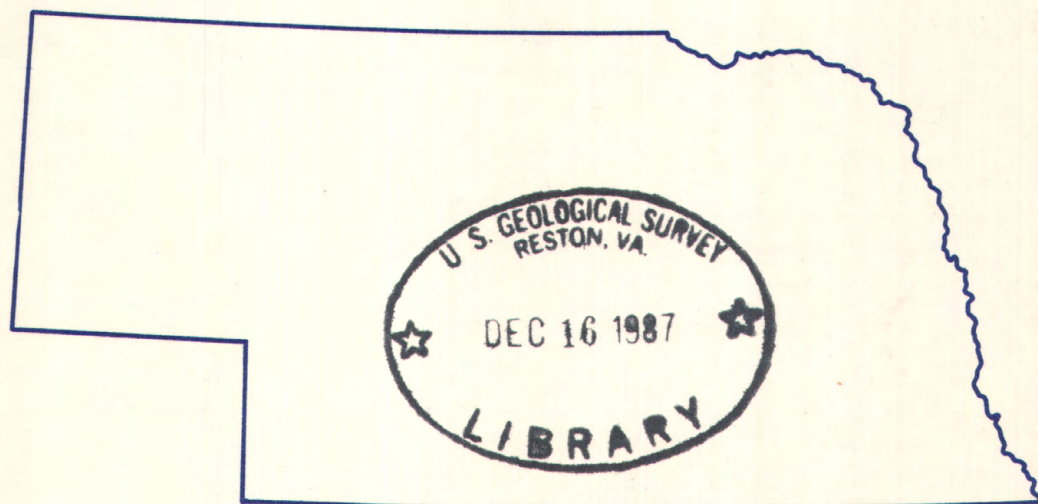




Water Resources Data Nebraska Water Year 1986



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NE-86-1
Prepared in cooperation with the Nebraska Department of Water
Resources, the Conservation and Survey Division of the University
of Nebraska, the Nebraska Department of Environmental Control,
and with other State and Federal agencies

CALENDAR FOR WATER YEAR 1986

1985

OCTOBER

S	M	T	W	T	F	S
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NOVEMBER

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1986

JANUARY

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31						

SEPTEMBER

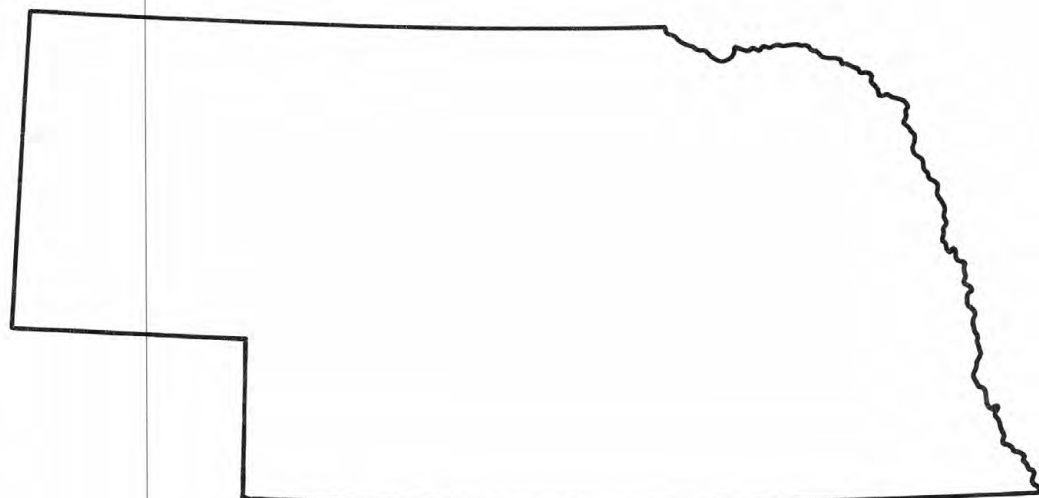
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Water Resources Data Nebraska

Water Year 1986

by G.B. Engel, C.G. Hoy, and M.J. Ellis



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NE-86-1
Prepared in cooperation with the Nebraska Department of Water
Resources, the Conservation and Survey Division of the University
of Nebraska, the Nebraska Department of Environmental Control,
and with other State and Federal agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

DONALD PAUL HODEL, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

For information of the water program in Nebraska, write to:

District Chief
Water Resources Division
U.S. Geological Survey
406 Federal Building
100 Centennial Mall, North
Lincoln, Nebraska 68508

PREFACE

This annual hydrologic data report of Nebraska 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 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. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data:

J. A. Boohar, N. R. Harmon, D. E. Schild, J. C. Beard, and
J. E. McKinney of the District Office.

M. Kubicek, S. H. Hull, D. M. Schwartz, G. V. Steele, and
V. C. Walczyk of the Lincoln field office.

R. C. Beard, R. B. Swanson, R. A. Drudik, and L. M. Sidak
of the Ord field Office.

This report was prepared in cooperation with the State of Nebraska and with other agencies under the general supervision of W. M. Kastner, District Chief, Nebraska.

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			14.
16. Abstract (Limit: 200 words) Water resources data for the 1986 water year for Nebraska consist of records of stage, discharge, and water quality of streams; stage and contents of lakes and reservoirs; and water levels and water quality in wells. This report contains discharge records for 160 streamflow gaging stations, 7 partial-record or miscellaneous streamflow stations, and 5 crest-stage, partial-record streamflow stations; stage and content records for 11 lakes and reservoirs; water-quality records for 43 streamflow stations, 8 ungaged streamsites, and 144 wells; and water-level records for 56 observation wells. 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 Nebraska.			
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WATER RESOURCES DATA - NEBRASKA, 1986

INTRODUCTION

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

This report includes records on both surface and ground water in the State. Specifically, it contains: (1) Discharge records for 160 streamflow-gaging stations, for 7 partial-record or miscellaneous streamflow stations, and for 5 crest-stage, partial-record streamflow stations; (2) stage and contents for 11 lakes and reservoirs; (3) water-quality records for 43 streamflow-gaging stations, for 8 ungaged streamsites, and for 144 wells; and (4) water-level records for 56 observation wells. Records included for stream stages and for ground-water levels are only a small fraction of those obtained during the water year. The data in this report represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Nebraska.

This series of annual reports for Nebraska began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report format was changed to present, in one volume, data on quantities of surface water, quality of surface and ground water, and ground-water levels.

Prior to introduction of this series and for several water years concurrent with it, water-resources data for Nebraska were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States, Parts 6A and 6B." For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from U.S. Geological Survey, Books and Open-File Reports, Federal Center, Bldg. 41, Box 25425, Denver, CO 80225.

Publications similar to this report are published annually by the Geological Survey for all States. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report NE-86-1." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These 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 Office Chief at the address given on the back of the title page or by telephone (402) 437-5082.

COOPERATION

The U.S. Geological Survey and agencies of the State of Nebraska have had cooperative agreements for the collection of water-resource records since 1930. Organizations that assisted in collecting the data in this report through cooperative agreement with the Survey are: Nebraska Department of Water Resources, J. Michael Jess, Director; Conservation and Survey Division, University of Nebraska-Lincoln, Vincent H. Dreeszen, Director; Nebraska Department of Environmental Control, Dennis Grams, Director; Big Blue River Compact Administration; Central Platte Natural Resources District; Little Blue Natural Resources District; and City of Lincoln.

Nebraska Department of Water Resources (NDWR) personnel in Bridgeport, Cambridge, Lincoln, Norfolk and Ord contributed significantly in the collection and computation of records under a USGS-NDWR cooperative agreement.

Assistance with funds or services was given by the U.S. Army Corps of Engineers in collecting records for 23 streamflow-gaging stations and 5 crest-stage gages, and by the U.S. Bureau of Reclamation in collecting records for 5 streamflow-gaging stations, 1 partial-record station, 2 lake stations, and in providing elevations or capacity tables for 8 reservoir stations.

The following organizations aided in collecting records: Central Nebraska Public Power and Irrigation District, Nebraska Public Power District, and Loup River Public Power District.

OVERVIEW OF 1986 WATER YEAR

Precipitation data from published reports of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service, for the eight National Weather Service Divisions in Nebraska are shown in table 1. Locations of the divisions are shown in figure 1. Precipitation and departures from normal are shown for each quarter and for the entire 1986 water year, in order to emphasize the precipitation distribution during the year.

The five western divisions had greater-than-normal precipitation during the first 3 months of the water year while the three eastern divisions had less-than-normal. The southern divisions had below normal precipitation and the remaining divisions had normal or greater-than-normal precipitation during the second 3 months. During April through June, precipitation was greater than normal in all divisions, except the Central and South Central Divisions. Precipitation was greater than normal except in the Southwest Division during the last 3 months of the water year. Only the Southwest and South Central Divisions ended the water year with less-than-normal precipitation. The percentage of normal precipitation for each of the four quarters and for the entire water year are shown in figure 1 for the eight divisions.

Table 1.--Precipitation and departures from normal, in inches

National Weather Service Division	October-December		January-March		April-June		July-September		1986 water year October-September	
	Departure		Departure		Departure		Departure		Departure	
	Precipi- tation	from normal	Precipi- tation	from normal	Precipi- tation	from normal	Precipi- tation	from normal	Precipi- tation	from normal
Panhandle	2.88	1.17	1.91	0.20	10.13	2.22	5.62	0.34	20.54	3.93
North Central	2.65	.41	2.58	.41	11.40	2.24	10.54	3.29	27.17	6.35
Northeast	2.48	-.60	3.78	.77	14.20	3.67	10.44	1.75	30.90	5.59
Central	2.60	.06	2.57	.00	8.78	-1.11	10.63	2.55	24.58	1.50
East Central	3.03	-.73	3.58	.15	13.66	2.55	14.82	4.88	35.09	6.85
Southwest	2.80	.85	1.45	-.50	8.36	.08	5.35	-1.34	17.96	-.91
South Central	2.81	.18	1.87	-.73	7.86	-1.99	8.71	.16	21.25	-2.38
Southeast	4.18	-.04	2.86	-.89	12.44	1.29	16.37	5.19	35.85	5.55

Streamflow

Monthly mean discharges during the 1986 water year and long-term monthly mean discharges at representative stations are plotted in figure 1. The period of record used for the long-term mean at some stations is from the completion of the last known storage structure or from the latest change in streamflow regulation upstream from the gage. The individual graphs demonstrate the varied conditions in the State during the year.

The graphs for stations 06454500, Niobrara River above Box Butte Reservoir, and 06461500, Niobrara River near Sparks, reflect the usual pattern of streamflow, but the streamflow upstream from Box Butte Reservoir was less than normal through most of the fall and winter. Streamflow was slightly greater than normal starting in February and remained so for the remainder of the water year. Streamflow at the Sparks station, however, was greater than normal from November through April and was normal or slightly less than normal for the remainder of the water year.

Streamflow was near normal or slightly above normal for most of the first half of the water year at station 06785000, Middle Loup River at St. Paul. Precipitation was less than normal during the period April through June in central Nebraska, and streamflow dropped below normal from May through July. Precipitation increased significantly in September and produced streamflow that was nearly three times normal.

Streamflow was greater than normal during the entire water year at station 06800500, Elkhorn River at Waterloo, and for most of the water year at station 06815000, Big Nemaha River at Falls City. Mean flow for the 1986 water year was 184 percent and 168 percent, respectively, of the mean flow for the period of record at these two gaging stations. The less-than-normal precipitation during June in southeastern Nebraska is reflected in the reduction in discharge during June at station 06815000.

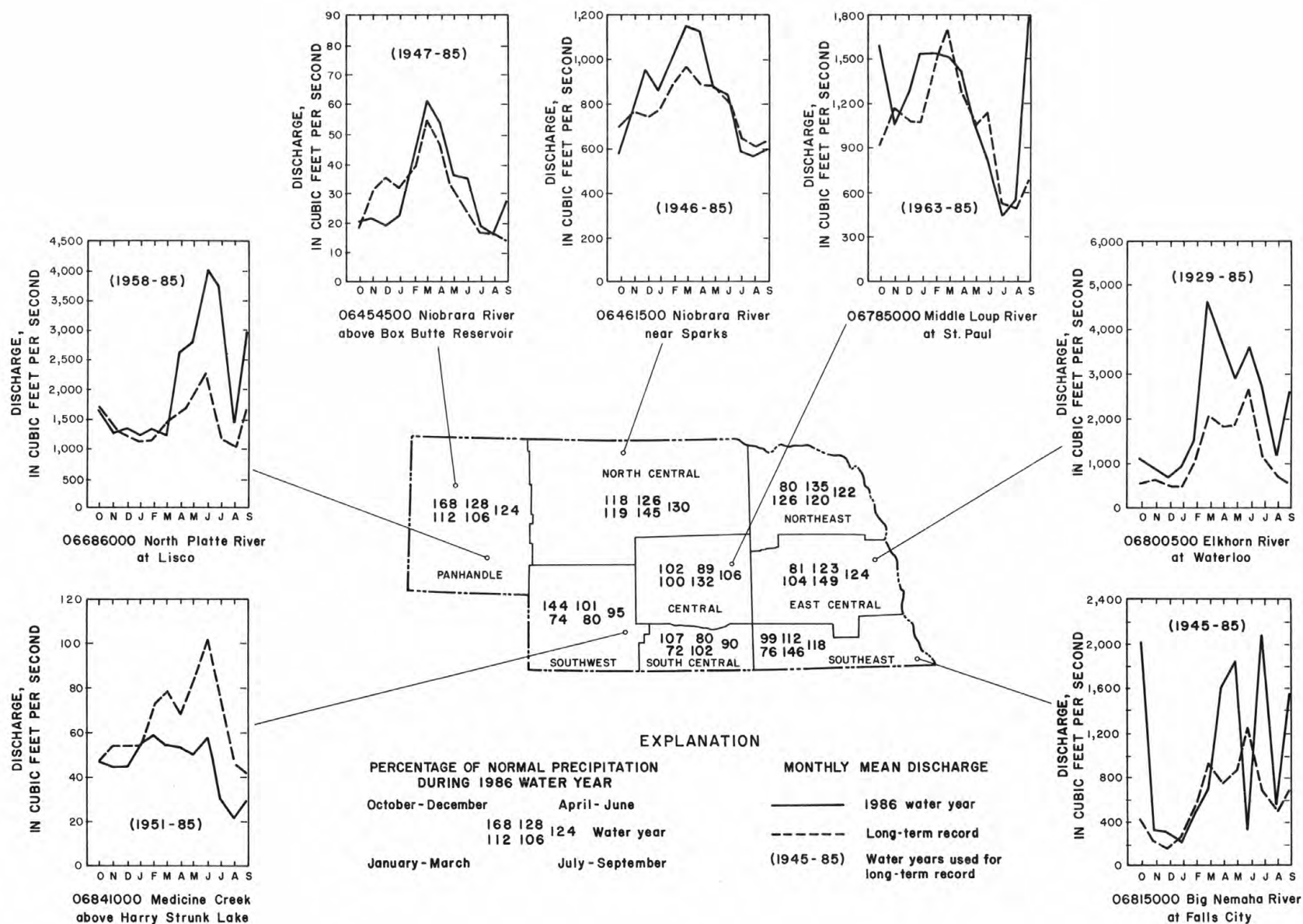


Figure 1.--Comparison of 1986 water-year precipitation and streamflow to long-term means.

Streamflow was very low in southwestern Nebraska as depicted in the graph for station 06841000, Medicine Creek above Harry Strunk Lake. The mean discharge for the 1986 water year of 45.3 ft /s was the lowest for 36 years of record at this station; the previous low occurred last water year. All north-side tributaries to the Republican River, in extreme southwestern Nebraska, had very low mean discharges for the 1986 water year. The following gaging stations in southwest Nebraska also had annual mean discharges that were minimums for the period of record: 06831500, Frenchman Creek near Imperial; 06835500, Frenchman Creek at Culbertson; and 06836000, Blackwood Creek near Culbertson. The mean discharge at station 06851500, Thompson Creek at Riverton, in south-central Nebraska also was the minimum for the period of record.

Runoff at station 06686000, North Platte River at Lisco, is determined more by reservoir releases than by precipitation patterns. Reservoir releases greater than normal were made starting in April because of much greater-than-normal snowpack in 1986. Greater-than-normal releases were continued through the remainder of the water year. Runoff at the North Platte River at Lisco site was 44 percent greater than normal during the 1986 water year.

Chemical Quality of Streamflow

To determine whether significant changes are occurring in the chemical quality of streamflow leaving Nebraska, an analysis was made of specific-conductance records from sampling stations on five streams. Each station is located at or near the point at which the stream leaves Nebraska.

Specific conductance can be used to approximate the dissolved-solids concentration in water because it is related to the concentration and type of ions in water. To determine whether significant differences in specific conductance occurred between the 1986 water year and the period of record, a statistical technique called the ranked t-test was used, which does not require that the data be normally distributed.

The t-test technique requires proving or disproving a hypothesis that the mean specific conductance for the 1986 water year is equal to the mean for the period of record. The procedure for doing this requires ranking the conductance values, computing a "t" statistic from the ranks and from a pooled standard deviation, and comparing the statistic to a value taken from Student's "t" table.

If the absolute value of the computed "t" value (t_c) is less than the tabular "t" value (t_{tab}), the hypothesis that the means are equal is accepted. If the absolute value of t_c is greater than t_{tab} , the hypothesis is rejected and the means are considered to be not equal. In terms of specific conductance, a rejection of the hypothesis indicates there is a difference in water quality at a particular site between the 1986 water year and the period of record. A 95-percent level of significance ($\alpha = 0.05$) was used for each t-test.

Results of the t-tests for the five stations are given in table 2. For four of the stations 06465500, Niobrara River near Verdel; 06805500, Platte River at Louisville; 06815000, Big Nemaha River at Falls City; and 06884025, Little Blue River at Hollenberg; comparisons of means for the 1986 water year to those for the period of record indicates that the means are not statistically different.

Table 2.--Results of ranked t-tests comparing mean specific conductance for the 1986 water year with mean for the period of record for streamflow leaving Nebraska
[Specific conductance, in micromhos per centimeter at 25° Celsius; R = rejected; A = accepted]

Station identification	Specific conductance				t-test			
	1986 water year		Period of record		Period used (water years)	T_{tab}	T_c	Hypothesis
	Number of values	Mean	Number of values	Mean				
06465500 Niobrara River near Verdel-----	12	276	148	270	1973-85	+1.98	+1.57	A
06805500 Platte River at Louisville-----	12	743	127	698	1972-85	+1.98	+0.99	A
06815000 Big Nemaha River at Falls City-----	13	590	152	628	1973-85	+1.98	-1.06	A
06853000 Republican River near Guide Rock-----	12	740	313	587	1962-85	+1.97	+4.51	R
06884025 Little Blue River at Hollenberg-----	12	481	164	474	1973-85	+1.97	+0.45	A

For the fifth station 06853000, Republican River near Guide Rock, the null hypothesis was rejected, indicating the mean specific conductance for the two periods was different. Streamflow during the 1986 water year was nearly 60 percent less than the 35-year average at this station. Regression relations given in U.S. Geological Survey Water-Supply Paper 2179, "A statistical analysis of the quality of surface water in Nebraska," by R. A. Engberg, indicate that at this station, specific conductance tends to increase with decreasing streamflow. For the 1986 water year, mean specific conductance at the Guide Rock station was much greater than the mean specific conductance for the period of record. When streamflow is less than the mean for a period, this generally indicates that a greater percentage of streamflow is derived from ground-water seepage than from overland runoff. For the Republican River drainage area upstream from the Guide Rock station, ground water generally is more mineralized than water derived from overland runoff. This accounts for the inverse relationship between specific conductance and water discharge.

Ground-Water Levels

Water-level changes during the 1986 water year were determined from a statewide network of observation wells measured by 38 Federal, State, and local agencies. The network consists of more than 3,500 wells measured annually, semiannually, or monthly and 72 wells equipped with continuous water-level recorders. Because of the importance of ground water as a source of water for irrigation and municipal use, most of the observation wells in Nebraska are located in those areas where large quantities of ground water are pumped. Water-level fluctuations in representative observation wells, located in different parts of the State, are shown in figure 2.

Probably the most significant changes in ground-water levels during the 1986 water year were the water-level rises that occurred throughout most of the eastern part of the State. The water-level rises in eastern Nebraska are probably the result of a continuation of the greater-than-normal precipitation during the growing season that started in the 1983 water year. At the end of the 1986 water year, water levels in most observation wells were about 1.0 foot higher than they were at the end of the 1985 water year. The hydrograph for an observation well in Seward County represents the water-level fluctuations that have occurred in this part of the State during the 1985 and 1986 water years. Water levels in the Seward County well have risen 8.27 feet during the past 4 water years and were higher at the end of the 1986 water year than at the end of any of the past 24 water years. At the end of the 1986 water year, the water level was 1.65 feet higher than at the end of the 1985 water year.

Throughout much of the central part of Nebraska, precipitation was near normal or slightly less than normal during the 1986 growing season and water levels in most observation wells declined because larger-than-normal amounts of water were pumped for irrigation. During the past 33 years, water levels in the Buffalo County well have been higher than those recorded during the 1986 water year only 3 times (1969, 1970, and 1974 water years). However, water levels at the end of the 1986 water year were 0.58 foot lower than they were at the end of the 1985 water year.

In the southwestern part of the State, where precipitation during most of the water year was less than normal, water levels generally were lower during the 1986 water year. During the fall and winter months, water levels generally did not rise as high as the previous year, and declines during the irrigation season generally were greater than they were during the 1984 water year. Most water levels at the end of the 1986 water year were slightly less than a foot lower than they were at the end of the 1985 water year. The water-level fluctuations shown for an observation well located in Chase County are representative of those that occurred in this area during the 1985 and 1986 water years. The hydrograph indicates that although the water level at the end of the 1986 water year was slightly higher than at the end of the 1985 water year, the water levels during the spring of 1986 were more than 3 feet lower than they were during the spring of 1985.

During the 1986 growing season, precipitation in the north-central and northeastern parts of State ranged from near normal to slightly greater than normal, and water levels declined slightly in many areas where there is extensive use of ground water for irrigation. The hydrograph for an observation well in Holt County is a representative example of water-level fluctuations that occurred in these areas during the 1985 and 1986 water years. Although water levels in the well at the end of the 1986 water year were 0.18 foot lower than they were at the end of the 1985 water year, they were the fourth highest water levels recorded at the end of a water year during the past 19 water years.

In those parts of Nebraska where ground water is used only for domestic and stock supplies, most water-level fluctuations are caused by variations in natural recharge to and discharge from the aquifers. Commonly, water levels rise during the fall and winter months when recharge from precipitation exceeds discharge by seepage to streams and by evapotranspiration; they decline during the spring and summer months when discharge by seepage to streams and by evapotranspiration is greater than recharge from precipitation. The hydrograph for the observation well in Blaine County shows these annual fluctuations.

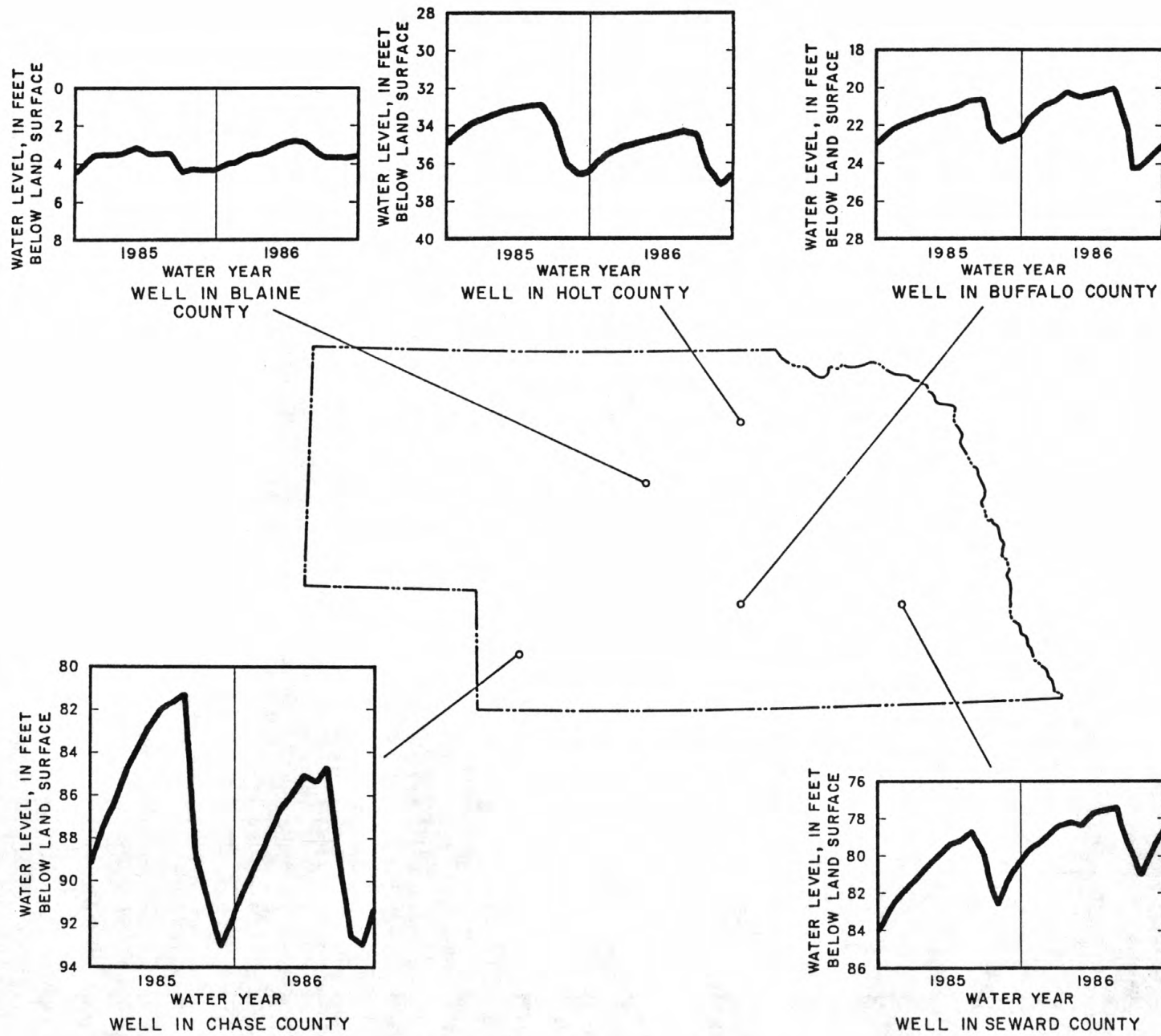


Figure 2.--Representative observation wells, 1985 and 1986 water years.

SPECIAL NETWORKS AND PROGRAMS

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.

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.

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.

EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 1986 water year that began October 1, 1985, and ended September 30, 1986. 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 figures 3, 4, and 5. 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 streamsite 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 surface-water stations and the "latitude-longitude" system is used for wells.

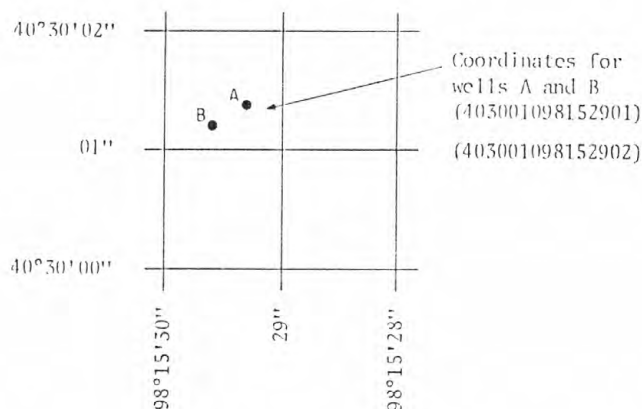
Downstream Order System

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 shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned 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 06797000, which appears just to the left of the station name, includes the two-digit Part number "06" plus the six-digit downstream-order number "797000." 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 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 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 (latitude and longitude)

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 such as "Crest-stage partial records," or "Discharge measurements at miscellaneous sites." Records of discharge measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately if made during the year. Location of all complete-record and crest-stage partial-record stations for which data are given in this report are shown in figure 3.

Data Collection and Computation

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

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

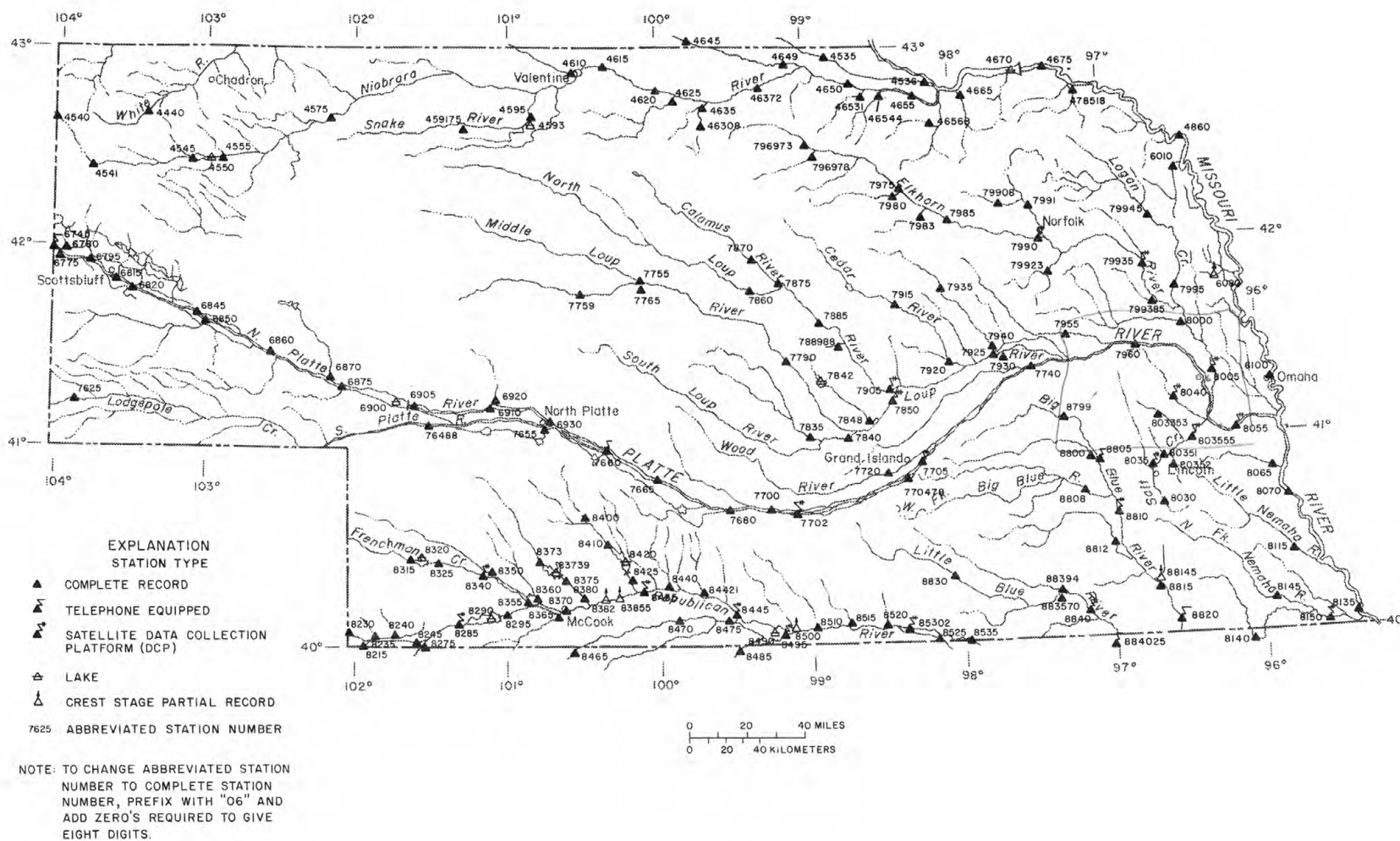


Figure 3.--Location of active surface-water gaging stations.

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 so obscure the stage-discharge relations that daily mean discharges must be estimated from other information such as temperature and precipitation records, notes of observations, and records for other stations in the same or nearby basins for comparable periods.

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 the lapsed time since the last survey increases. Discharges over lake or reservoir spillways are computed from stage-discharge relationships much as other stream discharges are computed.

For some gaging stations, there are periods when no gage-height record is obtained, or the recorded gage height is so 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. The median of yearly mean discharges also is given under this heading for stations having 10 or more water years of record if the median differs from the average given by more than 10 percent.

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 listing may include secondary peaks. For stations meeting certain criteria, all peak discharges and stages occurring during the water year and equal to or greater than a selected base discharge are presented under this heading. The peaks equal to or 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 offices whose addresses are given on the back of the title page of this report 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 acre-feet (line headed "AC-FT"). In the yearly summary below the monthly summary, the figures shown are the appropriate discharges for the calendar and water years.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at miscellaneous partial-record stations. The tables of partial-record stations may be 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. They also may be made in project areas to help define ground-water/surface-water relationships.

Identifying Estimated Daily Discharge

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

Accuracy of the Records

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

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

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 ft³/s; to the nearest tenth between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures for more than 1,000 ft³/s. 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. For such stations, figures of cubic feet per second per square mile and of runoff, in inches, are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Records Available

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

Records of daily diversions of water from streams by canals are collected by and published in Hydrographic Reports of the Nebraska Department of Water Resources. Included are discharge records for streams and storage records for reservoirs not published in reports of the Geological Survey. Copies of the Hydrographic Reports may be obtained from the Nebraska Department of Water Resources, 301 Centennial Mall, South, P.O. Box 94676, Lincoln, NE 68509 (telephone number: 402-471-2363).

Records of discharge, not published by the Geological Survey, are collected in Nebraska at several sites by the U.S. Army Corps of Engineers. The National Water Data Exchange (NAWDEX), U.S. Geological Survey, Reston, VA 22092, maintains an index of these sites as well as sites where other agencies have collected water data.

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 4.

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 station 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.

On-site 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 under "PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS" which appears at the end of the introductory text. Detailed information on collecting, treating, and shipping samples may be obtained from the Nebraska 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.

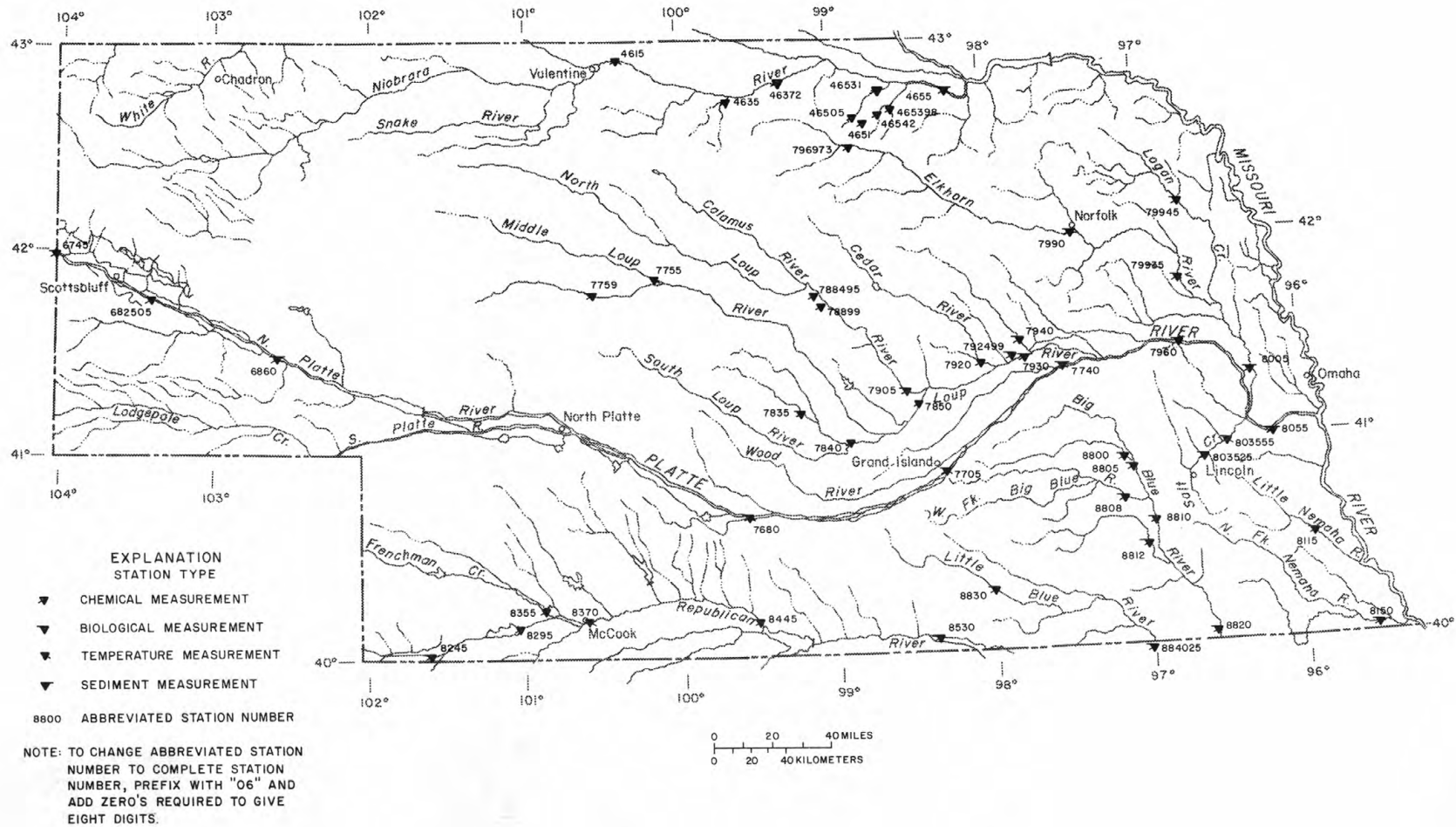


Figure 4.--Location of active surface-water-quality stations.

