.00	.00	2.9	1.7	.00	.00
23	.00	.00	.00	1.0	.20	.00	.00	.00	.09	.06	.00	.00
24	.00	.00	.00	.50	.50	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.20	.80	.00	124	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	1.0	.00	14	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	1.5	.00	5.0	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.25	.00	32	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	48	.00	.00	.00	.00	.00
30	16	.00	.00	.05	---	.00	2.4	.00	.00	.00	.00	.00
31	2.0	---	.00	.05	---	.00	---	.00	---	.00	.00	---
TOTAL	88.11	12.17	0.00	13.30	6.50	291.00	231.56	35.14	143.90	46.77	0.00	16.29
MEAN	2.84	.41	.000	.43	.23	9.39	7.72	1.13	4.80	1.51	.000	.54
MAX	60	7.2	.00	4.0	1.5	52	124	31	57	45	.00	16
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	175	24	.00	26	13	577	459	70	285	93	.00	32

CAL YR 1989 TOTAL 1567.35 MEAN 4.29 MAX 373 MIN .00 AC-FT 3110
WTR YR 1990 TOTAL 884.74 MEAN 2.42 MAX 124 MIN .00 AC-FT 1750

YELLOWSTONE RIVER BASIN

06268500 FIFTEENMILE CREEK NEAR WORLAND, WY

LOCATION.--Lat 44°01'14", long 108°00'42", in NW¼ NW¼ NE¼ sec.27, T.47 N., R.93 W., Washakie County, Hydrologic Unit 10080007, at former gaging station, 300 ft upstream from Bighorn Canal spillway, 2.0 mi upstream from mouth, and 2.8 mi west of Worland.

DRAINAGE AREA.--518 mi².

PERIOD OF RECORD.--August 1949 to December 1972, June 1978 to September 1986, October 1989 to September 1990.

REMARKS.--No flow observed Sept. 5, 25.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: August 1949 to December 1972, June 1978 to September 1986.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily, 135,000 mg/L, Apr. 16, 1952; no flow for many days each year.

SEDIMENT LOADS: Maximum daily, 418,000 tons, May 22, 1952; 0 tons on many days each year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT												
12...	1600	E0.20	19.0	922	280	76	21	120	3	3.8	210	280
DEC												
18...	1630	E0.10	0.5	906	--	--	--	110	--	--	--	--
MAR												
07...	1330	4.5	0.5	330	26	8.3	1.2	56	5	2.8	120	31
APR												
10...	1420	58	6.0	714	39	6.3	5.6	--	--	2.5	190	100
JUN												
01...	1330	53	11.5	519	17	4.4	1.4	77	8	2.5	--	--
JUL												
17...	1120	E0.20	28.0	1020	330	90	25	110	3	4.5	230	310
20...	1500	10	11.0	3220	1000	340	48	--	--	18	220	1600
23...	0945	44	17.0	1020	80	23	5.4	110	5	6.2	--	--
SEP												
05...	1630	0.0	--	--	--	--	--	--	--	--	--	--
25...	0900	0.0	--	--	--	--	--	--	--	--	--	--

E-Estimate.

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT											
12...	13	0.5	9.6	652	0.89	E0.35	0.4	<0.03	<1	--	--
DEC											
18...	15	0.5	8.3	--	--	--	<0.1	0.05	<1	4	--
MAR											
07...	3.6	0.3	13	197	0.27	2.39	2.0	<0.03	<5	8620	105
APR											
10...	2.8	1.5	14	--	--	--	3.3	0.09	<5	71200	11100
JUN											
01...	5.3	0.3	41	--	--	--	4.8	0.11	<5	50900	7280
JUL											
17...	16	0.2	11	705	0.96	E0.38	0.1	<0.03	<5	53	--
20...	11	0.2	12	--	--	--	4.9	0.07	<5	88100	2380
23...	3.1	0.3	10	--	--	--	2.5	0.04	<5	51000	6060
SEP											
05...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--

E-Estimate.

06270000 NOWOOD RIVER NEAR TEN SLEEP, WY

LOCATION.--Lat 44°00'48", long 107°25'39", in SW¼ NW¼ sec.27, T.47 N., R.88 W., Washakie County, Hydrologic Unit 10080008, on right bank 1.7 mi southeast of Ten Sleep and 4.3 mi upstream from Tensleep Creek.

DRAINAGE AREA.--803 mi².

PERIOD OF RECORD.--May 1938 to September 1943, March 1950 to December 1955 (published as Nowood Creek near Tensleep), October 1972 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,420 ft above National Geodetic Vertical Datum of 1929, from topographic map. May 6, 1938, to Sept. 30, 1943, nonrecording gage at site 200 ft downstream at different datum. Mar. 17, 1950, to Dec. 31, 1955, water-stage recorder at site 100 ft upstream at different datum.

REMARKS.--Estimated daily discharges: Nov. 1, 2, Nov. 28 to Mar. 9, and Sept. 20-25. Records fair except those for estimated daily discharges, which are poor. Diversions for irrigation of about 550 acres upstream from station.

AVERAGE DISCHARGE.--28 years (water years 1939-43, 1951-55, 1973-90), 113 ft³/s, 81,870 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,380 ft³/s, May 19, 1978, gage height, 12.94 ft; maximum gage height observed, 13.0 ft, Mar. 12, 13, 1942 (ice jam), site and datum then in use; minimum daily discharge, 0.70 ft³/s, Aug. 13, 1940.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 28	1900	ice jam	*7.95	No peak greater than base discharge.			
May 13	2200	*431	5.86				

Minimum daily discharge, 15 ft³/s, Aug. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	72	80	58	54	100	69	272	226	39	30	48
2	71	70	84	58	54	90	71	251	241	38	28	49
3	71	75	89	56	56	110	72	250	225	40	25	48
4	69	74	83	54	58	140	74	254	224	39	27	47
5	71	75	80	54	60	150	81	276	195	38	61	81
6	70	76	74	54	60	140	85	307	169	38	26	78
7	69	74	66	56	60	120	85	346	153	34	20	71
8	67	74	60	60	56	130	80	404	140	41	19	69
9	69	73	58	62	54	200	84	389	120	92	15	70
10	70	73	60	66	54	190	96	363	106	44	19	65
11	66	73	62	66	58	180	95	337	100	44	18	63
12	65	73	62	64	62	143	90	316	88	38	20	67
13	66	73	60	64	62	119	91	337	70	34	23	66
14	66	73	58	62	62	102	89	373	66	31	25	66
15	66	73	56	60	60	89	89	360	66	33	25	69
16	67	70	54	58	54	81	94	375	109	33	25	78
17	67	73	52	54	50	80	116	328	168	34	23	83
18	67	73	53	54	50	79	110	312	138	34	25	82
19	67	73	50	52	50	79	109	333	92	34	26	109
20	67	73	47	50	50	78	138	343	77	38	28	210
21	67	73	43	50	52	78	185	337	84	77	32	145
22	67	73	50	52	54	77	274	340	90	56	33	120
23	68	72	56	56	56	76	337	337	83	50	31	90
24	71	72	60	60	62	75	346	359	69	45	32	70
25	70	73	64	60	70	71	371	396	60	40	30	54
26	70	73	68	58	80	74	398	358	58	37	37	53
27	71	73	72	58	100	72	357	299	51	34	39	55
28	71	72	74	56	110	71	335	270	44	34	40	55
29	73	68	70	56	---	70	343	254	40	33	42	57
30	74	70	64	54	---	70	277	294	39	34	45	54
31	74	---	60	54	---	70	---	247	---	31	45	---
TOTAL	2134	2182	1969	1776	1708	3204	5041	10017	3391	1267	914	2272
MEAN	68.8	72.7	63.5	57.3	61.0	103	168	323	113	40.9	29.5	75.7
MAX	74	76	89	66	110	200	398	404	241	92	61	210
MIN	65	68	43	50	50	70	69	247	39	31	15	47
AC-FT	4230	4330	3910	3520	3390	6360	10000	19870	6730	2510	1810	4510

CAL YR 1989 TOTAL 24620.5 MEAN 67.5 MAX 300 MIN 7.4 AC-FT 48830
WTR YR 1990 TOTAL 35875 MEAN 98.3 MAX 404 MIN 15 AC-FT 71160

YELLOWSTONE RIVER BASIN

06274300 BIGHORN RIVER AT BASIN, WY

LOCATION.--Lat 44°23'00", long 108°02'08", in SE¼ NW¼ NE¼ sec.21, T.51 N., R.93 W., Big Horn County, Hydrologic Unit 10080007, on left bank 10 ft downstream from county bridge on E Street, 0.2 mi northeast of Big Horn County Courthouse in Basin, and 1.8 mi downstream from Antelope Creek.

DRAINAGE AREA.--13,223 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3,821.29 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 17 to Nov. 14, Dec. 10 to Mar. 22, and Sept. 3-25. Records good except those for estimated daily discharges, which are poor. Diversions for irrigation of about 226,000 acres upstream from station.

AVERAGE DISCHARGE.--7 years, 1,528 ft³/s, 1,107,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft³/s, June 9, 1986, gage height, 8.54 ft; minimum daily, 276 ft³/s, July 27, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,660 ft³/s, June 11, gage height, 5.79 ft; maximum gage height observed, 6.69 ft, Jan. 8 (backwater from ice); minimum daily discharge, 545 ft³/s, Aug. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1500	1300	1460	1350	1080	920	1120	1230	3120	1610	1130	689
2	1920	1300	1490	1400	1100	940	1120	1100	3000	1570	995	774
3	1380	1350	1490	1400	1150	960	1120	1030	1990	1620	933	880
4	1310	1400	1520	1400	1100	1000	1120	992	2190	1610	885	860
5	1400	1400	1540	1500	1000	1100	1140	954	2530	1410	882	800
6	1300	1400	1520	1450	960	1200	1150	951	2770	1270	958	800
7	1260	1400	1560	1460	980	1300	1130	975	2740	1240	870	780
8	1250	1400	1630	1470	940	1500	1130	1050	2710	1210	779	780
9	1240	1440	1740	1600	980	1600	1210	1080	2670	1140	718	760
10	1460	1400	1690	1500	1050	1600	1320	1020	2880	1240	677	780
11	1370	1450	1300	1400	1100	1520	1190	945	4030	1130	662	740
12	1380	1450	1400	1300	1000	1490	1200	971	3900	1050	748	740
13	1380	1430	1400	1300	900	1400	1170	939	2430	953	917	740
14	1370	1450	1350	1400	860	1300	1130	1050	1910	909	815	760
15	1370	1500	1300	1350	840	1250	1120	1060	1930	935	731	780
16	1340	1490	1250	1200	880	1200	1070	1040	2810	982	742	780
17	1350	1510	1200	1100	920	1200	1010	991	3780	930	731	800
18	1300	1520	1200	1100	880	1200	1050	875	2700	903	725	820
19	1270	1520	1150	1100	940	1200	1040	824	2660	902	711	820
20	1300	1510	1100	1200	960	1150	1010	925	2740	961	736	900
21	1330	1510	1000	1200	980	1150	1040	941	2730	2390	632	1100
22	1350	1500	1100	1200	900	1160	1060	937	3100	2760	583	1000
23	1310	1490	1200	1200	900	1190	1140	988	2650	2490	545	980
24	1280	1490	1400	1200	880	1200	1230	1230	2730	1810	580	1040
25	1250	1500	1500	1100	880	1170	1430	1560	2770	1540	600	1100
26	1210	1490	1500	1000	880	1180	1420	1600	2680	1320	680	1060
27	1250	1500	1400	1000	900	1170	1450	1490	2280	1150	698	1090
28	1300	1480	1300	1100	920	1160	1310	1440	2170	1080	662	1110
29	1300	1450	1300	1100	---	1150	1890	1670	1930	1020	638	1080
30	1350	1450	1300	1050	---	1140	1460	2230	1700	1130	625	1120
31	1300	---	1300	1050	---	1130	---	2720	---	1330	675	---
TOTAL	41680	43480	42590	39180	26860	37830	35980	36808	80230	41595	23263	26463
MEAN	1345	1449	1374	1264	959	1220	1199	1187	2674	1342	750	882
MAX	1920	1520	1740	1600	1150	1600	1890	2720	4030	2760	1130	1120
MIN	1210	1300	1000	1000	840	920	1010	824	1700	902	545	689
AC-FT	82670	86240	84480	77710	53280	75040	71370	73010	159100	82500	46140	52490

CAL YR 1989 TOTAL 358493 MEAN 982 MAX 2240 MIN 400 AC-FT 711100
WTR YR 1990 TOTAL 475959 MEAN 1304 MAX 4030 MIN 545 AC-FT 944100

YELLOWSTONE RIVER BASIN

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06274300 BIGHORN RIVER AT BASIN, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
OCT 06...	1440	1290	960	8.3	12.5	667	9.4	101	180
FEB 01...	1630	1080	860	8.2	0.0	653	12.0	96	K20
JUN 01...	1100	3240	375	8.0	11.0	670	8.0	83	1500
AUG 21...	1100	660	1020	8.2	22.0	667	7.9	104	250

K-Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 06...	0.5	0.04	0.56	0.6	0.20	2	352	1230
FEB 01...	0.2	0.01	0.29	0.3	0.03	<2	64	187
JUN 01...	0.4	0.08	0.92	1.0	0.06	<1	1600	14000
AUG 21...	0.8	<0.01	--	0.4	0.04	<1	159	283

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 01...	1100	3240	11.0	0.02	<0.01	0.39	<0.01	<0.01	<0.01
JUL 17...	1140	923	23.0	0.08	0.01	0.09	<0.01	<0.01	<0.01
AUG 21...	1100	660	22.0	0.01	<0.01	0.04	<0.01	<0.01	<0.01

YELLOWSTONE RIVER BASIN

06275000 WOOD RIVER AT SUNSHINE, WY

LOCATION.--Lat 44°02'15", long 108°58'24", in NW¼ SW¼ sec.15, T.47 N., R.101 W., Park County, Hydrologic Unit 10080009, on right bank at bridge on county road, 1.0 mi downstream from Ernest May Ranch, 5.2 mi downstream from Dick Creek, and 10 mi southwest of Meeteetse.

DRAINAGE AREA.--194 mi², approximately.

PERIOD OF RECORD.--August 1945 to current year.

REVISED RECORDS.--WSP 1309: 1947(M). WSP 1709: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 6,450 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Sept. 18, 1952, and Oct. 28, 1953, to June 15, 1963, water-stage recorder at site 2.0 mi upstream at different datum. Sept. 18, 1952, to Oct. 27, 1953, nonrecording gage at site 2.0 mi upstream at different datum. June 16, 1963, to Aug. 13, 1967, water-stage recorder at site 1.4 mi upstream at different datum. Aug. 14 to Oct. 5, 1967, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Oct. 27 to Jan. 8, Jan. 31 to Apr. 2, and Sept. 11-30. Records good except those for estimated daily discharges, which are poor. Water diverts upstream from station to Lower Sunshine Reservoir since 1972. Diversion upstream from station for irrigation of about 3,200 acres, of which about 1,000 acres are downstream from station.

AVERAGE DISCHARGE.--27 years (water years 1946-72), prior to Lower Sunshine diversion, 117 ft³/s, 84,770 acre-ft/yr; 18 years (water years 1973-90), 84.4 ft³/s, 61,150 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,080 ft³/s, June 15, 1963, gage height, 7.00 ft, from floodmark, site and datum then in use, from contracted-opening measurement of peak flow; maximum gage height, 8.57 ft, May 18, 1973; minimum daily discharge, 0.40 ft³/s, Mar. 13, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 376 ft³/s, June 10, gage height, 5.37 ft; maximum gage height, 6.34 ft, Dec. 23 (backwater from ice); minimum daily discharge, 2.2 ft³/s, Apr. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	7.0	5.0	7.0	5.0	3.8	5.2	7.2	214	179	224	81
2	74	7.0	5.0	6.2	4.8	4.0	5.0	6.5	159	195	193	79
3	74	8.0	4.5	6.2	4.6	4.5	8.1	6.1	160	190	190	77
4	66	8.0	4.0	6.0	4.5	4.7	7.3	6.1	238	150	200	73
5	46	8.0	3.5	5.8	4.5	4.5	4.5	47	261	142	180	69
6	43	7.0	4.0	5.6	4.5	4.4	4.0	102	231	141	167	69
7	41	6.4	5.0	5.2	4.5	4.3	3.8	134	242	125	145	67
8	40	6.0	4.0	5.2	4.5	4.5	3.4	117	240	120	135	66
9	40	5.6	3.5	5.2	4.3	4.3	5.7	98	258	132	131	66
10	40	5.2	4.0	4.9	4.2	4.1	3.8	91	323	132	126	65
11	39	5.2	4.5	5.3	5.0	4.2	3.4	93	298	111	134	64
12	26	5.2	5.0	5.0	5.4	4.0	3.5	91	210	106	128	64
13	13	5.0	5.6	5.0	4.8	3.5	3.5	92	141	119	123	64
14	13	4.5	7.0	5.2	4.5	3.5	3.2	93	123	169	112	60
15	13	3.5	8.0	4.9	4.0	3.8	5.5	85	116	144	110	60
16	12	2.5	9.0	5.3	3.8	3.6	9.7	84	137	133	108	60
17	12	2.3	9.0	5.2	3.7	3.8	3.1	85	115	121	116	60
18	11	2.3	11	4.9	3.5	3.7	3.0	88	145	109	113	60
19	11	2.3	11	5.5	3.5	3.8	2.9	88	173	97	121	70
20	11	2.4	12	4.9	3.5	4.0	2.8	86	170	124	116	80
21	11	2.6	13	5.1	3.6	4.5	2.6	86	187	141	125	74
22	11	2.8	14	5.8	3.8	4.0	2.3	100	188	237	116	70
23	11	3.2	15	5.8	3.9	4.0	2.2	125	204	198	114	66
24	11	3.0	15	5.4	4.0	4.0	2.5	154	201	178	112	64
25	11	3.0	13	4.9	4.2	4.0	2.7	131	190	207	111	66
26	11	3.5	12	5.0	4.1	4.0	2.7	111	190	191	106	66
27	10	3.0	11	5.1	4.2	5.0	37	106	194	175	96	66
28	9.0	4.0	10	4.8	4.0	4.8	38	134	170	172	88	68
29	8.0	4.5	9.0	4.8	---	4.5	12	248	172	191	83	70
30	7.0	5.0	8.0	5.2	---	5.0	9.3	263	184	216	83	70
31	7.0	---	7.4	5.0	---	5.2	---	245	---	236	82	---
TOTAL	806.0	138.0	252.0	165.4	118.9	130.0	202.7	3202.9	5834	4881	3988	2034
MEAN	26.0	4.60	8.13	5.34	4.25	4.19	6.76	103	194	157	129	67.8
MAX	74	8.0	15	7.0	5.4	5.2	38	263	323	237	224	81
MIN	7.0	2.3	3.5	4.8	3.5	3.5	2.2	6.1	115	97	82	60
AC-FT	1600	274	500	328	236	258	402	6350	11570	9680	7910	4030

CAL YR 1989 TOTAL 20052.6 MEAN 54.9 MAX 291 MIN 1.0 AC-FT 39770
WTR YR 1990 TOTAL 21752.9 MEAN 59.6 MAX 323 MIN 2.2 AC-FT 43150

YELLOWSTONE RIVER BASIN

123

06276500 GREYBULL RIVER AT MEETEETSE, WY

LOCATION.--Lat 44°09'20", long 108°52'35", in sec.4, T.48 N., R.100 W., Park County, Hydrologic Unit 10080009, on right bank at Meeteetse, 0.3 mi upstream from bridge on State Highway 120, and 3.0 mi upstream from Meeteetse Creek.

DRAINAGE AREA.--681 mi².

PERIOD OF RECORD.--June to December 1897, April to October 1903 (gage heights and discharge measurements only), July 1920 to current year (no winter records since 1971). Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 1309: 1923(M), 1924, 1925(M). WSP 1709: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,739.42 ft above National Geodetic Vertical Datum of 1929. See WSP 1916 for history of changes prior to Apr. 28, 1938. Apr. 28, 1938 to May 24, 1961, at site on left bank at datum 2.00 ft higher. May 25, 1961, to May 9, 1967, at site 100 ft downstream at present datum.

REMARKS.--Estimated daily discharge: Apr. 1. Records good. Some regulation by Sunshine Reservoir beginning May 1940, capacity, 52,990 acre-ft, and Lower Sunshine Reservoir beginning December 1972, capacity, 58,900 acre-ft. Diversions for irrigation of about 10,600 acres upstream from station. Several diversions upstream from station for irrigation downstream from station.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by Geological Survey.

AVERAGE DISCHARGE.--51 years (water years 1921-71), 347 ft³/s, 251,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,600 ft³/s, June 15, 1963, gage height, 9.20 ft, from floodmark, from rating curve extended above 4,600 ft³/s on basis of velocity-area study; minimum daily during period of operation, 13 ft³/s, Apr. 18, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,550 ft³/s, May 28, gage height, 5.27 ft; minimum daily during period of operation, 22 ft³/s, Apr. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	34	40	626	652	509	374
2	---	---	---	---	---	---	34	41	596	743	452	374
3	---	---	---	---	---	---	31	42	581	710	482	374
4	---	---	---	---	---	---	31	42	786	598	536	363
5	---	---	---	---	---	---	27	74	654	574	530	379
6	---	---	---	---	---	---	22	193	708	581	471	374
7	---	---	---	---	---	---	24	244	727	509	439	342
8	---	---	---	---	---	---	24	233	762	510	426	332
9	---	---	---	---	---	---	24	249	781	672	432	322
10	---	---	---	---	---	---	25	274	772	701	475	317
11	---	---	---	---	---	---	25	297	772	613	616	302
12	---	---	---	---	---	---	25	307	607	581	560	297
13	---	---	---	---	---	---	26	298	412	611	573	293
14	---	---	---	---	---	---	26	293	364	716	531	302
15	---	---	---	---	---	---	26	271	390	668	496	307
16	---	---	---	---	---	---	32	274	500	636	489	298
17	---	---	---	---	---	---	30	283	410	604	502	297
18	---	---	---	---	---	---	28	288	507	567	470	288
19	---	---	---	---	---	---	28	293	632	552	522	394
20	---	---	---	---	---	---	28	293	589	633	503	348
21	---	---	---	---	---	---	27	288	596	392	489	294
22	---	---	---	---	---	---	26	341	611	542	464	351
23	---	---	---	---	---	---	26	395	627	595	451	317
24	---	---	---	---	---	---	26	520	683	518	450	302
25	---	---	---	---	---	---	28	490	676	609	450	307
26	---	---	---	---	---	---	28	427	644	485	426	312
27	---	---	---	---	---	---	36	438	635	451	403	326
28	---	---	---	---	---	---	70	601	604	482	391	307
29	---	---	---	---	---	---	42	619	642	495	374	293
30	---	---	---	---	---	---	40	703	683	464	368	250
31	---	---	---	---	---	---	---	569	---	508	368	---
TOTAL	---	---	---	---	---	---	899	9720	18577	17972	14648	9736
MEAN	---	---	---	---	---	---	30.0	314	619	580	473	325
MAX	---	---	---	---	---	---	70	703	786	743	616	394
MIN	---	---	---	---	---	---	22	40	364	392	368	250
AC-FT	---	---	---	---	---	---	1780	19280	36850	35650	29050	19310

YELLOWSTONE RIVER BASIN

06277500 GREYBULL RIVER NEAR BASIN, WY

LOCATION.--Lat 44°24'24", long 108°11'10", in NE¼ NW¼ SW¼ sec.8, T.51 N., R.94 W., Big Horn County, Hydrologic Unit 10080009, at former gaging station, at bridge on State Secondary Highway 0200, 3.0 mi upstream from Dorsey Creek, and 8.0 mi west of Basin.

DRAINAGE AREA.--1,115 mi².

PERIOD OF RECORD.--Water years 1951-53, 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT												
06...	1045	8.0	9.5	1110	330	82	31	140	3	5.6	280	330
MAY												
03...	1130	7.0	12.0	1390	410	100	39	190	4	4.5	310	480
JUN												
05...	0820	9.7	12.0	1500	360	88	35	210	5	4.5	310	440
JUL												
17...	1250	16	25.0	1450	340	79	35	230	5	4.9	290	460

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT											
06...	11	0.6	20	795	1.08	17.2	1.6	0.03	<5	71	1.5
MAY											
03...	16	1.2	13	1030	1.41	19.5	0.8	0.03	<5	333	6.3
JUN											
05...	20	0.5	11	997	1.36	26.1	0.4	0.05	<5	200	5.2
JUL											
17...	21	0.4	13	1020	1.39	44.0	0.4	<0.03	<5	45	1.9

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2,4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY									
03...	1130	7.0	12.0	<0.01	0.01	<0.01	<0.01	<0.01	<0.01
JUN									
25...	1230	--	25.0	0.01	<0.01	0.04	<0.01	<0.01	<0.01
JUL									
17...	1250	16	25.0	0.04	<0.01	0.11	<0.01	<0.01	<0.01
SEP									
05...	1510	13	23.5	0.02	<0.01	0.03	<0.01	<0.01	<0.01

06278300 SHELL CREEK ABOVE SHELL RESERVOIR, WY

LOCATION.--Lat 44°30'29", long 107°24'11", in sec.1, T.52 N., R.88 W., Big Horn County, Hydrologic Unit 10080010, Bighorn National Forest, on right bank 0.2 mi upstream from Shell Reservoir, 1.1 mi downstream from Buckley Creek, 6.0 mi southeast of Shell Creek ranger station, and 19 mi east of Shell.

DRAINAGE AREA.--23.1 mi².

PERIOD OF RECORD.--October 1956 to current year. Prior to October 1969, published as Shell Creek above Shell Creek Reservoir.

REVISED RECORD.--WSP 1629: 1958. WSP 1709: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 9,050 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 27 to Apr. 3 and May 2, 5, 6, 9, 10, 14. Records good except those for estimated daily discharges, which are poor. No diversions upstream from station.

AVERAGE DISCHARGE.--34 years, 35.1 ft³/s, 25,430 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,870 ft³/s, June 15, 1963, gage height, 7.84 ft, from floodmarks, from rating curve extended above 725 ft³/s on basis of velocity-area study; minimum daily discharge, 0.60 ft³/s, Mar. 7, 1967.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 31	2100	481	4.91	June 10	2200	*1,200	*6.99
June 20	2300	509	5.02				

Minimum daily discharge, 1.3 ft³/s, Dec. 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.8	5.6	2.6	2.6	1.8	1.8	3.7	11	334	143	27	14
2	8.7	5.8	2.4	2.6	1.8	1.9	4.3	11	155	136	25	13
3	8.7	5.8	2.7	2.4	1.8	2.0	4.5	9.8	115	138	24	13
4	9.5	6.0	3.0	2.4	1.8	2.0	4.9	9.9	207	105	24	12
5	9.0	6.2	3.5	2.4	1.8	2.0	4.9	10	377	91	24	12
6	8.9	6.2	3.3	2.3	1.8	1.9	5.0	12	333	82	22	12
7	8.6	6.2	3.1	2.3	1.7	1.9	5.1	15	370	73	20	11
8	8.1	6.0	3.0	2.3	1.7	2.0	5.3	14	378	64	19	11
9	7.9	6.0	2.7	2.3	1.8	1.9	5.5	14	408	63	18	11
10	7.7	6.0	2.2	2.4	1.8	1.8	5.8	13	637	62	18	10
11	7.5	5.8	2.4	2.4	1.8	1.7	5.9	13	578	52	23	9.9
12	7.5	5.8	2.4	2.3	1.8	1.6	6.0	13	266	46	27	9.6
13	7.4	5.6	2.5	2.4	1.7	1.6	6.1	13	173	46	32	9.1
14	7.1	5.4	2.5	2.4	1.7	1.6	6.2	13	155	50	27	8.8
15	7.1	5.4	2.4	2.2	1.6	1.7	6.1	12	255	46	26	8.7
16	7.0	5.4	2.4	2.0	1.5	1.6	5.8	11	254	42	23	8.7
17	7.1	5.4	2.3	1.8	1.5	1.7	6.1	11	185	37	24	8.9
18	7.4	5.2	2.1	1.5	1.6	1.6	6.4	12	225	34	25	8.6
19	6.9	5.2	1.9	1.4	1.5	1.7	7.3	14	296	32	23	11
20	7.0	5.4	1.6	1.5	1.5	1.7	11	15	312	46	21	13
21	6.6	5.6	1.3	1.6	1.6	1.7	10	20	334	70	21	11
22	6.5	5.4	1.7	1.7	1.7	1.7	14	28	264	59	19	9.8
23	6.4	5.0	2.0	1.7	1.8	1.8	15	49	311	46	18	9.4
24	6.3	5.2	2.3	1.7	1.8	1.8	12	95	334	39	20	9.1
25	6.3	5.2	2.6	1.8	1.9	1.7	11	139	332	36	18	8.7
26	6.4	5.2	2.7	1.7	1.9	1.9	12	121	271	35	16	9.2
27	6.2	4.8	2.8	1.8	1.8	2.2	11	97	264	32	15	9.2
28	5.8	4.3	2.7	1.9	1.7	2.0	14	122	214	30	14	8.8
29	5.2	3.4	2.6	1.9	---	2.1	13	178	164	30	14	8.5
30	5.4	2.7	2.5	1.9	---	2.1	12	293	152	35	14	8.2
31	5.5	---	2.5	1.8	---	2.2	---	433	---	31	16	---
TOTAL	223.5	161.2	76.7	63.4	48.2	56.9	239.9	1821.7	8653	1831	657	307.2
MEAN	7.21	5.37	2.47	2.05	1.72	1.84	8.00	58.8	288	59.1	21.2	10.2
MAX	9.5	6.2	3.5	2.6	1.9	2.2	15	433	637	143	32	14
MIN	5.2	2.7	1.3	1.4	1.5	1.6	3.7	9.8	115	30	14	8.2
AC-FT	443	320	152	126	96	113	476	3610	17160	3630	1300	609

CAL YR 1989 TOTAL 10182.4 MEAN 27.9 MAX 283 MIN 1.2 AC-FT 20200
WTR YR 1990 TOTAL 14139.7 MEAN 38.7 MAX 637 MIN 1.3 AC-FT 28050

YELLOWSTONE RIVER BASIN

06278500 SHELL CREEK NEAR SHELL, WY

LOCATION.--Lat 44°33'54", long 107°42'44", in SE¼ SW¼ sec.17, T.53 N., R.90 W., Big Horn County, Hydrologic Unit 10080010, on right bank 0.9 mi upstream from White Creek and 5.0 mi northeast of Shell.

DRAINAGE AREA.--145 mi².

PERIOD OF RECORD.--October 1940 to current year (no winter records since 1971). Prior to December 1940, monthly discharge only, published in WSP 1309.

REVISED RECORDS.--WSP 1239: 1941, 1945(M). WSP 1709: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,370.05 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharge. Records good. Some regulation by two small reservoirs, capacity, 3,650 acre-ft. Diversions upstream from station for irrigation of about 80 acres downstream from station.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by Geological Survey.

AVERAGE DISCHARGE.--31 years (water years 1941-71), 119 ft³/s, 86,220 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,020 ft³/s, June 24, 1945, gage height, 7.49 ft, from rating curve extended above 1,600 ft³/s; minimum daily during period of operation, 13 ft³/s, Apr. 10, 1989.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 31	2300	1,100	4.80	June 11	0100	*1,850	*5.82
June 16	0200	826	4.34				

Minimum daily discharge during period of operation, 33 ft³/s, Apr. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	33	72	928	339	140	71
2	---	---	---	---	---	---	34	74	588	320	126	69
3	---	---	---	---	---	---	36	73	455	317	110	69
4	---	---	---	---	---	---	38	73	549	291	103	68
5	---	---	---	---	---	---	34	72	914	251	103	68
6	---	---	---	---	---	---	80	86	838	221	98	69
7	---	---	---	---	---	---	37	129	821	204	93	68
8	---	---	---	---	---	---	34	110	815	195	95	66
9	---	---	---	---	---	---	38	98	847	193	119	66
10	---	---	---	---	---	---	36	96	1050	195	119	67
11	---	---	---	---	---	---	35	100	1340	183	126	67
12	---	---	---	---	---	---	37	97	748	172	123	66
13	---	---	---	---	---	---	35	97	551	164	121	65
14	---	---	---	---	---	---	36	92	501	166	119	65
15	---	---	---	---	---	---	38	94	561	159	116	65
16	---	---	---	---	---	---	42	90	719	141	105	65
17	---	---	---	---	---	---	38	88	592	138	106	65
18	---	---	---	---	---	---	44	97	546	137	106	63
19	---	---	---	---	---	---	60	109	643	135	105	66
20	---	---	---	---	---	---	67	116	622	154	103	74
21	---	---	---	---	---	---	108	136	715	201	102	68
22	---	---	---	---	---	---	132	160	583	183	102	66
23	---	---	---	---	---	---	121	208	580	159	100	65
24	---	---	---	---	---	---	119	302	616	149	100	63
25	---	---	---	---	---	---	111	381	612	147	99	62
26	---	---	---	---	---	---	104	339	560	140	96	61
27	---	---	---	---	---	---	91	332	509	137	95	63
28	---	---	---	---	---	---	90	363	473	142	92	61
29	---	---	---	---	---	---	77	489	357	144	90	60
30	---	---	---	---	---	---	78	673	354	145	90	60
31	---	---	---	---	---	---	---	962	---	147	76	---
TOTAL	---	---	---	---	---	---	1863	6208	19987	5769	3278	1971
MEAN	---	---	---	---	---	---	62.1	200	666	186	106	65.7
MAX	---	---	---	---	---	---	132	962	1340	339	140	74
MIN	---	---	---	---	---	---	33	72	354	135	76	60
AC-FT	---	---	---	---	---	---	3700	12310	39640	11440	6500	3910

YELLOWSTONE RIVER BASIN

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06279050 SHELL CREEK AT PORTER GULCH, NEAR GREYBULL, WY

LOCATION.--Lat 44°31'25", long 107°55'29", in NE¼ SE¼ SE¼ sec.33, T.53 N., R.92 W., Big Horn County, Hydrologic Unit 10080010, at bridge on county road, 0.2 mi north of U.S. Highway 14, 7.6 miles east of Greybull on U.S. Highway 14.

PERIOD OF RECORD.--October 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
OCT 06...	0900	46	8.0	210	1
MAY 24...	1630	172	15.0	K1900	--
31...	1600	986	11.0	1200	--
AUG 21...	1300	40	21.0	380	--

K-Results based on colony count outside the acceptable range (non-ideal colony count).

YELLOWSTONE RIVER BASIN

06279500 BIGHORN RIVER AT KANE, WY

LOCATION.--Lat 44°45'31", long 108°10'51", in NW¼ NE¼ SW¼ sec.9, T.55 N., R.94 W., Big Horn County, Hydrologic Unit 10080010, on right bank 180 ft upstream from Bighorn Canyon National Recreation Area boundary, 0.5 mi upstream from normal high-water line of Bighorn Lake at elevation 3,660 ft, 1.3 mi upstream from Five Springs Creek, and 5.9 mi south of Kane.

DRAINAGE AREA.--15,765 mi². Area at sites used prior to May 17, 1956, 15,846 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1928 to current year.

REVISED RECORDS.--WSP 1309: 1929(M). WSP 1509: 1929. WSP 1709: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,660 ft above National Geodetic Vertical Datum of 1929, from topographic map. Aug. 29, 1928, to Apr. 25, 1932, nonrecording gage, and Apr. 25, 1932, to May 16, 1956, water-stage recorder at site 12.5 mi downstream at different datum.

REMARKS.--Estimated daily discharges: Dec. 12 to Mar. 8 and Aug. 16 to Sept. 11. Records good except those for estimated daily discharges, which are poor. Some regulation by Boysen Reservoir (station 06258900) since October 1951. Diversions for irrigation of about 376,000 acres upstream from station. U.S. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--62 years, 2,237 ft³/s, 1,621,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,200 ft³/s, June 16, 1935, gage height, 11.10 ft, site and datum then in use; minimum daily, 179 ft³/s, July 22, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1923, 14.8 ft, Sept. 30, 1923, site and datum in use April 1932 to May 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,310 ft³/s, June 11, gage height, 4.58 ft; maximum gage height, 9.14 ft, Dec. 14 (backwater from ice), minimum daily discharge, 680 ft³/s, Aug. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1180	1520	1500	1550	1480	1300	1250	1580	4230	1960	1470	870
2	1880	1530	1530	1550	1480	1300	1220	1340	4110	1900	1280	980
3	1580	1560	1540	1500	1480	1300	1230	1220	3020	1850	1120	1100
4	1550	1600	1530	1500	1480	1300	1220	1150	2650	1980	1200	1060
5	1580	1630	1570	1500	1480	1350	1220	1080	3250	1650	1160	1000
6	1530	1670	1550	1500	1480	1400	1240	1060	3900	1500	1180	1000
7	1470	1620	1540	1500	1480	1400	1230	1040	3870	1320	1160	980
8	1480	1600	1570	1500	1480	1500	1220	1140	3810	1280	1000	980
9	1450	1680	1720	1550	1550	1740	1300	1200	3750	1210	926	970
10	1610	1600	1830	1600	1650	1880	1520	1170	3940	1260	884	960
11	1550	1680	1650	1450	1700	1870	1380	1070	5080	1240	917	943
12	1530	1670	1850	1400	1700	1790	1340	1070	5690	1130	876	921
13	1530	1650	1800	1500	1500	1710	1360	1080	3790	1050	1000	935
14	1510	1650	1600	1500	1300	1610	1310	1050	2910	989	1030	928
15	1500	1620	1550	1500	1250	1550	1310	1240	2700	1020	968	952
16	1510	1580	1550	1500	1300	1490	1260	1140	3480	1040	980	973
17	1520	1580	1500	1350	1350	1440	1160	1140	5030	990	900	983
18	1510	1610	1450	1300	1400	1410	1170	1020	3960	958	880	998
19	1490	1590	1500	1400	1500	1390	1240	951	3560	965	840	1000
20	1530	1580	1450	1600	1550	1380	1190	951	3770	1030	880	1120
21	1540	1570	1350	1700	1600	1360	1210	1040	3620	2040	820	1430
22	1530	1560	1500	1600	1700	1350	1280	1010	4050	3300	760	1250
23	1520	1530	1700	1500	1600	1310	1340	1040	3640	2960	680	1190
24	1510	1530	1750	1500	1550	1310	1470	1200	3600	2210	700	1210
25	1510	1540	1850	1500	1500	1270	1480	1730	3660	1930	740	1220
26	1490	1540	1700	1500	1480	1320	1730	2030	3550	1640	820	1180
27	1510	1510	1600	1500	1420	1310	1670	1870	3120	1390	860	1130
28	1530	1500	1530	1500	1350	1270	1550	1740	2810	1240	820	1180
29	1560	1460	1450	1500	---	1270	1860	1970	2550	1190	800	1160
30	1570	1440	1450	1500	---	1270	2010	2650	2180	1250	780	1200
31	1560	---	1500	1500	---	1260	---	3410	---	1520	840	---
TOTAL	47320	47400	49160	46550	41790	44410	40970	42382	109280	46992	29271	31803
MEAN	1526	1580	1586	1502	1492	1433	1366	1367	3643	1516	944	1060
MAX	1880	1680	1850	1700	1700	1880	2010	3410	5690	3300	1470	1430
MIN	1180	1440	1350	1300	1250	1260	1160	951	2180	958	680	870
AC-FT	93860	94020	97510	92330	82890	88090	81260	84060	216800	93210	58060	63080

CAL YR 1989 TOTAL 406252 MEAN 1113 MAX 2680 MIN 410 AC-FT 805800
WTR YR 1990 TOTAL 577328 MEAN 1582 MAX 5690 MIN 680 AC-FT 1145000

YELLOWSTONE RIVER BASIN

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06279500 BIGHORN RIVER AT KANE, WY--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)	PH (STAND- ARD UNITS)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)
OCT 05...	1630	1610	1020	12.0	8.2	--	1	66	110	<1.0
DEC 28...	1400	1530	935	0.0	8.1	20	<1	68	120	1.0
FEB 01...	1115	1480	900	0.0	8.0	20	1	53	110	<1.0
MAY 02...	1300	1350	950	13.0	8.1	370	<1	<100	100	<1.0
JUL 17...	1545	996	920	26.0	8.3	20	2	<100	110	<1.0
SEP 11...	1500	969	900	21.5	8.1	20	1	<100	130	1.0

DATE	CHRO-MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE-NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 05...	2	4	23	1	3	<0.1	2	<1.0	10
DEC 28...	2	<10	8	<10	16	0.2	2	<1.0	8
FEB 01...	<5	<10	13	<10	6	<0.1	2	2.0	12
MAY 02...	3	9	400	2	10	0.1	<2	<1.0	20
JUL 17...	1	3	30	<1	<10	<0.1	2	<1.0	10
SEP 11...	2	3	20	1	10	0.1	2	<1.0	40

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 02...	1300	1350	13.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
JUN 25...	1600	--	21.0	0.01	<0.01	0.04	<0.01	<0.01	<0.01
JUL 17...	1545	996	26.0	0.05	<0.01	0.10	<0.01	<0.01	<0.01
AUG 21...	1600	820	24.5	0.01	<0.01	0.03	<0.01	<0.01	<0.01

YELLOWSTONE RIVER BASIN

06279500 BIGHORN RIVER AT KANE, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT				
05...	1630	1610	714	3100
NOV				
14...	1700	1650	202	900
DEC				
28...	1400	1530	19	78
FEB				
01...	1115	1480	39	156
MAR				
26...	1800	1350	216	787
MAY				
02...	1300	1350	2000	7290
JUN				
06...	1040	3870	516	5390
JUL				
17...	1545	996	157	422
AUG				
21...	1600	820	188	416
SEP				
11...	1500	969	112	293

06279790 JONES CREEK AT MOUTH, NEAR PAHASKA, WY

LOCATION.--Lat 44°33'31", long 109°59'15", Park County, Hydrologic Unit 10080012, Shoshone National Forest, on left bank 0.3 mi upstream from mouth and 4.0 mi north of Pahaska.

DRAINAGE AREA.--24.8 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1989 to current year (no winter records).

GAGE.--Water-stage recorder. Elevation of gage is 6,880 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Apr. 1-26 and Sept. 1-27. Records fair except those for estimated daily discharges, which are poor. Satellite telemeter at station. Result of discharge measurement, in cubic feet per second, made during period when station was not in operation is given below:

Oct. 3 . . 13.8

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 777 ft³/s, July 27, 1989, from rating curve extended above 300 ft³/s on basis of slope-area measurement of peak flow, gage height, 6.35 ft, from floodmarks; minimum daily discharge during period of operation, 6.9 ft³/s, Apr. 5, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 303 ft³/s, June 11, gage height, 5.08 ft; minimum daily during period of operation, 15 ft³/s, Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	48	70	157	140	28	27
2	---	---	---	---	---	---	49	70	146	135	26	26
3	---	---	---	---	---	---	50	73	133	135	25	25
4	---	---	---	---	---	---	52	79	137	122	24	25
5	---	---	---	---	---	---	62	87	120	111	23	25
6	---	---	---	---	---	---	56	98	111	105	22	25
7	---	---	---	---	---	---	52	102	109	99	21	25
8	---	---	---	---	---	---	52	104	79	93	20	27
9	---	---	---	---	---	---	56	101	83	89	19	25
10	---	---	---	---	---	---	54	95	144	83	19	24
11	---	---	---	---	---	---	54	92	226	78	20	23
12	---	---	---	---	---	---	56	89	201	74	20	23
13	---	---	---	---	---	---	56	87	189	68	20	22
14	---	---	---	---	---	---	58	84	185	65	19	22
15	---	---	---	---	---	---	62	82	168	62	18	21
16	---	---	---	---	---	---	68	80	174	58	30	21
17	---	---	---	---	---	---	62	77	170	55	24	20
18	---	---	---	---	---	---	62	74	178	53	19	20
19	---	---	---	---	---	---	68	69	182	50	36	21
20	---	---	---	---	---	---	86	68	202	57	42	23
21	---	---	---	---	---	---	88	68	192	49	44	22
22	---	---	---	---	---	---	90	67	197	45	41	21
23	---	---	---	---	---	---	86	70	206	41	42	20
24	---	---	---	---	---	---	80	70	213	47	41	19
25	---	---	---	---	---	---	76	56	206	41	36	18
26	---	---	---	---	---	---	80	53	190	38	34	18
27	---	---	---	---	---	---	72	50	179	35	32	18
28	---	---	---	---	---	---	75	51	158	35	38	18
29	---	---	---	---	---	---	70	76	147	34	34	16
30	---	---	---	---	---	---	69	109	143	30	28	15
31	---	---	---	---	---	---	---	130	---	29	26	---
TOTAL	---	---	---	---	---	---	1949	2481	4925	2156	871	655
MEAN	---	---	---	---	---	---	65.0	80.0	164	69.5	28.1	21.8
MAX	---	---	---	---	---	---	90	130	226	140	44	27
MIN	---	---	---	---	---	---	48	50	79	29	18	15
AC-FT	---	---	---	---	---	---	3870	4920	9770	4280	1730	1300

06279790 JONES CREEK AT MOUTH, NEAR PAHASKA, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1989 to current year (no winter records).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1989 to current year (no winter records).

PH: March 1989 to current year (no winter records).

WATER TEMPERATURES: March 1989 to current year (no winter records).

SUSPENDED-SEDIMENT DISCHARGE: March 1989 to current year (no winter records).

INSTRUMENTATION.--Water-quality monitor and sediment pumping sampler.

REMARKS.--PH records are considered poor. Water-temperature records represent water temperature at sensor within 0.1°C.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily mean, 144 microsiemens, Aug. 8, 1990; minimum daily mean, 45 microsiemens, June 19, 1989.

PH: Maximum, 10.0, May 31, June 1, 3, 4, 1990; minimum, 6.4, Sept. 7-9, 1989.

WATER TEMPERATURES: Maximum, 18.7°C, Aug. 29, 1990; minimum, 0.0°C, Mar. 20, 1989.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,630 mg/L, July 28, 1989; minimum daily mean, 2 mg/L, Mar. 31, Apr. 1, July 1-6, 1989.

SEDIMENT LOADS: Maximum daily mean, 398 tons, Aug. 2, 1989; minimum daily mean, 0.04 ton, Mar. 31, Apr. 1, 1989.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily mean during period of operation, 144 microsiemens, Aug. 8; minimum daily mean during period of operation, 53 microsiemens, June 23-24.

PH: Maximum daily mean during period of operation, 10.0, May 31, June 1, 3, 4; minimum daily mean during period of operation, 7.1, Aug. 20.

WATER TEMPERATURES: Maximum during period of operation, 18.7°C, Aug. 29; minimum during period of operation, 0.2°C, Apr. 28-30, May 1.

SEDIMENT CONCENTRATIONS: Maximum daily mean during period of operation, 587 mg/L, Aug. 17; minimum daily mean during period of operation, 9 mg/L, Sept. 22.

SEDIMENT LOADS: Maximum daily mean during period of operation, 211 tons, June 11; minimum daily mean during period of operation, 0.51 ton, Aug. 10, Sept. 22.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
OCT												
03...	1230	14	89	7.4	3.5	5.0	592	10.2	99	23	6.2	1.9
APR												
04...	1430	52	96	7.6	8.0	90	590	10.4	114	--	--	--
27...	1130	72	94	7.2	2.5	9.0	590	10.8	102	27	7.3	2.1
MAY												
08...	1130	102	80	7.6	2.0	18	590	11.4	107	--	--	--
21...	1105	69	74	8.1	5.0	2.0	590	10.9	110	27	7.8	1.9
JUN												
01...	1200	151	76	8.3	3.5	22	591	11.9	116	--	--	--
12...	1140	206	58	7.6	6.0	9.1	585	9.5	100	20	5.4	1.5
22...	1130	189	57	8.0	9.0	8.0	595	10.3	114	--	--	--
JUL												
03...	1130	135	64	8.1	7.0	2.6	592	9.0	96	18	4.8	1.4
26...	1125	37	76	8.0	8.0	2.4	595	10.0	108	--	--	--
AUG												
16...	1130	21	85	8.1	11.0	1.8	591	8.6	101	24	6.7	1.8
SEP												
06...	1130	26	81	8.0	11.0	2.0	591	8.6	101	--	--	--
28...	1030	18	87	8.2	5.5	1.2	590	10.0	103	24	6.4	1.9

06279790 JONES CREEK AT MOUTH, NEAR PAHASKA, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
OCT												
03...	8.6	0.8	2.2	37	3.9	<1.0	0.2	27	--	E73	E0.10	E2.76
APR												
04...	--	--	--	--	--	--	--	--	--	--	--	--
27...	6.7	0.6	0.9	31	2.4	<0.1	<0.1	26	77	E69	E0.10	E15.0
MAY												
08...	--	--	--	--	--	--	--	--	--	--	--	--
21...	6.6	0.5	0.8	31	4.1	0.8	<0.1	25	80	69	0.11	14.9
JUN												
01...	--	--	--	--	--	--	--	--	--	--	--	--
12...	4.1	0.4	0.8	23	3.1	0.7	<0.1	24	47	56	0.06	26.1
22...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
03...	4.2	0.4	0.9	24	2.6	0.2	0.1	25	53	55	0.07	19.3
26...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
16...	7.7	0.7	1.0	39	2.9	0.3	<0.1	28	68	72	0.09	3.86
SEP												
06...	--	--	--	--	--	--	--	--	--	--	--	--
28...	8.4	0.7	1.0	40	3.5	0.2	<0.1	26	70	72	0.09	3.40

E-Estimate.

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT											
03...	--	0.1	<0.01	--	<0.2	0.07	--	--	1.8	--	--
APR											
04...	<0.01	1.4	0.03	0.06	0.8	0.43	0.08	0.09	--	428	60
27...	<0.01	1.0	<0.01	<0.01	0.2	0.13	0.08	0.06	3.6	47	9.1
MAY											
08...	<0.01	1.0	<0.01	0.30	0.3	0.11	0.06	0.07	--	84	23
21...	<0.01	0.7	<0.01	<0.01	0.3	0.06	0.07	0.06	2.5	8	1.5
JUN											
01...	<0.01	0.7	0.02	<0.01	0.6	0.06	0.05	0.05	--	187	76
12...	<0.01	0.5	0.01	<0.01	0.8	0.12	0.07	0.05	2.8	81	45
22...	<0.01	1.0	<0.01	0.06	0.2	0.10	0.05	0.05	--	48	24
JUL											
03...	<0.01	0.2	<0.01	0.02	<0.2	0.09	0.05	0.04	2.0	36	13
26...	<0.01	0.1	0.03	0.25	<0.2	0.06	0.06	0.05	--	5	0.49
AUG											
16...	<0.01	0.1	0.07	0.05	0.4	0.07	0.06	0.04	1.6	30	1.7
SEP											
06...	<0.01	0.2	0.02	0.01	<0.2	0.07	0.07	0.08	--	20	1.4
28...	<0.01	<0.1	<0.01	0.01	0.2	0.09	0.05	0.04	1.6	26	1.3

YELLOWSTONE RIVER BASIN

06279790 JONES CREEK AT MOUTH, NEAR PAHASKA, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
OCT											
03...	1230	--	<1	4	<0.5	--	<1.0	<5	<3	<10	26
APR											
04...	1430	320	--	--	--	30	--	--	--	--	150
27...	1130	40	1	5	<0.5	--	<1.0	2	<3	3	46
MAY											
08...	1130	50	--	--	--	20	--	--	--	--	47
21...	1105	30	<1	4	0.7	--	<1.0	<1	<3	1	19
JUN											
01...	1200	60	--	--	--	<10	--	--	--	--	40
12...	1140	50	<1	4	<0.5	--	<1.0	1	<3	1	38
22...	1130	50	--	--	--	20	--	--	--	--	40
JUL											
03...	1130	30	1	4	<0.5	--	<1.0	1	<3	1	27
26...	1125	30	--	--	--	20	--	--	--	--	20
AUG											
16...	1130	10	1	5	<0.5	--	1.0	<1	<3	1	13
SEP											
06...	1130	20	--	--	--	20	--	--	--	--	22
28...	1030	20	<1	4	<0.5	--	<1.0	<1	<3	4	12

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT											
03...	<10	<4	5	<0.1	<10	<10	<1	<1.0	37	<6	6
APR											
04...	--	--	13	--	--	--	--	--	--	--	--
27...	<1	<4	5	<0.1	<10	<1	<1	<1.0	41	<6	<3
MAY											
08...	--	--	5	--	--	--	--	--	--	--	--
21...	1	<4	2	0.2	<10	<1	<1	<1.0	43	<6	8
JUN											
01...	--	--	10	--	--	--	--	--	--	--	--
12...	1	<4	9	<0.1	<10	<1	<1	<1.0	31	<6	3
22...	--	--	3	--	--	--	--	--	--	--	--
JUL											
03...	1	<4	7	<0.1	<10	<1	<1	<1.0	29	<6	4
26...	--	--	<1	--	--	--	--	--	--	--	--
AUG											
16...	1	<4	3	<0.1	<10	2	<1	<1.0	40	<6	5
SEP											
06...	--	--	4	--	--	--	--	--	--	--	--
28...	3	<4	3	<0.1	<10	<1	<1	<1.0	38	<6	4

SED.
SUSP.
SIEVE
DIAM.
% FINER
THAN
.062 MM

DATE TIME

MAY
08... 1130 46

06279790 JONES CREEK AT MOUTH, NEAR PAHASKA, WY--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	88	79	61	90	90
2	---	---	---	---	---	---	---	89	81	61	88	87
3	---	---	---	---	---	---	---	77	80	62	95	86
4	---	---	---	---	---	---	94	79	77	62	109	84
5	---	---	---	---	---	---	---	79	82	62	110	82
6	---	---	---	---	---	---	---	77	78	60	126	82
7	---	---	---	---	---	---	---	77	80	60	136	82
8	---	---	---	---	---	---	---	79	80	60	144	84
9	---	---	---	---	---	---	---	---	75	60	137	85
10	---	---	---	---	---	---	---	---	77	59	114	87
11	---	---	---	---	---	---	---	---	62	59	108	87
12	---	---	---	---	---	---	---	---	85	59	93	88
13	---	---	---	---	---	---	---	---	88	58	81	89
14	---	---	---	---	---	---	---	---	79	58	81	89
15	---	---	---	---	---	---	---	---	84	57	83	89
16	---	---	---	---	---	---	---	---	78	57	91	90
17	---	---	---	---	---	---	---	---	82	56	105	90
18	---	---	---	---	---	---	---	---	77	56	111	90
19	---	---	---	---	---	---	---	---	78	55	105	90
20	---	---	---	---	---	---	---	---	72	60	100	95
21	---	---	---	---	---	---	---	74	62	76	110	99
22	---	---	---	---	---	---	---	73	70	76	107	98
23	---	---	---	---	---	---	---	75	53	75	99	97
24	---	---	---	---	---	---	---	79	53	75	98	96
25	---	---	---	---	---	---	---	76	54	78	100	94
26	---	---	---	---	---	---	---	91	55	82	100	94
27	---	---	---	---	---	---	91	86	57	---	100	105
28	---	---	---	---	---	---	79	73	58	---	96	88
29	---	---	---	---	---	---	84	75	59	92	90	---
30	---	---	---	---	---	---	86	70	59	---	88	---
31	---	---	---	---	---	---	---	76	---	85	91	---
MAX	---	---	---	---	---	---	---	---	88	---	144	---
MIN	---	---	---	---	---	---	---	---	53	---	81	---

PH (STANDARD UNITS), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	7.9	7.8	10.0	8.2	8.1	7.9	8.0	7.8	7.9	7.7
2	---	---	8.0	7.9	9.6	8.2	8.2	7.9	8.0	7.7	7.9	7.7
3	---	---	8.0	8.0	10.0	8.2	8.3	7.8	8.0	7.7	8.0	7.7
4	---	---	8.1	8.0	10.0	8.2	8.3	7.9	7.9	7.7	8.0	7.7
5	---	---	8.0	7.9	9.9	8.2	8.3	7.9	7.9	7.7	8.1	7.8
6	---	---	8.0	7.9	9.9	8.4	8.4	7.9	7.9	7.7	8.1	7.8
7	---	---	8.5	7.9	9.8	8.4	8.5	7.9	8.0	7.8	8.1	7.8
8	---	---	8.1	7.6	9.7	8.3	8.5	7.9	8.0	7.8	8.2	7.8
9	---	---	---	---	9.9	8.3	8.5	7.9	8.0	7.8	8.3	7.9
10	---	---	---	---	9.4	---	8.3	7.9	8.0	7.8	8.3	7.8
11	---	---	---	---	---	---	8.3	8.0	8.0	7.8	8.4	7.9
12	---	---	---	---	---	---	8.3	8.0	8.4	7.9	8.6	8.0
13	---	---	---	---	---	---	8.3	8.0	8.3	7.9	8.7	8.0
14	---	---	---	---	---	---	8.3	8.0	8.3	8.0	8.7	8.0
15	---	---	---	---	---	---	8.3	8.0	8.2	8.0	8.7	8.0
16	---	---	---	---	---	---	8.4	8.0	8.2	---	8.8	8.0
17	---	---	---	---	---	---	8.5	8.0	8.1	7.8	8.6	8.0
18	---	---	---	---	---	---	8.4	8.0	8.0	7.8	8.7	8.0
19	---	---	---	---	---	---	8.4	8.0	7.9	7.3	8.6	8.0
20	---	---	---	---	---	---	8.3	7.9	7.9	7.1	8.7	7.9
21	---	---	---	---	---	---	8.5	8.0	7.9	7.7	8.8	8.0
22	---	---	9.7	8.0	---	---	8.5	8.0	7.9	7.7	8.8	8.0
23	---	---	9.7	8.0	8.0	7.8	8.5	8.0	7.9	7.7	8.9	8.1
24	---	---	9.7	8.1	7.9	7.8	8.5	7.8	7.9	7.8	8.9	8.0
25	---	---	9.7	8.2	7.9	7.8	8.4	7.9	7.9	7.7	8.9	8.0
26	---	---	9.8	8.1	7.9	7.8	8.2	7.9	7.9	7.7	8.8	7.9
27	7.7	---	9.8	8.1	8.0	7.8	8.2	7.8	7.9	7.7	8.8	8.0
28	7.8	7.3	9.7	8.2	8.0	7.8	8.2	7.8	7.9	7.6	---	---
29	7.7	7.5	9.9	8.2	8.0	7.8	8.0	7.5	7.9	7.6	---	---
30	7.8	7.6	9.9	8.2	8.1	7.8	8.0	7.7	7.9	7.6	---	---
31	---	---	10.0	8.2	---	---	8.0	7.7	7.9	7.7	---	---
MONTH	---	---	---	---	---	---	8.5	7.5	8.4	---	---	---

YELLOWSTONE RIVER BASIN

06279790 JONES CREEK AT MOUTH, NEAR PAHASKA, WY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	7.6	.2	7.8	2.5	12.6	5.8	14.2	7.5	15.4	5.6
2	---	---	6.2	1.4	6.4	2.5	13.8	6.6	17.0	7.3	12.7	7.7
3	---	---	10.7	2.0	10.5	2.7	13.9	6.1	15.9	7.3	14.8	7.0
4	---	---	10.0	2.2	10.1	4.2	12.4	5.4	15.5	8.2	12.9	8.7
5	---	---	12.2	2.0	9.8	3.3	14.6	5.6	15.9	7.1	12.9	8.3
6	---	---	11.2	2.9	9.0	3.8	15.7	6.4	17.6	7.6	15.4	7.4
7	---	---	5.8	2.6	8.4	4.5	15.2	5.6	16.8	7.9	15.5	6.3
8	---	---	4.9	1.6	9.1	3.4	15.0	5.7	17.0	8.3	15.7	7.3
9	---	---	---	---	10.6	3.5	11.6	8.1	15.5	8.9	14.6	7.6
10	---	---	---	---	8.4	5.0	13.9	5.9	14.8	8.7	15.2	6.4
11	---	---	---	---	8.9	3.5	16.0	5.9	16.0	9.8	15.3	5.8
12	---	---	---	---	6.1	2.2	17.2	6.4	16.1	8.6	14.6	6.2
13	---	---	---	---	8.9	2.4	14.8	7.1	15.2	7.3	14.7	6.6
14	---	---	---	---	9.3	3.7	16.3	6.9	17.9	7.4	14.6	4.8
15	---	---	---	---	9.2	3.4	15.3	7.1	15.8	8.1	12.8	6.1
16	---	---	---	---	9.0	4.1	17.3	7.1	15.2	8.6	13.8	7.5
17	---	---	---	---	10.5	3.6	17.2	7.1	17.3	10.1	12.2	5.6
18	---	---	---	---	10.6	3.9	14.4	7.4	15.3	8.8	11.7	5.5
19	---	---	---	---	10.1	3.7	12.6	7.6	13.2	8.3	9.8	7.5
20	---	---	---	---	12.4	4.3	9.6	8.1	14.9	8.2	10.5	6.8
21	---	---	---	---	12.1	5.0	14.8	7.3	15.0	8.3	11.2	3.8
22	---	---	8.8	3.7	12.4	4.1	15.0	7.3	14.6	7.3	11.8	3.6
23	---	---	10.2	3.4	12.5	4.9	15.7	6.8	14.4	8.3	12.5	3.8
24	---	---	7.6	2.6	13.3	4.8	13.8	7.8	14.7	8.4	13.7	4.9
25	---	---	5.7	1.9	13.4	5.4	14.3	7.1	14.0	7.8	12.4	5.5
26	---	---	9.3	2.0	12.1	5.0	9.9	7.2	16.4	7.4	10.4	5.5
27	---	---	9.8	2.7	13.3	5.3	14.7	7.2	17.6	7.3	9.3	4.7
28	1.8	.2	7.7	4.2	13.4	4.8	12.9	6.2	18.3	8.0	---	---
29	5.2	.2	8.6	4.5	14.3	4.9	14.4	6.6	18.7	8.8	---	---
30	5.9	.2	7.7	4.1	14.8	5.8	15.5	6.3	15.8	9.5	---	---
31	---	---	7.9	3.0	---	---	15.1	6.8	14.6	4.9	---	---
MONTH	---	---	---	---	14.8	2.2	17.3	5.4	18.7	4.9	---	---

06279790 JONES CREEK AT MOUTH, NEAR PAHASKA, WY--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	48	265	34	70	54	10	157	198	84
2	49	332	44	70	56	11	146	58	23
3	50	392	53	73	65	13	133	49	18
4	52	404	57	79	314	67	137	88	33
5	62	165	28	87	255	60	120	188	61
6	56	110	17	98	310	82	111	104	31
7	52	78	11	102	215	59	109	134	39
8	52	60	8.4	104	94	26	79	98	21
9	56	51	7.7	101	76	21	83	70	16
10	54	35	5.1	95	70	18	144	151	72
11	54	27	3.9	92	63	16	226	345	211
12	56	29	4.4	89	57	14	201	104	56
13	56	25	3.8	87	52	12	189	63	32
14	58	27	4.2	84	46	10	185	50	25
15	62	28	4.7	82	43	9.5	168	45	20
16	68	47	8.6	80	38	8.2	174	36	17
17	62	55	9.2	77	33	6.9	170	27	12
18	62	59	9.9	74	27	5.4	178	40	19
19	68	69	13	69	22	4.1	182	43	21
20	86	88	20	68	20	3.7	202	41	22
21	88	101	24	68	10	1.8	192	51	26
22	90	112	27	67	22	4.0	197	68	36
23	86	95	22	70	65	12	206	124	69
24	80	67	14	70	96	18	213	93	53
25	76	51	10	56	110	17	206	90	50
26	80	69	15	53	25	3.6	190	70	36
27	72	57	11	50	36	4.9	179	55	27
28	75	87	18	51	80	11	158	44	19
29	70	66	12	76	226	46	147	35	14
30	69	60	11	109	310	91	143	43	17
31	---	---	---	130	282	99	---	---	---
TOTAL	1949	---	510.9	2481	---	765.1	4925	---	1180
JULY			AUGUST			SEPTEMBER			
1	140	37	14	28	19	1.4	27	78	5.7
2	135	29	11	26	19	1.3	26	71	5.0
3	135	54	20	25	20	1.3	25	64	4.3
4	122	47	15	24	17	1.1	25	53	3.6
5	111	24	7.2	23	15	.93	25	31	2.1
6	105	24	6.8	22	15	.89	25	40	2.7
7	99	21	5.6	21	18	1.0	25	54	3.6
8	93	18	4.5	20	15	.81	27	46	3.4
9	89	20	4.8	19	12	.62	25	51	3.4
10	83	22	4.9	19	10	.51	24	53	3.4
11	78	20	4.2	20	13	.70	23	46	2.9
12	74	19	3.8	20	22	1.2	23	34	2.1
13	68	19	3.5	20	46	2.5	22	24	1.4
14	65	19	3.3	19	28	1.4	22	26	1.5
15	62	22	3.7	18	22	1.1	21	27	1.5
16	58	18	2.8	30	282	34	21	24	1.4
17	55	17	2.5	24	587	38	20	21	1.1
18	53	15	2.1	19	277	14	20	25	1.3
19	50	11	1.5	36	284	32	21	26	1.5
20	57	35	5.4	42	282	32	23	33	2.0
21	49	55	7.3	44	154	18	22	19	1.1
22	45	32	3.9	41	88	9.7	21	9	.51
23	41	34	3.8	42	62	7.0	20	10	.54
24	47	39	4.9	41	51	5.6	19	12	.62
25	41	37	4.1	36	37	3.6	18	13	.63
26	38	15	1.5	34	44	4.0	18	12	.58
27	35	19	1.8	32	43	3.7	18	31	1.5
28	35	12	1.1	38	59	6.1	18	26	1.3
29	34	40	3.7	34	70	6.4	16	24	1.0
30	30	58	4.7	28	76	5.7	15	20	.81
31	29	34	2.7	26	85	6.0	---	---	---
TOTAL	2156	---	166.1	871	---	242.56	655	---	62.49

YELLOWSTONE RIVER BASIN

06279795 CROW CREEK AT MOUTH, AT PAHASKA, WY

LOCATION.--Lat 44°30'48", long 109°58'22", Park County, Hydrologic Unit 10080012, Shoshone National Forest, on right bank 0.3 mi upstream from mouth and 0.8 mi northwest of Pahaska.

DRAINAGE AREA.--19.1 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1989 to current year (no winter records).

GAGE.--Water-stage recorder. Elevation of gage is 6,760 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Apr. 1-3, June 11, and Sept. 7-27. Records fair except those for estimated daily discharges which are poor. No diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 279 ft³/s, June 7, 1989, gage height, 2.43 ft; minimum daily during period of operation, 4.0 ft³/s, Mar. 9, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 201 ft³/s, June 10, gage height, 2.41 ft; minimum daily during period of operation, 11 ft³/s, Apr. 1-3, Sept. 2-4, 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	11	22	74	108	24	12
2	---	---	---	---	---	---	11	20	68	105	23	11
3	---	---	---	---	---	---	11	19	68	101	23	11
4	---	---	---	---	---	---	14	20	77	84	23	11
5	---	---	---	---	---	---	16	24	86	78	21	12
6	---	---	---	---	---	---	13	34	91	74	20	11
7	---	---	---	---	---	---	13	37	109	70	20	12
8	---	---	---	---	---	---	12	32	112	69	19	12
9	---	---	---	---	---	---	13	29	120	69	18	12
10	---	---	---	---	---	---	12	29	146	64	17	12
11	---	---	---	---	---	---	12	31	140	59	18	12
12	---	---	---	---	---	---	12	29	121	58	19	12
13	---	---	---	---	---	---	12	29	102	56	18	12
14	---	---	---	---	---	---	13	29	86	55	18	12
15	---	---	---	---	---	---	17	28	78	54	17	12
16	---	---	---	---	---	---	19	28	72	48	22	12
17	---	---	---	---	---	---	16	27	71	44	22	12
18	---	---	---	---	---	---	18	29	76	43	15	12
19	---	---	---	---	---	---	21	31	83	39	24	14
20	---	---	---	---	---	---	28	31	99	48	25	15
21	---	---	---	---	---	---	31	30	118	40	20	14
22	---	---	---	---	---	---	31	33	123	34	17	13
23	---	---	---	---	---	---	29	42	137	33	17	13
24	---	---	---	---	---	---	27	48	147	38	15	13
25	---	---	---	---	---	---	27	46	153	35	15	13
26	---	---	---	---	---	---	27	42	156	31	15	13
27	---	---	---	---	---	---	23	45	141	30	13	13
28	---	---	---	---	---	---	23	54	118	29	13	13
29	---	---	---	---	---	---	22	67	113	28	13	12
30	---	---	---	---	---	---	22	73	111	27	13	12
31	---	---	---	---	---	---	---	77	---	24	13	---
TOTAL	---	---	---	---	---	---	556	1115	3196	1675	570	370
MEAN	---	---	---	---	---	---	18.5	36.0	107	54.0	18.4	12.3
MAX	---	---	---	---	---	---	31	77	156	108	25	15
MIN	---	---	---	---	---	---	11	19	68	24	13	11
AC-FT	---	---	---	---	---	---	1100	2210	6340	3320	1130	734

06279795 CROW CREEK AT MOUTH, AT PAHASKA, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1989 to current year (no winter record).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1989 to current year (no winter record).

PH: June 1989 to current year (no winter record).

WATER TEMPERATURES: July 1989 to current year (no winter record).

SUSPENDED-SEDIMENT DISCHARGE: March 1989 to current year (no winter record).

INSTRUMENTATION.--Water-quality monitor and sediment pumping sampler.

REMARKS.--Water-temperature records represent water temperature at sensor within 0.1°C.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily mean, 112 microsiemens, May 5, 1990; minimum daily mean, 38 microsiemens, May 30, 1990.

PH: Maximum, 9.1, May 7, 1990; minimum, 6.6, Aug. 3, 4, 1989.

WATER TEMPERATURE: Maximum, 14.9°C, Aug. 8, 1990; minimum, 1.5°C, Sept. 13, 1989.

SEDIMENT CONCENTRATION: Maximum daily mean, 73 mg/L, June 16, 1989; minimum daily mean, 0 mg/L, Sept. 27-30, 1989.

SEDIMENT LOAD: Maximum daily mean, 43 tons, June 16, 1989; minimum daily mean, 0 ton, Sept. 27-30, 1989.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily mean during period of operation, 112 microsiemens, May 5; minimum daily mean during period of operation, 38 microsiemens, May 30.

PH: Maximum during period of operation, 9.1, May 7; minimum during period of operation, 7.3, July 11.

WATER TEMPERATURES: Maximum during period of operation, 14.9°C, Aug. 8; minimum, 1.7°C, Apr. 28-30, May 1, 9.

SEDIMENT CONCENTRATIONS: Maximum daily mean during period of operation, 59 mg/L, June 11; minimum daily mean during period of operation, 1 mg/L for many days during April, July, and September.

SEDIMENT LOADS: Maximum daily mean during period of operation, 20 tons, June 11; minimum daily mean during period of operation, 0.03 ton, Apr. 13, Sept. 11, 16-18.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	HARD- NESS TOTAL (MG/L AS CaCO3)	CALCIUM DIS- SOLVED (MG/L AS Ca)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg)
OCT												
04...	0900	E13	90	7.5	3.0	1.1	594	10.5	100	25	6.8	2.0
APR												
03...	1215	11	92	7.3	3.5	2.2	594	10.2	99	--	--	--
26...	1510	24	82	6.8	4.5	2.0	591	11.3	113	22	6.0	1.6
MAY												
07...	1410	35	70	7.5	5.5	4.3	590	10.0	103	--	--	--
22...	1030	30	75	8.2	5.0	1.0	591	10.4	105	24	6.9	1.7
31...	1500	78	50	8.1	6.5	4.1	592	10.4	109	--	--	--
JUN												
11...	1630	139	51	7.5	7.0	5.1	594	9.4	100	16	4.4	1.2
21...	1525	126	54	7.9	8.5	3.2	590	10.2	113	--	--	--
JUL												
02...	1700	150	55	8.2	10.0	0.60	590	9.4	108	16	4.6	1.1
25...	1511	35	69	7.9	11.5	1.6	590	9.0	107	--	--	--
AUG												
17...	0910	22	74	8.0	9.0	5.0	598	8.9	98	25	7.2	1.8
SEP												
06...	1630	115	84	7.9	10.5	1.4	591	8.4	97	--	--	--
27...	1605	13	85	8.1	7.0	6.0	592	9.6	102	26	7.0	2.0

E-Estimate.

YELLOWSTONE RIVER BASIN

06279795 CROW CREEK AT MOUTH, AT PAHASKA, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
OCT 04...	7.8	0.7	2.0	36	5.0	<1.0	0.1	25	--	E72	E0.10	E2.53
APR 03...	--	--	--	--	--	--	--	--	--	--	--	--
26...	6.1	0.6	0.6	32	2.5	0.3	0.3	22	65	59	0.09	4.21
MAY 07...	--	--	--	--	--	--	--	--	--	--	--	--
22...	6.4	0.6	0.5	34	2.1	0.4	<0.1	23	65	195	0.09	5.27
31...	--	--	--	--	--	--	--	--	--	--	--	--
JUN 11...	4.1	0.4	0.5	22	1.6	0.4	<0.1	18	45	44	0.06	16.9
21...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 02...	4.2	0.5	0.5	24	1.7	0.3	<0.1	18	40	46	0.05	16.2
25...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 17...	7.0	0.6	0.7	42	3.2	0.3	<0.1	24	66	70	0.09	3.92
SEP 06...	--	--	--	--	--	--	--	--	--	--	--	--
27...	8.4	0.7	0.7	42	3.6	0.1	<0.1	25	73	72	0.10	2.56

E-Estimate.

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 04...	--	0.3	<0.01	--	<0.2	0.04	--	--	1.4	--	--
APR 03...	0.02	<0.1	<0.01	0.37	<0.2	0.06	0.05	0.06	--	14	0.42
26...	<0.01	<0.1	<0.01	<0.01	<0.2	0.05	0.04	0.04	2.7	--	--
MAY 07...	0.01	0.1	<0.01	0.05	0.3	0.05	0.04	0.04	--	5	0.47
22...	<0.01	30.0	<0.01	0.15	0.2	0.15	0.07	0.08	2.3	0	0.0
31...	<0.01	<0.1	0.02	0.03	0.2	0.03	0.04	0.03	--	35	7.4
JUN 11...	<0.01	<0.1	0.01	<0.01	0.3	0.07	0.04	0.03	3.4	16	6.0
21...	<0.01	3.0	0.04	0.10	0.7	0.05	0.04	0.02	--	8	2.7
JUL 02...	<0.01	0.1	0.01	0.05	<0.2	0.03	0.06	0.07	1.6	10	4.1
25...	0.01	0.3	0.04	0.29	0.3	0.04	0.05	0.03	--	3	0.28
AUG 17...	<0.01	<0.1	<0.01	0.03	<0.2	0.05	0.03	0.02	3.3	10	0.59
SEP 06...	<0.01	<0.1	<0.01	0.02	0.3	0.05	0.04	0.04	--	2	0.62
27...	<0.01	<0.1	<0.01	0.01	0.3	0.07	0.06	0.04	1.3	4	0.14

06279795 CROW CREEK AT MOUTH, AT PAHASKA, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 04...	0900	--	<1	4	<0.5	--	<1.0	<5	<3	<10	33
APR 03...	1215	30	--	--	--	30	--	--	--	--	31
26...	1510	60	<1	4	<0.5	--	<1.0	2	<3	2	45
MAY 07...	1410	60	--	--	--	20	--	--	--	--	45
22...	1030	30	<1	3	0.7	--	<1.0	<1	<3	<1	28
31...	1500	70	--	--	--	10	--	--	--	--	50
JUN 11...	1630	50	<1	5	<0.5	--	<1.0	<1	<3	1	49
21...	1525	50	--	--	--	10	--	--	--	--	30
JUL 02...	1700	20	<1	5	<0.5	--	<1.0	1	<3	2	31
25...	1511	30	--	--	--	10	--	--	--	--	20
AUG 17...	0910	30	<1	5	<0.5	--	<1.0	<1	<3	1	39
SEP 06...	1630	20	--	--	--	10	--	--	--	--	8
27...	1605	10	<1	4	<0.5	--	<1.0	<1	<3	2	7

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 04...	<10	<4	2	<0.1	10	<10	<1	<1.0	44	<6	4
APR 03...	--	--	<1	--	--	--	--	--	--	--	--
26...	1	<4	1	<0.1	<10	1	<1	<1.0	35	<6	<3
MAY 07...	--	--	2	--	--	--	--	--	--	--	--
22...	2	<4	<1	<0.1	<10	<1	<1	<1.0	39	<6	<3
31...	--	--	3	--	--	--	--	--	--	--	--
JUN 11...	<1	<4	1	<0.1	<10	<1	<1	<1.0	35	<6	8
21...	--	--	1	--	--	--	--	--	--	--	--
JUL 02...	<1	<4	2	<0.1	<10	<1	<1	<1.0	36	<6	10
25...	--	--	<1	--	--	--	--	--	--	--	--
AUG 17...	1	<4	2	<0.1	<10	3	<1	<1.0	44	<6	8
SEP 06...	--	--	2	--	--	--	--	--	--	--	--
27...	<1	<4	<1	<0.1	<10	1	<1	<1.0	45	<6	<3

SED.
SUSP.
SIEVE
DIAM.
% FINER
THAN
.062 MM

DATE TIME

JUN
11... 1630 40

YELLOWSTONE RIVER BASIN

06279795 CROW CREEK AT MOUTH, AT PAHASKA, WY--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	85	50	54	72	83
2	---	---	---	---	---	---	---	87	54	55	72	81
3	---	---	---	---	---	---	91	88	55	55	74	82
4	---	---	---	---	---	---	86	96	62	57	74	83
5	---	---	---	---	---	---	83	112	52	58	74	83
6	---	---	---	---	---	---	88	91	53	59	72	84
7	---	---	---	---	---	---	90	69	51	55	72	87
8	---	---	---	---	---	---	94	76	53	61	72	84
9	---	---	---	---	---	---	89	78	53	62	72	84
10	---	---	---	---	---	---	95	80	52	63	72	84
11	---	---	---	---	---	---	107	80	50	64	73	83
12	---	---	---	---	---	---	108	79	54	64	71	83
13	---	---	---	---	---	---	109	79	57	---	72	84
14	---	---	---	---	---	---	97	80	59	---	73	83
15	---	---	---	---	---	---	92	80	60	---	73	84
16	---	---	---	---	---	---	82	81	61	---	73	84
17	---	---	---	---	---	---	86	81	61	---	73	84
18	---	---	---	---	---	---	84	80	60	---	75	84
19	---	---	---	---	---	---	82	77	57	---	75	84
20	---	---	---	---	---	---	84	79	56	---	76	84
21	---	---	---	---	---	---	85	80	53	---	75	84
22	---	---	---	---	---	---	80	79	52	---	77	83
23	---	---	---	---	---	---	78	66	52	---	76	84
24	---	---	---	---	---	---	77	63	50	---	77	84
25	---	---	---	---	---	---	86	58	50	69	77	84
26	---	---	---	---	---	---	87	68	50	72	78	84
27	---	---	---	---	---	---	86	53	51	72	79	84
28	---	---	---	---	---	---	85	48	52	72	79	---
29	---	---	---	---	---	---	80	39	54	72	79	---
30	---	---	---	---	---	---	74	38	54	71	80	---
31	---	---	---	---	---	---	---	44	---	72	81	---
MAX	---	---	---	---	---	---	---	112	62	---	81	---
MIN	---	---	---	---	---	---	---	38	50	---	71	---

PH (STANDARD UNITS), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	8.1	7.8	7.9	7.4	8.1	7.9	7.9	7.8	7.9	7.9
2	---	---	8.1	8.0	8.1	7.5	8.2	7.9	7.9	7.8	7.9	7.9
3	---	---	8.1	8.1	8.3	7.9	8.2	8.0	7.9	7.8	7.9	7.9
4	7.6	7.4	8.1	7.7	8.1	7.6	8.1	7.9	7.8	7.8	7.9	7.9
5	7.6	7.4	8.3	7.8	8.5	8.1	8.0	7.8	7.9	7.8	7.9	7.9
6	7.7	7.5	8.3	8.1	8.3	8.1	7.8	7.4	7.9	7.8	8.0	7.9
7	7.8	7.5	9.1	8.0	8.1	8.0	7.5	7.4	7.9	7.9	8.0	7.8
8	7.8	7.7	8.7	8.5	8.0	7.8	7.5	7.4	7.9	7.9	7.9	7.9
9	7.9	7.6	8.8	8.7	8.0	7.5	7.4	7.4	7.9	7.9	7.9	7.8
10	7.9	7.8	8.9	8.5	7.7	7.4	7.4	7.3	7.9	7.9	7.9	7.9
11	7.9	7.9	8.7	8.4	---	---	7.4	7.3	7.9	7.9	7.9	7.9
12	8.0	7.9	8.9	8.7	8.0	7.8	7.4	7.4	7.9	7.9	7.9	7.9
13	8.0	7.7	8.8	8.7	8.0	7.9	---	---	7.9	7.9	8.0	7.9
14	8.0	7.6	8.7	8.6	8.1	7.9	---	---	7.9	7.9	8.0	7.8
15	8.0	7.4	8.6	8.6	8.2	8.0	---	---	7.9	7.9	8.0	7.9
16	7.6	7.4	8.6	8.4	8.2	8.1	---	---	7.9	7.9	8.0	7.9
17	7.6	7.5	8.5	8.3	8.2	8.0	---	---	7.9	7.9	7.9	7.9
18	7.7	7.4	8.5	8.2	8.1	8.0	---	---	7.9	7.9	7.9	7.9
19	7.7	7.4	8.4	8.2	8.0	7.8	---	---	7.9	7.9	7.9	7.9
20	7.7	7.6	8.3	8.3	7.8	7.7	---	---	7.9	7.9	8.0	7.9
21	7.8	7.6	8.3	8.1	8.1	7.8	---	---	7.9	7.9	8.0	7.9
22	7.9	7.5	8.2	7.7	8.2	7.9	---	---	7.9	7.7	8.0	7.9
23	7.9	7.8	7.8	7.6	8.1	7.9	---	---	7.9	7.9	8.0	7.9
24	7.9	7.7	8.5	7.7	8.1	7.8	---	---	7.9	7.7	8.0	7.9
25	8.0	7.5	8.2	7.9	8.1	7.8	---	---	8.0	7.9	8.0	7.9
26	8.0	7.8	8.2	7.9	8.1	7.8	7.8	7.8	7.9	7.9	7.9	7.9
27	7.9	7.7	8.3	7.8	8.1	7.8	7.8	7.8	7.9	7.9	---	---
28	8.1	7.8	8.9	8.1	8.0	7.8	7.8	6.0	7.9	7.9	---	---
29	8.2	7.9	8.7	8.3	8.1	7.8	7.9	7.8	7.9	7.9	---	---
30	8.1	8.0	8.3	8.2	8.2	7.9	7.9	7.8	8.0	7.9	---	---
31	---	---	8.2	7.9	---	---	7.9	7.8	7.9	7.9	---	---
MONTH	---	---	9.1	7.6	---	---	---	---	8.0	7.7	---	---

06279795 CROW CREEK AT MOUTH, AT PAHASKA, WY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	6.1	1.7	6.8	3.5	11.0	5.6	12.4	7.5	10.8	5.5
2	---	---	6.0	2.6	6.6	3.5	10.7	6.1	13.6	7.7	10.3	7.3
3	---	---	8.7	3.8	9.3	3.1	11.3	5.7	13.6	7.6	10.8	6.8
4	4.6	2.5	9.8	3.3	8.8	4.8	9.9	5.4	12.6	8.4	10.7	8.2
5	4.9	2.2	10.5	2.8	9.0	3.4	11.8	5.5	13.1	7.6	10.3	7.9
6	5.4	2.0	10.6	3.9	7.6	3.7	12.6	6.1	14.6	7.9	10.9	7.0
7	5.6	2.9	5.5	3.8	6.8	4.1	12.3	5.7	14.0	7.3	11.0	6.3
8	5.5	3.3	3.7	2.4	7.5	3.0	12.4	5.9	14.9	8.7	11.2	7.1
9	6.4	3.1	6.1	1.7	8.6	3.0	9.6	7.7	13.9	9.2	11.0	7.5
10	5.5	4.2	8.5	1.9	6.7	4.0	11.9	6.0	12.7	9.0	11.9	6.4
11	6.6	3.3	5.9	4.0	---	---	13.1	6.3	13.1	9.5	10.5	5.9
12	6.2	4.4	6.1	3.5	5.0	2.5	13.9	6.6	13.2	8.4	10.5	6.0
13	6.5	2.8	5.8	3.2	7.4	2.7	---	---	12.3	7.6	10.1	5.7
14	5.6	4.8	7.0	2.5	6.7	3.9	---	---	13.4	7.2	13.4	4.9
15	8.1	3.9	5.9	3.4	7.5	3.6	---	---	13.0	7.7	9.7	6.1
16	5.1	4.2	6.5	1.9	7.5	4.1	---	---	12.1	8.2	10.6	6.9
17	7.3	3.7	8.3	2.9	8.9	3.7	---	---	13.3	9.1	9.1	5.5
18	7.5	4.2	8.1	3.9	9.3	4.0	---	---	12.6	7.8	9.8	5.3
19	8.3	4.2	6.6	2.9	8.9	3.9	---	---	10.3	7.7	8.2	4.7
20	8.7	4.0	6.8	3.8	13.4	6.3	---	---	10.6	6.9	7.4	4.3
21	8.9	4.1	7.9	4.0	10.6	5.6	---	---	10.8	7.1	8.2	3.5
22	7.9	4.6	8.3	4.2	10.7	4.4	---	---	9.8	6.0	7.1	3.4
23	7.8	5.1	9.6	4.3	10.9	4.8	---	---	10.2	6.6	7.5	3.4
24	7.1	5.0	7.5	3.8	11.3	4.7	---	---	10.3	6.6	8.8	4.3
25	8.9	4.4	6.0	3.4	11.1	5.1	---	---	9.6	6.3	8.4	5.0
26	4.8	2.5	9.0	3.3	9.9	5.0	9.5	7.3	10.3	5.4	7.4	5.0
27	4.8	1.8	9.7	4.1	11.4	5.2	12.2	7.3	10.7	5.2	---	---
28	3.6	1.7	8.6	5.7	---	4.8	10.8	6.0	11.2	5.7	---	---
29	3.7	1.7	8.4	5.8	11.7	4.9	11.8	6.6	11.3	6.3	---	---
30	4.9	1.7	8.1	5.8	12.1	5.5	13.3	6.4	10.9	6.7	---	---
31	---	---	---	5.2	---	---	12.6	7.1	10.1	4.9	---	---
MONTH	---	---	---	1.7	---	---	---	---	14.9	4.9	---	---

YELLOWSTONE RIVER BASIN

06279795 CROW CREEK AT MOUTH, AT PAHASKA, WY--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	11	15	.45	22	10	.59	74	17	3.4
2	11	15	.45	20	11	.59	68	14	2.6
3	11	20	.59	19	10	.51	68	13	2.4
4	14	16	.60	20	11	.59	77	13	2.7
5	16	17	.73	24	12	.78	86	24	5.6
6	13	19	.67	34	9	.83	91	31	7.6
7	13	17	.60	37	9	.90	109	32	9.4
8	12	11	.36	32	6	.52	112	41	12
9	13	8	.28	29	4	.31	120	30	9.7
10	12	6	.19	29	6	.47	146	41	17
11	12	5	.16	31	4	.33	140	59	20
12	12	2	.06	29	4	.31	121	21	6.9
13	12	1	.03	29	4	.31	102	12	3.3
14	13	3	.11	29	4	.31	86	7	1.6
15	17	6	.28	28	4	.30	78	5	1.1
16	19	4	.21	28	2	.15	72	4	.78
17	16	5	.22	27	4	.29	71	5	.96
18	18	7	.34	29	3	.23	76	4	.82
19	21	6	.34	31	5	.42	83	5	1.1
20	28	4	.30	31	2	.17	99	7	1.9
21	31	4	.33	30	3	.24	118	12	3.8
22	31	10	.84	33	5	.45	123	15	5.0
23	29	10	.78	42	9	1.0	137	18	6.7
24	27	6	.44	48	9	1.2	147	25	9.9
25	27	6	.44	46	8	.99	153	28	12
26	27	4	.29	42	5	.57	156	23	9.7
27	23	11	.68	45	4	.49	141	13	4.9
28	23	10	.62	54	11	1.8	118	10	3.2
29	22	9	.53	67	26	4.7	113	11	3.4
30	22	10	.59	73	24	4.7	111	11	3.3
31	---	---	---	77	25	5.2	---	---	---
TOTAL	556	---	12.51	1115	---	30.25	3196	---	172.76
JULY			AUGUST			SEPTEMBER			
1	108	9	2.6	24	4	.26	12	3	.10
2	105	7	2.0	23	7	.43	11	3	.09
3	101	7	1.9	23	8	.50	11	2	.06
4	84	6	1.4	23	8	.50	11	3	.09
5	78	7	1.5	21	8	.45	12	4	.13
6	74	5	1.0	20	9	.49	11	2	.06
7	70	7	1.3	20	9	.49	12	4	.13
8	69	6	1.1	19	9	.46	12	2	.06
9	69	6	1.1	18	9	.44	12	2	.06
10	64	4	.69	17	9	.41	12	2	.06
11	59	3	.48	18	9	.44	12	1	.03
12	58	3	.47	19	9	.46	12	2	.06
13	56	4	.60	18	9	.44	12	2	.06
14	55	3	.45	18	9	.44	12	3	.10
15	54	5	.73	17	10	.46	12	2	.06
16	48	4	.52	22	10	.59	12	1	.03
17	44	4	.48	22	13	.77	12	1	.03
18	43	4	.46	15	6	.24	12	1	.03
19	39	2	.21	24	8	.52	14	1	.04
20	48	2	.26	25	18	1.2	15	1	.04
21	40	3	.32	20	13	.70	14	4	.15
22	34	3	.28	17	8	.37	13	2	.07
23	33	3	.27	17	7	.32	13	1	.04
24	38	3	.31	15	4	.16	13	1	.04
25	35	3	.28	15	4	.16	13	1	.04
26	31	2	.17	15	5	.20	13	2	.07
27	30	1	.08	13	4	.14	13	3	.11
28	29	2	.16	13	4	.14	13	3	.11
29	28	9	.68	13	3	.11	12	2	.06
30	27	5	.36	13	3	.11	12	2	.06
31	24	3	.19	13	3	.11	---	---	---
TOTAL	1675	---	22.35	570	---	12.51	370	---	2.07

YELLOWSTONE RIVER BASIN

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06279800 NORTH FORK SHOSHONE RIVER AT PAHASKA, WY

LOCATION.--Lat 44°30'09", long 109°57'37", Park County, Hydrologic Unit 10080012, Shoshone National Forest, on right bank 0.1 mi upstream from Middle Creek and 0.2 mi east of Pahaska.

DRAINAGE AREA.--108 mi².

PERIOD OF RECORD.--April 1989 to current year (no winter records).

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

REMARKS.--Estimated daily discharges: April 1-2. Records fair. No diversions upstream from station. Satellite telemeter at station. Result of discharge measurement, in cubic feet per second, made during period when station was not in operation is given below:

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EXTREMES FOR PERIOD OF RECORD--Maximum discharge 1,570 ft³/s, June 10, 1990, gage height, 5.18 ft; minimum daily during period of operation, 32 ft³/s, Apr. 4, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,570 ft³/s, June 10, gage height 5.18 ft; minimum daily during period of operation, 62 ft³/s, Sept. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	150	187	681	802	136	83
2	---	---	---	---	---	---	200	184	565	786	128	83
3	---	---	---	---	---	---	237	208	574	737	124	81
4	---	---	---	---	---	---	257	235	848	599	119	81
5	---	---	---	---	---	---	225	294	949	551	117	91
6	---	---	---	---	---	---	190	420	975	520	110	85
7	---	---	---	---	---	---	188	443	1040	467	110	79
8	---	---	---	---	---	---	183	330	988	411	105	79
9	---	---	---	---	---	---	199	284	1070	393	103	79
10	---	---	---	---	---	---	174	283	1280	349	104	79
11	---	---	---	---	---	---	155	285	1340	326	222	74
12	---	---	---	---	---	---	163	266	1120	312	118	74
13	---	---	---	---	---	---	153	261	904	299	112	72
14	---	---	---	---	---	---	179	237	739	284	106	72
15	---	---	---	---	---	---	239	226	707	270	100	72
16	---	---	---	---	---	---	262	205	669	255	186	72
17	---	---	---	---	---	---	242	209	662	241	177	72
18	---	---	---	---	---	---	271	241	757	220	114	72
19	---	---	---	---	---	---	344	271	802	212	170	74
20	---	---	---	---	---	---	435	264	908	313	169	85
21	---	---	---	---	---	---	470	266	1070	229	138	75
22	---	---	---	---	---	---	437	332	1110	194	118	72
23	---	---	---	---	---	---	386	454	1150	183	113	70
24	---	---	---	---	---	---	368	533	1150	211	114	70
25	---	---	---	---	---	---	330	444	1160	184	109	68
26	---	---	---	---	---	---	306	363	1090	165	97	73
27	---	---	---	---	---	---	252	369	1060	153	90	73
28	---	---	---	---	---	---	232	491	981	161	90	68
29	---	---	---	---	---	---	201	766	921	169	88	62
30	---	---	---	---	---	---	184	807	874	156	88	63
31	---	---	---	---	---	---	---	802	---	142	85	---
TOTAL	---	---	---	---	---	---	7612	10960	28144	10294	3760	2253
MEAN	---	---	---	---	---	---	254	354	938	332	121	75.1
MAX	---	---	---	---	---	---	470	807	1340	802	222	91
MIN	---	---	---	---	---	---	150	184	565	142	85	62
AC-FT	---	---	---	---	---	---	15100	21740	55820	20420	7460	4470

YELLOWSTONE RIVER BASIN

06279940 NORTH FORK SHOSHONE RIVER AT WAPITI, WY

LOCATION.--Lat 44°28'10", long 109°25'49", in SE¼ NW¼ NW¼ sec.19, T.52 N., R.104 W., Park County, Hydrologic Unit 10080012, on left bank 1,000 ft downstream from bridge on U.S. Highway 14-20, 0.3 mi upstream from Jim Creek, and 0.3 mi downstream from Wapiti.

DRAINAGE AREA.--699 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1989 to September 1990.

GAGE.--Water-stage recorder. Elevation of gage is 5,580 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 31 to Nov. 1, Dec. 9-25, 30-31, Jan. 3-7, 12, Dec. 17 to Feb. 1, Feb. 3, 6-21, and Mar. 14-17. Records good except those for estimated daily discharges, which are poor. Diversion for irrigation of about 1,500 acres upstream from station. U.S. Bureau of Reclamation satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 9, 1981, at station 06280000 North Fork Shoshone River near Wapiti, 4.2 mi downstream, reached a discharge of 20,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,810 ft³/s, June 11, gage height 6.98, minimum daily, 110 ft³/s, Feb. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	215	150	152	156	130	153	388	739	2210	3640	760	340
2	213	168	151	154	128	181	487	802	1840	3710	698	332
3	281	210	176	170	130	203	727	719	1720	3570	664	331
4	387	226	213	180	129	198	768	839	2460	3070	645	325
5	328	213	226	160	125	179	728	994	2970	2780	621	323
6	362	203	195	150	125	164	502	1480	2850	2830	584	331
7	279	199	181	160	130	169	523	1910	3130	2580	566	312
8	274	189	185	160	130	215	485	1310	3090	2260	549	312
9	269	208	170	156	140	202	588	1060	3090	2180	532	305
10	265	240	150	154	150	199	560	922	3730	1930	517	291
11	263	263	140	151	170	238	468	991	4300	1830	653	278
12	256	260	130	150	180	207	501	974	3470	1780	664	271
13	247	250	160	148	160	165	495	957	2920	1740	535	264
14	240	233	170	149	130	200	604	871	2390	1720	535	259
15	238	206	150	147	115	259	814	829	2270	1580	514	253
16	230	206	140	142	110	210	948	750	2200	1490	505	258
17	218	217	140	130	120	180	649	718	2100	1430	693	254
18	200	214	130	125	120	167	787	778	2550	1290	502	246
19	205	213	140	130	130	189	885	880	2960	1160	525	247
20	206	224	140	140	130	211	1170	827	3180	1440	708	371
21	209	237	120	150	130	221	1680	801	3770	1500	690	302
22	215	222	130	160	134	198	1380	899	3910	1080	520	255
23	216	190	150	155	139	183	1180	1380	4020	1020	478	246
24	215	223	160	160	141	134	1100	1800	4280	1080	469	232
25	222	201	160	160	147	204	1090	1680	4320	1100	520	230
26	223	198	167	150	156	208	1060	1280	4220	915	468	229
27	214	191	165	140	156	242	884	1210	4120	796	412	263
28	219	160	159	130	149	196	846	1500	3910	830	386	253
29	201	143	161	130	---	184	740	2650	3740	951	373	236
30	185	136	160	130	---	221	710	2650	3740	840	366	231
31	160	---	150	130	---	290	---	2650	---	757	362	---
TOTAL	7455	6193	4921	4607	3834	6170	23747	37850	95460	54879	17014	8380
MEAN	240	206	159	149	137	199	792	1221	3182	1770	549	279
MAX	387	263	226	180	180	290	1680	2650	4320	3710	760	371
MIN	160	136	120	125	110	134	388	718	1720	757	362	229
AC-FT	14790	12280	9760	9140	7600	12240	47100	75080	189300	108900	33750	16620

WTR YR 1990 TOTAL 270510 MEAN 741 MAX 4320 MIN 110 AC-FT 536600

YELLOWSTONE RIVER BASIN

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06279940 NORTH FORK SHOSHONE RIVER AT WAPITI, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD--October 1989 to September 1990 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
OCT					
04...	1410	367	5.5	200	<1
MAY					
31...	0630	2790	4.0	71	<1
JUN					
11...	0730	4000	3.0	K40	<1
JUL					
19...	1630	1120	14.0	K9	<1
SEP					
05...	1425	330	15.0	K16	<1

K-Results based on colony count outside the acceptable range
(non-ideal colony count).

YELLOWSTONE RIVER BASIN

06280300 SOUTH FORK SHOSHONE RIVER NEAR VALLEY, WY

LOCATION.--Lat 44°12'30", long 109°33'15", in NE¼ sec.24, T.49 N., R.106 W., Park County, Hydrologic Unit 10080013, Shoshone National Forest, on left bank 75 ft downstream from U.S. Forest Service bridge, 0.4 mi downstream from Boulder Creek, 3.2 mi northeast of Valley, and 34 mi southwest of Cody.

DRAINAGE AREA.--297 mi².

PERIOD OF RECORD.--October 1956 to September 1958, October 1959 to current year.

REVISED RECORDS.--WRD WY 1974: 1963.

GAGE.--Water-stage recorder. Elevation of gage is 6,200 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 22, 1961, at site 75 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Oct. 30 to Nov. 16, Dec. 17, 18, 21, Jan. 25, 28, Feb. 8, 14-16, 18-20, 23, 24, 26, Mar. 1, 2, and Apr. 4-27. Records good except those for estimated daily discharges, which are poor. Diversions for irrigation of about 450 acres upstream from station.

AVERAGE DISCHARGE.--33 years, 416 ft³/s, 301,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,000 ft³/s, June 9, 1981, gage height, 9.24 ft, from floodmarks; minimum daily, 41 ft³/s, Feb. 27, 28, 1961, Mar. 29, 1975.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 11	0300	3,060	6.72	June 23	2400	*3,090	*6.74

Minimum daily discharge, 57 ft³/s, Dec. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	172	110	65	94	84	76	154	207	760	1850	416	204
2	172	120	57	97	83	80	169	220	629	2080	393	201
3	173	130	65	84	82	95	251	205	605	1890	370	199
4	177	130	79	77	80	93	380	222	937	1530	367	195
5	174	128	98	83	81	92	320	258	1170	1470	347	191
6	175	127	90	80	82	87	260	441	1080	1460	318	201
7	165	124	84	82	84	87	280	618	1170	1360	302	189
8	163	130	83	88	80	92	240	419	1210	1240	292	182
9	161	140	91	88	80	86	300	315	1360	1210	284	184
10	159	140	85	96	83	84	280	277	1970	1100	290	183
11	154	147	79	97	85	86	240	297	2390	1050	516	181
12	151	147	62	94	87	78	260	298	1460	989	465	181
13	150	145	59	97	81	68	260	297	1070	996	428	180
14	147	140	63	98	78	76	280	276	895	1040	393	179
15	146	130	70	98	70	78	375	276	835	880	360	177
16	144	118	69	94	68	73	490	242	883	826	367	177
17	138	122	65	84	69	78	350	230	789	777	377	179
18	128	117	70	71	68	74	400	233	1010	687	335	175
19	132	117	73	62	68	78	450	249	1220	627	379	218
20	132	121	68	59	70	82	540	233	1370	837	383	296
21	131	125	75	62	74	90	650	234	1840	870	403	242
22	133	117	81	69	78	86	560	283	1870	651	342	199
23	133	109	73	73	78	81	540	473	2090	593	313	188
24	132	120	81	73	80	86	450	666	2450	615	309	184
25	132	113	82	75	85	78	350	562	2330	848	306	180
26	134	116	83	79	84	85	300	449	2160	633	290	186
27	126	104	89	82	86	100	248	464	2050	555	264	189
28	131	92	93	80	79	94	254	573	1990	503	240	182
29	117	89	96	83	---	84	219	962	1860	486	231	176
30	123	79	96	87	---	99	206	990	1870	468	221	174
31	110	---	94	85	---	130	---	899	---	437	202	---
TOTAL	4515	3647	2418	2571	2207	2656	10056	12368	43323	30558	10503	5772
MEAN	146	122	78.0	82.9	78.8	85.7	335	399	1444	986	339	192
MAX	177	147	98	98	87	130	650	990	2450	2080	516	296
MIN	110	79	57	59	68	68	154	205	605	437	202	174
AC-FT	8960	7230	4800	5100	4380	5270	19950	24530	85930	60610	20830	11450

CAL YR 1989 TOTAL 142868 MEAN 391 MAX 2650 MIN 42 AC-FT 283400
WTR YR 1990 TOTAL 130594 MEAN 358 MAX 2450 MIN 57 AC-FT 259000

06281000 SOUTH FORK SHOSHONE RIVER ABOVE BUFFALO BILL RESERVOIR, WY

LOCATION.--Lat 44°25'09", long 109°15'26", in lot 5, SE¼ NE¼ SE¼ sec. 5, T.51 N., R.103 W., Park County, Hydrologic Unit 10080013, on right bank at old diversion structure 0.2 miles downstream from Cody Canal diversion, 1 mile upstream from normal pool of Buffalo Bill Reservoir at elevation 5,364 ft, and 12.5 miles southwest of Cody.

DRAINAGE AREA.--585 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May to November 1903, May 1905 to September 1908, January 1921 to September 1926, October 1973 to current year (gage heights only June to September 1908). No winter records 1906, 1908, 1922. Published as "at Marquette" 1903, 1905-8, and as Shoshone River above Shoshone Reservoir 1921-26.

REVISED RECORDS.--WSP 1309: 1907.

GAGE.--Water-stage recorder. Elevation of gage is 5,440 ft above National Geodetic Vertical Datum of 1929, from topographic map. Apr. 26 to Nov. 30, 1903, and May 1905 to May 30, 1908, nonrecording gages at sites within about 6.0 mi downstream at different datums. Prior to Oct. 3, 1989, recording gage at site 1.1 mile downstream at different datum.

REMARKS.--Estimated daily discharges: Nov. 26 to Dec. 1, Dec. 10 to Mar. 29, Apr. 2, 25, 27-29, May 4, 5, 8, 13, 14, and July 24, 25. Records fair except those for estimated daily discharges, which are poor. Diversions for irrigation of about 11,000 acres upstream from station. U.S. Bureau of Reclamation satellite telemeter at station.

AVERAGE DISCHARGE.--22 years (water years 1907, 1923-26, 1974-90), 385 ft³/s, 278,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,960 ft³/s, June 9, 1981, gage height, 9.41 ft, site and datum then in use; minimum daily, 0.25 ft³/s, Oct. 13-16, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,190 ft³/s, June 25, gage height, 7.32 ft; minimum daily, 0.25 ft³/s, Oct. 13-16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	160	140	100	90	115	169	147	652	1800	272	1.3
2	1.6	151	140	102	88	120	188	155	469	2060	221	1.4
3	1.2	158	143	90	87	122	286	146	325	2030	203	1.9
4	.43	183	155	83	86	124	328	140	568	1510	198	1.6
5	.83	187	168	88	90	120	340	160	988	1470	188	1.7
6	3.1	183	166	86	92	125	246	221	933	1460	153	3.2
7	.64	182	155	88	91	125	215	546	966	1310	140	1.7
8	.31	174	151	94	88	130	234	350	1020	1090	129	1.3
9	.37	184	161	94	86	125	248	212	1140	1070	106	1.1
10	.29	197	140	102	88	120	233	168	1760	890	95	1.0
11	.27	204	120	104	90	130	209	146	2610	760	125	.86
12	.27	209	100	100	93	130	224	149	1570	677	136	.65
13	.25	203	110	104	87	140	210	160	908	673	126	.65
14	.25	196	110	105	82	130	210	130	615	734	123	.65
15	.25	179	100	106	76	140	233	128	483	576	112	.64
16	.25	171	95	100	72	135	328	105	529	538	109	.80
17	16	180	90	90	73	130	270	87	430	526	118	.94
18	48	177	86	80	73	130	291	83	491	440	110	.93
19	81	177	82	68	76	137	318	78	828	347	113	4.2
20	80	177	76	64	75	140	323	72	845	384	125	97
21	80	186	71	68	78	130	411	41	1610	821	126	90
22	84	186	72	73	80	130	413	68	1780	419	120	45
23	84	175	76	79	82	123	315	129	1920	314	106	5.1
24	83	177	85	78	84	120	243	299	2510	330	105	1.9
25	83	184	86	80	90	120	270	297	2490	350	104	1.6
26	86	170	88	82	94	130	251	165	2450	380	102	2.6
27	93	160	93	82	100	140	160	149	2370	283	94	11
28	112	150	98	86	110	130	150	193	2170	306	78	2.1
29	147	140	100	88	---	125	150	698	2170	290	54	1.6
30	152	140	102	92	---	125	148	899	2200	312	25	1.2
31	156	---	100	90	---	143	---	866	---	287	2.8	---
TOTAL	1396.31	5300	3459	2746	2401	3984	7614	7187	39800	24437	3818.8	285.62
MEAN	45.0	177	112	88.6	85.7	129	254	232	1327	788	123	9.52
MAX	156	209	168	106	110	143	413	899	2610	2060	272	97
MIN	.25	140	71	64	72	115	148	41	325	283	2.8	.64
AC-FT	2770	10510	6860	5450	4760	7900	15100	14260	78940	48470	7570	567

CAL YR 1989 TOTAL 113285.51 MEAN 310 MAX 2930 MIN .25 AC-FT 224700
WTR YR 1990 TOTAL 102428.73 MEAN 281 MAX 2610 MIN .25 AC-FT 203200

YELLOWSTONE RIVER BASIN

06281000 SOUTH FORK SHOSHONE RIVER ABOVE BUFFALO BILL RESERVOIR, WY--Continued

WATER-QUALITY DATA

PERIOD OF RECORD.--October 1981 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1981 to current year.

INSTRUMENTATION.--Water-temperature recorder since October 1981. Thermistor temperature probe attached to data collection platform since October 1989 with A-35 recorder as backup.

REMARKS.--No record Nov. 7-16, Dec. 21, 22, 26, 29, 31, and Jan. 1, 2, 6. Water temperature records represent water temperature at sensor within 0.5°C.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 29.5°C, July 30, 1988; minimum, 0.0°C on many days each year.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 26.0°C, Sept. 30; minimum, 0.0°C on several days during October through February.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
OCT												
04...	1620	0.32	8.0	<0.01	<0.1	0.02	<0.01	--	<0.2	0.03	0.02	0.02
NOV												
16...	1310	174	0.5	0.01	<0.1	0.02	0.02	--	<0.2	0.03	0.02	<0.01
DEC												
21...	1530	71	0.0	<0.01	0.1	<0.01	0.02	--	<0.2	0.05	0.02	0.03
FEB												
06...	1300	92	0.0	<0.01	<0.1	<0.01	0.02	--	<0.2	0.03	0.02	0.02
APR												
02...	1705	189	12.0	<0.01	<0.1	0.03	0.11	0.57	0.6	0.03	0.03	0.03
26...	1450	267	9.0	<0.01	<0.1	<0.01	0.02	--	0.2	0.08	0.02	0.03
JUN												
07...	1145	1060	9.5	<0.01	0.2	0.04	0.06	0.36	0.4	0.25	0.05	0.04
JUL												
19...	1230	312	12.5	0.02	0.1	0.01	0.24	0.19	0.2	0.03	0.03	0.03
AUG												
07...	1630	105	17.0	<0.01	<0.1	<0.01	0.02	--	0.2	0.04	0.03	0.01
23...	1300	107	14.0	0.02	0.2	<0.01	0.11	--	<0.2	0.03	0.03	0.03

YELLOWSTONE RIVER BASIN

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06281000 SOUTH FORK SHOSHONE RIVER ABOVE BUFFALO BILL RESERVOIR, WY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	11.0	8.0	1.0	.0	.6	.3	---	---	.3	.2	.4	.1
2	8.0	6.5	3.0	.0	.8	.1	---	---	.3	.2	3.2	.1
3	7.0	6.0	4.0	1.5	2.4	.2	.3	.2	.4	.2	5.7	1.6
4	8.5	5.0	6.0	3.5	3.6	2.2	.4	.1	.3	.1	7.3	1.9
5	10.0	5.0	4.0	1.5	4.3	2.9	.3	.2	.4	.2	4.8	2.8
6	10.0	6.5	4.5	1.5	2.9	.9	---	---	.3	.1	4.7	2.0
7	11.0	6.0	---	---	1.2	.2	.3	.3	.3	.1	8.4	2.0
8	10.5	7.0	---	---	1.6	.1	.3	.2	.3	.0	8.9	2.9
9	12.0	8.0	---	---	1.2	.3	.4	.2	.3	.2	10.1	2.6
10	12.0	8.0	---	---	.6	.1	.4	.2	.4	.1	9.4	2.6
11	12.0	9.0	---	---	.5	.2	.3	.2	.4	.1	9.1	3.6
12	11.0	8.0	---	---	.5	.2	.3	.1	.4	.2	6.3	1.7
13	10.0	7.5	---	---	.4	.3	.6	.2	.3	.1	2.3	.2
14	9.5	6.5	---	---	.5	.2	.8	.2	.3	.1	3.5	.1
15	8.5	5.0	---	---	.4	.2	.6	.1	.3	.1	3.1	.2
16	5.5	3.5	---	---	.4	.2	.8	.2	.3	.1	6.3	.2
17	7.0	4.0	3.0	.0	.4	.2	.3	.2	.3	.1	5.8	2.2
18	6.5	2.0	4.5	1.5	.3	.2	.3	.1	.4	.1	8.6	2.1
19	9.0	4.0	6.5	4.0	.4	.2	.3	.2	.4	.1	9.3	2.7
20	9.5	5.0	5.0	2.5	.3	.2	.3	.0	.4	.1	10.3	4.4
21	8.0	6.0	5.0	2.0	---	---	.3	.1	.4	.1	9.1	4.5
22	9.0	5.5	2.5	.0	---	---	.4	.1	.4	.2	6.2	.1
23	10.0	6.0	3.0	.0	.4	.2	.4	.1	.4	.2	.3	.1
24	10.5	6.5	3.0	1.5	.4	.2	.4	.2	.4	.2	.3	.1
25	8.0	6.0	1.5	.0	.4	.2	.3	.1	.4	.2	2.0	.4
26	7.0	4.5	1.5	.5	---	---	.3	.1	.4	.2	8.0	.1
27	6.5	2.5	1.0	.0	.3	.2	.6	.2	.4	.1	5.1	2.2
28	4.5	.0	.5	.0	.3	.2	.3	.1	.4	.1	7.9	1.6
29	1.0	.0	.0	.0	---	---	.3	.1	---	---	9.3	.4
30	2.0	.0	.5	.0	.3	.2	.3	.1	---	---	11.2	2.0
31	1.0	.0	---	---	---	---	.3	.0	---	---	11.5	4.6
MONTH	12.0	.0	---	---	---	---	---	---	.4	.0	11.5	.1
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.6	5.7	11.9	3.9	10.2	7.9	14.7	9.8	16.0	11.5	21.5	10.2
2	12.5	5.1	9.4	6.5	10.6	6.5	14.0	10.8	18.5	12.0	18.9	12.1
3	10.3	6.8	14.3	7.0	11.7	8.5	15.0	10.0	17.0	13.0	23.5	11.0
4	9.6	5.8	13.0	8.0	15.0	9.0	14.0	10.0	17.5	13.0	21.4	12.4
5	6.9	3.5	15.7	7.5	13.0	6.5	15.3	10.7	19.0	12.0	22.9	13.0
6	8.8	1.0	14.8	9.0	12.5	9.5	15.5	11.8	20.0	13.5	22.5	12.8
7	10.3	3.7	12.3	7.2	11.5	9.5	15.7	11.5	18.0	14.0	23.7	11.8
8	9.9	4.8	8.5	4.0	11.2	9.5	15.3	11.8	19.8	13.4	22.1	12.2
9	8.2	5.2	10.4	3.0	11.1	9.6	15.0	12.3	17.2	13.7	21.6	12.2
10	5.6	2.3	13.1	5.5	10.4	9.9	14.1	11.1	17.8	13.7	20.9	11.6
11	6.3	3.4	10.1	6.6	10.2	9.0	14.0	12.0	16.3	13.2	21.8	10.6
12	9.2	5.3	10.3	5.5	10.0	7.5	16.0	12.0	17.6	12.6	20.0	10.7
13	10.8	5.0	9.6	7.5	8.5	8.0	15.8	13.3	16.9	12.3	19.2	10.6
14	8.9	6.9	11.6	6.0	9.0	8.2	15.5	12.0	19.3	12.5	17.9	8.3
15	13.3	7.5	12.3	6.5	8.8	8.5	15.4	13.0	19.6	14.2	17.2	9.6
16	10.6	4.7	10.6	6.5	11.0	7.6	17.0	12.5	16.6	13.8	17.9	12.2
17	10.9	3.9	13.0	7.3	14.0	7.5	17.5	13.0	17.8	13.4	20.2	9.4
18	13.0	7.3	13.5	7.9	13.5	8.5	17.0	13.5	18.6	13.1	19.7	9.4
19	12.0	7.8	12.4	8.0	12.8	7.9	14.5	12.1	17.4	13.9	13.3	11.1
20	13.0	7.3	14.1	7.5	15.5	8.0	14.5	10.4	17.1	12.4	12.4	9.7
21	12.5	7.6	16.9	7.6	13.8	8.3	16.1	9.4	16.7	12.4	13.7	7.9
22	10.9	6.9	14.1	9.7	14.3	7.1	17.5	11.6	16.5	11.6	16.1	8.3
23	11.9	6.0	14.3	9.1	14.5	8.2	15.8	11.3	17.2	11.9	19.1	8.3
24	10.1	7.0	12.2	7.9	14.9	8.1	15.9	12.0	15.3	11.8	21.0	9.4
25	11.5	5.0	11.7	4.7	12.8	8.2	15.0	10.5	16.1	11.3	25.5	10.2
26	10.5	6.5	11.2	5.7	13.5	8.6	16.3	11.6	18.3	10.8	17.2	8.6
27	7.5	4.5	14.1	7.8	13.5	8.5	16.0	11.0	18.8	11.7	24.2	5.6
28	6.5	2.5	12.2	10.0	14.1	9.0	16.1	12.0	19.4	11.8	23.9	4.8
29	9.0	1.5	11.9	8.2	14.1	10.1	15.5	11.0	20.2	12.1	25.1	2.6
30	10.0	2.7	11.8	7.1	12.9	11.2	17.0	11.0	21.2	12.2	26.0	4.9
31	---	---	11.7	9.6	---	---	16.0	11.5	21.8	10.0	---	---
MONTH	13.3	1.0	16.9	3.0	15.5	6.5	17.5	9.4	21.8	10.0	26.0	2.6

06281400 DIAMOND CREEK NEAR MOUTH, NEAR CODY, WY

LOCATION.--Lat 44°27'21", long 109°08'17", in SE¼ NE¼ NE¼ sec.29, T.52 N., R.102 W., Park County, Hydrologic Unit 10080013, on left bank 40 ft downstream from Cody Canal crossing, 0.8 mi upstream from bridge on State Highway 291, 3.9 mi southeast of Buffalo Bill Dam, and 6.3 mi southwest of Cody.

DRAINAGE AREA.--7.34 mi².

PERIOD OF RECORD.--December 1980 to current year.

GAGE.--Water-stage recorder and wooden control. Elevation of gage is 5,420 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 25, 1985, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Oct. 20 to Apr. 2, Apr. 22-27, and July 28 to Aug. 24. Records fair except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--9 years (water years 1982-90), 6.12 ft³/s, 4,430 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43 ft³/s, July 8, 1986, gage height, 1.59 ft; maximum gage height, 1.86 ft, from floodmarks, Aug. 18, 1990; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 35 ft³/s, Aug. 18, gage height, 1.86 ft, from floodmarks; minimum daily, 0.33 ft³/s, Feb. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.7	1.0	.70	.76	.45	.49	.60	2.3	7.6	6.7	7.6	19
2	8.3	.90	.72	.80	.42	.50	.62	2.7	8.8	6.8	8.0	18
3	8.9	.86	.70	.80	.43	.54	.67	2.9	7.8	5.4	8.4	19
4	10	.86	.66	.78	.45	.58	.70	3.2	8.5	4.1	9.0	19
5	11	.86	.58	.74	.47	.60	.70	4.0	9.3	2.8	11	18
6	12	.82	.54	.76	.46	.56	.80	4.3	9.4	3.7	13	17
7	11	.82	.54	.80	.47	.54	.71	4.2	12	6.3	14	15
8	11	.84	.56	.82	.45	.54	.70	3.9	13	9.7	15	16
9	12	.84	.52	.82	.41	.58	.62	3.7	14	10	16	16
10	11	.86	.50	.84	.41	.64	.56	4.2	14	9.7	19	18
11	10	.86	.50	.80	.45	.70	.46	5.4	14	8.2	17	17
12	11	.80	.52	.78	.48	.70	.42	4.9	17	8.6	16	13
13	12	.82	.54	.78	.45	.68	.50	4.5	15	7.7	18	13
14	13	.84	.56	.80	.40	.64	.55	4.6	13	5.7	21	13
15	14	.70	.52	.80	.36	.68	.55	3.5	12	6.9	23	11
16	14	.68	.52	.76	.34	.66	.55	3.6	11	7.2	26	9.7
17	12	.70	.54	.66	.33	.66	.57	3.9	11	8.9	30	8.4
18	8.8	.74	.52	.54	.34	.62	.62	4.5	11	9.2	33	8.7
19	8.2	.76	.49	.50	.35	.66	.70	4.5	12	10	28	9.0
20	7.0	.80	.48	.52	.37	.72	.71	4.7	13	9.5	25	10
21	6.2	.78	.50	.54	.41	.74	.71	6.5	10	5.0	23	9.8
22	5.2	.72	.54	.54	.43	.76	1.1	7.6	10	5.3	23	8.8
23	4.2	.68	.58	.56	.47	.72	1.8	7.4	11	5.9	22	9.0
24	3.5	.64	.60	.54	.50	.60	2.2	6.8	10	5.7	20	8.3
25	2.6	.64	.68	.52	.54	.56	2.7	7.3	7.5	4.8	19	5.6
26	1.8	.62	.76	.50	.58	.62	2.3	8.8	6.2	4.4	19	4.9
27	1.6	.64	.86	.46	.56	.66	3.0	12	8.1	4.5	23	7.0
28	1.4	.68	.90	.46	.52	.62	2.2	8.3	8.1	6.0	23	8.7
29	1.3	.68	.96	.47	---	.60	1.3	4.7	6.2	7.0	22	9.7
30	1.2	.70	.86	.49	---	.58	2.3	5.9	7.0	7.4	20	8.1
31	1.1	---	.80	.49	---	.58	---	7.1	---	7.0	20	---
TOTAL	244.0	23.14	19.25	20.43	12.30	19.33	31.92	161.9	317.5	210.1	592.0	367.7
MEAN	7.87	.77	.62	.66	.44	.62	1.06	5.22	10.6	6.78	19.1	12.3
MAX	14	1.0	.96	.84	.58	.76	3.0	12	17	10	33	.19
MIN	1.1	.62	.48	.46	.33	.49	.42	2.3	6.2	2.8	7.6	4.9
AC-FT	484	46	38	41	24	38	63	321	630	417	1170	729
CAL YR 1989	TOTAL 2770.88		MEAN 7.59	MAX 23	MIN .16	AC-FT 5500						
WTR YR 1990	TOTAL 2019.57		MEAN 5.53	MAX 33	MIN .33	AC-FT 4010						

YELLOWSTONE RIVER BASIN

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06281700 SHOSHONE RIVER ABOVE DEMARIS SPRINGS, NEAR CODY, WY

LOCATION.--Lat 44°30'39", long 109°08'47", in NW¼ NW¼ SE¼ sec.5, T.52 N., R.102 W, Park County, Hydrologic Unit 10080014, at bridge on State Highway 16, 1.9 mi downstream from Buffalo Bill Reservoir, and 3.8 mi west of Cody city limits.

PERIOD OF RECORD.--October 1987 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)
OCT 05...	0745	830	150	7.5	12.0	635	20	8.5	95	<1	52
NOV 15...	1710	164	250	7.7	5.5	639	38	9.9	94	--	100
DEC 20...	1220	158	325	8.0	2.0	634	16	12.6	110	--	130
FEB 07...	1300	E300	290	8.0	2.0	627	7.1	12.0	106	--	110
MAR 27...	1610	190	320	7.3	4.0	634	6.0	11.5	106	--	120
APR 23...	1600	1120	235	8.1	7.0	622	9.2	12.6	127	--	77
MAY 31...	1030	1200	195	7.3	10.0	626	14	10.5	114	--	62
JUL 20...	0900	1700	108	7.2	13.0	638	13	9.2	105	--	33
AUG 15...	1530	1600	132	7.1	16.0	631	26	8.1	99	--	46

E-Estimate.

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 05...	15	3.6	11	0.7	2.2	56	22	<1.0	0.2	14	E102
NOV 15...	29	6.9	17	0.7	1.5	93	36	1.6	0.2	13	161
DEC 20...	38	8.5	17	0.6	3.4	110	47	2.1	0.2	14	196
FEB 07...	31	7.3	18	0.8	1.8	96	39	1.1	0.2	13	169
MAR 27...	36	8.0	20	0.8	2.4	110	50	2.0	0.2	14	199
APR 23...	22	5.3	18	0.9	1.2	79	31	1.3	0.5	12	139
MAY 31...	17	4.8	18	1	1.4	70	29	1.4	0.2	14	128
JUL 20...	9.3	2.3	9.3	0.7	0.90	40	16	<1.0	0.1	15	E78
AUG 15...	13	3.2	8.1	0.5	0.30	43	12	<1.0	0.2	18	E81

E-Estimate.

YELLOWSTONE RIVER BASIN

06281700 SHOSHONE RIVER ABOVE DEMARIS SPRINGS, NEAR CODY, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SEDI- MENT, SUS- PENDEDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY)
OCT 05...	E0.14	E229	<0.1	0.02	<0.2	0.05	<5	20	45
NOV 15...	0.22	71.3	<0.1	0.03	0.2	0.07	<5	--	--
DEC 20...	0.27	83.7	<0.1	0.06	<0.2	0.08	<5	--	--
FEB 07...	0.23	E137	<0.1	0.02	<0.2	0.03	<5	--	--
MAR 27...	0.27	102	<0.1	<0.01	<0.2	0.03	<5	--	--
APR 23...	0.19	420	<0.1	0.02	0.3	0.04	<5	--	--
MAY 31...	0.17	414	<0.1	0.02	<0.2	0.03	<5	--	--
JUL 20...	E0.11	E358	0.1	<0.01	0.2	0.05	<5	--	--
AUG 15...	E0.11	E350	<0.1	0.04	<0.2	0.08	<5	--	--

E-Estimate.

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CAL YR 1989	TOTAL	295613	MEAN	810	MAX	3520	MIN	104	AC-FT	586300
WTR YR 1990	TOTAL	331712	MEAN	909	MAX	4110	MIN	184	AC-FT	658000

YELLOWSTONE RIVER BASIN

06284380 ROAN WASH NEAR GARLAND, WY

LOCATION.--Lat 44°43'55", long 108°37'11", in NE¼ sec.23, T.55 N., R.98 W., Park County, Hydrologic Unit 10080014, at upstream end of bridge on county road, 0.4 mi upstream from mouth, 3.9 mi southwest of Garland, and 7.5 mi east of Powell.

PERIOD OF RECORD.--October 1984 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 25...	1810	E30	25.0	0.02	<0.01	0.57	<0.01	<0.01	<0.01
JUL 17...	1800	50	25.0	0.08	<0.01	1.8	<0.01	<0.01	<0.01
AUG 22...	1400	58	21.0	0.01	<0.01	0.02	<0.01	<0.01	<0.01

E-Estimate.

06284400 SHOSHONE RIVER NEAR GARLAND, WY

LOCATION.--Lat 44°44'20", long 108°35'38", in SE¼ SE¼ sec.13, T.55 N., R.98 W., Park County, Hydrologic Unit 10080014, on right bank 50 ft downstream from bridge on county road, 600 ft downstream from Penrose Dam, 1.3 mi upstream from Bitter Creek, 4.3 mi southeast of Garland, and 8.0 mi east of Powell.

DRAINAGE AREA.--2,036 mi².

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 25...	1015	290	10.0	0.05	<0.01	1.1	<0.01	<0.01	<0.01
JUN 05...	1220	836	16.0	0.02	<0.01	0.23	<0.01	<0.01	<0.01
JUL 17...	1830	1410	20.0	0.04	<0.01	0.48	<0.01	<0.01	<0.01
AUG 08...	1145	935	17.0	<0.01	0.04	0.02	<0.01	<0.01	<0.01

06284450 BITTER CREEK BELOW SEWAGE LAGOON, NEAR POWELL, WY

LOCATION.--Lat 44°47'10", long 108°43'44", in SE¼ NW¼ SW¼ sec.36, T.56 N., R.99 W., Park County, Hydrologic Unit 10080014, 0.7 mi upstream from bridge on County Road 7, 1.9 mi northeast of water tower in Powell, and 3.4 mi northwest of Garland.

PERIOD OF RECORD.--March 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 05...	1540	35	17.5	0.02	<0.01	0.22	<0.01	<0.01	<0.01
JUL 18...	0720	79	16.0	0.08	0.01	0.31	<0.01	<0.01	<0.01
AUG 08...	1110	50	16.5	<0.01	0.08	0.20	0.20	<0.01	0.02

06284500 BITTER CREEK NEAR GARLAND, WY

LOCATION.--Lat 44°45'13", long 108°35'29", in SW¼ SW¼ SW¼ sec.7, T.55 N., R.97 W., Big Horn County, Hydrologic Unit 10080014, 100 ft downstream from bridge on county road, 1.0 mi upstream from mouth, 4.0 mi southeast of Garland, and 5.0 mi southwest of Byron.

DRAINAGE AREA.--80.5 mi².

PERIOD OF RECORD.--Water years 1951-53, 1958-61, 1969 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 1969 to September 1983.

WATER TEMPERATURES: July 1969 to September 1983.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 25...	1000	240	9.0	0.10	<0.01	1.5	<0.01	<0.01	<0.01
JUN 05...	1345	281	15.5	0.02	<0.01	0.26	<0.01	<0.01	<0.01
JUL 17...	1900	228	23.0	0.05	<0.01	0.18	<0.01	<0.01	<0.01
AUG 22...	1300	337	21.0	<0.01	<0.01	0.03	<0.01	<0.01	<0.01

YELLOWSTONE RIVER BASIN

06285100 SHOSHONE RIVER NEAR LOVELL, WY

LOCATION.--Lat 44°50'19", long 108°26'04", in NW¼ NE¼ NE¼ sec.17, T.56 N., R.96 W., Big Horn County, Hydrologic Unit 10080014, on left bank 20 ft upstream from bridge on County Road 9 and 1.5 mi west of Lovell.

DRAINAGE AREA.--2,350 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,850 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1976, at site 500 ft downstream, at datum 2.00 ft higher. Oct. 1, 1976 to Sept. 30, 1980, at site 500 ft downstream, at datum 1.00 ft higher. Oct. 1, 1981 to Nov. 13, 1986, at site 500 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Dec. 11 to Feb. 11, Feb. 14-21, Mar. 24-27, and June 10-19. Records fair except those for estimated daily discharges, which are poor. Flow regulated by Buffalo Bill Reservoir. (See station 06281500.) Natural flow of stream affected by storage reservoirs, power development, diversions upstream from station for irrigation of about 143,000 acres, of which about 8,000 acres are downstream from station, and return flow from irrigated areas.

AVERAGE DISCHARGE.--24 years, 926 ft³/s, 670,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,400 ft³/s, June 10, 1981, gage height, 9.16 ft, site then in use, at present datum; maximum gage height, 10.09 ft, Feb. 3, 1972 (backwater from ice), site then in use, at present datum; minimum daily discharge, 27 ft³/s, May 31, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,320 ft³/s, July 9, gage height, 6.93 ft; maximum gage-height, 9.46 ft, Feb. 2 (backwater from ice); minimum daily discharge, 276 ft³/s, Apr. 10

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	716	425	436	340	420	454	373	989	933	1710	1560	570
2	829	426	429	360	430	457	374	922	901	2270	1590	631
3	913	426	429	360	440	451	368	937	934	2600	1590	730
4	1070	416	434	365	460	457	376	1070	809	2850	1660	649
5	940	396	437	350	460	507	368	1140	617	2920	1730	613
6	959	385	425	350	460	530	362	1200	595	3130	1640	516
7	944	394	421	350	460	504	339	1330	578	3110	1370	444
8	906	387	411	350	460	538	327	1410	585	3140	1290	443
9	937	389	421	370	420	508	310	1520	530	3150	1050	494
10	1020	377	402	350	450	476	276	1630	500	2620	995	504
11	724	369	370	330	480	457	400	1690	470	2410	1130	464
12	614	367	380	340	497	469	369	1800	490	2350	1290	503
13	617	463	400	350	448	433	632	1950	520	2250	1330	486
14	652	518	380	370	340	452	735	2040	540	1800	1230	504
15	659	504	350	370	400	469	838	2040	590	1850	1150	536
16	589	475	310	350	440	400	731	2080	800	1890	1040	560
17	473	486	290	300	460	401	492	1710	1000	1800	943	579
18	457	492	310	310	470	371	573	1200	980	1780	746	564
19	472	483	320	330	480	364	770	942	960	1320	688	609
20	479	474	350	360	510	414	798	756	935	1290	777	680
21	525	471	330	390	520	445	784	690	890	2130	847	681
22	483	462	350	380	507	426	744	587	923	2020	919	677
23	531	466	360	370	472	403	657	390	932	1810	881	656
24	511	476	370	360	515	390	656	398	917	1900	934	634
25	497	461	390	360	542	390	562	358	865	1800	991	659
26	489	453	390	360	515	385	743	380	1070	1610	1130	634
27	493	447	380	380	470	386	714	463	990	1440	1030	650
28	494	440	370	400	445	362	843	550	1170	1350	899	625
29	508	438	360	450	---	364	1070	1080	1160	1500	690	612
30	475	445	340	470	---	370	957	993	1160	1610	621	616
31	466	---	330	450	---	373	---	897	---	1550	599	---
TOTAL	20442	13211	11675	11325	12971	13406	17541	35142	24344	64960	34340	17523
MEAN	659	440	377	365	463	432	585	1134	811	2095	1108	584
MAX	1070	518	437	470	542	538	1070	2080	1170	3150	1730	730
MIN	457	367	290	300	340	362	276	358	470	1290	599	443
AC-FT	40550	26200	23160	22460	25730	26590	34790	69700	48290	128800	68110	34760

CAL YR 1989 TOTAL 221925 MEAN 608 MAX 2770 MIN 200 AC-FT 440200
WTR YR 1990 TOTAL 276880 MEAN 759 MAX 3150 MIN 276 AC-FT 549200

YELLOWSTONE RIVER BASIN

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06285100 SHOSHONE RIVER NEAR LOVELL, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1966 to September 1983.

WATER TEMPERATURES: October 1966 to September 1983.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
JUN 06...	1330	628	17.0	<1	159	270
JUL 18...	1130	1900	18.0	<2	178	913
AUG 22...	1030	952	17.5	<1	573	1470

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)
OCT 05...	1230	899	850	6.0
NOV 15...	0900	551	1100	2.0
DEC 19...	1300	321	1250	0.0
JAN 31...	1500	445	970	0.0
MAR 27...	1100	377	1000	5.5
MAY 02...	1630	920	576	11.0
JUN 06...	1330	628	650	17.0
JUL 18...	1130	1900	490	18.0
AUG 22...	1030	952	740	17.5

YELLOWSTONE RIVER BASIN

06286400 BIGHORN LAKE NEAR ST. XAVIER, MT

LOCATION.--Lat 45°18'27", long 107°57'26", in SW¼ SE¼ sec.18, T.6 S., R.31 E., Big Horn County, Hydrologic Unit 10080010, in block 13 of Yellowtail Dam on Bighorn River, 1.3 mi upstream from Grapevine Creek, 15.5 mi southeast of St. Xavier, and at river mile 86.6.

DRAINAGE AREA.--19,626 mi².

PERIOD OF RECORD.--November 1965 to current year (monthend contents only). Prior to October 1969, published as "Yellowtail Reservoir." Records of daily elevations and contents on file in Helena district office.

GAGE.--Water-stage recorder in powerhouse control room. Datum of gage is referenced to National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation).

REMARKS.--Reservoir is formed by thin concrete-arch dam; construction began in 1961; completed in 1967. Storage began Nov. 3, 1965. Usable capacity, 1,356,000 acre-ft between elevation 3,296.50 ft, river outlet invert, and 3,657.00 ft, top of flood control. Elevation of spillway crest, 3,593.00 ft. Normal maximum operating level, 1,097,000 acre-ft, elevation, 3,640.00 ft. Minimum operating level, 483,400 acre-ft, elevation, 3,547.00 ft. Dead storage, 16,010 acre-ft, below elevation 3,296.50 ft. Figures given herein represent usable contents. Water is used for power production, flood control, irrigation, and recreation.

COOPERATION.--Elevations and capacity table furnished by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,346,000 acre-ft, July 6, 1967, elevation, 3,656.43 ft; minimum since first filling, 641,900 acre-ft, Apr. 14, 1989, elevation 3,583.30 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,001,000 acre-ft, Aug. 6, elevation, 3,635.57 ft; minimum, 693,100 acre-ft, Apr. 13, elevation, 3,593.39 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	3,621.25	867,300	---
Oct. 31	3,630.56	948,900	+81,600
Nov. 30	3,629.95	943,000	-5,900
Dec. 31	3,620.83	864,000	-79,000
CAL YR 1989			+110,800
Jan. 31	3,610.94	793,200	-70,800
Feb. 28	3,602.33	731,600	-61,600
Mar. 31	3,595.73	705,400	-26,200
Apr. 30	3,596.15	707,700	+2,300
May 31	3,606.87	767,900	+60,200
June 30	3,629.32	937,000	+169,100
July 31	3,635.45	1,000,000	+63,000
Aug. 31	3,633.27	976,400	-23,600
Sept. 30	3,632.87	972,200	-4,200
WTR YR 1990			+104,900

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DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1970	1780	3160	3330	3300	3090	2360	2180	2260	2630	2760	2480
2	1970	1780	3160	3340	3330	3080	2350	2190	2260	2640	2750	2470
3	1970	1790	3180	3350	3330	3070	2340	2180	2250	2650	2760	2390
4	1960	1790	3170	3350	3340	3050	2330	2180	2300	2660	2780	2200
5	1970	1790	3190	3370	3320	3060	2320	2180	2360	2660	2780	2070
6	1960	1900	3200	3370	3330	3060	2430	2170	2390	2650	2770	2070
7	1970	2270	3180	3390	3320	3060	2820	2160	2420	2670	2790	2070
8	1960	2360	3210	3390	3110	3060	2810	2170	2490	2660	2790	2040
9	1960	2340	3210	3400	3090	3050	2640	2130	2530	2660	2780	2040
10	1910	2640	3230	3410	3090	3060	2330	2130	2530	2690	2770	2040
11	1860	2640	3220	3430	3100	3050	2280	2120	2540	2690	2770	2020
12	1840	2620	3200	3120	3100	3050	2290	2120	2530	2690	2780	2010
13	1800	2610	3210	3120	3100	3040	2300	2120	2550	2680	2770	2000
14	1790	2950	3360	3140	3090	3030	2290	2110	2530	2680	2780	1980
15	1790	3420	3210	3140	3110	3030	2270	2110	2520	2680	2770	1980
16	1790	3390	3230	3150	3100	3020	2270	2110	2540	2680	2810	1970
17	1800	3390	3230	3160	3080	3050	2250	2100	2550	2680	2710	1950
18	1270	3360	3250	3150	3100	3030	2230	2100	2570	2680	2620	1940
19	1790	3340	3240	3190	3100	3020	2240	2100	2570	2710	2600	1930
20	1780	3320	3250	3200	3090	2990	2230	2100	2560	2700	2620	1910
21	1780	3320	3270	3210	3110	3000	2240	2160	2570	2700	2630	1900
22	1780	3310	3260	3210	3100	2920	2220	2200	2570	2710	2610	1900
23	1770	3290	3270	3200	3100	2700	2230	2190	2570	2680	2580	1890
24	1790	3270	3290	3220	3080	2710	2220	2170	2570	2700	2580	1870
25	1800	3260	3290	3220	3070	2470	2220	2150	2580	2670	2580	1860
26	1800	3230	3300	3250	3070	2370	2210	2140	2590	2700	2560	1850
27	1810	3210	3350	3250	3100	2380	2200	2160	2600	2710	2550	1830
28	1800	3190	3280	3250	3110	2380	2200	2150	2600	2740	2520	1830
29	1800	3180	3330	3280	---	2360	2190	2220	2610	2750	2520	2230
30	1800	3150	3320	3300	---	2370	2180	2280	2630	2730	2490	2240
31	1790	---	3320	3300	---	2360	---	2280	---	2730	2490	---
TOTAL	56830	83890	100570	101190	88270	88970	69490	66860	75140	83260	83070	60960
MEAN	1833	2796	3244	3264	3152	2870	2316	2157	2505	2686	2680	2032
MAX	1970	3420	3360	3430	3340	3090	2820	2280	2630	2750	2810	

YELLOWSTONE RIVER BASIN

06289000 LITTLE BIGHORN RIVER AT STATE LINE, NEAR WYOLA, MT

LOCATION.--Lat 45°00'25", long 107°36'52", in SW¼ NW¼ sec.36, T.9 S., R.33 E., Bighorn County, Hydrologic Unit 10080016, on right bank 20 ft downstream from county bridge, 0.5 mi north of Wyoming-Montana State line, 1 mi downstream from West Fork, 13 mi southwest of Wyola, and at river mile 115.2.

DRAINAGE AREA.--193 mi².

PERIOD OF RECORD.--March 1939 to current year. Prior to October 1940, published as Little Horn River at State Line, near Wyola.

REVISED RECORDS.--WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,350 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 11-25, Feb. 2, 13-18, and Mar. 23. Records good except those for estimated daily discharges, which are fair. Diversions for irrigation of 163 acres upstream from station.

AVERAGE DISCHARGE.--51 years, 151 ft³/s, 109,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,730 ft³/s, June 3, 1944, gage height, 4.87 ft, from rating curve extended above 1,400 ft³/s; maximum gage height recorded, 5.93 ft, June 9, 1944 (log jam); minimum daily discharge, 18 ft³/s, Feb. 2, 1989.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 510 ft³/s and maximums (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 31	2200	1,020	3.46	June 10	2330	*1,180	*3.65

Minimum daily discharge, 21 ft³/s, Dec. 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	58	55	53	48	49	52	103	806	371	150	100
2	73	63	55	53	e45	49	53	103	593	361	147	99
3	71	65	56	50	48	49	57	100	500	353	147	99
4	72	68	57	45	54	50	59	100	586	322	144	98
5	69	65	61	56	54	49	56	101	728	308	140	98
6	69	64	59	54	53	49	52	119	734	289	136	99
7	67	63	56	53	53	49	55	173	777	275	134	96
8	67	61	57	55	50	49	54	156	778	261	132	95
9	67	64	58	53	52	50	58	145	814	250	129	96
10	66	65	51	53	52	50	55	141	909	242	129	95
11	67	66	e27	51	51	51	54	147	1020	231	137	93
12	66	65	e50	47	51	52	55	143	794	221	133	92
13	65	64	e56	54	e32	48	56	148	646	218	130	91
14	65	62	e54	53	e23	51	58	142	580	222	125	91
15	66	56	e50	53	e30	50	59	149	609	208	123	89
16	64	60	e40	52	e35	49	68	146	669	201	121	89
17	65	63	e30	51	e40	49	63	145	570	194	124	89
18	56	61	e25	37	e45	49	69	162	579	189	120	88
19	64	61	e35	39	48	48	78	174	597	186	118	91
20	65	60	e29	40	52	50	92	189	571	207	116	97
21	64	60	e21	59	61	50	112	219	581	214	115	89
22	63	57	e25	61	57	49	131	247	532	191	112	87
23	62	55	e25	57	53	e36	156	295	532	179	111	87
24	63	62	e66	56	52	39	157	395	524	173	111	86
25	63	55	e62	54	51	45	146	464	515	168	111	85
26	63	59	62	53	50	50	141	408	489	175	108	85
27	59	59	57	44	50	52	125	402	472	163	105	83
28	65	52	55	48	48	50	122	439	446	160	103	83
29	47	56	55	52	---	50	110	499	418	158	102	83
30	58	55	54	48	---	49	109	604	394	156	101	82
31	64	---	53	40	---	50	---	807	---	152	101	---
TOTAL	2012	1824	1496	1574	1338	1510	2512	7565	18763	6998	3815	2735
MEAN	64.9	60.8	48.3	50.8	47.8	48.7	83.7	244	625	226	123	91.2
MAX	77	68	66	61	61	52	157	807	1020	371	150	100
MIN	47	52	21	37	23	36	52	100	394	152	101	82
AC-FT	3990	3620	2970	3120	2650	3000	4980	15010	37220	13880	7570	5420

CAL YR 1989 TOTAL 33955 MEAN 93.0 MAX 362 MIN 18 AC-FT 67350
WTR YR 1990 TOTAL 52142 MEAN 143 MAX 1020 MIN 21 AC-FT 103400

e Estimated

06289100 RED CANYON CREEK NEAR PARKMAN, WY

LOCATION.--Lat 44°58'42", long 107°35'09", in NW¼ NE¼ NE¼ sec.27, T.58 N., R.89 W., Sheridan County, Hydrologic Unit 10080016, on right bank 0.2 mi upstream from bridge on county road, 1.7 mi upstream from Fuller Ranch, 2.1 mi upstream from the Wyoming-Montana State line, 2.5 mi upstream from mouth (Powers Upper Ditch), and 13 mi west of Parkman.

DRAINAGE AREA.--3.20 mi².

PERIOD OF RECORD.--October 1982 to September 1990, discontinued (no winter records during 1985, 1987).

GAGE.--Water-stage recorder. Elevation of gage is 4,810 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 29 to Nov. 2, Nov. 27, 28, Dec. 2, 7, 8, 11-13, 16-25, 27, 28, Jan. 3, 11-13, 17, 18, 20, 28, 29, Feb. 13-22, 28, Mar. 1, 2, 13-15, 19, 22-25, Apr. 6, July 19, 20, July 22 to Aug. 5, and Sept. 8-30. Records good except those for estimated daily discharges, which are poor. No diversions upstream from station.