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.

Water temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at the 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 Nebraska 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. 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

Sediment samples are analyzed in Iowa City, Iowa; samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally; and all other samples are analyzed in the Geological Survey laboratory in Arvada, Colorado. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the Geological Survey laboratory are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4.

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

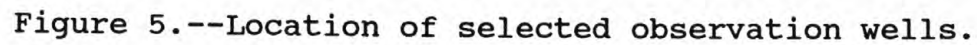
The following remark codes may appear with the water-quality data in this report:

<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
K	Results based on colony count outside the acceptance 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 water-level data from a network of selected observation wells are given in this report. These data are intended to provide a sampling and historical record of water-level changes in the Nation's most important aquifers. Locations of the observation wells in this network in Nebraska are shown in figure 5.

Although, in this report, records of water levels are presented for only selected wells, records are obtained through cooperative efforts of many Federal, State, and local agencies for several thousand observation wells throughout Nebraska and are placed in computer storage. Each spring, the Nebraska District and the Conservation and Survey Division of the University of Nebraska publish a report for the previous calendar year entitled "Groundwater Levels in Nebraska, 19 ." This report contains hydrographs of recorder wells, detailed maps showing changes in water levels from the previous year, and other usefull items. Information about the availability of the data in the water-level file may be obtained from the District Chief, Nebraska District. (see address on back of front page.)



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 in 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. Hydrographs also are presented for some wells. 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.

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 the 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 at the end of the introductory text. 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 the office whose address is 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 equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

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

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 plus or minus 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°C plus or minus 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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

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/m³), and periphyton and benthic organisms in grams per square mile (g/m²).

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 ash mass and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash mass and dry mass.

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

Bottom material: See Bed material.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with 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.

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

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

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

Cubic-foot-per-second day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons, or 2,445 cubic meters.

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

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

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

Dissolved refers to that material in a representative water sample which passes through a 0.45 um 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 specified.

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

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

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

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations and is expressed as the equivalent concentration of calcium carbonate (CaCO₃).

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 ground-water observation well.

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

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 (ug/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per liter (UG/L, ug/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.

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 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 of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

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

<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 the 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 community is dominated by small crustaceans and rotifers.

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 (ft³/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) 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 are generally unsatisfactory for irrigation.

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°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 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.

Natural substrate refers to any naturally occurring emerged or submersed solid surface, such as a rock or tree, 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 collection.

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

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

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 um 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 hierarchial 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 variations of temperature on a chart. The more general term "temperature recorder" is used in the table headings and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

Time-weighted average is computed by multiplying the number of days in the sampling period by the 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.

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, 1986, is called the "1986 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 reference to previously published reports.

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. Ficke, 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-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 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.
- 3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.
- 3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.
- 3-A9. *Measurement of time of travel and dispersion in streams by dye tracing*, by E. F. Hubbard, F. A. Kilpatrick, L. A. Martens, and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1982. 44 pages.
- 3-A10. *Discharge ratings at gaging stations*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 pages.
- 3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.
- 3-A13. *Computation of continuous records of streamflow*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A13. 1983. 53 pages.
- 3-A14. *Use of flumes in measuring discharge*, by F. A. Kilpatrick and V. R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 pages.
- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 pages.
- 3-B1. *Aquifer-test design, observation, and data analysis*, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.
- 3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.
- 3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J. E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.

- 3-C1. *Fluvial sediment concepts* by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.
- 3-C2. *Field methods for measurement of fluvial sediment*. by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.
- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.
- 4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.
- 4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.
- 4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.
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- 4-D1. *Computation of rate and volume of stream depletion by wells* by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.
- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments* by M. W. Skougstad and others, editors: USGS--TWRI Book 5, Chapter A1. 1979. 626 pages.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*. by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.
- 5-A3. *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*. edited by P. E. Greenson, T. A. Ehke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages.
- 5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*. by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.
- 5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments*, by L. C. Friedman and D. E. Erdmann: USGS--TWRI Book 5, Chapter A6. 1982. 181 pages.
- 5-C1. *Laboratory theory and methods for sediment analysis*. by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.
- 7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.
- 7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.
- 7-C3. *A model for simulation of flow in singular and interconnected channels* by R. W. Schaffranek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.
- 8-A1. *Methods of measuring water levels in deep wells*. by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.
- 8-A2. *Installation and service manual for U.S. Geological Survey manometers* by J. D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 pages.
- 8-B2. *Calibration and maintenance of vertical-axis type current meters*. by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

STATION RECORDS, SURFACE WATER

29

WHITE RIVER BASIN

06444000 WHITE RIVER AT CRAWFORD, NE

LOCATION.--Lat 42°41'33", long 103°25'03", in W1/2 sec.3, T.31 N., R.52 W., Dawes County, Hydrologic Unit 10140201, on right bank 15 ft downstream from bridge in city park at Crawford.

DRAINAGE AREA.--313 mi².

PERIOD OF RECORD.--February 1931 to September 1943, October 1947 to current year.

REVISED RECORDS.--WSP 1309: 1931(M), 1942(M). WSP 1729: 1958-59(M). WSP 1917: 1958-59.

GAGE.--Water-stage recorder. Datum of gage is 3,659.85 ft above National Geodetic Vertical Datum of 1929. Feb. 25, 1931, to Oct. 2, 1933, nonrecording gage at old highway bridge 0.5 mi upstream at different datum and Oct. 3, 1933, to Sept. 30, 1943, 1 mi upstream at different datum.

REMARKS.--Estimated daily discharges: Nov. 10 to Dec. 20, Dec. 25, 27, 29, Dec. 31 to Jan 1, Jan. 3-6, 8, 22 and Feb. 6-19. Records good except for periods of estimated record, which are fair. Some regulation at low flows by pumps for irrigation and diversion for water supply for town of Crawford.

AVERAGE DISCHARGE.--51 years, 20.2 ft³/s, 14,630 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,580 ft³/s Mar. 15, 1948, gage height, 6.88 ft; maximum gage height, 7.7 ft July 10, 1958, from floodmarks; minimum daily discharge, 2.7 ft³/s Aug. 13, 31, Sept. 1, 1960.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 25	0545	150	3.04	Aug. 12	1215	100	2.58
June 10	0845	179	3.29	Sept. 18	1200	*523	*5.61
July 1	0815	102	2.60				

Minimum daily discharge, 14 ft³/s Nov. 29, Dec. 13, 14, Aug. 20, 23, 25, 26, 29-31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	18	18	23	25	28	27	38	25	54	16	17
2	17	18	19	23	24	28	28	37	26	27	16	33
3	17	18	20	20	24	28	30	37	25	23	16	17
4	17	18	22	20	25	27	34	37	26	22	17	16
5	17	18	22	22	25	27	34	35	28	22	16	16
6	17	18	24	22	25	27	34	35	28	21	15	17
7	17	19	24	23	25	26	32	36	28	21	15	18
8	18	19	22	22	23	26	30	37	26	20	16	17
9	18	18	22	22	20	26	31	42	32	21	16	17
10	18	18	20	23	18	26	30	40	125	25	16	17
11	19	18	18	22	20	26	28	36	64	33	16	17
12	21	18	16	22	22	28	30	34	50	25	40	16
13	20	18	14	22	22	27	30	34	44	22	19	17
14	19	18	14	22	24	26	30	33	39	22	17	17
15	18	19	18	23	26	26	30	33	36	21	16	17
16	18	19	23	21	26	27	30	34	34	23	15	18
17	18	20	23	22	26	29	30	34	32	20	15	18
18	18	20	23	22	28	30	36	32	30	20	15	178
19	18	20	24	21	28	28	33	31	28	21	15	45
20	18	18	24	22	28	28	31	32	28	31	14	31
21	19	16	24	22	28	27	30	32	28	28	15	27
22	19	15	23	20	27	27	32	29	28	19	15	26
23	18	15	23	24	28	26	31	28	28	19	14	25
24	18	16	24	24	28	27	32	28	27	18	15	24
25	17	17	24	24	29	27	78	28	27	18	14	24
26	17	17	23	22	28	27	53	26	26	18	14	24
27	17	16	20	22	28	27	47	26	26	18	15	22
28	18	16	18	24	28	27	42	26	24	18	15	22
29	19	14	22	24	---	26	40	27	25	16	14	22
30	17	16	23	24	---	27	39	26	26	16	14	22
31	18	---	23	24	---	27	---	25	---	16	14	---
TOTAL	557	528	657	693	708	839	1042	1008	1019	698	500	797
MEAN	18.0	17.6	21.2	22.4	25.3	27.1	34.7	32.5	34.0	22.5	16.1	26.6
MAX	21	20	24	24	29	30	78	42	125	54	40	178
MIN	17	14	14	20	18	26	27	25	24	16	14	16
AC-FT	1100	1050	1300	1370	1400	1660	2070	2000	2020	1380	992	1580
CAL YR 1985	TOTAL	7121.8		MEAN	19.5	MAX	33	MIN	9.9	AC-FT	14130	
WTR YR 1986	TOTAL	9046		MEAN	24.8	MAX	178	MIN	14	AC-FT	17940	

PONCA CREEK BASIN

06453500 PONCA CREEK AT ANOKA, NE

LOCATION.--Lat 42°56'34", long 98°50'25", in NE1/4 sec.9, T.34 N., R.13 W., Boyd County, Hydrologic Unit 10150001, on left downstream bank near left abutment of bridge on State Highway 11, 0.5 mi southwest of Anoka and 0.5 mi upstream from Dry Creek.

DRAINAGE AREA.--505 mi².

PERIOD OF RECORD.--March 1949 to current year.

REVISED RECORDS.--WSP 2117: Drainage area.

GAGE.--Water-stage recorder for stages above 0.4 ft and nonrecording gage read once daily. Elevation of gage is 1.630 ft from topographic map. Prior to Sept. 13, 1950, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Nov. 9 to Mar. 5, Apr. 24 to May 7, and July 7-9. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--37 years, 46.3 ft³/s. 33.540 acre-ft/yr; median of yearly mean discharge. 33 ft³/s. 23.900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,810 ft³/s, Mar. 27, 1960, gage height. 16.86 ft; no flow at times in 1949-50, 1955-62, 1965-71, 1974-76, 1978-82.

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)
Mar. 1	----	800	*ac8.32	June 14	unknown	740	5.15
(b)	unknown	unknown	unknown	Sept. 18	1930	*2620	7.81
(b)	unknown	2000	c7.24				

a Ice jam.

b Sometime during period Apr. 23 to May 8.

c Floodmark.

Minimum daily discharge, 2.1 ft³/s Sept. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	8.3	4.5	12	30	600	66	170	55	33	4.6	2.2
2	8.8	8.4	4.5	12	32	500	68	160	49	32	4.4	3.4
3	8.4	8.5	5.0	12	32	400	83	160	44	28	4.0	4.5
4	11	9.0	5.0	12	34	320	110	140	41	24	4.0	3.3
5	12	9.8	5.0	12	34	240	119	130	42	20	3.9	2.6
6	15	9.7	5.0	12	33	180	112	110	39	24	3.9	2.9
7	13	9.4	5.5	11	31	121	98	600	45	19	4.8	2.8
8	11	8.8	5.5	10	30	98	89	290	42	17	4.4	2.3
9	8.9	8.5	6.0	10	29	120	84	189	38	16	6.2	2.6
10	8.2	8.0	6.0	11	28	112	78	195	112	16	8.3	2.8
11	8.4	8.0	6.5	11	28	100	72	158	112	19	6.0	2.8
12	10	8.0	6.5	12	28	108	65	120	186	18	4.5	2.5
13	13	7.5	6.5	13	28	123	68	99	368	15	3.9	2.1
14	17	7.5	7.0	14	28	114	85	93	448	13	4.0	3.1
15	20	7.5	7.0	15	28	107	53	88	410	13	3.6	7.2
16	18	7.5	7.5	15	28	112	126	83	239	12	3.3	38
17	14	7.0	7.5	15	30	118	333	74	163	10	2.8	43
18	11	7.0	8.0	16	30	174	412	67	134	9.2	2.9	691
19	9.9	6.5	8.0	17	30	162	353	62	112	8.7	3.3	741
20	8.7	6.0	8.5	18	25	132	366	60	97	7.7	3.0	212
21	8.9	6.0	9.0	19	25	129	332	59	92	7.6	2.6	121
22	9.1	6.0	10	20	27	156	221	55	76	7.6	2.6	79
23	9.0	5.5	10	21	30	150	190	57	62	6.8	2.3	104
24	9.3	5.5	10	22	40	140	540	57	66	6.3	2.3	89
25	9.1	5.5	10	22	60	140	360	55	75	6.1	3.0	66
26	8.7	5.0	9.5	22	150	121	250	55	58	5.8	5.9	51
27	8.0	5.0	9.5	23	300	100	220	57	46	5.5	4.2	43
28	8.2	5.0	10	23	380	80	230	62	39	5.1	3.2	37
29	8.3	4.5	10	24	---	95	220	65	47	4.8	3.0	33
30	7.4	4.5	11	25	---	80	200	65	45	4.5	2.7	30
31	8.1	---	12	28	---	72	---	61	---	4.4	2.5	---
TOTAL	328.0	213.4	236.0	509	1608	5204	5603	3696	3382	419.1	120.1	2425.1
MEAN	10.6	7.11	7.61	16.4	57.4	168	187	119	113	13.5	3.87	80.8
MAX	20	9.8	12	28	380	600	540	600	448	33	8.3	741
MIN	7.4	4.5	4.5	10	25	72	53	55	38	4.4	2.3	2.1
AC-FT	651	423	468	1010	3190	10320	11110	7330	6710	831	238	4810
CAL YR 1985	TOTAL	8449.54		MEAN	23.1	MAX	328	MIN	.15	AC-FT	16760	
WTR YR 1986	TOTAL	23743.7		MEAN	65.1	MAX	741	MIN	2.1	AC-FT	47100	

PONCA CREEK BASIN

31

06453600 PONCA CREEK AT VERDEL, NE

LOCATION.--Lat 42°48'40", long 98°10'35", in NE1/4NE1/4 sec.30, T.33 N., R.7 W., Knox County. Hydrologic Unit 10150001, near left bank at left downstream end of bridge on State Highway 12, 0.6 mi east of Verdel and 3.1 mi upstream from mouth.

DRAINAGE AREA.--812 mi².

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

REVISED RECORDS.--WSP 2117: Drainage area.

GAGE.--Water-stage recorder and nonrecording gage read once daily. Datum of gage 1,232.9 ft above National Geodetic Vertical Datum of 1929 (Nebraska Department of Roads reference marks). See WSP 1917 for history of changes prior to Nov. 15, 1962.

REMARKS.--Estimated daily discharges: Nov. 11 to Mar 5. Records good except for period of estimated record, which is poor.

AVERAGE DISCHARGE.--29 years, 77.5 ft³/s, 56,150 acre-ft/yr; median of yearly mean discharges, 59 ft³/s, 42,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,700 ft³/s Mar. 27, 1960, gage height, 15.10 ft, site and datum then in use; no flow for many days in 1957-60, 1965-72, 1974-77, 1979-81.

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)
Mar. 2	----	Ice jam	*a10.65	June 30	0800	1170	6.32
Apr. 24	1700	1740	7.56	Sept. 19	0900	1830	7.74
May 8	1330	2240	8.55	Sept. 20	1830	*2890	9.67
June 10	1430	1560	7.20				

a From floodmark.

Minimum daily discharge, 11 ft³/s Dec. 14-21, Aug. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	23	15	16	42	500	101	277	119	224	17	13
2	19	23	15	16	45	800	99	254	106	133	17	14
3	19	23	15	16	50	700	147	253	97	102	16	15
4	24	24	15	15	55	425	213	244	92	80	18	14
5	25	26	15	15	60	450	219	224	87	66	19	15
6	25	26	15	14	60	392	218	189	90	57	19	15
7	26	26	15	14	56	222	182	164	122	52	19	15
8	28	28	14	14	56	135	145	1210	140	49	17	15
9	25	28	14	15	54	173	123	798	107	46	17	16
10	25	26	13	16	54	188	114	488	789	45	17	17
11	24	25	13	16	54	166	106	379	693	55	17	17
12	27	23	12	17	54	189	95	301	341	49	20	16
13	25	22	12	17	54	222	97	235	364	43	19	16
14	26	21	11	18	56	210	228	193	481	40	17	20
15	28	20	11	18	56	192	190	180	578	38	15	22
16	31	19	11	18	56	192	220	177	440	35	12	137
17	31	18	11	19	60	226	529	166	302	31	12	342
18	30	18	11	19	60	332	663	145	223	28	12	137
19	28	17	11	20	60	377	569	129	173	46	12	1230
20	26	16	11	20	55	265	497	119	173	37	11	1800
21	26	16	11	21	55	231	473	116	137	29	12	939
22	25	15	12	22	58	247	377	113	290	28	13	380
23	25	15	12	24	60	306	310	118	191	25	12	240
24	23	15	13	24	62	263	880	117	117	23	12	231
25	22	15	13	24	80	236	664	106	99	23	12	193
26	23	15	13	25	150	220	386	127	105	22	59	148
27	22	15	14	26	350	188	361	140	97	22	63	116
28	22	15	14	28	450	162	383	146	88	21	28	98
29	22	15	15	30	---	130	392	166	103	19	21	87
30	20	15	15	33	---	121	320	156	612	17	17	77
31	22	---	16	37	---	119	---	137	---	16	15	---
TOTAL	763	603	408	627	2362	8579	9301	7567	7356	1501	587	6395
MEAN	24.6	20.1	13.2	20.2	84.4	277	310	244	245	48.4	18.9	213
MAX	31	28	16	37	450	800	880	1210	789	224	63	1800
MIN	19	15	11	14	42	119	95	106	87	16	11	13
AC-FT	1510	1200	809	1240	4690	17020	18450	15010	14590	2980	1160	12680
CAL YR 1985	TOTAL	20160.7		MEAN	55.2	MAX	474	MIN	4.9	AC-FT	39990	
WTR YR 1986	TOTAL	46049		MEAN	126	MAX	1800	MIN	11	AC-FT	91340	

NIOBRARA RIVER BASIN

06454000 NIOBRARA RIVER AT WYOMING-NEBRASKA STATE LINE

LOCATION.--Lat 42°39'33", long 104°03'54", in SE1/4SW1/4 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: Oct. 11-24, Nov. 11, 19, 20, 22, 23, Dec. 1, 2, Jan. 2-4, and Feb. 6, 7. Records good except for estimated daily discharges, which are fair. Diversions for irrigation of about 4,700 acres above station.

AVERAGE DISCHARGE.--31 years, 3.80 ft³/s, 2,750 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)
Dec. 24	1145	24	2.17	Feb. 26	1400	*30	2.28
Feb. 18	1515	28	2.23	July 1	0545	(a)	*3.19

a Backwater from moss in channel.

Minimum daily discharge, 1.2 ft³/s Jan. 6-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	2.3	2.0	1.8	2.0	10	3.7	5.6	3.5	6.2	1.7	2.1
2	1.8	2.2	2.0	2.0	2.1	9.4	3.8	5.6	3.2	5.0	1.9	2.2
3	1.8	2.2	2.0	2.5	2.1	8.9	4.3	5.5	3.2	4.3	2.1	2.1
4	1.9	2.2	2.0	2.0	2.1	8.4	4.7	5.5	3.5	4.0	2.7	2.0
5	1.9	2.2	2.1	1.3	2.0	8.2	5.1	5.2	3.8	3.8	2.6	2.2
6	1.9	2.2	2.0	1.2	2.0	7.8	5.1	4.9	4.2	3.6	2.2	2.4
7	1.8	2.0	2.0	1.2	2.2	7.6	4.8	5.3	4.4	3.7	2.1	2.5
8	1.8	2.2	2.0	1.2	2.2	7.1	4.6	5.4	5.2	3.4	2.4	2.2
9	1.9	2.0	2.1	1.2	2.2	6.5	4.6	6.5	7.9	3.0	2.4	2.4
10	1.9	2.0	2.0	1.2	2.2	6.0	4.8	5.7	12	3.4	2.4	3.7
11	1.9	2.0	2.0	1.3	2.2	5.7	4.7	5.1	3.8	3.2	2.5	2.9
12	1.9	2.0	2.0	1.4	2.2	5.7	4.5	4.9	2.4	3.1	2.5	2.7
13	1.9	2.0	1.9	1.4	2.4	5.5	4.8	4.6	3.7	2.5	2.5	2.7
14	1.9	2.0	2.1	1.4	2.2	5.3	4.3	4.5	4.4	2.2	2.6	2.7
15	1.9	2.0	1.8	1.4	2.3	5.4	4.3	4.4	5.2	2.1	2.6	2.9
16	1.9	2.0	1.8	1.5	2.5	5.2	4.2	4.4	7.2	1.8	2.1	3.0
17	1.9	2.0	1.8	1.5	3.2	5.5	4.4	4.3	9.0	1.3	2.0	3.0
18	1.9	2.1	1.8	1.7	9.4	5.5	6.3	4.3	8.5	1.3	1.9	2.0
19	1.9	2.1	3.2	1.7	7.8	5.2	5.1	4.6	7.8	1.6	1.9	3.5
20	1.9	2.1	1.7	1.9	4.2	5.5	4.6	4.4	7.8	4.7	1.9	2.1
21	1.9	2.1	1.8	1.6	3.8	5.1	4.8	4.6	8.2	4.2	2.1	2.2
22	1.9	2.1	1.9	1.5	5.3	4.7	4.8	4.6	7.9	2.8	1.9	2.6
23	1.9	2.2	1.9	1.6	5.9	4.6	4.8	4.6	6.5	2.3	2.0	2.7
24	1.9	2.4	3.0	1.6	5.8	4.2	5.6	4.6	6.2	2.4	2.0	3.2
25	1.9	2.3	2.1	1.7	6.0	4.0	6.9	4.4	6.5	2.3	2.0	3.4
26	1.9	2.1	1.8	1.6	20	4.0	7.4	4.4	6.7	1.9	2.0	2.7
27	1.9	1.9	2.0	1.6	11	4.0	7.6	4.2	6.2	1.7	2.0	2.7
28	1.9	1.9	1.9	1.7	13	4.1	6.6	4.0	5.6	1.6	2.0	3.5
29	1.9	2.4	1.9	1.7	---	4.1	5.9	3.7	5.0	1.5	2.0	3.2
30	2.1	2.1	1.9	1.8	---	3.9	5.8	3.7	5.4	1.5	2.0	3.2
31	2.1	---	1.9	1.9	---	3.9	---	3.5	---	1.6	2.1	---
TOTAL	58.8	63.3	62.4	49.1	130.3	181.0	152.9	147.0	174.9	88.0	67.1	80.7
MEAN	1.90	2.11	2.01	1.58	4.65	5.84	5.10	4.74	5.83	2.84	2.16	2.69
MAX	2.1	2.4	3.2	2.5	20	10	7.6	6.5	12	6.2	2.7	3.7
MIN	1.8	1.9	1.7	1.2	2.0	3.9	3.7	3.5	2.4	1.3	1.7	2.0
AC-FT	117	126	124	97	258	359	303	292	347	175	133	160
CAL YR 1985	TOTAL	957.2	MEAN	2.62	MAX	15	MIN	1.2	AC-FT	1900		
WTR YR 1986	TOTAL	1255.5	MEAN	3.44	MAX	20	MIN	1.2	AC-FT	2490		

NIORARA RIVER BASIN

33

06454100 NIOBRARA RIVER AT AGATE, NE

LOCATION.--Lat 42°25'22", long 103°47'28", in SW1/4 sec.6, T.28 N., R.55 W., Sioux County, Hydrologic Unit 10150002, on right bank 10 ft upstream from timber farm-vehicle bridge, 300 ft upstream from bridge on State Highway 29, 0.2 mi northwest of Agate, and 14.5 mi upstream from Whistle Creek.

DRAINAGE AREA.--840 mi², approximately.

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

GAGE.--Water-stage recorder. Elevation of gage is 4,405 ft, from topographic map. Prior to 1982 water year, elevation published as 4,440 ft. Prior to Nov. 3, 1960, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Diversions for irrigation of about 6,700 acres above station.

AVERAGE DISCHARGE.--29 years, 13.9 ft³/s, 10,070 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 181 ft³/s June 23, 1959, gage height, 5.00 ft, from floodmark; minimum daily, 1.0 ft³/s Mar. 29, 1975.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 19	1300	54	3.75	Apr. 25	1515	41	3.56
Feb. 27	1130	*80	*4.13	Sept. 3	1200	37	3.52

Minimum daily discharge, 4.8 ft³/s Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	12	8.7	12	16	36	16	22	7.4	9.7	8.6	11
2	4.8	12	8.9	10	17	38	17	21	7.6	8.5	8.5	20
3	5.6	12	7.7	9.8	18	40	18	20	7.0	7.9	8.8	32
4	5.5	12	7.8	9.9	19	39	20	19	6.6	6.3	9.3	26
5	5.5	12	8.2	11	18	36	20	19	8.1	5.8	9.2	15
6	5.7	12	8.7	11	18	31	21	19	9.3	5.7	8.5	13
7	5.9	11	9.4	11	17	30	22	19	9.3	6.7	7.5	13
8	6.2	12	10	12	16	29	23	20	8.1	5.8	7.7	13
9	6.6	11	9.8	12	17	28	22	23	9.9	5.8	7.5	13
10	9.2	9.9	9.9	12	16	29	20	25	19	6.8	7.3	12
11	11	9.5	9.3	12	16	26	19	21	23	6.7	7.5	13
12	12	12	9.6	12	15	26	19	19	19	7.8	7.9	12
13	12	12	10	13	15	26	19	18	17	9.3	8.0	12
14	12	12	9.6	13	16	25	17	17	18	9.1	8.0	13
15	12	12	10	13	15	25	17	14	17	8.8	7.9	12
16	12	13	9.8	13	16	26	18	13	15	9.2	7.8	12
17	11	14	9.8	13	17	29	17	13	14	8.8	7.6	12
18	11	14	10	13	27	28	21	12	13	8.6	7.8	14
19	11	10	9.7	13	35	27	22	11	12	8.5	8.4	16
20	11	8.3	10	14	24	27	21	9.8	9.0	9.1	7.9	17
21	11	8.8	10	13	27	26	21	10	9.2	12	8.4	18
22	11	10	11	13	34	25	19	9.8	9.9	16	8.5	19
23	11	7.4	11	14	35	24	15	9.5	9.9	15	8.4	16
24	12	5.8	11	14	34	23	21	9.1	8.7	12	8.3	15
25	11	6.2	11	13	37	20	31	9.1	8.8	11	8.2	16
26	11	8.6	11	14	45	18	29	8.9	9.0	11	8.0	16
27	11	11	11	14	46	18	28	8.9	9.1	10	7.8	16
28	12	9.3	11	14	38	17	25	8.7	8.8	9.9	7.9	15
29	12	9.6	12	14	---	17	24	8.7	8.7	9.7	8.0	14
30	11	9.4	12	14	---	17	23	8.8	9.4	9.4	7.6	14
31	12	---	12	16	---	17	---	8.7	---	8.7	8.6	---
TOTAL	301.1	318.8	309.9	392.7	664	823	625	455.0	340.8	279.6	251.4	460
MEAN	9.71	10.6	10.0	12.7	23.7	26.5	20.8	14.7	11.4	9.02	8.11	15.3
MAX	12	14	12	16	46	40	31	25	23	16	9.3	32
MIN	4.8	5.8	7.7	9.8	15	17	15	8.7	6.6	5.7	7.3	11
AC-FT	597	632	615	779	1320	1630	1240	902	676	555	499	912
CAL YR 1985	TOTAL	3768.1		MEAN	10.3	MAX	30	MIN	2.5	AC-FT	7470	
WTR YR 1986	TOTAL	5221.3		MEAN	14.3	MAX	46	MIN	4.8	AC-FT	10360	

NIOBRARA RIVER BASIN

06454500 NIOBRARA RIVER ABOVE BOX BUTTE RESERVOIR, NE

LOCATION.--Lat 42°27'35", long 103°10'15", in NE1/4 sec.27, T.29 N., R.50 W., Dawes County, Hydrologic Unit 10150002, on right bank 1 mi upstream from high-water line of Box Butte Reservoir and 6 mi east of Marsland.

DRAINAGE AREA.--1,400 mi², approximately.

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

REVISED RECORDS.--WSP 1917: 1951, 1952(P), 1957(M).

GAGE.--Water-stage recorder. Concrete control since Oct. 12, 1953. Datum of gage is 4,012.47 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 27, 1949, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Dec. 11-31, Jan. 1-8, 18-22, and Feb. 9-14. Records good except for periods of estimated record, which are fair. Diversions for irrigation of about 12,800 acres above station.

AVERAGE DISCHARGE.--40 years, 29.5 ft³/s, 21,370 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,950 ft³/s July 28, 1951, gage height, 10.30 ft, from rating curve extended above 230 ft³/s on basis of step-backwater analysis and slope-area measurement at gage height 9.22 ft; minimum daily, 1.6 ft³/s Sept. 26, 1953.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 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	*114	4.20	Jan. 2	1330	(a)	*5.67

a Backwater from ice.

Minimum daily discharge, 10 ft³/s Dec. 26-28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	22	18	25	28	99	41	48	23	20	17	19
2	16	24	18	20	29	101	39	46	18	19	16	20
3	17	24	18	28	31	100	38	46	17	18	16	21
4	17	25	19	24	33	82	49	43	18	17	17	20
5	14	25	19	20	32	70	56	40	19	16	16	20
6	14	24	19	25	32	66	52	38	18	17	16	22
7	16	23	19	30	29	64	56	37	17	17	15	22
8	17	24	19	23	29	61	58	38	17	17	15	23
9	19	23	19	20	28	59	59	45	41	18	14	18
10	21	19	19	21	27	57	52	46	74	18	14	25
11	22	21	15	21	27	57	50	46	58	20	14	26
12	23	22	24	22	27	57	49	45	46	20	15	26
13	23	22	23	21	27	56	49	43	63	21	14	26
14	23	22	22	21	27	54	46	38	80	21	14	25
15	23	26	21	21	27	54	44	37	80	20	14	24
16	23	24	20	21	27	55	46	38	65	19	14	23
17	25	26	20	22	28	58	45	38	49	21	14	25
18	24	27	20	22	36	61	56	36	40	23	14	31
19	24	20	19	22	41	58	55	34	34	20	14	30
20	24	15	19	22	34	61	55	34	32	21	15	31
21	25	20	19	18	34	62	53	33	30	22	15	33
22	25	25	19	25	38	61	51	25	26	22	15	34
23	22	21	16	22	49	55	50	24	25	20	15	33
24	22	17	12	22	55	51	49	31	23	17	15	33
25	22	13	11	22	67	49	62	27	18	18	17	33
26	21	15	10	21	92	48	66	26	20	17	18	33
27	21	17	10	22	108	48	70	26	20	17	18	33
28	21	19	10	23	103	46	62	27	20	17	18	26
29	21	19	18	24	---	43	56	24	20	17	17	25
30	21	19	25	24	---	43	50	25	20	16	16	26
31	21	---	30	27	---	41	---	25	---	17	16	---
TOTAL	642	643	570	701	1145	1877	1564	1109	1031	583	478	786
MEAN	20.7	21.4	18.4	22.6	40.9	60.5	52.1	35.8	34.4	18.8	15.4	26.2
MAX	25	27	30	30	108	101	70	48	80	23	18	34
MIN	14	13	10	18	27	41	38	24	17	16	14	18
AC-FT	1270	1280	1130	1390	2270	3720	3100	2200	2040	1160	948	1560
CAL YR 1985	TOTAL	7711.5	MEAN	21.1	MAX	177	MIN	5.9	AC-FT	15300		
WTR YR 1986	TOTAL	11129	MEAN	30.5	MAX	108	MIN	10	AC-FT	22070		

NIOBRARA RIVER BASIN

35

06455000 BOX BUTTE RESERVOIR NEAR HEMINGFORD, NE

LOCATION.--Lat 42°27'30", long 103°04'03", in sec.28, T.29 N., R.49 W., Dawes County, Hydrologic Unit 10150002, in control tower on dam near left bank on Niobrara River, 9 mi north of Hemingford.

DRAINAGE AREA.--1,460 mi², approximately.

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

GAGE.--Electric tape gage read three or more times a month. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earthfill dam; outlet gate first closed Oct. 3, 1945. Usable capacity, 30,420 acre-ft between elevations 3,969.00 ft, sill of outlet gate, and 4,007.00 ft, crest of spillway. Dead storage, 640 acre-ft. Figures given herein represent total contents. Water is used for irrigation of Mirage Flats project of Bureau of Reclamation.

COOPERATION.--Records of elevations and capacity table furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 32,210 acre-ft Mar. 26, 1948, elevation, 4,007.70 ft; minimum observed since operation of reservoir began, 640 acre-ft Aug. 26, 1985, elevation, 3,969.00 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 18,160 acre-ft June 30 and July 1, elevation, 3,997.70 ft; minimum observed, 2,370 acre-ft Oct. 5, elevation, 3,976.74 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

Date	Elevation (feet) ^{a/}	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	3,975.58	2,020	-
Oct. 31	3,980.18	3,800	+1,780
Nov. 30	3,982.03	4,760	+960
Dec. 31	3,984.48	6,170	+1,410
CAL YR 1985	-	-	-2,800
Jan. 31	3,986.10	7,220	+1,050
Feb. 28	3,989.52	9,860	+2,640
Mar. 31	3,993.20	13,270	+3,410
Apr. 30	3,995.54	15,700	+2,430
May 31	3,996.78	17,080	+1,380
June 30	3,997.70	18,160	+1,080
July 31	3,988.73	9,190	-8,970
Aug. 31	3,977.93	2,800	-6,390
Sept. 30	3,980.28	3,850	+1,050
WTR YR 1986	-	-	+1,830

a Elevations read on or near last day of month.

NIOBRARA RIVER BASIN

06455500 NIOBRARA RIVER BELOW BOX BUTTE RESERVOIR, NE

LOCATION.--Lat 42°27'25", long 103°04'05", in SE1/4 sec.28, T.29 N., R.49 W., Dawes County, Hydrologic Unit 10150003, on left bank 0.2 mi downstream from Box Butte Reservoir and 9 mi north of Hemingford.

DRAINAGE AREA.--1,460 mi², approximately.