AVERAGE DISCHARGE.--6 years (water years 1983-84, 1986, 1988-90), 1.65 ft³/s, 1,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 90 ft³/s, May 15, 1984, gage height, 2.45 ft, from floodmarks; no flow Feb. 3, 4, 1989, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5.0 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 23	0500	ice jam	*1.52	May 7	1400	*11	1.42
Apr. 22	1500	10	1.42	May 24	0530	*11	1.41

Minimum daily discharge, 0.18 ft³/s, Dec. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.53	.32	.37	.34	.35	.32	.67	5.6	7.4	1.2	.64	.34
2	.54	.35	.37	.34	.36	.35	.84	5.6	6.6	1.2	.56	.34
3	.43	.41	.38	.31	.37	.37	1.1	5.5	5.6	1.2	.56	.34
4	.43	.76	.38	.30	.37	.40	1.3	5.5	5.6	1.1	.56	.34
5	.43	.55	.38	.30	.36	.43	1.3	5.5	5.4	1.1	.56	.34
6	.38	.45	.35	.32	.36	.43	1.2	6.3	5.3	1.1	.54	.34
7	.38	.38	.26	.34	.34	.39	1.2	9.4	5.3	1.1	.54	.34
8	.34	.36	.29	.40	.30	.43	1.2	9.7	5.0	1.1	.54	.32
9	.30	.73	.30	.34	.30	.47	1.2	8.3	4.7	1.0	.48	.31
10	.30	.92	.21	.45	.35	.49	1.1	8.1	4.5	1.0	.43	.30
11	.32	.95	.18	.38	.38	.65	1.2	8.6	4.4	.98	.43	.29
12	.32	.77	.30	.36	.42	.73	1.2	8.8	3.9	.93	.43	.30
13	.34	.64	.37	.45	.30	.56	1.5	9.0	3.2	.89	.43	.31
14	.34	.55	.34	.39	.25	.48	2.0	8.8	2.8	.89	.43	.33
15	.41	.37	.30	.36	.27	.43	2.8	8.2	2.5	.90	.38	.32
16	.41	.36	.28	.35	.30	.45	4.3	7.8	2.8	.92	.38	.30
17	.38	.38	.27	.30	.33	.48	4.7	7.8	3.0	.90	.38	.30
18	.38	.39	.25	.38	.35	.45	4.9	7.8	2.6	.90	.38	.30
19	.38	.42	.24	.36	.37	.55	5.6	8.0	2.4	.84	.38	.35
20	.38	.43	.24	.40	.38	.61	7.3	8.7	2.1	.84	.34	.44
21	.38	.43	.20	.42	.40	.62	9.0	8.2	2.0	.85	.34	.40
22	.38	.43	.22	.38	.40	.55	9.7	8.7	1.9	.84	.34	.38
23	.38	.43	.27	.35	.39	.45	9.2	9.6	1.9	.84	.34	.38
24	.38	.42	.35	.37	.38	.38	9.0	10	1.8	.84	.34	.37
25	.38	.42	.33	.32	.39	.46	9.0	9.6	1.7	.84	.43	.36
26	.38	.48	.34	.46	.40	.50	8.3	7.4	1.6	.82	.43	.36
27	.38	.43	.35	.43	.36	.49	6.7	6.6	1.5	.76	.38	.36
28	.48	.39	.35	.50	.32	.48	6.3	6.6	1.5	.76	.38	.35
29	.42	.39	.34	.45	---	.46	6.0	7.4	1.3	.76	.34	.38
30	.39	.38	.34	.37	---	.47	6.0	8.2	1.3	.76	.34	.35
31	.37	---	.34	.36	---	.54	---	7.8	---	.69	.34	---
TOTAL	12.04	14.69	9.49	11.58	9.85	14.87	125.81	243.1	101.6	28.85	13.37	10.24
MEAN	.39	.49	.31	.37	.35	.48	4.19	7.84	3.39	.93	.43	.34
MAX	.54	.95	.38	.50	.42	.73	9.7	10	7.4	1.2	.64	.44
MIN	.30	.32	.18	.30	.25	.32	.67	5.5	1.3	.69	.34	.29
AC-FT	24	29	19	23	20	29	250	482	202	57	27	20

CAL YR 1989	TOTAL 276.00	MEAN .76	MAX 9.4	MIN .00	AC-FT 547
WTR YR 1990	TOTAL 595.49	MEAN 1.63	MAX 10	MIN .18	AC-FT 1180

YELLOWSTONE RIVER BASIN

06289600 WEST PASS CREEK NEAR PARKMAN, WY

LOCATION.--Lat 44°59'16", long 107°28'56", in NE¼ NE¼ SE¼ sec.21, T.58 N., R.88 W., Sheridan County, Hydrologic Unit 10080016, on right bank, anchored to concrete headwall of culvert on county road and 7.6 mi northwest of Parkman.

DRAINAGE AREA.--15.4 mi².

PERIOD OF RECORD.--October 1982 to current year (no winter records water years 1985-87).

GAGE.--Water-stage recorder. Elevation of gage is 4,550 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Apr. 2, 1985, at site 100 ft north (on abandoned channel) at datum 3.28 ft lower. Apr. 2, 1985 to Mar. 27, 1986, at site 300 ft upstream at datum 1.95 ft higher.

REMARKS.--Estimated daily discharges: Dec. 8, 9, 13-15, Jan. 3, 4, 18, Jan. 30 to Feb. 3, and Feb. 14-21. Records good except those for estimated daily discharges, which are poor. Natural flow of stream affected by diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--5 years (water years 1983-84, 1988-90), 11.9 ft³/s, 8,620 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 195 ft³/s, May 16, 1984, gage height, 4.62 ft, site and datum then in use; maximum gage height, 4.76 ft, Apr. 28, 1984 (backwater from ice and snow), site and datum then in use; minimum daily discharge, 0.02 ft³/s, Jan. 7, 1988, result of channel blockage or diversion upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 26	1600	31	1.23	June 1	1300	48	1.53
May 18	2000	*62	*1.74				

Minimum daily discharge, 0.45 ft³/s, Dec. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	6.0	5.4	6.2	5.9	5.5	5.9	23	43	14	9.2	6.8
2	6.0	5.8	5.4	6.1	8.0	5.4	6.0	22	38	14	9.1	6.8
3	6.1	6.3	5.5	6.1	9.0	5.5	6.2	21	34	14	9.1	6.8
4	5.8	9.5	5.7	6.0	8.1	5.7	6.7	21	34	13	8.9	6.8
5	5.7	7.5	5.6	6.0	5.8	5.6	6.8	21	35	12	8.7	6.8
6	5.5	6.6	5.7	6.7	5.7	5.6	6.7	22	34	11	8.5	6.8
7	5.5	6.4	5.5	6.9	5.7	5.2	7.1	31	33	11	8.4	6.6
8	5.5	6.4	5.6	11	4.9	5.4	6.9	31	32	11	8.4	6.6
9	5.5	7.2	5.5	9.5	5.7	5.3	9.0	32	30	11	8.3	6.7
10	5.3	7.3	5.3	12	6.2	5.4	8.7	29	30	11	8.4	6.8
11	5.5	7.1	5.3	7.8	6.3	5.5	8.9	31	31	11	8.7	6.7
12	5.5	6.6	5.4	9.3	6.0	6.0	11	31	29	10	8.6	6.5
13	5.7	6.5	5.2	7.2	4.2	5.4	13	35	26	10	8.3	6.7
14	5.8	6.6	4.7	7.0	3.6	5.7	14	32	25	10	8.2	6.7
15	6.1	6.2	4.3	6.6	2.5	5.6	12	31	24	10	8.1	6.5
16	6.0	6.0	4.5	6.5	1.8	5.7	15	31	26	10	8.0	6.6
17	6.0	6.2	2.2	6.3	1.5	5.8	14	30	23	9.9	8.3	6.6
18	5.8	6.2	1.9	6.2	2.4	5.9	14	34	22	10	8.2	6.6
19	5.8	6.2	.75	5.7	3.7	6.1	15	34	21	10	8.0	6.7
20	6.0	6.1	1.4	5.9	5.0	6.5	17	33	21	11	7.7	6.8
21	5.9	6.0	1.4	6.2	6.0	6.2	18	34	20	11	7.8	6.4
22	5.8	6.0	.45	6.3	6.6	5.8	20	34	19	10	7.5	6.4
23	5.8	5.8	5.6	6.0	6.2	4.4	22	36	18	10	7.5	6.4
24	5.7	6.1	11	5.9	5.7	4.9	23	38	18	9.9	7.5	6.4
25	5.9	5.7	10	6.2	5.8	5.9	26	40	17	9.8	7.7	6.4
26	6.0	5.9	7.6	6.0	5.6	6.2	29	38	17	9.9	7.5	6.3
27	6.1	5.6	7.2	6.0	5.6	6.0	25	37	16	9.7	7.4	6.3
28	6.2	5.4	6.9	4.6	5.4	5.9	26	38	16	9.6	7.1	6.2
29	4.7	5.4	6.6	5.5	---	5.8	25	40	15	9.6	7.0	6.2
30	4.8	5.5	6.4	5.8	---	5.8	24	42	15	9.4	6.9	6.4
31	6.2	---	6.2	5.6	---	5.8	---	41	---	9.2	6.9	---
TOTAL	178.7	190.1	160.20	209.1	148.9	175.5	441.9	993	762	332.0	249.9	197.3
MEAN	5.76	6.34	5.17	6.75	5.32	5.66	14.7	32.0	25.4	10.7	8.06	6.58
MAX	6.5	9.5	11	12	9.0	6.5	29	42	43	14	9.2	6.8
MIN	4.7	5.4	.45	4.6	1.5	4.4	5.9	21	15	9.2	6.9	6.2
AC-FT	354	377	318	415	295	348	877	1970	1510	659	496	391

CAL YR 1989 TOTAL 2791.53 MEAN 7.65 MAX 31 MIN .45 AC-FT 5540
WTR YR 1990 TOTAL 4038.60 MEAN 11.1 MAX 43 MIN .45 AC-FT 8010

06289820 EAST PASS CREEK NEAR DAYTON, WY

LOCATION.--Lat 44°59'23", long 107°25'20", in SE¼ SE¼ NE¼ sec.24, T.58 N., R.88 W., Sheridan County, Hydrologic Unit 10080016, on left bank 0.3 mi downstream from bridge on county road, 5.0 mi northwest of Parkman, and 11.2 mi northwest of Dayton.

DRAINAGE AREA.--21.7 mi².

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,410 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 28, Dec. 7-17, 19-26, Jan. 3-5, 10, 12, 18-20, 24, 25, Jan. 27 to Feb. 4, Feb. 8, 9, 13-22, and Mar. 12, 13, 23-26. Records good except those for estimated daily discharges, which are poor. Several small reservoirs upstream from station, combined capacity, 415 acre-ft, for irrigation. Diversions for irrigation of about 2,900 acres upstream from station.

AVERAGE DISCHARGE.--8 years, 13.3 ft³/s, 9,640 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 197 ft³/s, May 16, 1984, gage height, 3.14 ft; maximum gage height, 3.47 ft, Dec. 18, 1984 (backwater from ice); minimum daily discharge, 1.7 ft³/s, Aug. 6, 7, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 25 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 16	2300	ice jam	*2.59	May 25	0730	53	1.97
Apr. 23	0700	30	1.66	June 1	1030	*64	2.06

Minimum daily discharge, 3.2 ft³/s, Sept. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	6.6	7.3	7.4	6.5	7.3	7.2	23	61	15	7.7	5.5
2	5.6	8.2	7.3	7.3	7.0	6.9	7.1	23	52	13	7.7	5.4
3	5.7	8.7	7.4	6.6	7.5	6.8	7.5	22	44	12	7.4	5.4
4	5.4	11	7.5	6.9	7.8	6.9	7.8	23	43	11	8.2	5.3
5	5.1	11	7.3	7.1	7.5	7.0	8.1	25	46	11	10	5.2
6	5.0	9.7	7.1	7.3	6.9	7.0	7.9	28	45	10	10	5.2
7	5.0	9.3	7.2	7.5	6.8	6.6	7.6	37	43	9.8	8.9	4.9
8	6.5	8.9	7.6	9.4	7.2	6.5	7.7	40	42	10	7.0	4.4
9	6.1	9.4	7.4	9.4	7.8	6.7	8.9	38	42	12	7.1	3.4
10	5.7	9.7	6.8	10	8.4	7.0	8.8	37	43	12	7.2	3.6
11	5.8	9.4	6.7	10	7.3	7.2	8.9	37	46	10	7.7	3.2
12	6.0	8.9	7.1	9.5	7.1	7.6	9.4	37	42	9.1	7.6	3.3
13	6.2	8.6	6.9	9.0	6.7	7.6	11	39	38	9.2	7.5	4.6
14	6.2	8.6	6.9	8.2	6.1	7.7	12	37	36	9.5	7.6	6.0
15	6.7	8.4	6.4	7.8	6.0	7.5	13	37	34	8.8	7.4	5.3
16	6.9	8.7	6.0	7.6	6.0	7.4	16	37	35	8.5	6.4	4.9
17	6.7	8.3	5.4	7.3	6.2	7.4	16	36	33	8.2	4.8	5.1
18	6.6	8.2	5.0	7.0	6.7	7.3	16	37	33	8.0	7.0	5.1
19	6.7	8.1	5.1	6.7	6.8	7.3	17	37	32	7.8	3.9	5.5
20	6.5	8.1	5.4	6.9	7.5	7.6	20	37	32	9.2	3.7	5.9
21	6.2	8.2	5.2	7.2	8.0	7.9	22	37	32	9.2	3.7	5.5
22	6.1	8.3	5.5	6.9	8.3	7.6	27	39	30	7.9	3.8	5.3
23	6.2	8.1	7.0	6.6	8.0	7.1	28	43	28	7.4	4.1	5.4
24	6.3	8.2	7.8	6.2	7.6	6.5	27	48	27	7.5	4.5	4.9
25	6.3	7.9	7.3	6.0	7.6	7.4	26	52	26	7.5	4.9	4.8
26	6.6	7.9	7.9	6.4	7.2	8.3	28	48	21	7.6	5.1	5.0
27	5.9	7.7	8.5	6.0	7.1	8.1	24	44	18	7.5	4.8	4.7
28	5.6	7.8	8.2	6.7	7.2	7.7	24	44	17	7.5	4.7	4.8
29	7.1	7.6	7.9	7.4	---	7.4	24	52	17	7.4	4.5	5.8
30	6.3	7.4	7.7	7.2	---	7.3	24	58	15	7.4	4.7	5.0
31	6.5	---	7.5	6.9	---	7.3	---	59	---	7.4	5.3	---
TOTAL	189.7	256.9	214.3	232.4	200.8	225.9	471.9	1191	1053	288.4	194.9	148.4
MEAN	6.12	8.56	6.91	7.50	7.17	7.29	15.7	38.4	35.1	9.30	6.29	4.95
MAX	7.1	11	8.5	10	8.4	8.3	28	59	61	15	10	6.0
MIN	5.0	6.6	5.0	6.0	6.0	6.5	7.1	22	15	7.4	3.7	3.2
AC-FT	376	510	425	461	398	448	936	2360	2090	572	387	294

CAL YR 1989 TOTAL 3130.7 MEAN 8.58 MAX 39 MIN 2.1 AC-FT 6210
WTR YR 1990 TOTAL 4667.6 MEAN 12.8 MAX 61 MIN 3.2 AC-FT 9260

YELLOWSTONE RIVER BASIN

06289870 TWIN CREEK NEAR PARKMAN, WY

LOCATION.--Lat 44°59'37", long 107°21'18", in SE¼ NW¼ NW¼ sec.22, T.58 N., R.87 W., Sheridan County, Hydrologic Unit 10080016, on right bank 0.5 mi downstream from culvert on county road, 0.7 mi northwest of intersection of county road and U.S. Highway 87, and 2.8 mi north of Parkman.

DRAINAGE AREA.--27.0 mi².

PERIOD OF RECORD.--October 1982 to September 1990, discontinued (no winter records water years 1985-87).

REVISED RECORDS.--WDR WY-86: 1984(M).

GAGE.--Water-stage recorder. Elevation of gage is 4,120 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 10 to Jan. 9, Jan. 18-20, 24, Jan. 28 to Feb. 3, and Feb. 12-20.

Records good except those for estimated daily discharges, which are poor. Natural flow of stream affected by diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--5 years (water years 1983-84, 1988-90), 5.97 ft³/s, 4,330 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 377 ft³/s, Feb. 24, 1986, gage height, 7.44 ft (affected by backwater from trash and snow), from floodmark, from rating curve extended above 160 ft³/s on basis of culvert measurement of peak flow; minimum daily discharge during period of operation, 0.15 ft³/s, Aug. 9, 10, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 91 ft³/s, Jan. 10, gage height, 3.35 ft (backwater from ice) from backwater shifts determined by discharge measurements Jan. 10, 11; minimum daily discharge, 0.31 ft³/s, Sept. 4, 5, 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.2	1.1	1.5	1.8	4.7	3.3	22	19	2.8	2.4	.36
2	1.9	1.4	1.2	1.3	2.2	4.2	3.2	19	18	2.5	2.0	.33
3	2.1	1.4	1.2	1.2	2.7	4.0	2.9	17	13	2.4	1.6	.33
4	2.1	1.9	1.3	1.1	3.1	4.3	2.5	15	10	2.3	1.3	.31
5	2.0	3.2	1.5	.97	2.5	4.4	2.6	14	8.6	2.5	1.1	.31
6	1.8	2.8	1.3	.93	3.7	4.3	2.9	14	7.6	2.8	.86	.32
7	1.7	2.2	1.2	1.1	5.0	4.2	2.7	14	7.1	3.1	.69	.31
8	1.6	1.6	1.3	6.4	7.0	4.0	2.4	21	6.4	3.1	.59	.41
9	1.5	2.0	1.4	30	6.9	5.0	3.2	30	6.0	3.1	5.1	.55
10	1.4	2.2	1.1	52	6.5	4.7	5.8	32	5.8	3.1	11	.51
11	1.3	1.8	.86	60	6.2	5.2	8.1	25	5.9	3.2	11	2.5
12	1.2	1.5	1.0	26	4.7	6.0	9.1	22	6.2	3.4	10	.55
13	1.3	1.4	1.1	14	3.9	5.2	18	26	5.6	2.3	8.7	.60
14	1.3	1.3	.95	12	3.6	5.0	21	44	5.6	.89	6.0	.54
15	1.4	1.2	.87	11	4.0	4.9	26	30	6.1	1.0	3.9	.45
16	1.5	1.1	.84	10	4.7	3.6	21	23	7.4	1.0	2.8	.68
17	1.5	1.3	.89	7.0	5.3	3.8	22	21	10	.89	2.1	.45
18	1.5	1.3	.85	2.7	6.4	4.1	16	19	8.9	.75	1.5	.53
19	1.5	1.3	.77	1.7	7.4	4.1	13	19	7.1	.61	1.2	.83
20	1.5	1.2	.90	1.7	8.5	4.5	11	16	6.0	1.6	.95	1.1
21	1.5	1.2	.81	1.8	10	5.1	11	14	5.2	4.4	.61	1.1
22	1.5	1.1	.73	1.8	12	5.4	9.4	14	4.6	4.5	.49	.80
23	1.4	.98	.71	1.8	17	4.2	10	13	4.3	4.1	.44	.76
24	1.4	1.1	.71	1.8	14	4.4	9.9	13	4.1	3.2	.41	1.5
25	1.4	1.1	.71	1.8	9.8	4.1	9.8	12	3.9	2.6	.47	2.1
26	1.4	1.2	.75	1.6	7.8	3.9	12	11	3.8	2.4	.47	1.5
27	1.4	1.1	.82	1.6	6.5	4.0	17	10	3.5	2.1	.41	.54
28	1.5	1.1	1.0	1.4	5.7	4.2	16	9.8	3.2	2.6	.41	.82
29	1.5	1.1	1.5	1.3	---	4.1	16	11	3.1	2.6	.41	1.2
30	1.5	1.1	2.2	1.2	---	3.8	21	27	2.9	2.6	.41	2.3
31	1.4	---	1.8	1.4	---	3.6	---	24	---	2.5	.40	---
TOTAL	47.4	44.38	33.37	260.10	178.9	137.0	328.8	601.8	208.9	76.94	79.72	24.59
MEAN	1.53	1.48	1.08	8.39	6.39	4.42	11.0	19.4	6.96	2.48	2.57	.82
MAX	2.1	3.2	2.2	60	17	6.0	26	44	19	4.5	11	2.5
MIN	1.2	.98	.71	.93	1.8	3.6	2.4	9.8	2.9	.61	.40	.31
AC-FT	94	88	66	516	355	272	652	1190	414	153	158	49

CAL YR 1989 TOTAL 998.47 MEAN 2.74 MAX 43 MIN .15 AC-FT 1980
WTR YR 1990 TOTAL 2021.90 MEAN 5.54 MAX 60 MIN .31 AC-FT 4010

06298000 TONGUE RIVER NEAR DAYTON, WY

LOCATION.--Lat 44°50'58", long 107°18'14", in NE¼ NE¼ NE¼ sec.11, T.56 N., R.87 W., Sheridan County, Hydrologic Unit 10090101, on left bank 0.5 mi upstream from Crystal Draw, 0.6 mi downstream from intake of Highline Ditch, and 2.5 mi southwest of Dayton.

DRAINAGE AREA.--204 mi².

PERIOD OF RECORD.--October 1918 to September 1929, October 1940 to current year. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 1309: 1921.

GAGE.--Water-stage recorder. Elevation of gage is 4,060 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 19-25 and Feb. 15-20. Records good except those for estimated daily discharges, which are poor. Small diversion upstream from station for Dayton municipal supply. Figures of daily discharge do not include water diverted 0.6 mi upstream from station by Highline ditch for irrigation downstream from station. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--61 years (water years 1919-29, 1941-90), 183 ft³/s, 132,600 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,400 ft³/s, June 3, 1944, gage height, 6.45 ft; minimum daily, 18 ft³/s, Nov. 29, 1919.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 980 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 31	2300	*1,550	*4.69	June 11	0500	1,420	4.54

Minimum daily discharge, 26 ft³/s, Oct. 29.

YELLOWSTONE RIVER BASIN

06298000 TONGUE RIVER NEAR DAYTON, WY--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	46	49	52	44	42	53	156	1260	445	167	90
2	66	55	51	52	53	41	59	158	931	421	159	88
3	58	63	54	50	52	43	68	155	833	415	152	89
4	64	65	58	47	48	45	73	156	944	379	164	87
5	60	60	59	50	47	45	64	159	1150	366	156	85
6	57	58	54	52	47	46	53	215	1050	342	143	88
7	55	56	50	52	47	45	61	345	1070	321	132	85
8	52	52	52	51	45	44	64	281	1020	304	126	82
9	51	56	53	51	45	46	69	247	1020	294	122	80
10	50	65	45	50	47	46	63	237	1090	307	120	81
11	50	69	28	45	47	48	62	252	1250	279	132	78
12	48	66	50	44	46	47	63	237	997	248	149	75
13	47	64	52	54	38	37	62	246	846	247	129	73
14	46	58	52	53	29	47	64	221	795	282	126	73
15	51	49	51	54	38	44	66	242	773	233	126	73
16	56	48	48	53	43	38	83	232	1020	218	119	75
17	58	59	51	51	45	44	74	235	921	203	119	76
18	40	59	48	43	45	46	87	296	764	193	120	75
19	49	62	46	42	46	44	104	329	767	194	118	88
20	62	60	43	47	47	49	134	384	721	263	117	134
21	60	57	40	53	49	49	186	476	778	341	115	103
22	57	53	49	54	46	42	249	551	678	251	109	94
23	54	41	54	51	45	32	316	695	657	208	106	90
24	54	56	56	50	44	37	329	904	651	192	106	88
25	53	42	56	49	45	47	290	904	635	185	101	87
26	56	47	57	49	44	47	255	764	601	184	95	85
27	47	50	55	41	44	48	215	777	576	173	91	87
28	50	43	55	45	42	48	202	836	540	187	89	90
29	26	46	53	52	---	47	173	980	501	205	90	85
30	29	47	53	48	---	44	169	1070	471	199	92	82
31	50	---	52	43	---	48	---	1330	---	183	94	---
TOTAL	1615	1652	1574	1528	1258	1376	3810	14070	25310	8262	3784	2566
MEAN	52.1	55.1	50.8	49.3	44.9	44.4	127	454	844	267	122	85.5
MAX	66	69	59	54	53	49	329	1330	1260	445	167	134
MIN	26	41	28	41	29	32	53	155	471	173	89	73
AC-FT	3200	3280	3120	3030	2500	2730	7560	27910	50200	16390	7510	5090
+	507	8.7	.00	.00	.00	.00	.00	194	1300	1630	1350	674

ADJUSTED FOR DIVERSION BY HIGHLINE DITCH

MEAN	60.3	55.2	50.8	49.3	44.9	44.4	127	457	866	293	144	96.9
AC-FT	3710	3290	3120	3030	2500	2730	7560	28100	51500	18020	8860	5760

UNADJUSTED

ADJUSTED

CAL YR 1989 TOTAL 35626 MEAN 97.6 MAX 463 MIN 23 AC-FT 70660
WTR YR 1990 TOTAL 66805 MEAN 183 MAX 1330 MIN 26 AC-FT 132500

MEAN 105 AC-FT 76330
MEAN 191 AC-FT 138200

+ Diversion, in acre-ft, upstream from station by Highline Ditch.

YELLOWSTONE RIVER BASIN

169

06299500 WOLF CREEK AT WOLF, WY

LOCATION.--Lat 44°46'21", long 107°14'01", in NE¼ SW¼ NW¼ sec.4, T.55 N., R.86 W., Sheridan County, Hydrologic Unit 10090101, on left bank at Wolf and 0.5 mi downstream from Red Canyon Creek.

DRAINAGE AREA.--37.8 mi².

PERIOD OF RECORD.--January 1945 to current year (no winter records since 1971). Monthly discharge for January to March 1945, published in WSP 1309.

GAGE.--Water-stage recorder. Elevation of gage is 4,525 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to May 26, 1945, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. No diversion upstream from station.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--26 years (water years 1946-71), 29.3 ft³/s, 21,230 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,130 ft³/s, June 15, 1963, gage height, 4.60 ft, from rating curve extended above 500 ft³/s; no flow for part of each day Jan. 13, 15, 29, 30, Feb. 26, 1947, result of freezeup.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, about 5.0 ft, May 18, 1944.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 180 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 31	2330	*220	*2.62	No other peak greater than base discharge.			
Minimum daily discharge during period of operation, 5.4 ft ³ /s, Apr. 1.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	5.4	28	180	55	22	9.6
2	---	---	---	---	---	---	5.9	27	156	52	21	9.2
3	---	---	---	---	---	---	7.6	27	148	49	20	11
4	---	---	---	---	---	---	8.0	27	160	46	20	9.2
5	---	---	---	---	---	---	7.3	28	164	44	19	9.2
6	---	---	---	---	---	---	6.7	34	162	41	18	9.6
7	---	---	---	---	---	---	7.2	48	166	39	16	9.1
8	---	---	---	---	---	---	8.0	45	162	38	16	8.6
9	---	---	---	---	---	---	9.2	43	162	37	16	8.6
10	---	---	---	---	---	---	8.3	44	175	37	15	8.9
11	---	---	---	---	---	---	8.0	44	184	36	17	8.3
12	---	---	---	---	---	---	8.6	43	154	33	18	8.0
13	---	---	---	---	---	---	8.9	43	135	32	16	7.6
14	---	---	---	---	---	---	9.6	43	124	32	16	7.6
15	---	---	---	---	---	---	11	44	131	29	15	7.6
16	---	---	---	---	---	---	13	44	160	28	14	7.6
17	---	---	---	---	---	---	13	44	146	26	14	8.0
18	---	---	---	---	---	---	14	50	133	26	15	7.6
19	---	---	---	---	---	---	16	53	131	26	14	8.3
20	---	---	---	---	---	---	20	60	124	37	13	13
21	---	---	---	---	---	---	24	70	131	44	13	9.6
22	---	---	---	---	---	---	29	80	113	33	13	8.6
23	---	---	---	---	---	---	34	100	108	29	12	8.3
24	---	---	---	---	---	---	38	129	105	26	12	7.6
25	---	---	---	---	---	---	38	136	99	24	12	7.6
26	---	---	---	---	---	---	37	129	87	23	12	7.5
27	---	---	---	---	---	---	35	129	81	22	11	7.6
28	---	---	---	---	---	---	33	135	72	23	11	7.6
29	---	---	---	---	---	---	31	156	66	27	10	7.6
30	---	---	---	---	---	---	30	166	62	26	9.9	7.3
31	---	---	---	---	---	---	---	184	---	23	9.9	---
TOTAL	---	---	---	---	---	---	524.7	2233	3981	1043	460.8	255.9
MEAN	---	---	---	---	---	---	17.5	72.0	133	33.6	14.9	8.53
MAX	---	---	---	---	---	---	38	184	184	55	22	13
MIN	---	---	---	---	---	---	5.4	27	62	22	9.9	7.3
AC-FT	---	---	---	---	---	---	1040	4430	7900	2070	914	508

YELLOWSTONE RIVER BASIN

06300500 EAST FORK BIG GOOSE CREEK NEAR BIG HORN, WY

LOCATION.--Lat 44°32'18", long 107°13'33", in SE¼ SE¼ NW¼ sec.28, T.53 N., R.86 W., Johnson County, Hydrologic Unit 10090101, Bighorn National Forest, on right bank 0.7 mi upstream from Park Reservoir and 16 mi southwest of Big Horn.

DRAINAGE AREA.--20.1 mi².

PERIOD OF RECORD.--October 1953 to current year (no winter records since 1973). Prior to October 1960, published as East Goose Creek near Big Horn.

GAGE.--Water-stage recorder. Elevation of gage is 8,320 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 28, 1960, water-stage recorder at site 1.1 mi downstream at different datum. June 28, 1960, to July 14, 1970, water-stage recorder at site 0.9 mi downstream at different datums and July 15 to Oct. 7, 1970, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. No diversion upstream from station.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--20 years (water years 1954-73), 32.6 ft³/s, 23,620 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,230 ft³/s, June 15, 1963, gage height, 4.59 ft, site and datum then in use, from rating curve extended above 250 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 1.0 ft³/s, Dec. 11-14, 1963, Mar. 24, 25, Nov. 14, 15, 1964, Mar. 18, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 660 ft³/s, June 10, gage height, 5.86 ft; minimum daily during period of operation, 7.8 ft³/s, Sept. 15-18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	13	242	151	32	13
2	---	---	---	---	---	---	---	11	133	155	30	12
3	---	---	---	---	---	---	---	10	100	162	28	12
4	---	---	---	---	---	---	---	11	166	119	29	11
5	---	---	---	---	---	---	---	10	237	109	30	11
6	---	---	---	---	---	---	---	14	218	104	26	11
7	---	---	---	---	---	---	---	26	238	90	24	11
8	---	---	---	---	---	---	---	27	234	76	23	11
9	---	---	---	---	---	---	---	21	238	76	22	10
10	---	---	---	---	---	---	---	19	349	72	21	10
11	---	---	---	---	---	---	---	18	421	59	26	9.9
12	---	---	---	---	---	---	---	17	211	53	28	9.2
13	---	---	---	---	---	---	---	16	138	49	34	8.7
14	---	---	---	---	---	---	---	16	123	52	28	8.1
15	---	---	---	---	---	---	---	15	168	47	25	7.8
16	---	---	---	---	---	---	---	15	186	45	23	7.8
17	---	---	---	---	---	---	---	16	144	42	23	7.8
18	---	---	---	---	---	---	---	20	158	39	23	7.8
19	---	---	---	---	---	---	---	24	197	36	22	9.9
20	---	---	---	---	---	---	---	32	192	44	20	14
21	---	---	---	---	---	---	---	45	220	89	19	13
22	---	---	---	---	---	---	---	61	170	66	18	11
23	---	---	---	---	---	---	---	116	207	48	17	10
24	---	---	---	---	---	---	---	168	235	41	18	9.5
25	---	---	---	---	---	---	---	140	240	38	17	9.0
26	---	---	---	---	---	---	---	100	208	38	16	8.7
27	---	---	---	---	---	---	---	102	208	36	14	9.0
28	---	---	---	---	---	---	---	123	179	34	13	9.5
29	---	---	---	---	---	---	---	173	158	33	13	8.7
30	---	---	---	---	---	---	---	223	156	38	13	8.3
31	---	---	---	---	---	---	---	277	---	38	14	---
TOTAL	---	---	---	---	---	---	---	1879	6074	2079	689	299.7
MEAN	---	---	---	---	---	---	---	60.6	202	67.1	22.2	9.99
MAX	---	---	---	---	---	---	---	277	421	162	34	14
MIN	---	---	---	---	---	---	---	10	100	33	13	7.8
AC-FT	---	---	---	---	---	---	---	3730	12050	4120	1370	594

06301500 WEST FORK BIG GOOSE CREEK NEAR BIG HORN, WY

LOCATION.--Lat 44°36'47", long 107°17'49", in NE¼ SE¼ NE¼ sec.35, T.54 N., R.87 W., Sheridan County, Hydrologic Unit 10090101, Bighorn National Forest, on left bank 0.3 mi downstream from Twin Lakes Branch and 16 mi west of Big Horn.

DRAINAGE AREA.--24.4 mi².

PERIOD OF RECORD.--October 1953 to current year (no winter records since 1971). Prior to October 1960, published as West Goose Creek near Big Horn.

GAGE.--Water-stage recorder. Elevation of gage is 8,420 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: May 1, 2, 10, 14. Records good. Some regulation by Twin Lakes, capacity, 1,200 acre-ft, and Dome Lake, capacity, 1,800 acre-ft. No diversion upstream from station.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--18 years (water years 1954-71), 34.4 ft³/s, 24,920 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,030 ft³/s, June 15, 1963, gage height, 5.37 ft, from rating curve extended above 410 ft³/s on basis of velocity-area study; minimum daily, 0.80 ft³/s, Dec. 14, 26, 1963, Jan. 15, 16, Feb. 26, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 546 ft³/s, June 11, gage height, 4.34 ft; minimum daily during period of operation, 10 ft³/s, Sept. 27-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	17	338	174	32	24
2	---	---	---	---	---	---	---	13	211	167	31	24
3	---	---	---	---	---	---	---	14	148	176	32	25
4	---	---	---	---	---	---	---	14	159	154	35	24
5	---	---	---	---	---	---	---	14	278	133	35	24
6	---	---	---	---	---	---	---	14	275	119	35	24
7	---	---	---	---	---	---	---	23	280	109	37	24
8	---	---	---	---	---	---	---	26	287	97	41	24
9	---	---	---	---	---	---	---	25	307	86	40	26
10	---	---	---	---	---	---	---	22	374	81	42	31
11	---	---	---	---	---	---	---	21	486	57	39	31
12	---	---	---	---	---	---	---	20	303	41	25	30
13	---	---	---	---	---	---	---	20	207	29	23	23
14	---	---	---	---	---	---	---	20	172	42	23	18
15	---	---	---	---	---	---	---	18	162	53	23	18
16	---	---	---	---	---	---	---	17	244	50	23	18
17	---	---	---	---	---	---	---	16	219	46	23	18
18	---	---	---	---	---	---	---	18	203	43	23	18
19	---	---	---	---	---	---	---	21	244	41	23	18
20	---	---	---	---	---	---	---	25	260	49	22	19
21	---	---	---	---	---	---	---	33	307	80	23	18
22	---	---	---	---	---	---	---	42	244	76	26	15
23	---	---	---	---	---	---	---	58	248	60	26	11
24	---	---	---	---	---	---	---	89	287	49	27	11
25	---	---	---	---	---	---	---	106	291	41	26	11
26	---	---	---	---	---	---	---	98	269	37	25	11
27	---	---	---	---	---	---	---	99	246	33	24	10
28	---	---	---	---	---	---	---	104	231	37	24	10
29	---	---	---	---	---	---	---	126	200	38	24	10
30	---	---	---	---	---	---	---	150	184	37	24	10
31	---	---	---	---	---	---	---	193	---	34	24	---
TOTAL	---	---	---	---	---	---	---	1476	7664	2269	880	578
MEAN	---	---	---	---	---	---	---	47.6	255	73.2	28.4	19.3
MAX	---	---	---	---	---	---	---	193	486	176	42	31
MIN	---	---	---	---	---	---	---	13	148	29	22	10
AC-FT	---	---	---	---	---	---	---	2930	15200	4500	1750	1150

YELLOWSTONE RIVER BASIN

06302000 BIG GOOSE CREEK NEAR SHERIDAN, WY

LOCATION.--Lat 44°42'08", long 107°10'51", in NW¼ NE¼ sec.35, T.55 N., R.86 W., Sheridan County, Hydrologic Unit 10090101, on right bank 0.4 mi upstream from Cave Creek and 14 mi southwest of Sheridan.

DRAINAGE AREA.--120 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1929 to current year (no winter records since 1971). Prior to October 1960, published as Goose Creek near Sheridan. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 1006: Drainage area. WSP 1509: 1930(M), 1931.

GAGE.--Water-stage recorder. Elevation of gage is 4,505 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Natural flow of stream affected by transbasin diversions, storage reservoirs, diversions for irrigation of about 20 acres and to Sheridan Filtration plant, and return flow from irrigated areas. PK ditch diverts water 0.6 mi upstream from station for irrigation of lands downstream from station.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--42 years (water years 1930-71), 79.6 ft³/s, 57,670 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,160 ft³/s, June 15, 1963, gage height, 5.83 ft, from rating curve extended above 1,600 ft³/s; minimum daily, 1.6 ft³/s, Nov. 29, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 742 ft³/s, June 11, gage height, 3.62 ft; minimum daily during period of operation, 12 ft³/s, Sept. 24, 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	17	67	540	240	34	26
2	---	---	---	---	---	---	18	62	402	240	32	28
3	---	---	---	---	---	---	21	64	320	228	31	28
4	---	---	---	---	---	---	20	67	319	197	34	27
5	---	---	---	---	---	---	18	71	440	167	32	26
6	---	---	---	---	---	---	18	89	454	150	30	27
7	---	---	---	---	---	---	19	120	476	135	30	25
8	---	---	---	---	---	---	19	107	495	120	40	25
9	---	---	---	---	---	---	21	100	495	105	46	26
10	---	---	---	---	---	---	19	97	535	93	46	32
11	---	---	---	---	---	---	19	101	700	75	54	30
12	---	---	---	---	---	---	20	95	550	39	37	32
13	---	---	---	---	---	---	54	97	414	25	28	29
14	---	---	---	---	---	---	58	93	372	32	30	21
15	---	---	---	---	---	---	33	100	334	43	28	20
16	---	---	---	---	---	---	31	95	420	39	26	21
17	---	---	---	---	---	---	25	94	405	35	27	20
18	---	---	---	---	---	---	29	110	348	32	26	19
19	---	---	---	---	---	---	34	115	372	29	30	24
20	---	---	---	---	---	---	41	133	382	46	29	28
21	---	---	---	---	---	---	54	152	461	105	28	21
22	---	---	---	---	---	---	73	174	427	90	30	19
23	---	---	---	---	---	---	90	197	404	64	30	15
24	---	---	---	---	---	---	89	232	456	50	32	12
25	---	---	---	---	---	---	87	268	485	42	34	12
26	---	---	---	---	---	---	93	254	458	36	33	15
27	---	---	---	---	---	---	88	245	420	27	33	20
28	---	---	---	---	---	---	86	251	386	32	32	19
29	---	---	---	---	---	---	79	289	306	36	29	19
30	---	---	---	---	---	---	73	323	244	35	27	18
31	---	---	---	---	---	---	---	379	---	36	25	---
TOTAL	---	---	---	---	---	---	1346	4641	12820	2623	1003	684
MEAN	---	---	---	---	---	---	44.9	150	427	84.6	32.4	22.8
MAX	---	---	---	---	---	---	93	379	700	240	54	32
MIN	---	---	---	---	---	---	17	62	244	25	25	12
AC-FT	---	---	---	---	---	---	2670	9210	25430	5200	1990	1360

06302000 BIG GOOSE CREEK NEAR SHERIDAN, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1986 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT							
30...	1635	33	1.0	<1	<1	7	0.62
APR							
10...	1645	22	2.0	<1	--	2	0.09
JUN							
19...	1100	385	10.0	<1	--	15	16
JUL							
18...	1425	32	14.5	K9	--	2	0.17

K-Results based on colony count outside the acceptable range (non-ideal colony count).

YELLOWSTONE RIVER BASIN

06303500 LITTLE GOOSE CREEK IN CANYON, NEAR BIG HORN, WY

LOCATION.--Lat 44°35'46", long 107°02'22", in SE¼ SW¼ NE¼ sec.1, T.53 N., R.85 W., Sheridan County, Hydrologic Unit 10090101, on left bank 100 ft upstream from headgate of Lower Peralta ditch and 6.5 mi southwest of Big Horn.

DRAINAGE AREA.--51.6 mi².

PERIOD OF RECORD.--April 1941 to current year (no winter records since 1971).

REVISED RECORDS.--WDR WY-76-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,860 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Apr. 1-17 and Apr. 21 to May 2. Records good except those for estimated daily discharges, which are poor. Three small reservoirs upstream from station, combined capacity, 860 acre-ft, two of which store some imported water. Water imported into drainage basin upstream from station from East Goose Creek basin is diverted downstream from station for irrigation.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--30 years (water years 1942-71), 63.4 ft³/s, 45,930 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,350 ft³/s, June 15, 1963, gage height, 6.78 ft, from rating curve extended above 900 ft³/s; minimum recorded, 2.2 ft³/s, Dec. 4, 1949, gage height, 0.71 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 490 ft³/s, June 10, gage height, 4.30 ft; minimum daily during period of operation, 14 ft³/s, Apr. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	14	84	278	153	79	72
2	---	---	---	---	---	---	18	74	225	136	77	71
3	---	---	---	---	---	---	20	74	206	115	77	72
4	---	---	---	---	---	---	20	75	238	125	79	75
5	---	---	---	---	---	---	17	77	284	120	78	76
6	---	---	---	---	---	---	17	91	280	91	75	77
7	---	---	---	---	---	---	18	125	306	96	73	75
8	---	---	---	---	---	---	18	124	293	93	74	74
9	---	---	---	---	---	---	22	120	308	89	76	74
10	---	---	---	---	---	---	21	120	370	94	76	73
11	---	---	---	---	---	---	22	120	385	88	90	71
12	---	---	---	---	---	---	20	112	313	78	87	71
13	---	---	---	---	---	---	33	112	274	73	79	71
14	---	---	---	---	---	---	41	108	269	75	77	70
15	---	---	---	---	---	---	38	113	280	72	77	62
16	---	---	---	---	---	---	37	112	319	78	76	66
17	---	---	---	---	---	---	34	113	293	86	74	64
18	---	---	---	---	---	---	35	123	278	90	71	60
19	---	---	---	---	---	---	45	130	252	97	71	63
20	---	---	---	---	---	---	59	146	242	114	75	68
21	---	---	---	---	---	---	76	162	261	126	84	60
22	---	---	---	---	---	---	110	182	257	111	83	57
23	---	---	---	---	---	---	145	222	263	99	83	53
24	---	---	---	---	---	---	143	251	257	91	88	51
25	---	---	---	---	---	---	140	222	250	87	93	55
26	---	---	---	---	---	---	147	205	235	79	91	55
27	---	---	---	---	---	---	142	198	227	78	90	59
28	---	---	---	---	---	---	140	201	217	81	88	57
29	---	---	---	---	---	---	118	261	203	86	85	55
30	---	---	---	---	---	---	99	282	174	82	82	53
31	---	---	---	---	---	---	---	280	---	82	81	---
TOTAL	---	---	---	---	---	---	1809	4619	8037	2965	2489	1960
MEAN	---	---	---	---	---	---	60.3	149	268	95.6	80.3	65.3
MAX	---	---	---	---	---	---	147	282	385	153	93	77
MIN	---	---	---	---	---	---	14	74	174	72	71	51
AC-FT	---	---	---	---	---	---	3590	9160	15940	5880	4940	3890

06304500 LITTLE GOOSE CREEK AT SHERIDAN, WY

LOCATION.--Lat 44°48'10", long 106°57'10", in NE¼ NW¼ SW¼ sec.26, T.56 N., R.84 W., Sheridan County, Hydrologic Unit 10090101, at bridge on Sheridan Avenue in Sheridan and 0.6 mi upstream from mouth.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 30...	0950	45	0.0	<1	66	8.0
APR 09...	1845	68	9.5	K4	55	10
JUN 18...	1340	318	14.0	K14	65	56
JUL 18...	1810	15	19.0	K49	34	1.4

K-Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 07...	1355	149	11.0	0.05	0.02	<0.01	<0.01	<0.01	<0.01
JUN 18...	1340	318	14.0	0.01	0.02	0.10	<0.01	<0.01	<0.01
JUL 18...	1810	15	19.0	0.05	0.18	0.08	<0.01	<0.01	<0.01
AUG 22...	1420	20	24.0	0.01	0.07	0.01	<0.01	<0.01	<0.01
SEP 29...	1950	35	14.0	0.02	0.05	0.02	<0.01	<0.01	<0.01

YELLOWSTONE RIVER BASIN

06305500 GOOSE CREEK BELOW SHERIDAN, WY

LOCATION.--Lat 44°49'25", long 106°57'40", in SE¼ SW¼ sec.15, T.56 N., R.84 W., Sheridan County, Hydrologic Unit 10090101, 700 ft north of Sheridan city limits and 0.2 mi downstream from Soldier Creek.

DRAINAGE AREA.--392 mi².

PERIOD OF RECORD.--Water years 1959-65, 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
OCT							
30...	1330	128	700	8.0	1.5	640	107
APR							
10...	1350	123	610	8.1	6.0	676	120
JUN							
18...	1750	805	210	7.9	15.5	662	100
JUL							
18...	1100	55	670	8.2	20.0	666	121

DATE	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SEDI- MENT, DIS- SOLVED CHARGE, SUS- PENDEDED (T/DAY)
OCT							
30...	<1	0.3	0.02	0.48	0.5	0.20	6.9
APR							
10...	K2	0.1	<0.01	--	0.4	0.13	2.7
JUN							
18...	K200	<0.1	0.07	0.73	0.8	0.11	130
JUL							
18...	180	0.2	0.26	0.64	0.9	0.16	3.1

K-Results based on colony count outside the acceptable range (non-ideal colony count).

06305700 GOOSE CREEK NEAR ACME, WY

LOCATION.--Lat 44°53'11", long 106°59'18", in SE¼ SE¼ NE¼ sec.28, T.57 N., R.84 W., Sheridan County, Hydrologic Unit 10090101, on right bank 0.2 mi north of county road, 1.6 mi south of Acme, and 3.4 mi upstream from mouth.

DRAINAGE AREA.--411 mi².

PERIOD OF RECORD.--May 1984 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,620 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 27 to Dec. 4, Dec. 9, 10, and Dec. 12 to Feb. 26. Records good except those for estimated daily discharges, which are poor. Some regulation by many small reservoirs, combined capacity, about 15,000 acre-ft. Natural flow of stream affected by transbasin diversions, storage reservoirs, diversions for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE.--6 years (water years 1985-90), 123 ft³/s, 89,110 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,150 ft³/s, June 17, 1984, gage height, 6.13 ft, maximum gage height, 7.65 ft, Feb. 25, 1986, from floodmarks (backwater from ice); minimum daily discharge, 8.4 ft³/s, Aug. 26, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,220 ft³/s, June 11, gage height, 5.11 ft; minimum daily, 45 ft³/s, Aug. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	101	100	100	90	99	86	276	807	388	59	64
2	148	103	95	95	95	101	88	272	820	371	59	59
3	132	120	105	90	110	102	91	256	651	334	52	64
4	122	130	110	95	120	108	99	249	584	282	57	58
5	109	156	110	100	120	111	107	244	681	244	63	56
6	101	134	111	105	120	114	98	255	764	219	60	55
7	97	118	107	110	110	123	101	320	768	192	51	55
8	92	112	106	115	100	113	99	344	811	177	46	53
9	91	113	110	125	110	119	116	352	805	159	45	48
10	84	119	85	130	130	117	125	335	818	145	49	50
11	81	115	63	120	140	116	119	353	1060	143	54	52
12	81	112	80	113	130	121	122	327	1050	109	82	48
13	81	109	100	115	100	108	131	337	803	75	68	47
14	81	113	95	120	90	103	166	340	720	60	55	50
15	83	108	90	120	80	100	164	336	736	56	48	50
16	90	93	85	115	80	95	166	326	809	61	47	48
17	93	115	80	110	90	96	169	316	1070	57	46	54
18	87	112	75	100	100	97	156	336	814	56	56	59
19	83	107	70	100	100	92	160	331	752	58	62	53
20	88	107	65	110	105	92	178	349	755	73	64	65
21	87	104	55	120	115	95	203	376	796	184	60	79
22	84	101	60	120	125	93	254	405	811	191	57	73
23	80	92	80	110	135	83	291	434	764	142	54	71
24	80	101	95	100	150	75	313	501	762	110	56	69
25	76	102	110	110	135	89	343	570	789	92	70	62
26	84	95	110	115	119	97	361	527	770	77	82	62
27	89	95	110	100	111	100	348	494	715	63	92	63
28	90	95	110	105	100	97	330	479	665	54	88	66
29	99	100	100	115	---	91	321	516	557	68	76	67
30	101	100	100	100	---	88	303	658	455	82	70	68
31	105	---	100	100	---	86	---	684	---	71	72	---
TOTAL	2895	3282	2872	3383	3110	3121	5608	11898	23162	4393	1900	1768
MEAN	93.4	109	92.6	109	111	101	187	384	772	142	61.3	58.9
MAX	148	156	111	130	150	123	361	684	1070	388	92	79
MIN	76	92	55	90	80	75	86	244	455	54	45	47
AC-FT	5740	6510	5700	6710	6170	6190	11120	23600	45940	8710	3770	3510

CAL YR 1989 TOTAL 29849 MEAN 81.8 MAX 300 MIN 22 AC-FT 59210
WTR YR 1990 TOTAL 67392 MEAN 185 MAX 1070 MIN 45 AC-FT 133700

YELLOWSTONE RIVER BASIN

06306250 PRAIRIE DOG CREEK NEAR ACME, WY

LOCATION.--Lat 44°59'02", long 106°50'21", in NE¼ SW¼ SW¼ sec.23, T.58 N., R.83 W., Sheridan County, Hydrologic Unit 10090101, on right bank 600 ft upstream from county bridge, 0.9 mi upstream from mouth, 2.8 mi downstream from Coutant Creek, and 7.6 mi northeast of Acme.

DRAINAGE AREA.--358 mi².

PERIOD OF RECORD.--Water years 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 19...	0730	82	16.0	0.02	0.05	0.04	<0.01	<0.01	<0.01
SEP 29...	1835	24	15.0	<0.01	0.02	<0.01	<0.01	<0.01	<0.01

06306300 TONGUE RIVER AT STATE LINE, NEAR DECKER, MT

LOCATION.--Lat 45°00'32", long 106°50'08", in NW¼ NW¼ NE¼ sec.33, T.9 S., R.40 E., Big Horn County, Hydrologic Unit 10090101, on left bank 1 mi north of Wyoming-Montana State line, 1.4 mi southeast of Decker, 1.6 mi upstream from Badger Creek, and at river mile 200.9.

DRAINAGE AREA.--1,477 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1960 to current year. Records published as "near Decker" May 1928 to September 1938, not equivalent owing to intervening drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,429.14 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Estimated daily discharges: Oct. 31, Nov. 1, 16-17, Nov. 24 to Mar. 10, and Mar. 23-25. Records good except those for estimated daily discharges, which are poor. Flow regulated by many small reservoirs in Wyoming, combined capacity, about 15,000 acre-ft. Diversions for irrigation of about 64,300 acres upstream from station.

AVERAGE DISCHARGE.--30 years, 465 ft³/s, 336,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,500 ft³/s, May 12, 1978, gage height, 14.25 ft; minimum, 3.0 ft³/s, Aug. 23, 1961.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximums (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 1	1930	2,540	6.52	June 17	1400	2,620	6.61
June 11	2400	*2,710	*6.72				

Minimum daily discharge, 50 ft³/s, Dec. 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	149	e190	e200	e150	e220	e520	177	621	2310	1020	266	151
2	228	190	e190	e140	e250	e540	184	567	2320	917	242	143
3	271	208	e220	e130	e300	e560	192	543	1890	857	234	139
4	264	235	e250	e140	e330	e540	202	523	1740	782	230	144
5	251	263	e240	e170	e300	e500	223	517	1910	698	238	137
6	231	273	e220	e200	e340	e500	219	516	2060	637	236	137
7	217	245	e180	e250	e250	e520	191	625	2000	580	218	134
8	208	232	e170	e300	e270	e500	203	814	2030	537	193	134
9	200	220	e190	e350	e300	e350	211	793	1990	508	172	127
10	195	223	e150	e400	e350	e300	239	747	1990	493	164	125
11	188	231	e100	e310	e400	259	235	731	2260	484	168	131
12	180	231	e90	e250	e300	261	237	742	2510	449	194	129
13	183	227	e150	e290	e250	256	241	724	2010	367	228	126
14	179	223	e140	e320	e160	227	262	790	1750	349	195	124
15	180	223	e120	e300	e160	224	296	741	1740	358	177	132
16	186	e195	e110	e280	e160	214	290	731	1810	327	165	124
17	199	e190	e100	e250	e190	199	316	701	2410	313	158	128
18	196	223	e80	e230	e230	207	297	704	2020	277	162	141
19	182	218	e85	e250	e260	203	298	778	1780	263	178	147
20	172	218	e90	e280	e300	195	314	807	1750	268	189	186
21	191	217	e50	e330	e350	196	369	898	1740	400	183	228
22	189	210	e70	e360	e400	200	458	1030	1810	560	176	213
23	182	202	e100	e340	e450	e180	574	1140	1660	464	168	203
24	177	e180	e140	e300	e420	e160	679	1370	1620	378	151	196
25	175	e190	e150	e330	e470	e160	728	1670	1630	329	158	187
26	172	e180	e160	e350	e430	197	726	1640	1600	306	168	181
27	184	e170	e170	e300	e400	192	752	1540	1500	275	174	180
28	194	e170	e180	e330	e450	199	685	1530	1410	255	174	186
29	204	e190	e180	e300	---	195	681	1610	1280	261	162	186
30	188	e190	e170	e290	---	188	663	1950	1140	295	152	193
31	e170	---	e160	e200	---	180	---	2110	---	296	152	---
TOTAL	6085	6357	4605	8420	8690	9122	11142	30203	55670	14303	5825	4692
MEAN	196	212	149	272	310	294	371	974	1856	461	188	156
MAX	271	273	250	400	470	560	752	2110	2510	1020	266	228
MIN	149	170	50	130	160	160	177	516	1140	255	151	124
AC-FT	12070	12610	9130	16700	17240	18090	22100	59910	110400	28370	11550	9310

CAL YR 1989 TOTAL 76124 MEAN 209 MAX 635 MIN 40 AC-FT 151000
WTR YR 1990 TOTAL 165114 MEAN 452 MAX 2510 MIN 50 AC-FT 327500

e Estimated

YELLOWSTONE RIVER BASIN

06306300 TONGUE RIVER AT STATE LINE, NEAR DECKER, MT--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1965 to September 1976, November 1980 to December 1986.

WATER TEMPERATURE: October 1965 to September 1976.

REMARKS.--Unpublished records of once-daily water temperature are available in files of Montana District office.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,490 microsiemens, Aug. 12, 1966, Jan. 11, 1972; minimum daily, 192 microsiemens, June 7, 1976.

WATER TEMPERATURE (water years 1966-76): Maximum, 30.5°C, July 16, 1966; minimum, 0.0°C on many days during winter.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)
NOV 01...	0745	186	0.0	690	320	63	40	27	0.7	2.6	220
MAY 07...	1525	588	15.0	473	220	45	26	19	0.6	1.9	150
30...	1910	2100	14.0	244	110	24	11	8.4	0.4	1.5	88
JUN 19...	1725	1770	16.5	248	120	27	12	7.7	0.3	1.3	92

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
NOV 01...	140	3.5	0.3	7.7	417	0.57	209	0.1	0.03	<1
MAY 07...	100	2.3	0.6	4.8	290	0.39	461	0.1	0.06	<1
30...	45	1.1	0.2	9.2	154	0.21	875	0.2	0.05	<1
JUN 19...	30	1.5	0.1	9.2	144	0.20	688	<0.1	0.03	<5

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)
NOV 01...	0745	--	<1	<100	70	<1.0	1
MAY 07...	1525	<10	<1	38	50	<1.0	<1
30...	1910	110	<1	<100	20	<1.0	<1

DATE	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 01...	4	20	<1	<10	<0.1	<1.0	<10
MAY 07...	4	20	<1	10	<0.1	<1.0	5
30...	2	110	<1	<10	0.2	<1.0	<10

YELLOWSTONE RIVER BASIN

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06306300 TONGUE RIVER AT STATE LINE, NEAR DECKER, MT--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)
OCT					
17...	1635	201	690	7.0	9.5
DEC					
05...	1600	237	610	5.0	1.5
JAN					
16...	1545	281	785	2.5	0.0
MAR					
21...	1500	202	850	7.0	7.5
APR					
18...	1630	299	700	22.0	9.5
MAY					
29...	1545	1650	225	22.0	15.0
JUN					
07...	1105	1900	205	21.0	13.5
JUL					
10...	1530	485	370	29.0	25.0
AUG					
15...	1530	180	680	31.5	25.0
SEP					
25...	1600	180	630	--	18.5

YELLOWSTONE RIVER BASIN

06309200 MIDDLE FORK POWDER RIVER NEAR BARNUM, WY

LOCATION.--Lat 43°34'40", long 107°08'16", in SE¼ SW¼ NE¼ sec.26, T.42 N., R.86 W., Washakie County, Hydrologic Unit 10090201, on left bank 1,100 ft downstream from Rock Creek and 13 mi southwest of Barnum.

DRAINAGE AREA.--45.2 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 7,220 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1970, at site 1,000 ft upstream at different datum. Oct. 1, 1970 to Aug. 17, 1987, at site 100 ft upstream at datum 6.78 ft higher (gage operated concurrently with present site Sept. 15, 1983 to Aug. 17, 1987).

REMARKS.--Estimated daily discharges: Oct. 30 to Nov. 2, Nov. 16, 17, 23, Nov. 27 to Dec. 3, Dec. 11-28, Jan. 2-10, and Mar. 13, 14. Records good except those for estimated daily discharges, which are poor. No diversion upstream from station.

AVERAGE DISCHARGE.--29 years, 30.1 ft³/s, 21,810 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,110 ft³/s, June 15, 1963, gage height, 12.6 ft, from floodmark, site and datum then in use, on basis of slope-area measurement of peak flow; minimum daily discharge, 1.0 ft³/s, Dec. 15, 16, 1964, Jan. 24-27, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 24	1800	*455	*8.00	May 29	0130	360	7.67

Minimum daily discharge, 4.3 ft³/s, Jan. 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.3	5.4	5.7	4.9	4.9	4.9	9.1	67	180	22	8.5	5.9
2	7.3	5.9	6.0	5.0	4.9	5.1	9.1	60	161	21	8.2	5.9
3	6.5	6.0	6.3	4.8	4.9	5.3	12	60	128	20	8.2	5.8
4	6.7	6.1	6.1	5.0	4.9	5.0	14	66	128	18	10	5.7
5	6.3	6.4	5.7	5.0	4.9	4.9	13	75	128	17	9.0	5.9
6	5.8	6.6	5.3	4.9	4.9	4.9	14	103	114	17	8.1	5.8
7	5.7	7.3	5.3	4.9	4.9	4.9	13	140	106	16	7.7	5.6
8	5.6	8.9	5.4	4.9	4.9	4.9	14	135	96	16	7.4	5.6
9	5.6	8.2	5.3	4.9	4.9	4.9	15	116	87	16	7.5	5.9
10	5.5	7.3	5.2	4.9	5.1	5.1	12	111	88	15	7.6	5.7
11	5.3	7.5	4.9	4.9	5.2	5.7	12	105	84	14	7.7	5.6
12	5.3	7.1	4.7	4.9	4.9	6.0	13	101	71	12	7.9	5.5
13	5.3	6.8	4.7	4.9	4.9	6.0	13	97	62	12	7.7	5.6
14	5.3	5.8	4.8	4.9	4.9	6.0	16	100	57	12	7.3	5.6
15	5.3	4.7	5.0	4.9	4.9	5.8	30	104	60	12	7.1	5.6
16	5.3	6.5	4.8	4.6	4.9	7.1	30	95	95	12	7.0	5.8
17	5.5	6.9	4.6	4.6	4.8	6.9	21	101	64	11	7.0	5.9
18	4.7	7.1	4.8	4.8	5.1	6.0	31	122	52	11	7.1	5.7
19	4.5	7.2	4.7	5.1	5.3	5.6	46	132	47	11	6.9	6.4
20	4.8	7.0	4.9	5.5	5.3	5.8	62	147	44	12	6.5	7.7
21	4.6	6.5	5.0	5.6	5.3	5.9	85	182	61	16	6.4	6.7
22	4.6	7.0	5.0	5.0	5.3	5.8	101	216	45	12	6.2	6.0
23	4.6	7.1	5.0	4.8	5.2	7.9	139	266	40	11	6.2	5.9
24	4.6	7.4	5.0	4.6	4.9	8.6	148	349	36	10	6.2	5.8
25	4.6	7.0	4.9	4.9	4.9	8.6	138	295	34	10	6.0	5.6
26	4.7	6.0	4.9	4.8	4.9	8.6	109	241	32	9.3	5.9	6.2
27	5.0	5.7	4.9	4.3	4.9	8.6	103	240	29	8.9	5.9	6.6
28	5.1	5.5	5.0	4.4	4.6	8.6	88	266	27	9.0	5.8	5.9
29	4.6	5.5	4.9	4.9	---	9.0	68	300	25	9.1	5.8	5.9
30	5.3	5.5	4.9	4.8	---	9.1	73	229	24	9.3	5.9	5.9
31	5.0	---	4.9	4.8	---	9.1	---	202	---	8.8	5.9	---
TOTAL	166.3	197.9	158.6	151.2	139.4	200.6	1451.2	4823	2205	410.4	220.6	177.7
MEAN	5.36	6.60	5.12	4.88	4.98	6.47	48.4	156	73.5	13.2	7.12	5.92
MAX	7.3	8.9	6.3	5.6	5.3	9.1	148	349	180	22	10	7.7
MIN	4.5	4.7	4.6	4.3	4.6	4.9	9.1	60	24	8.8	5.8	5.5
AC-FT	330	393	315	300	276	398	2880	9570	4370	814	438	352

CAL YR 1989 TOTAL 4810.2 MEAN 13.2 MAX 110 MIN 3.2 AC-FT 9540
WTR YR 1990 TOTAL 10301.9 MEAN 28.2 MAX 349 MIN 4.3 AC-FT 20430

YELLOWSTONE RIVER BASIN

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06309500 MIDDLE FORK POWDER RIVER ABOVE KAYCEE, WY

LOCATION.--Lat 43°38'51", long 106°48'29", in SW¼ SW¼ sec.34, T.43 N., R.83 W., Johnson County, Hydrologic Unit 10090201, on right bank 680 ft upstream from bridge on county road, 3.5 mi upstream from Red Fork Powder River, 4 mi downstream from Beaver Creek, and 10 mi southwest of Kaycee.

DRAINAGE AREA.--450 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1949 to September 1970, April 1984 to current year.

REVISED RECORDS.--WSP 1916: 1955, 1957(P), 1958, 1959(P).

GAGE.--Water-stage recorder. Datum of gage is 4,874.76 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 2-9, 12, 13, 29, Nov. 2, Nov. 28 to Dec. 1, Dec. 10, Dec. 12 to Jan. 15, Jan. 18 to Feb. 11, Feb. 13-23, and Mar. 23-25. Records fair except those for estimated daily discharges, which are poor. Diversions for irrigation upstream from station (for details on adjudication, see Remarks for this station in WSP 1209).

AVERAGE DISCHARGE.--27 years (water years 1950-70, 1985-90), 69.9 ft³/s, 50,640 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,750 ft³/s, June 8, 1968, gage height, 8.74 ft; minimum daily, 12 ft³/s, Aug. 28, 29, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage for undetermined period, about 11.7 ft, date unknown.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 24	0400	314	3.79	Aug. 04	1530	467	4.16
May 25	0130	589	5.02	Aug. 19	0030	*1,010	*6.14
May 29	0930	498	4.65				

Minimum daily discharge, 13 ft³/s, Dec. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	47	41	43	39	34	39	145	311	65	37	43
2	55	45	42	44	41	34	44	141	273	65	46	43
3	51	41	42	43	42	35	53	140	245	64	45	43
4	49	53	41	39	43	35	65	143	208	60	103	43
5	48	50	41	41	43	37	61	153	205	55	53	43
6	47	41	41	42	44	47	51	171	181	54	42	43
7	47	39	41	43	42	42	52	244	170	55	37	42
8	46	37	40	44	37	40	50	246	159	58	37	42
9	45	39	44	45	40	41	64	203	149	58	37	42
10	44	47	37	45	41	41	60	185	145	59	37	42
11	44	52	13	45	43	43	53	186	143	54	42	40
12	44	50	28	43	39	47	55	170	132	50	43	38
13	43	49	34	45	36	38	56	185	122	49	48	38
14	43	48	37	45	29	38	57	175	116	47	41	38
15	43	39	37	44	27	38	74	194	116	49	37	38
16	43	36	36	44	31	35	111	180	151	48	36	39
17	43	47	33	41	33	38	89	175	144	45	36	39
18	43	53	35	38	35	40	79	202	107	44	59	39
19	41	49	37	34	37	37	112	224	101	48	200	39
20	43	49	35	37	38	40	139	218	97	49	68	39
21	43	48	33	42	39	42	127	265	119	68	46	39
22	44	44	31	45	39	43	173	312	112	60	45	39
23	42	39	34	43	39	35	211	354	95	54	45	39
24	44	49	37	41	39	32	282	449	93	51	44	39
25	46	46	39	39	39	38	264	453	94	53	44	39
26	52	44	41	42	38	37	218	364	94	52	44	39
27	56	45	43	39	35	36	179	341	91	46	44	41
28	59	42	45	41	36	34	179	368	85	43	44	41
29	50	37	46	42	---	33	145	456	81	43	44	40
30	39	39	44	43	---	33	157	373	75	40	43	39
31	43	---	43	41	---	34	---	324	---	37	43	---
TOTAL	1436	1344	1171	1303	1064	1177	3299	7739	4214	1623	1570	1208
MEAN	46.3	44.8	37.8	42.0	38.0	38.0	110	250	140	52.4	50.6	40.3
MAX	59	53	46	45	44	47	282	456	311	68	200	43
MIN	39	36	13	34	27	32	39	140	75	37	36	38
AC-FT	2850	2670	2320	2580	2110	2330	6540	15350	8360	3220	3110	2400

CAL YR 1989 TOTAL 16965 MEAN 46.5 MAX 197 MIN 13 AC-FT 33650
WTR YR 1990 TOTAL 27148 MEAN 74.4 MAX 456 MIN 13 AC-FT 53850

YELLOWSTONE RIVER BASIN

06309500 MIDDLE FORK POWDER RIVER ABOVE KAYCEE, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1949-54, May 1984 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD- NESS TOTAL (MG/L AS CaCO3)
OCT											
31...	1200	45	930	8.2	2.0	633	45	11.9	104	K15	460
DEC											
05...	1050	42	960	8.2	6.0	629	60	10.4	102	41	460
JAN											
10...	1315	45	990	8.1	2.0	632	250	10.6	93	33	460
FEB											
27...	0900	36	960	8.1	0.5	661	70	11.9	96	K16	460
APR											
03...	1020	61	690	8.4	7.5	632	300	9.6	97	95	380
23...	1005	210	350	8.3	7.5	620	700	9.2	95	320	160
MAY											
22...	1145	307	248	8.3	11.0	630	250	9.1	100	200	110
JUN											
19...	1400	100	481	8.6	18.5	652	30	8.8	110	58	220
AUG											
01...	1210	37	795	8.5	20.5	629	35	8.4	114	130	410
SEP											
11...	1000	40	795	8.4	13.5	630	2.5	--	--	150	390

K-Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CaCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT										
31...	120	39	20	0.4	3.2	120	300	11	0.4	8.9
DEC										
05...	120	39	18	0.4	2.6	180	300	12	0.3	9.9
JAN										
10...	120	38	21	0.4	2.8	170	290	11	0.4	9.6
FEB										
27...	120	39	24	0.5	2.1	170	280	12	0.3	9.2
APR										
03...	98	33	17	0.4	2.2	110	240	8.1	0.3	8.3
23...	43	13	6.0	0.2	1.2	100	72	3.1	0.4	7.8
MAY										
22...	30	9.6	4.7	0.2	1.0	79	54	2.2	0.2	7.7
JUN										
19...	57	20	10	0.3	1.5	120	100	4.9	0.1	8.7
AUG										
01...	110	34	21	0.4	2.1	150	290	7.9	0.2	8.6
SEP										
11...	100	35	16	0.4	2.0	140	270	9.0	0.3	8.4

YELLOWSTONE RIVER BASIN

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06309500 MIDDLE FORK POWDER RIVER ABOVE KAYCEE, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
OCT 31...	575	0.78	69.9	0.2	0.2	0.03	0.17	0.2	0.06	<5
DEC 05...	612	0.83	69.4	0.5	0.5	0.05	1.5	1.6	0.12	<5
JAN 10...	597	0.81	72.5	0.5	0.5	0.10	0.50	0.6	0.13	<5
FEB 27...	591	0.80	57.4	0.4	0.5	0.05	0.25	0.3	0.08	<5
APR 03...	474	0.64	78.1	0.3	0.3	0.01	0.49	0.5	0.11	<5
23...	207	0.28	117	0.3	0.1	0.08	0.92	1.0	0.07	<5
MAY 22...	157	0.21	130	0.1	<0.1	0.07	1.0	1.1	0.22	<5
JUN 19...	275	0.37	74.1	<0.1	0.1	0.02	0.28	0.3	0.08	<5
AUG 01...	564	0.77	56.3	<0.1	<0.1	0.01	0.39	0.4	0.05	<5
SEP 11...	525	0.71	56.7	<0.1	0.1	0.02	0.28	0.3	0.03	<5

06311000 NORTH FORK POWDER RIVER NEAR HAZELTON, WY

LOCATION.--Lat 44°01'40", long 107°04'49", in SW¼ SE¼ NW¼ sec.21, T.47 N., R.85 W., Johnson County, Hydrologic Unit 10090201, on left bank 0.5 mi upstream from Dullknife Reservoir, 0.6 mi downstream from Twin Creek, 7.2 mi southwest of Hazelton, and 19 mi northwest of Mayoworth.

DRAINAGE AREA.--24.5 mi².

PERIOD OF RECORD.--September 1946 to current year. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 1279: 1947-48(M), 1949, 1950-51(M), 1952.

GAGE.--Water-stage recorder. Elevation of gage is 8,180 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1966, at site 0.7 mi downstream at different datum. Oct. 1, 1966 to Aug. 26, 1986, at site 0.1 mi upstream at different datum.

REMARKS.--Estimated daily discharges: Oct. 28 to Nov. 1, Apr. 2-13, 17-23, 27, 30, and May 1, 2. Records good except those for estimated daily discharges, which are poor. No diversion upstream from station.

AVERAGE DISCHARGE.--44 years, 14.6 ft³/s, 10,580 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 886 ft³/s, June 15, 1953, gage height, 4.34 ft, site and datum then in use, from rating curve extended above 110 ft³/s, on basis of slope-area measurement of peak flow; maximum gage height, 6.21 ft, May 14, 1984 (backwater from ice), site and datum then in use; minimum daily discharge, 0.60 ft³/s, Oct. 30, 1960, Apr. 9, 12, 15-17, 1961, but may have been less during winter months of water years 1947, 1948.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 190 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 22	1030	ice jam	*4.73	No peak greater than base discharge.			
May 24	2130	*157	3.60				

Minimum daily discharge, 1.9 ft³/s, Feb. 19 to Mar. 11, Mar. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	2.7	2.3	2.3	2.1	1.9	2.1	12	83	24	9.4	5.8
2	4.0	2.7	2.3	2.3	2.1	1.9	2.7	11	77	23	8.9	5.3
3	3.7	2.7	2.3	2.3	2.1	1.9	4.3	10	70	22	8.7	5.3
4	3.5	2.7	2.3	2.3	2.1	1.9	6.0	9.4	72	20	14	5.0
5	3.3	2.6	2.3	2.3	2.1	1.9	5.5	12	77	19	13	5.7
6	3.3	2.6	2.3	2.3	2.1	1.9	4.7	21	72	19	9.9	5.5
7	3.1	2.6	2.3	2.4	2.1	1.9	4.1	28	70	17	8.9	5.2
8	2.9	2.5	2.3	2.5	2.1	1.9	4.8	24	65	17	8.2	4.7
9	2.9	2.5	2.3	2.4	2.1	1.9	7.2	21	60	31	7.6	4.5
10	2.9	2.7	2.3	2.3	2.1	1.9	6.3	22	62	32	7.8	5.2
11	2.9	3.0	2.3	2.3	2.1	1.9	4.7	17	67	20	8.1	4.6
12	2.9	3.0	2.2	2.2	2.1	2.0	3.8	17	54	17	9.6	4.3
13	2.9	2.9	2.2	2.2	2.1	2.0	3.4	17	47	16	11	4.1
14	2.7	2.8	2.2	2.2	2.1	2.0	3.2	18	47	16	11	3.9
15	2.7	2.5	2.0	2.2	2.1	2.0	3.3	17	54	14	8.9	4.0
16	2.7	2.6	2.0	2.2	2.1	2.0	3.8	16	83	14	7.9	4.0
17	2.7	2.6	2.1	2.2	2.1	2.0	3.9	19	76	12	7.5	4.6
18	3.1	2.6	2.2	2.2	2.0	2.0	4.5	27	54	12	8.0	4.3
19	3.7	2.6	2.2	2.2	1.9	2.0	6.7	32	44	12	7.8	6.4
20	3.6	2.6	2.2	2.2	1.9	2.0	10	39	40	15	7.1	7.0
21	3.8	2.3	2.2	2.2	1.9	2.0	23	56	76	30	6.8	5.7
22	3.3	2.3	2.2	2.2	1.9	2.1	35	65	52	23	6.6	4.7
23	2.9	2.2	2.2	2.2	1.9	2.1	32	88	42	15	6.2	4.3
24	2.8	2.2	2.2	2.2	1.9	2.1	29	109	37	13	6.7	4.1
25	2.9	2.2	2.2	2.2	1.9	2.1	26	88	34	12	6.2	3.9
26	3.1	2.2	2.2	2.2	1.9	2.0	22	71	32	10	5.8	4.7
27	2.9	2.2	2.2	2.2	1.9	2.0	18	77	30	9.6	5.6	8.9
28	2.8	2.3	2.3	2.2	1.9	2.0	12	88	28	9.6	5.5	5.4
29	2.7	2.3	2.3	2.1	---	2.0	11	115	26	10	5.5	4.9
30	2.6	2.3	2.3	2.1	---	1.9	14	90	25	12	5.7	4.4
31	2.7	---	2.3	2.1	---	2.0	---	84	---	10	6.6	---
TOTAL	95.7	76.0	69.2	69.4	56.7	61.2	317.0	1320.4	1656	526.2	250.5	150.4
MEAN	3.09	2.53	2.23	2.24	2.02	1.97	10.6	42.6	55.2	17.0	8.08	5.01
MAX	4.0	3.0	2.3	2.5	2.1	2.1	35	115	83	32	14	8.9
MIN	2.6	2.2	2.0	2.1	1.9	1.9	2.1	9.4	25	9.6	5.5	3.9
AC-FT	190	151	137	138	112	121	629	2620	3280	1040	497	298

CAL YR 1989 TOTAL 4418.3 MEAN 12.1 MAX 105 MIN 1.0 AC-FT 8760
WTR YR 1990 TOTAL 4648.7 MEAN 12.7 MAX 115 MIN 1.9 AC-FT 9220

06311060 NORTH FORK POWDER RIVER BELOW BULL CREEK, NEAR HAZELTON, WY

LOCATION.--Lat 44°00'29", long 107°01'08", in NE¼ SE¼ SW¼ sec.25, T.47 N., R.85 W., Johnson County, Hydrologic Unit 10090201, on right bank 60 ft downstream from Bull Creek, 2.1 mi downstream from Dullknife Reservoir, and 6.8 mi southwest of Hazelton.

DRAINAGE AREA.--32.3 mi².

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 7,840 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 18, 19, 28-31, Nov. 1-4, 9-11, 13-18, 23-30, Dec. 1-3, Dec. 10 to Apr. 3, and Apr. 5-17. Records good except those for estimated daily discharges, which are poor. Flow regulated by Dullknife Reservoir 2.1 mi upstream, capacity, 4,350 acre-ft.

AVERAGE DISCHARGE.--16 years, 17.4 ft³/s, 12,610 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 458 ft³/s, May 27, 1983, gage height, 4.48 ft (from floodmarks); minimum daily, 0.46 ft³/s, Nov. 12, 1988, Dec. 21, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 152 ft³/s, May 24, gage height, 3.56 ft; minimum daily, 0.46 ft³/s, Dec. 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	.74	.68	.54	.50	.64	.88	5.9	99	23	35	38
2	1.0	.78	.68	.54	.52	.65	1.1	5.8	91	23	35	38
3	.95	.81	.70	.52	.53	.67	1.3	5.5	85	23	32	38
4	.93	.87	.69	.50	.54	.66	1.6	3.8	75	20	27	38
5	.92	.95	.68	.52	.54	.64	1.3	4.6	82	19	27	37
6	.87	.90	.64	.53	.53	.62	.95	9.7	77	19	27	38
7	.79	1.0	.67	.54	.51	.60	.87	9.4	75	16	27	38
8	.76	.97	.61	.54	.51	.63	1.0	6.1	65	18	27	34
9	.75	1.1	.61	.54	.53	.65	1.3	5.6	62	29	26	30
10	.73	1.2	.55	.54	.56	.68	1.2	5.9	64	36	26	30
11	.70	1.3	.52	.54	.55	.66	1.1	5.1	70	22	34	30
12	.71	1.2	.53	.52	.54	.63	1.1	4.7	58	18	42	30
13	.71	1.0	.54	.53	.53	.60	1.3	5.0	49	18	42	29
14	.70	.93	.52	.54	.50	.59	1.4	6.7	50	17	41	29
15	.73	.84	.52	.53	.48	.61	1.6	6.4	55	16	41	27
16	.79	.85	.50	.52	.51	.64	1.8	4.9	93	15	40	25
17	.80	.89	.48	.51	.54	.62	2.3	5.3	91	13	34	25
18	1.5	1.0	.48	.49	.56	.61	4.7	6.3	61	12	19	25
19	1.1	1.0	.50	.49	.59	.72	14	7.2	47	13	19	26
20	.86	.94	.48	.49	.62	.83	17	8.4	44	26	19	26
21	.79	.87	.46	.50	.63	.82	18	7.8	82	44	19	26
22	.75	.84	.48	.52	.64	.74	18	50	63	43	18	26
23	.72	.80	.50	.51	.63	.65	15	93	44	41	18	15
24	.70	.84	.51	.50	.62	.62	10	129	38	41	19	3.3
25	.72	.76	.52	.50	.64	.64	8.2	114	36	41	22	3.2
26	.86	.68	.53	.52	.61	.66	5.1	87	33	41	22	3.7
27	.85	.59	.53	.51	.59	.68	4.5	83	31	39	22	3.7
28	.80	.60	.54	.52	.61	.66	4.1	96	28	35	22	3.4
29	.77	.64	.54	.51	---	.65	5.6	135	26	35	22	3.4
30	.77	.66	.53	.50	---	.66	6.0	116	25	38	22	3.3
31	.77	---	.54	.52	---	.75	---	97	---	36	28	---
TOTAL	26.00	26.55	17.26	16.08	15.66	20.48	152.30	1130.1	1799	830	854	722.0
MEAN	.84	.88	.56	.52	.56	.66	5.08	36.5	60.0	26.8	27.5	24.1
MAX	1.5	1.3	.70	.54	.64	.83	18	135	99	44	42	38
MIN	.70	.59	.46	.49	.48	.59	.87	3.8	25	12	18	3.2
AC-FT	52	53	34	32	31	41	302	2240	3570	1650	1690	1430

CAL YR 1989 TOTAL 4641.66 MEAN 12.7 MAX 88 MIN .46 AC-FT 9210
WTR YR 1990 TOTAL 5609.43 MEAN 15.4 MAX 135 MIN .46 AC-FT 11130

06311400 NORTH FORK POWDER RIVER BELOW PASS CREEK, NEAR MAYOWORTH, WY

LOCATION.--Lat 43°54'41", long 106°53'20", in NW¼ NE¼ SE¼ sec.36, T.46 N., R.84 W., Johnson County, Hydrologic Unit 10090201, on left bank 0.8 mi downstream from Pass Creek, 1.2 mi upstream from Hat Ranch, 7.2 mi northwest of Mayoworth, and 13 mi downstream from Dullknife Reservoir.

DRAINAGE AREA.--100 mi².

PERIOD OF RECORD.--October 1973 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,700 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Sept. 15, 1983, at site 60 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Dec. 10-12, 14-22, 24-26, Jan. 27, 28, Feb. 8, 13-19, and Mar. 24, 25. Records good except those for estimated daily discharges, which are poor. Some regulation for irrigation by Dullknife Reservoir 13 mi upstream, capacity, 4,350 acre-ft.

AVERAGE DISCHARGE.--17 years, 33.3 ft³/s, 24,130 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,590 ft³/s, Aug. 1, 1984, gage height, 8.89 ft, from floodmarks, from rating curve extended above 400 ft³/s, on basis of slope-area measurement of peak flow; minimum daily discharge, 11 ft³/s, Dec. 14, 1987, Dec. 21, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 167 ft³/s, May 25, gage height, 4.66 ft; maximum gage height, 5.02 ft, Dec. 22 (backwater from ice); minimum daily discharge, 11 ft³/s, Dec. 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	15	16	16	17	16	15	18	105	35	43	38
2	16	16	16	16	16	16	15	17	98	34	43	41
3	16	16	16	16	16	16	15	16	97	35	42	42
4	16	16	16	15	16	16	15	16	86	33	38	43
5	16	16	16	16	16	17	16	16	88	31	36	43
6	17	16	16	16	16	17	15	17	85	30	36	44
7	17	16	16	16	16	16	16	22	83	29	35	44
8	16	15	16	17	15	16	16	20	78	28	35	43
9	16	16	17	16	16	16	16	18	72	33	35	39
10	16	15	16	16	16	16	16	17	73	42	35	38
11	16	16	13	16	16	16	16	17	78	37	37	38
12	16	16	15	15	16	16	16	17	72	31	45	37
13	16	16	15	16	13	16	16	18	63	29	46	37
14	16	16	15	16	12	16	16	17	60	29	46	36
15	16	15	15	16	13	16	16	17	63	28	46	36
16	16	14	14	16	14	16	16	17	87	26	48	34
17	17	16	14	16	15	16	16	17	97	25	48	33
18	16	16	12	15	14	16	16	17	75	24	37	33
19	16	16	15	13	15	16	17	17	61	24	33	34
20	16	16	13	14	17	15	25	18	56	25	32	33
21	16	16	11	17	17	15	38	18	76	42	31	33
22	16	16	13	17	16	15	40	24	80	45	30	33
23	16	16	15	16	16	14	38	78	59	46	30	33
24	16	16	16	16	16	14	34	127	51	46	29	26
25	16	16	17	16	16	15	29	132	48	46	30	23
26	16	16	16	16	16	16	24	104	45	46	30	22
27	16	16	17	15	16	16	21	93	43	46	30	21
28	16	15	16	15	16	15	21	101	41	44	30	20
29	16	16	16	15	---	15	19	128	39	44	29	20
30	16	16	16	17	---	15	18	129	37	44	30	19
31	16	---	16	17	---	15	---	107	---	45	29	---
TOTAL	500	473	471	490	434	486	607	1390	2096	1102	1124	1016
MEAN	16.1	15.8	15.2	15.8	15.5	15.7	20.2	44.8	69.9	35.5	36.3	33.9
MAX	17	16	17	17	17	17	40	132	105	46	48	44
MIN	16	14	11	13	12	14	15	16	37	24	29	19
AC-FT	992	938	934	972	861	964	1200	2760	4160	2190	2230	2020
CAL YR 1989	TOTAL	9192	MEAN	25.2	MAX	83	MIN	11	AC-FT	18230		
WTR YR 1990	TOTAL	10189	MEAN	27.9	MAX	132	MIN	11	AC-FT	20210		

YELLOWSTONE RIVER BASIN

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06312500 POWDER RIVER NEAR KAYCEE, WY

LOCATION.--Lat 43°41'35", long 106°31'48", in NE¼ NW¼ SW¼ sec.13, T.43 N., R.81 W., Johnson County, Hydrologic Unit 10090202, at former gaging station at D Ranch, 600 ft downstream from headgate of Sussex Irrigation Canal, 2.0 mi downstream from confluence of North and Middle Forks, and 6.0 mi east of Kaycee.

DRAINAGE AREA.--980 mi², approximately.

PERIOD OF RECORD.--Water years 1946-47, 1949-54, 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CACO3)
NOV 01...	1000	72	1050	8.1	2.0	648	11.6	99	480
DEC 04...	1140	94	958	--	3.0	--	--	--	440
JAN 10...	1045	124	921	--	2.0	--	--	--	410
APR 03...	1230	107	1020	--	11.5	--	--	--	410
MAY 22...	1500	429	372	--	14.0	--	--	--	150
JUN 19...	1200	84	732	--	19.0	--	--	--	280

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
NOV 01...	120	43	77	2	4.1	180	320	52
DEC 04...	110	41	77	2	3.4	180	280	53
JAN 10...	100	38	70	2	3.3	180	290	46
APR 03...	99	40	76	2	3.4	130	280	49
MAY 22...	38	14	17	0.6	1.5	98	82	9.4
JUN 19...	70	26	50	1	2.6	140	180	28

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
NOV 01...	0.4	8.5	734	1.0	143	0.3	<0.03	<5
DEC 04...	0.3	9.3	684	0.93	174	0.5	0.03	<5
JAN 10...	0.4	9.1	668	0.91	224	0.8	0.03	<5
APR 03...	0.3	5.5	632	0.86	182	0.1	<0.03	<5
MAY 22...	0.2	7.5	229	0.31	265	0.1	0.05	<5
JUN 19...	0.2	9.7	450	0.61	102	<0.1	0.06	<5

YELLOWSTONE RIVER BASIN

06313000 SOUTH FORK POWDER RIVER NEAR KAYCEE, WY

LOCATION.--Lat 43°37'03", long 106°34'39", in NW¼ SE¼ SE¼ sec.9, T.42 N., R.81 W., Johnson County, Hydrologic Unit 10090203, 1,000 ft upstream from bridge on old U.S. Highway 87, 0.8 mi upstream from bridge on Interstate 25, 1.7 mi upstream from Murphy Creek, 6.6 mi southeast of Kaycee, and 7 mi upstream from mouth.

DRAINAGE AREA.--1,150 mi², approximately.

PERIOD OF RECORD.--Water years 1949-53, 1968 to December 1981, April 1983 to September 1985, October 1986 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE.--April 1983 to September 1984.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED SATUR-ATION	HARD-NESS TOTAL (MG/L AS CaCO3)
SEP 22...	0900	139	2500	7.8	9.5	668	9.8	99	740

DATE	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS Cl)
SEP 22...	210	52	300	5	10	160	1300	24

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	SELE-NIUM, DIS-SOLVED (UG/L AS Se)
SEP 22...	0.6	5.3	2000	2.72	752	1.10	0.03	6

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED SATUR-ATION	HARD-NESS TOTAL (MG/L AS CaCO3)
NOV 01...	1240	10	3800	8.3	2.0	646	11.1	96	1000
DEC 04...	1400	4.9	--	--	3.5	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

[illegible]

YELLOWSTONE RIVER BASIN

06313400 SALT CREEK NEAR SUSSEX, WY

LOCATION.--Lat 43°37'19", long 106°22'04", in NE¼ NE¼ SE¼ sec.8, T.42 N., R.79 W., Johnson County, Hydrologic Unit 10090204, on left bank 200 ft upstream from bridge on West Sussex Dugout oil field road, 6.3 mi southwest of Sussex, and 12.6 mi upstream from mouth.

DRAINAGE AREA.--769 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1976 to September 1981, October 1982 to current year.

REVISED RECORDS.--WDR WY-85-1: 1981.

GAGE.--Water-stage recorder. Elevation of gage is 4,480 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 16, Nov. 28 to Dec. 3, Dec. 10 to Feb. 26, and Mar. 23-25. Records fair except those for estimated daily discharges, which are poor. Some regulation by Lower Salt Creek Reservoir, capacity, 2,710 acre-ft. Flow affected by water discharge and re-injection from oil field operations.

AVERAGE DISCHARGE.--13 years (water years 1977-81, 1983-90), 47.2 ft³/s, 34,200-acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft³/s, May 18, 1978, gage height, 9.88 ft, from floodmark, from rating curve extended above 2,300 ft³/s on basis of slope-area measurement of peak flow; minimum daily discharge, 9.8 ft³/s, June 26, 1990.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 30	0200	*367	*2.97	No peak greater than base discharge.			
Minimum daily discharge, 9.8 ft ³ /s, June 26.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	35	25	28	26	38	22	28	36	17	15	18
2	46	27	26	30	27	32	22	23	23	16	61	14
3	34	26	27	28	28	34	21	22	26	14	18	15
4	32	25	29	27	28	34	24	20	22	37	27	15
5	30	26	29	26	29	36	20	22	20	22	140	18
6	30	26	30	27	30	38	19	22	20	14	71	15
7	30	26	31	29	29	34	18	18	19	13	27	14
8	29	26	28	31	27	33	19	19	21	14	18	12
9	30	26	31	32	28	69	21	19	20	14	14	11
10	29	26	23	34	29	70	23	19	17	14	12	12
11	30	25	12	34	31	52	25	18	17	15	40	16
12	30	25	19	32	32	50	24	23	16	14	48	11
13	30	26	22	31	29	48	23	23	14	13	27	11
14	30	26	21	30	24	34	22	25	16	13	29	11
15	29	26	20	30	18	27	23	25	17	17	21	13
16	29	25	19	29	21	31	21	22	51	43	17	12
17	30	27	18	27	25	24	22	21	25	15	16	14
18	31	27	19	26	28	24	22	20	21	16	15	16
19	33	27	20	25	30	27	21	21	17	15	80	17
20	31	27	17	26	30	24	20	22	14	15	59	18
21	31	27	11	27	30	24	18	21	19	27	27	18
22	32	28	13	28	30	27	19	22	21	26	19	17
23	32	28	17	29	30	21	20	19	17	20	18	17
24	31	27	23	28	38	19	19	22	15	19	14	16
25	36	27	27	28	50	21	38	17	16	16	15	15
26	46	27	29	29	60	23	58	15	9.8	13	15	14
27	87	27	28	28	50	24	50	16	15	11	16	19
28	59	26	29	26	41	23	32	16	14	16	16	17
29	50	21	31	28	---	21	31	31	13	19	12	16
30	38	24	27	28	---	22	42	136	14	16	16	17
31	39	---	28	27	---	22	---	47	---	15	18	---
TOTAL	1105	792	729	888	878	1006	759	794	585.8	549	941	449
MEAN	35.6	26.4	23.5	28.6	31.4	32.5	25.3	25.6	19.5	17.7	30.4	15.0
MAX	87	35	31	34	60	70	58	136	51	43	140	19
MIN	29	21	11	25	18	19	18	15	9.8	11	12	11
AC-FT	2190	1570	1450	1760	1740	2000	1510	1570	1160	1090	1870	891

CAL YR 1989 TOTAL 12083 MEAN 33.1 MAX 334 MIN 11 AC-FT 23970
WTR YR 1990 TOTAL 9475.8 MEAN 26.0 MAX 140 MIN 9.8 AC-FT 18800

YELLOWSTONE RIVER BASIN

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06313400 SALT CREEK NEAR SUSSEX, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1949, 1952, 1968 to 1981, October 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)
OCT 31...	1030	39	5470	2.0	240	44	31	1200	34	16	660
DEC 04...	0835	28	5860	3.0	310	62	37	1300	32	21	670
JAN 09...	1100	34	5630	2.0	420	96	44	1200	25	23	460
MAR 01...	1445	42	4720	6.5	830	210	73	830	13	31	200
APR 09...	1005	21	5280	5.5	790	200	70	970	15	28	260
MAY 08...	1000	18	5410	9.0	840	210	76	1000	15	28	260
30...	0945	98	2020	--	280	67	28	330	9	12	190
JUN 27...	1000	15	5170	20.0	760	200	64	910	14	33	150
AUG 09...	0845	16	3940	18.0	760	220	51	540	9	26	140
SEP 19...	1240	18	4520	17.5	680	190	51	630	10	30	--

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
OCT 31...	660	920	1.9	22	3290	4.48	347	<0.1	<0.03	<1
DEC 04...	650	1000	2.1	29	3500	4.76	265	0.1	0.03	<5
JAN 09...	890	1100	2.3	31	3660	4.98	336	<0.1	<0.03	<1
MAR 01...	1400	610	2.2	44	3320	4.52	377	0.1	<0.03	<5
APR 09...	1300	790	3.3	18	3540	4.81	200	0.2	<0.03	<5
MAY 08...	1300	820	3.6	19	3610	4.91	176	<0.1	0.07	<1
30...	700	140	0.8	4.9	1400	1.90	370	0.6	0.03	<5
JUN 27...	1400	750	4.9	28	3480	4.73	141	<0.1	<0.03	<5
AUG 09...	860	560	2.7	25	2370	3.22	102	0.1	0.05	<1
SEP 19...	--	340	2.7	35	--	--	--	<0.1	0.06	<5

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE FIELD (US/CM)	PH (STAND- ARD UNITS)	BARO- METRIC PRES- SURE (MM OF HG)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
OCT 31...	1030	39	6000	8.5	662	2.0	11.3	96

YELLOWSTONE RIVER BASIN

06313400 SALT CREEK NEAR SUSSEX, WY--Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)
OCT 31...	1030	--	3	<100	1800	<1.0	1
JAN 09...	1100	20	2	<100	1600	<1.0	1
MAY 08...	1000	10	1	51	1100	<1.0	<1
AUG 09...	0845	20	1	200	610	<1.0	<1

DATE	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 31...	<1	40	<1	120	0.3	<1.0	<10
JAN 09...	<1	40	<1	140	0.1	<1.0	10
MAY 08...	1	20	1	140	0.3	<1.0	4
AUG 09...	1	20	<1	110	0.2	<1.0	<10

06313500 POWDER RIVER AT SUSSEX, WY

LOCATION.--Lat 43°41'44", long 106°18'24", in SW¼ SW¼ NW¼ sec.13, T.43 N., R.79 W., Johnson County, Hydrologic Unit 10090202, on left bank 0.5 mi upstream from bridge on State Highway 192, 0.6 mi west of Sussex, and 2.7 mi downstream from Salt Creek.

DRAINAGE AREA.--3,090 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1938 to June 1940, February 1950 to September 1957, October 1977 to September 1984, October 1985 to current year.

REVISED RECORDS.--WDR WY-80-1: 1979(M), 1979.

GAGE.--Water-stage recorder. Datum of gage is 4,365.28 ft above National Geodetic Vertical datum of 1929. Prior to June 30, 1940, nonrecording gage about 500 ft downstream from State Highway 192 at datum 4,363.23 ft, National Geodetic Vertical Datum of 1929. Feb. 8, 1950, to Sept. 30, 1957, water-stage recorder about 600 ft downstream from State Highway 192 at datum 4,362.16 ft. October 1977, to Apr. 8, 1983, water-stage recorder 10 ft downstream from State Highway 192 at datum 4,362.95 ft. Apr. 9, 1983 to Oct. 21, 1987, at site 300 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Dec. 10 to Mar. 2 and Mar. 24, 25. Records fair except those for estimated daily discharges, which are poor. Numerous small reservoirs and diversions for irrigation of about 17,000 acres upstream from station.

AVERAGE DISCHARGE.--20 years (water years 1939, 1951-57, 1978-84, 1986-90), 194 ft³/s, 140,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,500 ft³/s, May 23, 1952, elevation, 4,374.76 ft, from floodmarks, site then in use, from rating curve extended above 1,500 ft³/s, on basis of slope-area measurement of peak flow; minimum daily discharge, 1.5 ft³/s, Aug. 25, 1939.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 30, 1923, reached an elevation of 4,375.75 ft at site about 600 ft downstream from State Highway 192, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 30	0700	*975	*4.28	No peak greater than base discharge.			

Minimum daily discharge, 24 ft³/s, July 14, 15.

YELLOWSTONE RIVER BASIN

06313500 POWDER RIVER AT SUSSEX, WY--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	139	123	117	116	203	146	272	581	38	57	28
2	134	125	125	121	118	198	149	246	546	36	98	30
3	101	160	125	114	122	195	155	235	500	35	77	30
4	90	173	139	108	127	194	164	237	452	39	52	32
5	84	265	130	105	132	202	180	251	392	46	256	32
6	83	237	129	112	135	200	181	276	319	30	242	30
7	81	189	132	117	132	201	168	291	290	26	87	30
8	84	171	115	123	124	178	167	384	228	26	57	30
9	85	159	104	132	110	256	168	365	204	26	38	30
10	85	171	87	142	113	284	198	338	174	41	28	29
11	85	189	71	137	122	265	199	313	157	35	29	30
12	83	184	92	128	126	231	184	311	150	28	89	32
13	82	167	106	123	132	205	184	311	138	25	76	28
14	83	157	102	127	114	179	178	398	116	24	67	27
15	84	147	93	132	90	159	178	361	109	24	57	26
16	87	122	88	136	103	152	186	364	141	52	48	30
17	93	128	82	132	112	143	222	327	247	31	45	31
18	96	148	90	121	117	146	207	306	265	30	48	31
19	99	146	95	110	122	147	191	354	173	31	260	37
20	98	142	87	102	126	143	212	387	125	27	439	48
21	99	138	63	112	136	142	231	394	119	47	159	55
22	100	132	77	122	146	145	289	457	216	79	94	55
23	98	130	90	130	157	140	343	490	192	68	73	51
24	96	128	98	124	175	104	395	515	130	52	65	49
25	94	132	105	121	202	119	490	668	104	43	58	46
26	110	135	111	118	250	151	486	610	87	32	52	42
27	178	132	116	123	228	154	379	550	78	31	45	44
28	199	109	118	113	210	156	315	515	59	30	37	52
29	140	103	117	108	---	149	297	574	49	30	31	50
30	126	118	110	118	---	146	294	814	41	39	27	47
31	121	---	112	122	---	146	---	657	---	44	29	---
TOTAL	3157	4576	3232	3750	3897	5433	7136	12571	6382	1145	2820	1112
MEAN	102	153	104	121	139	175	238	406	213	36.9	91.0	37.1
MAX	199	265	139	142	250	284	490	814	581	79	439	55
MIN	79	103	63	102	90	104	146	235	41	24	27	26
AC-FT	6260	9080	6410	7440	7730	10780	14150	24930	12660	2270	5590	2210
CAL YR 1989	TOTAL 44814		MEAN 123	MAX 706	MIN 22	AC-FT 88890						
WTR YR 1990	TOTAL 55211		MEAN 151	MAX 814	MIN 24	AC-FT 109500						

YELLOWSTONE RIVER BASIN

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06313500 POWDER RIVER AT SUSSEX, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1949-53, 1967-68, 1976 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1983 to September 1984.

WATER TEMPERATURE: October 1982 to September 1984.

SUSPENDED-SEDIMENT DISCHARGE: May 1983 to September 1984.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL AS CACO3
SEP 22...	1120	378	2580	7.9	12.5	678	8.3	88	600	
DATE		CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	
SEP 22...		160	49	360	6	10	180	1000	100	
DATE		FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	
SEP 22...		0.7	5.7	1800	2.44	1830	0.8	0.03	<5	

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)
OCT 31...	1330	127	2580	2.0	430	100	43	430	9	8.0	310
DEC 04...	1100	151	2060	3.0	460	110	44	320	7	7.5	260
JAN 09...	1345	133	2360	2.0	460	110	44	360	7	9.7	390
MAR 01...	1125	176	2000	0.0	520	130	48	260	5	7.6	95
APR 09...	1315	168	1920	7.0	520	130	48	240	5	7.3	190
MAY 08...	1230	390	843	9.0	250	61	23	87	2	3.1	120
31...	1305	792	1110	--	210	52	20	140	4	6.0	140
JUN 27...	1330	77	1960	28.0	490	120	45	260	5	9.1	190
AUG 09...	1100	39	2250	24.5	660	180	51	320	5	15	170
SEP 19...	1540	40	2830	18.0	520	120	53	300	6	16	--

YELLOWSTONE RIVER BASIN

06313500 POWDER RIVER AT SUSSEX, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
OCT 31...	570	350	0.8	9.8	1700	2.31	583	0.2	0.03	2
DEC 04...	470	270	0.7	13	1390	1.89	568	0.4	0.07	<5
JAN 09...	460	250	0.8	14	1480	2.02	533	0.4	0.05	<1
MAR 01...	680	140	0.8	9.7	1340	1.82	635	0.5	<0.03	<5
APR 09...	600	150	1.4	6.7	1300	1.77	589	0.2	0.03	<5
MAY 08...	220	58	0.9	6.5	533	0.72	561	0.2	0.07	<1
31...	300	78	0.5	7.8	690	0.94	1470	0.3	<0.03	<5
JUN 27...	550	--	0.5	12	--	--	--	<0.1	0.03	<5
AUG 09...	770	220	1.1	11	1670	2.27	176	0.2	0.04	<1
SEP 19...	--	37	1.3	13	--	--	--	<0.1	0.03	<5

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE FIELD (US/CM)	PH (STAND- ARD UNITS)	BARO- METRIC PRES- SURE (MM OF HG)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
OCT 31...	1330	127	2900	8.2	666	2.0	12.0	100

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)
OCT 31...	1330	--	1	<100	630	<1.0	2
JAN 09...	1345	20	1	<100	50	1.0	<1
MAY 08...	1230	30	<1	<100	100	<1.0	<1
AUG 09...	1100	10	1	<100	360	<1.0	9

DATE	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 31...	<1	30	<1	40	0.1	<1.0	<10
JAN 09...	2	30	<1	80	0.1	<1.0	<10
MAY 08...	4	30	<1	<10	0.1	<1.0	<10
AUG 09...	3	90	5	10	0.2	<1.0	<10

06313700 DEAD HORSE CREEK NEAR BUFFALO, WY

LOCATION.--Lat 44°12'54", long 106°06'41", in NW¼ SE¼ SW¼ sec.15, T.49 N., R.77 W., Johnson County, Hydrologic Unit 10090202, on right bank 250 ft downstream from bridge on dirt road, 0.8 mi upstream from Interstate Highway 90, 5.3 mi upstream from mouth, and 31 mi east of Buffalo.

DRAINAGE AREA.--151 mi².

PERIOD OF RECORD.--Annual maximum, water years 1958-71. October 1971 to September 1990 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 3,970 ft above National Geodetic Vertical Datum of 1929, from topographic map. Oct. 1, 1958, to Sept. 30, 1971, crest-stage gage at site 250 ft upstream at present datum. Nov. 24, 1971, to July 15, 1976, water-stage recorder at site 0.3 mi upstream at different datum. July 16, 1976, to July 18, 1984, at site 250 ft upstream at present datum.

REMARKS.--Estimated daily discharges: Oct. 1 to Feb. 26, Mar. 1, 2, July 28 to Aug. 20, and for daily discharges less than 0.10 ft³/s. Records poor.

AVERAGE DISCHARGE.--19 years, 2.08 ft³/s, 1,510 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,460 ft³/s, Sept. 18, 1986, gage height, 10.95 ft, from floodmarks, from rating curve extended above 640 ft³/s on basis of contracted-opening and flow-over-road measurement of peak flow; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 24	2200	498	7.54	Aug. 20	Unknown	*1,120	a*9.77

a-from floodmarks.

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.50	.00	.03	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.25	.00	.03	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.09	.00	.02	.00	.00	.00	.00
4	.00	.00	.02	.00	.00	.05	.00	.02	.00	.00	.00	.00
5	.00	.00	.06	.00	.00	.03	.00	.02	.00	.04	.00	.00
6	.00	.00	.04	.00	.05	.53	.00	.01	.00	.05	.00	.00
7	.00	.00	.01	.00	.03	.22	.00	.01	.00	.02	.00	.00
8	.00	.00	.00	.00	.00	.07	.04	.01	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.03	.07	.01	.00	.00	.00	.00
10	.00	.00	.00	.01	.00	.07	.06	.01	.00	.00	.00	.00
11	.00	.00	.00	.00	.15	.11	.04	.01	.00	.00	.00	.00
12	.00	.00	.00	.00	.08	.28	.04	.03	.00	.00	.00	.00
13	.00	.00	.00	.01	.00	.07	.03	.05	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.05	.03	.04	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.03	.02	.02	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.02	.02	.01	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.02	.01	.01	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.01	.01	.01	.00	.00	.00	.00
19	.00	.02	.00	.00	.02	.01	.01	.01	.00	.00	.55	.00
20	.00	.06	.00	.00	.05	.00	.01	.01	.00	.00	329	.00
21	.00	.04	.00	.00	.14	.00	.01	.01	.00	.05	4.8	.00
22	.00	.01	.00	.00	.31	.00	.01	.00	.00	.02	.67	.00
23	.00	.00	.00	.00	15	.00	.01	.00	.00	.01	.18	.00
24	.00	.00	.00	.00	25	.00	.01	.00	.00	.48	.02	.00
25	.00	.00	.00	.00	14	.00	.02	.00	.00	.17	.00	.00
26	.00	.00	.00	.00	9.0	.00	.06	.00	.00	.55	.00	.00
27	.00	.00	.00	.00	3.2	.00	.06	.00	.00	.05	.00	.00
28	.00	.00	.00	.00	1.0	.00	.05	.00	.00	.11	.00	.00
29	.00	.00	.00	.00	---	.00	.04	.00	.00	.28	.00	.00
30	.00	.00	.00	.00	---	.00	.04	.00	.00	.16	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.02	.00	---
TOTAL	0.00	0.13	0.13	0.02	68.03	2.44	0.70	0.38	0.00	66.36	389.67	0.00
MEAN	.000	.004	.004	.001	2.43	.079	.023	.012	.000	2.14	12.6	.000
MAX	.00	.06	.06	.01	25	.53	.07	.05	.00	.48	329	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.3	.3	.04	135	4.8	1.4	.8	.00	132	773	.00

CAL YR 1989 TOTAL 24.39 MEAN .067 MAX 5.0 MIN .00 AC-FT 48
WTR YR 1990 TOTAL 527.86 MEAN 1.45 MAX 329 MIN .00 AC-FT 1050

YELLOWSTONE RIVER BASIN

06316400 CRAZY WOMAN CREEK AT UPPER STATION, NEAR ARVADA, WY

LOCATION.--Lat 44°29'28", long 106°10'38", in NE¼ SW¼ SW¼ sec.7, T.52 N., R.77 W., Johnson County, Hydrologic Unit 10090205, 1.1 mi upstream from Jewell Draw, 5.0 mi upstream from mouth, and 11 mi south of Arvada.

DRAINAGE AREA.--945 mi², approximately.

PERIOD OF RECORD.--Water years 1967 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CaCO3)
NOV 02...	1215	15	1550	8.1	1.5	665*	12.2	100	660
APR 22...	1520	11	--	--	19.0	--	--	--	--
MAY 30...	1005	23	1950	8.1	17.0	659	8.0	97	810

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CaCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
NOV 02...	140	75	96	2	3.6	180	630	8.5
APR 22...	--	--	--	--	--	--	--	--
MAY 30...	160	100	160	2	5.8	210	950	9.7

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
NOV 02...	0.3	5.2	1070	1.45	43.2	<0.1	<0.03	<5
APR 22...	--	--	--	--	--	--	--	1
MAY 30...	0.3	3.3	1520	2.06	94.1	<0.1	<0.03	1

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 18...	1500	26	22.0	0.02	0.13	0.01	<0.01	<0.01	<0.01
SEP 06...	0940	4.2	21.0	<0.01	0.05	<0.01	<0.01	<0.01	<0.01

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
APR 22...	1520	11	91	2.7
MAY 30...	1005	23	134	8.3
JUN 18...	1500	26	214	15

06317000 POWDER RIVER AT ARVADA, WY

LOCATION.--Lat 44°39'00", long 106°07'37", in SW¼ SE¼ sec.16, T.54 N., R.77 W., Sheridan County, Hydrologic Unit 10090202, on right bank 0.1 mi downstream from bridge on county road, 0.2 mi southeast of Arvada, and 0.2 mi upstream from Wild Horse Creek.

DRAINAGE AREA.--6,050 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1919 to current year (no winter records in water years 1919-30, 1934). Records for Feb. 16-23, 1930, published in WSP 701, are unreliable and should not be used.

REVISED RECORDS.--WSP 1509: 1921(M), 1923(M), 1924-26, 1927-28(M), 1929, 1930(M), 1931, 1932(M), 1933, 1934(M), 1935-36. See PERIOD OF RECORD.

GAGE.--Water-stage recorder. Elevation of gage is 3,620 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 24, 1938, non-contributing gage at bridge 0.2 mi upstream at datum 3,621.87 ft. Oct. 24, 1938 to Apr. 27, 1983, at site 0.7 mi upstream at different datum.

REMARKS.--Estimated daily discharges: Oct. 30, Nov. 1, 15, 16, Nov. 22 to Mar. 14, Mar. 22-26, Apr. 5-13, 15-19, and July 13, 14, 18, 19. Records fair except those for estimated daily discharges, which are poor. Numerous small reservoirs and diversions for irrigation of about 29,000 acres upstream from station.

AVERAGE DISCHARGE.--59 years (water years 1931-33, 1935-90), 274 ft³/s, 198,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 100,000 ft³/s, Sept. 29, 1923, gage height, 23.7 ft, from floodmarks, site and datum then in use, from rating curve extended above 20,000 ft³/s; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 20	2000	*9,690	*8.89	No other peak greater than base discharge.			

Minimum daily discharge, 24 ft³/s, July 18, 19, Sept. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	180	104	99	104	313	142	373	770	128	30	56
2	132	166	93	109	108	337	148	349	667	108	30	53
3	163	173	113	104	114	400	141	289	551	88	28	49
4	117	196	139	100	119	480	139	263	506	75	31	45
5	129	172	169	105	117	595	149	268	498	68	32	47
6	108	169	180	110	125	530	160	232	422	55	37	52
7	104	239	181	113	132	460	180	231	365	45	39	47
8	97	272	153	118	133	430	190	273	319	37	127	60
9	97	237	171	121	130	455	182	303	277	36	108	54
10	124	208	154	128	138	615	162	377	247	36	85	44
11	111	213	112	122	142	745	162	360	249	32	68	38
12	106	188	128	119	133	520	184	356	247	28	57	36
13	105	172	110	123	122	450	208	343	229	25	47	32
14	106	177	101	130	110	400	201	375	205	26	38	30
15	104	175	95	129	96	361	192	355	218	32	34	29
16	101	162	90	123	93	319	182	416	217	32	40	26
17	97	183	84	119	85	291	173	369	214	29	41	26
18	97	176	80	112	83	280	174	339	179	24	39	25
19	95	168	74	109	96	242	182	326	183	24	39	24
20	94	155	69	109	116	201	196	316	364	32	3900	28
21	101	168	57	123	142	199	174	323	299	38	1440	26
22	102	168	48	121	169	190	148	352	241	32	439	28
23	102	160	57	120	198	146	148	380	217	29	202	28
24	102	150	64	118	237	112	191	422	199	27	139	32
25	103	147	73	122	293	182	265	476	302	82	112	39
26	111	143	81	120	330	325	434	556	289	86	96	42
27	118	140	91	123	350	258	610	662	224	57	85	45
28	116	122	97	123	344	199	582	635	190	44	76	45
29	161	97	100	120	---	187	504	566	170	38	69	43
30	228	111	98	116	---	186	423	560	139	34	62	41
31	202	---	95	122	---	176	---	728	---	32	60	---
TOTAL	3628	5187	3261	3630	4359	10584	6926	12173	9197	1459	7630	1170
MEAN	117	173	105	117	156	341	231	393	307	47.1	246	39.0
MAX	228	272	181	130	350	745	610	728	770	128	3900	60
MIN	94	97	48	99	83	112	139	231	139	24	28	24
AC-FT	7200	10290	6470	7200	8650	20990	13740	24150	18240	2890	15130	2320

CAL YR 1989 TOTAL 50009.6 MEAN 137 MAX 813 MIN 1.5 AC-FT 99190
WTR YR 1990 TOTAL 69204 MEAN 190 MAX 3900 MIN 24 AC-FT 137300

YELLOWSTONE RIVER BASIN

06317000 POWDER RIVER AT ARVADA, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1946-57, 1968 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: March 1949 to September 1957, October 1967 to September 1978.

SUSPENDED-SEDIMENT DISCHARGE: April 1946 to September 1957, October 1967 to September 1971, January 1975 to September 1978, April 1983 to September 1984.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)
SEP 13...	1330	113	5400	480	95	60	1000	20	15	390

DATE	TIME	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)
SEP 13...	1000	860	1.4	7.2	3280	4.46	1000	1.4	0.05	<5	

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CACO3)
NOV 02...	1420	148	3200	8.3	2.5	666	11.9	101	580
JAN 12...	1140	119	2820	--	0.5	--	--	--	530
FEB 25...	1830	253	1550	--	0.0	--	--	--	370
APR 12...	1000	184	2340	--	4.0	--	--	--	580
MAY 15...	1655	358	1240	--	14.5	--	--	--	320
MAY 24...	1530	413	1160	--	23.0	--	--	--	300
JUN 16...	1900	240	1410	--	14.5	--	--	--	410
JUL 12...	0950	28	3070	--	20.5	--	--	--	720
AUG 14...	2030	36	2800	--	25.0	--	--	--	640
AUG 21...	2030	9600	1310	--	15.0	--	--	--	530

06317000 POWDER RIVER AT ARVADA, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
NOV 02...	130	61	490	9	8.1	250	840	320
JAN 12...	120	57	460	9	8.0	310	690	310
FEB 25...	89	35	190	4	7.2	150	390	110
APR 12...	140	57	280	5	7.9	190	610	170
MAY 15...	79	31	130	3	4.9	140	340	87
24...	72	30	140	3	5.6	140	350	88
JUN 16...	100	39	170	4	5.3	150	350	160
JUL 12...	160	78	400	6	12	200	960	300
AUG 14...	160	58	290	5	13	150	790	160
21...	150	37	100	2	8.5	100	600	38

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
NOV 02...	0.7	7.0	2010	2.73	803	0.7	<0.03	<5
JAN 12...	0.7	12	1850	2.51	593	0.8	<0.03	<5
FEB 25...	0.5	7.3	921	1.25	629	0.4	<0.03	<5
APR 12...	1.4	6.1	1390	1.89	690	0.4	<0.03	<5
MAY 15...	1.0	6.2	764	1.04	739	0.3	0.07	<5
24...	0.7	9.1	781	1.06	871	0.3	0.03	<5
JUN 16...	0.2	8.3	923	1.25	598	<0.1	0.06	<5
JUL 12...	0.5	10	2040	2.77	154	<0.1	0.08	<5
AUG 14...	0.9	8.4	1570	2.14	153	0.5	0.05	<5
21...	0.5	4.8	1000	1.36	26000	0.6	<0.03	<5

06317300 SOURDOUGH CREEK NEAR BUFFALO, WY

LOCATION.--Lat 44°14'11", long 106°58'06", in NW¼ NE¼ sec.9, T.49 N., R.84 W., Johnson County, Hydrologic Unit 10090206, Big Horn National Forest, on left bank 1.7 mi upstream from culvert on U.S. Highway 16, 4.7 mi upstream from mouth, and 15.4 mi southwest of Buffalo.

DRAINAGE AREA.--5.80 mi².

PERIOD OF RECORD.--January 1985 to September 1990 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 7,980 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 18, 19, 28-30, Nov. 6 to Dec. 28, Jan. 2-8, Feb. 1-9, Apr. 1-5, 15-23, Apr. 25 to May 10, and May 14-16. Records good except those for estimated daily discharges, which are poor. No diversion upstream from station.

AVERAGE DISCHARGE.--5 years, 2.98 ft³/s, 2,160 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62 ft³/s, June 8, 1986, gage height, 2.84 ft, from rating curve extended above 24 ft³/s on basis of indirect measurement of peak flow; maximum gage height recorded, 3.62 ft, Mar. 5, 1989 (backwater from ice, but may have been exceeded during periods of missing winter record); minimum daily discharge, 0.16 ft³/s, Feb. 2, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 32 ft³/s, June 10, gage height, 2.07 ft; minimum daily, 0.37 ft³/s, Feb. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	.80	.75	.69	.40	.43	.60	1.2	20	9.8	4.1	1.4
2	1.5	.83	.75	.65	.38	.41	.70	1.1	18	9.7	3.9	1.3
3	1.6	.85	.75	.60	.40	.42	.80	1.0	17	9.9	3.7	1.4
4	1.7	.82	.80	.60	.42	.42	.85	1.2	17	9.4	4.1	1.4
5	1.4	.78	.80	.60	.42	.41	.80	1.7	20	9.4	3.9	1.5
6	1.3	.75	.80	.65	.42	.41	.76	4.0	20	9.4	3.6	1.7
7	1.3	.75	.75	.70	.40	.43	.83	4.8	20	9.1	3.3	1.7
8	1.3	.75	.75	.70	.42	.46	.89	4.0	20	9.3	3.3	1.5
9	1.3	.80	.75	.70	.45	.47	.81	2.7	19	10	3.3	1.4
10	1.3	.85	.75	.63	.47	.48	.67	2.5	22	10	3.4	1.5
11	1.2	.90	.70	.56	.44	.54	.70	2.4	22	8.5	3.6	1.4
12	1.2	.90	.70	.59	.43	.56	.69	2.6	18	7.8	4.0	1.3
13	1.1	.85	.75	.67	.41	.52	.70	2.6	16	7.3	3.8	1.2
14	1.1	.80	.75	.64	.41	.51	.67	3.0	16	7.4	3.0	1.2
15	1.1	.75	.75	.63	.38	.52	.90	3.5	16	7.1	2.5	1.2
16	1.1	.75	.75	.57	.37	.51	1.1	4.0	22	6.5	2.4	1.2
17	1.1	.75	.75	.50	.40	.51	1.3	4.4	18	5.4	2.3	1.7
18	1.0	.77	.70	.50	.43	.48	2.0	5.6	16	5.2	2.4	1.6
19	1.1	.80	.70	.48	.44	.49	3.2	6.3	15	5.4	2.3	2.5
20	1.2	.80	.70	.46	.41	.54	5.4	7.7	15	6.7	2.1	2.6
21	1.2	.80	.65	.47	.41	.55	8.2	8.9	18	11	2.0	1.7
22	1.2	.75	.65	.49	.41	.51	7.3	9.6	16	8.1	1.9	1.5
23	1.2	.75	.70	.51	.44	.44	5.4	12	15	6.2	1.8	1.5
24	1.1	.75	.75	.48	.43	.47	4.0	14	14	5.4	1.8	1.4
25	1.1	.75	.77	.47	.46	.47	2.4	13	13	4.8	1.7	1.4
26	.98	.75	.78	.47	.47	.48	2.0	11	13	4.5	1.6	1.7
27	1.0	.75	.78	.45	.44	.47	1.7	12	12	4.3	1.6	2.7
28	.90	.75	.78	.42	.45	.47	1.5	15	12	4.2	1.5	2.0
29	.80	.75	.73	.42	---	.47	1.4	22	11	6.9	1.5	1.8
30	.80	.75	.68	.41	---	.49	1.3	21	11	6.3	1.4	1.6
31	.78	---	.70	.41	---	.53	---	19	---	4.6	1.5	---
TOTAL	36.26	23.60	22.87	17.12	11.81	14.87	59.57	223.8	502	229.6	83.3	48.0
MEAN	1.17	.79	.74	.55	.42	.48	1.99	7.22	16.7	7.41	2.69	1.60
MAX	1.7	.90	.80	.70	.47	.56	8.2	22	22	11	4.1	2.7
MIN	.78	.75	.65	.41	.37	.41	.60	1.0	11	4.2	1.4	1.2
AC-FT	72	47	45	34	23	29	118	444	996	455	165	95

CAL YR 1989 TOTAL 865.21 MEAN 2.37 MAX 21 MIN .16 AC-FT 1720
WTR YR 1990 TOTAL 1272.80 MEAN 3.49 MAX 22 MIN .37 AC-FT 2520

06318500 CLEAR CREEK NEAR BUFFALO, WY

LOCATION.--Lat 44°19'58", long 106°46'36", in SE¼ SW¼ NW¼ sec.6, T.50 N., R.82 W., Johnson County, Hydrologic Unit 10090206, on left bank 500 ft upstream from abandoned Pacific Power & Light Company powerplant, 2.0 mi downstream from Mosier Gulch, and 4.0 mi west of Buffalo.

DRAINAGE AREA.--120 mi².

PERIOD OF RECORD.--April to September 1894, May to September 1896, May 1897 to December 1899, June 1917 to October 1927, April 1938 to current year. Published as "at Buffalo" 1897-98. Monthly discharge only for some periods, published in WSP 1309. Records after October 1987 are not considered equivalent due to installation of diversion for water-supply pipeline for city of Buffalo.

REVISED RECORDS.--WSP 1309: 1896, 1898, 1938, 1939(M), 1945(M). WSP 1729: 1921.

GAGE.--Water-stage recorder. Elevation of gage is 5,184.83 ft above National Geodetic Vertical Datum of 1929. See WSP 1916 for history of changes prior to 1961.

REMARKS.--Estimated daily discharges: Oct. 31, Nov. 2-5, 16-19, 24, Nov. 26 to Dec. 3, Dec. 7, 8, 10-24, Jan. 18 to Feb. 2, Feb. 7-10, 13-18, and Mar. 23-26. Records good except those for estimated daily discharges, which are poor. Diversions upstream from station for irrigation of about 330 acres, of which about 320 acres are downstream from station and for water-supply pipeline for city of Buffalo, capacity 12 ft³/s.

AVERAGE DISCHARGE.--61 years (water years 1898-99, 1918-27, 1939-87), prior to water-supply diversion for City of Buffalo, 63.5 ft³/s, 46,020 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,420 ft³/s, June 15, 1963, gage height, 6.19 ft, from rating curve extended above 900 ft³/s on basis of velocity-area study; no flow Feb. 14-16, 1939, Nov. 12, 13, 1940.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 380 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 30	0200	485	3.65	June 11	0400	*708	*4.13

Minimum daily discharge, 8.6 ft³/s, Feb. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	17	18	12	9.2	9.7	17	46	363	219	84	39
2	32	18	17	12	9.5	9.9	24	52	254	206	76	38
3	31	19	19	12	10	10	46	50	200	270	74	36
4	36	19	22	12	10	10	62	48	195	213	79	37
5	32	19	22	12	10	10	27	50	283	176	92	41
6	29	19	19	12	10	10	21	88	259	172	72	42
7	29	20	18	12	9.5	10	23	133	302	158	64	41
8	27	19	19	12	9.6	10	19	106	286	136	62	37
9	27	21	17	12	9.8	11	22	71	259	134	60	35
10	26	21	15	12	10	12	17	68	336	131	63	35
11	25	23	13	12	11	14	15	80	553	111	87	34
12	24	21	15	13	10	14	15	64	315	96	92	31
13	23	23	15	12	9.8	13	15	69	215	86	107	29
14	23	22	15	12	9.4	11	17	62	180	89	80	28
15	23	17	15	12	9.0	11	19	79	175	83	73	26
16	23	17	14	12	8.6	11	42	70	286	81	68	26
17	23	18	14	12	9.0	11	29	65	242	76	66	30
18	19	20	14	11	9.6	11	46	78	200	72	63	30
19	23	21	14	10	10	11	76	83	229	69	62	34
20	24	21	14	9.5	10	12	101	95	220	120	63	49
21	23	20	12	9.8	10	15	148	116	309	251	59	40
22	22	19	11	10	10	14	178	144	271	204	56	35
23	23	16	12	10	10	12	174	209	235	143	54	33
24	22	15	13	9.7	10	10	147	292	282	116	54	31
25	22	16	13	9.7	9.9	10	110	289	313	98	51	29
26	23	15	13	9.7	10	11	85	216	294	85	49	32
27	23	15	13	9.3	9.6	11	65	187	275	77	47	53
28	22	15	13	9.3	9.6	11	65	218	267	74	45	49
29	21	17	13	9.4	---	11	54	404	230	85	43	43
30	17	18	13	9.1	---	11	52	412	220	142	41	39
31	17	---	12	9.0	---	13	---	358	---	106	42	---
TOTAL	761	561	467	340.5	273.1	350.6	1731	4302	8048	4079	2028	1082
MEAN	24.5	18.7	15.1	11.0	9.75	11.3	57.7	139	268	132	65.4	36.1
MAX	36	23	22	13	11	15	178	412	553	270	107	53
MIN	17	15	11	9.0	8.6	9.7	15	46	175	69	41	26
AC-FT	1510	1110	926	675	542	695	3430	8530	15960	8090	4020	2150

CAL YR 1989 TOTAL 18038.4 MEAN 49.4 MAX 326 MIN 4.0 AC-FT 35780
WTR YR 1990 TOTAL 24023.2 MEAN 65.8 MAX 553 MIN 8.6 AC-FT 47650

YELLOWSTONE RIVER BASIN

06320000 ROCK CREEK NEAR BUFFALO, WY

LOCATION.--Lat 44°27'22", long 106°52'42", in NW¼ NW¼ NW¼ sec.29, T.52 N., R.83 W., Johnson County, Hydrologic Unit 10090206, on left bank 300 ft downstream from confluence of North and South Forks and 11.5 mi northwest of Buffalo.

DRAINAGE AREA.--60.0 mi².

PERIOD OF RECORD.--April to August 1941, April to December 1942, May 1943 to November 1944, April 1945 to current year (no winter records since 1971). Monthly discharge only for some periods, published in WSP 1309.

GAGE.--Water-stage recorder. Elevation of gage is 5,280 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Jan. 8, 1944, nonrecording gages 600 ft upstream on North and South Forks at different datums. Jan. 8, 1944, to Sept. 30, 1952, water-stage recorder at present site at datum 0.72 ft lower.

REMARKS.--Estimated daily discharges: Apr. 6. Records good except those for estimated daily discharges, which are poor. Water is imported into drainage basin upstream from station from South Piney Creek. Diversions for irrigation of about 250 acres upstream from station.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--27 years (water years 1944, 1946-71), 36.4 ft³/s, 26,370 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,860 ft³/s, June 15, 1963, gage height, 7.98 ft, from rating curve extended above 450 ft³/s, on basis of slope-area measurement of peak flow; minimum daily, 0.50 ft³/s, Sept. 19, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1941, about 8.05 ft, probably during 1944.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 370 ft³/s, June 11, gage height, 5.72 ft; minimum daily during period of operation, 6.8 ft³/s, Apr. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	7.0	33	248	90	48	35
2	---	---	---	---	---	---	6.8	33	185	88	48	35
3	---	---	---	---	---	---	9.6	33	173	94	47	34
4	---	---	---	---	---	---	11	33	194	79	53	33
5	---	---	---	---	---	---	8.1	37	235	73	71	37
6	---	---	---	---	---	---	7.5	52	207	71	53	35
7	---	---	---	---	---	---	8.3	79	233	67	48	36
8	---	---	---	---	---	---	8.1	59	202	67	46	36
9	---	---	---	---	---	---	11	51	194	64	45	35
10	---	---	---	---	---	---	8.8	49	240	62	45	35
11	---	---	---	---	---	---	8.3	54	248	57	61	35
12	---	---	---	---	---	---	8.3	48	169	53	57	33
13	---	---	---	---	---	---	8.5	49	134	52	61	32
14	---	---	---	---	---	---	9.1	46	133	52	56	32
15	---	---	---	---	---	---	11	53	143	49	51	31
16	---	---	---	---	---	---	16	51	211	47	49	31
17	---	---	---	---	---	---	14	52	173	36	48	32
18	---	---	---	---	---	---	16	62	150	34	51	33
19	---	---	---	---	---	---	21	61	157	38	56	34
20	---	---	---	---	---	---	26	71	145	52	60	40
21	---	---	---	---	---	---	38	79	171	90	61	35
22	---	---	---	---	---	---	55	95	145	71	54	33
23	---	---	---	---	---	---	68	131	134	57	49	31
24	---	---	---	---	---	---	64	171	134	52	40	23
25	---	---	---	---	---	---	57	189	136	47	38	23
26	---	---	---	---	---	---	51	161	125	44	37	23
27	---	---	---	---	---	---	45	159	117	42	35	30
28	---	---	---	---	---	---	43	181	106	43	33	29
29	---	---	---	---	---	---	39	274	95	49	31	25
30	---	---	---	---	---	---	37	266	92	55	31	20
31	---	---	---	---	---	---	---	240	---	50	33	---
TOTAL	---	---	---	---	---	---	721.4	2952	5029	1825	1496	956
MEAN	---	---	---	---	---	---	24.0	95.2	168	58.9	48.3	31.9
MAX	---	---	---	---	---	---	68	274	248	94	71	40
MIN	---	---	---	---	---	---	6.8	33	92	34	31	20
AC-FT	---	---	---	---	---	---	1430	5860	9980	3620	2970	1900

06320200 CLEAR CREEK BELOW ROCK CREEK, NEAR BUFFALO, WY

LOCATION.--Lat 44°21'44", long 106°39'13", in SW¼ SE¼ NW¼ sec.30, T.51 N., R.81 W., Johnson County, Hydrologic Unit 10090206, 100 ft downstream from bridge on county road, 0.5 mi downstream from Rock Creek, and 2.5 mi northeast of Buffalo.

DRAINAGE AREA.--322 mi².

PERIOD OF RECORD.--Water years 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 18...	0840	300	17.0	0.01	0.01	0.01	<0.01	0.01	<0.01

06320400 CLEAR CREEK AT UCROSS, WY

LOCATION.--Lat 44°33'09", long 106°32'06", in NE¼ SW¼ NE¼ sec.19, T.53 N., R.80 W., Johnson County, Hydrologic Unit 10090206, at former gaging station, 0.5 mi upstream from Sheridan-Johnson County line, 0.7 mi south of Ucross, and 1.6 mi upstream from Piney Creek.

DRAINAGE AREA.--409 mi².

PERIOD OF RECORD.--Water years 1976-81, October 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 18...	1030	252	13.5	0.02	0.07	0.02	<0.01	<0.01	<0.01
SEP 06...	1900	25	25.0	<0.01	0.10	0.05	<0.01	<0.01	<0.01

YELLOWSTONE RIVER BASIN

06320500 SOUTH PINEY CREEK AT WILLOW PARK, WY

LOCATION.--Lat 44°27'59", long 107°02'03", in NW¼ sec.24, T.52 N., R.85 W., Johnson County, Hydrologic Unit 10090206, Bighorn National Forest, on left bank about 300 ft downstream from Willow Park Dam, 1.4 mi upstream from Kearny Creek, and 10 mi southwest of Story.

DRAINAGE AREA.--33.6 mi².

PERIOD OF RECORD.--September 1945 to September 1957 (no winter records prior to 1948), October 1959 to current year (no winter records since 1971).

REVISED RECORDS.--WSP 1309: 1949(M). WSP 1709: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 8,540 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1957, at site about 600 ft upstream at different datum. Oct. 1, 1959, to Sept. 30, 1965, at present site at datum 1.00 ft higher.

REMARKS.--Estimated daily discharges: May 1-17, Aug. 15-28, and Sept. 21-30. Records good except those for estimated daily discharges, which are poor. Some regulation by Cloud Peak Reservoir, capacity, 3,385 acre-ft, and Willow Park Reservoir, capacity, 4,457 acre-ft. Storage began in Willow Park Reservoir in April 1959. Cloud Peak Reservoir enlarged December 1958. Water released from storage in Cloud Peak Reservoir is diverted just downstream from station into Rock Creek basin.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--22 years (water years 1948-57, 1960-71), 42.4 ft³/s, 30,720 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,620 ft³/s, June 15, 1963, gage height, 5.68 ft, present datum, from rating curve extended above 360 ft³/s, on basis of slope-area measurement of peak flow; minimum daily during period of operation, 0.13 ft³/s, May 1-6, 1989; minimum daily determined prior to construction of Willow Park Reservoir, 4.5 ft³/s, Mar. 1 to Apr. 5, 1955, but may have been less during years of no winter records.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 501 ft³/s, June 11, gage height, 4.26 ft; minimum daily during period of operation, 3.7 ft³/s, May 1-7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	3.7	125	173	96	75
2	---	---	---	---	---	---	---	3.7	154	185	96	73
3	---	---	---	---	---	---	---	3.7	125	223	95	69
4	---	---	---	---	---	---	---	3.7	123	214	95	67
5	---	---	---	---	---	---	---	3.7	168	180	99	65
6	---	---	---	---	---	---	---	3.7	178	159	109	62
7	---	---	---	---	---	---	---	3.7	247	159	112	61
8	---	---	---	---	---	---	---	3.8	255	146	112	62
9	---	---	---	---	---	---	---	3.8	243	127	111	64
10	---	---	---	---	---	---	---	3.8	313	123	109	64
11	---	---	---	---	---	---	---	3.8	445	111	109	64
12	---	---	---	---	---	---	---	3.8	300	93	112	61
13	---	---	---	---	---	---	---	3.8	203	84	125	57
14	---	---	---	---	---	---	---	3.8	161	84	142	56
15	---	---	---	---	---	---	---	3.8	154	91	133	55
16	---	---	---	---	---	---	---	3.8	194	91	123	54
17	---	---	---	---	---	---	---	3.8	187	83	117	52
18	---	---	---	---	---	---	---	4.0	173	84	115	50
19	---	---	---	---	---	---	---	4.0	193	82	112	49
20	---	---	---	---	---	---	---	4.0	202	85	111	49
21	---	---	---	---	---	---	---	4.0	221	147	110	49
22	---	---	---	---	---	---	---	3.9	220	176	107	43
23	---	---	---	---	---	---	---	3.8	198	140	102	37
24	---	---	---	---	---	---	---	51	211	108	98	34
25	---	---	---	---	---	---	---	96	237	100	97	26
26	---	---	---	---	---	---	---	95	247	99	95	27
27	---	---	---	---	---	---	---	94	235	96	96	29
28	---	---	---	---	---	---	---	94	227	94	87	27
29	---	---	---	---	---	---	---	96	212	87	76	26
30	---	---	---	---	---	---	---	98	184	91	75	19
31	---	---	---	---	---	---	---	101	---	96	74	---
TOTAL	---	---	---	---	---	---	---	812.6	6335	3811	3250	1526
MEAN	---	---	---	---	---	---	---	26.2	211	123	105	50.9
MAX	---	---	---	---	---	---	---	101	445	223	142	75
MIN	---	---	---	---	---	---	---	3.7	123	82	74	19
AC-FT	---	---	---	---	---	---	---	1610	12570	7560	6450	3030

06323000 PINEY CREEK AT KEARNY, WY

LOCATION.--Lat 44°32'08", long 106°49'18", in NE¼ NE¼ SW¼ sec.26, T.53 N., R.83 W., Johnson County, Hydrologic Unit 10090206, on right bank at Kearny, 300 ft northeast of Historical Monument and 2.0 mi upstream from Little Piney Creek.

DRAINAGE AREA.--118 mi².

PERIOD OF RECORD.--September 1902 to June 1906, June to August 1910, May 1911 to July 1917, May 1919 to September 1923 (no winter records), October 1940 to current year. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 1176: 1944. WSP 1309: 1913(M). WSP 1509: 1906, 1920(M), 1941(M), 1942, 1943(M). WSP 1916: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,655.11 ft above National Geodetic Vertical Datum of 1929. Sept. 6, 1902, to June 30, 1906, nonrecording gage at site 50 ft upstream at different datum. May 14, 1911, to July 31, 1917, and May 1, 1919, to Sept. 30, 1923, nonrecording gage at site 50 ft upstream at present datum.

REMARKS.--Estimated daily discharges: Oct. 29 to Nov. 2, Nov. 15-17, Nov. 23 to Mar. 2, Mar. 23-25, and Apr. 8-12. Records good except those for estimated daily discharges, which are poor. Some regulation by Cloud Peak Reservoir, capacity, 3,385 acre-ft, Willow Park Reservoir, capacity, 4,457 acre-ft, and Kearny Lake, capacity, 1,860 acre-ft. Diversion upstream from station from South Piney Creek into Rock Creek basin for irrigation. Diversions upstream from station for irrigation of about 240 acres, of which about 90 acres are downstream from station. Record includes flow in bypass channel (Spring Creek), 300 ft left of main channel.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--50 years (water years 1941-90), 84.3 ft³/s, 61,080 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,410 ft³/s, June 15, 1963, gage height, 6.05 ft, from rating curve extended above 1,800 ft³/s; minimum daily, 1.9 ft³/s, Oct. 3, 1981, Sept. 14-18, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,020 ft³/s, June 11, gage height, 4.37 ft; minimum daily, 7.7 ft³/s, Sept. 25, 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	25	27	24	24	23	35	117	437	295	27	14
2	13	25	26	23	24	23	36	112	408	265	27	14
3	25	26	25	23	25	24	42	106	354	279	26	13
4	28	29	25	22	25	25	46	104	326	274	26	13
5	28	29	27	23	24	25	42	104	382	209	25	14
6	25	25	27	24	23	26	40	123	394	168	26	13
7	24	23	26	25	23	25	43	172	457	160	27	13
8	23	23	25	26	23	26	44	160	565	147	26	13
9	23	27	26	27	23	29	46	150	516	121	25	13
10	23	36	25	28	24	30	44	145	559	106	25	13
11	23	38	24	28	26	33	44	145	903	89	27	12
12	22	35	24	24	27	34	46	136	765	75	27	12
13	22	32	24	24	26	32	48	138	577	66	26	12
14	22	30	24	25	23	32	52	132	463	49	31	12
15	22	26	24	26	22	32	54	136	394	37	32	12
16	23	25	23	24	22	31	68	136	470	36	33	11
17	22	26	22	20	21	29	64	129	418	37	31	12
18	19	27	21	22	21	29	66	145	338	32	32	11
19	20	28	20	22	22	29	73	157	354	28	32	12
20	22	29	20	22	23	33	88	181	374	36	31	13
21	20	27	20	24	24	35	114	206	432	68	30	11
22	20	24	19	27	24	32	136	221	408	85	27	9.1
23	20	23	20	29	24	28	150	230	350	60	27	8.1
24	20	24	21	28	24	26	164	303	362	40	24	8.0
25	20	23	22	28	24	30	215	402	410	35	23	7.7
26	21	25	23	28	24	38	200	348	452	31	24	7.7
27	21	24	22	27	23	32	175	350	440	29	21	8.6
28	21	23	27	28	22	30	162	364	418	30	20	9.1
29	21	25	26	29	---	28	142	449	402	29	17	8.7
30	20	27	25	27	---	29	127	488	354	27	17	8.1
31	24	---	24	25	---	32	---	443	---	27	17	---
TOTAL	669	809	734	782	660	910	2606	6532	13482	2970	809	338.1
MEAN	21.6	27.0	23.7	25.2	23.6	29.4	86.9	211	449	95.8	26.1	11.3
MAX	28	38	27	29	27	38	215	488	903	295	33	14
MIN	12	23	19	20	21	23	35	104	326	27	17	7.7
AC-FT	1330	1600	1460	1550	1310	1800	5170	12960	26740	5890	1600	671

CAL YR 1989 TOTAL 14497.0 MEAN 39.7 MAX 206 MIN 5.6 AC-FT 28750
WTR YR 1990 TOTAL 31301.1 MEAN 85.8 MAX 903 MIN 7.7 AC-FT 62090

YELLOWSTONE RIVER BASIN

06323500 PINEY CREEK AT UCROSS, WY

LOCATION.--Lat 44°33'45", long 106°32'25", in SW¼ NW¼ SE¼ sec.18, T.53 N., R.80 W., Sheridan County, Hydrologic Unit 10090206, at Ucross, 140 ft upstream from bridge on U.S. Highways 14 and 16, and 1.0 mi upstream from mouth.

DRAINAGE AREA.--267 mi².

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED CENT SATUR- ATION	HARD- NESS TOTAL (MG/L AS CACO3)
NOV 01...	1545	12	845	7.8	0.5	660	12.4	100	350

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
NOV 01...	81	35	43	1	4.2	190	230	2.5

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
NOV 01...	0.2	11	521	0.71	16.9	<0.1	<0.03	<5

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 18...	1210	289	15.0	<0.01	0.02	0.01	<0.01	<0.01	<0.01
SEP 06...	1730	52	24.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

YELLOWSTONE RIVER BASIN

211

06324000 CLEAR CREEK NEAR ARVADA, WY

LOCATION.--Lat 44°52'18", long 106°04'56", in SE¼ sec.36, T.57 N., R.77 W., Sheridan County, Hydrologic Unit 10090206, 600 ft downstream from Cabin Creek, 1.8 mi upstream from mouth, and 16 mi north of Arvada.

DRAINAGE AREA.--1,110 mi², approximately.

PERIOD OF RECORD.--Water years 1949-54, 1967 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED SATUR-ATION	HARD-NESS TOTAL (MG/L AS CaCO3)
NOV 02...	1630	86	1380	8.0	2.5	668	11.8	99	580
DATE		CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS Cl)
NOV 02...		140	57	68	1	4.3	140	490	3.8
DATE		FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	SELE-NIUM, DIS-SOLVED (UG/L AS Se)
NOV 02...		0.2	10	859	1.17	199	0.3	<0.03	<5
DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	DICAMBA (MED-IBEN) (BAN-VEL D) TOTAL (UG/L)	PICLO-RAM (TOR-DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2,4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 16...	1600	523	14.0	<0.01	0.09	0.01	<0.01	<0.01	<0.01
SEP 06...	1210	67	24.0	<0.01	0.11	<0.01	<0.01	<0.01	<0.01

YELLOWSTONE RIVER BASIN

06324500 POWDER RIVER AT MOORHEAD, MT

LOCATION.--Lat 45°04'04", long 105°52'10", in NW¼ SE¼ NW¼ sec.8, T.9 S., R.48 E., Powder River County, Hydrologic Unit 10090207, on left bank 500 ft downstream from discontinued post office at Moorhead, 6.2 mi upstream from Buffalo Creek, and at river mile 184.8.

DRAINAGE AREA.--8,088 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1929 to September 1972, October 1974 to current year. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 1309: 1932(M). WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,334.6 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Aug. 28, 1931, nonrecording gage at site 0.3 mi upstream at different datum. Aug. 28, 1931, to Mar. 21, 1956, water-stage recorder at site 1.2 mi upstream at different datum. Mar. 22 to July 24, 1956, nonrecording gage at site 0.3 mi downstream at different datum. July 25 to Sept. 12, 1956, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Nov. 14-17, Nov. 23 to Mar. 7, and Mar. 24-26. Records fair except those for period of estimated daily discharges, which are poor. Some regulation by three reservoirs in Wyoming with combined usable capacity of 36,800 acre-ft. Diversions for irrigation of about 66,300 acres upstream from station.

AVERAGE DISCHARGE.--59 years, 448 ft³/s, 324,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,000 ft³/s, May 20, 1978, gage height, 15.24 ft; maximum gage height, 17.7 ft, Mar. 21, 1956, site and datum then in use, ice jam; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 30, 1923, reached a stage of 19 ft, site and datum used 1931-56, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 21	1015	*8,150	*7.38	No other peak greater than base discharge.			

Minimum daily discharge, 7.0 ft³/s, Nov. 30.

YELLOWSTONE RIVER BASIN

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06324500 POWDER RIVER AT MOORHEAD, MT--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	137	362	e30	e150	e95	e1100	252	542	1420	603	114	133
2	149	321	e40	e140	e120	e1000	242	491	1440	536	120	123
3	183	293	e70	e135	e150	e950	234	469	1320	471	133	110
4	235	294	e50	e130	e210	e1000	227	436	1080	441	108	104
5	206	306	e90	e145	e190	e1050	227	419	895	480	84	103
6	240	310	e150	e170	e190	e1100	237	389	890	414	87	109
7	234	311	e140	e170	e190	e1200	261	374	935	331	85	123
8	224	359	e210	e180	e200	718	258	379	887	267	98	108
9	211	355	e250	e190	e190	773	279	423	1010	232	148	96
10	201	332	e90	e200	e190	914	298	492	954	208	154	113
11	210	307	e70	e185	e200	857	285	534	945	190	127	104
12	201	289	e80	e140	e210	731	282	493	1570	163	109	100
13	186	281	e90	e160	e165	633	286	500	1530	139	110	89
14	176	e270	e70	e190	e130	518	299	543	1150	104	128	83
15	175	e260	e45	e190	e120	476	298	511	953	95	129	82
16	174	e250	e55	e180	e110	426	287	498	879	88	127	81
17	176	e280	e60	e180	e90	387	280	513	938	83	150	80
18	181	284	e55	e150	e100	365	279	465	1140	62	134	76
19	187	276	e50	e130	e120	353	268	441	807	47	126	88
20	198	270	e50	e110	e150	338	260	460	729	31	236	101
21	203	254	e55	e120	e180	315	278	499	888	29	4160	106
22	212	262	e25	e160	e250	299	296	504	854	108	952	106
23	220	e300	e50	e200	e350	333	351	549	848	182	572	94
24	225	e315	e120	e190	e450	e240	482	586	769	215	428	160
25	221	e300	e180	e160	e600	e180	560	649	709	172	346	172
26	233	e340	e175	e170	e900	e310	582	845	878	145	291	183
27	236	e315	e175	e190	e1500	399	831	987	889	189	250	186
28	238	e160	e170	e170	e1300	307	767	964	826	163	203	184
29	277	e40	e160	e150	---	276	727	930	770	150	176	179
30	339	e7.0	e160	e140	---	272	603	964	692	151	150	166
31	389	---	e150	e120	---	261	---	1300	---	136	141	---
TOTAL	6677	8303.0	3165	4995	8650	18081	10816	18149	29595	6625	10176	3542
MEAN	215	277	102	161	309	583	361	585	986	214	328	118
MAX	389	362	250	200	1500	1200	831	1300	1570	603	4160	186
MIN	137	7.0	25	110	90	180	227	374	692	29	84	76
AC-FT	13240	16470	6280	9910	17160	35860	21450	36000	58700	13140	20180	7030

CAL YR 1989 TOTAL 66182.0 MEAN 181 MAX 800 MIN 7.0 AC-FT 131300
WTR YR 1990 TOTAL 128774.0 MEAN 353 MAX 4160 MIN 7.0 AC-FT 255400

e Estimated

YELLOWSTONE RIVER BASIN

06324500 POWDER RIVER AT MOORHEAD, MT--Continued

WATER-QUALITY RECORDS

LOCATION.--Samples collected at bridge on county road, 1.2 mi upstream from gaging station.

PERIOD OF RECORD.--Water years 1951-53, 1956-57, 1969-72, 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1986 to November 1989 (discontinued).

WATER TEMPERATURE: February 1951 to September 1953, October 1955 to September 1957, October 1974 to September 1977, March 1978 to September 1981 (seasonal records only).

SUSPENDED-SEDIMENT DISCHARGE: October 1974 to September 1977, March 1978 to current year (seasonal records only).

REMARKS.--Flow regulated by reservoirs and diversions for irrigation upstream from station. Unpublished records of once-daily water temperature are available in files of Montana District office.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 4,150 microsiemens, July 17, 1988; minimum daily, 642 microsiemens, May 20, 1988.

WATER TEMPERATURE (water years 1951-53, 1955-57, 1975-81): Maximum daily, 33.0°C, July 13, 1981; minimum daily, 0.0°C on many days during winter.

SEDIMENT CONCENTRATION: Maximum daily mean, 53,500 mg/L, May 27, 1980; minimum daily mean, 5 mg/L, Sept. 15, 1975.

SEDIMENT LOAD: Maximum daily, 2,230,000 tons, May 20, 1978; minimum daily, 0.17 ton, Aug. 1, 1988.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,620 microsiemens, Nov. 30; minimum daily, 1,950 microsiemens, Oct. 7.

SEDIMENT CONCENTRATION: Maximum daily mean, 15,000 mg/L, Aug. 21; minimum daily mean, 48 mg/L, July 20.

SEDIMENT LOAD: Maximum daily, 168,000 tons, Aug. 21; minimum daily, 4.0 ton, July 20.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	CLOUD COVER (PER- CENT)	WEATHER (WMO CODE NUMBER)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM HG)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN, DIS- SOLVED (MG/L)
NOV										
08...	1130	363	90	1	2150	7.0	2.0	668	11.3	94
DEC										
28...	1215	168	--	--	2540	-2.0	0.0	--	--	--
MAR										
09...	1100	621	--	--	1760	3.0	1.5	--	--	--
28...	1515	305	--	--	2240	5.0	7.5	--	--	--
MAY										
09...	1600	447	--	--	1450	12.0	11.0	--	--	--
JUN										
05...	1530	889	--	--	700	21.0	20.5	--	--	--
16...	1230	844	--	--	--	13.5	15.0	--	--	--
27...	1045	875	--	--	755	27.0	24.0	--	--	--
AUG										
17...	1115	167	--	--	--	26.0	20.0	--	--	--
22...	1330	951	--	--	--	26.0	21.0	--	--	--
SEP										
06...	1445	116	--	--	--	31.0	28.0	--	--	--
10...	1500	123	--	--	2430	--	--	--	--	--

DATE	TIME	PH (STAND- ARD UNITS)	HARD- NESS TOTAL (MG/L AS CAO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CAO3)
NOV									
08...	1130	8.5	500	110	54	300	6	6.2	242

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)
NOV									
08...	630	220	0.5	8.0	1470	2.01	1450	0.23	2.2

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DICAMBA (MED- IBEN) (BAN- VEL D)	PICLO- RAM (TOR- DON) (AMDON)	SILVEX, TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)
		TOTAL (UG/L)	TOTAL (UG/L)				
JUN 16...	1230	0.01	0.09	<0.01	0.01	<0.01	<0.01
SEP 06...	1445	<0.01	0.06	<0.01	<0.01	<0.01	<0.01

DATE	TIME	TEMPER- ATURE WATER (DEG C)	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM % FINER THAN .062 MM
MAR						
09...	1100	1.5	621	2800	4690	98
28...	1515	7.5	305	2060	1700	90
MAY						
09...	1600	11.0	447	2280	2750	--
JUN						
05...	1530	20.5	889	3430	8230	65
27...	1045	24.0	875	2100	4960	60
AUG						
17...	1115	20.0	167	665	300	98
22...	1330	21.0	951	11600	29800	94
SEP						
10...	1500	--	123	154	51	99

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
ONCE-DAILY

[illegible]

YELLOWSTONE RIVER BASIN

06324500 POWDER RIVER AT MOORHEAD, MT--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)	
	LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)	
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1											805	2390
2											680	1840
3											700	1800
4											475	1280
5											590	1670
6											750	2230
7											2210	7160
8											2080	4030
9											3500	7300
10											5400	13300
11											6100	14100
12											6210	12300
13											5280	9020
14											5460	7640
15											5280	6790
16											4910	5650
17											3990	4170
18											3400	3350
19											2590	2470
20											1990	1820
21											1640	1390
22											1260	1020
23											1130	1020
24											1000	648
25											920	447
26											1520	1270
27											3130	3370
28											2230	1850
29											1480	1100
30											1280	940
31											1230	867
TOTAL											---	124232
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	1190	810	4900	7170	5920	22700	722	1180	569	175	400	144
2	1090	712	3800	5040	5260	20500	605	876	277	90	342	114
3	960	607	2990	3790	4690	16700	470	598	238	85	254	75
4	925	567	2460	2900	4000	11700	380	452	317	92	197	55
5	925	567	2620	2960	3770	9110	376	487	624	142	178	50
6	921	589	2240	2350	3440	8270	313	350	234	55	175	52
7	925	652	1920	1940	2890	7300	226	202	137	31	174	58
8	950	662	1930	1970	2420	5800	145	105	142	38	180	52
9	1050	791	2000	2280	2430	6630	130	81	840	336	172	45
10	1220	982	2280	3030	2110	5430	108	61	9300	3870	178	54
11	1130	870	3380	4870	2130	5430	94	48	11600	3980	180	51
12	1040	792	3040	4050	3770	16000	91	40	8280	2440	124	33
13	1050	811	2820	3810	2780	11500	77	29	5580	1660	113	27
14	1270	1030	2870	4210	1880	5840	64	18	2760	954	115	26
15	1300	1050	2680	3700	1500	3860	51	13	1580	550	104	23
16	1220	945	2440	3280	1330	3160	74	18	1040	357	113	25
17	1140	862	2750	3810	1640	4150	87	19	612	248	118	25
18	1110	836	2450	3080	3980	12300	84	14	432	156	117	24
19	1020	738	2630	3130	1740	3790	60	7.6	420	143	112	27
20	975	684	2590	3220	1010	1990	48	4.0	3520	2240	104	28
21	1080	811	2450	3300	2280	5470	84	6.6	15000	168000	118	34
22	1190	951	2580	3510	1850	4270	235	69	11800	30300	107	31
23	1900	1800	3080	4570	1790	4100	198	97	6850	10600	133	34
24	3190	4150	3540	5600	1570	3260	188	109	5650	6530	278	120
25	3800	5750	4500	7890	1520	2910	126	59	8200	7660	237	110
26	4000	6290	5150	11700	3260	7730	130	51	10700	8410	207	102
27	7230	16200	5360	14300	2110	5060	828	423	6800	4590	181	91
28	7260	15000	5000	13000	1690	3770	2260	995	3010	1650	136	68
29	7150	14000	5200	13100	1350	2810	1560	632	1390	661	109	53
30	6090	9920	5040	13100	996	1860	571	233	567	230	89	40
31	---	---	5020	17600	---	---	732	269	453	172	---	---
TOTAL	---	90429	---	178260	---	223400	---	7546.2	---	256445	---	1671
TOTAL LOAD FOR PERIOD:			881983.2	TONS.								

06324970 LITTLE POWDER RIVER ABOVE DRY CREEK, NEAR WESTON, WY

LOCATION.--Lat 44°55'37", long 105°21'10", in NW¼ SW¼ SW¼ sec.13, T.57 N., R.71 W., Campbell County, Hydrologic Unit 10090208, on left bank 3.1 mi upstream from Dry Creek, 5.0 mi south of the Wyoming-Montana State line, and 20 mi north of Weston.

DRAINAGE AREA.--1,235 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1972 to current year.

REVISED RECORDS.--WDR WY-77-1: Drainage area. WDR WY-78-1: 1976(M).

GAGE.--Water-stage recorder. Elevation of gage is 3,410 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 29 to Nov. 3, Dec. 8-26, Jan. 15-20, Jan. 31 to Feb. 4, Feb. 11-26, and Mar. 24-27. Records fair except those for estimated daily discharges, which are poor. Diversion upstream from station for irrigation of about 80 acres downstream from station. Flow occasionally affected by contributions from mine dewatering.

AVERAGE DISCHARGE.--18 years, 19.8 ft³/s, 14,350 acre-ft/yr.

EXTREMES FOR PERIOD OR RECORD.--Maximum discharge, 5,300 ft³/s, May 19, 1978, gage height, 11.62 ft; maximum gage height, 11.63 ft, Mar. 20, 1978 (backwater from ice); no flow at times some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 130 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 25	0600	a*620	b*7.19	Apr. 29	0930	392	5.82

a Discharge computed from backwater shift defined Feb. 25.

b Affected by backwater from ice jam.

No flow for several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	.01	.39	1.4	1.9	126	4.9	148	5.0	.61	.02	.00
2	.05	.21	.31	1.1	1.8	104	4.7	130	4.5	.57	.02	.00
3	.06	.80	.31	1.1	1.7	57	4.7	168	4.3	.45	.01	.01
4	.07	1.1	.31	1.3	1.9	46	4.7	160	3.6	.50	.01	.01
5	.07	7.9	.46	1.4	2.4	42	4.4	132	3.5	1.3	.01	.01
6	.05	35	.79	1.5	2.8	44	4.4	96	3.5	5.2	.01	.01
7	.04	27	.93	1.8	2.8	47	4.2	63	5.1	1.5	.01	.01
8	.05	7.7	5.3	1.6	2.9	42	4.1	42	5.3	.82	.01	.01
9	.05	4.1	7.0	1.4	2.5	40	3.7	31	4.5	.45	.01	.01
10	.04	2.6	2.4	1.5	2.6	47	4.0	23	3.5	.41	.01	.00
11	.05	1.4	.84	2.0	5.0	48	4.1	17	2.6	.45	.01	.00
12	.05	.90	.67	2.0	15	47	4.1	13	2.8	.17	.01	.00
13	.05	.62	.60	1.8	70	47	4.1	12	2.9	.42	.01	.00
14	.07	.52	.55	2.0	40	40	4.1	12	2.9	.11	.01	.01
15	.05	.47	.52	3.8	25	31	4.1	11	2.9	.12	.01	.01
16	.09	.52	.46	8.0	14	22	4.1	16	2.8	.15	.01	.01
17	.05	.62	.43	6.0	8.0	17	4.3	13	3.1	.10	.01	.01
18	.05	.96	.38	4.5	5.0	14	4.1	10	2.9	.06	.01	.01
19	.05	.62	.33	3.5	7.0	11	3.8	9.4	2.7	.04	.01	.01
20	.05	.78	.30	2.8	9.0	9.4	3.7	9.3	2.5	.06	.01	.01
21	.05	.44	.27	2.9	12	8.1	3.6	9.8	2.4	.20	.01	.01
22	.06	.25	.36	2.9	30	7.3	3.3	11	2.2	.20	.01	.01
23	.06	.19	.46	2.9	76	6.9	3.1	8.1	2.0	.10	.01	.01
24	.03	.26	.68	2.9	310	6.2	3.0	8.3	1.6	.18	.01	.01
25	.04	.31	1.1	2.8	515	5.7	3.0	8.2	1.7	.20	.01	.01
26	.04	.26	1.4	2.5	330	5.7	8.1	7.1	1.7	.10	.01	.01
27	.03	.54	1.8	2.6	231	6.0	35	6.6	1.2	.06	.01	.01
28	.04	.45	1.7	2.6	156	6.8	128	6.0	1.1	.06	.01	.01
29	.02	.57	1.4	2.1	---	6.5	302	5.6	.98	.05	.00	.01
30	.01	.50	1.4	2.2	---	6.3	154	5.5	.90	.05	.01	.01
31	.01	---	1.3	2.1	---	5.6	---	5.3	---	.04	.00	---
TOTAL	1.47	97.60	35.15	79.0	1881.3	952.5	727.4	1197.2	86.68	14.73	0.31	0.24
MEAN	.047	3.25	1.13	2.55	67.2	30.7	24.2	38.6	2.89	.48	.010	.008
MAX	.09	35	7.0	8.0	515	126	302	168	5.3	5.2	.02	.01
MIN	.01	.01	.27	1.1	1.7	5.6	3.0	5.3	.90	.04	.00	.00
AC-FT	2.9	194	70	157	3730	1890	1440	2370	172	29	.6	.5

CAL YR 1989 TOTAL 1540.19 MEAN 4.22 MAX 136 MIN .00 AC-FT 3050
WTR YR 1990 TOTAL 5073.58 MEAN 13.9 MAX 515 MIN .00 AC-FT 10060

YELLOWSTONE RIVER BASIN

06324970 LITTLE POWDER RIVER ABOVE DRY CREEK, NEAR WESTON, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975-82, 1985 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)
JAN 11...	1415	1.9	0.5	2790	770	160	90	430	7	18	--
FEB 28...	1020	177	0.0	430	95	20	11	36	2	7.9	69
MAY 08...	0930	42	11.5	1020	280	54	36	120	3	10	130
JUL 11...	1430	0.55	26.0	3690	840	140	120	580	9	24	--

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
JAN 11...	1200	43	0.7	13	--	--	--	<0.1	0.05	<5
FEB 28...	130	3.2	0.2	6.5	258	0.35	123	0.5	0.14	<5
MAY 08...	380	5.7	0.7	9.6	694	0.94	78.7	<0.1	0.07	<5
JUL 11...	2000	33	0.5	1.9	--	--	--	<0.1	<0.03	<5

Reservoirs in Yellowstone River basin in Wyoming

- 06224500 BULL LAKE.--Lat 43°12'35", long 109°02'30", in E½ NW¼ sec.30, T.3 N., R.2 W., Fremont County, Hydrologic Unit 10080001, Wind River Indian Reservation, at dam on Bull Lake Creek, 2.8 mi upstream from mouth of Bull Lake Creek, and 9.8 mi south of Lenore. DRAINAGE AREA, 210 mi², of which 12 mi² is probably noncontributing. PERIOD OF RECORD, April 1938 to current year. Monthend contents only for some periods, published in WSP 1309. Published as Bull Lake Reservoir near Lenore 1938-50. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (Bureau of Reclamation datum).
REMARKS, reservoir is formed by rockfill dam completed by Bureau of Reclamation July 22, 1938. Capacity, 152,500 acre-ft below elevation 5,805.00 ft, top of spillway gates. Dead storage, 722 acre-ft. Figures given herein represent total contents. Water is used for irrigation near Riverton. COOPERATION, records provided by Bureau of Reclamation.
EXTREMES FOR PERIOD OF RECORD: Maximum daily contents, 154,200 acre-ft, Aug. 10, 1965, elevation, 5,805.70 ft; minimum daily contents (since appreciable storage was attained), 5,540 acre-ft, Mar. 15, 1950, elevation, 5,742.56 ft.
EXTREMES FOR CURRENT YEAR: Maximum daily contents, 141,400 acre-ft, Aug. 3, elevation, 5,801.46 ft; minimum daily contents, 78,400 acre-ft, June 5, elevation, 5,778.83 ft.
- 06258900 BOYSEN RESERVOIR.--Lat 43°25'00", long 108°10'37", in NW¼ NW¼ sec.16, T.5 N., R.6 E., Fremont County, Hydrologic Unit 10080005, at dam on Wind River and 13 mi north of Shoshoni. DRAINAGE AREA, 7,700 mi². PERIOD OF RECORD, October 1951 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (Bureau of Reclamation datum of 1933).
REMARKS, reservoir is formed by rockfill dam completed by Bureau of Reclamation in October 1951. Capacity, 802,000 acre-ft below elevation 4,725.00 ft, top of spillway gate. Includes 59,880 acre-ft dead storage below elevation 4,657.00 ft, invert of penstock pipe. Figures given herein represent total contents. Water used for irrigation, flood control, and power development. COOPERATION, records provided by Bureau of Reclamation.
EXTREMES FOR PERIOD OF RECORD: Maximum daily contents, 922,400 acre-ft, July 6, 7, 1967, elevation, 4,730.83 ft; minimum daily contents (since normal use of water started), 251,800 acre-ft, Mar. 18, 19, 1956, elevation, 4,684.18 ft.
EXTREMES FOR CURRENT YEAR: Maximum daily contents, 665,700 acre-ft, Oct. 30, elevation, 4,717.57 ft; minimum daily contents, 544,900 acre-ft, June 5, elevation, 4,710.01 ft.
- 06260300 ANCHOR RESERVOIR.--Lat 43°39'50", long 108°49'27", in sec.26, T.43 N., R.100 W., Hot Springs County, Hydrologic Unit 10080007, at dam on South Fork Owl Creek, 2.0 mi downstream from Middle Fork, 3.0 mi southeast of Anchor, and 32 mi west of Thermopolis. DRAINAGE AREA, 131 mi². PERIOD OF RECORD, November 1960 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (Bureau of Reclamation datum).
REMARKS, reservoir is formed by concrete arch dam completed by Bureau of Reclamation in 1960. Capacity, 17,230 acre-ft below elevation 6,441.00 ft, crest of spillway. Includes 68 acre-ft below elevation 6,343.75 ft, invert of river outlet. Figures given herein represent total contents. Water used for irrigation of lands in Owl Creek basin. COOPERATION, records provided by Bureau of Reclamation.
EXTREMES FOR PERIOD OF RECORD: Maximum daily contents, 9,250 acre-ft, July 4, 1967, elevation, 6,418.52 ft; no storage on many days each year.
EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 604 acre-ft, June 11, elevation, 6,364.50 ft; no storage on many days.
- 06281500 BUFFALO BILL RESERVOIR.--Lat 44°30'05", long 109°11'00", in NE¼ sec.12, T.52 N., R.103 W., Park County, Hydrologic Unit 10080013, at dam on Shoshone River, 5.0 mi upstream from Trail Creek, and 6.0 mi southwest of Cody. DRAINAGE AREA, 1,498 mi². PERIOD OF RECORD, May to July 1909, January 1910 to current year. Monthend contents only prior to October 1938, published in WSP 1309. Prior to October 1944, published as Shoshone Reservoir near Cody. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (Bureau of Reclamation datum). Prior to July 8, 1959, nonrecording gage at same datum.
REMARKS, reservoir is formed by masonry dam completed by Bureau of Reclamation in 1909. Capacity, 424,000 acre-ft between elevations 5,140.00 ft, gate sill, and 5,360.00 ft, crest of spillway. Dead storage negligible. Figures given herein represent total contents. Water used for power development and irrigation of lands east of Cody. COOPERATION, records provided by Bureau of Reclamation.
EXTREMES FOR PERIOD OF RECORD: Maximum daily contents, 507,000 acre-ft, June 15, 1918, elevation, 5,367.3 ft; minimum daily contents, 19,000 acre-ft, Jan 23-25, 1941, elevation, 5,225.3 ft.
EXTREMES FOR CURRENT YEAR: Maximum contents, 362,300 acre-ft, July 4, elevation, 5,354.48 ft; minimum daily contents, 162,600 acre-ft, Sept. 30, elevation, 5,313.39 ft.

YELLOWSTONE RIVER BASIN

Reservoirs in Yellowstone River basin in Wyoming--Continued

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990			
Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
06224500 BULL LAKE			
Sept. 30	5,789.91	107,600	-
Oct. 31	5,789.42	106,300	-1,300
Nov. 30	5,789.47	106,400	+100
Dec. 31	5,789.27	105,800	-600
CAL YR 1989	-	-	+79,070
Jan. 31	5,788.87	104,700	-1,100
Feb. 28	5,788.45	103,600	-1,100
Mar. 31	5,788.01	102,400	-1,200
Apr. 30	5,789.13	105,500	+3,100
May 31	5,780.68	83,100	-22,400
June 30	5,792.33	114,400	+31,300
July 31	5,801.36	141,100	+26,700
Aug. 31	5,793.52	117,800	-23,300
Sept. 30	5,780.85	83,500	-34,300
WTR YR 1990	-	-	-24,100
06258900 BOYSEN RESERVOIR			
Sept. 30	4,717.47	664,000	-
Oct. 31	4,717.51	664,700	+700
Nov. 30	4,716.97	655,400	-9,300
Dec. 31	4,714.93	621,400	-34,000
CAL YR 1989	-	-	+134,800
Jan. 31	4,712.94	589,600	-31,800
Feb. 28	4,711.23	563,300	-26,300
Mar. 31	4,710.65	554,500	-8,800
Apr. 30	4,711.08	561,000	+6,500
May 31	4,710.07	545,800	-15,200
June 30	4,713.76	602,600	+56,800
July 31	4,714.14	608,700	+6,100
Aug. 31	4,713.27	594,800	-13,900
Sept. 30	4,713.13	592,600	-2,200
WTR YR 1990	-	-	-71,400

YELLOWSTONE RIVER BASIN

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Reservoirs in Yellowstone River basin in Wyoming--Continued

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990			
Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
06260300 ANCHOR RESERVOIR			
Sept. 30	DRY	0	-
Oct. 31	DRY	0	0
Nov. 30	6,350.00	148	+148
Dec. 31	6,348.00	120	-28
CAL YR 1989	-	-	+120
Jan. 31	6,350.00	148	+28
Feb. 28	6,348.50	128	-20
Mar. 31	DRY	0	-128
Apr. 30	6,362.00	492	+492
May 31	6,364.00	580	+88
June 30	6,351.40	178	-402
July 31	6,352.60	204	+26
Aug. 31	6,347.00	106	-98
Sept. 30	6,346.00	91	-15
WTR YR 1990	-	-	+91
06281500 BUFFALO BILL RESERVOIR			
Sept. 30	5,328.60	221,500	-
Oct. 31	5,324.51	204,100	-17,400
Nov. 30	5,327.51	216,700	+12,600
Dec. 31	5,328.72	222,000	+5,300
CAL YR 1989	-	-	+66,700
Jan. 31	5,329.66	226,200	+4,200
Feb. 28	5,329.28	224,500	-1,700
Mar. 31	5,330.75	231,100	+6,600
Apr. 30	5,333.23	242,700	+11,600
May 31	5,324.25	203,000	-39,700
June 30	5,352.01	346,600	+143,600
July 31	5,345.04	304,900	-41,700
Aug. 31	5,329.41	225,100	-79,800
Sept. 30	5,313.39	162,600	-62,500
WTR YR 1990	-	-	-58,900

CHEYENNE RIVER BASIN

06375600 LITTLE THUNDER CREEK NEAR HAMPSHIRE, WY

LOCATION.--Lat 43°39'20", long 104°54'20", in SW¼ SE¼ sec.33, T.43 N., R.67 W., Weston County, Hydrologic Unit 10120103, Thunder Basin National Grassland, on left bank 1.2 mi downstream from county bridge, 2.7 mi upstream from mouth, 12 mi northwest of Hampshire, and 38 mi southwest of Newcastle.

DRAINAGE AREA.--234 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1977 to September 1981, October 1987 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,400 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Numerous small stock water reservoirs upstream from station.

AVERAGE DISCHARGE.--7 years (water years 1978-81, 1988-90), 2.30 ft³/s, 1,670 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,030 ft³/s, May 18, 1978, gage height, 9.02 ft, from rating curve extended above 180 ft³/s on basis of slope-area measurements at gage heights 7.67 ft and 9.02 ft; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 40 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 31	0330	*390	*5.43	July 25	0830	199	4.64
July 21	1700	59	3.76				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	5.1	.00	1.7	3.0	.00	.01	.00
2	.00	.00	.00	.00	.00	3.6	.00	1.0	.95	.00	.00	.00
3	.00	.00	.00	.00	.00	2.9	.00	.58	.41	.00	.00	.00
4	.00	.00	.00	.00	.00	3.5	.00	.38	.24	.00	.00	.00
5	.00	.00	.00	.00	.00	3.9	.00	.29	.13	.00	.00	.00
6	.00	.00	.00	.00	.00	3.6	.00	.21	.09	.00	.00	.00
7	.00	.00	.00	.00	.00	2.3	.00	.45	.05	.00	.00	.00
8	.00	.00	.00	.00	.00	1.9	.00	.42	.04	.00	.00	.00
9	.00	.00	.00	.00	.00	1.7	.00	.33	.01	.00	.00	.00
10	.00	.00	.00	.00	.00	1.5	.00	.25	.01	.00	.00	.00
11	.00	.00	.00	.00	.00	7.1	.00	.25	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	11	.00	.25	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	4.6	.00	.21	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	2.3	.06	.20	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	1.0	.09	.17	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.49	.09	.10	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.40	.08	.09	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.35	.01	.08	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.18	.00	.09	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.14	.00	.37	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.11	.00	.38	.00	12	.00	.00
22	.00	.00	.00	.00	.00	.06	.00	1.4	.00	7.9	.00	1.2
23	.00	.00	.00	.00	.00	.03	.00	1.4	.00	1.8	.00	.49
24	.00	.00	.00	.00	.00	.01	.00	.70	.00	1.5	.00	.18
25	.00	.00	.00	.00	13	.00	.00	.56	.00	41	.00	.05
26	.00	.00	.00	.00	17	.00	.00	.34	.00	3.8	.00	.01
27	.00	.00	.00	.00	17	.00	.53	.23	.00	1.3	.00	.00
28	.00	.00	.00	.00	8.0	.00	4.7	.39	.00	.41	.00	.00
29	.00	.00	.00	.00	---	.00	4.9	.64	.00	.24	.00	.00
30	.00	.00	.00	.00	---	.00	2.8	.84	.00	.15	.00	.00
31	.00	---	.00	.00	---	.00	---	69	---	.07	.00	---
TOTAL	0.00	0.00	0.00	0.00	55.00	57.77	13.26	83.30	4.93	70.17	0.01	1.93
MEAN	.0000	.0000	.0000	.0000	1.96	1.86	.44	2.69	.16	2.26	.0000	.064
MAX	.00	.00	.00	.00	17	11	4.9	69	3.0	41	.01	1.2
MIN	.00	.00	.00	.00	.00	.00	.00	.08	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	109	115	26	165	9.8	139	.02	3.8

CAL YR 1989 TOTAL 1.23 MEAN .003 MAX .67 MIN .00 AC-FT 2.4
WTR YR 1990 TOTAL 286.37 MEAN .78 MAX 69 MIN .00 AC-FT 568

06375600 LITTLE THUNDER CREEK NEAR HAMPSHIRE, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 1977 to September 1981, October 1987 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

		DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CaCO3)
FEB									
25...	1655	12	1120	8.4	1.5	645	10.7	91	360
27...	1525	11	420	8.4	1.0	657	10.6	87	130
MAR									
13...	1020	7.4	392	8.3	4.0	639	9.1	83	100
MAY									
11...	1000	0.24	1490	8.5	11.0	640	8.8	96	400
JUN									
04...	1055	0.29	662	7.9	15.5	640	6.6	79	180
DATE	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
FEB									
25...	74	43	110	3	14	120	450	16	0.4
27...	28	14	40	2	7.9	79	130	5.0	0.3
MAR									
13...	22	11	42	2	5.6	76	120	6.8	0.2
MAY									
11...	79	49	170	4	9.9	171	500	94	0.2
JUN									
04...	41	20	64	2	8.6	84	210	30	0.3
DATE	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
FEB									
25...	8.7	789	1.07	25.6	<0.1	<0.03	251	8.1	99
27...	8.3	282	0.38	8.38	<0.1	<0.03	265	7.9	98
MAR									
13...	18	272	0.37	5.44	<0.1	<0.03	578	12	100
MAY									
11...	4.2	1010	1.37	0.65	0.2	0.06	20	0.01	92
JUN									
04...	6.5	433	0.59	0.34	0.4	0.09	326	0.26	100

CHEYENNE RIVER BASIN

06375600 LITTLE THUNDER CREEK NEAR HAMPSHIRE, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)
FEB									
25...	1655	12	680	1	45	130	<1.0	6	<10
27...	1525	11	1000	<1	25	80	<1.0	2	4
MAR									
13...	1020	7.4	470	<1	28	60	2.0	<5	20
MAY									
11...	1000	0.24	30	<1	66	110	<1.0	<1	4
JUN									
04...	1055	0.29	160	1	89	80	<1.0	<1	6

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDEED TOTAL (MG/L AS C)
FEB									
25...	190	<10	170	<0.1	<1	<1.0	11	18	3.2
27...	280	1	43	0.5	<1	1.0	17	19	3.4
MAR									
13...	350	<10	11	0.2	<1	2.0	7	8.8	5.3
MAY									
11...	20	<1	5	0.1	<1	<1.0	4	10	0.9
JUN									
04...	64	1	31	3.0	2	<1.0	4	8.6	2.5

DATE	TIME	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM
FEB					
27...	1525	90	97	--	--
MAR					
13...	1020	94	95	97	98

06376300 BLACK THUNDER CREEK NEAR HAMPSHIRE, WY

LOCATION.--Lat 43°34'54", long 104°43'11", in SW¼ SW¼ SW¼ sec.30, T.42 N., R.65 W., Weston County, Hydrologic Unit 10120103, on right bank 20 ft downstream from bridge on county road, 1.3 mi west of Hampshire, and 4.0 mi upstream from mouth.

DRAINAGE AREA.--535 mi², approximately.

PERIOD OF RECORD.--October 1972 to September 1990 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 4,080 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Feb. 24-27, Mar. 6, 7, and daily discharges less than 2 ft³/s. Records fair except those for estimated daily discharges, which are poor. There are many small stock ponds upstream from station. No diversion upstream from station.

AVERAGE DISCHARGE.--18 years, 6.77 ft³/s, 4,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,050 ft³/s, May 18, 1978, gage height, 14.13 ft, from floodmark, from rating curve extended above 630 ft³/s on basis of slope-area measurement of peak flow; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 24	1500	ice jam	*6.32	No other peak greater than base discharge.			
Mar. 11	1730	*251	5.67				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	31	.00	12	15	.00	.06	.00
2	.00	.00	.00	.00	.00	33	.00	6.8	5.0	.00	.01	.00
3	.00	.00	.00	.00	.00	25	.00	3.0	2.1	.00	.00	.00
4	.00	.00	.00	.00	.00	31	.00	1.5	1.6	.00	.00	.00
5	.00	.00	.00	.00	.00	38	.00	.70	1.0	.00	8.4	.00
6	.00	.00	.00	.00	.00	22	.00	.32	.54	.00	14	.00
7	.00	.00	.00	.00	.00	12	.00	.18	.18	.00	4.2	.00
8	.00	.00	.00	.00	.00	9.2	.00	1.3	.03	.00	1.4	.00
9	.00	.00	.00	.00	.00	6.5	.00	.47	.01	.00	.68	.00
10	.00	.00	.00	.00	.00	7.0	.00	.25	.00	.00	.26	.00
11	.00	.00	.00	.00	.00	69	.00	.21	.00	.00	.01	.00
12	.00	.00	.00	.00	.00	96	.00	.17	.00	.00	.00	.00
13	.00	.00	.00	.00	.22	39	.00	.14	.00	.00	.00	.00
14	.00	.00	.00	.00	.07	10	.00	.12	.00	.00	.00	.00
15	.00	.00	.00	.12	.00	4.6	.00	.09	.00	.00	.00	.00
16	.00	.00	.00	.05	.00	2.2	.00	.05	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	1.4	.00	.03	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.89	.00	.03	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.60	.00	.03	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.34	.00	1.1	.00	.00	.00	.00
21	.00	.00	.00	.09	.00	.18	.00	42	.00	.00	.00	.00
22	.00	.00	.00	.06	.00	.06	.00	11	.00	36	.00	.00
23	.00	.00	.00	.01	.31	.02	.00	4.1	.00	29	.00	.00
24	.00	.00	.00	.00	20	.01	.00	2.5	.00	7.7	.00	.00
25	.00	.00	.00	.00	56	.00	.00	1.9	.00	3.6	.00	.00
26	.00	.00	.00	.00	80	.00	.00	3.5	.00	17	.00	.00
27	.00	.00	.00	.00	69	.00	1.1	5.6	.00	4.4	.00	.00
28	.00	.00	.00	.00	50	.00	70	2.1	.00	2.5	.00	.00
29	.00	.00	.00	.00	---	.00	87	.62	.00	1.1	.00	.00
30	.00	.00	.00	.00	---	.00	33	.27	.00	.49	.00	.00
31	.00	---	.00	.00	---	.00	---	57	---	.23	.00	---
TOTAL	0.00	0.00	0.00	0.33	275.60	439.00	191.10	159.08	25.46	102.02	29.02	0.00
MEAN	.000	.000	.000	.011	9.84	14.2	6.37	5.13	.85	3.29	.94	.000
MAX	.00	.00	.00	.12	80	96	87	57	15	36	14	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00	.00
AC-FT	.00	.00	.00	.7	547	871	379	316	50	202	58	.00

CAL YR 1989 TOTAL 456.22 MEAN 1.25 MAX 81 MIN .00 AC-FT 905
WTR YR 1990 TOTAL 1221.61 MEAN 3.35 MAX 96 MIN .00 AC-FT 2420

CHEYENNE RIVER BASIN

06386400 CHEYENNE RIVER AT RIVERVIEW, WY

LOCATION.--Lat 43°25'41", long 104°11'45", in NW¼ NE¼ SW¼ sec.21, T.40 N., R.61 W., Niobrara County, Hydrologic Unit 10120106, at bridge on U.S. Highway 85, 0.5 mi north of Riverview, 0.9 mi upstream from Bobcat Creek, 4.7 mi upstream from former gaging station, and 30 mi south of Newcastle.

DRAINAGE AREA.--5,160 mi², approximately.

PERIOD OF RECORD.--Water years 1951-54, 1969-70, 1972 to current year. Published as South Fork Cheyenne River near Spencer prior to October 1951, as Cheyenne River near Spencer 1952-76, and as Cheyenne River near Riverview 1977-79.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 04...	1640	25	24.0	0.01	0.01	0.02	<0.01	<0.01	<0.01
SEP 17...	1245	E0.07	19.0	<0.01	0.38	<0.01	<0.01	<0.01	<0.01

E-Estimate.

06394000 BEAVER CREEK NEAR NEWCASTLE, WY

LOCATION.--Lat 43°32'07", long 104°07'02", in NW¼ sec.18, T.41 N., R.60 W., Weston County, Hydrologic Unit 10120107, at highway bridge, 2.2 mi downstream from Sheep Creek, and 23 mi south of Newcastle.

DRAINAGE AREA.--1,320 mi², approximately.

PERIOD OF RECORD.--February to September 1943, October 1944 to current year.

REVISED RECORDS.--WSP 1209: 1943, 1946, 1948-49.

GAGE.--Water-stage recorder. Elevation of gage is 3,660 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 1, 1945, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Oct. 1 to Mar. 2 and Mar. 23-26. Records good except those for estimated daily discharges, which are poor. There are many small reservoirs upstream from station used for storage of stock and irrigation water, total capacity, about 11,000 acre-ft. Diversions for irrigation of about 4,900 acres upstream from station.

AVERAGE DISCHARGE.--46 years (water years 1945-90), 29.9 ft³/s, 21,660 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,900 ft³/s, June 16, 1962, gage height, 19.98 ft, from rating curve extended above 4,000 ft³/s on basis of contracted-opening measurement of peak flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 27	1330	ice jam	*7.09	No peak greater than base discharge.			
Apr. 25	2230	*345	5.75				

Minimum daily discharge, 0.34 ft³/s, Aug. 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	3.6	11	9.3	11	255	9.1	4.3	9.4	.67	.79	2.1
2	3.3	3.8	10	10	12	210	9.4	3.9	7.0	.65	.54	2.0
3	3.6	4.0	11	11	13	185	9.3	2.9	4.8	.71	.70	1.7
4	3.7	5.5	12	10	9.7	165	10	8.0	4.5	.71	2.7	1.3
5	3.5	8.0	13	10	11	155	12	5.6	4.2	1.6	5.4	.65
6	3.5	8.0	13	11	12	125	14	5.7	3.9	3.3	3.1	.86
7	3.4	8.0	12	11	13	104	12	5.4	4.3	13	2.6	12
8	3.3	9.0	11	11	13	117	9.4	4.4	5.0	7.6	2.2	6.1
9	3.3	11	11	11	12	112	9.1	4.9	3.6	5.4	2.7	3.8
10	3.2	12	8.5	11	11	107	8.9	5.8	3.8	3.8	2.9	2.6
11	3.1	12	6.5	11	10	81	8.0	5.0	3.5	4.0	1.8	1.5
12	3.1	12	6.8	12	9.3	76	8.4	4.6	3.0	3.5	1.5	1.7
13	3.0	12	6.4	11	10	83	9.8	3.2	3.7	3.2	1.3	1.4
14	3.1	12	6.1	11	11	66	8.9	20	4.6	3.7	1.0	1.1
15	3.0	11	6.8	12	11	48	8.2	16	5.1	3.8	.84	.52
16	3.0	10	7.3	11	11	40	7.9	8.9	5.1	3.5	.77	.39
17	3.0	11	7.6	10	9.7	34	7.8	6.2	4.9	2.7	.60	.38
18	3.0	12	7.4	11	8.3	30	7.3	5.1	4.8	2.5	.57	.38
19	3.2	12	7.2	12	7.6	29	6.9	5.7	4.2	2.0	.44	.78
20	3.0	12	6.9	12	9.0	29	6.7	5.8	3.8	.99	.37	2.3
21	2.9	11	6.7	12	9.9	27	6.4	5.8	6.3	16	.34	1.7
22	2.9	10	6.4	10	11	25	4.3	4.1	5.3	85	.35	1.5
23	2.9	10	6.7	9.2	12	19	2.3	4.4	5.8	29	.56	2.1
24	3.1	11	7.1	10	15	14	2.2	5.6	6.4	8.1	1.4	2.2
25	3.4	10	7.3	11	23	18	132	20	6.2	4.8	1.2	2.2
26	3.7	9.4	7.5	11	69	21	95	12	5.8	3.0	.96	2.5
27	3.9	8.3	7.8	10	280	21	10	11	3.1	2.1	1.1	2.8
28	3.7	8.9	7.6	11	305	20	5.7	8.1	1.7	1.0	1.0	4.0
29	3.6	9.6	7.6	10	---	19	4.8	7.8	1.0	.64	1.6	5.1
30	3.4	10	7.9	8.7	---	18	4.4	23	.83	.46	2.3	5.0
31	3.5	---	8.5	9.7	---	13	---	17	---	.57	2.1	---
TOTAL	101.5	287.1	262.6	330.9	939.5	2266	450.2	320.4	135.63	218.00	45.73	72.66
MEAN	3.27	9.57	8.47	10.7	33.6	73.1	15.0	10.3	4.52	7.03	1.48	2.42
MAX	3.9	12	13	12	305	255	132	46	9.4	85	5.4	12
MIN	2.9	3.6	6.1	8.7	7.6	13	2.2	2.9	.83	.46	.34	.38
AC-FT	201	569	521	656	1860	4490	893	636	269	432	91	144

CAL YR 1989 TOTAL 3817.38 MEAN 10.5 MAX 338 MIN .04 AC-FT 7570
WTR YR 1990 TOTAL 5430.22 MEAN 14.9 MAX 305 MIN .34 AC-FT 10770

CHEYENNE RIVER BASIN

06395000 CHEYENNE RIVER AT EDMONT, SD

LOCATION.--Lat 43°18'20", long 103°49'14", in SW¼ SE¼ SE¼ sec.36, T.8 S., R.2 E., Fall River County, Hydrologic Unit 10120106, on right bank at downstream side of bridge on U.S. Highway 18, at Edgemont, 300 ft downstream from Burlington Northern Railroad bridge, and 600 ft upstream from Cottonwood Creek.

DRAINAGE AREA.--7,143 mi².

PERIOD OF RECORD.--June 1903 to November 1906 (no winter records), April 1928 to February 1933, October 1946 to current year.

REVISED RECORDS.--WSP 1086: Drainage area. WSP 1116: 1947. WDR SD-78-1: 1977.

GAGE.--Water-stage recorder. Datum of gage is 3,414.56 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 1, 1906, nonrecording gage 20 ft upstream at datum 0.7 ft lower. Apr. 11, 1928, to Feb. 28, 1933, Oct. 4, 1946, to Oct. 23, 1947, and Jan. 11, 1961, to Apr. 24, 1963, nonrecording gage, and Oct. 24, 1947, to Jan. 10, 1961, and Apr. 25, 1963, to Sept. 30, 1972, water-stage recorder all at present site at datum 2.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Many small reservoirs upstream from station used for stock and irrigation water, total capacity, about 45,000 acre-ft. U.S. Bureau of Reclamation satellite data-collection platform at station.

AVERAGE DISCHARGE.--48 years, 91.8 ft³/s, 66,510 acre-ft/yr; median of yearly mean discharges, 72 ft³/s, 52,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft³/s, May 20, 1978, gage height, 13.65 ft, present datum; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 12, 1920, reached a stage of 13.0 ft and May 1, 1922, 14.0 ft, present datum, from floodmarks at railroad bridge.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
a	--	b	c*5.52	July 23	1615	*1,060	4.19

a Sometime during the period Mar. 2-11.

b Backwater from ice.

c From crest-stage gage.

No flow Aug. 26 to Sept. 1, Sept. 6.

06395000 CHEYENNE RIVER AT EDMONT, SD--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	5.8	e11	e13	e13	e28	24	36	48	2.9	100	.00
2	11	6.6	e11	e13	e13	e30	20	37	53	2.1	71	.38
3	8.9	6.6	e11	e13	e14	e50	18	43	63	1.8	36	.76
4	8.2	5.2	e12	e12	e16	e100	19	37	41	1.7	20	1.4
5	6.6	4.9	e15	e12	e18	e400	20	29	34	2.9	19	3.4
6	5.3	4.0	e15	e12	e20	e300	20	27	31	1.6	23	.00
7	4.8	3.9	e13	e12	e22	e250	21	22	27	22	17	.05
8	3.8	4.6	e12	e13	e20	e210	20	19	22	360	75	.73
9	3.3	4.2	e11	e14	e20	e180	20	20	20	167	43	.78
10	2.7	10	e11	e14	e22	e150	18	20	27	74	22	6.9
11	2.5	18	e10	e12	e28	e120	17	25	25	39	16	5.0
12	2.3	18	e9.0	e10	e40	e100	17	27	21	21	15	5.2
13	2.1	18	e8.0	e10	e35	79	18	49	18	13	15	4.9
14	1.9	18	e7.0	e14	e30	84	18	80	15	9.5	127	3.1
15	2.0	e17	e6.0	e15	e25	147	18	119	12	8.7	74	1.2
16	2.6	e17	e5.0	e15	e20	117	18	80	12	7.0	36	.84
17	2.2	e15	e5.0	e14	e20	74	18	57	12	5.5	19	.65
18	1.9	e13	e5.0	e12	e22	57	18	49	10	4.3	11	.21
19	1.7	e15	e4.0	e15	e22	48	17	45	9.0	7.6	6.8	11
20	1.8	e17	e2.5	e17	e22	45	16	41	8.2	5.4	4.6	25
21	1.7	e17	e1.8	e15	e22	42	15	47	11	23	3.5	24
22	2.1	e17	e1.2	e15	e23	39	14	41	14	32	2.2	30
23	2.2	e15	e1.6	e15	e25	26	14	36	11	665	1.6	26
24	2.1	e15	e2.1	e15	e30	32	13	32	9.5	511	1.0	20
25	2.0	e15	e2.0	e15	e28	50	17	444	7.8	174	.49	15
26	2.2	e12	e4.0	e15	e26	37	167	128	7.3	84	.00	14
27	3.0	e12	e6.5	e15	e28	32	132	40	6.2	57	.00	12
28	3.9	e10	e6.0	e15	e26	32	97	30	5.7	43	.00	8.8
29	6.7	e11	e10	e14	---	27	57	38	5.1	45	.00	6.4
30	5.1	e11	e11	e14	---	26	43	48	3.8	37	.00	5.7
31	5.1	---	e12	e15	---	25	---	59	---	41	.00	---
TOTAL	126.7	356.8	241.7	425	650	2937	944	1805	589.6	2469.0	759.19	233.40
MEAN	4.09	11.9	7.80	13.7	23.2	94.7	31.5	58.2	19.7	79.6	24.5	7.78
MAX	15	18	15	17	40	400	167	444	63	665	127	30
MIN	1.7	3.9	1.2	10	13	25	13	19	3.8	1.6	.00	.00
AC-FT	251	708	479	843	1290	5830	1870	3580	1170	4900	1510	463

CAL YR 1989 TOTAL 9203.98 MEAN 25.2 MAX 1300 MIN .00 AC-FT 18260
WTR YR 1990 TOTAL 11537.39 MEAN 31.6 MAX 665 MIN .00 AC-FT 22880

e Estimated

CHEYENNE RIVER BASIN

06426095

BURLINGTON LAKE DITCH AT GILLETTE, WY

LOCATION.--Lat 44°18'03", long 105°30'47", in NW¼ SE¼ NE¼ sec.21, T.50 N., R.72 W., Campbell County, Hydrologic Unit 10120201, in Gillette, on left bank 300 ft downstream from diversion dam on Stonepile Creek and 1.1 mi upstream from Burlington Lake.

PERIOD OF RECORD.--July 1988 to current year (no winter records).

GAGE.--Water-stage recorder. Elevation of gage is 4,560 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 31. Records poor. A low rock and soil dam diverts flow from Stonepile Creek into Burlington Lake Ditch 300 ft upstream. Flow to Burlington Lake is supplemented at times by pumping from stormwater reservoirs.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge during periods of operation, 30 ft³/s, Aug. 19, 1990, gage height, 6.77 ft, from rating curve extended above 8 ft³/s on basis of area-velocity study; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of operation, 30 ft³/s, Aug. 19, gage height, 6.77 ft, from rating curve extended above 8 ft³/s on basis of area-velocity study; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	---	---	---	---	---	.27	.70	.00	.00	.00	1.2
2	1.1	---	---	---	---	---	.16	.68	.00	.00	.00	1.0
3	.92	---	---	---	---	---	.07	.56	.00	.00	.61	1.1
4	.73	---	---	---	---	---	.02	.57	.00	.00	.93	.70
5	.72	---	---	---	---	---	.36	.52	.00	.00	.60	.90
6	.74	---	---	---	---	---	.72	.30	.00	.00	.32	1.7
7	.72	---	---	---	---	---	.64	.09	.00	.00	.01	.84
8	.69	---	---	---	---	---	.58	.01	.00	.00	.00	.63
9	.83	---	---	---	---	---	1.5	.01	.00	.00	.00	.64
10	.98	---	---	---	---	---	1.2	.00	.00	.00	.00	.56
11	1.0	---	---	---	---	---	.86	.00	.00	.00	1.3	.40
12	.89	---	---	---	---	---	.96	.00	.00	.00	2.9	.15
13	.74	---	---	---	---	---	1.0	.32	.00	.00	1.2	.00
14	.70	---	---	---	---	---	.75	.09	.00	.00	.69	.23
15	.67	---	---	---	---	---	.67	.00	.03	.00	.53	.91
16	.74	---	---	---	---	---	.63	.00	.92	.00	.26	1.4
17	.71	---	---	---	---	---	.63	.00	.63	.00	.01	1.2
18	.69	---	---	---	---	---	.57	.00	.15	.00	.15	1.1
19	.66	---	---	---	---	---	.48	.00	.00	.00	3.6	1.9
20	.65	---	---	---	---	---	.39	.00	.00	.73	7.9	2.8
21	.63	---	---	---	---	---	.27	.00	.48	2.9	2.1	2.3
22	.61	---	---	---	---	---	.11	.00	.92	.71	.75	2.1
23	.59	---	---	---	---	---	.01	.26	.52	.44	.81	1.7
24	.57	---	---	---	---	---	.04	.29	.12	.21	.81	.93
25	.55	---	---	---	---	---	.78	.00	.00	.68	.73	.80
26	1.3	---	---	---	---	---	1.8	.00	.00	.31	.92	.64
27	1.2	---	---	---	---	---	3.3	.00	.00	.00	.73	.64
28	1.1	---	---	---	---	---	1.4	.00	.00	1.5	.59	.72
29	1.0	---	---	---	---	---	.95	.00	.00	.75	.77	.63
30	1.2	---	---	---	---	---	.73	.00	.00	.52	.69	.60
31	1.1	---	---	---	---	---	---	.00	---	.16	1.4	---
TOTAL	26.03	---	---	---	---	---	21.85	4.40	3.77	8.91	31.31	30.42
MEAN	.84	---	---	---	---	---	.73	.14	.13	.29	1.01	1.01
MAX	1.3	---	---	---	---	---	3.3	.70	.92	2.9	7.9	2.8
MIN	.55	---	---	---	---	---	.01	.00	.00	.00	.00	.00
AC-FT	52	---	---	---	---	---	43	8.7	7.5	18	62	60

06426100 STONEPILE CREEK AT GILLETTE, WY

LOCATION.--Lat 44°17'18", long 105°28'35", in SW¼ NW¼ NE¼ sec.26, T.50 N., R.72 W., Campbell County, Hydrologic Unit 10120201, city of Gillette, on left bank 15 ft downstream from bridge on El Camino Road, 0.2 mi upstream from Interstate Highway 90, and 3.0 mi upstream from mouth.

DRAINAGE AREA.--11.2 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1988 to current year (no winter records).

GAGE.--Water-stage recorder. Elevation of gage is 4,510 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 29-31 and Aug. 20 to Sept. 19. Records fair. Diversion to Burlington Lake upstream from the station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge during periods of operation, 228 ft³/s, July 13, 1989, gage height, 4.50 ft, from rating curve extended above 1.9 ft³/s on basis of slope-conveyance study; no flow for several days in 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of operation, 158 ft³/s, Aug. 19, gage height, 4.31 ft, from rating curve extended above 1.9 ft³/s on basis of slope-conveyance study; minimum daily discharge during period of operation, 0.01 ft³/s, Sept. 22, 23, 25, 28, 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	---	---	---	---	---	.11	1.6	.04	.21	.03	.21
2	1.1	---	---	---	---	---	.11	.93	.04	.23	.23	.26
3	.09	---	---	---	---	---	.13	.28	.03	.21	.70	.10
4	.11	---	---	---	---	---	.27	.82	.03	.08	.30	.50
5	.08	---	---	---	---	---	.71	.09	.04	.09	.08	.35
6	.06	---	---	---	---	---	.21	.06	.09	.08	.08	.21
7	.06	---	---	---	---	---	.11	.09	.08	.11	.04	.05
8	.06	---	---	---	---	---	.11	.69	.11	.09	.05	.04
9	.06	---	---	---	---	---	2.2	.25	.12	.33	.03	.03
10	.75	---	---	---	---	---	1.3	.84	.15	.54	.10	.04
11	.51	---	---	---	---	---	.06	.47	.58	.10	3.8	.06
12	.12	---	---	---	---	---	1.0	.54	.11	.09	.07	.06
13	.06	---	---	---	---	---	.19	7.7	.21	.10	.07	.05
14	.06	---	---	---	---	---	.04	.73	.63	.09	.05	.13
15	.07	---	---	---	---	---	.03	.14	.95	.25	.09	.20
16	.06	---	---	---	---	---	.19	.11	2.2	.13	.19	.14
17	.06	---	---	---	---	---	.06	.15	.05	2.1	.12	.08
18	.09	---	---	---	---	---	.04	.10	.05	.08	.08	.08
19	.09	---	---	---	---	---	.03	.07	.08	.07	14	.33
20	.07	---	---	---	---	---	.04	.07	.10	8.9	1.0	.06
21	.10	---	---	---	---	---	.03	.14	1.3	4.3	.12	.02
22	.10	---	---	---	---	---	.06	.07	.18	.05	.10	.01
23	.11	---	---	---	---	---	.06	2.9	.08	.04	.07	.01
24	.10	---	---	---	---	---	2.4	1.9	.15	2.9	.06	.02
25	.11	---	---	---	---	---	.67	.07	.15	.18	.06	.01
26	5.0	---	---	---	---	---	9.7	.04	.16	.04	.23	.02
27	.33	---	---	---	---	---	26	.04	.25	.04	.15	.12
28	1.6	---	---	---	---	---	6.1	.11	.27	5.6	.08	.01
29	2.0	---	---	---	---	---	17	.17	.28	.20	.19	.01
30	.80	---	---	---	---	---	1.5	.84	.21	.06	.48	.03
31	.30	---	---	---	---	---	---	.32	---	.03	.38	---
TOTAL	16.71	---	---	---	---	---	70.46	22.33	8.72	27.32	23.03	3.24
MEAN	.54	---	---	---	---	---	2.35	.72	.29	.88	.74	.11
MAX	5.0	---	---	---	---	---	26	7.7	2.2	8.9	14	.50
MIN	.06	---	---	---	---	---	.03	.04	.03	.03	.03	.01
AC-FT	33	---	---	---	---	---	140	44	17	54	46	6.4

CHEYENNE RIVER BASIN

06426100 STONEPILE CREEK AT GILLETTE, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 1988 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
NOV 01...	1210	0.07	2100	7.9	1.0	654	12.3	102
JAN 11...	1600	0.07	--	--	--	--	--	--
MAR 11...	1805	0.42	--	--	2.0	--	--	--
APR 09...	1115	8.2	189	8.6	2.0	642	11.0	95
MAY 09...	1445	0.42	--	--	11.0	--	--	--
JUN 08...	0800	0.05	2430	7.6	10.5	--	--	--
JUL 11...	1030	0.20	1630	8.7	23.5	645	12.4	174
AUG 17...	0710	0.10	--	--	16.0	--	--	--
19...	2100	152	--	--	--	--	--	--
20...	1530	0.15	--	--	20.0	--	--	--
SEP 19...	1350	0.26	--	--	18.0	--	--	--

DATE	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
NOV 01...	--	0.7	0.20	0.80	1.0	0.18	--	--
JAN 11...	--	--	--	--	--	--	99	0.02
MAR 11...	--	--	--	--	--	--	86	0.10
APR 09...	230	0.3	0.17	0.63	0.80	0.19	794	18
MAY 09...	--	--	--	--	--	--	271	0.31
JUN 08...	130	<0.1	0.23	1.4	1.6	0.11	255	0.03
JUL 11...	3500	<0.1	0.12	1.1	1.2	0.87	155	0.08
AUG 17...	--	--	--	--	--	--	212	0.06
19...	--	--	--	--	--	--	927	380
20...	--	--	--	--	--	--	55	0.02
SEP 19...	4600	--	--	--	--	--	114	0.08

06426500 BELLE FOURCHE RIVER BELOW MOORCROFT, WY

LOCATION.--Lat 44°17'44", long 104°58'35", in SE¼ SW¼ sec.24, T.50 N., R.68 W., Crook County, Hydrologic Unit 10120201, 150 ft upstream from Trail Creek, 1.9 mi downstream from Donkey Creek, and 2.6 mi northwest of Moorcroft.

DRAINAGE AREA.--1,643 mi².

PERIOD OF RECORD.--Water years 1947-57, 1975 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY									
16...	0940	26	9.5	0.01	0.03	0.07	<0.01	<0.01	<0.01
JUN									
07...	1225	3.9	20.5	0.04	0.10	0.23	<0.01	<0.01	<0.01
SEP									
19...	1210	0.02	16.0	0.06	0.34	0.10	<0.01	<0.01	<0.01

CHEYENNE RIVER BASIN

06427000 KEYHOLE RESERVOIR NEAR MOORCROFT, WY

LOCATION.--Lat 44°22'55", long 104°46'45", in NW¼ NW¼ sec.27, T.51 N., R.66 W., Crook County, Hydrologic Unit 10120201, at reservoir dam on Belle Fourche River 12 mi northeast of Moorcroft.

DRAINAGE AREA.--1,953 mi².

PERIOD OF RECORD.--March 1952 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (Bureau of Reclamation datum). Prior to May 15, 1958, and Oct. 1, 1968 to Mar. 13, 1970, nonrecording gages; May 15 1958, to Sept. 30, 1968, water-stage recorder; all at present site and datum.

REMARKS.--Reservoir is formed by a zoned earthfill dam completed by the Bureau of Reclamation Oct. 25, 1952. Storage began Feb. 12, 1952. Dead storage, below elevation 4,036.0 ft, 730 acre-ft. Inactive storage, between elevations 4,036.0 ft and 4,051.0 ft, 7,230 acre-ft. Total capacity below elevation 4,099.3 ft, crest of spillway, 193,800 acre-ft. Figures given herein represent total contents. The reservoir provides flood control and water for irrigation in Wyoming and near Belle Fourche, SD.

COOPERATION.--Records provided by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily contents, 210,200 acre-ft, May 21, 1978, elevation, 4,100.38 ft; minimum daily contents (since appreciable storage was attained), 6,030 acre-ft, May 8, 9, 1955, elevation, 4,046.35 ft.

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 53,550 acre-ft, May 24, elevation, 4,075.53 ft; minimum daily contents, 31,510 acre-ft, Sept. 30, elevation, 4,067.27 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	4,071.11	40,510	-
Oct. 31	4,070.94	40,070	-440
Nov. 30	4,070.95	40,100	+30
Dec. 31	4,071.06	40,380	+280
CAL YR 1989	-	-	-12,320
Jan. 31	4,071.17	40,670	+290
Feb. 28	4,073.14	46,100	+5,430
Mar. 31	4,074.47	50,130	+4,030
Apr. 30	4,074.88	51,440	+1,310
May 31	4,075.48	53,380	+1,940
June 30	4,073.94	48,490	-4,890
July 31	4,071.09	40,460	-8,030
Aug. 31	4,067.93	32,950	-7,510
Sept. 30	4,067.27	31,510	-1,440
WTR YR 1990	-	-	-9,000

06427500 BELLE FOURCHE RIVER BELOW KEYHOLE RESERVOIR, WY

LOCATION.--Lat 44°23'18", long 104°46'12", in SE¼ NE¼ SW¼ sec.22, T.51 N., R.66 W., Crook County, Hydrologic Unit 10120201, on right bank 0.9 mi downstream from Keyhole Dam, 1.7 mi downstream from Mule Creek, 2.9 mi upstream from Spring Creek, and 12 mi northeast of Moorcroft.

DRAINAGE AREA.--1,954 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1951 to current year.

REVISED RECORDS.--WDR WY-89-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,020 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Aug. 30, 1979, at site 0.7 mi upstream at different datum.

REMARKS.--Estimated daily discharges: Dec. 14 to Jan. 9 and June 16-18. Records good above 10 ft³/s and poor for estimated daily discharges and those below 10 ft³/s. Flow completely regulated by Keyhole Reservoir, 0.9 mi upstream, since February 1952. (See sta 06427000.)

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,410 ft³/s, May 23, 1978, gage height, 10.65 ft, at present site and datum; minimum daily since appreciable storage in Keyhole Reservoir, 0.30 ft³/s, Feb. 6-20, 1960; no flow at times in 1951-52.

EXTREMES FOR CURRENT YEAR.--Maximum discharge recorded, 136 ft³/s, June 15, gage height, 6.44 ft, but may have been exceeded during period of missing record June 16-18; minimum daily, 0.80 ft³/s, Nov. 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	1.4	1.5	1.3	1.6	1.3	1.4	1.3	1.5	124	112	90
2	1.6	1.4	1.5	1.2	1.6	1.3	1.3	1.4	1.4	124	114	90
3	2.0	1.4	1.3	1.2	1.4	1.3	1.3	1.5	1.3	125	112	74
4	1.3	1.5	1.4	1.2	1.4	1.3	1.4	1.5	1.3	124	112	2.1
5	1.5	1.5	1.4	1.2	1.4	1.3	1.3	1.5	1.4	122	112	1.7
6	1.7	1.5	1.3	1.2	1.4	1.2	1.3	1.4	1.4	123	112	1.7
7	1.8	1.5	1.4	1.2	1.5	1.2	1.3	1.5	1.4	122	113	1.5
8	1.3	1.5	1.4	1.2	1.5	1.2	1.4	1.4	1.5	122	112	1.5
9	1.3	1.5	1.5	1.2	1.6	1.3	1.4	1.4	1.5	122	113	1.5
10	1.4	1.4	1.5	1.2	1.6	1.3	1.4	1.5	1.5	123	113	1.6
11	1.3	1.5	1.5	1.2	1.6	1.3	1.4	1.5	1.6	121	113	1.7
12	1.4	1.4	1.5	1.2	1.6	1.4	1.4	1.6	1.7	122	112	1.7
13	2.2	1.4	1.7	1.2	1.6	1.3	1.4	1.8	1.7	122	112	1.7
14	1.0	1.4	1.4	1.2	1.6	1.5	1.4	1.6	1.9	120	113	1.5
15	2.7	1.4	1.4	1.2	1.5	1.6	1.4	1.7	34	118	113	1.5
16	1.4	1.5	1.4	1.4	1.2	1.5	1.4	1.4	126	118	113	1.3
17	1.7	1.5	1.4	1.5	1.2	1.5	1.4	1.4	126	119	112	1.5
18	1.4	1.6	1.4	1.4	1.2	1.4	1.5	1.5	126	119	111	1.3
19	1.2	1.6	1.4	1.4	1.1	1.4	1.4	1.6	126	112	112	1.3
20	1.5	1.6	1.4	1.4	1.1	1.4	1.5	1.8	126	109	111	1.2
21	1.2	1.6	1.4	1.5	1.3	1.4	1.5	1.6	111	108	111	1.2
22	1.2	1.6	1.3	1.5	1.3	1.3	1.5	1.6	97	107	112	1.2
23	1.3	1.5	1.3	1.5	1.6	1.4	1.6	1.6	96	107	102	1.3
24	1.4	1.5	1.3	1.5	1.4	1.4	1.5	1.7	96	106	90	1.3
25	1.3	1.6	1.3	1.5	1.8	1.3	1.6	1.7	96	105	91	1.3
26	1.4	2.0	1.3	1.5	1.3	1.3	1.7	2.2	96	105	92	1.4
27	1.3	1.6	1.3	1.5	1.2	1.3	1.6	1.7	96	106	91	1.4
28	1.3	.80	1.3	1.6	1.3	1.3	1.6	1.5	110	106	92	1.4
29	1.3	1.2	1.3	1.6	---	1.3	1.5	1.6	123	106	92	1.4
30	1.2	1.4	1.3	1.6	---	1.3	1.4	1.6	123	107	91	1.4
31	1.3	---	1.3	1.6	---	1.4	---	1.6	---	108	90	---
TOTAL	45.4	44.30	43.1	42.1	39.9	41.7	43.2	48.7	1729.1	3582	3301	293.6
MEAN	1.46	1.48	1.39	1.36	1.42	1.35	1.44	1.57	57.6	116	106	9.79
MAX	2.7	2.0	1.7	1.6	1.8	1.6	1.7	2.2	126	125	114	90
MIN	1.0	.80	1.3	1.2	1.1	1.2	1.3	1.3	1.3	105	90	1.2
AC-FT	90	88	85	84	79	83	86	97	3430	7100	6550	582

CAL YR 1989 TOTAL 9145.71 MEAN 25.1 MAX 135 MIN .80 AC-FT 18140
WTR YR 1990 TOTAL 9254.10 MEAN 25.4 MAX 126 MIN .80 AC-FT 18360

06427500 BELLE FOURCHE RIVER BELOW KEYHOLE RESERVOIR, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1984 to September 1990 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 09...	1005	1.4	9.0	<0.01	0.01	<0.01	<0.01	<0.01	<0.01

06427850 BELLE FOURCHE RIVER AT DEVILS TOWER, WY

LOCATION.--Lat 44°35'22", long 104°42'12", in NW¼ SE¼ sec.7, T.53 N., R.65 W., Crook County, Hydrologic Unit 10120201, at bridge 0.2 mi west of entrance to Devils Tower National Monument.

PERIOD OF RECORD.--Water years 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 09...	1130	5.7	9.5	<0.01	0.12	<0.01	<0.01	<0.01	<0.01
JUN 06...	1400	4.3	23.0	0.01	0.20	0.01	<0.01	<0.01	<0.01
SEP 19...	0855	5.9	16.0	<0.01	0.17	<0.01	<0.01	<0.01	<0.01

06428050 BELLE FOURCHE RIVER BELOW HULETT, WY

LOCATION.--Lat 44°42'04", long 104°35'07", in SW¼ NE¼ sec.6, T.54 N., R.64 W., Crook County, Hydrologic Unit 10120201, at bridge, 1.3 mi northeast of Hulett, and 4.7 mi downstream from Blacktail Creek.

PERIOD OF RECORD.--February 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 09...	1255	12	10.5	<0.01	0.21	<0.01	<0.01	<0.01	<0.01
JUN 19...	1430	106	24.0	0.05	0.12	0.08	<0.01	<0.01	<0.01
SEP 19...	0730	8.8	14.5	<0.01	0.45	0.02	<0.01	<0.01	<0.01

06428200 BELLE FOURCHE RIVER NEAR ALVA, WY

LOCATION.--Lat 44°47'22", long 104°28'51" in NE¼ NE¼ sec.1, T.55 N., R.64 W., Crook County, Hydrologic Unit 10120201, on right bank 0.3 mi downstream from Beaver Creek and 6.7 miles north of Alva.

DRAINAGE AREA.--2,948 mi².

PERIOD OF RECORD.--October 1988 to current year (no winter record).

GAGE.--Graphic water-stage recorder. Elevation of gage is 3,600 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: June 21 to July 10. Records good except those for estimated daily discharges, which are poor. Major regulation by Keyhole Reservoir. Streamflow also affected by diversions for irrigation and return flow from irrigated areas. Result of discharge measurement, in cubic feet per second, made during the period when station was not in operation is given below:

Feb. 26 . . . 39.8

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge during period of operation, 277 ft³/s, May 14, 1989, gage height, 2.91 ft; maximum gage height, 6.15 ft, Mar. 10, 1989 from floodmarks (backwater from ice); minimum daily discharge during periods of operation, 8.3 ft³/s, Sept. 28, 30, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of operation, 110 ft³/s, July 10, gage height, 2.20 ft; minimum daily during period of operation, 8.3 ft³/s, Sept. 28, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	---	---	---	---	---	23	38	26	99	95	73
2	11	---	---	---	---	---	23	41	24	100	93	80
3	11	---	---	---	---	---	23	81	21	100	95	79
4	11	---	---	---	---	---	22	73	21	100	93	79
5	11	---	---	---	---	---	23	67	19	102	89	71
6	10	---	---	---	---	---	22	62	18	100	88	37
7	10	---	---	---	---	---	22	50	17	99	85	26
8	9.9	---	---	---	---	---	21	40	17	98	84	20
9	9.8	---	---	---	---	---	20	36	17	103	83	17
10	9.4	---	---	---	---	---	20	33	17	103	83	14
11	9.1	---	---	---	---	---	20	31	16	103	88	13
12	9.0	---	---	---	---	---	20	29	16	100	91	12
13	8.9	---	---	---	---	---	19	29	16	95	92	11
14	8.7	---	---	---	---	---	19	35	15	94	93	11
15	8.6	---	---	---	---	---	19	36	15	98	90	10
16	8.6	---	---	---	---	---	18	31	15	99	90	9.8
17	8.7	---	---	---	---	---	18	29	16	99	90	10
18	8.8	---	---	---	---	---	17	31	55	100	86	10
19	8.9	---	---	---	---	---	17	29	97	98	91	9.4
20	9.3	---	---	---	---	---	16	30	100	96	96	10
21	9.6	---	---	---	---	---	16	32	102	101	96	10
22	9.4	---	---	---	---	---	16	31	99	102	87	9.7
23	9.2	---	---	---	---	---	17	29	91	99	87	9.7
24	9.0	---	---	---	---	---	18	52	83	93	88	9.2
25	9.0	---	---	---	---	---	21	53	82	90	77	9.1
26	9.3	---	---	---	---	---	25	53	81	93	71	8.5
27	10	---	---	---	---	---	37	44	80	95	70	8.7
28	11	---	---	---	---	---	39	37	79	94	71	8.3
29	19	---	---	---	---	---	39	30	81	95	68	8.5
30	16	---	---	---	---	---	37	30	91	98	70	8.3
31	16	---	---	---	---	---	---	28	---	97	72	---
TOTAL	320.2	---	---	---	---	---	667	1250	1427	3043	2652	692.2
MEAN	10.3	---	---	---	---	---	22.2	40.3	47.6	98.2	85.5	23.1
MAX	19	---	---	---	---	---	39	81	102	103	96	80
MIN	8.6	---	---	---	---	---	16	28	15	90	68	8.3
AC-FT	635	---	---	---	---	---	1320	2480	2830	6040	5260	1370

CHEYENNE RIVER BASIN

06428500 BELLE FOURCHE RIVER AT WYOMING-SOUTH DAKOTA STATE LINE

LOCATION.--Lat 44°44'59", long 104°02'49", in NE¼ NW¼ sec.18, T.9 N., R.1 E., Butte County, Hydrologic Unit 10120202, on left bank 0.3 mi downstream from State line, 3.7 mi downstream from Oak Creek, and 11 mi northwest of Belle Fourche, SD.

DRAINAGE AREA.--3,280 mi², approximately.

PERIOD OF RECORD.--December 1946 to current year. Records for water year 1947 incomplete, yearly estimate published in WSP 1729.

GAGE.--Water-stage recorder. Datum of gage is 3,095.7 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diversions upstream from station for irrigation of about 5,400 acres. Flow regulated by Keyhole Dam, usable capacity, 191,600 acre-ft, 143 mi upstream since Oct. 25, 1952. U.S. Bureau of Reclamation satellite data-collection platform at station.

AVERAGE DISCHARGE.--44 years, 87.2 ft³/s, 63,180 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,400 ft³/s, June 18, 1962, gage height, 15.59 ft; no flow at times some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,980 ft³/s at 1600 hours, May 25, gage height, 11.88 ft; minimum daily discharge, 8.5 ft³/s, Dec. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	23	e16	e23	e20	e80	35	109	76	81	95	69
2	13	20	e17	e35	e16	e118	32	138	67	85	96	68
3	13	21	e18	e32	e17	e176	31	105	59	86	95	71
4	13	38	e20	e30	e18	e145	30	102	56	86	96	71
5	13	40	e35	e35	e19	e129	30	123	51	89	96	71
6	13	30	e45	e34	e18	e160	30	97	47	92	94	72
7	12	20	e40	e30	e18	e167	30	83	47	91	92	62
8	12	17	e32	e27	e17	e125	29	69	44	88	90	47
9	12	17	e30	e32	e17	e116	27	60	40	88	88	39
10	12	15	e26	e35	e17	95	27	53	36	87	88	33
11	11	14	e22	e50	e20	87	27	49	32	90	87	29
12	11	13	e20	e45	e25	77	26	45	30	90	103	26
13	11	13	e22	e47	e18	e75	26	43	27	87	92	23
14	11	12	e18	e50	e13	85	26	78	24	87	91	20
15	11	11	e14	e40	e13	88	26	59	23	88	89	19
16	11	e10	e14	e27	e11	e82	25	51	24	89	87	17
17	11	e10	e16	e25	e11	76	25	47	23	89	86	16
18	11	e11	e13	e22	e12	66	25	42	22	87	85	15
19	11	e14	e10	e23	e12	59	25	38	33	87	85	15
20	11	14	e10	e23	e12	54	24	37	83	88	84	16
21	11	13	e9.5	e28	e12	48	22	45	87	95	88	14
22	11	12	e8.5	e32	e16	46	21	64	89	94	89	13
23	11	e11	e20	e40	e30	44	20	49	91	93	85	13
24	11	e11	e25	e40	e50	e40	19	56	88	89	81	13
25	11	e11	e25	e37	e60	e35	20	1350	83	88	82	12
26	11	e11	e30	e40	e60	41	23	338	81	87	81	12
27	11	e11	e30	e40	e66	46	53	194	80	88	73	11
28	12	e11	e35	e37	e68	46	186	138	80	91	70	11
29	31	e13	e30	e40	---	42	107	109	81	92	69	10
30	25	e14	e25	e40	---	39	109	96	81	96	68	10
31	26	---	e18	e30	---	37	---	87	---	96	68	---
TOTAL	408	481	694.0	1069	686	2524	1136	3954	1685	2764	2673	918
MEAN	13.2	16.0	22.4	34.5	24.5	81.4	37.9	128	56.2	89.2	86.2	30.6
MAX	31	40	45	50	68	176	186	1350	91	96	103	72
MIN	11	10	8.5	22	11	35	19	37	22	81	68	10
AC-FT	809	954	1380	2120	1360	5010	2250	7840	3340	5480	5300	1820

CAL YR 1989 TOTAL 19129.0 MEAN 52.4 MAX 620 MIN 1.5 AC-FT 37940
WTR YR 1990 TOTAL 18992.0 MEAN 52.0 MAX 1350 MIN 8.5 AC-FT 37670

06429898 SAND CREEK ABOVE RANCH A, NEAR BEULAH, WY

LOCATION.--Lat 44°29'12", long 104°07'02", in SW¼ NE¼ NE¼ sec.24, T.52 N., R.61 W., Crook County, Hydrologic Unit 10120203, 0.4 mi downstream from Dugout Gulch, 0.6 mi downstream from Ranch A National Fish Genetic Laboratory boundary, and 4.4 mi southwest of Beulah.

PERIOD OF RECORD.--October 1987 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 10...	0730	0.24	9.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
JUN 05...	1605	0.92	16.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SEP 18...	1120	0.45	14.0	<0.01	0.04	<0.01	<0.01	<0.01	<0.01

06429900 SAND CREEK AT RANCH A, NEAR BEULAH, WY

LOCATION.--Lat 44°29'42", long 104°06'34", in SW¼ sec.18, T.52 N., R.60 W., Crook County, Hydrologic Unit 10120203, 0.35 mi downstream from headquarters building at Ranch A National Fish Genetic Laboratory, 0.9 mi upstream from Hospital Gulch, and 3.6 mi south of Beulah.

DRAINAGE AREA.--260 mi².

PERIOD OF RECORD.--October 1987 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 10...	0820	15	10.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
JUN 05...	1630	16	16.0	<0.01	0.01	0.01	<0.01	<0.01	<0.01
SEP 18...	1200	15	14.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

06429997 MURRAY DITCH ABOVE HEADGATE AT WYOMING-SOUTH DAKOTA STATE LINE

LOCATION.--Lat 44°34'35", long 104°03'20", in SW¼ SW¼ sec.7, T.7 N., R.1 E., Butte County, Hydrologic Unit 10120203, on right bank at State line and 12 mi southwest of Belle Fourche, SD.

PERIOD OF RECORD.--April 1987 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 3,440 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Apr. 23, 1987, published as 06430000 (below diversion at site 15 ft downstream).

REMARKS.--Records good except those for estimated daily discharges, which are fair. Ditch diverts water from left bank of Redwater Creek, 2.0 mi upstream, for irrigation of about 700 acres. Flow maintained during irrigation season only.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 41 ft³/s, Sept. 21, 1989; no flow for long periods in each year.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 25 ft³/s, Sept. 29, 30; no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	.00	.00	.00	.00	.00	.00	.00	e.00	13	11	4.6
2	2.8	.00	.00	.00	.00	.00	.00	.00	e3.0	12	13	4.4
3	2.7	.00	.00	.00	.00	.00	.00	.00	e4.0	14	14	4.3
4	2.7	.00	.00	.00	.00	.00	.00	.00	e4.0	14	17	4.1
5	2.7	.00	.00	.00	.00	.00	.00	e.00	4.3	14	14	4.0
6	2.3	.00	.00	.00	.00	.00	.00	e.00	3.6	13	12	4.2
7	2.1	.00	.00	.00	.00	.00	.00	e.00	3.7	11	8.6	4.2
8	1.2	.00	.00	.00	.00	.00	.00	e.00	7.5	13	.77	4.9
9	4.8	.00	.00	.00	.00	.00	.00	e.00	11	13	.03	5.9
10	7.7	.00	.00	.00	.00	.00	.00	e.00	13	12	.00	6.0
11	.15	.00	.00	.00	.00	.00	.00	e.00	13	12	.00	6.3
12	.05	.00	.00	.00	.00	.00	.00	e.00	13	12	.00	7.4
13	.00	.00	.00	.00	.00	.00	.00	e.00	13	12	.00	7.4
14	.00	.00	.00	.00	.00	.00	.00	e.00	13	12	.00	6.9
15	.00	.00	.00	.00	.00	.00	.00	e.00	13	12	.00	6.9
16	.05	.00	.00	.00	.00	.00	.00	e.00	13	13	.00	5.5
17	.09	.00	.00	.00	.00	.00	.00	e.00	13	12	.00	5.5
18	.08	.00	.00	.00	.00	.00	.00	e.00	12	12	.00	5.2
19	e.05	.00	.00	.00	.00	.00	.00	e.00	13	13	.00	3.2
20	e.02	.00	.00	.00	.00	.00	.00	e.00	12	14	6.8	3.0
21	.00	.00	.00	.00	.00	.00	.00	e.00	12	12	12	3.0
22	.00	.00	.00	.00	.00	.00	.00	e.00	12	12	9.9	3.9
23	.00	.00	.00	.00	.00	.00	.00	e.00	12	12	9.0	6.3
24	.00	.00	.00	.00	.00	.00	.00	e.00	12	11	8.8	12
25	.00	.00	.00	.00	.00	.00	.00	e.00	12	11	7.9	18
26	.00	.00	.00	.00	.00	.00	.00	e.00	13	11	7.8	20
27	.00	.00	.00	.00	.00	.00	.00	e.00	13	10	7.6	20
28	.00	.00	.00	.00	.00	.00	.00	e.00	14	12	7.2	23
29	.00	.00	.00	.00	---	.00	.00	e.00	14	11	6.6	25
30	.00	.00	.00	.00	---	.00	.00	e.00	13	11	4.9	25
31	.00	---	.00	.00	---	.00	---	e.00	---	11	4.6	---
TOTAL	32.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	309.10	377	183.50	260.1
MEAN	1.04	.000	.000	.000	.000	.000	.000	.000	10.3	12.2	5.92	8.67
MAX	7.7	.00	.00	.00	.00	.00	.00	.00	14	14	17	25
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	10	.00	3.0
AC-FT	64	.00	.00	.00	.00	.00	.00	.00	613	748	364	516

CAL YR 1989 TOTAL 1431.92 MEAN 3.92 MAX 41 MIN .00 AC-FT 2840
WTR YR 1990 TOTAL 1161.99 MEAN 3.18 MAX 25 MIN .00 AC-FT 2300

e Estimated

06430500 REDWATER CREEK AT WYOMING-SOUTH DAKOTA STATE LINE

LOCATION.--Lat 44°34'26", long 104°02'54", in NW¼NW¼ sec.18 T.7 N., R.1 E., Butte County, Hydrologic Unit 10120203, on left bank 800 ft downstream from State line, 5.7 mi upstream from Crow Creek, and 12 mi southwest of Belle Fourche, SD.

DRAINAGE AREA.--471 mi².

PERIOD OF RECORD.--April 1929 to September 1931 and February 1936 to July 1937 (published as "near Beulah, WY"), June 1954 to current year.

REVISED RECORDS.--WSP 1309: 1931(M), 1936-37(M).

GAGE.--Water-stage recorder. Elevation of gage is 3,410 ft above National Geodetic Vertical Datum of 1929, from topographic map. Apr. 25, 1929, to Sept. 30, 1931, and Feb. 28, 1936, to July 31, 1937, nonrecording gage at site 2 mi upstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Large diversions for irrigation upstream from station. Total flow passing State line may be obtained by adding flow of Murray ditch (see station 06429997). Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--38 years, 34.5 ft³/s, 25,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,440 ft³/s, Aug. 22, 1973, gage height, 12.19 ft, from rating curve extended above 1,000 ft³/s on basis of slope-area measurement at gage height 11.95 ft; no flow Aug. 13-15, 1929.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 29	0700	*34	2.98	Nov. 2	1445	log jam	*3.39

Minimum daily discharge, 3.2 ft³/s, July 18.

CORRECTIONS.--Daily, monthly, and annual discharges, in cubic feet per second, have been corrected for periods in June and July 1989, from those published in the Wyoming Water Resources Data report for 1989. The station is operated by South Dakota and discharges were correctly published in the South Dakota Water Resources Data report for 1989. Corrections for monthly and annual discharges are given below:

	TOTAL	MEAN	MAX	MIN	ACRE-FEET
JUNE 1989	699	23.3	29	17	1390
JULY 1989	257.44	8.3	25	1.9	511
WTR YR 1989	8717.6	23.9	37	1.9	17290

06430500 REDWATER CREEK AT WYOMING-SOUTH DAKOTA STATE LINE--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	30	27	27	e26	26	28	29	31	14	7.2	18
2	22	e29	26	27	e26	26	27	29	26	11	7.2	19
3	22	27	26	27	27	26	28	29	25	14	6.7	20
4	22	27	27	28	27	26	28	30	25	15	7.7	19
5	23	27	27	28	27	26	28	30	25	17	12	18
6	23	27	28	28	27	26	28	30	25	17	12	20
7	22	27	27	28	27	26	27	29	25	11	15	20
8	23	27	27	28	27	26	27	29	21	4.4	27	20
9	20	26	27	28	27	26	27	28	16	4.0	26	20
10	17	26	27	28	27	26	27	28	14	4.4	25	19
11	24	26	e26	27	27	26	26	28	14	4.5	25	19
12	24	27	e26	27	27	26	27	28	12	4.7	26	19
13	24	27	27	27	27	26	27	30	14	5.2	26	17
14	24	27	26	28	27	26	26	32	15	4.5	26	14
15	24	27	e22	28	26	27	27	29	15	4.6	26	15
16	24	27	e22	28	e25	26	27	29	17	4.4	32	18
17	24	27	e23	27	e26	27	27	30	17	4.6	30	19
18	24	27	e24	27	26	28	27	30	17	3.2	28	20
19	26	27	e22	27	26	27	27	30	16	4.7	26	23
20	26	27	e22	28	26	27	27	32	16	6.0	18	24
21	27	27	e21	28	26	27	27	30	17	7.8	12	24
22	27	27	e18	28	26	27	28	29	17	7.5	15	23
23	26	27	e21	28	26	27	28	29	17	7.3	15	19
24	26	27	e23	28	26	27	28	30	16	7.0	15	13
25	26	27	e26	28	26	27	29	30	15	7.3	15	7.1
26	26	27	29	28	26	28	29	29	14	7.1	14	5.4
27	26	e27	28	27	26	28	32	29	14	6.7	13	5.1
28	28	27	28	27	26	28	31	29	14	6.3	13	5.2
29	29	27	28	27	---	28	32	29	14	7.4	14	4.8
30	27	27	28	27	---	28	29	31	14	7.0	16	4.7
31	28	---	27	27	---	28	---	31	---	6.7	18	---
TOTAL	756	812	786	854	739	829	836	915	538	236.3	568.8	492.3
MEAN	24.4	27.1	25.4	27.5	26.4	26.7	27.9	29.5	17.9	7.62	18.3	16.4
MAX	29	30	29	28	27	28	32	32	31	17	32	24
MIN	17	26	18	27	25	26	26	28	12	3.2	6.7	4.7
AC-FT	1500	1610	1560	1690	1470	1640	1660	1810	1070	469	1130	976
CAL YR 1989	TOTAL 8705.7	MEAN 23.9	MAX 37	MIN 1.9	AC-FT 17270							
WTR YR 1990	TOTAL 8362.4	MEAN 22.9	MAX 32	MIN 3.2	AC-FT 16590							

e Estimated

06454000 NIOBRARA RIVER AT WYOMING-NEBRASKA STATE LINE

LOCATION.--Lat 42°39'33", long 104°03'54", in SE¼ SW¼ sec.15, T.31 N., R.60 W., Niobrara County, Wyoming, Hydrologic Unit 10150002, on left bank 0.2 mi downstream from Van Tassel Creek, 0.3 mi upstream from Wyoming-Nebraska State line, and 3 mi east of Van Tassel, WY.

DRAINAGE AREA.--450 mi², approximately.

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

GAGE.--Water-stage recorder. Datum of gage is 4,687.70 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 21, 22, Feb. 15, 16, and Mar. 6-9. Records good. Diversions for irrigation of about 4,700 acres upstream from station.

AVERAGE DISCHARGE.--35 years, 3.69 ft³/s, 2,670 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,120 ft³/s Aug. 16, 1977, gage height, 8.28 ft, in gage well, from rating curve extended above 800 ft³/s on basis of computation of peak flow from slope-area measurement; minimum daily, 0.54 ft³/s, Aug. 9, 10, 12, 1975.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 7	0300	(a)	*4.22	No peaks greater than base discharge.			
Mar. 15	0830	*9.8	1.95				

a Backwater from snow.

Minimum daily discharge, 0.99 ft³/s, July 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	2.1	2.2	2.6	2.2	3.4	5.1	2.6	4.7	1.7	1.7	1.5
2	2.4	2.1	2.2	2.4	1.7	3.4	4.2	2.5	4.0	1.7	1.9	1.6
3	2.5	2.3	2.2	2.4	1.6	3.7	3.6	2.5	3.4	1.5	1.9	1.7
4	2.5	2.5	2.2	2.2	1.8	4.2	3.3	2.5	3.4	1.7	2.4	1.6
5	2.5	3.9	2.3	2.2	2.0	4.2	3.5	2.5	3.3	1.7	2.3	1.7
6	2.5	2.2	2.2	2.3	2.1	4.0	3.3	2.4	3.4	1.5	2.2	2.2
7	2.4	2.1	2.2	2.3	2.2	3.8	3.0	2.5	4.4	1.3	2.0	2.0
8	2.4	2.1	2.2	3.2	2.3	3.6	2.9	2.7	3.8	1.4	1.8	2.1
9	2.4	2.1	2.3	2.7	2.2	3.3	3.5	3.4	3.6	1.7	1.7	1.9
10	2.3	2.0	2.4	2.7	2.6	3.3	3.6	2.6	3.4	2.5	1.6	1.9
11	2.2	2.0	2.3	2.6	3.1	4.9	3.2	2.6	3.1	1.6	2.1	2.0
12	2.2	1.9	2.3	2.5	3.3	5.6	3.3	3.0	3.0	1.3	2.1	1.9
13	2.2	1.9	2.5	2.7	2.9	5.3	3.7	4.8	3.3	1.4	1.8	1.7
14	2.2	2.0	2.6	2.6	2.4	4.7	3.3	2.6	3.5	1.3	1.8	1.6
15	2.2	1.9	2.6	2.3	2.3	4.8	3.6	2.8	3.7	1.2	1.7	1.8
16	2.5	1.9	2.5	2.3	2.3	3.5	3.5	2.4	4.6	1.1	1.7	1.7
17	2.5	2.0	2.4	2.2	2.4	4.9	3.4	2.1	3.9	.99	1.7	1.6
18	2.4	1.9	2.4	2.2	2.4	4.7	3.3	2.1	3.5	1.0	1.6	1.9
19	2.3	2.0	2.4	2.2	2.4	4.3	3.4	2.2	3.2	1.3	1.6	2.1
20	2.3	2.0	2.4	2.2	2.4	4.8	3.3	2.2	3.3	2.0	1.5	2.6
21	2.2	2.1	2.4	2.3	2.5	5.0	3.1	2.1	4.2	3.7	2.0	1.9
22	2.2	2.1	2.4	2.3	2.6	4.6	3.2	2.0	3.5	2.6	2.3	1.7
23	2.2	2.1	2.5	2.4	2.9	3.8	3.0	2.5	2.7	2.1	2.0	1.6
24	2.2	2.2	2.4	2.5	2.8	3.8	3.0	2.9	2.3	2.0	1.9	1.6
25	2.0	2.2	2.4	2.4	2.9	3.6	4.0	2.3	2.1	1.9	1.8	1.6
26	2.2	2.3	2.5	2.5	3.4	4.1	4.4	2.2	1.8	1.8	1.7	1.5
27	2.5	2.4	2.5	2.4	4.3	4.8	4.0	2.4	2.2	1.6	1.6	1.6
28	2.2	2.3	2.5	2.4	3.9	6.9	4.2	2.6	1.8	1.6	1.4	1.8
29	2.2	2.2	2.6	2.5	---	7.0	3.9	3.5	2.3	1.7	1.3	2.0
30	2.2	2.2	2.7	2.7	---	6.7	3.0	3.8	1.8	1.7	1.3	1.8
31	2.2	---	2.7	2.6	---	5.9	---	3.7	---	1.8	1.4	---
TOTAL	71.5	65.0	74.4	75.8	71.9	140.6	105.8	83.0	97.2	52.39	55.8	54.2
MEAN	2.31	2.17	2.40	2.45	2.57	4.54	3.53	2.68	3.24	1.69	1.80	1.81
MAX	2.5	3.9	2.7	3.2	4.3	7.0	5.1	4.8	4.7	3.7	2.4	2.6
MIN	2.0	1.9	2.2	2.2	1.6	3.3	2.9	2.0	1.8	.99	1.3	1.5
AC-FT	142	129	148	150	143	279	210	165	193	104	111	108

CAL YR 1989 TOTAL 909.0 MEAN 2.49 MAX 8.0 MIN 1.2 AC-FT 1800
WTR YR 1990 TOTAL 947.59 MEAN 2.60 MAX 7.0 MIN .99 AC-FT 1880

PLATTE RIVER BASIN

06620000 NORTH PLATTE RIVER NEAR NORTHGATE, CO

LOCATION.--Lat 40°56'15", long 106°20'16", in NE¼ SW¼ SE¼ sec.11, T.11 N., R.80 W., Jackson County, Hydrologic Unit 10180001, on right bank 1,000 ft downstream from bridge on State Highway 125, 0.7 mi upstream from Camp Creek, 4.2 mi northwest of Northgate, and 4.4 mi south of Colorado-Wyoming State line.

DRAINAGE AREA.--1,431 mi².

PERIOD OF RECORD.--May to November 1904 (published as "near Pinkhampton"), May 1915 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1916-21, 1929(M), 1930-32. WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7,810.39 ft above National Geodetic Vertical Datum of 1929. See WSP 1730 for history of changes prior to Apr. 8, 1918. Apr. 8, 1918, to Aug. 21, 1961, water-stage recorder at site 0.7 mi downstream at datum 3.36 ft lower. Aug. 22, 1961, to Sept. 18, 1984, at site 650 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Oct. 19, Oct. 29 to Nov. 3, Nov. 8, and Nov. 14 to Apr. 7. Records good except those for estimated daily discharges, which are poor. Diversions for irrigation of about 130,000 acres of hay meadows upstream from station. Transbasin diversions upstream from station to Cache la Poudre River basin. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--75 years, 438 ft³/s, 317,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,720 ft³/s, June 11, 1923, gage height, 6.24 ft, site and datum then in use; maximum gage height recorded, 9.65 ft, Apr. 25, 1980 (backwater from ice); minimum daily discharge, 19 ft³/s, July 17-19, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,480 ft³/s, June 14, gage height, 5.24 ft; minimum daily, 46 ft³/s, Dec. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	66	74	64	74	76	280	369	450	455	273	73
2	64	70	84	62	74	78	310	302	439	443	252	84
3	64	81	100	60	72	78	350	247	435	467	225	101
4	60	106	110	60	70	82	450	211	384	541	208	107
5	58	102	100	58	72	84	610	206	334	566	194	105
6	62	106	96	62	74	89	560	206	417	526	176	101
7	64	99	85	64	76	92	600	179	627	486	165	92
8	65	88	91	70	74	99	627	160	838	525	150	89
9	67	122	98	70	70	110	620	196	896	811	150	86
10	68	159	88	77	72	130	572	231	997	799	148	81
11	71	148	79	87	76	122	511	223	1080	724	150	75
12	68	137	70	88	81	117	486	221	1460	617	138	70
13	66	133	63	86	82	110	489	232	2220	510	139	64
14	66	110	56	82	76	106	463	225	2190	510	154	56
15	66	92	60	80	68	110	464	223	1250	485	150	55
16	67	86	56	78	70	120	528	190	954	472	150	52
17	73	84	50	72	72	125	545	204	885	491	172	59
18	77	88	46	68	74	130	506	206	781	485	186	93
19	70	100	47	62	74	131	495	184	669	454	190	103
20	74	110	48	59	72	140	491	159	728	395	168	94
21	73	112	50	62	70	136	468	165	720	542	157	85
22	73	107	51	64	71	150	470	167	716	621	145	75
23	73	100	50	66	74	162	463	165	738	542	133	70
24	73	96	56	64	76	170	455	192	704	475	128	65
25	73	97	64	64	77	174	560	206	681	466	120	64
26	73	97	71	62	78	185	556	219	642	478	112	69
27	75	87	78	64	80	210	445	257	655	407	97	72
28	79	70	76	66	78	222	365	272	595	351	86	66
29	80	56	70	68	---	250	438	303	519	343	80	69
30	77	64	67	70	---	260	402	439	485	295	73	70
31	68	---	64	72	---	264	---	495	---	285	71	---
TOTAL	2151	2973	2198	2131	2077	4312	14579	7254	24489	15567	4740	2345
MEAN	69.4	99.1	70.9	68.7	74.2	139	486	234	816	502	153	78.2
MAX	80	159	110	88	82	264	627	495	2220	811	273	107
MIN	58	56	46	58	68	76	280	159	334	285	71	52
AC-FT	4270	5900	4360	4230	4120	8550	28920	14390	48570	30880	9400	4650

CAL YR 1989 TOTAL 71747 MEAN 197 MAX 830 MIN 46 AC-FT 142300
WTR YR 1990 TOTAL 84816 MEAN 232 MAX 2220 MIN 46 AC-FT 168200

06622700 NORTH BRUSH CREEK NEAR SARATOGA, WY

LOCATION.--Lat 41°22'13", long 106°31'12", in NW¼ SW¼ NE¼ sec.8, T.16 N., R.81 W., Carbon County, Hydrologic Unit 10180002, Medicine Bow National Forest, on right bank 0.2 mi upstream from bridge on logging road, 0.5 mi downstream from Lincoln Creek, 1.6 mi upstream from South Brush Creek, and 16 mi southeast of Saratoga.

DRAINAGE AREA.--37.4 mi².

PERIOD OF RECORD.--May 1960 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 8,020 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 17, 1971, at site 0.22 mi downstream at different datum. June 17, 1971, to Aug. 2, 1984, at site 0.2 mi downstream at different datum.

REMARKS.--Estimated daily discharges: Oct. 19, 20, Oct. 29 to Nov. 4, Nov. 15 to Dec. 8, Jan. 18-27, Feb. 14-16, Feb. 28 to Mar. 4, Mar. 14-18, 25-27, 30, 31, Apr. 6, 7, Apr. 21 to May 11, and May 16-31. Records good except those for estimated daily discharges, which are poor. No diversion upstream from station.

AVERAGE DISCHARGE.--30 years, 50.0 ft³/s, 36,220 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,360 ft³/s, June 25, 1983, gage height, 4.23 ft, site and datum then in use; minimum daily, 4.7 ft³/s, Oct. 27-29, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 350 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 31	2030	415	3.31	June 5	2000	*627	*3.89

Minimum daily discharge, 6.6 ft³/s, Sept. 14, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	7.0	8.5	9.5	9.3	9.0	9.9	36	283	93	13	9.0
2	8.1	7.0	9.0	9.5	9.2	9.5	12	32	205	85	13	9.5
3	7.9	8.0	9.5	9.2	9.0	9.5	14	30	204	77	12	12
4	8.3	9.0	10	9.3	9.2	9.5	15	29	307	77	12	9.0
5	7.9	9.4	10	9.8	8.9	10	16	33	394	59	12	8.0
6	7.5	8.6	10	9.4	9.2	11	15	50	416	50	11	8.5
7	7.5	8.7	10	9.8	9.5	10	15	73	406	43	10	8.1
8	7.4	8.4	10	9.8	9.3	10	16	65	406	62	10	7.6
9	7.4	8.6	10	9.7	9.2	10	16	57	372	60	11	7.4
10	7.3	9.3	9.5	9.7	9.2	10	15	50	418	57	10	7.2
11	7.1	9.4	8.7	9.6	9.5	10	15	54	434	37	11	6.9
12	6.9	9.9	8.7	9.6	9.4	9.5	16	51	342	30	19	6.8
13	6.8	10	9.0	9.7	9.5	9.1	15	49	321	27	12	6.7
14	6.8	9.0	9.1	9.6	9.0	10	16	47	325	26	11	6.6
15	6.9	8.0	9.5	10	9.0	12	23	57	261	24	10	6.6
16	7.2	8.0	9.3	9.7	9.5	12	31	70	222	22	10	6.8
17	7.6	9.0	9.1	9.7	9.9	11	34	65	201	20	11	13
18	7.7	9.5	9.3	9.5	9.7	10	40	80	231	26	12	16
19	7.0	10	9.3	9.5	9.8	10	42	100	247	27	9.9	11
20	8.0	10	9.4	9.5	9.7	10	46	100	222	39	9.3	11
21	8.2	10	9.3	10	9.5	10	53	120	212	79	9.0	12
22	8.1	9.5	9.1	10	9.5	10	59	150	197	37	8.5	9.7
23	8.2	9.5	9.3	10	9.4	11	64	180	200	32	8.7	8.5
24	7.9	9.5	9.3	9.5	9.5	11	64	230	201	27	8.5	8.2
25	7.8	9.5	9.1	9.5	9.7	10	51	230	186	29	8.0	8.1
26	8.9	9.0	9.4	10	9.8	11	43	210	172	21	7.5	8.3
27	9.5	8.5	9.5	9.5	9.3	10	36	200	158	17	7.1	8.2
28	9.2	8.5	10	9.7	9.0	10	33	240	136	15	7.0	9.0
29	8.5	8.0	10	9.7	---	9.7	32	270	116	15	7.0	9.2
30	8.0	8.0	9.8	9.6	---	9.5	37	250	103	15	7.0	8.6
31	8.0	---	9.6	9.5	---	9.5	---	320	---	14	7.9	---
TOTAL	240.8	266.8	292.3	299.1	262.7	313.8	893.9	3528	7898	1242	315.4	267.5
MEAN	7.77	8.89	9.43	9.65	9.38	10.1	29.8	114	263	40.1	10.2	8.92
MAX	9.5	10	10	10	9.9	12	64	320	434	93	19	16
MIN	6.8	7.0	8.5	9.2	8.9	9.0	9.9	29	103	14	7.0	6.6
AC-FT	478	529	580	593	521	622	1770	7000	15670	2460	626	531

CAL YR 1989 TOTAL 9954.1 MEAN 27.3 MAX 214 MIN 5.4 AC-FT 19740
WTR YR 1990 TOTAL 15820.3 MEAN 43.3 MAX 434 MIN 6.6 AC-FT 31380

PLATTE RIVER BASIN

06622900 SOUTH BRUSH CREEK NEAR SARATOGA, WY

LOCATION.--Lat 41°20'38", long 106°31'33", in NE¼ NW¼ sec.20, T.16 N., R.81 W., Carbon County, Hydrologic Unit 10180002, Medicine Bow National Forest, on left bank 300 ft upstream from culvert on State Highway 130, 1.6 mi upstream from North Brush Creek, and 17 mi southeast of Saratoga.

DRAINAGE AREA.--22.8 mi².

PERIOD OF RECORD.--May 1960 to September 1974, May 1976 to September 1977, May 1979 to current year (no winter records since 1972).

GAGE.--Water-stage recorder. Elevation of gage is 8,100 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: May 6-9, 11, 16-20, 25-28, and Aug. 20 to Sept. 3. Records good except those for estimated daily discharges, which are poor. Transbasin diversion 0.3 mi upstream from station for irrigation in North Brush Creek basin.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--12 years (water years 1961-72), 31.8 ft³/s, 23,040 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 559 ft³/s, June 10, 1965, gage height, 4.09 ft; minimum daily, 0.80 ft³/s, Aug. 15-20, 28, 29, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 198 ft³/s, June 10, gage height, 3.03 ft; minimum daily during period of operation, 5.1 ft³/s, Sept. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	28	130	34	17	8.0
2	---	---	---	---	---	---	---	26	112	33	17	9.0
3	---	---	---	---	---	---	---	25	101	33	15	11
4	---	---	---	---	---	---	---	25	121	39	14	7.4
5	---	---	---	---	---	---	---	29	151	28	13	7.0
6	---	---	---	---	---	---	---	39	150	19	13	7.2
7	---	---	---	---	---	---	---	43	145	14	12	7.0
8	---	---	---	---	---	---	---	41	150	23	11	6.6
9	---	---	---	---	---	---	---	37	148	23	9.6	6.6
10	---	---	---	---	---	---	---	36	154	25	8.6	6.3
11	---	---	---	---	---	---	---	42	174	16	7.4	6.1
12	---	---	---	---	---	---	---	36	142	27	11	6.1
13	---	---	---	---	---	---	---	34	107	31	11	5.9
14	---	---	---	---	---	---	---	30	110	27	8.0	5.5
15	---	---	---	---	---	---	---	36	97	22	7.4	5.1
16	---	---	---	---	---	---	---	34	83	21	7.0	5.3
17	---	---	---	---	---	---	---	31	82	23	6.6	9.9
18	---	---	---	---	---	---	---	39	101	23	8.6	13
19	---	---	---	---	---	---	---	43	120	25	8.3	8.6
20	---	---	---	---	---	---	---	49	125	26	7.7	8.3
21	---	---	---	---	---	---	---	55	123	60	6.8	8.0
22	---	---	---	---	---	---	---	76	113	35	6.8	6.6
23	---	---	---	---	---	---	---	93	113	29	7.0	5.9
24	---	---	---	---	---	---	---	117	117	26	6.8	5.7
25	---	---	---	---	---	---	---	108	113	32	6.6	5.3
26	---	---	---	---	---	---	---	117	103	25	6.6	5.5
27	---	---	---	---	---	---	---	120	94	22	6.4	5.5
28	---	---	---	---	---	---	---	125	82	20	6.6	6.3
29	---	---	---	---	---	---	---	129	57	19	6.8	6.6
30	---	---	---	---	---	---	---	123	43	19	7.0	6.3
31	---	---	---	---	---	---	---	132	---	18	7.6	---
TOTAL	---	---	---	---	---	---	---	1898	3461	817	288.2	211.6
MEAN	---	---	---	---	---	---	---	61.2	115	26.4	9.30	7.05
MAX	---	---	---	---	---	---	---	132	174	60	17	13
MIN	---	---	---	---	---	---	---	25	43	14	6.4	5.1
AC-FT	---	---	---	---	---	---	---	3760	6860	1620	572	420

PLATTE RIVER BASIN

247

06623800 ENCAMPMENT RIVER ABOVE HOG PARK CREEK, NEAR ENCAMPMENT, WY
(Hydrologic bench-mark station)

LOCATION.--Lat 41°01'25", long 106°49'27", in NE¼ SW¼ sec.10, T.12 N., R.84 W., Carbon County, Hydrologic Unit 10180002, Medicine Bow National Forest, on left bank 0.6 mi upstream from Hog Park Creek and 13 mi south of Encampment.

DRAINAGE AREA.--72.7 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 8,270 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 19, 20, Oct. 29 to Nov. 9, Nov. 11 to Dec. 21, Feb. 26 to Mar. 14, Mar. 21, 23-27, 30, 31, and Apr. 6, 7. Records good except those for estimated daily discharges, which are poor. No diversion upstream from station.

AVERAGE DISCHARGE.--26 years, 113 ft³/s, 81,870 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,680 ft³/s, about June 13, 1965 (gage height not determined), from slope-area measurement of peak flow; minimum daily, 9.5 ft³/s, Dec. 31, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 11	1800	*948	*4.22	No other peak greater than base discharge.			

Minimum daily discharge, 14 ft³/s, Oct. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	15	18	17	17	16	17	51	396	249	48	29
2	19	17	19	18	17	16	18	54	336	225	45	29
3	17	19	20	17	17	17	19	66	327	214	43	35
4	20	20	22	17	18	18	19	68	423	239	41	26
5	20	21	23	17	18	18	21	76	516	184	40	25
6	19	21	23	17	18	17	20	118	569	164	39	29
7	18	21	22	17	18	17	21	151	544	152	37	23
8	18	21	21	16	18	18	23	132	559	180	35	22
9	17	21	21	16	17	19	26	100	568	196	35	21
10	17	21	21	17	17	19	26	103	628	168	34	19
11	17	22	21	17	17	19	28	120	839	136	33	18
12	16	23	20	17	17	19	29	103	730	120	35	18
13	15	21	19	17	17	18	32	97	637	110	35	17
14	15	18	19	17	16	18	34	109	593	107	32	17
15	15	19	18	16	17	18	39	125	565	99	32	17
16	17	20	17	18	18	18	47	112	515	94	36	18
17	18	21	16	17	17	18	55	125	474	88	43	38
18	14	22	17	16	17	17	65	138	499	81	42	32
19	16	23	17	18	17	18	78	144	500	79	33	27
20	18	23	17	17	18	19	77	150	481	80	29	29
21	19	23	18	17	18	19	79	169	470	97	28	24
22	20	23	18	17	18	19	100	215	461	80	27	21
23	19	22	19	17	17	19	114	288	455	74	27	20
24	18	21	18	17	19	18	119	340	445	69	27	20
25	17	21	18	17	17	17	91	338	424	79	25	20
26	21	21	18	17	17	17	74	314	405	65	23	20
27	20	21	17	17	17	18	60	313	378	59	23	20
28	17	19	18	17	16	18	58	341	339	55	22	22
29	16	17	18	17	---	18	57	362	299	53	22	23
30	16	17	18	17	---	17	51	340	266	53	22	21
31	17	---	18	17	---	17	---	403	---	52	23	---
TOTAL	544	614	589	526	485	554	1497	5565	14641	3701	1016	700
MEAN	17.5	20.5	19.0	17.0	17.3	17.9	49.9	180	488	119	32.8	23.3
MAX	21	23	23	18	19	19	119	403	839	249	48	38
MIN	14	15	16	16	16	16	17	51	266	52	22	17
AC-FT	1080	1220	1170	1040	962	1100	2970	11040	29040	7340	2020	1390

CAL YR 1989 TOTAL 26328 MEAN 72.1 MAX 490 MIN 14 AC-FT 52220
WTR YR 1990 TOTAL 30432 MEAN 83.4 MAX 839 MIN 14 AC-FT 60360

PLATTE RIVER BASIN

06623800 ENCAMPMENT RIVER ABOVE HOG PARK CREEK, NEAR ENCAMPMENT, WY--Continued
(Hydrologic bench-mark station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967 to current year.

WATER QUALITY DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR PER 100 ML)
OCT 04...	1200	21	66	8.0	6.0	572	0.20	9.1	98	K5	K2
MAR 20...	1030	22	65	7.9	0.5	577	1.6	11.0	101	K1	K1
MAY 10...	1030	114	47	8.0	3.5	610	1.4	10.7	101	<1	<1
JUN 05...	1500	449	40	8.0	10.0	555	1.9	8.2	100	K1	<1
JUL 11...	1300	139	44	8.0	13.0	581	1.2	7.9	99	K11	K3
AUG 02...	0900	44	56	8.0	9.5	578	1.0	8.4	97	K34	K11
SEP 05...	1400	23	62	8.2	17.0	565	1.0	7.1	100	30	K7

K-Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3	ALKA- LITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT 04...	29	8.6	1.8	2.5	0.2	0.9	0	38	31	31	3.0
MAR 20...	30	8.8	1.9	2.6	0.2	1.1	0	34	28	32	3.2
MAY 10...	22	6.5	1.3	2.1	0.2	0.8	0	24	20	21	2.5
JUN 05...	14	4.1	0.82	1.3	0.2	0.5	0	120	--	13	1.4
JUL 11...	19	5.7	1.2	1.7	0.2	0.6	0	26	21	21	1.8
AUG 02...	24	7.2	1.5	2.1	0.2	0.8	0	26	21	27	2.3
SEP 05...	28	8.4	1.7	2.4	0.2	0.9	0	39	32	32	2.4

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
OCT 04...	0.3	0.1	12	50	48	0.07	2.84	<0.01	<0.1	<0.01
MAR 20...	0.1	<0.1	13	56	48	0.08	3.33	<0.01	<0.1	<0.01
MAY 10...	2.8	<0.1	11	31	39	0.04	9.54	<0.01	<0.1	0.03
JUN 05...	0.3	<0.1	7.1	33	24	0.05	40.0	<0.01	<0.1	0.01
JUL 11...	<0.1	<0.1	8.8	30	E32	0.04	11.3	<0.01	<0.1	0.03
AUG 02...	0.7	<0.1	11	37	39	0.05	4.40	<0.01	<0.1	<0.01
SEP 05...	0.1	<0.1	11	38	46	0.05	2.36	<0.01	<0.1	0.04

E-Estimate.

06623800 ENCAMPMENT RIVER ABOVE HOG PARK CREEK, NEAR ENCAMPMENT, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	SEDI- MENT, SUS- PENDEDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 04...	<0.01	--	<0.2	--	<0.01	<0.01	<0.01	2	0.11	38
MAR 20...	<0.01	--	<0.2	--	<0.01	<0.01	<0.01	2	0.12	74
MAY 10...	0.02	0.03	0.4	0.37	0.02	<0.01	<0.01	6	1.8	79
JUN 05...	0.02	0.03	0.4	0.39	0.01	0.02	<0.01	18	22	43
JUL 11...	0.02	0.03	<0.2	--	0.01	0.02	0.01	3	1.1	69
AUG 02...	0.03	0.04	<0.2	--	<0.01	<0.01	<0.01	2	0.24	91
SEP 05...	<0.01	--	0.3	0.26	0.02	<0.01	<0.01	3	0.19	48

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
OCT 04...	1200	20	<1	15	<0.5	<1.0	<1	<3	1	48	<1
MAR 20...	1030	<10	<1	16	<0.5	2.0	<5	<3	<10	48	<10
MAY 10...	1030	80	<1	13	<0.5	<1.0	2	<3	3	130	2
JUN 05...	1500	80	<1	9	<0.5	<1.0	<1	<3	2	76	1
JUL 11...	1300	<10	<1	13	<0.5	<1.0	<1	<3	1	62	<1
AUG 02...	0900	<10	<1	14	<0.5	<1.0	<1	<3	1	36	1
SEP 05...	1400	20	<1	16	<0.5	1.0	<1	<3	2	55	<1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 04...	<4	2	<0.1	<10	1	<1	<1.0	42	<6	<3
MAR 20...	<4	2	0.1	<10	<10	<1	3.0	43	<6	<3
MAY 10...	<4	4	<0.1	<10	5	<1	<1.0	33	<6	15
JUN 05...	<4	5	0.2	<10	<1	<1	<1.0	22	<6	10
JUL 11...	<4	3	<0.1	<10	1	<1	<1.0	31	<6	3
AUG 02...	<4	<1	<0.1	<10	<1	<1	<1.0	39	<6	4
SEP 05...	<4	3	0.1	<10	1	<1	<1.0	42	<6	13

PLATTE RIVER BASIN

06623800 ENCAMPMENT RIVER ABOVE HOG PARK CREEK, NEAR ENCAMPMENT, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)
OCT 04...	1200	2.6	<0.4	1.6	<0.4	1.3	<0.4	0.09	0.19

SPECIAL STUDY - LOW LEVEL NUTRIENTS

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)
MAY 10...	1035	114	0.025	0.007
JUN 05...	1505	449	0.015	<0.001
JUL 11...	1305	139	<0.010	0.007
AUG 02...	0905	44	<0.010	0.001
SEP 05...	1405	23	<0.010	0.002

06625000 ENCAMPMENT RIVER AT MOUTH, NEAR ENCAMPMENT, WY

LOCATION.--Lat 41°18'12", long 106°42'53", in NE¼ NW¼ sec.3, T.15 N., R.83 W., Carbon County, Hydrologic Unit 10180002, on left bank 0.5 mi upstream from mouth and 8.0 mi northeast of Encampment.

DRAINAGE AREA.--265 mi².

PERIOD OF RECORD.--April 1940 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1710: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 6,970 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 28, 1961, water-stage recorder at site 660 ft upstream at datum 2.00 ft higher.

REMARKS.--Estimated daily discharges: Nov. 1, 2, 15-17, Nov. 21 to Mar. 5, Mar. 7, 14-16, 20, 21, and Apr. 11 to May 11. Records good except those for estimated daily discharges, which are poor. Five small reservoirs upstream from station for irrigation, total capacity, about 400 acre-ft. Slight regulation by Hog Park Creek Reservoir, capacity, about 2,970 acre-ft. Diversions for irrigation of about 8,800 acres upstream from station. Transbasin diversion upstream from station into Hog Park Creek (tributary to Encampment River) from North Fork Little Snake River for municipal, industrial, and irrigation uses began September 1964.

AVERAGE DISCHARGE.--50 years, 243 ft³/s, 176,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,510 ft³/s, June 1, 1943, gage height, 10.25 ft, present datum; maximum gage height, 10.33 ft, June 4, 1952, present datum; minimum daily discharge, 5.2 ft³/s, Aug. 15, 16, 1940.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 12	1400	*1,780	*5.16	No other peak greater than base discharge.			

Minimum daily discharge, 44 ft³/s, Dec. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	70	58	52	59	64	77	170	753	287	75	75
2	57	72	61	50	56	66	81	150	704	253	72	84
3	63	73	64	48	55	69	84	150	653	227	69	96
4	72	84	68	48	56	73	90	170	745	281	66	84
5	70	82	72	51	57	79	97	190	915	242	65	75
6	71	81	70	48	58	73	85	230	1040	207	64	61
7	72	76	65	51	59	66	91	320	1090	182	59	58
8	71	76	68	56	56	70	94	400	1050	202	56	54
9	70	80	64	60	56	84	102	370	1060	241	54	54
10	71	80	61	62	58	96	95	340	1110	264	54	53
11	69	79	53	60	61	98	100	310	1350	204	54	52
12	68	78	56	62	63	87	105	284	1660	170	59	50
13	68	84	60	65	59	74	110	279	1280	155	68	49
14	63	82	60	60	55	65	115	234	1140	144	71	48
15	63	80	58	58	54	60	125	226	1010	140	65	47
16	66	76	56	56	55	65	140	212	946	129	67	47
17	72	74	52	55	58	67	150	212	860	123	78	60
18	71	75	48	56	60	70	170	255	853	127	87	79
19	64	79	49	54	55	71	190	243	901	115	79	67
20	72	77	53	56	53	75	220	250	785	98	75	70
21	77	72	49	60	54	80	240	252	666	126	78	73
22	75	70	44	64	57	85	250	321	636	115	73	63
23	77	68	47	62	59	90	260	425	577	107	67	60
24	74	70	51	58	62	86	290	592	561	99	64	59
25	73	73	53	61	65	78	350	621	520	111	63	58
26	79	74	54	57	66	73	310	598	492	103	61	57
27	83	69	56	54	64	83	270	544	452	89	64	58
28	79	61	55	55	61	82	230	575	381	83	65	60
29	72	55	53	58	---	78	200	660	333	79	64	61
30	70	57	50	59	---	74	180	606	309	79	63	60
31	74	---	49	60	---	76	---	728	---	76	68	---
TOTAL	2180	2227	1757	1756	1631	2357	4901	10917	24832	4858	2067	1872
MEAN	70.3	74.2	56.7	56.6	58.2	76.0	163	352	828	157	66.7	62.4
MAX	83	84	72	65	66	98	350	728	1660	287	87	96
MIN	54	55	44	48	53	60	77	150	309	76	54	47
AC-FT	4320	4420	3490	3480	3240	4680	9720	21650	49250	9640	4100	3710

CAL YR 1989 TOTAL 53943 MEAN 148 MAX 777 MIN 34 AC-FT 107000
WTR YR 1990 TOTAL 61355 MEAN 168 MAX 1660 MIN 44 AC-FT 121700

PLATTE RIVER BASIN

06625650(REVISED) NORTH PLATTE RIVER AT HIGHWAY 130, NEAR SARATOGA, WY

LOCATION.--Lat 41°21'17", long 106°42'53", in SW¼ SE¼ NE¼ sec.16, T.16 N., R.83 W., Carbon County, Hydrologic Unit 10180002, at bridge on Highway 130, 1.2 mi downstream from Cow Creek and 30.2 mi south of Saratoga.

PERIOD OF RECORD.--May 1984 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 05...	0920	2930	9.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SEP 05...	0820	300	17.0	0.02	<0.01	0.03	<0.01	<0.01	<0.01

PLATTE RIVER BASIN

253

06627800 JACK CREEK ABOVE COYOTE DRAW, NEAR SARATOGA, WY

LOCATION.--Lat 41°26'21", long 106°58'16", in NW¼ NE¼ NW¼ sec.21, T.17 N., R.85 W., Carbon County, Hydrologic Unit 10180002, on left bank 1.2 mi upstream from Coyote Draw and Blydenburg and Morgan Ditches, 2.0 mi downstream from Gartman Creek, and 8.2 mi west of Saratoga.

DRAINAGE AREA.-- 109 mi².

PERIOD OF RECORD.--April to September 1990 (no winter records).

GAGE.--Water-stage recorder. Elevation of gage is 7,050 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Apr. 1-11. Records good except those for estimated daily discharges, which are poor. Diversions for irrigation of about 2,000 acres upstream from station.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 172 ft³/s, June 12, gage height 5.50 ft; minimum daily during period of operation, 1.1 ft³/s, Sept. 15 and 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	11	24	72	28	4.0	1.7
2	---	---	---	---	---	---	14	20	66	29	3.7	2.3
3	---	---	---	---	---	---	21	21	59	26	3.5	3.0
4	---	---	---	---	---	---	29	24	56	25	3.3	3.6
5	---	---	---	---	---	---	24	27	59	22	4.0	2.8
6	---	---	---	---	---	---	20	30	64	20	3.7	2.5
7	---	---	---	---	---	---	17	39	61	17	3.2	2.3
8	---	---	---	---	---	---	21	38	59	18	2.6	2.1
9	---	---	---	---	---	---	26	32	59	20	2.4	2.1
10	---	---	---	---	---	---	16	29	62	20	2.3	1.9
11	---	---	---	---	---	---	18	27	81	17	3.0	1.8
12	---	---	---	---	---	---	20	28	153	14	3.4	1.5
13	---	---	---	---	---	---	21	36	140	12	3.4	1.3
14	---	---	---	---	---	---	25	38	93	11	3.2	1.2
15	---	---	---	---	---	---	29	36	69	10	3.2	1.1
16	---	---	---	---	---	---	43	35	64	8.7	4.4	1.1
17	---	---	---	---	---	---	44	32	60	7.4	6.7	5.4
18	---	---	---	---	---	---	40	34	53	6.8	6.1	4.4
19	---	---	---	---	---	---	39	39	52	7.6	4.9	3.4
20	---	---	---	---	---	---	34	40	51	7.5	3.7	3.6
21	---	---	---	---	---	---	34	42	50	11	3.0	4.5
22	---	---	---	---	---	---	38	46	49	13	2.5	4.4
23	---	---	---	---	---	---	42	48	46	11	2.8	3.6
24	---	---	---	---	---	---	41	50	42	8.8	2.7	3.0
25	---	---	---	---	---	---	35	57	39	8.0	2.3	2.8
26	---	---	---	---	---	---	32	53	37	7.1	1.8	2.8
27	---	---	---	---	---	---	27	48	33	5.6	1.5	3.0
28	---	---	---	---	---	---	26	49	32	4.9	1.4	3.1
29	---	---	---	---	---	---	28	59	30	4.7	1.2	3.2
30	---	---	---	---	---	---	29	67	30	5.0	1.2	3.2
31	---	---	---	---	---	---	---	83	---	4.5	1.3	---
TOTAL	---	---	---	---	---	---	844	1231	1821	410.6	96.4	82.7
MEAN	---	---	---	---	---	---	28.1	39.7	60.7	13.2	3.11	2.76
MAX	---	---	---	---	---	---	44	83	153	29	6.7	5.4
MIN	---	---	---	---	---	---	11	20	30	4.5	1.2	1.1
AC-FT	---	---	---	---	---	---	1670	2440	3610	814	191	164

PLATTE RIVER BASIN

06628900 PASS CREEK NEAR ELK MOUNTAIN, WY

LOCATION.--Lat 41°35'12", long 106°36'40", in NE¼ SE¼ SE¼ sec.28, T.19 N., R.82 W., Carbon County, Hydrologic Unit 10180002, on right bank 500 ft upstream from bridge on county road, 700 ft upstream from Brush Creek, 12 mi southwest of town of Elk Mountain, and 14 mi northeast of Saratoga.

DRAINAGE AREA.--91.5 mi². Area at mouth, 279 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 7,230 ft above National Geodetic Vertical Datum of 1929, from topographic map. Apr. 18, 1957 to Oct. 6, 1966, 274 ft upstream at datum 6.00 ft higher. Oct. 7, 1966, to Sept. 23, 1987, at site 289 ft upstream at datum 6.00 ft higher.

REMARKS.--Estimated daily discharges: Nov. 1, 2, 8, 15-18, Nov. 22 to Mar. 19, July 7-11, Aug. 19, and Sept. 26-29. Records good except those for estimated daily discharges, which are poor. Diversions for irrigation of about 6,300 acres upstream from station. Diversion to Kerr ditch 7.5 mi upstream.

AVERAGE DISCHARGE.--33 years, 41.8 ft³/s, 30,280 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,660 ft³/s, May 12, 1984, gage height, 9.12 ft, site and datum then in use, from floodmarks, from rating curve extended above 1,600 ft³/s on basis of slope-area measurement of peak flow; minimum daily discharge, 0.93 ft³/s, Sept. 7, 1989.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1938, 9.12 ft, May 12, 1984, site and datum then in use, from floodmarks, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 12	1600	*437	*6.95	No other peak greater than base discharge.			

Minimum daily discharge, 5.2 ft³/s, Oct. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.4	6.4	8.5	8.9	9.4	8.2	33	66	127	60	10	8.0
2	7.6	9.0	8.8	8.4	9.4	8.5	45	51	129	60	9.8	8.6
3	7.6	10	9.0	8.2	9.0	8.6	70	46	92	63	11	12
4	7.8	10	9.6	7.7	8.6	8.8	94	39	87	66	11	9.8
5	8.2	11	10	8.2	8.7	9.3	76	42	98	65	12	8.4
6	7.9	11	10	8.6	9.0	8.9	58	45	110	62	12	9.2
7	7.7	9.7	10	9.0	9.2	8.5	57	64	101	58	11	8.5
8	7.6	11	10	9.4	8.6	8.8	67	70	89	90	9.9	7.4
9	7.4	12	10	10	8.2	9.2	80	65	91	80	11	7.5
10	6.7	13	9.6	10	8.2	10	52	66	89	60	9.9	7.0
11	5.3	14	8.7	11	8.6	10	62	62	110	35	9.9	6.3
12	5.2	12	8.1	11	9.0	10	69	57	341	28	14	5.9
13	6.4	12	8.5	11	8.0	9.1	63	86	227	28	12	5.5
14	6.5	10	9.0	10	6.7	8.6	68	63	167	21	10	5.9
15	6.2	8.8	9.5	10	7.1	8.8	108	74	121	18	9.7	9.0
16	5.8	9.0	9.0	10	7.2	9.2	110	69	108	16	9.6	7.7
17	7.3	9.4	8.0	9.8	7.4	9.6	84	49	98	14	11	12
18	7.3	9.8	7.5	9.7	7.7	10	115	66	84	13	13	17
19	7.1	11	7.6	9.4	7.6	12	91	74	72	13	11	14
20	7.7	11	8.0	8.8	7.4	14	84	71	68	13	10	13
21	7.7	11	8.4	9.0	7.2	17	83	73	62	25	10	13
22	7.3	8.8	8.2	9.3	7.5	24	79	99	62	22	8.9	12
23	7.3	8.4	8.4	9.4	7.7	24	88	101	66	18	9.7	11
24	7.3	8.4	8.8	8.9	8.0	26	87	130	58	16	9.0	11
25	7.0	8.5	9.2	8.9	8.4	25	78	144	54	16	8.0	11
26	8.5	8.6	9.4	8.9	8.8	30	60	120	53	13	7.1	11
27	9.4	6.7	9.6	8.7	8.6	25	46	103	46	11	6.2	11
28	11	6.2	10	8.6	8.2	25	74	113	38	10	6.0	12
29	8.2	6.8	9.7	8.6	---	26	57	174	35	10	6.6	10
30	8.7	7.4	9.2	9.0	---	27	64	151	50	14	6.4	9.9
31	7.5	---	8.6	9.0	---	29	---	162	---	12	7.2	---
TOTAL	230.6	290.9	278.9	287.4	229.4	468.1	2202	2595	2933	1030	302.9	294.6
MEAN	7.44	9.70	9.00	9.27	8.19	15.1	73.4	83.7	97.8	33.2	9.77	9.82
MAX	11	14	10	11	9.4	30	115	174	341	90	14	17
MIN	5.2	6.2	7.5	7.7	6.7	8.2	33	39	35	10	6.0	5.5
AC-FT	457	577	553	570	455	928	4370	5150	5820	2040	601	584

CAL YR 1989 TOTAL 7639.89 MEAN 20.9 MAX 115 MIN .93 AC-FT 15150
WTR YR 1990 TOTAL 11142.8 MEAN 30.5 MAX 341 MIN 5.2 AC-FT 22100

06630000 NORTH PLATTE RIVER ABOVE SEMINOE RESERVOIR, NEAR SINCLAIR, WY

LOCATION.--Lat 41°52'20", long 107°03'25", in SW¼ SW¼ sec.13, T.22 N., R.86 W., Carbon County, Hydrologic Unit 10180002, on left bank 6.5 mi northeast of Sinclair and 14 mi upstream from high-water line of Seminoe Reservoir at elevation 6,357 ft.

DRAINAGE AREA.--4,175 mi², of which 114 mi² is probably non-contributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1939 to current year. Prior to October 1943, published as "near Parco."

REVISED RECORDS.--WDR-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,400.75 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 1, 2, 8, 14-17 and Nov. 27 to Mar. 20. Records good except those for estimated daily discharges, which are poor. Diversions for irrigation of about 215,000 acres upstream from station. Transbasin diversions upstream from station.

COOPERATION.--Twelve discharge measurements provided by the Bureau of Reclamation and twelve discharge measurements provided by the Wyoming State Engineer's office.

AVERAGE DISCHARGE.--51 years, 1,138 ft³/s, 824,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,200 ft³/s, June 11, 1986, gage height, 11.30 ft; minimum daily, 70 ft³/s, Sept. 17, 1944.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,030 ft³/s, June 13, gage height, 6.30 ft; minimum daily, 170 ft³/s, Dec. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	208	284	268	242	280	367	804	1030	2420	1280	535	196
2	214	250	310	238	282	376	862	953	2350	1180	515	218
3	217	250	355	232	277	391	936	874	2260	1070	496	253
4	214	255	385	224	270	435	1060	804	2130	1150	446	281
5	228	293	400	222	277	505	1320	750	2360	1360	450	276
6	234	348	362	229	282	575	1390	722	2850	1310	749	274
7	235	340	310	241	290	603	1190	763	3070	1140	393	272
8	241	312	340	263	292	620	1070	1030	3250	1060	357	266
9	249	317	363	261	283	675	1070	1130	3490	1160	334	240
10	248	325	327	290	300	713	1080	988	3390	1610	309	228
11	245	312	290	329	320	665	1020	895	3770	1660	293	217
12	254	368	258	332	343	620	952	980	4630	1400	668	202
13	251	381	232	328	350	560	974	915	5820	1210	569	191
14	258	351	213	314	323	500	964	942	5530	1030	377	182
15	260	315	229	305	295	470	916	878	4780	931	353	180
16	257	283	217	293	303	490	937	887	3570	900	335	174
17	260	276	190	277	320	500	1100	857	3100	801	321	173
18	271	281	170	260	329	520	1190	828	2880	773	362	207
19	280	319	175	230	333	520	1190	941	2760	767	420	231
20	289	355	178	223	322	540	1190	939	2610	775	400	255
21	281	360	187	234	323	511	1200	928	2500	822	379	263
22	296	353	192	242	337	575	1200	934	2390	1030	359	273
23	306	338	190	252	347	606	1280	1090	2300	1070	338	259
24	304	317	210	246	364	666	1370	1300	2190	1030	319	240
25	309	339	242	240	372	678	1420	1630	2110	890	293	227
26	312	349	267	236	377	684	1450	1770	2030	810	270	219
27	315	328	292	246	387	672	1340	1710	1930	793	253	217
28	340	243	280	249	377	792	1160	1730	1760	724	243	215
29	332	207	267	251	---	859	1020	1900	1580	627	235	222
30	332	232	252	263	---	825	1020	2270	1410	596	218	224
31	314	---	240	273	---	805	---	2250	---	579	209	---
TOTAL	8354	9281	8191	8065	8955	18318	33675	35618	87220	31538	11798	6875
MEAN	269	309	264	260	320	591	1122	1149	2907	1017	381	229
MAX	340	381	400	332	387	859	1450	2270	5820	1660	749	281
MIN	208	207	170	222	270	367	804	722	1410	579	209	173
AC-FT	16570	18410	16250	16000	17760	36330	66790	70650	173000	62560	23400	13640

CAL YR 1989 TOTAL 214101 MEAN 587 MAX 1900 MIN 116 AC-FT 424700
WTR YR 1990 TOTAL 267888 MEAN 734 MAX 5820 MIN 170 AC-FT 531400

PLATTE RIVER BASIN

06630000 NORTH PLATTE RIVER ABOVE SEMINOLE RESERVOIR, NEAR SINCLAIR, WY--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: March 1978 to October 1978.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 05...	1100	215	420	8.3	10.5	617	28	9.5	106	K3	K6
DEC 11...	1200	290	530	8.0	0.0	617	11	12.1	103	<1	K6
JAN 30...	1400	263	490	8.2	0.0	604	4.1	11.8	102	K1	K1
APR 10...	1130	1100	360	8.5	6.0	622	28	9.1	90	K4	K8
JUN 04...	1600	1990	240	8.0	16.0	597	3.0	7.8	101	K1	K5
AUG 01...	1300	541	418	8.6	21.0	616	60	7.5	105	K16	K38

K-Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT 05...	160	44	12	29	1	2.9	0	166	136	135	80
DEC 11...	200	57	15	30	0.9	2.7	0	176	144	148	110
JAN 30...	190	53	13	26	0.8	2.8	0	171	140	134	92
APR 10...	140	37	12	21	0.8	2.9	12	114	113	104	67
JUN 04...	85	23	6.6	12	0.6	1.3	0	84	69	77	36
AUG 01...	140	39	11	21	0.8	2.3	1	149	124	126	60

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
OCT 05...	9.7	0.5	9.1	275	269	0.37	160	<0.01	<0.1	0.02
DEC 11...	10	0.4	19	333	331	0.45	261	<0.01	<0.1	0.03
JAN 30...	8.9	0.4	17	312	298	0.42	222	<0.01	<0.1	<0.01
APR 10...	8.0	0.2	12	228	229	0.31	677	0.01	<0.1	0.05
JUN 04...	3.8	<0.1	12	152	136	0.21	817	<0.01	<0.1	0.01
AUG 01...	5.5	0.4	8.4	221	222	0.30	323	<0.01	<0.1	0.05

06630000 NORTH PLATTE RIVER ABOVE SEMINOLE RESERVOIR, NEAR SINCLAIR, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	SEDI- MENT, SUS- PENDEDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 05...	0.02	0.03	0.48	0.5	0.02	<0.01	<0.01	38	22	99
DEC 11...	0.02	0.03	1.9	1.9	0.18	<0.01	<0.01	23	18	90
JAN 30...	<0.01	--	99	0.2	0.11	0.08	<0.01	8	5.7	97
APR 10...	0.02	0.03	0.65	0.7	0.08	0.02	0.01	62	184	91
JUN 04...	0.01	0.01	0.79	0.8	0.07	0.02	<0.01	83	446	77
AUG 01...	0.03	0.04	0.45	0.5	0.09	0.01	<0.01	88	129	99

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
DEC 11...	1200	<10	2	52	<0.5	<1.0	<1	<3	1	12	<1
JAN 30...	1400	<10	<1	50	<0.5	<1.0	<5	<3	<10	17	<10
APR 10...	1130	30	1	46	<0.5	<1.0	<1	<3	2	220	<1
AUG 01...	1300	10	1	47	<0.5	<1.0	<1	<3	3	19	2

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC 11...	35	10	0.1	<10	<1	<1	<1.0	380	<6	8
JAN 30...	29	7	0.1	<10	<10	<1	<1.0	350	<6	25
APR 10...	20	13	<0.1	<10	1	<1	<1.0	270	<6	5
AUG 01...	22	7	0.1	<10	<1	<1	<1.0	290	<6	4

PLATTE RIVER BASIN

06632400 ROCK CREEK ABOVE KING CANYON CANAL, NEAR ARLINGTON, WY

LOCATION.--Lat 41°35'07", long 106°13'20", in SE¼ SW¼ sec. 25, T.19 N., R.79 W., Carbon County, Hydrologic Unit 10180004, on left bank 200 ft upstream from point of diversion to King Canyon Canal, 0.4 mi downstream from Overland Creek, 1.0 mi southwest of Arlington, and 6.9 mi southwest of McFadden.

DRAINAGE AREA.--62.9 mi².

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

REVISED RECORDS.--WDR WY-86: 1985(m). WDR WY-87: 1985.

GAGE.--Water-stage recorder. Elevation of gage is 7,790 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 30 to Nov. 3, Nov. 8, 14-17, Nov. 25 to Dec. 4, Dec. 11-15, Jan. 3-11, Jan. 18 to Feb. 24, Mar. 11, 12, 14, 24-27, 30, 31, and Apr. 1, 3, 4, 6, 7, 29, 30. Records good except those for estimated daily discharges, which are poor. Minor regulation by Sand Lake, capacity, 1,100 acre-ft, on Deep Creek, 12 mi upstream. No diversion upstream from station.

COOPERATION.--Stage record and ten discharge measurements provided by Office of the Wyoming State Engineer. Records computed and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--36 years (water years 1955-90) 82.2 ft³/s, 59,550 acre-ft/yr, includes records for station 06632500 Rock Creek at Arlington for water years 1955-65, adjusted for diversions by King Canyon Canal.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,590 ft³/s, June 19, 1971, gage height, 5.83 ft; maximum gage height, 5.92 ft, June 24, 1983; minimum daily discharge, 5.3 ft³/s, Feb. 4, 1989.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 29	0230	794	3.91	June 7	2130	*1,050	*4.31

Minimum daily discharge, 5.4 ft³/s, Mar. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	7.7	8.0	8.7	7.3	7.1	9.5	35	469	169	31	15
2	11	8.7	8.5	10	7.1	6.9	11	32	358	154	29	16
3	11	10	9.0	9.2	6.9	6.7	13	30	360	145	27	21
4	11	11	10	8.3	7.3	6.6	14	30	578	157	27	19
5	11	11	11	7.2	7.2	6.8	16	29	742	133	38	17
6	10	11	11	7.5	7.6	5.8	14	36	722	121	32	18
7	10	11	11	7.9	7.6	6.7	15	60	761	104	27	16
8	9.7	11	12	8.2	7.3	8.5	15	73	728	151	25	15
9	9.4	12	11	8.5	7.5	6.3	16	63	663	157	25	14
10	9.7	12	9.8	8.7	7.8	5.4	14	58	679	129	23	14
11	9.8	11	9.0	8.8	8.0	9.1	15	63	647	97	23	13
12	9.6	11	8.0	8.8	7.9	8.5	17	57	477	82	28	13
13	9.9	11	8.5	8.6	7.2	7.9	17	57	427	72	47	12
14	9.7	9.3	9.0	8.4	6.6	7.6	18	52	406	67	96	12
15	10	9.0	9.5	8.6	6.9	7.9	27	62	362	63	90	12
16	11	9.0	10	8.5	7.2	8.2	32	71	347	57	85	12
17	11	9.0	10	8.3	7.4	8.6	29	66	323	52	82	14
18	6.9	10	9.8	8.0	7.0	8.3	31	92	361	49	78	21
19	6.1	10	9.1	7.7	6.7	8.5	37	118	402	48	68	20
20	11	9.9	9.0	7.9	6.3	9.3	39	121	376	49	46	18
21	12	9.4	9.2	8.2	6.6	10	44	146	358	69	32	17
22	10	8.5	9.0	8.5	6.9	9.7	50	189	323	58	25	16
23	9.5	10	9.1	8.5	7.2	10	59	250	324	59	23	15
24	9.2	9.9	8.7	8.2	7.5	9.5	66	340	328	49	21	14
25	9.1	10	8.5	8.3	7.7	9.0	58	338	311	49	19	14
26	10	10	8.8	8.8	7.5	9.5	49	299	291	42	17	13
27	8.1	9.0	8.3	8.2	7.3	10	44	285	260	37	16	13
28	8.8	8.0	8.0	7.7	7.1	10	43	360	244	34	15	15
29	6.7	7.5	7.7	7.1	---	10	39	573	208	34	14	16
30	7.0	8.0	7.6	7.4	---	9.5	41	419	186	39	14	16
31	8.5	---	7.2	7.7	---	9.3	---	508	---	34	14	---
TOTAL	296.7	294.9	285.3	256.4	202.6	257.2	892.5	4912	13021	2560	1137	461
MEAN	9.57	9.83	9.20	8.27	7.24	8.30	29.7	158	434	82.6	36.7	15.4
MAX	12	12	12	10	8.0	10	66	573	761	169	96	21
MIN	6.1	7.5	7.2	7.1	6.3	5.4	9.5	29	186	34	14	12
AC-FT	589	585	566	509	402	510	1770	9740	25830	5080	2260	914

CAL YR 1989 TOTAL 18432.9 MEAN 50.5 MAX 419 MIN 5.3 AC-FT 36560
WTR YR 1990 TOTAL 24576.6 MEAN 67.3 MAX 761 MIN 5.4 AC-FT 48750

06634620 LITTLE MEDICINE BOW RIVER AT BOLES SPRING, NEAR MEDICINE BOW, WY

LOCATION.--Lat 41°57'40", long 106°12'31", in NW¼ SW¼ SW¼ sec.17, T.23 N., R.78 W., Carbon County, Hydrologic Unit 10180005, on right bank 10 ft downstream from Boles Spring, 3.9 mi downstream from State Highway 487, 4.3 mi north of Medicine Bow, and 8.7 mi downstream from Muddy Creek.

DRAINAGE AREA.--969 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1973 to current year. Records for October 1973 to September 1984 at site 5.5 mi upstream published as "near Medicine Bow" (Sta 06634600) do not include flow of Boles Spring. Discharge records considered equivalent except for low flow. Miscellaneous discharge measurements of Boles Spring are made periodically and are tabulated in this report for water year 1988.

GAGE.--Water-stage recorder. Elevation of gage is 6,570 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 11, 12, 16-20 and Feb. 14-17. Records fair except those for estimated daily discharges, which are poor. Diversions for irrigation of about 5,200 acres upstream from station.