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

GAGE.--Water-stage recorder. Concrete control since Apr. 11, 1953. Datum of gage is 3,950.08 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 30, Dec. 1, 26, 27, and Jan. 4, 13. Records good except for periods of estimated record which are fair. Flow completely regulated by Box Butte Reservoir (station 06455000).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 616 ft³/s July 2, 1968, gage height, 5.04 ft; minimum daily, 0.10 ft³/s for many days in 1947, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 180 ft³/s July 28, gage height, 4.24 ft; minimum daily, 0.68 ft³/s Oct. 5, 6, 26, Nov. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.80	.74	.77	.77	.83	1.1	1.1	1.0	1.0	61	106	88
2	.80	.71	.77	.77	.83	1.1	1.1	1.0	1.0	103	65	84
3	.80	.71	.77	.77	.83	1.1	1.1	1.0	1.0	131	78	76
4	.71	.71	.77	.77	.86	1.1	1.2	1.0	1.1	139	99	65
5	.68	.71	.77	.77	.86	1.1	1.2	1.0	1.1	141	118	65
6	.68	.68	.77	.77	.86	1.1	1.2	1.0	1.1	153	136	65
7	.88	.98	.77	.77	.86	1.1	1.1	.98	1.0	169	143	64
8	.74	.89	.77	.77	.86	1.1	1.1	.98	1.0	172	143	31
9	.77	.83	.77	.77	.86	1.1	1.2	.95	1.2	161	134	.98
10	.74	.83	.77	.77	.86	1.1	1.2	.92	1.4	151	141	1.1
11	.83	.80	.77	.77	.86	1.1	1.2	.92	1.2	141	161	.95
12	.80	.77	.77	.80	.86	1.1	1.1	.92	1.1	134	158	.92
13	.77	.80	.77	.80	.86	1.1	1.1	.92	1.2	129	136	.86
14	.74	.77	.77	.80	.86	1.1	1.5	.95	1.1	127	125	.86
15	.74	.77	.77	.80	.86	1.2	.95	.95	1.1	136	118	.83
16	.74	.77	.77	.80	.86	1.1	.95	1.0	1.1	143	116	.83
17	.74	.77	.77	.83	.86	1.2	.95	.95	1.0	148	129	.83
18	.74	.77	.77	.83	1.0	1.1	1.1	.92	1.0	146	148	.95
19	.74	.77	.77	.83	.98	1.1	1.0	.92	1.0	139	153	.92
20	.74	.77	.77	.86	.98	1.1	.98	1.3	1.0	146	148	.89
21	.74	.77	.80	.83	.98	1.1	.98	1.1	1.0	146	143	.83
22	.74	.77	.77	.83	.98	1.1	.95	1.1	1.0	134	134	.86
23	.71	.77	.77	.83	.98	1.1	.95	1.1	.98	136	129	.83
24	.71	.80	.77	.80	1.0	1.1	.95	1.1	.98	139	127	.83
25	.71	.80	.80	.80	1.0	1.1	1.2	1.1	.98	139	125	.80
26	.68	.77	.80	.80	1.0	1.1	1.1	1.1	.98	139	118	.80
27	.71	.77	.80	.83	1.0	1.1	1.0	1.1	.98	151	112	.80
28	.71	.77	.80	.83	1.1	1.0	1.0	1.2	.95	169	110	.80
29	.71	.77	.80	1.2	---	1.0	1.0	1.1	.98	180	103	.80
30	.71	.77	.80	.86	---	1.1	1.0	1.1	1.0	177	95	.80
31	.74	---	.77	.83	---	1.1	---	1.1	---	161	94	---
TOTAL	23.05	23.31	24.08	25.26	25.53	34.1	32.46	31.78	31.53	4441	3845	557.07
MEAN	.74	.78	.78	.81	.91	1.10	1.08	1.03	1.05	143	124	18.6
MAX	.88	.98	.80	1.2	1.1	1.2	1.5	1.3	1.4	180	161	.88
MIN	.68	.68	.77	.77	.83	1.0	.95	.92	.95	61	65	.80
AC-FT	46	46	48	50	51	68	64	63	63	8810	7630	1100
CAL YR 1985	TOTAL	7954.30		MEAN	21.8	MAX	164	MIN	.66	AC-FT	15780	
WTR YR 1986	TOTAL	9094.17		MEAN	24.9	MAX	180	MIN	.68	AC-FT	18040	

NIORARA RIVER BASIN

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06457500 NIOBRARA RIVER NEAR GORDON, NE

LOCATION.--Lat 42°38'00", long 102°12'40", in NE1/4 sec.26, T.31 N., R.42 W., Sheridan County, Hydrologic Unit 10150003, on left bank 250 ft upstream from bridge on State Highway 27, 4 mi downstream from Rush Creek, and 11 mi south of Gordon.

DRAINAGE AREA.--4,290 mi², approximately.

PERIOD OF RECORD.--August 1928 to September 1932, October 1945 to current year. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WDR NE-67: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,432.49 ft above National Geodetic Vertical Datum of 1929. Aug. 24, 1928, to June 30, 1932, nonrecording gage at bridge 4 mi downstream at different datum. Dec. 3, 1945, to Mar. 24, 1970, water-stage recorder at datum 2.0 ft higher, Mar. 25, 1970, to July 28, 1982, at datum 1.0 ft higher.

REMARKS.--Estimated daily discharges: Nov. 10-13, 19 to Jan. 21, 25-28, and Feb. 7-28. Records good except for periods of estimated record, which are fair. Natural flow of stream affected by storage in Box Butte Reservoir (station 06455000) for irrigation of Mirage Flats project and return flow from irrigated land.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,130 ft³/s May 21, 1962, gage height, 5.25 ft; minimum daily, 16 ft³/s Dec. 20, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 351 ft³/s June 10, gage height, 2.07 ft; maximum gage height, 3.06 ft on Feb. 20, backwater from ice; minimum daily discharge, 41 ft³/s July 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102	102	92	98	157	150	130	126	95	113	135	70
2	102	103	90	98	162	141	119	124	88	98	135	132
3	95	97	86	96	180	141	150	128	85	75	78	91
4	87	98	84	94	179	144	191	125	87	67	95	82
5	88	93	86	90	168	149	189	111	116	59	98	75
6	91	89	88	94	166	154	228	107	137	63	78	88
7	91	95	90	98	165	154	194	110	116	70	59	106
8	87	114	92	100	160	164	142	141	108	76	57	109
9	92	93	90	106	140	164	125	186	147	72	54	95
10	102	50	88	106	120	204	139	180	280	88	59	149
11	121	80	88	110	110	210	138	147	259	95	70	130
12	148	80	88	114	100	192	122	117	249	109	92	102
13	144	100	90	120	100	186	117	117	156	106	98	91
14	120	106	94	125	100	186	112	112	122	91	83	95
15	112	93	100	130	110	180	117	104	113	95	79	99
16	106	91	102	130	120	173	132	92	101	88	71	104
17	100	96	102	130	130	185	131	94	87	78	61	101
18	95	88	102	125	140	190	176	108	68	82	66	146
19	99	80	102	120	120	181	216	101	73	72	62	137
20	98	76	102	114	114	167	166	100	99	92	51	113
21	101	100	102	110	120	185	141	99	91	132	53	109
22	103	90	100	107	125	195	126	94	84	130	67	108
23	95	90	100	99	130	184	121	89	75	83	63	106
24	101	100	98	95	135	177	119	94	69	71	69	97
25	102	110	98	96	140	174	139	95	67	122	69	90
26	96	106	98	100	140	161	155	83	62	88	69	77
27	99	104	98	110	145	158	147	85	64	59	70	77
28	105	100	98	130	150	150	147	110	59	52	68	73
29	96	96	98	133	---	144	144	118	57	45	68	70
30	95	94	98	141	---	138	128	115	118	41	69	78
31	97	---	98	152	---	128	---	111	---	98	67	---
TOTAL	3170	2814	2942	3471	3826	5209	4401	3523	3332	2610	2313	3000
MEAN	102	93.8	94.9	112	137	168	147	114	111	84.2	74.6	100
MAX	148	114	102	152	180	210	228	186	280	132	135	149
MIN	87	50	84	90	100	128	112	83	57	41	51	70
AC-FT	6290	5580	5840	6880	7590	10330	8730	6990	6610	5180	4590	5950
CAL YR 1985	TOTAL	34627	MEAN	94.9	MAX	179	MIN	40	AC-FT	68680		
WTR YR 1986	TOTAL	40611	MEAN	111	MAX	280	MIN	41	AC-FT	80550		

NIOBRARA RIVER BASIN

06459175 SNAKE RIVER AT DOUGHBOY, NE

LOCATION.--Lat 42°36'51", long 101°16'38", in NE1/4NW1/4, sec.2, T.30 N., R.34 W., Cherry County, Hydrologic Unit 10150005, on left bank 21 ft downstream from centerline of Doughboy bridge, 24 mi southwest of Nenzel.

DRAINAGE AREA.--405 mi², approximately, of which about 26 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1981 to current year. Discharge measurements only, July 1963, April 1980, May-September 1981.

GAGE.--Water stage recorder. Datum of gage is 3,098.92 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 11 to Dec. 9, Dec. 12-17, 25, 29 and Jan. 5-6. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--5 years (1982-86), 166 ft³/s, 120,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 358 ft³/s Aug. 18, 1982, gage height, 1.84 ft; maximum gage height, 2.90 ft Jan. 7, 1982, backwater from ice; minimum daily discharge, 111 ft³/s Feb. 11, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 332 ft³/s June 9, gage height, 1.41 ft; maximum gage height, 2.81 ft Dec. 12, backwater from ice; minimum daily discharge, 111 ft³/s Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	172	165	150	166	199	149	170	180	140	172	228	179
2	172	163	170	168	213	146	165	183	136	171	207	198
3	169	158	180	168	226	148	185	187	135	164	180	173
4	163	159	190	156	234	148	206	188	135	164	174	163
5	166	161	190	160	197	156	222	178	138	159	172	161
6	172	160	190	155	196	171	269	178	141	154	173	162
7	176	177	190	148	179	170	282	176	137	155	166	164
8	164	189	190	157	165	172	259	193	130	157	166	158
9	165	183	200	172	136	172	222	216	217	159	165	163
10	169	179	173	174	116	169	196	205	278	173	164	177
11	188	175	180	180	111	173	188	193	285	183	162	178
12	206	175	150	175	122	181	177	185	281	172	174	162
13	202	180	140	172	123	175	173	181	285	170	178	156
14	192	185	160	184	124	164	166	178	254	169	171	152
15	187	195	165	185	134	163	184	174	212	168	166	156
16	184	200	170	186	143	161	194	174	184	155	162	160
17	173	200	200	184	171	162	203	167	168	159	157	164
18	175	200	188	185	180	164	231	166	156	156	158	174
19	173	185	178	188	171	154	233	162	150	157	157	173
20	175	175	181	193	162	154	245	162	184	152	155	186
21	175	150	177	180	130	162	231	160	169	157	154	185
22	176	160	175	169	143	171	212	156	156	156	159	178
23	172	165	173	187	149	169	199	153	154	158	156	178
24	170	165	157	188	164	155	190	146	151	157	152	171
25	172	170	160	186	188	166	188	142	154	161	151	169
26	169	165	156	176	199	176	182	149	156	162	155	164
27	167	165	160	177	167	178	177	154	158	158	155	158
28	169	170	155	179	144	180	171	163	154	154	157	161
29	165	165	160	186	---	178	177	164	152	155	155	162
30	159	160	158	191	---	175	183	153	156	154	157	163
31	163	---	158	199	---	172	---	147	---	204	161	---
TOTAL	5400	5199	5324	5474	4586	5134	6080	5313	5306	5045	5147	5048
MEAN	174	173	172	177	164	166	203	171	177	163	166	168
MAX	206	200	200	199	234	181	282	216	285	204	228	198
MIN	159	150	140	148	111	146	165	142	130	152	151	152
AC-FT	10710	10310	10560	10860	9100	10180	12060	10540	10520	10010	10210	10010
CAL YR 1985	TOTAL	60396	MEAN	165	MAX	220	MIN	125	AC-FT	119800		
WTR YR 1986	TOTAL	63056	MEAN	173	MAX	285	MIN	111	AC-FT	125100		

NIORARA RIVER BASIN

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06459300 MERRITT RESERVOIR NEAR BURGE, NE

LOCATION.--Lat 42°38'06", long 100°52'18", in SW1/4NW1/4 sec.29, T.31 N., R.30 W., Cherry County, Hydrologic Unit 10150005, in control house of outlet works of Merritt Dam, 8.1 mi southwest of Burge and 23 mi southwest of Valentine.

DRAINAGE AREA.--640 mi², approximately, of which about 44 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--February 1964 to current year.

REVISED RECORDS.--WDR NE-67: Drainage area.

GAGE.--Direct reading, single vertical column, mercury-well type manometer read once daily. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earthfill dam; storage began Feb. 19, 1964. Usable capacity, 72,872 acre-ft between elevations 2,875.0 ft, sill of canal outlet works, and 2,946.0 ft, crest of spillway. Dead and inactive storage, 1,614 acre-ft below elevation 2,875.0 ft. Figures given herein represent total contents. Water is used for irrigation of Ainsworth Unit of Bureau of Reclamation.

COOPERATION.--Records of elevations and capacity table furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 78,040 acre-ft May 21, 1982, elevation 2,947.2 ft; minimum since appreciable storage was attained, 20,060 acre-ft Oct. 1, 1968, elevation, 2,916.1 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 73,630 acre-ft June 16-18, elevation, 2,945.7 ft; minimum observed, 42,200 acre-ft Aug. 19, elevation, 2,932.4 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	2,939.2	56,490	-
Oct. 31	2,944.0	68,830	+12,340
Nov. 30	2,943.9	68,560	-270
Dec. 31	2,944.0	68,830	+270
CAL YR 1985	-	-	0
Jan. 31	2,944.0	68,830	0
Feb. 28	2,944.0	68,830	0
Mar. 31	2,944.0	68,830	0
Apr. 30	2,944.5	70,230	+1,400
May 31	2,944.6	70,500	+270
June 30	2,944.8	71,060	+560
July 31	2,936.2	49,710	-21,350
Aug. 31	2,932.6	42,560	-7,150
Sept. 30	2,938.1	53,910	+11,350
WTR YR 1986	-	-	-2,580

NIOBRARA RIVER BASIN

06459500 SNAKE RIVER NEAR BURGE, NE

LOCATION.--Lat 42°39'15", long 100°51'28", in NE1/4 sec.20, T.31 N., R.30 W., Cherry County, Hydrologic Unit 10150005, on right bank 150 ft downstream from Nebraska National Forest boundary, 2.1 mi downstream from Merritt Dam, 6.5 mi southwest of Burge, and 22 mi southwest of Valentine.

DRAINAGE AREA.--660 mi², approximately, of which about 44 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--June 1947 to current year.

REVISED RECORDS.--WSP 1279: 1950(M), 1951(P). WDR NE-67,72: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,805.36 ft above National Geodetic Vertical Datum of 1929, (levels by Bureau of Reclamation).

REMARKS.--No estimated daily discharges. Records good. Natural flow affected since February 1964 by storage in Merritt Reservoir (station 06459300) 2.1 mi upstream.

AVERAGE DISCHARGE.--23 years (1963-86), 154 ft³/s, 111,600 acre-ft/yr, since storage and diversion began.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,170 ft³/s Feb. 7, 1963, gage height, 6.96 ft, release of storage behind temporary construction dike, from rating curve extended above 520 ft³/s on basis of slope-area measurement at gage height, 5.39 ft; minimum daily, 5.8 ft³/s May 24-27, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 393 ft³/s Feb. 26, gage height, 2.33 ft; maximum gage height, 2.40 ft Mar. 20, backwater from trash; minimum daily discharge, 13 ft³/s Oct. 1-10, 12-17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	171	213	265	323	357	262	268	151	151	157	27
2	13	232	212	266	324	357	253	256	151	151	238	26
3	13	254	206	266	324	301	254	258	148	151	238	26
4	13	254	202	266	324	266	255	256	148	150	238	27
5	13	255	202	266	361	266	273	256	146	116	235	28
6	13	254	202	266	385	266	287	255	141	97	235	29
7	13	254	202	266	388	266	293	256	142	95	235	29
8	13	252	230	266	348	266	296	258	140	93	234	29
9	13	254	269	266	285	266	296	255	140	60	155	29
10	13	254	307	266	262	266	296	254	141	45	26	30
11	14	254	314	266	228	266	297	209	138	45	26	29
12	13	254	283	266	202	266	301	254	159	46	26	29
13	13	254	266	266	202	266	298	252	175	45	26	29
14	13	254	262	266	227	266	288	252	176	45	26	30
15	13	254	262	266	250	266	262	251	178	71	26	25
16	13	253	262	266	250	266	261	250	205	87	26	15
17	13	252	267	266	296	285	261	250	264	87	26	15
18	49	265	269	266	324	319	262	184	264	87	26	15
19	82	275	263	266	324	338	262	139	260	86	26	15
20	82	268	262	295	324	335	262	148	258	84	25	16
21	82	254	262	319	324	328	262	149	258	84	25	15
22	82	254	262	319	324	328	262	152	258	84	25	16
23	82	232	262	319	324	328	282	141	258	84	25	16
24	82	211	262	300	328	308	296	151	258	84	25	17
25	82	229	262	270	328	296	296	151	256	84	26	17
26	83	266	262	270	367	277	296	151	177	84	26	18
27	119	266	262	270	393	260	296	151	151	84	26	18
28	145	266	262	301	370	258	295	152	151	81	26	18
29	145	266	262	323	---	258	292	153	154	46	26	18
30	145	254	262	323	---	258	292	151	152	46	26	18
31	145	---	262	320	---	268	---	152	---	54	26	---
TOTAL	1627	7515	7837	8682	8709	8917	8388	6415	5598	2607	2532	669
MEAN	52.5	251	253	280	311	288	280	207	187	84.1	81.7	22.3
MAX	145	275	314	323	393	357	301	268	264	151	238	30
MIN	13	171	202	265	202	258	253	139	138	45	25	15
AC-FT	3230	14910	15540	17220	17270	17690	16640	12720	11100	5170	5020	1330
CAL YR 1985	TOTAL	56939	MEAN	156	MAX	319	MIN	13	AC-FT	112900		
WTR YR 1986	TOTAL	69496	MEAN	190	MAX	393	MIN	13	AC-FT	137800		

NIOBRARA RIVER BASIN

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06461000 MINNECHADUZA CREEK AT VALENTINE, NE

LOCATION.--Lat 42°53'10", long 100°33'10", in SW1/4 sec.30, T.34 N., R.27 W., Cherry County, Hydrologic Unit 10150004, on right bank 500 ft downstream from powerplant in city park at north edge of Valentine and 4 mi upstream from mouth.

DRAINAGE AREA.--390 mi², approximately, of which about 200 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--December 1947 to current year.

REVISED RECORDS.--WDR NE-67: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,470 ft, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by powerplant 500 ft above station.

AVERAGE DISCHARGE.--38 years (1948-86), 34.2 ft³/s, 24,780 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,100 ft³/s Mar. 22, 1960, gage height, 8.0 ft; minimum daily, 2.3 ft³/s July 13, 14, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 207 ft³/s Mar. 24, gage height, 3.12 ft; minimum daily, 5.2 ft³/s June 28 and Aug. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	27	28	31	36	130	44	80	38	33	27	18
2	37	13	26	32	48	138	45	74	46	34	15	35
3	37	28	24	34	57	118	62	63	36	32	24	16
4	33	43	26	33	81	114	68	62	36	9.0	33	30
5	15	30	28	29	103	110	85	59	29	22	35	28
6	32	28	29	30	99	97	103	41	34	24	16	7.0
7	45	33	31	30	97	83	122	55	11	39	19	20
8	36	25	32	31	66	74	127	44	27	14	23	39
9	19	16	33	33	59	70	112	72	45	28	9.9	27
10	28	23	34	34	59	64	89	79	50	27	18	16
11	26	32	32	36	59	63	73	83	39	27	36	23
12	28	49	29	35	53	67	66	78	67	16	15	27
13	39	37	29	37	40	71	40	71	65	28	15	25
14	46	35	30	37	42	71	56	65	62	38	23	28
15	34	38	32	36	23	72	57	60	61	25	14	29
16	36	14	31	35	38	75	48	50	45	24	6.2	39
17	38	39	32	39	48	82	67	29	62	17	12	26
18	34	51	30	36	45	93	70	45	42	19	33	43
19	16	35	30	42	40	87	76	51	31	11	24	41
20	33	5.4	31	49	38	83	100	58	41	19	14	40
21	44	35	31	43	26	87	123	34	16	32	20	39
22	33	35	36	37	29	94	117	33	28	16	19	39
23	30	19	39	24	43	99	102	61	42	18	5.2	38
24	29	32	37	47	50	137	84	41	25	18	9.6	32
25	28	45	30	35	49	122	78	20	22	27	28	29
26	14	31	31	36	56	120	90	39	5.6	6.0	15	38
27	28	33	32	40	87	96	83	46	32	12	12	23
28	39	10	29	39	110	79	82	46	5.2	39	21	30
29	35	29	31	45	---	69	79	46	18	17	14	38
30	30	30	32	42	---	59	82	45	39	8.0	7.1	28
31	25	---	32	43	---	60	---	33	---	8.2	14	---
TOTAL	977	900.4	957	1130	1581	2784	2430	1663	1099.8	687.2	577.0	891.0
MEAN	31.5	30.0	30.9	36.5	56.5	89.8	81.0	53.6	36.7	22.2	18.6	29.7
MAX	46	51	39	49	110	138	127	83	67	39	36	43
MIN	14	5.4	24	24	23	59	40	20	5.2	6.0	5.2	7.0
AC-FT	1940	1790	1900	2240	3140	5520	4820	3300	2180	1360	1140	1770
CAL YR 1985	TOTAL	10546.7	MEAN	28.9	MAX	72	MIN	2.3	AC-FT	20920		
WTR YR 1986	TOTAL	15677.4	MEAN	43.0	MAX	138	MIN	5.2	AC-FT	31100		

NIOBRARA RIVER BASIN

06461500 NIOBRARA RIVER NEAR SPARKS, NE

LOCATION.--Lat 42°54'10", long 100°21'40", in SE1/4 sec.22, T.34 N., R.26 W., Cherry County, Hydrologic Unit 10150004, on left bank 18 ft downstream from highway bridge, 2.2 mi downstream from Big Beaver Creek, 5.5 mi downstream from Minnehaduzza Creek, and 6.5 mi southwest of Sparks.

DRAINAGE AREA.--8,090 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1945 to current year. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 1209: 1947(M), 1948-50(P). WDR NE-67: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,287.57 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 15 to Jan. 24. Records good except for estimated record, which is poor. Natural flow of stream affected by irrigation and power developments, storage in Box Butte Reservoir (station 06455000), and since May 1964 by storage in Merritt Reservoir (station 06459300).

AVERAGE DISCHARGE.--41 years, 774 ft³/s, 560,800 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft³/s Mar. 5, 1949, gage height, 6.73 ft, from rating curve extended above 3,800 ft³/s; maximum gage height recorded, 10.06 ft Feb. 7, 1973, ice jam; minimum daily discharge, 100 ft³/s Jan. 10, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,560 ft³/s Feb. 27, gage height, 3.49 ft; maximum gage height, 7.53 ft Jan. 22, backwater from ice; minimum daily, 453 ft³/s July 3, Aug. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	559	677	850	840	958	1330	952	1080	764	806	600	539
2	546	717	950	840	1000	1420	852	1000	788	751	772	696
3	539	823	1000	820	1060	1390	910	941	772	741	755	554
4	547	857	1100	800	1160	1260	1270	917	747	655	774	548
5	496	821	1150	800	1200	1220	1310	910	729	641	797	569
6	505	832	1150	800	1210	1170	1230	893	762	588	689	524
7	528	825	1150	800	1190	1150	1200	886	731	582	695	555
8	526	857	950	900	1110	1060	1250	1030	726	545	698	573
9	511	889	800	950	979	1010	1190	1070	781	589	782	569
10	508	855	750	900	882	1040	1110	1030	1020	565	562	580
11	509	857	870	820	804	1020	1090	1000	1030	604	478	632
12	582	789	1000	800	673	1120	1120	922	948	570	453	580
13	593	868	1200	750	718	1070	1150	967	981	588	460	590
14	618	889	1100	740	793	1010	1240	926	988	580	503	596
15	574	900	1100	780	859	1000	941	894	912	541	484	593
16	557	850	1100	760	930	1040	917	894	883	570	470	576
17	532	820	1050	750	963	1140	945	839	889	557	461	571
18	528	820	1000	740	990	1330	1230	846	900	555	551	620
19	557	780	960	800	1000	1310	1160	766	866	605	497	670
20	610	660	940	850	1010	1290	1130	786	870	546	468	658
21	637	560	900	850	919	1240	1170	783	887	567	479	635
22	619	560	880	900	918	1240	1110	778	896	589	495	612
23	622	650	830	900	986	1270	1020	786	908	557	476	611
24	610	720	800	1100	1030	1300	1160	735	867	572	474	614
25	600	800	800	917	1020	1170	1140	685	831	570	515	588
26	575	860	800	891	1150	1130	1200	717	798	528	503	579
27	607	840	840	937	1410	1020	1320	771	729	518	542	541
28	681	740	860	883	1350	977	1240	790	686	565	543	551
29	688	740	860	969	---	953	1110	779	802	543	516	564
30	702	740	860	962	---	914	1110	788	793	453	507	557
31	683	---	860	973	---	911	---	754	---	521	504	---
TOTAL	17949	23596	29460	26522	28272	35505	33777	26963	25284	18162	17503	17645
MEAN	579	787	950	856	1010	1145	1126	870	843	586	565	588
MAX	702	900	1200	1100	1410	1420	1320	1080	1030	806	797	696
MIN	496	560	750	740	673	911	852	685	686	453	453	524
AC-FT	35600	46800	58430	52610	56080	70420	67000	53480	50150	36020	34720	35000
CAL YR 1985	TOTAL	256698	MEAN	703	MAX	1500	MIN	403	AC-FT	509200		
WTR YR 1986	TOTAL	300638	MEAN	824	MAX	1420	MIN	453	AC-FT	596300		

NIOBRARA RIVER BASIN

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06461500 NIOBRARA RIVER NEAR SPARKS, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1982 to current year.

WATER TEMPERATURES: October 1982 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 354 microsiemens Dec. 3, 1983; minimum daily, 185 microsiemens Aug. 21, 1985.

WATER TEMPERATURES: Maximum daily, 31.0°C July 17, 1986; minimum daily, 0.0°C on Dec. 1, Dec. 3, 1983.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 282 microsiemens Apr. 30; minimum daily, 205 microsiemens Nov. 23.

WATER TEMPERATURES: Maximum daily, 31.0°C July 17; minimum daily, 0.0°C on several days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
OCT									
07...	1620	579	242	8.10	12.0	10	100	100	34
NOV									
06...	0855	803	226	7.70	3.5	5	86	86	28
DEC									
11...	0940	872	230	7.50	0.5	5	92	92	30
JAN									
09...	1020	935	225	7.50	0.5	5	92	92	30
FEB									
07...	0910	1160	246	7.80	0.5	25	96	96	31
MAR									
06...	1535	1140	242	7.70	6.0	30	94	94	30
APR									
03...	1500	970	250	7.80	8.0	10	100	100	32
MAY									
29...	0915	751	246	7.60	14.5	10	100	100	32
JUN									
24...	1335	869	242	8.40	23.5	25	97	97	31
JUL									
23...	0935	531	222	8.00	22.5	15	90	90	29
AUG									
20...	0905	455	225	7.80	22.0	5	95	95	31
SEP									
19...	1010	678	230	7.90	15.0	10	95	95	31

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)
OCT									
07...	4.2	8.9	0.4	6.4	113	7.2	1.6	0.2	52
NOV									
06...	3.9	8.5	0.4	5.4	97	7.3	1.1	0.4	47
DEC									
11...	4.1	8.4	0.4	6.0	101	8.0	1.2	0.4	52
JAN									
09...	4.1	8.7	0.4	5.5	104	8.6	1.1	0.3	53
FEB									
07...	4.6	10	0.5	6.5	110	9.9	1.7	0.4	49
MAR									
06...	4.6	11	0.5	8.1	112	9.8	1.7	0.4	46
APR									
03...	5.0	11	0.5	7.1	125	9.2	1.6	0.4	47
MAY									
29...	5.2	11	0.5	7.1	121	10	1.6	0.4	49
JUN									
24...	4.8	11	0.5	6.8	120	8.8	1.6	0.4	50
JUL									
23...	4.2	8.6	0.4	6.6	110	7.1	1.4	0.3	54
AUG									
20...	4.2	8.9	0.4	7.1	113	6.9	1.3	0.3	57
SEP									
19...	4.2	8.7	0.4	6.4	112	6.7	1.5	0.4	52

NIOBRARA RIVER BASIN

06461500 NIOBRARA RIVER NEAR SPARKS, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
OCT 07...	180	0.25	285	0.31	0.08	0.05	30	9	3
NOV 06...	160	0.22	346	0.35	0.09	0.05	30	4	2
DEC 11...	170	0.23	402	0.56	0.09	0.07	30	10	4
JAN 09...	170	0.24	438	0.62	0.11	0.09	20	15	<1
FEB 07...	180	0.24	561	0.43	0.14	0.08	30	42	4
MAR 06...	180	0.24	550	0.36	0.17	0.08	30	55	4
APR 03...	190	0.26	493	0.32	0.13	0.08	20	20	3
MAY 29...	190	0.26	383	0.28	0.12	0.06	40	24	2
JUN 24...	190	0.25	437	<0.10	0.17	0.04	40	24	3
JUL 23...	180	0.24	254	<0.10	0.12	0.05	30	12	3
AUG 20...	180	0.25	227	0.16	0.06	0.05	30	12	2
SEP 19...	180	0.24	326	0.46	0.10	0.07	50	16	1

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 26 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	230	---	---	234	225	236	265	264	254	246	257	245
2	242	236	---	245	229	242	262	273	248	247	233	234
3	240	228	---	222	228	236	266	267	254	247	217	237
4	236	227	247	227	230	243	---	265	244	253	217	237
5	238	222	238	234	243	244	265	258	247	244	215	237
6	---	223	230	237	245	247	265	258	247	252	224	236
7	242	221	229	238	250	247	276	267	264	252	217	234
8	237	285	226	230	248	245	274	265	246	249	227	239
9	238	228	223	223	251	248	277	258	245	247	225	238
10	238	---	225	231	257	251	278	258	---	247	222	232
11	242	229	222	222	226	252	275	262	237	255	262	236
12	238	228	---	---	259	246	270	281	248	252	238	243
13	233	217	233	222	250	245	---	268	253	252	230	250
14	240	227	236	220	250	250	---	268	258	248	235	236
15	238	222	227	217	253	250	277	265	---	247	236	247
16	240	---	224	217	250	257	277	260	263	233	238	246
17	238	247	---	219	241	---	269	258	265	235	240	253
18	242	228	228	223	240	---	263	262	264	235	247	248
19	241	---	---	230	243	---	258	273	262	228	237	245
20	247	229	223	226	252	247	276	269	257	237	242	243
21	239	---	218	---	247	251	231	273	248	237	238	247
22	234	---	218	225	240	258	277	258	257	235	245	255
23	233	205	214	220	246	---	278	272	264	236	247	253
24	238	249	225	---	245	265	274	264	247	225	232	252
25	232	238	227	230	239	274	265	263	258	227	229	255
26	233	238	229	229	246	274	277	267	257	227	243	266
27	239	254	---	232	246	267	269	256	266	233	235	255
28	236	249	233	232	243	267	275	247	257	236	238	248
29	229	237	235	228	---	265	276	256	257	232	229	262
30	238	---	232	234	---	---	282	257	250	235	229	249
31	227	---	230	232	---	258	---	258	---	235	246	---
MEAN	---	---	---	---	244	---	---	264	---	241	235	245

NIOBRARA RIVER BASIN

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06461500 NIOBRARA RIVER NEAR SPARKS, NE--Continued

TEMPERATURE, WATER (DEG C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.0	---	---	1.0	5.0	8.0	10.0	14.0	23.0	27.0	25.0	22.0
2	10.0	9.0	---	3.0	6.0	9.0	10.0	15.0	22.0	28.0	25.0	24.0
3	11.5	8.0	---	2.0	5.0	9.5	9.0	15.0	24.0	29.0	22.0	24.0
4	9.0	8.0	2.0	1.0	7.0	10.0	---	25.0	21.0	23.0	27.0	23.0
5	8.0	10.0	2.0	1.0	5.0	8.0	8.0	18.0	19.0	25.0	25.0	21.0
6	---	7.0	3.0	2.0	4.0	8.0	11.0	16.0	22.0	26.0	27.0	15.0
7	12.0	6.0	2.0	3.0	1.0	5.0	13.0	11.0	23.0	26.0	25.0	15.0
8	9.0	5.0	1.0	3.0	2.0	6.0	14.0	14.0	24.0	28.0	30.0	15.0
9	2.0	2.0	1.5	4.0	1.0	10.0	14.0	14.0	22.0	26.0	25.0	20.0
10	9.0	---	3.0	3.0	1.0	9.5	14.0	17.0	---	27.0	22.0	20.0
11	9.5	3.0	1.0	4.0	.0	10.0	17.0	19.0	21.0	24.0	25.0	22.0
12	11.0	4.0	---	---	2.0	6.0	11.0	18.0	22.0	26.0	26.0	20.0
13	12.0	3.5	1.0	5.0	2.0	7.0	---	19.0	20.0	27.0	24.0	18.0
14	9.0	5.0	3.0	4.0	3.0	6.0	---	18.0	23.0	29.0	30.0	15.0
15	10.0	3.0	3.0	4.0	3.0	8.0	7.0	20.0	---	29.0	25.0	18.0
16	11.0	---	4.0	3.0	2.0	7.0	11.0	15.0	24.0	30.0	27.0	16.0
17	11.5	3.0	---	3.0	3.0	---	10.0	14.0	25.0	31.0	24.0	19.0
18	12.0	1.0	2.0	2.5	5.0	---	9.0	15.0	25.0	29.0	26.0	18.0
19	11.0	---	---	4.0	2.0	---	---	17.0	25.0	27.0	28.0	19.0
20	13.0	1.0	3.0	3.0	1.0	5.0	10.0	18.0	26.0	27.0	24.0	18.0
21	11.5	---	4.0	---	3.0	10.0	10.5	20.0	27.0	26.0	18.0	20.0
22	15.0	---	4.0	3.5	5.0	10.5	13.0	17.0	23.0	28.0	23.0	19.0
23	12.0	.0	4.0	2.0	6.0	---	18.0	16.0	24.0	28.0	22.0	22.0
24	10.0	2.0	2.0	---	7.0	10.5	15.0	16.0	24.0	25.0	22.0	21.0
25	12.0	3.0	.0	4.5	9.0	10.0	14.0	15.0	26.0	26.0	25.0	20.0
26	12.0	.0	2.0	5.0	10.0	10.5	13.0	16.0	24.0	28.0	21.0	20.0
27	8.0	.0	---	2.0	7.0	12.0	9.0	17.0	25.0	27.0	18.0	19.0
28	14.0	.0	3.0	5.0	6.0	15.0	11.0	18.0	28.0	28.0	17.0	20.0
29	11.0	1.0	1.0	3.0	---	16.0	14.0	19.0	25.0	29.0	22.0	17.0
30	7.5	---	3.0	5.0	---	---	14.0	21.0	24.0	28.0	25.0	19.0
31	8.0	---	2.0	4.0	---	14.0	---	22.0	---	26.0	23.0	---
MEAN	---	---	---	---	4.0	---	---	17.0	---	27.0	24.0	19.5

NIOBRARA RIVER BASIN

06462000 NIOBRARA RIVER NEAR NORDEN, NE

LOCATION.--Lat 42°47'13", long 100°02'06", in N1/2SW1/4 sec.33, T.33 N., R.23 W., Keya Paha County, Hydrologic Unit 10150004, on left bank 60 ft downstream from county road bridge, 1.5 mi downstream from Fairfield Creek, and 6 miles south of Norden.

DRAINAGE AREA.--8,390 mi², approximately.

PERIOD OF RECORD.--October 1952 to September 1983, October 1985 to September 1986.

GAGE.--Water-stage recorder. Datum of gage is 2,108.93 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 5, 1979, at datum 1.0 ft higher.

REMARKS.--Estimated daily discharges: Nov. 22 to Jan. 8, Feb. 10 to Mar. 3, and Apr. 3-27. Records poor. Flow affected by regulation at powerplants, diversions for irrigation, return flow from irrigated areas, storage in Box Butte Reservoir (station 06455000), and since May 1964 storage in Merritt Reservoir (station 06459300).