AVERAGE DISCHARGE.--17 years, 54.5 ft³/s, 39,490 acre-ft/yr, unadjusted for flow from Boles Spring.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,500 ft³/s, May 17, 1978, from slope-area measurement of peak flow, gage height, 14.10 ft, from floodmark in gage well, site and datum then in use; no flow at times, 1974-84, site then in use.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sept. 28	2200	*570	*4.45	No other peak greater than base discharge.			
Minimum daily discharge, 0.70 ft ³ /s, Feb. 14.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	1.8	4.2	1.3	1.0	1.2	74	112	33	1.2	40	9.5
2	3.7	1.7	3.9	1.4	1.1	2.2	83	105	32	1.1	21	6.5
3	3.2	2.1	3.8	1.2	1.1	6.6	83	101	31	1.0	15	6.4
4	3.3	3.5	4.1	1.1	.94	13	71	95	30	.90	19	5.4
5	3.3	5.5	4.3	1.1	.97	15	73	88	27	.83	46	4.2
6	3.3	11	3.7	1.1	.97	5.2	72	81	23	.89	90	3.6
7	3.8	7.4	3.4	1.1	1.0	9.4	68	80	21	14	24	4.3
8	3.8	4.7	2.6	1.3	.94	11	58	74	18	9.8	14	3.8
9	3.5	6.0	3.1	1.2	1.0	11	58	84	16	5.9	9.8	3.1
10	3.6	16	2.8	1.4	1.1	15	57	86	15	4.5	7.6	2.9
11	3.2	19	2.0	1.3	1.3	19	64	81	12	3.9	8.8	2.8
12	2.7	15	1.7	1.3	1.4	19	58	85	11	3.1	21	2.7
13	2.3	13	1.9	1.3	.74	19	61	83	11	2.3	25	2.4
14	3.2	11	1.9	1.5	.70	21	54	71	9.9	1.9	17	2.1
15	5.8	3.9	1.7	1.3	.80	26	47	68	9.3	1.4	125	1.9
16	7.0	5.0	1.5	1.3	.90	39	39	63	8.7	1.2	37	1.6
17	6.5	4.8	1.2	1.2	1.0	31	37	73	8.2	1.1	19	3.7
18	6.0	5.6	.90	1.0	1.1	27	42	63	6.7	.98	16	9.9
19	5.1	8.7	.80	.98	1.1	28	42	54	5.9	.97	15	7.4
20	6.3	19	.98	1.1	1.0	34	42	53	5.5	1.4	14	6.6
21	6.2	17	1.0	1.1	1.1	44	46	52	4.7	3.3	11	6.8
22	5.8	13	1.1	1.2	1.1	55	52	51	4.4	4.8	24	6.8
23	5.3	9.3	1.1	1.1	1.2	28	53	48	4.3	7.7	15	6.0
24	5.0	9.8	1.1	1.1	1.2	66	61	40	3.7	8.9	11	5.4
25	4.3	8.3	1.1	1.1	1.2	76	72	33	2.9	8.6	8.7	5.0
26	5.3	9.0	1.2	1.1	1.2	65	78	30	2.1	9.2	6.8	4.8
27	6.0	5.5	1.2	1.0	1.2	67	78	28	2.3	7.3	5.5	5.1
28	7.7	3.8	1.3	1.1	1.1	67	76	26	1.9	6.2	4.6	98
29	4.1	4.9	1.4	1.1	---	53	75	30	1.3	12	4.3	64
30	3.8	4.9	1.3	.98	---	53	109	34	1.3	19	3.6	14
31	1.8	---	1.4	.97	---	57	---	32	---	63	4.9	---
TOTAL	139.0	250.2	63.68	36.33	29.46	983.6	1883	2004	363.1	208.37	683.6	306.7
MEAN	4.48	8.34	2.05	1.17	1.05	31.7	62.8	64.6	12.1	6.72	22.1	10.2
MAX	7.7	19	4.3	1.5	1.4	76	109	112	33	63	125	98
MIN	1.8	1.7	.80	.97	.70	1.2	37	26	1.3	.83	3.6	1.6
AC-FT	276	496	126	72	58	1950	3730	3970	720	413	1360	608

CAL YR 1989 TOTAL 5768.32 MEAN 15.8 MAX 248 MIN .80 AC-FT 11440
WTR YR 1990 TOTAL 6951.04 MEAN 19.0 MAX 125 MIN .70 AC-FT 13790

PLATTE RIVER BASIN

06634620 LITTLE MEDICINE BOW RIVER AT BOLES SPRING, NEAR MEDICINE BOW, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1985 to September 1990 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
OCT 06...	1300	3.9	10.0	62	1.0	24	19	22	16	17	82	2

06635000 MEDICINE BOW RIVER ABOVE SEMINOLE RESERVOIR, NEAR HANNA, WY

LOCATION.--Lat 42°00'35", long 106°30'45", in SE¼ NW¼ sec.34, T.24 N., R.81 W., Carbon County, Hydrologic Unit 10180004, on left bank 25 ft upstream from county highway bridge, 2.0 mi upstream from Troublesome Creek, 9.0 mi upstream from high-water line of Seminole Reservoir at elevation 6,357 ft, and 10 mi north of Hanna.

DRAINAGE AREA.--2,338 mi², of which 396 mi² is probably non-contributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1939 to current year.

REVISED RECORDS.--WSP 956: 1941(M). WSP 1440: 1940(M), 1941. WSP 1710: Drainage area. WDR WY-83-1: 1943.

GAGE.--Water-stage recorder. Datum of gage is 6,415.40 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 31 to Nov. 5, Nov. 7-9, and Nov. 15 to Mar. 22. Records good except those for estimated daily discharges, which are poor. Many small reservoirs upstream from station, total capacity, about 6,000 acre-ft, for irrigation. Diversions for irrigation of about 43,000 acres upstream from station.

COOPERATION.--Twelve discharge measurements provided by the Bureau of Reclamation and thirteen discharge measurements provided by the Wyoming State Engineer's office.

AVERAGE DISCHARGE.--51 years, 184 ft³/s, 133,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,010 ft³/s, May 12, 1973, gage height, 6.74 ft; maximum gage height, about 8.2 ft, Feb. 26 or 27, 1986, from floodmark (backwater from ice); minimum daily discharge, 1.1 ft³/s, Sept. 7-14, 1959, Aug. 7, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,210 ft³/s, May 28, gage height, 3.01 ft; minimum daily, 7.0 ft³/s, Feb. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.7	15	33	15	10	35	166	264	359	89	205	21
2	10	13	31	15	10	41	189	218	451	56	97	22
3	9.8	15	30	12	10	56	186	203	400	35	68	22
4	9.5	18	32	11	9.6	70	204	189	359	29	57	18
5	9.6	19	33	11	9.7	90	223	175	279	23	68	15
6	9.9	20	30	11	10	100	231	159	203	29	81	15
7	9.9	30	27	11	10	40	219	147	286	16	106	14
8	10	24	22	12	11	62	183	144	499	16	69	13
9	11	20	25	13	11	70	178	146	586	25	49	14
10	11	23	23	14	12	90	175	193	639	28	39	13
11	10	25	17	13	13	100	179	177	640	43	50	13
12	9.3	32	18	13	13	110	177	165	641	189	37	14
13	9.3	31	19	13	9.0	110	169	158	765	116	39	13
14	9.8	26	18	15	7.0	102	174	165	856	102	47	12
15	10	21	17	13	10	110	173	143	657	99	45	11
16	11	18	15	12	11	130	162	139	496	92	104	11
17	15	22	11	11	12	170	168	130	380	77	65	12
18	15	25	9.0	10	13	140	185	150	296	67	46	15
19	15	27	8.0	10	13	120	184	132	238	58	36	19
20	15	28	10	11	13	130	197	116	188	53	32	22
21	14	33	11	12	14	160	190	138	179	45	28	21
22	14	39	11	13	14	200	190	146	209	38	28	20
23	14	36	11	11	16	232	194	137	215	35	30	18
24	14	34	11	11	20	113	208	139	209	59	30	17
25	13	33	11	11	26	227	239	130	187	69	24	16
26	17	32	12	11	40	300	262	134	164	50	20	15
27	19	28	13	11	35	217	259	161	152	49	18	15
28	17	25	14	11	32	201	237	190	142	34	17	36
29	14	28	14	11	---	201	229	152	131	44	15	129
30	16	30	14	10	---	171	241	145	108	32	14	58
31	16	---	15	10	---	157	---	234	---	114	22	---
TOTAL	387.8	770	565.0	368	414.3	4055	5971	5019	10914	1811	1586	654
MEAN	12.5	25.7	18.2	11.9	14.8	131	199	162	364	58.4	51.2	21.8
MAX	19	39	33	15	40	300	262	264	856	189	205	129
MIN	9.3	13	8.0	10	7.0	35	162	116	108	16	14	11
AC-FT	769	1530	1120	730	822	8040	11840	9960	21650	3590	3150	1300

CAL YR 1989 TOTAL 22232.8 MEAN 60.9 MAX 355 MIN 6.0 AC-FT 44100
WTR YR 1990 TOTAL 32515.1 MEAN 89.1 MAX 856 MIN 7.0 AC-FT 64490

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

[illegible]

06635500 SEMINOE RESERVOIR NEAR LEO, WY

LOCATION.--Lat 42°09'21", long 106°54'29", in NW¼ NE¼ sec.8, T.25 N., R.84 W., Carbon County, Hydrologic Unit 10180003, on upstream side near center of dam on North Platte River, 6.0 mi upstream from high-water line of Pathfinder Reservoir at elevation 5,850.1 ft, and 9.0 mi southwest of Leo.

DRAINAGE AREA.--7,230 mi², of which 589 mi² is probably noncontributing.

PERIOD OF RECORD.--February 1939 to current year. Monthend figures only for February, March 1939, October 1940 to September 1950, published in WSP 1310.

REVISED RECORDS.--WDR WY-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,190.00 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to Apr. 20, 1939, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by concrete-arch dam. Storage began Apr. 1, 1939, but some regulation for power development during period Jan. 1 to Mar. 31, 1939. Capacity, 1,017,000 acre-ft below elevation 6,357 ft, top of spillway gates. Figures given herein represent total contents, of which 31,700 acre-ft, capacity below elevation 6,239 ft, minimum operating level for power development, are not available for power development and 533 acre-ft, below elevation 6,185.09 ft, penstock invert, is dead storage. Water is used for irrigation and power development.

COOPERATION.--Records provided by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily contents, 1,073,000 acre-ft, June 20, 1949, elevation, 6,359.29 ft; minimum daily (since appreciable storage was attained), 19,040 acre-ft, Sept. 1, 1939, elevation, 6,228.00 ft.

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 540,000 acre-ft, July 27, elevation, 6,327.17 ft; minimum daily contents, 347,000 acre-ft, May 23-25, elevation, 6,308.55 ft, May 23.

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

6,305	277,000	6,320	458,000
6,310	359,000	6,330	575,000

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	487000	468000	455000	408000	386000	378000	370000	357000	359000	512000	531000	457000
2	486000	468000	455000	406000	386000	378000	369000	356000	361000	513000	529000	455000
3	486000	467000	455000	404000	385000	377000	369000	355000	365000	514000	527000	453000
4	485000	466000	455000	402000	385000	377000	369000	355000	367000	515000	526000	449000
5	484000	466000	454000	400000	385000	378000	369000	354000	371000	517000	524000	448000
6	483000	465000	454000	397000	384000	377000	368000	354000	376000	518000	523000	447000
7	483000	464000	455000	396000	384000	375000	369000	353000	381000	519000	521000	447000
8	482000	464000	453000	395000	384000	375000	369000	351000	387000	520000	518000	447000
9	482000	464000	451000	395000	383000	374000	368000	352000	394000	521000	516000	446000
10	481000	464000	450000	394000	383000	374000	367000	352000	402000	523000	514000	445000
11	480000	463000	449000	394000	383000	374000	366000	352000	409000	525000	511000	444000
12	479000	463000	448000	394000	382000	373000	366000	352000	418000	527000	509000	444000
13	479000	462000	447000	393000	382000	373000	364000	351000	429000	528000	507000	443000
14	478000	462000	445000	393000	382000	373000	363000	352000	440000	529000	504000	442000
15	477000	462000	442000	393000	382000	372000	362000	352000	451000	530000	501000	442000
16	477000	461000	440000	392000	381000	372000	360000	352000	459000	531000	498000	441000
17	476000	461000	438000	392000	381000	372000	360000	351000	465000	532000	497000	440000
18	476000	461000	435000	392000	381000	371000	360000	350000	469000	532000	494000	439000
19	475000	460000	434000	391000	380000	371000	360000	350000	474000	533000	492000	439000
20	475000	460000	431000	391000	380000	370000	359000	349000	479000	533000	490000	438000
21	473000	459000	429000	391000	380000	370000	359000	348000	483000	534000	487000	437000
22	473000	460000	426000	390000	379000	368000	359000	348000	488000	535000	486000	437000
23	472000	459000	425000	390000	379000	368000	359000	347000	491000	537000	483000	436000
24	472000	459000	423000	389000	379000	368000	358000	347000	495000	538000	480000	436000
25	472000	458000	420000	389000	379000	368000	359000	347000	498000	539000	478000	435000
26	472000	458000	419000	388000	378000	368000	359000	348000	501000	539000	476000	434000
27	471000	458000	418000	388000	378000	368000	360000	349000	505000	540000	473000	434000
28	471000	457000	416000	388000	378000	370000	359000	350000	506000	539000	470000	434000
29	470000	457000	414000	387000	---	371000	359000	352000	509000	536000	468000	433000
30	470000	456000	412000	387000	---	372000	358000	354000	510000	535000	464000	433000
31	469000	---	410000	386000	---	372000	---	356000	---	533000	460000	---
MAX	487000	468000	455000	408000	386000	378000	370000	357000	510000	540000	531000	457000
MIN	469000	456000	410000	386000	378000	368000	358000	347000	359000	512000	460000	433000
(#)	6,321.03	6,319.84	6,315.42	6,312.92	6,312.00	6,311.38	6,309.60	6,324.70	6,326.62	6,320.25	6,317.64	
(*)	-19,000	-13,000	-46,000	-24,000	-8,000	-6,000	-14,000	-2,000	+154,000	+23,000	-73,000	-27,000

CAL YR 1989 MAX 605000 MIN 410000 (*) -198,000
WTR YR 1990 MAX 540000 MIN 347000 (*) -55,000
(#) Elevation, in feet, at end of month.
(*) Change in contents, in acre-feet.

PLATTE RIVER BASIN

06637750 ROCK CREEK ABOVE ROCK CREEK RESERVOIR, WY

LOCATION.--Lat 42°32'59", long 108°46'26", in NW¼ NW¼ sec.27, T.30 N., R.100 W., Fremont County, Hydrologic Unit 10180006, Shoshone National Forest, on left bank 200 ft upstream from high-water line of Rock Creek Reservoir, 2.7 mi downstream from Little Rock Creek, and 4.3 mi northwest of Atlantic City.

DRAINAGE AREA.--9.2 mi², approximately.

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

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 8,330 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 18, 19, 26-30, Nov. 15, Dec. 9-12, 17-19, 21-24, 30, Jan. 3, 18-20, and Aug. 24 to Sept. 5. Records good except those for estimated daily discharges, which are poor. No diversions upstream from station.

AVERAGE DISCHARGE.--28 years, 8.50 ft³/s, 6,160 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 218 ft³/s, June 1, 1986, gage height, 7.17 ft; maximum gage height, 8.54 ft, Apr. 22, 1965 (backwater from ice); minimum daily discharge, 0.5 ft³/s, Jan. 12-14, 1963, Feb. 1, 1985.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 70 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 23	2000	*42	*6.03	No peak greater than base discharge.			
Minimum daily discharge, 1.2 ft ³ /s, Dec. 22, Mar. 5-8, 12-20, 25, 28.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	1.8	1.6	1.5	1.6	1.3	1.6	11	34	6.2	3.2	2.1
2	2.2	1.8	1.6	1.5	1.6	1.3	1.9	11	28	6.1	3.0	2.2
3	2.2	1.9	1.6	1.4	1.5	1.3	2.2	11	27	5.9	2.7	2.2
4	2.2	1.9	1.6	1.5	1.5	1.3	2.4	11	28	5.6	2.7	2.0
5	2.1	2.0	1.7	1.5	1.5	1.2	2.9	13	29	5.4	2.6	1.8
6	2.2	1.8	1.6	1.5	1.5	1.2	2.1	18	28	5.0	2.5	1.8
7	2.1	1.8	1.6	1.5	1.5	1.2	2.1	23	28	4.8	2.4	1.9
8	2.1	1.7	1.6	1.5	1.5	1.2	2.4	19	26	4.8	2.4	1.8
9	2.2	1.8	1.5	1.5	1.6	1.3	2.6	19	26	4.8	2.3	1.7
10	2.1	1.9	1.4	1.5	1.6	1.3	2.5	20	28	5.2	2.2	1.7
11	2.0	2.0	1.3	1.5	1.5	1.3	2.8	20	31	4.7	2.3	1.6
12	1.9	2.1	1.4	1.5	1.6	1.2	3.2	20	25	4.2	2.9	1.5
13	1.9	2.0	1.5	1.5	1.6	1.2	3.5	22	22	4.4	3.0	1.5
14	1.8	1.8	1.5	1.5	1.5	1.2	4.5	20	21	4.5	2.4	1.5
15	1.9	1.7	1.5	1.5	1.5	1.2	6.8	20	20	4.2	2.2	1.5
16	2.1	1.6	1.5	1.5	1.5	1.2	6.6	20	21	3.9	2.2	1.6
17	2.0	1.5	1.4	1.5	1.5	1.2	7.2	22	18	3.5	4.2	1.8
18	2.0	1.5	1.3	1.5	1.5	1.2	9.5	25	16	3.4	3.3	1.7
19	1.9	1.7	1.4	1.4	1.5	1.2	10	25	14	3.5	2.5	4.7
20	2.4	1.8	1.5	1.5	1.4	1.2	10	25	14	6.5	2.3	4.1
21	2.1	1.7	1.3	1.6	1.4	1.3	14	26	13	11	2.1	3.6
22	2.1	1.5	1.2	1.6	1.4	1.4	15	30	12	6.2	1.9	3.1
23	2.1	1.4	1.3	1.6	1.4	1.3	15	33	11	5.1	1.7	2.4
24	2.0	1.5	1.4	1.6	1.4	1.3	14	35	10	5.0	1.8	2.1
25	2.0	1.5	1.5	1.6	1.3	1.2	14	33	9.4	4.6	1.9	2.0
26	2.0	1.8	1.5	1.6	1.3	1.3	13	30	8.8	3.8	2.0	2.0
27	1.9	1.7	1.5	1.6	1.3	1.3	13	31	8.1	3.4	2.3	1.9
28	1.8	1.7	1.5	1.6	1.3	1.2	11	32	7.5	3.3	2.4	1.9
29	1.5	1.6	1.5	1.5	---	1.3	12	33	7.0	3.5	2.2	1.9
30	1.6	1.6	1.4	1.6	---	1.3	11	32	6.6	3.9	2.1	1.8
31	1.8	---	1.5	1.6	---	1.4	---	32	---	3.8	2.0	---
TOTAL	62.4	52.1	45.7	47.3	41.3	39.0	218.8	722	578.4	150.2	75.7	63.4
MEAN	2.01	1.74	1.47	1.53	1.47	1.26	7.29	23.3	19.3	4.85	2.44	2.11
MAX	2.4	2.1	1.7	1.6	1.6	1.4	15	35	34	11	4.2	4.7
MIN	1.5	1.4	1.2	1.4	1.3	1.2	1.6	11	6.6	3.3	1.7	1.5
AC-FT	124	103	91	94	82	77	434	1430	1150	298	150	126

CAL YR 1989 TOTAL 2274.68 MEAN 6.23 MAX 32 MIN .98 AC-FT 4510
WTR YR 1990 TOTAL 2096.3 MEAN 5.74 MAX 35 MIN 1.2 AC-FT 4160

06638090 SWEETWATER RIVER NEAR SWEETWATER STATION, WY

LOCATION.--Lat 42°30'17", long 108°14'59", in SW¼ SE¼ NE¼ sec.12, T.29 N., R.96 W., Fremont County, Hydrologic Unit 10180006, on left bank 1.4 mi downstream from Alkali Creek and 4.4 mi southwest of Sweetwater Station.

DRAINAGE AREA.--849 mi².

PERIOD OF RECORD.--October 1973 to current year.

REVISED RECORDS.--WDR WY-85-1: 1984(M).

GAGE.--Water-stage recorder. Elevation of gage is 6,590 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 28 to Mar. 19 and Apr. 6. Records fair except those for estimated daily discharges, which are poor. Transbasin diversion by Continental Divide ditch diverts water from Little Sandy Creek to land along Lander Creek (tributary to Sweetwater River). A transbasin diversion diverts water from Sweetwater River into Pacific Creek (tributary to Big Sandy River in Green River basin).

AVERAGE DISCHARGE.--17 years, 132 ft³/s, 95,630 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,750 ft³/s, Apr. 24, 1980, gage height, 12.40 ft, from floodmark; minimum daily, 1.9 ft³/s, Sept. 8, 10, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 13	0430	*516	*3.93	No peak greater than base discharge.			
Minimum daily discharge, 6.8 ft ³ /s, Aug. 18.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	18	10	9.2	12	11	47	165	233	119	28	12
2	26	17	9.4	9.0	12	11	58	147	264	112	29	14
3	26	19	9.0	8.8	12	11	86	148	250	107	26	16
4	25	21	9.4	8.6	11	11	112	147	217	108	23	17
5	24	22	9.8	8.8	11	11	152	145	217	100	30	16
6	25	23	11	9.0	11	12	140	144	270	89	22	16
7	26	24	11	9.4	11	12	124	147	286	79	15	15
8	26	25	10	10	11	13	174	167	315	75	12	15
9	26	26	9.8	11	12	14	213	178	329	76	11	15
10	26	33	9.6	12	12	15	185	165	327	72	11	10
11	23	34	9.0	13	13	16	175	160	345	65	9.6	8.7
12	22	28	9.4	14	14	16	192	159	443	62	10	9.2
13	20	27	9.6	15	13	17	195	179	460	53	9.7	9.1
14	18	26	10	15	12	18	183	210	322	49	8.9	9.4
15	21	23	10	15	10	19	186	214	268	48	8.8	9.8
16	21	24	9.8	15	9.2	21	210	202	244	51	9.7	10
17	23	26	9.6	14	8.8	24	213	185	256	43	9.2	11
18	24	28	9.2	14	8.6	27	196	159	255	34	6.8	12
19	25	27	8.6	14	8.4	31	191	150	217	34	6.9	18
20	26	25	8.8	14	8.2	35	181	167	215	37	7.4	25
21	25	23	8.8	14	8.2	42	173	186	202	54	7.5	34
22	28	22	9.0	14	8.4	49	187	170	212	57	7.9	47
23	31	21	9.2	13	8.6	89	192	169	200	80	7.3	41
24	31	21	9.4	13	9.0	121	193	179	194	74	8.8	37
25	31	20	9.6	13	9.6	77	190	209	195	67	8.8	33
26	20	17	9.8	13	10	42	183	207	190	61	7.9	31
27	21	15	10	13	10	38	171	191	178	45	7.3	30
28	21	13	10	13	11	29	163	189	160	39	7.4	28
29	20	12	9.8	12	---	39	203	201	147	33	7.9	28
30	19	11	9.6	12	---	39	191	223	133	31	8.8	25
31	18	---	9.4	12	---	38	---	238	---	31	10	---
TOTAL	744	671	297.6	380.8	295.0	948	5059	5500	7544	1985	383.6	602.2
MEAN	24.0	22.4	9.60	12.3	10.5	30.6	169	177	251	64.0	12.4	20.1
MAX	31	34	11	15	14	121	213	238	460	119	30	47
MIN	18	11	8.6	8.6	8.2	11	47	144	133	31	6.8	8.7
AC-FT	1480	1330	590	755	585	1880	10030	10910	14960	3940	761	1190

CAL YR 1989 TOTAL 20672.8 MEAN 56.6 MAX 254 MIN 4.9 AC-FT 41000
WTR YR 1990 TOTAL 24410.2 MEAN 66.9 MAX 460 MIN 6.8 AC-FT 48420

06639000 SWEETWATER RIVER NEAR ALCOVA, WY

LOCATION.--Lat 42°27'28", long 107°11'45", in SW¼ NE¼ sec.25, T.29 N., R.87 W., Natrona County, Hydrologic Unit 10180006, on left bank at Dumbell Ranch, 1.0 mi downstream from Schounmaker ditch diversion dam, 13 mi upstream from high-water line of Pathfinder Reservoir at elevation 5,850 ft, and 25 mi southwest of Alcova.

DRAINAGE AREA.--2,327 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1913 to September 1924, October 1938 to current year (no winter records during 1974, 1975, 1977-81, and since 1983). Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1921, 1923-24. WSP 1710: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5,920 ft above National Geodetic Vertical Datum of 1929, from topographic map. Aug. 28, 1913, to Sept. 30, 1924, nonrecording gages at site 0.4 mi upstream at different datums.

REMARKS.--No estimated daily discharges. Records good except those less than 10 ft³/s, which are fair. Several small reservoirs upstream from station, combined capacity, about 5,000 acre-ft, for irrigation. Diversions for irrigation of about 24,000 acres upstream from station. U.S. Bureau of Reclamation satellite telemeter at station.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--48 years (water years 1914-24, 1939-73, 1976, 1982), 126 ft³/s, 91,290 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 4,290 ft³/s, Apr. 13, 1924; maximum gage height, 9.90 ft, Apr. 27, 1983; minimum daily discharge, 0.5 ft³/s, July 30 to Aug. 12, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 273 ft³/s, June 16, gage height, 3.49 ft; minimum daily during period of operation, 2.0 ft³/s, Sept. 2,3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	75	172	90	60	70	2.3
2	---	---	---	---	---	---	73	193	95	53	65	2.0
3	---	---	---	---	---	---	73	185	110	50	55	2.0
4	---	---	---	---	---	---	78	167	113	53	50	5.2
5	---	---	---	---	---	---	81	156	110	50	48	18
6	---	---	---	---	---	---	93	136	107	48	46	18
7	---	---	---	---	---	---	104	122	93	50	44	17
8	---	---	---	---	---	---	125	113	81	57	38	15
9	---	---	---	---	---	---	134	113	84	53	36	15
10	---	---	---	---	---	---	147	110	98	46	32	14
11	---	---	---	---	---	---	167	117	110	44	32	14
12	---	---	---	---	---	---	177	122	131	44	32	13
13	---	---	---	---	---	---	167	119	147	42	32	13
14	---	---	---	---	---	---	161	107	172	44	30	12
15	---	---	---	---	---	---	164	101	222	46	30	12
16	---	---	---	---	---	---	167	98	263	44	30	12
17	---	---	---	---	---	---	164	101	232	42	32	13
18	---	---	---	---	---	---	164	104	201	25	30	14
19	---	---	---	---	---	---	180	104	169	18	32	17
20	---	---	---	---	---	---	180	104	142	20	29	18
21	---	---	---	---	---	---	177	95	131	21	27	18
22	---	---	---	---	---	---	175	87	122	20	25	17
23	---	---	---	---	---	---	172	87	117	22	25	17
24	---	---	---	---	---	---	175	84	110	36	22	17
25	---	---	---	---	---	---	201	84	101	42	8.0	17
26	---	---	---	---	---	---	209	81	93	42	8.0	17
27	---	---	---	---	---	---	199	81	90	44	4.6	18
28	---	---	---	---	---	---	193	75	81	50	2.7	24
29	---	---	---	---	---	---	183	81	70	55	2.3	20
30	---	---	---	---	---	---	175	84	65	57	2.3	20
31	---	---	---	---	---	---	---	81	---	70	2.7	---
TOTAL	---	---	---	---	---	---	4533	3464	3750	1348	922.6	431.5
MEAN	---	---	---	---	---	---	151	112	125	43.5	29.8	14.4
MAX	---	---	---	---	---	---	209	193	263	70	70	24
MIN	---	---	---	---	---	---	73	75	65	18	2.3	2.0
AC-FT	---	---	---	---	---	---	8990	6870	7440	2670	1830	856

06639000 SWEETWATER RIVER NEAR ALCOVA, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to September 1990 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
OCT 11...	1000	47	8.5	24	0.4	10	4.0	9.1	3.4	0.18	19	<1
APR 19...	1430	181	13.0	--	--	--	--	--	--	--	--	<1
MAY 09...	1130	109	6.0	--	--	--	--	--	--	--	--	<1
25...	1345	80	11.5	--	--	--	--	--	--	--	--	<1

06639480 HORSE CREEK AT HIGHWAY 220, NEAR ALCOVA, WY

LOCATION.--Lat 42°34'10", long 106°59'58", in NW¼ SE¼ NE¼ sec.15, T.30 N., R.85 W., Natrona County, Hydrologic Unit 10180006, at bridge on State Highway 220, 3.0 mi upstream from mouth, 3.0 mi downstream from mouth of Fish Creek, and 14.4 mi west of Alcova.

PERIOD OF RECORD.--October 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 04...	1110	5.3	15.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SEP 06...	1630	7.1	19.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

06640500 PATHFINDER RESERVOIR NEAR ALCOVA, WY

LOCATION.--Lat 42°28'06", long 106°51'12", in NW¼ SW¼ sec.24, T.29 N., R.84 W., Natrona County, Hydrologic Unit 10180003, in gatehouse near left end of dam on North Platte River and 9.0 mi southwest of Alcovia.

DRAINAGE AREA.--10,711 mi², of which 700 mi² is probably noncontributing.

PERIOD OF RECORD.--January 1909 to current year. Monthend figures only for some periods, published in WSP 1310.

REVISED RECORDS.--WDR WY-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,678.1 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 12, 1950, nonrecording gages near present site, and Apr. 12 to Sept. 30, 1950, water-stage recorder at present site, all at Bureau of Reclamation datum which was 1.9 ft lower.

REMARKS.--Reservoir is formed by masonry dam. Storage began in April 1909. Capacity, 1,016,000 acre-ft between elevations 5,668.1 ft, north outlet trashrack sill, and 5,850.1 ft, crest of spillway. No dead storage. Figures given herein represent total contents. Water is used to irrigate lands in Wyoming and Nebraska under the North Platte project. Since December 1960, water has been diverted directly through a tunnel to Fremont Canyon Powerplant, bypassing a section of river channel immediately below Pathfinder Dam.

COOPERATION.--Records provided by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily contents, 1,182,000 acre-ft, June 25-27, 1917, elevation, 5,858.86 ft, present datum; no storage at times during 1909-12, 1931, 1958-59.

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 440,000 acre-ft, May 27-30 and June 1, elevation, 5,815.04 ft, May 30; minimum daily contents, 228,000 acre-ft, Sept. 27-30, elevation, 5,790.56 ft, Sept. 30.

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

5,790	224,000	5,805	340,000	5,815	439,000
5,795	259,000	5,810	387,000	5,820	498,000
5,800	297,000				

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	271000	297000	296000	330000	341000	344000	367000	418000	440000	395000	320000	233000
2	271000	297000	295000	331000	341000	344000	368000	420000	439000	393000	317000	235000
3	271000	297000	295000	333000	341000	345000	369000	423000	438000	392000	315000	236000
4	271000	296000	295000	334000	341000	345000	370000	425000	438000	390000	312000	236000
5	272000	297000	295000	336000	341000	345000	371000	426000	437000	388000	309000	236000
6	273000	297000	295000	337000	341000	346000	373000	427000	435000	387000	306000	236000
7	274000	297000	296000	339000	341000	348000	374000	429000	433000	385000	301000	237000
8	275000	297000	297000	339000	341000	349000	376000	432000	431000	384000	297000	237000
9	276000	297000	298000	339000	341000	350000	378000	432000	430000	383000	292000	237000
10	277000	297000	299000	339000	341000	352000	380000	432000	428000	382000	289000	237000
11	278000	296000	299000	340000	341000	353000	382000	434000	426000	379000	284000	237000
12	279000	297000	299000	340000	342000	354000	384000	436000	425000	375000	281000	235000
13	280000	296000	300000	339000	341000	354000	386000	438000	423000	372000	278000	233000
14	281000	296000	301000	339000	342000	355000	388000	439000	421000	369000	274000	234000
15	282000	296000	303000	339000	341000	357000	389000	437000	419000	366000	271000	233000
16	283000	295000	305000	339000	341000	357000	391000	436000	418000	362000	267000	234000
17	284000	296000	307000	339000	342000	358000	393000	436000	417000	360000	264000	234000
18	285000	295000	308000	339000	342000	358000	393000	436000	415000	356000	259000	234000
19	286000	296000	310000	339000	342000	359000	396000	437000	414000	353000	256000	232000
20	287000	295000	312000	339000	342000	361000	397000	436000	412000	351000	252000	232000
21	288000	295000	313000	339000	343000	362000	399000	436000	410000	348000	247000	232000
22	289000	296000	316000	339000	343000	362000	400000	436000	409000	347000	243000	231000
23	290000	296000	317000	339000	343000	364000	403000	439000	407000	344000	238000	231000
24	291000	296000	318000	340000	343000	365000	405000	438000	406000	341000	235000	230000
25	292000	296000	319000	339000	343000	366000	406000	439000	404000	337000	233000	229000
26	294000	295000	321000	339000	344000	366000	408000	439000	403000	336000	230000	229000
27	295000	296000	322000	340000	344000	366000	409000	440000	402000	332000	229000	228000
28	296000	296000	323000	340000	344000	366000	410000	440000	400000	329000	229000	228000
29	297000	296000	325000	340000	---	365000	413000	440000	398000	327000	229000	228000
30	298000	296000	327000	340000	---	365000	416000	440000	397000	325000	229000	228000
31	298000	---	328000	341000	---	365000	---	439000	---	322000	231000	---
MAX	298000	297000	328000	341000	344000	366000	416000	440000	440000	395000	320000	237000
MIN	271000	295000	295000	330000	341000	344000	367000	418000	397000	322000	229000	228000
(#)	5,800.05	5,799.81	5,803.66	5,805.07	5,805.45	5,807.75	5,812.84	5,814.96	5,810.96	5,802.95	5,791.03	5,790.56
(*)	+26,000	-2,000	+32,000	+13,000	+3,000	+21,000	+51,000	+23,000	-42,000	-75,000	-91,000	-3,000

CAL YR 1989 MAX 735000 MIN 271000 (*) -237,000

WTR YR 1990 MAX 440000 MIN 228000 (*) -44,000

(#) Elevation, in feet, at end of month.

(*) Change in contents, in acre-feet.

06641500 ALCOVA RESERVOIR AT ALCOVA, WY

LOCATION.--Lat 42°32'52", long 106°43'08", in SE¼ SE¼ sec.24, T.30 N., R.83 W., Natrona County, Hydrologic Unit 10180007, in elevator shaft at right end of dam on North Platte River and 0.2 mi southwest of Alcovia.

DRAINAGE AREA.--10,766 mi², of which 700 mi² is probably noncontributing.

PERIOD OF RECORD.--February 1938 to current year. Prior to October 1950 monthend figures only, published in WSP 1310.

REVISED RECORDS.--WDR WY-76-1: Drainage area.

GAGE.--Water-stage recorder for elevations above 5,447.00 ft. Datum of gage is 5,320 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to June 27, 1955, nonrecording gages near present site at same datum.

REMARKS.--Reservoir is formed by rock-fill dam completed in January 1938; storage began Feb. 8, 1938. Capacity, 184,300 acre-ft at elevation 5,500.00 ft, top of spillway gates. Dead storage, 100 acre-ft. Figures given herein represent total contents. Usable contents published prior to October 1956. Water is used for irrigation in North Platte River basin.

COOPERATION.--Records provided by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily contents, 190,300 acre-ft, Aug. 14, 15, 1952, elevation, 5,499.92 ft; minimum daily (since appreciable storage was attained), 1,980 acre-ft, Sept. 30, 1940, elevation, 5,353.56 ft. No usable storage prior to February 1938.

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 182,000 acre-ft, May 17-20, elevation, 5,499.00 ft, May 17, 18; minimum daily contents, 151,000 acre-ft on many days during November through March, elevation, 5,485.68 ft, Mar. 3, 4.

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

5,485	149,000	5,495	172,000
5,490	160,000	5,500	184,000

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	179000	152000	151000	152000	151000	151000	158000	180000	179000	180000	180000	180000
2	179000	151000	152000	152000	152000	151000	159000	180000	179000	180000	180000	180000
3	179000	151000	151000	152000	152000	151000	159000	179000	179000	180000	180000	179000
4	179000	153000	151000	152000	152000	151000	160000	179000	179000	180000	180000	180000
5	178000	153000	152000	152000	152000	151000	161000	179000	179000	180000	180000	181000
6	177000	153000	152000	151000	151000	151000	162000	180000	179000	180000	180000	181000
7	176000	153000	152000	152000	152000	152000	163000	179000	179000	180000	180000	180000
8	175000	153000	152000	151000	152000	152000	164000	179000	178000	180000	181000	179000
9	174000	153000	152000	151000	152000	152000	165000	180000	178000	179000	181000	179000
10	173000	153000	152000	151000	152000	152000	166000	181000	178000	178000	181000	179000
11	173000	154000	151000	151000	152000	151000	166000	180000	178000	178000	181000	179000
12	171000	153000	152000	151000	151000	151000	167000	180000	178000	180000	181000	180000
13	170000	152000	152000	151000	151000	152000	168000	179000	178000	180000	181000	181000
14	169000	152000	152000	151000	152000	151000	169000	179000	178000	180000	180000	180000
15	168000	152000	152000	151000	152000	152000	170000	180000	178000	180000	180000	180000
16	167000	152000	152000	151000	152000	151000	170000	181000	178000	180000	179000	179000
17	166000	152000	152000	151000	152000	151000	171000	182000	179000	180000	179000	179000
18	165000	152000	152000	151000	152000	151000	172000	182000	179000	180000	178000	179000
19	164000	151000	152000	151000	152000	152000	173000	182000	179000	180000	177000	180000
20	163000	152000	151000	152000	151000	152000	173000	182000	179000	181000	177000	180000
21	162000	152000	151000	152000	151000	152000	174000	181000	179000	181000	178000	179000
22	161000	151000	151000	152000	151000	152000	174000	181000	179000	179000	178000	179000
23	160000	151000	151000	152000	151000	152000	175000	180000	179000	180000	179000	179000
24	159000	152000	151000	152000	151000	152000	176000	181000	179000	180000	179000	179000
25	158000	152000	151000	152000	151000	153000	177000	179000	179000	181000	179000	180000
26	157000	152000	152000	152000	151000	153000	178000	179000	179000	180000	180000	180000
27	155000	152000	151000	152000	151000	154000	179000	178000	179000	179000	181000	180000
28	154000	152000	151000	152000	151000	155000	181000	179000	179000	180000	181000	180000
29	154000	151000	152000	152000	---	156000	180000	179000	179000	180000	180000	180000
30	153000	151000	152000	151000	---	156000	180000	179000	179000	180000	181000	180000
31	152000	---	152000	151000	---	157000	---	179000	---	180000	181000	---
MAX	179000	154000	152000	152000	152000	157000	181000	182000	179000	181000	181000	181000
MIN	152000	151000	151000	151000	151000	151000	158000	178000	178000	178000	177000	179000
(#)	5,486.13	5,485.93	5,486.09	5,485.92	5,485.68	5,488.48	5,498.05	5,497.78	5,497.91	5,498.31	5,498.68	5,498.05
(*)	-27,000	-1,000	+1,000	-1,000	0	+6,000	+23,000	-1,000	0	+1,000	+1,000	-1,000

CAL YR 1989 MAX 182000 MIN 151000 (*) -3,000

WTR YR 1990 MAX 182000 MIN 151000 (*) +1,000

(#) Elevation, in feet, at end of month.

(*) Change in contents, in acre-feet.

06642000 NORTH PLATTE RIVER AT ALCOVA, WY

LOCATION.--Lat 42°34'27", long 106°41'31", in NW¼ NE¼ NW¼ sec.17, T.30 N., R.82 W., Natrona County, Hydrologic Unit 10180007, on left bank 0.5 mi downstream from Hogback Draw, 0.8 mi downstream from Gray Reef Dam, 1.9 mi northeast of Alcova, and 3.8 mi downstream from Alcova Dam.

DRAINAGE AREA.--10,812 mi², of which 700 mi² is non-contributing.

PERIOD OF RECORD.--February 1904 to December 1905, October 1934 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1937-38, 1945. WDR WY-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,299.40 ft above National Geodetic Vertical Datum of 1929. Feb. 19, 1904, to Dec. 31, 1905, non-recording gage at site 3.7 mi upstream at different datum. June 1, 1935, to Apr. 27, 1961, water-stage recorder at site 3.5 mi upstream at different datum.

REMARKS.--No estimated daily discharges. Records good except those for August and September, which are fair. Flow completely regulated by Seminole, Pathfinder, and Alcova Reservoirs. (See stations 06635500, 06640500, and 06641500.) Natural flow of stream affected by transbasin diversions, storage reservoirs, power development, diversions for irrigation, and return flow from irrigated areas.

COOPERATION.--Eighteen measurements provided by the Bureau of Reclamation and thirteen measurements provided by the Wyoming State Engineer's Office.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 13,400 ft³/s, June 6, 10, 11, 1905, gage height, 11.5 ft, site and datum then in use; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,530 ft³/s, Aug. 19, gage height, 5.16 ft; minimum daily, 417 ft³/s, Sept. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	522	527	539	566	503	509	532	480	988	959	2470	983
2	523	524	547	561	506	514	530	478	1000	962	2460	973
3	528	529	547	569	503	511	533	473	998	958	2420	906
4	525	534	554	569	505	511	528	481	992	994	2500	521
5	525	530	553	567	508	510	489	485	994	997	2480	465
6	528	537	553	576	505	508	489	481	934	950	2750	458
7	539	540	510	574	503	510	489	479	1000	949	3400	477
8	548	539	506	579	525	507	486	486	996	941	3400	458
9	559	543	509	584	553	506	492	488	1000	976	3400	432
10	562	545	512	589	505	512	487	495	989	1000	3380	417
11	576	548	507	590	508	506	488	500	990	1340	3360	490
12	530	550	515	591	503	508	493	510	991	1610	3320	493
13	584	554	517	595	509	508	491	518	993	1620	3220	491
14	585	556	517	598	578	503	488	571	994	1620	3390	491
15	595	552	522	603	503	503	489	829	990	1610	3340	494
16	613	555	525	603	503	506	485	832	984	1620	3310	492
17	618	559	525	609	501	506	486	1030	977	1600	3390	489
18	634	559	530	607	507	508	487	1360	982	1620	3490	517
19	607	560	530	607	505	506	489	1420	999	1600	3480	506
20	556	567	533	516	505	511	492	1400	994	1590	3470	522
21	560	518	535	508	506	499	490	1410	1010	1580	3470	536
22	573	514	535	506	512	503	482	1310	1010	1570	3480	539
23	581	522	541	504	508	507	473	1100	1000	1570	3460	557
24	597	519	546	503	511	503	474	997	997	1550	2640	564
25	508	529	545	510	512	507	474	1000	1000	1540	2360	505
26	506	532	548	508	506	505	467	1000	996	1720	1890	519
27	512	535	549	511	507	504	469	955	1010	2180	1720	535
28	513	538	549	542	508	505	478	1000	1000	2340	1590	537
29	509	540	555	510	---	518	476	997	994	2350	1570	490
30	513	541	555	503	---	548	482	933	970	2430	1190	494
31	520	---	557	501	---	527	---	1010	---	2490	994	---
TOTAL	17149	16196	16566	17259	14308	15789	14708	25508	29772	46836	86794	16351
MEAN	553	540	534	557	511	509	490	823	992	1511	2800	545
MAX	634	567	557	609	578	548	533	1420	1010	2490	3490	983
MIN	506	514	506	501	501	499	467	473	934	941	994	417
AC-FT	34020	32120	32860	34230	28380	31320	29170	50600	59050	92900	172200	32430

CAL	YR	1989	TOTAL	421540	MEAN	1155	MAX	4480	MIN	459	AC-FT	836100
WTR	YR	1990	TOTAL	317236	MEAN	869	MAX	3490	MIN	417	AC-FT	629200

06643500 NORTH PLATTE RIVER NEAR GOOSE EGG, WY

LOCATION.--Lat 42°42'38", long 106°33'34", in NW¼ NW¼ SW¼ sec.28, T.32 N., R.81 W., Natrona County, Hydrologic Unit 10180007, on right bank 1.0 mi upstream from Coal Creek, 5.2 mi southwest of Goose Egg, 6.4 mi downstream from Bates Creek, and 16 mi southwest of Casper.

DRAINAGE AREA.--11,423 mi², of which 700 mi² is non-contributing. (Area at site used prior to March 1988, 11,439 mi², of which 700 mi² is non-contributing.)

PERIOD OF RECORD.--April 1917 to September 1919 (irrigation seasons only), May to September 1924, May to September 1947, May 1950 to September 1960, April 1983 to September 1984, October 1985 to September 1986, March 1988 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as "near Casper" 1917-19, 1924.

REVISED RECORDS.--WDR WY-83-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5,210 ft above National Geodetic Vertical Datum of 1929, from topographic map. April 1917 to September 1919, staff gage at site 3.2 mi downstream at different datum. May to September 1924 and May to September 1947, staff gages at site 6.0 mi downstream at different datum. May 1950 to September 1960, water-stage recorder at site 1.5 mi downstream at different datum. April 1983 to September 1984 and October 1985 to September 1986, water-stage recorder at site 4.2 mi downstream at different datum.

REMARKS.--Estimated daily discharges: Dec. 11 to Jan. 14, Jan. 17 to Feb. 11, Feb. 13-24, and Mar. 23-25. Records good except those for estimated daily discharges, which are poor. Natural flow of stream affected by transbasin diversions, storage reservoirs, power development, diversions for irrigation, and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 19,200 ft³/s, June 24-28, 1917; maximum gage height, 11.80 ft, May 28, 1953, site and datum then in use; minimum daily discharge, 8.7 ft³/s, June 14, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,540 ft³/s, July 29, gage height, 5.86 ft; maximum gage height, 5.90 ft, Mar. 24 (backwater from ice); minimum daily discharge, 410 ft³/s, Dec. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	619	556	583	623	542	536	552	473	986	942	2500	969
2	629	564	582	640	520	542	529	464	975	937	2480	963
3	622	567	590	635	517	538	559	457	1010	927	2450	959
4	616	574	593	607	535	541	570	460	1010	946	2530	763
5	615	573	598	598	555	539	550	468	1020	959	2560	549
6	627	572	602	606	560	544	520	463	967	936	2530	551
7	633	570	587	626	545	531	521	462	1030	916	3400	547
8	642	578	554	652	507	525	522	467	1030	905	3410	510
9	653	584	555	665	532	527	530	473	1010	908	3370	494
10	660	590	547	675	557	529	527	479	1020	951	3330	488
11	653	596	410	655	595	528	515	485	1010	1160	3350	513
12	650	599	480	620	643	522	518	485	1010	1460	3350	553
13	680	599	520	640	520	527	511	486	1010	1580	3280	545
14	693	606	565	655	425	513	506	481	1010	1580	3450	542
15	687	600	540	617	487	500	497	677	1000	1580	3540	544
16	692	597	510	619	517	513	495	759	986	1580	3490	533
17	697	603	483	605	522	514	488	819	984	1590	3500	536
18	694	608	475	595	530	513	486	1190	985	1610	3570	532
19	696	610	485	592	538	511	490	1310	1000	1620	3580	606
20	631	622	510	540	553	514	496	1280	1000	1930	3510	586
21	604	606	480	527	565	515	494	1300	1010	1760	3450	594
22	602	575	495	520	570	519	494	1300	1000	1610	3420	601
23	605	574	540	540	575	465	479	1100	999	1610	3380	606
24	613	575	587	515	570	485	484	926	997	1610	2850	624
25	582	578	622	520	555	533	495	935	999	1590	2340	602
26	554	583	640	570	524	519	471	949	989	1610	2080	585
27	545	582	627	507	523	512	466	939	971	2100	1830	588
28	544	575	615	497	534	523	469	959	979	2370	1730	598
29	554	578	607	510	---	519	465	1010	968	2640	1570	582
30	537	583	595	523	---	544	467	943	947	2560	1360	560
31	556	---	602	540	---	559	---	982	---	2550	1020	---
TOTAL	19385	17577	17179	18234	15116	16200	15166	23981	29912	47027	88210	18223
MEAN	625	586	554	588	540	523	506	774	997	1517	2845	607
MAX	697	622	640	675	643	559	570	1310	1030	2640	3580	969
MIN	537	556	410	497	425	465	465	457	947	905	1020	488
AC-FT	38450	34860	34070	36170	29980	32130	30080	47570	59330	93280	175000	36150

CAL YR 1989 TOTAL 422634 MEAN 1158 MAX 4390 MIN 410 AC-FT 838300
WTR YR 1990 TOTAL 326210 MEAN 894 MAX 3580 MIN 410 AC-FT 647000

PLATTE RIVER BASIN

06644550 NORTH PLATTE RIVER AT CASPER, WY

LOCATION.--Lat 42°51'26", long 106°19'09", in SE¼ SE¼ NW¼ sec.4, T.33 N., R.79 W., Natrona County, Hydrologic Unit 10180007, at bridge on service road, 800 ft west of Center Street exit from Interstate Highway 25, and 0.6 mi northwest of Casper Post Office.

PERIOD OF RECORD.--Water years 1972 to current year.

REMARKS.--Discharge records furnished by Bureau of Reclamation.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 18...	1030	1090	16.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SEP 12...	1000	550	16.5	<0.01	0.01	<0.01	<0.01	<0.01	<0.01

06645150 SMITH CREEK ABOVE OTTER CREEK, NEAR CASPER, WY

LOCATION.--Lat 42°38'59", long 106°10'46", in NE¼ NW¼ NW¼ sec.22, T.31 N., R.78 W., Natrona County, Hydrologic Unit 10180007, on right bank 1.3 mi upstream from Otter Creek and 16 mi southeast of Casper.

DRAINAGE.--9.91 mi².

PERIOD OF RECORD.--October 1974 to September 1979, October 1987 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,550 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1976, at site 200 ft downstream at datum 7.22 ft lower.

REMARKS.--Estimated daily discharges: Oct. 29, 30, Nov. 7, 8, 14, 15, 22, 23, 25, Nov. 27 to Dec. 4, Jan. 18-24, Feb. 28, and Mar. 6-28. Records good except those for estimated daily discharges, which are poor. No diversion upstream from station.

AVERAGE DISCHARGE.--8 years (water years 1975-79, 1988-90), 2.61 ft³/s, 1,890 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41 ft³/s, May 20, 1978, gage height, 1.98 ft; maximum gage height, 4.03 ft, May 7, 1975 (backwater from snow), site and datum then in use; minimum daily discharge, 0.35 ft³/s, Mar. 3, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9.0 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 29	1430	ice jam	*1.31	No peak greater than base discharge.			
July 20	0130	*1.8	0.78				

Minimum daily discharge, 0.63 ft³/s, Aug. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.98	1.1	.98	.88	.88	.83	.91	1.1	1.1	.80	.76	.71
2	1.0	.98	1.0	.94	.87	.82	.89	1.1	1.2	.82	.74	.71
3	.98	.98	1.1	.92	.85	1.0	.88	1.1	1.1	.82	.76	.71
4	.97	1.1	1.2	.87	.85	1.1	.88	1.2	1.1	.85	.80	.71
5	.93	1.2	1.2	.92	.85	1.1	.90	1.3	1.0	.89	.81	.71
6	.94	1.1	1.1	1.0	.81	1.0	1.3	1.2	1.0	.90	.79	.71
7	.95	1.1	1.0	.91	.87	.91	1.0	1.1	1.1	.84	.76	.71
8	.93	1.0	1.0	.91	.88	.95	.99	1.1	1.1	.84	.73	.71
9	.93	1.1	1.1	.96	.88	1.0	1.2	1.4	1.0	.86	.72	.71
10	.93	1.2	1.0	1.0	.88	1.1	1.1	1.4	.99	.88	.71	.70
11	.93	1.1	1.0	.97	.91	1.1	1.1	1.5	1.0	.86	.71	.70
12	.93	1.1	1.0	.96	.92	1.0	1.2	1.3	1.0	.85	.70	.69
13	.92	1.0	1.0	1.0	.87	.99	1.3	1.3	1.0	.84	.70	.67
14	.92	.92	1.0	1.0	.88	.96	1.2	1.3	.98	.85	.67	.67
15	.99	.87	1.1	1.0	.89	.92	1.1	1.3	.98	.86	.63	.67
16	1.0	.92	1.1	.97	.90	.89	1.1	1.2	.94	.82	.65	.67
17	1.0	.92	1.0	.92	.92	.87	1.1	1.3	.92	.77	.67	.71
18	1.0	.95	.99	.91	.92	.87	1.1	1.2	.89	.77	.71	.76
19	1.1	.97	.98	.90	.92	.87	1.1	1.2	.83	.73	.72	.81
20	1.1	.95	.98	.89	.92	.89	1.1	1.2	.82	1.4	.69	.85
21	1.1	.91	.98	.93	.93	.93	.97	1.2	.89	1.2	.65	.84
22	1.1	.85	.93	.94	.93	.92	1.0	1.2	.91	.93	.67	.84
23	1.1	.79	.92	.95	.90	.89	1.1	1.2	.85	.92	.67	.85
24	1.1	.84	.98	.95	.90	.85	1.1	1.1	.79	.88	.68	.85
25	1.1	.93	1.0	.95	.92	.85	1.3	1.1	.81	.85	.66	.81
26	1.3	1.0	1.0	.94	.90	.86	1.3	1.1	.87	.73	.66	.81
27	1.2	1.0	.98	.92	.88	.85	1.3	1.1	.84	.70	.66	.84
28	1.2	1.0	.96	.87	.85	.84	1.2	1.1	.86	.69	.66	.77
29	.87	.95	.97	.84	---	.84	1.3	1.1	.85	.71	.65	.76
30	1.0	.95	.90	.84	---	.95	1.2	1.1	.79	.79	.71	.77
31	1.0	---	.91	.86	---	.91	---	1.1	---	.78	.71	---
TOTAL	31.50	29.78	31.36	28.82	24.88	28.86	33.22	37.2	28.51	26.43	21.81	22.43
MEAN	1.02	.99	1.01	.93	.89	.93	1.11	1.20	.95	.85	.70	.75
MAX	1.3	1.2	1.2	1.0	.93	1.1	1.3	1.5	1.2	1.4	.81	.85
MIN	.87	.79	.90	.84	.81	.82	.88	1.1	.79	.69	.63	.67
AC-FT	62	59	62	57	49	57	66	74	57	52	43	44

CAL YR 1989 TOTAL 437.97 MEAN 1.20 MAX 2.2 MIN .79 AC-FT 869
WTR YR 1990 TOTAL 344.80 MEAN .94 MAX 1.5 MIN .63 AC-FT 684

PLATTE RIVER BASIN

06645164 OTTER CREEK AT MOUTH, NEAR CASPER, WY

LOCATION.--Lat 42°39'28", long 106°09'48", in SW¼ SW¼ NW¼ sec.14, T.31 N., R.78 W., Natrona County, Hydrologic Unit 10180007, on left bank 0.2 mi upstream from mouth and 15.0 mi southeast of Casper.

DRAINAGE AREA.--6.50 mi².

PERIOD OF RECORD.--October 1987 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,370 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 29-31, Nov. 1, 2, 7, 8, 15, 16, 23, 25, 27-30, Dec. 1-4, 16, Mar. 5-8, 14, 16, 23-25, and Sept. 16-30. Records good except those for estimated daily discharges, which are poor. No diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25 ft³/s, May 13, 1988, gage height, 2.09 ft, from rating curve extended above 9 ft³/s on basis of critical-depth rating computations, natural peak discharge (17 ft³/s) augmented by release from failed beaver dam; maximum gage height, 5.11 ft, Mar. 16, 1988, backwater from ice jam; minimum daily discharge, 0.49 ft³/s, Feb. 4, 6, 1990.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6.0 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 25	0230	*7.7	1.63	Sept. 30	0500	a	*1.98
May 10	2400	6.3	1.59				

a Backwater from beaver dam.

Minimum daily discharge, 0.49 ft³/s, Feb. 4, 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	.87	.67	.67	.56	.62	.92	3.0	2.1	.93	.90	.67
2	.73	.89	.68	.69	.55	.65	1.0	2.8	2.2	.93	.87	.62
3	.73	.91	.74	.70	.52	.72	1.1	2.8	1.9	.91	.84	.66
4	.71	1.0	.77	.69	.49	.81	1.3	3.1	1.8	.89	.94	.64
5	.72	.99	.78	.69	.50	.78	1.3	3.2	1.8	.92	.96	.61
6	.72	.92	.78	.66	.49	.73	1.2	3.7	1.7	.96	.91	.62
7	.72	.87	.72	.64	.50	.69	1.1	5.2	1.7	.89	.87	.62
8	.72	.85	.73	.67	.50	.75	1.1	4.8	1.6	.98	.83	.57
9	.72	.93	.75	.65	.50	.87	1.8	4.5	1.5	.94	.83	.56
10	.72	1.1	.73	.64	.51	1.0	1.4	4.8	1.5	.89	.84	.56
11	.72	1.1	.74	.65	.54	.98	1.4	5.6	1.4	.93	.84	.55
12	.71	.98	.74	.61	.55	.89	1.5	4.8	1.4	.90	.84	.52
13	.72	.95	.73	.60	.59	.76	1.7	4.9	1.3	.86	.87	.52
14	.71	.96	.73	.63	.60	.70	1.6	4.4	1.3	.88	.87	.54
15	.75	.87	.74	.64	.60	.72	1.7	5.0	1.3	.89	.79	.56
16	.79	.82	.71	.62	.59	.70	2.2	4.9	1.3	.89	.76	.54
17	.78	.85	.62	.64	.59	.73	2.0	4.2	1.3	.85	.81	.56
18	.77	.85	.70	.64	.61	.72	2.0	4.8	1.2	.86	.80	.57
19	.75	.87	.76	.62	.59	.73	2.4	4.6	1.1	.87	.81	.61
20	.73	.85	.76	.61	.60	.77	3.2	4.5	1.1	1.5	.78	.70
21	.73	.84	.75	.59	.58	.85	3.9	4.4	1.1	1.7	.78	.67
22	.75	.81	.75	.59	.62	.82	5.1	4.1	1.1	1.2	.72	.65
23	.73	.75	.71	.59	.60	.76	5.5	3.8	1.1	1.0	.71	.65
24	.77	.82	.71	.61	.59	.70	6.0	3.5	1.1	.94	.67	.58
25	.77	.83	.71	.59	.61	.74	6.7	3.1	1.0	.93	.68	.61
26	.97	.89	.71	.57	.61	.78	5.4	2.8	1.0	.84	.62	.66
27	.99	.80	.71	.60	.57	.82	4.5	2.6	.99	.81	.63	.69
28	.93	.67	.71	.57	.59	.84	4.7	2.4	.99	.89	.61	.68
29	.81	.63	.70	.58	---	.79	4.2	2.4	.98	.91	.65	.70
30	.71	.66	.69	.58	---	.84	3.4	2.4	.98	.96	.66	.73
31	.80	---	.69	.56	---	.90	---	2.2	---	.91	.66	---
TOTAL	23.58	26.13	22.42	19.39	15.75	24.16	81.32	119.3	40.84	29.76	24.35	18.42
MEAN	.76	.87	.72	.63	.56	.78	2.71	3.85	1.36	.96	.79	.61
MAX	.99	1.1	.78	.70	.62	1.0	6.7	5.6	2.2	1.7	.96	.73
MIN	.70	.63	.62	.56	.49	.62	.92	2.2	.98	.81	.61	.52
AC-FT	47	52	44	38	31	48	161	237	81	59	48	37

CAL YR 1989 TOTAL 374.01 MEAN 1.02 MAX 2.9 MIN .53 AC-FT 742
WTR YR 1990 TOTAL 445.42 MEAN 1.22 MAX 6.7 MIN .49 AC-FT 883

06645166 SMITH CREEK BELOW OTTER CREEK, NEAR CASPER, WY

LOCATION.--Lat 42°40'20", long 106°09'03", in SE¼ SW¼ NE¼ sec.11, T.31 N., R.78 W., Natrona County, Hydrologic Unit 10180007, on left bank 0.4 mi upstream from Spring Creek, 1.2 mi downstream from Otter Creek, and 14.6 mi southeast of Casper.

DRAINAGE AREA.--18.5 mi².

PERIOD OF RECORD.--October 1987 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,980 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. No diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40 ft³/s, May 14, 1988, gage height, 2.67 ft, from rating curve extended above 19 ft³/s on basis of critical-depth computations; minimum daily discharge, 0.55 ft³/s, Sept. 16, 1990.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 25	0300	*8.2	*2.07	No peak greater than base discharge.			
Minimum daily discharge, 0.55 ft ³ /s, Sept. 16.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.78	1.2	1.1	1.1	.91	.94	1.4	4.0	3.0	1.2	1.2	.72
2	.79	1.2	1.1	1.2	.88	1.0	1.5	3.7	3.1	1.1	1.2	.69
3	.78	1.2	1.1	1.1	.91	1.1	1.6	3.7	2.8	1.2	1.2	.73
4	.78	1.3	1.1	1.0	.94	1.3	1.7	3.6	2.6	1.2	1.3	.70
5	.78	1.4	1.2	1.1	.94	1.2	1.8	3.9	2.5	1.1	1.2	.71
6	.78	1.3	1.3	1.1	.94	1.2	1.6	4.3	2.5	1.2	1.2	.68
7	.78	1.3	1.2	1.1	.94	1.1	1.6	5.5	2.4	1.1	1.0	.68
8	.78	1.2	1.2	1.1	.93	1.1	1.5	5.3	2.3	1.2	1.0	.64
9	.83	1.3	1.3	1.2	.94	1.3	2.6	5.3	2.2	1.2	.99	.69
10	.83	1.5	1.2	1.1	.94	1.5	2.0	5.2	2.3	1.2	.99	.64
11	.83	1.5	1.1	1.1	.96	1.7	1.8	6.0	2.1	1.2	.95	.64
12	.83	1.4	1.3	.96	1.0	1.5	2.1	5.3	2.2	1.1	.99	.59
13	.83	1.4	1.3	1.1	1.0	1.3	2.5	5.2	2.1	1.0	.98	.59
14	.83	1.5	1.3	1.1	1.0	1.2	2.3	5.0	2.1	1.0	.98	.59
15	.88	1.2	1.3	1.1	1.0	1.2	2.2	5.1	2.1	1.1	.92	.58
16	1.0	1.3	1.3	1.1	1.0	1.2	2.7	5.4	2.0	1.0	.89	.55
17	1.1	1.3	1.2	1.0	.97	1.2	2.5	4.7	2.0	1.0	.98	.61
18	1.1	1.3	1.2	.99	1.1	1.2	2.5	5.0	1.8	1.0	.96	.62
19	1.1	1.3	1.2	.92	1.0	1.2	2.7	5.0	1.8	1.1	.99	.68
20	1.1	1.3	1.2	.98	1.0	1.3	3.6	4.9	1.8	2.4	.93	.77
21	1.1	1.2	1.2	1.0	1.0	1.3	4.2	4.8	1.9	2.6	.87	.73
22	1.1	1.2	1.2	1.1	1.0	1.3	5.4	4.6	1.9	1.8	.83	.71
23	1.1	1.1	1.2	1.0	1.2	1.1	5.9	4.4	1.7	1.5	.84	.70
24	1.1	1.2	1.2	1.0	1.2	1.2	6.6	4.2	1.6	1.4	.77	.62
25	1.1	1.2	1.2	1.0	1.2	1.2	7.4	3.9	1.5	1.4	.75	.62
26	1.3	1.3	1.1	1.1	1.1	1.2	5.9	3.6	1.4	1.2	.73	.66
27	1.4	1.2	1.1	1.0	.88	1.2	5.2	3.5	1.4	1.2	.72	.72
28	1.2	1.1	1.1	.92	.91	1.3	5.2	3.3	1.3	1.2	.67	.70
29	1.2	1.1	1.1	1.0	---	1.2	5.1	3.2	1.3	1.2	.69	.73
30	1.0	1.1	1.1	1.0	---	1.2	4.4	3.2	1.2	1.3	.70	.76
31	1.2	---	1.1	1.0	---	1.4	---	3.1	---	1.3	.70	---
TOTAL	30.31	38.1	36.8	32.57	27.79	38.34	97.5	137.9	60.9	39.7	29.12	20.05
MEAN	.98	1.27	1.19	1.05	.99	1.24	3.25	4.45	2.03	1.28	.94	.67
MAX	1.4	1.5	1.3	1.2	1.2	1.7	7.4	6.0	3.1	2.6	1.3	.77
MIN	.78	1.1	1.1	.92	.88	.94	1.4	3.1	1.2	1.0	.67	.55
AC-FT	60	76	73	65	55	76	193	274	121	79	58	40

CAL YR 1989 TOTAL 619.93 MEAN 1.70 MAX 3.6 MIN .71 AC-FT 1230
WTR YR 1990 TOTAL 589.08 MEAN 1.61 MAX 7.4 MIN .55 AC-FT 1170

06645174 BEAVER CREEK ABOVE POLE CREEK, NEAR CASPER, WY

LOCATION.--Lat 42°42'50", long 106°10'56", in NW¼ NW¼ SW¼ sec.27, T.32 N., R.78 W., Natrona County, Hydrologic Unit 10180007, on left bank 80 ft downstream from unnamed tributary, 1.6 mi upstream from Pole Creek, and 11.3 mi southeast of Casper.

DRAINAGE AREA.--4.67 mi².

PERIOD OF RECORD.--October 1987 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,800 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. One small pipeline diverts water upstream for landowner's drinking water supply.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11 ft³/s, May 10, 1988, gage height, 1.39 ft, from rating curve extended above 6.4 ft³/s on basis of velocity-area study; minimum daily discharge, 3.1 ft³/s, several days during 1990 water year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6.0 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 25	0500	4.8	*1.21	No peak greater than base discharge.			
May 10	1330	5.1	*1.21				
July 20	0830	*5.3	1.20				

Minimum daily discharge, 3.1 ft³/s, on several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	3.7	3.3	3.3	3.3	3.5	3.6	3.8	3.8	3.5	3.2	3.3
2	3.7	3.7	3.3	3.3	3.3	3.5	3.5	3.9	3.8	3.5	3.3	3.1
3	3.7	3.7	3.3	3.3	3.3	3.6	3.5	3.9	3.7	3.5	3.2	3.1
4	3.7	4.0	3.3	3.3	3.4	3.7	3.5	4.0	3.7	3.5	3.5	3.1
5	3.7	3.9	3.3	3.3	3.5	3.8	3.5	3.8	3.7	3.7	3.3	3.1
6	3.7	3.7	3.3	3.3	3.5	3.7	3.6	3.7	3.7	3.6	3.3	3.1
7	3.6	3.6	3.3	3.3	3.5	3.7	3.5	3.8	3.7	3.5	3.6	3.1
8	3.6	3.6	3.3	3.3	3.5	3.7	3.6	4.0	3.7	3.5	3.5	3.1
9	3.7	3.7	3.3	3.3	3.5	3.8	3.8	4.1	3.7	3.5	3.6	3.1
10	3.7	3.6	3.3	3.3	3.5	3.8	3.5	4.5	3.7	3.5	3.6	3.1
11	3.7	3.4	3.5	3.3	3.5	3.8	3.4	4.5	3.7	3.5	3.5	3.1
12	3.7	3.3	3.5	3.3	3.5	3.4	3.4	4.3	3.7	3.5	3.6	3.1
13	3.7	3.4	3.5	3.3	3.4	3.3	3.5	4.3	3.7	3.5	3.5	3.1
14	3.7	3.5	3.5	3.3	3.3	3.3	3.5	4.3	3.7	3.5	3.5	3.1
15	3.7	3.5	3.5	3.3	3.3	3.3	3.5	4.4	3.7	3.6	3.3	3.1
16	3.7	3.5	3.5	3.3	3.3	3.3	3.5	4.3	3.8	3.6	3.3	3.1
17	3.7	3.5	3.5	3.3	3.3	3.4	3.6	4.2	3.8	3.3	3.4	3.1
18	3.7	3.4	3.5	3.2	3.3	3.5	3.4	4.1	3.8	3.3	3.3	3.1
19	3.7	3.2	3.5	3.3	3.3	3.5	3.4	4.1	3.9	3.3	3.5	3.2
20	3.7	3.1	3.5	3.3	3.3	3.5	3.4	4.1	3.9	3.7	3.5	3.2
21	3.8	3.1	3.5	3.3	3.3	3.5	3.4	4.0	3.9	3.7	3.3	3.1
22	3.7	3.1	3.5	3.3	3.4	3.5	3.4	3.9	3.9	3.5	3.3	3.1
23	3.7	3.3	3.5	3.3	3.5	3.5	3.7	3.9	3.9	3.4	3.3	3.1
24	3.8	3.3	3.5	3.3	3.5	3.3	4.1	3.9	3.8	3.4	3.3	3.1
25	3.9	3.3	3.5	3.3	3.5	3.3	4.4	3.7	3.8	3.3	3.3	3.1
26	4.0	3.4	3.6	3.1	3.5	3.4	4.4	3.7	3.8	3.3	3.3	3.1
27	3.9	3.3	3.5	3.1	3.5	3.5	4.2	3.8	3.8	3.3	3.3	3.1
28	3.9	3.3	3.5	3.2	3.5	3.5	4.2	3.9	3.8	3.3	3.3	3.3
29	3.8	3.3	3.3	3.2	---	3.5	4.0	3.9	3.8	3.3	3.3	3.3
30	3.7	3.3	3.3	3.3	---	3.5	3.8	3.9	3.5	3.3	3.3	3.3
31	3.7	---	3.3	3.3	---	3.5	---	3.8	---	3.2	3.3	---
TOTAL	115.7	103.7	106.0	101.6	95.5	109.1	109.8	124.5	112.9	107.1	104.8	94.0
MEAN	3.73	3.46	3.42	3.28	3.41	3.52	3.66	4.02	3.76	3.45	3.38	3.13
MAX	4.0	4.0	3.6	3.3	3.5	3.8	4.4	4.5	3.9	3.7	3.6	3.3
MIN	3.6	3.1	3.3	3.1	3.3	3.3	3.4	3.7	3.5	3.2	3.2	3.1
AC-FT	229	206	210	202	189	216	218	247	224	212	208	186

CAL YR 1989 TOTAL 1358.9 MEAN 3.72 MAX 4.5 MIN 3.1 AC-FT 2700
WTR YR 1990 TOTAL 1284.7 MEAN 3.52 MAX 4.5 MIN 3.1 AC-FT 2550

PLATTE RIVER BASIN

277

06645178 POLE CREEK NEAR CASPER, WY

LOCATION.--Lat 42°41'48", long 106°10'42", in SW¼ NE¼ SW¼ sec.34, T.32 N., R.78 W., Natrona County, Hydrologic Unit 10180007, on left bank 200 ft upstream from unnamed tributary, 1.9 mi upstream from mouth, and 12.4 mi southeast of Casper.

DRAINAGE AREA.--2.70 mi².

PERIOD OF RECORD.--October 1987 to current year.

GAGE.--Water-stage recorder and bedrock control. Elevation of gage is 5,880 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 29, 30, Nov. 23, 27, 29, 30, Dec. 7, 10, Jan. 17, 18, 23-28, Feb. 7, 8, 13, Mar. 14, 16, and July 21 to Aug. 5. Records fair except those for estimated daily discharges and those for Nov. 10 to Dec. 19, which are poor. No diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8.9 ft³/s, May 11, 1988, gage height, 1.47 ft, from rating curve extended above 4 ft³/s, on basis of critical-depth computations; maximum gage height, 3.02 ft, Dec. 7, 1989, backwater from ice; minimum daily discharge, 0.27 ft³/s, Oct. 11-14, 1989.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3.0 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 7	1200	ice jam	*3.02	May 10	1800	3.6	1.13
Apr. 21	1730	3.6	1.14	Aug. 20	1530	*4.2	1.19

Minimum daily discharge, 0.27 ft³/s, Oct. 11-14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.36	.38	.35	.35	.37	.34	.72	1.6	1.7	.72	.54	.42
2	.37	.40	.31	.37	.36	.36	.93	1.6	1.7	.74	.51	.41
3	.36	.42	.53	.38	.35	.49	1.1	1.6	1.4	.75	.49	.42
4	.35	.49	.59	.37	.34	.57	.91	1.9	1.3	.77	.51	.41
5	.33	.45	.63	.37	.35	.59	.71	2.1	1.2	1.0	.54	.40
6	.31	.43	.55	.37	.34	.58	.78	2.3	1.2	.85	.54	.41
7	.30	.41	.50	.38	.36	.49	.79	2.3	1.2	.84	.51	.40
8	.29	.41	.51	.40	.38	.47	1.1	2.0	1.1	.89	.51	.39
9	.29	.45	.49	.43	.41	.55	1.3	2.1	1.1	.84	.49	.39
10	.28	.60	.46	.42	.41	.65	.87	2.5	1.1	.79	.47	.39
11	.27	.55	.45	.38	.43	.71	.90	2.5	1.1	.75	.48	.40
12	.27	.48	.48	.38	.42	.58	1.1	2.2	1.1	.76	.50	.39
13	.27	.49	.46	.43	.37	.52	1.2	2.2	1.0	.73	.49	.38
14	.27	.44	.45	.40	.35	.44	1.1	2.0	1.0	.71	.48	.38
15	.29	.46	.44	.39	.36	.38	1.4	2.3	1.0	.72	.46	.38
16	.30	.49	.42	.38	.35	.35	1.2	2.0	1.0	.69	.46	.38
17	.30	.50	.40	.32	.36	.36	1.1	1.9	1.0	.64	.59	.39
18	.29	.52	.36	.38	.35	.37	1.3	2.0	.95	.62	.55	.39
19	.29	.53	.35	.38	.36	.44	1.8	2.0	.87	.66	.71	.46
20	.29	.55	.35	.32	.37	.67	2.1	2.0	.89	1.3	.86	.50
21	.29	.54	.32	.28	.37	.60	2.5	1.9	.91	1.5	.56	.45
22	.33	.51	.28	.29	.34	.47	2.5	1.9	.93	1.0	.49	.42
23	.33	.50	.36	.34	.37	.48	2.5	1.9	.86	.80	.45	.41
24	.32	.54	.36	.36	.37	.43	2.3	1.9	.84	.70	.45	.40
25	.33	.52	.36	.33	.41	.41	2.5	1.8	.82	.65	.43	.39
26	.40	.71	.36	.33	.37	.44	2.1	1.7	.78	.60	.40	.39
27	.37	.64	.37	.35	.36	.44	1.8	1.7	.73	.55	.40	.40
28	.37	.56	.35	.35	.34	.43	2.4	1.7	.74	.56	.40	.40
29	.36	.52	.35	.35	---	.43	2.0	1.8	.73	.60	.40	.41
30	.37	.47	.35	.36	---	.47	1.7	1.7	.73	.61	.40	.41
31	.40	---	.35	.37	---	.59	---	1.6	---	.58	.41	---
TOTAL	9.95	14.96	12.89	11.31	10.32	15.10	44.71	60.7	30.98	23.92	15.48	12.17
MEAN	.32	.50	.42	.36	.37	.49	1.49	1.96	1.03	.77	.50	.41
MAX	.40	.71	.63	.43	.43	.71	2.5	2.5	1.7	1.5	.86	.50
MIN	.27	.38	.28	.28	.34	.34	.71	1.6	.73	.55	.40	.38
AC-FT	20	30	26	22	20	30	89	120	61	47	31	24

CAL YR 1989 TOTAL 184.01 MEAN .50 MAX 1.3 MIN .27 AC-FT 365
WTR YR 1990 TOTAL 262.49 MEAN .72 MAX 2.5 MIN .27 AC-FT 521

PLATTE RIVER BASIN

06646000 DEER CREEK IN CANYON, NEAR GLENROCK, WY

LOCATION.--Lat 42°42'42", long 106°01'43", in SW¼ NE¼ SE¼ sec.26, T.32 N., R.77 W., Converse County, Hydrologic Unit 10180007, on left bank 500 ft upstream from VR Ditch and 14 mi southwest of Glenrock.

DRAINAGE AREA.--139 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1946 to September 1951, March 1985 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,640 ft above National Geodetic Vertical Datum of 1929, from topographic map. May 1946 to September 1951, at same site and datum.

REMARKS.--Estimated daily discharges: Oct. 29 to Nov. 2, Nov. 8, 14-16, 22, 23, 27-29, Dec. 6, 7, 10-13, 21, 22, Jan. 3, 4, 11, 12, 16-21, 24-29, Feb. 7, 8, 12-22, 28, and Mar. 1, 2. Records good except those for estimated daily discharges, which are poor. No diversion upstream from station.

AVERAGE DISCHARGE.--10 years (water years 1947-51, 1986-90), 46.7 ft³/s, 33,830 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,200 ft³/s, June 10, 1986, gage height, 9.42 ft; minimum daily, 1.1 ft³/s, Sept. 17, 1990.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 12, 1970, reached a discharge of 14,200 ft³/s at Deer Creek below Millar Wasteway, at Glenrock (sta 06646600), 16.5 mi downstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 11	0100	*255	*4.67	No peak greater than base discharge.			

Minimum daily discharge, 1.1 ft³/s, Sept. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	4.8	5.2	5.9	5.4	5.8	51	145	56	3.0	5.6	1.5
2	3.3	5.6	5.0	5.9	5.3	6.6	56	138	65	2.7	4.9	1.5
3	3.6	6.3	5.2	5.4	5.3	7.6	69	124	51	2.6	4.2	1.6
4	3.8	6.7	5.8	5.8	6.0	9.2	73	119	42	2.5	3.9	1.6
5	3.7	7.8	6.5	5.4	5.3	11	65	134	35	2.8	4.5	1.8
6	3.5	6.9	6.4	5.4	5.3	14	43	120	31	3.0	4.6	1.9
7	3.5	5.3	6.2	5.9	5.2	12	45	125	29	2.8	3.9	1.9
8	3.6	5.6	6.8	6.1	4.9	12	53	133	25	3.4	3.1	1.9
9	3.6	6.3	6.8	6.5	5.3	13	85	135	23	3.8	2.7	1.8
10	3.6	8.1	6.6	6.9	5.4	15	64	163	21	3.7	2.5	1.8
11	3.5	9.0	6.0	6.3	5.3	28	60	213	18	3.2	2.5	1.6
12	3.2	8.9	6.6	6.0	4.9	72	72	187	18	2.9	4.2	1.6
13	3.0	10	7.0	6.3	4.3	51	79	179	18	2.7	4.3	1.5
14	3.0	8.8	6.9	6.4	3.8	28	77	161	17	2.4	4.0	1.5
15	3.3	6.0	6.9	6.7	4.0	22	83	183	15	2.2	3.8	1.5
16	3.7	6.8	7.1	6.2	4.4	20	101	155	15	2.3	3.3	1.3
17	4.0	7.5	6.9	5.7	4.9	16	84	143	14	2.2	3.6	1.1
18	4.0	6.8	6.4	5.4	5.2	15	86	137	13	2.0	3.7	1.2
19	4.0	7.4	6.1	5.2	5.0	13	96	133	11	1.9	4.3	2.0
20	3.8	7.2	5.9	5.5	5.3	22	103	125	9.5	5.4	5.4	3.4
21	3.9	7.3	5.6	5.7	5.8	75	109	117	9.0	19	9.2	4.3
22	3.8	6.2	5.4	5.8	6.0	61	122	112	9.5	12	4.8	3.9
23	3.7	4.8	5.3	5.7	6.2	35	124	111	9.3	9.0	3.7	3.2
24	3.8	5.5	6.0	5.5	6.2	33	124	106	7.9	6.8	3.2	2.8
25	3.8	7.1	6.3	5.3	6.5	28	156	95	6.8	6.0	2.7	2.6
26	4.6	7.1	6.1	5.8	7.0	21	140	86	5.8	5.1	2.4	2.6
27	5.5	6.9	6.0	5.0	6.9	22	136	80	5.2	4.5	2.1	2.4
28	5.5	5.8	6.0	5.3	6.5	27	158	75	4.6	4.0	1.9	2.3
29	5.1	6.7	6.0	5.6	---	23	173	77	4.2	3.7	1.8	2.4
30	4.5	5.7	6.0	5.8	---	20	153	79	3.7	3.8	1.7	2.6
31	4.2	---	5.9	5.7	---	28	---	61	---	4.4	1.5	---
TOTAL	119.2	204.9	190.9	180.1	151.6	766.2	2840	3951	592.5	135.8	114.0	63.1
MEAN	3.85	6.83	6.16	5.81	5.41	24.7	94.7	127	19.7	4.38	3.68	2.10
MAX	5.5	10	7.1	6.9	7.0	75	173	213	65	19	9.2	4.3
MIN	3.0	4.8	5.0	5.0	3.8	5.8	43	61	3.7	1.9	1.5	1.1
AC-FT	236	406	379	357	301	1520	5630	7840	1180	269	226	125

CAL YR 1989 TOTAL 4945.8 MEAN 13.6 MAX 74 MIN 1.5 AC-FT 9810
WTR YR 1990 TOTAL 9309.3 MEAN 25.5 MAX 213 MIN 1.1 AC-FT 18460

06646000 DEER CREEK IN CANYON, NEAR GLENROCK, WY--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD- NESS TOTAL (MG/L AS CaCO3)
OCT 05...	1030	3.8	251	7.8	9.0	618	3.8	9.8	105	<1	130
NOV 10...	1415	8.0	232	8.2	7.0	615	1.0	9.9	101	<1	110
DEC 20...	1330	6.1	251	7.9	2.0	616	1.2	15.4	138	K3	130
JAN 31...	1245	5.6	248	7.9	2.0	604	1.8	11.2	102	K1	120
MAR 20...	1420	11	183	7.8	5.5	619	2.3	10.0	98	<1	80
APR 17...	1400	80	97	7.6	4.5	614	11	10.5	101	K1	44
MAY 10...	1410	142	81	7.5	4.5	613	15	9.8	94	K1	32
JUN 13...	1050	18	140	8.4	11.5	610	3.5	8.8	101	K10	68
JUL 16...	1130	2.5	245	8.6	20.0	617	1.6	8.2	112	K1	120
AUG 27...	1730	2.2	254	8.8	19.0	621	4.0	6.9	92	K1	120

K-Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CaCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 05...	36	10	5.6	0.2	2.2	120	6.7	1.6	0.2	11	145
NOV 10...	30	7.9	6.9	0.3	0.9	110	8.3	1.6	0.2	12	134
DEC 20...	35	9.2	3.7	0.1	1.9	140	6.3	<1.0	0.2	14	E155
JAN 31...	35	9.1	4.1	0.2	1.3	120	6.4	<1.0	0.3	12	E141
MAR 20...	23	5.4	6.0	0.3	1.6	77	7.5	<1.0	0.2	10	E100
APR 17...	13	2.8	5.2	0.3	0.7	40	12	1.2	0.5	12	71
MAY 10...	9.3	2.1	3.0	0.2	0.4	31	7.7	<1.0	0.5	12	E54
JUN 13...	19	4.9	4.6	0.2	0.7	64	8.2	1.2	0.1	14	91
JUL 16...	32	9.3	6.8	0.3	1.1	120	7.8	<1.0	0.2	7.9	E138
AUG 27...	34	9.4	4.2	0.2	1.4	110	7.6	1.1	0.4	13	137

E-Estimate.

PLATTE RIVER BASIN

06646000 DEER CREEK IN CANYON, NEAR GLENROCK, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT 05...	0.20	1.49	<0.1	<0.1	0.01	0.29	0.3	0.02	<5	6	0.06
NOV 10...	0.18	2.89	<0.1	<0.1	0.01	--	<0.2	0.02	<1	2	0.04
DEC 20...	E0.21	E2.55	<0.1	<0.1	0.01	--	<0.2	0.02	<5	1	0.02
JAN 31...	E0.19	E2.13	0.1	0.1	<0.01	--	<0.2	0.08	<5	2	0.03
MAR 20...	E0.14	E2.97	<0.1	0.1	0.01	0.19	0.2	0.03	<5	1	0.03
APR 17...	0.10	15.4	<0.1	<0.1	0.02	0.38	0.4	0.03	<1	4	0.86
MAY 10...	E0.07	E20.7	<0.1	<0.1	0.02	0.58	0.6	0.03	<5	6	2.3
JUN 13...	0.12	4.43	<0.1	<0.1	<0.01	--	0.3	0.04	<5	1	0.05
JUL 16...	E0.19	E0.93	<0.1	<0.1	<0.01	--	0.3	0.02	<1	2	0.01
AUG 27...	0.19	0.81	<0.1	<0.1	<0.01	--	0.4	0.01	<5	6	0.04

E-Estimate.

06646600 DEER CREEK BELOW MILLAR WASTEWAY, AT GLENROCK, WY

LOCATION.--Lat 42°51'50", long 105°51'56", in SW¼ NW¼ NW¼ sec.4, T.33 N., R.75 W., Converse County, Hydrologic Unit 10180007, on right bank in Glenrock, 800 ft downstream from bridge on U.S. Highways 20 and 87, and 0.5 mi upstream from mouth.

DRAINAGE AREA.--213 mi².

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

REVISED RECORDS.--WSP 2118: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,980 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 30 to Dec. 2, Dec. 7, 10-27, 31, Jan. 1, 3-7, 9, 11-13, 17-30, Feb. 1-6, 8-10, 13-21, 23, 24, 28, Mar. 1, 2, 7-9, 24, 25, and June 14 to July 15. Records good except those for estimated daily discharges, which are poor. One small reservoir upstream from station, capacity, about 60 acre-ft, for irrigation. Diversions upstream from station for irrigation of about 3,700 acres, of which about 400 acres are downstream from station. Water is diverted at times to Millar ditch 0.3 mi upstream and bypasses station.

AVERAGE DISCHARGE.--29 years, 66.3 ft³/s, 48,030 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,200 ft³/s, June 12, 1970, gage height, 9.45 ft; no flow at times in 1961-63, 1965, 1977, 1978, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 11	0900	*251	*4.13	No peak greater than base discharge.			

Minimum daily discharge, 1.0 ft³/s, Sept. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	13	14	15	15	11	41	91	26	1.8	4.3	1.9
2	1.8	13	14	16	14	10	58	82	30	1.6	4.4	1.8
3	1.8	13	14	15	14	9.7	69	69	31	1.5	4.1	1.7
4	1.8	14	14	14	14	11	54	58	33	1.5	4.1	1.7
5	1.8	15	14	15	16	11	46	73	27	1.6	3.6	1.6
6	1.9	15	14	15	15	17	38	66	22	1.8	3.3	1.5
7	2.1	15	13	16	14	17	27	64	20	1.7	3.2	1.6
8	2.3	15	14	16	11	17	25	76	17	1.9	3.1	1.6
9	2.3	15	14	16	12	19	24	126	13	2.2	3.0	1.6
10	2.4	15	14	17	13	20	8.4	169	12	2.1	2.7	1.6
11	2.5	16	12	16	14	21	4.9	208	13	1.9	2.3	1.7
12	2.5	16	13	14	14	48	3.9	171	13	1.8	2.4	1.5
13	3.0	16	14	15	12	60	3.5	161	13	1.6	3.1	1.0
14	3.3	17	14	16	10	44	3.3	146	11	1.4	3.3	1.8
15	3.6	18	13	15	10	33	3.7	146	9.9	1.4	3.3	2.1
16	3.8	17	12	17	11	27	3.8	108	8.9	1.4	3.3	2.3
17	4.1	17	12	15	12	26	3.3	106	8.1	1.3	3.7	2.3
18	4.1	18	11	14	13	23	3.5	101	7.1	1.2	3.5	2.5
19	4.2	16	11	13	12	21	3.7	97	6.1	1.2	3.9	2.5
20	4.5	15	11	14	13	18	3.2	92	5.5	3.8	3.1	2.8
21	6.3	16	11	16	13	37	3.1	87	5.3	4.2	3.1	3.6
22	6.3	16	10	18	14	69	3.1	81	5.7	5.3	2.8	3.8
23	8.6	16	10	16	14	47	3.5	77	5.5	5.8	2.7	4.0
24	9.1	16	12	14	13	38	11	65	4.7	5.2	3.4	4.3
25	9.0	18	14	15	12	32	95	48	4.0	4.9	2.7	4.2
26	14	19	15	16	12	29	100	40	3.3	4.9	2.4	4.0
27	13	19	15	13	12	29	82	34	2.9	4.1	2.7	4.1
28	12	17	15	15	12	31	64	29	2.6	3.6	2.4	4.1
29	12	15	15	15	---	32	108	29	2.4	3.9	2.0	4.0
30	13	15	15	15	---	30	117	51	2.2	4.1	1.2	4.1
31	13	---	15	16	---	28	---	31	---	4.1	1.7	---
TOTAL	171.7	476	409	473	361	865.7	1013.9	2782	365.2	84.8	94.8	77.3
MEAN	5.54	15.9	13.2	15.3	12.9	27.9	33.8	89.7	12.2	2.74	3.06	2.58
MAX	14	19	15	18	16	69	117	208	33	5.8	4.4	4.3
MIN	1.6	13	10	13	10	9.7	3.1	29	2.2	1.2	1.2	1.0
AC-FT	341	944	811	938	716	1720	2010	5520	724	168	188	153

CAL YR 1989 TOTAL 3889.68 MEAN 10.7 MAX 50 MIN .28 AC-FT 7720
WTR YR 1990 TOTAL 7174.4 MEAN 19.7 MAX 208 MIN 1.0 AC-FT 14230

PLATTE RIVER BASIN

06646800 NORTH PLATTE RIVER NEAR GLENROCK, WY

LOCATION.--Lat 42°50'10", long 105°45'30", in NW¼ NE¼ sec.17, T.33 N., R.74 W., Converse County, Hydrologic Unit 10180007, on left bank 0.8 mi downstream from Sand Creek, 1.0 mi downstream from Dave Johnston Power Plant, and 5.8 mi east of Glenrock city limits.

DRAINAGE AREA.--13,538 mi², of which 1,173 mi² is probably non-contributing.

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

REVISED RECORDS.--WDR WY-76-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,920 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1965, at datum 1.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Seminoe, Pathfinder, and Alcova Reservoirs. (See sta 06635500, 06640500, and 06641500.) Slight regulation 1.0 mi upstream by storage pond for Dave Johnston Power Plant, capacity, 755 acre-ft. Natural flow of stream affected by transbasin diversions, storage reservoirs, power development, diversions for irrigation, and return flow from irrigated areas. U.S. Army Corp of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 ft³/s, May 14, 1965, gage height, 7.10 ft, present datum; minimum daily, 176 ft³/s, Dec. 11, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,710 ft³/s, July 30, gage height, 3.77 ft; minimum daily, 465 ft³/s, Dec. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	634	633	655	700	646	702	693	641	958	917	2400	1050
2	630	633	680	700	667	713	699	627	1000	923	2380	973
3	638	636	668	719	684	762	699	617	979	891	2360	953
4	632	631	671	656	635	689	694	602	989	879	2330	896
5	629	645	666	637	659	695	690	627	973	934	2530	764
6	634	649	673	677	680	750	677	617	964	941	2440	618
7	637	640	677	709	699	711	638	603	936	990	2610	608
8	638	642	663	739	628	712	630	613	993	959	3220	616
9	640	640	627	766	527	735	659	661	971	962	3220	592
10	645	646	630	782	621	719	661	726	955	922	3200	584
11	641	647	550	749	801	718	636	765	962	952	3210	568
12	645	651	473	724	817	715	627	781	973	1120	3230	571
13	645	651	478	774	580	719	628	737	989	1400	3260	603
14	668	660	528	758	510	703	619	734	996	1510	3190	599
15	679	671	612	768	502	687	617	715	1030	1490	3350	600
16	676	670	555	770	532	665	615	791	1030	1510	3360	596
17	676	669	548	719	631	656	614	900	1040	1500	3350	597
18	684	681	514	708	656	659	601	926	994	1470	3440	611
19	688	679	469	669	707	657	600	1260	994	1470	3550	631
20	693	672	465	623	727	640	594	1410	1010	1590	3500	688
21	641	673	495	638	739	659	591	1380	1010	1950	3440	692
22	629	661	467	647	747	693	582	1370	1010	1710	3390	689
23	634	641	486	665	763	655	582	1340	1010	1570	3350	691
24	631	638	631	654	775	585	575	1160	1010	1520	3300	683
25	639	661	722	568	808	711	701	970	994	1500	2620	676
26	669	653	743	552	801	710	692	963	972	1450	2350	671
27	665	657	741	564	729	666	645	974	964	1490	2020	645
28	630	658	746	519	734	679	617	940	949	1960	1850	659
29	643	618	731	499	---	669	639	1020	952	2160	1680	660
30	655	674	701	562	---	664	669	1040	932	2500	1550	652
31	631	---	692	611	---	673	---	944	---	2360	1300	---
TOTAL	20119	19580	18957	20826	19005	21371	19184	27454	29539	43500	86980	20436
MEAN	649	653	612	672	679	689	639	886	985	1403	2806	681
MAX	693	681	746	782	817	762	701	1410	1040	2500	3550	1050
MIN	629	618	465	499	502	585	575	602	932	879	1300	568
AC-FT	39910	38840	37600	41310	37700	42390	38050	54460	58590	86280	172500	40530

CAL YR 1989 TOTAL 447136 MEAN 1225 MAX 4120 MIN 324 AC-FT 886900
WTR YR 1990 TOTAL 346951 MEAN 951 MAX 3550 MIN 465 AC-FT 688200

06647500 BOX ELDER CREEK AT BOXELDER, WY

LOCATION.--Lat 42°36'44", long 105°51'29", in NE¼ NE¼ SW¼ sec.32, T.31 N., R.75 W., Converse County, Hydrologic Unit 10180007, on left bank at Hiser Ranch (old Boxelder Post Office), 0.8 mi downstream from Snowshoe Creek, and 17 mi south of Glenrock.

DRAINAGE AREA.--63.0 mi².

PERIOD OF RECORD.--April 1946 to September 1951, October 1961 to September 1967, October 1971 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,710 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 7, 1946, non-recording gage, and June 8, 1946, to July 21, 1976, water-stage recorder at site 400 ft downstream at different datum.

REMARKS.--Estimated daily discharges: Oct. 29 to Nov. 1, Nov. 15, 16, Dec. 6 to Mar. 20, and Mar. 23-27, 30. Records good except those for estimated daily discharges, which are poor. Diversions upstream from station for irrigation of about 60 acres, of which about 40 acres are downstream from station.

AVERAGE DISCHARGE.--30 years, 35.4 ft³/s, 25,650 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,530 ft³/s, May 14, 1965, gage height, 8.58 ft, site and datum then in use; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 28	2000	*191	*3.15	No peak greater than base discharge.			
Minimum daily discharge, 0.11 ft ³ /s, Sept. 16.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.22	.57	1.2	1.1	1.2	1.5	9.1	112	57	2.2	4.4	.50
2	.28	.71	1.0	1.2	1.2	1.6	11	105	60	1.9	3.3	.52
3	.17	.96	1.4	1.1	1.2	1.8	12	96	50	1.0	2.8	.51
4	.15	1.1	1.6	1.1	1.2	2.1	18	93	43	.34	3.0	.47
5	.14	1.4	1.8	1.1	1.3	2.5	20	96	39	.37	4.3	.41
6	.14	1.2	1.7	1.2	1.2	2.7	19	93	35	.54	3.7	.42
7	.15	1.2	1.4	1.2	1.2	2.3	19	108	33	.56	2.6	.38
8	.18	.97	1.5	1.3	1.1	2.2	24	108	29	.99	1.9	.32
9	.18	1.1	1.6	1.4	1.2	2.4	31	111	26	.64	1.5	.30
10	.18	1.6	1.4	1.5	1.4	2.8	25	119	24	.62	1.4	.29
11	.16	2.0	1.2	1.4	1.5	3.3	26	135	21	.52	1.4	.26
12	.16	2.0	1.2	1.3	1.8	3.6	31	119	21	.68	2.4	.21
13	.15	1.9	1.3	1.2	1.4	3.2	33	117	20	.95	4.5	.17
14	.15	1.9	1.3	1.3	1.2	2.8	35	112	17	.79	3.8	.15
15	.19	1.5	1.2	1.3	1.0	2.7	44	134	16	.69	2.7	.14
16	.25	1.3	1.2	1.2	1.2	2.6	52	114	15	.59	2.1	.11
17	.27	1.5	1.2	1.2	1.3	2.5	44	108	14	.50	2.1	.12
18	.27	1.4	1.1	1.1	1.4	2.4	47	109	11	.44	3.7	.16
19	.27	1.5	1.0	1.0	1.6	2.9	55	106	9.5	.50	3.5	.21
20	.27	1.7	1.0	1.0	1.5	4.3	61	103	8.5	5.1	3.0	.39
21	.27	1.6	.95	1.1	1.6	6.7	64	97	9.0	14	4.0	.61
22	.27	1.4	.91	1.2	1.6	6.3	76	96	9.6	9.2	2.7	.66
23	.27	1.3	.95	1.2	1.7	4.5	81	95	7.8	5.8	2.2	.71
24	.28	1.2	1.0	1.1	1.8	3.8	85	93	6.4	4.3	1.8	.63
25	.29	1.5	1.1	1.1	1.8	3.6	93	86	5.5	3.7	1.5	.53
26	.45	1.9	1.2	1.2	1.7	3.8	84	80	4.7	3.5	1.2	.46
27	.57	1.7	1.1	1.0	1.6	4.2	81	75	5.0	2.8	.92	.42
28	.51	1.6	1.1	1.1	1.4	4.9	129	68	3.8	2.4	.74	.42
29	.45	1.4	1.0	1.2	---	5.1	139	75	3.2	2.2	.61	.44
30	.40	1.4	.97	1.2	---	5.0	123	69	2.5	5.0	.52	.47
31	.47	---	1.0	1.2	---	7.4	---	64	---	6.5	.49	---
TOTAL	8.16	42.51	37.58	36.8	39.3	107.5	1571.1	3096	606.5	79.32	74.78	11.39
MEAN	.26	1.42	1.21	1.19	1.40	3.47	52.4	99.9	20.2	2.56	2.41	.38
MAX	.57	2.0	1.8	1.5	1.8	7.4	139	135	60	14	4.5	.71
MIN	.14	.57	.91	1.0	1.0	1.5	9.1	64	2.5	.34	.49	.11
AC-FT	16	84	75	73	78	213	3120	6140	1200	157	148	23

CAL YR 1989 TOTAL 2546.04 MEAN 6.98 MAX 64 MIN .00 AC-FT 5050
WTR YR 1990 TOTAL 5710.94 MEAN 15.6 MAX 139 MIN .11 AC-FT 11330

PLATTE RIVER BASIN

06649000 LA PRELE CREEK NEAR DOUGLAS, WY

LOCATION.--Lat 42°40'52", long 105°37'48", in SW¼ NE¼ SW¼ sec.5, T.31 N., R.73 W., Converse County, Hydrologic Unit 10180007, on right bank 0.8 mi upstream from La Prele Creek Reservoir and 13.5 mi southwest of Douglas.

DRAINAGE AREA.--135 mi².

PERIOD OF RECORD.--August 1919 to current year (no winter records since 1971).

REVISED RECORDS.--WSP 1710: Drainage area. WSP 1918: 1920(M), 1952(M).

GAGE.--Water-stage recorder. Elevation of gage is about 5,600 ft above National Geodetic Vertical Datum of 1929, from nearby line of levels.

REMARKS.--Estimated daily discharges: Mar. 1-8, 23-26. Records fair except those for estimated daily discharges, which are poor. Several small reservoirs upstream from station, combined capacity, about 140 acre-ft, for irrigation. Diversions for irrigation of about 4,600 acres upstream from station. Water is imported from La Bonte Creek and Wagonhound Creek basins into Little La Prele Creek, upstream from station, for irrigation downstream from La Prele Reservoir.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--52 years (water years 1920-71), 40.4 ft³/s, 29,270 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,300 ft³/s, June 12, 1970, gage height, 13.01 ft, from rating curve extended above 2,700 ft³/s on basis of slope-area measurement of peak flow; no flow at times in 1936, 1939-40, 1943.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 157 ft³/s, Apr. 29, gage height, 5.75 ft; minimum daily during period of operation, 0.34 ft³/s, Sept. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	4.5	12	69	22	2.0	1.5	.86
2	---	---	---	---	---	5.0	3.9	58	27	2.0	1.0	.86
3	---	---	---	---	---	5.6	2.9	46	19	2.0	.74	.74
4	---	---	---	---	---	6.7	6.7	43	16	2.2	.63	.70
5	---	---	---	---	---	6.8	7.2	52	12	2.6	.82	.63
6	---	---	---	---	---	7.2	5.0	45	12	2.3	.95	.56
7	---	---	---	---	---	6.4	2.1	45	12	2.4	.47	.50
8	---	---	---	---	---	8.0	1.1	49	10	2.8	.39	.41
9	---	---	---	---	---	8.8	1.6	60	9.0	2.9	.39	.44
10	---	---	---	---	---	9.7	3.5	65	8.1	2.9	.36	.39
11	---	---	---	---	---	11	3.9	109	6.9	2.7	.44	.44
12	---	---	---	---	---	12	4.1	105	5.1	2.6	.53	.39
13	---	---	---	---	---	11	4.3	92	3.2	2.5	.56	.34
14	---	---	---	---	---	9.4	4.3	88	2.9	2.4	.50	.41
15	---	---	---	---	---	8.8	4.3	99	5.3	2.4	.53	.44
16	---	---	---	---	---	8.3	1.3	91	9.0	2.7	.50	.44
17	---	---	---	---	---	8.3	3.5	81	6.6	3.5	.47	.50
18	---	---	---	---	---	8.5	4.3	75	3.1	4.4	.50	.44
19	---	---	---	---	---	7.2	4.3	78	2.0	4.5	.59	.50
20	---	---	---	---	---	8.8	4.3	80	1.8	4.9	.63	.50
21	---	---	---	---	---	11	4.3	71	2.0	5.1	1.0	.53
22	---	---	---	---	---	13	4.1	62	2.1	5.4	2.0	.50
23	---	---	---	---	---	11	1.8	61	2.0	5.4	1.8	.50
24	---	---	---	---	---	9.6	1.3	52	2.0	4.4	1.1	.44
25	---	---	---	---	---	9.0	9.8	45	2.0	3.5	2.8	.44
26	---	---	---	---	---	10	12	38	2.1	2.3	5.4	.44
27	---	---	---	---	---	13	16	35	2.3	1.8	4.2	.44
28	---	---	---	---	---	14	47	29	2.2	1.8	1.6	.47
29	---	---	---	---	---	13	112	28	2.2	1.6	1.2	.50
30	---	---	---	---	---	12	94	33	2.0	1.6	.95	.50
31	---	---	---	---	---	9.0	---	29	---	1.8	.82	---
TOTAL	---	---	---	---	---	286.6	386.9	1913	213.9	91.4	35.37	15.25
MEAN	---	---	---	---	---	9.25	12.9	61.7	7.13	2.95	1.14	.51
MAX	---	---	---	---	---	14	112	109	27	5.4	5.4	.86
MIN	---	---	---	---	---	4.5	1.1	28	1.8	1.6	.36	.34
AC-FT	---	---	---	---	---	568	767	3790	424	181	70	30

06652000 NORTH PLATTE RIVER AT ORIN, WY

LOCATION.--Lat 42°39'02", long 105°09'46", in SE¼ SW¼ SW¼ sec.17, T.31 N., R.69 W., Converse County, Hydrologic Unit 10180008, on right bank 630 ft downstream from bridge on U.S. Highway 87, 0.2 mi upstream from Shawnee Creek, and 1.5 mi east of Orin.

DRAINAGE AREA.--14,888 mi², of which 1,193 mi² is probably non-contributing.

PERIOD OF RECORD.--January, April to November 1895, April to October 1896, January 1897 to December 1898, April to November 1899, April to September 1917, April to September 1918, May to September 1924, April 1958 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as "at Orin Junction" 1895, 1897-99 and as "at McKinley" 1917-18.

REVISED RECORDS.--WSP 1310: 1896, 1899. WDR WY-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,656.85 ft above National Geodetic Vertical Datum of 1929. Jan. 1, 1895, to Nov. 30, 1899, and May 1 to Sept. 30, 1924, nonrecording gage at railroad bridge just upstream from U.S. Highway 87 at different datum. Apr. 1, 1917, to Sept. 30, 1918, nonrecording gage at site 2.2 mi downstream at different datum.

REMARKS.--Estimated daily discharges: Dec. 11 to Jan. 9, Jan. 18-21, 27-31, and Feb. 13-23. Records good except those for estimated daily discharges, which are poor. Major regulation began after completion of Pathfinder Reservoir in April 1909. Natural flow of stream affected by storage reservoirs, power development, diversions for irrigation, and return flow from irrigated areas. Satellite telemeter at station.

COOPERATION.--Seventeen discharge measurements provided by the Bureau of Reclamation and twelve provided by the Wyoming State Engineer's office.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,800 ft³/s, May 15, 1965, gage height, 10.00 ft; maximum gage height, 10.45 ft, June 12, 1970; minimum daily discharge determined, 170 ft³/s, Sept. 11-14, 1899 and Feb. 4, 1899.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,530 ft³/s, Aug. 20, gage height, 4.41 ft; maximum gage height, 5.22 ft, Dec. 15 (backwater from ice); minimum daily discharge, 290 ft³/s, Dec. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	677	679	731	745	625	792	709	972	1040	887	2360	1250
2	673	684	717	780	645	773	740	906	1070	866	2410	1040
3	665	684	748	785	687	786	762	855	1100	877	2340	992
4	680	686	747	725	697	843	769	835	1060	857	2360	932
5	681	682	741	685	653	752	769	814	1030	807	2710	888
6	686	689	732	700	681	842	750	836	980	844	2590	749
7	688	692	758	740	699	873	707	802	983	846	2430	633
8	692	694	752	775	731	786	663	795	921	911	2800	598
9	694	685	748	802	670	802	672	834	939	882	3190	597
10	705	681	706	816	523	844	735	913	908	945	3090	573
11	711	683	623	812	630	848	725	1030	881	838	3120	566
12	704	683	522	776	844	841	682	1160	880	843	3110	545
13	704	694	398	757	860	821	676	1140	881	1020	3140	546
14	698	696	290	815	377	813	667	1060	897	1340	3070	562
15	726	711	380	802	503	782	649	1070	916	1400	3060	570
16	740	721	460	836	517	755	684	1050	952	1420	3220	564
17	740	724	383	810	545	726	707	1100	972	1400	3220	579
18	744	720	360	747	652	713	716	1170	961	1370	3250	592
19	750	732	480	715	700	705	708	1210	903	1340	3410	602
20	751	727	535	680	747	712	712	1610	922	1550	3480	619
21	744	721	397	665	785	680	691	1760	952	1770	3420	669
22	689	725	363	653	810	694	697	1690	990	2090	3400	680
23	667	719	432	662	838	732	700	1660	993	1720	3400	682
24	667	698	480	694	855	714	696	1580	978	1560	3350	683
25	671	701	665	709	878	613	734	1320	990	1570	3250	669
26	721	720	760	580	900	754	893	1110	960	1460	2510	670
27	764	712	855	520	864	771	972	1080	948	1360	2420	663
28	706	713	887	547	791	719	849	1070	920	1430	1950	644
29	682	714	867	567	---	728	898	1040	901	1920	1870	651
30	686	671	803	555	---	716	998	1210	903	2140	1640	655
31	713	---	765	600	---	705	---	1190	---	2470	1540	---
TOTAL	21819	21041	19085	22055	19707	23635	22330	34872	28731	40733	87110	20663
MEAN	704	701	616	711	704	762	744	1125	958	1314	2810	689
MAX	764	732	887	836	900	873	998	1760	1100	2470	3480	1250
MIN	665	671	290	520	377	613	649	795	880	807	1540	545
AC-FT	43280	41730	37860	43750	39090	46880	44290	69170	56990	80790	172800	40990

CAL YR 1989 TOTAL 449185 MEAN 1231 MAX 4100 MIN 170 AC-FT 891000
WTR YR 1990 TOTAL 361781 MEAN 991 MAX 3480 MIN 290 AC-FT 717600

PLATTE RIVER BASIN

06652700 GLENDO RESERVOIR NEAR GLENDO, WY

LOCATION.--Lat 42°28'21", long 104°57'28", in SW¼ NE¼ sec.24, T.29 N., R.68 W., Platte County, Hydrologic Unit 10180008, on right bank in gate shaft house on North Platte River, 0.5 mi southwest of Glendo Dam, and 5.0 mi southeast of Glendo.

DRAINAGE AREA.--15,545 mi², of which 1,215 mi² is probably noncontributing.

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

REVISED RECORDS.--WDR WY-76-1: Drainage area.

GAGE.--Water-stage recorder for elevations above 4,543.50 ft. Datum of gage is 4,543.50 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

REMARKS.--Reservoir is formed by rock-fill dam completed in October 1957. Storage began Oct. 17, 1957. Capacity, 789,400 acre-ft at elevation 4,653.00 ft, spillway crest. Dead storage, 11,030 acre-ft. Figures given herein represent total contents. Water is used for irrigation in North Platte River basin, and for development of power.

COOPERATION.--Records provided by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily contents, 758,800 acre-ft, May 28, 1973, elevation, 4,650.94 ft; minimum daily (since appreciable storage was attained), 15,140 acre-ft, Sept. 28, 1966, elevation, 4,548.10 ft.

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 432,000 acre-ft, June 11, 12, elevation, 4,627.45 ft, June 12; minimum daily contents, 66,200 acre-ft, Sept. 22, elevation, 4,570.97 ft.

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

4,570	63,100	4,600	202,000	4,620	358,000
4,580	98,800	4,610	274,000	4,630	459,000
4,590	144,000				

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99900	146000	189000	226000	269000	306000	352000	350000	414000	373000	156000	86600
2	101000	148000	190000	228000	270000	308000	352000	351000	416000	366000	146000	83800
3	102000	149000	191000	229000	272000	309000	353000	353000	418000	366000	142000	82500
4	104000	151000	192000	231000	273000	311000	352000	355000	420000	345000	139000	81800
5	105000	152000	195000	232000	274000	313000	352000	356000	422000	342000	136000	81900
6	107000	153000	196000	234000	276000	316000	351000	358000	424000	339000	134000	82700
7	108000	155000	197000	235000	278000	317000	351000	360000	426000	336000	131000	83100
8	110000	156000	199000	237000	279000	319000	350000	361000	427000	332000	129000	83400
9	111000	158000	201000	238000	280000	320000	350000	363000	429000	324000	127000	83700
10	113000	159000	202000	240000	281000	322000	349000	365000	430000	316000	126000	84000
11	114000	161000	203000	242000	282000	324000	348000	366000	432000	309000	124000	84300
12	115000	162000	204000	243000	284000	325000	348000	369000	432000	299000	123000	84400
13	117000	164000	204000	245000	286000	327000	347000	371000	431000	292000	121000	84600
14	118000	165000	205000	247000	286000	328000	347000	372000	431000	284000	120000	84600
15	120000	166000	206000	248000	287000	329000	346000	375000	430000	277000	118000	84700
16	121000	168000	207000	250000	287000	331000	346000	376000	430000	270000	117000	84700
17	123000	169000	208000	252000	287000	332000	345000	378000	430000	263000	116000	82000
18	125000	171000	209000	253000	287000	333000	345000	381000	429000	257000	115000	77200
19	126000	172000	209000	254000	290000	335000	344000	383000	429000	250000	114000	72700
20	128000	173000	210000	256000	292000	336000	343000	386000	429000	244000	113000	69400
21	129000	175000	211000	257000	294000	338000	343000	389000	428000	239000	112000	66400
22	131000	176000	211000	258000	295000	339000	342000	392000	427000	235000	111000	66200
23	132000	178000	212000	260000	297000	340000	342000	395000	426000	231000	110000	67100
24	134000	179000	213000	261000	299000	341000	341000	398000	423000	226000	109000	68100
25	135000	181000	214000	262000	300000	342000	341000	400000	419000	221000	108000	69400
26	137000	183000	216000	264000	302000	344000	342000	402000	413000	216000	105000	71000
27	139000	183000	218000	264000	303000	345000	343000	404000	407000	209000	103000	72900
28	140000	185000	220000	265000	305000	347000	345000	406000	398000	201000	99500	74300
29	141000	186000	221000	266000	---	348000	346000	408000	390000	188000	96300	75800
30	143000	187000	223000	267000	---	349000	348000	410000	384000	177000	93100	77300
31	145000	---	225000	268000	---	351000	---	413000	---	166000	89800	---
MAX	145000	187000	225000	268000	305000	351000	353000	413000	432000	373000	156000	86600
MIN	99900	146000	189000	226000	269000	306000	341000	350000	384000	166000	89800	66200
(#)	4,590.11	4,597.65	4,603.33	4,609.28	4,613.85	4,619.15	4,618.86	4,625.59	4,622.69	4,594.07	4,577.70	4,574.26
(*)	+46,400	+42,000	+38,000	+43,000	+37,000	+46,000	-3,000	+65,000	-29,000	-218,000	-76,200	-12,500

CAL YR 1989 MAX 464000 MIN 63000 (*) -53,000

WTR YR 1990 MAX 432000 MIN 66200 (*) -21,300

(#) Elevation, in feet, at end of month.

(*) Change in contents, in acre-feet.

06652800 NORTH PLATTE RIVER BELOW GLENDO RESERVOIR, WY

LOCATION.--Lat 42°27'25", long 104°56'50", in SW¼ SW¼ NW¼ sec.30, T.29 N., R.67 W., Platte County, Hydrologic Unit 10180008, on right bank opposite Sand Draw, 1.3 mi upstream from Horseshoe Creek, 3.1 mi downstream from Glendo Dam, and 5.2 mi southeast of Glendo.

DRAINAGE AREA.--15,548 mi², of which 1,215 mi² is probably non-contributing.

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

REVISED RECORDS.--WDR WY-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,488.94 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

REMARKS.--Estimated daily discharges: Dec. 11, 21-24, Jan. 27, and Feb. 14-17. Records excellent except those less than 200 ft³/s, which are fair. Flow completely regulated by Glendo Reservoir since Oct. 17, 1957. (See sta 06652700.) Natural flow of stream affected by transbasin diversions, storage reservoirs, power development, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

COOPERATION.--Twenty-three discharge measurements provided by the Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,300 ft³/s, June 29, 1984, gage height, 11.16 ft; minimum daily, 0.41 ft³/s, Oct. 17, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,610 ft³/s, July 29, gage height, 10.11 ft; minimum daily, 0.81 ft³/s, Feb. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	1.1	1.2	1.3	1.2	1.2	14	12	16	5580	7120	3040
2	13	1.5	1.2	1.3	1.2	1.3	404	13	15	5150	6570	2330
3	13	1.5	1.2	1.3	1.4	1.0	880	13	15	5450	4040	1590
4	13	1.3	1.3	1.2	1.4	1.4	1030	13	15	5540	4010	1280
5	13	1.2	1.3	1.2	1.1	1.4	1040	14	15	2350	4000	826
6	13	.95	1.3	1.3	1.1	2.8	1030	14	16	1470	3850	510
7	13	.86	1.3	1.4	1.4	3.5	1030	15	23	1460	3750	471
8	13	1.0	1.3	1.7	1.0	2.1	1020	15	16	3540	3670	474
9	13	1.0	1.4	1.8	1.6	2.0	1010	15	15	5290	3820	470
10	13	.99	1.3	2.1	1.4	1.7	1010	15	15	5070	3910	481
11	14	.98	1.2	3.0	1.7	1.9	1050	15	318	4950	3960	459
12	13	.98	1.2	2.0	1.6	1.6	1070	16	795	4950	3980	509
13	13	.94	1.2	2.2	1.4	1.5	1020	16	960	4980	4010	525
14	14	1.1	1.4	1.7	1.3	1.2	1010	16	914	4830	3930	499
15	14	1.0	1.3	1.7	1.2	1.0	1020	16	932	4930	3840	495
16	14	1.1	1.4	1.7	1.1	1.2	1030	16	931	4930	3770	599
17	14	1.2	1.4	1.4	1.2	1.3	1030	16	933	4860	3850	2230
18	14	1.2	1.3	1.3	.81	1.4	1020	16	933	4720	3860	3010
19	13	1.2	1.3	1.6	.88	1.2	984	16	978	4670	3860	2780
20	17	1.5	1.3	1.5	1.7	1.4	1060	16	989	4590	3830	2080
21	2.7	1.4	1.2	1.5	1.7	1.7	1090	16	987	4050	3790	1710
22	.96	1.0	1.1	1.6	1.7	1.4	1070	16	1340	4120	3810	363
23	1.3	1.1	1.1	1.3	1.5	1.2	1070	16	1720	4090	3860	274
24	2.1	1.2	1.3	1.5	1.3	1.3	1020	16	2280	4160	3810	260
25	1.5	1.3	1.5	1.6	1.6	1.8	617	16	3350	4210	3750	113
26	1.6	1.3	1.3	1.2	1.3	1.7	315	16	4060	4380	3790	15
27	1.4	1.2	1.3	1.1	1.2	1.6	253	17	4590	4400	3710	15
28	1.1	1.2	1.3	.83	1.2	.84	121	17	5040	5680	3570	14
29	1.3	1.2	1.3	1.2	---	.83	12	17	5190	7550	3390	14
30	1.2	1.2	1.3	1.4	---	1.1	12	16	5410	7550	3290	14
31	1.3	---	1.3	1.7	---	3.3	---	16	---	7540	3140	---
TOTAL	286.46	34.70	39.8	47.63	37.19	48.87	24342	477	42811	147040	123540	27450
MEAN	9.24	1.16	1.28	1.54	1.33	1.58	811	15.4	1427	4743	3985	915
MAX	17	1.5	1.5	3.0	1.7	3.5	1090	17	5410	7550	7120	3040
MIN	.96	.86	1.1	.83	.81	.83	12	12	15	1460	3140	14
AC-FT	568	69	79	94	74	97	48280	946	84920	291700	245000	54450

CAL YR 1989 TOTAL 469869.96 MEAN 1287 MAX 7420 MIN .86 AC-FT 932000
WTR YR 1990 TOTAL 366154.65 MEAN 1003 MAX 7550 MIN .81 AC-FT 726300

PLATTE RIVER BASIN

06653300 HORSESHOE CREEK NEAR CASSA, WY

LOCATION.--Lat 42°27'57", long 105°04'22", SE¼ NW¼ SE¼ sec.24, T.29 N., R.69 W., Platte County, Hydrologic Unit 10180008, on right bank on downstream side of bridge on Horseshoe Creek Road, 3.3 mi southwest of Glendo, and 3.5 mi upstream from I-25.

DRAINAGE AREA.--195 mi².

PERIOD OF RECORD.--October 1961 to September 1968, August 1988 to current year. Low-flow records at current site may not be equivalent to site used prior to Oct. 1, 1968, because of undetermined channel-flow loss or gain between sites.

REVISED RECORDS.--WDR WY-88-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,700 ft above National Geodetic Vertical Datum of 1929, from topographic map. October 1961 to September 1968 at site 2.2 mi upstream at different datum.

REMARKS.--Estimated daily discharges: Dec. 16-24 and Feb. 13-20. Records good except those for estimated daily discharges and discharges above 100 ft³/s, which are poor. Natural flow of stream affected by diversions for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--9 years, (water years 1962-68, 1989-90) 31.1 ft³/s, 22,530 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,850 ft³/s, June 14, 1965, gage height, 8.42 ft, site and datum then in use, from rating curve extended above 1,900 ft³/s on basis of slope-conveyance study; no flow Aug. 18, Sept. 8, 10-15, 18-30, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 352 ft³/s, July 20, gage height 3.47 ft, from rating curve extended above 55 ft³/s; minimum daily, 0.43 ft³/s, Dec. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.76	.75	.82	.54	1.1	3.5	8.7	53	35	14	9.8	2.4
2	.69	.75	.87	.55	1.1	3.3	9.2	48	29	14	9.6	2.4
3	.73	.75	.95	.54	1.2	3.2	11	46	27	13	9.2	2.1
4	.83	.78	.81	.62	1.2	3.5	14	45	25	12	10	1.8
5	.87	.87	.85	.64	1.2	3.9	19	48	24	11	11	1.7
6	.81	.87	.85	.64	1.4	6.7	20	49	28	11	10	1.7
7	.72	.87	.82	.67	1.4	7.3	17	43	29	11	9.5	1.6
8	.75	.82	.82	.81	1.4	6.6	17	40	24	12	8.1	1.6
9	.56	.75	.78	.81	1.4	6.7	18	46	24	12	7.4	1.6
10	.57	.77	.75	.76	1.6	7.0	20	50	23	12	7.0	1.5
11	.70	.86	.75	.75	1.6	7.5	16	59	22	11	7.4	1.7
12	.75	.86	.75	.75	1.7	8.6	17	63	21	10	7.9	1.8
13	.75	.88	.75	.75	1.6	9.6	19	60	20	9.8	7.8	1.7
14	.75	.87	.75	.75	1.4	9.4	16	57	24	9.2	7.7	1.7
15	.75	.81	.72	.78	1.2	8.9	14	56	27	8.4	7.6	1.8
16	.75	.79	.69	.88	1.5	8.7	18	53	28	7.8	6.9	1.8
17	.75	.87	.65	.87	1.9	8.6	34	47	25	7.2	6.4	1.8
18	.75	.87	.61	.87	2.2	7.2	37	46	23	6.1	6.6	2.0
19	.75	.77	.57	.87	2.4	7.1	37	43	22	5.8	6.6	2.1
20	.75	.75	.52	.87	2.7	6.3	39	43	22	32	6.6	2.1
21	.87	.75	.47	.87	2.9	4.9	39	42	22	16	7.8	2.1
22	.87	.75	.43	.81	3.1	6.0	41	39	21	18	6.9	2.0
23	.87	.75	.46	.80	3.2	7.7	44	38	20	16	6.3	2.0
24	.87	.75	.50	.84	3.4	6.7	39	36	18	14	5.9	2.0
25	.94	.84	.54	.83	3.5	6.4	40	36	16	14	5.4	2.0
26	1.0	.83	.54	.92	3.5	6.5	44	34	18	13	4.8	1.9
27	1.0	.87	.54	.98	3.5	6.6	42	28	16	12	4.4	1.8
28	.87	.82	.54	.90	3.5	7.7	33	26	14	11	3.9	1.8
29	.90	.75	.54	.97	---	8.9	55	28	17	11	3.5	1.9
30	.82	.75	.54	1.1	---	8.9	56	34	15	11	2.9	1.8
31	.78	---	.54	1.1	---	8.4	---	38	---	10	2.5	---
TOTAL	24.53	24.17	20.72	24.84	57.8	212.3	833.9	1374	679	375.3	217.4	56.2
MEAN	.79	.81	.67	.80	2.06	6.85	27.8	44.3	22.6	12.1	7.01	1.87
MAX	1.0	.88	.95	1.1	3.5	9.6	56	63	35	32	11	2.4
MIN	.56	.75	.43	.54	1.1	3.2	8.7	26	14	5.8	2.5	1.5
AC-FT	49	48	41	49	115	421	1650	2730	1350	744	431	111

CAL YR 1989 TOTAL 1747.85 MEAN 4.79 MAX 23 MIN .43 AC-FT 3470
WTR YR 1990 TOTAL 3900.16 MEAN 10.7 MAX 63 MIN .43 AC-FT 7740

PLATTE RIVER BASIN

289

06653500 HORSESHOE CREEK NEAR GLENDO, WY

LOCATION.--Lat 42°27'09", long 104°58'11", in SE¼ NE¼ SE¼ sec.26, T.29 N., R.68 W., Platte County, Hydrologic Unit 10180008, on left bank 0.6 mi upstream from mouth and 4.8 mi southeast of Glendo.

DRAINAGE AREA.--211 mi².

PERIOD OF RECORD.--April 1916 to September 1918, April 1921 to September 1924, May 1928 to November 1932, April to September 1933, April 1935 to September 1970, and August 1988 to current year. Monthly discharge only for some periods, published in WSP 1310. Records for April to September 1919, published in WSP 469 and 506, have been found to be unreliable and should not be used.

REVISED RECORDS.--WSP 1730: Drainage area. WDR WY-70-1: 1965 (M).

GAGE.--Water-stage recorder. Elevation of gage is 4,500 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 9, 1935, non-recording gages at sites about 2 mi upstream at different datums. June 9, 1935 to September 1970 at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 11-13, Dec. 15 to Jan. 16, Jan. 27, 28, and Feb. 9, 13-18. Records fair except those for Feb. 20 to May 17, which are good, and those Oct. 1 to Feb. 19, May 18 to July 12, and Sept. 1-19, which are poor. Diversions for irrigation of about 7,600 acres upstream from station.

AVERAGE DISCHARGE.--46 years (water years 1916-18, 1921-24, 1928-32, 1935-70, 1989-90), 27.9 ft³/s, 20,210 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,900 ft³/s, May 30, 1935, gage height, 8.80 ft, from floodmarks, present site and datum, from rating curve extended above 750 ft³/s on basis of slope-area measurement of peak flow; no flow at times in 1918, 1935, 1939, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 46 ft³/s, Aug. 5, gage height, 3.44 ft; minimum daily, 0.78 ft³/s, Dec. 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.6	1.6	1.2	.98	1.0	1.4	8.7	9.2	13	6.1	3.4
2	1.5	1.5	1.5	1.1	1.0	1.0	1.4	8.7	9.1	12	5.9	3.4
3	1.5	1.5	1.5	1.1	.98	1.1	1.4	7.5	8.3	13	5.8	3.5
4	1.2	1.5	1.5	1.1	.97	1.1	1.3	5.3	7.9	13	7.5	3.8
5	1.2	1.4	1.4	1.1	.97	1.3	1.5	7.1	7.7	12	17	3.7
6	1.1	1.7	1.4	1.1	.94	1.8	1.4	8.3	7.3	11	8.5	3.9
7	.97	1.5	1.5	1.2	.97	1.5	1.3	8.7	9.3	11	7.4	3.9
8	.95	1.4	1.5	1.2	.93	1.4	1.3	6.7	8.0	12	6.7	3.8
9	.99	1.4	1.5	1.3	.97	1.4	1.6	7.3	7.9	12	6.6	3.7
10	.96	1.3	1.4	1.4	.94	1.5	1.5	10	8.4	9.9	6.7	3.7
11	.98	1.3	1.2	1.2	.92	1.6	1.4	16	8.7	8.7	7.0	3.6
12	1.1	1.2	1.3	1.1	.99	1.6	1.5	21	10	7.8	7.1	3.5
13	1.1	1.5	1.4	1.2	.92	1.7	1.5	23	10	7.0	6.6	3.2
14	1.1	1.4	1.4	1.2	.83	1.6	1.4	22	11	6.7	6.0	3.2
15	1.2	1.4	1.4	1.2	.81	1.5	1.5	23	13	6.5	5.8	3.2
16	1.3	1.4	1.3	1.2	.89	1.5	1.6	23	14	6.0	5.5	2.9
17	1.4	1.3	1.3	1.2	.95	1.6	1.5	20	14	5.2	5.2	2.9
18	1.4	1.3	1.2	1.2	.98	1.7	1.3	20	13	4.7	5.4	3.2
19	1.4	1.6	1.0	1.2	1.0	1.7	1.3	18	12	4.8	5.5	3.6
20	1.5	1.5	.91	1.2	1.0	1.8	1.4	14	13	14	4.7	3.7
21	1.4	1.5	.78	1.2	.99	1.8	1.6	13	13	11	4.4	3.8
22	1.4	1.4	.82	1.1	1.1	1.7	1.7	13	14	9.6	4.1	3.7
23	1.5	1.4	.86	1.4	1.1	1.6	1.9	13	15	8.9	3.8	3.9
24	1.5	1.5	.96	1.2	1.1	1.6	2.1	13	16	8.7	3.8	4.0
25	1.6	1.5	1.1	1.1	1.1	1.5	1.4	11	16	10	3.6	4.0
26	1.8	1.5	1.1	1.1	1.1	1.4	3.3	10	15	9.3	3.8	3.8
27	1.7	1.5	1.1	1.0	1.1	1.4	2.0	10	14	8.5	3.8	3.8
28	1.7	1.5	1.1	1.0	1.0	1.4	1.9	9.7	13	8.1	3.6	3.8
29	1.7	1.5	1.1	1.0	---	1.4	2.8	9.5	13	7.8	3.5	3.9
30	1.6	1.5	1.0	1.0	---	1.4	11	9.6	13	7.4	3.3	4.0
31	1.7	---	1.1	.98	---	1.3	---	9.1	---	6.6	3.3	---
TOTAL	41.55	43.5	38.23	35.78	27.53	45.9	58.2	399.2	343.8	286.2	178.0	108.5
MEAN	1.34	1.45	1.23	1.15	.98	1.48	1.94	12.9	11.5	9.23	5.74	3.62
MAX	1.8	1.7	1.6	1.4	1.1	1.8	11	23	16	14	17	4.0
MIN	.95	1.2	.78	.98	.81	1.0	1.3	5.3	7.3	4.7	3.3	2.9
AC-FT	82	86	76	71	55	91	115	792	682	568	353	215

CAL YR 1989 TOTAL 863.29 MEAN 2.37 MAX 9.9 MIN .67 AC-FT 1710
WTR YR 1990 TOTAL 1606.39 MEAN 4.40 MAX 23 MIN .78 AC-FT 3190

PLATTE RIVER BASIN

06655500 GUERNSEY RESERVOIR NEAR GUERNSEY, WY

LOCATION.--Lat 42°17'23", long 104°45'48", in NE¼ NW¼ sec.27, T.27 N., R.66 W., Platte County, Hydrologic Unit 10180008, on gate structure at right end of dam on North Platte River and 1.2 mi northwest of Guernsey.

DRAINAGE AREA.--16,224 mi², of which 1,216 mi² is probably noncontributing.

PERIOD OF RECORD.--January 1928 to current year. Prior to October 1950 monthend figures only, published in WSP 1310.

REVISED RECORDS.--WDR WY-76-1: Drainage area. WDR WY-82-1: 1981 (capacity).

GAGE.--Water-stage recorder. Datum of gage is 4,370.00 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation); gage readings have been reduced to elevations of National Geodetic Vertical Datum of 1929. Prior to Sept. 20, 1966, nonrecording gages at same datum.

REMARKS.--Reservoir is formed by rock-fill dam completed in July 1927. Capacity, 45,600 acre-ft, at elevation 4,420 ft, top of spillway gate. Dead storage is negligible. Figures given herein represent total contents. Usable contents published prior to October 1956. Water is used for irrigation in eastern Wyoming and western Nebraska and for development of power.

COOPERATION.--Records provided by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily contents, 73,240 acre-ft, Oct. 17, 1929, elevation, 4,420.95 ft, no storage Oct. 11, 1982, Oct. 6, 7, Oct. 10 to Dec. 4, 1983, Oct. 19, Oct. 25, 1984 to Jan. 14, 1985, Dec. 6-7, 1986; minimum daily elevation, 4,361.50 ft, Oct. 5, 6, 1958.

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 37,300 acre-ft, June 7-10, elevation, 4,416.39 ft, June 10; minimum daily contents, 664 acre-ft, July 25, elevation, 4,382.16 ft.

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

4,380	375	4,395	5,360	4,410	24,300
4,385	1,200	4,400	9,690	4,415	34,300
4,390	2,710	4,405	16,000	4,420	45,600

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	704	2950	4110	5180	6240	7180	8540	35100	37000	31500	30100	28800
2	825	2990	4140	5210	6270	7200	8540	35100	37100	30700	36200	28200
3	936	3040	4170	5250	6300	7240	9670	35100	37100	30700	36400	27500
4	1050	3100	4220	5270	6330	7250	11600	35200	37000	30700	36400	27000
5	1150	3120	4260	5320	6370	7320	13500	35200	37100	26500	36700	26500
6	1240	3170	4300	5360	6390	7490	15500	35300	37100	18200	36800	25100
7	1330	3230	4330	5390	6420	7560	17400	35400	37300	9910	36800	23800
8	1420	3260	4370	5420	6480	7630	19300	35400	37300	2540	36600	22400
9	1500	3290	4410	5470	6480	7670	21400	35500	37300	2410	36300	21000
10	1580	3340	4440	5510	6510	7720	23300	35500	37300	2040	36200	19500
11	1650	3370	4460	5540	6540	7770	25200	35600	36800	1820	36100	18000
12	1720	3420	4490	5580	6590	7830	27300	35700	36400	1700	36000	16300
13	1810	3460	4530	5620	6630	7880	29300	35900	36600	1720	35900	13700
14	1870	3490	4580	5660	6670	7950	31200	35800	36400	1460	35900	10600
15	1960	3530	4600	5690	6710	8060	32300	36000	36400	969	35800	7130
16	2030	3570	4650	5740	6730	8080	32800	36000	36300	1060	35700	3650
17	2110	3610	4690	5770	6770	8110	32900	36000	36200	1140	35600	2510
18	2170	3640	4720	5810	6800	8110	32900	36100	36100	1130	35700	5880
19	2250	3680	4740	5840	6820	8150	32700	36100	35800	1010	35700	9780
20	2310	3710	4770	5880	6860	8140	32600	36200	35800	1740	35700	11800
21	2370	3780	4810	5910	6890	8200	32600	36200	35700	904	35600	14100
22	2440	3790	4820	5950	6930	8230	32800	36300	35300	872	35400	13600
23	2490	3830	4820	5980	6970	8240	32800	36300	35100	745	35200	13200
24	2540	3880	4820	6000	7010	8270	33100	36500	34800	787	35000	12900
25	2590	3910	4820	6040	7060	8300	33200	36500	34200	664	34600	12500
26	2660	3990	4820	6080	7090	8340	33800	36500	33600	768	34000	11600
27	2720	3990	4820	6090	7120	8390	34300	36500	33000	768	33400	10900
28	2770	4010	5030	6140	7140	8410	35000	36500	32500	1620	32600	11000
29	2820	4040	5060	6140	---	8450	35100	36800	32200	9460	31700	11100
30	2870	4080	5100	6170	---	8490	35100	36800	31700	16500	30800	11200
31	2920	---	5140	6210	---	8520	---	36900	---	23500	29800	---
MAX	2920	4080	5140	6210	7140	8520	35100	36900	37300	31500	36800	28800
MIN	704	2950	4110	5180	6240	7180	8540	35100	31700	664	29800	2510
(#)	4,390.53	4,392.91	4,394.67	4,396.18	4,397.33	4,398.85	4,415.34	4,416.18	4,413.75	4,409.53	4,412.84	4,401.33
(*)	+2,352	+1,160	+1,060	+1,070	+930	+1,380	+26,580	+1,800	-5,200	-8,200	+6,300	-18,600

CAL YR 1989 MAX 41700 MIN 5.0 (*) -1,930

WTR YR 1990 MAX 37300 MIN 664 (*) +10,632

(#) Elevation, in feet, at end of month.

(*) Change in contents, in acre-feet.

06656000 NORTH PLATTE RIVER BELOW GUERNSEY RESERVOIR, WY

LOCATION.--Lat 42°16'50", long 104°45'15", in SE¼ SE¼ sec.27, T.27 N., R.66 W., Platte County, Hydrologic Unit 10180008, on right bank 1.0 mi northwest of Guernsey and 1.1 mi downstream from Guernsey Dam.

DRAINAGE AREA.--16,237 mi², of which 1,216 mi² is probably non-contributing.

PERIOD OF RECORD.--June 1900 to current year (no winter records prior to 1903). Monthly discharge only for some periods, published in WSP 1310. Published as "near Guernsey" 1900-1901, 1904; as "at Guernsey" 1902-3, 1905-8, March to October 1912; as "at Whalen" 1909; as North Platte River and Interstate Canal at Whalen 1910-11, 1913-16; and as "above Whalen" 1917-27.

REVISED RECORDS.--WSP 1310: 1903-4, 1924. WDR WY-76-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,340 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 17, 1908, and Mar. 30 to Oct. 31, 1912, nonrecording gages downstream at several sites within 0.8 mi at different datums. May 1, 1909, to Dec. 31, 1927, nonrecording gages at different datums on river and diversion canals at Whalen Dam about 9.0 mi downstream. Jan. 1, 1928, to Sept. 30, 1964, water-stage recorder at site 130 ft downstream and datum 1.50 ft higher. Oct. 1, 1964 to Sept. 29, 1989, water-stage recorder at site 130 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Dec. 11 to Feb. 24. Records excellent for flows above 1,000 ft³/s and fair below, except those for estimated daily discharges, which are poor. Flow completely regulated by Guernsey Reservoir since 1927. (See sta 06655500.) Small diversions for irrigation between this station and diversion dam at Whalen. Natural flow of stream affected by transbasin diversions, storage reservoirs, power development, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

COOPERATION.--Nineteen discharge measurements provided by the Bureau of Reclamation and one discharge measurement provided by the Wyoming State Engineer's Office.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft³/s, June 2 or 3, 1908, gage height, 11.5 ft from floodmark, site and datum then in use, from rating curve extended above 13,000 ft³/s; no flow Feb. 28, 1927, Nov. 19 to Dec. 8, Dec. 10-12, 14, 15, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,220 ft³/s, July 2, gage height, 6.55 ft; minimum daily, 1.1 ft³/s, Nov. 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	1.7	1.3	1.7	1.5	1.6	1.5	8.5	5.6	5660	4290	3600
2	2.8	1.9	1.3	1.7	1.5	1.5	1.6	8.8	5.4	5550	4250	2900
3	2.9	1.9	1.4	1.7	1.5	1.5	1.6	8.7	5.1	5490	4260	2160
4	3.0	2.0	1.4	1.6	1.5	1.7	1.8	8.3	5.5	5520	4220	1570
5	2.8	1.7	1.4	1.4	1.5	1.8	7.9	8.0	5.1	5670	3980	1380
6	2.9	1.7	1.4	1.4	1.5	3.8	8.9	8.0	5.9	5710	3920	1290
7	2.7	1.8	1.4	1.4	1.5	2.3	9.0	7.4	6.3	5650	3890	1150
8	3.0	1.6	1.3	1.4	1.5	1.9	9.9	7.7	7.3	5620	3860	1190
9	3.0	1.7	1.3	1.3	1.4	1.9	9.6	6.8	7.5	5490	3910	1150
10	3.1	1.7	1.2	1.3	1.5	1.9	11	7.0	7.0	5320	4010	1200
11	3.0	1.6	1.4	1.3	1.4	1.9	11	7.2	440	5160	4120	1250
12	2.7	1.7	1.5	1.2	1.3	1.9	9.9	7.0	701	5070	4080	1310
13	2.8	1.5	1.6	1.2	1.2	2.0	8.5	6.5	888	5050	4100	1760
14	2.9	1.5	1.6	1.2	1.2	1.8	7.9	7.0	1010	5060	4020	2080
15	2.8	1.4	1.6	1.2	1.3	1.5	456	6.9	1010	5050	3970	2200
16	3.0	1.4	1.5	1.2	1.4	1.6	734	6.2	998	4990	3920	2160
17	2.5	1.5	1.5	1.2	1.5	1.8	938	6.6	993	4880	3900	1910
18	2.2	1.5	1.4	1.2	1.6	1.8	1040	6.8	1030	4860	3870	1550
19	2.2	1.5	1.5	1.2	1.6	1.8	1060	6.9	1030	4740	3890	1280
20	1.9	1.4	1.4	1.2	1.7	1.9	1020	7.0	1050	4760	3900	1150
21	2.0	1.4	1.3	1.3	1.8	1.8	998	7.0	1050	4510	3870	1130
22	1.8	1.2	1.3	1.3	1.8	1.6	982	6.9	1360	4240	3890	985
23	1.7	1.4	1.4	1.4	1.8	1.7	973	7.0	1720	4180	3980	612
24	1.7	1.4	1.5	1.4	1.8	1.9	974	7.2	2300	4220	3990	442
25	1.5	1.4	1.6	1.4	1.9	1.9	621	6.7	3370	4260	3990	495
26	1.9	1.3	1.7	1.5	1.8	1.7	190	6.3	4090	4390	4070	526
27	2.0	1.1	1.7	1.4	1.7	1.7	9.5	6.3	4630	4480	4020	394
28	1.8	1.3	1.7	1.5	1.8	1.7	9.9	6.4	5090	4480	4000	4.8
29	1.5	1.4	1.6	1.5	---	1.7	8.5	7.8	5230	4530	3880	3.7
30	1.7	1.4	1.6	1.5	---	1.7	8.5	6.4	5460	4450	3760	3.2
31	1.8	---	1.7	1.5	---	1.6	---	6.4	---	4340	3670	---
TOTAL	74.9	46.0	45.5	42.7	43.5	56.9	10122.5	221.7	43510.7	153380	123480	38835.7
MEAN	2.42	1.53	1.47	1.38	1.55	1.84	337	7.15	1450	4948	3983	1295
MAX	3.3	2.0	1.7	1.7	1.9	3.8	1060	8.8	5460	5710	4290	3600
MIN	1.5	1.1	1.2	1.2	1.2	1.5	1.5	6.2	5.1	4180	3670	3.2
AC-FT	149	91	90	85	86	113	20080	440	86300	304200	244900	77030

CAL YR 1989 TOTAL 475945.7 MEAN 1304 MAX 5700 MIN 1.1 AC-FT 944000
WTR YR 1990 TOTAL 369860.1 MEAN 1013 MAX 5710 MIN 1.1 AC-FT 733600

PLATTE RIVER BASIN

06657000 NORTH PLATTE RIVER BELOW WHALEN DIVERSION DAM, WY

LOCATION.--Lat 42°14'20", long 104°36'29", in NE¼ SW¼ sec.12, T.26 N., R.65 W., Goshen County, Hydrologic Unit 10180009, on left bank 0.2 mi downstream from Cottonwood Draw, 2.5 mi downstream from Whalen diversion dam, and 4.8 mi northwest of Fort Laramie.

DRAINAGE AREA.--16,425 mi², of which 1,219 mi² is probably non-contributing.

PERIOD OF RECORD.--May 1909 to current year. Prior to Apr. 16, 1938, published as "below Whalen", and Apr. 16, 1938, to Sept. 30, 1974, as "at recorder station, below Whalen".

REVISED RECORDS.--WSP 1310: 1924. WDR WY-76-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,250 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Apr. 16, 1938, nonrecording gages at Whalen diversion dam and canals 2.5 mi upstream at different datums. Apr. 16, 1938, to Nov. 17, 1955, water-stage recorder at site 200 ft downstream, and Nov. 18, 1955, to Feb. 16, 1972, at present site at datum 1.00 ft higher.

REMARKS.--Estimated daily discharges: Dec. 21-23 and Feb. 14-16. Records excellent for flows above 300 ft³/s and fair below. Flow regulated by Whalen diversion dam 2.5 mi upstream. Natural flow of stream affected by storage reservoirs, transbasin diversions, power development, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas. Bureau of Reclamation satellite telemeter at station.

COOPERATION.--Eleven discharge measurements provided by the Bureau of Reclamation and two discharge measurements provided by the Wyoming State Engineer's Office.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge determined, 22,000 ft³/s, June 26, 1955, gage height, 9.85 ft, from rating curve extended above 4,500 ft³/s on basis of studies of peak flow measurements of upstream floods; no flow at times in 1910, 1916, 1925-27, 1962-64, 1967, 1970-71, 1975-77, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,160 ft³/s, July 2, gage height, 4.20 ft; minimum daily, 0.30 ft³/s, Feb. 14, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	4.5	1.7	1.2	.43	.56	1.7	35	8.2	2000	1240	705
2	46	4.8	1.6	1.2	.43	.54	1.6	26	7.8	1910	1230	623
3	39	4.8	1.6	1.2	.43	.51	1.5	31	7.9	1870	1240	696
4	27	4.8	1.5	1.0	.43	.51	1.3	25	7.0	1870	1260	660
5	38	4.2	1.2	.93	.43	.47	1.3	23	7.4	1950	1080	605
6	28	4.1	1.0	.97	.43	.88	1.2	26	5.3	2030	1110	590
7	26	4.0	1.0	1.2	.41	1.8	1.3	19	6.6	1980	1140	474
8	23	3.5	.86	1.5	.38	1.8	1.7	18	4.8	1950	1100	500
9	21	3.4	.82	1.6	.35	1.5	2.8	18	4.8	1870	1140	473
10	19	3.4	.82	1.5	.33	1.4	4.6	16	5.0	1800	1180	475
11	17	3.2	.82	.98	.32	1.4	4.8	14	20	1640	1220	492
12	15	2.9	.92	.73	.32	1.4	5.6	15	147	1610	1190	529
13	14	2.8	1.3	.64	.32	1.6	6.0	14	35	1600	1190	544
14	14	2.5	1.6	.56	.30	1.8	5.4	12	28	1650	1120	604
15	13	2.6	1.2	.56	.30	1.8	38	12	29	1640	1090	533
16	14	2.8	1.6	.54	.33	2.1	129	11	31	1640	1070	500
17	13	2.8	1.4	.49	.37	2.1	123	9.6	31	1570	1050	476
18	12	2.6	1.3	.44	.37	1.7	71	8.8	31	1550	1030	495
19	11	2.4	.91	.43	.37	1.5	78	8.6	34	1450	1030	336
20	10	2.2	.75	.43	.37	1.4	72	8.6	36	1480	1030	116
21	9.5	2.0	.69	.43	.42	1.4	62	8.4	40	1330	1010	111
22	8.1	1.8	.64	.43	.51	1.3	57	6.6	247	1250	1010	85
23	7.5	1.9	.64	.43	.60	1.5	56	6.0	559	1170	1060	102
24	7.0	2.0	.70	.43	.64	1.6	54	5.8	829	1220	1030	446
25	6.5	2.0	.78	.43	.64	1.8	59	5.7	1050	1250	1030	543
26	6.5	1.9	1.0	.43	.60	2.0	65	5.9	1490	1300	1030	557
27	7.5	1.5	1.0	.43	.56	1.9	75	5.6	1680	1380	986	426
28	6.8	1.7	1.1	.41	.56	1.8	68	5.1	1930	1370	904	255
29	5.7	1.8	1.2	.40	---	1.8	50	6.7	1950	1400	792	92
30	5.6	1.8	1.2	.43	---	1.8	40	7.7	2010	1360	726	70
31	5.2	---	1.2	.43	---	1.8	---	8.6	---	1300	708	---
TOTAL	526.9	86.7	34.05	22.78	11.95	45.47	1137.8	422.7	12271.8	49390	33026	13113
MEAN	17.0	2.89	1.10	.73	.43	1.47	37.9	13.6	409	1593	1065	437
MAX	51	4.8	1.7	1.6	.64	2.1	129	35	2010	2030	1260	705
MIN	5.2	1.5	.64	.40	.30	.47	1.2	5.1	4.8	1170	708	70
AC-FT	1050	172	68	45	24	90	2260	838	24340	97970	65510	26010
CAL YR 1989	TOTAL 139441.72 MEAN 382 MAX 1940 MIN .60 AC-FT 276600											
WTR YR 1990	TOTAL 110089.15 MEAN 302 MAX 2030 MIN .30 AC-FT 218400											

06659500 LARAMIE RIVER AND PIONEER CANAL NEAR WOODS, WY

LOCATION.--River: Lat 41°08'17", long 105°58'49", in NW¼ SE¼ sec.36, T.14 N., R.77 W., Albany County, Hydrologic Unit 10180010, on left bank 100 ft upstream from diversion dam for Pioneer Canal, 2.2 mi downstream from Fox Creek, 2.5 mi northeast of Woods, and 23 mi southwest of Laramie.

Canal: Lat 41°08'21", long 105°58'45", in SE¼ NE¼ sec.36, T.14 N., R.77 W., Albany County, on left bank 400 ft downstream from headgate.

DRAINAGE AREA.--434 mi². Drainage area at mouth, 4,565 mi².

PERIOD OF RECORD.--April 1912 to September 1924, October 1926 to September 1927, October 1931 to current year (no winter records since 1972). Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1918-20, 1922, 1924. WSP 1710: Drainage area. WDR WY-84-1: 1983.

GAGE.--River: Water-stage recorder and concrete control. Datum of gage is 7,388.99 ft above National Geodetic Vertical Datum of 1929. Apr. 16 to Nov. 15, 1912, nonrecording gage and Nov. 16, 1912, to Sept. 22, 1915, water-stage recorder 90 ft downstream between dam crest and canal headgates at datum 1.00 ft higher. Sept. 23, 1915, to Sept. 30, 1924, Apr. 19 to Sept. 30, 1927, and Apr. 11, 1932, to Sept. 30, 1935, water-stage recorder at site 50 ft downstream at datum 1.00 ft higher. Oct. 1, 1935, to July 13, 1950, water-stage recorder at site 50 ft downstream at present datum.

Canal: Water-stage recorder and Parshall flume. Elevation of gage is 7,390 ft above National Geodetic Vertical Datum of 1929, from topographic map. Apr. 16, 1912, to Apr. 10, 1923, nonrecording gage; Apr. 11, 1923, to Sept. 30, 1924, and Apr. 19 to June 9, 1927, water-stage recorder; June 10 to Sept. 30, 1927, and Apr. 11, 1932, to May 8, 1938, nonrecording gage; May 9, 1938, to Apr. 26, 1966, water-stage recorder at site 1.5 mi downstream at different datums. Apr. 27, 1966, to May 8, 1967, at present site, at datum 0.06 ft lower.

REMARKS.--Estimated daily discharges: Apr. 1-3. Records good. Pioneer Canal diverts from left bank of river at diversion dam 100 ft downstream for irrigation in vicinity of Laramie. Records show combined flow of river and canal. Three small reservoirs upstream from station in Wyoming, total capacity, about 600 acre-ft for irrigation, stock water, and domestic use. Diversions for irrigation of about 5,200 acres upstream from station. Transbasin diversions upstream from station to Cache la Poudre River and tributaries.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD (combined flow river and canal).--Maximum discharge, 5,060 ft³/s, June 10, 1923 (river discharge by computation of peak flow over dam); minimum daily (1950-72), 10 ft³/s, Aug. 30, Sept. 2-5, 1954.

EXTREMES FOR CURRENT YEAR (combined flow river and canal).--Maximum discharge, 1,480 ft³/s, June 13; minimum daily during period of operation, 26 ft³/s, Aug. 28.

PLATTE RIVER BASIN

06659500 LARAMIE RIVER AND PIONEER CANAL NEAR WOODS, WY--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	66	141	631	167	74	38
2	---	---	---	---	---	---	72	127	640	167	67	45
3	---	---	---	---	---	---	88	120	658	171	62	45
4	---	---	---	---	---	---	103	119	703	229	62	53
5	---	---	---	---	---	---	100	126	826	197	67	50
6	---	---	---	---	---	---	79	138	992	151	62	52
7	---	---	---	---	---	---	74	187	1040	139	58	77
8	---	---	---	---	---	---	78	244	1000	155	52	56
9	---	---	---	---	---	---	86	235	969	331	47	51
10	---	---	---	---	---	---	79	190	942	271	44	47
11	---	---	---	---	---	---	79	196	984	184	46	43
12	---	---	---	---	---	---	91	228	1180	149	75	38
13	---	---	---	---	---	---	102	232	1370	125	75	35
14	---	---	---	---	---	---	104	216	969	112	61	36
15	---	---	---	---	---	---	134	227	857	104	55	34
16	---	---	---	---	---	---	179	250	776	99	53	33
17	---	---	---	---	---	---	164	224	665	93	47	37
18	---	---	---	---	---	---	154	227	543	95	50	47
19	---	---	---	---	---	---	185	261	481	90	59	55
20	---	---	---	---	---	---	193	280	508	88	54	51
21	---	---	---	---	---	---	196	292	481	140	45	49
22	---	---	---	---	---	---	208	336	438	151	42	46
23	---	---	---	---	---	---	230	380	401	118	38	41
24	---	---	---	---	---	---	255	474	385	105	35	41
25	---	---	---	---	---	---	246	590	365	115	33	40
26	---	---	---	---	---	---	216	558	336	149	30	41
27	---	---	---	---	---	---	175	500	301	104	27	40
28	---	---	---	---	---	---	167	547	244	87	26	40
29	---	---	---	---	---	---	177	651	215	79	27	41
30	---	---	---	---	---	---	157	622	192	80	29	41
31	---	---	---	---	---	---	---	630	---	78	35	---
TOTAL	---	---	---	---	---	---	4237	9548	20092	4323	1537	1343
MEAN	---	---	---	---	---	---	141	308	670	139	49.6	44.8
MAX	---	---	---	---	---	---	255	651	1370	331	75	77
MIN	---	---	---	---	---	---	66	119	192	78	26	33
AC-FT	---	---	---	---	---	---	8400	18940	39850	8570	3050	2660

06659580 SAND CREEK AT COLORADO-WYOMING STATE LINE

LOCATION.--Lat 40°59'37", long 105°45'35", in NW¼ NW¼ SW¼ sec.24, T.12 N., R.75 W., Larimer County, CO, Hydrologic Unit 10180010, on right bank 1,200 ft south of Colorado-Wyoming State line and 17 mi southwest of Tie Siding, WY.

DRAINAGE AREA.--29.2 mi².

PERIOD OF RECORD.--October 1968 to current year (no winter records since 1971).

GAGE.--Water-stage recorder. Elevation of gage is 7,580 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 19, 1977, gage at site 700 ft upstream at different datum.

REMARKS.--No estimated daily discharges. Records good except those for August, which are fair. Natural flow affected by diversion upstream from station to Cache la Poudre River basin through Wilson Supply ditch. Water imported upstream from station from Deadman Creek in Laramie River basin is rediverted through Wilson Supply ditch but is wasted down Sand Creek at times. Diversions for irrigation of about 170 acres upstream from station.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,710 ft³/s, July 19, 1977, from slope-area measurement of peak flow, gage height, 6.65 ft, from floodmarks, present site and datum; minimum daily during period of operation, 0.13 ft³/s, July 26-28, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 79 ft³/s, June 13, gage height, 1.42 ft; minimum daily during period of operation, 0.14 ft³/s, Aug. 30, 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	3.0	13	33	2.9	1.7	.17
2	---	---	---	---	---	---	4.5	13	30	3.2	1.3	.99
3	---	---	---	---	---	---	7.1	13	30	3.6	1.1	.28
4	---	---	---	---	---	---	9.3	13	30	4.5	.85	.41
5	---	---	---	---	---	---	8.6	14	30	5.0	1.3	.85
6	---	---	---	---	---	---	5.6	14	34	4.3	1.6	2.2
7	---	---	---	---	---	---	5.7	16	34	5.2	1.2	3.2
8	---	---	---	---	---	---	5.9	21	32	5.5	.85	2.2
9	---	---	---	---	---	---	6.8	22	30	9.9	.65	1.6
10	---	---	---	---	---	---	5.0	20	31	9.9	.56	1.3
11	---	---	---	---	---	---	5.5	20	30	6.0	.56	1.3
12	---	---	---	---	---	---	7.4	20	49	4.5	.90	1.2
13	---	---	---	---	---	---	8.9	19	63	3.9	1.9	1.1
14	---	---	---	---	---	---	8.3	18	33	3.0	1.6	.85
15	---	---	---	---	---	---	13	19	23	2.3	1.1	.75
16	---	---	---	---	---	---	14	18	18	2.3	1.1	.75
17	---	---	---	---	---	---	13	18	15	1.9	1.1	.85
18	---	---	---	---	---	---	12	18	13	1.6	.90	1.1
19	---	---	---	---	---	---	13	19	11	1.6	1.1	1.6
20	---	---	---	---	---	---	13	20	11	1.9	.90	1.7
21	---	---	---	---	---	---	13	21	10	3.2	.70	1.6
22	---	---	---	---	---	---	15	26	9.3	6.0	.65	1.4
23	---	---	---	---	---	---	17	33	7.4	5.8	.80	1.4
24	---	---	---	---	---	---	19	57	6.0	4.1	.95	1.4
25	---	---	---	---	---	---	21	33	5.2	4.1	.66	2.1
26	---	---	---	---	---	---	19	30	4.8	3.9	.49	1.6
27	---	---	---	---	---	---	15	28	4.5	2.9	.34	1.6
28	---	---	---	---	---	---	15	28	4.1	1.7	.22	1.6
29	---	---	---	---	---	---	15	40	3.4	1.6	.17	1.6
30	---	---	---	---	---	---	14	36	3.2	1.7	.14	1.4
31	---	---	---	---	---	---	---	34	---	2.0	.14	---
TOTAL	---	---	---	---	---	---	332.6	714	637.9	120.0	27.53	40.10
MEAN	---	---	---	---	---	---	11.1	23.0	21.3	3.87	.89	1.34
MAX	---	---	---	---	---	---	21	57	63	9.9	1.9	3.2
MIN	---	---	---	---	---	---	3.0	13	3.2	1.6	.14	.17
AC-FT	---	---	---	---	---	---	660	1420	1270	238	55	80

PLATTE RIVER BASIN

06660500 LARAMIE RIVER AT TWO RIVERS, WY

LOCATION.--Lat 41°28'22", long 105°43'30", in NW¼ NE¼ SW¼ sec.5, T.17 N., R.74 W., Albany County, Hydrologic Unit 10180010, at former gaging station, at old Two Rivers Post Office, 0.6 mi upstream from Little Laramie River, and 14 mi northwest of Laramie.

DRAINAGE AREA.--1,224 mi², of which 188 mi² is probably noncontributing.

PERIOD OF RECORD.--Water years 1966 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2,4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 11...	1230	450	17.0	<0.01	<0.01	0.05	<0.01	<0.01	<0.01
JUL 26...	1100	56	18.0	0.02	0.05	0.22	<0.01	<0.01	<0.01

06661000 LITTLE LARAMIE RIVER NEAR FILMORE, WY

LOCATION.--Lat 41°17'42", long 106°02'03", in SE¼ NE¼ SE¼ sec.4, T.15 N., R.77 W., Albany County, Hydrologic Unit 10180010, on right bank 40 ft downstream from State Highway 130, 1.2 mi west of Filmore, and 4.4 mi downstream from North Fork.

DRAINAGE AREA.--157 mi². Area at site used prior to Sept. 8, 1976, 156 mi².

PERIOD OF RECORD.--July 1902 to September 1903 (published as "near Hatton"), May 1911 to November 1926, October 1932 to current year (no winter records since 1971). Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1903, 1914, 1922-26. WSP 1440: 1902. WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 7,610 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Sept. 16, 1938, nonrecording gages, and Sept. 16, 1938 to Sept. 7, 1976, water-stage recorder, at sites 0.7 mi upstream at different datums.

REMARKS.--Estimated daily discharges: Apr. 1, and Aug. 30 to Sept. 3. Records good except those for estimated daily discharges, which are poor. Ten small reservoirs upstream from station, combined capacity, about 160 acre-ft, for irrigation, stock water, recreation, and domestic use. Diversions upstream from station for irrigation of about 11,020 acres, of which about 20 acres are downstream from station.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by Geological Survey.

AVERAGE DISCHARGE.--55 years (water years 1903, 1912-26, 1933-71), 103 ft³/s, 74,620 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,450 ft³/s, June 10, 1965, gage height, 5.33 ft, site and datum then in use; minimum daily determined, 1.0 ft³/s, Sept. 17-20, 1913.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 952 ft³/s, June 8, gage height, 3.73 ft; minimum daily during period of operation, 10 ft³/s, Aug. 29-31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	40	40	445	198	42	15
2	---	---	---	---	---	---	38	35	378	193	37	30
3	---	---	---	---	---	---	37	32	338	190	33	60
4	---	---	---	---	---	---	38	30	421	229	33	57
5	---	---	---	---	---	---	39	32	585	190	37	31
6	---	---	---	---	---	---	30	32	760	162	34	28
7	---	---	---	---	---	---	35	34	744	155	29	21
8	---	---	---	---	---	---	36	44	803	214	26	21
9	---	---	---	---	---	---	38	42	765	250	24	18
10	---	---	---	---	---	---	33	41	697	187	24	19
11	---	---	---	---	---	---	33	45	754	150	25	16
12	---	---	---	---	---	---	35	57	754	130	103	15
13	---	---	---	---	---	---	35	58	543	119	42	15
14	---	---	---	---	---	---	34	59	461	111	32	13
15	---	---	---	---	---	---	39	72	401	107	28	12
16	---	---	---	---	---	---	40	82	360	101	30	13
17	---	---	---	---	---	---	36	78	349	86	28	18
18	---	---	---	---	---	---	36	88	335	81	32	29
19	---	---	---	---	---	---	36	110	360	79	27	24
20	---	---	---	---	---	---	37	119	356	84	24	21
21	---	---	---	---	---	---	38	136	338	143	24	27
22	---	---	---	---	---	---	41	158	324	121	21	21
23	---	---	---	---	---	---	41	203	294	96	19	20
24	---	---	---	---	---	---	42	260	291	77	19	19
25	---	---	---	---	---	---	49	267	274	81	18	17
26	---	---	---	---	---	---	49	259	262	66	15	17
27	---	---	---	---	---	---	42	245	238	56	13	18
28	---	---	---	---	---	---	81	271	244	52	12	21
29	---	---	---	---	---	---	70	342	241	54	10	21
30	---	---	---	---	---	---	53	342	217	54	10	20
31	---	---	---	---	---	---	---	382	---	48	10	---
TOTAL	---	---	---	---	---	---	1231	3995	13332	3864	861	677
MEAN	---	---	---	---	---	---	41.0	129	444	125	27.8	22.6
MAX	---	---	---	---	---	---	81	382	803	250	103	60
MIN	---	---	---	---	---	---	30	30	217	48	10	12
AC-FT	---	---	---	---	---	---	2440	7920	26440	7660	1710	1340

06661585 LARAMIE RIVER NEAR BOSLER, WY

LOCATION.--Lat 41°33'17", long 105°40'58", in NW¼ NW¼ NE¼ sec.10, T.18 N., R.74 W., Albany County, Hydrologic Unit 10180010, on left bank 50 ft upstream from bridge on U.S. Highways 30 and 287, 0.2 mi northwest of Bosler Junction, 1.7 mi south of Bosler, and 2.0 mi downstream from Soil Bank Boughton Canal diversion dam.

DRAINAGE AREA.--1,790 mi², of which 283 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1972 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 7,030 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 30 to Nov. 8 and Nov. 15 to Mar. 30. Records good except those for period of estimated daily discharges, which are poor. Natural flow of stream affected by transbasin diversions, storage reservoirs, diversion upstream from station for irrigation of about 54,700 acres, of which about 2,300 acres are downstream from station, and return flow from irrigated areas.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by Geological Survey.

AVERAGE DISCHARGE.--18 years, 181 ft³/s, 131,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,480 ft³/s, June 11, 1986, gage height, 7.39 ft; maximum gage height, 8.40 ft, Apr. 22, 1973 (backwater from ice); no flow Oct. 10-15, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 932 ft³/s, June 15, gage height, 3.97 ft; minimum daily, 4.6 ft³/s, Oct. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	18	35	29	35	37	144	27	98	158	79	13
2	5.0	19	40	28	34	37	141	22	147	154	65	12
3	5.5	21	43	28	33	39	126	18	226	147	61	13
4	5.5	25	40	28	34	40	106	17	300	161	59	12
5	4.6	32	39	29	35	42	93	17	307	171	63	36
6	5.0	30	37	30	36	43	70	15	307	181	59	33
7	6.0	26	42	32	35	47	67	11	399	181	55	35
8	6.6	16	43	33	33	50	63	8.7	523	175	47	32
9	6.6	41	40	36	35	57	55	8.7	656	222	40	27
10	7.2	51	37	40	35	56	49	8.7	767	263	37	21
11	7.5	53	32	41	38	56	41	8.7	858	290	33	18
12	6.0	47	29	40	39	52	32	8.7	889	273	40	17
13	6.6	47	26	38	35	50	32	7.9	868	232	40	15
14	6.6	49	28	37	32	52	30	6.0	907	188	74	14
15	7.2	24	26	36	33	57	25	7.2	917	161	63	12
16	8.7	30	24	33	34	60	24	6.0	886	144	53	10
17	8.7	35	22	31	35	62	24	6.0	767	135	47	12
18	10	38	22	29	35	62	18	6.6	587	113	47	13
19	17	43	23	28	34	68	19	6.0	456	96	51	16
20	22	50	23	29	33	63	19	9.6	338	86	47	18
21	22	43	24	30	34	70	18	9.6	232	104	43	22
22	27	39	23	31	35	77	18	10	209	111	38	21
23	27	38	22	30	36	80	17	11	198	117	34	21
24	27	36	30	30	37	84	19	16	175	106	30	16
25	25	34	34	29	37	90	19	15	151	109	25	13
26	28	24	36	30	38	99	19	18	129	111	21	13
27	30	15	35	31	37	110	19	28	114	101	18	13
28	35	20	32	32	36	120	25	28	129	83	18	13
29	21	25	31	33	---	130	24	33	138	83	15	13
30	19	30	30	34	---	140	27	51	151	91	13	16
31	17	---	30	34	---	147	---	81	---	86	13	---
TOTAL	435.8	999	978	999	983	2177	1383	526.4	12829	4633	1328	540
MEAN	14.1	33.3	31.5	32.2	35.1	70.2	46.1	17.0	428	149	42.8	18.0
MAX	35	53	43	41	39	147	144	81	917	290	79	36
MIN	4.6	15	22	28	32	37	17	6.0	98	83	13	10
AC-FT	864	1980	1940	1980	1950	4320	2740	1040	25450	9190	2630	1070

CAL YR 1989 TOTAL 14249.89 MEAN 39.0 MAX 244 MIN .20 AC-FT 28260
WTR YR 1990 TOTAL 27811.2 MEAN 76.2 MAX 917 MIN 4.6 AC-FT 55160

PLATTE RIVER BASIN

06661585 LARAMIE RIVER NEAR BOSLER, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June to September 1990.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
JUN						
11...	0930	872	16.0	<1	128	301
12...	0900	893	13.0	<1	119	287
22...	1000	192	16.0	<1	38	20
SEP						
24...	0900	17	12.0	<1	3	0.14

06662000 LARAMIE RIVER NEAR LOOKOUT, WY

LOCATION.--Lat 41°45'44", long 105°41'16", in NE¼ NW¼ SE¼ sec.27, T.21 N., R.74 W., Albany County, Hydrologic Unit 10180010, on right bank 155 ft downstream from bridge on county road, 1.0 mi upstream from Wheatland Reservoir No. 2, and 9.0 mi northeast of Lookout.

DRAINAGE AREA.--2,174 mi², of which 603 mi² is probably noncontributing.

PERIOD OF RECORD.--May 1912 to December 1917, January 1921 to December 1927, April 1932 to current year (no winter records since 1972). Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1913-17. WSP 1710: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,962.68 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 22, 1915, nonrecording gage and Apr. 22, 1915, to Aug. 31, 1917, water-stage recorder, at bridge, 155 ft upstream at same datum. Oct. 14, 1931, to Sept. 17, 1938, at site 125 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Apr. 1-3 and Sept. 1-3. Records good except those for estimated daily discharges, which are poor. Natural flow of stream affected by transbasin diversions, storage reservoirs, diversion for irrigation of about 108,000 acres upstream from station, and return flow from irrigated areas.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by Geological Survey.

AVERAGE DISCHARGE.--51 years (water years 1913-17, 1922-27, 1933-72), 131 ft³/s, 94,910 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,380 ft³/s, June 29, 1983, gage height, 6.99 ft; maximum gage height, about 8.0 ft, occurred in 1973 (backwater from ice); no flow at times in 1934-35, 1939-40, 1954-55, 1977, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 869 ft³/s, June 15, gage height, 3.57 ft; maximum gage height observed, 3.98 ft, Mar. 30; minimum daily discharge during period of operation, 9.9 ft³/s, May 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	170	28	70	175	100	24
2	---	---	---	---	---	---	165	26	84	182	85	24
3	---	---	---	---	---	---	160	24	147	192	74	24
4	---	---	---	---	---	---	153	23	238	211	74	25
5	---	---	---	---	---	---	132	18	279	228	74	21
6	---	---	---	---	---	---	111	14	286	224	74	26
7	---	---	---	---	---	---	91	13	314	241	64	33
8	---	---	---	---	---	---	85	14	406	255	57	31
9	---	---	---	---	---	---	74	16	521	258	50	30
10	---	---	---	---	---	---	57	13	642	304	46	25
11	---	---	---	---	---	---	50	13	737	329	42	21
12	---	---	---	---	---	---	44	12	788	329	42	19
13	---	---	---	---	---	---	40	11	805	307	51	18
14	---	---	---	---	---	---	36	14	805	255	50	15
15	---	---	---	---	---	---	33	12	856	211	64	14
16	---	---	---	---	---	---	30	9.9	848	175	55	12
17	---	---	---	---	---	---	24	11	800	163	55	13
18	---	---	---	---	---	---	25	11	646	147	50	15
19	---	---	---	---	---	---	24	11	490	132	44	16
20	---	---	---	---	---	---	23	11	376	117	48	14
21	---	---	---	---	---	---	20	14	283	123	48	14
22	---	---	---	---	---	---	19	16	224	126	44	15
23	---	---	---	---	---	---	17	18	205	132	40	17
24	---	---	---	---	---	---	16	17	182	129	35	17
25	---	---	---	---	---	---	24	16	160	129	31	17
26	---	---	---	---	---	---	24	19	135	123	30	15
27	---	---	---	---	---	---	23	21	135	117	25	14
28	---	---	---	---	---	---	21	28	135	111	23	14
29	---	---	---	---	---	---	30	32	153	102	24	14
30	---	---	---	---	---	---	26	36	160	102	24	14
31	---	---	---	---	---	---	---	51	---	108	23	---
TOTAL	---	---	---	---	---	---	1747	572.9	11910	5737	1546	571
MEAN	---	---	---	---	---	---	58.2	18.5	397	185	49.9	19.0
MAX	---	---	---	---	---	---	170	51	856	329	100	33
MIN	---	---	---	---	---	---	16	9.9	70	102	23	12
AC-FT	---	---	---	---	---	---	3470	1140	23620	11380	3070	1130

PLATTE RIVER BASIN

06663900 LARAMIE RIVER BELOW LUMAN CREEK, NEAR WHEATLAND, WY

LOCATION.--Lat 42°02'40, long 105°08'57", in NE¼ NE¼ NW¼ sec20, T.24 N., R.69 W., Platte County, Hydrologic Unit 10180011, at bridge on Palmer Canyon Road, 0.7 mi downstream from Luman Creek, and 11 mi west of Wheatland.

PERIOD OF RECORD.--October 1988 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 15...	1200	3.9	20.5	<0.01	0.02	0.06	<0.01	<0.01	<0.01
JUL 25...	1000	8.2	20.0	<0.01	0.10	0.02	<0.01	<0.01	<0.01

06664400 SYBILLE CREEK ABOVE MULE CREEK, NEAR WHEATLAND, WY

LOCATION.--Lat 41°50'39", long 105°13'15", in NE¼ SW¼ SE¼ sec.27, T.22 N., R.70 W., Platte County, Hydrologic Unit 10180011, on right bank just upstream from bridge on U.S. Highway 34, 900 ft upstream from Mule Creek, 2.9 mi upstream from Bluegrass Creek, and 20 mi southwest of Wheatland.

DRAINAGE AREA.--194 mi².

PERIOD OF RECORD.--April 1974 to current year (no winter records).

GAGE.--Water-stage recorder. Elevation of gage is 5,340 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Aug. 20. Records good except those for March and those above 200 ft³/s, which are poor. Seven small diversions upstream from station, combined capacity, about 400 acre-ft, for irrigation. Diversions upstream from station for irrigation of about 2,020 acres, of which about 80 acres are downstream from station.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,900 ft³/s, Aug. 20, 1990, on basis of slope-area measurement of peak flow at a site 1.2 mi upstream, gage height, 15.6 ft, from floodmarks; minimum daily discharge, 0.49 ft³/s, Sept. 8, 9, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,900 ft³/s, Aug. 20, on basis of slope-area measurement of peak flow at a site 1.2 mi upstream, gage height, 15.6 ft, from floodmarks; minimum daily discharge during period of operation, 3.7 ft³/s, Mar. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	5.7	26	23	16	14	9.2
2	---	---	---	---	---	---	6.8	25	22	15	13	8.9
3	---	---	---	---	---	---	10	25	20	14	13	8.5
4	---	---	---	---	---	---	16	25	21	15	15	8.9
5	---	---	---	---	---	---	21	25	27	15	215	11
6	---	---	---	---	---	---	23	25	33	15	25	10
7	---	---	---	---	---	---	19	25	32	14	18	8.9
8	---	---	---	---	---	---	19	25	29	16	15	8.9
9	---	---	---	---	---	---	24	27	28	19	14	8.5
10	---	---	---	---	---	---	24	30	27	18	13	8.0
11	---	---	---	---	---	---	21	30	25	17	15	7.4
12	---	---	---	---	---	---	23	32	24	17	14	7.2
13	---	---	---	---	---	---	28	30	24	16	14	6.8
14	---	---	---	---	---	---	29	29	21	15	13	5.3
15	---	---	---	---	---	---	36	27	14	15	11	5.3
16	---	---	---	---	---	---	44	25	9.9	15	10	5.7
17	---	---	---	---	---	---	36	25	8.9	15	9.9	5.3
18	---	---	---	---	---	---	32	23	8.9	13	9.9	6.0
19	---	---	---	---	---	3.7	33	19	8.7	14	11	7.2
20	---	---	---	---	---	4.1	33	21	8.9	16	1280	6.8
21	---	---	---	---	---	4.9	32	19	9.4	18	60	6.8
22	---	---	---	---	---	5.7	31	17	11	16	27	6.8
23	---	---	---	---	---	5.7	29	18	11	16	19	7.2
24	---	---	---	---	---	5.3	28	18	12	14	16	6.8
25	---	---	---	---	---	5.7	28	18	12	13	14	6.7
26	---	---	---	---	---	6.0	30	17	13	13	13	5.3
27	---	---	---	---	---	6.4	26	17	14	12	11	4.9
28	---	---	---	---	---	6.4	27	17	19	11	9.4	5.0
29	---	---	---	---	---	6.4	27	17	19	12	8.9	6.0
30	---	---	---	---	---	5.9	27	19	18	13	8.9	6.8
31	---	---	---	---	---	5.3	---	21	---	15	8.9	---
TOTAL	---	---	---	---	---	---	768.5	717	553.7	463	1938.9	216.1
MEAN	---	---	---	---	---	---	25.6	23.1	18.5	14.9	62.5	7.20
MAX	---	---	---	---	---	---	44	32	33	19	1280	11
MIN	---	---	---	---	---	---	5.7	17	8.7	11	8.9	4.9
AC-FT	---	---	---	---	---	---	1520	1420	1100	918	3850	429

PLATTE RIVER BASIN

06665790 SYBILLE CREEK ABOVE CANAL NO. 3, NEAR WHEATLAND, WY

LOCATION.--Lat 41°54'40", long 105°07'36", in NW¼ SW¼ NE¼ sec.4, T.22 N., R.69 W., Platte County, Hydrologic Unit 10180011, on right bank 100 ft upstream from State Highway 34, 200 ft downstream from Deadhead Creek, 2.7 mi upstream from Canal No. 3, and 19.7 mi southwest of Wheatland.

PERIOD OF RECORD.--April 1980 to current year (no winter records).

GAGE.--Water-stage recorder. Elevation of gage is 5,040 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: June 22-24. Records good. Most of flow during irrigation season is water released from Wheatland Reservoir No. 2, capacity 98,930 acre-ft, on the Laramie River and diverted down Bluegrass Creek for irrigation of land near Wheatland. Diversions for irrigation of about 4,400 acres upstream from station.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,900 ft³/s, Aug. 20, 1990, from rating curve extended above 1,300 ft³/s on basis of contracted-opening measurement of peak flow, gage height, 8.35 ft, from floodmarks; no flow Sept. 1-4, 11, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,900 ft³/s, Aug. 20, from rating curve extended above 1,300 ft³/s on basis of contracted-opening measurement of peak flow, gage height, 8.35 ft, from floodmarks; minimum daily during period of operation, 11 ft³/s, Mar. 16-19, Aug. 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	22	34	29	29	43	47
2	---	---	---	---	---	---	66	32	30	29	50	49
3	---	---	---	---	---	---	89	32	27	34	53	50
4	---	---	---	---	---	---	72	32	30	56	91	43
5	---	---	---	---	---	---	62	35	23	69	192	36
6	---	---	---	---	---	---	49	32	132	72	89	35
7	---	---	---	---	---	---	39	31	118	64	67	32
8	---	---	---	---	---	---	35	32	129	74	55	38
9	---	---	---	---	---	---	36	36	137	61	38	39
10	---	---	---	---	---	---	42	38	132	81	17	32
11	---	---	---	---	---	---	38	38	118	111	20	34
12	---	---	---	---	---	16	36	39	115	108	23	39
13	---	---	---	---	---	14	42	37	127	102	21	34
14	---	---	---	---	---	12	43	35	91	104	18	62
15	---	---	---	---	---	12	49	34	67	100	16	39
16	---	---	---	---	---	11	58	32	65	89	21	24
17	---	---	---	---	---	11	56	30	28	80	25	19
18	---	---	---	---	---	11	50	30	20	76	27	18
19	---	---	---	---	---	11	50	28	16	80	40	26
20	---	---	---	---	---	12	52	28	14	102	568	16
21	---	---	---	---	---	14	50	27	13	98	179	15
22	---	---	---	---	---	36	49	25	14	61	48	15
23	---	---	---	---	---	44	47	24	15	53	32	14
24	---	---	---	---	---	23	43	25	17	42	23	13
25	---	---	---	---	---	23	45	24	16	36	20	12
26	---	---	---	---	---	21	47	23	16	31	16	12
27	---	---	---	---	---	20	42	22	15	34	12	12
28	---	---	---	---	---	20	40	22	14	35	11	12
29	---	---	---	---	---	22	40	24	21	18	29	13
30	---	---	---	---	---	22	38	25	32	27	39	12
31	---	---	---	---	---	20	---	27	---	47	43	---
TOTAL	---	---	---	---	---	---	1427	933	1621	2003	1926	842
MEAN	---	---	---	---	---	---	47.6	30.1	54.0	64.6	62.1	28.1
MAX	---	---	---	---	---	---	89	39	137	111	568	62
MIN	---	---	---	---	---	---	22	22	13	18	11	12
AC-FT	---	---	---	---	---	---	2830	1850	3220	3970	3820	1670

06669050 WHEATLAND CREEK BELOW WHEATLAND, WY

LOCATION.--Lat 42°05'05", long 104°57'02", in SW¼ SW¼ NE¼ sec.1, T.24 N., R.68 W., Platte County, Hydrologic Unit 10180011, 50 ft upstream from bridge on U.S. Highway 87, 50 ft downstream from sewage lagoons, and 1.6 mi north of Wheatland city limits.

PERIOD OF RECORD.--Water years 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
OCT 24...	1000	1.0	1240	8.2	10.0	642	10.6	112
JAN 17...	0900	1.0	1360	7.8	2.0	640	11.8	102
APR 19...	1100	0.9	1220	9.0	11.0	640	17.6	191
JUL 25...	1200	0.9	1200	9.0	23.0	640	8.2	115

DATE	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
OCT 24...	760	1.8	2.1	7.1	9.2	0.26	1
JAN 17...	K2300	1.1	9.5	12	22	5.0	--
APR 19...	520	1.8	3.2	2.7	5.9	2.8	--
JUL 25...	1000	1.0	0.91	9.0	9.9	1.9	--

K-Results based on colony count outside the acceptable range (non-ideal colony count).

06670500 LARAMIE RIVER NEAR FORT LARAMIE, WY

LOCATION.--Lat 42°12'02", long 104°32'16", in NE¼ SE¼ NE¼ sec.28, T.26 N., R.64 W., Goshen County, Hydrologic Unit 10180011, on right bank 600 ft upstream from bridge on county road, 0.6 mi upstream from mouth, and 1.1 mi southwest of Fort Laramie.

DRAINAGE AREA.--4,564 mi², of which 631 mi² is probably non-contributing. Drainage area at mouth, 4,565 mi².

PERIOD OF RECORD.--April 1915 to current year (no winter records prior to 1927). Monthly discharge only for some periods, published in WSP 1310. Records for water years 1926-39, previously published including diversions to Gering-Fort Laramie Canal, were adjusted to exclude flow in the canal in WSP 1310. Prior to October 1931, published as "at Fort Laramie."

REVISED RECORDS.--WSP 1918: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,220 ft above National Geodetic Vertical Datum of 1929, from topographic map. Apr. 4, 1915, to Mar. 31, 1925, nonrecording gage at site 0.1 mi downstream at different datum. Apr. 1, 1925, to Sept. 30, 1932, nonrecording gage and Oct. 1, 1932, to Aug. 20, 1935, water-stage recorder at site 4.3 mi upstream at different datum. Aug. 21, 1935, to Nov. 2, 1970, water-stage recorder at site 0.3 mi upstream at different datum. Nov. 3, 1970, to May 9, 1973, water-stage recorder 0.1 mi downstream at different datum. May 10, 1973, to Apr. 5, 1977, water-stage recorder 4.3 mi upstream at different datum.

REMARKS.--Estimated daily discharges: Dec. 12, 14-19, 21-26, 30, 31, Jan. 4-6, 24, 25, 28-30, and Feb. 1-4, 8, 9, 13-22. Records good except those for October to February, which are poor. Diversion, at times, to Gering-Fort Laramie Canal, 5.4 mi upstream. Natural flow of stream affected by transbasin diversions, storage reservoirs, ground-water withdrawals and diversions for irrigation of about 176,000 acres upstream from station, and return flow from irrigated areas. U.S. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--34 years (water years 1957-90), 154 ft³/s, 111,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,260 ft³/s, May 10, 1973, gage height, 9.40 ft, site and datum then in use; no flow Jan. 31 to Mar. 20, Oct. 24 to Dec. 17, 1926, Mar. 1-26, 1927, Apr. 14, 1938 (all flow diverted by Gering-Fort Laramie Canal).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 236 ft³/s, July 16, gage height, 3.05 ft; minimum daily, 27 ft³/s, Aug. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	50	40	42	40	43	46	51	42	45	35	43
2	39	49	41	43	42	42	47	53	43	46	35	67
3	39	48	37	43	41	42	46	54	42	44	35	65
4	40	48	35	43	42	42	47	55	43	44	37	54
5	41	47	35	41	42	42	49	54	43	42	65	48
6	41	47	35	42	42	46	49	48	42	39	47	45
7	42	46	35	43	42	47	47	48	44	37	44	45
8	42	46	35	45	40	45	47	48	41	39	43	45
9	41	46	34	44	42	45	50	49	39	64	37	46
10	40	47	34	40	47	45	50	49	38	68	27	44
11	40	47	32	39	44	46	50	45	38	49	28	43
12	42	47	47	39	42	47	47	41	37	48	43	41
13	41	47	51	40	37	48	48	40	37	46	41	40
14	42	47	48	40	32	48	47	40	37	45	36	41
15	42	47	43	38	37	49	44	40	40	45	32	42
16	42	47	52	38	40	50	46	41	47	56	31	43
17	42	46	48	39	42	49	49	39	51	47	31	45
18	42	46	42	39	41	47	48	44	52	43	38	45
19	49	45	43	40	42	45	47	42	49	43	45	44
20	51	44	44	40	42	50	48	42	45	49	44	45
21	51	47	43	40	43	52	46	41	40	51	44	45
22	51	40	31	40	43	53	48	38	39	49	47	45
23	51	38	35	39	43	59	50	31	38	47	82	44
24	51	38	37	37	44	61	50	32	38	46	105	44
25	51	37	38	39	43	47	53	38	39	48	121	44
26	50	37	39	41	43	46	53	38	45	54	123	44
27	51	37	40	37	43	41	51	40	45	55	117	43
28	51	37	41	40	43	40	51	41	44	47	69	43
29	50	36	42	41	---	38	52	46	41	41	58	43
30	50	36	41	42	---	37	51	48	44	39	54	43
31	50	---	41	42	---	37	---	45	---	35	47	---
TOTAL	1394	1320	1239	1256	1164	1429	1457	1361	1263	1451	1641	1369
MEAN	45.0	44.0	40.0	40.5	41.6	46.1	48.6	43.9	42.1	46.8	52.9	45.6
MAX	51	50	52	45	47	61	53	55	52	68	123	67
MIN	39	36	31	37	32	37	44	31	37	35	27	40
AC-FT	2760	2620	2460	2490	2310	2830	2890	2700	2510	2880	3250	2720

CAL YR 1989 TOTAL 15934 MEAN 43.7 MAX 77 MIN 30 AC-FT 31610
WTR YR 1990 TOTAL 16344 MEAN 44.8 MAX 123 MIN 27 AC-FT 32420

06671000 RAWHIDE CREEK NEAR LINGLE, WY

LOCATION.--Lat 42°07'32", long 104°19'36", in SE¼ NE¼ sec.20, T.25 N., R.62 W., Goshen County, Hydrologic Unit 10180009, on right bank 200 ft upstream from bridge on U.S. Highway 26, 1.0 mi east of Lingle, and 1.0 mi upstream from mouth.

DRAINAGE AREA.--522 mi².

PERIOD OF RECORD.--May 1928 to current year (no winter records since 1971). Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1440: 1932, 1936(M). WSP 1918: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 4,160 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 1918 for history of changes prior to May 16, 1955.

REMARKS.--Low flow represents return water from lands irrigated by Interstate Canal in Rawhide Creek basin. Six small reservoirs upstream from station, combined capacity, about 460 acre-ft, for irrigation. Diversions for irrigation of about 1,600 acres upstream from station.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--43 years (water years 1929-71), 21.5 ft³/s, 15,580 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,970 ft³/s, Sept. 7, 1946, gage height, 11.76 ft; no flow July 5-7, 1961, Apr. 12, 29, 1966, Mar. 20-28, 1967, Apr. 13, 1971.

NOTE: Data for Water Year 1990 was not received from the cooperator in time for publication in this report. The station remains part of the gaging-station network, and data for Water Year 1990 will be published in the Water Resources Data report for Water Year 1991.

06672500 CHERRY CREEK DRAIN NEAR TORRINGTON, WY

LOCATION.--Lat 42°02'22", long 104°10'07", in SW¼ NW¼ sec.23, T.24 N., R.61 W., Goshen County, Hydrologic Unit 10180009, on left bank 50 ft downstream from bridge on county road, 0.6 mi upstream from mouth, and 2.0 mi southeast of Torrington.

DRAINAGE AREA.--356 mi².

PERIOD OF RECORD.--May to September 1931, May to September 1932, May 1935 to current year (no winter records since 1971). Monthly discharge only for some periods, published in WSP 1310.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 4,080 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 12, 1935, nonrecording gage at site 1.0 mi upstream at different datum. June 12, 1935, to Sept. 30, 1945, water-stage recorder at site 100 ft downstream at datum 2.00 ft higher. Oct. 1, 1945, to Nov. 27, 1950, water-stage recorder at site 100 ft downstream at present datum.

REMARKS.--Flow is mainly return water from irrigation.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--36 years (water years 1936-71), 21.6 ft³/s, 15,650 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,420 ft³/s, June 27, 1955, gage height, 10.31 ft, from floodmark; minimum daily, 0.40 ft³/s, Jan. 28, 29, 1949.

NOTE: Data for Water Year 1990 was not received from the cooperator in time for publication in this report. The station remains part of the gaging-station network, and data for Water Year 1990 will be published in the Water Resources Data report for Water Year 1991.

06673500 KATZER DRAIN NEAR HENRY, NE

LOCATION.--Lat 41°58'45", long 104°04'15", in NW¼ NW¼ SW¼ sec.10, T.23 N., R.60 W., Goshen County, WY, Hydrologic Unit 10180009, on left bank 0.2 mi upstream from bridge on county road, 0.8 mi upstream from mouth, and 1.7 mi southwest of Henry.

DRAINAGE AREA.--45.9 mi², of which 8.2 mi² is probably noncontributing.

PERIOD OF RECORD.--May 1928 to current year (no winter records prior to 1932 and since 1971).

REVISED RECORDS.--WSP 1710: Drainage area. WDR WY-77-1: 1975(M), 1976(M).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 4,040 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 1918 for history of changes prior to Dec. 1, 1950. Dec. 1, 1950, to Sept. 30, 1969, at site 1.0 mi upstream at different datum. Oct. 1, 1969, to Mar. 31, 1974, at site 0.2 mi downstream at different datum.

REMARKS.--Flow is mainly return water from land irrigated by Fort Laramie Canal.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--40 years (water years 1932-71), 19.6 ft³/s, 14,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,460 ft³/s, June 11, 1977, gage height, 8.56 ft, from rating curve extended above 130 ft³/s, on basis of slope-area measurement of peak flow; minimum daily, 0.50 ft³/s, Jan. 14, 1937.

NOTE: Data for Water Year 1990 was not received from the cooperator in time for publication in this report. The station remains part of the gaging-station network, and data for Water Year 1990 will be published in the Water Resources Data report for Water Year 1991.

LOCATION.--Lat 41°59'25", long 104°02'57", in SW¼ NE¼ SE¼ sec.4, T.23 N., R.58 W., Scottsbluff County, NE, Hydrologic Unit 101800009, on right bank 650 ft upstream from bridge on NE State Highway 86, 700 ft downstream from Wyoming-Nebraska State line, and 0.5 mi south of Henry, NE.

WATER-DISCHARGE RECORDS

REVISED RECORDS.--WDR WY-76-1: Drainage area.

REMARKS.--Estimated daily discharges: Dec. 16-18, 20, 21, 23-25, and Feb. 13-16. Records fair except those for estimated daily discharges, which are poor. Natural flow of stream affected by storage reservoirs, transbasin diversions, power development, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas. Gering-Mitchell Canal diverts from right bank 0.8 mi upstream. U.S. Corps of Engineers satellite telemeter at station.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,690 ft³/s, July 10, gage height, 3.37 ft; minimum daily, 12 ft³/s, June 21, 22.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	298	294	223	193	176	172	184	187	17	1310	1190	712
2	274	287	224	195	173	172	182	183	17	1360	1140	724
3	257	280	226	192	172	172	183	169	16	1320	1130	793
4	240	278	226	188	171	177	183	94	16	1370	1140	827
5	229	278	224	187	172	176	187	47	15	1330	1260	789
6	222	275	222	183	172	185	188	43	15	1440	1100	749
7	218	267	221	183	171	192	186	40	15	1510	1080	754
8	214	268	218	186	171	188	184	38	15	1550	1050	663
9	334	265	221	189	170	187	187	44	15	1630	1010	661
10	368	263	221	192	168	190	187	51	14	1650	1020	630
11	350	262	214	193	172	194	184	35	14	1550	1060	616
12	333	259	212	188	172	201	183	34	13	1440	1130	615
13	330	256	208	190	169	204	184	31	13	1430	1120	621
14	329	252	214	190	164	205	185	30	14	1450	1150	640
15	329	251	215	190	167	201	193	28	14	1500	1180	690
16	334	246	210	193	169	198	190	26	14	1500	1070	666
17	323	246	200	191	169	199	190	23	26	1520	1030	650
18	320	247	198	190	169	202	208	22	13	1430	1010	657
19	315	243	201	191	167	199	220	22	13	1400	1000	668
20	313	239	200	192	166	197	215	24	13	1380	1010	564
21	311	236	189	188	167	196	214	21	12	1460	971	419
22	310	236	162	188	169	194	206	19	12	1360	918	362
23	310	233	187	188	170	193	203	17	13	1280	916	325
24	306	233	207	188	172	191	198	16	74	1180	950	298
25	307	234	213	188	172	193	200	16	263	1180	947	360
26	307	233	211	185	175	194	202	15	507	1170	953	485
27	308	229	205	184	175	194	198	16	745	1200	972	517
28	306	227	204	184	173	195	196	16	912	1230	928	504
29	301	227	201	176	---	191	195	16	1110	1230	855	539
30	296	226	198	175	---	188	193	18	1190	1280	781	493
31	296	---	195	177	---	187	---	19	---	1230	732	---
TOTAL	9288	7570	6470	5817	4773	5927	5808	1360	5140	42870	31803	17991
MEAN	300	252	209	188	170	191	194	43.9	171	1383	1026	600
MAX	368	294	226	195	176	205	220	187	1190	1650	1260	827
MIN	214	226	162	175	164	172	182	15	12	1170	732	298
AC-FT	18420	15020	12830	11540	9470	11760	11520	2700	10200	85030	63080	35690

CAL YR 1989	TOTAL 165568	MEAN 454	MAX 1500	MIN 77	AC-FT 328400
WTR YR 1990	TOTAL 144817	MEAN 397	MAX 1650	MIN 12	AC-FT 287200

06674500 NORTH PLATTE RIVER AT WYOMING-NEBRASKA STATE LINE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)
OCT				
04...	1445	242	905	11.0
NOV				
02...	1500	248	975	9.0
DEC				
12...	1415	210	995	2.5
JAN				
17...	0850	193	960	3.5
MAR				
12...	1345	202	1060	13.0
APR				
19...	1100	220	910	13.5
MAY				
09...	1515	39	990	12.0
JUN				
13...	0910	12	920	14.5
JUL				
11...	1215	1560	770	21.0
AUG				
16...	1100	1090	780	22.5
SEP				
18...	1020	654	770	16.0

PLATTE RIVER BASIN

06679500 NORTH PLATTE RIVER AT MITCHELL, NE

LOCATION.--Lat 41°55'38", long 103°48'48", in NE¼ NE¼ sec.33, T.23 N., R.56 W., Scotts Bluff County, Hydrologic Unit 10180009, on right bank of main channel 10 ft downstream from bridge on State Highway 29 and 0.5 mi south of Mitchell.

DRAINAGE AREA.--24,300 mi², approximately, of which about 22,300 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--June 1901 to September 1910, May to December 1911, February 1912 to July 1913 (gage heights only), May 1916 to October 1918 (irrigation seasons only), May 1920 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WDR NE-67, WDR NE-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,929.3 ft above National Geodetic Vertical Datum of 1929. See WSP 1918 for history of changes prior to May 27, 1960. May 27, 1960, to Aug. 24, 1971, at datum 1.00 ft higher.

REMARKS.--Estimated daily discharges: Dec. 22-24. Records good except those for period of estimated record, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, power reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE (since Glendo project).--33 years (water years 1958-90), 848 ft³/s, 614,400 acre-ft/yr; median of yearly mean discharges, 540 ft³/s, 391,000 acre-ft/yr. Figures are unadjusted for storage or diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,500 ft³/s, June 3, 1909, gage height, 6.45 ft, datum then in use, from graph based on gage readings, from rating curve extended above 17,000 ft³/s; maximum gage height, 7.80 ft, May 29, 1984; minimum daily discharge observed, 25 ft³/s, Sept. 25-29, 1908.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 915 ft³/s, Sept. 29, gage height, 2.47 ft; maximum gage height, 2.99 ft, Dec. 23, backwater from ice; minimum daily discharge, 72 ft³/s, June 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	718	527	505	474	406	402	363	360	153	202	285	265
2	675	523	501	480	395	396	358	361	150	220	257	254
3	653	524	507	476	397	395	359	354	143	190	249	272
4	642	521	515	464	396	397	354	349	148	135	263	265
5	622	516	515	459	397	385	357	382	145	112	326	263
6	599	514	510	456	391	420	358	362	142	104	355	257
7	590	514	506	461	393	417	356	348	153	165	321	297
8	586	504	507	468	392	407	355	281	157	237	316	325
9	603	515	508	467	389	407	351	291	165	315	299	294
10	689	513	500	472	395	405	347	302	172	322	298	274
11	678	513	484	465	399	416	350	279	163	319	295	253
12	667	514	484	458	402	424	350	273	142	269	326	215
13	670	510	492	462	402	425	347	272	139	237	337	206
14	660	507	494	462	398	422	343	262	141	226	337	199
15	643	504	456	458	388	414	355	260	140	270	382	194
16	648	502	476	457	357	409	350	251	184	285	340	243
17	637	512	469	452	370	403	340	243	146	305	318	245
18	625	512	462	444	390	400	350	219	138	293	294	266
19	624	510	425	443	381	396	372	186	134	286	269	323
20	628	506	448	447	384	395	384	259	124	260	279	381
21	624	504	428	439	390	389	381	230	106	312	275	468
22	612	504	450	441	393	393	379	180	90	342	258	628
23	604	504	470	437	401	397	375	186	97	319	254	628
24	598	512	510	429	408	388	371	176	103	303	246	597
25	591	510	519	422	412	392	370	147	106	284	237	571
26	592	514	514	428	410	391	367	146	94	271	235	672
27	600	505	494	418	407	391	366	144	96	270	231	727
28	577	503	490	404	403	388	377	142	104	282	228	800
29	559	502	485	413	---	380	367	142	72	278	232	839
30	550	502	482	407	---	376	367	149	113	305	241	861
31	538	---	472	415	---	372	---	162	---	315	251	---
TOTAL	19302	15321	15078	13878	11046	12392	10819	7698	3960	8033	8834	12082
MEAN	623	511	486	448	394	400	361	248	132	259	285	403
MAX	718	527	519	480	412	425	384	382	184	342	382	861
MIN	538	502	425	404	357	372	340	142	72	104	228	194
AC-FT	38290	30390	29910	27530	21910	24580	21460	15270	7850	15930	17520	23960

CAL YR 1989 TOTAL 146951 MEAN 403 MAX 887 MIN 86 AC-FT 291500
WTR YR 1990 TOTAL 138443 MEAN 379 MAX 861 MIN 72 AC-FT 274600

06755800 CROW CREEK AT ROUNDTOP ROAD, NEAR CHEYENNE, WY

LOCATION.--Lat 41°09'30", long 104°52'44", in SW¼ NE¼ NW¼ sec.27, T.14 N., R.67 W., Laramie County, Hydrologic Unit 10190009, at west edge of F. E. Warren AFB, at bridge on Roundtop Road, 1.1 mi upstream from Diamond Creek, and 3 mi northwest of Cheyenne.

DRAINAGE AREA.--2,486 mi².

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY									
22...	1000	9.4	12.5	<0.01	0.02	<0.01	<0.01	<0.01	<0.01
JUN									
21...	1000	3.6	16.0	<0.01	0.02	0.02	<0.01	<0.01	<0.01
JUL									
23...	1000	E0.10	17.0	<0.01	<0.01	0.01	<0.01	<0.01	<0.01
AUG									
27...	0730	E0.10	14.0	<0.01	<0.01	0.01	<0.01	<0.01	<0.01
SEP									
24...	1330	E0.10	16.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

E-Estimate.

PLATTE RIVER BASIN

06755950 CROW CREEK AT F.E. WARREN AFB, WY

LOCATION.--Lat 41°08'02", Long 104°50'25", in NE¼ NW¼ SW¼ sec.36, T.14 N., R.67 W., Laramie County, Hydrologic Unit 10190009, 1,400 ft upstream from bridge on U.S. Interstate 25, 0.2 mi southeast of Gate No. 1 of F.E. Warren AFB, and 2 mi downstream from mouth of Diamond Creek.

REMARKS.--Streamflow measured at 9th street bridge in Cheyenne.

PERIOD OF RECORD.--Water years 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)
OCT 23...	1000	0.9	610	7.7	7.0	612	8.7
JAN 25...	0900	1.1	642	7.9	0.0	605	10.5
APR 23...	1000	2.0	600	8.1	12.0	600	10.7
JUL 23...	0830	1.1	600	7.5	13.5	610	12.6

DATE	TIME	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)
OCT 23...	90	<1	1.5	0.06	0.74	0.8	0.07	
JAN 25...	91	<1	1.9	0.04	0.46	0.5	0.08	
APR 23...	127	K1	1.2	0.03	0.57	0.6	0.04	
JUL 23...	152	25	1.7	0.06	0.44	0.5	0.03	

K-Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)
OCT 23...	1000	0.9	--	<1	200	130	1.0	1
JAN 25...	0900	1.1	<10	1	<100	100	2.0	2
APR 23...	1000	2.0	<10	2	200	100	1.0	2
JUL 23...	0830	1.1	<10	2	200	160	1.0	1

DATE	TIME	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 23...	3	30	<1	10	<0.1	<1	<1.0	20	
JAN 25...	3	20	<1	20	<0.1	1	<1.0	10	
APR 23...	2	20	1	100	<0.1	<1	<1.0	<10	
JUL 23...	3	20	<1	50	<0.1	<1	<1.0	10	

06755950 CROW CREEK AT F.E. WARREN AFB, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 22...	0900	10	12.5	<0.01	0.01	<0.01	<0.01	<0.01	<0.01
JUN 21...	0900	5.6	15.5	<0.01	0.07	0.02	<0.01	<0.01	<0.01
JUL 23...	0830	1.1	13.5	0.08	0.13	0.29	<0.01	<0.01	<0.01
AUG 27...	0830	0.9	12.0	0.04	0.05	0.04	<0.01	<0.01	<0.01
SEP 24...	1400	0.6	20.0	0.02	0.04	<0.01	<0.01	<0.01	<0.01

PLATTE RIVER BASIN

06756000 CROW CREEK NEAR CHEYENNE, WY

LOCATION.--Lat 41°07'09", long 104°45'33", in NW¼ SW¼ SE¼ sec.3, T. 13 N., R.66 W., Laramie County, Hydrologic Unit 10190009, 400 ft downstream from Cheyenne Sewage Disposal Plant outlet, 1.3 mi upstream from Wyoming Hereford Ranch Reservoir No. 1, and 3.4 mi southwest of State Capitol Building in Cheyenne.

DRAINAGE AREA.--297 mi².

REMARKS.--Streamflow measured at 9th Street bridge in Cheyenne, and sample collected 1.7 mi upstream on College Drive.

PERIOD OF RECORD.--Water years 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)
OCT 23...	1400	2.3	1160	7.6	15.0	614	7.0
JAN 25...	1100	1.6	1040	7.8	0.0	605	9.8
APR 23...	1400	4.6	1010	8.7	19.0	600	15.2
JUL 24...	0900	6.4	482	7.4	23.0	608	6.0

DATE	TIME	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)
OCT 23...	87		300	0.2	7.80	24	32	0.46
JAN 25...	85		<1	1.8	0.89	0.81	1.7	0.10
APR 23...	210		250	1.1	5.10	0.80	5.9	0.47
JUL 24...	88		K1600	1.0	0.26	0.84	1.1	0.11

K-Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)
OCT 23...	1400	2.3	--	2	200	290	3.0	5
JAN 25...	1100	1.6	<10	1	<100	260	<1.0	2
APR 23...	1400	4.6	50	2	100	220	2.0	3
JUL 24...	0900	6.4	10	2	200	180	2.0	<1

06756000 CROW CREEK NEAR CHEYENNE, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 23...	2	350	1	670	<0.1	9	<1.0	60
JAN 25...	5	60	<1	460	<0.1	<1	<1.0	10
APR 23...	1	120	<1	300	<0.1	13	<1.0	10
JUL 24...	3	20	1	130	<0.1	<1	<1.0	20

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 22...	1100	5.6	14.0	0.01	0.08	0.43	<0.01	<0.01	<0.01
JUN 21...	1100	2.9	17.0	0.10	0.20	0.20	<0.10	<0.10	<0.10
JUL 24...	0900	6.4	23.0	0.20	0.40	0.70	<0.10	<0.10	<0.10
AUG 27...	0930	0.40	13.0	0.15	0.18	0.10	<0.01	<0.01	<0.01
SEP 24...	1500	0.40	18.0	0.03	0.30	<0.01	<0.01	<0.01	0.02

PLATTE RIVER BASIN

06756100 CROW CREEK NEAR CARPENTER, WY

LOCATION.--Lat 41°04'58", long 104°23'56", in SE¼ NE¼ NW¼ sec.23, T.13 N., R.63 W., Laramie County, Hydrologic Unit 10190009, on left bank 0.6 mi downstream from county road and 3.0 mi northwest of Carpenter.

DRAINAGE AREA.--415 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May to September 1990.

GAGE.--Water-stage recorder. Elevation of gage is 5,480 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: May 1-3. Records good except those for estimated daily discharges, which are poor. Natural flow of stream affected by storage reservoirs and diversions for irrigation. Result of discharge measurement, in cubic feet per second, made during the period when station was not in operation, is give below:

Apr. 11 . . . 5.6

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 96 ft³/s, June 2, gage height, 3.25 ft; minimum daily during period of operation, 0.86 ft³/s, July 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	4.6	58	3.1	2.7	2.2
2	---	---	---	---	---	---	---	4.8	80	1.5	4.5	5.2
3	---	---	---	---	---	---	---	5.0	60	.92	5.8	4.7
4	---	---	---	---	---	---	---	5.4	44	1.1	6.6	4.1
5	---	---	---	---	---	---	---	7.6	35	1.1	5.1	2.6
6	---	---	---	---	---	---	---	6.4	32	.86	6.9	2.1
7	---	---	---	---	---	---	---	6.5	31	1.6	7.3	1.9
8	---	---	---	---	---	---	---	3.3	29	4.3	7.2	1.6
9	---	---	---	---	---	---	---	5.3	21	7.9	6.7	1.5
10	---	---	---	---	---	---	---	9.0	22	5.1	6.6	1.6
11	---	---	---	---	---	---	---	13	13	3.9	7.1	1.6
12	---	---	---	---	---	---	---	14	9.3	2.9	9.3	1.8
13	---	---	---	---	---	---	---	6.3	9.1	1.9	8.5	1.4
14	---	---	---	---	---	---	---	4.8	11	1.2	8.1	1.2
15	---	---	---	---	---	---	---	6.7	11	1.1	8.4	1.5
16	---	---	---	---	---	---	---	3.7	14	1.5	7.7	1.6
17	---	---	---	---	---	---	---	3.9	14	1.3	13	1.9
18	---	---	---	---	---	---	---	5.5	13	2.2	9.5	4.7
19	---	---	---	---	---	---	---	4.5	12	1.2	7.0	6.7
20	---	---	---	---	---	---	---	6.1	16	2.6	9.2	8.0
21	---	---	---	---	---	---	---	7.5	16	3.0	8.1	9.2
22	---	---	---	---	---	---	---	6.6	16	2.5	11	7.2
23	---	---	---	---	---	---	---	2.7	16	2.8	12	7.4
24	---	---	---	---	---	---	---	7.0	15	2.1	11	11
25	---	---	---	---	---	---	---	9.3	13	2.0	11	9.7
26	---	---	---	---	---	---	---	9.1	11	1.5	6.5	9.2
27	---	---	---	---	---	---	---	3.8	12	1.2	7.0	9.8
28	---	---	---	---	---	---	---	1.8	13	1.1	5.6	22
29	---	---	---	---	---	---	---	4.7	14	1.3	5.3	22
30	---	---	---	---	---	---	---	12	13	1.3	4.0	21
31	---	---	---	---	---	---	---	27	---	2.4	2.6	---
TOTAL	---	---	---	---	---	---	---	217.9	673.4	68.48	231.3	186.4
MEAN	---	---	---	---	---	---	---	7.03	22.4	2.21	7.46	6.21
MAX	---	---	---	---	---	---	---	27	80	7.9	13	22
MIN	---	---	---	---	---	---	---	1.8	9.1	.86	2.6	1.2
AC-FT	---	---	---	---	---	---	---	432	1340	136	459	370

PLATTE RIVER BASIN

319

06756100 CROW CREEK NEAR CARPENTER, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May to September 1990.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARD-NESS TOTAL (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
AUG 29...	0900	6.7	775	7.9	15.0	630	12.4	150	K180	270	86

K-Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFIDE TOTAL (MG/L AS S)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
AUG 29...	14	54	1	8.9	220	<0.5	69	64	1.6	23	454

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS TOTAL (UG/L)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L)
AUG 29...	0.62	8.21	0.1	0.2	<0.01	0.8	2.4	<0.01	1	<1

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)
AUG 29...	0900	6.7	20	3	100	240	<1.0	<1

DATE	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
AUG 29...	2	20	<1	40	<0.1	<1	<1.0	<10

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	DICAMBA (MED-IBEN) (BAN-VEL D) TOTAL (UG/L)	PICLO-RAM (TOR-DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
AUG 29...	0900	6.7	15.0	<0.01	<0.01	0.02	<0.01	<0.01	<0.01

COLORADO RIVER BASIN

GREEN RIVER BASIN

09188500 GREEN RIVER AT WARREN BRIDGE, NEAR DANIEL, WY

LOCATION.--Lat 43°01'08", long 110°07'03", in SE¼ SE¼ NE¼ sec.8, T.35 N., R.111 W., Sublette County, Hydrologic Unit 14040101, on right bank 100 ft upstream from bridge on U.S. Highways 189 and 191, 3.4 mi upstream from Beaver Creek, and 12 mi north of Daniel.

DRAINAGE AREA.--468 mi².

PERIOD OF RECORD.--October 1931 to current year. Monthly discharge only for some periods, published in WSP 1313.

REVISED RECORDS.--WSP 979: 1932(M).

GAGE.--Water-stage recorder. Datum of gage is 7,468.09 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 6, 1977, on left bank at same datum.

REMARKS.--Estimated daily discharges: Oct. 27 to Apr. 13. Records good except those for estimated daily discharges, which are poor. Diversions upstream from station for irrigation of about 10,200 acres, of which about 6,100 acres are downstream from station. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--59 years, 506 ft³/s, 366,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,490 ft³/s, June 6, 1986, gage height, 5.65 ft; maximum gage height, 5.77 ft, June 9, 1972; minimum discharge recorded, 31 ft³/s, Nov. 26, 1933, gage height, 0.70 ft, from rating curve extended below 120 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,390 ft³/s, June 27, gage height, 4.29 ft; minimum daily, 76 ft³/s, Feb. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	190	78	160	110	90	92	140	366	856	1900	575	259
2	192	110	150	110	90	94	140	393	791	1860	545	272
3	190	140	140	110	88	96	150	411	705	1920	511	281
4	192	130	140	96	86	96	150	406	691	2000	483	278
5	201	110	150	90	84	96	150	411	907	2030	482	271
6	198	120	150	88	84	98	160	444	1070	1750	478	273
7	192	100	150	88	82	98	160	580	1180	1540	443	280
8	185	92	150	90	82	98	170	641	1210	1420	428	285
9	179	120	150	92	76	100	170	567	1230	1300	426	283
10	175	130	150	96	88	100	180	515	1400	1170	419	273
11	168	120	140	94	88	100	190	531	2030	1070	418	266
12	162	110	130	96	90	100	210	575	2260	956	413	257
13	157	110	120	98	88	110	240	588	2150	903	419	238
14	152	100	120	100	86	110	285	559	1490	907	418	217
15	147	86	120	100	84	110	382	516	1120	900	400	214
16	145	110	120	110	82	110	474	477	1020	886	387	213
17	142	130	110	110	80	110	484	447	996	894	391	211
18	139	120	100	100	80	110	507	440	940	861	391	209
19	134	115	110	100	82	120	526	456	978	825	391	220
20	133	110	110	100	82	120	508	494	1130	761	391	287
21	131	105	110	98	84	120	546	477	1330	747	392	328
22	130	100	120	98	84	120	542	450	1550	817	393	310
23	132	95	120	96	84	120	544	499	1700	830	382	299
24	133	120	120	96	86	120	522	616	1890	771	360	290
25	132	92	120	94	86	120	510	684	2070	744	349	287
26	134	98	130	94	88	130	479	632	2250	754	331	281
27	130	96	130	94	90	130	452	589	2350	765	305	279
28	120	128	120	92	92	130	435	620	2320	741	285	277
29	110	150	120	92	---	130	404	705	2190	677	269	270
30	90	160	120	92	---	130	374	800	2020	626	256	260
31	90	---	110	90	---	140	---	840	---	594	256	---
TOTAL	4705	3385	3990	3014	2386	3458	10184	16729	43824	33919	12387	7968
MEAN	152	113	129	97.2	85.2	112	339	540	1461	1094	400	266
MAX	201	160	160	110	92	140	546	840	2350	2030	575	328
MIN	90	78	100	88	76	92	140	366	691	594	256	209
AC-FT	9330	6710	7910	5980	4730	6860	20200	33180	86920	67280	24570	15800

CAL YR 1989 TOTAL 148745 MEAN 408 MAX 2060 MIN 66 AC-FT 295000
WTR YR 1990 TOTAL 145949 MEAN 400 MAX 2350 MIN 76 AC-FT 289500

09196500 PINE CREEK ABOVE FREMONT LAKE, WY

LOCATION.--Lat 43°01'50", long 109°46'10", in S $\frac{1}{4}$ sec.5, T.35 N., R.108 W., Sublette County, Hydrologic Unit 14040102, Bridger National Forest, on right bank 0.5 mi upstream from Fremont Lake, 0.5 mi downstream from Fremont Creek, and 12 mi northeast of Pinedale.

DRAINAGE AREA.--75.8 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1443: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 7,540 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 28, Dec. 10, 11, 13-15, 18-20, Jan. 3, Jan. 16 to Feb. 22, Feb. 28, Mar. 1, 12-17, June 8-10, and July 16-21, 23-26. Records good except those for estimated daily discharges, which are poor. No diversion upstream from station. Satellite telemeter at station.

AVERAGE DISCHARGE.--36 years, 177 ft³/s, 128,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,550 ft³/s, June 16, 1959, gage height, 7.15 ft; maximum gage height, 7.65 ft, June 6, 1986; minimum daily discharge, 3.3 ft³/s, Apr. 4, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 11	0700	1,360	5.85	June 26	0100	*1,620	*5.91

Minimum daily discharge, 12 ft³/s, Mar. 1, 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	32	32	16	18	12	19	105	295	962	191	81
2	48	33	31	16	17	13	22	100	268	935	178	82
3	47	32	32	16	17	13	27	97	252	1080	166	82
4	51	33	30	16	16	13	33	99	320	946	157	83
5	51	34	30	16	16	14	36	110	487	793	148	89
6	52	34	29	16	17	14	36	140	609	732	140	89
7	52	34	29	16	16	14	37	186	594	716	133	89
8	52	35	28	17	14	14	38	181	580	641	127	89
9	53	35	26	18	15	14	40	163	700	572	122	90
10	53	35	25	18	16	13	41	151	940	525	118	89
11	52	34	24	20	17	13	42	148	1300	448	115	87
12	50	34	25	21	16	13	46	145	1020	421	113	85
13	48	34	23	21	15	12	47	141	686	412	110	82
14	47	34	23	22	14	13	50	133	518	395	106	78
15	46	34	23	24	13	13	61	127	505	377	103	75
16	46	34	22	22	14	13	75	117	528	360	100	72
17	45	33	22	21	14	13	95	110	475	330	103	69
18	43	32	20	20	13	13	103	107	543	320	101	66
19	41	32	20	18	13	13	108	107	740	310	101	71
20	39	31	21	18	13	13	124	104	874	310	102	86
21	38	30	21	19	14	14	147	101	1150	330	107	90
22	37	30	20	19	15	14	144	103	1180	393	107	101
23	37	28	20	20	15	16	154	129	1250	370	107	111
24	36	29	19	18	15	17	150	185	1440	360	106	114
25	36	30	19	19	15	17	142	185	1480	350	103	114
26	37	31	18	18	15	17	141	178	1470	340	99	113
27	36	32	18	17	14	16	130	191	1370	323	95	110
28	37	31	17	18	13	16	133	237	1240	285	91	108
29	37	31	17	19	---	16	123	290	1090	250	89	104
30	35	31	16	18	---	16	113	312	997	225	90	99
31	34	---	16	18	---	17	---	302	---	206	86	---
TOTAL	1365	972	716	575	420	439	2457	4784	24901	15017	3614	2698
MEAN	44.0	32.4	23.1	18.5	15.0	14.2	81.9	154	830	484	117	89.9
MAX	53	35	32	24	18	17	154	312	1480	1080	191	114
MIN	34	28	16	16	13	12	19	97	252	206	86	66
AC-FT	2710	1930	1420	1140	833	871	4870	9490	49390	29790	7170	5350

CAL YR 1989 TOTAL 52825.8 MEAN 145 MAX 1040 MIN 8.8 AC-FT 104800
WTR YR 1990 TOTAL 57958 MEAN 159 MAX 1480 MIN 12 AC-FT 115000

09196500 PINE CREEK ABOVE FREMONT LAKE, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1985 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May and June 1987.

pH: March to July 1987.

WATER TEMPERATURE: March to June 1987, April 1989 to current year.

INSTRUMENTATION.--Water temperature recorder since March 1987, provides continuous recordings. Sensor is located in stream.

REMARKS.--Records represent water temperature at sensor within 0.1°C.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum and minimum daily, 18 microsiemens, entire period of operation.

pH: Maximum recorded, 7.0, July 6, 1987; minimum recorded, 6.1, May 19, 1987

WATER TEMPERATURE: Maximum recorded, 17.8°C, Aug. 1, 1989; minimum recorded, 0.0°C, on many days during March and April 1987.

EXTREMES FOR CURRENT YEAR:

WATER TEMPERATURE: Maximum recorded, 17.0°C, Aug. 6, 10; minimum recorded, 0.2°C on many days during December to February.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	10.6	8.9	3.6	1.6	.7	.4	.8	.4	.6	.2	.9	.4
2	10.6	8.7	4.2	2.0	.7	.4	.9	.4	.4	.2	1.2	.4
3	11.1	8.7	4.5	2.2	.7	.4	.4	.2	.6	.3	1.1	.8
4	8.6	7.7	3.9	2.6	---	---	.5	.3	.8	.3	1.6	.7
5	10.0	6.7	4.4	2.2	---	---	.6	.3	.7	.3	.9	.4
6	9.8	7.2	3.9	2.7	1.4	.5	.6	.4	.8	.4	1.2	.6
7	10.0	6.8	3.1	2.0	.8	.4	.6	.4	.8	.2	1.6	.7
8	10.0	6.9	3.2	1.4	---	---	.6	.4	.4	.2	1.4	.5
9	10.3	7.4	3.6	2.4	1.4	.4	.8	.4	.7	.3	1.8	.9
10	10.3	7.1	5.1	3.2	.6	.4	.8	.6	1.2	.6	1.9	.8
11	10.1	7.5	4.5	2.6	.6	.4	1.1	.6	1.4	.8	1.4	.8
12	10.0	7.0	4.4	2.4	.7	.4	.9	.4	1.1	.5	1.4	.4
13	9.8	7.1	3.7	2.9	---	---	1.1	.4	.6	.2	.9	.3
14	9.8	6.9	2.9	1.3	---	---	1.1	.7	.6	.3	1.1	.4
15	8.4	7.0	2.2	.8	---	---	.8	.3	.6	.4	1.4	.4
16	7.8	6.7	3.1	1.4	---	---	.8	.3	.5	.3	1.6	.4
17	8.3	6.1	2.8	1.4	---	---	.4	.2	.6	.4	1.7	.5
18	8.1	5.4	3.2	1.2	---	---	.4	.2	.6	.4	2.2	1.0
19	8.2	5.3	3.7	1.9	.4	.3	.4	.3	.6	.4	2.2	.6
20	8.2	5.6	3.3	1.6	.6	.4	.5	.3	.6	.3	2.4	1.0
21	7.6	5.5	2.8	1.0	.6	.3	.5	.2	.7	.4	2.7	.8
22	8.1	6.5	2.3	.7	.7	.2	.4	.2	.9	.5	3.0	.6
23	8.0	6.3	2.2	.5	1.2	.4	.4	.3	1.1	.4	1.6	.5
24	8.3	6.5	1.9	.5	.8	.4	.4	.2	1.2	.4	2.6	.4
25	7.8	5.9	1.8	.6	.8	.3	.4	.3	1.3	.4	2.4	.4
26	6.9	4.6	1.6	.7	.8	.3	.6	.3	1.2	.4	3.2	.5
27	6.1	4.0	1.0	.4	.8	.4	.4	.3	1.2	.4	3.3	.8
28	5.0	3.9	.6	.3	1.0	.4	.6	.3	1.0	.3	2.9	.9
29	4.9	2.9	.7	.4	1.1	.5	.6	.3	---	---	3.9	.7
30	4.9	2.6	.6	.4	.6	.4	.7	.3	---	---	3.9	.4
31	3.9	2.2	---	---	.5	.3	.8	.3	---	---	4.1	.6
MONTH	11.1	2.2	5.1	.3	---	---	1.1	.2	1.4	.2	4.1	.3

09196500 PINE CREEK ABOVE FREMONT LAKE, WY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	4.4	.9	5.0	1.6	5.5	3.7	8.2	7.3	15.8	13.4	15.0	11.7
2	4.3	.9	4.9	1.8	5.1	3.5	8.8	7.4	15.7	12.9	13.6	12.1
3	4.0	.8	6.1	2.3	7.7	3.9	8.8	7.3	15.9	12.6	15.6	11.7
4	3.8	.8	5.9	2.6	7.7	4.1	9.2	7.8	15.1	13.3	14.5	12.3
5	2.4	.8	7.3	2.8	6.6	3.4	9.5	8.3	16.2	12.9	14.7	12.2
6	3.7	.4	7.1	2.9	6.1	4.5	9.9	8.3	17.0	13.1	15.6	12.0
7	2.4	.9	5.7	2.6	5.9	4.8	9.9	8.6	16.7	13.6	15.3	11.8
8	3.8	1.4	2.9	1.9	7.4	4.6	---	---	16.4	13.9	15.5	12.0
9	4.8	1.6	5.0	1.6	6.9	4.3	---	---	16.9	13.8	14.7	11.5
10	4.7	1.1	6.3	2.4	5.7	4.7	10.6	9.2	17.0	13.8	15.2	11.6
11	4.9	1.6	4.9	3.2	5.2	4.4	12.7	9.7	16.3	13.3	15.0	11.2
12	4.7	1.6	5.0	3.3	4.9	4.1	12.2	10.5	16.3	13.1	15.3	11.6
13	5.3	.9	3.9	2.6	6.3	4.1	12.5	11.2	15.7	13.0	15.1	11.5
14	5.7	1.6	4.0	2.4	6.3	4.9	13.5	11.0	16.6	13.0	15.2	11.1
15	6.4	1.7	5.6	2.7	6.3	4.5	13.3	11.3	16.7	13.2	14.0	12.1
16	3.8	2.2	5.1	2.4	5.7	4.7	---	---	16.4	13.3	14.1	12.0
17	5.8	2.0	6.5	2.7	7.4	4.4	---	---	16.3	13.0	14.6	11.2
18	5.5	1.8	6.7	4.0	7.5	4.7	---	---	16.2	12.7	13.5	11.0
19	4.2	2.0	5.1	3.4	6.5	4.5	---	---	15.4	12.7	11.5	10.4
20	5.8	2.2	5.7	3.4	7.1	4.9	---	---	14.0	12.5	10.4	8.7
21	4.7	2.4	6.3	3.6	7.1	5.1	---	---	14.8	12.3	11.3	8.0
22	4.5	2.4	6.7	4.3	7.3	5.3	13.2	11.9	14.2	11.5	11.3	8.1
23	4.2	2.7	7.9	4.2	7.6	5.6	---	---	14.2	11.3	11.6	8.2
24	4.1	2.7	4.8	2.7	7.5	5.8	---	---	14.4	11.6	12.0	8.8
25	5.8	2.6	6.0	2.3	7.5	6.1	---	---	14.3	11.6	12.0	9.3
26	3.3	2.0	6.2	2.8	7.5	6.1	13.6	11.6	14.8	11.3	12.3	9.5
27	3.3	1.8	7.6	3.8	7.7	6.3	13.5	11.7	14.9	11.0	11.8	9.2
28	2.8	1.6	6.2	4.3	7.8	6.5	14.4	11.9	14.8	11.2	11.3	9.1
29	3.7	1.6	5.6	4.1	8.3	6.6	15.0	12.5	15.2	11.4	11.8	8.7
30	4.1	1.6	5.1	3.6	8.3	7.3	16.0	12.5	14.1	11.9	11.8	8.8
31	---	---	6.1	4.1	---	---	18.3	15.7	14.8	11.3	---	---
MONTH	6.4	.4	7.9	1.6	8.3	3.4	---	---	17.0	11.0	15.6	8.0

GREEN RIVER BASIN

09196940 FREMONT DITCH NEAR PINEDALE, WY

LOCATION.--Lat 42°53'41", long 109°51'10", in NE¼ NE¼ NW¼ sec.27, T.34 N., R.109 W., Sublette County, Hydrologic Unit 14040102, on right bank 1.1 mi downstream from headgate on Pine Creek and 1.5 mi northeast of Pinedale.

PERIOD OF RECORD.--April 1985 to September 1986, April 1988 to current year (no winter records).

GAGE.--Water-stage recorder. Elevation of gage is 7,400 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.-- Estimated daily discharges: Apr. 1 to June 7, and Sept. 26-30. Records fair except those for estimated daily discharges, which are poor. Ditch diverts water from right bank of Pine Creek for irrigation downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36 ft³/s, July 11, 1988, gage height, 2.37 ft; no flow for several days during period of operation each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge recorded, 32 ft³/s, July 3, gage height, 2.23 ft, but may have been more during period of no gage-height record, Apr. 1 to June 7; no flow April 1-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	.00	.80	20	25	2.5	3.7
2	---	---	---	---	---	---	.00	1.9	18	30	2.0	3.7
3	---	---	---	---	---	---	.00	2.2	18	31	2.0	3.7
4	---	---	---	---	---	---	.00	3.0	18	31	2.0	3.8
5	---	---	---	---	---	---	.00	3.0	18	29	1.9	3.8
6	---	---	---	---	---	---	.00	3.1	18	29	1.8	3.8
7	---	---	---	---	---	---	.00	3.1	18	29	2.3	3.7
8	---	---	---	---	---	---	.00	3.2	18	28	4.0	3.6
9	---	---	---	---	---	---	.00	3.3	18	28	3.8	3.4
10	---	---	---	---	---	---	.00	3.7	19	28	3.8	3.4
11	---	---	---	---	---	---	.00	3.7	20	27	3.8	3.3
12	---	---	---	---	---	---	.00	3.7	21	27	3.8	3.3
13	---	---	---	---	---	---	.00	3.8	21	27	3.8	3.3
14	---	---	---	---	---	---	.00	3.9	22	26	3.8	3.3
15	---	---	---	---	---	---	.00	4.3	21	26	3.7	3.3
16	---	---	---	---	---	---	.00	9.5	21	26	3.7	2.7
17	---	---	---	---	---	---	.00	17	21	25	3.7	2.8
18	---	---	---	---	---	---	.00	17	21	26	3.7	2.8
19	---	---	---	---	---	---	.00	17	21	25	3.6	2.4
20	---	---	---	---	---	---	.00	17	21	25	3.6	2.2
21	---	---	---	---	---	---	.00	25	21	25	3.6	2.0
22	---	---	---	---	---	---	.00	30	21	25	3.6	2.0
23	---	---	---	---	---	---	.00	30	21	17	3.6	2.0
24	---	---	---	---	---	---	.00	30	22	8.7	3.6	1.8
25	---	---	---	---	---	---	.00	30	23	8.6	3.6	1.8
26	---	---	---	---	---	---	.00	30	23	8.6	3.6	1.8
27	---	---	---	---	---	---	.00	30	23	8.5	3.6	1.8
28	---	---	---	---	---	---	.00	26	23	5.5	3.6	1.8
29	---	---	---	---	---	---	.00	24	24	2.9	3.5	1.8
30	---	---	---	---	---	---	.00	21	24	2.9	3.6	1.8
31	---	---	---	---	---	---	---	20	---	2.9	3.7	---
TOTAL	---	---	---	---	---	---	0.00	420.20	618	663.6	102.9	84.6
MEAN	---	---	---	---	---	---	.000	13.6	20.6	21.4	3.32	2.82
MAX	---	---	---	---	---	---	.00	30	24	31	4.0	3.8
MIN	---	---	---	---	---	---	.00	.80	18	2.9	1.8	1.8
AC-FT	---	---	---	---	---	---	.00	833	1230	1320	204	168

09196960 HIGHLAND DITCH NEAR PINEDALE, WY

LOCATION.--Lat 42°53'56", long 109°50'18", in NW¼ SW¼ SW¼ sec.23, T.34 N., R.109 W., Sublette County, Hydrologic Unit 14040102, on left bank 60 ft downstream from headgate on Pine Creek and 2.2 mi northeast of Pinedale.

PERIOD OF RECORD.--April 1985 to September 1986, April 1988 to current year (no winter records).

GAGE.--Water-stage recorder. Elevation of gage is 7,410 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Apr. 1-10 and Sept. 26-30. Records fair except those for estimated daily discharges, which are poor. Ditch diverts water from left bank of Pine Creek for irrigation downstream. Result of discharge measurement, in cubic feet per second, made while the station was not in operation is given below:

Oct. 12 . . . 0.94

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 281 ft³/s, June 28, 1990, gage height, 4.56 ft; no flow for many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 281 ft³/s, June 28, gage height, 4.56 ft; no flow for several days during period of operation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	.00	16	144	268	28	26
2	---	---	---	---	---	---	.00	19	143	264	28	26
3	---	---	---	---	---	---	.00	20	142	264	28	26
4	---	---	---	---	---	---	.00	19	142	263	27	26
5	---	---	---	---	---	---	.00	20	144	258	27	26
6	---	---	---	---	---	---	.00	21	150	250	27	26
7	---	---	---	---	---	---	.00	24	155	243	27	35
8	---	---	---	---	---	---	.00	27	157	237	47	47
9	---	---	---	---	---	---	.20	28	157	231	57	47
10	---	---	---	---	---	---	.14	31	169	225	57	46
11	---	---	---	---	---	---	.03	38	179	218	56	46
12	---	---	---	---	---	---	.00	40	180	209	56	46
13	---	---	---	---	---	---	.00	42	184	218	55	46
14	---	---	---	---	---	---	.00	42	182	212	55	46
15	---	---	---	---	---	---	.00	49	178	161	54	45
16	---	---	---	---	---	---	5.1	76	177	130	54	45
17	---	---	---	---	---	---	11	117	174	128	54	45
18	---	---	---	---	---	---	12	115	170	125	54	45
19	---	---	---	---	---	---	12	112	171	122	53	45
20	---	---	---	---	---	---	13	111	175	120	37	46
21	---	---	---	---	---	---	11	109	186	110	26	46
22	---	---	---	---	---	---	7.5	118	214	71	26	46
23	---	---	---	---	---	---	7.9	136	226	71	26	46
24	---	---	---	---	---	---	8.2	132	235	78	26	46
25	---	---	---	---	---	---	8.4	130	245	77	26	46
26	---	---	---	---	---	---	8.7	128	263	77	26	46
27	---	---	---	---	---	---	9.3	126	276	75	26	46
28	---	---	---	---	---	---	11	125	279	75	26	46
29	---	---	---	---	---	---	12	135	277	74	26	46
30	---	---	---	---	---	---	15	143	273	73	26	46
31	---	---	---	---	---	---	---	144	---	53	26	---
TOTAL	---	---	---	---	---	---	152.47	2393	5747	4980	1167	1246
MEAN	---	---	---	---	---	---	5.08	77.2	192	161	37.6	41.5
MAX	---	---	---	---	---	---	15	144	279	268	57	47
MIN	---	---	---	---	---	---	.00	16	142	53	26	26
AC-FT	---	---	---	---	---	---	302	4750	11400	9880	2310	2470

09197000 PINE CREEK BELOW FREMONT LAKE, WY

LOCATION.--Lat 42°53'42", long 109°50'35", in NE¼ NE¼ NE¼ sec.27, T.34 N., R.109 W., Sublette County, Hydrologic Unit 14040102, on left bank at Lot Number 93, 0.9 mi downstream from Fremont Lake, and 2.1 mi northeast of Pinedale.

DRAINAGE AREA.--114 mi².

PERIOD OF RECORD.--October 1910 to September 1912, October 1915 to September 1918, April 1985 to September 1986, April 1988 to current year, (no winter records since 1918). Published as "near Pinedale" prior to October 1912 and as "at Fremont Lake outlet" October 1915 to September 1918. Records since April 1985 equivalent to earlier records if diversions to Highland Ditch (station 09196960) is added to flow past station.

GAGE.--Water-stage recorder. Elevation of gage is 7,390 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to September 30, 1918, nonrecording gage at site 0.2 mi upstream at different datum.

REMARKS.--Estimated daily discharges: Apr. 1-2 and Sept. 27-30. Records good except those for estimated daily discharges, which are poor. Some regulation by Fremont Lake. Fremont Ditch (station 09196940) and Highland Ditch (station 09196960) divert water upstream from station for irrigation downstream from station. Result of discharge measurement, in cubic feet per second, made while gage was not in operation is given below:

Oct. 13 . . . 42.9

AVERAGE DISCHARGE.--5 years (water years 1910-12, 1915-18), 195 ft³/s, 141,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 2,330 ft³/s, June 17, 18, 1918; minimum daily during period of operation, 9.6 ft³/s, Apr. 23, 1990 (minimum daily not determined for record prior to September 1918).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,020 ft³/s, June 28, gage height, 3.63 ft; minimum daily during period of operation, 9.6 ft³/s, Apr. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	32	15	127	879	232	81
2	---	---	---	---	---	---	32	17	127	835	218	80
3	---	---	---	---	---	---	32	17	127	844	208	80
4	---	---	---	---	---	---	31	16	126	836	202	78
5	---	---	---	---	---	---	30	17	132	792	189	80
6	---	---	---	---	---	---	30	19	147	722	182	76
7	---	---	---	---	---	---	30	24	166	667	175	66
8	---	---	---	---	---	---	30	30	189	615	159	48
9	---	---	---	---	---	---	31	37	194	567	144	47
10	---	---	---	---	---	---	32	42	243	526	136	45
11	---	---	---	---	---	---	31	42	355	476	131	44
12	---	---	---	---	---	---	32	50	452	429	126	44
13	---	---	---	---	---	---	32	59	480	389	121	43
14	---	---	---	---	---	---	33	63	468	354	117	41
15	---	---	---	---	---	---	32	62	448	335	113	41
16	---	---	---	---	---	---	30	71	434	323	108	40
17	---	---	---	---	---	---	17	90	418	302	105	39
18	---	---	---	---	---	---	17	79	396	286	102	38
19	---	---	---	---	---	---	17	73	404	262	97	39
20	---	---	---	---	---	---	18	68	434	249	98	41
21	---	---	---	---	---	---	15	65	492	248	99	41
22	---	---	---	---	---	---	9.8	76	556	270	96	41
23	---	---	---	---	---	---	9.6	106	608	289	95	40
24	---	---	---	---	---	---	9.9	99	685	309	95	40
25	---	---	---	---	---	---	9.8	95	792	298	90	40
26	---	---	---	---	---	---	10	92	896	288	89	40
27	---	---	---	---	---	---	10	89	957	278	88	39
28	---	---	---	---	---	---	12	91	992	267	87	39
29	---	---	---	---	---	---	14	109	967	253	85	39
30	---	---	---	---	---	---	16	124	928	237	83	38
31	---	---	---	---	---	---	---	125	---	233	83	---
TOTAL	---	---	---	---	---	---	685.1	1962	13740	13658	3953	1488
MEAN	---	---	---	---	---	---	22.8	63.3	458	441	128	49.6
MAX	---	---	---	---	---	---	33	125	992	879	232	81
MIN	---	---	---	---	---	---	9.6	15	126	233	83	38
AC-FT	---	---	---	---	---	---	1360	3890	27250	27090	7840	2950

09203000 EAST FORK RIVER NEAR BIG SANDY, WY

LOCATION.--Lat 42°40', long 109°25', in sec.7, T.31 N., R.105 W., Sublette County, Hydrologic Unit 14040102, on left bank 1.0 mi downstream from Jim Creek and 4.0 mi northeast of Big Sandy.

DRAINAGE AREA.--79.2 mi².

PERIOD OF RECORD.--October 1938 to current year. Prior to October 1967, published as East Fork near Big Sandy. Monthly discharge only for some periods, published in WSP 1313.

GAGE.--Water-stage recorder. Elevation of gage is 7,800 ft above National Geodetic Vertical Datum of 1929, by barometer.

REMARKS.--Estimated daily discharges: Oct. 29 to Apr. 2. Records good except those for estimated daily discharges, which are poor. No diversion upstream from station.

AVERAGE DISCHARGE.--52 years, 104 ft³/s, 75,350 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,330 ft³/s, June 2, 1986, gage height, 7.00 ft; maximum gage height, 7.16 ft, June 11, 1965; minimum discharge observed, 1.2 ft³/s, Jan. 4, 1940, Jan. 25, 1977 (discharge measurements).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 11	1200	*1,320	*6.36	June 24	0600	730	5.30

Minimum daily discharge, 8.2 ft³/s, Mar. 17-20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	14	19	13	9.6	9.2	17	86	424	291	51	26
2	20	12	19	13	9.6	9.0	45	82	320	286	49	24
3	20	15	19	13	9.6	8.8	69	86	276	287	44	24
4	20	15	19	13	9.6	8.8	78	94	416	261	40	23
5	21	16	20	13	9.6	8.6	49	95	589	225	39	23
6	21	14	21	12	9.4	8.4	37	115	673	203	39	23
7	21	14	21	12	9.4	8.4	27	171	652	190	35	23
8	21	12	21	13	9.4	8.6	22	182	656	173	33	22
9	19	12	20	14	9.4	9.2	23	158	734	200	31	19
10	18	13	20	15	9.4	9.6	24	146	802	160	30	18
11	17	15	20	16	9.2	9.4	25	154	1180	139	29	17
12	16	17	19	15	9.2	9.2	26	155	778	125	28	16
13	15	17	18	14	9.2	9.0	27	151	436	116	26	15
14	15	12	17	13	8.8	8.8	30	133	372	112	25	14
15	14	15	17	12	8.4	8.6	38	126	401	113	25	13
16	14	14	16	11	8.4	8.4	52	114	440	108	23	13
17	14	14	16	11	8.4	8.2	64	108	393	98	28	13
18	14	13	16	11	8.4	8.2	77	113	403	88	37	13
19	14	11	16	11	8.4	8.2	89	125	543	81	37	18
20	14	11	16	11	8.4	8.2	105	125	507	83	36	31
21	14	12	15	11	8.4	8.4	126	123	610	119	35	37
22	13	12	15	12	8.6	8.4	142	167	573	138	35	38
23	13	10	15	11	8.8	8.6	148	263	582	112	33	39
24	13	9.0	15	11	9.0	8.8	151	410	633	100	31	37
25	13	11	15	10	9.2	9.0	136	330	603	103	29	34
26	13	11	14	9.8	9.4	9.2	130	299	565	92	27	34
27	13	10	14	9.8	9.8	9.4	113	321	495	79	24	33
28	12	12	14	9.8	9.4	9.8	93	390	434	70	22	32
29	13	16	14	9.8	---	10	100	469	364	61	19	32
30	13	19	14	9.8	---	11	89	473	320	56	19	32
31	14	---	14	9.8	---	13	---	444	---	53	25	---
TOTAL	493	398.0	529	369.8	254.4	280.4	2152	6208	16174	4322	984	736
MEAN	15.9	13.3	17.1	11.9	9.09	9.05	71.7	200	539	139	31.7	24.5
MAX	21	19	21	16	9.8	13	151	473	1180	291	51	39
MIN	12	9.0	14	9.8	8.4	8.2	17	82	276	53	19	13
AC-FT	978	789	1050	733	505	556	4270	12310	32080	8570	1950	1460

CAL YR 1989 TOTAL 26576.4 MEAN 72.8 MAX 530 MIN 3.9 AC-FT 52710
WTR YR 1990 TOTAL 32900.6 MEAN 90.1 MAX 1180 MIN 8.2 AC-FT 65260

GREEN RIVER BASIN

09205000 NEW FORK RIVER NEAR BIG PINEY, WY

LOCATION.--Lat 42°34'02", long 109°55'46", in SE¼ NE¼ NE¼ sec.22, T.30 N., R.110 W., Sublette County, Hydrologic Unit 14040102, on right bank 350 ft downstream from old highway bridge, 3.4 mi upstream from mouth, and 9.5 mi northeast of Big Piney.

DRAINAGE AREA.--1,230 mi², approximately.

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

GAGE.--Water-stage recorder. Elevation of gage is 6,800 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 1 to Mar. 29 and Apr. 22 to May 3. Records fair except those for estimated daily discharges, which are poor. Natural flow of stream affected by storage reservoirs, power development, and diversions for irrigation of about 62,100 acres upstream from station. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--36 years, 738 ft³/s, 534,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,190 ft³/s, June 7, 1986, gage height, 8.28 ft; minimum daily, 90 ft³/s, Jan. 13, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,050 ft³/s, June 13, gage height, 5.86 ft; minimum daily, 122 ft³/s, Feb. 18-20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	341	338	280	212	156	130	330	480	1440	2710	849	358
2	330	340	280	210	154	138	366	450	1370	2520	851	344
3	330	340	285	205	152	142	404	430	1230	2390	775	349
4	330	340	285	200	150	150	440	400	1130	2420	741	331
5	330	330	290	200	150	154	462	384	1310	2310	702	342
6	330	330	285	205	145	156	434	373	1770	2070	671	354
7	330	330	285	210	142	158	362	376	2190	1780	637	339
8	330	322	290	210	132	160	333	409	2450	1600	581	342
9	330	330	300	215	132	170	336	479	2760	1480	553	337
10	330	335	295	215	134	178	358	509	3100	1440	534	330
11	330	340	285	215	140	190	370	513	3320	1350	513	330
12	336	340	270	205	140	188	343	530	4370	1270	512	320
13	336	338	270	200	136	186	342	530	4520	1360	493	316
14	335	330	270	190	134	182	354	539	3410	1240	482	300
15	348	330	265	190	132	178	340	569	2710	1120	467	300
16	348	325	250	185	128	180	322	572	2440	1070	451	313
17	348	325	240	185	125	190	325	532	2630	1080	447	318
18	343	325	230	185	122	200	350	456	2480	1090	449	314
19	324	328	225	184	122	205	358	425	2140	1080	436	359
20	322	330	225	182	122	210	349	423	2020	1100	420	461
21	312	320	220	180	124	220	373	423	2090	1180	422	574
22	312	315	220	180	130	220	430	408	2450	1250	434	464
23	312	310	230	178	134	215	460	421	2720	1120	423	406
24	312	300	238	174	138	220	485	609	2970	1070	421	389
25	312	290	240	170	138	230	500	850	3200	1050	422	370
26	312	280	240	165	136	240	510	832	3410	980	405	368
27	310	275	230	164	134	250	520	837	3620	954	386	372
28	317	270	220	162	130	260	520	896	3550	907	370	365
29	336	270	210	160	---	270	510	1050	3360	903	360	360
30	336	270	210	160	---	297	500	1240	3010	875	348	352
31	336	---	210	158	---	303	---	1380	---	850	355	---
TOTAL	10188	9546	7873	5854	3812	6170	12086	18325	79170	43619	15910	10777
MEAN	329	318	254	189	136	199	403	591	2639	1407	513	359
MAX	348	340	300	215	156	303	520	1380	4520	2710	851	574
MIN	310	270	210	158	122	130	322	373	1130	850	348	300
AC-FT	20210	18930	15620	11610	7560	12240	23970	36350	157000	86520	31560	21380

CAL YR 1989 TOTAL 187866 MEAN 515 MAX 3070 MIN 100 AC-FT 372600
WTR YR 1990 TOTAL 223330 MEAN 612 MAX 4520 MIN 122 AC-FT 443000

REMARKS.--No flow observed Sept. 11.

[illegible][illegible][illegible]

GREEN RIVER BASIN

09209400 GREEN RIVER NEAR LA BARGE, WY

LOCATION.--Lat 42°11'34", long 110°09'45", in SE¼ SE¼ NW¼ sec.33, T.26 N., R.112 W., Lincoln County, Hydrologic Unit 14040101, on right bank 1.7 mi upstream from high-water line of Fontenelle Reservoir at elevation 6,513 ft, 4.0 mi upstream from Muddy Creek, and 5.0 mi south of La Barge.

DRAINAGE AREA.--3,910 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1963 to current year. Records are equivalent to those published August 1946 to March 1965 as Green River near Fontenelle (station 09209500).

GAGE.--Water-stage recorder. Elevation of gage is 6,520 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 11-18, Nov. 12-16, and Nov. 25 to Apr. 2. Records good except those for estimated daily discharges, which are poor. Natural flow of stream affected by storage reservoirs and diversions for irrigation of about 198,000 acres upstream from station. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--44 years (water years 1947-90), 1,646 ft³/s, 1,193,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,800 ft³/s, June 9, 1986, gage height, 10.50 ft; minimum daily, 188 ft³/s, May 17, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,170 ft³/s, June 13, gage height, 8.03 ft; minimum daily, 280 ft³/s, Feb. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	695	625	560	580	360	400	980	1320	2190	4520	1810	648
2	675	634	580	580	360	450	1050	1220	2190	4270	1810	627
3	707	617	580	550	340	470	1170	1110	2050	4080	1710	657
4	663	460	660	560	340	480	1350	1090	1840	4100	1580	684
5	662	480	740	560	350	490	1580	1020	1770	4080	1490	649
6	647	471	680	540	390	500	1550	962	2140	3930	1470	676
7	693	455	680	580	385	500	1310	901	2790	3520	1380	672
8	673	442	640	600	280	520	1190	940	3230	3150	1280	661
9	685	408	650	600	370	540	1170	1120	3510	2960	1180	666
10	671	454	600	580	400	580	1220	1150	3930	2860	1130	646
11	688	473	470	600	420	600	1250	1080	4370	2700	1120	626
12	660	520	540	540	420	560	1320	1030	5720	2500	1110	596
13	640	540	600	540	350	480	1370	1120	7010	2440	1110	589
14	640	560	620	580	370	540	1330	1200	6150	2380	1120	565
15	625	580	600	580	340	580	1270	1300	4740	2220	1090	546
16	620	598	580	600	360	600	1370	1220	3970	2130	1010	539
17	620	667	560	450	340	600	1550	1110	3980	2070	977	563
18	615	695	540	470	340	625	1660	981	3860	2070	979	564
19	609	749	520	420	340	660	1590	905	3420	2160	989	598
20	598	717	580	420	370	660	1420	954	3100	2210	939	739
21	594	705	600	450	400	680	1350	976	3120	2240	890	934
22	591	739	540	440	445	680	1330	954	3480	2420	902	996
23	594	743	580	475	420	700	1350	887	3940	2370	878	850
24	594	691	600	440	420	680	1480	865	4270	2300	863	786
25	594	680	580	450	430	720	1580	1120	4590	2320	848	739
26	594	660	580	460	440	780	1530	1330	4920	2240	812	718
27	586	580	580	420	430	800	1380	1320	5180	2180	775	711
28	598	430	560	380	430	800	1380	1350	5310	2090	737	696
29	620	410	580	450	---	840	1520	1490	5180	2030	696	701
30	622	520	600	400	---	880	1480	1770	4930	1970	662	681
31	607	---	620	375	---	900	---	2040	---	1870	651	---
TOTAL	19680	17303	18400	15670	10640	19295	41080	35835	116880	84380	33998	20323
MEAN	635	577	594	505	380	622	1369	1156	3896	2722	1097	677
MAX	707	749	740	600	445	900	1660	2040	7010	4520	1810	996
MIN	586	408	470	375	280	400	980	865	1770	1870	651	539
AC-FT	39040	34320	36500	31080	21100	38270	81480	71080	231800	167400	67440	40310

CAL YR 1989 TOTAL 415912 MEAN 1139 MAX 5250 MIN 230 AC-FT 825000
WTR YR 1990 TOTAL 433484 MEAN 1188 MAX 7010 MIN 280 AC-FT 859800

09209400 GREEN RIVER NEAR LA BARGE, WY--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1963 to September 1976.

WATER TEMPERATURES: October 1963 to September 1976.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 04...	1055	682	390	8.4	9.0	600	3.6	9.4	104	K8	K8
DEC 18...	1500	536	480	8.3	0.0	594	2.5	11.3	99	<1	K1
FEB 06...	1305	382	445	8.2	0.0	598	--	--	--	<1	<1
APR 04...	0935	1390	430	8.5	5.0	598	30	10.6	106	K3	90
JUN 14...	1150	6060	225	8.2	12.0	597	30	7.8	93	200	260
AUG 21...	1100	885	285	8.5	17.0	660	1.0	11.0	132	K11	K22

K-Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	ALKA- LINITY LAB (MG/L CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT 04...	170	45	14	18	0.6	1.8	0	176	144	145	59
DEC 18...	210	58	16	15	0.4	1.6	0	197	161	163	76
FEB 06...	--	--	--	--	--	--	0	192	158	--	--
APR 04...	190	49	16	21	0.7	2.7	7	178	157	156	71
JUN 14...	92	25	7.2	7.4	0.3	1.3	0	102	83	89	26
AUG 21...	120	34	9.4	13	0.5	1.5	2	128	109	108	42

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
OCT 04...	3.9	0.2	6.7	227	236	0.31	442	<0.01	<0.1	0.02
DEC 18...	3.5	0.2	8.6	281	276	0.38	407	<0.01	<0.1	0.01
FEB 06...	--	--	--	--	--	--	--	<0.01	0.1	0.01
APR 04...	7.6	0.2	6.7	284	269	0.39	1070	<0.01	<0.1	<0.01
JUN 14...	0.9	<0.1	6.9	131	125	0.18	2140	<0.01	<0.1	0.01
AUG 21...	3.3	0.4	3.8	173	173	0.24	413	<0.01	<0.1	0.01

09209400 GREEN RIVER NEAR LA BARGE, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 04...	0.02	0.03	0.38	0.4	0.02	<0.01	<0.01	7	14	99
DEC 18...	0.03	0.04	--	<0.2	0.02	0.02	<0.01	6	8.7	89
FEB 06...	0.02	0.03	--	<0.2	0.01	<0.01	<0.01	7	7.2	--
APR 04...	0.02	0.03	--	0.8	0.10	<0.01	<0.01	102	383	--
JUN 14...	0.01	0.01	0.49	0.5	0.08	<0.01	<0.01	195	3190	52
AUG 21...	<0.01	--	0.39	0.4	0.01	<0.01	<0.01	7	17	--

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
OCT 04...	1055	10	<1	54	<0.5	<1.0	2	<3	3	21	<1
DEC 18...	1500	<10	<1	66	<0.5	<1.0	2	<3	1	12	<1
APR 04...	0935	20	1	63	<0.5	<1.0	<5	<3	<10	61	<10
AUG 21...	1100	<10	<1	45	<0.5	<1.0	<1	<3	2	19	<1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 04...	9	6	<0.1	<10	1	<1	<1.0	370	<6	19
DEC 18...	9	8	<0.1	<10	<1	<1	<1.0	440	<6	3
APR 04...	8	28	<0.1	<10	<10	<1	<1.0	360	<6	5
AUG 21...	7	5	<0.1	<10	1	<1	<1.0	280	<6	5

09210500 FONTENELLE CREEK NEAR HERSCHLER RANCH, NEAR FONTENELLE, WY

LOCATION.--Lat 42°05'46", long 110°24'57", in NW¼ SW¼ NE¼ sec.2, T.24 N., R.115 W., Lincoln County, Hydrologic Unit 14040101, on left bank 2.0 mi downstream from Dutch George Creek and 14 mi west of Fontenelle.

DRAINAGE AREA.--152 mi².

PERIOD OF RECORD.--August 1951 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,950 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to May 5, 1970, at site 300 ft downstream at present datum.

REMARKS.--Estimated daily discharges: Oct. 29 to Mar. 16, Mar. 19, 21-22, and Mar. 24 to May 2. Records good except those for estimated daily discharges, which are poor. Diversions for irrigation of about 780 acres upstream from station.

AVERAGE DISCHARGE.--39 years, 74.2 ft³/s, 53,760 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 907 ft³/s, Apr. 23, 1986, gage height, 9.51 ft; minimum daily, 8.8 ft³/s, Aug. 14, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 28	unknown	*258	a*6.85	June 11	1800	192	6.50

a-from floodmark

Minimum daily discharge, 11 ft³/s, Dec. 19, 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	20	12	16	19	23	48	110	125	56	30	21
2	26	23	12	15	19	22	56	96	119	55	30	21
3	28	25	12	14	19	22	64	89	111	54	30	23
4	29	26	12	13	19	21	72	84	114	54	30	23
5	29	24	13	13	19	21	76	83	127	51	30	23
6	27	25	13	13	19	21	80	83	136	48	31	23
7	26	25	14	14	19	21	76	83	135	44	31	22
8	26	25	14	15	20	22	74	87	136	45	30	22
9	26	26	15	16	20	23	70	88	138	51	30	22
10	26	26	14	17	20	24	72	85	141	51	29	20
11	26	25	13	18	19	25	74	84	166	47	28	19
12	26	24	13	20	18	25	72	89	174	43	28	19
13	26	23	12	22	17	24	70	105	163	42	30	18
14	26	22	12	23	16	24	78	112	144	40	29	18
15	27	19	13	24	16	24	94	110	130	40	26	18
16	27	19	13	25	16	24	110	90	131	40	25	18
17	28	20	12	26	17	21	120	85	129	36	26	18
18	28	21	12	25	17	24	130	86	106	35	28	19
19	28	20	11	24	18	30	130	88	102	34	27	23
20	28	20	11	23	20	32	130	97	98	34	27	28
21	28	19	12	24	21	39	140	90	96	36	29	28
22	28	20	13	24	21	44	130	86	93	38	30	24
23	28	22	13	24	22	47	120	93	90	36	25	23
24	28	21	14	23	23	47	120	109	86	40	25	23
25	28	20	15	23	23	49	130	120	78	41	22	23
26	28	19	16	23	23	52	150	109	74	40	20	22
27	28	17	17	22	23	54	180	110	71	35	20	22
28	28	13	17	21	23	56	230	109	67	35	20	22
29	26	12	16	20	---	56	170	114	61	34	21	22
30	23	12	16	20	---	44	130	120	58	33	21	24
31	21	---	16	20	---	40	---	125	---	32	21	---
TOTAL	833	633	418	620	546	1001	3196	3019	3399	1300	829	651
MEAN	26.9	21.1	13.5	20.0	19.5	32.3	107	97.4	113	41.9	26.7	21.7
MAX	29	26	17	26	23	56	230	125	174	56	31	28
MIN	21	12	11	13	16	21	48	83	58	32	20	18
AC-FT	1650	1260	829	1230	1080	1990	6340	5990	6740	2580	1640	1290

CAL YR 1989 TOTAL 20507 MEAN 56.2 MAX 294 MIN 11 AC-FT 40680
WTR YR 1990 TOTAL 16445 MEAN 45.1 MAX 230 MIN 11 AC-FT 32620

GREEN RIVER BASIN

09211150 FONTENELLE RESERVOIR NEAR FONTENELLE, WY

LOCATION.--Lat 42°02'00", long 110°04'00", in S½ sec.25 T.24 N., R.112 W., Lincoln County, Hydrologic Unit 14040101, at dam on Green River, 3.0 mi north of Fontenelle, and 3.5 mi upstream from Slate Creek.

DRAINAGE AREA.--4,280 mi², approximately.

PERIOD OF RECORD.--October 1964 to current year.

REVISED RECORDS.--WSP 2125: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

REMARKS.--Reservoir is formed by earthfill dam completed by Bureau of Reclamation in April 1964. Capacity, 344,800 acre-ft between elevations 6,506.0 ft, crest of spillway, and 6,408.0 ft, invert of outlet pipe. Dead storage, below elevation 6,408.0 ft, 563 acre-ft. Figures given herein represent total contents. Water used for irrigation and power development.

COOPERATION.--Records provided by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily contents, 387,000 acre-ft, June 29, 1965, elevation, 6,511.01 ft; minimum daily, 5,680 acre-ft, July 28, 1967, elevation, 6,423.98 ft.

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 335,900 acre-ft, July 29, elevation, 6,504.80 ft; minimum daily, 104,700 acre-ft, Apr. 3, elevation, 6,466.53 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	6,498.36	286,500	-
Oct. 31	6,493.12	248,900	-37,600
Nov. 30	6,488.60	218,300	-30,600
Dec. 31	6,481.05	172,400	-45,900
CAL YR 1989	-	-	+123,900
Jan. 31	6,473.94	136,300	-36,100
Feb. 28	6,468.89	114,200	-22,100
Mar. 31	6,466.69	105,300	-8,900
Apr. 30	6,469.45	116,500	+11,200
May 31	6,469.43	116,400	-100
June 30	6,497.77	282,200	+165,800
July 31	6,504.78	335,700	+53,500
Aug. 31	6,501.37	309,200	-26,500
Sept. 30	6,497.47	280,000	-29,200
WTR YR 1990	-	-	-6,500

09211200 GREEN RIVER BELOW FONTENELLE RESERVOIR, WY

LOCATION.--Lat 42°01'16", long 110°02'57", in NW¼ NW¼ NE¼ sec.31, T.24 N., R.111 W., Sweetwater County, Hydrologic Unit 14040103, on right bank 1.0 mi downstream from Fontenelle Dam, 2.5 mi upstream from Slate Creek, and 6.0 mi southeast of Fontenelle.

DRAINAGE AREA.--4,280 mi², approximately.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 2125: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,378.13 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow completely regulated by Fontenelle Reservoir 1.0 mi upstream. (See sta 09211150.) Natural flow of stream affected by storage reservoirs and diversions for irrigation of about 202,000 acres upstream from station. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--26 years (water years 1965-90), 1,718 ft³/s, 1,245,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,400 ft³/s, Sept. 5, 1965, gage height, 18.74 ft, from floodmarks, caused by emergency release from Fontenelle Reservoir; minimum daily discharge, 209 ft³/s, Nov. 22-24, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,450 ft³/s, Aug. 4, gage height, 12.48 ft; minimum daily, 387 ft³/s, May 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1190	1050	1240	1220	856	826	1230	1110	1320	770	1790	1710
2	1180	1050	1240	1220	854	826	1230	1110	1320	762	1780	1710
3	1210	1050	1240	1220	858	830	1230	633	1320	755	2000	1720
4	1160	1050	1250	1230	864	836	1240	408	1190	743	2440	1730
5	1180	1050	1250	1220	864	838	1250	399	949	760	2450	1720
6	1180	1060	1250	1200	859	827	1230	388	925	1000	1430	1520
7	1170	1060	1260	1180	845	817	1210	387	921	1230	973	1290
8	1180	1120	1260	1170	845	817	1200	625	866	1230	964	1290
9	1190	1140	1260	1140	815	817	1200	1230	760	1560	951	1280
10	1200	1140	1260	1120	813	817	1200	1240	760	1960	952	1260
11	1200	1140	1240	1070	817	817	1200	1250	760	1960	957	1250
12	1220	1150	1220	1040	832	817	1200	1250	750	1960	958	1130
13	1220	1130	1220	990	845	817	1210	1270	740	1980	957	1250
14	1140	1090	1220	1010	829	817	1210	1280	733	1980	954	1090
15	1130	1080	1220	1010	817	817	1210	1280	763	1990	956	961
16	1130	1120	1220	969	817	817	1230	1270	770	1990	950	965
17	1160	1110	1220	907	817	817	1230	1290	770	2000	934	961
18	1170	1110	1220	860	817	817	1230	1300	766	1830	905	961
19	1150	1110	1220	836	817	817	1230	1300	760	1600	877	961
20	1150	1100	1230	836	817	817	1230	1300	760	1580	1080	961
21	1150	1140	1230	836	817	817	1190	1300	760	1580	1600	963
22	1150	1220	1220	836	817	817	1180	1300	753	1580	1620	973
23	1140	1220	1210	839	817	859	1150	1300	751	1580	1620	981
24	1150	1220	1210	845	817	912	1150	1230	751	1550	1610	981
25	1160	1220	1210	845	817	912	1150	1310	751	1540	1630	985
26	1200	1230	1210	846	817	963	1140	1310	751	1540	1660	992
27	1200	1230	1210	847	817	1050	1150	1310	1020	1530	1660	992
28	1200	1230	1210	853	817	1170	1130	1320	1470	1520	1680	992
29	1200	1230	1210	854	---	1220	1100	1330	1470	1510	1700	989
30	1130	1230	1220	855	---	1230	1120	1320	1220	1640	1680	992
31	1100	---	1220	854	---	1230	---	1320	---	1790	1690	---
TOTAL	36290	34080	38100	30758	23234	27601	35860	34670	27600	47000	43408	35560
MEAN	1171	1136	1229	992	830	890	1195	1118	920	1516	1400	1185
MAX	1220	1230	1260	1230	864	1230	1250	1330	1470	2000	2450	1730
MIN	1100	1050	1210	836	813	817	1100	387	733	743	877	961
AC-FT	71980	67600	75570	61010	46080	54750	71130	68770	54740	93220	86100	70530

CAL YR 1989 TOTAL 344412 MEAN 944 MAX 1870 MIN 311 AC-FT 683100
WTR YR 1990 TOTAL 414161 MEAN 1135 MAX 2450 MIN 387 AC-FT 821500

GREEN RIVER BASIN

09211200 GREEN RIVER BELOW FONTENELLE RESERVOIR, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1967 to September 1976.

WATER TEMPERATURES: October 1967 to September 1976.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
OCT										
11...	1350	1190	351	12.5	150	39	12	16	0.6	1.1
NOV										
17...	0955	1110	364	5.0	170	43	14	18	0.6	1.5
DEC										
19...	1200	1220	417	2.0	190	51	16	16	0.5	2.6
FEB										
06...	1700	854	538	2.5	220	57	18	22	0.7	1.7
APR										
05...	1005	1250	500	5.0	190	50	16	23	0.7	2.1
MAY										
17...	1625	1300	437	10.0	200	53	17	20	0.6	1.8
JUN										
14...	1410	735	403	14.5	170	45	14	18	0.6	1.6
JUL										
23...	1800	1580	289	16.5	130	35	10	13	0.5	1.4
AUG										
21...	1650	1600	305	19.5	130	35	10	15	0.6	0.7
SEP										
12...	1430	864	307	18.0	130	34	11	12	0.5	1.4

DATE	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
OCT									
11...	130	49	3.2	0.3	0.30	199	0.27	639	<0.01
NOV									
17...	130	55	3.3	0.2	1.4	214	0.29	642	<0.01
DEC									
19...	150	67	3.6	0.2	5.3	252	0.34	829	<0.01
FEB									
06...	160	78	3.5	0.3	5.3	282	0.38	650	<0.01
APR									
05...	130	81	4.0	0.3	4.3	259	0.35	873	<0.01
MAY									
17...	150	77	4.7	0.6	3.9	277	0.38	973	<0.01
JUN									
14...	130	65	4.0	0.2	5.7	231	0.31	459	<0.01
JUL									
23...	110	41	1.8	0.1	8.0	177	0.24	754	<0.01
AUG									
21...	96	50	2.3	0.2	5.6	176	0.24	762	<0.01
SEP									
12...	100	52	2.4	0.2	6.1	180	0.24	420	0.05

09211200 GREEN RIVER BELOW FONTENELLE RESERVOIR, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
OCT 11...	<0.1	<0.01	0.01	--	0.3	0.03	0.02	<0.01	<5
NOV 17...	<0.1	0.05	0.01	0.25	0.3	0.03	0.02	<0.01	<5
DEC 19...	<0.1	0.01	0.01	0.29	0.3	0.02	<0.01	<0.01	<5
FEB 06...	<0.1	0.02	0.02	0.48	0.5	0.03	0.01	<0.01	<5
APR 05...	<0.1	<0.01	<0.01	--	0.3	0.02	<0.01	<0.01	<5
MAY 17...	2.0	0.01	0.04	0.79	0.8	0.04	0.14	0.13	<5
JUN 14...	<0.1	<0.01	0.02	--	0.3	0.01	<0.01	<0.01	<5
JUL 23...	0.1	<0.01	0.03	--	0.2	0.04	0.03	0.02	<5
AUG 21...	<0.1	0.02	0.03	0.28	0.3	0.04	0.03	<0.01	<5
SEP 12...	0.1	0.03	0.02	0.37	0.4	0.02	0.01	<0.01	<5

09213500 BIG SANDY RIVER NEAR FARSON, WY

LOCATION.--Lat 42°19'01", long 109°29'06", in NW¼ SE¼ NW¼ sec.17, T.27 N., R.106 W., Sublette County, Hydrologic Unit 14040104, on left upstream side of Eden Canal diversion, about 1.0 mi upstream from high-water line of Big Sandy Reservoir, 14.5 mi north of Farson, and 24.5 mi upstream from Little Sandy Creek.

DRAINAGE AREA.--322 mi².

PERIOD OF RECORD.--October 1914 to September 1917, October 1920 to October 1924, October 1926 to September 1934, April 1953 to current year (no winter records since 1971). Prior to October 1968, published as Big Sandy Creek near Farson. Monthly discharge only for some periods, published in WSP 1313.

REVISED RECORDS.--WSP 1733: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 6,770 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Apr. 28, 1921, nonrecording gage, and Apr. 28, 1921, to Aug. 3, 1934, water-stage recorder at site 0.5 mi upstream at different datum. Apr. 17, 1953, to Nov. 11, 1954, water-stage recorder at site 1.5 mi upstream at different datum.

REMARKS.--Estimated daily discharges: Apr. 1-6 and June 10, 11, 19-21, 26, 27. Records good except those for estimated daily discharges, which are fair. Diversions for irrigation of about 1,000 acres upstream from station. The Eden Canal, which bypasses the station, has not been used since station was established at present site in November 1954. National Weather Service satellite telemeter at station. Results of discharge measurements, in cubic feet per second, made during the period when station was not in operation are given below:

Oct. 12 . . . 21.0
Oct. 13 . . . 18.9

AVERAGE DISCHARGE.--33 years (water years 1915-17, 1921-24, 1927-34, 1954-71), 86.5 ft³/s, 62,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,890 ft³/s, June 3, 1986, gage height, 8.46 ft; no flow Jan. 27-31, 1963, and may have also reached no flow in previous years during periods of ice effect.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 350 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 30	0730	352	5.87	June 25	0230	559	6.62
June 12	0730	*1,020	*7.54				

Minimum daily discharge during period of operation, 18 ft³/s, Sept. 14, 15.

09213500 BIG SANDY RIVER NEAR FARSON, WY--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	64	79	313	291	79	25
2	---	---	---	---	---	---	68	71	322	266	76	28
3	---	---	---	---	---	---	70	72	246	254	69	25
4	---	---	---	---	---	---	72	70	203	266	61	24
5	---	---	---	---	---	---	74	64	264	251	57	23
6	---	---	---	---	---	---	76	64	407	223	53	24
7	---	---	---	---	---	---	75	72	443	201	51	23
8	---	---	---	---	---	---	62	109	461	183	51	23
9	---	---	---	---	---	---	63	118	472	172	44	22
10	---	---	---	---	---	---	59	104	580	182	41	22
11	---	---	---	---	---	---	58	97	736	157	39	21
12	---	---	---	---	---	---	55	102	929	141	36	21
13	---	---	---	---	---	---	56	112	587	129	34	20
14	---	---	---	---	---	---	51	114	380	118	33	18
15	---	---	---	---	---	---	51	109	304	116	35	18
16	---	---	---	---	---	---	55	102	300	114	37	19
17	---	---	---	---	---	---	68	89	368	108	39	19
18	---	---	---	---	---	---	78	82	336	100	35	19
19	---	---	---	---	---	---	81	82	330	97	38	22
20	---	---	---	---	---	---	89	93	320	105	40	25
21	---	---	---	---	---	---	104	95	315	105	42	38
22	---	---	---	---	---	---	118	89	447	131	40	44
23	---	---	---	---	---	---	138	106	434	157	40	39
24	---	---	---	---	---	---	144	166	460	134	37	35
25	---	---	---	---	---	---	130	276	503	128	35	31
26	---	---	---	---	---	---	112	222	480	127	32	29
27	---	---	---	---	---	---	104	196	450	117	29	26
28	---	---	---	---	---	---	94	205	424	108	28	25
29	---	---	---	---	---	---	96	263	379	97	27	24
30	---	---	---	---	---	---	73	339	327	89	26	23
31	---	---	---	---	---	---	---	322	---	83	25	---
TOTAL	---	---	---	---	---	---	2438	4084	12520	4750	1309	755
MEAN	---	---	---	---	---	---	81.3	132	417	153	42.2	25.2
MAX	---	---	---	---	---	---	144	339	929	291	79	44
MIN	---	---	---	---	---	---	51	64	203	83	25	18
AC-FT	---	---	---	---	---	---	4840	8100	24830	9420	2600	1500

09213700 BIG SANDY RESERVOIR NEAR FARSON, WY

LOCATION.--Lat 42°14'57", long 109°25'43", in NE¼ NW¼ NW¼ sec.11, T.26 N., R.106 W., Sweetwater County, Hydrologic Unit 14040104, 10.1 mi north of Farson and 20.5 mi upstream from Little Sandy Creek.

DRAINAGE AREA.--386 mi².

PERIOD OF RECORD.--May 1987 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,770.00 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation).

REMARKS.--Reservoir is formed by an earthfill dam, storage began in April 1953. Total capacity, 54,385 acre-ft at elevation 6,762.8 ft, crest of spillway, including 1,425 acre-ft of dead storage in a permanent pool at elevation 6,720.0, trash-rack sill. Reservoir is used for storage of irrigation water and for recreation. Figures given herein represent active storage. Satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 39,700 acre-ft, May 25, 1987, elevation, 6,758.02 ft; minimum contents, 920 acre-ft, Sept. 15, 1988, elevation, 6,724.66 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 28,700 acre-ft, June 26, elevation, 6,753.33 ft; minimum contents, 6,600 acre-ft, Oct. 1, elevation, 6,737.42 ft.

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

6,720	0	6,750	22,155
6,730	2,545	6,760	44,905
6,740	8,655		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6620	7700	8590	9040	9390	9850	11700	16100	22300	28200	24400	14000
2	6640	7710	8600	9050	9410	9870	11800	16200	22500	28100	24000	13800
3	6690	7740	8610	9050	9410	9900	12000	16300	22700	28000	23600	13700
4	6720	7810	8650	9050	9430	9920	12100	16400	22600	27900	23200	13500
5	6740	7870	8670	9060	9450	9980	12200	16500	22600	27900	22700	13300
6	6800	7920	8700	9080	9460	10000	12400	16700	22700	27800	22300	13200
7	6820	7960	8720	9090	9480	10000	12600	16700	22900	27500	21800	13000
8	6880	7970	8750	9140	9510	10100	12700	16900	23100	27300	21300	12800
9	6910	8010	8770	9140	9520	10100	12900	17000	23400	27100	20900	12600
10	6950	8080	8770	9140	9540	10100	13000	17300	23600	27000	20500	12500
11	7010	8140	8770	9140	9560	10200	13100	17500	24200	26700	20100	12200
12	7020	8190	8810	9150	9590	10300	13200	17700	25200	26400	19700	11900
13	7050	8240	8810	9160	9590	10400	13300	17900	25800	26100	19300	11500
14	7080	8270	8830	9180	9590	10400	13400	18200	26200	25900	18900	11400
15	7100	8270	8840	9210	9610	10500	13400	18500	26300	25700	18600	11400
16	7100	8290	8840	9230	9630	10500	13500	18700	26400	25600	18200	11400
17	7130	8290	8850	9230	9660	10500	13600	18900	26800	25400	17900	11400
18	7210	8310	8920	9250	9670	10600	13700	19000	27200	25200	17600	11400
19	7250	8360	8920	9250	9690	10600	13900	19200	27400	25000	17400	11400
20	7280	8410	8940	9260	9710	10700	13900	19300	27600	24900	17100	11400
21	7320	8450	8950	9260	9750	10800	14100	19400	27600	24800	16900	11500
22	7350	8460	8950	9300	9770	10900	14300	19600	28000	24800	16600	11600
23	7410	8480	8970	9330	9770	11000	14600	19900	28200	24900	16400	11700
24	7440	8500	8980	9330	9790	11100	14800	20000	28400	25000	16100	11800
25	7490	8530	9000	9330	9790	11200	15100	20500	28600	25200	15900	11800
26	7550	8560	9000	9350	9790	11300	15300	20900	28700	25300	15600	11900
27	7570	8570	9010	9350	9800	11300	15400	21100	28600	25300	15300	11900
28	7600	8570	9020	9360	9830	11400	15600	21300	28500	25300	15000	12000
29	7650	8570	9040	9370	---	11400	15700	21600	28500	25200	14700	12000
30	7660	8580	9030	9370	---	11500	15900	21800	28400	25000	14400	12100
31	7680	---	9030	9390	---	11600	---	22200	---	24700	14200	---
MAX	7680	8580	9040	9390	9830	11600	15900	22200	28700	28200	24400	14000
MIN	6620	7700	8590	9040	9390	9850	11700	16100	22300	24700	14200	11400
(#)	6,738.83	6,739.91	6,740.41	6,740.81	6,741.27	6,743.00	6,746.25	6,750.02	6,753.19	6,751.37	6,745.10	6,743.39
(*)	+1,080	+900	+450	+360	+430	+1,780	+4,300	+6,300	+6,200	-3,700	-10,500	-2,100

CAL YR 1989 MAX 17300 MIN 2310 # +6,700
WTR YR 1990 MAX 28700 MIN 6620 # +5,500

(#) Elevation, in feet, at end of month.

(*) Change in contents, in acre-feet.

09215550 BIG SANDY RIVER BELOW FARSON, WY

LOCATION.--Lat 42°04'24", long 109°28'43", in SW¼ SE¼ NE¼ sec.12, T.24 N., R.107 W., Sweetwater County, Hydrologic Unit 14040104, on left bank 2.7 mi northwest of Eden, 3.0 mi southwest of Farson, and 3.8 mi downstream from Little Sandy Creek.

DRAINAGE AREA.--1,097 mi², of which 14.9 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1981 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,520 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 30 to Mar. 30. Records fair except those for estimated daily discharges, which are poor. Natural flow of stream affected by storage reservoirs and diversions for irrigation of about 19,300 acres upstream from station.

AVERAGE DISCHARGE.--9 years, 48.5 ft³/s, 35,140 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,120 ft³/s, Apr. 3, 1985, gage height, 7.30 ft; maximum gage height, 7.71 ft, Apr. 3, 1985 (backwater from ice); minimum daily discharge, 0.57 ft³/s, Feb. 7, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 42 ft³/s, July 3, gage height, 2.37 ft; maximum gage height observed, 5.8 ft, Mar. 8 (backwater from ice); minimum daily discharge, 2.0 ft³/s, Feb. 6-9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	12	5.4	2.9	2.1	2.3	26	9.3	9.7	26	17	22
2	14	11	5.4	2.8	2.1	2.3	26	8.8	11	30	25	23
3	14	11	5.2	2.8	2.1	2.2	24	8.2	10	40	25	26
4	14	10	5.2	2.7	2.1	2.2	21	8.0	9.6	39	26	31
5	14	9.8	5.0	2.7	2.1	2.2	20	7.8	9.6	36	22	31
6	14	9.4	4.8	2.7	2.0	2.3	19	7.7	10	32	21	27
7	14	9.2	4.5	2.8	2.0	2.4	19	7.5	11	28	26	24
8	13	8.8	4.4	3.0	2.0	2.5	20	7.1	11	26	25	23
9	13	8.4	4.2	3.4	2.0	2.6	22	7.3	14	29	24	22
10	13	8.0	4.1	3.6	2.1	2.8	22	7.2	13	33	21	24
11	13	7.8	4.0	3.9	2.2	2.9	20	6.9	15	32	21	25
12	13	7.6	3.9	4.1	2.3	3.1	19	7.1	17	32	21	22
13	13	7.6	3.7	4.0	2.2	3.3	17	8.4	18	29	21	19
14	13	7.4	3.6	3.9	2.2	3.4	16	8.6	19	29	22	18
15	13	7.2	3.5	3.8	2.1	3.6	14	9.3	27	26	21	18
16	13	7.0	3.4	3.6	2.1	3.8	13	8.7	24	24	22	20
17	13	6.8	3.3	3.4	2.1	3.9	13	7.8	21	19	28	18
18	13	6.4	3.2	3.2	2.1	4.5	13	7.3	21	19	28	15
19	13	6.2	3.2	3.0	2.1	6.0	13	7.4	18	19	23	18
20	13	5.8	3.1	2.9	2.1	8.0	12	7.9	17	24	20	19
21	13	5.6	3.0	2.8	2.2	10	12	8.5	15	30	20	18
22	13	5.4	2.9	2.7	2.2	16	11	8.0	15	23	20	17
23	13	5.2	2.9	2.6	2.2	15	11	7.3	17	18	20	16
24	13	4.9	3.1	2.5	2.3	16	11	6.8	17	19	19	15
25	13	4.8	3.4	2.5	2.4	14	11	6.6	18	21	18	15
26	13	4.7	3.6	2.4	2.5	13	9.8	6.4	21	19	18	14
27	14	4.6	3.5	2.4	2.5	14	9.9	6.3	22	17	16	14
28	14	4.7	3.4	2.3	2.4	13	10	6.7	23	15	16	14
29	14	4.8	3.3	2.3	---	12	11	6.7	26	15	17	15
30	14	5.2	3.2	2.2	---	12	10	7.2	26	15	19	14
31	13	---	3.0	2.2	---	16	---	7.4	---	16	21	---
TOTAL	414	217.3	118.4	92.1	60.8	217.3	475.7	236.2	505.9	780	663	597
MEAN	13.4	7.24	3.82	2.97	2.17	7.01	15.9	7.62	16.9	25.2	21.4	19.9
MAX	14	12	5.4	4.1	2.5	16	26	9.3	27	40	28	31
MIN	13	4.6	2.9	2.2	2.0	2.2	9.8	6.3	9.6	15	16	14
AC-FT	821	431	235	183	121	431	944	469	1000	1550	1320	1180

CAL YR 1989 TOTAL 4548.50 MEAN 12.5 MAX 56 MIN .57 AC-FT 9020
WTR YR 1990 TOTAL 4377.7 MEAN 12.0 MAX 40 MIN 2.0 AC-FT 8680

GREEN RIVER BASIN

09215550 BIG SANDY RIVER BELOW FARSON, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1982 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1981 to September 1986.

WATER TEMPERATURES: December 1981 to September 1986.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)
OCT											
12...	1150	13	2570	7.0	700	180	62	360	6	3.2	220
NOV											
14...	0915	7.4	2620	0.0	750	200	61	350	6	3.1	220
DEC											
20...	1510	3.0	2440	0.0	760	200	63	280	4	4.1	170
FEB											
08...	1200	2.0	2480	0.0	830	220	67	270	4	3.1	220
APR											
05...	1730	21	2400	10.0	510	120	52	390	7	3.9	250
MAY											
25...	1255	6.5	3190	14.0	790	190	77	520	8	4.3	210
JUN											
15...	1035	29	1440	14.5	360	93	32	190	4	2.7	150
JUL											
24...	1125	20	1850	18.0	500	130	43	230	4	3.6	200
AUG											
23...	0955	22	1600	13.0	470	120	41	200	4	2.8	190
SEP											
14...	1250	18	1650	18.0	410	100	38	190	4	3.3	190

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
OCT										
12...	1000	49	0.9	11	1800	2.45	63.1	<0.1	<0.03	<5
NOV										
14...	1200	47	0.9	9.9	2000	2.73	40.1	0.2	0.03	<5
DEC										
20...	1000	37	0.8	12	1700	2.31	13.8	0.4	0.04	<5
FEB										
08...	1000	32	0.6	11	1740	2.36	9.38	0.5	<0.03	<5
APR										
05...	960	50	1.5	9.9	1740	2.36	98.5	<0.1	0.03	<5
MAY										
25...	1400	72	0.9	7.8	2400	3.26	42.1	<0.1	<0.03	<5
JUN										
15...	600	25	0.3	10	1040	1.42	81.7	<0.1	0.06	<5
JUL										
24...	740	33	0.3	12	1310	1.78	70.8	<0.1	<0.03	<5
AUG										
23...	620	26	0.7	9.6	1130	1.54	67.4	<0.1	<0.03	<5
SEP										
14...	580	30	0.6	11	1060	1.44	51.3	<0.1	<0.03	<5

09216050 BIG SANDY RIVER AT GASSON BRIDGE, NEAR EDEN, WY

LOCATION.--Lat 41°56'43", long 109°41'04", in NE¼ SW¼ NW¼ sec.29, T.23 N., R.108 W., Sweetwater County, Hydrologic Unit 14040104, on left bank 0.2 mi upstream from Gasson Bridge and 14.5 mi southwest of Eden.

DRAINAGE AREA.--1,720 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1972 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,350 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 27 to Mar. 18 and Apr. 18 to May 25. Records good except those for December to March, and May, which are poor. Natural flow of stream affected by storage reservoirs and diversions for irrigation of about 19,300 acres upstream from station.

AVERAGE DISCHARGE.--18 years, 76.7 ft³/s, 55,570 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,430 ft³/s, Apr. 24, 1980, gage height, 10.58 ft, from rating curve extended above 2,000 ft³/s on basis of slope-area measurement of peak flow; minimum daily discharge, 13 ft³/s, Jan. 2, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 70 ft³/s, Mar. 22, gage height, 4.54 ft; maximum gage height recorded, 5.33 ft, Dec. 29 (backwater from ice); minimum daily discharge, 16 ft³/s, Feb. 3-7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	32	30	18	17	22	45	18	27	33	30	43
2	36	34	30	18	17	22	42	18	27	33	33	44
3	36	36	30	17	16	23	41	18	28	38	41	45
4	36	38	31	17	16	24	38	18	27	47	42	48
5	37	40	31	17	16	25	37	17	25	46	46	54
6	37	39	30	17	16	26	34	17	24	42	42	56
7	37	37	28	18	16	27	32	17	25	38	39	51
8	37	34	27	18	17	28	32	17	25	35	45	47
9	36	31	26	19	17	29	37	17	25	34	44	46
10	37	42	25	19	18	30	38	17	28	38	43	44
11	35	40	25	19	18	32	35	17	30	40	40	46
12	35	38	24	18	18	33	32	17	31	40	40	47
13	35	36	23	18	18	34	29	18	31	40	38	45
14	34	35	22	18	17	35	28	19	32	40	39	45
15	36	28	22	17	17	37	28	20	33	40	40	41
16	35	32	21	17	17	39	27	21	44	37	38	41
17	36	34	21	17	17	40	25	20	39	36	41	44
18	36	35	20	17	17	43	24	19	33	32	46	41
19	36	37	20	17	17	56	24	19	32	29	46	42
20	36	36	20	17	17	57	24	20	30	31	41	46
21	36	33	19	17	18	57	22	21	28	38	39	51
22	36	32	19	17	18	61	21	23	26	44	39	46
23	37	32	20	17	19	63	20	23	26	37	37	44
24	36	33	21	17	20	54	21	22	27	34	38	43
25	36	35	21	17	20	51	20	21	27	36	38	41
26	36	38	21	17	21	52	19	23	28	37	36	40
27	36	36	21	17	22	53	18	23	30	34	36	39
28	36	35	20	17	22	50	19	23	30	32	35	39
29	37	32	19	17	---	39	19	23	31	29	34	39
30	36	31	18	17	---	41	18	23	34	29	35	39
31	34	---	18	17	---	47	---	23	---	29	39	---
TOTAL	1115	1051	723	540	499	1230	849	612	883	1128	1220	1337
MEAN	36.0	35.0	23.3	17.4	17.8	39.7	28.3	19.7	29.4	36.4	39.4	44.6
MAX	37	42	31	19	22	63	45	23	44	47	46	56
MIN	34	28	18	17	16	22	18	17	24	29	30	39
AC-FT	2210	2080	1430	1070	990	2440	1680	1210	1750	2240	2420	2650

CAL YR 1989 TOTAL 12241 MEAN 33.5 MAX 81 MIN 14 AC-FT 24280
WTR YR 1990 TOTAL 11187 MEAN 30.6 MAX 63 MIN 16 AC-FT 22190

GREEN RIVER BASIN

09216050 BIG SANDY RIVER AT GASSON BRIDGE, NEAR EDEN, WY--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1981 to September 1986.

WATER TEMPERATURES: October 1981 to September 1986.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
OCT										
13...	1030	38	3800	4.5	1100	210	140	560	7	3.8
NOV										
13...	1330	37	3800	6.0	1100	220	130	570	8	3.8
DEC										
20...	1145	20	4380	0.0	1400	260	180	630	7	5.3
FEB										
05...	1415	16	4580	0.0	1300	240	170	650	8	5.0
APR										
05...	1255	39	3400	9.0	850	160	110	530	8	4.6
MAY										
25...	0950	21	4410	7.0	1100	210	150	690	9	5.0
JUN										
28...	0925	31	3420	15.5	880	170	110	490	7	4.2
JUL										
27...	0950	35	3100	14.5	880	170	110	450	7	4.4
AUG										
20...	1335	43	2900	23.0	810	160	100	410	6	4.1
SEP										
12...	1150	46	3040	16.5	850	160	110	390	6	4.2

DATE	ALKA- LINIT LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
OCT											
13...	240	2000	48	0.9	11	3120	4.24	320	<0.1	<0.03	<1
NOV											
13...	230	1900	46	1.1	10	3060	4.16	305	0.1	<0.03	<5
DEC											
20...	300	2400	46	1.1	13	3720	5.05	201	0.2	<0.03	<5
FEB											
05...	210	2200	47	0.9	12	3450	4.69	149	0.3	0.03	<5
APR											
05...	220	1700	46	1.0	10	2690	3.66	284	<0.1	<0.03	<5
MAY											
25...	250	2100	56	1.0	11	3370	4.59	191	<0.1	<0.03	<5
JUN											
28...	220	1500	40	0.7	11	2460	3.34	206	<0.1	<0.03	<5
JUL											
27...	220	1500	39	0.7	13	2420	3.29	229	<0.1	0.03	<5
AUG											
20...	200	1400	35	0.9	10	2260	3.07	262	<0.1	<0.03	<5
SEP											
12...	220	1300	39	0.8	12	2150	2.92	267	<0.1	0.03	<5

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
APR				
05...	1255	39	130	14
MAY				
25...	0950	21	23	1.3
JUN				
28...	0925	31	45	3.8
SEP				
12...	1150	46	17	2.1

09216790 BITTER CREEK ABOVE KILLPECKER CREEK, AT ROCK SPRINGS, WY

LOCATION.--Lat 41°35'33", long 109°13'27", in NE¼ SE¼ SW¼ sec.26, T.19 N., R.105 W., Sweetwater County, Hydrologic Unit 14040105, 200 ft downstream from viaduct on State Highway 191 and 800 ft upstream from mouth of Killpecker Creek in Rock Springs.

PERIOD OF RECORD.--June 1983 to September 1988, October 1989 to September 1990.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT							
12...	0800	E0.10	5.0	K3	9	21	--
APR							
04...	1900	7.9	13.0	K7	2	1440	31
JUL							
25...	0950	176	11.0	4200	3	52800	25100
25...	1320	134	14.0	6800	3	70300	25400

E-Estimate.

K-Results based on colony count outside the acceptable range (non-ideal colony count).

GREEN RIVER BASIN

09217000 GREEN RIVER NEAR GREEN RIVER, WY

LOCATION.--Lat 41°30'59", long 109°26'54", in NW¼ NE¼ NE¼ sec.26, T.18 N., R.107 W., Sweetwater County, Hydrologic Unit 14040106, on right bank 0.1 mi downstream from Bitter Creek, 1.0 mi southeast of town of Green River, and 4.0 mi upstream from high-water line of Flaming Gorge Reservoir.

DRAINAGE AREA.--About 14,000 mi², of which 4,260 mi², including 3,959 mi² in Great Divide Basin in southern Wyoming, is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1951 to current year.

REVISED RECORDS.--WSP 1713: 1957. WDR-76-2: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 6,060 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 28 to Mar. 8 and Sept. 26-30. Records good except those for estimated daily discharges, which are poor. Some regulation by Fontenelle Reservoir since August 1963. (See sta 09211150.) Natural flow of stream affected by transbasin diversions, storage reservoirs, power development, and diversions for irrigation of about 223,000 acres upstream from station. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--39 years, 1,721 ft³/s, 1,247,000 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,800 ft³/s, Sept. 7, 1965, gage height, 8.53 ft, caused by emergency release from Fontenelle Reservoir; minimum daily discharge, 170 ft³/s, Nov. 16, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge observed, 22,200 ft³/s, June 19, 1918, at site 1.5 mi upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,470 ft³/s, Aug. 4, gage height, 3.02 ft; maximum gage height, 4.90 ft, Dec. 14 (backwater from ice); minimum daily discharge, 355 ft³/s, May 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1080	1150	1180	1100	820	800	1240	1080	1360	1170	1700	1610
2	1080	1120	1180	1100	820	820	1230	1080	1320	700	1720	1610
3	1070	1120	1180	1100	820	820	1230	1060	1320	661	1720	1620
4	1090	1130	1170	1000	820	820	1220	734	1310	652	2040	1620
5	1080	1130	1140	1120	820	830	1200	410	1170	649	2370	1650
6	1110	1140	1100	1200	820	820	1220	382	895	654	2330	1650
7	1130	1130	1140	1180	810	800	1190	368	883	847	1240	1420
8	1140	1130	1200	1160	800	820	1160	355	880	1140	929	1220
9	1140	1140	1200	1140	800	856	1220	439	850	1180	907	1200
10	1140	1150	1200	1120	800	833	1180	1130	746	1550	903	1210
11	1140	1150	1150	1100	800	832	1160	1190	798	1880	896	1200
12	1130	1150	1040	1060	800	809	1160	1260	768	1900	895	1210
13	1150	1150	1140	1000	800	808	1140	1270	721	1910	911	1090
14	1160	1090	1300	950	820	806	1140	1260	692	1940	907	1180
15	1160	964	1400	1000	740	813	1130	1280	679	1930	911	1020
16	1150	993	1300	1000	700	830	1130	1250	746	1930	919	899
17	1170	1040	1200	960	720	808	1130	1240	766	1930	919	899
18	1150	1040	1150	900	750	804	1140	1240	750	1940	898	899
19	1160	1030	1250	800	780	822	1130	1240	700	1690	847	936
20	1170	1030	1300	750	800	823	1130	1250	685	1500	826	932
21	1170	1030	1400	780	840	822	1130	1240	702	1650	1010	912
22	1170	1080	1400	820	860	819	1130	1250	697	1560	1470	883
23	1180	1160	1400	860	880	826	1120	1260	675	1520	1490	884
24	1200	1160	1350	840	880	847	1130	1260	648	1550	1510	884
25	1180	1170	1300	830	880	877	1110	1190	652	1600	1520	925
26	1180	1180	1250	820	860	873	1090	1280	638	1520	1520	937
27	1170	1160	1160	820	840	925	1080	1290	659	1470	1530	928
28	1190	1180	1140	820	800	1010	1110	1300	879	1460	1530	920
29	1190	1180	1050	820	---	1150	1110	1350	1400	1460	1540	920
30	1190	1180	1000	820	---	1210	1090	1350	1420	1450	1590	920
31	1150	---	1100	820	---	1220	---	1320	---	1580	1620	---
TOTAL	35570	33457	37470	29790	22680	26953	34580	33608	26409	44573	41118	34188
MEAN	1147	1115	1209	961	810	869	1153	1084	880	1438	1326	1140
MAX	1200	1180	1400	1200	880	1220	1240	1350	1420	1940	2370	1650
MIN	1070	964	1000	750	700	800	1080	355	638	649	826	883
AC-FT	70550	66360	74320	59090	44990	53460	68590	66660	52380	88410	81560	67810

CAL YR 1989 TOTAL 336252 MEAN 921 MAX 1870 MIN 230 AC-FT 667000
WTR YR 1990 TOTAL 400396 MEAN 1097 MAX 2370 MIN 355 AC-FT 794200

09217000 GREEN RIVER NEAR GREEN RIVER, WY--Continued

WATER-QUALITY RECORDS

LOCATION.--Daily water temperatures and samples of specific conductance and sediment collected at bridge on State Highway 530 in town of Green River, 0.8 mi upstream from Bitter Creek and 1.0 mi upstream from discharge station.