AVERAGE DISCHARGE.--32 years (water years 1953-83, 1986), 863 ft³/s, 625,200 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,600 ft³/s July 17, 1983, gage height, 8.79 ft present datum, from highwater mark; maximum gage height, 11.24 ft present datum, Mar. 11, 1966, ice jam and backwater from bridge in channel; minimum daily discharge, 130 ft³/s Jan. 10, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,520 ft³/s June 10, gage height, 1.99 ft, but may have been higher during period of no record Feb. 27 to Mar. 2; maximum gage height, 5.60 ft Dec. 17, backwater from ice, but may have been higher during period of no record Nov. 23 to Dec. 9; minimum daily discharge, 515 ft³/s Aug. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	693	756	910	920	1100	1750	1180	1270	893	957	604	578
2	673	800	980	920	1150	1800	980	1210	875	888	786	715
3	674	854	1050	900	1150	1650	1000	1160	851	946	822	652
4	686	897	1150	850	1210	1400	1300	1130	827	832	833	608
5	675	882	1200	830	1450	1380	1540	1130	839	776	881	621
6	631	893	1200	850	1450	1340	1450	1110	822	730	804	623
7	646	895	1200	840	1420	1290	1350	1080	810	678	792	618
8	661	914	1050	1020	1400	1200	1520	1170	781	667	775	634
9	654	956	850	1110	1260	1140	1380	1260	816	676	827	648
10	637	899	800	1070	1100	1170	1380	1200	1170	690	791	654
11	635	908	950	875	1000	1140	1320	1180	1320	705	555	701
12	689	825	1100	850	900	1280	1280	1110	1160	698	555	672
13	740	909	1250	798	830	1270	1420	1140	1170	681	543	662
14	733	947	1200	810	860	1210	1400	1120	1140	666	554	692
15	706	945	1150	833	950	1190	1500	1100	1050	644	562	710
16	672	907	1150	810	1100	1220	1250	1100	953	645	546	769
17	653	878	1100	804	1200	1280	1170	1050	911	663	515	710
18	644	864	1050	804	1200	1520	1340	1040	935	635	622	730
19	655	846	1000	845	1200	1480	1400	971	827	686	577	861
20	708	678	980	881	1150	1450	1350	947	851	651	559	857
21	730	600	940	893	1150	1430	1350	996	857	627	538	810
22	724	600	900	989	1080	1420	1300	946	899	636	545	762
23	715	680	860	971	1100	1420	1250	1040	869	632	541	742
24	713	750	840	893	1200	1450	1200	947	827	634	531	720
25	696	850	820	804	1250	1370	1300	893	800	633	538	693
26	683	900	850	887	1400	1310	1350	893	904	618	553	690
27	691	880	880	863	1600	1230	1400	953	827	584	557	666
28	738	820	900	804	1800	1180	1390	1030	784	594	581	656
29	773	810	900	929	---	1180	1280	1010	849	621	580	655
30	785	800	900	996	---	1140	1280	971	953	538	565	661
31	775	---	920	935	---	1140	---	917	---	578	552	---
TOTAL	21488	25143	31030	27584	33660	41430	39610	33074	27570	21209	19584	20770
MEAN	693	838	1001	890	1202	1336	1320	1067	919	684	632	692
MAX	785	956	1250	1110	1800	1800	1540	1270	1320	957	881	861
MIN	631	600	800	798	830	1140	980	893	781	538	515	578
WTR YR 1986	TOTAL	342152		MEAN	937	MAX	1800	MIN	515			

06462500 PLUM CREEK AT MEADVILLE, NE

LOCATION.--Lat 42°45'05", long 99°52'05", in NE1/4NW1/4 sec.14, T.32 N., R.22 W., Brown County, Hydrologic Unit 10150004, on left bank 0.4 mi upstream from county road bridge, 1 mi upstream from mouth, 1 mi southwest of Meadville, and 17 mi north of Ainsworth.

DRAINAGE AREA.--600 mi², approximately, of which about 340 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1947 to September 1975, October 1976 to current year. Prior to October 1962, published as "near Meadville."

REVISED RECORDS.--WSP 1729: 1953. WSP 1917: 1953.

GAGE.--Water-stage recorder. Elevation of gage is 2,032 ft, from topographic map. Prior to Nov. 25, 1962, at site 6.5 mi upstream at different datum. Nov. 25, 1962, to Nov. 14, 1966, at present site at datum 3.0 ft higher. Nov. 15, 1966 to Oct. 2, 1979, at present site at datum 2.0 ft higher. Oct. 3, 1979 to June 3, 1982, at present site at datum 1.0 ft higher.

REMARKS.--Estimated daily discharges: Nov. 20 to Jan. 9 and Feb. 12-17.. Records fair except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--37 years (1948-75, 1976-86), 114 ft³/s, 82,590 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,070 ft³/s Sept. 18, 1967, gage height, 5.98 ft present datum; maximum gage height observed, 8.54 ft Dec. 6, 1964, backwater from ice, present datum; minimum daily discharge, 15 ft³/s Feb. 19, 1955.

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)
Dec. 14	1530	(a)	*3.59	Apr. 7	0630	481	2.17
Feb. 27	1530	393	2.47	Sept. 20	1800	*510	2.02
Mar. 19	1430	396	b2.14				

a Backwater from ice.

b Observed.

Minimum daily discharge, 80 ft³/s Nov. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113	125	115	105	142	270	158	213	173	158	128	105
2	115	125	130	105	153	297	151	189	166	145	125	114
3	116	125	120	100	179	273	161	175	158	143	116	114
4	118	126	115	95	234	239	207	162	148	139	120	113
5	116	128	110	90	262	210	305	152	144	133	137	106
6	118	125	110	90	262	213	415	140	141	136	131	103
7	121	122	110	95	234	216	462	132	135	126	129	106
8	118	121	110	110	172	196	368	139	131	125	128	105
9	108	123	110	115	158	179	288	145	132	130	125	110
10	111	120	115	118	158	182	238	142	165	138	129	117
11	114	116	115	110	114	184	207	141	216	152	135	119
12	119	116	110	112	106	190	184	136	215	137	126	118
13	126	117	105	110	105	199	186	135	208	128	123	116
14	127	113	105	108	100	214	186	131	211	119	120	122
15	120	117	110	108	105	228	142	127	217	116	116	127
16	122	111	110	114	105	237	151	122	215	113	112	161
17	122	106	110	114	110	261	195	123	223	112	106	165
18	121	107	105	116	108	327	219	118	215	114	133	159
19	122	90	105	118	114	400	218	118	201	112	164	288
20	123	80	105	118	112	390	214	121	198	126	146	354
21	125	85	110	129	124	340	200	119	179	119	119	399
22	130	90	105	114	118	336	185	124	167	121	113	318
23	129	95	105	114	120	295	173	149	157	130	109	272
24	128	120	100	114	127	260	175	153	146	131	106	253
25	129	125	95	116	149	239	167	140	141	129	108	242
26	132	120	110	114	234	216	160	142	140	122	118	219
27	130	115	105	112	347	200	166	150	134	117	126	194
28	130	115	105	118	331	189	181	161	130	114	112	176
29	132	120	105	122	---	178	227	179	147	108	109	162
30	127	120	115	131	---	168	232	178	151	105	107	153
31	125	---	115	138	---	162	---	178	---	117	106	---
TOTAL	3787	3418	3395	3473	4583	7488	6521	4534	5104	3915	3782	5210
MEAN	122	114	110	112	164	242	217	146	170	126	122	174
MAX	132	128	130	138	347	400	462	213	223	158	164	399
MIN	108	80	95	90	100	162	142	118	130	105	106	103
AC-FT	7510	6780	6730	6890	9090	14850	12930	8990	10120	7770	7500	10330
CAL YR 1985	TOTAL	48256		MEAN	132	MAX	349	MIN	80	AC-FT	95720	
WTR YR 1986	TOTAL	55210		MEAN	151	MAX	462	MIN	80	AC-FT	109500	

NIOBRARA RIVER BASIN

06463080 LONG PINE CREEK NEAR LONG PINE, NE

LOCATION.--Lat 42°37'55", long 99°40'46", in SE1/4NE1/4 sec.29, T.31 N., R.20 W., Brown County, Hydrologic Unit 10150004, on right bank 4.9 mi upstream from Bone Creek and 7 mi north of Long Pine.

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

REVISED RECORDS.--WRD NE-81-1: 1980(M).

GAGE.--Water-stage recorder. Elevation of gage is 2,080 ft, from topographic map.

REMARKS.--Estimated daily discharges: Jan. 27 to Feb. 3, Feb. 9 to Mar. 3, and Apr. 20-29. Records good except for periods of estimated record, which are poor. Minor diversions for irrigation above station.

AVERAGE DISCHARGE.--7 years, 99.6 ft³/s, 72,160 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 507 ft³/s July 16, 1983, gage height, 5.27 ft; minimum daily, 77 ft³/s Sept. 5, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 450 ft³/s Sept. 20, gage height, 4.70 ft; minimum daily, 85 ft³/s July 22, 23, Aug. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	CCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	103	99	100	95	95	94	101	103	102	100	90
2	99	103	97	101	100	95	92	97	100	95	95	99
3	99	103	97	100	110	90	100	99	98	89	93	97
4	99	103	98	99	117	91	130	100	98	89	93	94
5	98	102	99	100	110	90	147	99	100	89	106	94
6	98	102	99	100	104	90	123	97	100	87	95	95
7	97	102	99	100	100	88	107	95	100	87	92	95
8	97	102	99	100	99	89	99	108	98	90	88	94
9	97	102	99	101	95	90	96	108	98	92	87	95
10	97	102	98	100	95	90	96	106	108	92	85	98
11	98	102	98	101	95	92	96	104	111	94	91	97
12	100	102	98	101	95	100	96	102	104	98	93	95
13	99	101	95	101	95	99	99	102	105	94	91	94
14	101	100	97	102	95	97	106	102	102	91	93	97
15	100	104	98	103	95	95	99	102	100	87	93	100
16	99	105	99	103	100	98	110	101	96	88	92	104
17	100	104	97	104	100	102	118	102	93	88	90	111
18	100	104	97	106	105	116	115	102	92	89	113	160
19	100	102	98	105	100	113	113	102	93	88	104	157
20	100	101	99	107	90	104	100	103	98	88	94	251
21	101	101	100	108	90	102	95	104	98	89	90	200
22	102	100	100	102	90	101	95	105	99	85	89	163
23	102	100	100	102	90	97	95	117	96	85	89	132
24	101	100	99	102	90	96	110	106	96	86	91	118
25	101	100	98	103	105	95	100	101	96	86	90	109
26	101	100	100	105	120	94	95	100	97	87	95	103
27	101	100	99	100	110	94	100	100	94	86	94	99
28	102	100	100	105	100	95	110	111	90	86	95	97
29	102	100	100	100	---	95	130	113	94	89	95	95
30	101	100	100	100	---	94	100	112	99	108	93	94
31	103	---	99	95	---	94	---	109	---	101	90	---
TOTAL	3093	3050	3055	3156	2790	2981	3166	3210	2956	2805	2899	3427
MEAN	99.8	102	98.5	102	99.6	96.2	106	104	98.5	90.5	93.5	114
MAX	103	105	100	108	120	116	147	117	111	108	113	251
MIN	97	100	95	95	90	88	92	95	90	85	85	90
AC-FT	6130	6050	6060	6260	5530	5910	6280	6370	5860	5560	5750	6800
CAL YR 1985	TOTAL	35909	MEAN	98.4	MAX	130	MIN	89	AC-FT	71230		
WTR YR 1986	TOTAL	36588	MEAN	100	MAX	251	MIN	85	AC-FT	72570		

NIORRARA RIVER BASIN

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06463500 LONG PINE CREEK NEAR RIVERVIEW, NE

LOCATION.--Lat 42°41'21", long 99°40'43", in SE1/4NE1/4 sec.5, T.31 N., R.20 W., Brown County, Hydrologic Unit 10150004, on right bank 10 ft downstream from county road bridge, 1 mi downstream from Bone Creek, and 5.5 mi southwest of Riverview.

DRAINAGE AREA.--460 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1948 to January 1954, September 1954 to current year.

REVISED RECORDS.--WSP 1729: 1952(M).

GAGE.--Water-stage recorder. Datum of gage is 1,983.34 ft above National Geodetic Vertical Datum of 1929, (levels by Bureau of Reclamation). Prior to Dec. 7, 1962, at site 100 ft upstream at present datum. Dec. 7, 1962, to Sept. 20, 1978, at site 3 ft upstream at present datum.

REMARKS.--Estimated daily discharges: Dec. 1, 2, 13-15. Records good except for periods of estimated record, which are fair. Flow includes return water from Ainsworth Irrigation District since 1965.

AVERAGE DISCHARGE.--37 years (1948-53, 1954-86), 143 ft³/s, 103,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,650 ft³/s July 1, 1962, gage height, 15.68 ft, backwater from fallen bridge, from rating curve extended above 3,600 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 44 ft³/s Jan. 10, 1963.

EXTREMES FOR CURRENT YEAR.--Peak discharge 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. 18	1700	1000	a5.44	Sept. 20	0945	*2190	*a7.65

a From floodmark.

Minimum daily discharge, 140 ft³/s Dec. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	150	156	150	150	155	170	148	182	207	186	213	161
2	148	156	150	156	164	172	146	170	187	175	205	172
3	150	156	151	155	174	170	165	171	181	168	178	182
4	150	155	163	142	215	168	238	173	177	166	174	160
5	150	157	161	147	225	170	352	169	179	163	211	154
6	150	155	161	146	203	166	291	161	184	163	203	155
7	148	155	164	147	173	159	223	159	182	151	195	161
8	150	158	160	153	154	162	188	182	177	151	172	160
9	149	156	160	156	146	167	170	186	179	163	169	168
10	150	155	157	157	148	164	165	177	208	166	162	174
11	153	156	147	160	147	168	165	178	221	188	176	172
12	158	160	144	161	145	186	161	173	202	196	175	163
13	156	161	140	158	146	192	174	170	211	187	164	153
14	154	157	145	158	145	199	170	164	216	187	151	161
15	152	162	150	157	151	189	156	163	203	174	157	172
16	156	160	153	160	153	186	201	160	190	153	157	250
17	158	160	150	165	159	195	247	154	170	148	154	281
18	157	162	143	169	166	240	222	148	161	157	220	439
19	154	146	153	169	160	248	209	146	157	163	253	540
20	151	147	143	178	147	211	183	156	186	158	207	1090
21	154	151	155	211	155	194	168	172	177	149	172	686
22	159	151	158	161	155	182	166	160	191	150	167	456
23	157	152	160	167	155	167	176	209	170	154	159	312
24	155	156	143	169	160	160	218	204	168	156	162	247
25	156	157	159	169	186	159	181	188	163	157	165	216
26	157	146	157	162	209	153	172	204	165	164	175	200
27	155	151	148	159	196	154	186	211	170	169	163	183
28	156	150	146	166	174	158	245	237	159	172	160	169
29	158	148	145	163	---	157	250	233	189	162	164	174
30	154	149	151	160	---	153	214	231	175	216	163	169
31	155	---	150	157	---	154	---	213	---	202	162	---
TOTAL	4760	4641	4717	4988	4666	5473	5950	5604	5505	5214	5508	7880
MEAN	154	155	152	161	167	177	198	181	184	168	178	263
MAX	159	162	164	211	225	248	352	237	221	216	253	1090
MIN	148	146	140	142	145	153	146	146	157	148	151	153
AC-FT	9440	9210	9360	9890	9260	10860	11800	11120	10920	10340	10930	15630
CAL YR 1985	TOTAL	58406	MEAN	160	MAX	285	MIN	128	AC-FT	115800		
WTR YR 1986	TOTAL	64906	MEAN	178	MAX	1090	MIN	140	AC-FT	128700		

NIOBRARA RIVER BASIN
06463500 LONG PINE CREEK NEAR RIVERVIEW, NE--Continued
WATER QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
OCT 23...	1600	153	--	8.30	13.0	7	71	71	23
NOV 04...	1500	154	189	8.10	10.0	5	74	74	24
DEC 09...	1200	163	203	7.60	4.0	5	77	77	25
JAN 09...	1330	157	192	7.60	5.0	5	74	74	24
FEB 05...	0900	230	200	7.60	4.5	65	70	70	22
MAR 07...	1035	160	192	7.50	3.0	10	72	72	23
APR 04...	1025	254	256	7.50	7.0	80	91	91	29
MAY 30...	1040	234	195	7.50	17.0	40	75	75	24
JUN 24...	1005	171	186	7.60	16.0	5	71	71	23
JUL 24...	1130	156	184	7.90	20.0	10	69	69	22
AUG 21...	1030	175	188	7.50	14.0	5	72	72	23
SEP 19...	1415	520	170	7.80	18.0	240	--	--	--

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
OCT 23...	3.3	7.1	0.4	5.9	80	6.0	2.3	0.2	54
NOV 04...	3.5	7.6	0.4	5.2	78	6.1	2.2	0.3	54
DEC 09...	3.6	7.7	0.4	5.8	81	6.8	2.4	0.3	56
JAN 09...	3.5	7.6	0.4	5.1	83	8.0	2.2	0.2	56
FEB 05...	3.6	9.7	0.5	9.4	84	9.6	6.6	0.3	43
MAR 07...	3.5	7.7	0.4	5.4	81	5.1	2.4	0.2	54
APR 04...	4.5	11	0.5	12	108	11	9.1	0.3	47
MAY 30...	3.7	8.6	0.5	5.3	90	11	2.0	0.3	47
JUN 24...	3.4	7.3	0.4	5.2	83	5.6	2.0	0.3	53
JUL 24...	3.3	7.0	0.4	5.7	85	5.6	2.1	0.3	52
AUG 21...	3.6	7.5	0.4	6.5	84	6.2	2.5	0.3	54
SEP 19...	2.8	6.9	--	14	84	17	6.4	0.3	27

NIOBRARA RIVER BASIN

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06463500 LONG PINE CREEK NEAR RIVERVIEW, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
OCT 23...	150	0.2	62	1.40	0.17	0.14	20	7	4
NOV 04...	150	0.2	62	1.70	0.17	0.14	20	5	3
DEC 09...	160	0.21	69	1.90	0.23	0.15	30	18	4
JAN 09...	160	0.21	66	2.00	0.21	0.15	60	19	<1
FEB 05...	150	0.21	96	1.60	0.55	0.35	20	130	5
MAR 07...	150	0.2	65	1.80	0.20	0.15	20	37	4
APR 04...	190	0.26	130	1.60	2.00	0.78	20	230	12
MAY 30...	160	0.21	99	1.00	0.30	0.16	20	59	4
JUN 24...	150	0.2	69	1.30	0.20	0.16	30	19	3
JUL 24...	150	0.2	63	1.10	0.21	0.17	20	16	4
AUG 21...	150	0.21	73	1.30	0.23	0.21	20	30	3
SEP 19...	--	--	--	0.95	2.10	0.91	60	210	4

NIOBRARA RIVER BASIN

06463720 NIOBRARA RIVER AT MARIAVILLE, NE

LOCATION.--Lat 42°46'56", long 99°20'04", in NE1/4NW1/4 sec.5, T.32 N., R.17 W., Keya Paha County, Hydrologic Unit 10150004, on left bank 15 ft upstream from bridge on State Highway 137, 13 mi north of Newport and 20.5 mi upstream from mouth of Keya Paha River.

DRAINAGE AREA.--9,810 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to September 1986 (water quality data only September 1985).

GAGE.--Water-stage recorder. Elevation of gage is approximately 1,797 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 9, 10 and Nov. 19 to Mar. 2. Records fair except for periods of estimated record, which are poor. Flow of stream affected by regulation at power plants, diversion for irrigation and return flows, and storage in Box Butte (station 06455000) and Merritt (station 06459300) reservoirs.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,400 ft³/s Feb. 28, gage height, 6.58 ft, backwater from ice; maximum gage height, 7.55 ft Dec. 11, ice jam; minimum daily discharge, 808 ft³/s July 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1280	1340	1250	1350	1600	3100	1630	2060	1120	1390	1220	994
2	1270	1370	1350	1300	1700	2600	1750	1910	1110	1610	1250	1130
3	1200	1450	1500	1300	1900	2330	1780	2050	1320	1660	1480	1090
4	1250	1450	1600	1250	2200	2010	2050	2060	1580	1770	1690	1150
5	1130	1420	1650	1200	2250	2090	2100	1760	1470	1700	1620	1170
6	1080	1210	1650	1150	2250	1770	2100	1650	1530	1630	1670	1220
7	1070	1120	1600	1200	2100	1680	1980	1640	1470	1470	1570	1110
8	1290	1250	1500	1300	2000	1880	2180	1590	1360	1450	1480	1120
9	1210	1400	1350	1500	1900	1920	1950	1840	1420	1400	1580	961
10	1230	1420	1250	1550	1650	2140	1960	1880	1620	1400	1580	1050
11	1100	1380	1500	1450	1500	2260	1970	1720	1900	1370	1320	1450
12	1210	1410	1750	1350	1400	2070	2060	1620	1830	1280	1270	1730
13	1260	1240	1750	1300	1300	1860	2060	1610	1820	1100	1170	1620
14	1070	1260	1700	1250	1450	1840	2170	1730	1720	1050	1060	1380
15	1230	1260	1650	1200	1500	1690	2220	1670	1810	1050	1130	1260
16	1300	1480	1600	1150	1550	1920	2040	1590	1850	1010	1100	1400
17	1160	1410	1550	1150	1650	2090	2040	1620	1740	985	1060	1500
18	1060	1220	1500	1200	1700	2290	2020	1690	1630	1030	1020	1750
19	1150	1180	1450	1250	1700	2170	2090	1620	1410	951	1300	1810
20	1140	1150	1400	1300	1600	1970	2140	1540	1400	913	1160	2180
21	1140	1000	1300	1350	1550	1870	2210	1620	1320	879	1000	2280
22	1090	1080	1250	1450	1500	1880	1980	1480	1320	837	972	1960
23	1140	1120	1250	1400	1550	1980	2210	1840	1280	808	984	1840
24	1110	1200	1200	1400	1700	1910	2300	1480	1330	975	989	1710
25	1110	1250	1200	1350	1800	1930	2230	1560	1360	1060	994	1640
26	1110	1300	1250	1350	2000	1870	2040	1580	1270	1030	1100	1600
27	1090	1300	1250	1400	2400	1810	2270	1470	1270	1070	983	1560
28	1090	1250	1300	1400	3000	1760	2220	1380	1370	1090	929	1380
29	1200	1200	1300	1450	---	1760	2290	1370	1590	1110	904	1300
30	1180	1200	1350	1450	---	1790	2130	1440	1410	1180	954	1080
31	1300	---	1350	1500	---	1770	---	1200	---	1130	964	---
TOTAL	36250	38320	44550	41200	50400	62010	62170	51270	44630	37388	37503	43425
MEAN	1169	1277	1437	1329	1800	2000	2072	1654	1488	1206	1210	1448
MAX	1300	1480	1750	1550	3000	3100	2300	2060	1900	1770	1690	2280
MIN	1060	1000	1200	1150	1300	1680	1630	1200	1110	808	904	961
AC-FT	71900	76010	88360	81720	99970	123000	123300	101700	88520	74160	74390	86130
WTR YR 1986	TOTAL	549116		MEAN	1504	MAX	3100	MIN	808	AC-FT	1089000	

NIORRARA RIVER BASIN

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06463720 NIOBRARA RIVER AT MARIAVILLE, NE--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)
OCT 24...	1015	1130	--	8.10	12.5	10.0	97	97	32	4.1	8.2	0.4
DEC 12...	1130	1740	242	7.90	0.0	12.2	97	97	32	4.2	9.0	0.4
MAR 03...	1145	2380	235	8.30	5.5	11.9	92	92	30	4.1	9.3	0.4
JUN 25...	1100	1500	245	7.90	25.5	9.0	98	98	32	4.5	11	0.5
JUL 22...	1405	864	215	8.10	29.0	8.5	88	88	29	3.9	8.8	0.4
AUG 20...	1435	968	210	8.40	23.0	8.8	86	86	28	3.9	7.9	0.4

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)
OCT 24...	5.2	106	8.8	1.7	0.60	0.07	0.63	0.7	1.3	0.17	6
DEC 12...	7.1	109	8.3	2.2	0.90	0.05	0.65	0.7	1.6	0.12	2
MAR 03...	6.5	103	9.2	1.7	0.60	0.07	1.0	1.1	1.7	0.42	6
JUN 25...	7.3	122	9.4	1.7	<0.10	0.05	1.4	1.4	--	0.19	6
JUL 22...	7.2	108	7.4	1.6	<0.10	0.03	0.87	0.9	--	0.14	6
AUG 20...	4.5	102	7.7	1.6	<0.10	0.02	1.2	1.2	--	0.20	5

DATE	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE) (01012)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
OCT 24...	200	<10	1	<10	12	4	7	0.5	1	20	2.6
DEC 12...	100	<10	<1	<10	3	2	4	0.2	<1	20	3.6
MAR 03...	--	10	1	10	18	16	8	0.2	1	40	5.7
JUN 25...	200	<10	<1	<10	11	13	6	0.1	1	20	6.1
JUL 22...	200	<10	<1	<10	12	<5	4	0.1	<1	<10	17
AUG 20...	100	<10	1	<10	7	<5	4	0.1	<1	30	3.6

NIOBRARA RIVER BASIN

06463720 NIOBRARA RIVER AT MARIAVILLE, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	PRO-PAZINE TOTAL (UG/L) (39024)	PER-THANE TOTAL (UG/L) (39034)	METHO-MYL TOTAL (UG/L) (39051)	PROPHAM TOTAL (UG/L) (39052)	SIME-TRYNE TOTAL (UG/L) (39054)	SIMA-ZINE TOTAL (UG/L) (39055)	PROME-TONE TOTAL (UG/L) (39056)	PROME-TRYNE TOTAL (UG/L) (39057)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L) (39250)	ALDRIN, TOTAL (UG/L) (39330)
OCT 24...	1015	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.01
DEC 12...	1130	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.01
MAR 03...	1145	<0.1	<0.1	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.01
JUN 25...	1100	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.01
JUL 22...	1405	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.01
AUG 20...	1435	<0.1	<0.1	<2.0	<2.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.01

DATE	LINDANE TOTAL (UG/L) (39340)	CHLOR-DANE, TOTAL (UG/L) (39350)	DDD, TOTAL (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	DDT, TOTAL (UG/L) (39370)	DI-ELDRIN TOTAL (UG/L) (39380)	ENDO-SULFAN, TOTAL (UG/L) (39388)	ENDRIN, TOTAL (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	TOX-APHENE, TOTAL (UG/L) (39400)	HEPTA-CHLOR, TOTAL (UG/L) (39410)
OCT 24...	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<1	<0.01
DEC 12...	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<1	<0.01
MAR 03...	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<1	<0.01
JUN 25...	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<1	<0.01
JUL 22...	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<1	<0.01
AUG 20...	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<1	<0.01

DATE	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	METH-OXY- CHLOR, TOTAL (UG/L) (39480)	PCB, TOTAL (UG/L) (39516)	MALA-THION, TOTAL (UG/L) (39530)	PARA-THION, TOTAL (UG/L) (39540)	DI-AZINON, TOTAL (UG/L) (39570)	METHYL PARA-THION, TOTAL (UG/L) (39600)	ATRA-ZINE, TOTAL (UG/L) (39630)	PICLO-RAM (TOR-DON) TOTAL (UG/L) (39720)	2,4-D, TOTAL (UG/L) (39730)
OCT 24...	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01
DEC 12...	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01
MAR 03...	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01
JUN 25...	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	0.03
JUL 22...	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	0.02
AUG 20...	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01

DATE	2,4,5-T TOTAL (UG/L) (39740)	SEVIN, TOTAL (UG/L) (39750)	MIREX, TOTAL (UG/L) (39755)	SILVEX, TOTAL (UG/L) (39760)	TOTAL TRI-THION, TOTAL (UG/L) (39786)	METHYL TRI-THION, TOTAL (UG/L) (39790)	CYAN-AZINE TOTAL (UG/L) (81757)	DICAMBA (MED-IBEN) (BAN-VEL D) TOTAL (UG/L) (82052)	2, 4-DP TOTAL (UG/L) (82183)	AME-TRYNE TOTAL (82184)
OCT 24...	0.03	<2.0	<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.1
DEC 12...	0.01	<2.0	<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.1
MAR 03...	0.02	<0.5	<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.1
JUN 25...	0.05	<2.0	<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.1
JUL 22...	0.03	<2.0	<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.1
AUG 20...	0.04	<2.0	<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.1

06463720 NIOBRARA RIVER AT MARIAVILLE, NE-Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS	TEMPER- ATURE WATER	SEDI- MENT, SUS- PENDE	SEDI- MENT, DIS- CHARGE, SUS- PENDE	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	
		(CFS) (00061)	(DEG C) (00010)	(MG/L) (80154)	(T/DAY) (80155)	(70326)	(70327)	(70328)	(70329)	
OCT 24...	1015	1130	12.5	1040	3170	--	--	--	--	
DEC 12...	1130	1740	0.0	376	1770	--	--	--	--	
MAR 03...	1145	2380	5.5	2360	15200	4	6	7	9	
JUN 25...	1100	1500	25.5	598	2420	--	--	--	--	
JUL 22...	1405	864	29.0	492	1150	--	--	--	--	
AUG 20...	1435	968	23.0	686	1790	--	--	--	--	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)
OCT 24...	11	31	83	100	0	2	30	95	99	
DEC 12...	14	26	83	100	0	20	31	94	99	
MAR 03...	20	39	85	100	0	1	27	86	98	
JUN 25...	28	51	94	100	0	3	54	98	100	
JUL 22...	18	27	62	100	0	1	26	94	99	
AUG 20...	18	28	61	100	0	3	42	97	99	

06464500 KEYA PAHA RIVER AT WEWELA, SD

LOCATION.--Lat 43°01'44", long 99°46'49", in SE1/4 sec.24, T.95 N., R.76 W., Tripp County, Hydrologic Unit 10150006, on right bank at downstream side of bridge on U.S. Highway 183, 1.0 mi north of Wewela, 4.5 mi upstream from Holt Creek, and 11.5 mi downstream from Lost Creek.

DRAINAGE AREA.--1,070 mi², approximately.

PERIOD OF RECORD.--November 1937 to September 1940, October 1947 to current year. Monthly discharge only for October 1947, published in WSP 1309.

GAGE.--Water-stage recorder. Datum of gage is 2,049.78 ft above National Geodetic Vertical Datum of 1929. Prior to June 21, 1957, nonrecording gage at site 13 ft upstream at same datum. Prior to Aug. 23, 1984, recording gage on left bank 13 ft downstream from bridge at same datum.

REMARKS.--Records good except for period of estimated record, which is poor. Estimated daily discharges during water year: Nov. 9 to Mar. 4. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--41 years (water years 1939-40, 1948-86), 70.2 ft³/s, 50,860 acre-ft/yr; median of yearly mean discharges, 58 ft³/s, 42,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,430 ft³/s, Mar. 31, 1952, gage height, 13.08 ft; maximum gage height, 13.5 ft, Mar. 25, 1950, from floodmark, backwater from ice; no flow Jan. 10 to Feb. 15, 1949, Aug. 19 to Sept. 14, 1976.

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. 28	1200	670	a*6.73	Apr. 18	2200	471	3.69
Mar. 6	1200	594	3.99	Apr. 30	0400	362	2.90
Mar. 13	1200	290	2.93	May 10	2200	597	3.69
Mar. 18	1300	365	3.24	June 11	1000	*727	4.06
Apr. 6	1700	333	3.11				

a Backwater from ice.

Minimum daily discharge, 15 ft³/s, Dec. 2, 3, 14, 15, 18.

CORRECTIONS.--Published acre-feet for October of 1984 and 1985 water years is in error. Correct figures are as follows: October 1983, 2,910; October 1984, 2,520.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	32	16	28	42	700	132	265	105	68	28	32
2	50	32	15	28	44	600	124	211	96	76	26	47
3	49	32	15	28	44	500	125	166	87	72	24	61
4	48	33	17	27	44	450	172	158	80	73	28	67
5	47	33	20	27	42	436	238	143	81	58	64	55
6	45	33	20	26	40	466	287	133	81	45	75	50
7	43	33	20	25	40	267	290	127	89	44	51	52
8	42	35	19	25	40	161	237	140	100	43	40	49
9	42	33	18	26	38	177	188	155	102	41	41	44
10	43	30	17	27	35	185	153	312	239	44	36	43
11	44	30	17	28	35	216	137	452	662	45	33	43
12	46	31	16	30	38	228	132	343	532	48	36	41
13	49	32	16	30	40	269	134	278	460	51	34	39
14	50	33	15	30	40	278	137	240	381	46	40	44
15	51	32	15	32	40	244	125	198	295	44	40	44
16	48	31	16	35	40	224	116	149	213	42	38	76
17	45	31	16	38	42	227	233	121	173	39	34	85
18	42	32	15	40	44	303	431	111	140	39	33	93
19	40	33	16	40	42	314	414	104	118	36	35	123
20	39	32	16	42	40	272	367	100	109	36	34	161
21	38	28	16	42	40	242	309	96	96	35	33	143
22	38	26	17	40	39	256	271	94	116	34	34	115
23	37	26	18	40	38	248	253	134	98	32	33	95
24	36	26	19	41	38	253	229	132	78	29	32	84
25	36	25	20	41	40	248	190	137	69	29	30	77
26	34	22	20	40	100	217	172	124	64	28	32	66
27	33	19	22	37	300	187	232	121	59	29	30	60
28	33	17	23	37	660	167	291	127	57	28	31	57
29	33	16	25	40	---	151	317	139	56	28	32	62
30	32	16	25	40	---	142	332	127	54	28	31	76
31	32	---	27	40	---	135	---	117	---	25	30	---
TOTAL	1294	864	567	1050	2065	8763	6768	5254	4890	1315	1118	2084
MEAN	41.7	28.8	18.3	33.9	73.8	283	226	169	163	42.4	36.1	69.5
MAX	51	35	27	42	660	700	431	452	662	76	75	161
MIN	32	16	15	25	35	135	116	94	54	25	24	32
AC-FT	2570	1710	1120	2080	4100	17380	13420	10420	9700	2610	2220	4130
CAL YR 1985	TOTAL	16692	MEAN	45.7	MAX	220	MIN	13	AC-FT	33110		
WTR YR 1986	TOTAL	36032	MEAN	98.7	MAX	700	MIN	15	AC-FT	71470		

NIOBRARA RIVER BASIN

57

06464900 KEYA PAHA RIVER NEAR NAPER, NE

LOCATION.--Lat 42°55'00", long 99°05'50", in SE1/4SE1/4 sec.17, T.34 N., R.15 W., Boyd County, Hydrologic Unit 10150006, on left bank 70 ft upstream from highway bridge, 3.3 mi south of Napier, and 8.6 mi upstream from mouth.

DRAINAGE AREA.--1,630 mi², approximately.

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

REVISED RECORDS.--WSP 1709: 1959(M).

GAGE.--Water-stage recorder. Elevation of gage is 1,680 ft, from topographic map. Prior to May 2, 1958, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Nov. 8 to Mar. 1. Records good except for period of estimated record, which is poor. Minor diversions for irrigation above station.

AVERAGE DISCHARGE.--29 years, 137 ft³/s, 99,260 acre-ft/yr; median of yearly mean discharges, 119 ft³/s, 86,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,280 ft³/s July 1, 1962, gage height, 10.91 ft; maximum gage height, 13.34 ft Mar. 23, 1960, backwater from ice; no flow July 22-30, Aug. 10, 11, 1976. Aug. 3, 1980.

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)
Mar. 1	1100	*3400	*a10.55	June 11	2300	2110	7.64
Apr. 18	1500	1130	7.13	Sept. 18	1330	1780	b7.45
May 11	1630	1520	7.28				

a Backwater from ice.

b From floodmark.

Minimum daily discharge, 37 ft³/s Aug. 23, 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	71	55	95	105	2200	385	292	279	126	43	38
2	83	70	50	95	110	1420	375	292	223	117	44	45
3	88	69	50	95	115	920	409	259	179	122	44	53
4	94	68	50	90	115	765	397	278	159	113	44	53
5	86	69	55	90	175	693	504	289	222	102	43	55
6	82	69	60	80	250	615	542	245	180	93	49	52
7	77	68	60	80	230	542	507	230	167	83	175	50
8	74	70	60	80	190	456	432	293	165	78	100	48
9	72	75	60	90	160	423	373	381	200	67	66	46
10	73	70	60	85	125	418	363	588	304	61	57	48
11	75	75	60	95	145	417	430	859	1480	92	51	45
12	83	70	55	100	145	503	421	776	1590	80	50	42
13	81	65	55	105	140	557	429	631	920	68	50	41
14	87	60	55	105	125	562	359	487	683	67	48	46
15	87	65	55	110	120	537	231	399	603	69	46	67
16	89	80	60	115	115	490	297	333	524	60	47	100
17	87	60	60	120	115	490	596	281	452	55	42	166
18	86	60	60	120	135	569	996	245	400	53	41	481
19	81	70	60	120	130	617	948	223	328	60	41	284
20	77	70	60	120	110	564	648	221	284	56	39	298
21	80	75	65	115	115	511	481	213	242	51	38	349
22	77	80	65	115	140	461	363	190	218	54	39	294
23	76	70	75	125	170	456	360	271	315	48	37	247
24	77	70	75	120	210	443	438	332	272	45	37	209
25	76	70	80	125	330	415	338	387	203	47	38	180
26	75	70	85	110	650	384	278	351	161	48	40	151
27	73	70	85	105	1400	349	277	308	141	46	40	131
28	73	65	90	100	1900	349	410	297	118	44	42	117
29	72	60	90	105	---	335	421	305	122	43	44	107
30	73	55	90	105	---	347	339	340	150	41	44	101
31	75	---	90	100	---	406	---	326	---	42	40	---
TOTAL	2468	2059	2030	3215	7770	18214	13347	10922	11284	2131	1559	3944
MEAN	79.6	68.6	65.5	104	278	588	445	352	376	68.7	50.3	131
MAX	94	80	90	125	1900	2200	996	859	1590	126	175	481
MIN	72	55	50	80	105	335	231	190	118	41	37	38
AC-FT	4900	4080	4030	6380	15410	36130	26470	21660	22380	4230	3090	7820
CAL YR 1985	TOTAL	33422		MEAN	91.6	MAX	400	MIN	19	AC-FT	66290	
WTR YR 1986	TOTAL	78943		MEAN	216	MAX	2200	MIN	37	AC-FT	156600	

NIOBRARA RIVER BASIN

06465000 NIOBRARA RIVER NEAR SPENCER, NE

LOCATION.--Lat 42°48'33", long 98°39'22", in SE1/4NW1/4 sec.30, T.33 N., R.11 W., Boyd County, Hydrologic Unit 10150007, at Spencer powerplant dam 5 mi southeast of Spencer.