PERIOD OF RECORD.--Water years 1951 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1951 to current year.

WATER TEMPERATURES: May 1951 to current year.

SUSPENDED-SEDIMENT DISCHARGE: May 1951 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,870 microsiemens, Nov. 24, 1985; minimum daily, 212 microsiemens, Nov. 23, 1983.

WATER TEMPERATURES: Maximum 29.0°C, July 1, 1977; minimum, 0.0°C, on many days during winter period each year.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 15,000 mg/L, Aug. 11, 1963; minimum daily mean, 0 mg/L, Sept. 18, 1962.

SEDIMENT LOADS: Maximum daily, 110,000 tons, Mar. 28, 1962; minimum daily, 0 ton, Sept. 18, 1962.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 940 microsiemens, Dec. 2; minimum daily, 340 microsiemens, Aug. 6.

TEMPERATURES: Maximum daily, 24.0°C, Aug. 23, 28-29, 31, Sept. 3; minimum, 0.0°C on many days during November through March.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 282 mg/L, Apr. 8; minimum daily mean, 1 mg/L, Dec. 13.

SEDIMENT LOADS: Maximum daily, 883 tons, Apr. 8; minimum daily, 3.1 tons, Dec. 13.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO
OCT 06...	1030	1010	485	8.7	9.0	180	46	17	37	1
DEC 21...	1125	1610	545	8.4	0.0	230	58	20	32	0.9
FEB 07...	1450	814	645	8.5	0.0	240	61	21	40	1
APR 06...	1000	1220	540	8.6	6.0	210	53	19	42	1
JUN 19...	1230	683	580	8.9	19.5	200	47	20	46	1
AUG 22...	1255	1410	375	8.7	19.0	140	35	12	24	0.9

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
OCT 06...	2.7	130	110	4.9	0.2	0.5	296	0.40	808	<0.01
DEC 21...	2.8	160	110	5.0	0.3	5.3	329	0.45	1430	<0.01
FEB 07...	2.4	160	140	5.5	0.2	4.2	371	0.50	815	--
APR 06...	2.3	130	130	5.9	0.3	3.5	334	0.45	1100	--
JUN 19...	1.9	130	130	6.6	0.1	1.4	331	0.45	610	--
AUG 22...	0.7	100	68	3.5	0.2	3.0	206	0.28	786	--

GREEN RIVER BASIN

09217000 GREEN RIVER NEAR GREEN RIVER, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
OCT 06...	<0.1	0.02	0.02	0.38	0.4	0.03	<0.01	<0.01	<5
DEC 21...	<0.1	0.02	0.02	0.28	0.3	0.05	<0.01	<0.01	<5
FEB 07...	0.1	--	--	--	--	0.03	--	--	<5
APR 06...	<0.1	--	--	--	--	<0.03	--	--	<5
JUN 19...	<0.1	--	--	--	--	0.04	--	--	<5
AUG 22...	<0.1	--	--	--	--	<0.03	--	--	<5

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
JUL 30...	1650	1520	7
AUG 22...	1255	1410	81

SPECIFIC CONDUCTANCE MICROSIEMENS/CM AT 25 DEG C, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	555	599	554	557	704	650	643	586	560	475	380	397
2	464	514	940	543	661	643	586	603	560	467	392	404
3	504	569	528	542	665	667	658	740	564	541	373	376
4	558	582	545	571	672	657	564	620	571	552	354	379
5	545	565	515	569	664	656	647	793	569	559	352	405
6	492	554	550	561	662	672	589	793	576	559	340	365
7	548	582	515	549	637	656	615	790	577	444	402	395
8	545	529	536	196	664	710	611	601	571	420	425	400
9	553	538	518	204	666	675	644	570	576	460	416	403
10	555	533	558	469	676	676	655	569	584	451	447	406
11	558	566	535	764	778	708	646	560	616	444	463	407
12	557	563	641	645	852	705	595	559	623	426	459	413
13	567	567	589	647	802	656	595	766	618	413	411	410
14	545	505	571	645	772	696	613	674	648	410	432	416
15	502	555	613	651	806	690	597	590	625	416	423	433
16	502	547	616	634	826	684	609	582	594	418	454	430
17	537	547	546	637	729	763	590	611	578	427	440	431
18	505	518	660	638	669	700	606	580	544	412	438	444
19	500	548	529	647	673	734	601	565	569	417	452	441
20	501	516	629	---	644	706	601	555	595	---	368	448
21	542	518	554	615	640	714	718	550	589	434	367	469
22	544	516	699	610	636	713	613	556	541	408	382	444
23	554	460	484	595	644	720	614	540	543	432	359	443
24	541	460	614	591	650	594	630	563	556	415	363	453
25	511	454	614	624	633	718	635	567	741	429	399	434
26	511	500	611	676	663	680	608	549	565	435	382	438
27	516	537	622	683	669	669	608	581	545	418	380	446
28	512	537	546	684	653	691	607	583	623	411	407	449
29	600	609	550	675	---	591	590	566	504	408	374	489
30	509	516	548	679	---	597	602	550	451	394	411	460
31	493	---	551	702	---	587	---	549	---	405	400	---
MEAN	530	537	583	---	693	677	616	608	579	---	401	424
MAX	600	609	940	---	852	763	718	793	741	---	463	489
MIN	464	454	484	---	633	587	564	540	451	---	340	365

09217000 GREEN RIVER NEAR GREEN RIVER, WY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.0	6.0	.0	.0	.0	.0	9.0	11.0	5.5	20.0	19.5	23.0
2	15.0	6.0	.0	.0	.0	.0	10.0	10.0	9.0	20.0	20.5	22.0
3	16.5	6.0	.0	.0	.0	.0	11.0	9.0	13.0	20.0	19.5	24.0
4	16.0	6.0	.0	.0	.0	.0	10.0	10.0	13.5	21.0	20.5	23.0
5	16.0	6.0	.0	.0	.0	.0	---	9.0	16.5	21.0	21.0	23.0
6	13.0	6.0	.0	.0	.0	.0	8.0	10.5	18.0	21.0	21.0	23.0
7	17.0	6.0	.0	.0	.0	.0	7.0	11.5	18.0	21.5	23.5	21.0
8	15.0	6.0	.0	.0	.0	.0	9.0	10.0	18.0	21.0	18.0	23.0
9	13.0	6.0	.0	.0	.0	.0	10.0	10.0	18.5	20.5	22.5	22.0
10	13.5	6.0	.0	.0	.0	.0	11.0	9.0	20.0	21.0	20.0	22.5
11	13.0	6.0	.0	.0	.0	.0	10.0	12.0	16.0	21.0	22.5	22.0
12	12.0	6.0	.0	.0	.0	.0	11.0	10.5	18.5	21.0	21.0	23.0
13	12.0	6.0	.0	.0	.0	.0	11.0	11.0	18.0	20.5	22.5	22.0
14	9.5	5.0	.0	.0	.0	.0	11.0	12.0	18.5	20.0	20.0	19.0
15	8.0	6.0	.0	.0	.0	.0	11.0	14.0	16.5	20.5	18.0	21.0
16	9.5	6.0	.0	.0	.0	.0	11.0	15.0	17.0	20.0	19.0	19.0
17	9.0	6.0	.0	.0	.0	.0	11.0	15.0	18.0	20.5	21.0	20.0
18	9.0	6.0	.0	.0	.0	.0	12.0	15.0	17.5	21.0	20.5	18.0
19	9.0	6.0	.0	.0	.0	.0	11.0	11.0	19.0	20.0	21.5	12.0
20	9.0	3.0	.0	.0	.0	3.0	12.0	11.5	17.5	21.0	22.0	17.5
21	9.0	3.0	.0	.0	.0	5.0	10.0	12.0	18.0	21.0	22.0	17.0
22	9.0	3.0	.0	.0	.0	5.0	10.0	12.0	18.5	20.0	21.0	18.0
23	9.0	3.0	.0	.0	.0	6.0	10.0	14.0	18.5	20.5	24.0	18.0
24	8.5	3.0	.0	.0	.0	6.0	9.0	11.0	19.0	20.0	23.0	17.5
25	8.0	3.0	.0	.0	.0	7.0	10.0	11.5	19.5	20.0	23.0	18.5
26	8.0	3.0	.0	.0	.0	6.0	10.0	11.0	20.0	20.5	22.0	17.0
27	8.0	.0	.0	.0	.0	5.0	9.0	11.5	20.0	21.0	23.5	18.0
28	8.0	.0	.0	.0	.0	7.0	9.0	11.0	18.5	21.0	24.0	17.0
29	8.0	.0	.0	.0	---	10.0	9.0	11.5	20.0	20.5	24.0	17.0
30	7.0	.0	.0	.0	---	10.0	10.0	12.5	20.0	21.0	23.0	18.0
31	6.5	---	.0	.0	---	10.0	---	12.5	---	17.0	24.0	---
MEAN	10.9	4.5	.0	.0	.0	2.6	---	11.5	17.3	20.5	21.5	19.9
MAX	17.0	6.0	.0	.0	.0	10.0	---	15.0	20.0	21.5	24.0	24.0
MIN	6.5	.0	.0	.0	.0	.0	---	9.0	5.5	17.0	18.0	12.0

CAL YR 1989 MEAN 9.5 MAX 24.0 MIN .0
WTR YR 1990 MEAN 10.0 MAX 24.0 MIN .0

GREEN RIVER BASIN

09217000 GREEN RIVER NEAR GREEN RIVER, WY--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	1080	17	50	1150	9	28	1180	3	9.6
2	1080	20	58	1120	8	24	1180	11	35
3	1070	19	55	1120	34	103	1180	14	45
4	1090	15	44	1130	19	58	1170	16	51
5	1080	15	44	1130	8	24	1140	14	43
6	1110	17	51	1140	52	160	1100	7	21
7	1130	21	64	1130	33	101	1140	12	37
8	1140	21	65	1130	9	27	1200	13	42
9	1140	15	46	1140	12	37	1200	12	39
10	1140	10	31	1150	15	47	1200	20	65
11	1140	31	95	1150	11	34	1150	29	90
12	1130	18	55	1150	7	22	1040	10	28
13	1150	10	31	1150	9	28	1140	1	3.1
14	1160	16	50	1090	7	21	1300	11	39
15	1160	15	47	964	5	13	1400	4	15
16	1150	12	37	993	6	16	1300	11	39
17	1170	19	60	1040	8	22	1200	6	19
18	1150	16	50	1040	6	17	1150	25	78
19	1160	10	31	1030	4	11	1250	46	155
20	1170	10	32	1030	5	14	1300	179	628
21	1170	19	60	1030	7	19	1400	186	703
22	1170	21	66	1080	8	23	1400	186	703
23	1180	20	64	1160	8	25	1400	166	627
24	1200	22	71	1160	8	25	1350	163	594
25	1180	18	57	1170	9	28	1300	165	579
26	1180	11	35	1180	9	29	1250	68	229
27	1170	10	32	1160	10	31	1160	124	388
28	1190	11	35	1180	10	32	1140	22	68
29	1190	9	29	1180	49	156	1050	2	5.7
30	1190	12	39	1180	30	96	1000	4	11
31	1150	10	31	---	---	---	1100	4	12
TOTAL	35570	---	1515	33457	---	1271	37470	---	5401.4
JANUARY			FEBRUARY			MARCH			
1	1100	3	8.9	820	32	71	800	75	162
2	1100	3	8.9	820	42	93	820	64	142
3	1100	3	8.9	820	51	113	820	68	151
4	1000	3	8.1	820	58	128	820	64	142
5	1120	3	9.1	820	54	120	830	91	204
6	1200	4	13	820	45	100	820	88	195
7	1180	5	16	810	50	109	800	93	201
8	1160	8	25	800	51	110	820	72	159
9	1140	14	43	800	57	123	856	58	134
10	1120	35	106	800	48	104	833	81	182
11	1100	28	83	800	75	162	832	75	168
12	1060	8	23	800	60	130	809	54	118
13	1000	6	16	800	81	175	808	98	214
14	950	7	18	820	58	128	806	99	215
15	1000	6	16	740	57	114	813	56	123
16	1000	8	22	700	52	98	830	76	170
17	960	12	31	720	64	124	808	76	166
18	900	9	22	750	57	115	804	56	122
19	800	5	11	780	68	143	822	64	142
20	750	7	14	800	70	151	823	82	182
21	780	6	13	840	70	159	822	81	180
22	820	5	11	860	64	149	819	116	257
23	860	5	12	880	57	135	826	93	207
24	840	8	18	880	56	133	847	144	329
25	830	49	110	880	58	138	877	134	317
26	820	50	111	860	111	258	873	126	297
27	820	54	120	840	92	209	925	140	350
28	820	53	117	800	82	177	1010	122	333
29	820	49	108	---	---	---	1150	183	568
30	820	35	77	---	---	---	1210	232	758
31	820	38	84	---	---	---	1220	112	369
TOTAL	29790	---	1283.9	22680	---	3769	26953	---	7257

GREEN RIVER BASIN

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09217000 GREEN RIVER NEAR GREEN RIVER, WY--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	1240	62	208	1080	22	64	1360	66	242
2	1230	58	193	1080	28	82	1320	76	271
3	1230	69	229	1060	8	23	1320	33	118
4	1220	92	303	734	12	24	1310	38	134
5	1200	80	259	410	12	13	1170	80	253
6	1220	40	132	382	40	41	895	54	130
7	1190	153	492	368	45	45	883	26	62
8	1160	282	883	355	27	26	880	40	95
9	1220	80	264	439	45	53	850	22	50
10	1180	42	134	1130	78	238	746	22	44
11	1160	78	244	1190	54	174	798	38	82
12	1160	74	232	1260	66	225	768	26	54
13	1140	42	129	1270	72	247	721	62	121
14	1140	60	185	1260	99	337	692	44	82
15	1130	58	177	1280	114	394	679	52	95
16	1130	51	156	1250	70	236	746	51	103
17	1130	44	134	1240	54	181	766	63	130
18	1140	52	160	1240	58	194	750	21	43
19	1130	60	183	1240	66	221	700	15	28
20	1130	66	201	1250	45	152	685	21	39
21	1130	83	253	1240	40	134	702	50	95
22	1130	99	302	1250	57	192	697	27	51
23	1120	52	157	1260	52	177	675	12	22
24	1130	21	64	1260	62	211	648	12	21
25	1110	18	54	1190	64	206	652	39	69
26	1090	28	82	1280	58	200	638	44	76
27	1080	21	61	1290	45	157	659	33	59
28	1110	38	114	1300	27	95	879	65	154
29	1110	46	138	1350	36	131	1400	48	181
30	1090	33	97	1350	21	77	1420	43	165
31	---	---	---	1320	50	178	---	---	---
TOTAL	34580	---	6220	33608	---	4728	26409	---	3069
JULY			AUGUST			SEPTEMBER			
1	1170	31	98	1700	19	87	1610	35	152
2	700	35	66	1720	27	125	1610	43	187
3	661	32	57	1720	58	269	1620	23	101
4	652	21	37	2040	64	353	1620	14	61
5	649	16	28	2370	40	256	1650	18	80
6	654	24	42	2330	21	132	1650	16	71
7	847	142	325	1240	36	121	1420	17	65
8	1140	155	477	929	13	33	1220	13	43
9	1180	88	280	907	18	44	1200	6	19
10	1550	88	368	903	28	68	1210	16	52
11	1880	108	548	896	13	31	1200	60	194
12	1900	140	718	895	18	43	1210	10	33
13	1910	34	175	911	17	42	1090	4	12
14	1940	14	73	907	8	20	1180	8	25
15	1930	25	130	911	9	22	1020	13	36
16	1930	13	68	919	19	47	899	7	17
17	1930	5	26	919	11	27	899	7	17
18	1940	10	52	898	8	19	899	11	27
19	1690	24	110	847	12	27	936	17	43
20	1500	8	32	826	26	58	932	44	111
21	1650	4	18	1010	15	41	912	18	44
22	1560	19	80	1470	40	159	883	7	17
23	1520	23	94	1490	11	44	884	14	33
24	1550	67	280	1510	14	57	884	10	24
25	1600	66	285	1520	28	115	925	13	32
26	1520	76	312	1520	25	103	937	16	40
27	1470	31	123	1530	17	70	928	10	25
28	1460	20	79	1530	11	45	920	9	22
29	1460	24	95	1540	18	75	920	11	27
30	1450	20	78	1590	54	232	920	8	20
31	1580	34	145	1620	45	197	---	---	---
TOTAL YEAR	44573 400396	---	5299 44405.3	41118	---	2962	34188	---	1630

GREEN RIVER BASIN

09217010 GREEN RIVER BELOW GREEN RIVER, WY

LOCATION.--Lat 41°29'46", long 109°26'17", in SW¼ SE¼ NW¼ sec.36, T.18 N., R.107 W., Sweetwater County, Hydrologic Unit 14040106, at bridge on county road, 1.7 mi downstream from Bitter Creek, 2.7 mi southeast of town of Green River, and 3.3 mi upstream from Logan Draw.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
FEB												
07...	1520	814	0.0	0.01	0.1	0.08	0.08	0.12	0.2	0.05	0.05	0.04
APR												
06...	1300	1210	6.0	0.01	<0.1	0.04	0.05	0.56	0.6	0.06	0.03	0.02
JUN												
19...	1600	683	20.5	0.02	<0.1	0.15	0.16	1.1	1.3	0.07	0.07	0.06
AUG												
22...	1400	1410	19.0	<0.01	<0.1	0.01	0.02	0.59	0.6	0.04	0.02	<0.01

GREEN RIVER BASIN

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09218500 BLACKS FORK NEAR MILLBURNE, WY

LOCATION.--Lat 41°01'54", long 110°34'43", in NW¼ NE¼ SW¼ sec.11, T.12 N., R.117 W., Uinta County, Hydrologic Unit 14040107, on left bank 0.4 mi downstream from Meeks Cabin Dam, 2.7 mi north of Utah-Wyoming State line, and 17 mi southwest of Millburne.

DRAINAGE AREA.--152 mi².

PERIOD OF RECORD.--July 1939 to current year. Monthly discharge only for some periods, published in WSP 1313.

REVISED RECORDS.--WSP 929: 1940.

GAGE.--Water-stage recorder. Datum of gage is 8,512.27 ft above National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark). Prior to Oct. 1, 1971, at several sites about 2.0 mi downstream at various datums.

REMARKS.--Estimated daily discharges: Oct. 1-2. Records good. Flow completely regulated by Meeks Cabin Reservoir, capacity, 32,470 acre-ft, since June 1971. No diversion upstream from station.

AVERAGE DISCHARGE.--51 years, 162 ft³/s, 117,400 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,530 ft³/s, June 7, 1957, from rating curve extended above 1,500 ft³/s; maximum gage height, 6.46 ft in gage well, 6.76 ft from floodmarks, June 12, 1965, site and datum then in use; minimum daily discharge, 1.0 ft³/s, Sept. 15, 16, 1983, due to regulation by Meeks Cabin Dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 862 ft³/s, June 11, gage height, 4.02 ft; minimum daily, 10 ft³/s, Dec. 12, 13, 15, 23-27, Mar. 14 to May 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	29	22	11	12	11	10	10	421	507	133	93
2	44	29	22	11	13	11	10	10	421	507	133	93
3	43	29	22	11	13	11	10	10	419	507	132	93
4	43	29	23	11	13	11	10	10	415	507	131	89
5	43	29	23	11	13	11	10	11	572	507	131	86
6	43	29	23	11	13	11	10	11	718	507	131	86
7	43	29	23	11	12	11	10	12	730	507	121	84
8	43	29	23	11	12	11	10	12	780	507	113	84
9	43	29	23	12	12	11	10	13	822	507	113	84
10	43	26	23	12	12	11	10	29	822	468	113	84
11	44	23	18	12	12	11	10	39	837	412	111	91
12	44	22	10	12	12	11	10	37	852	393	111	98
13	44	22	10	12	12	11	10	36	828	393	111	98
14	44	22	11	12	12	10	10	35	822	391	99	98
15	44	22	10	12	12	10	10	103	822	388	88	98
16	44	22	11	12	12	10	10	173	814	388	88	98
17	44	22	11	12	12	10	10	182	813	341	88	98
18	44	22	11	12	12	10	10	182	813	314	88	98
19	44	22	11	12	12	10	10	182	717	314	88	98
20	40	22	11	12	12	10	10	182	646	314	87	98
21	36	22	11	12	12	10	10	184	646	305	71	98
22	36	22	11	12	12	10	10	288	660	305	59	98
23	36	22	10	12	12	10	10	372	678	305	59	98
24	36	22	10	12	12	10	10	517	675	269	59	98
25	36	22	10	12	12	10	10	562	663	237	59	118
26	36	22	10	12	12	10	10	503	650	237	59	137
27	31	22	10	12	11	10	10	500	634	237	59	137
28	28	22	11	12	11	10	10	500	630	234	77	137
29	28	22	11	12	---	10	10	459	566	234	93	137
30	29	22	11	12	---	10	10	426	517	234	93	137
31	29	---	11	12	---	10	---	422	---	180	93	---
TOTAL	1230	728	457	364	339	323	300	6012	20403	11456	2991	3044
MEAN	39.7	24.3	14.7	11.7	12.1	10.4	10.0	194	680	370	96.5	101
MAX	45	29	23	12	13	11	10	562	852	507	133	137
MIN	28	22	10	11	11	10	10	10	415	180	59	84
AC-FT	2440	1440	906	722	672	641	595	11920	40470	22720	5930	6040

CAL YR 1989 TOTAL 45418 MEAN 124 MAX 766 MIN 10 AC-FT 90090
WTR YR 1990 TOTAL 47647 MEAN 131 MAX 852 MIN 10 AC-FT 94510

GREEN RIVER BASIN

09220000 EAST FORK OF SMITHS FORK NEAR ROBERTSON, WY

LOCATION.--Lat 41°03'15", long 110°23'52", in NE¼ NW¼ NE¼ sec.5, T.12 N., R.115 W., Uinta County, Hydrologic Unit 14040107, Wasatch National Forest, on left bank 60 ft downstream from bridge, 1.0 mi upstream from Gilbert Creek, 6.1 mi downstream from State Line Reservoir, and 9.0 mi south of Robertson.

DRAINAGE AREA.--53.0 mi².

PERIOD OF RECORD.--July 1939 to current year (no winter records since 1971). Monthly discharge only for some periods, published in WSP 1313. Prior to Oct. 1, 1978, published as East Fork of Smith Fork near Robertson.

REVISED RECORDS.--WSP 979: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 8,470 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 12, 1957, at datum 3.96 ft higher.

REMARKS.--Estimated daily discharges: July 2-16. Records fair except those for estimated daily discharges, which are poor. Flow completely regulated by State Line Reservoir, 6.1 mi upstream, total capacity, 14,000 acre-ft, dead storage is about 2,000 acre-ft, since May 1979.

COOPERATION.--Records provided by Office of the Wyoming State Engineer and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--32 years (water years 1940-71), 47.1 ft³/s, 34,120 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,450 ft³/s, June 10, 1965, gage height, 6.75 ft; no flow part of each day Apr. 17-22, 24, 25, 1950; minimum gage height, 3.26 ft, present datum, Apr. 22, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 217 ft³/s, June 11, gage height, 4.96 ft; minimum daily during period of operation, 7.3 ft³/s, May 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	8.6	133	160	62	21
2	---	---	---	---	---	---	---	7.3	133	160	62	24
3	---	---	---	---	---	---	---	8.6	131	160	62	22
4	---	---	---	---	---	---	---	14	131	160	62	21
5	---	---	---	---	---	---	---	14	151	155	62	22
6	---	---	---	---	---	---	---	14	176	150	64	25
7	---	---	---	---	---	---	---	14	178	150	64	34
8	---	---	---	---	---	---	---	14	186	150	64	38
9	---	---	---	---	---	---	---	15	200	150	58	38
10	---	---	---	---	---	---	---	14	206	150	54	37
11	---	---	---	---	---	---	---	15	194	150	54	37
12	---	---	---	---	---	---	---	15	158	140	55	38
13	---	---	---	---	---	---	---	15	144	130	55	33
14	---	---	---	---	---	---	---	15	146	130	54	27
15	---	---	---	---	---	---	---	18	146	130	54	27
16	---	---	---	---	---	---	---	34	149	130	44	28
17	---	---	---	---	---	---	---	57	149	129	33	26
18	---	---	---	---	---	---	---	56	158	131	33	26
19	---	---	---	---	---	---	---	55	176	123	33	27
20	---	---	---	---	---	---	---	55	176	115	33	25
21	---	---	---	---	---	---	---	54	181	111	33	24
22	---	---	---	---	---	---	---	65	186	111	33	23
23	---	---	---	---	---	---	---	83	191	111	28	23
24	---	---	---	---	---	---	---	102	191	115	22	24
25	---	---	---	---	---	---	---	129	191	113	23	24
26	---	---	---	---	---	---	---	129	197	82	22	23
27	---	---	---	---	---	---	---	129	208	64	22	19
28	---	---	---	---	---	---	---	129	200	62	22	15
29	---	---	---	---	---	---	---	131	176	62	22	15
30	---	---	---	---	---	---	---	133	158	62	21	15
31	---	---	---	---	---	---	---	133	---	64	20	---
TOTAL	---	---	---	---	---	---	---	1675.5	5100	3810	1330	781
MEAN	---	---	---	---	---	---	---	54.0	170	123	42.9	26.0
MAX	---	---	---	---	---	---	---	133	208	160	64	38
MIN	---	---	---	---	---	---	---	7.3	131	62	20	15
AC-FT	---	---	---	---	---	---	---	3320	10120	7560	2640	1550

09223000 HAMS FORK BELOW POLE CREEK, NEAR FRONTIER, WY

LOCATION.--Lat 42°06'38", long 110°42'32", in NE¼ SE¼ NW¼ sec.35, T.25 N., R.117 W., Lincoln County, Hydrologic Unit 14040107, on left bank 2.0 mi downstream from Pole Creek, 4.6 mi upstream from Taylor Creek, and 22 mi northwest of Frontier.

DRAINAGE AREA.--128 mi².

PERIOD OF RECORD.--October 1952 to current year. Prior to October 1970, published as "near Elk Creek ranger station."

GAGE.--Water-stage recorder. Elevation of gage is 7,455 ft above National Geodetic Vertical Datum of 1929, from topographic map. October 1952 to Sept. 2, 1971, at site 270 ft upstream at present datum, Sept. 3, 1971, to July 30, 1980, at site 150 ft upstream at present datum.

REMARKS.--Estimated daily discharges: Oct. 29 to Apr. 13. Records good except those for estimated daily discharges, which are poor. No diversion upstream from station.

AVERAGE DISCHARGE.--38 years, 102 ft³/s, 73,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,230 ft³/s, June 5, 1986, gage height, 6.72 ft; maximum gage height, 8.10 ft, May 28, 1971, site then in use; minimum daily discharge, 0.10 ft³/s, Aug. 17, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 350 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 28	1230	*402	*4.37	June 11	1600	374	4.30

Minimum daily discharge, 9.3 ft³/s, Sept. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	15	19	12	13	13	24	143	206	90	26	15
2	20	15	18	12	13	13	30	143	197	87	26	15
3	19	15	18	12	13	13	35	141	184	83	26	18
4	17	15	18	12	14	13	40	138	186	76	25	17
5	17	16	17	12	14	13	50	141	215	71	24	17
6	16	16	17	11	14	14	58	157	247	67	24	18
7	16	15	16	11	13	13	66	197	253	61	23	15
8	16	15	16	11	13	13	74	198	254	60	22	13
9	16	15	15	11	13	13	78	178	258	63	21	12
10	15	15	15	11	13	14	82	159	269	61	20	12
11	15	15	14	12	14	15	86	152	331	56	21	11
12	14	15	14	13	15	14	92	150	307	51	21	11
13	14	15	13	14	13	13	100	172	251	48	22	9.6
14	15	15	13	15	12	12	130	179	209	47	21	9.3
15	14	15	13	14	12	12	171	182	186	46	19	9.4
16	14	15	13	13	12	12	182	158	197	44	18	11
17	14	15	12	12	12	13	189	144	196	41	25	11
18	14	16	12	12	12	13	177	141	164	39	29	11
19	14	16	12	12	12	13	166	154	154	41	27	13
20	14	17	12	12	12	13	167	161	153	39	25	28
21	14	17	12	12	12	14	164	154	150	41	31	22
22	14	18	12	12	12	16	174	164	147	40	27	19
23	15	18	12	12	12	16	183	194	142	38	23	17
24	15	19	12	12	12	16	171	236	137	40	21	16
25	14	20	13	12	13	17	155	230	130	41	20	15
26	15	19	13	12	13	17	146	198	124	37	18	16
27	15	19	14	12	13	17	134	188	117	34	16	15
28	16	19	14	12	13	17	299	189	109	31	15	15
29	15	19	14	12	---	16	214	199	101	30	14	15
30	15	19	13	13	---	17	167	208	94	29	14	15
31	15	---	12	13	---	20	---	211	---	28	15	---
TOTAL	475	493	438	378	359	445	3804	5359	5668	1560	679	441.3
MEAN	15.3	16.4	14.1	12.2	12.8	14.4	127	173	189	50.3	21.9	14.7
MAX	20	20	19	15	15	20	299	236	331	90	31	28
MIN	14	15	12	11	12	12	24	138	94	28	14	9.3
AC-FT	942	978	869	750	712	883	7550	10630	11240	3090	1350	875

CAL YR 1989 TOTAL 26643.0 MEAN 73.0 MAX 495 MIN 8.0 AC-FT 52850
WTR YR 1990 TOTAL 20099.3 MEAN 55.1 MAX 331 MIN 9.3 AC-FT 39870

09224700 BLACKS FORK NEAR LITTLE AMERICA, WY

LOCATION.--Lat 41°32'46", long 109°41'34", in NE¼ NE¼ NE¼ sec.15, T.18 N., R.109 W., Sweetwater County, Hydrologic Unit 14040107, on right bank 200 ft upstream from bridge on U.S. Highway 30, 4.2 mi upstream from Meadow Springs Wash, and 8.5 mi east of Little America.

DRAINAGE AREA.--3,100 mi², approximately.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 6,127.66 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 28 to Dec. 1, Dec. 9 to Feb. 25, Mar. 2-16, and Sept. 20-25. Records good except those for estimated daily discharges, which are poor. Natural flow of stream affected by regulation from Meeks Cabin Reservoir, capacity, 32,470 acre-ft, since June 1971, Viva Naughton Reservoir, capacity, 42,400 acre-ft, from State Line Reservoir, capacity, 14,000 acre-ft, since April 1980, numerous smaller reservoirs, and diversions for irrigation of about 76,100 acres upstream from station. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--28 years, 347 ft³/s, 251,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,980 ft³/s, June 13, 1965, gage height, 10.90 ft; no flow Sept. 20-26, 1962 and Aug. 20 to Sept. 14, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 876 ft³/s, Aug. 18, gage height, 5.72 ft; maximum gage height, 5.84 ft, Mar. 7 (backwater from ice); minimum daily discharge, 7.5 ft³/s, Sept. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	42	42	37	41	121	119	54	123	68	73	61
2	37	39	43	36	40	130	109	84	126	67	71	51
3	39	42	46	35	40	140	99	98	126	66	63	43
4	42	47	49	34	39	150	92	87	136	69	49	39
5	45	54	51	33	39	160	86	74	137	84	41	34
6	45	66	55	33	38	190	79	62	111	87	36	24
7	45	58	56	33	38	250	71	47	107	85	35	22
8	45	52	52	34	38	220	68	39	118	74	33	21
9	46	50	52	34	37	270	72	36	131	69	26	26
10	47	49	54	35	40	220	65	32	141	69	21	23
11	43	49	45	38	43	190	57	29	166	84	16	20
12	41	48	39	41	47	160	52	35	214	89	17	16
13	38	47	38	44	48	150	47	41	354	80	22	14
14	36	41	37	47	47	130	41	37	452	74	20	11
15	35	34	36	50	46	120	36	33	477	71	20	8.7
16	31	33	35	54	44	190	30	27	499	72	23	8.2
17	31	37	34	62	43	159	23	35	433	79	141	8.1
18	46	42	33	64	43	160	22	43	390	89	493	7.5
19	51	47	32	62	44	161	22	45	312	87	122	10
20	87	54	31	60	45	143	20	43	250	86	77	9.9
21	111	54	30	56	47	137	22	49	197	90	64	9.2
22	130	52	31	54	50	148	26	75	176	100	64	9.8
23	124	48	34	52	60	151	25	55	154	92	70	12
24	101	45	35	50	72	154	24	54	129	82	73	17
25	84	41	36	48	86	150	26	44	116	81	71	22
26	71	38	37	47	96	148	42	45	116	120	68	20
27	62	37	36	47	106	124	38	72	110	185	63	18
28	54	36	36	47	114	115	38	71	88	106	62	17
29	48	38	36	45	---	112	37	82	78	83	61	18
30	42	40	37	44	---	113	48	120	70	85	65	17
31	44	---	38	42	---	118	---	126	---	75	64	---
TOTAL	1739	1360	1246	1398	1471	4884	1536	1774	6037	2648	2124	617.4
MEAN	56.1	45.3	40.2	45.1	52.5	158	51.2	57.2	201	85.4	68.5	20.6
MAX	130	66	56	64	114	270	119	126	499	185	493	61
MIN	31	33	30	33	37	112	20	27	70	66	16	7.5
AC-FT	3450	2700	2470	2770	2920	9690	3050	3520	11970	5250	4210	1220

CAL YR 1989 TOTAL 39701 MEAN 109 MAX 410 MIN 12 AC-FT 78750
WTR YR 1990 TOTAL 26834.4 MEAN 73.5 MAX 499 MIN 7.5 AC-FT 53230

09224700 BLACKS FORK NEAR LITTLE AMERICA, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1951 to current year.

WATER TEMPERATURES: March 1951 to September 1963, December 1964 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Published as "near Green River" prior to October 1953 and as "near Marston" October 1953 to September 1964. Partial record of specific conductance and temperature for water years 1979 and 1980 are available at District Office. Water-temperature records represent water temperature at sensor within 0.1°C.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 6,010 microsiemens, Oct. 1, 1953; minimum daily, 194 microsiemens, May 17, 1984.

WATER TEMPERATURES: Maximum, 40.0°C, July 31, Aug. 1, 2, 3, 4, 1984; minimum, 0.0°C on many days during winter period most years.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,700 microsiemens, Apr. 23; minimum daily, 563 microsiemens, Aug. 19.

WATER TEMPERATURES: Maximum, 29.0°C, Aug. 8; minimum, 0.0°C on many days October through March.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)
SEP 21...	0945	60	1330	10.5	330	86	29	170	4	3.1	130

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
SEP 21...	470	39	0.7	4.8	881	1.20	143	<0.1	200	<50	<5

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)
OCT 05...	1040	45	1630	7.0	520	120	53	190	4	4.9	170
NOV 15...	1155	34	2030	0.5	630	150	63	250	4	4.5	200
DEC 06...	1020	53	1260	0.0	490	120	46	140	3	3.7	220
FEB 07...	0920	38	1450	0.0	510	130	45	150	3	4.8	240
APR 02...	1045	113	1390	8.0	420	100	42	160	3	6.8	150
MAY 23...	1740	52	1920	19.5	390	84	43	280	6	8.6	160
JUN 12...	1500	226	1050	15.0	360	87	34	99	2	4.5	210
JUL 26...	0945	104	1320	17.5	420	100	41	140	3	3.5	190
AUG 22...	0930	62	836	16.0	250	67	21	96	3	4.5	130
SEP 13...	1505	13	--	22.0	--	--	--	--	--	--	--

GREEN RIVER BASIN

09224700 BLACKS FORK NEAR LITTLE AMERICA, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
OCT 05...	720	54	0.5	4.3	1250	1.70	152	0.1	410	50	<1
NOV 15...	680	95	0.6	5.4	1370	1.86	126	<0.1	600	60	<5
DEC 06...	450	52	0.5	4.0	948	1.29	136	<0.1	200	<50	<5
FEB 07...	510	65	0.4	4.8	1050	1.43	108	<0.1	500	<50	<5
APR 02...	450	86	0.4	5.3	941	1.28	287	<0.1	340	<50	<5
MAY 23...	700	94	0.6	12	1320	1.79	185	0.2	470	<50	<5
JUN 12...	270	38	0.2	8.7	671	0.91	409	0.7	210	70	<5
JUL 26...	440	30	0.4	7.6	877	1.19	246	<0.1	260	<50	<5
AUG 22...	250	35	0.4	6.5	559	0.76	93.5	<0.1	330	<50	<5
SEP 13...	--	--	--	--	--	--	--	--	--	--	--

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1500	1800	1750	1650	---	998	1400	2200	1090	---	1290	730
2	1560	1850	1650	1670	---	1480	1470	2320	1200	---	1260	752
3	1640	1660	1670	---	---	1380	1560	2500	1220	---	1180	733
4	1710	1790	1620	---	---	1040	1530	2120	1250	---	1090	735
5	1650	1640	1470	---	---	1000	1520	2070	1310	---	1130	753
6	1590	1830	1390	---	---	1150	1520	1940	1180	---	1210	793
7	1510	2050	1390	---	---	1160	1520	2000	1200	---	1240	854
8	1510	2070	1400	---	---	1170	1510	2050	1200	---	1260	908
9	1510	2030	1400	---	---	1190	1440	2150	1150	---	1260	1290
10	1510	1840	1420	---	---	1220	1440	2320	1100	---	1220	1910
11	1520	1720	1450	---	---	1240	1510	2380	1070	---	1210	1690
12	1550	1850	1480	1270	---	1240	1710	2370	1080	---	1200	1550
13	1580	1760	1510	1440	---	1270	1830	2370	1090	---	1280	1580
14	1630	1810	1660	1440	---	1290	1760	2420	1030	---	1360	1490
15	1660	1850	1720	1460	---	1300	1740	2090	900	---	1450	1420
16	1660	1820	1800	1530	---	1330	1800	2050	791	---	1340	1460
17	1710	1790	1600	1630	---	1330	1880	2210	756	---	1290	1460
18	1750	1660	1670	1690	---	1340	1950	2360	805	---	654	1420
19	1690	1500	1820	1630	---	1400	2000	2370	871	---	563	1420
20	1410	1620	1830	1640	---	1370	2100	2400	915	---	584	1380
21	1120	1810	1830	1680	---	1360	2180	2120	917	---	662	1570
22	1020	1640	1860	1710	---	1340	2420	1830	930	---	828	1570
23	931	1500	1780	1760	---	1310	2700	1970	---	---	1140	1890
24	931	1450	1660	1730	1010	1290	2560	1760	---	---	1150	2280
25	1050	1380	1600	1750	1150	1270	2270	2320	---	---	967	2340
26	1190	1400	1570	1740	1090	1230	2260	---	---	---	884	1570
27	1350	1540	1540	1700	1040	1280	2280	---	---	---	886	1440
28	1430	1450	1540	---	1010	1240	2300	1810	---	---	884	1660
29	1560	1730	1570	---	---	1310	2060	1460	---	---	859	1740
30	1590	1800	1610	---	---	1390	2330	1160	---	---	808	1770
31	1760	---	1670	---	---	1360	---	1060	---	1310	766	---
MEAN	1480	1720	1610	---	---	1270	1880	---	---	---	1060	1410
MAX	1760	2070	1860	---	---	1480	2700	---	---	---	1450	2340
MIN	931	1380	1390	---	---	998	1400	---	---	---	563	730

09224700 BLACKS FORK NEAR LITTLE AMERICA, WY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	14.7	7.5	2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0
2	13.5	6.8	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3	13.9	4.3	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0
4	12.8	7.5	3.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
5	12.9	4.2	2.9	.0	.0	.0	.0	.0	.0	.0	.0	.0
6	12.3	5.0	4.4	.0	.0	.0	.0	.0	.0	.0	.0	.0
7	13.1	5.4	2.6	.0	.0	.0	.0	.0	.0	.0	.1	.0
8	12.7	5.2	.4	.0	.0	.0	.0	.0	.0	.0	1.2	.0
9	13.7	5.4	4.9	.0	.0	.0	.0	.0	.0	.0	1.1	.0
10	14.0	6.1	5.7	.9	.0	.0	.0	.0	.0	.0	3.7	.0
11	12.4	6.2	6.3	.3	.0	.0	.0	.0	.0	.0	3.7	.6
12	13.1	4.7	4.7	.0	.0	.0	.0	.0	.0	.0	2.3	.0
13	13.7	5.2	5.0	.0	.0	.0	.0	.0	.0	.0	1.7	.0
14	13.9	7.1	2.3	.0	.0	.0	.0	.0	.0	.0	.1	.0
15	14.5	6.5	.3	.0	.0	.0	.0	.0	.0	.0	1.3	.0
16	12.3	5.0	.0	.0	.0	.0	.0	.0	.0	.0	2.3	.0
17	11.5	3.6	2.4	.0	.0	.0	.0	.0	.0	.0	2.3	.0
18	9.6	2.2	3.3	.0	.0	.0	.0	.0	.0	.0	6.2	.6
19	9.8	2.0	2.8	.0	.0	.0	.0	.0	.0	.0	7.8	1.6
20	8.2	2.9	2.1	.0	.0	.0	.0	.0	.0	.0	8.6	3.0
21	8.6	3.4	1.7	.0	.0	.0	.0	.0	.0	.0	9.3	3.0
22	10.4	5.2	1.3	.0	.0	.0	.0	.0	.0	.0	8.3	3.3
23	10.9	5.8	1.0	.0	.0	.0	.0	.0	.0	.0	7.3	3.3
24	11.1	5.0	1.3	.0	.0	.0	.0	.0	.0	.0	7.3	.6
25	7.7	5.6	.4	.0	.0	.0	.0	.0	.0	.0	7.4	2.0
26	5.8	2.6	.9	.0	.0	.0	.0	.0	.0	.0	8.7	1.8
27	6.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	8.5	4.1
28	4.3	.1	.0	.0	.0	.0	.0	.0	.0	.0	3.7	1.1
29	4.7	.0	.0	.0	.0	.0	.0	.0	---	---	2.9	.6
30	3.8	.0	.0	.0	.0	.0	.0	.0	---	---	8.8	.0
31	1.3	.0	---	---	.0	.0	.0	.0	---	---	11.6	3.0
MONTH	14.7	.0	6.3	.0	.0	.0	.0	.0	.0	.0	11.6	.0
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	13.5	5.4	14.5	2.1	10.7	6.4	---	---	21.8	15.0	20.2	15.4
2	---	---	16.4	5.6	14.3	4.9	---	---	22.5	13.6	21.3	15.8
3	15.5	7.7	16.5	9.2	18.8	8.8	---	---	24.4	14.3	25.0	15.0
4	13.9	8.3	16.9	8.4	20.9	12.9	---	---	24.9	14.1	24.8	16.4
5	12.4	6.1	19.2	8.8	20.9	12.7	---	---	26.8	14.7	23.8	17.1
6	11.9	2.8	19.4	10.4	20.9	12.1	---	---	27.3	16.0	26.6	15.4
7	11.2	5.1	16.2	9.3	20.0	12.7	---	---	28.2	16.8	26.7	15.8
8	12.4	6.6	12.3	5.1	21.7	12.1	---	---	29.0	17.8	26.5	16.0
9	9.9	5.8	15.4	2.6	20.7	13.5	---	---	27.6	17.5	23.7	15.4
10	13.7	4.8	17.0	5.2	21.3	15.2	---	---	26.8	16.4	23.5	14.0
11	12.4	6.3	17.5	8.0	17.2	13.7	---	---	26.5	16.3	23.9	12.2
12	13.3	7.1	15.7	7.9	14.5	10.7	---	---	27.7	14.9	25.0	13.5
13	14.1	5.5	14.7	8.3	15.2	9.4	---	---	27.1	16.4	---	---
14	14.7	6.4	13.1	7.2	16.0	10.3	---	---	26.6	15.1	---	---
15	17.4	7.3	17.9	6.9	16.8	11.3	---	---	23.6	15.5	---	---
16	16.6	8.2	16.6	6.7	17.0	12.9	---	---	25.5	14.8	---	---
17	14.9	5.0	20.0	6.8	20.0	11.1	---	---	27.2	16.1	---	---
18	16.2	6.5	16.4	10.8	20.9	14.5	---	---	22.0	15.5	---	---
19	19.1	7.8	16.1	9.0	20.9	13.9	---	---	18.8	14.7	---	---
20	19.6	9.7	17.4	9.1	21.9	15.0	---	---	20.2	13.6	---	---
21	17.2	9.5	21.8	9.5	22.5	14.3	---	---	23.4	13.5	---	---
22	12.8	8.7	20.9	13.3	24.7	15.4	---	---	20.3	16.0	---	---
23	16.5	8.0	21.1	11.5	25.0	17.8	---	---	21.0	12.2	---	---
24	16.4	9.7	13.9	7.6	25.2	16.2	---	---	20.5	13.0	---	---
25	16.4	8.1	16.6	5.6	25.6	18.4	---	---	21.8	13.7	---	---
26	10.4	5.2	16.4	6.8	27.4	17.6	---	---	23.1	13.2	---	---
27	9.1	3.8	19.2	7.8	25.8	16.6	---	---	22.9	13.2	---	---
28	7.3	.0	14.1	10.5	26.2	15.2	---	---	22.9	13.0	---	---
29	11.0	.0	16.4	9.0	28.2	16.6	---	---	23.9	13.7	---	---
30	12.1	2.4	14.5	9.4	26.2	16.6	---	---	20.6	16.3	---	---
31	---	---	16.0	9.0	---	---	25.3	16.6	23.6	15.1	---	---
MONTH	---	---	21.8	2.1	28.2	4.9	---	---	29.0	12.2	---	---

09229500 HENRYS FORK NEAR MANILA, UT

LOCATION.--Lat 41°00'45", long 109°40'20", in NW¼ NW¼ sec.23, T.12 N., R.109 W., Sweetwater County, WY, Hydrologic Unit 14040106, on right bank 0.8 mi north of Wyoming-Utah State line, 1.3 mi upstream from normal high-water line of Flaming Gorge Reservoir at elevation 6,045 ft, and 3.0 mi northeast of Manila, UT.

DRAINAGE AREA.--520 mi², approximately.

PERIOD OF RECORD.--October 1928 to current year. Prior to October 1971, published as "at Linwood, UT."

REVISED RECORDS.--WSP 1443: 1955. WDR WY-76-2: 1970.

GAGE.--Water-stage recorder. Elevation of gage is 6,060 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1957, nonrecording gages or water-stage recorder at several sites about 2.0 mi downstream at various datums. Oct. 1, 1957, to Dec. 2, 1965, water-stage recorders at sites about 1.0 mi upstream at different datums.

REMARKS.--Estimated daily discharges: Oct. 30 to Mar. 21, July 28-30. Records fair except those for November to March, which are poor. Peoples Irrigation Canal diverts 5.9 mi upstream. Natural flow of stream affected by transbasin diversions, small storage reservoirs, diversions for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE.--62 years, 84.5 ft³/s, 61,220 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge determined, 6,750 ft³/s, Aug. 3, 1936, gage height, 7.19 ft, site and datum then in use, from floodmarks, from rating curve extended above 570 ft³/s on basis of slope-area measurement of peak flow; higher discharge occurred July 15, 1959, gage height, 9.42 ft, site and datum then in use, discharge not determined; no flow for several days in 1933-35, 1939-40.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,450 ft³/s, June 12, gage height, 6.36 ft; minimum daily, 1.2 ft³/s, Sept. 14-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	25	32	29	35	38	59	2.6	26	51	4.5	2.3
2	5.5	26	34	28	37	37	61	2.2	56	59	4.2	2.0
3	5.7	28	36	28	37	39	60	2.2	29	63	3.7	2.0
4	5.5	31	37	27	37	38	58	2.4	19	77	3.5	2.0
5	5.6	35	38	28	38	37	51	2.4	64	58	3.3	1.8
6	6.1	35	38	28	38	36	47	2.5	215	42	3.2	1.9
7	6.1	33	38	30	34	36	45	2.4	287	30	3.1	1.8
8	6.1	30	38	32	32	37	44	2.5	290	22	3.1	1.7
9	5.8	35	37	35	32	39	50	2.4	315	21	3.0	1.7
10	5.5	45	33	45	37	41	48	2.5	396	15	2.9	1.7
11	5.2	48	30	44	36	40	40	2.6	861	15	3.2	1.5
12	5.6	50	28	44	36	36	38	2.8	1170	12	3.3	1.3
13	5.5	45	29	43	35	31	36	2.6	527	12	2.9	1.3
14	5.5	40	31	43	35	29	34	2.6	304	11	2.5	1.2
15	5.6	33	32	41	34	27	30	2.8	199	17	2.5	1.2
16	5.2	35	30	40	33	28	30	2.6	187	16	2.6	1.3
17	5.2	40	28	43	34	30	33	2.7	147	11	2.9	1.5
18	5.5	45	26	46	34	33	30	2.7	118	12	2.7	1.5
19	5.6	47	25	42	35	37	32	2.7	106	12	2.4	1.9
20	6.7	47	25	38	35	50	27	2.6	104	12	2.4	2.0
21	8.1	45	27	38	35	70	22	2.5	97	9.0	2.3	55
22	8.0	44	25	38	34	85	8.7	2.5	103	9.0	2.3	4.8
23	8.0	43	26	39	34	80	7.6	2.7	104	9.1	2.4	3.4
24	7.8	42	28	39	36	69	4.9	4.0	87	8.5	2.3	3.2
25	7.4	40	32	39	39	59	4.8	7.7	87	8.5	2.2	9.3
26	17	38	31	39	43	56	3.8	3.9	97	7.9	2.2	11
27	29	37	30	37	45	51	2.5	3.6	84	7.5	2.2	3.4
28	28	35	30	37	39	52	2.4	3.8	72	6.5	2.1	3.2
29	29	33	31	38	---	51	2.2	11	65	5.7	2.1	2.8
30	28	30	32	38	---	51	3.3	23	56	5.0	1.9	2.9
31	26	---	30	40	---	57	---	26	---	4.8	27	---
TOTAL	308.9	1140	967	1156	1009	1400	915.2	141.5	6272	649.5	110.9	132.6
MEAN	9.96	38.0	31.2	37.3	36.0	45.2	30.5	4.56	209	21.0	3.58	4.42
MAX	29	50	38	46	45	85	61	26	1170	77	27	55
MIN	5.1	25	25	27	32	27	2.2	2.2	19	4.8	1.9	1.2
AC-FT	613	2260	1920	2290	2000	2780	1820	281	12440	1290	220	263

CAL YR 1989 TOTAL 10001.5 MEAN 27.4 MAX 108 MIN 2.1 AC-FT 19840
WTR YR 1990 TOTAL 14202.6 MEAN 38.9 MAX 1170 MIN 1.2 AC-FT 28170

09234400 FLAMING GORGE RESERVOIR AT FLAMING GORGE DAM, UT

LOCATION.--Lat 40°54'23", long 109°25'15", in NW¼ NE¼ sec.15, T.2 N., R.22 E., Daggett County, Hydrologic Unit 14040106, at Flaming Gorge Dam on Green River, 1.8 mi southwest of Dutch John, and 4.9 mi northeast of Greendale.

DRAINAGE AREA.--19,350 mi², of which about 4,260 mi², including 3,959 mi² in Great Divide Basin in southern Wyoming, is probably noncontributing.

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

REVISED RECORDS.--WDR UT-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,871 ft above NGVD of 1929, (levels by Bureau of Reclamation). Prior to Jan. 1, 1964, on left bank 600 ft upstream from face of dam.

REMARKS.--Records excellent. Reservoir is formed by concrete arch-type dam; storage began Nov. 1, 1962; mass concrete of dam completed Nov. 15, 1962. Total capacity, 3,789,000 acre-ft, consisting of the following: Dead storage, 39,700 acre-ft below elevation 5,740 ft; inactive usable storage, 233,500 acre-ft between elevations 5,740 ft and 5,871 ft; active usable storage, 3,516,000 acre-ft between elevations 5,871 ft and 6,040 ft (top of conservation pool). Reservoir is used for flood control, storage replacement to meet downstream requirements under the Colorado River Compact of 1922, and power development. Figures given herein represent usable contents. Transbasin diversions and diversions for irrigation above station.

COOPERATION.--Records provided by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 3,911,000 acre-ft, July 13, 1983, elevation, 6,043.80 ft; minimum, 582,900 acre-ft, Apr. 26, 1965, elevation, 5908.90 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 3,093,000 acre-ft, Sept. 11-13, elevation, 6,023.26 ft; minimum observed, 2,924,000 acre-ft, Nov. 1, elevation, 6,018.51 ft.

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

6,015 2,804,000 6,020 2,977,000 6,025 3,157,000

RESERVOIR STORAGE, IN THOUSANDS OF AC-FT, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
INSTANTANEOUS OBSERVATIONS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2960	2924	2932	2942	2944	2947	2969	2999	3023	3043	3067	3082
2	2959	2925	2933	2943	2943	2947	2970	3000	3024	3042	3067	3083
3	2957	2925	2934	2943	2943	2946	2971	3000	3025	3041	3068	3085
4	2954	2926	2934	2943	2943	2947	2972	3000	3026	3040	3070	3086
5	2952	2927	2934	2943	2943	2947	2974	2997	3027	3040	3072	3088
6	2950	2928	2935	2943	2943	2948	2975	2995	3028	3040	3074	3089
7	2947	2928	2936	2943	2943	2950	2976	2994	3029	3041	3074	3090
8	2944	2928	2936	2944	2943	2952	2977	2995	3030	3041	3074	3091
9	2942	2927	2937	2944	2943	2954	2978	2995	3031	3042	3074	3092
10	2941	2928	2938	2944	2943	2955	2980	2997	3032	3042	3074	3092
11	2941	2929	2938	2945	2944	2955	2981	2998	3034	3042	3074	3093
12	2941	2928	2939	2945	2944	2956	2983	2999	3038	3042	3074	3093
13	2940	2929	2939	2946	2944	2956	2984	3000	3040	3043	3074	3093
14	2940	2929	2940	2947	2944	2957	2985	3001	3041	3045	3074	3092
15	2940	2930	2941	2948	2944	2957	2986	3002	3041	3046	3074	3092
16	2940	2928	2942	2948	2944	2958	2988	3003	3043	3048	3074	3091
17	2941	2928	2942	2947	2944	2958	2989	3004	3044	3050	3074	3091
18	2942	2928	2942	2947	2944	2959	2990	3005	3044	3053	3074	3089
19	2942	2929	2942	2947	2944	2959	2992	3005	3045	3054	3074	3089
20	2943	2930	2942	2947	2944	2961	2993	3006	3045	3055	3073	3090
21	2944	2930	2943	2946	2945	2961	2994	3008	3045	3055	3073	3090
22	2944	2930	2942	2946	2945	2962	2995	3009	3045	3057	3074	3089
23	2944	2931	2943	2946	2945	2963	2996	3009	3045	3058	3074	3089
24	2944	2932	2944	2945	2945	2963	2997	3010	3045	3058	3075	3088
25	2945	2932	2944	2945	2946	2964	2998	3011	3043	3059	3076	3087
26	2944	2933	2944	2944	2946	2964	2998	3011	3042	3060	3076	3087
27	2942	2934	2944	2943	2946	2965	2999	3012	3041	3061	3077	3087
28	2941	2934	2944	2943	2946	2965	3000	3013	3040	3063	3078	3087
29	2939	2935	2943	2942	---	2965	3001	3014	3040	3064	3079	3085
30	2938	2935	2944	2942	---	2966	2999	3014	3040	3065	3080	3082
31	2936	---	2944	2942	---	2968	---	3015	---	3066	3081	---
MAX	2960	2935	2944	2948	2946	2968	3001	3015	3045	3066	3081	3093
MIN	2936	2924	2932	2942	2943	2946	2969	2994	3022	3040	3067	3082
(#)	6018.85	6018.82	6019.08	6019.00	6019.14	6019.75	6020.62	6021.08	6021.79	6022.50	6022.91	6022.94
(*)	-24	-1	+9	-2	+4	+22	+31	+16	+25	+26	+15	+1
CAL YR 1989	 (*) -14											
WTR YR 1990	 (*) +122											

(#) Elevation, in feet, at end of month.

(*) Change in contents, in thousands of acre-feet.

GREEN RIVER BASIN

09234500 GREEN RIVER NEAR GREENDALE, UT

LOCATION.--Lat 40°54'30", long 109°25'20", in NW¼ NW¼ SE¼ sec.15. T.2 N., R.22 E., Daggett County, Hydrologic Unit 14040106, Ashley National Forest on right bank 0.5 mi downstream from Flaming Gorge Dam, 2 mi south of Dutch John, 4 mi northeast of Greendale, and 407 mi from mouth.

DRAINAGE AREA.--19,350 mi², approximately, including about 4,260 mi² which is probably noncontributing. This noncontributing area includes 3,959 mi² in Great Divide Basin in southern Wyoming.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WDR UT-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,594.48 ft above NGVD of 1929. Prior to Sept. 2, 1959, water-stage recorder at site 2.2 mi upstream at different datum. Sept. 3, 1959, to Sept. 30, 1985, at datum 5.0 ft lower.

REMARKS.--No estimated daily discharges. Records good. Flow completely regulated by Flaming Gorge Reservoir 0.5 mi upstream, beginning Nov. 1, 1962 (see station 09234400).

AVERAGE DISCHARGE.--40 years, 2,113 ft³/s, 1,531,000 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,600 ft³/s, June 12, 1957, gage height, 10.60 ft, site and datum then in use; maximum gage height, 14.51 ft, May 12, June 6, 1986, datum then in use; minimum discharge, 2.3 ft³/s, Mar. 20, 22, 27, 28, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,180 ft³/s, Nov. 17, gage height, 11.21 ft; minimum daily, 866 ft³/s, Aug. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1370	1840	910	914	908	904	901	1230	1240	1370	1180	878
2	1370	1170	910	913	1110	903	1050	910	929	1190	1220	878
3	2660	896	910	1110	962	1680	1090	910	926	1420	897	878
4	2660	905	910	1320	917	900	951	911	925	898	896	878
5	2660	896	910	1180	1060	1040	907	2100	1090	892	896	880
6	2400	896	913	902	917	1090	908	1410	930	893	901	874
7	2880	895	956	905	894	884	907	904	966	894	1010	869
8	2570	1730	909	941	900	925	907	903	926	893	925	899
9	2760	1500	910	1150	889	882	907	906	923	1090	878	870
10	1370	908	911	889	889	882	907	908	923	1940	875	876
11	1380	909	912	982	889	883	907	925	935	1870	875	870
12	1380	1550	913	991	889	883	906	911	930	1960	876	870
13	1380	907	912	889	1120	883	908	911	924	1260	876	871
14	1380	1070	911	889	888	881	908	912	924	900	869	1240
15	1380	923	911	908	1210	881	907	912	922	1170	866	880
16	1380	2090	912	1170	901	882	906	916	922	930	868	1230
17	919	1610	914	1220	913	895	903	917	920	899	872	841
18	906	907	1590	1070	912	882	903	919	921	898	877	1210
19	912	906	1070	998	912	909	903	920	930	1160	878	1420
20	904	906	1070	909	912	910	905	921	980	1050	1200	1050
21	898	907	917	1100	912	911	904	920	1210	1160	876	1150
22	922	908	1700	894	912	911	904	921	1390	891	937	994
23	1150	909	911	1020	910	907	990	922	945	967	868	1110
24	1120	910	910	1580	904	986	907	929	898	911	868	1640
25	896	910	911	904	903	903	907	928	1660	1070	869	1270
26	1970	910	1410	920	903	903	1790	934	1170	903	869	1010
27	1960	910	1100	1560	906	903	922	934	1590	974	869	1050
28	1920	1060	1640	889	1180	1420	910	936	1620	905	868	868
29	2180	1170	1520	888	---	1230	913	938	1640	990	895	1970
30	2000	910	913	889	---	913	1170	937	985	898	877	2330
31	2160	---	914	888	---	953	---	938	---	899	878	---
TOTAL	51797	32918	32110	31782	26522	29919	28808	30493	32194	34145	28409	32754
MEAN	1671	1097	1036	1025	947	965	960	984	1073	1101	916	1092
MAX	2880	2090	1700	1580	1210	1680	1790	2100	1660	1960	1220	2330
MIN	896	895	909	888	888	881	901	903	898	891	866	868
AC-FT	102700	65290	63690	63040	52610	59340	57140	60480	63860	67730	56350	64970

CAL YR 1989 TOTAL 408258 MEAN 1119 MAX 3150 MIN 829 AC-FT 809800
WTR YR 1990 TOTAL 391851 MEAN 1074 MAX 2880 MIN 866 AC-FT 777200

09234500 GREEN RIVER NEAR GREENDALE, UT--Continued
WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1956 to September 1959, October 1963 to current year.

WATER TEMPERATURES: October 1956 to September 1959, October 1963 to current year.

SEDIMENT DATA: October 1956 to September 1959.

INSTRUMENTATION.--Water-quality monitor since December 1986.

REMARKS.--Storage in Flaming Gorge Reservoir began on Nov. 1, 1962. Samples for daily records are taken inside penstock. Extremes are given for two separate periods--water years 1957-62, and water years 1964 to current year. Extremes for the 1963 water year (October 1962 to September 1963) are not included. Unpublished daily records of specific conductance obtained before 1965 were included in the determination of extremes for period of daily record and are available in files of the Utah district office. Daily records provided by Bureau of Reclamation. Water-quality monitor located in separate shelter 0.6 mi downstream from Flaming Gorge Dam.

EXTREMES FOR PERIOD OF DAILY RECORD (water years 1957-62, 1964 to current year).--

SPECIFIC CONDUCTANCE (water years 1957-58, 1960-62): Maximum daily, 1,340 microsiemens, Aug. 30, 1961; minimum daily, 325 microsiemens, June 2, 1961.

WATER TEMPERATURES (water years 1957-59): Maximum, 24.0°C, July 24, 25, 1959; minimum, 0.0°C on many days during winter period each year.

SPECIFIC CONDUCTANCE (water years 1964 to current year): Maximum daily, 1,060 microsiemens, Nov. 9, 1971; minimum recorded, 550 microsiemens, June 25, July 4.

WATER TEMPERATURES: Maximum recorded, 17.2°C, July 9, 1989; minimum recorded 1.6°C, Mar. 1, 2, 1987.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 794 microsiemens, Jan. 22; minimum recorded, 678 microsiemens, Apr. 25.

WATER TEMPERATURES: Maximum recorded, 14.4°C, June 26; minimum recorded, 2.4°C, Feb. 15.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM OF HG)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT 24...	1515	1080	750	8.40	18.5	12.0	14.8	617	270	64
APR 04...	1230	918	780	8.10	22.0	5.0	12.0	697	280	66
JUN 05...	1100	924	750	8.40	23.0	13.0	12.2	697	260	63
AUG 28...	1445	885	720	8.10	36.0	13.5	9.50	680	260	64
SEP 26...	1100	873	770	8.10	23.5	14.0	8.60	720	260	61

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
OCT 24...	27	64	34	2	2.6	153	220	18	0.3	2.4
APR 04...	27	66	34	2	2.4	159	240	21	<0.1	3.3
JUN 05...	26	63	34	2	2.6	154	220	23	<0.1	1.5
AUG 28...	25	61	33	2	2.7	159	210	22	0.3	1.1
SEP 26...	25	61	34	2	2.3	158	200	18	<0.1	1.5

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)
OCT 24...	480	490	0.65	1400	<0.1	--	--	0.3	0.01
APR 04...	523	521	0.71	1300	<0.1	--	--	--	0.01
JUN 05...	508	491	0.69	1270	<0.1	--	--	0.6	<0.01
AUG 28...	497	481	0.68	1190	--	--	--	--	0.03
SEP 26...	542	464	0.74	1280	<0.1	0.02	0.28	0.3	0.04

GREEN RIVER BASIN

09234500 GREEN RIVER NEAR GREENDALE, UT--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	773	765	769	757	754	755	781	779	780	781	778	779
2	773	767	769	757	754	755	781	779	780	781	778	780
3	775	769	772	758	756	756	780	779	780	778	776	777
4	776	771	774	761	757	759	780	778	779	779	777	778
5	779	773	775	760	758	759	780	778	779	779	777	778
6	776	774	775	761	759	760	780	778	779	780	778	779
7	774	772	773	762	759	760	782	779	780	782	779	780
8	774	771	772	766	760	763	781	779	780	784	780	782
9	774	770	771	763	761	762	782	780	780	783	779	781
10	773	769	770	766	762	764	782	779	780	783	778	780
11	771	767	769	767	764	766	780	779	779	784	781	782
12	770	766	768	768	765	767	780	778	779	785	782	783
13	768	766	767	768	765	766	780	778	780	787	784	785
14	769	764	766	768	765	767	780	779	779	789	783	786
15	764	762	763	769	766	767	780	778	779	788	784	786
16	765	761	763	772	766	768	781	779	780	789	786	787
17	766	760	761	770	765	768	781	779	780	787	783	785
18	760	758	759	771	767	770	784	780	781	787	782	784
19	759	757	758	772	769	770	781	778	779	786	782	784
20	762	755	757	773	769	771	780	778	779	786	784	785
21	757	754	756	774	771	772	780	778	779	791	785	787
22	755	752	754	775	772	773	781	778	779	794	787	790
23	754	750	752	775	772	773	779	777	778	793	783	789
24	756	749	752	776	774	775	779	777	778	785	782	784
25	756	751	754	778	775	776	780	777	778	786	782	784
26	756	748	751	778	774	776	779	778	778	788	784	786
27	754	751	752	779	775	777	780	777	778	786	783	784
28	754	751	752	779	777	778	780	778	779	786	784	785
29	755	752	754	780	777	778	780	777	779	788	783	785
30	755	753	754	782	778	780	779	776	778	788	785	787
31	757	754	755	---	---	---	779	777	778	788	785	787
MONTH	779	748	762	782	754	768	784	776	779	794	776	784
	FEBRUARY			MARCH			APRIL			MAY		
1	787	785	787	785	783	784	781	777	779	770	749	762
2	787	783	784	785	777	783	786	779	780	770	747	760
3	786	784	785	788	784	785	781	778	779	766	750	759
4	789	786	787	785	783	784	781	778	779	769	758	763
5	787	785	787	788	784	786	782	776	779	773	766	769
6	791	786	788	785	781	783	783	773	779	769	755	764
7	791	786	788	784	782	783	780	776	778	761	740	755
8	788	785	786	786	782	783	781	776	779	764	745	755
9	788	785	786	785	783	784	780	768	776	769	748	757
10	788	783	785	792	781	783	779	767	774	768	747	759
11	785	783	784	784	779	782	780	768	775	760	750	755
12	786	783	785	783	777	780	780	773	777	759	742	751
13	785	783	784	784	777	780	780	775	777	758	744	751
14	786	767	784	781	775	778	780	776	778	755	744	750
15	786	753	783	786	768	777	782	769	778	749	741	745
16	787	784	785	783	770	779	783	769	780	751	723	737
17	789	782	785	783	777	781	785	760	781	762	741	746
18	787	785	786	783	781	782	783	737	765	746	737	742
19	788	784	786	784	780	782	775	714	743	756	739	744
20	786	784	785	783	781	781	759	719	736	749	739	743
21	786	782	784	782	780	781	757	699	728	763	742	748
22	784	782	783	782	780	781	751	694	725	766	740	749
23	784	782	783	782	779	781	764	721	736	762	740	747
24	785	782	784	783	779	781	747	712	733	756	738	745
25	785	784	784	781	778	780	731	678	697	758	744	749
26	785	784	785	781	772	780	738	707	719	756	743	748
27	785	783	784	781	773	779	760	737	747	753	743	747
28	792	784	785	781	779	780	765	725	748	754	743	747
29	---	---	---	781	774	779	768	738	755	748	728	743
30	---	---	---	782	773	778	771	742	760	754	744	747
31	---	---	---	780	749	771	---	---	---	759	738	746
MONTH	792	753	785	792	749	781	786	678	761	773	723	751

09234500 GREEN RIVER NEAR GREENDALE, UT--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	739	733	735	700	693	697	---	---	---	735	729	731
2	757	736	743	701	694	697	---	---	---	734	733	733
3	758	739	746	698	690	695	---	---	---	738	734	736
4	748	735	741	697	692	694	---	---	---	742	737	738
5	752	711	737	---	---	---	---	---	---	743	737	738
6	749	735	738	---	---	---	---	---	---	741	737	738
7	744	733	736	---	---	---	---	---	---	741	737	739
8	745	706	733	---	---	---	---	---	---	743	738	740
9	746	729	735	---	---	---	---	---	---	743	741	742
10	733	726	729	---	---	---	---	---	---	745	740	743
11	736	706	726	---	---	---	---	---	---	747	743	745
12	729	703	724	---	---	---	---	---	---	748	745	747
13	740	719	728	---	---	---	---	---	---	753	745	748
14	741	719	727	---	---	---	---	---	---	760	748	750
15	729	717	722	---	---	---	---	---	---	755	752	753
16	725	717	719	---	---	---	---	---	---	755	751	753
17	723	712	718	---	---	---	---	---	---	756	752	754
18	718	708	713	---	---	---	---	---	---	760	754	757
19	712	707	710	---	---	---	---	---	---	763	758	760
20	711	691	705	---	---	---	---	---	---	762	758	760
21	710	707	708	---	---	---	---	---	---	764	759	762
22	710	702	707	---	---	---	---	---	---	763	760	761
23	709	704	706	---	---	---	---	---	---	762	759	761
24	706	699	703	---	---	---	---	---	---	765	760	762
25	702	696	700	---	---	---	---	---	---	766	763	764
26	703	694	698	---	---	---	---	---	---	769	766	767
27	702	693	698	---	---	---	---	---	---	770	766	768
28	703	695	698	---	---	---	---	---	---	769	765	767
29	699	694	697	---	---	---	730	726	728	770	766	768
30	700	695	698	---	---	---	731	727	729	773	767	769
31	---	---	---	---	---	---	731	727	729	---	---	---
MONTH	758	691	719	---	---	---	---	---	---	773	729	752

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	13.5	12.6	13.1	10.3	9.7	10.0	6.0	5.8	5.9	3.9	3.7	3.9
2	12.9	12.4	12.7	9.9	9.4	9.7	5.9	5.7	5.8	3.9	3.7	3.8
3	12.8	11.8	12.4	9.8	9.5	9.7	5.8	5.6	5.7	3.7	3.5	3.6
4	12.7	11.9	12.4	9.6	9.3	9.5	5.7	5.5	5.7	3.6	3.5	3.6
5	12.5	11.6	12.2	9.5	9.3	9.4	5.8	5.6	5.8	3.6	3.5	3.6
6	12.5	11.4	12.1	9.3	9.1	9.2	5.8	5.7	5.7	3.6	3.4	3.5
7	12.6	11.8	12.4	9.2	8.9	9.1	5.8	5.6	5.7	3.5	3.3	3.4
8	12.6	11.8	12.3	8.9	8.7	8.9	5.6	5.4	5.5	3.7	3.4	3.6
9	12.6	11.8	12.3	8.9	8.5	8.7	5.5	5.4	5.5	3.6	3.4	3.5
10	12.3	11.8	12.0	8.9	8.6	8.8	5.5	5.3	5.4	3.6	3.4	3.5
11	12.5	11.8	12.1	8.8	8.5	8.7	5.3	5.1	5.2	3.6	3.5	3.6
12	12.4	11.9	12.2	8.6	8.4	8.5	5.2	5.0	5.1	3.6	3.5	3.6
13	12.3	11.8	12.0	8.5	8.3	8.4	5.2	5.0	5.1	3.8	3.6	3.7
14	12.3	11.8	12.0	8.4	8.1	8.3	5.2	5.0	5.1	3.8	3.5	3.7
15	12.4	11.9	12.2	8.1	7.8	8.0	5.1	4.9	5.1	3.7	3.6	3.7
16	12.2	11.6	12.0	8.0	7.7	7.8	5.0	4.8	4.9	3.8	3.6	3.7
17	12.1	11.7	11.8	7.9	7.7	7.8	4.8	4.5	4.7	3.7	3.6	3.6
18	12.0	11.6	11.8	7.7	7.6	7.7	4.6	4.4	4.6	3.7	3.4	3.6
19	12.2	11.5	11.8	7.6	7.4	7.6	4.6	4.4	4.5	3.5	3.3	3.4
20	12.3	11.9	12.0	7.5	7.3	7.4	4.5	4.3	4.4	3.7	3.4	3.5
21	12.3	11.9	12.0	7.5	7.3	7.4	4.4	4.3	4.4	3.7	3.4	3.6
22	12.3	11.8	12.0	7.4	7.1	7.2	4.4	4.3	4.4	3.8	3.5	3.7
23	12.2	11.8	11.9	7.3	7.1	7.2	4.4	4.2	4.3	3.8	3.2	3.6
24	12.2	11.7	11.9	7.1	6.9	7.0	4.3	4.2	4.2	3.2	3.0	3.1
25	11.7	11.3	11.5	7.0	6.8	6.9	4.3	4.1	4.2	3.3	3.0	3.2
26	11.7	11.2	11.6	6.9	6.5	6.8	4.2	4.0	4.1	3.6	3.0	3.3
27	11.5	11.0	11.1	6.7	6.5	6.6	4.1	3.9	4.0	3.1	3.0	3.0
28	11.2	10.8	11.0	6.5	6.2	6.4	4.0	3.9	4.0	3.2	3.0	3.1
29	10.7	10.4	10.6	6.2	5.9	6.1	4.1	3.9	4.0	3.3	2.9	3.1
30	10.5	10.2	10.4	6.1	5.9	6.0	4.0	3.8	3.9	3.2	2.8	3.0
31	11.2	7.2	10.2	---	---	---	4.0	3.8	3.9	3.1	2.9	3.0
MONTH	13.5	7.2	11.9	10.3	5.9	8.0	6.0	3.8	4.9	3.9	2.8	3.5

GREEN RIVER BASIN

09234500 GREEN RIVER NEAR GREENDALE, UT--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	3.3	3.0	3.1	3.6	3.1	3.3	4.9	4.3	4.6	7.4	6.6	7.0
2	3.1	2.6	2.8	3.6	3.2	3.3	5.0	4.4	4.6	7.7	6.9	7.3
3	3.0	2.7	2.8	3.4	3.2	3.3	4.9	4.4	4.6	8.0	6.9	7.5
4	3.4	2.9	3.1	3.7	3.2	3.4	5.1	4.4	4.7	7.5	6.6	7.1
5	3.2	2.9	3.0	3.9	3.4	3.6	5.1	4.4	4.7	7.4	6.4	6.8
6	3.4	2.9	3.1	3.5	3.3	3.4	5.2	4.4	4.6	7.8	6.8	7.2
7	3.2	2.8	3.1	3.7	3.3	3.5	4.9	4.4	4.6	9.7	7.5	8.3
8	3.3	2.8	3.0	3.8	3.3	3.5	4.8	4.4	4.6	9.2	7.7	8.5
9	3.5	3.0	3.1	3.9	3.4	3.6	5.7	4.3	4.8	8.8	7.8	8.2
10	3.2	2.7	2.9	4.0	3.5	3.7	5.0	4.0	4.6	8.7	7.7	8.0
11	3.3	2.7	2.9	4.3	3.6	3.8	5.0	4.4	4.7	8.4	7.6	7.9
12	3.3	2.7	3.0	4.2	3.7	3.8	5.7	4.6	5.1	8.5	7.5	8.0
13	3.0	2.7	2.9	4.2	3.5	3.8	5.6	4.9	5.2	9.2	7.4	8.3
14	2.9	2.7	2.9	3.9	3.5	3.6	5.5	4.9	5.2	8.8	8.0	8.4
15	3.0	2.4	2.8	3.9	3.5	3.7	5.8	5.0	5.2	9.4	8.1	8.8
16	3.4	2.7	3.0	4.3	3.5	3.7	5.8	4.6	5.0	9.3	8.7	9.0
17	3.4	2.7	3.0	4.0	3.6	3.7	5.3	4.5	4.8	9.0	8.5	8.8
18	3.2	2.9	3.0	4.1	3.6	3.8	5.2	4.6	4.8	9.4	8.5	9.0
19	3.3	3.0	3.1	4.4	3.7	3.9	7.0	4.5	6.0	9.6	8.8	9.2
20	3.7	2.9	3.1	4.2	3.8	4.0	7.0	6.1	6.6	10.0	8.3	9.4
21	3.1	2.6	2.8	4.5	3.8	4.0	7.1	6.4	6.6	9.9	9.0	9.5
22	3.2	2.5	2.7	4.5	3.9	4.2	7.8	6.5	7.0	10.1	9.2	9.7
23	3.4	2.6	2.9	4.4	4.0	4.2	7.7	6.6	7.1	10.4	9.4	9.8
24	3.4	2.8	3.0	4.5	4.0	4.2	7.8	7.1	7.3	11.5	9.4	10.4
25	3.5	2.9	3.1	4.8	4.1	4.3	9.1	7.8	8.4	11.0	10.3	10.6
26	3.6	3.0	3.2	4.5	4.2	4.3	8.8	8.0	8.4	10.4	9.7	10.2
27	3.5	3.1	3.2	4.7	4.3	4.4	8.3	7.3	7.8	10.7	9.8	10.1
28	3.7	3.1	3.2	4.3	4.2	4.3	7.7	7.2	7.4	10.0	9.3	9.7
29	---	---	---	4.3	4.2	4.3	7.7	7.0	7.4	10.4	9.2	9.8
30	---	---	---	4.8	4.2	4.4	7.7	6.6	7.2	10.5	9.4	10.0
31	---	---	---	5.0	4.3	4.5	---	---	---	10.4	9.3	10.0
MONTH	3.7	2.4	3.0	5.0	3.1	3.9	9.1	4.0	5.8	11.5	6.4	8.8
JUNE			JULY			AUGUST			SEPTEMBER			
1	11.0	10.1	10.7	13.4	12.0	12.8	---	---	---	12.1	9.1	11.4
2	11.1	10.3	10.6	13.7	11.8	12.8	---	---	---	12.2	8.0	11.8
3	10.7	10.0	10.4	13.2	11.9	12.8	---	---	---	12.5	9.8	11.5
4	11.9	10.1	10.8	13.3	12.6	13.0	---	---	---	12.3	11.7	11.9
5	11.6	8.8	10.9	---	---	---	---	---	---	12.5	9.6	11.5
6	11.6	10.7	11.1	---	---	---	---	---	---	13.3	5.3	11.7
7	12.6	10.5	11.6	---	---	---	---	---	---	13.3	9.0	12.5
8	12.0	10.8	11.6	---	---	---	---	---	---	13.3	11.1	12.6
9	11.9	10.9	11.3	---	---	---	---	---	---	13.2	10.9	12.6
10	12.1	10.8	11.5	---	---	---	---	---	---	13.0	8.3	12.1
11	12.0	10.9	11.5	---	---	---	---	---	---	13.3	8.2	12.1
12	12.1	10.0	11.0	---	---	---	---	---	---	13.1	11.1	12.5
13	11.9	8.5	11.1	---	---	---	---	---	---	13.4	12.1	12.8
14	11.6	10.1	10.9	---	---	---	---	---	---	13.3	9.9	12.3
15	12.2	6.6	11.1	---	---	---	---	---	---	12.7	8.2	11.8
16	12.0	6.5	10.5	---	---	---	---	---	---	12.8	11.5	12.5
17	11.9	8.4	11.5	---	---	---	---	---	---	12.9	9.4	12.2
18	12.7	7.9	11.7	---	---	---	---	---	---	12.2	11.7	11.9
19	13.2	11.6	12.7	---	---	---	---	---	---	12.6	11.2	11.9
20	13.2	6.3	12.3	---	---	---	---	---	---	12.6	11.6	12.3
21	13.9	11.1	13.0	---	---	---	---	---	---	12.5	11.5	12.0
22	13.4	6.5	12.3	---	---	---	---	---	---	13.3	11.8	12.7
23	14.1	12.6	13.2	---	---	---	---	---	---	13.7	11.7	13.0
24	13.8	12.8	13.2	---	---	---	---	---	---	13.6	7.4	12.6
25	13.6	12.8	13.1	---	---	---	---	---	---	13.3	12.2	12.8
26	14.4	12.9	13.5	---	---	---	---	---	---	12.5	6.1	11.7
27	13.8	12.8	13.4	---	---	---	---	---	---	13.0	11.1	12.1
28	13.4	12.1	12.7	---	---	---	---	---	---	13.4	12.2	12.7
29	13.7	12.5	13.0	---	---	---	12.1	9.4	11.1	13.1	11.6	12.6
30	13.4	12.0	12.9	---	---	---	12.2	10.9	11.6	12.9	11.5	12.5
31	---	---	---	---	---	---	12.4	7.8	11.5	---	---	---
MONTH	14.4	6.3	11.8	---	---	---	---	---	---	13.7	5.3	12.2

09253000 LITTLE SNAKE RIVER NEAR SLATER, CO

LOCATION.--Lat 40°59'58", long 107°08'34", in SW¼ NW¼ sec.15, T.12 N., R.87 W., Routt County, Hydrologic Unit 14050003, on left bank just downstream from highway bridge at Focus Ranch, 0.2 mi downstream from Spring Creek, and 12 mi east of Slater.

DRAINAGE AREA.--285 mi².

PERIOD OF RECORD.--October 1942 to September 1947, October 1950 to current year.

REVISED RECORDS.--WSP 1733: 1960.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 6,831.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 9-26, Nov. 3-17, and Nov. 24 to Mar. 19. Records good except for estimated daily discharges, which are poor. Diversions for irrigation of about 2,000 acres upstream from station.

AVERAGE DISCHARGE.--45 years, 232 ft³/s, 168,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,780 ft³/s, May 23, 1984, gage height, 8.78 ft; maximum gage height, 8.95 ft, Apr. 25, 1974; minimum daily discharge, 4.2 ft³/s, Sept. 9, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft³/s, and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 13	2030	*1,060	*5.84	No peak greater than base discharge.			
Minimum daily, 7.0 ft ³ /s, Sept. 23.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	29	23	17	24	32	59	284	812	114	36	19
2	19	21	23	17	24	32	73	309	769	106	36	25
3	18	20	23	17	24	33	102	358	700	108	33	34
4	23	21	22	17	24	33	127	403	742	133	29	24
5	27	21	22	18	24	34	142	373	749	105	27	20
6	23	20	22	18	24	35	137	552	792	100	26	29
7	27	20	23	18	24	35	145	759	771	144	25	23
8	27	20	23	19	24	36	178	692	725	171	24	17
9	26	21	23	20	24	36	186	515	677	185	23	15
10	25	21	23	20	24	36	177	480	650	162	23	14
11	26	20	22	21	24	36	193	581	748	99	22	13
12	26	20	21	22	24	36	213	503	939	82	21	12
13	26	21	20	22	24	37	208	469	891	72	23	12
14	26	22	20	22	25	38	219	501	729	72	21	12
15	25	24	20	22	26	40	298	594	592	67	21	17
16	25	24	20	22	26	44	378	499	535	69	42	18
17	25	25	20	22	27	44	404	509	487	63	38	13
18	25	28	19	23	28	46	445	607	429	59	50	12
19	25	29	18	24	28	49	479	574	391	59	32	9.7
20	25	28	18	25	29	50	516	590	351	70	26	14
21	26	28	18	25	29	51	581	580	315	101	26	9.6
22	26	26	17	25	30	48	619	652	279	70	22	8.0
23	27	26	17	24	30	47	666	758	256	64	22	7.0
24	27	25	17	25	30	47	653	889	232	57	21	7.9
25	28	25	17	25	30	43	584	867	211	65	18	11
26	29	25	17	25	30	43	468	800	190	55	16	13
27	31	24	17	25	30	48	355	741	170	47	15	13
28	36	24	17	25	31	51	362	747	151	43	14	13
29	27	24	17	24	---	50	360	820	135	41	14	17
30	34	24	17	24	---	50	307	766	124	40	13	18
31	25	---	17	24	---	53	---	849	---	38	14	---
TOTAL	802	706	613	677	741	1293	9634	18621	15542	2661	773	470.2
MEAN	25.9	23.5	19.8	21.8	26.5	41.7	321	601	518	85.8	24.9	15.7
MAX	36	29	23	25	31	53	666	889	939	185	50	34
MIN	17	20	17	17	24	32	59	284	124	38	13	7.0
AC-FT	1590	1400	1220	1340	1470	2560	19110	36930	30830	5280	1530	933

CAL YR 1989 TOTAL 51132 MEAN 140 MAX 923 MIN 13 AC-FT 101400
WTR YR 1990 TOTAL 52533.2 MEAN 144 MAX 939 MIN 7.0 AC-FT 104200

09255000 SLATER FORK NEAR SLATER, CO

LOCATION.--Lat 40°58'57", long 107°22'56", in SW¼ NE¼ sec.21, T.12 N., R.89 W., Moffat County, Hydrologic Unit 14050003, on right bank 15 ft downstream from highway bridge, 1.0 mi upstream from mouth, and 1.5 mi south of Slater.

DRAINAGE AREA.--161 mi².

PERIOD OF RECORD.--May to October, December 1910, March to October 1911, and April to May 1912 (published as Slater Creek), July 1931 to current year. Monthly discharge only for some periods, published in WSP 1313.

REVISED RECORDS.--WSP 618: 1910-11. WSP 764: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 6,600 ft, from river-profile map. May 28, 1910, to May 25, 1912, nonrecording gage at site 1.5 mi upstream at different datum. July 9, 1931, to May 6, 1932, nonrecording gage at site 0.2 mi downstream at different datum.

REMARKS.--Estimated daily discharges: Nov. 18, Dec. 19 to Jan. 17, and Jan. 29 to Mar. 6. Records good except for estimated daily discharges, which are poor. Diversions for irrigation of about 500 acres upstream from station.

AVERAGE DISCHARGE.--59 years (water years 1932-90), 77.3 ft³/s, 56,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,250 ft³/s, May 16, 1984, gage height, 11.78 ft (from floodmark), from rating curve extended above 1,000 ft³/s; no flow Aug. 2-10, 1934, Aug. 18, 25-27, 1936, Aug. 29 to Sept. 3, 1954, Aug. 3, 4, 15, 16, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 430 ft³/s, and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 12	1730	*430	*5.82	No peak greater than base discharge.			
Minimum daily, 1.7 ft ³ /s, Aug. 13.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	14	19	13	12	13	41	100	197	17	4.1	5.6
2	5.8	15	17	13	12	13	51	110	158	13	3.7	8.0
3	5.5	22	17	13	12	13	63	123	136	8.8	3.8	11
4	7.2	16	16	13	12	13	74	132	150	10	4.8	11
5	8.5	15	17	13	12	13	75	131	179	6.5	5.3	8.0
6	7.6	16	18	12	12	13	69	174	183	7.3	3.5	14
7	7.8	15	17	12	12	13	71	237	167	8.4	4.0	13
8	7.6	14	23	12	12	13	86	221	149	11	5.0	10
9	7.6	16	16	12	12	16	101	148	122	24	4.5	8.9
10	7.7	16	17	12	12	22	73	124	128	28	2.5	7.9
11	7.2	16	20	12	12	28	82	160	149	20	2.0	7.1
12	6.9	16	16	12	12	28	93	134	321	16	2.3	5.3
13	7.0	17	15	12	12	23	91	130	304	13	1.7	4.9
14	6.8	17	16	12	12	17	91	144	206	12	2.2	4.9
15	7.6	14	16	12	12	29	127	185	147	11	2.6	4.9
16	8.4	20	16	12	12	23	162	135	124	9.8	5.7	5.5
17	8.7	21	17	12	12	22	172	115	110	7.9	13	6.5
18	9.0	17	16	12	12	24	187	150	97	7.9	11	9.2
19	9.6	23	15	11	12	27	197	142	91	7.3	10	9.3
20	11	20	14	14	12	31	208	151	82	7.5	7.3	14
21	12	16	14	14	13	34	211	140	75	8.3	5.6	12
22	12	15	14	12	13	40	244	167	69	9.5	4.7	10
23	13	18	13	12	13	41	275	178	60	8.8	4.0	9.4
24	13	16	13	12	13	40	258	214	45	8.6	4.0	8.4
25	12	16	13	12	13	35	241	195	41	8.1	3.3	8.0
26	14	17	13	15	13	31	196	163	36	9.6	2.8	7.9
27	15	15	13	14	13	38	130	142	33	7.4	2.3	8.6
28	17	19	13	14	13	38	116	142	27	5.4	1.9	8.8
29	15	21	13	13	---	39	124	163	24	3.8	3.1	10
30	14	23	13	13	---	35	106	166	21	4.2	4.1	9.3
31	14	---	13	13	---	36	---	227	---	4.3	4.4	---
TOTAL	304.0	516	483	390	344	801	4015	4843	3631	324.4	139.2	261.4
MEAN	9.81	17.2	15.6	12.6	12.3	25.8	134	156	121	10.5	4.49	8.71
MAX	17	23	23	15	13	41	275	237	321	28	13	14
MIN	5.5	14	13	11	12	13	41	100	21	3.8	1.7	4.9
AC-FT	603	1020	958	774	682	1590	7960	9610	7200	643	276	518

CAL YR 1989 TOTAL 15138.7 MEAN 41.5 MAX 347 MIN 1.6 AC-FT 30030
WTR YR 1990 TOTAL 16052.0 MEAN 44.0 MAX 321 MIN 1.7 AC-FT 31840

LOCATION.--Lat 41°05'46", long 107°22'44", in SE¼ NW¼ SW¼ sec.14, T.13 N., R.89 W., Carbon County, Hydrologic Unit 14050003, on right bank 800 ft downstream from bridge on county road, 1.8 mi downstream from Loco Creek, and 6.1 mi northeast of Savery.

DRAINAGE AREA.--330 mi².

PERIOD OF RECORD.--October 1941 to September 1946, October 1947 to September 1971, April to September 1972, April 1985 to current year.

REVISID RECORDS.--WDR WY-70-1: 1969.

GAGE.--Water-stage recorder. Elevation of gage is 6,680 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 17, 1946, at site 300 ft right of county bridge (on abandoned channel) 800 ft upstream at different datum. October 1947 to September 1972, at county bridge 800 ft upstream at different datum. Records collected at all sites include flow from Big Gulch.

REMARKS.--Estimated daily discharges: Nov. 28 to Mar. 4, Mar. 12-17, 19, and Sept. 10-30. Records fair except those for estimated daily discharges, which are poor. Diversions upstream from station for irrigation of about 780 acres, of which about 140 acres are downstream from station.

AVERAGE DISCHARGE.--34 years (water years 1942-46, 1948-71, 1986-90), 102 ft³/s, 73,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,670 ft³/s, May 4, 1952, gage height, 7.30 ft, site and datum then in use, from rating curve extended above 1,100 ft³/s on basis of slope-area measurement of peak flow; no flow Sept. 1, 2, 8-10, 1959, Aug. 7, 10-22, Sept. 15, 16, 1960.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 1984, reached a stage of 7.8 ft, present site and datum, from floodmarks. discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 12	1730	*335	*3.87	No other peak greater than base discharge.			

Minimum daily discharge, 2.7 ft³/s, Aug. 10, 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	13	15	19	22	28	115	136	161	36	6.4	4.9
2	11	14	16	19	22	29	129	134	154	37	6.4	6.9
3	11	20	17	19	21	31	140	124	140	37	5.9	8.3
4	9.8	24	19	18	21	34	150	120	129	37	5.2	8.1
5	10	20	21	18	21	38	155	121	133	33	4.5	8.2
6	11	23	21	19	22	38	141	126	144	31	4.0	9.2
7	11	19	22	20	22	37	143	135	149	23	4.0	8.8
8	11	16	22	21	21	35	146	134	147	28	3.5	8.4
9	11	26	22	23	22	33	164	121	142	33	2.9	10
10	11	27	21	25	23	37	149	113	140	38	2.7	10
11	11	26	20	26	25	43	159	110	155	31	2.7	8.9
12	11	25	20	27	25	43	166	113	282	25	3.1	8.2
13	11	22	19	26	23	40	166	112	274	20	4.0	7.5
14	11	21	21	25	22	38	163	111	198	19	4.3	7.1
15	11	14	21	24	20	39	178	110	150	15	4.3	6.7
16	12	15	20	23	19	41	188	106	137	15	7.8	6.3
17	13	22	19	22	19	43	192	94	129	13	16	6.2
18	13	15	18	21	19	46	196	95	112	11	16	6.0
19	12	19	17	21	19	50	196	92	99	13	12	6.2
20	12	19	19	21	18	56	187	93	92	13	8.8	9.7
21	13	24	19	22	19	67	181	92	83	14	7.6	15
22	14	19	19	22	20	77	189	96	78	16	6.5	12
23	15	17	19	22	21	92	191	105	71	15	6.8	9.9
24	15	21	19	21	24	86	182	118	66	14	6.7	9.5
25	15	23	19	22	26	90	173	128	61	16	6.3	9.0
26	18	24	19	23	30	87	172	130	57	14	5.2	8.5
27	22	16	20	22	30	89	159	129	51	11	4.4	8.0
28	22	13	19	22	29	89	155	128	46	9.2	3.7	8.9
29	22	13	20	22	---	91	152	143	43	8.4	3.4	11
30	19	14	20	23	---	92	145	160	40	8.2	3.4	10
31	16	---	19	23	---	97	---	175	---	6.5	4.1	---
TOTAL	415.8	584	602	681	625	1736	4922	3704	3663	640.3	182.6	257.4
MEAN	13.4	19.5	19.4	22.0	22.3	56.0	164	119	122	20.7	5.89	8.58
MAX	22	27	22	27	30	97	196	175	282	38	16	15
MIN	9.8	13	15	18	18	28	115	92	40	6.5	2.7	4.9
AC-FT	825	1160	1190	1350	1240	3440	9760	7350	7270	1270	362	511
CAL YR 1989	TOTAL	18815.2	MEAN	51.5	MAX	359	MIN	5.1	AC-FT	37320		
WTR YR 1990	TOTAL	18013.1	MEAN	49.4	MAX	282	MIN	2.7	AC-FT	35730		

GREEN RIVER BASIN

09256000 SAVERY CREEK NEAR SAVERY, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1984 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)
OCT											
02...	1400	12	365	8.3	13.5	606	5.0	8.9	108	K5	170
NOV											
06...	1530	21	410	8.2	5.0	608	10	10.4	102	K4	180
DEC											
12...	1500	19	380	8.0	0.0	608	4.1	11.6	100	K5	210
JAN											
31...	1200	23	435	7.6	0.0	600	3.3	11.2	98	K9	200
MAR											
05...	1200	37	420	8.4	0.5	678	25	13.2	103	K1	190
APR											
09...	1830	163	332	8.6	7.5	611	75	8.6	90	K6	150
22...	1610	184	225	7.6	10.5	592	45	9.0	104	K4	110
MAY											
22...	1630	97	202	8.7	14.5	607	22	8.2	101	K3	89
JUN											
12...	1845	330	183	8.3	7.5	--	200	--	--	--	88
AUG											
20...	1635	8.9	280	7.7	21.5	598	3.2	7.8	114	79	130

K-Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT											
02...	53	9.5	14	0.5	3.9	130	47	3.8	0.2	23	232
NOV											
06...	59	8.6	10	0.3	2.5	150	44	4.4	0.2	24	243
DEC											
12...	69	9.3	6.2	0.2	3.2	160	49	3.3	0.2	45	281
JAN											
31...	64	9.4	7.9	0.2	2.8	150	49	2.7	0.2	46	272
MAR											
05...	59	10	10	0.3	2.5	--	--	3.1	0.2	23	--
APR											
09...	49	7.5	7.1	0.2	2.0	110	45	3.1	0.5	16	196
22...	34	5.1	4.9	0.2	1.3	83	30	2.2	0.4	14	142
MAY											
22...	28	4.7	4.4	0.2	1.3	78	21	1.7	0.2	17	125
JUN											
12...	27	5.1	5.4	0.2	1.7	76	19	2.6	0.1	13	119
AUG											
20...	37	8.1	8.9	0.3	2.0	100	33	3.1	0.3	19	171

GREEN RIVER BASIN

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09256000 SAVERY CREEK NEAR SAVERY, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 02...	0.32	7.53	<0.1	<0.1	0.03	0.27	0.30	<0.010	<5	22	0.71
NOV 06...	0.33	13.8	<0.1	<0.1	0.01	--	<0.20	0.030	<1	84	4.8
DEC 12...	0.38	14.4	<0.1	<0.1	0.03	3.3	3.3	<0.010	<5	4	0.21
JAN 31...	0.37	16.9	<0.1	0.1	<0.01	--	0.20	0.060	<5	6	0.37
MAR 05...	--	--	0.1	0.1	0.04	0.56	0.60	0.040	<5	26	2.6
APR 09...	0.27	86.3	<0.1	<0.1	0.05	0.45	0.50	0.040	<5	94	41
22...	0.19	70.6	<0.1	0.1	0.01	0.49	0.50	0.040	<1	47	23
MAY 22...	0.17	32.8	<0.1	<0.1	0.01	0.29	0.30	0.030	<5	19	5.0
JUN 12...	0.16	106	<0.1	<0.1	0.07	0.23	0.30	0.230	<1	310	276
AUG 20...	0.23	4.12	<0.1	<0.1	<0.01	--	0.40	0.030	<5	5	0.12

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
MAR 05...	1200	37	85
APR 09...	1830	163	89

DATE	TIME	SED. SUSP. FALL DIAM. % FINER THAN .062 MM	SED. SUSP. FALL DIAM. % FINER THAN .125 MM	SED. SUSP. FALL DIAM. % FINER THAN .250 MM	SED. SUSP. FALL DIAM. % FINER THAN .500 MM
APR 22...	1610	90	95	99	100
JUN 12...	1845	97	99	100	100

09257000 LITTLE SNAKE RIVER NEAR DIXON, WY

LOCATION.--Lat 41°01'42", long 107°32'55", in SE¼ NW¼ sec.8, T.12 N., R.90 W., Carbon County, Hydrologic Unit 14050003, on left bank 200 ft upstream from highway bridge, 1,000 ft upstream from Willow Creek, and 0.8 mi west of Dixon.

DRAINAGE AREA.--988 mi².

PERIOD OF RECORD.--May 1910 to September 1923, March 1938 to current year (no winter records since 1971). Monthly discharge only for some periods, published in WSP 1313.

REVISED RECORDS.--WSP 1243: 1920(M). WDR WY-85-1: 1984(M).

GAGE.--Water-stage recorder. Datum of gage is 6,331.22 ft above National Geodetic Vertical Datum of 1929.

May 27, 1910, to Sept. 30, 1923, nonrecording gage on highway bridge 200 ft downstream at datum 2.98 ft higher;

Mar. 15, 1938, to Sept. 30, 1957, water-stage recorder at site 225 ft downstream at datum 2.98 ft higher;

Oct. 1, 1957, to June 6, 1968, at site 850 ft downstream at present datum; and June 7 to Sept. 30, 1968, at site 225 ft downstream at present datum.

REMARKS.--Estimated daily discharges: Apr. 1-9. Records fair. Diversions for irrigation of about 9,500 acres upstream from station. One diversion upstream from station for irrigation of about 3,000 acres downstream. Transbasin diversions upstream from station. National Weather Service satellite telemeter at station. Results of discharge measurements, in cubic feet per second, made during the period when station was not in operation, are given below:

Nov. 6 . . . 69.1

Dec. 12 . . . 59.9

AVERAGE DISCHARGE.--46 years (water years 1911-23, 1939-71), 514 ft³/s, 372,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft³/s, May 16, 1984, gage height, 13.56 ft, from floodmark, from rating curve extended above 10,000 ft³/s, some increase in peak due to dam failure; no flow Sept. 19, 20, 22, 1977, Aug. 7, 17, 18, 27-29, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 12	1830	*2,370	a7.16	No peak greater than base discharge.			

a Maximum during period of operation, but may have been exceeded during the ice break-up period.

Minimum daily discharge during period of operation, 0.75 ft³/s, Oct. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.81	---	---	---	---	---	400	705	1410	76	3.9	1.5
2	.86	---	---	---	---	---	450	647	1350	68	3.2	1.7
3	1.2	---	---	---	---	---	500	625	1150	48	3.1	2.2
4	1.2	---	---	---	---	---	520	704	1150	24	2.8	3.4
5	1.2	---	---	---	---	---	550	725	1240	18	2.6	3.1
6	1.2	---	---	---	---	---	500	865	1340	12	2.5	2.4
7	1.2	---	---	---	---	---	500	1230	1330	9.2	2.4	2.9
8	.99	---	---	---	---	---	520	1290	1250	9.6	2.3	2.9
9	.93	---	---	---	---	---	612	945	1170	16	2.2	2.4
10	.85	---	---	---	---	---	511	760	1080	50	2.0	2.3
11	.80	---	---	---	---	---	543	900	1200	39	1.9	2.1
12	.81	---	---	---	---	---	616	831	1960	23	1.8	1.9
13	.77	---	---	---	---	---	621	770	1970	17	1.8	1.8
14	.75	---	---	---	---	---	603	742	1710	13	2.0	1.5
15	.78	---	---	---	---	---	748	912	1230	11	2.1	1.3
16	.78	---	---	---	---	---	1050	796	1050	7.7	2.1	1.2
17	.78	---	---	---	---	---	1080	686	964	6.9	5.2	1.3
18	1.1	---	---	---	---	---	1140	836	840	5.7	4.5	1.4
19	1.1	---	---	---	---	---	1200	822	716	5.5	5.8	2.4
20	1.1	---	---	---	---	---	1200	855	624	5.7	3.7	2.6
21	1.1	---	---	---	---	---	1260	837	530	9.8	3.3	3.2
22	1.4	---	---	---	---	---	1420	916	463	17	3.0	3.0
23	1.4	---	---	---	---	---	1500	1020	403	9.3	2.9	2.4
24	1.4	---	---	---	---	---	1530	1330	342	8.8	2.3	2.0
25	1.3	---	---	---	---	---	1390	1410	302	8.1	2.1	1.9
26	1.3	---	---	---	---	---	1220	1290	248	8.5	1.8	1.9
27	1.5	---	---	---	---	---	888	1140	175	6.1	1.6	1.8
28	1.7	---	---	---	---	---	768	1130	135	4.5	1.4	1.9
29	2.0	---	---	---	---	---	776	1200	116	4.1	1.4	1.9
30	2.3	---	---	---	---	---	743	1230	99	4.1	1.4	1.9
31	2.0	---	---	---	---	---	---	1450	---	4.2	1.5	---
TOTAL	36.61	---	---	---	---	---	25359	29599	27547	549.8	80.6	64.2
MEAN	1.18	---	---	---	---	---	845	955	918	17.7	2.60	2.14
MAX	2.3	---	---	---	---	---	1530	1450	1970	76	5.8	3.4
MIN	.75	---	---	---	---	---	400	625	99	4.1	1.4	1.2
AC-FT	73	---	---	---	---	---	50300	58710	54640	1090	160	127

GREEN RIVER BASIN

373

09258000 WILLOW CREEK NEAR DIXON, WY

LOCATION.--Lat 40°54'56", long 107°31'16", on line between secs. 8 and 17, T.11 N., R.90 W., Moffat County, Colorado, Hydrologic Unit 14050003, on right bank 6.2 mi south of Colorado-Wyoming State line, 8.0 mi upstream from mouth, and 8.3 mi south of Dixon.

DRAINAGE AREA.--24 mi², approximately.

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

GAGE.--Water-stage recorder. Elevation of gage is 6,700 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 29 to Mar. 24. Records good except for estimated daily discharges, which are poor. One small ditch diverts water upstream from station for irrigation. Regulation by Elk Lake, capacity, 400 acre-ft.

AVERAGE DISCHARGE.--37 years, 10.4 ft³/s, 7,530 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 476 ft³/s, May 10, 1984, gage height, 6.02 ft, from rating curve extended above 160 ft³/s; maximum gage height, 7.08 ft, Apr. 18, 1984 (backwater from ice); no flow, Sept. 17-19, 1955, many days July through Sept. 1977, Aug. 8-16, 1982, and Aug. 27-31, 1990.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 70 ft³/s, and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 12	1250	*109	*3.97	No other peak greater than base discharge.			
No flow Aug. 27-31.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	2.2	1.9	1.8	2.0	2.2	11	3.6	26	2.8	.20	.05
2	1.5	3.4	1.9	1.8	2.0	2.2	17	2.7	16	3.3	.32	1.7
3	1.4	3.2	1.9	1.8	2.0	2.2	21	2.4	14	5.5	.51	2.1
4	1.6	2.3	1.8	1.8	2.0	2.2	21	2.6	26	5.7	.34	1.6
5	1.8	2.2	1.8	1.8	2.0	2.2	17	4.0	40	4.2	.24	1.5
6	1.8	2.3	1.9	1.8	2.0	2.3	12	5.5	40	3.7	.23	3.2
7	1.8	2.1	1.9	1.7	2.0	2.4	10	9.2	38	3.5	.20	1.5
8	1.8	2.3	1.9	1.7	2.0	2.5	27	8.3	34	5.4	.19	1.2
9	1.8	2.1	1.9	1.7	2.0	2.7	19	5.0	35	5.1	.12	1.2
10	1.8	2.0	1.9	1.7	2.0	3.2	11	3.6	43	3.7	.06	1.2
11	1.7	1.9	1.8	1.8	2.0	3.4	12	5.0	47	3.0	.02	1.1
12	1.4	1.9	1.8	1.8	2.0	3.3	13	4.3	66	2.5	.07	.99
13	1.3	1.9	1.7	1.8	2.1	3.2	9.1	3.6	47	2.2	.16	.94
14	1.3	1.7	1.7	1.8	2.1	2.6	7.8	3.3	38	2.0	.18	.89
15	1.3	1.6	1.7	1.8	2.2	3.5	12	5.9	31	1.6	.32	.91
16	1.4	2.5	1.7	1.8	2.2	3.1	14	5.6	27	1.4	.70	1.1
17	1.6	2.4	1.7	1.8	2.3	3.1	13	7.1	21	1.3	2.0	2.5
18	1.5	2.4	1.7	1.8	2.3	3.5	12	10	22	1.2	1.8	2.1
19	1.3	2.3	1.7	1.8	2.3	4.0	10	6.1	24	.95	1.3	3.0
20	1.6	2.2	1.7	1.8	2.3	4.4	9.7	7.1	20	1.8	.84	2.6
21	1.7	2.1	1.7	1.9	2.3	4.7	8.4	7.6	19	3.0	.64	1.8
22	2.1	2.2	1.7	1.9	2.3	4.5	10	13	17	.60	.67	1.4
23	2.4	2.5	1.7	1.9	2.3	5.0	11	14	15	.48	1.0	1.2
24	2.2	2.3	1.6	1.9	2.3	4.0	9.9	19	14	.43	.65	1.3
25	2.1	2.1	1.6	1.9	2.2	3.8	15	18	12	.48	.15	1.2
26	2.6	2.0	1.6	1.9	2.2	7.0	7.9	16	9.6	.39	.02	1.1
27	2.2	1.9	1.7	1.9	2.2	8.9	4.6	13	7.7	.30	.00	1.3
28	2.8	2.3	1.8	2.0	2.2	7.3	4.2	15	5.9	.27	.00	1.6
29	2.5	2.0	1.8	2.0	---	5.8	5.8	20	4.5	.23	.00	1.3
30	2.3	1.9	1.9	2.0	---	5.4	5.1	21	3.5	.23	.00	1.2
31	2.2	---	1.8	2.0	---	7.3	---	33	---	.23	.00	---
TOTAL	56.1	66.2	54.9	56.9	59.8	121.9	360.5	294.5	763.2	67.49	12.93	44.78
MEAN	1.81	2.21	1.77	1.84	2.14	3.93	12.0	9.50	25.4	2.18	.42	1.49
MAX	2.8	3.4	1.9	2.0	2.3	8.9	27	33	66	5.7	2.0	3.2
MIN	1.3	1.6	1.6	1.7	2.0	2.2	4.2	2.4	3.5	.23	.00	.05
AC-FT	111	131	109	113	119	242	715	584	1510	134	26	89

CAL YR 1989 TOTAL 1662.7 MEAN 4.56 MAX 28 MIN 1.1 AC-FT 3300
WTR YR 1990 TOTAL 1959.20 MEAN 5.37 MAX 66 MIN .00 AC-FT 3890

GREEN RIVER BASIN

09259000 MUDDY CREEK NEAR BAGGS, WY

LOCATION.--Lat 41°02'49", long 107°39'01", in SE¼ SE¼ SE¼ sec.32, T.13 N., R.91 W., Carbon County, Hydrologic Unit 14050004, on right bank 0.7 mi upstream from mouth, and 0.7 mi north of Baggs.

DRAINAGE AREA.--1,257 mi², approximately.

WATER-DISCHARGE RECORDS

REVISED RECORDS.--WDR WY-88-1: Drainage area.

PERIOD OF RECORD.--May to November 1915, April to July 1916, May to September 1918, October 1987 to current year.

GAGE.--Water stage recorder. Elevation of gage is 6,250 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1987, non-recording gage at same site but different datum.

REMARKS.--Estimated daily discharges: Nov. 1, 17-23, Nov. 26 to Dec. 8, Dec. 10 to Mar. 9, Mar. 13-16, 24, July 10-17, Aug. 29 to Sept. 3, and Sept. 9-21, 24-26, 28-30. Records fair except those for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 738 ft³/s, Mar. 22, 1988, gage height, 10.50 ft; no flow at times some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 96 ft³/s, June 13, gage height, 5.42 ft; maximum gage height, 5.68 ft, Mar. 5, backwater from ice; minimum daily discharge, 0.19 ft³/s, Sept. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	9.2	.63	.44	.40	.56	22	18	15	1.1	12	.26
2	1.6	9.1	.66	.44	.40	.59	22	19	26	1.4	9.3	.25
3	1.7	9.4	.70	.42	.40	.93	23	21	28	2.4	6.2	.25
4	1.9	6.3	.76	.39	.41	5.0	24	19	20	2.7	2.5	.59
5	2.0	5.2	.80	.42	.41	25	24	20	18	3.1	1.4	.46
6	1.8	5.3	.78	.44	.42	21	22	21	14	2.3	1.3	.39
7	2.2	5.2	.71	.45	.42	15	21	21	14	2.3	1.1	.67
8	3.2	3.7	.66	.47	.41	12	22	18	7.6	6.2	.96	.39
9	4.6	3.4	.74	.50	.42	24	19	19	7.8	8.6	.89	.26
10	5.5	4.2	.69	.53	.43	36	21	15	8.3	6.3	.85	.28
11	5.4	3.1	.61	.56	.46	53	20	20	8.8	8.4	.80	.25
12	4.8	2.3	.57	.56	.47	58	20	21	36	8.0	.80	.24
13	4.3	4.5	.69	.58	.46	31	18	19	66	7.3	.81	.23
14	4.2	3.0	.87	.57	.44	13	16	24	35	6.6	.72	.22
15	4.4	3.0	1.0	.55	.42	16	17	22	40	6.1	.66	.21
16	5.9	2.2	.85	.53	.39	22	20	16	33	6.7	.70	.20
17	6.0	1.6	.73	.51	.42	26	21	12	30	6.3	.78	.20
18	6.8	1.4	.63	.49	.42	28	27	11	23	4.9	.78	.19
19	15	1.3	.52	.50	.40	19	30	12	9.9	4.4	.70	.23
20	18	1.2	.56	.48	.39	27	25	8.9	8.5	3.6	.56	.21
21	15	1.1	.62	.47	.43	29	22	9.2	9.9	4.6	.53	.33
22	17	1.1	.58	.47	.44	36	21	6.9	5.6	12	.51	.40
23	16	1.3	.55	.45	.46	41	20	6.5	3.5	11	.50	.30
24	15	2.0	.52	.44	.48	43	16	5.6	2.3	12	.44	.26
25	14	2.4	.49	.43	.50	38	17	4.4	2.0	7.3	.37	.26
26	13	3.0	.49	.44	.53	30	20	4.2	1.6	5.6	.35	.28
27	15	2.0	.50	.42	.56	27	24	4.7	2.6	12	.33	.30
28	14	1.5	.50	.42	.57	27	21	5.7	1.9	12	.31	.26
29	16	1.1	.49	.42	---	27	19	6.8	1.3	8.4	.29	.28
30	19	.80	.46	.41	---	26	21	9.7	1.2	7.4	.28	.26
31	11	---	.46	.40	---	23	---	13	---	12	.27	---
TOTAL	266.0	100.90	19.82	14.60	12.36	780.08	635	433.6	480.8	203.0	47.99	8.91
MEAN	8.58	3.36	.64	.47	.44	25.2	21.2	14.0	16.0	6.55	1.55	.30
MAX	19	9.4	1.0	.58	.57	58	30	24	66	12	12	.67
MIN	1.6	.80	.46	.39	.39	.56	16	4.2	1.2	1.1	.27	.19
AC-FT	528	200	39	29	25	1550	1260	860	954	403	95	18

CAL YR 1989 TOTAL 4749.20 MEAN 13.0 MAX 261 MIN .03 AC-FT 9420
WTR YR 1990 TOTAL 3003.06 MEAN 8.23 MAX 66 MIN .19 AC-FT 5960

GREEN RIVER BASIN

375

09259000 MUDDY CREEK NEAR BAGGS, WY--Continued

WATER-QUALITY DATA

PERIOD OF RECORD.--October 1987 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE.--March 1988 to current year.

COOPERATION.--Records provided by the Wyoming Water Research Center and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 27,900 mg/L, Mar. 13, 1989; minimum daily mean, 0 mg/L on many days during 1989.

SEDIMENT LOAD: Maximum daily, 31,400 tons, Mar. 23, 1988; minimum daily, 0 ton on many days during 1989.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION: Maximum daily mean, 16,600 mg/L, June 13; minimum daily mean, 2 mg/L on many days.

SEDIMENT LOAD: Maximum daily, 2,960 tons, June 13; minimum daily, 0 ton on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
NOV					
06...	1345	5.1	--	7	0.10
MAR					
05...	1000	20	0.5	406	22
12...	1115	47	--	5680	721
APR					
09...	1030	18	3.5	1080	52
22...	0930	21	9.0	1260	71
MAY					
22...	1100	7.3	--	117	2.3
JUN					
12...	1340	25	10.0	360	24
12...	2010	78	11.0	22500	4740
13...	0900	68	--	18000	3300
JUL					
10...	1000	6.3	14.5	39	0.66
AUG					
20...	1025	0.65	16.5	96	0.17

GREEN RIVER BASIN

09259000 MUDDY CREEK NEAR BAGGS, WY--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	1.7	14	.06	9.2	214	5.3	.63	3	.01
2	1.6	13	.06	9.1	150	3.7	.66	3	.01
3	1.7	14	.06	9.4	83	2.1	.70	4	.01
4	1.9	16	.08	6.3	22	.37	.76	4	.01
5	2.0	18	.10	5.2	9	.13	.80	4	.01
6	1.8	15	.07	5.3	7	.10	.78	4	.01
7	2.2	21	.12	5.2	75	1.1	.71	4	.01
8	3.2	63	.54	3.7	45	.45	.66	3	.01
9	4.6	117	1.5	3.4	40	.37	.74	4	.01
10	5.5	310	4.6	4.2	55	.62	.69	4	.01
11	5.4	380	5.5	3.1	35	.29	.61	3	.00
12	4.8	100	1.3	2.3	22	.14	.57	3	.00
13	4.3	110	1.3	4.5	61	.74	.69	4	.01
14	4.2	100	1.1	3.0	33	.27	.87	5	.01
15	4.4	116	1.4	3.0	33	.27	1.0	6	.02
16	5.9	112	1.8	2.2	21	.12	.85	5	.01
17	6.0	88	1.4	1.6	13	.06	.73	4	.01
18	6.8	90	1.7	1.4	10	.04	.63	3	.01
19	15	180	7.3	1.3	9	.03	.52	2	.00
20	18	190	9.2	1.2	8	.03	.56	3	.00
21	15	162	6.6	1.1	7	.02	.62	3	.01
22	17	330	15	1.1	7	.02	.58	3	.00
23	16	290	13	1.3	9	.03	.55	3	.00
24	15	230	9.3	2.0	18	.10	.52	2	.00
25	14	205	7.7	2.4	23	.15	.49	2	.00
26	13	180	6.3	3.0	33	.27	.49	2	.00
27	15	160	6.5	2.0	18	.10	.50	2	.00
28	14	170	6.4	1.5	12	.05	.50	2	.00
29	16	210	9.1	1.1	7	.02	.49	2	.00
30	19	370	19	.80	4	.01	.46	2	.00
31	11	280	8.3	---	---	---	.46	2	.00
TOTAL	266.0	---	146.39	100.90	---	17.00	19.82	---	0.18
JANUARY			FEBRUARY			MARCH			
1	.44	2	.00	.40	2	.00	.56	3	.00
2	.44	2	.00	.40	2	.00	.59	3	.00
3	.42	2	.00	.40	2	.00	.93	430	1.1
4	.39	2	.00	.41	2	.00	5.0	860	12
5	.42	2	.00	.41	2	.00	25	2960	200
6	.44	2	.00	.42	2	.00	21	2540	144
7	.45	2	.00	.42	2	.00	15	1900	77
8	.47	2	.00	.41	2	.00	12	1590	52
9	.50	2	.00	.42	2	.00	24	2850	185
10	.53	2	.00	.43	2	.00	36	4110	399
11	.56	3	.00	.46	2	.00	53	5900	844
12	.56	3	.00	.47	2	.00	58	6500	1020
13	.58	3	.00	.46	2	.00	31	4000	335
14	.57	3	.00	.44	2	.00	13	2900	102
15	.55	3	.00	.42	2	.00	16	2200	95
16	.53	2	.00	.39	2	.00	22	4600	273
17	.51	2	.00	.42	2	.00	26	3600	253
18	.49	2	.00	.42	2	.00	28	2900	219
19	.50	2	.00	.40	2	.00	19	2200	113
20	.48	2	.00	.39	2	.00	27	2500	182
21	.47	2	.00	.43	2	.00	29	3100	243
22	.47	2	.00	.44	2	.00	36	3500	340
23	.45	2	.00	.46	2	.00	41	3500	387
24	.44	2	.00	.48	2	.00	43	5200	604
25	.43	2	.00	.50	2	.00	38	4200	431
26	.44	2	.00	.53	2	.00	30	3700	300
27	.42	2	.00	.56	3	.00	27	2700	197
28	.42	2	.00	.57	3	.00	27	2450	179
29	.42	2	.00	---	---	---	27	2350	171
30	.41	2	.00	---	---	---	26	2200	154
31	.40	2	.00	---	---	---	23	1800	112
TOTAL	14.60	---	0.00	12.36	---	0.00	780.08	---	7624.10

GREEN RIVER BASIN

377

09259000 MUDDY CREEK NEAR BAGGS, WY--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	22	1650	98	18	540	26	15	105	4.3
2	22	1450	86	19	510	26	26	190	13
3	23	1550	96	21	500	28	28	200	15
4	24	1450	94	19	480	25	20	200	11
5	24	1500	97	20	420	23	18	340	17
6	22	1350	80	21	420	24	14	370	14
7	21	1250	71	21	420	24	14	240	9.1
8	22	1300	77	18	380	18	7.6	220	4.5
9	19	1150	59	19	390	20	7.8	250	5.3
10	21	1150	65	15	200	8.1	8.3	280	6.3
11	20	1100	59	20	170	9.2	8.8	310	7.4
12	20	1050	57	21	240	14	36	4440	912
13	18	1050	51	19	210	11	66	16600	2960
14	16	950	41	24	240	16	35	10200	964
15	17	900	41	22	220	13	40	7400	799
16	20	1000	54	16	220	9.5	33	2200	196
17	21	1100	62	12	140	4.5	30	190	15
18	27	1550	113	11	60	1.8	23	150	9.3
19	30	2200	178	12	110	3.6	9.9	200	5.3
20	25	1900	128	8.9	140	3.4	8.5	195	4.5
21	22	1650	98	9.2	180	4.5	9.9	190	5.1
22	21	1400	79	6.9	100	1.9	5.6	185	2.8
23	20	1000	54	6.5	73	1.3	3.5	175	1.7
24	16	900	39	5.6	68	1.0	2.3	165	1.0
25	17	850	39	4.4	59	.70	2.0	155	.84
26	20	820	44	4.2	50	.57	1.6	160	.69
27	24	820	53	4.7	53	.67	2.6	190	1.3
28	21	690	39	5.7	62	.95	1.9	150	.77
29	19	380	19	6.8	71	1.3	1.3	145	.51
30	21	580	33	9.7	79	2.1	1.2	135	.44
31	---	---	---	13	88	3.1	---	---	---
TOTAL	635	---	2104	433.6	---	326.19	480.8	---	5987.15
JULY			AUGUST			SEPTEMBER			
1	1.1	120	.36	12	490	16	.26	33	.02
2	1.4	110	.42	9.3	370	9.3	.25	33	.02
3	2.4	150	.97	6.2	170	2.8	.25	33	.02
4	2.7	155	1.1	2.5	120	.81	.59	60	.10
5	3.1	135	1.1	1.4	96	.36	.46	32	.04
6	2.3	60	.37	1.3	96	.34	.39	31	.03
7	2.3	63	.39	1.1	96	.29	.67	50	.09
8	6.2	140	2.3	.96	96	.25	.39	31	.03
9	8.6	190	4.4	.89	96	.23	.26	32	.02
10	6.3	60	1.0	.85	96	.22	.28	33	.02
11	8.4	270	6.1	.80	96	.21	.25	38	.03
12	8.0	290	6.3	.80	96	.21	.24	38	.02
13	7.3	280	5.5	.81	96	.21	.23	39	.02
14	6.6	270	4.8	.72	97	.19	.22	40	.02
15	6.1	260	4.3	.66	98	.17	.21	40	.02
16	6.7	255	4.6	.70	98	.19	.20	40	.02
17	6.3	245	4.2	.78	97	.20	.20	40	.02
18	4.9	235	3.1	.78	97	.20	.19	40	.02
19	4.4	220	2.6	.70	97	.18	.23	40	.02
20	3.6	210	2.0	.56	96	.15	.21	40	.02
21	4.6	195	2.4	.53	77	.11	.33	40	.04
22	12	510	17	.51	56	.08	.40	40	.04
23	11	210	6.2	.50	40	.05	.30	40	.03
24	12	30	.97	.44	32	.04	.26	40	.03
25	7.3	30	.59	.37	31	.03	.26	40	.03
26	5.6	30	.45	.35	31	.03	.28	40	.03
27	12	530	17	.33	32	.03	.30	40	.03
28	12	460	15	.31	33	.03	.26	40	.03
29	8.4	380	8.6	.29	33	.03	.28	40	.03
30	7.4	360	7.2	.28	33	.02	.26	40	.03
31	12	490	16	.27	33	.02	---	---	---
TOTAL YEAR	203.0 3003.06	---	147.32 16386.23	47.99	---	32.98	8.91	---	0.92

09259050 LITTLE SNAKE RIVER BELOW BAGGS, WY

LOCATION.--Lat 41°01'43", long 107°41'14", in SE¼ NW¼ sec.7, T.12 N., R.92 W., Carbon County, Hydrologic Unit 14050003, 0.8 mi downstream from Ledford Slough, 1.5 mi southwest of Baggs, and 3.5 mi downstream from bridge on State Highway 789 in Baggs.

PERIOD OF RECORD.--Water years 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT 02...	1000	0.24	9.0	626	220	52	23	56	2	4.4	220	91
APR 09...	1230	868	7.0	305	110	32	8.5	14	0.6	1.8	100	52
22...	1100	E1500	8.5	162	63	18	4.4	8.8	0.5	1.1	60	29
JUN 13...	0800	E2200	7.0	201	71	19	5.7	14	0.7	1.6	67	28

E-Estimate.

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 02...	13	0.5	9.6	381	0.52	0.25	<0.1	0.03	<5	23	0.02
APR 09...	3.3	0.5	14	187	0.25	438	0.2	0.06	<5	748	1750
22...	1.6	0.4	12	112	0.15	--	0.1	0.06	<5	421	--
JUN 13...	3.9	0.1	13	126	0.17	--	0.2	0.06	<5	810	--

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- DON) VEL D) (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 13...	0800	E2200	7.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

E-Estimate.

10011500 BEAR RIVER NEAR UTAH-WYOMING STATE LINE

LOCATION.--Lat 40°57'55", long 110°51'10", in SE¼ NW¼ SE¼ sec.30, T.3 N., R.10 E., Summit County, Utah, Hydrologic Unit 16010101, on left bank 400 ft downstream from West Fork and 2.8 mi upstream from Utah-Wyoming State line.

DRAINAGE AREA.--172 mi².

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

REVISED RECORDS.--WRD UT-74-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 7,965 ft above NGVD of 1929, from river-profile map. Prior to Oct. 1, 1986 at datum 3.0 ft lower.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow regulated slightly by Whitney Reservoir, total capacity, 4,700 acre-ft since 1966. Three diversions upstream from station for irrigation of about 265 acres upstream and 2,600 acres downstream from station.

AVERAGE DISCHARGE.--48 years, 195 ft³/s, 141,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,230 ft³/s, June 6, 1986, gage height, 4.05 ft; maximum gage height, 4.28 ft, June 19, 1983, datum then in use; minimum discharge, 6.8 ft³/s, Apr. 12, 1984, result of upstream ice jam.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 6	0300	1,130	5.90	June 11	1500	*2,810	*7.05

Minimum daily discharge, 30 ft³/s, Jan. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	44	e38	45	e48	46	64	161	412	379	83	49
2	57	51	e39	42	e48	42	67	163	325	380	84	48
3	56	51	e40	e39	e47	41	74	162	323	371	79	61
4	54	48	e41	e36	e47	41	82	163	591	326	77	52
5	54	45	43	e30	e47	42	91	183	855	283	73	60
6	53	44	43	e33	e47	42	96	252	927	256	72	48
7	52	43	41	e38	e48	43	104	352	899	236	71	43
8	51	38	44	40	e44	42	101	320	904	224	70	39
9	49	47	41	41	e40	44	99	240	985	230	71	50
10	48	45	43	41	42	43	92	243	1180	196	70	50
11	47	44	e40	40	42	46	106	257	2010	175	72	49
12	46	45	e35	40	42	43	116	247	1360	160	73	48
13	45	44	e37	39	43	e41	126	246	835	139	68	46
14	45	40	39	39	e43	41	151	240	653	131	65	46
15	45	41	40	40	e43	42	196	277	590	125	64	46
16	43	45	43	41	e42	46	219	249	574	146	79	53
17	40	46	44	e40	e42	43	236	265	483	189	79	55
18	40	42	43	e39	e42	43	233	332	521	184	75	54
19	42	43	e38	e38	e42	42	229	324	592	180	71	68
20	43	43	e37	e38	e43	48	270	368	590	192	66	68
21	43	41	42	e38	e43	47	304	340	620	169	69	61
22	45	37	41	e38	43	51	298	542	614	160	63	55
23	45	39	e41	e39	47	54	280	707	630	161	59	52
24	43	40	e40	e41	47	49	277	795	643	175	57	45
25	41	40	e39	e43	44	52	251	539	641	204	53	43
26	46	40	e38	43	43	55	238	472	624	160	50	44
27	41	37	e39	e45	43	60	197	405	566	131	48	43
28	51	e37	e39	e45	43	61	233	497	507	124	46	43
29	49	e36	40	e46	---	56	200	481	438	120	45	45
30	39	e37	40	e47	---	56	180	405	395	112	48	43
31	41	---	42	e47	---	61	---	374	---	89	54	---
TOTAL	1451	1273	1250	1251	1235	1463	5210	10601	21287	6107	2054	1507
MEAN	46.8	42.4	40.3	40.4	44.1	47.2	174	342	710	197	66.3	50.2
MAX	57	51	44	47	48	61	304	795	2010	380	84	68
MIN	39	36	35	30	40	41	64	161	323	89	45	39
AC-FT	2880	2520	2480	2480	2450	2900	10330	21030	42220	12110	4070	2990

CAL YR 1989 TOTAL 58264 MEAN 160 MAX 946 MIN 30 AC-FT 115600
WTR YR 1990 TOTAL 54689 MEAN 150 MAX 2010 MIN 30 AC-FT 108500

e Estimated

BEAR RIVER BASIN

10015700 SULPHUR CREEK ABOVE RESERVOIR, BELOW LA CHAPELLE CREEK, NEAR EVANSTON, WY

LOCATION.--Lat 41°07'45", long 110°48'21", in NE¼ SE¼ SW¼ sec.2, T.13 N., R.119 W., Uinta County, Hydrologic Unit 16010101, on right bank 0.2 mi downstream from La Chapelle Creek, 3.3 mi upstream from Sulphur Creek Dam, and 12.8 mi southeast of Evanston.

DRAINAGE AREA.--64.2 mi².

PERIOD OF RECORD.--October 1957 to current year. Monthly discharge only for October and November 1957, published in WSP 1734. October 1957 to October 1987 not equivalent because of inflow between sites. October 1987 to October 1989 at present site at different datum.

REVISED RECORDS.--WRD UT-74-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 7,240 ft above NGVD of 1929, from topographic map. Prior to Oct. 7, 1987 at site 1.3 mi downstream at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Several diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--30 years (water years 1958-87), 19.1 ft³/s, 13,840 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,400 ft³/s, June 1, 1983, gage height, 9.10 ft, from rating curve extended above 1,200 ft³/s on basis of slope-area measurement of peak flow. Flood was result of released water from temporary blockage of upstream road culverts; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 172 ft³/s, Mar. 27, gage height, 6.87 ft; no flow many days during August and September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.91	e.37	e2.0	e1.1	e1.2	46	23	41	.59	.47	.00
2	.02	.90	e.45	e1.5	e1.0	e1.3	42	19	45	1.3	.26	.00
3	.02	.89	.56	e1.1	e1.1	e1.5	38	15	31	1.4	.15	.00
4	.02	2.9	1.3	e.80	e1.0	e1.7	37	14	22	1.2	.07	.00
5	.02	3.6	2.0	e1.1	e1.1	e1.6	30	14	13	.52	.04	.01
6	.04	3.0	2.6	e1.5	e.86	e1.7	23	17	12	.38	.01	.01
7	.04	3.4	2.6	e1.9	e.70	e2.2	23	12	11	.41	.01	.01
8	.04	1.1	2.4	2.4	e.60	e2.9	25	5.8	12	.52	.00	.00
9	.04	.96	e1.8	2.6	e1.0	e3.7	29	2.5	14	.76	.00	.00
10	.04	.82	e1.4	2.8	2.3	e7.8	23	2.0	22	1.0	.01	.00
11	.04	.77	e1.2	3.1	2.1	e6.4	21	2.4	87	.90	.03	.00
12	.02	.77	e1.1	3.4	e1.9	e4.5	20	11	76	.92	.17	.00
13	.05	.68	e1.2	3.7	e1.6	e3.4	18	21	56	1.3	.15	.00
14	.09	.57	e1.2	4.1	e1.2	e3.0	19	21	41	2.1	.08	.00
15	.12	.57	e1.2	4.1	e1.1	e3.5	19	35	33	1.3	.04	.00
16	.13	.77	e1.1	4.1	e1.5	e4.8	16	26	42	1.1	.05	.00
17	.13	.71	e1.0	4.0	e1.9	e7.5	13	17	37	.42	.04	.00
18	.16	.67	e.96	3.4	e1.3	e15	10	14	23	.07	.04	.00
19	.19	.63	e.90	2.8	e1.4	e31	8.7	13	9.8	.13	.07	.06
20	.25	.65	e1.1	2.7	e1.0	e42	8.8	18	5.1	.23	.09	.35
21	.23	.58	1.3	2.4	e1.2	e33	11	19	2.9	.32	.10	.22
22	.47	.53	1.2	2.0	e1.6	e27	12	16	1.9	.39	.06	.08
23	.57	.46	1.3	2.0	e1.4	e24	11	10	2.0	.41	.04	.04
24	.57	.53	1.4	2.1	e1.3	e25	10	6.7	1.5	.59	.01	.02
25	.67	e.49	1.2	2.1	e1.2	e39	8.7	8.6	1.1	9.1	.00	.02
26	.82	e.45	.90	2.1	e1.3	e90	6.8	5.1	1.2	4.1	.00	.02
27	1.0	e.40	.80	1.9	e1.2	e62	6.0	16	1.3	5.3	.00	.03
28	1.1	e.40	.87	1.8	e1.2	e34	7.8	26	1.5	2.4	.00	.05
29	1.1	e.40	1.6	1.5	---	35	23	26	.99	1.9	.00	.06
30	1.1	e.38	2.2	1.3	---	42	34	26	.63	1.5	.00	.04
31	.92	---	2.4	1.3	---	46	---	37	---	1.2	.00	---
TOTAL	10.04	29.89	41.61	73.60	36.16	603.7	599.8	499.1	647.92	43.76	1.99	1.02
MEAN	.32	1.00	1.34	2.37	1.29	19.5	20.0	16.1	21.6	1.41	.064	.034
MAX	1.1	3.6	2.6	4.1	2.3	90	46	37	87	9.1	.47	.35
MIN	.02	.38	.37	.80	.60	1.2	6.0	2.0	.63	.07	.00	.00
AC-FT	20	59	83	146	72	1200	1190	990	1290	87	3.9	2.0

CAL YR 1989 TOTAL 5512.95 MEAN 15.1 MAX 176 MIN .00 AC-FT 10930
WTR YR 1990 TOTAL 2588.59 MEAN 7.09 MAX 90 MIN .00 AC-FT 5130

e Estimated

10015900 SULPHUR CREEK BELOW RESERVOIR, NEAR EVANSTON, WY

LOCATION.--Lat 41°09'17", long 110°50'22", in NE¼ NW¼ NE¼ sec.33, T.14 N., R.119 W., Uinta County, Hydrologic Unit 16010101, on right bank 1200 ft downstream from Sulphur Creek Dam, 6.2 mi upstream from mouth, and 10.5 mi southeast of Evanston.

DRAINAGE AREA.--69.2 mi².

PERIOD OF RECORD.--April 1958 to current year.

REVISED RECORDS.--WRD UT-74-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 7,120 ft above NGVD of 1929, from topographic map. Oct. 1, 1986 to June 9, 1987, at datum 1.0 ft higher. After June 9, 1987, at site 0.3 mi downstream at different datum.

REMARKS.--Records poor prior to Mar. 23, and fair thereafter. Flow regulated by Sulphur Creek Reservoir which was enlarged in 1988 from 7,100 acre-ft to a total capacity of 19,775 acre-ft. Records prior to 1965 do not include flow over spillway of the dam.

AVERAGE DISCHARGE.--26 years (water years 1965-90), 26.0 ft³/s, 18,840 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (SINCE 1966).--Maximum daily discharge, 740 ft³/s, May 15, 1984; no flow at times each year, except 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 110 ft³/s, July 13, gage height, 4.63 ft; no flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	e.02	e.03	e.07	e.00	e.05	.81	.33	2.5	41	28	22
2	.00	e.02	e.04	e.05	e.00	e.07	.73	.26	3.3	40	28	20
3	.00	e.02	e.06	e.04	e.00	e.09	.71	.24	2.9	66	28	17
4	.00	e.02	e.10	e.05	e.00	e.11	.60	.18	2.5	101	27	17
5	.00	e.02	e.18	e.06	e.00	e.13	.55	.18	1.4	101	27	17
6	e.00	e.02	e.21	e.07	e.00	e.17	.41	.13	1.1	94	27	18
7	.00	e.02	e.20	e.11	e.00	e.19	.40	.07	1.1	75	28	18
8	.00	e.02	e.13	e.14	e.00	e.24	.45	.05	1.6	76	35	16
9	.00	.02	e.09	e.20	e.00	e.30	.59	.12	2.1	82	45	10
10	e.02	.02	e.08	e.17	e.00	e.28	.36	.23	2.1	103	46	10
11	e.02	.02	e.07	e.13	e.00	e.23	.28	.21	6.3	104	46	e11
12	e.02	.02	e.08	e.10	e.00	e.21	.29	.69	6.4	104	45	e11
13	e.02	.02	e.09	e.08	e.00	e.27	.18	1.3	4.6	96	45	e11
14	e.02	.02	e.10	e.06	e.00	e.30	.18	1.5	3.3	78	43	e10
15	e.02	e.02	e.11	e.05	e.00	e.35	.16	2.3	2.1	79	42	e9.0
16	e.02	e.02	e.10	e.04	e.01	e.30	.14	1.5	3.2	77	41	e8.0
17	e.02	e.02	e.09	e.03	e.01	e.34	.11	.77	3.1	77	39	e8.0
18	e.02	e.02	e.08	e.02	e.02	e.40	.12	.47	1.9	76	35	e8.0
19	e.02	.02	e.07	e.02	e.02	e.57	.14	.38	14	77	35	e8.0
20	e.02	.02	e.09	e.02	e.03	e.70	.14	.50	29	76	35	e7.0
21	e.02	.02	e.15	e.01	e.03	e1.1	.15	.53	27	75	27	e6.0
22	e.02	.02	e.13	e.01	e.02	2.1	.67	.36	27	76	18	e6.0
23	e.02	e.02	e.11	e.00	e.02	1.7	1.1	.18	27	66	18	e6.0
24	e.02	.01	e.09	e.00	e.02	1.4	1.1	.10	27	43	19	e6.0
25	e.02	.02	e.08	e.00	e.03	1.1	.49	.17	28	46	21	e5.0
26	e.02	e.02	e.07	e.00	e.03	.88	.14	.14	59	44	22	e5.0
27	e.02	e.02	e.06	e.00	e.04	.94	.11	.14	100	39	21	e4.5
28	e.02	e.02	e.07	e.00	e.04	.34	.52	.25	99	32	18	e3.0
29	e.02	e.02	e.08	e.00	---	.56	.89	.44	93	33	18	.06
30	e.02	e.02	e.08	e.00	---	2.0	.57	1.2	58	32	22	e.00
31	e.02	---	e.09	e.00	---	1.1	---	1.7	---	29	22	---
TOTAL	0.44	0.59	3.01	1.53	0.32	18.52	13.09	16.62	639.5	2138	951	297.56
MEAN	.014	.020	.097	.049	.011	.60	.44	.54	21.3	69.0	30.7	9.92
MAX	.02	.02	.21	.20	.04	2.1	1.1	2.3	100	104	46	22
MIN	.00	.01	.03	.00	.00	.05	.11	.05	1.1	29	18	.00
AC-FT	.9	1.2	6.0	3.0	.6	37	26	33	1270	4240	1890	590

CAL YR 1989 TOTAL 5416.40 MEAN 14.8 MAX 104 MIN .00 AC-FT 10740
WTR YR 1990 TOTAL 4080.18 MEAN 11.2 MAX 104 MIN .00 AC-FT 8090

e Estimated

BEAR RIVER BASIN

10016900 BEAR RIVER AT EVANSTON, WY

LOCATION.--Lat 41°16'13", long 110°57'47", in NE¼ NW¼ NW¼ sec.21, T.15 N., R.120 W., Uinta County, Hydrologic Unit 16010101, on left bank 100 ft downstream from bridge on State Highway 89, in the City of Evanston.

DRAINAGE AREA.--433 mi².

PERIOD OF RECORD.--May 1984 to current year (no winter records).

GAGE.--Water-stage recorder. Elevation of gage is 6,730 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, diversions for irrigation, and return flow from irrigated areas. Result of discharge measurement, in cubic feet per second, made during the period when station was not in operation, is given below:

Oct. 3 . . . 35.1

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,680 ft³/s, May 16, 1984, gage height, 7.35 ft; minimum daily during periods of operation, 4.1 ft³/s, Sept. 11, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,430 ft³/s, June 12, gage height, 5.96 ft; minimum daily during period of operation, 5.0 ft³/s, Sept. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	140	187	445	193	25	24
2	---	---	---	---	---	---	143	159	420	185	27	23
3	---	---	---	---	---	---	149	149	378	192	29	23
4	---	---	---	---	---	---	146	145	496	206	28	33
5	---	---	---	---	---	---	135	151	800	184	28	40
6	---	---	---	---	---	---	130	187	945	169	22	42
7	---	---	---	---	---	---	122	278	963	128	25	28
8	---	---	---	---	---	---	119	246	943	115	23	23
9	---	---	---	---	---	---	123	173	979	114	39	16
10	---	---	---	---	---	---	113	136	1050	151	49	8.4
11	---	---	---	---	---	---	101	151	1540	137	59	8.5
12	---	---	---	---	---	---	110	161	1930	123	63	8.0
13	---	---	---	---	---	---	119	208	1180	109	58	6.8
14	---	---	---	---	---	---	120	243	880	77	52	5.1
15	---	---	---	---	---	---	155	286	707	75	47	5.0
16	---	---	---	---	---	---	196	293	690	69	63	6.0
17	---	---	---	---	---	---	211	252	625	64	81	6.2
18	---	---	---	---	---	---	221	305	550	81	65	13
19	---	---	---	---	---	---	192	326	539	85	66	42
20	---	---	---	---	---	---	206	336	514	88	67	48
21	---	---	---	---	---	---	245	322	508	84	66	44
22	---	---	---	---	---	---	262	406	494	77	42	42
23	---	---	---	---	---	---	253	659	474	73	35	27
24	---	---	---	---	---	---	246	867	472	49	31	17
25	---	---	---	---	---	---	229	722	449	91	31	17
26	---	---	---	---	---	---	207	573	411	85	31	20
27	---	---	---	---	---	---	184	438	423	68	26	19
28	---	---	---	---	---	---	183	462	368	44	21	19
29	---	---	---	---	---	---	220	507	318	40	14	20
30	---	---	---	---	---	---	251	451	249	39	19	21
31	---	---	---	---	---	---	---	442	---	37	20	---
TOTAL	---	---	---	---	---	---	5231	10221	20740	3232	1252	655.0
MEAN	---	---	---	---	---	---	174	330	691	104	40.4	21.8
MAX	---	---	---	---	---	---	262	867	1930	206	81	48
MIN	---	---	---	---	---	---	101	136	249	37	14	5.0
AC-FT	---	---	---	---	---	---	10380	20270	41140	6410	2480	1300

10020100 BEAR RIVER ABOVE RESERVOIR, NEAR WOODRUFF, UT

LOCATION.--Lat 41°26'04", long 111°01'01", in NE¼ NW¼ NW¼ sec.29, T.17 N., R.120 W., Uinta County, Wyoming, Hydrologic Unit 16010101, on right bank 9.3 mi upstream from Woodruff Narrows Dam and 10 mi southeast of Woodruff.

DRAINAGE AREA.--752 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WRD UT-74-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 6,455 ft above NGVD of 1929, from river-profile map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversion for irrigation of about 43,500 acres upstream from station.

AVERAGE DISCHARGE.--29 years, 248 ft³/s, 179,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,150 ft³/s, June 2, 1983, gage height, 6.17 ft; no flow several days during August and September 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,320 ft³/s, June 12, gage height, 5.16 ft; minimum daily, 4.5 ft³/s, Aug. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	23	e31	e42	e38	e46	133	146	196	104	36	5.1
2	21	25	e31	e36	e39	e49	138	124	219	91	29	7.4
3	19	27	e33	e30	e41	e50	133	115	167	79	28	9.1
4	26	34	e36	e34	e43	e50	129	112	185	84	29	12
5	29	44	e39	e39	e43	e46	118	102	366	79	26	18
6	32	43	e40	e41	e41	e45	109	113	596	74	24	20
7	35	41	e35	e42	e39	e44	97	168	667	62	21	22
8	31	40	e33	e42	e37	e46	94	187	570	49	20	19
9	29	33	e35	e41	e41	e49	93	157	601	46	18	14
10	21	37	e32	e40	e44	e51	89	105	643	55	19	13
11	21	41	e32	e41	e41	e47	73	88	979	57	24	11
12	19	41	35	e42	e37	e43	76	102	2000	51	28	7.4
13	18	39	35	e42	e36	e41	79	108	1380	47	28	7.3
14	17	38	36	e39	e34	e41	79	135	708	43	29	8.8
15	17	36	39	e37	e36	e41	85	148	449	36	26	11
16	17	31	e42	e37	e38	e47	113	191	408	32	25	10
17	16	27	e41	e37	e40	e52	129	162	395	28	40	11
18	17	37	e38	e36	e40	e60	137	165	307	26	43	13
19	17	36	e38	e37	e39	e70	132	204	264	27	37	24
20	17	40	e37	e39	e39	78	120	206	264	40	38	42
21	17	43	e39	e40	e39	85	144	214	255	39	42	42
22	16	43	e39	e40	e39	137	159	189	247	37	28	53
23	18	40	e38	e40	e40	152	158	329	236	63	25	52
24	23	37	e39	e40	e42	148	149	451	234	60	23	e38
25	25	e37	e39	e40	e46	145	143	480	230	62	21	e33
26	22	e35	e37	e41	e44	149	128	314	208	84	19	e28
27	22	e33	e36	e41	e43	177	125	218	215	66	16	e25
28	24	e33	e39	e41	e43	199	130	188	196	55	9.8	e23
29	25	31	e39	e40	---	126	173	232	174	43	7.0	e24
30	31	e31	e40	e40	---	120	181	222	144	40	5.9	e25
31	28	---	e41	e38	---	126	---	203	---	39	4.5	---
TOTAL	694	1076	1144	1215	1122	2560	3646	5878	13503	1698	769.2	628.1
MEAN	22.4	35.9	36.9	39.2	40.1	82.6	122	190	450	54.8	24.8	20.9
MAX	35	44	42	42	46	199	181	480	2000	104	43	53
MIN	16	23	31	30	34	41	73	88	144	26	4.5	5.1
AC-FT	1380	2130	2270	2410	2230	5080	7230	11660	26780	3370	1530	1250

CAL YR 1989 TOTAL 38163.6 MEAN 105 MAX 824 MIN 4.5 AC-FT 75700
WTR YR 1990 TOTAL 33933.3 MEAN 93.0 MAX 2000 MIN 4.5 AC-FT 67310

e Estimated

BEAR RIVER BASIN

10020100 BEAR RIVER ABOVE RESERVOIR, NEAR WOODRUFF, UT--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
NOV												
15...	1520	41	471	2.0	220	53	22	19	0.6	1.8	200	23
APR												
03...	0815	138	504	6.0	250	59	25	14	0.4	2.6	180	42
JUN												
27...	0830	244	223	17.5	100	26	9.4	7.1	0.3	1.3	98	2.5
SEP												
12...	1530	7.1	465	21.0	190	31	28	25	0.8	4.0	160	41

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
NOV											
15...	19	0.2	7.0	265	0.36	29.3	<0.1	0.07	<1	6	0.66
APR											
03...	24	0.2	8.2	283	0.38	105	<0.1	<0.03	<1	117	44
JUN											
27...	6.7	0.1	6.1	118	0.16	78.0	0.1	0.03	<1	28	18
SEP											
12...	36	0.2	7.1	268	0.36	E5.14	<0.1	0.03	<1	1	0.02

E-Estimate.

10020200 WOODRUFF NARROWS RESERVOIR NEAR WOODRUFF, UT

LOCATION.--Lat 41°30'10", long 111°00'55", in SE¼ NW¼ NW¼ sec.32, T.18 N., R.120 W., Uinta County, Wyoming, Hydrologic Unit 16010101, in gate house at Woodruff Narrows Dam on Bear River, 5.6 mi upstream from Wyoming-Utah State line, and 7.7 mi east of Woodruff.

DRAINAGE AREA.--784 mi².

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

REVISED RECORDS.--WRD UT-74-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,405 ft above NGVD of 1929, from levels by Bureau of Reclamation.

REMARKS.--Records poor. Reservoir formed by earthfill, rock-faced dam. Storage began Jan. 5, 1962. Total capacity, 28,000 acre-ft below spillway crest. Total capacity increased to 57,300 in 1980. Elevation of spillway is 6,454.50 ft; gage height, 50.4 ft. Figures given herein represent total contents.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 64,310 acre-ft, June 2, 1983, gage height, 53.5 ft; minimum observed, 880 acre-ft, Sept. 15-25, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum recorded, 29,500 acre-ft, May 21, gage height, 36.1 ft; minimum recorded, 3,610 acre-ft, Oct. 4.

MONTHEND ELEVATION, IN FEET, AND INSTANTANEOUS CONTENTS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	--	*3,620	--
Oct. 31	--	*4,540	+920
Nov. 30	14.7	5,460	+920
Dec. 31	--	*5,960	+500
CAL YR 1989	--	--	-3,390
Jan. 31	--	*7,330	+1,370
Feb. 28	19.8	9,350	+2,020
Mar. 31	--	*16,660	+7,310
Apr. 30	32.1	23,220	+6,560
May 31	--	*21,800	-1,420
June 30	--	*7,490	-14,310
July 31	--	*5,400	-2,090
Aug. 31	13.1	4,480	-920
Sept. 30	12.9	4,360	-120
WTR YR 1990	--	--	+740

* No gage reading, contents interpolated.

10020300 BEAR RIVER BELOW RESERVOIR, NEAR WOODRUFF, UT

LOCATION.--Lat 41°30'20", long 111°00'50", in NW¼ NW¼ sec.32, T.18 N., R.120 W., Uinta County, Wyoming, Hydrologic Unit 16010101, on right bank 1,100 ft downstream from Woodruff Narrows Dam, 1.6 mi upstream from Salt Creek, 5.4 mi upstream from Wyoming-Utah State line, and 7.7 mi east of Woodruff.

DRAINAGE AREA.--784 mi².

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

REVISED RECORDS.--WRD UT-74-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 6,398.96 ft NGVD of 1929 (levels by Utah Water Resources Division from Bureau of Reclamation bench mark). Prior to Sept. 26, 1962, at site 175 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Woodruff Narrows Reservoir (station 10020200) beginning January 1962. Diversions for irrigation of about 43,500 acres upstream from station.

AVERAGE DISCHARGE.--29 years, 246 ft³/s, 178,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,820 ft³/s, June 2, 1983, gage height, 8.26 ft; no flow July 4, 5, 1962, Aug. 30, 31, Sept. 1, 2, 6, 7, 1979, Oct. 30, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,220 ft³/s, May 30, gage height, 5.88 ft; minimum daily, 1.9 ft³/s, Oct. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	4.4	37	15	17	17	17	19	1160	608	75	18
2	3.1	4.3	38	15	18	17	17	19	1130	416	75	19
3	3.2	4.6	38	16	18	17	17	20	1110	105	75	19
4	2.2	3.7	38	16	18	16	17	20	1090	103	76	19
5	2.3	3.7	28	16	18	16	17	20	1070	104	74	19
6	3.5	3.8	14	16	18	16	18	20	1050	92	75	19
7	3.6	3.7	14	16	18	16	17	20	1040	82	75	19
8	3.6	4.0	14	16	18	15	17	21	1020	82	53	19
9	3.8	3.3	14	16	18	16	17	21	929	81	35	19
10	3.9	3.3	14	16	18	16	17	21	826	81	36	19
11	4.3	3.0	14	16	18	16	17	21	829	80	35	19
12	4.7	3.2	14	16	18	15	17	21	850	79	36	19
13	4.7	3.7	14	16	18	15	17	22	870	79	35	19
14	4.3	3.9	14	16	18	16	18	22	869	77	36	19
15	4.6	3.9	14	16	18	16	17	22	777	76	36	19
16	5.0	4.0	14	17	18	16	17	22	657	76	35	19
17	5.0	3.4	14	17	17	16	18	22	665	75	35	18
18	5.0	2.7	14	17	17	16	18	22	655	75	35	16
19	5.1	3.0	15	17	17	16	18	22	649	75	35	11
20	4.7	3.4	15	17	18	16	18	22	612	74	27	10
21	4.9	3.1	15	17	17	16	18	23	561	74	20	9.7
22	3.7	3.8	15	18	17	16	18	22	555	74	20	9.6
23	3.4	4.1	15	17	17	16	18	22	546	74	20	9.9
24	1.9	4.1	15	17	17	16	18	22	538	74	19	9.7
25	3.0	4.7	15	18	17	16	18	538	534	74	20	9.4
26	3.1	4.2	15	18	17	16	18	953	527	75	19	9.0
27	3.8	4.3	15	18	17	16	19	1020	523	75	19	9.0
28	3.9	4.5	15	18	16	16	19	1020	599	76	19	8.5
29	4.4	4.9	16	18	---	16	19	1010	645	75	18	8.7
30	4.1	19	15	18	---	17	19	1130	631	75	18	9.1
31	4.5	---	15	17	---	17	---	1180	---	76	18	---
TOTAL	120.6	129.7	557	517	491	498	530	7359	23517	3342	1204	450.6
MEAN	3.89	4.32	18.0	16.7	17.5	16.1	17.7	237	784	108	38.8	15.0
MAX	5.1	19	38	18	18	17	19	1180	1160	608	76	19
MIN	1.9	2.7	14	15	16	15	17	19	523	74	18	8.5
AC-FT	239	257	1100	1030	974	988	1050	14600	46650	6630	2390	894

CAL YR 1989 TOTAL 41242.3 MEAN 113 MAX 1350 MIN 1.9 AC-FT 81800
WTR YR 1990 TOTAL 38715.9 MEAN 106 MAX 1180 MIN 1.9 AC-FT 76790

10026500 BEAR RIVER NEAR RANDOLPH, UT

LOCATION.--Lat 41°48'02", long 111°04'20", in SE¼ NE¼ sec.7, T.12 N., R.8 E., Rich County, Hydrologic Unit 16010101, on left bank 3.7 mi upstream from Twin Creek, 5.0 mi upstream from Utah-Wyoming State line, and 11 mi northeast of Randolph.

DRAINAGE AREA.--1,616 mi².

PERIOD OF RECORD.--October 1943 to current year. Monthly discharge only for some periods, published in WSP 1314.

REVISED RECORDS.--WRD UT-74-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 6,200 ft above NGVD of 1929, from river-profile map. Prior to Aug. 17, 1971, 0.2 mi upstream at different datum. Aug. 17, 1971 to Sept. 30, 1986 at datum 10.0 ft lower.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Diversion for irrigation of about 94,500 acres upstream from station. Flow regulated by upstream reservoirs.

AVERAGE DISCHARGE.--47 years, 214 ft³/s, 155,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,630 ft³/s, June 4, 1983, gage height, 8.58 ft, datum then in use; minimum, 1.6 ft³/s, Nov. 12, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 303 ft³/s, June 15, gage height, 12.78 ft; minimum daily, 5.7 ft³/s, Sept. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	38	e45	e51	e44	e42	e18	9.0	15	57	14	6.0
2	12	41	e47	e55	e41	e43	e17	8.6	25	74	13	6.2
3	12	38	e53	e48	e45	e42	e15	8.5	34	76	15	6.6
4	11	34	e61	e45	e42	e14	e14	8.8	41	96	16	7.0
5	13	34	e65	e49	e41	e43	e13	9.0	52	113	16	14
6	13	41	e62	e52	e41	e44	e13	8.2	68	92	15	9.6
7	12	45	e59	e56	e39	e47	e12	7.2	74	118	24	9.0
8	12	47	e60	e62	e39	e50	e12	7.8	65	122	16	8.3
9	13	44	e55	e61	e42	e57	e11	8.3	70	95	9.7	7.7
10	13	44	e50	e55	e45	e62	e11	7.5	80	81	9.3	8.7
11	13	45	e47	e52	e44	e55	e11	8.2	133	71	8.9	8.1
12	14	45	e49	e49	e42	e46	10	7.3	157	65	9.5	7.4
13	14	44	e51	e48	e41	e42	10	8.5	189	60	11	7.3
14	15	45	e53	e46	e40	e44	9.5	8.3	208	57	11	7.2
15	15	61	e51	e45	e40	e46	8.9	8.6	282	57	11	7.2
16	15	60	e49	e45	e40	e50	8.8	7.8	207	52	10	7.5
17	16	e62	e48	e45	e41	e57	8.8	7.5	235	48	7.7	7.0
18	16	e63	e48	e44	e42	e63	9.4	8.0	224	45	7.9	6.2
19	18	e61	e49	e42	e40	e70	9.2	8.3	228	43	7.0	8.0
20	21	e68	e55	e41	e40	e70	8.8	9.4	223	37	7.4	8.4
21	22	e68	e56	e46	e41	e68	8.8	9.0	216	38	7.2	6.9
22	23	e64	e52	e49	e46	e64	8.6	8.3	202	40	6.7	5.9
23	23	e62	e50	e46	e46	e55	9.5	7.9	181	28	6.8	6.0
24	23	e58	e48	e43	e43	e43	10	8.4	170	24	7.1	6.0
25	23	e52	e48	e44	e41	e37	10	8.9	163	22	6.6	5.8
26	24	e49	e48	e48	e39	e32	9.0	8.7	124	18	6.2	5.7
27	24	e47	e49	e45	e38	e29	9.0	8.9	109	18	6.8	5.9
28	25	e46	e52	e41	e40	e25	9.4	8.8	92	16	7.9	6.1
29	27	e46	e52	e42	---	e23	9.6	9.6	68	15	7.5	5.9
30	27	e48	e51	e45	---	e21	9.0	11	53	13	6.6	5.8
31	29	---	e50	e48	---	e19	---	13	---	12	6.4	---
TOTAL	550	1500	1613	1488	1163	1431	323.3	267.3	3988	1703	315.2	217.4
MEAN	17.7	50.0	52.0	48.0	41.5	46.2	10.8	8.62	133	54.9	10.2	7.25
MAX	29	68	65	62	46	70	18	13	282	122	24	14
MIN	11	34	45	41	38	19	8.6	7.2	15	12	6.2	5.7
AC-FT	1090	2980	3200	2950	2310	2840	641	530	7910	3380	625	431

CAL YR 1989 TOTAL 20605.6 MEAN 56.5 MAX 341 MIN 7.1 AC-FT 40870
WTR YR 1990 TOTAL 14559.2 MEAN 39.9 MAX 282 MIN 5.7 AC-FT 28880

e Estimated

BEAR RIVER BASIN

10027000 TWIN CREEK AT SAGE, WY

LOCATION.--Lat 41°48'36", long 110°58'12", in NE¼ SW¼ SE¼ sec.7, T.21 N., R.119 W., Lincoln County, Hydrologic Unit 16010101, 0.5 mi downstream from Bulldog Hollow, 0.5 mi southwest of Sage, 0.8 mi southeast of junction of U.S. Highway 30 and State Highway 89, and 5.0 mi upstream from mouth.

DRAINAGE AREA.--246 mi².

PERIOD OF RECORD.--Water years 1975 to 1981, October 1989 to September 1990.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT												
03...	1245	5.6	805	9.0	370	81	41	50	1	3.9	180	220
NOV												
16...	0900	5.9	802	0.0	420	93	46	52	1	3.4	210	250
DEC												
19...	0900	8.0	760	0.0	430	96	45	50	1	4.1	150	270
FEB												
05...	1725	6.8	711	0.0	380	89	38	40	0.9	2.8	210	200
APR												
03...	1125	14	950	7.0	390	82	45	70	2	4.1	170	270
MAY												
24...	1220	5.3	1090	11.0	420	80	54	75	2	3.6	200	290
JUN												
27...	1120	4.3	719	19.0	300	56	39	42	1	2.5	150	170
JUL												
26...	1455	3.4	764	20.5	310	62	38	43	1	3.0	140	220
AUG												
20...	1730	3.3	742	17.5	320	64	39	41	1	3.1	140	200
SEP												
12...	1730	2.4	800	20.0	330	67	40	41	1	3.7	140	230

E-Estimate.

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT											
03...	35	0.4	7.7	547	0.74	8.27	<0.1	0.03	1	35	0.53
NOV											
16...	35	0.5	9.6	615	0.84	9.80	<0.1	<0.03	<1	39	0.62
DEC											
19...	38	0.4	11	605	0.82	13.1	0.1	0.04	<1	21	--
FEB											
05...	29	0.4	11	537	0.73	9.86	0.2	0.03	<5	19	0.35
APR											
03...	40	0.4	8.4	622	0.85	23.5	0.1	<0.03	<5	334	13
MAY											
24...	49	0.5	9.5	682	0.93	9.75	<0.1	<0.03	<5	144	2.1
JUN											
27...	31	0.2	6.0	437	0.59	5.07	0.1	<0.03	<5	59	0.68
JUL											
26...	32	0.2	4.7	487	0.66	4.47	<0.1	<0.03	<5	34	0.31
AUG											
20...	32	0.5	2.5	466	0.63	4.15	<0.1	<0.03	<5	25	0.22
SEP											
12...	37	0.3	6.6	510	0.69	3.30	<0.1	<0.03	<5	32	0.21

E-Estimate.

10028500 BEAR RIVER BELOW PIXLEY DAM, NEAR COKEVILLE, WY

LOCATION.--Lat 41°56'20", long 110°59'05", in SE¼ SE¼ sec.25, T.23 N., R.120 W., Lincoln County, Hydrologic Unit 16010102, 800 ft downstream from Pixley Dam, 11 mi south of Cokeville, and 17.5 mi downstream from Twin Creek.

DRAINAGE AREA.--2,032 mi².

PERIOD OF RECORD.--October 1941 to November 1943 (published as Bear River near Cokeville), October 1952 to September 1956, May 1958 to current year (seasonal only). Monthly discharge only for some periods, published in WSP 1314.

REVISED RECORDS.--WRD UT-74-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 6,185 ft above NGVD of 1929, from river-profile map. Oct. 31, 1941 to Nov. 30, 1943, at site 200 ft downstream at different datum.

REMARKS.--Records fair, except for estimated daily discharges, which are poor. Natural flow of stream affected by diversions for irrigation, return flow from irrigated areas, and regulation by upstream reservoirs.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,300 ft³/s, Mar. 25, 1956; minimum recorded, 0.24 ft³/s, Apr. 26, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 88 ft³/s, July 7; minimum daily, 2.0 ft³/s, May 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	2.2	2.5	21	25	15
2	---	---	---	---	---	---	---	2.3	2.6	19	25	15
3	---	---	---	---	---	---	---	2.2	2.6	11	24	15
4	---	---	---	---	---	---	---	2.3	2.8	11	25	16
5	---	---	---	---	---	---	---	2.1	2.5	11	26	17
6	---	---	---	---	---	---	---	2.2	2.6	81	25	20
7	---	---	---	---	---	---	---	2.0	2.4	88	24	18
8	---	---	---	---	---	---	---	2.1	2.4	65	29	17
9	---	---	---	---	---	---	---	2.1	2.6	71	25	16
10	---	---	---	---	---	---	---	2.2	2.8	19	20	16
11	---	---	---	---	---	---	---	2.3	3.2	43	18	16
12	---	---	---	---	---	---	---	2.4	19	45	41	17
13	---	---	---	---	---	---	---	2.4	17	42	21	16
14	---	---	---	---	---	---	---	2.7	6.9	44	19	16
15	---	---	---	---	---	---	---	2.4	4.6	42	19	16
16	---	---	---	---	---	---	---	2.6	5.4	41	19	16
17	---	---	---	---	---	---	---	2.8	5.6	41	19	16
18	---	---	---	---	---	---	---	2.4	6.4	42	19	12
19	---	---	---	---	---	---	---	2.5	6.3	54	17	4.7
20	---	---	---	---	---	---	---	2.6	9.3	54	17	7.2
21	---	---	---	---	---	---	---	2.8	23	85	17	10
22	---	---	---	---	---	---	---	2.7	34	82	16	8.6
23	---	---	---	---	---	---	---	2.5	35	72	15	6.5
24	---	---	---	---	---	---	---	2.4	32	67	15	4.7
25	---	---	---	---	---	---	---	2.3	29	50	15	9.0
26	---	---	---	---	---	---	---	2.5	27	45	14	e9.0
27	---	---	---	---	---	---	---	2.4	22	41	13	e9.0
28	---	---	---	---	---	---	---	2.6	20	40	14	e9.0
29	---	---	---	---	---	---	---	2.6	27	34	16	e9.0
30	---	---	---	---	---	---	---	2.7	24	30	16	e9.0
31	---	---	---	---	---	---	---	2.7	---	27	15	---
TOTAL	---	---	---	---	---	---	---	75.0	382.5	1418	623	385.7
MEAN	---	---	---	---	---	---	---	2.42	12.7	45.7	20.1	12.9
MAX	---	---	---	---	---	---	---	2.8	35	88	41	20
MIN	---	---	---	---	---	---	---	2.0	2.4	11	13	4.7
AC-FT	---	---	---	---	---	---	---	149	759	2810	1240	765

e Estimated

BEAR RIVER BASIN

10032000 SMITHS FORK NEAR BORDER, WY

LOCATION.--Lat 42°17'36", long 110°52'18", in NE¼ SW¼ SW¼ sec.28, T.27 N., R.118 W., Lincoln County, Hydrologic Unit 16010102, on left bank 4.9 mi upstream from Howland Creek, 5.6 mi downstream from Hobble Creek, and 12.4 mi northeast of Border.

DRAINAGE AREA.--165 mi².

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

REVISED RECORDS.--WSP 1734: 1952(M).

GAGE.--Water-stage recorder. Elevation of gage is 6,720 ft above NGVD of 1929, from topographic map. Prior to Oct. 16, 1945, at site 1.2 mi downstream at different datum. Oct. 16, 1945 to Nov. 1986 at site 0.4 mi downstream at different datum.

REMARKS.--Records poor. One diversion for irrigation of about 200 acres upstream from station.

AVERAGE DISCHARGE.--48 years, 197 ft³/s, 142,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,100 ft³/s, June 4, 1986, gage height, 5.66 ft; minimum, 21 ft³/s, Mar. 29, 1975, Jan. 24, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 480 ft³/s, June 12; minimum daily, 54 ft³/s, Dec. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	e73	e60	e70	e56	56	102	e310	e340	213	134	89
2	90	e72	e62	68	e58	59	113	e285	e325	208	132	89
3	89	79	e65	e56	68	57	134	e270	e310	202	134	88
4	88	78	e65	e58	e62	59	139	e260	e310	196	130	88
5	87	76	e63	e64	e57	63	143	e270	e315	191	127	88
6	86	75	70	e68	e59	61	141	e260	e330	187	123	86
7	86	76	72	e67	61	64	132	e255	e350	184	123	84
8	85	73	e68	e66	e60	72	127	e270	e360	182	123	83
9	84	74	65	65	e59	77	138	e270	e380	186	121	82
10	83	73	e60	e60	59	78	137	e260	e410	180	119	81
11	83	75	e60	67	61	e70	136	262	e440	174	119	81
12	83	73	e58	e69	e59	e66	e110	256	e480	170	119	80
13	83	73	e61	70	e57	e64	e120	e260	e420	170	117	79
14	81	74	e64	67	e56	e68	e140	e265	e360	167	114	79
15	82	74	68	64	e55	e72	e160	267	e320	167	114	78
16	81	71	e66	62	e60	e76	e170	247	e315	166	117	78
17	81	70	e64	e62	e58	77	e180	239	e310	160	121	78
18	79	71	e62	e62	e58	80	e240	243	e250	162	118	78
19	80	69	e63	62	e58	71	e300	249	e230	161	114	89
20	79	67	e66	e61	e60	72	e280	e255	235	161	116	89
21	79	68	e67	e60	e63	77	e280	e250	247	163	114	84
22	80	68	e65	e60	67	83	e290	e250	248	154	109	81
23	79	68	e63	e63	59	83	e310	e280	256	151	105	76
24	78	73	e62	e61	e60	80	e295	e310	257	150	101	74
25	77	68	e62	e60	e60	83	e280	e330	252	148	100	74
26	79	72	e60	e61	e58	83	e275	e330	249	146	96	70
27	77	66	e55	e64	56	90	e280	e310	241	143	94	67
28	80	e62	e54	e60	56	90	e325	e300	230	141	92	68
29	77	e60	e58	e60	---	86	e360	e310	224	137	90	70
30	76	e59	e63	e66	---	87	e340	e330	216	135	91	68
31	73	---	67	e61	---	98	---	e340	---	133	90	---
TOTAL	2537	2130	1958	1964	1660	2302	6177	8593	9210	5188	3517	2399
MEAN	81.8	71.0	63.2	63.4	59.3	74.3	206	277	307	167	113	80.0
MAX	92	79	72	70	68	98	360	340	480	213	134	89
MIN	73	59	54	56	55	56	102	239	216	133	90	67
AC-FT	5030	4220	3880	3900	3290	4570	12250	17040	18270	10290	6980	4760

CAL YR 1989 TOTAL 59218 MEAN 162 MAX 650 MIN 46 AC-FT 117500
WTR YR 1990 TOTAL 47635 MEAN 131 MAX 480 MIN 54 AC-FT 94480

e Estimated

10035000 SMITHS FORK AT COKEVILLE, WY

LOCATION.--Lat 42°05'47", long 110°56'24", in NE¼ NW¼ NW¼ sec.4, T.24 N., R.119 W., Lincoln County, Hydrologic Unit 16010102, 900 ft upstream from U.S. Highway 30N, 1 mi northeast of Cokeville, and 2 mi upstream from mouth.

DRAINAGE AREA.--275 mi².

PERIOD OF RECORD.--Water years 1983 to September 1988, October 1989 to September 1990.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
NOV						
16...	1140	70	0.5	--	12	2.3
APR						
03...	1430	112	11.0	<1	99	30
MAY						
24...	1430	326	9.5	<1	236	208
JUN						
27...	1410	266	16.0	<1	65	47

BEAR RIVER BASIN

10038000 BEAR RIVER BELOW SMITHS FORK, NEAR COKEVILLE, WY

LOCATION.--Lat 42°07'36", long 110°58'21", in NW¼ SE¼ NE¼ sec.28, T.25 N., R.119 W., Lincoln County, Hydrologic Unit 16010102, on left bank 1.1 mi upstream from Wyman Dam, 2.8 mi northwest of Cokeville, and 3.8 mi downstream from Smiths Fork.

DRAINAGE AREA.--2,447 mi².

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

REVISED RECORDS.--WRD UT-74-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 6,140 ft above NGVD of 1929, from river-profile map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by diversion for irrigation, return flow from irrigated areas, and regulation by upstream reservoirs.

AVERAGE DISCHARGE.--36 years, 468 ft³/s, 339,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,620 ft³/s, June 7, 1983, gage height, 8.75 ft; minimum, 31 ft³/s, Oct. 4, 5, 6, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 504 ft³/s, June 11, 12, gage height, 3.65 ft; minimum daily, 86 ft³/s, Sept. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	134	133	e118	e130	e120	e140	160	259	321	263	131	128
2	133	135	e125	149	e115	e145	154	247	305	255	127	126
3	132	156	e135	e145	e125	148	157	240	290	244	126	129
4	128	167	e145	142	e140	148	170	233	283	219	118	131
5	127	165	159	147	e130	146	176	243	297	197	115	138
6	127	162	161	e140	e135	158	175	225	321	184	114	132
7	133	161	e170	e135	e130	178	170	236	344	283	105	128
8	130	166	e175	146	e125	190	172	261	354	255	103	123
9	131	174	181	139	125	210	194	261	366	256	105	118
10	130	175	e165	145	132	225	186	243	379	243	101	113
11	134	172	e140	147	138	e205	182	241	446	192	98	111
12	137	167	e135	159	143	e185	186	243	477	202	95	109
13	133	166	e140	162	e140	e160	183	269	457	198	119	107
14	130	165	146	168	e135	e165	185	262	408	201	106	105
15	130	149	159	171	e130	e190	204	279	369	198	95	104
16	130	e135	e155	172	e125	173	224	253	381	185	94	99
17	130	155	e155	158	127	149	247	233	378	178	107	100
18	130	162	178	e150	e125	130	265	226	337	182	115	102
19	129	165	e170	e145	e125	142	252	235	321	201	110	120
20	128	167	e170	e140	e130	151	251	243	319	204	113	129
21	131	160	167	e140	e130	145	258	240	318	208	114	120
22	139	157	182	e145	134	150	264	237	333	224	114	114
23	142	152	164	e150	138	164	276	248	344	217	142	107
24	142	e158	e150	e150	e140	153	260	287	352	209	153	103
25	141	166	e145	e150	e140	138	242	316	357	205	149	97
26	145	190	e140	e140	e140	137	229	297	358	181	150	95
27	148	158	e140	e130	e140	146	231	284	333	173	139	89
28	153	e130	e150	e145	e140	154	297	285	320	168	136	86
29	155	e122	168	e140	---	141	332	298	300	160	135	88
30	149	e115	153	e130	---	140	283	319	284	148	136	87
31	155	---	150	e128	---	153	---	326	---	140	136	---
TOTAL	4216	4705	4791	4538	3697	4959	6565	8069	10452	6373	3701	3338
MEAN	136	157	155	146	132	160	219	260	348	206	119	111
MAX	155	190	182	172	143	225	332	326	477	283	153	138
MIN	127	115	118	128	115	130	154	225	283	140	94	86
AC-FT	8360	9330	9500	9000	7330	9840	13020	16000	20730	12640	7340	6620

CAL YR 1989 TOTAL 83660 MEAN 229 MAX 762 MIN 108 AC-FT 165900
WTR YR 1990 TOTAL 65404 MEAN 179 MAX 477 MIN 86 AC-FT 129700

e Estimated

10039500 BEAR RIVER AT BORDER, WY

LOCATION.--Lat 42°12'40", long 111°03'11", in NE¼ NE¼ NE¼ sec.15, T.14 S., R.46 E., Bear Lake County, Idaho, Hydrologic Unit 16010102, on left bank 0.2 mi west of Wyoming-Idaho State line, 0.5 mi west of Border, and 2.1 mi upstream from Thomas Fork.

DRAINAGE AREA.--2,486 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1937 to current year.

REVISED RECORDS.--WRD UT-74-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,051.63 ft NGVD of 1929, unadjusted.

REMARKS.--Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by regulation of upstream reservoirs, diversions for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE.--53 years, 448 ft³/s, 324,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,880 ft³/s, June 7, 1983, gage height, 9.69 ft; minimum, 24 ft³/s, Apr. 29, 30, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 381 ft³/s, June 12, gage height, 2.57 ft; minimum, 68 ft³/s, Aug. 16, 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	121	134	e142	e143	e124	e130	170	195	234	212	151	88
2	122	125	e149	e147	e124	e140	168	184	228	208	146	86
3	120	139	e152	e141	e134	e141	164	187	218	202	141	87
4	119	164	e153	e140	e130	e144	168	175	206	187	135	90
5	118	153	e154	e143	e132	e150	176	195	204	176	129	96
6	118	158	e160	e140	e124	e158	179	187	224	163	126	94
7	122	156	e160	e138	e128	e168	175	176	250	201	120	96
8	122	156	e164	e141	e130	e180	176	174	261	228	110	85
9	121	163	e160	e139	e128	e192	194	186	271	219	104	81
10	120	164	e161	e140	e130	e210	190	184	283	235	103	80
11	120	165	e150	e142	e132	e200	183	179	324	188	100	78
12	122	162	e140	e150	e139	e190	186	180	372	185	91	78
13	123	160	e142	e158	e141	e192	184	193	347	189	92	76
14	123	160	e134	e160	e134	e200	179	196	317	191	97	76
15	122	149	e140	e154	e130	e195	185	205	283	202	87	75
16	122	154	e150	e154	e124	e180	199	191	286	189	70	75
17	122	159	e154	e150	e123	e170	188	175	303	182	70	83
18	122	155	e140	e141	e121	e155	209	160	276	182	74	96
19	122	161	e144	e134	e128	158	199	164	254	202	74	110
20	120	155	e150	e141	e126	159	189	174	248	220	74	118
21	120	156	e149	e150	e128	164	194	170	241	219	76	114
22	124	150	e143	e141	e130	160	195	164	248	225	76	108
23	129	146	e141	e132	e136	168	201	170	259	235	94	104
24	130	e145	e135	e141	e140	172	184	189	264	221	106	101
25	129	e140	e132	e132	e132	154	173	216	266	226	107	99
26	132	e144	e141	e141	e130	149	164	214	264	205	107	97
27	134	e145	e147	e148	e130	156	165	199	255	192	102	96
28	137	e143	e141	e137	e132	165	186	194	243	185	99	92
29	141	e138	e148	e138	---	159	235	203	229	179	91	92
30	140	e139	e150	e126	---	156	207	220	226	168	91	91
31	143	---	e143	e125	---	158	---	230	---	161	90	---
TOTAL	3880	4538	4569	4407	3640	5173	5565	5829	7884	6177	3133	2742
MEAN	125	151	147	142	130	167	185	188	263	199	101	91.4
MAX	143	165	164	160	141	210	235	230	372	235	151	118
MIN	118	125	132	125	121	130	164	160	204	161	70	75
AC-FT	7700	9000	9060	8740	7220	10260	11040	11560	15640	12250	6210	5440
CAL YR 1989	TOTAL 75015	MEAN 206	MAX 568	MIN 77	AC-FT 148800							
WTR YR 1990	TOTAL 57537	MEAN 158	MAX 372	MIN 70	AC-FT 114100							

e Estimated

BEAR RIVER BASIN

10039500 BEAR RIVER AT BORDER, WY--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1965 to September 1976, January 1978 to September 1981.

WATER TEMPERATURES: October 1965 to September 1976, January 1978 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,580 microsiemens, Dec. 27, 1975; minimum daily, 312 microsiemens, Apr. 3, 1969.

WATER TEMPERATURES: Maximum, 23.5°C, Aug. 14, 1980; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM OF HG)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
NOV										
06...	1145	159	485	8.20	3.5	3.0	--	10.6	610	320
FEB										
01...	1230	119	620	7.90	-5.0	0.0	2.7	10.7	680	K2
APR										
03...	1230	167	600	8.30	8.5	4.5	16	8.10	610	K21
MAY										
03...	1215	183	550	8.40	10.0	11.0	22	9.10	610	K6
JUL										
05...	1230	172	580	8.30	27.0	18.0	13	7.40	610	87
AUG										
13...	1230	88	600	8.30	34.0	19.0	3.6	7.20	610	--

K-Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	STREP- TOCOCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3
NOV									
06...	340	--	--	--	--	--	--	--	220
FEB									
01...	K4	290	74	25	23	15	0.6	1.7	272
APR									
03...	K8	260	66	23	21	15	0.6	1.8	234
MAY									
03...	K28	240	66	19	17	13	0.5	1.2	4
JUL									
05...	73	250	63	23	25	18	0.7	2.0	--
AUG									
13...	--	260	64	25	26	18	0.7	1.8	--

K-Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
NOV										
06...	180	--	--	--	--	--	--	--	--	<0.01
FEB										
01...	223	69	24	0.2	9.6	362	362	0.49	116	<0.01
APR										
03...	192	83	21	<0.1	6.9	346	339	0.47	156	<0.01
MAY										
03...	187	57	15	0.1	5.8	293	298	0.40	145	--
JUL										
05...	220	71	19	0.2	6.3	335	343	0.46	156	<0.01
AUG										
13...	209	72	28	0.2	7.1	334	349	0.45	79.2	<0.01

10039500 BEAR RIVER AT BORDER, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)
NOV 06...	0.1	0.02	0.01	0.01	0.28	0.3	0.05	0.03	<0.01	--
FEB 01...	0.3	0.04	0.04	0.05	0.26	0.3	0.05	0.03	0.01	0.03
APR 03...	<0.1	0.02	0.01	0.01	1.9	1.9	0.05	<0.01	<0.01	--
MAY 03...	--	--	--	--	--	--	--	--	--	--
JUL 05...	0.2	0.05	0.02	0.03	1.2	1.2	0.06	<0.01	<0.01	--
AUG 13...	<0.1	0.02	<0.01	--	0.28	0.3	0.02	0.04	<0.01	--

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
APR 03...	1230	20	1	84	0.7	<1	2	<3	1	<3	<1
MAY 03...	1215	<10	1	100	<0.5	<1	<1	<3	1	7	<1
JUL 05...	1230	<10	2	91	<0.5	<1.0	1	<3	2	9	1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
APR 03...	14	60	<0.1	<10	1	<1	<1.0	550	<6	<3
MAY 03...	11	45	<0.1	<10	<1	<1	<1.0	480	<6	<3
JUL 05...	17	44	<0.1	<10	1	<1	<1.0	500	<6	<3

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SED. SUSP. SIEVE DIAM. PERCENT FINER THAN .062 MM	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
NOV 06...	1145	159	3.0	70	6	2.6
FEB 01...	1230	119	.0	47	15	4.8
MAY 03...	1215	183	11.0	66	75	37
JUL 05...	1230	172	18.0	73	45	21
AUG 13...	1230	88	19.0	83	26	6.2

10041000 THOMAS FORK NEAR WYOMING-IDAHO STATE LINE

LOCATION.--Lat 42°24'10", long 111°01'30", in SE¼ NW¼ sec.19, T.28 N., R.119 W., Lincoln County, Wyoming, Hydrologic Unit 16010102, on right bank 1.3 mi upstream from Wyoming-Idaho State line, 1.5 mi downstream from Giraffe Creek, and 3.5 mi northeast of Geneva, Idaho.

DRAINAGE AREA.--113 mi².

PERIOD OF RECORD.--October 1949 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 6,280 ft above NGVD of 1929, from topographic map. Prior to Aug. 23, 1957, at site 0.2 mi upstream at different datum.

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

AVERAGE DISCHARGE.--41 years, 56.1 ft³/s, 40,640 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,860 ft³/s, May 15, 1984, gage height, 5.00 ft; minimum, 2.6 ft³/s, Mar. 2, 1956, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 28	1400	*148	*1.75	No peak greater than base discharge.			

Minimum daily, 7.0 ft³/s, Sept. 14, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	e13	e11	e10	e10	e11	33	68	43	20	10	8.2
2	15	e12	e10	e11	e10	e12	36	68	41	21	9.9	8.1
3	14	e12	e10	e10	e10	e12	39	67	39	20	9.9	8.6
4	14	e13	e11	e10	e11	e12	42	67	37	20	9.1	9.4
5	14	13	e11	e10	e10	e11	45	66	36	19	9.2	11
6	14	12	e10	e11	e11	e12	41	66	35	19	9.0	9.5
7	13	12	e10	e11	e10	e12	39	66	35	18	8.8	8.8
8	13	12	e11	e12	e10	e12	38	65	34	18	8.4	8.2
9	13	12	e11	e12	e10	e13	49	64	33	21	8.5	8.1
10	13	12	e10	e12	e11	e13	44	62	35	20	8.3	7.5
11	13	12	e10	e11	e12	e12	42	59	41	18	10	7.4
12	12	12	e10	e11	e11	e12	40	60	36	17	10	7.3
13	12	12	e11	e10	e11	e13	38	67	34	17	10	7.2
14	12	e11	e11	e10	e10	e13	39	64	31	16	9.8	7.0
15	12	e10	e11	e10	e10	e14	47	68	29	16	9.9	7.0
16	13	e11	e11	e11	e10	e16	54	58	35	16	10	7.3
17	13	12	e11	e11	e10	e18	61	56	32	15	11	7.7
18	13	11	e11	e10	e11	22	57	53	28	14	12	7.6
19	13	e12	e10	e10	e11	27	53	54	26	17	12	13
20	13	e11	e10	e10	e10	30	51	53	26	16	14	16
21	13	e12	e10	e10	e10	35	52	52	25	15	14	11
22	14	e11	e10	e11	e11	35	54	49	24	13	12	9.8
23	14	e11	e10	e10	e11	33	61	48	23	13	11	9.3
24	13	e12	e11	e10	e11	34	58	49	23	14	11	9.0
25	13	e12	e11	e11	e11	33	53	48	22	15	10	9.1
26	15	e11	e11	e11	e12	33	55	46	22	12	9.6	9.2
27	14	e11	e11	e10	e11	34	54	45	22	12	9.2	9.0
28	15	e10	e11	e10	e11	36	108	44	21	12	9.0	8.9
29	14	e11	e10	e10	---	35	85	46	21	11	8.8	9.2
30	e13	e11	e10	e11	---	35	74	45	20	11	8.7	9.8
31	13	---	e10	e10	---	31	---	44	---	10	8.6	---
TOTAL	416	349	326	327	297	671	1542	1767	909	496	311.7	269.2
MEAN	13.4	11.6	10.5	10.5	10.6	21.6	51.4	57.0	30.3	16.0	10.1	8.97
MAX	16	13	11	12	12	36	108	68	43	21	14	16
MIN	12	10	10	10	10	11	33	44	20	10	8.3	7.0
AC-FT	825	692	647	649	589	1330	3060	3500	1800	984	618	534

CAL YR 1989 TOTAL 11526.2 MEAN 31.6 MAX 190 MIN 9.8 AC-FT 22860
WTR YR 1990 TOTAL 7680.9 MEAN 21.0 MAX 108 MIN 7.0 AC-FT 15240

e Estimated

13010065 SNAKE RIVER ABOVE JACKSON LAKE, AT FLAGG RANCH, WY

LOCATION.--Lat 44°05'21", long 110°41'38", in T.48 N., R.115 W., Teton County, Hydrologic Unit 17040101, Grand Teton National Park, on left bank 50 ft upstream of State Highway 89 bridge, 600 ft downstream of the confluence with Sheffield Creek, and 2 mi downstream of the south boundary of Yellowstone National Park.

DRAINAGE AREA.--486 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1983 to current year.

GAGE.--Water-stage recorder. Datum of the gage is 6,801.61 ft above National Geodetic Vertical Datum of 1929, (levels by U.S. Coast and Geodetic Survey). A nonrecording cantilever chain gage was used from 1913-18 at a site 2.5 mi upstream at a different datum. In 1918, an auxiliary chain gage was installed at the current site and read periodically. Water-stage recorder installed July 1921 at the current site at a different datum and operated until July 1925. Records probably not comparable.

REMARKS.--Records good except for periods of estimated daily discharges, which are fair. Station equipment includes satellite telemetry.

AVERAGE DISCHARGE.--7 years, 906 ft³/s, 656,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft³/s, May 31, 1984, gage height, 8.39 ft; minimum observed, 165 ft³/s, Oct. 20, 1987, gage height, 3.11 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,800 ft³/s, June 11, gage height, 7.03 ft; minimum, 263 ft³/s, Sept. 17, 18, gage height, 3.37 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8680	24200	25600	6080	16800	22100	9840	9900	14400	31700	14500	7170
2	18300	24300	25600	8260	27100	20900	13700	9750	14900	31200	16100	7300
3	23100	24400	23400	12900	25100	21000	18700	9790	14000	30900	20500	7300
4	23200	23900	21900	12100	21300	21100	19800	10100	14000	24900	16600	8160
5	23300	21000	34600	5710*	23600	21200	18800	11400	14000	29900	10600	8820
6	23300	6010	30600	5520	24800	19500	17800	13800	13300	29500	13400	8860
7	11900	5800	11000	6050	23600	18600	17300	14400	13100	21900	17100	8670
8	7450	23100	9370	6640	26100	18300	17700	12700	13900	19300	16900	6830
9	14300	25000	8950	7560	25900	16800	17800	11400	12900	21800	14800	6550
10	19400	27100	8370	14600	26100	16900	16700	10600	12700	23300	14000	6520
11	23800	32200	7760	12400	26800	16900	15600	10200	14800	23100	11600	6500
12	21500	29300	24400	10000	27100	16900	14900	10200	20100	23000	8650	6500
13	e23900	13000	26200	9040	26600	16900	14900	10600	24100	19900	9070	6530
14	e14400	9790	26200	8400	25700	16600	15000	10800	26600	15100	12100	6450
15	e5200	14300	25800	7860	25800	16500	15400	10600	25900	9880	10700	5550
16	15000	12100	26100	7470	26300	13400	16000	10300	27300	12300	7620	4650
17	23600	7320	25800	7160	26200	11800	16600	10000	20700	17400	11300	6970
18	18600	6970	25800	6810	25900	11800	17000	10100	26400	17900	10800	15900
19	22200	e6390	24900	6520	25700	12100	18300	10100	32200	16200	7080	18000
20	20700	e6790	24400	6400	24100	12600	19100	10000	31400	12300	10900	17900
21	14000	e9350	24200	6330	24100	13400	16800	10100	31400	10800	13500	15000
22	8990	e23200	24200	6370	24400	14000	15800	10000	31300	9610	10400	8170
23	14100	e25800	24400	6350	24600	12600	15600	10500	31200	12100	11500	4650
24	20800	e25300	24300	6140	24500	11600	15500	12100	31100	14300	12000	6460
25	24400	e24900	24300	6080	24100	11400	14700	14000	30500	11900	9180	15800
26	24100	e24500	24200	6070	24000	11200	13400	14800	33500	16800	7750	18100
27	24300	e24500	24000	5880	23800	11200	12300	14200	32900	28200	7770	24600
28	15900	e25300	23900	5870	23900	11100	11700	13400	32300	27400	7710	21300
29	8800	e25300	23800	7270	---	11200	11000	14000	32100	21100	7560	12100
30	18400	e25400	11700	13400	---	11400	10300	14900	31900	20400	7580	6910
31	24300	---	6170	16700	---	8910	---	15100	---	18200	7570	---
TOTAL	559920	576520	671920	253940	694000	469910	468040	359840	704900	622290	356840	304220
MEAN	18060	19220	21670	8192	24790	15160	15600	11610	23500	20070	11510	10140
MAX	24400	32200	34600	16700	27100	22100	19800	15100	33500	31700	20500	24600
MIN	5200	5800	6170	5520	16800	8910	9840	9750	12700	9610	7080	4650
AC-FT	1111000	1144000	1333000	503700	1377000	932100	928400	713700	1398000	1234000	707800	603400
CAL YR 1989	TOTAL 4526420	MEAN 12400	MAX 34600	MIN 3720	AC-FT 8978000							
WTR YR 1990	TOTAL 6042340	MEAN 16550	MAX 34600	MIN 4650	AC-FT 11980000							

* Estimated

13010065 SNAKE RIVER ABOVE JACKSON LAKE, AT FLAGG RANCH, WY--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
NOV 09...	1030	373	266	7.4	2.5	3.0	10.3	97	K2	24	59	18
JAN 16...	1700	354	257	7.2	0.0	2.0	11.9	111	43	80	52	16
MAR 22...	1050	308	285	8.0	9.0	3.0	10.8	103	K17	K1	62	19
MAY 24...	1425	2990	109	7.2	6.0	5.0	11.6	118	K25	K16	35	10
JUL 17...	1230	556	223	8.1	27.0	16.0	9.2	119	K4	K10	46	13
SEP 19...	1000	276	305	8.2	9.0	12.0	8.2	98	29	85	65	20

K-Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE WATER WH FET FIELD MG/L AS HCO3	CAR- BONATE WATER WH FET FIELD MG/L AS CO3	ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
NOV 09...	3.3	32	52	4.5	84	0	69	30	16	2.1	34	176
JAN 16...	2.9	32	55	3.9	89	0	73	27	17	2.5	36	188
MAR 22...	3.6	33	51	4.5	89	0	73	26	19	2.5	35	189
MAY 24...	2.5	7.1	30	1.3	42	0	34	8.2	4.4	0.30	14	79
JUL 17...	3.2	21	48	3.6	81	0	67	24	13	1.5	28	152
SEP 19...	3.6	32	50	4.9	97	0	79	42	18	2.6	33	203

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
NOV 09...	182	0.24	177	<0.01	<0.1	0.03	0.05	<0.2	0.02	0.02	0.02
JAN 16...	181	0.26	180	<0.01	<0.1	0.01	<0.01	0.3	0.02	<0.01	0.02
MAR 22...	187	0.26	157	0.01	<0.1	0.01	0.02	1.6	0.02	<0.01	<0.01
MAY 24...	71	0.11	638	<0.01	0.5	0.04	0.04	<0.2	0.13	0.05	0.04
JUL 17...	147	0.21	228	<0.01	<0.1	0.03	0.04	0.6	0.01	<0.01	<0.01
SEP 19...	204	0.28	151	<0.01	<0.1	0.01	0.02	<0.2	0.03	<0.01	0.01

13010065 SNAKE RIVER ABOVE JACKSON LAKE, AT FLAGG RANCH, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV 09...	10	40	22	<0.5	<1.0	1	<3	<1	18	<1
MAR 22...	<10	42	19	<0.5	<1.0	--	<3	--	18	--
MAY 24...	60	8	20	<0.5	<1.0	3	<3	3	58	1
SEP 19...	20	38	23	<0.5	<1.0	<1	<3	1	11	<1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 09...	160	4	0.3	20	<1	<1	<1.0	150	<6	<3
MAR 22...	170	4	0.2	<10	<10	<1	<1.0	140	<6	13
MAY 24...	32	5	0.2	<10	<1	<1	<1.0	72	<6	11
SEP 19...	160	3	<0.1	<10	1	<1	<1.0	160	<6	7

DATE	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 09...	2	2.0	84
MAR 22...	2	1.8	16
APR 26...	38	222	54
MAY 16...	10	43	71
MAY 24...	152	1230	32
JUN 06...	49	414	67
JUN 19...	65	479	68
JUL 17...	4	6.0	68
SEP 19...	2	1.5	60

LOCATION.--Lat 43°51'33", long 110°35'23", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.18, T.45 N., R.114 W., Teton County, Hydrologic Unit 17040101, Grand Teton National Park, on Jackson Lake Dam on Snake River, 4.3 mi west of Moran and at mile 988.9.

PERIOD OF RECORD.--July 1908 to September 1979, (1908-10 fragmentary), October 1984 to current year. Prior to October 1968, published as "at Moran."

GAGE.--Shaft encoder. Datum of gage is 6,700.00 ft, U.S. Bureau of Reclamation datum. National Geodetic Vertical Datum of 1929 is 2.08 ft lower. July 1908 to June 1, 1941, nonrecording gage at site 300 ft upstream at same datum. June 1, 1941, to Feb. 17, 1978, nonrecording gage at same site and datum.

COOPERATION.--Reservoir elevations and capacity table provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 859,530 acre-ft., July 11, 1965, elevation, 6,769.49 ft; no usable contents for several days during period August to October 1919.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 849,300 acre-ft, July 3, 4, elevation, 6,769.09 ft; minimum, 563,100 acre-ft, Jan. 1-7, elevation, 6,757.42 ft.

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

6,750	392,900
6,760	624,400
6,770	862,600

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	581300	571800	569700	563100	568500	570600	569200	671200	818800	847500	803300	703400
2	581000	571600	569200	563100	568500	570600	569400	673800	820300	848500	800600	699200
3	580800	571800	569000	563100	568500	570400	569700	676500	820800	849300	798000	695500
4	581000	572000	568700	563100	568500	570400	570400	679000	820800	849300	795300	690700
5	581300	572000	569200	563100	568500	570400	571300	682400	824100	848800	793000	686500
6	580800	572000	569200	563100	568500	570400	572500	687200	824600	848200	790000	682100
7	580100	572300	569000	563100	568500	570200	573400	693400	826600	847700	787200	677500
8	579800	572000	568500	564300	568500	569900	574600	698500	827900	847700	784700	672600
9	579400	572000	569000	565200	568700	570200	575800	702400	829200	847000	782200	668300
10	579100	571800	568700	565200	569700	570600	576800	706100	833000	846500	779500	663700
11	577900	571800	568500	565400	569900	570900	577900	711000	836800	845400	777200	658800
12	577500	571800	567800	565400	569900	570900	580100	716900	840400	844400	774200	654000
13	576800	572000	567600	565700	569900	570900	581700	721800	839800	842900	771400	649400
14	576300	571800	567600	565900	569900	570900	583400	725500	838800	841900	768400	645000
15	576000	570900	567300	566800	569900	570400	586200	729000	837300	840100	765200	639800
16	575100	570400	566800	566800	569900	570200	589100	732200	836800	838100	762700	635200
17	574400	569900	566800	566800	570200	570200	593100	735200	835500	836500	758500	630600
18	573900	569900	566400	566800	570200	569900	597900	738400	835000	834500	756000	628000
19	573700	569900	566400	566800	570200	569700	602900	742600	835300	832200	754200	623600
20	573200	569400	566200	566800	570200	569400	608400	746000	836000	830700	751500	619100
21	573200	569200	565900	566800	570200	569200	615500	749800	837000	828900	748300	614600
22	572700	569000	565700	566800	570400	569200	625100	754000	839100	826100	744300	610300
23	572700	569000	565400	566800	570900	569200	631800	761700	840400	823600	739400	606000
24	572700	569200	565200	566800	570900	569700	639000	769400	842400	822000	736400	601400
25	573000	569000	564500	566800	570900	569700	645000	775400	844400	820000	732700	596700
26	573200	571800	564300	566800	570600	569700	650800	780500	845200	817500	728700	592200
27	573000	571100	564000	567100	570600	569900	654900	785500	847000	815500	724800	587900
28	573000	570900	563800	567100	570600	569700	662700	791200	847000	813200	720800	583600
29	572500	570400	563800	567100	---	569400	666300	798500	847000	810400	716600	578900
30	572500	569900	563600	568500	---	569400	668700	806400	847000	808100	712200	574200
31	572300	---	563300	568500	---	569400	---	814400	---	805100	708000	---
MAX	581300	572300	569700	568500	570900	570900	668700	814400	847000	849300	803300	703400
MIN	572300	569000	563300	563100	568500	569200	569200	671200	818800	805100	708000	574200
(#)	6757.81	6757.71	6757.43	6757.65	6757.74	6757.69	6761.84	6767.72	6769.00	6767.35	6763.45	6757.89
(*)	-10400	-2400	-6600	5200	2100	-1200	99300	145700	32600	-41900	-97100	-133800
CAL YR 1989	MAX 849500	MIN 88300	# 475800									
WTR YR 1990	MAX 849300	MIN 563100	# -8500									
(#)	Elevation, in feet, at end of month.											
(*)	Change in contents, in acre-ft.											

SNAKE RIVER MAIN STEM

401

13011000 SNAKE RIVER NEAR MORAN, WY

LOCATION.--Lat 43°51'31", long 110°35'09", in SW¼ SE¼ sec.18, T.45 N., R.114 W., Teton County, Hydrologic Unit 17040101, Grand Teton National Park, on left bank 1,000 ft downstream from Jackson Lake Dam, 4.1 mi west of Moran, and at mile 988.7.

DRAINAGE AREA.--807 mi². Mean elevation, 8,040 ft.

PERIOD OF RECORD.--September 1903 to current year. Monthly discharge only for some periods, published in WSP 1317. Published as "South Fork Snake River at Moran" prior to October 1910 and as "Snake River at Moran" October 1910 to September 1968.

REVISED RECORDS.--WSP 1217: 1944(m). WSP 1347: 1906-10. WDR Idaho 1974: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,727.84 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Prior to June 13, 1917, nonrecording gage, and June 14, 1917, to May 20, 1940, water-stage recorder, at site 1.5 mi downstream at different datums.

REMARKS.--Records good. Station equipment includes satellite telemetry.

COOPERATION.--Gage readings for current reporting purposes provided by U.S. Bureau of Reclamation.

AVERAGE DISCHARGE.--87 years, 1,436 ft³/s, 1,040,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,100 ft³/s June 12, 1918, gage height, 10.41 ft, site and datum then in use; maximum gage height, 10.74 ft, June 25, 1981; minimum, 0.30 ft³/s, Oct. 26, 27, 28, 1969, gage height, 0.89 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood during early June 1894 was considerably higher than that of June 12, 1918.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 4,020 ft³/s, June 11, 12; minimum daily, 390 ft³/s, Apr. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1260	491	491	510	420	406	399	416	1460	2370	1910	2700
2	806	491	491	512	420	403	401	415	2300	2170	1910	2700
3	689	491	491	515	420	403	398	412	2860	2080	1900	2690
4	570	491	491	469	420	403	398	411	3790	2080	1910	2740
5	741	489	491	435	419	403	398	411	4000	2080	1900	2800
6	739	486	491	430	416	403	398	414	3990	1970	1900	2850
7	708	486	491	430	416	403	398	417	3990	1890	1900	2870
8	702	486	490	424	416	403	398	418	3990	1890	1900	2860
9	679	486	491	422	416	403	400	418	3990	1900	1900	2850
10	619	486	491	420	416	403	406	416	3990	1890	1890	2840
11	675	486	493	420	416	403	407	416	4010	1890	1890	2840
12	641	483	495	420	416	400	409	420	4010	1890	1890	2820
13	648	484	495	420	414	398	404	422	4000	1890	1960	2820
14	636	491	495	420	412	398	403	423	3990	1890	2030	2850
15	631	490	495	420	412	398	403	422	3990	1910	2070	2850
16	629	491	495	420	412	398	405	420	3990	1910	2120	2840
17	629	491	497	420	412	398	404	418	3990	1910	2200	2830
18	619	491	500	420	412	398	398	417	3980	1900	2200	2810
19	507	491	500	420	407	398	390	418	3970	1900	2200	2800
20	505	491	500	420	407	398	394	424	3860	1900	2220	2820
21	505	490	500	420	407	398	394	424	3650	1900	2280	2800
22	505	485	500	420	407	398	396	425	3470	1890	2340	2780
23	504	481	500	420	407	394	403	427	3400	1890	2390	2770
24	500	481	500	420	407	394	403	427	3400	1890	2430	2800
25	500	481	505	420	407	394	403	429	3300	1900	2440	2840
26	499	481	505	420	407	394	404	429	3110	1850	2430	2850
27	495	481	508	420	407	395	405	430	3040	1920	2460	2850
28	494	481	510	420	407	398	418	430	2920	1920	2520	2850
29	491	482	510	420	---	398	412	430	2780	1920	2580	2840
30	491	487	510	420	---	398	416	430	2570	1920	2640	2830
31	491	---	510	420	---	398	---	628	---	1910	2690	---
TOTAL	19108	14602	15432	13387	11555	12379	12065	13257	105790	60220	67000	84390
MEAN	616	487	498	432	413	399	402	428	3526	1943	2161	2813
MAX	1260	491	510	515	420	406	418	628	4010	2370	2690	2870
MIN	491	481	490	420	407	394	390	411	1460	1850	1890	2690
AC-FT	37900	28960	30610	26550	22920	24550	23930	26300	209800	119400	132900	167400

CAL YR 1989 TOTAL 280759 MEAN 769 MAX 3560 MIN 179 AC-FT 556900
WTR YR 1990 TOTAL 429185 MEAN 1176 MAX 4010 MIN 390 AC-FT 851300

PACIFIC CREEK BASIN

13011500 PACIFIC CREEK AT MORAN, WY

LOCATION.--Lat 43°51'04", long 110°30'59", in SW¼ NW¼ sec.23, T.45 N., R.114 W., Teton County, Hydrologic Unit 17040101, Grand Teton National Park, on left bank 40 ft upstream from bridge on U.S. Highway 287, at Moran, and at mile 0.5.

DRAINAGE AREA.--169 mi². Mean elevation, 8,160 ft.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July to November 1906 (gage heights only), July 1917 to September 1918 (no winter records), September 1944 to September 1975, July 1978 to current year. Published as "near Moran" prior to October 1968.

GAGE.--Water-stage recorder. Elevation of gage is 6,720 ft above National Geodetic Vertical Datum of 1929, from topographic map. July 31 to Nov. 11, 1906, nonrecording gage at site 0.4 mi downstream at different datum. July 20, 1917, to Sept. 30, 1918, nonrecording gage at site 0.1 mi downstream at different datum. Sept. 23, 1944, to Nov. 13, 1959, at site 100 ft upstream at same datum. Nov. 14, 1959, to Sept. 24, 1975, at site 35 ft downstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Station equipment includes satellite telemetry. No diversion or regulation.

AVERAGE DISCHARGE.--43 years (1944-75, 1979-90), 264 ft³/s, 191,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,350 ft³/s, May 29, 1983, gage height, 6.33 ft; minimum daily, 19 ft³/s, Dec. 31, 1979.

EXTREMES FOR CURRENT YEAR.-- Peak discharges greater than base discharge of 1,300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 11	0315	*1,400	*4.87	No other peak greater than base discharge.			
Minimum daily discharge, 36 ft ³ /s, Feb. 19.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	e47	e51	e61	e56	e42	69	389	1050	447	96	48
2	77	e50	e54	e55	e51	e46	95	387	908	429	90	47
3	87	e52	e58	e51	e52	e47	133	366	841	391	82	49
4	100	e55	e62	e56	e52	e50	180	402	1070	338	79	48
5	99	57	e64	e58	e50	e49	205	464	e1220	304	82	54
6	90	60	e61	e56	e53	e48	184	610	e1090	273	76	54
7	84	61	e59	e59	e51	e47	196	864	1120	246	74	49
8	80	e54	e65	e62	e52	e46	180	754	1110	230	70	47
9	78	59	e61	e65	e56	e48	200	607	1050	228	68	45
10	75	67	e58	e59	e59	e50	212	576	1160	230	66	45
11	72	70	e56	e56	e60	e48	219	681	1300	202	68	43
12	69	67	e59	e57	e50	e47	259	698	1090	186	75	42
13	67	75	e60	e58	e48	e48	260	660	878	174	77	42
14	67	73	e61	e61	e47	e49	283	616	773	173	69	43
15	65	e63	e62	e57	e45	e46	343	594	740	165	69	43
16	68	62	e57	e56	e48	e45	491	552	726	153	74	42
17	e65	66	e54	e49	e50	e48	553	529	676	143	e70	45
18	e62	64	e51	e46	e42	e49	588	577	699	132	e67	44
19	e58	64	e56	e44	e36	e51	618	658	760	129	e65	50
20	e56	e57	e58	e48	e39	e53	708	604	709	129	e66	79
21	e55	e57	e58	e53	e42	e51	e745	610	763	137	e69	73
22	e57	e56	e57	e61	e46	e53	e765	661	764	125	64	58
23	e61	e56	e59	e57	e45	e50	e750	881	748	118	62	52
24	63	e64	e61	e58	e44	47	e730	1040	781	119	63	49
25	64	e62	e56	e61	e44	e41	e705	918	763	125	64	47
26	68	e55	e54	e62	e46	e42	695	797	705	115	62	46
27	69	e51	e56	e54	e44	45	569	804	649	111	59	55
28	70	e49	e54	e58	e43	45	551	901	589	104	55	56
29	65	e47	e54	e59	---	e41	466	1010	532	104	53	53
30	54	e49	e55	e61	---	43	417	1100	491	98	50	51
31	e46	---	e56	e60	---	53	---	1130	---	96	51	---
TOTAL	2155	1769	1787	1758	1351	1468	12369	21440	25755	5954	2135	1499
MEAN	69.5	59.0	57.6	56.7	48.2	47.4	412	692	858	192	68.9	50.0
MAX	100	75	65	65	60	53	765	1130	1300	447	96	79
MIN	46	47	51	44	36	41	69	366	491	96	50	42
AC-FT	4270	3510	3540	3490	2680	2910	24530	42530	51090	11810	4230	2970

CAL YR 1989 TOTAL 107765 MEAN 295 MAX 2360 MIN 28 AC-FT 213800
WTR YR 1990 TOTAL 79440 MEAN 218 MAX 1300 MIN 36 AC-FT 157600

e Estimated

PACIFIC CREEK BASIN

403

13011500 PACIFIC CREEK AT MORAN, WY

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1987 to current year.

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT								
24...	1000	63	208	6.5	6.5	--	--	--
DEC								
12...	1236	61	185	-8.0	0.0	--	--	--
FEB								
13...	1418	48	202	-5.0	0.0	--	--	--
APR								
19...	1104	599	174	12.0	4.0	--	--	--
25...	1315	659	178	11.5	6.0	38	68	60
MAY								
17...	1047	518	--	5.0	4.0	7	9.8	75
23...	1038	816	149	14.0	7.0	--	--	--
JUN								
07...	0912	1120	120	13.5	5.5	447	1350	93
19...	1324	728	124	19.0	10.0	15	29	63
JUL								
18...	0804	133	203	17.0	12.0	--	--	--
AUG								
21...	1309	74	212	25.0	16.0	--	--	--

PACIFIC CREEK BASIN

13011900 BUFFALO FORK ABOVE LAVA CREEK, NEAR MORAN, WY

LOCATION.--Lat 43°50'14", long 110°26'21", in SE¼ NE¼ sec.29, T.45 N., R.113 W., Teton County, Hydrologic Unit 17040101, Grand Teton National Park, on right bank underneath bridge on U.S. Highway 26/287, about 2 mi upstream from Lava Creek, 3.5 mi east of Moran, and 4.0 mi upstream from mouth.

DRAINAGE AREA.--323 mi².

PERIOD OF RECORD.--September 1965 to current year. July to November 1906, July 1917 to September 1918, and September 1944 to September 1960 at sites about 3 mi downstream.

REVISED RECORDS.--WDR Idaho 1974: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,772.78 ft above National Geodetic Vertical Datum of 1929 (Federal Highway Administration bench mark).

REMARKS.--Records good except for estimated daily discharges, which are fair. Station equipment includes satellite telemetry.

AVERAGE DISCHARGE.--25 years (1966-90), 542 ft³/s, 392,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,540 ft³/s, June 9, 1981, gage height, 8.61 ft; minimum daily, 73 ft³/s, Jan. 25, 1989.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 11	0545	3,360	5.82	June 25	0445	*3,640	*6.09

Minimum daily, 108 ft³/s Feb. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	202	e152	e120	e149	e137	e117	174	319	1220	2590	484	235
2	212	155	e128	e140	e137	e126	195	334	1040	2640	464	234
3	214	e186	e132	e130	e138	e137	229	322	931	2630	444	234
4	230	e176	e138	e132	e138	e138	268	331	1230	2070	421	232
5	223	e190	e158	e135	e137	e147	280	364	1700	1880	419	232
6	218	e182	e148	e134	e143	e143	241	462	1660	1910	397	230
7	208	179	e140	e137	e142	e138	242	709	1690	1750	384	220
8	201	181	e150	e142	e136	e134	231	616	1820	1490	374	213
9	199	188	e148	e150	e138	e144	239	517	1910	1430	364	200
10	198	181	e142	e147	e142	e152	235	466	2870	1320	355	198
11	198	175	e130	e144	e150	e143	227	506	3150	1180	354	194
12	196	171	e132	e142	e142	e137	242	532	2790	1120	370	190
13	193	e170	e135	e139	e137	e130	235	525	1780	1120	357	187
14	189	168	e142	e144	e130	e139	239	476	1480	1080	341	185
15	191	e162	e146	e142	e123	e135	259	462	1360	1030	324	185
16	187	e170	e137	e137	e133	e132	341	428	1410	982	311	185
17	178	e166	e132	e130	e140	e142	349	415	1280	917	356	186
18	168	e158	e128	e118	e120	e148	347	431	1360	835	320	187
19	170	e152	e135	e111	e108	e146	393	476	1640	756	303	196
20	173	e146	e146	e116	e112	e150	424	462	1730	783	305	246
21	175	e156	e143	e128	e128	e147	498	459	2340	1000	320	232
22	177	e148	e139	e147	e138	e158	509	484	2550	745	303	207
23	177	e152	e149	e139	e134	e153	498	641	2640	682	290	198
24	178	e160	e142	e136	e130	e144	485	906	3150	651	286	192
25	178	e165	e135	e137	e128	e142	470	852	3170	719	287	191
26	181	e158	e136	e147	e133	e150	454	744	3140	648	281	190
27	176	e155	e133	e135	e124	e155	398	744	2970	595	264	197
28	e172	e148	e135	e137	e118	e160	399	867	2770	559	254	199
29	e164	e122	e136	e138	---	e157	356	1160	2530	557	249	195
30	e158	e117	e140	e148	---	e158	330	1310	2470	535	245	192
31	e148	---	e140	e141	---	162	---	1310	---	506	244	---
TOTAL	5832	4889	4295	4252	3716	4464	9787	18630	61781	36710	10470	6162
MEAN	188	163	139	137	133	144	326	601	2059	1184	338	205
MAX	230	190	158	150	150	162	509	1310	3170	2640	484	246
MIN	148	117	120	111	108	117	174	319	931	506	244	185
AC-FT	11570	9700	8520	8430	7370	8850	19410	36950	122500	72810	20770	12220

CAL YR 1989 TOTAL 180086 MEAN 493 MAX 3280 MIN 73 AC-FT 357200
WTR YR 1990 TOTAL 170988 MEAN 468 MAX 3170 MIN 108 AC-FT 339200

e Estimated

GROS VENTRE RIVER BASIN

405

13015000 GROS VENTRE RIVER AT ZENITH, WY

LOCATION.--Lat 43°33'00", long 110°47'00", in SW¼ NW¼ SW¼ sec.34, T.42 N., R.116 W., Teton County, Hydrologic Unit 17040102, on left bank, 20 ft upstream of county bridge, 0.5 mi southwest of Jackson Hole Country Club, and 5.5 mi north of Jackson.

DRAINAGE AREA.--683 mi².

PERIOD OF RECORD.--July to September 1917, July to September 1918 (monthly discharge only, published in WSP 1317), October 1987 to current year (no winter records).

GAGE.--Water-stage recorder. Elevation of gage is 6,260 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Diversions of about 300 ft³/s for irrigation upstream from station. No regulation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,700 ft³/s (estimated), July 1, 1917. Flood of May 18, 1927, when landslide about 12 mi upstream washed out, releasing about 60,000 acre-ft of impounded water, was considerably higher (discharge not determined); minimum, no flow on many days.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2,490 ft³/s, June 12; minimum daily, 0.46 ft³/s, Sept. 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94	e68	---	---	---	---	e91	202	1000	723	91	13
2	99	e70	---	---	---	---	109	196	937	721	85	11
3	112	74	---	---	---	---	148	193	819	712	75	11
4	114	e80	---	---	---	---	177	192	763	626	67	11
5	124	e94	---	---	---	---	197	203	890	506	66	4.1
6	124	e92	---	---	---	---	197	235	1080	407	63	3.7
7	121	e91	---	---	---	---	175	351	1150	353	57	3.5
8	114	e93	---	---	---	---	161	496	1200	314	60	3.2
9	105	e95	---	---	---	---	152	440	1250	278	66	2.9
10	101	94	---	---	---	---	155	326	1500	263	51	2.8
11	97	103	---	---	---	---	158	295	2360	222	42	2.6
12	94	100	---	---	---	---	166	340	2490	176	42	2.6
13	90	93	---	---	---	---	167	343	1410	136	43	2.4
14	86	e88	---	---	---	---	157	317	930	117	45	1.9
15	87	e82	---	---	---	---	162	290	678	110	44	.85
16	86	84	---	---	---	---	192	273	583	100	42	.85
17	80	87	---	---	---	---	218	252	591	138	43	.78
18	77	e84	---	---	---	---	214	241	535	192	48	.76
19	73	e81	---	---	---	---	229	253	578	159	47	.63
20	69	e78	---	---	---	---	261	272	685	127	46	.50
21	70	83	---	---	---	---	297	273	825	109	43	.46
22	73	76	---	---	---	---	370	265	1030	100	41	.48
23	75	73	---	---	---	---	411	320	1120	93	39	.50
24	77	70	---	---	---	---	394	613	1180	85	37	21
25	75	76	---	---	---	---	350	797	1270	108	36	32
26	79	e78	---	---	---	---	249	734	1270	160	36	22
27	e80	e73	---	---	---	---	267	668	1220	141	33	21
28	e79	e66	---	---	---	---	267	693	1050	120	28	20
29	e76	e58	---	---	---	---	249	802	880	107	23	19
30	e73	e55	---	---	---	---	222	920	780	97	19	34
31	e67	---	---	---	---	---	---	949	---	92	15	---
TOTAL	2771	2439	---	---	---	---	6562	12744	32054	7592	1473	250.51
MEAN	89.4	81.3	---	---	---	---	219	411	1068	245	47.5	8.35
MAX	124	103	---	---	---	---	411	949	2490	723	91	34
MIN	67	55	---	---	---	---	91	192	535	85	15	.46
AC-FT	5500	4840	---	---	---	---	13020	25280	63580	15060	2920	497

e Estimated

FLAT CREEK BASIN

13018000 FLAT CREEK NEAR JACKSON, WY

LOCATION.--Lat 43°33'24", long 110°37'15", in SW¼ NW¼ SW¼ sec.35, T.42 N., R.115 W., Teton County, Hydrologic Unit 17040103, Teton National Forest, on right bank 0.1 mi upstream from forest boundary and 9 mi northeast of Jackson.

DRAINAGE AREA.--40.1 mi².

PERIOD OF RECORD.--June 1933 to November 1941, April 1989 to current year (no winter records).

GAGE.--Water-stage recorder. Elevation of gage is 6,770 ft above National Geodetic Vertical Datum of 1929, from topographic map. June 1933 to November 1941, nonrecording gages at sites 0.7 mi upstream at different datum.

REMARKS.--Estimated daily discharges: Apr. 5 to May 9. Records fair except those for estimated daily discharges, which are poor. No diversion upstream from station. Results of discharge measurement, in cubic feet per second, made during the period when station was not in operation, are given below:

Oct. 11 . . . 21.8
Mar. 28 . . . 9.28

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 438 ft³/s, June 15, 1935, gage height, 3.48 ft, site and datum then in use; minimum daily during periods of operation, 6.8 ft³/s, Apr. 1, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 232 ft³/s, June 13, gage height, 4.45 ft; minimum daily during period of operation, 9.5 ft³/s, Apr. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	9.5	17	36	167	43	27
2	---	---	---	---	---	---	10	17	43	155	42	26
3	---	---	---	---	---	---	10	17	51	150	42	25
4	---	---	---	---	---	---	10	17	49	142	41	25
5	---	---	---	---	---	---	11	18	53	134	40	24
6	---	---	---	---	---	---	11	19	54	125	39	24
7	---	---	---	---	---	---	11	22	59	118	38	23
8	---	---	---	---	---	---	11	22	68	117	36	22
9	---	---	---	---	---	---	11	21	87	110	36	22
10	---	---	---	---	---	---	12	19	100	102	36	22
11	---	---	---	---	---	---	12	20	115	93	34	21
12	---	---	---	---	---	---	12	20	168	88	34	20
13	---	---	---	---	---	---	12	20	216	83	34	20
14	---	---	---	---	---	---	12	21	191	79	32	20
15	---	---	---	---	---	---	13	20	156	76	32	20
16	---	---	---	---	---	---	13	21	137	71	33	19
17	---	---	---	---	---	---	14	23	120	67	33	19
18	---	---	---	---	---	---	14	23	114	65	32	19
19	---	---	---	---	---	---	15	24	113	61	32	20
20	---	---	---	---	---	---	15	25	117	58	31	19
21	---	---	---	---	---	---	16	26	129	55	30	17
22	---	---	---	---	---	---	16	25	147	52	30	17
23	---	---	---	---	---	---	17	25	164	52	30	17
24	---	---	---	---	---	---	18	26	179	49	30	17
25	---	---	---	---	---	---	19	26	194	50	30	17
26	---	---	---	---	---	---	18	26	209	48	29	17
27	---	---	---	---	---	---	17	26	221	47	29	17
28	---	---	---	---	---	---	18	26	217	46	28	16
29	---	---	---	---	---	---	19	28	201	45	27	16
30	---	---	---	---	---	---	18	30	176	44	27	16
31	---	---	---	---	---	---	---	32	---	45	27	---
TOTAL	---	---	---	---	---	---	414.5	702	3884	2594	1037	604
MEAN	---	---	---	---	---	---	13.8	22.6	129	83.7	33.5	20.1
MAX	---	---	---	---	---	---	19	32	221	167	43	27
MIN	---	---	---	---	---	---	9.5	17	36	44	27	16
AC-FT	---	---	---	---	---	---	822	1390	7700	5150	2060	1200

FLAT CREEK BASIN

407

13018300 CACHE CREEK NEAR JACKSON, WY
(Hydrologic bench-mark station)

LOCATION.--Lat 43°27'08", long 110°42'12", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.1, T.40 N., R.116 W., Teton County, Hydrologic Unit 17040103, Teton National Forest, on right bank 0.7 mi upstream from Salt Lick Draw, 2.4 mi southeast of Jackson, and 4.0 mi upstream from mouth.

DRAINAGE AREA.--10.6 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR WY-76-2: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 6,750 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 30, Nov. 1-7, Nov. 22 to Dec. 19, Jan. 17 to Mar. 5. Records good except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--28 years (water years 1963-90), 13.3 ft³/s, 9,640 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 225 ft³/s, June 24, 1971, gage height, 3.90 ft; maximum gage height, 3.97 ft, June 7, 1972; minimum daily discharge, 2.1 ft³/s, Jan. 1, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 52 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 11	0700	*54	*3.39	No other peak greater than base discharge.			

Minimum daily discharge, 2.2 ft³/s, Feb. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.3	5.7	3.8	4.3	3.4	2.4	4.5	11	27	19	10	7.0
2	7.2	5.4	3.8	4.0	3.2	2.6	4.9	11	25	19	10	7.0
3	7.3	5.1	3.9	3.8	3.2	2.7	5.2	11	25	19	9.9	6.9
4	7.2	5.0	4.0	3.9	3.1	2.7	5.5	11	27	19	9.8	7.3
5	7.0	4.8	4.2	3.9	3.2	2.7	5.7	12	31	18	9.6	7.3
6	7.0	4.7	4.2	3.9	3.3	2.8	5.7	14	32	17	9.5	7.1
7	7.0	4.8	4.0	3.9	3.4	2.8	5.7	16	32	17	9.4	6.7
8	6.8	4.7	4.1	3.9	3.3	2.8	5.9	15	31	17	9.3	6.5
9	6.7	4.5	4.4	3.9	3.4	2.8	6.1	14	32	16	9.2	6.4
10	6.5	4.4	4.3	3.8	3.5	2.8	6.2	14	40	16	9.2	6.5
11	6.5	4.4	4.2	3.8	3.6	2.9	6.6	15	49	15	9.0	6.4
12	6.5	4.4	4.6	3.8	3.6	2.8	7.0	15	44	15	8.9	6.2
13	6.3	4.4	4.6	3.7	3.3	3.3	6.9	15	37	15	8.7	6.1
14	6.4	4.3	4.9	3.7	2.9	2.8	7.2	15	33	14	8.7	6.0
15	6.4	4.4	5.2	3.8	2.7	2.9	7.8	15	31	14	8.6	6.0
16	6.4	4.5	5.0	3.7	2.8	3.0	8.4	15	30	14	8.5	6.0
17	6.3	4.4	4.9	3.4	2.8	2.9	8.7	15	26	13	8.6	5.9
18	6.3	4.2	4.9	3.0	2.5	2.9	9.4	15	23	13	8.4	5.9
19	6.3	4.2	5.1	2.6	2.2	2.9	9.4	16	20	13	8.3	7.4
20	6.3	4.3	4.9	2.8	2.3	2.9	10	16	20	12	8.3	7.0
21	6.3	4.2	4.8	3.0	2.7	3.0	11	16	20	12	8.2	6.4
22	6.7	4.1	4.7	3.3	2.9	3.0	11	17	20	12	8.2	6.2
23	6.4	3.9	4.7	3.5	2.7	3.0	11	21	20	12	8.3	6.1
24	6.3	4.0	4.7	3.4	2.6	3.2	12	24	21	12	8.2	6.2
25	6.3	4.1	4.5	3.3	2.6	3.3	12	22	21	12	8.2	6.0
26	6.3	4.0	4.5	3.3	2.6	3.3	11	19	20	11	7.9	5.8
27	6.3	3.9	4.4	3.3	2.6	3.0	11	19	21	11	7.7	5.7
28	6.3	3.6	4.4	3.3	2.5	3.0	12	21	21	11	7.5	5.8
29	6.3	3.6	4.5	3.3	---	3.0	11	25	20	11	7.3	5.8
30	6.1	3.7	4.5	3.4	---	4.1	11	27	20	11	7.2	5.6
31	6.0	---	4.5	3.4	---	4.3	---	28	---	11	7.1	---
TOTAL	203.0	131.7	139.2	110.1	82.9	92.6	249.8	520	819	441	267.7	191.2
MEAN	6.55	4.39	4.49	3.55	2.96	2.99	8.33	16.8	27.3	14.2	8.64	6.37
MAX	7.3	5.7	5.2	4.3	3.6	4.3	12	28	49	19	10	7.4
MIN	6.0	3.6	3.8	2.6	2.2	2.4	4.5	11	20	11	7.1	5.6
AC-FT	403	261	276	218	164	184	495	1030	1620	875	531	379

CAL YR 1989 TOTAL 4357.5 MEAN 11.9 MAX 72 MIN 2.2 AC-FT 8640
WTR YR 1990 TOTAL 3248.2 MEAN 8.90 MAX 49 MIN 2.2 AC-FT 6440

FLAT CREEK BASIN

13018300 CACHE CREEK NEAR JACKSON, WY--Continued
(Hydrologic benchmark station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV 07...	1045	4.8	340	8.5	0.5	595	1.0	11.5	102	K9	K3
JAN 31...	1109	3.4	340	8.4	0.0	595	0.80	11.3	99	K3	K1
MAR 28...	1115	3.0	350	--	1.0	595	1.2	11.2	101	K4	K8
MAY 30...	2020	28	318	8.6	11.0	695	14	10.6	106	K6	K2
JUL 24...	1425	12	315	8.4	9.0	600	1.1	10.1	111	K6	K7
SEP 19...	0930	7.0	330	8.3	7.5	585	2.0	10.6	116	130	78

K-Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3	ALKA- LITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
NOV 07...	170	45	14	2.2	0.1	0.50	--	--	--	169	7.0
JAN 31...	180	47	15	2.6	0.1	0.60	12	166	156	146	11
MAR 28...	190	49	16	2.9	0.1	0.50	--	--	--	176	9.8
MAY 30...	170	50	12	2.6	0.1	0.60	0	211	173	172	4.4
JUL 24...	160	43	13	1.7	0.1	0.50	24	177	185	162	3.3
SEP 19...	170	46	14	1.9	0.1	0.60	7	170	150	168	13

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
NOV 07...	1.5	0.1	5.1	174	177	0.24	2.26	<0.01	0.1	0.02
JAN 31...	0.50	<0.1	5.3	188	175	0.26	1.73	0.01	<0.1	--
MAR 28...	2.9	0.1	5.2	87	195	0.12	0.70	0.02	0.7	0.02
MAY 30...	1.2	<0.1	4.7	171	180	0.23	12.9	<0.01	<0.1	0.02
JUL 24...	1.5	<0.1	4.5	156	181	0.21	5.05	<0.01	0.6	0.02
SEP 19...	2.7	0.1	4.6	159	174	0.22	3.01	0.01	0.1	0.02

FLAT CREEK BASIN

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13018300 CACHE CREEK NEAR JACKSON, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 07...	0.04	0.05	0.3	0.28	0.02	<0.01	0.02	8	0.10	59
JAN 31...	--	--	<0.2	--	0.08	0.03	<0.01	6	0.05	73
MAR 28...	0.04	0.05	0.5	0.48	0.05	0.05	0.02	12	0.10	--
MAY 30...	0.01	0.01	0.4	0.38	0.06	0.05	0.07	74	5.6	74
JUL 24...	0.03	0.04	0.2	0.18	0.04	0.01	<0.01	23	0.75	69
SEP 19...	0.48	0.62	<0.2	--	0.02	<0.01	<0.01	34	0.64	40

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV 07...	1045	10	<1	30	<0.5	<1.0	2	<3	1	22	<1
MAR 28...	1115	<10	<1	32	<0.5	<1.0	<5	<3	<10	3	10
MAY 30...	2020	30	<1	47	<0.5	<1.0	1	<3	1	22	1
SEP 19...	0930	10	<1	31	<0.5	<1.0	1	<3	2	16	1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 07...	4	4	0.1	<10	1	<1	<1.0	70	<6	<3
MAR 28...	5	<1	0.1	<10	<10	<1	<1.0	87	<6	10
MAY 30...	8	2	<0.1	<10	<1	<1	<1.0	87	<6	8
SEP 19...	<4	2	0.3	<10	<1	<1	<1.0	56	<6	8

DATE	TIME	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)
NOV 07...	1045	2.0	<0.4	1.4	<0.4	1.2	<0.4	0.16	0.68

FLAT CREEK BASIN

13018350 FLAT CREEK BELOW CACHE CREEK NEAR JACKSON, WYOMING

LOCATION.--Lat 43°27'30", long 110°47'46", in SW¼ SE¼ NE¼ sec.6, T.40 N., R.116 W., Teton County, Hydrologic Unit 17040103, on left bank 8 ft upstream from county bridge on High School Road, 2.1 mi southwest of Post Office in Jackson, and 3.0 mi downstream from Cache Creek.

DRAINAGE AREA.--129 mi².

PERIOD OF RECORD.--April 1989 to current year (no winter records).

GAGE.--Water-stage recorder. Elevation of gage is 6,130 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: April 1-10. Records fair. Natural flow of stream affected by diversions for irrigation. Results of discharge measurements, in cubic feet per second, made during the period when station was not in operation, are given below:

Oct. 10 . . . 89.2
Mar. 27 . . . 64.5

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 207 ft³/s, Aug. 10, 1989, gage height, 2.66 ft; minimum daily during period of operation, 23 ft³/s, Aug. 30, Sept. 1, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 173 ft³/s, June 11, gage height, 2.38 ft; minimum daily during period of operation, 23 ft³/s, Aug. 30, Sept. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	62	94	127	107	88	23
2	---	---	---	---	---	---	64	88	123	109	87	24
3	---	---	---	---	---	---	66	81	120	106	85	24
4	---	---	---	---	---	---	66	79	114	105	84	24
5	---	---	---	---	---	---	66	62	115	103	82	27
6	---	---	---	---	---	---	64	48	121	98	80	30
7	---	---	---	---	---	---	62	55	126	96	78	30
8	---	---	---	---	---	---	60	60	128	92	79	28
9	---	---	---	---	---	---	58	64	129	93	76	27
10	---	---	---	---	---	---	58	75	139	91	76	27
11	---	---	---	---	---	---	58	75	157	86	75	26
12	---	---	---	---	---	---	63	82	153	84	75	25
13	---	---	---	---	---	---	62	88	152	86	71	25
14	---	---	---	---	---	---	60	88	150	84	63	25
15	---	---	---	---	---	---	59	81	139	82	61	24
16	---	---	---	---	---	---	58	69	130	95	62	24
17	---	---	---	---	---	---	58	66	124	103	66	25
18	---	---	---	---	---	---	60	61	123	100	67	25
19	---	---	---	---	---	---	60	64	121	98	68	45
20	---	---	---	---	---	---	60	72	122	97	71	47
21	---	---	---	---	---	---	60	73	122	97	72	48
22	---	---	---	---	---	---	62	70	124	95	71	48
23	---	---	---	---	---	---	66	78	125	93	69	47
24	---	---	---	---	---	---	68	93	125	94	72	46
25	---	---	---	---	---	---	64	104	127	95	71	47
26	---	---	---	---	---	---	99	107	126	96	71	47
27	---	---	---	---	---	---	104	103	126	98	57	46
28	---	---	---	---	---	---	135	105	125	96	32	46
29	---	---	---	---	---	---	117	117	120	97	27	46
30	---	---	---	---	---	---	104	123	111	101	23	47
31	---	---	---	---	---	---	---	127	---	90	24	---
TOTAL	---	---	---	---	---	---	2103	2552	3844	2967	2083	1023
MEAN	---	---	---	---	---	---	70.1	82.3	128	95.7	67.2	34.1
MAX	---	---	---	---	---	---	135	127	157	109	88	48
MIN	---	---	---	---	---	---	58	48	111	82	23	23
AC-FT	---	---	---	---	---	---	4170	5060	7620	5890	4130	2030

FLAT CREEK BASIN

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13018500 FLAT CREEK NEAR CHENEY, WY

LOCATION.--Lat 43°23'54", long 110°45'19", in SW¼ NE¼ SE¼ sec.28, T.40 N., R.116 W., Teton County, Hydrologic Unit 17040103, on left bank 1.1 mi upstream from mouth, 1.5 mi south of Cheney, and 5.5 mi south of Jackson.

DRAINAGE AREA.--142 mi².

PERIOD OF RECORD.--July to September 1917, June to September 1918 (monthly discharge only, published in WSP 1317), April 1989 to current year (no winter records).

GAGE.--Water-stage recorder. Elevation of gage is 5,940 ft above National Geodetic Vertical Datum of 1929, from topographic map. July 1917 to September 1918, nonrecording gage at site 1 mi upstream at different datum.

REMARKS.--Estimated daily discharges: Apr. 11 to May 9. Records good except those for estimated daily discharges, which are poor. Natural flow of stream affected by diversions for irrigation. Results of discharge measurements, in cubic feet per second, made during the period when station was not in operation, are given below:

Oct. 10 . . . 123
Mar. 27 . . . 91.6

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 500 ft³/s (estimated), June 13, 1918; minimum daily during periods of operation, 30 ft³/s, May 10, 12, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 124 ft³/s, June 11, gage height, 2.31 ft; maximum gage height recorded, 2.39 ft, Sept. 27; minimum daily discharge during period of operation, 30 ft³/s, May 10, 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	89	90	88	85	75	53
2	---	---	---	---	---	---	86	86	88	85	72	54
3	---	---	---	---	---	---	87	84	89	84	72	54
4	---	---	---	---	---	---	88	80	89	81	70	52
5	---	---	---	---	---	---	81	68	87	78	70	53
6	---	---	---	---	---	---	82	64	91	77	72	54
7	---	---	---	---	---	---	80	60	93	75	72	50
8	---	---	---	---	---	---	83	50	94	73	73	49
9	---	---	---	---	---	---	82	43	95	77	73	46
10	---	---	---	---	---	---	78	30	100	76	73	43
11	---	---	---	---	---	---	78	31	117	67	72	41
12	---	---	---	---	---	---	82	30	117	64	72	41
13	---	---	---	---	---	---	83	34	116	66	73	44
14	---	---	---	---	---	---	81	34	116	64	68	44
15	---	---	---	---	---	---	78	36	112	64	65	43
16	---	---	---	---	---	---	78	41	103	63	65	43
17	---	---	---	---	---	---	78	38	99	65	63	43
18	---	---	---	---	---	---	80	41	94	66	62	43
19	---	---	---	---	---	---	80	40	92	68	63	44
20	---	---	---	---	---	---	80	47	92	66	64	46
21	---	---	---	---	---	---	82	47	91	67	67	47
22	---	---	---	---	---	---	84	46	94	65	65	49
23	---	---	---	---	---	---	86	48	92	64	65	49
24	---	---	---	---	---	---	90	46	92	67	65	52
25	---	---	---	---	---	---	90	54	95	69	64	57
26	---	---	---	---	---	---	90	56	96	69	63	64
27	---	---	---	---	---	---	100	63	93	68	62	81
28	---	---	---	---	---	---	110	63	93	67	59	85
29	---	---	---	---	---	---	110	73	93	68	57	80
30	---	---	---	---	---	---	100	83	87	72	55	76
31	---	---	---	---	---	---	---	84	---	75	53	---
TOTAL	---	---	---	---	---	---	2576	1690	2898	2195	2064	1580
MEAN	---	---	---	---	---	---	85.9	54.5	96.6	70.8	66.6	52.7
MAX	---	---	---	---	---	---	110	90	117	85	75	85
MIN	---	---	---	---	---	---	78	30	87	63	53	41
AC-FT	---	---	---	---	---	---	5110	3350	5750	4350	4090	3130

SNAKE RIVER MAIN STEM

13018750 SNAKE RIVER BELOW FLAT CREEK, NEAR JACKSON, WY

LOCATION.--Lat 43°22'20", long 110°44'17", in NE¼ SE¼ sec.3, T.39 N., R.116 W., Teton County, Hydrologic Unit 17040103, on left bank 20 ft upstream from county road bridge, about 1 mi downstream from Flat Creek, 4.8 mi upstream from Hoback River, 7.0 mi south of Jackson, and at mile 938.9.

DRAINAGE AREA.--2,627 mi².

PERIOD OF RECORD.--November 1975 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,950 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair. Station equipment includes satellite telemetry.

AVERAGE DISCHARGE.--14 years (1977-90), 3,552 ft³/s, 2,573,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,600 ft³/s, June 6, 1986, gage height, 10.22 ft; minimum daily, 690 ft³/s, Jan. 19, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 12,400 ft³/s, June 12; minimum daily, 1,160 ft³/s, Jan. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3120	1570	e1340	1380	1240	1210	1540	2660	5810	8310	3750	3830
2	2760	1500	e1370	1370	e1250	1210	1630	2550	6420	8090	3710	3850
3	2510	1480	e1400	e1310	1240	1220	1730	2470	6610	8100	3650	3870
4	2260	1570	e1430	e1320	1250	1220	1870	2410	7460	7610	3590	3890
5	2110	1660	1480	e1340	1260	1220	1990	2440	9080	6990	3540	4020
6	2090	1620	e1500	e1330	1250	1220	2020	2640	9560	6700	3530	4150
7	2080	1620	e1430	e1340	e1230	1220	1960	3290	9580	6300	3460	4150
8	2030	1610	1480	1340	e1240	1240	1930	3830	9800	5980	3410	4140
9	1990	1560	1470	1320	e1240	1250	1880	3570	10100	5810	3400	4080
10	1950	1590	1440	1300	1270	1270	1890	3160	10500	5740	3350	4050
11	1880	1600	1460	1290	1270	1340	1900	3080	e11600	5410	3350	4000
12	1880	1600	e1380	1300	1270	1330	1970	3310	e12400	5170	3340	3970
13	1860	1600	e1380	1300	1260	1280	2070	3410	e10800	5030	3350	3940
14	1840	1600	e1390	1300	e1230	1260	2010	3280	9530	4940	3410	3930
15	1810	1580	1410	1310	e1190	1260	2040	3090	9110	4840	3470	3940
16	1800	1540	1410	1310	e1220	1240	2200	2960	8830	4740	3490	3940
17	1780	1540	e1370	1310	e1240	1240	2480	2810	8770	4590	3580	3940
18	1780	1540	e1360	e1280	e1180	1260	2600	2710	8560	4510	3640	3940
19	1740	1550	e1390	e1160	e1170	1300	2660	2830	8780	4390	3650	4010
20	1650	1550	e1400	e1190	e1180	1360	2840	3010	8990	4280	3670	4150
21	1620	1510	1410	e1250	e1190	1490	3150	2980	9360	4450	3660	4200
22	1630	1490	1410	e1310	1210	1520	3440	2910	9850	4330	3650	4110
23	1630	1470	1410	e1280	1200	1630	3520	3130	9820	4180	3670	4080
24	1620	e1450	1400	e1270	1210	1640	3480	3950	10200	4160	3720	4050
25	1620	e1480	1360	e1280	1210	1530	3370	4450	10600	4220	3790	4080
26	1620	e1500	e1370	1310	1210	1440	3260	4140	10500	4180	3760	4080
27	1620	e1460	e1360	e1250	1200	1440	3160	3880	10200	4040	3690	4110
28	1620	e1440	e1350	e1270	1210	1440	3560	4010	9840	3990	3700	4180
29	1620	e1370	e1360	e1280	---	1430	3320	4430	9110	3920	3730	4140
30	1610	e1320	e1360	1320	---	1420	2890	5150	8620	3870	3760	4130
31	1580	---	1370	1260	---	1450	---	5460	---	3780	3780	---
TOTAL	58710	45970	43450	40180	34320	41580	74360	104000	280390	162650	111250	120950
MEAN	1894	1532	1402	1296	1226	1341	2479	3355	9346	5247	3589	4032
MAX	3120	1660	1500	1380	1270	1640	3560	5460	12400	8310	3790	4200
MIN	1580	1320	1340	1160	1170	1210	1540	2410	5810	3780	3340	3830
AC-FT	116500	91180	86180	79700	68070	82470	147500	206300	556200	322600	220700	239900

CAL YR 1989 TOTAL 1100166 MEAN 3014 MAX 9550 MIN 745 AC-FT 2182000
WTR YR 1990 TOTAL 1117810 MEAN 3062 MAX 12400 MIN 1160 AC-FT 2217000

e Estimated

13019430 GRANITE CREEK NEAR BONDURANT, WY

LOCATION.--Lat 43°17'44", long 110°29'58", in sec.35, T.35 N, R.114 W., Teton County, at Chevron Oil Co. bridge crossing, 1.0 mi upstream of Little Granite Creek confluence, 2.5 mi upstream from mouth and 12.3 mi east of Hoback Junction on U.S. Highway 187/189.

PERIOD OF RECORD.--June 1983 to July 1990 (discontinued).

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. ? FINER THAN .062 MM
APR								
27...	0930	140	289	6.5	2.0	4	1.5	62
MAY								
03...	1340	120	281	21.0	11.0	5	1.6	45
10...	1010	165	281	11.5	5.0	5	2.2	77
15...	1100	137	--	13.5	5.0	3	1.1	68
25...	0824	223	267	4.0	5.0	14	8.4	72
31...	1435	297	250	14.5	9.0	22	18	67
JUN								
05...	1555	359	208	21.5	10.5	50	48	68
14...	1345	280	243	18.0	8.5	10	7.5	84
20...	1358	417	198	24.0	10.5	15	17	73
28...	1320	466	167	25.0	6.5	17	21	76
JUL								
05...	1142	343	321	25.0	8.0	8	7.4	79

HOBACK RIVER BASIN

13019438 LITTLE GRANITE CREEK AT MOUTH, NEAR BONDURANT, WY

LOCATION.--Lat 43°17'56", long 110°31'33", NW¼ SW¼ sec.34, T.39 N., R.114 W., Teton County, Hydrologic Unit 17040103, Teton National Forest, 1.4 mi northeast of U.S. 187/189 on Granite Creek Road and 11.3 mi east of Hoback Junction on U.S. 187/189.

DRAINAGE AREA.--21.1 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1981 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,390 ft above National Geodetic Vertical Datum 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair. No diversion upstream from station.

AVERAGE DISCHARGE.--8 years, 32.2 ft³/s, 23,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 876 ft³/s, May 29, 1983, gage height, 3.86 ft, maximum gage height, 4.1 ft, Feb. 25, 1982 (backwater from ice); minimum daily, 2.5 ft³/s, Feb. 5, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 155 ft³/s, June 10, gage height, 2.82 ft; minimum daily, 3.8 ft³/s, Jan. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	e5.2	e4.7	4.5	4.2	e4.2	13	45	75	39	15	8.0
2	9.0	e5.5	e4.8	e4.4	e4.1	e4.4	16	45	65	38	15	8.1
3	10	e5.8	e4.9	4.5	4.2	e4.5	20	48	59	37	14	8.1
4	8.7	e5.6	e5.1	4.5	e4.1	4.7	22	55	67	35	14	8.1
5	8.4	e5.9	e5.6	4.5	e4.0	4.7	23	62	81	33	13	8.2
6	8.1	5.8	e5.6	4.5	4.2	e4.6	22	75	84	32	13	8.7
7	7.8	5.8	e5.3	4.5	4.1	e4.5	22	93	91	31	13	8.2
8	7.8	e5.9	e5.4	4.6	e4.0	e4.5	22	86	96	29	12	7.8
9	7.7	6.0	e5.6	4.7	e4.0	4.9	23	73	96	30	12	7.8
10	7.5	e5.9	e5.4	4.6	4.1	4.9	25	70	114	28	12	7.7
11	7.3	e5.8	e4.8	4.5	4.1	e4.8	27	69	119	27	12	7.4
12	7.2	e5.8	e4.8	4.4	4.1	e4.8	30	69	95	26	12	7.0
13	7.2	5.8	e4.8	4.3	e4.0	e4.9	29	70	76	25	12	6.9
14	7.1	5.8	4.9	4.3	e4.0	e5.1	32	66	64	23	11	6.8
15	7.1	e5.6	4.8	e4.3	e3.9	e4.9	38	63	58	22	11	6.6
16	e6.9	e6.0	4.7	4.2	e4.2	e4.8	43	60	56	21	13	6.7
17	e6.4	e5.9	4.6	4.1	e4.3	e5.0	47	58	54	21	13	6.9
18	e5.7	5.9	e4.5	e4.0	e4.1	5.2	51	59	54	20	12	6.9
19	e5.8	e5.7	e4.6	e3.8	e4.0	e5.6	52	60	58	20	11	8.0
20	e5.9	e5.6	4.7	e3.9	e4.2	6.0	54	57	59	19	11	8.2
21	e6.0	e5.8	4.7	e4.2	e4.4	e6.2	64	55	62	19	11	7.5
22	e6.0	e5.8	4.7	e4.4	4.5	e6.0	65	59	60	18	10	7.1
23	e6.1	e5.9	4.7	e4.3	4.5	e6.2	64	71	60	18	9.7	6.9
24	e6.1	6.0	4.6	e4.2	e4.4	e6.6	62	82	61	22	9.7	6.9
25	e6.2	e6.2	4.6	4.3	e4.3	e6.9	61	72	58	21	9.7	6.8
26	6.2	e5.9	4.6	4.3	e4.4	e7.3	59	65	55	19	9.5	6.8
27	6.2	e5.7	e4.4	e4.1	e4.4	e7.8	54	62	51	18	8.8	6.2
28	6.2	e5.4	4.5	4.2	e4.3	8.0	55	68	46	17	8.4	6.5
29	6.0	e5.0	4.4	4.3	---	8.2	47	81	43	16	8.3	6.6
30	e5.5	e4.5	4.5	4.3	---	9.5	46	85	40	16	8.3	6.4
31	e5.1	---	4.5	4.3	---	11	---	82	---	15	8.0	---
TOTAL	219.2	171.5	149.8	134.0	117.1	180.7	1188	2065	2057	755	352.4	219.8
MEAN	7.07	5.72	4.83	4.32	4.18	5.83	39.6	66.6	68.6	24.4	11.4	7.33
MAX	12	6.2	5.6	4.7	4.5	11	65	93	119	39	15	8.7
MIN	5.1	4.5	4.4	3.8	3.9	4.2	13	45	40	15	8.0	6.2
AC-FT	435	340	297	266	232	358	2360	4100	4080	1500	699	436

CAL YR 1989 TOTAL 12263.1 MEAN 33.6 MAX 295 MIN 3.0 AC-FT 24320
WTR YR 1990 TOTAL 7609.5 MEAN 20.8 MAX 119 MIN 3.8 AC-FT 15090

e Estimated

13019438 LITTLE GRANITE CREEK AT MOUTH, NEAR BONDURANT, WY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1981 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT DISCHARGE: December 1981 to September 1985.

INSTRUMENTATION.--PS-69 automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily, 3,150 mg/L, May 16, 1984; minimum daily, 2 mg/L, Dec. 11, 1981.

SEDIMENT LOADS: Maximum daily, 2,130 tons, May 16, 1984; minimum daily, 0.02 tons, Dec. 11, 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
NOV 08...	1240	6.3	463	8.4	1.0	1.5	10.7	96	K4
MAR 21...	1454	6.2	480	8.5	0.5	3.5	10.8	103	K1
MAY 25...	1200	72	330	8.5	8.0	4.0	11.0	106	K6
SEP 18...	1500	6.9	406	8.5	21.0	11.0	8.9	102	K4

K-Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE WATER WH FET FIELD MG/L AS HCO3
NOV 08...	K10	240	73	15	4.2	4	0.1	0.9	210
MAR 21...	K1	250	73	16	5.2	4	0.1	0.8	200
MAY 25...	K4	180	55	10	2.4	3	0.1	0.6	170
SEP 18...	29	220	63	14	3.7	4	0.1	1.0	210

K-Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	CAR- BONATE WATER WH FET FIELD MG/L AS CO3	ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)
NOV 08...	4	178	63	0.7	0.1	4.5	268	<0.1	0.02
MAR 21...	4	172	73	0.8	<0.1	4.8	277	<0.1	0.03
MAY 25...	12	160	14	2.9	0.1	4.1	185	<0.1	0.02
SEP 18...	4	177	51	1.9	0.2	3.9	245	--	0.02

HOBACK RIVER BASIN

13019438 LITTLE GRANITE CREEK AT MOUTH, NEAR BONDURANT, WY--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
APR				
27...	1300	17	2.4	78
MAY				
03...	1225	32	3.9	91
10...	1328	46	8.5	77
18...	1119	12	1.9	63
25...	1200	22	4.3	73
31...	1200	28	6.0	69
JUN				
05...	1130	27	5.3	71
14...	1524	21	3.6	68
20...	1536	20	3.3	66
28...	1453	11	1.5	61
JUL				
05...	1030	6	0.56	55
SEP				
18...	1500	8	0.15	49

13022500 SNAKE RIVER ABOVE RESERVOIR, NEAR ALPINE, WY

LOCATION.--Lat 43°11'47", long 110°53'18", Lincoln County, Hydrologic Unit 17040103, on right bank 0.3 mi downstream from Wolf Creek, 6.4 mi upstream from Greys River, 7.4 mi east of Alpine, 16.1 mi upstream from Palisades Dam, and at mile 917.5.

DRAINAGE AREA.--3,465 mi².

PERIOD OF RECORD.--March 1937 to March 1939 (published as "above Greys River, near Alpine"), July 1953 to current year.

GAGE.--Water-stage recorder. Datum of gage is 5,683.90 ft above National Geodetic Vertical Datum of 1929. Mar. 16, 1937, to Mar. 31, 1939, at site 6.0 mi downstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Station equipment includes satellite telemetry.

AVERAGE DISCHARGE.--38 years (1938, 1954-90), 4,560 ft³/s, 3,304,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,300 ft³/s, June 6, 1986; minimum, 740 ft³/s, Nov. 16, 1955, gage height, 2.19 ft.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 14,700 ft³/s, June 12; minimum daily, 1,540 ft³/s, Feb. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3690	2030	e1780	e1940	e1700	1590	2060	3990	7500	9810	4370	4330
2	3350	1960	e1820	1900	e1710	1610	2220	3900	7910	9650	4290	4340
3	3190	2000	e1870	1820	e1720	1660	2390	3820	8010	9620	4230	4390
4	2850	2110	e1900	e1780	e1730	1660	2610	3760	9070	8770	4150	4380
5	2730	2210	e1940	e1800	e1740	1660	2820	3860	10800	8220	4120	4500
6	2690	2140	e1980	e1790	e1730	1650	2810	4110	11000	7920	4060	4600
7	2680	2160	e1900	e1800	e1700	1650	2730	4900	11100	7440	3990	4590
8	2590	2110	1950	e1810	e1700	1650	2620	5550	11300	7020	3970	4600
9	2530	2060	e1920	1790	e1720	1670	2620	5180	11400	6940	3930	4540
10	2510	2130	e1890	1750	e1780	1690	2770	4620	12100	6900	3910	4490
11	2430	2140	e1860	1770	e1700	1770	2850	4430	14200	6480	3920	4430
12	2430	2110	e1840	1770	e1680	1730	2980	4640	14700	6170	3920	4390
13	2410	2090	e1850	1750	e1620	1660	3100	4810	12700	6010	3930	4350
14	2380	e2070	e1880	1770	e1600	1670	3000	4700	10900	5880	3970	4340
15	2350	2060	1950	e1760	e1580	1650	3290	4460	10300	5730	3990	4350
16	2330	2020	1880	e1750	e1600	1630	3540	4240	10100	5610	4050	4340
17	2320	2050	e1880	e1710	e1640	1650	3850	4020	10100	5460	4190	4350
18	2290	2050	e1840	e1700	e1590	1670	4040	3900	10100	5360	4220	4330
19	2260	2050	e1880	e1650	e1540	1740	4120	4020	10500	5180	4210	4430
20	2170	2030	e1910	e1710	e1560	1790	4330	4220	11100	5080	4240	4590
21	2140	1990	1940	e1780	e1580	1920	4640	4160	11600	5260	4260	4600
22	2180	1980	1880	e1820	e1600	1970	4960	4090	12100	4960	4240	4500
23	2160	1950	1900	e1790	e1610	2120	5090	4440	12100	4920	4230	4450
24	2150	e1920	1870	e1780	1620	2050	5000	5510	12600	5050	4250	4420
25	2140	e1980	e1800	e1800	1630	1930	4820	6080	12900	5010	4330	4450
26	2150	e2000	e1810	e1840	1630	1860	4690	5600	12600	4840	4300	4450
27	2170	e1940	e1800	e1750	1610	1890	4500	5260	12100	4750	4230	4490
28	2180	1880	e1810	e1780	1620	1890	4980	5420	11500	4650	4220	4550
29	2160	e1850	e1820	e1790	---	1850	4870	6060	10600	4590	4240	4510
30	2090	e1760	e1820	e1830	---	1870	4250	6910	10100	4480	4270	4480
31	2080	---	e1870	e1740	---	1950	---	7290	---	4400	4290	---
TOTAL	75780	60830	58040	55220	46240	54750	108550	147950	333090	192160	128520	133560
MEAN	2445	2028	1872	1781	1651	1766	3618	4773	11100	6199	4146	4452
MAX	3690	2210	1980	1940	1780	2120	5090	7290	14700	9810	4370	4600
MIN	2080	1760	1780	1650	1540	1590	2060	3760	7500	4400	3910	4330
AC-FT	150300	120700	115100	109500	91720	108600	215300	293500	660700	381100	254900	264900

CAL YR 1989 TOTAL 1458410 MEAN 3996 MAX 12700 MIN 980 AC-FT 2893000
WTR YR 1990 TOTAL 1394690 MEAN 3821 MAX 14700 MIN 1540 AC-FT 2766000

e Estimated

13023000 GREYS RIVER ABOVE RESERVOIR, NEAR ALPINE, WY

LOCATION.--Lat 43°08'35", long 110°58'34", in SW¼ SE¼ sec.34, T.37 N., R.118 W. (unsurveyed), Lincoln County, Hydrologic Unit 17040103, on right bank at Bridge Campground, 3.0 mi upstream from maximum flowline of Palisades Reservoir, and 3.6 mi southeast of Alpine.

DRAINAGE AREA.--448 mi². Mean elevation, 8,080 ft.

PERIOD OF RECORD.--July to September 1917, June to September 1918, March 1937 to March 1939, October 1953 to current year. Published as "Greys River near Alpine, Idaho," 1917-18, and as "Greys River near Alpine, Wyo.," 1937-39.

REVISED RECORDS.--WDR Idaho 1967: 1966.

GAGE.--Water-stage recorder. Elevation of gage is 5,720 ft above National Geodetic Vertical Datum of 1929, from topographic map. July 6 to Sept. 30, 1917, and June 4 to Sept. 30, 1918, nonrecording gage, and Mar. 17, 1937, to Mar. 31, 1939, water-stage recorder, at site 1.8 mi downstream, and October 1953 to Sept. 22, 1965, water-stage recorder at site 1 mi downstream at different datums.

REMARKS.--Records fair. Station equipment includes satellite telemetry. Less than 500 acres irrigated by diversions from Greys River and tributaries above station.

AVERAGE DISCHARGE.--38 years (1938, 1954-90), 646 ft³/s, 468,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 7,230 ft³/s, June 19, 1971, gage height, 6.33 ft; maximum gage height observed, 19.1 ft former site and datum about Dec. 18, 1965 (ice jam); minimum, 84 ft³/s, Feb. 17, 1986, result of current-meter measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 22	0030	ice jam	*6.58	No peaks greater than base discharge.			
June 11	1245	*1,760	3.71				

Minimum daily, 136 ft³/s, Jan. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	349	222	e194	e270	e193	e150	334	838	1120	e770	e392	277
2	340	255	e198	e250	e200	e158	398	833	1040	e740	e387	276
3	340	289	e206	e242	e196	e172	463	833	980	e710	e385	281
4	327	282	e220	e250	e201	e170	523	849	1060	e670	e378	282
5	319	274	e230	e255	e195	186	550	881	1200	e700	e370	288
6	311	262	e236	239	e202	183	530	1030	1240	e690	e368	292
7	306	262	e230	e248	e195	179	526	1140	1230	e670	e364	275
8	304	258	e220	e255	e185	180	475	1070	1260	e660	e360	272
9	302	259	e210	e275	e199	185	497	955	1320	e690	e355	268
10	300	263	e202	e265	e217	186	550	900	1430	e770	e348	267
11	296	264	198	e255	e228	199	570	917	1690	e670	e343	263
12	292	259	204	e250	e200	186	602	900	1550	589	e342	261
13	290	e252	222	e255	e165	163	571	918	1310	569	e338	257
14	287	e245	254	e260	e153	e156	612	867	1170	557	e335	258
15	288	241	257	236	e150	e154	761	852	1130	543	e332	257
16	284	245	226	200	e160	164	844	808	1110	529	e330	261
17	280	247	222	157	e170	174	871	787	1070	513	e328	262
18	276	247	215	142	e156	188	905	803	1060	508	e326	261
19	277	240	212	e136	e140	189	906	854	1090	509	e322	297
20	277	233	244	e152	e146	208	909	843	1270	489	e320	336
21	278	233	251	e168	e160	229	940	862	1230	490	e316	315
22	284	231	252	e200	e170	243	993	881	1210	473	e314	281
23	281	224	245	e220	e160	265	1010	1020	1210	471	312	270
24	277	e230	e240	e205	e156	240	981	1170	1230	e460	313	266
25	273	241	e236	e210	e154	226	910	1070	1210	e450	308	264
26	280	259	e240	e214	e160	226	912	997	1200	e435	299	260
27	275	239	e238	e214	e156	250	833	994	e1180	e420	290	261
28	278	e228	e240	e220	e154	259	1190	1060	e1080	e410	285	260
29	269	e208	e245	e212	---	251	999	1150	e980	e408	280	256
30	246	e188	e250	e205	---	259	881	1190	e850	e402	281	256
31	e235	---	e260	e193	---	289	---	1170	---	e399	280	---
TOTAL	9021	7380	7097	6853	4921	6267	22046	29442	35710	17364	10301	8180
MEAN	291	246	229	221	176	202	735	950	1190	560	332	273
MAX	349	289	260	275	228	289	1190	1190	1690	770	392	336
MIN	235	188	194	136	140	150	334	787	850	399	280	256
AC-FT	17890	14640	14080	13590	9760	12430	43730	58400	70830	34440	20430	16230

CAL YR 1989 TOTAL 226312 MEAN 620 MAX 2430 MIN 170 AC-FT 448900
WTR YR 1990 TOTAL 164582 MEAN 451 MAX 1690 MIN 136 AC-FT 326400

e Estimated

13026000 STUMP CREEK NEAR AUBURN, WY

LOCATION.--Lat 42°47'00", long 111°03'10, sec.26, T.7 S., R.46 E., Caribou County, Idaho, Hydrologic Unit 17040105, 0.6 mi upstream from Wyoming-Idaho State line, 0.8 mi downstream from Tygee Creek, and 2.5 mi west of Auburn.

DRAINAGE AREA.--103 mi².

PERIOD OF RECORD.--October 1989 to September 1990.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT										
10...	1135	24	850	7.8	8.0	612	10.5	111	250	68
NOV										
06...	1530	22	445	8.3	6.0	612	10.4	104	200	49
DEC										
19...	0845	20	1020	8.1	0.0	690	12.6	96	270	74
FEB										
06...	1445	23	1300	8.0	1.0	612	11.8	104	270	74
APR										
03...	1450	63	1150	7.9	8.5	695	11.4	107	230	69
MAY										
30...	1630	82	790	8.7	11.0	710	10.6	103	200	56
JUN										
13...	1145	56	700	8.7	10.0	715	11.2	106	220	60
JUL										
24...	0900	28	825	8.3	14.0	680	10.2	111	230	64
AUG										
16...	0930	16	800	8.3	13.0	610	9.4	112	250	66
SEP										
18...	1400	15	830	8.7	14.0	600	10.6	132	260	69

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
OCT									
10...	20	79	2	0.7	190	63	110	0.2	10
NOV									
06...	19	15	0.5	1.1	190	48	14	0.1	5.5
DEC									
19...	20	100	3	1.8	190	72	160	0.2	11
FEB									
06...	20	160	4	1.7	120	69	250	0.2	9.4
APR									
03...	15	140	4	1.4	189	49	230	0.1	8.7
MAY									
30...	14	65	2	1.0	170	33	99	0.3	8.1
JUN									
13...	16	62	2	0.9	180	33	88	0.1	9.0
JUL									
24...	18	83	2	1.3	190	56	110	0.1	10
AUG									
16...	20	59	2	0.9	180	56	80	0.2	9.7
SEP									
18...	22	63	2	1.3	180	75	97	0.2	11

SALT RIVER BASIN

13026000 STUMP CREEK NEAR AUBURN, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)
OCT 10...	465	0.63	30.2	<0.1	0.1	0.01	--	<0.2	0.02
NOV 06...	266	0.36	15.8	0.9	<0.1	0.02	0.18	0.2	0.03
DEC 19...	556	0.76	30.0	0.1	0.6	0.05	0.15	0.2	0.10
FEB 06...	658	0.89	40.9	0.5	0.3	0.04	0.66	0.7	0.84
APR 03...	628	0.85	107	0.2	0.2	0.05	0.55	0.6	0.05
MAY 30...	380	0.52	84.1	0.2	0.3	0.02	0.28	0.3	0.06
JUN 13...	377	0.51	57.0	<0.1	<0.1	0.01	0.49	0.5	0.08
JUL 24...	460	0.63	34.8	<0.1	0.9	0.01	0.19	0.2	0.04
AUG 16...	400	0.54	17.3	<0.1	0.1	0.02	0.18	0.2	0.03
SEP 18...	446	0.61	18.1	<0.1	<0.1	0.05	0.15	0.2	0.02

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)
OCT 10...	1135	24	--	<1	78	20	<1.0	1
NOV 06...	1530	22	--	2	<100	90	<1.0	20
DEC 19...	0845	20	20	<1	300	30	<1.0	2
FEB 06...	1445	23	20	<1	200	30	<1.0	3
APR 03...	1450	63	20	<1	95	30	<1.0	20
MAY 30...	1630	82	20	<1	<100	20	<1.0	2
JUN 13...	1145	56	<10	<1	<100	20	<1.0	4
JUL 24...	0900	28	10	<1	<100	30	1.0	3
AUG 16...	0930	16	<10	<1	100	30	<1.0	<1
SEP 18...	1400	15	--	--	--	20	--	--

13026000 STUMP CREEK NEAR AUBURN, WY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE		COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT									
10...		2	22	<1	22	<0.1	<1	2.0	16
NOV									
06...		<1	20	<1	<10	<0.1	<1	<1.0	<10
DEC									
19...		2	30	<1	20	<0.1	<1	<1.0	70
FEB									
06...		1	20	<1	40	<0.1	<1	<1.0	30
APR									
03...		<10	21	<10	51	<0.1	<1	<1.0	4
MAY									
30...		<1	20	1	10	<0.1	<1	<1.0	<10
JUN									
13...		2	20	1	20	<0.1	<1	<1.0	10
JUL									
24...		1	<10	<1	20	0.2	<1	<1.0	<10
AUG									
16...		1	20	1	20	0.2	<1	<1.0	<10
SEP									
18...		--	--	--	--	0.1	<5	--	--

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)
OCT											
10...	1135	24	8.0	1.5	<0.4	1.7	<0.4	1.5	<0.4	1.9	<0.40

SALT RIVER BASIN

13027500 SALT RIVER ABOVE RESERVOIR, NEAR ETNA, WY

LOCATION.--Lat 43°04'47", long 111°02'12", in SW¼ NE¼ sec.28, T.36 N., R.119 W., Lincoln County, Hydrologic Unit 17040105, on right bank 3.4 mi northwest of Etna and 8.0 mi upstream from maximum flowline of Palisades Reservoir.

DRAINAGE AREA.--829 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 5,675.78 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation).

REMARKS.--Records good except those for estimated daily discharges, which are fair. Station equipment includes satellite telemetry. Diversions above station for power developments, industry, municipal supply, and irrigation of about 60,500 acres of which about 1,000 acres are below station (1966 determination). For details on adjudication of diversions, see Remarks for this station in WSP 1347.

AVERAGE DISCHARGE.--37 years, 788 ft³/s, 570,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,090 ft³/s, June 2, 1986, gage height, 5.71 ft; minimum, 160 ft³/s, Jan. 7, 8, 1971, gage height, 1.53 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,640 ft³/s, Apr. 28, gage height, 3.35 ft; minimum daily, 342 ft³/s, Feb. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	527	504	449	415	389	366	592	918	595	393	362	362
2	532	496	448	420	390	367	654	870	583	390	358	363
3	531	496	455	410	388	371	696	832	574	384	354	364
4	527	511	459	412	384	369	703	813	550	380	353	371
5	530	514	472	417	384	367	685	799	535	382	354	381
6	540	510	467	397	382	367	648	801	491	382	355	389
7	535	506	461	401	384	366	633	837	490	381	353	385
8	535	499	454	452	369	367	599	804	488	387	353	383
9	538	499	455	427	389	369	602	783	478	401	355	381
10	534	498	453	416	385	375	633	745	488	458	354	380
11	531	498	440	415	382	387	639	717	563	450	358	377
12	526	493	437	417	384	383	656	694	594	448	358	380
13	523	491	439	420	375	377	645	720	605	399	358	379
14	522	497	450	422	380	381	638	717	569	392	355	374
15	521	495	453	426	e347	380	693	692	529	390	351	372
16	522	494	446	420	e353	374	719	655	518	380	355	375
17	516	493	434	413	e351	375	726	629	514	380	357	375
18	516	493	432	408	e342	377	709	614	495	380	358	375
19	518	491	431	397	e347	381	694	610	476	381	357	382
20	511	489	436	365	e358	390	677	632	467	378	366	398
21	506	486	436	376	e368	413	669	663	462	378	369	392
22	516	484	434	392	e365	443	664	634	463	372	365	385
23	513	482	439	413	e364	481	701	634	483	374	365	400
24	507	494	432	390	e362	491	749	645	431	381	366	398
25	504	493	410	392	370	464	728	647	427	385	364	402
26	527	505	418	394	369	456	732	609	419	379	362	403
27	528	490	413	377	367	470	717	594	407	376	362	406
28	530	478	412	393	366	493	1240	583	399	373	362	409
29	523	451	413	392	---	508	1200	584	395	369	362	411
30	515	451	419	390	---	520	1000	585	394	367	363	413
31	516	---	419	389	---	548	---	601	---	363	362	---
TOTAL	16220	14781	13616	12568	10394	12776	21641	21661	14882	12033	11126	11565
MEAN	523	493	439	405	371	412	721	699	496	388	359	385
MAX	540	514	472	452	390	548	1240	918	605	458	369	413
MIN	504	451	410	365	342	366	592	583	394	363	351	362
AC-FT	32170	29320	27010	24930	20620	25340	42920	42960	29520	23870	22070	22940

CAL YR 1989 TOTAL 222764 MEAN 610 MAX 1680 MIN 310 AC-FT 441900
WTR YR 1990 TOTAL 173263 MEAN 475 MAX 1240 MIN 342 AC-FT 343700

e Estimated

SALT RIVER BASIN

423

13027500 SALT RIVER ABOVE RESERVOIR, NEAR ETNA, WY--Continued

PERIOD OF RECORD.--Water years 1966 to current year.

PERIOD OF DAILY RECORD:

WATER TEMPERATURES: May 1977 to September 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT- ANCE (US/CM)	TEMPER- ATURE WATER (DEG C)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO
NOV 06...	1730	460	925	5.0	K7	250	67	20	95	3
FEB 06...	1200	257	--	2.0	K3	--	--	--	--	--
MAY 30...	1430	520	--	10.5	K7	220	59	18	13	0.4
AUG 16...	0800	223	--	11.0	K14	240	62	20	9.0	0.3

K-Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
NOV 06...	1.1	160	65	140	0.2	8.9	493	0.67	612
FEB 06...	--	--	--	--	--	--	--	--	--
MAY 30...	1.1	190	31	15	0.1	6.0	261	0.36	367
AUG 16...	0.3	180	32	12	0.2	7.3	256	0.35	154

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SEDI- MENT, SUS- PENDEDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY)
NOV 06...	<0.1	<0.1	0.02	--	<0.2	0.04	<1	132	164
FEB 06...	1.1	--	0.02	0.28	0.3	0.25	--	20	14
MAY 30...	0.9	0.9	0.02	0.38	0.4	0.16	<1	25	35
AUG 16...	0.9	1.1	0.03	0.17	0.2	0.02	<1	41	25

HENRYS FORK BASIN

13046680 BOUNDARY CREEK NEAR BECHLER RANGER STATION, WY

LOCATION.--Lat 44°11'09", long 111°00'19", T.49 N., R.118 W., Teton County, Hydrologic Unit 17040203, Yellowstone National Park, on right bank 0.4 mi upstream from confluence with the Bechler River, 3.8 mi north of the Bechler Ranger Station, and 28.0 mi northeast of Ashton, Idaho.

DRAINAGE AREA.--86.9 mi².

PERIOD OF RECORD.--August 1984 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,360 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

AVERAGE DISCHARGE.--6 years (water years 1985-90), 111 ft³/s, 80,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 810 ft³/s, June 2, 1986; maximum gage height, 5.11 ft, May 9, 1989 (backwater from Bechler River); minimum daily, 53 ft³/s, Feb. 4-6, 13-18, 21-24, Mar. 5, Apr. 5, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 395 ft³/s, Apr. 17; maximum gage height, 4.53 ft, Apr. 16, 17 (backwater from Bechler River); minimum, 62 ft³/s, Mar. 16, gage height, 2.14 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	73	73	71	70	64	73	150	182	74	71	74
2	83	73	73	74	70	64	78	144	151	74	72	73
3	80	74	73	71	69	65	83	140	142	73	71	73
4	82	74	73	71	68	67	89	142	147	71	72	73
5	84	75	73	72	68	65	95	148	154	71	73	75
6	83	75	73	72	69	65	98	153	162	70	72	76
7	80	76	73	72	70	65	104	161	175	70	72	74
8	78	74	73	78	68	65	111	146	181	70	72	73
9	76	74	74	74	71	65	129	134	176	69	73	73
10	75	76	74	72	72	64	145	128	181	69	73	73
11	74	78	72	71	71	66	157	128	222	68	76	72
12	74	77	74	72	69	65	187	159	237	68	77	72
13	73	76	73	72	67	64	207	195	198	68	76	71
14	73	76	73	72	66	64	223	198	162	68	76	71
15	73	74	74	72	66	64	269	162	157	68	75	71
16	73	74	73	72	67	63	e370	138	154	67	75	71
17	72	74	72	72	68	64	e395	126	151	67	78	71
18	72	74	71	71	66	64	359	123	149	67	77	71
19	72	74	72	70	66	64	336	126	153	67	77	76
20	72	74	72	70	65	65	321	126	149	70	79	81
21	71	73	72	70	65	67	290	125	151	72	78	74
22	72	73	72	70	65	68	280	127	148	69	76	72
23	75	72	72	70	65	71	310	139	142	69	77	72
24	74	80	72	70	65	67	295	156	143	73	77	72
25	74	76	71	70	65	66	246	185	132	72	77	72
26	81	77	71	69	65	66	281	176	113	71	77	72
27	77	75	70	68	65	65	212	154	97	71	75	72
28	80	74	71	70	64	65	296	147	86	72	75	72
29	77	73	71	72	---	65	242	148	79	72	74	70
30	76	73	71	71	---	68	175	169	75	71	74	71
31	75	---	71	71	---	70	---	192	---	71	73	---
TOTAL	2372	2241	2242	2212	1885	2030	6456	4645	4549	2172	2320	2183
MEAN	76.5	74.7	72.3	71.4	67.3	65.5	215	150	152	70.1	74.8	72.8
MAX	91	80	74	78	72	71	395	198	237	74	79	81
MIN	71	72	70	68	64	63	73	123	75	67	71	70
AC-FT	4700	4450	4450	4390	3740	4030	12810	9210	9020	4310	4600	4330

CAL YR 1989 TOTAL 41394 MEAN 113 MAX 740 MIN 53 AC-FT 82100
WTR YR 1990 TOTAL 35307 MEAN 96.7 MAX 395 MIN 63 AC-FT 70030

e Estimated

Discharge measurements in the following table were made at special study and miscellaneous sites throughout the State.

Stream	Tributary to	Location	Drainage area (sq mi)	Measured pre- viously (water years)	Measurements	
					Date	Dis- charge (cfs)
Yellowstone River Basin						
Dinwoody Canal 432302109215601	Wind River	Lat 43°23'02", long 109°21'56", in NE¼ SW¼ NW¼ sec.28, T.5 N., R.5 W., Fremont County, Hydrologic Unit 10080001, Wind River Indian Reservation, on left bank 600 ft downstream from headgate, 2.7 mi upstream from aqueduct, and 2.7 mi south of Wilderness.		1988-89	5-10-90 5-31-90 7-03-90 8-16-90	70.4 143 163 180
Upper Wind River "A" Canal 432609109205001	Wind River	Lat 43°26'09", long 109°20'50", in NW¼ SW¼ SW¼ sec.32, T.5 N., R.4 W., Fremont County, Hydrologic Unit 10080001, Wind River Indian Reservation, on left bank 200 ft downstream from headgates and 1.2 mi northeast of Wilderness.		1988-89	5-10-90 5-21-90 7-11-90	46.8 72.3 65.6
Lower Wind River "A" Canal 432208109151401	Wind River	Lat 43°22'08", long 109°15'14", in NW¼ SE¼ NE¼ sec.32, T.5 N., R.4 W., Fremont County, Hydrologic Unit 10080001, Wind River Indian Reservation, on right bank 100 ft downstream from headgates and 1.1 mi northeast of Burris.		1989	5-21-90 7-11-90 9-06-90	36.3 41.9 18.6
Meadow Creek below Bob Creek, near Crowheart	Wind River	Lat 43°17'08", long 109°14'14", in NW¼ NW¼ NW¼ sec.33, T.4 N., R.4 W., Fremont County, Hydrologic Unit 10080001, Wind River Indian Reservation, 1,200 ft downstream from Bob Creek, 2.3 mi upstream from Dry Creek Canal, and 3.1 mi southwest of Crowheart.			5-15-90	6.71
Meadow Creek Canal 431744109123001	Wind River	Lat 43°17'44", long 109°12'30", in SW¼ SW¼ NW¼ sec.26, T.4 N., R.4 W., Fremont County, Hydrologic Unit 10080001, Wind River Indian Reservation, on right bank 200 ft below headgates, 1.7 mi upstream from aqueduct, and 1.3 mi southwest of Crowheart.		1989	5-30-90 7-09-90 9-06-90	46.4 88.0 70.9
Willow Creek Canal 431707109105201	Wind River	Lat 43°17'07", long 109°10'52", in NE¼ NE¼ NW¼ sec.36, T.4 N., R.4 W., Fremont County, Hydrologic Unit 10080001, Wind River Indian Reservation, on right bank 250 ft downstream from headgates, 0.9 mi upstream from left bank ditch, and 1.8 mi southeast of Crowheart.		1988-89	5-29-90 6-29-90 9-05-90	50.7 64.9 50.3
North Fork Bull Lake Creek above Little Milky Lake	Wind River	Lat 43°09'15, long 109°32'23", Fremont County, Hydrologic Unit 10080001, 0.5 mi downstream from confluence with south tributary, 2.6 mi upstream from Little Milky Lake, and 20 mi southwest of Burris.			7-13-90 8-31-90	142 179
Johnstown Canal 430902108434101	Wind River	Lat 43°09'02", long 108°43'41", in SW¼ SE¼ NW¼ sec.14, T.2 N., R.1 E., Fremont County, Hydrologic Unit 10080001, Wind River Indian Reservation, on left bank 450 ft downstream from headgate, 1.6 mi upstream from bridge on State Highway 132, and 2.5 mi west of Kinnear.		1989	5-14-90 6-28-90 7-31-90	4.54 50.1 24.1

Stream	Tributary to	Location	Drainage area (sq mi)	Measured pre- viously (water years)	Measurements	
					Date	Dis- charge (cfs)
Yellowstone River Basin--Continued						
Trout Creek below Ray Canal 425850108550701	Little Wind River	Lat 42°58'50", long 108°55'07", in SE¼ NW¼ NE¼ sec.18, T.1 S., R.1 W., Fremont County, Hydrologic Unit 10080002, Wind River Indian Reservation, on left bank 70 ft downstream from Ray Canal, 0.8 mi upstream from Dead Horse Slough, and 1.8 mi southwest of Wind River.		1988-89	5-01-90 6-29-90 8-23-90	4.22 21.6 16.3
Coolidge Canal below Trout Creek 430045108480001	Little Wind River	Lat 43°00'45", long 108°48'00", in SE¼ SW¼ SE¼ sec.31, T.1 N., R.1 E., Fremont County, Hydrologic Unit 10080002, Wind River Indian Reservation, on left bank 0.9 mi downstream from Trout Creek, 0.4 mi upstream from bridge on light-duty road, and 1.6 mi southwest of Ethete.		1989	5-07-90 7-03-90 8-23-90	64.1 141 61.0
37-C Lateral 425716108520401	Little Wind River	Lat 42°57'16", long 108°52'04", in SW¼ SE¼ SW¼ sec.22, T.1 S., R.1 W., Fremont County, Hydrologic Unit 10080002, Wind River Indian Reservation, on right bank at headgate, 1.1 mi upstream from crossing on unimproved dirt road, and 2.4 mi southeast of Wind River.		1988-89	5-02-90 6-29-90 7-02-90	48.4 64.9 53.7
Ray Reservoir Outlet 425713108485601	Little Wind River	Lat 42°57'13", long 108°48'56", in SE¼ SE¼ SE¼ sec.24, T.1 S., R.1 W., Fremont County, Hydrologic Unit 10080002, Wind River Indian Reservation, on left bank 400 ft downstream from Ray Reservoir, 0.9 mi upstream from Mill Creek, and 4.1 mi southeast of Wind River.		1989	5-25-90 5-30-90 6-22-90 8-31-90	1.10 1.10 1.13 47.9
Ray Canal at Siphon 425709108521201	Little Wind River	Lat 42°57'09", long 108°52'12", in NE¼ NW¼ NW¼ sec.27, T.1 S., R.1 W., Fremont County, Hydrologic Unit 10080002, Wind River Indian Reservation, on right bank at Siphon, 0.2 mi downstream from 37-C Lateral, and 2.5 mi southeast of Wind River.		1988-89	5-02-90 6-29-90 7-02-90	41.5 138 137
Mill Creek below Coolidge Canal 425710108460701	Little Wind River	Lat 42°57'10", long 108°46'07", in NW¼ NE¼ NW¼ sec.28, T.1 S., R.1 E., Fremont County, Hydrologic Unit 10080002, Wind River Indian Reservation, on right bank 100 ft downstream from Coolidge Canal, and 6.2 mi southeast of Wind River.		1988-89	5-07-90 6-29-90 8-27-90	61.3 48.4 45.9
65-C Lateral at Headworks 425515108485401	Little Wind River	Lat 42°55'15", long 108°48'54", in NE¼ SE¼ NE¼ sec.1, T.2 S., R.1 W., Fremont County, Hydrologic Unit 10080002, Wind River Indian Reservation, on left bank at headgate, 1.1 mi upstream from crossing on light-duty road, and 3.4 mi northwest of Milford.		1988-89	5-02-90 6-27-90 6-27-90 7-09-90	17.3 84.5 78.6 76.2
Ray Canal below 65 "C" Lateral 425513108485801	Little Wind River	Lat 42°55'13", long 108°48'58", in NE¼ SE¼ NE¼ sec.1, T.2 S., R.1 W., Fremont County, Hydrologic Unit 10080002, Wind River Indian Reservation, on left bank 400 ft downstream from 65-C Lateral, 0.9 mi upstream from crossing on unimproved dirt road, and 3.4 mi northwest of Milford.		1988-89	5-02-90 6-27-90 8-24-90	4.22 22.2 17.6
Sub Agency Canal at Auxillary Gage 425857108352101	Little Wind River	Lat 42°58'57", long 108°35'21", in NE¼ NE¼ NW¼ sec.13, T.1 S., R.2 E., Fremont County, Hydrologic Unit 10080002, Wind River Indian Reservation, on right bank 0.1 mi downstream from State Highway 137, 1.7 mi downstream from headgates, and 5.3 mi northwest of Arapahoe.		1988-89	5-08-90 6-29-90 8-27-90	46.6 98.3 86.2

Discharge measurements made at special study and miscellaneous sites during water year 1990--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured pre- viously (water years)	Measurements	
					Date	Dis- charge (cfs)
Yellowstone River Basin--Continued						
Left Hand Canal 430134108311201	Wind River	Lat 43°01'34", long 108°31'12", in NE¼ NE¼ NE¼ sec.33, T.1 N., R.3 E., Fremont County, Hydrologic Unit 10080001, Wind River Indian Reservation, on left bank 0.6 mi downstream from headgates, and 6.9 mi west of Riverton.		1988-89	5-08-90	11.2
					6-08-90	25.5
					6-29-90	38.1
Platte River Basin						
Encampment River	North Platte River	Lat 41°00'36", long 106°48'47", in NW¼ SW¼ NW¼ sec.14, T.12 N., R.84 W., Carbon County, Hydrologic Unit 10180002, Medicine Bow National Forest, 0.4 mi upstream from East Fork, and 13.6 mi south of Encampment.			9-05-90	15.6
Boles Spring	Little Medicine Bow River	Lat 41°57'40", long 106°12'31", in NW¼ SW¼ SW¼ sec.17, T.23 N., R.78 W., Carbon County, Hydrologic Unit 10180005, 3.9 mi downstream from State Highway 487, and 4.3 mi north of Medicine Bow.		1985 1988-89	8-23-90	.43
South Sybille Creek	Sybille Creek	Lat 41°49'42", long 104°14'27", in SE¼ SE¼ sec.13, T.22 N., R.70 W., Platte County, Hydrologic Unit 10180011, at bridge on U.S. Highway 34, 0.7 mi upstream from mouth, and about 22 mi southwest of Wheatland.			8-20-90	15,460
Crow Creek 06755700	South Platte River	Lat 41°10'35", long 105°01'29", in SE¼ SW¼ SE¼ sec.17, T.14 N., R.68 W., Laramie County, Hydrologic Unit 10190009, on left bank 150 ft downstream from Burlington Northern railroad track, 1.6 mi northeast of intersection of Happy Jack Road and Boundary Road, and 12 mi west of Cheyenne city limits.	1987-89		4-18-90	17.7
					5-19-90	16.1
					5-30-90	45.3
					6-09-90	16.2
					7-05-90	.50
					9-14-90	.76
Henderson Drain 06756020	Crow Creek	Lat 41°08'04", long 104°46'14", in NE¼ SE¼ SE¼ sec.33, T.14 N., R.66 W., Laramie County, Hydrologic Unit 10190009, on left bank 50 ft upstream from Bellaire Drive, and 1,800 ft upstream from mouth of East Lincolnway Drain in Cheyenne.	1989		3-10-90	14.9
					5-29-90	60.4
					7-19-90	23.7
Dry Creek 06745030	Crow Creek	Lat 41°10'27", long 104°50'31", in NW¼ NE¼ NW¼ sec.24, T.14 N., R.67 W., Laramie County, Hydrologic Unit 10190009, on left bank 30 ft upstream from culverts on Vista Lane, 500 ft upstream from North Fork, in Cheyenne.	1987-88		5-29-90	4.73
Dry Creek tributary 06756040	Dry Creek	Lat 41°09'44", long 104°47'04", in NE¼ NW¼ NW¼ sec.21, T.14 N., R.66 W., Laramie County, Hydrologic Unit 10190009, on left bank 1,000 ft upstream from mouth, 1,200 ft north of junction of Converse Avenue and Dell Range Blvd, in Cheyenne.	1987-88		5-29-90	2.75

DISCHARGE AT MISCELLANEOUS SITES

Wind River Federal Irrigation Project seepage investigation

A series of discharge measurements were made during the 1990 water year on selected canals of the Wind River Federal Irrigation Project in Wyoming to study canal gains and losses. These discharge measurements are part of a canal study cooperatively funded by the Northern Arapaho and Shoshone tribes of the Wind River Indian Reservation and the U.S. Geological Survey. Discharge measurements were made during controlled steady-state conditions. Previous seepage investigations include studies by the U.S. Department of Interior, Office of Indian Affairs, 1932; and the Riverton Valley Irrigation District, the LeClair-Riverton Irrigation District, and the Wind River Soil and Water Conservation District, 1967. Diversion outflows are considered deductions in total flow, not losses. Indicated gains or losses may be in error due to inaccuracies in open-channel measurements.

Yellowstone River Basin

Dinwoody Canal

Canal mile	Location	Meas. disch. (ft ³ /s)	Gain or loss	Meas. disch. (ft ³ /s)	Gain or loss
		May 31, 1990		August 16, 1990	
0.1	Lat 43°23'02", long 109°21'56", in NE¼ SW¼ NW¼ sec.28, T.5 N, R.5 W., on left bank 600 ft downstream from headgate, 2.7 mi upstream from aqueduct, and 2.7 mi south of Wilderness (sta. 432302109215601).	143	--	180	--
1.6	Lat 43°24'16", long 109°21'45", in SW¼ SE¼ SW¼ sec.16, T.5 N, R.5 W., 500 ft upstream from bridge on Dinwoody Lakes road (east side).	140	-3	(a)	--
3.6	Lat 43°24'36", long 109°20'53", in NW¼ NW¼ SW¼ sec.15, T.5 N, R.5 W., 200 ft downstream from box culvert on canal road.	135	-5	(a)	--
9.9	Lat 43°20'44", long 109°17'51", in SW¼ SW¼ SE¼ sec.1, T.4 N, R.5 W., 1,000 ft downstream from bridge, 0.8 mi upstream from Dry Creek.	122	-13	157	-23
Overall net gain or loss			-21		-23

Dry Creek Canal

Canal mile	Location	Meas. disch. (ft ³ /s)	Gain or loss	Meas. disch. (ft ³ /s)	Gain or loss
		July 27, 1990		August 16, 1990	
0.0	Lat 43°20'38", long 109°17'25", in NW¼ NE¼ NE¼ sec.12, T.4 S., R.5 W., on left bank 200 ft downstream from headgate and 1.7 miles southwest of Burris (sta. 06222510).	146	--	183	--
2.1	(b) Lat 43°20'40", long 109°16'19", in NW¼ NE¼ NE¼ sec.7, T.4 N., R.4 W., on Lateral 11-C, 1,000 ft downstream from diversion from Dry Creek Canal.	38.9	--	30.1	--
3.7	Lat 43°19'39", long 109°15'59", in SW¼ NW¼ NW¼ sec.17, T.4 N., R.4 W., 700 ft upstream from Lateral 20-C.	112	+5	154	+1
Overall net gain or loss			+5		+1

a Not measured.

b Diversion outflow.