DRAINAGE AREA.--12,100 mi², approximately.

PERIOD OF RECORD.--May to December 1908 (gage heights only); August 1913 to September 1914; October to December 1914, April to September 1915 (gage heights only); August 1927 to September 1936, June 1940 to current year. Published as "near Lynch" 1913-15. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WDR NE-67: Drainage area.

GAGE.--Water-stage recorder and hourly log and powerplant operation. Datum of gage is 1,473.67 ft above National Geodetic Vertical Datum of 1929. Elevation of taintor gate sill, 1,491.12 ft above National Geodetic Vertical Datum of 1929. Prior to December 1908, nonrecording gage on former highway bridge 275 ft downstream and Aug. 1, 1913, to Sept. 30, 1915, nonrecording gage at highway bridge 10 mi downstream at different datums. Aug. 1, 1927, to Sept. 30, 1936, and June 14, 1940, to Sept. 30, 1944, discharge computed as flow through powerhouse and over dam. Oct. 1, 1944, to Nov. 10, 1954, water-stage recorder at site 275 ft downstream at datum 4.98 ft higher, and Nov. 11, 1954, to Sept. 30, 1957, at site 0.3 mi downstream at datum 9.78 ft lower. Oct. 1, 1957 to Oct. 21, 1958, discharge computed as flow through powerhouse and over dam. Oct. 28, 1958, to Aug. 13, 1963, water-stage recorder at site 225 ft downstream at present datum. Aug. 14, 1963, gage moved to present site with discharge computed as flow through powerhouse and over dam.

REMARKS.--No estimated daily discharges. Records good. Natural flow of stream affected by irrigation and power developments. Daily discharge determined from flow through turbines and taintor gates, computed from relation between head, and gage openings.

COOPERATION.--Powerplant log furnished by Nebraska Public Power District.

AVERAGE DISCHARGE.--56 years (1913-14, 1927-36, 1940-86), 1,420 ft³/s, 1,029,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,400 ft³/s Mar. 12, 1955, gage height, 12.16 ft, site and datum then in use; minimum daily, 5 ft³/s Nov. 14, Dec. 18, 19, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 5,640 ft³/s Mar. 2; minimum daily, 302 ft³/s Nov. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1250	1380	974	1520	1910	3380	2090	2550	1850	1810	980	914
2	1220	1380	860	1540	2100	5640	2090	2420	1600	1540	1050	1010
3	1270	1370	786	1540	2170	4970	2370	2320	1470	1470	1060	1310
4	1400	1420	897	1580	2300	3160	2530	2060	1500	1340	1310	1190
5	1350	1460	1050	1580	2360	2200	2950	1990	1890	1290	1370	1070
6	1210	1490	1160	1520	2440	1780	2910	1940	1670	1290	1370	1150
7	1150	1480	1400	1370	2440	1760	2550	1930	1450	1140	1800	1260
8	1240	1430	1610	1290	2320	3040	2570	2970	1470	1020	1560	1100
9	1310	1340	1670	1350	2180	1470	2680	2590	1400	1010	1350	1170
10	1220	1070	1620	1490	1870	2020	2510	2380	2200	1030	1340	1110
11	1220	1040	1580	1600	1550	2600	3570	2300	2860	1170	1360	1230
12	1380	1590	1520	1700	1270	2450	2510	2310	3310	1250	1050	1150
13	1270	2020	1450	1670	1180	2660	4300	2090	2840	1230	961	1170
14	1450	2060	1320	1660	1220	2630	4940	2030	2660	1060	995	1330
15	1360	1720	1210	1730	1340	2610	3630	1960	2370	1020	903	1710
16	1330	1210	1260	1790	1410	2640	2280	2080	2070	941	856	2170
17	1270	1740	1440	1870	1490	2640	2580	2040	1980	917	887	3510
18	1280	1680	1490	1920	1820	2980	3010	1810	1730	835	892	4550
19	1270	729	1490	1930	2030	2970	2850	1770	1690	1060	898	3670
20	1270	331	1460	1960	2000	3070	2590	1660	1610	1010	1170	3550
21	2170	302	1410	1900	1870	2630	2470	1630	1660	1030	1070	3530
22	2200	602	1430	1840	1840	2690	2260	1580	1990	1000	1000	2740
23	1560	611	1620	1810	1880	2670	2280	1990	1740	931	880	2250
24	1330	616	1730	1910	2020	2650	2740	1960	1650	897	910	1930
25	1280	904	1680	2010	2310	2620	2470	1820	1540	998	928	1810
26	1240	1100	1520	2010	2930	2550	2500	1820	1520	1020	1080	1640
27	1350	1190	1450	1890	3490	2400	2350	1850	1440	994	1060	1500
28	1260	1300	1490	1730	3360	2250	2750	2080	1260	958	1070	1420
29	1300	1180	1510	1840	---	2130	3300	2230	1260	926	1080	1350
30	1410	1160	1490	1930	---	2080	2570	2030	2240	896	936	1370
31	1430	---	1460	1910	---	2050	---	1930	---	977	907	---
TOTAL	42250	36905	43037	53390	57100	83390	83200	64120	55920	34060	34083	54864
MEAN	1363	1230	1388	1722	2039	2690	2773	2068	1864	1099	1099	1829
MAX	2200	2060	1730	2010	3490	5640	4940	2970	3310	1810	1800	4550
MIN	1150	302	786	1290	1180	1470	2090	1580	1260	835	856	914
AC-FT	83800	73200	85360	105900	113300	165400	165000	127200	110900	67560	67600	108800
CAL YR 1985	TOTAL	511885		MEAN	1402	MAX	4360	MIN	302	AC-FT	1015000	
WTR YR 1986	TOTAL	642319		MEAN	1760	MAX	5640	MIN	302	AC-FT	1274000	

NIOBRARA RIVER BASIN

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06465310 EAGLE CREEK NEAR REDBIRD, NE

LOCATION.--Lat 42°45'51", long 98°34'13" in SE1/4NW1/4 sec.11, T.32 N., R.11 W., Holt County, Hydrologic Unit 10150007, on left bank 12 ft downstream from bridge on the county road, 7 mi west of Redbird.

DRAINAGE AREA.--206 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,463.90 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 20 to Jan. 21. Records good except for period of estimated record, which is poor.

AVERAGE DISCHARGE.--8 years, 52.8 ft³/s, 38,250 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,330 ft³/s Aug. 5, 1981, gage height, 8.55 ft; maximum gage height, 9.22 ft Sept. 16, 1986; minimum daily, 1.9 ft³/s Aug. 7, 8, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,000 ft³/s Sept. 16, gage height, 9.22 ft by computation of peak flow through bridge contraction; minimum daily, 18 ft³/s Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	47	38	48	44	71	69	59	48	93	29	37
2	38	46	36	48	44	72	78	57	46	62	29	41
3	37	46	56	48	42	70	107	62	45	53	28	40
4	48	47	76	47	56	67	94	58	45	44	31	38
5	50	48	80	46	48	65	86	56	47	37	38	36
6	45	48	80	43	38	60	72	53	48	35	45	39
7	40	46	76	45	33	52	65	54	45	33	41	39
8	43	48	70	47	19	54	60	68	42	30	36	37
9	42	48	66	47	23	59	54	68	44	28	34	38
10	43	48	66	48	23	56	54	60	345	36	33	38
11	45	49	66	48	18	59	56	65	116	49	31	41
12	48	51	60	48	27	88	57	56	75	39	28	38
13	46	53	45	50	39	75	57	51	72	32	29	38
14	46	52	50	50	41	71	109	52	85	27	34	42
15	45	49	54	52	46	73	58	53	68	25	31	47
16	45	50	58	52	47	84	89	61	59	25	27	419
17	46	49	58	54	56	94	132	62	53	23	26	747
18	48	49	40	54	89	105	116	54	50	21	30	194
19	48	35	45	58	65	83	86	50	44	75	33	159
20	47	35	50	64	42	70	68	50	49	52	28	325
21	48	38	50	70	54	73	59	53	50	43	31	151
22	49	42	50	38	68	80	58	50	68	34	34	106
23	49	41	50	69	70	75	58	65	55	26	32	89
24	47	41	50	80	77	74	61	57	43	23	33	77
25	47	44	45	61	116	76	61	53	42	26	36	75
26	49	38	42	43	136	72	60	61	39	25	82	69
27	47	32	42	28	94	71	88	63	38	25	49	63
28	48	34	42	61	72	71	95	76	35	24	45	63
29	49	38	45	58	---	73	74	64	133	21	42	63
30	46	38	47	48	---	70	66	58	197	23	42	62
31	46	---	47	41	---	72	---	52	---	28	41	---
TOTAL	1414	1330	1680	1594	1527	2235	2247	1801	2126	1117	1108	3251
MEAN	45.6	44.3	54.2	51.4	54.5	72.1	74.9	58.1	70.9	36.0	35.7	108
MAX	50	53	80	80	136	105	132	76	345	93	82	747
MIN	37	32	36	28	18	52	54	50	35	21	26	36
AC-FT	2800	2640	3330	3160	3030	4430	4460	3570	4220	2220	2200	6450
CAL YR 1985	TOTAL	20126		MEAN	55.1	MAX	335	MIN	15	AC-FT	39920	
WTR YR 1986	TOTAL	21430		MEAN	58.7	MAX	747	MIN	18	AC-FT	42510	

NIOBRARA RIVER BASIN

06465310 EAGLE CREEK NR REDBIRD, NE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1985 to September 1986.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	
NOV 27...	1300	32	340	8.10	0.5	5	160	160	51	
DEC 17...	1615	58	325	7.80	0.5	5	140	140	45	
JAN 22...	1505	36	347	7.70	0.5	15	170	170	53	
FEB 14...	1110	49	311	7.70	0.5	10	140	140	47	
MAR 13...	1155	75	332	8.00	3.0	35	140	140	44	
APR 09...	1715	54	344	8.06	20.0	15	150	150	49	
MAY 08...	1720	64	359	8.10	23.0	30	160	160	49	
JUN 03...	1635	48	361	8.10	30.5	13	160	160	51	
JUL 01...	1535	86	344	7.90	30.0	40	150	150	48	
AUG 27...	0940	47	304	7.60	17.0	20	130	130	43	
SEP 24...	1545	76	349	7.90	20.5	11	150	150	49	
DATE		MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)
NOV 27...	7.6	10	0.4	5.1	124	32	4.3	0.2	45	
DEC 17...	6.4	8.9	0.3	5.1	110	17	4.1	0.2	42	
JAN 22...	8.2	10	0.4	10	120	48	4.4	0.3	40	
FEB 14...	6.7	9.1	0.3	5.2	112	20	4.5	0.2	43	
MAR 13...	7.0	9.3	0.4	5.3	106	32	4.2	0.2	35	
APR 09...	7.3	9.5	0.3	5.3	122	30	4.2	0.2	38	
MAY 08...	8.1	9.9	0.4	6.0	123	46	4.0	0.2	35	
JUN 03...	7.8	10	0.4	5.9	129	42	3.8	0.3	43	
JUL 01...	7.3	8.8	0.3	7.5	119	48	4.2	0.2	36	
AUG 27...	6.0	8.8	0.3	6.8	114	24	4.5	0.2	41	
SEP 24...	7.2	8.8	0.3	7.5	122	42	4.1	0.3	42	

NIOBRARA RIVER BASIN

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06465310 EAGLE CREEK NR REDBIRD, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
NOV									
27...	230	0.31	20	6.00	0.14	0.08	30	25	18
DEC									
17...	190	0.26	30	5.40	0.13	0.09	30	19	11
JAN									
22...	250	0.33	24	4.60	0.20	0.09	30	38	18
FEB									
14...	200	0.28	27	6.10	0.14	0.09	50	29	7
MAR									
13...	200	0.27	41	4.40	0.35	0.09	260	49	9
APR									
09...	220	0.29	31	4.20	--	0.09	30	22	4
MAY									
08...	230	0.32	40	3.10	0.27	0.11	40	38	2
JUN									
03...	240	0.33	31	--	0.20	0.11	40	23	8
JUL									
01...	230	0.31	54	2.30	0.51	0.16	30	72	16
AUG									
27...	200	0.28	26	3.00	0.32	0.13	40	49	6
SEP									
24...	230	0.32	48	3.00	--	--	30	36	15

NIOBRARA RIVER BASIN

06465440 REDBIRD CREEK AT REDBIRD, NE

LOCATION.--Lat 42°45'43", long 98°26'32", in NE1/4 sec.11, T.32 N., R.10 W., Holt County, Hydrologic Unit 10150007, on right bank 10 ft downstream from county road bridge at Redbird, 0.9 mi upstream from mouth and 4.6 mi south-southeast of Lynch.

DRAINAGE AREA.--157 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 1,411.75 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1982 at datum 1.00 ft higher.

REMARKS.--Estimated daily discharges: Nov. 20 to Feb. 27. Records good except for period of estimated record, which is poor.

AVERAGE DISCHARGE.--6 YEARS, 42.6 ft³/s, 30,860 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,120 ft³/s May 11, 1985 on basis of slope-area measurement of peak flow, gage height, 6.49 ft, from floodmark; minimum daily, 3.8 ft³/s July 14, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,680 ft³/s Sept. 16, gage height, 5.42 ft, from floodmark; minimum daily, 18 ft³/s Feb. 7-9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	34	23	35	37	59	49	53	38	79	19	23
2	32	33	24	35	37	60	49	49	29	52	20	23
3	32	33	25	35	37	58	72	54	35	39	19	24
4	35	34	30	35	40	55	70	54	41	30	106	23
5	37	35	40	35	35	55	64	51	45	27	60	22
6	35	33	45	35	22	51	55	50	46	24	37	23
7	34	31	42	30	18	46	50	41	35	23	32	23
8	32	32	41	34	18	51	43	32	38	23	43	23
9	28	30	39	35	18	57	35	32	36	22	97	25
10	31	34	36	35	19	59	36	30	88	38	32	29
11	33	38	33	37	21	60	40	33	113	48	27	35
12	38	38	30	37	20	74	38	30	88	29	25	29
13	35	40	28	39	29	76	41	28	68	24	25	27
14	34	41	25	39	29	72	68	27	79	25	25	28
15	35	41	35	42	29	70	33	27	73	23	24	28
16	34	41	35	43	30	73	70	42	53	23	22	299
17	34	41	35	45	33	80	159	44	44	21	19	668
18	34	42	28	50	37	95	151	37	36	20	19	210
19	34	33	29	52	35	87	101	33	31	82	22	157
20	33	30	33	52	30	68	75	31	41	60	22	174
21	35	30	35	52	32	69	64	34	42	47	22	140
22	37	30	35	40	35	75	62	33	111	37	22	104
23	40	31	35	53	35	69	62	66	68	30	19	84
24	37	32	35	58	37	65	67	63	48	25	19	71
25	35	31	33	54	64	63	69	60	43	25	56	63
26	36	25	30	45	110	58	69	87	38	24	156	57
27	33	21	32	45	100	57	65	86	35	22	44	52
28	36	21	33	50	70	57	88	97	40	21	31	50
29	36	21	35	42	---	54	71	82	116	21	28	49
30	33	22	35	39	---	54	62	70	188	19	26	47
31	34	---	35	35	---	53	---	50	---	20	25	---
TOTAL	1063	978	1029	1293	1057	1980	1978	1506	1786	1003	1143	2610
MEAN	34.3	32.6	33.2	41.7	37.8	63.9	65.9	48.6	59.5	32.4	36.9	87.0
MAX	40	42	45	58	110	95	159	97	188	82	156	668
MIN	28	21	23	30	18	46	33	27	29	19	19	22
AC-FT	2110	1940	2040	2560	2100	3930	3920	2990	3540	1990	2270	5180
CAL YR 1985	TOTAL	16027	MEAN	43.9	MAX	681	MIN	14	AC-FT	31790		
WTR YR 1986	TOTAL	17426	MEAN	47.7	MAX	668	MIN	18	AC-FT	34560		

NIOBRARA RIVER BASIN

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06465500 NIOBRARA RIVER NEAR VERDEL, NE
National stream-quality accounting network station

LOCATION.--Lat 42°44'23", long 98°13'26", in NW1/4NW1/4 sec.23, T.32 N., R.8 W., Knox County, Hydrologic Unit 10150007, on right bank at downstream side of county road bridge, 6.6 mi south of Verdel, and 7.5 mi upstream from Verdigre Creek.

DRAINAGE AREA.--12,600 mi². approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1938 to May 1940, June 1958 to current year.

REVISED RECORDS.--WDR NE-67: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,312.12 ft above National Geodetic Vertical Datum of 1929.

Apr. 25, 1938, to June 16, 1939, nonrecording gage at site 2600 ft downstream; June 17, 1939, to June 13, 1940, nonrecording gage 2850 ft downstream; and June 14, 1940 to July 24, 1985, water-stage recorder at site 2600 ft downstream, all at datum 4.00 ft lower.

REMARKS.--No estimated daily discharges. Records fair. Natural flow of stream affected by irrigation and power developments.

AVERAGE DISCHARGE.--29 years, 1,567 ft³/s. 1,135,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,000 ft³/s Mar. 27, 1960, gage height, 10.10 ft; maximum gage height, 10.62 ft Mar. 12, 1966, backwater from ice; minimum daily discharge, 104 ft³/s Nov. 30, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 5,910 ft³/s Mar. 3; maximum gage height, 7.18 ft Mar. 1, backwater from ice; minimum daily discharge, 381 ft³/s Nov. 21.

DISCHARGE, IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1320	1510	1130	1620	2010	3470	2250	2740	1990	2160	1060	994
2	1330	1480	953	1650	2150	4730	2220	2610	1780	1780	1100	1050
3	1340	1490	917	1650	2270	5910	2560	2550	1610	1610	1120	1340
4	1450	1510	993	1680	2370	3940	2700	2260	1580	1440	1400	1300
5	1550	1570	1170	1690	2440	2680	3010	2160	1880	1370	1520	1180
6	1340	1600	1290	1680	2520	2010	3180	2140	1910	1420	1460	1170
7	1270	1580	1460	1510	2520	1750	2800	1960	1650	1270	1690	1370
8	1310	1590	1700	1420	2420	3260	2650	2850	1550	1110	1870	1200
9	1390	1390	1810	1420	2300	1750	2820	2860	1530	1070	1530	1270
10	1350	1320	1770	1560	2020	2160	2680	2550	2530	1150	1440	1170
11	1310	1140	1730	1670	1720	2710	3660	2510	2760	1220	1410	1290
12	1480	1460	1670	1800	1420	2370	2600	2410	3630	1370	1300	1290
13	1400	2070	1570	1840	1290	2890	4330	2310	3120	1300	1020	1230
14	1500	2200	1490	1730	1260	2820	4720	2130	3000	1180	1080	1350
15	1510	1980	1340	1860	1430	2840	4560	2070	2660	1120	1020	1750
16	1460	1430	1350	1900	1480	2830	2380	2160	2330	1010	924	2880
17	1400	1570	1530	1970	1570	2880	2880	2240	2150	1010	942	5240
18	1380	2110	1560	2050	1870	3130	3220	2000	2010	881	941	4800
19	1370	1080	1610	2070	2120	3240	3270	1900	1770	1190	988	4490
20	1390	510	1570	2130	2130	3160	2860	1780	1710	1220	1150	3790
21	1880	381	1540	2130	2040	2990	2700	1800	1810	1120	1160	4280
22	2330	613	1510	1920	1990	2940	2460	1690	2070	1140	1150	3330
23	2140	697	1690	2000	1990	2850	2430	1930	2050	1030	964	2580
24	1380	716	1830	2040	2110	2850	2840	2260	1780	965	980	2250
25	1370	898	1820	2170	2420	2830	2600	1980	1720	1040	1020	2030
26	1400	1140	1670	2140	3030	2780	2740	2030	1600	1080	1390	1880
27	1420	1220	1570	2040	3700	2610	2560	2030	1560	1070	1180	1650
28	1410	1360	1580	1890	3550	2490	2910	2260	1390	1040	1180	1640
29	1420	1300	1620	1970	---	2320	3480	2390	1510	1000	1190	1500
30	1470	1270	1630	1990	---	2260	2810	2340	2620	944	1070	1530
31	1530	---	1550	2050	---	2230	---	2070	---	1000	995	---
TOTAL	45600	40185	46623	57240	60140	89680	88880	68970	61260	37310	37244	62824
MEAN	1471	1340	1504	1846	2148	2893	2963	2225	2042	1204	1201	2094
MAX	2330	2200	1830	2170	3700	5910	4720	2860	3630	2160	1870	5240
MIN	1270	381	917	1420	1260	1750	2220	1690	1390	881	924	994
AC-FT	90450	79710	92480	113500	119300	177900	176300	136800	121500	74000	73870	124600
CAL YR 1985	TOTAL	561848		MEAN	1539	MAX	4570	MIN	381	AC-FT	1114000	
WTR YR 1986	TOTAL	695956		MEAN	1907	MAX	5910	MIN	381	AC-FT	1380000	

NIOBRARA RIVER BASIN

06465500 NIOBRARA RIVER NEAR VERDEL, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958-65, 1967 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1975 to September 1980.

WATER TEMPERATURES: June 1958 to September 1965, October 1966 to September 1984.

SUSPENDED-SEDIMENT DISCHARGE: October 1971 to September 1981.

INSTRUMENTATION.--Temperature recorder June 14, 1958 to September 30, 1984.

REMARKS.--Prior to July 1, 1971, sediment records were obtained by U.S. Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 470 microsiemens Dec. 22, 1976; minimum daily, 110 microsiemens Nov. 22, 1976.

WATER TEMPERATURES: Maximum, 38.0°C July 22, 1964, July 20, 1974; minimum, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily, 12,000 mg/L June 8, 1975; minimum daily, 50 mg/L Dec. 31, Jan. 1, 3, 5, 6, 1978.

SEDIMENT LOADS: Maximum daily, 423,000 tons Mar. 19, 1979; minimum daily, 60 tons Dec. 7, 1972.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)
OCT										
10...	1210	1440	261	7.90	9.5	726	--	11.0	17	74
NOV										
26...	1210	1070	368	8.10	0.5	727	24	4.2	11	K67
DEC										
17...	1310	1360	290	7.80	0.5	724	--	12.4	5	94
JAN										
22...	1325	2230	233	7.40	0.5	730	--	12.7	5	K21
FEB										
12...	1345	1550	296	7.80	0.5	732	19	11.7	18	K10
MAR										
12...	1440	3300	274	8.10	3.0	717	--	12.4	34	69
APR										
08...	1210	3170	316	8.20	15.0	732	--	9.6	43	180
MAY										
07...	1150	2140	323	8.30	17.0	719	35	10.1	28	110
JUN										
03...	1155	1640	300	8.70	26.0	721	--	9.0	32	78
JUL										
01...	1105	2370	268	8.20	24.0	724	--	8.0	58	3200
AUG										
26...	1320	1450	238	8.28	24.0	727	150	8.2	64	4800
SEP										
24...	1040	2210	269	7.90	18.5	711	--	8.2	37	1300

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

NIOBRARA RIVER BASIN

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06465500 NIOBRARA RIVER NEAR VERDEL, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	STREP- TOCOCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT 10...	820	110	0	36	5.1	8.8	0.4	--	--	14
NOV 26...	200	150	0	49	7.8	13	0.5	7.3	162	21
DEC 17...	94	110	0	36	5.5	9.3	0.4	--	--	15
JAN 22...	1100	110	0	35	5.2	8.6	0.4	--	--	18
FEB 12...	250	140	0	45	6.8	12	0.5	7.0	140	17
MAR 12...	940	98	0	30	5.5	8.2	0.4	--	--	26
APR 08...	--	130	0	42	6.5	7.3	0.3	--	--	<2.0
MAY 07...	460	130	0	42	6.9	15	0.6	8.1	142	27
JUN 03...	92	110	0	36	5.7	12	0.5	--	--	2.4
JUL 01...	4800	110	0	34	5.6	8.9	0.4	--	--	3.8
AUG 26...	5800	96	1	31	4.6	8.4	0.4	6.8	109	21
SEP 24...	2800	110	0	37	5.4	11	0.5	--	--	<2.0

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 105 DEG. C. SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
OCT 10...	<5.0	--	--	--	--	--	--	134	0.800	--
NOV 26...	3.3	0.40	58	279	260	0.38	806	66	1.40	--
DEC 17...	<5.0	--	--	--	--	--	--	20	1.40	--
JAN 22...	<5.0	--	--	--	--	--	--	36	1.00	--
FEB 12...	2.8	0.40	50	244	230	0.33	1020	30	0.970	1.00
MAR 12...	<5.0	--	--	--	--	--	--	510	0.880	--
APR 08...	<5.0	--	--	--	--	--	--	374	0.610	--
MAY 07...	3.1	0.40	46	239	230	0.33	1380	98	0.940	0.270
JUN 03...	<5.0	--	--	--	--	--	--	146	0.020	--
JUL 01...	<5.0	--	--	--	--	--	--	562	0.380	--
AUG 26...	2.3	0.30	41	203	170	0.28	795	360	0.200	0.140
SEP 24...	<5.0	--	--	--	--	--	--	356	0.740	--

NIOBRARA RIVER BASIN

06465500 NIOBRARA RIVER NEAR VERDEL, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 10...	0.030	--	1.1	1.1	1.9	0.180	--	--	3.1
NOV 26...	0.090	0.060	0.51	0.60	2.0	0.170	0.090	0.090	0.8
DEC 17...	0.020	--	0.29	0.31	1.7	0.220	--	--	4.9
JAN 22...	0.020	--	0.35	0.37	1.4	0.130	--	--	2.9
FEB 12...	0.080	0.060	0.46	0.54	1.5	0.130	0.090	0.070	4.4
MAR 12...	0.050	--	1.4	1.4	2.3	0.520	--	--	5.0
APR 08...	<0.020	--	--	1.7	2.3	0.400	--	--	8.7
MAY 07...	0.030	0.020	1.1	1.1	2.0	0.220	0.040	0.030	6.2
JUN 03...	0.020	--	0.98	1.0	1.0	0.230	--	--	6.6
JUL 01...	0.050	--	4.6	4.6	5.0	0.580	--	--	19
AUG 26...	<0.010	<0.010	1.7	1.7	1.9	0.330	0.020	<0.010	5.1
SEP 24...	0.030	--	0.97	1.0	1.7	0.230	--	--	18

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)
NOV 26...	1210	30	8	5	150	<0.5	<15	<1	<10	1
FEB 12...	1345	50	4	5	130	<0.5	<15	<1	<10	<1
MAY 07...	1150	40	9	<1	14	<0.5	<15	<1	<10	1
AUG 26...	1320	--	13	--	--	--	<15	--	<10	--

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)
NOV 26...	<3	20	3	35	30	1	19	15	<0.1	--
FEB 12...	<3	30	2	40	30	3	18	12	--	0.9
MAY 07...	<3	<10	3	4	<20	1	19	5	--	0.5
AUG 26...	--	20	--	--	<20	--	--	--	2.6	--

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 26...	<10	1	<2	1	<1	<1	280	<6	30	25
FEB 12...	<10	3	<2	1	<1	<1	260	<6	160	12
MAY 07...	<10	<1	--	1	<1	<1	240	9	<30	3
AUG 26...	--	--	8	--	<1	--	--	--	50	--

NIOBRARA RIVER BASIN

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06465500 NIOBRARA RIVER NEAR VERDEL, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 26...	1210	1070	0.5	356	1030	23
MAR 04...	1035	4510	3.5	4380	53300	22
MAY 07...	1150	2140	17.0	1210	6990	16
AUG 26...	1320	1450	24.0	496	1940	62

NIOBRARA RIVER BASIN

06465680 NORTH BRANCH VERDIGRE CREEK NEAR VERDIGRE, NE

LOCATION.--Lat 42°35'51", long 98°08'03", in SE1/4SE1/4 sec.4, T.30 N., R.7 W., Knox County, Hydrologic Unit 10150007, on right bank 15 ft downstream from bridge on paved county road 5 mi west of Verdigre.

DRAINAGE AREA.--137 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 1,466.06 ft above National Geodetic Vertical Datum of 1929 (levels by Nebraska Natural Resources Commission).

REMARKS.--Estimated daily discharges: Nov. 20 to Jan. 18 and Feb. 8-23. Records good except for periods of estimated record, which are poor. Minor diversions for irrigation above station.

AVERAGE DISCHARGE.--7 years, 25.5 ft³/s, 18,470 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 235 ft³/s Sept. 16, 1986, gage height, 4.13 ft, minimum gage height, 5.54 ft, June 14, 1981, from floodmark; minimum daily discharge, 2.5 ft³/s Jan. 6, 7, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 235 ft³/s Sept. 16, gage height, 4.13 ft; maximum gage height, 4.47 ft Jan 9, backwater from ice; minimum daily discharge, 9.1 ft³/s Aug. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	27	19	28	27	30	30	30	26	27	17	23
2	26	27	21	28	27	30	32	30	27	26	20	20
3	27	27	23	28	26	30	36	31	27	20	17	23
4	30	27	24	26	29	31	33	30	30	17	20	23
5	30	27	25	26	29	32	31	29	28	22	18	24
6	28	27	25	25	28	31	30	30	28	22	9.5	25
7	28	27	25	23	26	31	30	30	29	18	12	24
8	27	27	24	24	25	35	30	30	28	12	13	24
9	27	27	21	24	23	32	30	31	28	14	16	25
10	27	27	20	26	20	32	30	29	29	22	19	32
11	28	27	21	28	20	31	30	29	30	28	22	29
12	28	27	23	30	18	36	30	28	29	27	19	26
13	28	28	28	33	20	34	32	28	29	20	15	24
14	27	28	37	35	22	33	33	28	33	16	15	25
15	27	27	37	38	25	33	23	28	30	17	11	27
16	28	28	37	42	28	35	45	32	28	17	9.9	94
17	28	28	35	50	33	37	61	30	28	12	15	99
18	28	28	30	53	33	43	48	28	28	9.2	20	51
19	28	28	27	32	30	39	37	28	28	37	19	39
20	28	20	32	32	30	35	34	28	28	28	16	39
21	28	20	32	30	33	34	32	28	25	27	14	36
22	29	19	32	46	37	36	32	27	35	25	10	34
23	28	19	30	69	41	34	32	30	29	19	9.1	33
24	28	18	30	35	34	32	31	28	27	9.3	14	31
25	28	18	25	29	37	32	30	28	26	16	16	30
26	28	18	29	26	39	30	30	30	24	11	37	29
27	27	17	28	22	34	30	35	29	26	15	27	28
28	28	17	27	37	30	31	35	30	24	19	25	27
29	28	18	28	34	---	30	32	29	22	13	24	27
30	27	18	28	34	---	30	30	28	30	12	24	27
31	27	---	28	27	---	30	---	27	---	16	23	---
TOTAL	859	721	851	1020	804	1019	1004	901	839	593.5	546.5	998
MEAN	27.7	24.0	27.5	32.9	28.7	32.9	33.5	29.1	28.0	19.1	17.6	33.3
MAX	30	28	37	69	41	43	61	32	35	37	37	99
MIN	25	17	19	22	18	30	23	27	22	9.2	9.1	20
AC-FT	1700	1430	1690	2020	1590	2020	1990	1790	1660	1180	1080	1980
CAL YR 1985	TOTAL	9957.9		MEAN	27.3	MAX	51	MIN	6.3	AC-FT	19750	
WTR YR 1986	TOTAL	10156.0		MEAN	27.8	MAX	99	MIN	9.1	AC-FT	20140	

06466500 BAZILE CREEK NEAR NIOBRARA, NE

LOCATION.--Lat 42°45'26", long 97°56'50", in SW1/4 sec.7, T.32 N., R.5 W., Knox County, Hydrologic Unit 10170101, on left bank 60 ft shoreward and 20 ft downstream from centerline of bridge on State Highway 12, 2.5 mi upstream from mouth and 4.5 mi east of Niobrara.

DRAINAGE AREA.--440 mi², approximately.

PERIOD OF RECORD.--May 1952 to current year. Records for October 1931 to September 1932, published in WSP 731, have been found to be unreliable and should not be used.

REVISED RECORDS.--WSP 1279: 1952. WSP 1729: 1958(M). WDR NE-81-1: 1977,1979-80. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 1,210.81 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 16, 1952, nonrecording gage only, and Dec. 16, 1952, to June 16, 1957, water-stage recorder at downstream end of right pier, above 4.2 ft, at present site at datum 4 ft higher. June 17, 1957, to Sept. 14, 1958, water-stage recorder above 8.2 ft at present datum. Sept. 15, 1958, to Oct. 17, 1978, water-stage recorder at downstream end of left pier, above 4.3 ft, at present site and datum.

REMARKS.--Estimated daily discharges: Nov. 10, 11 and Nov. 15 to Mar. 6. Records good except for periods of estimated record, which are poor. Minor diversions for irrigation above station.

AVERAGE DISCHARGE.--34 years, 84.3 ft³/s, 61,080 acre-ft/yr; median of yearly mean discharges, 75.4 ft³/s, 54,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 68,600 ft³/s June 16, 1957, gage height, 19.96 ft, present datum, from high point on surge, from rating curve extended above 6,500 ft³/s on basis of contracted-opening measurements at gage heights 15.36 ft and 19.96 ft, present datum; maximum gage height, 20.25 ft Feb. 19, 1971, backwater from ice; no flow July 24, 25, Aug. 30, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 19, 1951, reached a stage of 15.36 ft, present datum, from floodmarks, discharge, 24,400 ft³/s on basis of contracted-opening measurement of peak flow.

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 30	0230	*2510	*16.88	No other peak greater than base discharge.			

Minimum daily discharge, 32 ft³/s Aug. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	58	43	65	100	120	129	138	104	368	40	43
2	72	58	45	65	100	120	123	132	95	231	40	44
3	70	60	45	66	100	125	203	142	91	161	37	44
4	72	60	50	65	130	125	230	141	97	127	42	43
5	75	61	52	60	150	105	198	124	149	107	43	42
6	73	60	52	54	130	110	159	106	113	92	40	43
7	71	60	52	50	100	100	136	99	322	83	45	44
8	69	61	50	70	96	91	121	112	181	81	45	42
9	68	64	48	74	94	115	114	135	117	78	41	44
10	67	66	47	76	88	117	111	126	101	81	45	49
11	69	68	45	80	82	117	107	255	92	89	41	49
12	74	68	41	80	84	172	106	238	92	83	41	44
13	72	70	45	86	84	200	112	135	94	77	42	42
14	73	70	60	86	84	165	262	113	133	73	43	45
15	71	70	62	90	84	141	100	109	210	72	39	54
16	68	68	62	90	86	181	167	801	166	62	35	111
17	67	60	60	96	86	317	422	470	115	53	32	211
18	66	54	50	96	90	1360	755	269	88	51	34	130
19	62	50	50	100	90	623	435	182	81	80	36	262
20	61	45	60	110	86	360	262	145	91	88	36	256
21	61	42	62	115	90	247	211	126	124	69	37	218
22	65	40	62	120	90	587	180	115	478	61	36	145
23	64	38	62	110	96	451	166	123	163	52	35	135
24	63	36	48	110	96	225	156	125	101	46	37	127
25	64	35	45	100	100	200	146	120	86	51	37	107
26	62	37	50	95	110	181	142	113	79	49	105	93
27	58	40	50	90	110	163	157	113	80	46	71	83
28	59	40	50	100	115	156	198	134	88	44	57	76
29	59	40	56	100	---	156	191	150	1190	42	47	74
30	57	43	60	100	---	148	154	136	1340	40	42	72
31	56	---	65	100	---	139	---	117	---	39	42	---
TOTAL	2061	1622	1629	2699	2751	7417	5953	5344	6261	2676	1343	2772
MEAN	66.5	54.1	52.5	87.1	98.3	239	198	172	209	86.3	43.3	92.4
MAX	75	70	65	120	150	1360	755	801	1340	368	105	262
MIN	56	35	41	50	82	91	100	99	79	39	32	42
AC-FT	4090	3220	3230	5350	5460	14710	11810	10600	12420	5310	2660	5500
CAL YR 1985	TOTAL	38233		MEAN	105	MAX	1330	MIN	32	AC-FT	75840	
WTR YR 1986	TOTAL	42528		MEAN	117	MAX	1360	MIN	32	AC-FT	84350	

MISSOURI RIVER MAIN STEM

06467000 LEWIS AND CLARK LAKE NEAR YANKTON, SD

LOCATION.--Lat 42°50'56", long 97°28'54", in SW1/4 sec.7, T.33 N., R.1 W., Cedar County, NE, Hydrologic Unit 10170101, in powerhouse of Gavins Point Dam on Missouri River, 3.75 mi southwest of Yankton, 13.6 mi upstream from James River, 32.5 mi downstream from Niobrara River, and at mile 811.0.

DRAINAGE AREA.--279,500 mi², approximately.

PERIOD OF RECORD.--July 1955 to current year (monthend contents only). Prior to October 1955, published as Gavins Point Reservoir near Yankton.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Dec. 9, 1955, recorder at temporary location on wall of intake structure unit 3.

REMARKS.--Reservoir is formed by earthfill dam; storage began in July 1955. Maximum capacity, 504,000 acre-ft below elevation 1,210.0 ft (top of spillway gates). Normal maximum, 442,600 acre-ft below elevation 1,208.0 ft. Inactive storage, 157,000 acre-ft below elevation 1,195.0 ft. Dead storage, 23,000 acre-ft below elevation 1,180.0 ft (crest of spillway). Figures given herein represent elevations at powerhouse and total contents adjusted for wind effect.

The spillway consists of 14 taintor gates, each 40 ft wide by 30 ft high; spillway capacity, 280,000 ft³/s at pool elevation 1,210.0 ft. Crest of spillway is at elevation 1,180.0 ft. Normal releases are through 3 power units, installation completed in January 1957; maximum release through power units is 35,000 ft³/s at pool elevation, 1,210.0 ft. Water is used for flood control, navigation, power, and incidental uses.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 565,000 acre-ft, Apr. 1, 1960, affected by wind; minimum since initial filling, 61,950 acre-ft, Apr. 23, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 468,000 acre-ft, Sept. 21; minimum, 335,000 acre-ft, Dec. 4.

MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	1,208.28	451,000	-
Oct. 31	1,208.31	448,000	-3,000
Nov. 30	1,208.01	440,000	-8,000
Dec. 31	1,207.99	442,000	+2,000
CAL YR 1985	-	-	+7,000
Jan. 31	1,208.11	446,000	+4,000
Feb. 28	1,205.66	377,000	-69,000
Mar. 31	1,204.93	357,000	-20,000
Apr. 30	1,205.36	368,000	+11,000
May 31	1,205.11	364,000	-4,000
June 30	1,206.25	394,000	+30,000
July 31	1,207.38	425,000	+31,000
Aug. 31	1,208.02	441,000	+16,000
Sept. 30	1,208.14	446,000	+5,000
WTR YR 1986	-	-	-5,000

NOTE.--Lake free of ice Mar. 27.

MISSOURI RIVER MAIN STEM

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06467500 MISSOURI RIVER AT YANKTON, SD

LOCATION.--Lat 42°51'58", long 97°23'37", in SW1/4SW1/4 sec.18, T.93 N., R.55 W., Yankton County, Hydrologic Unit 10170101, near left bank in downstream end of left pier of Meridian Highway Bridge on U.S. Highway 81, 5.2 mi downstream from Gavins Point Dam, 6.0 mi upstream from James River, and at mile 805.8.

DRAINAGE AREA.--279,500 mi², approximately.

PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only for some periods, published in WSP 1309. Gage-height records collected at same site March 1873 to November 1886, March 1905 to May 1908 (fragmentary), August 1921 to September 1950 (except winter months prior to 1932), are contained in reports of the National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 1,139.68 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 20, 1932, nonrecording gage, and Sept. 20, 1932, to Mar. 9, 1967, water-stage recorder at present site and at datum 20.0 ft higher.

REMARKS.--Records good except for periods of estimated record, which are fair. Estimated daily discharges during water year: Dec. 11-14, 16-21, May 30 to June 4, and June 22-30. Flow completely regulated by Gavins Point Dam 5.2 mi upstream since July 1955. Many diversions for irrigation and water supply above station. U.S. Army Corps of Engineers gage-height telemeter and satellite data-collection platform at station. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--56 years, 26,560 ft³/s, 19,240,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 480,000 ft³/s, Apr. 13, 1952; maximum gage height, 35.5 ft, Apr. 13, 14, 1952 (present datum); minimum daily discharge, 2,700 ft³/s, Nov. 15, 16, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 50.5 ft, Apr. 5, 1881, ice jam, present datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 44,100 ft³/s at 2100 hours, Aug. 26, gage height, 18.25 ft; minimum daily discharge, 15,700 ft³/s, Apr. 8.

CORRECTIONS.--Published acre-feet for October of 1984 and 1985 water years is in error. Correct figures are as follows: October 1983, 2,365,000; October 1984, 2,868,000.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31900	32500	38800	16900	16600	18900	19200	16900	35000	36600	36400	43500
2	31900	32600	41200	16800	16600	18900	19500	17500	35000	36600	36900	43600
3	31800	32600	38100	16900	16700	18900	19500	18200	35000	36800	37100	43800
4	31300	32600	31700	16700	16700	18900	19200	18800	36000	36900	37100	43800
5	31400	32600	26000	16800	16600	18700	18100	19300	36200	36800	36700	43900
6	31700	32500	21800	16900	16700	18800	18200	20100	36200	36600	36700	42300
7	32200	32500	19400	16700	16600	18900	17400	21400	36200	36900	36900	41500
8	31900	32800	17400	16500	16600	18700	15700	21400	36400	37000	36700	41300
9	31800	32600	17300	16500	16600	18700	15800	22300	36400	37100	36600	41300
10	31500	32600	17300	16500	17300	18600	16200	24300	36400	37300	36300	41200
11	31600	32700	17300	16200	18900	18800	16200	26400	36200	37200	36300	41200
12	31300	32900	17300	15900	19000	18700	15900	28100	36300	37000	36200	41300
13	31400	32900	17400	16300	19100	18500	17300	30100	36400	37200	37400	41300
14	31300	32700	17500	16400	19000	18400	16100	31100	36300	37300	38200	41500
15	31300	32800	17600	16400	19100	18300	16000	32600	34900	37400	38300	41500
16	31600	32700	17500	16400	19100	18400	16300	33900	33200	37400	38100	41800
17	31400	32700	17500	16500	19000	18400	16900	34600	34300	37400	38200	41900
18	31700	32700	17500	16300	18900	17800	17000	35600	34000	37400	38500	41900
19	31700	32500	17500	16500	19000	16000	16600	35600	35100	37600	38600	40600
20	31800	32800	17500	16500	19100	16000	16900	35500	35900	37500	38600	37100
21	31800	34100	17400	16300	19300	16000	17300	35100	36200	37800	38700	34600
22	31900	35200	17200	16500	19300	16400	17400	35200	36000	37700	39300	33100
23	31800	35600	17000	16600	19300	18200	17400	34900	35500	37800	40300	29900
24	32200	35700	17000	16400	19300	19400	17200	35000	33800	38200	41600	30000
25	32200	35900	17000	16300	19300	19400	17200	34900	33000	38100	41900	29900
26	32200	36300	17200	16300	19000	19300	17300	35100	34000	37900	42000	30100
27	32300	37100	17000	16300	19000	19400	17000	34900	35500	37800	42000	31700
28	32500	36200	17500	16500	19000	19300	17000	35000	36000	37900	42100	34400
29	32700	36800	17300	16500	---	19300	17200	34900	36000	37800	43700	37900
30	32700	37400	16900	16700	---	19400	16800	35000	36000	37600	43500	38600
31	32700	---	16900	16800	---	19200	---	35000	---	37600	43400	---
TOTAL	987500	1013600	632000	511800	510700	572600	515800	908700	1063400	1158200	1204300	1166500
MEAN	31850	33790	20390	16510	18240	18470	17190	29310	35450	37360	38850	38880
MAX	32700	37400	41200	16900	19300	19400	19500	35600	36400	38200	43700	43900
MIN	31300	32500	16900	15900	16600	16000	15700	16900	33000	36600	36200	29900
AC-FT	1959000	2010000	1254000	1015000	1013000	1136000	1023000	1802000	2109000	2297000	2389000	2314000
CAL YR 1985	TOTAL	10043790		MEAN	27520	MAX	41200	MIN	7680	AC-FT19922000		
WTR YR 1986	TOTAL	10245100		MEAN	28070	MAX	43900	MIN	15700	AC-FT20321000		

BOW CREEK BASIN

06478518 BOW CREEK NEAR ST. JAMES, NE

LOCATION.--Lat 42°43'48", long 97°08'53", in SE1/4SW1/4 sec.24, T.32 N., R.2 E., Cedar County. Hydrologic Unit 10170101, on right downstream end of bridge on State Highway 12, 0.25 mi west of intersection of St. James road and State Highway 12, 0.7 mi south of St. James.

DRAINAGE AREA.--304 mi².

PERIOD OF RECORD.--October 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,180.88 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 9 to Feb. 26, May 13-15, 18-25, May 27 to June 3, and June 5, 6, 8, 9, 13, 16, 18-22, 24-28. Records fair except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--8 years. 82.3 ft³/s, 59,630 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,400 ft³/s June 21, 1984, gage height, 13.23 ft, from high-water mark; minimum daily, 7.4 ft³/s Jan. 15, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,440 ft³/s Mar. 18, gage height, 6.97 ft; minimum daily, 35 ft³/s June 28, 29, Aug. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	69	44	100	118	124	76	117	88	190	47	48
2	64	73	42	100	118	81	64	114	86	117	46	46
3	60	73	43	94	116	78	98	113	86	95	46	48
4	61	65	44	90	114	66	104	112	85	91	48	47
5	63	63	45	84	108	64	89	106	86	94	52	47
6	62	60	47	80	100	59	84	99	90	85	50	47
7	63	60	48	74	84	55	89	93	100	78	48	47
8	60	62	50	78	74	65	93	87	86	74	40	47
9	58	58	52	80	66	71	93	100	84	69	37	49
10	58	56	54	86	54	64	103	101	170	76	44	51
11	58	54	54	94	50	61	103	334	130	82	46	53
12	62	58	52	100	45	147	111	110	90	71	54	50
13	61	56	52	110	46	193	103	92	86	50	56	49
14	62	54	50	120	50	173	194	86	150	52	48	61
15	65	56	66	130	52	201	139	82	106	50	38	85
16	66	58	66	135	58	363	180	275	92	62	37	60
17	64	56	64	136	62	398	275	184	88	73	382	81
18	62	54	61	135	64	3530	491	110	84	104	52	72
19	64	47	60	135	68	895	455	96	80	142	41	117
20	65	46	60	135	68	204	319	88	76	103	41	467
21	63	48	62	130	70	141	258	84	74	76	41	228
22	62	50	62	130	70	698	221	80	74	72	38	112
23	61	50	64	130	72	255	209	78	76	69	35	105
24	61	52	66	130	74	136	199	78	70	62	43	85
25	60	54	70	125	80	97	179	78	68	131	44	79
26	57	50	74	125	200	91	160	236	68	73	97	81
27	57	46	76	125	335	72	171	130	68	59	64	82
28	61	45	78	122	194	67	193	110	70	54	52	79
29	64	45	84	120	---	67	170	120	80	56	50	79
30	68	45	90	120	---	77	136	110	579	55	46	74
31	69	---	96	118	---	81	---	90	---	51	50	---
TOTAL	1926	1663	1876	3471	2610	8674	5159	3693	3170	2516	1813	2576
MEAN	62.1	55.4	60.5	112	93.2	280	172	119	106	81.2	58.5	85.9
MAX	69	73	96	136	335	3530	491	334	579	190	382	467
MIN	57	45	42	74	45	55	64	78	68	50	35	46
AC-FT	3820	3300	3720	6880	5180	17200	10230	7330	6290	4990	3600	5110
CAL YR 1985	TOTAL	30629	MEAN	83.9	MAX	1390	MIN	28	AC-FT	60750		
WTR YR 1986	TOTAL	39147	MEAN	107	MAX	3530	MIN	35	AC-FT	77650		

MISSOURI RIVER MAIN STEM

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06486000 MISSOURI RIVER AT SIOUX CITY, IA
(National stream-quality accounting network station)

LOCATION.--Lat. 42°29'09", long 96°24'49", in NW1/4 SE1/4 sec.16 T.29 N., R.9 E., sixth principal meridian, Dakota County, Nebraska, Hydrologic Unit 10230001, on right bank on upstream side of bridge on U.S. Highway 20 and 77 at South Sioux City, Nebraska, 1.9 mi downstream from Big Sioux River, and at mile 732.2.

DRAINAGE.--314,600 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1897 to current year in reports of Geological Survey. Prior to October 1928 and October 1931 to September 1938, monthly discharges only, published in WSP 1310. January 1879 to December 1890 (monthly discharges only) in House Document 238, 73rd Congress, 2d session, Missouri River. Gage-height records collected in this vicinity September 1878 to December 1899 are contained in reports of Missouri River Commission and since July 1889 are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 716: 1929-30. WSP 876: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,056.98 ft above NGVD. Sept. 2, 1878, to Dec. 31, 1905, nonrecording gauges at various locations within 1.7 mi of present site and at various datums. Jan. 1, 1906 to Feb. 14, 1935, nonrecording gage, and Feb. 15, 1935 to Sept. 30, 1969, water-stage recorder at site 227 ft downstream at datum 19.98 ft higher, and Oct. 1, 1969 to Sept. 30, 1970 at datum 20.00 ft higher. Oct. 1, 1970 to Jan. 30, 1981, water-stage recorder at site 227 ft downstream at present datum.

REMARKS.--Estimated daily discharges: Nov. 25 to Dec. 4, and Dec. 13. Records good except those for estimated daily discharges, which are poor. Flow regulated by upstream main-stem reservoirs. U.S. National Weather Service gage-height telemeter at station. U. S. Army Corps of Engineers rain-gage and gage-height satellite data collection platform at station.

AVERAGE DISCHARGE.--89 years, 32,070 ft³/s, 23,230,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 441,000 ft³/s Apr. 14, 1952, gage height, 24.28 ft, datum then in use; minimum, 2,500 ft³/s Dec. 29, 1941; minimum gage height, 9.00 ft Jan. 8, 1980, based on gage readings at site 14 mi downstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharges, 57,400 ft³/s Sept. 30, gage height, 23.23 ft; maximum gage-height unaffected by backwater, 23.91 ft, May 17; minimum daily discharge, 12,900 ft³/s Dec. 25; minimum gage height, 10.28 ft, Jan. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32100	31900	33700	18300	17500	21100	33500	43800	45900	44200	37100	44800
2	32200	31600	34000	18500	17500	20900	33300	44600	45200	42700	36500	44700
3	32400	31400	34800	18300	17400	21200	33900	43900	45100	42200	37000	44500
4	32400	31200	34300	18200	17600	21500	35300	42300	45100	42100	37600	43900
5	31800	31100	31300	17200	20100	22500	36300	41100	45500	41600	38000	43600
6	31400	31600	28600	16300	19300	23300	36800	40000	45800	40800	37900	43600
7	31600	31900	25100	13600	19100	23500	38000	39200	46400	39900	38200	42200
8	32000	32100	23700	16400	18000	22100	40300	38200	46800	39500	38200	40900
9	31500	32100	21100	18500	17600	23300	39700	36800	46000	39200	37700	40900
10	31200	31500	19400	19100	17500	23100	38500	36900	45200	38700	37400	41100
11	30500	30900	18500	18700	17700	23100	37000	39600	45600	38600	36600	40700
12	30800	30800	18000	18400	18100	25400	35500	43700	44100	38500	36600	40400
13	30500	31500	18600	18700	18300	28000	33700	46700	43400	38200	36700	41000
14	30700	32100	18700	18600	18500	26100	35200	48300	44600	39000	38100	41600
15	30700	32500	19400	18700	18400	25900	34900	49600	43900	39800	39200	42800
16	31000	32800	19500	18500	18200	26000	33400	51600	42700	38900	39300	42400
17	31500	32500	18600	18500	19300	26700	35600	55000	39900	38300	40100	43700
18	32000	32600	17800	18800	19600	39900	38800	55300	40700	37800	39900	44500
19	31800	32700	17900	18900	19000	38600	40600	55900	39600	38000	39600	47400
20	31600	31200	18100	18800	18700	33600	40400	55600	40000	38000	39900	50800
21	31300	30900	17400	18200	18000	33800	41500	54000	41800	37800	39900	47000
22	31100	32200	19100	16800	19600	36800	43300	51800	42000	38100	39700	46200
23	30900	33500	20500	17100	19800	37200	43100	50100	42300	37900	39700	47800
24	30700	32500	16600	17800	19400	35100	42800	48300	44100	38100	40500	46800
25	30800	32000	12900	17600	19800	34300	41900	47300	43500	39100	41400	48500
26	30900	32300	13400	17100	20600	34800	40800	46000	44300	37600	42800	49700
27	31000	32800	18800	15600	21100	34900	40100	45700	45800	37300	43300	51200
28	31000	33200	17300	17500	21300	34300	40600	46100	44300	37300	43500	53400
29	31100	33000	16600	18400	---	34200	41300	45500	42900	37500	43500	55100
30	31700	33500	17000	17100	---	34000	42700	45800	45600	37200	45000	56600
31	31600	---	18300	17400	---	33800	---	45200	---	37100	45200	---
TOTAL	971800	961900	659000	551600	527000	899000	1148800	1433900	1318100	1211000	1226100	1367800
MEAN	31350	32060	21260	17790	18820	29000	38290	46250	43940	39060	39550	45590
MAX	32400	33500	34800	19100	21300	39900	43300	55900	46800	44200	45200	56600
MIN	30500	30800	12900	13600	17400	20900	33300	36800	39600	37100	36500	40400
AC-FT	1928000	1908000	1307000	1094000	1045000	1783000	2279000	2844000	2614000	2402000	2432000	2713000
CAL YR 1985	TOTAL	10754200	MEAN	29460	MAX	49500	MIN	12900	AC-FT	21331000		
WTR YR 1986	TOTAL	12276000	MEAN	33630	MAX	56600	MIN	12900	AC-FT	24349000		

OMAHA CREEK BASIN

06601000 OMAHA CREEK AT HOMER, NE

LOCATION.--Lat 42°19'29", long 96°29'43", in SW1/4SE1/4 sec.11, T.27 N., R.8 E., Dakota County, Hydrologic Unit 10230001, on left bank 80 ft downstream from bridge on main street of Homer.

DRAINAGE AREA.--168 mi².

PERIOD OF RECORD.--October 1945 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WDR NE-72: Drainage area. WDR NE-75-1: 1971-73.

GAGE.--Water-stage recorder. Datum of gage is 1,082.45 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 4, 1952, at bridge 0.5 mi downstream at datum 8.03 ft lower. Aug. 4, 1952, to Nov. 3, 1966, at site 80 ft upstream at present datum. June 27, 1984 to Aug. 28, 1984 at temporary site 700 ft downstream at datum 2.00 ft lower.

REMARKS.--Estimated daily discharges: Nov. 10 to Feb. 25, Mar. 1-10, 12-19, Apr. 26 to May 7, May 9-19, and June 4-17. Records fair except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--41 years, 38.0 ft³/s, 27,530- acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,100 ft³/s Feb. 19, 1971, gage height, 26.47 ft, from floodmark, from rating curve extended above 3,700 ft³/s on basis of slope-area measurements at gage heights 16.38 ft and 23.62 ft; minimum daily, 0.1 ft³/s Sept. 16, 18, 19, 1948, Sept. 9, 13, 14, 1955, Oct. 7, 8, 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Greatest flood known occurred June 4, 1940, stage, about 32.5 ft, present site and datum, discharge estimated as 51,000 ft³/s at site 2.5 mi upstream from present site.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
(a)	----	*2380	*b11.05	June 4	1715	1270	c3.83
(a)	----	2040	b9.95	June 30	0600	1140	b6.56

a Sometime during period Mar. 11-20.

b From floodmark.

c Observed, discharge questionable.

Minimum daily discharge, 20 ft³/s Oct. 26, 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	23	27	49	41	44	48	86	79	52	28	23
2	32	22	29	48	40	40	51	80	75	53	30	23
3	31	23	32	40	38	35	61	76	74	53	28	24
4	30	23	34	31	36	32	82	70	350	50	29	26
5	29	24	35	28	35	31	65	80	200	47	33	23
6	30	23	36	24	36	30	58	68	130	49	34	24
7	30	24	36	28	36	30	56	60	250	50	34	26
8	35	24	37	34	35	30	52	53	150	52	30	24
9	31	24	36	36	34	30	46	55	86	57	32	24
10	30	24	36	41	32	29	41	70	90	46	33	25
11	31	23	35	48	32	29	41	66	100	55	27	23
12	42	22	35	58	33	31	44	60	120	43	37	22
13	34	23	33	50	36	160	43	56	170	39	49	24
14	31	23	31	42	37	1860	76	54	800	38	45	30
15	31	24	32	38	37	1180	47	52	250	38	31	46
16	29	25	34	42	37	350	68	56	120	36	28	31
17	30	27	36	46	36	420	74	90	76	34	54	41
18	39	30	37	44	36	1240	78	80	65	31	35	36
19	38	34	37	38	36	260	62	70	58	30	31	77
20	31	33	38	35	35	70	57	68	57	30	30	54
21	31	32	37	33	35	67	56	69	60	29	31	39
22	31	30	36	36	35	62	54	69	57	32	31	54
23	30	28	36	40	35	57	53	70	55	32	28	47
24	23	26	35	42	35	57	53	71	57	33	26	38
25	21	24	34	38	35	57	53	69	62	46	27	38
26	20	24	33	30	205	56	240	71	65	32	41	32
27	20	23	37	30	124	53	330	77	68	29	35	29
28	21	23	40	35	60	53	150	92	71	28	29	33
29	21	24	43	37	---	52	120	88	82	29	26	35
30	21	25	45	40	---	51	100	89	276	29	25	30
31	22	---	46	42	---	50	---	81	---	28	24	---
TOTAL	912	757	1108	1203	1282	6546	2359	2196	4153	1230	1001	1001
MEAN	29.4	25.2	35.7	38.8	45.8	211	78.6	70.8	138	39.7	32.3	33.4
MAX	42	34	46	58	205	1860	330	92	800	57	54	77
MIN	20	22	27	24	32	29	41	52	55	28	24	22
AC-FT	1810	1500	2200	2390	2540	12980	4680	4360	8240	2440	1990	1990
CAL YR 1985	TOTAL	27872		MEAN	76.4	MAX	2670	MIN	20	AC-FT	55280	
WTR YR 1986	TOTAL	23748		MEAN	65.1	MAX	1860	MIN	20	AC-FT	47100	

MISSOURI RIVER MAIN STEM

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06610000 MISSOURI RIVER AT OMAHA, NE

LOCATION.--Lat 41°15'32", long 95°55'20", in SE1/4NW1/4 sec.23, T.15 N., R.13 E., Douglas County, Hydrologic Unit 10230006, on right bank on left side of concrete floodwall, at foot of Douglas Street, 275 ft downstream from Interstate 480 Highway bridge in Omaha, and at mile 615.9.

DRAINAGE AREA.--322,800 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1928 to current year. April 1872 to December 1899 (gage heights only) in reports of the Missouri River Commission and since January 1875, (gage heights only) in reports of the U.S. Weather Bureau.

REVISED RECORDS.--WSP 761: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 948.24 ft above NGVD. See WSP 1730 for history of changes prior to Sept. 30, 1936. Oct. 1, 1936 to Sept. 30, 1982 at datum 10.00 ft higher.

REMARKS.--Estimated daily discharges: Dec. 18, 11, and Mar. 10-14. Records good except those for estimated daily discharges, which are poor. Flow regulated by upstream main-stem reservoirs. U.S. National Weather Service gage-height telemeter at station. U.S. Army Corps of Engineers rain-gage and gage-height satellite data collection platform at station.

AVERAGE DISCHARGE.--58 years, 30,730 ft³/s, 22,264,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 396,000 ft³/s Apr. 18, 1952, gage height, 40.20 ft, present datum; minimum, about 2,200 ft³/s Jan. 6, 1937; minimum gage height observed, 7.23 ft, present datum, Jan. 10, 1957, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 81,100 ft³/s Mar. 19, gage-height, 22.63 ft; maximum gage-height 23.71 ft, April 29; minimum daily discharge, 14,900 ft³/s Dec. 27; minimum daily gage height 11.75 ft Dec. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38500	37200	33900	20500	20000	29000	41500	57900	55400	61600	42800	49100
2	38000	36400	34500	21600	20100	27400	41000	56500	56300	57500	44200	48800
3	37600	35700	35800	21600	20600	26800	41000	57000	55400	51600	44900	49100
4	37300	35300	36600	21800	21100	26600	42800	57200	55200	49300	44900	49500
5	36900	35400	33700	21700	21500	27400	45800	55800	55500	50000	45100	48800
6	35600	35200	31500	21100	26200	28800	47900	53100	55600	53800	44500	48300
7	35000	35400	30900	19300	25300	30000	47600	52500	55100	52800	44700	48400
8	34100	35900	29800	19500	21700	29500	46700	51800	53800	49000	43800	48000
9	34300	35800	29400	18600	20100	28300	47600	50700	52600	50400	43800	45600
10	34600	35900	27600	19400	18200	28600	48000	52800	52000	51600	43400	45300
11	34200	36200	25200	21900	18700	28800	47900	55000	53500	50900	42800	45500
12	33800	35900	24300	22100	18800	29700	47400	55400	51900	53000	41900	45100
13	34000	35600	23300	21500	19700	49000	45900	59600	50400	49500	40900	44700
14	34400	35700	23000	21000	20600	46000	45000	62600	57200	49100	40900	45100
15	34900	36000	22400	20200	20900	40300	47100	64000	62200	49900	41200	46500
16	35600	35700	22300	19900	21400	37300	48800	65100	57800	47200	42500	47400
17	36200	35700	23600	20000	21100	35200	45300	71400	53300	45500	42800	46800
18	36700	35500	23300	20800	21100	53000	45200	72900	49300	45100	43600	47300
19	37200	35900	21800	21600	22800	76300	48900	73800	49300	44400	43700	50900
20	37300	35500	21300	21500	22700	62600	51300	72600	48500	43600	42800	51700
21	36800	34400	21400	21200	21000	50500	50900	71500	47600	43300	45900	56000
22	36600	32800	21500	21400	20300	45600	51500	70100	50300	42300	45100	56400
23	36600	34000	21300	21000	19600	46600	53200	67700	51100	41900	42900	52800
24	36700	35000	24200	19000	21900	46600	53400	64900	50300	41900	41900	54100
25	36700	33300	24800	20300	21900	46300	51100	62200	51800	42200	42700	53700
26	37100	32500	20600	21200	22700	45700	50800	59000	53000	44600	44100	54100
27	37100	33000	14900	20400	33500	45000	60100	56600	53300	44400	46000	55000
28	36800	33400	17800	17800	29800	44400	71600	55800	55400	43500	45900	56800
29	36800	33900	22200	17000	---	43500	72400	55900	54800	43100	45900	60300
30	37100	33500	20100	19500	---	42500	61900	56000	55400	43000	46400	61100
31	37600	---	19500	21500	---	42300	---	55800	---	42000	47600	---
TOTAL	1122100	1051700	782500	635900	613300	1239600	1499600	1873200	1603300	1478000	1359600	1512200
MEAN	36200	35060	25240	20510	21900	39990	49990	60430	53440	47680	43860	50410
MAX	38500	37200	36600	22100	33500	76300	72400	73800	62200	61600	47600	61100
MIN	33800	32500	14900	17000	18200	26600	41000	50700	47600	41900	40900	44700
AC-FT	2226000	2086000	1552000	1261000	1216000	2459000	2974000	3715000	3180000	2932000	2697000	2999000
CAL YR 1985	TOTAL	12655200	MEAN	34670	MAX	68800	MIN	14900	AC-FT	25102000		
WTR YR 1986	TOTAL	14771000	MEAN	40470	MAX	76300	MIN	14900	AC-FT	29298000		

PLATTE RIVER BASIN

06674500 NORTH PLATTE RIVER AT WYOMING-NEBRASKA STATE LINE

LOCATION.--Lat 41°59'25", long 104°02'57", in SW1/4 NE1/4 SE1/4 sec.4, T.23 N., R.58 W., Scottsbluff County, NE, Hydrologic Unit 10180009, 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.

DRAINAGE AREA.--22,218 mi², of which 1,929 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1929 to current year.

REVISED RECORDS.--WDR WY-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,021.35 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 6, 1929, nonrecording gage and Nov. 6, 1929, to Sept. 30, 1959, water-stage recorder at site 0.5 mi upstream at datum 4.42 ft higher. Oct. 7, 1959 to Feb. 22, 1972, water-stage recorder at site 0.5 mi upstream at datum 3.42 ft higher.

REMARKS.--Estimated daily discharges: Nov. 20, 22, 23, 27-30, Dec. 1-4, 11-15, 28, Jan. 5, and Feb. 7-14. 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 PERIOD OF RECORD.--Maximum discharge observed, 17,900 ft³/s, June 2, 1929, gage height, 7.04 ft, site and datum then in use; minimum daily, 13 ft³/s, May 12, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,980 ft³/s, June 13, gage height, 6.34 ft; minimum daily, 212 ft³/s, Feb. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	698	390	248	266	284	288	1060	3140	918	5400	1650	1780
2	667	385	252	261	285	299	1090	3210	913	5520	1630	1920
3	634	381	270	259	286	306	1130	3100	876	5470	1590	1880
4	600	375	290	261	288	309	1190	3050	859	5400	1670	1870
5	582	374	301	250	290	314	1220	3030	1130	5350	1700	1760
6	569	367	287	258	290	315	1260	3110	1470	5360	1690	1770
7	560	364	280	265	274	311	1240	3050	1540	5370	1690	1660
8	551	361	276	265	268	308	1160	2730	2110	5300	1670	1570
9	543	359	281	265	260	307	1490	2670	2010	5230	1670	1480
10	544	350	279	265	250	303	1460	2410	2480	4780	1610	1390
11	554	344	270	278	240	301	1460	2190	2850	4560	1550	1330
12	585	341	262	296	212	297	1500	2140	4050	4500	1510	1380
13	628	340	248	291	222	290	1530	2360	6170	4460	1500	1400
14	608	334	252	294	248	290	1540	2540	5520	4450	1480	1430
15	558	333	256	294	270	291	1870	2580	5210	4410	1460	1430
16	524	330	260	301	279	289	2240	2600	5350	4430	1460	1400
17	506	327	261	315	296	305	2340	2340	5620	4380	1460	1340
18	493	329	261	313	304	293	2410	2110	5860	4300	1490	1330
19	477	322	261	311	300	335	2530	2020	5690	4320	1500	1420
20	439	300	261	316	303	630	2610	1810	5610	4400	1530	1380
21	401	311	265	310	288	842	2650	1550	5460	4420	1590	1320
22	399	287	269	305	288	909	2800	1430	5380	3920	1580	1250
23	393	290	266	299	293	937	3040	1260	5690	3170	1520	1260
24	394	297	265	296	298	964	3120	1120	5410	2420	1560	1270
25	389	297	266	294	294	988	3210	1010	5130	2260	1560	1300
26	382	290	267	295	291	1020	3150	967	5120	2110	1540	1310
27	379	272	268	294	285	1050	3090	893	5520	2030	1510	1340
28	390	266	253	294	280	1060	3070	863	5180	2000	1470	1320
29	396	255	264	292	---	1060	3090	827	4780	1880	1480	1330
30	388	250	276	287	---	1060	3080	777	4880	1720	1500	1440
31	386	---	278	287	---	1060	---	803	---	1690	1530	---
TOTAL	15617	9821	8293	8877	7766	17331	62630	63690	118786	125010	48350	44060
MEAN	504	327	268	286	277	559	2088	2055	3960	4033	1560	1469
MAX	698	390	301	316	304	1060	3210	3210	6170	5520	1700	1920
MIN	379	250	248	250	212	288	1060	777	859	1690	1460	1250
AC-FT	30980	19480	16450	17610	15400	34380	124200	126300	235600	248000	95900	87390
CAL YR 1985	TOTAL	325129	MEAN	891	MAX	3030	MIN	200	AC-FT	644900		
WTR YR 1986	TOTAL	530231	MEAN	1453	MAX	6170	MIN	212	AC-FT	1052000		

PLATTE RIVER BASIN

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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 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, DIS- SOLVED (PER- CENT UM-MF (COLS./ 100 ML)
OCT 23...	0945	393	850	8.10	7.0	647	10.1	98	K27
JAN 29...	0930	295	930	7.80	4.0	658	10.2	90	340
MAY 07...	1050	3190	705	7.50	11.0	649	8.2	88	K60
JUL 16...	1230	4470	640	7.20	22.5	650	7.6	104	150

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

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TEMPER- ATURE (DEG C)	HARD- NESS (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 23...	0945	393	915	7.0	300	84	22	89	2	7.3
DEC 19...	0930	262	947	3.5	290	82	21	98	3	7.5
JAN 29...	0930	295	939	4.0	290	80	22	96	3	6.4
FEB 25...	0930	292	921	7.0	290	80	23	96	3	6.9
APR 02...	0800	1100	740	7.5	280	71	24	66	2	4.5
MAY 07...	1050	3190	730	11.0	240	60	22	62	2	3.8
JUN 11...	1015	2670	664	17.0	240	60	21	58	2	4.6

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)
OCT 23...	230	220	19	0.4	22	600	0.82	638	1.40	0.05
DEC 19...	240	210	21	0.4	23	610	0.83	429	1.80	0.13
JAN 29...	230	210	21	0.4	20	590	0.81	473	1.50	0.10
FEB 25...	230	220	20	1.4	20	610	0.82	477	1.50	0.40
APR 02...	170	230	16	0.4	8.1	520	0.71	1550	0.40	0.07
MAY 07...	150	190	15	0.2	6.5	450	0.61	3870	0.20	0.13
JUN 11...	160	180	13	0.3	6.4	440	0.6	3170	0.20	0.15

PLATTE RIVER BASIN

06677500 HORSE CREEK NEAR LYMAN, NE

LOCATION.--Lat 41°56'21", long 103°59'13", in SE1/4NE1/4 sec.25, T.23 N., R.58 W., Scotts Bluff County, Hydrologic Unit 10180012, on right bank 10 ft upstream from county highway bridge, 1.8 mi upstream from mouth, 2.2 mi downstream from Owl Creek, and 3.2 mi northeast of Lyman.

DRAINAGE AREA.--1,570 mi², approximately, of which about 40 mi² is noncontributing.

PERIOD OF RECORD.--February 1931 to current year.

REVISED RECORDS.--WSP 926: 1940(M). WDR NE-67: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,992.84 ft above National Geodetic Vertical Datum of 1929 (levels by private engineering firm). See WSP 2118 for history of changes prior to Apr. 17, 1967.