Wind River Federal Irrigation Project seepage investigation--Continued

Yellowstone River Basin--Continued

Upper Ray Canal

Canal mile	Location	Meas. disch. (ft ³ /s)	Gain or loss	Meas. disch. (ft ³ /s)	Gain or loss	Meas. disch. (ft ³ /s)	Gain or loss
		May 30, 1990		August 1, 1990		August 15, 1990	
0.0	Lat 43°00'02", long 108°55'56", in NW¼ SW¼ sec.6, T.1 S., R.1 W., on right bank 160 ft downstream from headgate, 300 ft upstream from culvert on County Road 43, 2.0 mi upstream from Crooked Creek, and 2.4 mi west of Fort Washakie (sta. 06228510).	263	--	163	--	163	--
0.4	(b) Lat 42°59'48", long 108°55'43", in NE¼ NW¼ sec.7, T.1 S., R.1 W., on Lateral 2-C, 30 ft downstream from diversion from Upper Ray Canal.	3.38	--	1.85	--	1.79	--
1.1	(b) Lat 42°59'31", long 108°54'56", in NW¼ SE¼ NE¼ sec.7, T.1 S., R.1 W., on Lateral 6-C, 20 ft downstream from diversion from Upper Ray Canal.	2.86	--	(a)	--	(a)	--
1.2	(b) Lat 42°59'26", long 108°54'55", in SW¼ SE¼ NE¼ sec.7, T.1 S., R.1 W., on Turnout 63, 10 ft downstream from diversion from Upper Ray Canal.	0.03	--	(a)	--	(a)	--
1.4	Lat 42°59'06", long 108°55'12", in NE¼ SW¼ SE¼ sec.7, T.1 S., R.1 W., 100 ft downstream from culverts on Trout Creek Road, and 0.4 mi upstream from Trout Creek.	233	-24	163	+2	149	-12
	Overall net gain or loss		-24		+2		-12

Middle Ray Canal

Canal mile	Location	Meas. disch. (ft ³ /s)	Gain or loss	Meas. disch. (ft ³ /s)	Gain or loss	Meas. disch. (ft ³ /s)	Gain or loss
		May 30, 1990		August 1, 1990		August 15, 1990	
1.8	Lat 42°58'47", long 108°54'39", in SW¼ NW¼ NW¼ sec.17, T.1 S., R.1 W., 0.3 mi downstream from Lateral 11-C.	202	--	143	--	127	--
4.4	(b) Lat 42°58'02", long 108°53'35", in NW¼ NW¼ NW¼ sec.21, T.1 S., R.1 W., on Lateral 23-C, 50 ft downstream from diversion from Middle Ray Canal.	2.19	--	0	--	0	--
6.6	(b) Lat 42°57'25", long 108°52'24", in NE¼ SE¼ SE¼ sec.21, T.1 S., R.1 W., on Lateral 35-C, 20 ft downstream from diversion from Middle Ray Canal.	4.25	--	0.39	--	4.51	--
6.8	Lat 42°57'19", long 108°52'16", in SW¼ SW¼ SW¼ sec.22, T.1 S., R.1 W., 1,000 ft downstream from Lateral 35-C, and 1,000 ft upstream from Lateral 37-C.	174	-22	140	-3	116	-6
	Overall net gain or loss		-22		-3		-6

a Not measured.

b Diversion outflows.

ANALYSES OF SAMPLES COLLECTED AT SPECIAL STUDY AND MISCELLANEOUS SITES

YELLOWSTONE RIVER BASIN

435115108593901 GRASS CREEK NEAR ANDERSON SAW MILL, NEAR GRASS CREEK, WY (LAT 43 51 15 LONG 108 59 39)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)
SEP 11...	1015	0.03	202	8.2	6.5	27	5.9	2.9	36	3	0.6	86

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
SEP 11...	9.3	1.8	<0.1	25	135	0.18	0.01	<0.1	0.31	830	2	28

DATE	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
SEP 11...	30	<1.0	1	5	740	1	19	0.1	<1	<1.0	5

435145108570201 GRASS CREEK ABOVE HESS CREEK, NEAR GRASS CREEK, WY (LAT 43 51 45 LONG 108 57 02)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)
SEP 11...	1415	0.34	279	9.0	20.5	44	12	3.3	51	3	0.8	128

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
SEP 11...	20	4.2	0.7	15	184	0.25	0.17	<0.1	0.15	100	2	16

DATE	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
SEP 11...	50	<1.0	<1	3	73	<1	2	<0.1	<1	<1.0	<3

YELLOWSTONE RIVER BASIN--Continued

435135108570201 HESS CREEK DRAW NEAR ANDERSON SAWMILL, NEAR GRASS CREEK, WY (LAT 43 51 35 LONG 108 57 02)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
SEP 11...	1545	0.03	310	8.5	19.0	35	9.4	2.7	56

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
SEP 11...	4	1.9	150	17	3.2	0.6	14	196

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)
SEP 11...	0.27	0.01	0.2	0.18	40	96	6	6

435156108535601 SANDFORD DRAW NEAR LU COW CAMP, NEAR GRASS CREEK, WY (LAT 43 51 56 LONG 108 53 56)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)
SEP 11...	1730	0.05	421	8.7	19.5	46	13	3.2	85	5	2.1	198

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
SEP 11...	27	3.3	0.9	4.8	258	0.35	0.03	<0.1	0.1	80	2	26

DATE	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
SEP 11...	60	<1.0	<1	4	140	9	6	0.1	<1	<1.0	4

ANALYSES OF SAMPLES COLLECTED AT SPECIAL STUDY AND MISCELLANEOUS SITES

YELLOWSTONE RIVER BASIN--Continued

435155108535501 GRASS CREEK NEAR LU COW CAMP, NEAR GRASS CREEK, WY (LAT 43 51 55 LONG 108 53 55)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)
SEP 11...	1830	0.42	338	9.6	19.0	49	13	3.9	58	4	1.5	150

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)
SEP 11...	24	4.6	0.8	9.6	206	0.28	0.23	<0.1	0.14	110	2	22

DATE	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
SEP 11...	50	<1.0	<1	4	200	<1	6	0.1	<1	<1.0	<3

435236108514301 GRASS CREEK BELOW LU COW CAMP, NEAR GRASS CREEK, WY (LAT 43 52 36 LONG 108 51 43)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
SEP 12...	1030	0.35	360	8.8	12.0	61	17	4.6	58

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
SEP 12...	3	1.6	167	25	4.9	0.8	5.9	218

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
SEP 12...	0.3	0.2	<0.1	0.07	50	82	3	<1

YELLOWSTONE RIVER BASIN--Continued

435329108470601 LITTLE GRASS CREEK AT MOUTH, NEAR LU COW CAMP, NEAR GRASS CREEK, WY (LAT 43 53 29 LONG 108 47 06)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)
SEP 12...	1140	0.08	1050	8.2	13.0	420	89	47	86	2	3.6	272

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
SEP 12...	280	10	0.9	12	692	0.94	0.16	<0.1	0.01	<10	<1	52

DATE	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
SEP 12...	100	<1.0	1	1	8	<1	6	<0.1	2	2.0	5

435330108470801 GRASS CREEK ABOVE LITTLE GRASS CREEK, NEAR GRASS CREEK, WY (LAT 43 53 30 LONG 108 47 08)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)
SEP 12...	1320	1.4	524	8.8	15.5	150	33	17	64	2	1.4	218

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
SEP 12...	64	5.0	0.7	7.4	323	0.44	1.23	<0.1	<0.01	<10	<1	36

DATE	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
SEP 12...	60	<1.0	<1	1	54	<1	4	<0.1	<1	<1.0	<3

ANALYSES OF SAMPLES COLLECTED AT SPECIAL STUDY AND MISCELLANEOUS SITES

YELLOWSTONE RIVER BASIN--Continued

435510108452501 GRASS CREEK AT LU RANCH HOUSE, NEAR GRASS CREEK, WY (LAT 43 55 10 LONG 108 45 25)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
SEP 12...	1445	1.3	598	8.8	20.0	170	27	25	68

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
SEP 12...	2	2.4	217	94	5.6	0.9	5.7	359

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)
SEP 12...	0.49	1.29	<0.1	0.01	70	34	3	<1

435610108440301 GRASS CREEK ABOVE GARY KELLOGG RANCH, NEAR GRASS CREEK, WY (LAT 43 56 10 LONG 108 44 03)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
SEP 12...	1620	1.2	752	8.5	19.0	230	38	32	77

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
SEP 12...	2	3.2	306	110	6.7	0.8	8.3	460

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)
SEP 12...	0.63	1.43	<0.1	0.02	90	17	18	<1

YELLOWSTONE RIVER BASIN--Continued

435649108410001 GRASS CREEK NEAR GRASS CREEK, WY (LAT 43 56 49 LONG 108 41 00)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
SEP 12...	1805	0.005	1320	8.7	17.5	310	37	52	190

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
SEP 12...	5	6.7	507	230	11	0.8	7.8	839

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)
SEP 12...	1.14	0.01	<0.1	0.04	160	15	14	<1

435439108330201 GRASS CREEK AT SITE 12, NEAR GRASS CREEK, WY (LAT 43 54 39 LONG 108 33 02)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)
SEP 13...	0940	0.17	3050	8.6	12.5	610	45	120	440	8	8.3	468

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
SEP 13...	980	130	0.8	1.0	2010	2.73	0.92	<0.1	0.01	<10	<1	100

DATE	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
SEP 13...	720	<1.0	<1	2	20	<1	<10	0.2	2	<1.0	<10

ANALYSES OF SAMPLES COLLECTED AT SPECIAL STUDY AND MISCELLANEOUS SITES

YELLOWSTONE RIVER BASIN--Continued

435459108314601 GRASS CREEK AT SITE 13, NEAR GRASS CREEK, WY (LAT 43 54 59 LONG 108 31 46)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
SEP 13...	1040	0.05	3050	8.7	13.5	680	57	130	480

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
SEP 13...	8	9.7	522	1000	130	0.7	2.4	2120

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)
SEP 13...	2.89	0.28	<0.1	0.02	680	60	10	6

06310000 RED FORK NEAR BARNUM, WY (LAT 43 39 00 LONG 106 46 00)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CACO3)
OCT 31...	1000	27	650	7.9	3.0	636	11.4	102	310

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT 31...	75	29	17	0.4	3.2	190	110	20

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)
OCT 31...	0.3	8.3	378	0.51	27.6	0.3	0.03	<5

ANALYSES OF SAMPLES COLLECTED AT SPECIAL STUDY AND MISCELLANEOUS SITES

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YELLOWSTONE RIVER BASIN--Continued

06312000 NORTH FORK POWDER RIVER NEAR KAYCEE, WY (LAT 43 46 00 LONG 106 36 00)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CACO3)
OCT 31...	0810	25	1280	8.2	2.0	637	10.6	92	430

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT 31...	100	44	110	2	5.7	190	350	68

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)
OCT 31...	0.4	9.7	803	1.09	54.2	0.4	0.03	<5

06313665 POWDER RIVER ABOVE DEAD HORSE CREEK, NEAR BUFFALO, WY (LAT 44 12 52 LONG 106 09 08)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS TOTAL (MG/L AS CACO3)
NOV 02...	0830	146	2680	8.2	0.0	660	14.7	117	450

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
NOV 02...	100	48	430	9	7.6	270	640	310

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)
NOV 02...	0.9	7.9	1710	2.32	673	0.3	<0.03	<5

ANALYSES OF SAMPLES COLLECTED AT SPECIAL STUDY AND MISCELLANEOUS SITES

YELLOWSTONE RIVER BASIN--Continued

06313700 DEAD HORSE CREEK NEAR BUFFALO, WY (LAT 44 12 54 LONG 106 06 41)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND
NOV 01...	1530	0.0

BEAR RIVER BASIN

09229500 HENRYS FORK NEAR MANILA, UT (LAT 41 00 45 LONG 109 40 20)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TEMPER-ATURE WATER (DEG C)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
OCT 05...	1530	6.2	12.5	1570	840	190	89	71	1	10	240	690

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	SELE-NIUM, DIS-SOLVED (MG/L AS SE)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT 05...	28	0.5	25	1250	1.70	20.9	<0.1	0.03	3	40	0.67

10016900 BEAR RIVER AT EVANSTON, WY (LAT 41 16 13 LONG 110 57 47)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED SATUR-ATION	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
NOV 21...	1130	37	355	8.4	0.5	594	11.4	102	180	48	15	6.9

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)
NOV 21...	0.2	<0.9	170	16	6.0	0.1	6.6	<0.1	<0.1	0.02	0.28	0.3

DATE	PHOS-PHORUS TOTAL (MG/L AS P)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM, DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV 21...	<0.01	<1	190	<1.0	40	1	26	<1	15	<1	<1.0	6

411526110554701 BEAR RIVER AT HOSPITAL BRIDGE, NEAR EVANSTON, WY (LAT 41 15 26 LONG 110 55 47)

[illegible]

411826111002001 BEAR RIVER ABOVE YELLOW CREEK, NEAR EVANSTON, WY (LAT 41 18 26 LONG 111 00 20)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

[illegible]

SNAKE RIVER BASIN

13012500 SPREAD CREEK NEAR MORAN, WY (LAT 43 47 26 LONG 110 32 14)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	STREAM WIDTH (FT)	NUMBER OF SAM- PLING POINTS (COUNT)	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TUR- BID- ITY (NTU)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, BEDLOAD (TONS/ DAY)
JUN											
01...	0810	117	23	281	149	7.8	--	4.5	4.0	443	18
01...	0900	117	23	281	149	7.8	--	4.5	4.0	443	11
02...	1110	106	23	219	158	8.1	--	4.5	9.0	132	6.2
02...	1155	106	23	219	158	8.1	--	4.5	9.0	132	3.1
06...	1455	116	20	244	145	8.2	80	10.5	14.5	164	10
08...	0700	113	25	254	135	8.2	110	4.5	12.5	202	18
08...	0800	113	25	254	135	8.2	110	4.5	12.5	202	12
11...	1047	122	25	431	140	8.2	550	6.0	14.5	1680	78
11...	1150	122	25	431	140	8.2	550	6.0	14.5	1680	76
28...	1515	47.0	25	85	170	8.4	40	14.5	23.0	73	0.01
28...	1600	47.0	25	85	170	8.4	40	14.5	23.0	73	0.10

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .062 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 64.0 MM
------	---	---	---	---	---	---	---	---	---	---	---

JUN											
01...	0.5	1	4	34	50	61	75	88	93	100	--
01...	0.5	1	6	49	65	72	78	80	81	100	--
02...	0.4	0.8	2	24	37	52	72	86	100	--	--
02...	0.5	1	4	46	64	74	81	85	100	--	--
06...	0.1	0.3	1	11	22	36	53	70	82	100	--
08...	0.2	0.3	1	10	16	26	40	59	72	100	--
08...	0.1	0.1	1	16	29	41	52	64	82	100	--
11...	0.2	1	3	15	22	29	38	49	60	77	100
11...	0	0.8	3	15	20	26	31	40	62	88	100
28...	--	0	12	100	--	--	--	--	--	--	--
28...	2	7	39	98	100	--	--	--	--	--	--

434714110313801 SPREAD CREEK ABOVE U.S. HIGHWAY 187, NEAR ELK, WY (LAT 43 47 14 LONG 110 31 38)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	STREAM WIDTH (FT)	NUMBER OF SAM- PLING POINTS (COUNT)	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TUR- BID- ITY (NTU)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, BEDLOAD (TONS/ DAY)
JUN											
01...	1100	79.7	22	264	150	7.2	--	4.5	8.5	350	4.9
01...	1135	79.7	22	264	150	7.2	--	4.5	8.5	350	5.2
02...	0725	75.5	22	225	155	8.2	--	3.0	7.0	132	1.3
02...	0805	75.5	22	225	155	8.2	--	3.0	7.0	132	1.8
06...	1740	76.3	23	236	145	8.2	85	10.0	10.5	155	0.69
08...	0515	83.4	23	281	133	8.4	130	4.0	-2.0	244	4.0
08...	0555	83.4	23	281	133	8.4	130	4.0	-2.0	244	4.0
11...	0920	110	24	397	144	8.2	650	6.0	12.0	1840	15
11...	1015	110	24	397	144	8.2	650	6.0	12.0	1840	18
28...	1150	90.6	25	145	155	8.3	23	13.0	24.5	28	0.13
28...	1300	90.6	25	145	155	8.3	23	13.0	24.5	28	0.19

ANALYSES OF SAMPLES COLLECTED AT SPECIAL STUDY AND MISCELLANEOUS SITES

SNAKE RIVER BASIN--Continued

434714110313801 SPREAD CREEK ABOVE U.S. HIGHWAY 187, NEAR ELK, WY (LAT 43 47 14 LONG 110 31 38)--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .062 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 64.0 MM
JUN											
01...	0.8	2	6	61	78	88	94	99	100	--	--
01...	0.8	2	8	71	85	93	97	100	--	--	--
02...	0.5	1	3	56	75	87	94	97	100	--	--
02...	0.5	1	4	56	72	83	92	99	100	--	--
06...	0.3	0.9	3	67	85	93	100	--	--	--	--
08...	0.2	0.8	2	36	56	69	79	86	90	100	--
08...	0.2	0.6	2	25	38	48	56	65	77	100	--
11...	0.3	2	5	41	60	70	77	85	91	100	--
11...	1	5	15	44	51	54	55	--	56	62	100
28...	--	--	0	34	57	75	100	--	--	--	--
28...	--	--	0	22	38	57	100	--	--	--	--

434748110322901 SPREAD CREEK BELOW U.S. HIGHWAY 187, NEAR ELK, WY (LAT 43 47 48 LONG 110 32 29)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	STREAM WIDTH (FT)	NUMBER OF SAM- PLING POINTS (COUNT)	DIS- CHARGE, CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TUR- BID- ITY (NTU)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, BEDLOAD (TONS/ DAY)
JUN											
01...	1450	87.0	23	241	152	7.3	--	8.5	16.0	288	6.6
01...	1535	87.0	23	241	152	7.3	--	8.5	16.0	288	11
02...	1245	84.3	23	219	159	8.0	--	5.5	9.0	140	6.4
02...	1330	84.3	23	219	159	8.0	--	5.5	9.0	140	9.3
06...	2020	92.4	21	260	147	8.2	110	9.5	9.0	187	5.6
08...	0950	90.7	22	256	137	8.1	100	7.0	18.0	172	8.3
08...	1000	90.7	22	256	137	8.1	100	7.0	18.0	172	1.6
11...	1228	107	24	416	140	8.0	500	8.0	17.0	1280	24
11...	1330	107	24	416	140	8.0	500	8.0	17.0	1280	12
29...	0900	25.5	25	33	176	8.3	12	13.0	21.0	9	0.06
29...	0945	25.5	25	33	176	8.3	12	13.0	21.0	9	0.06

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .062 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM
JUN										
01...	0.6	1	3	39	52	61	71	81	92	100
01...	0.3	0.8	4	38	58	71	86	96	100	--
02...	0.3	0.6	2	28	46	57	74	85	100	--
02...	0.2	0.6	3	25	42	52	69	81	85	100
06...	0.2	0.2	1	16	25	35	48	67	80	100
08...	0.3	1	2	16	23	31	42	58	78	100
08...	0.3	1	3	49	66	77	100	--	--	--
11...	0.3	1	5	37	48	56	64	76	90	100
11...	0.5	4	17	72	87	92	95	98	100	--
29...	--	0	3	90	99	100	--	--	--	--
29...	1	2	7	94	100	--	--	--	--	--

CHEMICAL QUALITY OF SNOW AND FIRN, KNIFE POINT AND UPPER FREMONT GLACIERS, WIND RIVER RANGE, WYOMING

YELLOWSTONE RIVER BASIN

430627109344201 SNOW PIT KNF-1, KNIFE POINT GLACIER, WY (LAT 43 06 27 LONG 109 34 42)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	DEPTH AT SAMPLE LOCAL- TION (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BROMIDE DIS- SOLVED (MG/L AS BR)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL
APR												
21...	0840	11900	0.46	3	5.9	0.18	0.06	0.01	<0.01	0.05	<0.01	-16.30
21...	0850	11900	1.49	7	6.0	0.70	0.16	0.01	<0.01	0.19	<0.01	-15.50
21...	0900	11900	2.13	3	5.7	0.23	0.04	0.01	<0.01	0.05	<0.01	-19.90
21...	0910	11900	2.85	4	5.6	0.20	0.06	0.01	<0.01	0.05	<0.01	-21.15
21...	0920	11900	3.74	4	5.4	0.18	0.08	<0.01	<0.01	0.09	<0.01	-23.00
21...	0930	11900	4.31	2	5.9	0.08	0.04	<0.01	<0.01	0.03	<0.01	-21.85
21...	0940	11900	5.04	4	5.7	0.21	0.11	0.01	<0.01	0.10	0.02	-17.25
21...	0950	11900	5.92	4	5.6	0.22	0.11	<0.01	<0.01	0.09	0.02	-20.40
21...	1000	11900	6.76	3	5.7	0.19	0.10	<0.01	<0.01	0.06	<0.01	-22.30
21...	1010	11900	7.58	5	5.5	0.36	0.08	0.02	<0.01	0.14	<0.01	-20.00
21...	1020	11900	8.28	9	5.7	0.73	0.15	<0.01	<0.01	0.29	<0.01	-17.05
21...	1030	11900	8.94	6	5.9	0.45	0.12	0.02	<0.01	0.21	0.02	-15.25

430742109371101 SNOW PIT FRE-3, FREMONT GLACIER, WY (LAT 43 07 42 LONG 109 37 11)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	DEPTH AT SAMPLE LOCAL- TION (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BROMIDE DIS- SOLVED (MG/L AS BR)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL
APR												
20...	--	13190	5.12	5	5.6	--	--	--	--	--	--	--
20...	1140	13190	0.52	6	5.3	0.42	0.15	0.01	<0.01	0.07	<0.01	-23.30
20...	1150	13190	0.85	4	5.6	0.22	0.18	<0.01	<0.01	0.08	<0.01	-23.50
20...	1200	13190	1.38	4	5.5	0.20	0.09	0.01	<0.01	0.09	<0.01	-28.55
20...	1210	13190	1.87	5	5.4	0.34	0.04	0.01	<0.01	0.08	<0.01	-24.05
20...	1220	13190	2.41	5	5.4	0.28	0.10	<0.01	<0.01	0.09	<0.01	-21.95
20...	1230	13190	2.89	8	5.3	0.67	0.16	0.01	<0.01	0.28	<0.01	-15.35
20...	1240	13190	3.40	4	5.7	0.34	0.09	0.02	<0.01	0.10	<0.01	-20.30
20...	1250	13190	4.05	4	5.5	0.22	0.11	0.01	<0.01	0.08	<0.01	-21.60
20...	1300	13190	4.63	4	5.8	0.20	0.15	0.01	<0.01	0.08	<0.01	-20.80
20...	1310	13190	5.12	5	5.6	0.23	0.14	0.02	<0.01	0.10	<0.01	--
20...	1320	13190	5.41	6	5.8	0.33	0.13	0.02	<0.01	0.22	<0.01	-14.40
20...	1330	13190	5.68	5	5.5	0.41	0.10	0.02	<0.01	0.17	<0.01	-15.80
JUL												
11...	0840	13190	0.33	4	5.6	0.24	0.21	<0.01	<0.01	0.11	<0.01	-17.35
11...	0850	13190	0.98	4	5.5	0.23	0.17	0.01	<0.01	0.08	<0.01	-21.60
11...	0900	13190	1.64	3	5.6	0.15	0.18	<0.01	<0.01	0.06	0.02	-23.05
11...	0910	13190	1.15	3	5.8	0.11	0.14	0.01	<0.01	0.03	<0.01	-24.90
11...	0920	13190	2.95	4	5.9	0.23	0.33	<0.01	<0.01	0.06	<0.01	-23.00
11...	0930	13190	3.61	4	5.5	0.22	0.12	<0.01	<0.01	0.06	0.01	-21.05
11...	0940	13190	4.10	3	5.6	0.17	0.09	0.01	<0.01	0.07	<0.01	-23.60
11...	0950	13190	4.92	4	5.4	0.11	0.16	0.01	<0.01	0.08	<0.01	--
11...	1000	13190	5.41	4	5.3	0.07	0.16	0.01	<0.01	0.04	<0.01	-18.15
11...	1010	13190	6.23	4	5.4	0.09	0.12	0.01	<0.01	0.05	0.01	-16.80
11...	1020	13190	6.89	2	5.8	0.04	0.09	<0.01	<0.01	0.03	<0.01	-16.40
11...	1030	13190	7.55	4	5.3	0.06	0.09	0.01	<0.01	0.02	<0.01	-16.70
11...	1040	13190	8.20	3	5.6	0.09	0.10	0.01	<0.01	0.02	<0.01	-17.30
11...	1050	13190	8.69	2	5.8	0.05	0.06	<0.01	<0.01	0.03	<0.01	-15.45

ANALYSES OF SAMPLES COLLECTED AT SPECIAL STUDY AND MISCELLANEOUS SITES

CHEMICAL QUALITY OF SNOW AND FIRN, KNIFE POINT AND UPPER FREMONT GLACIERS, WIND RIVER RANGE, WYOMING--Continued

YELLOWSTONE RIVER BASIN--Continued

430740109365701 SNOW PIT FRE-2, FREMONT GLACIER, WY (LAT 43 07 40 LONG 109 36 57)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	DEPTH AT SAMPLE LOCA- TION (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BROMIDE DIS- SOLVED (MG/L AS BR)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL
APR												
20...	0940	13130	0.34	4	6.1	0.28	0.15	0.02	<0.01	0.08	<0.01	-16.05
20...	0950	13130	0.79	5	5.9	0.48	0.09	<0.01	<0.01	0.11	<0.01	-17.10
20...	1000	13130	1.59	7	6.1	0.65	0.20	0.02	<0.01	0.20	0.02	-16.65
20...	1010	13130	2.40	3	5.8	0.30	0.08	0.02	<0.01	0.06	<0.01	-20.35
20...	1020	13130	2.92	3	5.5	0.23	0.04	0.01	<0.01	0.04	0.02	-25.15
20...	1030	13130	3.40	3	5.7	0.15	0.06	0.01	<0.01	0.08	0.01	-27.05
20...	1040	13130	3.72	4	5.4	0.40	0.08	0.01	<0.01	0.08	<0.01	--
20...	1050	13130	4.02	3	5.5	0.16	0.03	0.01	<0.01	0.02	0.02	-21.25
20...	1100	13130	4.63	3	5.8	0.14	0.05	0.01	<0.01	0.07	<0.01	-20.00
20...	1110	13130	4.77	4	5.9	0.18	0.08	0.01	0.01	0.07	0.02	-20.70
20...	1120	13130	5.05	4	5.7	0.21	0.08	0.02	<0.01	0.11	<0.01	-14.70
20...	1130	13130	5.38	5	5.7	0.36	0.12	0.01	<0.01	0.14	0.02	-16.10
JUL												
07...	0900	13130	0.16	9	5.9	1.0	0.46	0.03	0.01	0.27	0.02	-14.55
07...	0910	13130	0.49	5	6.1	0.34	0.28	0.02	<0.01	0.12	0.02	-15.30
07...	0920	13130	0.82	3	5.8	0.28	0.16	0.01	<0.01	0.07	0.02	-16.30
07...	0930	13130	1.15	3	5.8	0.13	0.12	0.02	<0.01	0.04	<0.01	-16.90
07...	0940	13130	1.48	2	5.8	0.14	0.13	0.02	<0.01	0.04	0.02	-17.05
07...	0950	13130	1.80	3	5.7	0.08	0.13	0.02	<0.01	0.03	0.02	-17.20
07...	1000	13130	2.13	3	5.6	0.15	0.11	<0.01	<0.01	0.05	<0.01	-17.25
07...	1010	13130	2.46	3	6.6	0.07	0.20	<0.01	<0.01	0.03	<0.01	-17.35
07...	1020	13130	2.79	5	5.9	0.37	0.12	0.01	<0.01	0.11	<0.01	-17.25
07...	1030	13130	3.12	4	5.9	0.32	0.09	0.01	<0.01	0.08	<0.01	-17.55
07...	1040	13130	3.44	4	5.5	--	--	--	--	--	--	-18.05
07...	1050	13130	3.77	5	5.3	0.29	0.07	<0.01	<0.01	0.09	<0.01	-22.10
07...	1100	13130	4.10	3	5.6	0.16	0.06	<0.01	<0.01	0.06	<0.01	-24.90
07...	1110	13130	4.43	4	5.3	0.10	0.07	<0.01	<0.01	0.03	0.02	-24.15
07...	1120	13130	4.27	3	5.6	0.15	0.02	<0.01	<0.01	0.05	<0.01	-22.75
07...	1130	13130	5.09	3	5.6	0.16	0.10	0.01	<0.01	0.08	<0.01	-23.55
07...	1140	13130	5.41	3	5.6	0.13	0.06	0.01	<0.01	0.06	0.03	-25.55
07...	1150	13130	5.74	6	5.3	0.31	0.13	<0.01	<0.01	0.14	<0.01	-22.20
07...	1200	13130	6.07	4	5.5	0.30	0.09	0.01	<0.01	0.09	<0.01	-20.35
07...	1210	13130	6.40	3	5.5	0.27	0.07	0.01	<0.01	0.07	<0.01	-21.20
07...	1220	13130	6.73	2	5.7	0.07	0.04	0.01	<0.01	0.04	<0.01	-18.20
07...	1230	13130	7.05	4	6.6	0.19	0.09	0.01	0.01	0.11	<0.01	-15.45
11...	1040	13130	3.44	4	5.5	0.26	0.06	0.03	<0.01	0.08	0.02	--
13...	0840	13130	0.16	2	5.8	0.04	0.16	0.01	<0.01	0.02	0.01	--
13...	0850	13130	0.49	2	5.9	0.03	0.08	<0.01	<0.01	0.02	<0.01	--
13...	0900	13130	0.82	2	5.8	0.05	0.08	<0.01	<0.01	0.02	<0.01	--
13...	0910	13130	1.15	3	6.0	0.10	0.06	<0.01	<0.01	0.06	<0.01	--
13...	0920	13130	1.48	5	5.4	0.16	0.09	0.01	<0.01	0.07	0.02	--
13...	0930	13130	2.13	5	5.3	0.11	0.14	<0.01	<0.01	0.09	<0.01	--
13...	0940	13130	1.80	2	5.8	0.12	0.06	<0.01	<0.01	0.04	<0.01	--
13...	0950	13130	2.46	4	5.3	0.11	0.06	0.01	<0.01	0.05	<0.01	--
13...	1000	13130	2.79	3	5.6	0.11	0.06	<0.01	<0.01	0.05	<0.01	--
13...	1010	13130	3.12	3	5.6	0.21	0.03	<0.01	<0.01	0.02	<0.01	--
13...	1020	13130	3.77	2	5.7	0.09	0.06	<0.01	<0.01	0.05	<0.01	--
13...	1030	13130	4.10	5	5.1	0.05	0.04	<0.01	<0.01	0.01	0.01	--
13...	1040	13130	4.43	4	5.5	0.11	0.12	0.01	<0.01	0.04	0.02	--
13...	1050	13130	4.76	3	5.8	0.09	0.07	0.01	<0.01	0.04	0.02	--
13...	1100	13130	5.09	3	5.5	0.17	0.05	<0.01	<0.01	0.04	0.02	--
13...	1110	13130	5.41	2	5.6	0.04	0.05	0.01	<0.01	0.02	0.08	--
13...	1120	13130	0.0	2	5.8	0.04	0.04	<0.01	<0.01	0.03	0.03	--

CHEMICAL QUALITY OF SNOW AND FIRN, KNIFE POINT AND UPPER FREMONT GLACIERS, WIND RIVER RANGE, WYOMING--Continued

YELLOWSTONE RIVER BASIN--Continued

430742109365701 SNOW PIT FRE-2A, FREMONT GLACIER, WY (LAT 43 07 42 LONG 109 36 57)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	DEPTH AT SAMPLE LOCA- TION (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL
JUL						
13...	0840	13150	0.16	2	5.8	-15.65
13...	0850	13150	0.49	2	5.9	-16.15
13...	0900	13150	0.82	2	5.8	-16.30
13...	0910	13150	1.15	3	6.0	-16.35
13...	0920	13150	1.48	5	5.4	-16.50
13...	0930	13150	2.13	5	5.3	-16.10
13...	0940	13150	1.80	2	5.8	-16.20
13...	0950	13150	2.46	4	5.3	-18.90
13...	1000	13150	2.79	3	5.6	-20.10
13...	1010	13150	3.12	3	5.6	--
13...	1020	13150	3.77	2	5.7	-21.30
13...	1030	13150	4.10	5	5.1	-19.85
13...	1040	13150	4.43	4	5.5	-23.65
13...	1050	13150	4.76	3	5.8	-19.30
13...	1100	13150	5.09	3	5.5	-16.95
13...	1110	13150	5.41	2	5.6	-15.80
13...	1120	13150	--	2	5.8	-15.25

ANALYSES OF SAMPLES COLLECTED AT SPECIAL STUDY AND MISCELLANEOUS SITES

CHEMICAL QUALITY OF SNOW AND FIRN, KNIFE POINT AND UPPER FREMONT GLACIERS, WIND RIVER RANGE, WYOMING--Continued

YELLOWSTONE RIVER BASIN--Continued

430746109364901 SNOW PIT FRE-1, FREMONT GLACIER, WY (LAT 43 07 46 LONG 109 36 49)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	DEPTH AT SAMPLE LOCA- TION (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	SULFATE DIS- SOLVED (MG/L AS SO ₄)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BROMIDE DIS- SOLVED (MG/L AS BR)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL
APR												
20...	0850	13050	0.21	5	5.8	0.41	0.19	0.02	<0.01	0.10	<0.01	-16.55
20...	0900	13050	0.79	3	6.0	0.15	0.10	0.01	<0.01	0.05	<0.01	-16.95
20...	0910	13050	1.15	4	5.6	0.21	0.07	0.02	<0.01	0.06	<0.01	-22.25
20...	0920	13050	1.64	7	6.0	0.60	0.18	0.02	<0.01	0.31	<0.01	-17.30
20...	0930	13050	2.05	4	5.8	0.27	0.09	0.01	<0.01	0.11	0.02	-17.30
JUL												
07...	0820	13050	1.23	2	5.7	0.02	0.06	0.01	<0.01	0.03	<0.01	-15.85
07...	0830	13050	0.82	3	5.5	0.04	0.03	0.01	<0.01	0.02	<0.01	-16.65
07...	0840	13050	0.49	2	5.7	0.08	0.03	<0.01	<0.01	0.04	<0.01	-16.65
07...	0850	13050	0.16	3	5.9	0.19	0.06	<0.01	<0.01	0.06	<0.01	-16.50
AUG												
02...	0910	13050	--	2	6.0	--	--	--	--	--	--	--
02...	0910	13050	0.0	2	6.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	--
02...	1050	13050	--	3	6.2	--	--	--	--	--	--	--
02...	1050	13050	0.0	3	6.2	0.15	0.06	0.01	<0.01	0.05	<0.01	--
02...	1320	13050	--	1	6.3	--	--	--	--	--	--	--
02...	1320	13050	0.0	1	6.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	--
02...	1410	13050	--	3	6.2	--	--	--	--	--	--	--
02...	1410	13050	0.0	3	6.2	0.15	0.07	0.01	<0.01	0.05	0.02	--
03...	0920	13050	--	1	6.3	--	--	--	--	--	--	--
03...	0920	13050	0.0	1	6.3	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	--
03...	1110	13050	--	2	6.1	--	--	--	--	--	--	--
03...	1110	13050	0.0	2	6.1	0.19	0.08	0.02	<0.01	0.05	<0.01	--
03...	1350	13050	--	1	6.1	--	--	--	--	--	--	--
03...	1350	13050	0.0	1	6.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	--
07...	1320	13050	--	3	6.0	--	--	--	--	--	--	--
07...	1320	13050	0.0	3	6.0	0.15	0.07	0.01	<0.01	0.05	<0.01	--
07...	1440	13050	--	1	6.1	--	--	--	--	--	--	--
07...	1440	13050	0.0	1	6.1	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	--
07...	1610	13050	--	2	6.1	--	--	--	--	--	--	--
07...	1610	13050	0.0	2	6.1	0.15	0.08	0.02	<0.01	0.05	<0.01	--
08...	1015	13050	--	1	6.2	--	--	--	--	--	--	--
08...	1015	13050	0.0	1	6.2	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	--
08...	1250	13050	--	1	6.2	--	--	--	--	--	--	--
08...	1250	13050	0.0	1	6.2	0.01	<0.01	0.01	<0.01	<0.01	<0.01	--
16...	0905	13050	0.0	3	5.9	0.17	0.08	<0.01	<0.01	0.06	<0.01	--
16...	1145	13050	0.0	3	5.9	0.15	0.07	0.01	<0.01	0.06	0.01	--
16...	1255	13050	0.0	1	6.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	--
16...	1415	13050	0.0	2	6.0	0.16	0.08	<0.01	<0.01	0.06	<0.01	--
17...	0915	13050	0.0	1	6.0	0.01	0.01	<0.01	<0.01	<0.01	<0.01	--
17...	1055	13050	0.0	2	6.1	0.16	0.08	<0.01	<0.01	0.06	<0.01	--
17...	1305	13050	0.0	1	6.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	--
21...	1425	13050	0.0	4	5.8	0.17	0.09	<0.01	<0.01	0.06	<0.01	--

FREMONT COUNTY WEED AND PEST DISTRICT STUDY

YELLOWSTONE RIVER BASIN

424743108484001 GAYLOR AND WARNOCK DITCH NEAR LANDER, WY (LAT 42 47 43 LONG 108 48 40)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 28...	1105	1.6	14.5	<0.01	<0.01	0.04	<0.01	<0.01	<0.01
JUL 25...	1345	7.2	18.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AUG 29...	1020	1.3	14.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

424856108484601 SQUAW CREEK ABOVE GRIMMETS GULCH, NEAR LANDER, WY (LAT 42 48 56 LONG 108 48 46)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 01...	1235	12	7.5	<0.01	0.08	<0.01	<0.01	<0.01	<0.01
JUN 19...	1230	7.0	14.0	<0.01	0.70	0.05	<0.01	<0.01	<0.01
JUL 25...	1440	5.5	16.5	0.15	1.4	0.35	<0.01	<0.01	<0.01
AUG 29...	1110	2.7	13.5	0.03	0.42	<0.01	<0.01	<0.01	<0.01
SEP 24...	1010	E2.5	10.5	0.01	0.46	<0.01	<0.01	<0.01	<0.01

E-Estimate.

424858108484701 GRIMMETTS GULCH NEAR LANDER, WY (LAT 42 48 58 LONG 108 48 47)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 01...	1310	2.2	9.0	<0.01	0.02	<0.01	<0.01	<0.01	<0.01
JUN 19...	1315	4.9	16.0	<0.01	0.12	<0.01	<0.01	<0.01	<0.01
JUL 25...	1510	2.0	15.0	<0.01	0.11	0.10	<0.01	<0.01	<0.01
AUG 29...	1140	2.0	12.5	<0.01	0.02	<0.01	<0.01	<0.01	<0.01
SEP 24...	1015	E2.0	10.5	<0.01	0.03	<0.01	<0.01	<0.01	<0.01

E-Estimate.

ANALYSES OF SAMPLES COLLECTED AT SPECIAL STUDY AND MISCELLANEOUS SITES

FREMONT COUNTY WEED AND PEST DISTRICT STUDY--Continued

YELLOWSTONE RIVER BASIN--Continued

424807108493801 SQUAW CREEK ABOVE FERGUSON GULCH, NEAR LANDER, WY (42 48 07 LONG 108 49 38)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN									
01...	1120	7.8	5.5	<0.01	0.08	<0.01	<0.01	<0.01	<0.01
19...	1045	2.2	9.5	<0.01	0.01	<0.01	<0.01	<0.01	<0.01
JUL									
30...	1240	<1.0	19.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SEP									
21...	1310	E0.50	9.5	<0.01	0.02	<0.01	<0.01	<0.01	<0.01

E-Estimate.

425008108445401 SQUAW CREEK AT SMITH STREET, AT LANDER, WY (LAT 42 50 08 LONG 108 44 54)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY									
31...	1245	12	14.5	0.02	0.01	0.18	<0.01	<0.01	<0.01
JUN									
19...	1450	14	20.0	<0.01	0.30	0.06	<0.01	<0.01	<0.01
JUL									
30...	1400	14	17.5	0.03	1.2	0.05	<0.01	<0.01	<0.01
AUG									
29...	1330	7.1	17.5	0.02	0.39	<0.01	<0.01	<0.01	<0.01
SEP									
24...	1055	9.7	11.5	0.08	0.45	0.11	<0.01	<0.01	<0.01

WIND RIVER INDIAN RESERVATION STUDY

YELLOWSTONE RIVER BASIN

06220500 EAST FORK WIND RIVER NEAR DUBOIS, WY (LAT 43 34 43 LONG 109 45 33)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
AUG 04...	1730	245	153	8.5	17.0	62	17	4.7	7.6	0.4	2.0
DATE		ALKA- LINIT LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)
AUG 04...	69		12	1.4	<0.1	23	109	0.15	72.2	<0.1	0.2

432430109252001 RED CREEK NEAR CONFLUENCE OF BIG WIND RIVER, NEAR WILDERNESS, WY (LAT 43 24 30 LONG 109 25 20)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
AUG 04...	1550	2.1	374	8.4	15.0	200	49	18	3.0	0.1	2.2
DATE		ALKA- LINIT LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)
AUG 04...	170		31	3.9	0.6	9.0	219	0.3	1.26	0.1	0.08

06222500 DRY CREEK NEAR BURRIS, WY (LAT 43 20 11 LONG 109 17 55)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
AUG 05...	1045	65	55	8.0	12.5	27	7.4	2.0	1.1	0.1	0.80
DATE		ALKA- LINIT LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)
AUG 05...	26		3.6	0.9	<0.1	3.2	35	0.05	6.05	<0.1	0.01

ANALYSES OF SAMPLES COLLECTED AT SPECIAL STUDY AND MISCELLANEOUS SITES

WIND RIVER INDIAN RESERVATION STUDY--Continued

YELLOWSTONE RIVER BASIN--Continued

431950109085501 CROW CREEK NEAR CONFLUENCE OF BIG WIND RIVER, NEAR LENORE, WY (LAT 43 19 50 LONG 109 08 55)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
AUG 05...	1315	250	8.6	16.5	94	29	5.2	20	0.9	2.0

DATE	TIME	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)
AUG 05...	127		13	0.3	0.3	23	169	0.23	<0.1	0.23

06223500 WILLOW CREEK NEAR CROWHEART, WY (LAT 43 17 00 LONG 109 11 08)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
AUG 04...	1150	8.6	220	8.4	16.0	110	29	8.9	3.2	0.1	0.6

DATE	TIME	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)
AUG 04...	94		23	1.7	<0.1	8.3	131	0.18	3.05	<0.1	0.02

431757109082601 WILLOW CREEK NEAR CONFLUENCE OF BIG WIND RIVER, NEAR CROWHEART, WY (LAT 43 17 57 LONG 109 08 26)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
AUG 04...	1415	19	416	8.5	20.0	200	59	13	8.2	0.3	2.0

DATE	TIME	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)
AUG 04...	115		99	2.0	0.5	9.0	262	0.36	13.4	<0.1	0.06

WIND RIVER INDIAN RESERVATION STUDY--Continued

YELLOWSTONE RIVER BASIN--Continued

06225000 BULL LAKE CREEK NEAR LENORE, WY (LAT 43 14 33 LONG 109 01 20)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)
AUG 04...	0930	401	71	8.0	14.5

433027109092701 RED CREEK ABOVE MAVERICK SPRINGS ROAD, NEAR LENORE, WY (LAT 43 30 27 LONG 109 09 27)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)
AUG 05...	1730	2090	8.3

433155109054301 DRY CREEK ABOVE MAVERICK SPRINGS ROAD, NEAR LENORE, WY (LAT 43 31 55 LONG 109 05 43)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
AUG 05...	1840	3.2	203	8.2	16.0	71	21	4.4	14

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)
AUG 05...	0.7	1.2	91	15	<0.1	<0.1	22	<0.1	0.15

ANALYSES OF SAMPLES COLLECTED AT SPECIAL STUDY AND MISCELLANEOUS SITES

WIND RIVER INDIAN RESERVATION STUDY--Continued

YELLOWSTONE RIVER BASIN--Continued

06228450 SOUTH FORK LITTLE WIND RIVER BELOW WASHAKIE RESERVOIR, NEAR FORT WASHAKIE, WY
(LAT 42 59 04 LONG 108 59 57)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
AUG 06...	2000	44	43	7.9	16.0	20	5.5	1.4	1.1	0.1	0.5

DATE	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)
AUG 06...	20	1.8	2.0	<0.1	2.6	27	0.04	3.21	<0.1	<0.01

430036108525801 SOUTH FORK LITTLE WIND RIVER AT FORT WASHAKIE, WY (LAT 43 00 36 LONG 108 52 58)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
AUG 06...	1800	17	163	8.7	23.0	68	18	5.6	5.9	0.3	0.9

DATE	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)
AUG 06...	64	19	2.7	<0.1	3.9	94	0.13	4.33	<0.1	0.01

06228800 NORTH FORK LITTLE WIND RIVER NEAR FORT WASHAKIE, WY (LAT 43 01 38 LONG 109 00 02)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
AUG 06...	1440	121	48	8.1	18.5	22	6.7	1.4	1.1	0.1	0.5

DATE	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)
AUG 06...	24	2.6	1.5	<0.1	2.7	31	0.04	10.1	<0.1	<0.01

WIND RIVER INDIAN RESERVATION STUDY--Continued

YELLOWSTONE RIVER BASIN--Continued

430040108525901 NORTH FORK LITTLE WIND RIVER AT FORT WASHAKIE, WY (LAT 43 00 40 LONG 108 52 59)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
AUG 06...	1715	48	152	8.4	23.0	61	16	5.1	6.7	0.4	0.9

DATE	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)
AUG 06...	52	26	2.4	<0.1	4.3	93	0.13	11.9	<0.1	0.01

06229680 SAGE CREEK ABOVE NORKOK MEADOWS CREEK, NEAR FORT WASHAKIE, WY (LAT 43 04 56 LONG 108 53 34)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
AUG 08...	0915	1.9	900	8.3	19.0	380	92	36	51	1	1.8

DATE	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)
AUG 08...	166	330	11	0.4	3.8	626	0.85	3.21	0.1	0.02

06229900 TROUT CREEK NEAR FORT WASHAKIE, WY (LAT 42 57 04 LONG 108 56 54)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
AUG 07...	1715	5.7	352	8.6	16.0	200	48	19	2.6	0.1	0.9

DATE	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)
AUG 07...	171	44	2.5	0.4	8.4	228	0.31	3.51	<0.1	<0.01

ANALYSES OF SAMPLES COLLECTED AT SPECIAL STUDY AND MISCELLANEOUS SITES

WIND RIVER INDIAN RESERVATION STUDY--Continued

YELLOWSTONE RIVER BASIN--Continued

425829108521801 ALKALI LAKE OUTLET ABOVE TROUT CREEK, BELOW CANAL, NEAR WIND RIVER, WY
(LAT 42 58 29 LONG 108 52 18)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS)
JUN 20...	0945	1.5	2060	8.2	19.0	720	130	97	230	4	6.0	149

DATE	TIME	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	BORON, DIS- SOLVED (UG/L AS B)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
JUN 20...	1000	9.8	0.9	0.8	1560	2.13	6.34	<0.1	0.02	410	<1	

425716108520401 37-C LATERAL AT HEADWORKS, NEAR WIND RIVER, WY (LAT 42 57 16 LONG 108 52 04)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS)
JUN 19...	1500	70	59	8.0	14.5	26	7.0	2.1	1.4	0.1	0.5	23

DATE	TIME	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	BORON, DIS- SOLVED (UG/L AS B)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
JUN 19...	6.4	0.9	<0.1	3.5	36	0.05	6.70	<0.1	0.02	<10	<1	

425850108550701 TROUT CREEK BELOW RAY CANAL, NEAR WIND RIVER, WY (LAT 42 58 50 LONG 108 55 07)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)
AUG 07...	1645	9.2	75	8.6	21.0

WIND RIVER INDIAN RESERVATION STUDY--Continued

YELLOWSTONE RIVER BASIN--Continued

430048108480001 COOLIDGE CANAL BELOW TROUT CREEK, NEAR ETHETE, WY (LAT 43 00 48 LONG 108 48 00)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS)
JUN 22...	1115	147	239	8.2	12.5	87	20	8.9	12	0.6	1.0	49

DATE	TIME	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	BORON, DIS- SOLVED (UG/L AS B)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
JUN 22...	65		2.3	<0.1	4.7	143	0.19	56.7	<0.1	0.05	40	<1

430114108431001 ETHETE DRAIN ABOVE LITTLE WIND RIVER, NEAR ETHETE, WY (LAT 43 01 14 LONG 108 43 10)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS)
JUN 20...	1300	3.4	909	8.2	19.0	360	88	33	65	1	3.7	169

DATE	TIME	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	BORON, DIS- SOLVED (UG/L AS B)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
JUN 20...	300		7.7	0.5	11	611	0.83	5.56	0.1	0.04	190	1

430015108403601 LOWER HANSEN DRAIN ABOVE LITTLE WIND RIVER, NEAR ETHETE, WY (LAT 43 00 15 LONG 108 40 36)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS)
JUN 21...	1145	6.6	1460	7.9	12.5	610	140	62	110	2	3.7	196

DATE	TIME	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	BORON, DIS- SOLVED (UG/L AS B)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
JUN 21...	590		12	0.6	13	1050	1.43	18.7	0.3	0.02	270	4

ANALYSES OF SAMPLES COLLECTED AT SPECIAL STUDY AND MISCELLANEOUS SITES

WIND RIVER INDIAN RESERVATION STUDY--Continued

YELLOWSTONE RIVER BASIN--Continued

425605108515401 MILL CREEK ABOVE RAY CANAL, NEAR WIND RIVER, WY (LAT 42 56 05 LONG 108 51 54)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS)
JUN 19...	1300	0.38	1370	8.3	17.0	780	220	56	18	0.3	2.6	137

DATE	TIME	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	BORON, DIS- SOLVED (UG/L AS B)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
JUN 19...	710		3.3	0.4	12	1100	1.50	1.13	<0.1	0.05	110	2

06230190 MILL CREEK ABOVE RAY LAKE OUTLET CANAL, NEAR FORT WASHAKIE, WY (LAT 42 56 50 LONG 108 48 29)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS)
JUN 19...	1700	11	622	8.1	20.5	270	69	23	39	1	2.2	121

DATE	TIME	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	BORON, DIS- SOLVED (UG/L AS B)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
JUN 19...	220		3.3	0.3	10	440	0.6	13.3	<0.1	0.07	150	<1

425713108485601 RAY RESERVOIR OUTLET NEAR WIND RIVER, WY (LAT 42 57 13 LONG 108 48 56)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS)
JUN 19...	1015	1.1	727	8.6	17.5	240	50	27	62	2	2.0	106

DATE	TIME	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	BORON, DIS- SOLVED (UG/L AS B)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
JUN 19...	240		9.2	0.2	3.4	457	0.62	1.36	<0.1	0.03	70	1

WIND RIVER INDIAN RESERVATION STUDY--Continued

YELLOWSTONE RIVER BASIN--Continued

425710108460701 MILL CREEK BELOW COOLIDGE CANAL, NEAR WIND RIVER, WY (LAT 42 57 10 LONG 108 46 07)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS)
JUN 22...	0945	64	338	8.2	13.0	130	32	13	19	0.7	1.4	70

DATE	TIME	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)
JUN 22...	88		2.7	<0.10	5.8	204	0.28	35.3	<0.100	0.060	50	<1

425730108461201 MCCARKEY DRAIN ABOVE COOLIDGE CANAL, NEAR WIND RIVER, WY (LAT 42 57 30 LONG 108 46 12)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS)
JUN 21...	0915	2.1	1340	7.6	13.5	700	160	73	46	0.8	3.0	126

DATE	TIME	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)
JUN 21...	650		2.5	0.6	7.7	1020	1.39	5.78	0.2	0.14	100	5

425958108403501 MILL CREEK ABOVE LITTLE WIND RIVER, NEAR ETHETE, WY (LAT 42 59 58 LONG 108 40 35)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS)
JUN 20...	1545	68	560	8.5	22.0	210	49	22	34	1	2.2	112

DATE	TIME	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)
JUN 20...	170		4.3	0.2	8.6	358	0.49	66.0	<0.1	0.14	100	<1

ANALYSES OF SAMPLES COLLECTED AT SPECIAL STUDY AND MISCELLANEOUS SITES

WIND RIVER INDIAN RESERVATION STUDY--Continued

YELLOWSTONE RIVER BASIN--Continued

425901108372101 SHARP NOSE DRAIN ABOVE LITTLE WIND RIVER, NEAR ARAPAHOE, WY (LAT 42 59 01 LONG 108 37 21)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS)
JUN 21...	1530	17	1060	8.4	16.5	440	91	51	74	2	2.7	227

DATE	TIME	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)
JUN 21...	330		9.5	0.7	15	714	0.97	33.1	0.8	0.07	180	4

430129108480101 LITTLE WIND RIVER NEAR ETHETE, WY (LAT 43 01 29 LONG 108 48 01)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
AUG 07...	1240	28	378	8.4	160	42	13	16	0.6	2.3

DATE	TIME	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)
AUG 07...	99	93	5.5	0.6	6.5	238	0.32	17.9	<0.1	0.02	

425348108351301 LITTLE POPO AGIE RIVER NEAR HUDSON, WY (LAT 42 53 48 LONG 108 35 13)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
AUG 03...	1620	60	870	8.6	23.5	340	82	33	56	1	2.7

DATE	TIME	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)
AUG 03...	148	320	3.8	0.3	8.2	595	0.81	97.0	<0.1	0.05	

WIND RIVER INDIAN RESERVATION STUDY--Continued

YELLOWSTONE RIVER BASIN--Continued

425259108523401 SURRELL CREEK NEAR MILFORD, WY (LAT 42 52 59 LONG 108 52 34)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
AUG 02...	1600	0.37	613	8.4	19.0	330	80	32	6.0	0.1	1.0

DATE	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)
AUG 02...	187	120	3.1	0.5	10	365	0.5	0.36	<0.1	0.02

06232000 NORTH POPO AGIE RIVER NEAR MILFORD, WY (LAT 42 51 50 LONG 108 54 25)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
AUG 09...	1320	81	36	7.7	16.0	16	4.7	1.0	1.8	0.2	0.6

DATE	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)
AUG 09...	17	2.0	1.6	<0.1	5.0	27	0.04	5.85	<0.1	<0.01

425135108425401 NORTH FORK POPO AGIE RIVER NEAR CONFLUENCE OF MIDDLE FORK POPO AGIE RIVER, NEAR LANDER, WY (LAT 42 51 35 LONG 108 42 54)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
AUG 09...	1900	45	475	8.7	20.0	210	53	19	23	0.7	1.9

DATE	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)
AUG 09...	144	120	3.3	0.6	9.2	316	0.43	38.4	<0.1	0.02

ANALYSES OF SAMPLES COLLECTED AT SPECIAL STUDY AND MISCELLANEOUS SITES

WIND RIVER INDIAN RESERVATION STUDY--Continued

YELLOWSTONE RIVER BASIN--Continued

434204108472901 NORTH FORK OWL CREEK NEAR ANCHOR RESERVOIR, WY (LAT 43 42 04 LONG 108 47 29)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	
OCT 02...	1030	2.7	203	8.8	3.0	54	15	3.9	24	1	1.7	
DATE	TIME	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	BORON, DIS- SOLVED (UG/L AS B)
OCT 02...	71	30	0.8	0.2	24	142	0.19	1.04	<0.1	0.24	40	

434326108320201 OWL CREEK NEAR HAMILTON DOME, WY (LAT 43 43 26 LONG 108 32 02)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	
OCT 02...	1315	6.2	560	8.5	7.0	230	60	19	33	1	2.9	
DATE	TIME	ALKA-LINITY LAB (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)
OCT 02...	143	160	2.4	0.1	20	383	0.52	6.41	<0.1	0.13	50	

BEDLOAD SEDIMENT SAMPLING

All bedload samples were collected using a Helley-Smith type sampler of sheet-metal construction, 3.22 flare, 3 inch square nozzle, and equipped with 0.25 mm mesh collection bag.

YELLOWSTONE RIVER BASIN

432020109174001 DRY CREEK ABOVE DRY CREEK CANAL, NEAR BURRIS, WY (LAT 43 20 20 LONG 109 17 40)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	STREAM WIDTH (FT)	NUMBER OF SAM- PLING POINTS (COUNT)	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SEDI- MENT, DIS- CHARGE, BEDLOAD (TONS/ DAY)
JUL								
27...	1115	62.0	21	224	14.5	4	2.4	21
27...	1205	62.0	21	224	14.5	4	2.4	23
AUG								
17...	1200	61.0	20	192	17.5	6	3.1	2.2
17...	1245	61.0	20	192	17.5	6	3.1	1.4

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .062 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM
------	---	---	---	---	---	---	---	---

JUL								
27...	0.3	0.9	3	36	70	90	100	--
27...	0	0.4	2	28	58	83	98	100
AUG								
17...	0	2	4	32	62	84	100	--
17...	0	0	9	37	68	91	100	--

06222510 DRY CREEK CANAL AT HEADGATE, NEAR BURRIS, WY (LAT 43 20 38 LONG 109 17 25)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	STREAM WIDTH (FT)	NUMBER OF SAM- PLING POINTS (COUNT)	GAGE HEIGHT (FEET)	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SEDI- MENT, DIS- CHARGE, BEDLOAD (TONS/ DAY)
JUL									
27...	1330	26.0	24	2.10	146	16.0	5	2.0	20
27...	1430	26.0	24	2.10	146	16.0	5	2.0	64
AUG									
17...	1400	28.0	20	2.36	180	17.0	5	2.4	13
17...	1420	28.0	20	2.36	180	17.0	5	2.4	20

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .062 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM
------	---	---	---	---	---	---	---	---	---

JUL									
27...	0.1	0.3	1	15	37	62	83	94	100
27...	0	0.1	0.6	12	40	68	86	94	100
AUG									
17...	0.1	0.3	1	16	44	76	100	--	--
17...	0.1	0.2	0.6	11	31	62	89	100	--

ANALYSES OF SAMPLES COLLECTED AT SPECIAL STUDY AND MISCELLANEOUS SITES

BEDLOAD SEDIMENT SAMPLING--Continued

YELLOWSTONE RIVER BASIN--Continued

06225500 WIND RIVER NEAR CROWHEART, WY (LAT 43 14 33 LONG 109 00 35)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	STREAM WIDTH (FT)	NUMBER OF SAM- PLING POINTS (COUNT)	GAGE HEIGHT (FEET)	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SEDI- MENT, DIS- CHARGE, BEDLOAD (TONS/ DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .062 MM
AUG										
02...	1020	135	23	6.52	1560	18.5	25	105	350	0
02...	1120	135	23	6.52	1560	18.5	25	105	470	0.1

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM
AUG									
02...	0.1	2	24	68	82	83	84	85	100
02...	0.1	1	27	76	88	90	91	91	100

430906108434901 WIND RIVER ABOVE JOHNSTOWN CANAL, NEAR KINNEAR, WY (LAT 43 09 06 LONG 108 43 49)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	STREAM WIDTH (FT)	NUMBER OF SAM- PLING POINTS (COUNT)	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SEDI- MENT, DIS- CHARGE, BEDLOAD (TONS/ DAY)
JUL								
31...	1120	106	20	628	17.0	268	454	4300
31...	1227	110	21	1810	16.5	1070	5230	4800
AUG								
02...	1030	105	21	554	18.0	60	90	1300
02...	1115	105	21	554	18.0	60	90	1600

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .062 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM
JUL								
31...	0.1	0.1	1	21	90	100	100	100
31...	0.1	0.6	4	34	94	100	100	100
AUG								
02...	0	0	1	26	81	98	100	100
02...	0.1	0.1	2	29	84	98	100	100

BEDLOAD SEDIMENT SAMPLING--Continued

YELLOWSTONE RIVER BASIN--Continued

430902108434101 JOHNSTOWN CANAL AT HEADWORKS, NEAR KINNEAR, WY (LAT 43 09 02 LONG 108 43 41)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	STREAM WIDTH (FT)	NUMBER OF SAM- PLING POINTS (COUNT)	GAGE HEIGHT (FEET)	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SEDI- MENT, DIS- CHARGE, BEDLOAD (TONS/ DAY)
JUL									
31...	0950	17.6	16	1.87	23	17.0	99	6.2	96
31...	1100	17.6	16	1.87	23	17.0	99	6.2	81
31...	1200	20.0	20	2.12	36	16.5	815	79	310
31...	1215	20.0	20	2.12	36	16.5	815	79	180
AUG									
02...	1100	17.0	20	1.82	21	18.0	34	1.9	68

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .062 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM
JUL								
31...	0	0.3	2	37	98	100	100	--
31...	0	0.2	3	44	99	100	100	--
31...	0	0.7	4	34	98	100	100	100
31...	0	0.9	4	44	98	100	100	100
AUG								
02...	0	0.3	2	45	99	100	100	100

425931108370201 LITTLE WIND RIVER ABOVE SUBAGENCY CANAL, NEAR ARAPAHOE, WY (LAT 42 59 31 LONG 108 37 02)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	STREAM WIDTH (FT)	NUMBER OF SAM- PLING POINTS (COUNT)	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SEDI- MENT, DIS- CHARGE, BEDLOAD (TONS/ DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .062 MM
JUL								
04...	1030	92.0	23	419	37	42	280	0.2
AUG								
SEP								
OCT								
NOV								
DEC								
JAN								
FEB								
MAR								
APR								
MAY								
JUN								
JUL								
04...		0.3	2	26	65	97	100	100

ANALYSES OF SAMPLES COLLECTED AT SPECIAL STUDY AND MISCELLANEOUS SITES

BEDLOAD SEDIMENT SAMPLING--Continued

YELLOWSTONE RIVER BASIN--Continued

425934108365301 SUBAGENCY CANAL AT HEADWORKS, NEAR ARAPAHOE, WY (LAT 42 59 34 LONG 108 36 53)

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	STREAM WIDTH (FT)	NUMBER OF SAM- PLING POINTS (COUNT)	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (TONS/ DAY)
JUL							
04...	1230	30.0	20	108	49	14	0.21
04...	1320	40.0	20	108	49	14	3.8

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .062 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM
JUL							
04...	0	9	18	36	64	82	100
04...	1	3	7	23	49	75	100

LARAMIE COUNTY

410111104223102. Local number, 12N 063W 15aaa02.

LOCATION.--Lat 41°01'11", long 104°22'31", in NE¼ NE¼ sec.15, T.12 N., R.63 W., Hydrologic Unit 10190009.

Owner: U. S. Geological Survey.

AQUIFER.--White River Formation or Group.

WELL CHARACTERISTICS.--Drilled unused water-table observation well, steel casing, diameter about 6.5 in, depth 110 ft, factory slotted perforations 86-110 ft.

DATUM.--Elevation of land-surface datum is about 5,384 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: top of casing, 1.5 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 14.11 ft, below land-surface datum, Apr. 30, 1974; lowest, 46.28 ft, below land-surface datum, Sept. 7, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

Highest water level for the day, from digital recorder

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	30.83	29.05	27.53	26.23	25.24	24.45	23.69	23.04	26.03	31.70	30.67	31.27
10	30.68	28.77	27.28	26.05	25.12	24.33	23.56	23.52	27.20	31.34	30.11	31.38
15	30.52	28.52	27.07	25.87	24.96	24.14	23.40	23.53	29.04	31.72	30.04	31.73
20	30.12	28.23	26.87	25.73	24.82	24.10	23.20	24.25	28.54	31.89	30.25	31.47
25	29.75	27.96	26.70	25.56	24.69	23.99	23.10	25.49	29.52	31.25	30.33	31.45
EOM	29.41	27.75	26.43	25.36	24.64	23.81	23.04	25.84	30.65	30.91	31.22	31.08

WTR YR 1990 HIGHEST 22.96 MAY 3, 4 LOWEST 32.01 JULY 19

411210104452001 Local number, 14N 066W 10aba01.

LOCATION.--Lat 41°12'10", long 104°45'20", in NE¼ NW¼ NE¼ sec.10, T.14 N., R.66 W., Hydrologic Unit 10190015.

Owner: State of Wyoming.

AQUIFER.--Ogallala Formation.

WELL CHARACTERISTICS.--Depth of well, 190 ft.

DATUM.--Elevation of land-surface datum is about 6,230 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: top of casing, 1.40 ft above land-surface datum.

PERIOD OF RECORD.--April 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 125.82 ft below land-surface datum, Feb. 13, 1979; lowest, 131.53 ft below land-surface datum, Sept. 10, 1990.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

Highest water level for the day, from digital recorder

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	130.72	130.48	130.59	130.50	131.01	130.35	130.57	130.87	130.76	131.38	131.39	131.35
10	130.79	130.71	130.49	130.75	130.98	130.37	130.71	130.47	130.90	131.19	131.31	131.53
15	130.73	130.77	130.54	130.69	130.80	130.30	130.59	130.52	130.70	131.14	131.16	131.42
20	131.00	130.87	130.49	130.73	131.25	130.79	130.62	130.57	131.08	131.42	131.34	131.24
25	130.57	130.49	130.80	130.79	130.82	130.74	130.32	130.76	131.30	131.06	131.12	131.27
EOM	130.70	130.94	130.51	130.61	130.94	130.44	130.58	130.62	131.43	131.27	131.42	131.22

WTR YR 1990 HIGHEST 130.12 APR 28 LOWEST 131.53 SEPT 10

412343104053101 Local number, 17N 060W 33cbb01.

LOCATION.--Lat 41°23'43", long 104°05'31", in SW¼ NW¼ NW¼ sec.33, T.17 N., R.60 W., Hydrologic Unit 10190016.

Owner: U. S. Geological Survey.

AQUIFER.--Brule Formation.

WELL CHARACTERISTICS.--Depth of well, 275 ft.

DATUM.--Elevation of land-surface datum is about 5,340 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.0 ft above land-surface datum.

PERIOD OF RECORD.--May 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 177.52 ft below land-surface datum, May 30, 31, 1975; lowest, 214.47 ft below land-surface datum, Dec. 22, 1989.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

Highest water level for the day, from digital recorder

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	214.28	214.39	214.44	214.45	214.39	214.25	214.03	213.49	212.84	212.57	213.01	213.55
10	214.31	214.42	214.45	214.46	214.36	214.23	213.98	213.38	212.69	212.62	213.09	213.63
15	214.33	214.42	214.45	214.44	214.34	214.19	213.91	213.28	212.59	212.66	213.18	213.73
20	214.35	214.43	214.45	214.43	214.33	214.17	213.70	213.18	212.56	212.71	213.24	213.80
25	214.36	214.43	214.45	214.43	214.31	214.13	213.63	213.09	212.56	212.80	213.32	213.90
EOM	214.40	214.45	214.44	214.41	214.30	214.07	213.57	212.97	212.55	212.91	213.44	213.98

WTR YR 1990 HIGHEST 212.55 JUNE 28, 29, 30, JULY 1 LOWEST 214.47 DEC 22

GROUND-WATER LEVELS

NIOBRARA COUNTY

424244104202001. Local number, 32N 062W 32bbb01.

LOCATION.--Lat 42°42'44", long 104°20'20", in NW¼ NW¼ NW¼ sec.32, T.32 N., R.62 W., Hydrologic Unit 10150002.

Owner: Richard Pfister.

AQUIFER.--Tertiary Miocene, Arikaree group.

WELL CHARACTERISTICS.--Drilled unused water-table well, 12 in. diameter, galvanized casing, depth 485 ft, cased top 25 ft.

DATUM.--Elevation of land-surface datum is about 4,898 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: bottom edge of recorder shelf, 3.0 ft above land-surface datum.

PERIOD OF RECORD.--May 1970 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 20.93 ft below land-surface datum, June 10, 1970; lowest, 38.48 ft below land-surface datum, Aug. 19, 1990.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

Highest water level for the day, from digital recorder

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	36.34	35.96	35.65	35.38	35.10	34.87	34.66	34.45	34.29	35.59	37.95	37.21
10	36.23	35.92	35.61	35.34	35.05	34.81	34.62	34.37	34.24	36.44	38.22	37.11
15	36.21	35.88	35.55	35.29	34.99	34.80	34.57	34.39	35.34	36.34	37.71	37.01
20	36.12	35.80	35.47	35.24	34.98	34.77	34.55	34.37	34.50	37.06	38.47	36.92
25	36.06	35.75	35.45	35.19	34.97	34.72	34.50	34.34	34.44	36.60	37.55	36.81
EOM	36.01	35.72	35.41	35.14	34.91	34.68	34.50	34.30	34.77	37.53	37.32	36.72

WTR YR 1990 HIGHEST 34.24 JUNE 10 LOWEST 38.48 AUG 19

PLATTE COUNTY

420613105024401. Local number, 25N 068W 31aaa01.

LOCATION.--Lat 42°06'13", long 105°02'44", in NE¼ NE¼ NE¼ sec.31, T.25 N., R.68 W., Hydrologic Unit 10180011.

Owner: State of Wyoming.

AQUIFER.--Arikaree Formation.

WELL CHARACTERISTICS.--Depth of well, 400 ft.

DATUM.--Elevation of land-surface datum, 5,242 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: top of casing, 1.50 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 20.13 ft below land-surface datum, Nov. 19, 1986; lowest, 33.50 ft below land-surface datum, Sept. 8, 1989.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

Highest water level for the day, from digital recorder

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	28.13	26.56	26.77	26.15	25.95	25.82	25.70	25.85	28.19	29.35	32.09	31.83
10	27.65	26.45	26.85	26.03	25.93	25.71	25.75	25.87	28.27	29.65	31.68	32.03
15	27.49	26.47	26.88	26.02	25.85	25.65	25.64	26.44	28.16	30.63	31.26	32.42
20	27.19	26.55	26.72	25.94	25.90	25.67	25.75	27.00	28.65	31.70	30.80	33.24
25	26.87	26.69	26.42	25.89	25.91	25.70	25.71	27.40	29.12	31.67	30.34	32.74
EOM	26.76	26.86	26.20	25.88	25.95	25.61	25.82	27.99	29.17	31.60	30.90	31.76

WTR YR 1990 HIGHEST 25.50 APR 2 LOWEST 33.41 SEPT 22

QUALITY OF GROUND WATER

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CARBON COUNTY

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	LOCAL IDENT- IFIER	GEO- LOGIC UNIT	SITE	DATE	TIME	DEPTH OF WELL, TOTAL (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)
413002106463601	18-083-30cad03		121NRPK	GW	09-21-90	0800	508.00	400	8.1
413002106464701	18-085-30cac01		121NRPK	GW	09-19-90	0800	508.00	585	8.0
413133106462701	18N83W18DCC		121NRPK	GW	08-16-90	1315	--	415	8.0

STATION	NUMBER	DATE	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
413002106463601		09-21-90	9.0	150	51	6.7	17	0.6	5.0	145	52
413002106464701		09-19-90	8.0	250	80	11	19	0.5	6.6	183	110
413133106462701		08-16-90	12.0	180	62	7.0	11	0.4	6.7	160	33

STATION	NUMBER	DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
413002106463601		09-21-90	7.5	0.5	49	276	0.38	--	0.10	5
413002106464701		09-19-90	15	0.2	48	400	0.54	--	0.07	<1
413133106462701		08-16-90	6.5	1.0	50	276	0.38	0.7	0.06	<5

STATION	NUMBER	LOCAL IDENT- IFIER	SITE	DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)
413002106464701	18-085-30cac01		GW	09-19-90	0800	30	18

STATION	NUMBER	DATE	BORON, DIS- SOLVED (UG/L AS B)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	LEAD, DIS- SOLVED (UG/L AS PB)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
413002106464701		09-19-90	270	2	3	<1	0.1	<1

GEOLOGIC UNIT (AQUIFER)

111ALVM	HOLOCENE SERIES	124WDRS	WIND RIVER FORMATION	311PSPR	PHOSPHORIA FORMATION
111HLCN	HOLOCENE ALLUVIUM	124WSTC	WASATCH FORMATION	317TSLP	TENSLEEP FORMATION
111TRRC	TERRACE DEPOSITS	211CODY	CODY SHALE	331MDSN	MADISON GROUP
121OGLL	OGALLALA FORMATION	211FRNR	FRONTIER FORMATION	361BGRN	BIGHORN DOLOMITE
121NRPK	NORTH PARK FORMATION	211FXHL	FOX HILLS FORMATION	374FLTD	FLATHEAD QUARTZITE OR SHALE
122ARKR	ARIKAREE FORMATION	217CLVL	CLOVERLY FORMATION	400PCMB	PRECAMBRIAN ERATHEM
124LNEY	LANEY SHALE MEMBER OF GREEN RIVER FORMATION	217TMPL	THERMOPOLIS SHALE		
124TPLT	TEPEE TRAIN FORMATION	231CGTR	CHUGWATER FORMATION OR GROUP		

QUALITY OF GROUND WATER

CARBON COUNTY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	LOCAL IDENT- I- FIER	SITE	DATE	TIME	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)
413133106462701	18N83W18DCC		GW	08-16-90	1315	<0.01

STATION	NUMBER	DATE	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)
413133106462701		08-16-90	<0.01	<0.01	<0.01	<0.01	<0.01

FREMONT COUNTY

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	LOCAL IDENT- I- FIER	GEO- LOGIC UNIT	SITE	DATE	TIME	DEPTH OF WELL, TOTAL (FEET)	FLOW RATE, INSTAN- TANEOUS (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)
421540108211201	31-100-25abd01		331MDSN	SP	06-23-90	1420	--	20	575
421555108500201	27-101-35dca01		124LNEY	SP	06-19-90	1300	0.0	4.0	960
421829108514001	27-101-15cdb01		124WSTC	SP	06-19-90	1030	--	3.0	480
421939108211601	27-097-12caa01		122ARKR	SP	06-21-90	1100	--	360	525
422010108452401	27-100-04dcd01		400PCMB	SP	06-22-90	1440	--	297	244
422014108562201	27-102-01cdc01		124WSTC	SP	06-22-90	1030	--	500	260
422212108102401	29-095-15acd01		122ARKR	SP	06-24-90	1000	--	13	420
422418108225901	28-097-15add01		400PCMB	SP	06-21-90	1400	--	4.0	260
422436108534901	28-101-08cab01		400PCMB	SP	06-19-90	1640	--	2.0	282
422659108302701	29-098-35bdb01		400PCMB	SP	06-20-90	1310	--	1.0	155
422838108285201	29-097-19bcb01		374FLTD	SP	06-20-90	1000	--	--	162
422924108394101	29-099-16ada01		400PCMB	SP	06-20-90	1640	--	E1.5	149
422934108102501	29-095-15abd01		400PCMB	SP	06-24-90	1000	--	64	1100
423247108184501	30-096-28dbb01			GW	08-10-90	0930	--	--	315
423321108355001	30-098-19cca01		123WRVR	SP	08-02-90	1600	--	--	390
423336108420201	30-099-19adc01		374FLTD	SP	06-23-90	0900	--	31	410
423511108241501	30-097-10dad01		311PSPR	SP	08-03-90	1100	--	--	365
423542108294701	30-098-12bac01		217CLVL	SP	08-04-90	1000	--	--	635
423745108325701	31-098-28dcb01		211FRNR	SP	08-05-90	0930	--	--	660
423831108291401	31-098-24dcd01		311PSPR	SP	08-04-90	1130	--	--	430
423919108354101	31-098-18cdc01		217TMPL	SP	08-02-90	1445	--	--	355
424039108404001	31-099-09bcb01		317TSLP	GW	08-07-90	1800	--	--	390
424208108383201	33-099-34dad01		217TMPL	GW	08-02-90	1130	120.00	--	800
424253108385501	32-099-27dbc01		217CLVL	GW	08-06-90	1145	225.00	--	2240
424340108384801	32-099-22dca01		211FRNR	GW	08-06-90	1040	150.00	--	1820
424344108444001	32-100-23dab01		231CGTR	GW	08-06-90	1440	42.00	--	1200
424617108394001	32-099-03cac01		211FRNR	SP	08-06-90	1650	--	--	575
424702108423001	33-099-32ddb01		211FRNR	SP	08-09-90	1045	--	--	415
424802108430701	33-099-29cac01			GW	08-09-90	1540	1500	--	345
424822108440201	33-099-30bda01		211CODY	GW	08-09-90	1640	--	--	5800
424948108513001	33-101-18cba01		317TSLP	GW	07-25-90	1630	450.00	--	409
424957108511501	33-100-18bdd01		317TSLP	GW	07-25-90	1045	900.00	--	424
425018108521001	33-101-13aba02		331MDSN	GW	07-25-90	1300	1400	--	418
430606108304401	2N-3E-34cdb01		124WDRV	GW	08-08-90	1640	218.00	--	1900
431103108172501	3N-5E-33dcc01		124WDRV	GW	08-07-90	1310	35.00	--	1020
431215108435501	3N-1E-26caa01		124WDRV	GW	08-08-90	1237	45.00	--	680
431252108290502	3N-3E-26aba02		124WDRV	GW	08-08-90	0930	244.00	--	1510
431441108360601	3N-2E-14aad01		124WDRV	GW	08-08-90	1300	40.00	--	425

E Estimate.

QUALITY OF GROUND WATER

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FREMONT COUNTY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	DATE	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)
421540108211201		06-23-90	7.3	7.0	270	57	30	2.1	0.1	1.1	266
421555108500201		06-19-90	7.6	6.0	180	44	18	140	4	2.1	310
421829108514001		06-19-90	7.4	5.0	52	14	4.2	22	1	1.7	89
421939108211601		06-21-90	9.6	10.5	4	1.1	0.35	110	23	1.6	150
422010108452401		06-22-90	7.1	6.0	85	26	4.8	17	0.8	3.3	113
422014108562201		06-22-90	7.6	7.0	88	27	5.1	16	0.7	4.0	114
422212108102401		06-24-90	7.7	9.0	140	43	6.9	37	1	6.9	171
422418108225901		06-21-90	7.0	6.0	110	38	4.8	7.3	0.3	1.5	113
422436108534901		06-19-90	7.2	8.0	120	39	6.3	9.0	0.4	4.0	130
422659108302701		06-20-90	6.9	7.5	57	15	4.7	6.9	0.4	2.0	64
422838108285201		06-20-90	7.1	7.0	71	21	4.5	5.3	0.3	0.90	73
422924108394101		06-20-90	6.8	8.5	46	13	3.2	5.5	0.4	1.9	58
422934108102501		06-24-90	7.5	29.0	270	70	22	130	3	15	179
423247108184501		08-10-90	7.4	9.5	140	49	4.2	12	0.4	4.5	146
423321108355001		08-02-90	7.5	10.0	210	57	16	4.3	0.1	2.7	213
423336108420201		06-23-90	7.4	6.0	210	49	21	3.2	0.1	2.5	201
423511108241501		08-03-90	7.6	12.0	180	44	16	8.6	0.3	2.2	159
423542108294701		08-04-90	7.0	11.5	260	73	20	30	0.8	4.5	165
423745108325701		08-05-90	7.1	8.5	240	72	15	69	2	2.2	195
423831108291401		08-04-90	7.3	15.0	220	53	22	6.2	0.2	1.7	183
423919108354101		08-02-90	6.5	9.5	82	22	6.5	44	2	0.90	113
424039108404001		08-07-90	7.5	15.0	200	44	21	3.3	0.1	2.2	175
424208108383201		08-02-90	5.9	11.0	200	50	18	76	2	2.8	3.8
424253108385501		08-06-90	7.4	15.0	15	5.0	0.70	470	52	1.0	252
424340108384801		08-06-90	6.8	11.5	860	180	100	95	1	6.3	279
424344108444001		08-06-90	7.1	9.0	700	200	48	13	0.2	1.5	217
424617108394001		08-06-90	7.1	17.0	310	70	33	13	0.3	2.4	320
424702108423001		08-09-90	6.7	16.0	130	32	12	45	2	1.7	130
424802108430701		08-09-90	8.5	16.0	1	0.19	0.07	79	39	0.30	145
424822108440201		08-09-90	7.1	11.0	1600	350	180	720	8	7.2	372
424948108513001		07-25-90	7.6	11.0	230	55	23	1.6	0.0	0.50	195
424957108511501		07-25-90	7.6	12.5	230	54	23	2.1	0.1	0.60	157
425018108521001		07-25-90	7.6	10.0	230	57	22	1.6	0.0	0.50	201
430606108304401		08-08-90	7.8	16.0	69	27	0.26	380	20	0.70	46
431103108172501		08-07-90	7.5	9.5	95	28	6.1	200	9	1.7	345
431215108435501		08-08-90	7.3	16.0	190	64	7.6	69	2	1.1	200
431252108290502		08-08-90	8.5	14.0	58	23	0.09	300	17	0.40	18
431441108360601		08-08-90	7.5	14.5	150	45	8.5	38	1	2.3	158

QUALITY OF GROUND WATER

FREMONT COUNTY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)
421540108211201		06-23-90	3.6	0.9	0.2	8.4	264	0.36	0.3	<0.01
421555108500201		06-19-90	200	11	0.9	15	617	0.84	<0.1	<0.01
421829108514001		06-19-90	11	0.3	0.2	19	126	0.17	0.1	<0.01
421939108211601		06-21-90	51	27	2.9	24	308	0.42	<0.1	<0.01
422010108452401		06-22-90	13	9.2	0.5	38	181	0.25	0.3	0.02
422014108562201		06-22-90	16	10	0.5	39	188	0.26	0.4	0.01
422212108102401		06-24-90	49	14	0.4	45	306	0.42	0.2	0.04
422418108225901		06-21-90	17	1.8	0.2	21	160	0.22	0.2	<0.01
422436108534901		06-19-90	16	10	0.4	16	180	0.24	0.2	<0.01
422659108302701		06-20-90	9.1	0.4	0.2	14	92	0.13	0.3	<0.01
422838108285201		06-20-90	6.5	0.1	0.2	15	99	0.13	0.4	0.10
422924108394101		06-20-90	6.0	0.1	0.1	16	81	0.11	0.2	<0.01
422934108102501		06-24-90	220	120	1.8	28	714	0.97	<0.1	<0.01
423247108184501		08-10-90	21	4.7	0.4	39	224	0.30	0.3	0.02
423321108355001		08-02-90	2.0	3.6	0.3	32	247	0.34	0.3	0.04
423336108420201		06-23-90	20	1.1	<0.1	8.9	228	0.31	0.4	<0.01
423511108241501		08-03-90	29	6.2	0.4	12	215	0.29	0.2	0.02
423542108294701		08-04-90	150	7.9	0.4	12	397	0.54	<0.1	0.02
423745108325701		08-05-90	190	5.1	0.4	21	492	0.67	<0.1	0.10
423831108291401		08-04-90	47	4.7	0.4	12	258	0.35	0.2	0.01
423919108354101		08-02-90	67	4.4	0.2	10	223	0.30	<0.1	<0.01
424039108404001		08-07-90	16	3.2	0.4	12	208	0.28	0.2	<0.01
424208108383201		08-02-90	340	10	0.6	22	525	0.71	0.8	0.01
424253108385501		08-06-90	850	14	1.0	8.8	1500	2.04	0.2	0.10
424340108384801		08-06-90	740	9.2	1.1	17	1340	1.82	4.4	0.03
424344108444001		08-06-90	480	<0.1	0.4	15	--	--	0.4	<0.01
424617108394001		08-06-90	19	3.4	0.9	17	352	0.48	0.3	0.02
424702108423001		08-09-90	91	5.9	0.4	13	280	0.38	0.2	<0.01
424802108430701		08-09-90	27	4.9	0.5	11	210	0.29	<0.1	0.30
424822108440201		08-09-90	2700	61	0.6	9.9	4250	5.78	<0.1	<0.01
424948108513001		07-25-90	2.9	2.4	<0.1	8.3	212	0.29	0.2	<0.01
424957108511501		07-25-90	11	2.2	0.1	8.3	196	0.27	0.2	0.01
425018108521001		07-25-90	3.3	2.3	<0.1	8.1	216	0.29	0.2	0.01
430606108304401		08-08-90	740	38	1.0	9.7	1220	1.66	<0.1	<0.01
431103108172501		08-07-90	170	9.1	0.7	6.5	658	0.89	6.5	0.02
431215108435501		08-08-90	110	12	0.3	9.9	415	0.56	4.8	<0.01
431252108290502		08-08-90	600	60	1.1	9.4	1000	1.37	<0.1	<0.01
431441108360601		08-08-90	67	5.6	0.5	8.6	274	0.37	0.8	<0.01

STATION	NUMBER	LOCAL IDENT- IFIER	SITE	DATE	TIME	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)
422418108225901	28-097-15add01		SP	06-21-90	1400	51	<0.5

STATION	NUMBER	DATE	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)
422418108225901	06-21-90		<1.0	<5	<3	<10	10	<10	14

STATION	NUMBER	DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
422418108225901	06-21-90		<1	<10	<10	<1.0	140	6	<3

QUALITY OF GROUND WATER

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GOSHEN COUNTY

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	LOCAL IDENT- IFIER	GEO- LOGIC UNIT	SITE	DATE	TIME	DEPTH OF WELL, TOTAL (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)
414028104071801	20N 060W 30BDD01		111ALVM	GW	08-27-90	1100	120.00	665	8.1
420455104155401	24-062-01bcc01			GW	09-05-90	1315	--	1080	7.5
420851104213501	25-062-07ccc01			GW	08-31-90	1130	--	1000	7.3
422958104134801	29N 061W 07DB 01		122ARKR	GW	08-15-90	1030	332.00	370	8.2

STATION	NUMBER	DATE	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
414028104071801		08-27-90	13.0	200	55	15	49	2	39	220	38
420455104155401		09-05-90	16.0	360	100	27	75	2	12	240	250
420851104213501		08-31-90	18.0	410	120	26	53	1	11	250	220
422958104134801		08-15-90	15.0	120	33	10	17	0.7	8.2	120	30

STATION	NUMBER	DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
414028104071801		08-27-90	45	0.8	48	455	0.62	7.5	0.05	<5
420455104155401		09-05-90	16	0.6	41	681	0.93	3.4	0.10	<5
420851104213501		08-31-90	23	0.5	43	665	0.90	4.1	0.05	<5
422958104134801		08-15-90	6.0	1.0	58	252	0.34	3.9	0.05	<5

STATION	NUMBER	LOCAL IDENT- IFIER	SITE	DATE	TIME	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)
414028104071801	20N 060W 30BDD01		GW	08-27-90	1100	<0.01
420455104155401	24-062-01bcc01		GW	09-05-90	1315	<0.01
420851104213501	25-062-07ccc01		GW	08-31-90	1130	<0.01
422958104134801	29N 061W 07DB 01		GW	08-15-90	1030	<0.01

STATION	NUMBER	DATE	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2,4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)
414028104071801		08-27-90	<0.01	<0.01	<0.01	<0.01	<0.01
420455104155401		09-05-90	<0.01	<0.01	0.04	<0.01	<0.01
420851104213501		08-31-90	<0.01	<0.01	0.02	<0.01	<0.01
422958104134801		08-15-90	<0.01	<0.01	<0.01	<0.01	<0.01

QUALITY OF GROUND WATER

HOT SPRINGS COUNTY

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	LOCAL IDENT- I- FIER	GEO- LOGIC UNIT	SITE	DATE	TIME	DEPTH OF WELL, TOTAL (FEET)	FLOW RATE, INSTAN- TANEOUS (G/M)	FLOW RATE (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)
433158107472801	41-091-09cca01		217MWRV	SP	08-23-90	1530	--	1.5	--	565
433335107395801	41-090-04baa01		211FRNR	SP	09-14-90	1500	--	38	--	435
433358107444001	42-091-35acc01		211FRNR	SP	09-14-90	1040	--	9.0	--	2350
433712107505101	42-092-12cda01		211CODY	GW	08-22-90	1500	380.00	--	4.0	1750
433817107523301	42-092-02cbb01		211FRNR	GW	08-22-90	0900	600.00	--	2.2	1580
433829108142101	42-095-03aac01		217CLVL	GW	07-27-90	0800	82.00	--	8.0	2240
434040107533001	43-092-22cdb01		211FRNR	GW	08-22-90	1300	--	--	9.0	1170
434341107542401	43-092-04bda01		211FRNR	GW	08-22-90	1100	--	--	8.5	1630
434341108511201	43-100-04aad01		124ABRK	SP	07-24-90	1530	--	0.5	--	378
434355108001701	44-093-34dcc01		211CODY	GW	08-23-90	1830	1100	--	2.7	1850
434410108011601	44-093-33dac01		211CODY	GW	08-23-90	2000	1100	--	1.2	10300
434410108014101	44-093-33cad01		211CODY	GW	07-27-90	1300	--	--	7.1	2060
434707108383101	44-098-17abc01		111ALVM	GW	07-23-90	1630	114.50	--	15	1350
435002108411401	45-099-25ccd01		211MVRD	SP	07-25-90	1700	--	9.5	--	1760
435006108292801	45-097-28dad01		211MVRD	GW	07-23-90	1500	150.50	--	5.0	2590
435020108280101	45-097-26bcd01		211MVRD	GW	07-24-90	0830	156.40	--	50	6800
435053108441401	45-099-28aba01		211MVRD	GW	07-25-90	1010	90.00	--	5.0	1020
435101108421701	45-099-23cab01		111ALVM	SP	07-25-90	1300	--	1.0	--	1060
435147108210601	45-096-15dda01		125FRUN	GW	09-13-90	1330	100.00	--	5.0	4750
435152108291201	45-097-15cbd01		211MVRD	GW	07-26-90	1220	259.90	--	5.0	1550
435202108311001	45-097-17acc01		125FRUN	SP	07-26-90	1645	--	2.0	--	2450
435206108524501	45-100-17acd01		111TRRC	GW	06-21-90	1815	84.00	--	2.0	331
435256108455401	45-099-08bdc01		124ACRS	SP	06-21-90	1550	--	1.0	--	412
435425108431101	46-099-34dcb01		211MVRD	GW	06-21-90	1200	310.00	--	10	1460
435552108374501	46-098-28bbb01		211CODY	GW	06-20-90	1645	28.00	--	5.0	1920
435618108434901	46-099-22cbc01		211MVRD	SP	06-20-90	1825	--	8.0	--	1210
435622108495701	46-100-22daa01		211MTTS	GW	06-22-90	1320	100.00	--	3.5	1400
435946108443501	47-099-33cad01		211MTTS	GW	06-19-90	1747	135.00	--	10	2000
440017108381701	47-098-32aba01		211MTTS	GW	06-19-90	1047	101.00	--	10	1840
440110108364301	47-098-28aaa01		125FRUN	GW	06-18-90	1746	200.00	--	12	3700
440413108441301	47-099-04dab01		211MTTS	GW	06-20-90	0900	209.00	--	20	3790

HOT SPRINGS COUNTY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	DATE	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
433158107472801		08-23-90	7.9	9.5	75	17	8.0	89	4	0.6	167	120
433335107395801		09-14-90	8.2	6.0	230	56	21	5.1	0.1	2.9	187	65
433358107444001		09-14-90	7.4	7.0	1000	200	130	150	2	1.7	334	1000
433712107505101		08-22-90	8.5	13.0	9	2.8	0.45	380	56	0.9	325	510
433817107523301		08-22-90	9.0	14.5	4	1.1	0.21	370	85	0.8	660	170
433829108142101		07-27-90	7.5	12.0	740	170	76	190	3	5.2	135	990
434040107533001		08-22-90	9.2	16.0	3	1.1	0.07	270	67	0.6	248	320
434341107542401		08-22-90	9.2	18.0	2	0.83	0.06	460	130	0.8	694	280
434341108511201		07-24-90	7.5	9.0	29	7.5	2.4	76	6	0.4	152	36
434355108001701		08-23-90	9.3	19.5	3	1.1	0.16	400	94	0.7	401	450
434410108011601		08-23-90	8.3	15.5	57	10	7.7	3400	200	7.4	574	5900
434410108014101		07-27-90	9.1	29.0	4	1.3	0.20	460	99	1.0	575	470
434707108383101		07-23-90	7.8	12.5	110	28	9.8	290	12	2.0	530	180
435002108411401		07-25-90	8.0	9.5	360	66	47	280	6	8.7	456	540
435006108292801		07-23-90	7.6	12.5	650	140	72	350	6	6.7	365	1100
435020108280101		07-24-90	7.4	10.5	2100	380	280	930	9	11	452	3200
435053108441401		07-25-90	7.7	12.0	370	96	31	98	2	3.2	227	190
435101108421701		07-25-90	7.6	13.0	390	92	38	90	2	4.3	289	260
435147108210601		09-13-90	7.1	16.5	1300	270	160	610	7	6.5	465	1700
435152108291201		07-26-90	7.8	12.0	50	12	4.9	300	18	2.5	549	240
435202108311001		07-26-90	7.5	14.0	1300	140	220	91	1	14	611	870
435206108524501		06-21-90	9.2	7.0	33	6.7	3.9	60	5	0.8	138	24
435256108455401		06-21-90	8.0	15.0	93	30	4.5	57	3	0.6	137	77
435425108431101		06-21-90	7.3	9.5	790	120	120	43	0.7	6.8	711	200
435552108374501		06-20-90	7.9	10.0	240	28	42	360	10	2.7	611	460
435618108434901		06-20-90	7.6	9.5	430	80	56	98	2	4.2	482	190
435622108495701		06-22-90	7.3	8.0	580	100	81	100	2	11	550	250
435946108443501		06-19-90	8.1	16.0	380	35	70	310	7	7.0	809	470
440017108381701		06-19-90	7.7	11.0	550	80	86	200	4	4.0	444	530
440110108364301		06-18-90	8.0	22.0	620	99	90	680	12	7.9	587	1300
440413108441301		06-20-90	8.7	10.0	45	11	4.3	920	60	4.8	816	1000

QUALITY OF GROUND WATER

HOT SPRINGS COUNTY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)
433158107472801		08-23-90	2.3	0.5	24	362	0.1	0.14	30	1	23	20
433335107395801		09-14-90	3.1	0.8	18	284	<0.1	0.03	--	--	--	20
433358107444001		09-14-90	4.6	1.1	31	1720	<0.1	<0.01	<10	<1	<100	70
433712107505101		08-22-90	2.1	0.6	18	1110	<0.1	0.19	<10	<1	12	80
433817107523301		08-22-90	18	2.9	10	971	0.3	0.25	20	<1	17	1300
433829108142101		07-27-90	12	0.5	11	1540	<0.1	<0.01	20	1	<100	370
434040107533001		08-22-90	2.9	0.3	14	758	<0.1	0.08	--	--	--	30
434341107542401		08-22-90	14	2.8	14	1190	<0.1	0.08	--	--	--	1000
434341108511201		07-24-90	2.9	0.3	18	236	0.2	0.14	180	8	12	70
434355108001701		08-23-90	14	0.8	16	1120	0.3	0.06	20	<1	35	180
434410108011601		08-23-90	280	<0.1	11	9960	<0.1	0.05	--	--	--	2400
434410108014101		07-27-90	22	2.9	22	1330	<0.1	0.04	30	<1	<100	970
434707108383101		07-23-90	17	1.1	20	867	<0.1	0.01	--	--	--	250
435002108411401		07-25-90	7.3	0.9	10	1230	<0.1	<0.01	--	--	--	260
435006108292801		07-23-90	42	1.0	9.8	1940	<0.1	<0.01	10	6	<100	290
435020108280101		07-24-90	420	1.1	12	5510	<0.1	<0.01	10	<1	<100	960
435053108441401		07-25-90	120	0.8	9.9	688	0.5	<0.01	--	--	--	120
435101108421701		07-25-90	9.8	1.3	13	684	0.4	0.01	--	--	--	130
435147108210601		09-13-90	370	0.7	16	3420	2.5	<0.01	<10	<1	100	920
435152108291201		07-26-90	5.9	0.2	9.7	907	0.4	<0.01	10	<1	12	170
435202108311001		07-26-90	21	0.7	11	1730	0.1	<0.01	10	<1	<100	110
435206108524501		06-21-90	0.60	0.3	1.8	181	<0.1	<0.01	<10	<1	18	40
435256108455401		06-21-90	3.7	0.2	7.7	265	0.5	<0.01	10	2	19	70
435425108431101		06-21-90	9.9	0.5	11	938	<0.1	<0.01	10	<1	30	60
435552108374501		06-20-90	24	1.8	17	1310	0.5	<0.01	10	<1	11	610
435618108434901		06-20-90	7.8	0.4	14	741	0.3	<0.01	10	<1	24	80
435622108495701		06-22-90	43	0.1	6.7	936	3.0	<0.01	<10	<1	19	100
435946108443501		06-19-90	13	0.9	9.7	1400	<0.1	<0.01	<10	<1	18	130
440017108381701		06-19-90	16	0.5	14	1200	<0.1	<0.01	10	<1	19	110
440110108364301		06-18-90	29	0.7	8.6	2570	<0.1	<0.01	20	<1	<100	170
440413108441301		06-20-90	22	0.7	5.8	2460	<0.1	<0.01	10	<1	<100	210

QUALITY OF GROUND WATER

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HOT SPRINGS COUNTY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	DATE	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
433158107472801	08-23-90	<1.0	<1	1	23	1	5	<0.1	<1	<1.0	<3	
433335107395801	09-14-90	--	--	--	<3	--	5	--	<1	--	--	
433358107444001	09-14-90	<1.0	<1	<1	850	<1	190	0.2	<1	<1.0	<10	
433712107505101	08-22-90	<1.0	1	3	40	<1	21	0.1	<1	<1.0	<3	
433817107523301	08-22-90	<1.0	1	1	33	<1	6	<0.1	<1	<1.0	<3	
433829108142101	07-27-90	<1.0	3	2	1700	1	170	0.2	<1	<1.0	40	
434040107533001	08-22-90	--	--	--	19	--	9	--	--	--	--	
434341107542401	08-22-90	--	--	--	52	--	4	--	<1	--	--	
434341108511201	07-24-90	2.0	1	4	250	1	17	0.2	7	1.0	3	
434355108001701	08-23-90	<1.0	1	<1	36	<1	9	0.6	<1	<1.0	<3	
434410108011601	08-23-90	--	--	--	50	--	120	--	<1	--	--	
434410108014101	07-27-90	<1.0	2	1	<10	<1	<10	0.6	<2	<1.0	<10	
434707108383101	07-23-90	--	--	--	45	--	600	--	<2	--	--	
435002108411401	07-25-90	--	--	--	19	--	86	--	<2	--	--	
435006108292801	07-23-90	<1.0	<1	1	1900	<1	120	0.2	<2	<1.0	10	
435020108280101	07-24-90	<1.0	2	1	60	<1	180	0.3	6	<1.0	20	
435053108441401	07-25-90	--	--	--	1100	--	39	--	3	--	--	
435101108421701	07-25-90	--	--	--	9	--	25	--	3	--	--	
435147108210601	09-13-90	<1.0	2	16	80	<1	20	<0.1	6	<1.0	140	
435152108291201	07-26-90	1.0	2	1	190	<1	13	0.2	<2	<1.0	6	
435202108311001	07-26-90	<1.0	2	2	10	1	<10	0.2	<2	<1.0	<10	
435206108524501	06-21-90	1.0	<1	2	30	<1	7	<0.1	<1	1.0	34	
435256108455401	06-21-90	<1.0	<1	<1	10	<1	16	<0.1	2	2.0	6	
435425108431101	06-21-90	<1.0	<1	1	98	1	200	<0.1	1	2.0	150	
435552108374501	06-20-90	<1.0	2	260	15	<1	3	<0.1	8	<1.0	84	
435618108434901	06-20-90	<1.0	<1	10	7	<1	<1	<0.1	2	<1.0	48	
435622108495701	06-22-90	<1.0	1	10	610	<1	16	<0.1	<1	2.0	34	
435946108443501	06-19-90	<1.0	2	4	13	<1	45	<0.1	<1	<1.0	99	
440017108381701	06-19-90	<1.0	2	1	41	1	130	<0.1	<1	1.0	36	
440110108364301	06-18-90	<1.0	3	1	20	<1	20	<0.1	<1	<1.0	<10	
440413108441301	06-20-90	<1.0	1	<1	30	<1	50	<0.1	<1	<1.0	<10	

QUALITY OF GROUND WATER

LARAMIE COUNTY

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	LOCAL IDENT- IFIER	GEO- LOGIC UNIT	SITE	DATE	TIME	DEPTH OF WELL, TOTAL (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)
410050104224401	12-063-13abc01			GW	08-29-90	1145	--	520	7.9
410135104183500	12N 062W 03CCC		111TRRC	GW	08-29-90	0930	--	460	7.9
410230104065501	12-060-05baa01			GW	09-07-90	1100	--	600	7.7
410835104105601	14-061-34aab01			GW	09-07-90	0900	--	460	7.9
411143104160801	14N 062W 12BCD02			GW	08-10-90	1000	100.00	460	7.4
411222104291701	14N 064W 01DBA01		121OGLL	GW	08-10-90	1345	225.00	370	7.6
411851104362001	16N 065W 36ACB01		121OGLL	GW	08-27-90	1300	350.00	365	8.1
411905104231801	16N 063W 26DDD01		121OGLL	GW	08-27-90	0845	25.00	330	8.2
411941104041401	16N 060W 27ABC01		121OGLL	GW	08-02-90	0900	451.00	310	7.2
412523104210701	17N62W19DBC		121OGLL	GW	08-02-90	1330	--	355	7.3
413634104475901	19N66W17CDC		122ARKR	GW	08-20-90	0730	--	400	8.2

STATION	NUMBER	DATE	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
410050104224401		08-29-90	21.0	200	62	12	15	0.5	4.0	130	25
410135104183500		08-29-90	13.0	190	61	9.7	10	0.3	4.2	140	21
410230104065501		09-07-90	13.5	190	51	16	48	2	8.9	160	76
410835104105601		09-07-90	13.0	190	54	14	14	0.4	3.5	140	26
411143104160801		08-10-90	12.5	210	65	11	14	0.4	4.6	190	19
411222104291701		08-10-90	13.0	160	45	11	13	0.5	5.0	140	16
411851104362001		08-27-90	14.0	--	--	--	--	--	--	--	--
411905104231801		08-27-90	12.5	140	44	7.6	8.1	0.3	5.0	150	11
411941104041401		08-02-90	13.0	110	32	8.4	16	0.7	4.3	100	18
412523104210701		08-02-90	13.5	140	45	7.9	9.2	0.3	3.8	130	8.1
413634104475901		08-20-90	12.0	170	54	8.7	16	0.5	4.0	170	10

STATION	NUMBER	DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
410050104224401		08-29-90	19	0.5	50	302	0.41	8.3	0.07	<5
410135104183500		08-29-90	12	1.3	37	268	0.36	6.2	0.01	<1
410230104065501		09-07-90	34	0.7	56	403	0.55	3.8	0.10	<5
410835104105601		09-07-90	13	0.8	50	283	0.39	5.4	0.05	<5
411143104160801		08-10-90	4.4	1.1	46	286	0.39	1.6	0.06	<5
411222104291701		08-10-90	4.5	0.8	47	242	0.33	3.6	0.05	<5
411851104362001		08-27-90	--	--	--	--	--	--	--	--
411905104231801		08-27-90	3.2	0.6	50	227	0.31	1.7	0.05	<5
411941104041401		08-02-90	4.2	0.7	50	203	0.28	2.2	<0.03	<5
412523104210701		08-02-90	5.0	0.7	50	221	0.30	3.1	0.05	<5
413634104475901		08-20-90	4.8	0.7	40	246	0.33	1.3	0.05	<5

QUALITY OF GROUND WATER

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LARAMIE COUNTY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	LOCAL IDENT- I- FIER	SITE	DATE	TIME	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)
410050104224401	12-063-13abc01		GW	08-29-90	1145	<0.01
410135104183500	12N 062W 03CCC		GW	08-29-90	0930	<0.01
410230104065501	12-060-05baa01		GW	09-07-90	1100	<0.01
410835104105601	14-061-34aab01		GW	09-07-90	0900	<0.01
411143104160801	14N 062W 12BCD02		GW	08-10-90	1000	<0.01
411222104291701	14N 064W 01DBA01		GW	08-10-90	1345	<0.01
411851104362001	16N 065W 36ACB01		GW	08-27-90	1300	<0.01
411905104231801	16N 063W 26DDD01		GW	08-27-90	0845	<0.01
411941104041401	16N 060W 27ABC01		GW	08-02-90	0900	<0.01
412523104210701	17N62W19DBC		GW	08-02-90	1330	<0.01
413634104475901	19N66W17CDC		GW	08-20-90	0730	<0.01

STATION	NUMBER	DATE	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)
410050104224401		08-29-90	0.02	<0.01	0.13	<0.01	<0.01
410135104183500		08-29-90	<0.01	<0.01	0.05	<0.01	<0.01
410230104065501		09-07-90	<0.01	<0.01	<0.01	<0.01	<0.01
410835104105601		09-07-90	<0.01	<0.01	<0.01	<0.01	<0.01
411143104160801		08-10-90	<0.01	<0.01	<0.01	<0.01	<0.01
411222104291701		08-10-90	<0.01	<0.01	<0.01	<0.01	<0.01
411851104362001		08-27-90	<0.01	<0.01	<0.01	<0.01	<0.01
411905104231801		08-27-90	<0.01	<0.01	<0.01	<0.01	<0.01
411941104041401		08-02-90	<0.01	<0.01	<0.01	<0.01	<0.01
412523104210701		08-02-90	0.14	<0.01	<0.01	<0.01	<0.01
413634104475901		08-20-90	<0.01	<0.01	<0.01	<0.01	<0.01

QUALITY OF GROUND WATER

NATRONA COUNTY

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	LOCAL IDENT- I- FIER	GEO- LOGIC UNIT	SITE	DATE	TIME	DEPTH OF WELL, TOTAL (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)
423536106392401	30-82-03ccc01		111ALVM	GW	09-05-90	0845	30.00	4000	7.4
423648106375701	31-81-35bdc01		111ALVM	GW	09-05-90	0915	100.00	1550	7.3
424440106315601	GOOSE EGG SPRING NEAR GOOS			SP	10-11-89	1300	--	655	7.3
				SP	08-31-90	0845	--	--	--

STATION	NUMBER	DATE	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)
423536106392401		09-05-90	19.0	--	--	--	--	--	--	--	--
423648106375701		09-05-90	20.0	--	610	150	56	110	2	11	330
424440106315601		10-11-89	15.5	0.6	280	77	22	27	0.7	1.8	180
		08-31-90	15.5	1.2	280	77	22	23	0.6	2.5	170

STATION	NUMBER	DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
423536106392401		09-05-90	--	--	--	--	--	--	--	--	--
423648106375701		09-05-90	390	24	0.9	40	1000	1.37	5.6	0.05	7
424440106315601		10-11-89	73	41	0.3	13	365	0.50	0.4	<0.03	<1
		08-31-90	84	46	0.3	12	370	0.50	0.2	<0.03	<1

STATION	NUMBER	LOCAL IDENT- I- FIER	SITE	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)
424440106315601	GOOSE EGG SPRING NEAR GOOS		SP	10-11-89	1300	16	--	3	40	<1.0
			SP	08-31-90	0845	18	<10	3	40	<1.0

STATION	NUMBER	DATE	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
424440106315601		10-11-89	1	2	5	<1	<1	0.2	<1	1.0	<3
		08-31-90	<1	2	10	<1	<10	<0.1	<1	<1.0	10

QUALITY OF GROUND WATER

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NATRONA COUNTY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	LOCAL IDENT- I- FIER	SITE	DATE	TIME	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)
423536106392401	30-82-03ccc01		GW	09-05-90	0845	<0.01
423648106375701	31-81-35bdc01		GW	09-05-90	0915	<0.01

STATION	NUMBER	DATE	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2,4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)
423536106392401		09-05-90	<0.01	<0.01	0.01	<0.01	<0.01
423648106375701		09-05-90	<0.01	<0.01	<0.01	<0.01	<0.01

PLATTE COUNTY

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	LOCAL IDENT- I- FIER	GEO- LOGIC UNIT	SITE	DATE	TIME	DEPTH OF WELL, TOTAL (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)
420046104552401	24N 067W 32BBC01		122ARKR	GW	08-08-90	1100	113.00	950	7.5
420224104531601	24N 067W 21ADC01		122ARKR	GW	08-08-90	1300	61.50	1450	7.6
420244104534601	24-067-16cdd01			GW	09-05-90	1600	--	970	7.8
420523104563801	25N67W31CCD		122ARKR	GW	08-13-90	1330	43.00	1420	7.5
420523104563902	25N67W31CCC02		111ALVM	GW	08-13-90	1100	512.00	710	7.7
421733105042201	27N69W24DCC COTTONWOOD NO.		111ALVM	GW	08-07-90	1015	--	375	6.8
422818105013501	29N 068W 21BCC01		111ALVM	GW	08-07-90	1315	41.00	418	7.2

STATION	NUMBER	DATE	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
420046104552401		08-08-90	15.0	440	130	29	48	1	5.6	240	230
420224104531601		08-08-90	12.5	490	140	33	110	2	9.0	320	300
420244104534601		09-05-90	14.0	390	110	28	55	1	5.4	220	240
420523104563801		08-13-90	15.0	500	120	48	57	1	1.5	280	270
420523104563902		08-13-90	15.0	310	83	25	17	0.4	5.4	160	150
421733105042201		08-07-90	14.0	110	34	6.6	31	1	5.3	160	10
422818105013501		08-07-90	15.0	170	45	14	20	0.7	4.0	180	17

STATION	NUMBER	DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
420046104552401		08-08-90	26	0.8	32	657	0.89	2.6	0.04	<5
420224104531601		08-08-90	30	0.8	37	868	1.18	3.8	0.05	<5
420244104534601		09-05-90	19	0.8	35	641	0.87	3.7	0.06	<5
420523104563801		08-13-90	26	1.1	21	727	0.99	3.3	<0.03	<5
420523104563902		08-13-90	18	0.5	53	461	0.63	3.0	0.06	<5
421733105042201		08-07-90	1.8	0.5	22	207	0.28	--	0.03	<5
422818105013501		08-07-90	2.1	0.7	17	229	0.31	0.2	<0.03	<5

QUALITY OF GROUND WATER

PLATTE COUNTY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	LOCAL IDENT- I- FIER	SITE	DATE	TIME	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)
420046104552401	24N 067W 32BBC01		GW	08-08-90	1100	<0.01
420224104531601	24N 067W 21ADC01		GW	08-08-90	1300	<0.01
420244104534601	24-067-16cdd01		GW	09-05-90	1600	<0.01
420523104563801	25N67W31CCD		GW	08-13-90	1330	<0.01
420523104563902	25N67W31CCC02		GW	08-13-90	1100	<0.01
421733105042201	27N69W24DCC COTTONWOOD NO.		GW	08-07-90	1015	<0.01
422818105013501	29N 068W 21BCC01		GW	08-07-90	1315	<0.01

STATION	NUMBER	DATE	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)
420046104552401		08-08-90	<0.01	<0.01	<0.01	<0.01	<0.01
420224104531601		08-08-90	<0.01	<0.01	<0.01	<0.01	<0.01
420244104534601		09-05-90	<0.01	<0.01	0.03	<0.01	<0.01
420523104563801		08-13-90	<0.01	<0.01	<0.01	<0.01	<0.01
420523104563902		08-13-90	<0.01	<0.01	<0.01	<0.01	<0.01
421733105042201		08-07-90	<0.01	<0.01	<0.01	<0.01	<0.01
422818105013501		08-07-90	<0.01	<0.01	<0.01	<0.01	<0.01

WESTON COUNTY

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	LOCAL IDENT- I- FIER	GEO- LOGIC UNIT	SITE	DATE	TIME	DEPTH OF WELL, TOTAL (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)
440640104450001	48 66 26CAD01		111ALVM	GW	10-31-89	0820	27.00	1500	6.9
440632104455603	48 66 26CCB03		211FXHL	GW	10-31-89	0940	160.00	760	7.5
440642104443802	48 66 26DBC02		111ALVM	GW	08-16-90	1035	22.00	2650	7.2
440636104451804	T48N-R66W-S26CBD		211FXHL	GW	08-16-90	0920	--	1140	9.5

STATION	NUMBER	DATE	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
440640104450001		10-31-89	10.0	500	110	55	190	4	2.8	390	380
440632104455603		10-31-89	10.0	270	65	26	65	2	2.5	290	47
440642104443802		08-16-90	10.5	980	210	110	280	4	4.1	400	920
440636104451804		08-16-90	10.5	10	2.4	0.90	250	35	3.9	270	210

STATION	NUMBER	DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
440640104450001		10-31-89	12	0.3	10	1040	1.41	9.5	<0.03	<5
440632104455603		10-31-89	2.8	0.2	10	399	0.54	1.5	<0.03	<5
440642104443802		08-16-90	53	0.2	8.6	1930	2.62	23.0	<0.03	8
440636104451804		08-16-90	29	0.3	1.9	661	0.90	0.1	0.11	<5

QUALITY OF GROUND WATER

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WESTON COUNTY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	LOCAL IDENT- I- FIER	SITE	DATE	TIME	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)
440640104450001	48 66 26CAD01		GW	10-31-89	0820	<0.01
			GW	12-14-89	0925	<0.01
			GW	01-10-90	1140	<0.10
			GW	02-26-90	0825	<0.01
			GW	04-11-90	1245	<0.01
			GW	05-10-90	1110	<0.01
			GW	06-05-90	1400	<0.01
			GW	07-09-90	1315	<0.01
			GW	08-16-90	1015	<0.01
			GW	09-18-90	0905	<0.01
440632104455603	48 66 26CCB03		GW	10-31-89	0940	<0.01
			GW	12-14-89	0845	<0.01
			GW	01-10-90	1205	<0.01
			GW	02-26-90	0915	<0.01
			GW	05-10-90	1015	<0.01
			GW	06-05-90	1335	<0.01
			GW	08-16-90	0840	<0.01
			GW	09-18-90	0815	<0.01
440642104443802	48 66 26DBC02		GW	04-11-90	1415	0.01
			GW	08-16-90	1035	<0.01
440636104451804	T48N-R66W-S26cbd		GW	04-11-90	1325	0.01
			GW	08-16-90	0920	<0.01

STATION	NUMBER	DATE	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)
440640104450001		10-31-89	12	<0.01	<0.01	<0.01	<0.01
		12-14-89	11	<0.01	<0.01	<0.01	<0.01
		01-10-90	8.1	<0.10	<0.10	<0.10	<0.10
		02-26-90	11	<0.01	<0.01	<0.01	<0.01
		04-11-90	9.9	<0.01	<0.01	<0.01	<0.01
		05-10-90	8.6	<0.01	<0.01	<0.01	<0.01
		06-05-90	10	<0.01	<0.01	<0.01	<0.01
		07-09-90	5.5	<0.01	<0.01	<0.01	<0.01
		08-16-90	9.6	<0.01	0.01	<0.01	<0.01
		09-18-90	6.5	<0.01	0.01	<0.01	<0.01
440632104455603		10-31-89	0.40	<0.01	<0.01	<0.01	<0.01
		12-14-89	0.06	<0.01	<0.01	<0.01	<0.01
		01-10-90	0.30	<0.01	<0.01	<0.01	<0.01
		02-26-90	0.25	<0.01	<0.01	<0.01	<0.01
		05-10-90	0.21	<0.01	<0.01	<0.01	<0.01
		06-05-90	0.10	<0.01	<0.01	<0.01	<0.01
		08-16-90	0.05	<0.01	<0.01	<0.01	<0.01
		09-18-90	0.08	<0.01	<0.01	<0.01	<0.01
440642104443802		04-11-90	0.67	<0.01	<0.01	<0.01	<0.01
		08-16-90	2.7	<0.01	0.19	<0.01	<0.01
440636104451804		04-11-90	0.24	<0.01	<0.01	<0.01	<0.01
		08-16-90	0.23	<0.01	0.32	<0.01	<0.01

QUALITY OF GROUND WATER

FREMONT COUNTY WEED AND PEST DISTRICT STUDY

FREMONT COUNTY

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	LOCAL IDENT- I- FIER	SITE	DATE	TIME	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)
424829108485901	33-100-28abb01		GW	06-19-90	1135	<0.01
			GW	07-24-90	1245	<0.01
			GW	08-29-90	0935	<0.01
			GW	09-20-90	0845	<0.01
424835108475801	33-100-22dcc01		GW	05-31-90	1010	<0.01
424854108480201	33-100-22bbc01		GW	05-31-90	1000	0.01
			GW	06-19-90	1400	<0.01
			GW	07-24-90	1325	<0.01
			GW	08-29-90	1220	<0.01
			GW	09-20-90	0925	<0.01
424902108484201	33-100-21caa01		GW	06-19-90	1330	<0.01
424905108460001	33-100-23cda01		GW	06-28-90	1005	<0.01
			GW	08-29-90	1240	<0.01
			GW	09-20-90	0935	<0.01
424908108485001	33-100-21adb01		GW	06-28-90	1025	<0.01
			GW	07-24-90	1310	<0.01
			GW	08-29-90	1200	<0.01
			GW	09-20-90	0905	<0.01

STATION	NUMBER	DATE	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)
424829108485901		06-19-90	1.4	<0.01	<0.01	<0.01	<0.01
		07-24-90	2.7	<0.01	<0.01	<0.01	<0.01
		08-29-90	2.1	<0.01	0.01	0.05	<0.01
		09-20-90	1.3	<0.01	<0.01	<0.01	<0.01
424835108475801		05-31-90	<0.01	<0.01	<0.01	<0.01	<0.01
424854108480201		05-31-90	0.41	<0.01	<0.01	<0.01	<0.01
		06-19-90	0.80	<0.01	<0.01	<0.01	<0.01
		07-24-90	1.9	<0.01	<0.01	<0.01	<0.01
		08-29-90	0.28	<0.01	0.05	<0.01	<0.01
		09-20-90	0.76	<0.01	<0.01	<0.01	<0.01
424902108484201		06-19-90	2.0	<0.01	<0.01	<0.01	<0.01
424905108460001		06-28-90	0.16	<0.01	<0.01	<0.01	<0.01
		08-29-90	0.21	<0.01	<0.01	<0.01	<0.01
		09-20-90	0.17	<0.01	<0.01	<0.01	<0.01
424908108485001		06-28-90	0.11	<0.01	<0.01	<0.01	<0.01
		07-24-90	0.25	<0.01	<0.01	<0.01	<0.01
		08-29-90	0.12	<0.01	0.01	<0.01	<0.01
		09-20-90	0.09	<0.01	<0.01	<0.01	<0.01

WIND RIVER INDIAN RESERVATION STUDY

FREMONT COUNTY

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	LOCAL IDENT- I- FIER	DEPTH OF WELL, TOTAL (FEET)	GEO- LOGIC UNIT	SITE	DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)
425136108425501	2S-1E-26add02		25.00	111ALVM	GW	08-09-90	970	7.5	11.5
425205108413501	2S-2E-19ccc01		2927	331MDSN	GW	08-02-90	354	7.8	26.0
425456108333701	2S-3E-07aab01		100.00	124WDRV	GW	08-24-90	1140	8.2	--
425457108333401	2S-3E-07aaa01		140.00	124WDRV	GW	07-24-90	1210	8.2	--
425611108303601	1S-3E-34bad02		38.00	111ALVM	GW	07-24-90	1440	7.4	10.0
425729108282601	1S-3E-24cad01		235.00	124WDRV	GW	07-20-90	815	8.8	10.0
425744108291601	1S-3E-23acc01		--	124WDRV	GW	07-23-90	630	9.0	12.5
425811108321901	1S-3E-17ddd01		85.00	124WDRV	GW	07-20-90	812	8.8	9.5
425816108521201	1S-1W-15cca01		100.00	211FRNR	GW	06-26-90	7650	7.8	11.0
425844108332401	1S-3E-17acb01		285.00	124WDRV	GW	06-27-90	752	7.9	12.0
425852108294601	1S-3E-14bbc01		447.00	124WDRV	GW	06-26-90	2160	8.5	12.0
425853108355301	1S-2E-14aaa01		62.00	124WDRV	GW	06-26-90	1400	7.6	9.5
425856108322701	1S-3E-17aab01		265.00	124WDRV	GW	06-27-90	1120	8.6	12.5
425901108253901	1S-4E-08dca01		336.00	124WDRV	GW	07-23-90	788	9.1	11.5
425901108373001	1S-2E-10dcc02		60.00	124WDRV	GW	06-27-90	1630	7.6	12.5
425902108290101	1S-3E-11dcd01		650.00	124WDRV	GW	08-07-90	638	9.0	13.5
425904108244902	1S-4E-09cdb01		515.00	124WDRV	GW	07-24-90	872	8.8	--
425905108253101	1S-4E-08dcd01		400.00	124WDRV	GW	07-23-90	730	9.0	12.0
425909108370201	1S-2E-10dda01		82.00	124WDRV	GW	06-27-90	1630	7.6	9.5
425937108241001	1S-4E-09adb02		270.00	124WDRV	GW	10-17-89	948	8.8	12.0
425937108241201	1S-4E-09adb01		405.00	124WDRV	GW	10-17-89	721	9.0	12.0
430029108500501	1S-2W-02aad01		--	317TSLP	SP	10-16-89	1010	7.2	43.5
430105108581501	1N-2W-26ccc01		48.00	111ALVM	GW	07-18-90	163	7.9	13.5
430108108573401	1N-2W-35acd01		80.00	211FRNR	GW	07-18-90	1320	7.8	10.5
430111108571801	1N-2W-35adc02		56.50	111ALVM	GW	07-18-90	291	8.2	9.5
430122108545501	1N-1W-31aac01		80.00	111ALVM	GW	07-18-90	721	8.9	11.0
430129108475901	1N-1E-31aba01		24.00	111ALVM	GW	08-07-90	458	8.0	18.5
430148108582201	1N-2W-27dad01		26.00	111ALVM	GW	07-17-90	116	7.5	14.0
430149108582101	1N-2W-27dad02		--	111ALVM	GW	07-17-90	338	7.1	12.0
430154108570601	1N-2W-25cbb02		--	111ALVM	GW	07-17-90	418	7.6	12.0
430200108571301	1N-2W-26acc01		--	111ALVM	GW	07-17-90	341	7.6	11.0
430208108575501	1N-2W-26bdb01		72.00	111ALVM	GW	07-17-90	339	7.2	10.5
430537109023101	2N-2W-31cda03		85.00	211FRNR	GW	07-19-90	1720	7.6	8.5
430722109002901	2N-2W-28bcd01		127.00	124WDRV	GW	07-19-90	1580	8.9	13.5
430729108584401	2N-2W-27abc01		65.00	124WDRV	GW	07-19-90	1190	7.5	10.0
430833108554801	2N-1W-18ccc01		4212	331MDSN	GW	08-08-90	1230	7.2	62.0
431324108535301	3N-1W-20aca01		400.00	124WDRV	GW	08-08-90	1030	8.8	11.5
431350108511701	3N-1W-15dda02		310.00	111HLCN	GW	10-16-89	7300	7.0	11.0
431515109204301	3N-5W-10bcb01		--	361BGRN	SP	06-28-90	180	7.7	5.5
431639109263301	4N-6W-35cbd01		--	374FLTD	SP	06-28-90	56	6.7	4.0
431857109185301	4N-5W-14dcd01		--	231CGTR	SP	06-29-90	1200	7.9	11.5
431948109085201	4N-3W-17bba01		35.00	111ALVM	GW	07-26-90	668	7.7	--
432053109162301	4N-4W-08bca01		95.00	124WDRV	GW	07-26-90	202	9.2	12.0
432107109155001	4N-4W-05cba01		140.00	124WDRV	GW	07-26-90	1130	7.7	13.0
432116109244001	4N-6W-01aca01		--	331MDSN	SP	06-29-90	370	7.9	14.0
432159109173201	5N-5W-36daa01		45.00	111ALVM	GW	06-29-90	859	9.7	10.5
432749108255401	6N-4E-29cac01		--		SP	10-18-89	842	7.4	9.5
432802108261201	6N-4E-29bcc01		--		SP	10-18-89	530	7.6	16.0
432847109072401	6N-3W-21dcb01		5454	311PSPR	GW	08-08-90	2390	7.2	9.0
432902109150501	6N-4W-20add01		12.00	111ALVM	GW	07-26-90	549	7.4	11.5
432930108274001	6N-3E-13ddb01		--		SP	10-18-89	297	7.6	9.5
433515109181701	7N-5W-13bdb01		--	124TPTL	SP	10-19-89	314	8.0	7.5
433555109190501	7N-5W-11dbb01		--	124TPTL	SP	10-19-89	380	7.8	6.0

QUALITY OF GROUND WATER
WIND RIVER INDIAN RESERVATION STUDY--Continued

FREMONT COUNTY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	DATE	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
425136108425501		08-09-90	400	96	40	53	1	3.6	219	280
425205108413501		08-02-90	190	47	17	5.3	0.2	2.7	161	27
425456108333701		08-24-90	--	--	--	--	--	--	--	--
425457108333401		07-24-90	54	18	2.2	220	13	1.5	162	280
425611108303601		07-24-90	430	130	26	150	3	1.9	152	430
425729108282601		07-20-90	12	4.8	0.09	180	22	0.3	131	240
425744108291601		07-23-90	6	2.3	0.11	140	24	0.3	171	120
425811108321901		07-20-90	16	6.2	0.18	170	18	0.4	135	200
425816108521201		06-26-90	1000	250	100	1600	22	11	430	3700
425844108332401		06-27-90	190	60	9.3	82	3	1.9	122	230
425852108294601		06-26-90	160	58	3.2	410	14	0.8	71	970
425853108355301		06-26-90	580	150	49	100	2	3.5	270	480
425856108322701		06-27-90	--	--	--	--	--	--	--	--
425901108253901		07-23-90	--	--	--	--	--	--	--	--
425901108373001		06-27-90	330	76	35	240	6	3.4	250	530
425902108290101		08-07-90	14	5.4	0.15	140	16	0.5	161	140
425904108244902		07-24-90	13	4.9	0.15	190	23	0.4	162	240
425905108253101		07-23-90	9	3.3	0.07	160	24	0.3	151	170
425909108370201		06-27-90	480	110	51	190	4	4.0	318	520
425937108241001		10-17-89	17	6.6	0.02	200	21	0.4	114	300
425937108241201		10-17-89	9	3.4	0.08	170	25	0.4	163	190
430029108500501		10-16-89	450	130	30	40	0.8	13	210	270
430105108581501		07-18-90	--	--	--	--	--	--	--	--
430108108573401		07-18-90	--	--	--	--	--	--	--	--
430111108571801		07-18-90	--	--	--	--	--	--	--	--
430122108545501		07-18-90	28	7.9	1.9	160	13	1.2	289	89
430129108475901		08-07-90	--	--	--	--	--	--	--	--
430148108582201		07-17-90	--	--	--	--	--	--	--	--
430149108582101		07-17-90	--	--	--	--	--	--	--	--
430154108570601		07-17-90	--	--	--	--	--	--	--	--
430200108571301		07-17-90	--	--	--	--	--	--	--	--
430208108575501		07-17-90	--	--	--	--	--	--	--	--
430537109023101		07-19-90	460	120	39	220	4	3.0	253	610
430722109002901		07-19-90	26	8.8	0.99	350	30	1.3	285	470
430729108584401		07-19-90	590	140	58	37	0.7	2.0	200	420
430833108554801		08-08-90	580	170	37	40	0.7	15	213	400
431324108535301		08-08-90	18	6.8	0.23	200	21	0.7	49	290
431350108511701		10-16-89	2300	380	340	1200	11	26	929	3900
431515109204301		06-28-90	91	20	10	2.0	0.1	0.9	93	3.6
431639109263301		06-28-90	27	9.0	1.1	1.0	0.1	0.5	27	2.0
431857109185301		06-29-90	580	160	45	41	0.7	1.8	215	420
431948109085201		07-26-90	200	61	11	73	2	1.6	281	38
432053109162301		07-26-90	--	--	--	--	--	--	--	--
432107109155001		07-26-90	500	97	63	63	1	2.8	193	420
432116109244001		06-29-90	190	43	20	4.5	0.1	2.0	175	16
432159109173201		06-29-90	3	0.88	0.21	180	45	0.4	256	130
432749108255401		10-18-89	470	100	53	8.9	0.2	3.6	302	180
432802108261201		10-18-89	280	60	31	6.0	0.2	2.6	194	98
432847109072401		08-08-90	510	130	44	330	6	5.4	347	900
432902109150501		07-26-90	260	80	15	26	0.7	2.8	232	15
432930108274001		10-18-89	150	42	12	5.4	0.2	1.4	139	22
433515109181701		10-19-89	120	31	9.3	29	1	1.8	163	10
433555109190501		10-19-89	150	37	13	34	1	2.2	203	10

QUALITY OF GROUND WATER

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WIND RIVER INDIAN RESERVATION STUDY--Continued

FREMONT COUNTY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)
425136108425501		08-09-90	4.6	0.3	13	623	--	0.2	--	--
425205108413501		08-02-90	5.4	0.5	24	226	--	<0.1	--	--
425456108333701		08-24-90	--	--	--	--	--	--	--	--
425457108333401		07-24-90	79	1.2	7.7	707	--	<0.1	--	--
425611108303601		07-24-90	7.9	0.5	14	862	--	2.3	--	--
425729108282601		07-20-90	10	1.0	8.3	523	--	<0.1	--	--
425744108291601		07-23-90	9.7	0.5	8.7	384	--	<0.1	--	--
425811108321901		07-20-90	26	0.8	9.1	494	--	<0.1	--	--
425816108521201		06-26-90	75	1.4	6.9	6030	--	5.1	--	--
425844108332401		06-27-90	8.5	0.4	11	476	--	<0.1	--	--
425852108294601		06-26-90	17	0.4	5.7	1510	--	<0.1	--	--
425853108355301		06-26-90	17	0.2	15	983	--	1.3	--	--
425856108322701		06-27-90	--	--	--	--	--	--	--	--
425901108253901		07-23-90	--	--	--	--	--	--	--	--
425901108373001		06-27-90	18	1.0	12	1070	--	<0.1	--	--
425902108290101		08-07-90	10	0.6	10	403	--	<0.1	--	--
425904108244902		07-24-90	16	0.7	8.7	558	--	<0.1	--	--
425905108253101		07-23-90	11	1.1	8.8	445	--	<0.1	--	--
425909108370201		06-27-90	10	0.6	16	1090	--	<0.1	--	--
425937108241001		10-17-89	16	1.3	8.0	603	--	<0.1	--	--
425937108241201		10-17-89	9.7	0.8	8.7	483	--	<0.1	--	--
430029108500501		10-16-89	49	2.9	35	714	--	1.4	--	--
430105108581501		07-18-90	--	--	--	--	--	--	--	--
430108108573401		07-18-90	--	--	--	--	--	--	--	--
430111108571801		07-18-90	--	--	--	--	--	--	--	--
430122108545501		07-18-90	5.4	0.1	9.8	451	--	0.6	--	--
430129108475901		08-07-90	--	--	--	--	--	--	--	--
430148108582201		07-17-90	--	--	--	--	--	--	--	--
430149108582101		07-17-90	--	--	--	--	--	--	--	--
430154108570601		07-17-90	--	--	--	--	--	--	--	--
430200108571301		07-17-90	--	--	--	--	--	--	--	--
430208108575501		07-17-90	--	--	--	--	--	--	--	--
430537109023101		07-19-90	9.2	0.5	12	1170	--	<0.1	--	--
430722109002901		07-19-90	7.9	0.4	7.5	1020	--	<0.1	--	--
430729108584401		07-19-90	5.7	0.4	13	800	--	0.9	--	--
430833108554801		08-08-90	46	2.5	40	878	--	<0.1	--	--
431324108535301		08-08-90	77	2.8	9.8	617	--	<0.1	--	--
431350108511701		10-16-89	88	0.4	15	6880	84.0	79.0	7.2	8.8
431515109204301		06-28-90	0.50	0.2	8.6	102	--	0.2	--	--
431639109263301		06-28-90	0.50	0.2	6.0	37	--	<0.1	--	--
431857109185301		06-29-90	9.6	0.1	17	824	--	<0.1	--	--
431948109085201		07-26-90	4.8	0.3	24	382	--	<0.1	--	--
432053109162301		07-26-90	--	--	--	--	--	--	--	--
432107109155001		07-26-90	6.3	0.5	14	783	--	0.1	--	--
432116109244001		06-29-90	5.0	<0.1	11	209	--	0.6	--	--
432159109173201		06-29-90	13	0.2	8.7	487	--	<0.1	--	--
432749108255401		10-18-89	3.1	0.4	14	545	--	0.2	--	--
432802108261201		10-18-89	2.5	0.4	11	328	--	<0.1	--	--
432847109072401		08-08-90	25	0.3	10	1650	--	<0.1	--	--
432902109150501		07-26-90	9.8	<0.1	31	319	--	<0.1	--	--
432930108274001		10-18-89	2.0	0.2	15	186	--	0.6	--	--
433515109181701		10-19-89	1.1	0.2	25	206	--	0.2	--	--
433555109190501		10-19-89	1.2	0.2	25	244	--	<0.1	--	--

QUALITY OF GROUND WATER

WIND RIVER INDIAN RESERVATION STUDY--Continued

FREMONT COUNTY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)
425136108425501		08-09-90	--	<0.01	--	--	--	--	--	--
425205108413501		08-02-90	--	<0.01	--	--	10	--	--	--
425456108333701		08-24-90	--	--	--	--	--	--	--	--
425457108333401		07-24-90	--	<0.01	--	--	--	--	--	--
425611108303601		07-24-90	--	<0.01	--	--	--	--	--	--
425729108282601		07-20-90	--	<0.01	--	--	--	--	--	--
425744108291601		07-23-90	--	<0.01	--	--	--	--	--	--
425811108321901		07-20-90	--	<0.01	--	--	--	--	--	--
425816108521201		06-26-90	--	0.08	--	--	950	--	--	--
425844108332401		06-27-90	--	<0.01	--	--	90	--	--	--
425852108294601		06-26-90	--	<0.01	--	--	150	--	--	--
425853108355301		06-26-90	--	<0.01	--	--	160	--	--	--
425856108322701		06-27-90	--	--	--	--	--	--	--	--
425901108253901		07-23-90	--	--	--	--	--	--	--	--
425901108373001		06-27-90	--	<0.01	--	--	500	--	--	--
425902108290101		08-07-90	--	<0.01	--	--	--	--	--	--
425904108244902		07-24-90	--	<0.01	--	--	160	--	--	--
425905108253101		07-23-90	--	<0.01	--	--	--	--	--	--
425909108370201		06-27-90	--	0.02	--	--	370	--	--	--
425937108241001		10-17-89	--	<0.01	<1	8	190	<1.0	<1	1
425937108241201		10-17-89	--	<0.01	1	11	170	<1.0	<1	<1
430029108500501		10-16-89	--	<0.01	22	49	140	1.0	<1	1
430105108581501		07-18-90	--	--	--	--	--	--	--	--
430108108573401		07-18-90	--	--	--	--	--	--	--	--
430111108571801		07-18-90	--	--	--	--	--	--	--	--
430122108545501		07-18-90	--	0.01	--	--	--	--	--	--
430129108475901		08-07-90	--	--	--	--	--	--	--	--
430148108582201		07-17-90	--	--	--	--	--	--	--	--
430149108582101		07-17-90	--	--	--	--	--	--	--	--
430154108570601		07-17-90	--	--	--	--	--	--	--	--
430200108571301		07-17-90	--	--	--	--	--	--	--	--
430208108575501		07-17-90	--	--	--	--	--	--	--	--
430537109023101		07-19-90	--	<0.01	--	--	--	--	--	--
430722109002901		07-19-90	--	<0.01	--	--	--	--	--	--
430729108584401		07-19-90	--	<0.01	--	--	--	--	--	--
430833108554801		08-08-90	--	<0.01	--	--	--	--	--	--
431324108535301		08-08-90	--	<0.01	--	--	--	--	--	--
431350108511701		10-16-89	16	<0.01	<1	<100	780	<1.0	<1	10
431515109204301		06-28-90	--	<0.01	<1	--	<10	--	--	--
431639109263301		06-28-90	--	0.04	<1	--	<10	--	--	--
431857109185301		06-29-90	--	<0.01	<1	--	310	--	--	--
431948109085201		07-26-90	--	0.04	--	--	--	--	--	--
432053109162301		07-26-90	--	--	--	--	--	--	--	--
432107109155001		07-26-90	--	<0.01	--	--	--	--	--	--
432116109244001		06-29-90	--	<0.01	1	--	20	--	--	--
432159109173201		06-29-90	--	<0.01	--	--	170	--	--	--
432749108255401		10-18-89	--	0.24	<1	--	20	--	--	--
432802108261201		10-18-89	--	<0.01	<1	31	20	<1.0	1	1
432847109072401		08-08-90	--	<0.01	--	--	--	--	--	--
432902109150501		07-26-90	--	0.09	--	--	--	--	--	--
432930108274001		10-18-89	--	0.02	<1	--	20	--	--	--
433515109181701		10-19-89	--	0.01	6	--	20	--	--	--
433555109190501		10-19-89	--	0.13	<1	--	10	--	--	--

QUALITY OF GROUND WATER

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WIND RIVER INDIAN RESERVATION STUDY--Continued

FREMONT COUNTY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)	OIL AND GREASE, TOTAL RECOV. GRAVI- METRIC (MG/L)
425136108425501		08-09-90	--	--	--	--	--	--	--	--
425205108413501		08-02-90	12	--	81	--	<1	--	--	--
425456108333701		08-24-90	--	--	--	--	--	--	--	--
425457108333401		07-24-90	--	--	--	--	--	--	--	--
425611108303601		07-24-90	--	--	--	--	--	--	--	--
425729108282601		07-20-90	--	--	--	--	--	--	--	--
425744108291601		07-23-90	--	--	--	--	--	--	--	--
425811108321901		07-20-90	--	--	--	--	--	--	--	--
425816108521201		06-26-90	80	--	290	--	<1	--	--	--
425844108332401		06-27-90	3	--	<1	--	<1	--	--	--
425852108294601		06-26-90	20	--	70	--	<1	--	--	--
425853108355301		06-26-90	250	--	100	--	4	--	--	--
425856108322701		06-27-90	--	--	--	--	--	--	--	--
425901108253901		07-23-90	--	--	--	--	--	--	--	--
425901108373001		06-27-90	720	--	56	--	<1	--	--	--
425902108290101		08-07-90	--	--	--	--	--	--	--	--
425904108244902		07-24-90	47	--	4	--	<1	--	--	--
425905108253101		07-23-90	--	--	--	--	--	--	--	--
425909108370201		06-27-90	480	--	29	--	<1	--	--	--
425937108241001		10-17-89	7	<1	3	<0.1	<1	<1.0	<3	--
425937108241201		10-17-89	200	<1	6	<0.1	<1	<1.0	<3	--
430029108500501		10-16-89	33	<1	8	<0.1	<1	<1.0	9	2
430105108581501		07-18-90	--	--	--	--	--	--	--	--
430108108573401		07-18-90	--	--	--	--	--	--	--	--
430111108571801		07-18-90	--	--	--	--	--	--	--	--
430122108545501		07-18-90	--	--	--	--	--	--	--	--
430129108475901		08-07-90	--	--	--	--	--	--	--	--
430148108582201		07-17-90	--	--	--	--	--	--	--	--
430149108582101		07-17-90	--	--	--	--	--	--	--	--
430154108570601		07-17-90	--	--	--	--	--	--	--	--
430200108571301		07-17-90	--	--	--	--	--	--	--	--
430208108575501		07-17-90	--	--	--	--	--	--	--	--
430537109023101		07-19-90	--	--	--	--	--	--	--	--
430722109002901		07-19-90	--	--	--	--	--	--	--	--
430729108584401		07-19-90	--	--	--	--	--	--	--	--
430833108554801		08-08-90	--	--	--	--	--	--	--	--
431324108535301		08-08-90	--	--	--	--	--	--	--	--
431350108511701		10-16-89	19000	<1	690	<0.1	65	<1.0	160	<1
431515109204301		06-28-90	7	--	<1	--	<1	--	--	--
431639109263301		06-28-90	45	--	<1	--	<1	--	--	--
431857109185301		06-29-90	12	--	15	--	1	--	--	--
431948109085201		07-26-90	--	--	--	--	--	--	--	--
432053109162301		07-26-90	--	--	--	--	--	--	--	--
432107109155001		07-26-90	--	--	--	--	--	--	--	--
432116109244001		06-29-90	3	--	<1	--	1	--	--	--
432159109173201		06-29-90	<3	--	<1	--	<1	--	--	--
432749108255401		10-18-89	7	--	<1	--	1	--	--	--
432802108261201		10-18-89	8	<1	1	<0.1	<1	<1.0	4	--
432847109072401		08-08-90	--	--	--	--	--	--	--	--
432902109150501		07-26-90	--	--	--	--	--	--	--	--
432930108274001		10-18-89	6	--	<1	--	<1	--	--	--
433515109181701		10-19-89	16	--	1	--	<1	--	--	--
433555109190501		10-19-89	10	--	1	--	<1	--	--	--

QUALITY OF GROUND WATER

WIND RIVER INDIAN RESERVATION STUDY--Continued

FREMONT COUNTY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

STATION	NUMBER	LOCAL IDENT- I- FIER	SITE	DATE	TIME	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)
430029108500501	1S-2W-02aad01		SP	09-03-89	1845	150	0.9
431748109122501	4N-4W-26bcb01		GW	08-02-89	1100	5.8	1.2
431839109124401	4N-4W-22adb01		GW	08-02-89	1545	<0.4	0.6
431855109120701	4N-4W-23bab01		GW	08-03-89	1330	--	<0.4
432005109142101	4N-4W-09cad01		GW	08-03-89	1045	<0.4	<0.4

STATION	NUMBER	DATE	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)
430029108500501		09-03-89	19	0.5	15	0.5	56	--
431748109122501		08-02-89	6.0	1.8	5.4	1.7	0.10	8.9
431839109124401		08-02-89	7.6	0.8	6.6	0.7	0.09	0.60
431855109120701		08-03-89	210	0.6	190	0.6	0.11	20
432005109142101		08-03-89	87	0.8	79	0.8	0.09	32

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	LOCAL IDENT- I- FIER	SITE	DATE	TIME	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)
425937108241001	1S-4E-09adb02		GW	10-17-89	1530	1.6	<0.4
425937108241201	1S-4E-09adb01		GW	10-17-89	1400	1.7	<0.4
430029108500501	1S-2W-02aad01		SP	10-16-89	1000	130	<0.4

STATION	NUMBER	DATE	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)
425937108241001		10-17-89	3.0	<0.4	2.6	<0.4	0.25	<0.40
425937108241201		10-17-89	0.8	0.4	0.7	0.4	0.18	<0.40
430029108500501		10-16-89	20	<0.4	18	<0.4	49	<0.40

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October 1, 1978

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI).

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	2.54×10^1	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^0	kilometers (km)
<i>Area</i>		
acres	4.047×10^3	square meters (m ²)
	4.047×10^{-1}	square hectometers (hm ²)
	4.047×10^{-3}	square kilometers (km ²)
square miles (mi ²)	2.590×10^0	square kilometers (km ²)
<i>Volume</i>		
gallons (gal)	3.785×10^0	liters (L)
	3.785×10^0	cubic decimeters (dm ³)
	3.785×10^{-3}	cubic meters (m ³)
million gallons	3.785×10^3	cubic meters (m ³)
	3.785×10^{-3}	cubic hectometers (hm ³)
cubic feet (ft ³)	2.832×10^1	cubic decimeters (dm ³)
	2.832×10^{-2}	cubic meters (m ³)
cfs-days	2.447×10^3	cubic meters (m ³)
	2.447×10^{-3}	cubic hectometers (hm ³)
acre-feet (acre-ft)	1.233×10^3	cubic meters (m ³)
	1.233×10^{-3}	cubic hectometers (hm ³)
	1.233×10^{-6}	cubic kilometers (km ³)
<i>Flow</i>		
cubic feet per second (ft ³ /s)	2.832×10^1	liters per second (L/s)
	2.832×10^1	cubic decimeters per second (dm ³ /s)
	2.832×10^{-2}	cubic meters per second (m ³ /s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm ³ /s)
	6.309×10^{-5}	cubic meters per second (m ³ /s)
million gallons per day	4.381×10^1	cubic decimeters per second (dm ³ /s)
	4.381×10^{-2}	cubic meters per second (m ³ /s)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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