REMARKS.--Estimated daily discharges: Nov. 20, 21, Nov. 27 to Dec. 4, Dec. 10-16, and Dec. 22 to Jan. 1. Records good except for periods of estimated record, which are fair. Natural flow of stream affected by ground-water withdrawals and diversions for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--55 years, 74.3 ft³/s, 53,830 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,110 ft³/s June 6, 1967, gage height, 10.82 ft, from rating curve extended above 1,900 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 0.4 ft³/s Feb. 1, 2, 1949.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,170 ft³/s June 10, gage height, 7.35 ft; minimum daily, 23 ft³/s Mar. 28 to Apr. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132	60	34	35	43	27	23	86	226	236	136	194
2	120	57	34	35	42	28	23	79	221	270	136	226
3	115	56	36	36	40	28	29	61	220	189	137	239
4	107	56	38	35	40	26	41	51	236	176	156	244
5	99	56	37	40	42	26	92	45	243	164	165	283
6	90	53	31	38	44	26	93	40	257	146	146	351
7	86	52	29	35	32	25	60	125	261	151	135	345
8	82	51	29	33	32	26	91	103	262	136	140	375
9	81	49	29	34	33	25	159	104	305	169	180	383
10	79	47	26	35	39	25	184	271	800	171	164	395
11	96	49	26	47	41	26	185	299	604	152	149	342
12	113	50	26	60	41	26	166	265	396	148	132	317
13	96	49	26	48	41	25	152	267	367	142	124	322
14	90	47	30	43	41	25	141	236	239	137	116	336
15	87	49	35	41	40	27	138	229	180	126	115	359
16	78	47	35	49	35	27	127	278	161	140	115	398
17	77	50	37	59	65	28	119	266	145	133	114	393
18	63	50	34	52	73	26	154	263	133	130	110	366
19	65	44	35	54	49	25	146	224	121	127	106	370
20	71	44	34	56	37	26	146	203	179	126	109	405
21	70	44	33	45	33	25	136	194	182	125	121	410
22	86	45	33	43	33	24	131	205	274	121	125	393
23	109	38	33	46	32	24	120	206	382	121	130	402
24	103	32	33	44	32	24	117	202	406	123	135	437
25	104	33	33	40	29	24	112	177	381	148	150	441
26	106	34	34	40	29	24	106	174	349	132	153	436
27	105	30	34	40	28	24	99	186	319	133	155	466
28	90	33	34	43	26	23	96	187	317	133	156	396
29	65	33	34	42	---	23	95	191	291	135	157	257
30	63	34	35	42	---	23	90	225	238	134	158	184
31	62	---	35	42	---	23	---	231	---	135	175	---
TOTAL	2790	1372	1012	1332	1092	784	3371	5673	8695	4609	4300	10465
MEAN	90.0	45.7	32.6	43.0	39.0	25.3	112	183	290	149	139	349
MAX	132	60	38	60	73	28	185	299	800	270	180	466
MIN	62	30	26	33	26	23	23	40	121	121	106	184
AC-FT	5530	2720	2010	2640	2170	1560	6690	11250	17250	9140	8530	20760
CAL YR 1985	TOTAL	32881		MEAN	90.1	MAX	349	MIN	18	AC-FT	65220	
WTR YR 1986	TOTAL	45495		MEAN	125	MAX	800	MIN	23	AC-FT	90240	

PLATTE RIVER BASIN

79

06678000 SHEEP CREEK NEAR MORRILL, NE

LOCATION.--Lat 41°57'50", long 103°56'20", in NW1/4SW1/4 sec.16, T.23 N., R.57 W., Scotts Bluff County, Hydrologic Unit 10180009, on right bank 40 ft upstream from Burlington Northern Inc. bridge, 50 ft downstream from bridge on U.S. Highway 26 1 mi west of Morrill, and 1.5 mi upstream from mouth.

DRAINAGE AREA.--362 mi², of which about 25 mi² is noncontributing.

PERIOD OF RECORD.--October 1931 to current year.

REVISED RECORDS.--WDR NE-67: Drainage area. WSP 2118: 1936(M), 1946(M).

GAGE.--Water-stage recorder. Datum of gage is 3,995.04 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 14, 1940, nonrecording gage at site 20 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Natural flow of stream affected by ground-water withdrawals and diversions for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--55 years, 55.2 ft³/s, 39,990 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 516 ft³/s July 21, 1978, gage height, 6.62 ft; maximum gage height, 6.75 ft Aug. 2, 1932, from floodmark, due to break in Interstate Canal (discharge not determined); minimum daily discharge, 0.1 ft³/s Dec. 16, 23, 1956, Jan. 18, Mar. 12, 1957, result of diversion for construction upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 173 ft³/s Sept. 26, gage height, 3.12 ft; minimum daily, 4.0 ft³/s June 11-13, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125	110	98	87	86	77	73	71	4.9	5.4	7.8	8.7
2	123	110	99	87	85	78	73	72	4.9	5.6	7.8	8.4
3	122	109	101	87	87	77	76	71	5.2	5.6	8.1	8.7
4	120	108	100	87	88	77	78	71	5.6	5.4	8.1	8.4
5	122	108	98	87	88	77	76	70	5.6	5.4	8.1	8.7
6	123	104	96	86	88	77	74	69	5.4	5.5	8.4	10
7	123	104	96	83	88	77	73	72	5.1	6.5	7.5	9.3
8	123	104	95	82	87	77	72	73	5.1	6.8	7.5	9.0
9	123	103	96	82	87	77	73	77	5.4	7.0	7.0	8.7
10	124	102	94	83	86	77	73	74	4.9	6.5	6.5	8.4
11	130	102	93	87	87	77	72	74	4.0	6.5	6.8	7.8
12	130	100	94	88	86	77	70	73	4.0	6.5	6.8	7.5
13	124	101	93	88	88	77	71	30	4.0	7.0	6.8	7.0
14	122	99	94	88	87	76	70	4.9	4.2	7.3	6.8	6.8
15	121	99	93	89	88	78	71	11	4.0	7.3	6.8	6.3
16	121	98	93	90	85	77	72	16	4.2	7.8	6.8	6.0
17	119	98	91	91	80	81	75	5.1	4.2	8.1	6.8	6.0
18	117	99	91	91	77	76	84	5.1	4.2	8.1	6.5	6.0
19	116	96	88	92	80	76	77	5.1	4.2	7.8	6.8	13
20	116	96	89	94	79	76	76	5.1	4.7	7.8	6.8	7.5
21	116	96	89	92	80	75	76	5.1	4.7	8.1	6.8	7.3
22	117	97	88	89	81	75	76	5.1	4.7	8.1	6.8	7.0
23	116	97	88	88	78	74	75	5.1	4.5	7.8	6.8	6.8
24	114	97	87	88	78	74	74	5.1	4.5	8.1	6.3	6.8
25	114	98	87	87	77	74	74	4.7	4.7	8.1	6.5	6.3
26	113	98	86	85	77	74	75	4.7	4.5	8.1	6.3	81
27	112	98	85	86	77	74	74	4.7	4.3	7.8	6.8	119
28	112	98	85	86	77	73	73	4.9	4.3	7.8	7.0	120
29	111	98	87	86	---	73	73	4.9	4.5	8.1	8.1	119
30	110	99	88	87	---	73	72	5.1	4.9	8.1	8.7	122
31	110	---	87	87	---	73	---	5.1	---	8.1	8.7	---
TOTAL	3689	3026	2849	2710	2332	2354	2221	1003.8	139.4	222.1	223.3	757.4
MEAN	119	101	91.9	87.4	83.3	75.9	74.0	32.4	4.65	7.16	7.20	25.2
MAX	130	110	101	94	88	81	84	77	5.6	8.1	8.7	122
MIN	110	96	85	82	77	73	70	4.7	4.0	5.4	6.3	6.0
AC-FT	7320	6000	5650	5380	4630	4670	4410	1990	276	441	443	1500
CAL YR 1985	TOTAL	19685.5		MEAN	53.9	MAX	130	MIN	3.5	AC-FT	39050	
WTR YR 1986	TOTAL	21527.0		MEAN	59.0	MAX	130	MIN	4.0	AC-FT	42700	

PLATTE RIVER BASIN

06679500 NORTH PLATTE RIVER AT MITCHELL, NE

LOCATION.--Lat 41°55'38", long 103°48'48", in NE1/4NE1/4 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, 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.--No estimated daily discharges. Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE (since Glendo project).--29 years (water years 1958-86), 884 ft³/s, 640,500 acre-ft/yr; median of yearly mean discharges, 540 ft³/s, 391,200 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, 6,710 ft³/s June 13, gage height, 6.70 ft; minimum daily, 447 ft³/s Feb. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1330	735	583	573	557	534	1390	3450	792	4740	1020	1290
2	1260	726	554	560	559	546	1440	3520	795	5010	1000	1660
3	1190	724	573	550	559	551	1490	3450	696	4890	983	1740
4	1110	720	675	538	566	549	1570	3370	677	4760	1080	1760
5	1070	718	654	533	577	545	1640	3170	760	4630	1220	1740
6	1040	708	622	540	582	542	1730	2950	1180	4600	1210	1880
7	1010	708	588	545	554	538	1700	3150	1360	4670	1220	1830
8	969	708	592	537	531	545	1640	3000	1700	4670	1180	1830
9	959	718	595	547	509	538	1880	2860	2140	4740	1210	1760
10	963	721	585	550	473	522	1990	2830	3040	4670	1200	1760
11	981	723	564	559	460	515	2000	2580	3190	4290	1110	1700
12	1050	721	559	606	453	506	2010	2480	4040	3920	1050	1740
13	1040	724	572	592	447	500	2040	2500	5700	3720	993	1810
14	1040	709	581	595	468	500	2020	2660	6120	3600	960	1870
15	986	710	575	600	462	518	2160	2660	5460	3550	963	1910
16	934	696	584	611	471	531	2560	2760	5550	3610	942	1960
17	897	694	588	638	516	559	2680	2540	5740	3630	886	1890
18	873	696	587	647	630	551	2870	2380	5900	3510	880	1800
19	871	673	588	644	593	550	2890	2300	5840	3470	865	1850
20	869	640	593	657	552	700	3050	2130	5750	3470	868	1870
21	864	616	594	638	556	990	3100	1790	5510	3620	927	1850
22	855	613	594	609	546	1110	3220	1640	5270	3460	990	1740
23	839	622	594	597	551	1190	3440	1470	5490	3140	997	1720
24	820	640	586	579	559	1230	3520	1310	5510	2480	995	1730
25	825	652	585	562	559	1250	3590	1170	5280	2180	1050	1880
26	808	641	589	544	556	1270	3590	1080	5080	1870	1080	1980
27	784	625	576	550	537	1330	3510	1010	5070	1690	1070	2110
28	771	625	568	552	523	1360	3470	916	5040	1560	1010	2220
29	759	586	564	544	---	1390	3480	801	4720	1400	1020	2130
30	747	596	582	544	---	1410	3420	738	4440	1190	1040	2190
31	734	---	578	549	---	1410	---	716	---	1060	1100	---
TOTAL	29248	20388	18222	17890	14906	24780	75090	69381	117840	107800	32119	55200
MEAN	943	680	588	577	532	799	2503	2238	3928	3477	1036	1840
MAX	1330	735	675	657	630	1410	3590	3520	6120	5010	1220	2220
MIN	734	586	554	533	447	500	1390	716	677	1060	865	1290
AC-FT	58010	40440	36140	35480	29570	49150	148900	137600	233700	213800	63710	109500
CAL YR 1985	TOTAL	295512		MEAN	810	MAX	3490	MIN	176	AC-FT	586100	
WTR YR 1986	TOTAL	582864		MEAN	1597	MAX	6120	MIN	447	AC-FT	1156000	

PLATTE RIVER BASIN

81

06681500 GERING DRAIN NEAR GERING, NE

LOCATION.--Lat 41°49'22", long 103°37'02", in SE1/4NE1/4 sec-6, T.21 N., R.54 W., Scotts Bluff County, Hydrologic Unit 10180009, on right bank 200 ft downstream from county road bridge, 0.2 mi downstream from bridge on State Highway 92, 1 mi upstream from mouth, and 2 mi east of Gering.

PERIOD OF RECORD.--February 1931 to September 1945, October 1948 to current year.

REVISED RECORDS.--WSP 896: 1935(M). WDR NE-79-1: 1977, 1978 (M).

GAGE.--Water-stage recorder. Datum of gage is 3,852.62 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). See WSP 1918 for history of changes prior to June 27, 1958. June 27, 1958, to Oct. 27, 1970, at datum 4.0 ft higher, Oct. 28, 1970, to Dec. 8, 1975, at datum 2.0 ft higher. Dec. 9, 1975, to Sept. 30, 1980, at datum 1.0 ft higher, all at site 200 ft upstream.

REMARKS.--No estimated daily discharges. Records good. Base flow is mainly return water from land irrigated by Fort Laramie Canal.

AVERAGE DISCHARGE.--52 years, 49.2 ft³/s, 35,650 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,560 ft³/s June 8, 1958, gage height, 16.3 ft, present datum, from floodmarks, from rating curve extended above 2,200 ft³/s on basis of slope-area measurements at gage heights 14.67 ft and 16.3 ft present datum; minimum daily, 5 ft³/s Aug. 13, 16, 19, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,020 ft³/s June 10, gage height, 10.15 ft; minimum daily, 23 ft³/s Feb. 10, 11, 13, Apr. 14, 15, 30, May 1, 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	34	29	27	27	25	28	23	125	125	118	137
2	38	34	29	26	27	25	28	24	125	107	119	137
3	37	34	29	27	27	25	35	24	124	98	120	138
4	36	34	29	26	28	25	33	24	130	131	117	140
5	36	34	29	26	28	25	33	23	132	109	116	156
6	36	34	30	26	28	24	29	23	136	112	112	189
7	36	34	29	26	26	25	26	24	130	102	108	209
8	34	34	29	26	25	25	25	24	250	103	110	197
9	34	33	31	26	24	26	24	25	418	136	114	216
10	35	33	30	26	23	26	25	29	1030	143	112	231
11	40	33	29	29	23	26	25	102	144	130	110	241
12	38	33	30	28	24	26	24	125	162	114	110	252
13	39	34	29	27	23	26	24	151	171	117	112	246
14	37	33	30	26	24	26	23	132	139	126	110	254
15	36	34	30	26	24	28	23	132	114	133	107	261
16	36	34	30	26	27	28	24	136	88	157	105	261
17	36	34	30	27	29	28	24	128	68	152	101	246
18	35	34	30	27	30	27	56	117	61	146	103	245
19	35	32	30	28	27	26	27	110	58	140	104	250
20	35	32	30	28	24	27	24	111	62	142	104	253
21	35	32	31	27	24	27	24	111	58	146	114	247
22	35	32	31	26	25	27	24	117	51	145	115	251
23	34	31	31	26	25	28	24	117	86	138	126	256
24	34	32	30	26	24	27	24	112	140	159	134	252
25	35	33	30	26	24	27	24	102	130	174	130	213
26	34	32	29	26	24	26	25	106	130	171	129	222
27	34	32	28	27	24	26	24	108	153	164	128	247
28	34	32	27	27	25	26	24	117	119	156	129	194
29	33	32	27	26	---	27	24	126	85	147	128	127
30	34	32	27	26	---	28	23	122	95	127	128	71
31	34	---	26	27	---	27	---	124	---	118	130	---
TOTAL	1108	991	909	824	713	815	800	2749	4714	4168	3603	6339
MEAN	35.7	33.0	29.3	26.6	25.5	26.3	26.7	88.7	157	134	116	211
MAX	43	34	31	29	30	28	56	151	1030	174	134	261
MIN	33	31	26	26	23	24	23	23	51	98	101	71
AC-FT	2200	1970	1800	1630	1410	1620	1590	5450	9350	8270	7150	12570
CAL YR 1985	TOTAL	23416	MEAN	64.2	MAX	413	MIN	21	AC-FT	46450		
WTR YR 1986	TOTAL	27733	MEAN	76.0	MAX	1030	MIN	23	AC-FT	55010		

PLATTE RIVER BASIN

06682000 NORTH PLATTE RIVER NEAR MINATARE, NE

LOCATION.--Main channel gage: Lat 41°47'26", long 103°31'11", in NE1/4SE1/4 sec.13, T.21 N., R.54 W., Scotts Bluff County, Hydrologic Unit 10180009, on left bank 220 ft upstream from bridge on State Highway 326 and 1.8 mi southwest of Minatare. Nine Mile channel gage: Lat 41°47'32", long 103°31'08", in NE1/4SE1/4 sec.13, T.21 N., R.54 W., Scotts Bluff County, Hydrologic Unit 10180009, on left bank 50 ft upstream from bridge on State Highway 326 and 750 ft north of main channel bridge.

DRAINAGE AREA.--24,700 mi². approximately, of which about 22,700 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--May to August 1916, May 1917 to September 1918, May to October 1919, April to September 1922, June 1923 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1710, WDR NE-76-1: Drainage area.

GAGE.--Main channel: Water-stage recorder. Datum of gage is 3,810.7 ft above National Geodetic Vertical Datum of 1929. Nov. 2, 1966, to July 13, 1976, water-stage recorder at datum 1.00 ft higher. See WDR NE-72 for history of changes prior to Nov. 2, 1966.
Nine Mile channel: Water-stage recorder. Datum of gage is 3,812.3 ft above National Geodetic Vertical Datum of 1929. See WDR NE-72 for history of changes prior to Aug. 25, 1971.

REMARKS.--Main channel: Estimated daily discharges, Dec. 12-14. Nine Mile channel: Estimated daily discharges, Nov. 20-23, Nov. 27 to Dec. 4, Dec. 11-15, 28, Jan. 5, and Feb. 9-15. Records good except for periods of estimated record which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas. River flows in two channels for which separate records are computed; figures given herein represent combined discharge.

AVERAGE DISCHARGE (since Glendo project).--29 years (water years 1958-86), 1,121 ft³/s. 812,200 acre-ft/yr; median of yearly mean discharges, 795 ft³/s. 576,000 acre-ft/yr. Figures are unadjusted for storage or diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,500 ft³/s July 2, 1917, from graph based on mean daily discharge and discharge measurement published by State engineer of Nebraska; minimum daily, 11 ft³/s Aug. 16-18, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 18, 1921, may have been greater than flood of July 2, 1917.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,820 ft³/s June 10; minimum daily, 669 ft³/s Feb. 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1620	962	867	753	802	793	1640	3800	1050	4150	1230	1340
2	1500	962	848	757	798	792	1670	3850	1100	4390	1200	1620
3	1450	952	893	761	796	792	1700	3850	1060	4290	1180	1860
4	1380	963	879	770	793	796	1740	3710	1010	4240	1220	1950
5	1350	979	862	774	803	785	1780	3580	1020	4130	1310	1990
6	1340	1050	829	778	805	765	1820	3210	1270	4070	1320	2070
7	1320	1050	808	779	784	769	1820	3380	1470	4140	1290	2140
8	1270	984	803	773	764	777	1760	3410	1590	4150	1300	2150
9	1250	959	816	773	736	772	1780	3290	3280	4320	1300	2100
10	1260	936	806	778	669	765	2000	3320	5170	4710	1310	2110
11	1290	933	770	788	669	762	2000	3220	3880	4320	1290	2060
12	1360	943	754	802	693	765	1970	3060	3940	4130	1210	2010
13	1350	947	782	808	733	752	1970	3010	5290	4060	1160	2020
14	1330	934	782	813	742	746	1930	3120	6240	3990	1120	2080
15	1300	940	786	814	722	746	1930	3140	5800	3960	1110	2110
16	1260	936	788	816	724	743	2290	3260	5550	4200	1110	2130
17	1250	938	790	832	746	766	2580	3180	5640	4200	1090	2080
18	1200	945	797	841	877	752	3020	2840	5690	4080	1070	1970
19	1170	909	806	846	934	750	3040	2570	5780	4010	1070	2020
20	1150	905	799	864	869	793	3180	2390	5830	4000	1060	2160
21	1140	893	808	871	837	1030	3290	2030	5820	4110	1080	2200
22	1140	883	816	858	817	1220	3370	1800	5360	4020	1130	2190
23	1110	883	816	853	819	1320	3560	1620	5380	3510	1150	2200
24	1070	874	808	847	819	1400	3710	1480	5590	2890	1150	2240
25	1060	883	810	830	823	1460	3830	1330	5420	2700	1170	2360
26	1040	873	798	820	812	1540	3930	1240	5080	2340	1200	2500
27	1010	868	781	818	803	1600	3900	1190	4920	2110	1190	2650
28	990	888	755	824	791	1620	3860	1130	4930	1920	1180	2850
29	982	880	746	815	---	1630	3860	1120	4590	1710	1170	2730
30	961	879	750	807	---	1630	3830	1070	4180	1550	1180	2610
31	963	---	747	807	---	1630	---	1050	---	1350	1250	---
TOTAL	37866	27931	24900	25070	21980	31461	78760	80250	122930	111750	36800	64500
MEAN	1221	931	803	809	785	1015	2625	2589	4098	3605	1187	2150
MAX	1620	1050	893	871	934	1630	3930	3850	6240	4710	1320	2850
MIN	961	868	746	753	669	743	1640	1050	1010	1350	1060	1340
AC-FT	75110	55400	49390	49730	43600	62400	156200	159200	243800	221700	72990	127900
CAL YR 1985	TOTAL	372516		MEAN	1021	MAX	3810	MIN	244	AC-FT	738900	
WTR YR 1986	TOTAL	664198		MEAN	1820	MAX	6240	MIN	669	AC-FT	1317000	

PLATTE RIVER BASIN

83

06682505 NORTH PLATTE RIVER AT MC GREW, NE

LOCATION.--Lat 41°45'42", long 103°25'02". in SW1/4 sec.25, T.21 N., R.53 W., Scotts Bluff County, Hydrologic Unit 10180009, at bridge on county road 1.2 mi north of State Highway 92, 0.3 mi downstream from Ninemile Creek and 0.9 mi north of McGrew.

PERIOD OF RECORD.--Chemical analyses: water years 1973 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT 23...	1330	1290	975	7.80	12.0	9.4	8	80	300
NOV 26...	0900	983	1020	7.60	2.0	12.0	16	430	710
DEC 16...	1340	911	900	8.20	5.0	11.6	14	21	420
JAN 13...	1400	847	931	8.30	6.0	11.4	29	K40	K16000
FEB 18...	1345	1040	961	8.30	8.0	10.0	37	1300	47000
MAR 17...	1400	838	915	8.40	8.0	10.5	10	80	440
APR 14...	1345	2370	815	8.30	8.0	10.4	29	90	160
MAY 19...	0850	2980	775	8.00	15.5	8.9	13	540	230
JUN 16...	0915	5570	680	8.30	21.5	7.5	24	400	2100
JUL 14...	0920	4050	609	7.40	20.0	7.7	21	330	1300
AUG 18...	1045	1230	810	8.10	19.5	8.1	31	270	4700
SEP 15...	0845	2360	781	8.50	15.0	8.9	30	160	4700

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

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 23...	300	0	85	22	110	3	250	22
NOV 26...	300	0	83	22	96	3	200	20
DEC 16...	290	0	78	22	100	3	220	22
JAN 13...	280	0	76	23	110	3	190	6.9
FEB 18...	290	0	79	23	94	2	230	23
MAR 17...	250	0	63	23	96	3	190	25
APR 14...	280	0	72	24	74	2	270	18
MAY 19...	270	0	70	24	69	2	200	16
JUN 16...	230	0	58	21	62	2	130	18
JUL 14...	240	0	62	20	59	2	220	11
AUG 18...	260	0	70	21	87	2	150	20
SEP 15...	260	0	70	20	79	2	200	15

PLATTE RIVER BASIN

06682505 NORTH PLATTE RIVER AT MC GREW, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, RESIDUE AT 105 DEG. C. SUS- PENDEED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 23...	124	1.80	0.110	0.52	0.63	2.4	0.110	11
NOV 26...	40	1.80	0.190	0.52	0.71	2.5	0.070	3.6
DEC 16...	80	3.60	0.210	0.50	0.71	4.3	0.250	3.9
JAN 13...	84	3.30	0.280	0.72	1.0	4.3	0.280	5.0
FEB 18...	176	3.00	0.260	2.3	2.6	5.6	0.370	<1.0
MAR 17...	54	2.80	0.100	0.80	0.90	3.7	0.150	3.7
APR 14...	340	1.10	0.040	0.86	0.90	2.0	0.410	6.9
MAY 19...	168	1.00	0.050	0.75	0.80	1.8	0.210	1.7
JUN 16...	256	0.620	0.040	1.4	1.4	2.0	0.300	8.0
JUL 14...	280	0.850	0.110	1.7	1.8	2.7	0.360	6.0
AUG 18...	160	2.00	0.040	1.4	1.4	3.4	0.240	5.5
SEP 15...	210	1.40	<0.020	--	0.70	2.1	0.300	9.7

06684500 NORTH PLATTE RIVER AT BRIDGEPORT, NE

LOCATION.--Main channel gage: Lat 41°40'54", long 103°05'52", in NW1/4NW1/4 sec.28, T.20 N., R.50 W., Morrill County, Hydrologic Unit 10180009, on left bank 0.3 mi upstream from bridge on U.S. Highway 26, 0.8 mi north of Bridgeport. Browns Creek channel gage: Lat 41°40'55", long 103°05'53", in NW1/4NW1/4 sec.28, T.20 N., R.50 W., Morrill County, on right bank 0.2 mi upstream from culvert on U.S. Highway 26 and 0.8 mi north of Bridgeport.

DRAINAGE AREA.--25,300 mi², approximately, of which about 23,300 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--June 1896 to October 1900 (no winter records most years), May 1902 to November 1906, June to August 1915, May 1916 to current year. Monthly discharge only for some years, published in WSP 1310. Published as "near Camp Clark" 1896-1900.

REVISED RECORDS.--WSP 1390: 1897, 1915. WDR NE-67, WDR NE-76-1: Drainage area.

GAGE.--Main channel: Water-stage recorder. Datum of gage is 3,656.14 ft above National Geodetic Vertical Datum of 1929. See WSP 1918 for history of changes prior to Oct. 7, 1927. Oct. 7, 1927 to July 16, 1978 at downstream side of bridge on U.S. Highway 26, 0.3 mi downstream at same datum. Browns Creek channel: Water-stage recorder. Datum of gage is 3,663.51 ft above National Geodetic Vertical Datum of 1929. See WSP 1918 for history of changes prior to June 1, 1943. June 1, 1943 to Nov. 17, 1983 on left bank at same location and datum.

REMARKS.--Main channel: Estimated daily discharges, Dec. 1-10, 12-19. Browns Creek channel: No estimated daily discharges. Records good except for periods of estimated record, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas. River flows in two independently rated channels for which separate records are computed; figures herein represent combined discharge.

AVERAGE DISCHARGE (since Glendo project).--29 years (water years 1958-86), 1,408 ft³/s, 1,020,000 acre-ft/yr; median of yearly mean of discharges, 1,057 ft³/s, 765,800 acre-ft/yr. Figures are unadjusted for storage or diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,900 ft³/s June 26, 1899, gage height, 5.39 ft, site and datum then in use, from graph based on gage readings; minimum daily, 55 ft³/s May 28, 1934, Aug. 15, 1940, but may have been less during periods of no record for Browns Creek channel.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,160 ft³/s June 10; minimum daily, 785 ft³/s Dec. 3.

DISCHARGE. IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2060	1400	910	1120	1110	1100	1680	3810	1190	4370	1490	1990
2	1990	1380	815	1090	1090	1080	1800	3830	1180	4580	1420	2130
3	1950	1360	785	1020	1060	1060	1910	3880	1160	4560	1390	2440
4	1810	1320	1000	998	1070	967	1970	3840	1100	4520	1470	2510
5	1800	1300	1220	1010	1100	953	2010	3680	1130	4420	1550	2530
6	1780	1300	1350	972	1100	967	2010	3340	1250	4370	1540	2640
7	1770	1300	1400	964	1070	973	2060	3300	1550	4400	1450	2910
8	1700	1280	1240	1070	1010	991	1900	3740	1740	4460	1430	2940
9	1630	1220	1220	1100	959	1010	1900	3790	3050	4670	1480	2840
10	1600	1120	1110	1060	933	989	2150	3630	5690	5650	1510	2800
11	1620	1150	1110	1030	956	962	2260	3640	5270	4960	1510	2730
12	1720	1150	1100	1040	969	978	2220	3400	4420	4580	1430	2680
13	1750	1170	1250	1040	1030	983	2330	3390	5670	4360	1380	2640
14	1740	1150	1250	1030	1080	939	2300	3480	6460	4310	1360	2650
15	1790	1150	1280	1040	980	886	2300	3620	6690	4260	1330	2600
16	1710	1140	1310	1050	927	896	2420	3820	5970	4530	1310	2600
17	1600	1120	1330	1080	1000	1000	2750	3780	5860	4860	1270	2600
18	1450	1130	1260	1130	1120	1020	3270	3440	5830	4740	1270	2640
19	1470	1060	1160	1140	1200	997	3280	3080	5960	4600	1260	2760
20	1490	1070	1050	1180	1150	1010	3260	2780	6170	4470	1260	2860
21	1520	1130	1010	1150	1130	1070	3430	2460	6410	4430	1270	2770
22	1530	1130	1030	1090	1170	1270	3530	2130	6060	4440	1280	2940
23	1480	1130	1030	1050	1120	1380	3640	1920	5710	4620	1360	2990
24	1420	1170	1040	1100	1120	1420	3710	1810	5740	3960	1360	3010
25	1390	1090	1100	1080	1150	1480	3760	1690	5780	4020	1360	3090
26	1390	1060	1080	1020	1150	1540	4050	1590	5480	3460	1420	3160
27	1410	979	1050	1020	1110	1560	4110	1490	5110	3090	1500	3170
28	1420	940	1040	1060	1080	1500	3950	1420	4980	2750	1500	3310
29	1440	1020	1040	1080	---	1410	3920	1390	4830	2370	1490	3090
30	1410	1050	1050	1090	---	1510	3900	1330	4450	2000	1560	2960
31	1420	---	1110	1100	---	1630	---	1290	---	1680	1700	---
TOTAL	50260	34969	34730	33004	29944	35531	83780	89790	131890	128490	43910	82980
MEAN	1621	1166	1120	1065	1069	1146	2793	2896	4396	4145	1416	2766
MAX	2060	1400	1400	1180	1200	1630	4110	3880	6690	5650	1700	3310
MIN	1390	940	785	964	927	886	1680	1290	1100	1680	1260	1990
AC-FT	99690	69360	68890	65460	59390	70480	166200	178100	261600	254900	87100	164600
CAL YR 1985	TOTAL	463518		MEAN	1270	MAX	3850	MIN	321	AC-FT	919400	
WTR YR 1986	TOTAL	779278		MEAN	2135	MAX	6690	MIN	785	AC-FT	1546000	

PLATTE RIVER BASIN

06685000 PUMPKIN CREEK NEAR BRIDGEPORT, NE

LOCATION.--Lat 41°37'38", long 103°02'10", in SW1/4 sec.12, T.19 N., R.50 W., Morrill County, Hydrologic Unit 10180013, on right bank 250 ft downstream from bridge on U.S. Highway 385 and State Highway 92. 0.5 mi upstream from mouth, and 4 mi southeast of Bridgeport.

DRAINAGE AREA.--1.020 mi², approximately.

PERIOD OF RECORD.--February 1931 to current year.

REVISED RECORDS.--WSP 1390: 1932, 1934(M), 1935, 1936(M), 1938-39. WDR NE-67: Drainage area.

GAGE.--Water-stage recorder. Sheet piling control since December 1964. Datum of gage is 3,635.99 ft above National Geodetic Vertical Datum of 1929. Prior to June 25, 1934, nonrecording gage on downstream side of bridge 240 ft upstream and June 25, 1934, to May 18, 1936, water-stage recorder at upstream side of bridge, 260 ft upstream, both at datum 0.29 ft higher. May 19, 1936, to June 8, 1965, water-stage recorder, June 9, 1965, to Sept. 1, 1965, non-recording gage, and Sept. 2, 1965, to Sept. 18, 1980, water-stage recorder, all on left bank 250 ft downstream from bridge at present datum.

REMARKS.--Estimated daily discharges: Nov. 10, 11, 14-16. Nov. 19 to Jan. 11, Jan. 26, and Feb. 5-21. Records good except for periods of estimated record, which are fair. Natural flow of stream affected by ground-water withdrawals and diversions for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--55 years, 27.6 ft³/s, 20,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,880 ft³/s June 9, 1965, gage height, 9.98 ft, from floodmark, from rating curve extended above 3,500 ft³/s on basis of rating extension for main channel and determination of flow over road; no flow for several days in 1975-77, 1981, 1982, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 72 ft³/s May 1, gage height, 2.05 ft; maximum gage height, 2.80 ft Jan. 4, backwater from ice; minimum daily discharge, 0.03 ft³/s Aug. 10-12, 16, 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	7.9	8.0	9.6	16	14	17	21	19	11	.57	10
2	4.2	7.6	8.0	9.6	16	14	18	38	18	5.7	.53	15
3	2.2	7.5	8.0	9.6	16	14	19	32	33	4.8	.31	14
4	2.5	7.8	8.6	9.6	17	14	20	32	24	4.7	.20	14
5	2.7	8.0	8.6	9.6	16	15	22	31	16	3.9	.20	14
6	2.7	7.9	9.0	11	16	15	20	31	17	5.3	.18	14
7	3.6	8.5	9.4	11	14	17	20	32	15	4.4	.14	14
8	4.2	9.0	10	12	12	16	20	38	14	.70	.11	14
9	4.7	9.0	9.2	13	10	17	20	39	23	4.4	.06	12
10	4.9	8.4	9.0	15	10	17	20	34	52	6.3	.03	12
11	5.4	8.4	8.2	16	10	17	19	29	43	7.1	.03	13
12	5.3	8.4	7.8	16	11	17	19	27	35	5.5	.03	13
13	5.3	8.9	7.8	16	12	17	18	29	54	5.0	.07	13
14	5.3	8.8	8.8	16	10	18	16	28	48	4.7	.07	14
15	5.7	8.8	9.4	15	11	20	17	29	51	3.7	.07	13
16	5.6	8.8	10	15	13	20	17	33	52	3.6	.03	14
17	5.3	8.9	10	15	14	22	18	29	52	4.6	.03	13
18	5.0	9.3	9.8	16	14	22	25	39	51	6.3	.04	13
19	5.0	8.8	10	17	14	18	27	39	49	4.3	.23	13
20	5.3	8.8	12	16	15	21	22	36	48	3.9	.27	14
21	4.8	9.0	12	15	16	21	22	31	46	3.4	.28	13
22	5.3	9.0	12	16	17	20	23	27	46	2.8	.26	14
23	5.6	9.0	12	15	16	17	21	27	41	2.2	.28	14
24	5.8	10	11	14	14	18	20	27	41	.63	.33	13
25	6.2	10	10	14	13	17	19	25	38	.46	.29	12
26	5.7	10	9.0	14	13	18	19	24	37	.34	.26	17
27	5.6	9.0	9.0	17	15	18	19	25	38	.34	.22	20
28	6.2	8.0	9.0	19	14	18	19	28	19	.75	.24	17
29	6.7	8.0	9.0	17	---	17	17	27	15	.69	.25	12
30	6.8	8.0	9.4	16	---	17	16	25	12	.50	.23	14
31	7.2	---	9.6	16	---	17	---	21	---	.55	5.9	---
TOTAL	165.8	259.5	293.6	441.0	385	543	589	933	1047	112.56	11.74	412
MEAN	5.35	8.65	9.47	14.2	13.8	17.5	19.6	30.1	34.9	3.63	.38	13.7
MAX	15	10	12	19	17	22	27	39	54	11	5.9	20
MIN	2.2	7.5	7.8	9.6	10	14	16	21	12	.34	.03	10
AC-FT	329	515	582	875	764	1080	1170	1850	2080	223	23	817
CAL YR 1985	TOTAL	4027.79	MEAN	11.0	MAX	36	MIN	.00	AC-FT	7990		
WTR YR 1986	TOTAL	5193.20	MEAN	14.2	MAX	54	MIN	.03	AC-FT	10300		

PLATTE RIVER BASIN

87

06686000 NORTH PLATTE RIVER AT LISCO, NE
(National stream-quality accounting network station)

LOCATION.--Lat 41°29'18", long 102°37'25", in NW1/4SE1/4 sec.33, T.18 N., R.46 W., Garden County, Hydrologic Unit 10180009, near right bank on downstream side of pier of highway bridge, 0.5 mi south of Lisco.

DRAINAGE AREA.--26,700 mi², approximately, of which about 24,700 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May to September 1916, June to October 1917, September 1931 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 3,474.5 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 8, 1931, nonrecording gage at present site at different datum and Sept. 8, 1931 to May 3, 1932, at present site at datum 1.0 ft higher. May 4, 1932, to May 28, 1974, water-stage recorder at present site at datum 1.0 ft higher.

REMARKS.--Estimated daily discharges: Nov. 23 to Jan. 7 and Feb. 11-20. Records good except for periods of estimated record, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE (since Glendo project).--29 years (water years 1958-86), 1,485 ft³/s, 1,076,000 acre-ft/yr; median of yearly mean discharges, 1,160 ft³/s, 840,400 acre-ft/yr. Figures are unadjusted for storage and diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,100 ft³/s June 27, 29, 1917, from graph based on daily gage readings, from rating curve extended above 15,000 ft³/s; minimum daily, 8 ft³/s Aug. 4, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,370 ft³/s June 11, gage height, 3.99 ft; maximum gage height, 4.00 ft Nov. 28, backwater from ice; minimum daily discharge, 900 ft³/s Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2210	1390	1060	1200	1280	1180	1650	3600	1240	3860	1680	1830
2	2140	1370	1080	1200	1280	1170	1650	3600	1170	3840	1560	1990
3	2010	1400	1100	1250	1240	1200	1980	3620	1160	3950	1530	2260
4	1880	1390	1120	1160	1340	1180	2040	3600	1130	3930	1560	2350
5	1790	1390	1200	1000	1400	1170	1990	3600	1090	3910	1530	2390
6	1790	1340	1300	1060	1430	1140	1960	3560	1140	3860	1540	2500
7	1770	1340	1350	1100	1340	1120	1930	3350	1300	3860	1470	2700
8	1770	1360	1400	1240	1160	1120	1930	3670	1710	3970	1400	2830
9	1740	1320	1450	1220	1080	1120	1930	4000	2200	4060	1430	2830
10	1650	1280	1450	1210	959	1080	1930	3690	4260	4820	1440	2760
11	1650	1260	1450	1210	900	1080	2130	3620	5780	5170	1430	2720
12	1680	1260	1400	1200	1000	1110	2160	3410	4700	4470	1370	2740
13	1710	1300	1350	1200	1080	1110	2200	3210	4520	4150	1300	2720
14	1710	1300	1350	1220	1200	1110	2180	3170	5380	4000	1240	2760
15	1710	1330	1350	1290	1250	1130	2110	3210	5740	3820	1210	2740
16	1660	1320	1400	1290	1350	1130	2230	3520	5940	3710	1200	2770
17	1650	1300	1450	1290	1500	1170	2500	3540	5280	4040	1160	2770
18	1620	1300	1450	1260	1800	1160	3110	3430	5140	4090	1170	2760
19	1570	1290	1400	1300	1650	1070	3290	3190	5210	3950	1180	2760
20	1530	1160	1400	1330	1450	1020	3150	2890	5490	3860	1140	2740
21	1540	1220	1350	1300	1460	1010	3210	2530	5660	3840	1170	2830
22	1560	1260	1350	1260	1440	1130	3250	2140	5700	3890	1260	2870
23	1510	1250	1350	1210	1430	1300	3290	1830	5520	4130	1360	2970
24	1460	1250	1300	1220	1460	1400	3390	1690	5210	3690	1500	2970
25	1440	1250	1250	1240	1400	1480	3540	1680	5240	3270	1480	2970
26	1400	1200	1250	1170	1340	1480	3580	1680	5170	3150	1480	2990
27	1370	980	1250	1200	1250	1560	3690	1590	4730	2830	1510	3050
28	1400	940	1200	1240	1210	1570	3670	1530	4470	2620	1500	3070
29	1430	920	1160	1250	---	1590	3690	1460	4450	2370	1510	3070
30	1390	1000	1250	1250	---	1570	3670	1390	4150	2140	1510	2830
31	1360	---	1250	1240	---	1630	---	1320	---	1910	1620	---
TOTAL	51100	37670	40470	37810	36679	38290	79030	90030	119880	115160	43440	81540
MEAN	1648	1256	1305	1220	1310	1235	2634	2904	3996	3715	1401	2718
MAX	2210	1400	1450	1330	1800	1630	3690	5140	5940	5170	1680	3070
MIN	1360	920	1060	1000	900	1010	1650	1320	1090	1910	1140	1830
AC-FT	101400	74720	80270	75000	72750	75950	156800	178600	237800	228400	86160	161700
CAL YR 1985	TOTAL	480061		MEAN	1315	MAX	3450	MIN	285	AC-FT	952200	
WTR YR 1986	TOTAL	771099		MEAN	2113	MAX	5940	MIN	900	AC-FT	1529000	

PLATTE RIVER BASIN

06686000 NORTH PLATTE RIVER AT LISCO, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1970 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1970 to September 1981.

WATER TEMPERATURES: October 1970 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,280 microsiemens Feb. 11, 1981; minimum daily, 275 microsiemens Mar. 1, 1978.

WATER TEMPERATURES: Maximum, 31.0°C July 19, 1972; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)
OCT										
23...	0900	1530	952	7.30	9.0	668	--	10.3	15	67
NOV										
25...	1200	1310	957	7.20	1.0	669	19	12.2	15	28
DEC										
16...	0945	1400	872	8.20	1.5	675	--	12.2	8	K12
JAN										
13...	0930	1200	872	8.50	2.0	670	21	12.2	26	13
FEB										
18...	1130	1850	865	8.10	2.0	656	--	12.3	18	23
MAR										
17...	0930	1180	878	8.50	7.0	656	16	11.0	7	43
APR										
14...	0945	2130	828	8.30	3.0	667	--	11.7	29	60
MAY										
20...	1130	2890	772	8.60	20.0	667	45	8.2	24	<550
JUN										
17...	1220	5300	733	7.80	24.5	671	--	7.2	24	360
JUL										
15...	1000	3930	702	8.20	25.0	666	20	7.6	35	300
AUG										
19...	1130	1210	785	8.20	25.0	675	--	8.0	45	73
SEP										
16...	1230	2780	778	8.20	19.0	666	64	8.6	24	140

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

DATE	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT										
23...	160	310	0	87	22	100	3	--	--	250
NOV										
25...	180	300	38	84	21	91	2	9.9	244	210
DEC										
16...	200	280	0	78	21	95	3	--	--	190
JAN										
13...	K5400	300	43	86	21	94	2	9.5	--	190
FEB										
18...	950	280	0	78	21	91	2	--	--	200
MAR										
17...	90	290	54	83	21	88	2	9.5	247	210
APR										
14...	76	290	0	77	24	80	2	--	--	250
MAY										
20...	180	260	65	71	21	70	2	6.9	193	220
JUN										
17...	K23000	250	0	65	21	67	2	--	--	180
JUL										
15...	360	250	63	67	20	62	2	6.4	178	180
AUG										
19...	240	270	0	72	22	87	2	--	--	160
SEP										
16...	3300	230	43	61	20	80	2	7.9	206	190

PLATTE RIVER BASIN

89

06686000 NORTH PLATTE RIVER AT LISCO, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS P) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDEED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
OCT 23...	20	--	--	--	--	--	--	44	1.60	--
NOV 25...	22	0.50	40	638	650	0.87	2260	86	--	3.30
DEC 16...	18	--	--	--	--	--	--	22	3.30	--
JAN 13...	34	0.50	39	641	650	0.87	2080	90	3.20	3.20
FEB 18...	20	--	--	--	--	--	--	88	2.80	--
MAR 17...	22	0.50	36	627	630	0.85	2000	72	>3.20	2.90
APR 14...	16	--	--	--	--	--	--	414	1.40	--
MAY 20...	14	0.40	16	544	550	0.74	4240	200	0.980	0.960
JUN 17...	19	--	--	--	--	--	--	193	0.470	--
JUL 15...	15	0.50	17	489	480	0.67	5190	364	0.950	0.930
AUG 19...	19	--	--	--	--	--	--	198	1.60	--
SEP 16...	16	0.50	27	552	520	0.75	4140	316	1.60	0.160

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 23...	0.040	--	1.1	1.1	2.7	0.110	--	--	5.1
NOV 25...	0.140	0.120	0.96	1.1	--	0.110	0.030	0.040	4.1
DEC 16...	0.180	--	0.27	0.45	3.8	0.120	--	--	7.7
JAN 13...	0.100	0.110	0.60	0.70	3.9	0.100	0.050	0.040	4.0
FEB 18...	0.100	--	1.5	1.6	4.4	0.120	--	--	4.1
MAR 17...	0.050	0.050	0.55	0.60	--	0.120	0.040	0.020	3.4
APR 14...	<0.020	--	--	1.2	2.6	0.350	--	--	5.6
MAY 20...	0.030	0.030	0.87	0.90	1.9	0.210	<0.010	0.010	6.0
JUN 17...	0.030	--	1.1	1.1	1.6	0.290	--	--	8.2
JUL 15...	0.060	0.060	0.94	1.0	2.0	0.140	0.030	0.030	6.6
AUG 19...	0.050	--	1.0	1.1	2.7	0.200	--	--	6.7
SEP 16...	0.020	<0.010	0.88	0.90	2.5	0.120	0.010	0.010	11

PLATTE RIVER BASIN

06686000 NORTH PLATTE RIVER AT LISCO, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 25...	1200	20	5	98	<0.5	<1	<1	<3	3	10	<1
MAR 17...	0930	30	6	99	<0.5	<1	1	<3	2	13	1
MAY 20...	1130	20	5	83	<0.5	<1	20	<3	9	31	<1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 25...	40	5	--	<10	2	5	<1	910	8	16
MAR 17...	36	5	<0.1	<10	<1	5	<1	910	9	25
MAY 20...	37	7	<0.1	<10	<1	5	<1	670	7	56

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 25...	1200	1310	1.0	212	750	44
JAN 13...	0930	1200	2.0	161	522	70
MAR 17...	0930	1180	7.0	196	624	43
MAY 20...	1130	2890	20.0	587	4580	34
JUL 15...	1000	3930	25.0	542	5750	67
SEP 16...	1230	2780	19.0	497	3730	54

PLATTE RIVER BASIN

91

06687000 BLUE CREEK NEAR LEWELLEN, NE

LOCATION.--Lat 41°20'08", long 102°10'21", in NE1/4 sec.30, T.16 N., R.42 W., Garden County, Hydrologic Unit 10180009, on left bank 5 ft downstream from county highway bridge, 0.5 mi downstream from bridge on U.S. Highway 26, 0.8 mi upstream from mouth, and 1.5 mi west of Lewellen.

DRAINAGE AREA.--1,190 mi², approximately, of which about 80 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1930 to current year.

REVISED RECORDS.--WSP 1310: 1941(M). WDR NE-67: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,310.04 ft above National Geodetic Vertical Datum of 1929. See WSP 1918 for history of changes prior to Apr. 10, 1958. Apr. 10, 1958 to Sept. 17, 1983, recording gage at site 125 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 20 to Jan. 10 and June 21, 22. Records good except for periods of estimated record, which are fair. Natural flow of stream affected by ground-water withdrawals and diversions for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--56 years, 69.3 ft³/s, 50,210 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 720 ft³/s May 20, 1938, gage height, 6.46 ft, present datum, from rating curve extended above 500 ft³/s; maximum gage height observed, 7.28 ft, Dec. 17, 1985, backwater from ice; no flow for short periods in 1940, 1947, 1957, 1960-61, 1963, 1971, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 148 ft³/s Apr. 3, gage height, 4.09 ft; maximum gage height observed, 7.28 ft Dec. 17, backwater from ice; minimum daily discharge, 0.17 ft³/s June 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88	85	76	94	94	91	86	87	74	.74	7.6	13
2	87	87	70	94	94	90	81	87	72	.49	5.2	18
3	86	86	70	94	93	90	121	87	65	.58	.87	17
4	82	87	76	94	93	90	140	91	61	2.4	1.3	12
5	82	86	80	92	93	89	126	87	64	.33	2.8	9.7
6	84	84	86	92	93	88	107	84	57	.38	3.2	12
7	85	85	90	92	94	84	94	84	47	.36	5.5	14
8	86	87	90	92	94	85	90	84	40	2.8	3.2	20
9	87	87	86	96	88	88	90	94	36	3.6	1.4	21
10	86	84	80	100	80	88	93	94	50	7.9	.72	19
11	86	84	70	102	80	86	92	91	71	4.0	.72	18
12	92	85	64	100	80	86	88	89	69	2.1	1.8	17
13	94	89	64	99	90	85	84	87	55	2.0	1.2	14
14	92	92	80	96	96	86	78	88	41	2.0	.40	14
15	88	92	94	94	104	87	81	89	40	2.4	.41	16
16	85	93	110	95	112	89	86	102	34	3.0	2.2	23
17	86	93	110	96	120	101	89	102	20	3.8	1.8	21
18	86	94	110	96	125	105	105	94	15	7.9	3.0	18
19	85	87	120	97	122	93	93	81	7.9	7.2	6.2	23
20	85	76	120	98	113	89	87	93	4.1	4.7	6.3	27
21	85	70	125	95	98	90	87	92	2.1	7.7	8.9	26
22	87	60	125	89	102	89	88	91	.20	6.7	9.3	24
23	86	68	120	87	104	88	87	74	2.9	1.3	5.9	25
24	84	76	110	91	104	85	85	65	3.6	3.3	.50	26
25	84	90	110	90	102	84	90	71	.60	4.1	.45	40
26	85	90	100	86	98	83	89	71	.17	2.2	2.1	43
27	85	86	100	84	93	84	89	74	4.9	2.1	.42	43
28	84	80	100	89	89	84	89	79	4.9	1.8	.35	42
29	84	74	98	92	---	82	91	83	.33	1.4	1.2	41
30	84	78	96	92	---	81	90	84	.44	1.2	1.0	40
31	83	---	94	93	---	81	---	75	---	1.2	6.7	---
TOTAL	2663	2515	2924	2901	2748	2721	2796	2654	943.14	91.68	92.64	696.7
MEAN	85.9	83.8	94.3	93.6	98.1	87.8	93.2	85.6	31.4	2.96	2.99	23.2
MAX	94	94	125	102	125	105	140	102	74	7.9	9.3	43
MIN	82	60	64	84	80	81	78	65	.17	.33	.35	9.7
AC-FT	5280	4990	5800	5750	5450	5400	5550	5260	1870	182	184	1380
CAL YR 1985	TOTAL	25687.63		MEAN	70.4	MAX	134	MIN	.19	AC-FT	50950	
WTR YR 1986	TOTAL	23746.16		MEAN	65.1	MAX	140	MIN	.17	AC-FT	47100	

PLATTE RIVER BASIN

06687500 NORTH PLATTE RIVER AT LEWELLEN, NE

LOCATION.--Lat 41°19'01", long 102°07'32", in SE1/4NW1/4 sec.34, T.16 N., R.42 W., Garden County, Hydrologic Unit 10180009, on left bank 19 ft downstream from bridge on State Highway 26, 1 mi southeast of Lewellen, and approximately 0.5 mi upstream from high-water line of Lake McConaughy.

DRAINAGE AREA.--28,600 mi², approximately, of which about 25,400 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--July to September 1931, December 1940 to current year.

REVISED RECORDS.--WDR NE-67, WDR NE-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,285.88 ft above National Geodetic Vertical Datum of 1929. July to September 1931, nonrecording gage at site 0.9 mi upstream at different datum. December 1940 to Sept. 19, 1973, water-stage recorders on two channels at present site at datum 1.28 ft lower. Sept. 21, 1973 to July 13, 1984, water-stage recorder at site 0.9 mi upstream at datum 4.28 ft higher.

REMARKS.--Estimated daily discharges: Nov. 21 to Jan. 29 and Feb. 9-24. Records good except for periods of estimated record, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE (since Glendo project).--29 years (water years 1958-86), 1,588 ft³/s, 1,151,000 acre-ft/yr; median of yearly mean discharges, 1,300 ft³/s, 941,800 acre-ft/yr. Figures are unadjusted for storage and diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,500 ft³/s June 4, 1971, at different datum; minimum daily, 44 ft³/s July 13, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,310 ft³/s June 17, gage height, 7.18 ft; minimum daily discharge, 660 ft³/s Nov. 30, Dec. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2540	1540	660	1350	1540	1280	1810	4170	1470	4390	1810	1700
2	2470	1570	840	1300	1540	1250	1810	4070	1400	4020	1570	1820
3	2380	1570	900	1300	1510	1280	2180	4090	1340	4120	1470	1970
4	2250	1570	1200	1300	1510	1260	2430	4170	1300	4170	1570	2150
5	2150	1570	1300	1250	1520	1240	2450	4090	1290	4020	1510	2240
6	2100	1550	1750	1200	1500	1210	2420	3870	1260	4020	1510	2310
7	2090	1520	2000	1250	1510	1210	2260	3680	1260	3970	1500	2350
8	2020	1510	1950	1300	1460	1200	2250	3450	1560	4090	1430	2500
9	1930	1520	1900	1350	1100	1200	2200	3950	1920	4170	1430	2570
10	1850	1580	1900	1350	1000	1200	2220	4070	3300	4550	1430	2550
11	1870	1540	1600	1400	1060	1240	2280	3800	4810	4970	1460	2500
12	1960	1520	1450	1400	1160	1240	2420	3730	5770	5080	1460	2520
13	2010	1520	1400	1400	1200	1240	2380	3500	5460	4500	1410	2480
14	2070	1510	1400	1400	1300	1230	2330	3370	5030	4190	1290	2530
15	2020	1510	1450	1400	1500	1230	2220	3370	5480	4070	1260	2630
16	1990	1480	1500	1400	1800	1250	2250	3590	5910	3830	1220	2810
17	1960	1470	1550	1400	2100	1350	2430	3750	6190	3900	1180	2960
18	1900	1480	1600	1400	2500	1400	3090	3680	6030	4240	1180	2870
19	1880	1470	1700	1450	2700	1370	3650	3480	5800	4270	1160	2890
20	1820	1380	1750	1450	2200	1310	3750	3230	5830	4090	1140	2830
21	1790	1250	1750	1500	2000	1300	3590	2930	5910	4090	1120	2870
22	1790	1200	1700	1550	1700	1300	3690	2670	6060	4090	1140	2890
23	1750	1200	1650	1500	1600	1500	3710	2380	6030	4170	1170	2930
24	1680	1250	1550	1450	1500	1590	3820	2130	5970	4600	1290	2930
25	1660	1300	1350	1400	1460	1690	4060	2020	5710	4020	1380	2870
26	1640	1500	1250	1400	1420	1780	4100	1920	5680	3710	1410	2870
27	1610	1450	1250	1450	1370	1740	4140	1840	5680	3390	1430	3000
28	1580	1100	1250	1500	1300	1710	4270	1790	5220	2910	1440	2980
29	1570	700	1220	1550	---	1750	4270	1740	4920	2590	1440	3000
30	1570	660	1140	1580	---	1750	4220	1630	4810	2310	1480	3000
31	1550	---	1350	1520	---	1770	---	1570	---	2020	1530	---
TOTAL	59450	41990	45260	43450	44060	43070	88700	97730	128400	122560	42820	78520
MEAN	1918	1400	1460	1402	1574	1389	2957	3153	4280	3954	1381	2617
MAX	2540	1580	2000	1580	2700	1780	4270	4170	6190	5080	1810	3000
MIN	1550	660	660	1200	1000	1200	1810	1570	1260	2020	1120	1700
AC-FT	117900	83290	89770	86180	87390	85430	175900	193800	254700	243100	84930	155700
CAL YR 1985	TOTAL	519533		MEAN	1423	MAX	3570	MIN	270	AC-FT	1030000	
WTR YR 1986	TOTAL	836010		MEAN	2290	MAX	6190	MIN	660	AC-FT	1658000	

PLATTE RIVER BASIN

93

06690000 LAKE MCCONAUGHY NEAR KEYSTONE, NE

LOCATION.--Lat 41°12'45", long 101°40'03", in NW1/4SW1/4 sec.3, T.14 N., R.38 W., Keith County, Hydrologic Unit 10180014, near right bank at outlet tower of Kingsley Dam on North Platte River, 4.5 mi west of Keystone.

DRAINAGE AREA.--29,300 mi², approximately, of which about 25,800 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--February 1941 to current year.

GAGE.--Electric tape gage read once daily. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earthfill dam; storage began Feb. 9, 1941. Capacity, 1,948,000 acre-ft between elevations 3,130.0 ft, sill of outlet gates, and 3,270.0 ft, top of morning-glory spillway gates. Elevation of crest of morning-glory spillway is 3,254.0 ft. Dead storage negligible. Figures given herein represent total contents. Water is used for power development and irrigation in South-Central Nebraska by the Central Nebraska Public Power and Irrigation District.

COOPERATION.--Records of elevations and capacity table furnished by the Central Nebraska Public Power and Irrigation District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 1,920,000 acre-ft July 12-16, 1971, elevation, 3,269.1 ft; minimum observed since operation of reservoir began, 32,860 acre-ft Sept. 29, 1941, elevation, 3,153.4 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 1,802,000 acre-ft June 27-28, 30, July 1, 3-7, 9-10, elevation, 3,265.3 ft; minimum observed, 1,416,000 acre-ft Oct. 1, elevation, 3,251.7 ft.

MONTHEND ELEVATION AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	3,251.6	1,414,000	-
Oct. 31	3,254.2	1,482,000	+68,000
Nov. 30	3,255.2	1,509,000	+27,000
Dec. 31	3,256.6	1,548,000	+39,000
CAL YR 1985	-	-	-45,000
Jan. 31	3,258.2	1,593,000	+45,000
Feb. 28	3,259.6	1,633,000	+40,000
Mar. 31	3,258.7	1,607,000	-26,000
Apr. 30	3,260.0	1,644,000	+37,000
May 31	3,262.3	1,711,000	+67,000
June 30	3,265.3	1,802,000	+91,000
July 31	3,264.2	1,768,000	-34,000
Aug. 31	3,257.2	1,565,000	-203,000
Sept. 30	3,255.3	1,512,000	-53,000
WTR YR 1986	-	-	+98,000

PLATTE RIVER BASIN

06690500 NORTH PLATTE RIVER NEAR KEYSTONE, NE

LOCATION.--Lat 41°12'30", long 101°37'50", in SW1/4 sec.1, T.14 N., R.38 W., Keith County, Hydrologic Unit 10180014, on right bank 0.2 mi downstream from diversion dam of Sutherland Reservoir supply canal and 2.5 mi southwest of Keystone.

DRAINAGE AREA.--29,300 mi², approximately, of which about 25,800 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--June to August 1917, July to September 1939, May to September 1940, January to April 1941, March 1942 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1390: 1942, 1946-47. WSP 1630: 1958. WDR NE-67, WDR NE-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,105.59 ft above National Geodetic Vertical Datum of 1929 (Nebraska Public Power District bench mark). See WSP 1918 for history of changes prior to May 1, 1964.

REMARKS.--No estimated daily discharges. Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas. Flow completely regulated by Lake McConaughy (station 06690000) since Feb. 9, 1941. Supply canal for Nebraska Public Power District diverts 0.2 mi upstream from station.

AVERAGE DISCHARGE.--44 years (water years 1943-86), 539 ft³/s, 390,500 acre-ft/yr; median of yearly mean discharges, 370 ft³/s, 268,000 acre-ft/yr. Figures are unadjusted for storage or diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,300 ft³/s June 30, 1917, from graph based on daily gage readings; no flow for many days in 1975-86.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,620 ft³/s June 28, gage height, 6.01 ft; no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	2.0	.00	.00	.00	75	478	2260	99	2660	2850	1310
2	8.8	3.9	.00	.00	.00	77	493	2220	99	2000	2780	1380
3	8.8	4.1	.00	.00	.00	85	206	2240	99	1900	2850	1380
4	6.4	1.8	.00	.00	.00	80	.00	2260	96	1860	2760	1490
5	5.5	1.1	.00	.00	.00	82	1.6	2260	93	1980	2850	2060
6	5.5	.00	.00	.00	.00	82	8.2	1870	102	2000	2870	2540
7	6.8	.00	.00	.00	.00	87	.00	1210	111	1970	2870	2560
8	3.6	.57	.00	.00	.00	93	2.8	480	105	2050	2830	2540
9	3.2	.00	.00	.00	.00	93	1.0	18	105	2310	2850	2540
10	2.9	.00	.00	.00	.00	90	29	.00	108	2580	2850	2520
11	11	.00	.00	.00	.00	183	8.5	19	108	3120	2800	2560
12	22	.00	.00	.00	.00	236	23	.00	139	3180	2800	2540
13	21	.00	.00	.00	.00	308	89	.00	380	3180	2830	2540
14	16	.00	.00	.00	.00	360	486	.00	688	2820	2830	2200
15	12	.00	.00	.00	.00	348	642	9.9	696	2580	2830	2540
16	11	.00	.00	.00	.00	354	651	.00	505	2420	2800	2520
17	10	.00	.00	.00	.00	354	661	137	751	2390	2830	2310
18	25	.00	.00	.00	.00	354	880	164	789	2420	2800	2460
19	48	.00	.00	.00	.00	348	1360	179	986	2460	2850	2500
20	48	.00	.00	.00	.00	348	1640	195	1230	2640	2870	2390
21	48	.00	.00	.00	.00	360	1610	200	1550	2660	2920	2440
22	46	.00	.00	.00	.00	354	1540	226	1750	2700	2940	2460
23	25	.00	.00	.00	.00	354	1550	231	2040	2720	2940	2460
24	2.0	.00	.00	.00	.00	354	1820	222	2690	2740	2920	2480
25	.90	.00	.00	.00	.00	342	1970	208	2940	2740	2890	2540
26	.90	.00	.00	.00	.00	348	1970	208	2310	2740	2850	2520
27	.70	.00	.00	.00	69	336	1970	187	2700	2760	2780	2520
28	.50	.00	.00	.00	95	330	2180	152	3330	2760	2780	2520
29	.70	.00	.00	.00	---	396	2330	167	3350	2760	2760	2610
30	.50	.00	.00	.00	---	422	1950	137	3350	2780	2780	2680
31	.70	---	.00	.00	---	457	---	148	---	2850	2370	---
TOTAL	410.80	13.47	.00	.00	164.00	8090	26550.10	17607.90	33299	78730	87530	70110
MEAN	13.3	.45	.00	.00	5.86	261	885	568	1110	2540	2824	2337
MAX	48	4.1	.00	.00	95	457	2330	2260	3350	3180	2940	2680
MIN	.50	.00	.00	.00	.00	75	.00	.00	93	1860	2370	1310
AC-FT	815	27	.00	.00	325	16050	52660	34930	66050	156200	173600	139100
CAL YR 1985	TOTAL 178348.67			MEAN	489	MAX	2610	MIN	.00	AC-FT	353800	
WTR YR 1986	TOTAL 322505.27			MEAN	884	MAX	3350	MIN	.00	AC-FT	639700	

PLATTE RIVER BASIN

95

06691000 NORTH PLATTE RIVER NEAR SUTHERLAND, NE

LOCATION.--Lat 41°12'37", long 101°06'53", in sec.4, T.14 N., R.33 W., Lincoln County, Hydrologic Unit 10180014, on left bank 80 ft downstream from bridge on county road, 2.5 mi upstream from Birdwood Creek, and 3.5 mi north of Sutherland.

DRAINAGE AREA.--29,800 mi², approximately, of which about 26,120 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--June to October 1917, July 1931 to August 1933 (irrigation seasons only), May to September 1935, May 1936 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 976: 1942. WDR NE-67, WDR NE-76-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,920 ft, from topographic map. Prior to Apr. 29, 1936, nonrecording gage near present site at different datums. Apr. 29, 1936 to Oct. 6, 1971, water-stage recorder at site 80 ft upstream and Oct. 7, 1971 to Sept. 30, 1984 at present site, all at datum 1.0 ft higher.

REMARKS.--Estimated daily discharges: Nov. 22 to Jan. 19 and Feb 9-19. Records good except those above 1,000 ft³/s and for periods of estimated record, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE.--44 years (water years 1943-86), 543 ft³/s, 393,400 acre-ft/yr; median of yearly mean discharges, 360 ft³/s, 261,000 acre-ft/yr. Figures unadjusted for storage or diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,300 ft³/s June 29, 1917, from discharge graph based on daily gage readings, from rating curve extended above 16,000 ft³/s; no flow July 24-28, 30, 31, 1931, Aug. 7, 1934, July 20-28, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,960 ft³/s July 13, gage height, 4.44 ft; minimum daily discharge, 78 ft³/s May 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	149	137	125	145	150	234	597	2320	120	2680	2480	2090
2	142	136	125	150	151	212	637	2460	109	2080	2500	1520
3	141	137	130	145	161	216	930	2410	104	1600	2540	1570
4	139	140	130	140	170	216	630	2390	106	1470	2540	1530
5	137	140	130	120	170	213	380	2370	99	1370	2540	1610
6	140	140	135	100	170	211	299	2270	101	1490	2460	2180
7	142	137	140	110	167	198	270	1740	143	1470	2420	2430
8	148	140	140	120	168	197	233	1120	170	1430	2440	2390
9	147	140	145	130	165	201	224	537	122	1640	2530	2420
10	145	153	140	140	160	204	224	230	140	2080	2550	2370
11	153	147	130	140	155	204	220	155	169	2360	2590	2350
12	165	140	125	140	145	256	204	136	143	2780	2620	2480
13	168	143	125	145	140	316	196	105	127	2910	2650	2600
14	163	146	130	145	140	382	220	78	280	2850	2570	2380
15	156	149	135	150	145	437	458	99	531	2410	2450	2270
16	153	149	140	150	155	449	644	118	494	2140	2350	2330
17	149	146	145	150	165	481	637	112	479	1950	2370	2310
18	149	149	140	160	175	478	676	129	594	1870	2330	2160
19	156	140	145	180	185	450	939	134	622	1880	2280	2250
20	170	143	145	170	183	454	1310	138	942	1880	2310	2280
21	177	143	145	165	184	463	1670	140	1150	1980	2360	2290
22	173	145	145	154	173	467	1630	146	1360	1980	2380	2420
23	170	145	140	152	182	457	1610	163	1460	2020	2410	2500
24	162	145	135	152	191	463	1710	163	1800	2110	2460	2510
25	149	145	125	157	188	464	1910	153	2140	2220	2450	2550
26	149	140	130	148	177	444	2010	153	2360	2420	2470	2550
27	149	140	125	151	172	446	2080	156	1840	2520	2490	2510
28	149	140	120	150	194	452	2060	206	2290	2550	2440	2510
29	143	130	125	152	---	458	2310	276	2680	2530	2430	2490
30	136	125	135	150	---	525	2300	232	2750	2470	2360	2620
31	135	---	140	151	---	571	---	153	---	2450	2400	---
TOTAL	4704	4250	4165	4512	4681	11219	29218	20992	25425	65590	76170	68470
MEAN	152	142	134	146	167	362	974	677	848	2116	2457	2282
MAX	177	153	145	180	194	571	2310	2460	2750	2910	2650	2620
MIN	135	125	120	100	140	197	196	78	99	1370	2280	1520
AC-FT	9330	8430	8260	8950	9280	22250	57950	41640	50430	130100	151100	135800
CAL YR 1985	TOTAL	178551		MEAN	489	MAX	2390	MIN	58	AC-FT	354200	
WTR YR 1986	TOTAL	319396		MEAN	875	MAX	2910	MIN	78	AC-FT	633500	

PLATTE RIVER BASIN

06692000 BIRDWOOD CREEK NEAR HERSHEY, NE

LOCATION.--Lat 41°13'20", long 101°04'12", in NE1/4NW1/4 sec.2. T.14 N., R.33 W., Lincoln County, Hydrologic Unit 10180014, on left bank 60 ft downstream from bridge on county road, 1 mi upstream from mouth, and 5 mi northwest of Hershey.

DRAINAGE AREA.--940 mi², approximately, of which about 80 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--May 1931 to current year.

REVISED RECORDS.--WSP 1390: 1948(M), 1949, 1951-52(M). WDR NE-67, WDR NE 76-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,920 ft, from topographic map. Jan. 1, 1931, to Dec. 16, 1934, nonrecording gage and Dec. 17, 1934 to Nov. 4, 1953, water-stage recorder, at site 50 ft upstream at present datum.

REMARKS.--Estimated daily discharges: Nov. 20 to Dec. 8 and Dec. 11-23. Records good except for periods of estimated record, which are fair. Natural flow of stream affected by ground-water withdrawals and diversions for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--55 years, 151 ft³/s, 109,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,770 ft³/s Apr. 1, 1949, gage height, 4.35 ft, from rating curve extended above 680 ft³/s; maximum gage height, 5.12 ft Dec. 15, 1940, backwater from ice; minimum daily discharge, 61 ft³/s Jan. 19, 1935, Apr. 7, 1938.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 291 ft³/s May 9, gage height, 1.83 ft; maximum gage height, 4.00 ft Dec. 13, backwater from ice; minimum daily discharge, 100 ft³/s Nov. 30, Dec. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	123	143	100	155	198	166	146	155	153	111	123	129
2	129	144	125	158	195	176	151	156	150	108	122	147
3	132	146	150	159	199	176	198	159	151	104	115	133
4	128	148	200	161	204	167	171	164	151	102	113	128
5	123	152	200	163	187	177	163	163	146	104	120	134
6	129	145	200	160	182	173	173	157	149	113	113	147
7	132	133	200	160	182	162	172	159	147	113	112	141
8	134	134	160	176	185	167	170	177	135	115	114	139
9	149	135	132	175	178	173	171	180	151	122	141	142
10	140	126	130	174	173	168	165	144	188	156	129	146
11	141	133	120	172	168	174	176	146	167	132	129	140
12	143	135	125	187	172	170	175	140	151	124	124	134
13	138	140	130	179	180	165	177	138	148	114	121	137
14	137	145	150	170	171	158	162	146	141	119	119	137
15	137	141	140	173	174	164	150	167	143	116	117	142
16	137	131	160	174	183	156	165	158	137	111	115	144
17	137	133	160	188	185	164	171	141	137	113	111	145
18	138	133	150	181	177	164	173	150	124	116	110	146
19	140	122	160	181	175	138	153	146	125	126	109	144
20	134	120	150	180	160	154	161	153	128	118	109	142
21	134	120	160	177	155	159	154	151	130	116	106	139
22	137	120	170	162	173	165	153	153	136	114	110	145
23	134	116	170	163	187	158	154	152	130	115	111	141
24	137	110	168	188	176	157	155	149	135	122	118	140
25	137	110	161	181	178	162	153	144	133	149	121	138
26	136	110	166	174	177	155	154	154	129	201	127	136
27	133	110	164	183	168	161	153	153	124	149	120	140
28	137	110	173	196	152	159	145	155	109	123	119	139
29	139	110	173	194	---	157	155	157	106	119	120	138
30	135	100	171	188	---	156	158	154	107	117	119	141
31	142	---	167	195	---	157	---	152	---	118	131	---
TOTAL	4202	3855	4885	5427	4994	5058	4877	4773	4161	3780	3668	4194
MEAN	136	129	158	175	178	163	163	154	139	122	118	140
MAX	149	152	200	196	204	177	198	180	188	201	141	147
MIN	123	100	100	155	152	138	145	138	106	102	106	128
AC-FT	8330	7650	9690	10760	9910	10030	9670	9470	8250	7500	7280	8320
CAL YR 1985	TOTAL	51521	MEAN	141	MAX	200	MIN	95	AC-FT	102200		
WTR YR 1986	TOTAL	53874	MEAN	148	MAX	204	MIN	100	AC-FT	106900		

PLATTE RIVER BASIN

97

06693000 NORTH PLATTE RIVER AT NORTH PLATTE, NE

LOCATION.--Lat 41°09'13", long 100°45'16", in sec.28, T.14 N., R.30 W., Lincoln County, Hydrologic Unit 10180014, on right bank 150 ft downstream from bridge on U.S. Highway 83, 0.5 mi north of city of North Platte, and 4.5 mi upstream from confluence with South Platte River.

DRAINAGE AREA.--30,900 mi², approximately, of which about 26,300 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--February 1895 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WDR NE-67, WDR NE-76-1: Drainage area. WSP 2118: 1915(M).

GAGE.--Water-stage recorder. Datum of gage is 2,792.14 ft above National Geodetic Vertical Datum of 1929 (Nebraska Department of Roads bench mark). See WSP 2118 for history of changes prior to June 3, 1968.

REMARKS.--Estimated daily discharges: Nov. 21 to Jan. 21 and Feb. 9-20. Records good except for period of estimated record, which is fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE.--44 years (water years 1943-86), 783 ft³/s, 560,300 acre-ft/yr; median of yearly mean discharges, 600 ft³/s, 435,000 acre-ft/yr. Figures are unadjusted for storage or diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 29,600 ft³/s June 11, 1909, discharge measurement; minimum daily, 20 ft³/s Sept. 20, 1904.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,200 ft³/s Sept. 17, gage height, 4.98 ft; maximum gage height, 5.02 ft July 14, Aug. 9; minimum daily discharge, 250 ft³/s Nov. 22, Feb. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	454	368	360	350	406	494	735	2340	409	2730	2520	3010
2	452	355	360	350	409	500	760	2460	372	2640	2600	2100
3	437	361	360	350	413	504	1270	2490	347	1940	2640	1770
4	428	369	360	340	422	493	1710	2470	327	1700	2680	1680
5	428	382	400	320	447	464	1130	2470	322	1570	2840	1650
6	429	381	410	290	450	470	808	2470	311	1590	2890	2060
7	373	382	410	310	417	482	657	2370	355	1670	2740	2670
8	413	366	420	330	405	489	623	1910	341	1620	2780	2950
9	418	368	410	360	350	494	585	1530	323	1660	3050	3030
10	411	371	400	390	320	468	581	845	411	2060	2960	3030
11	423	375	390	400	300	430	570	518	508	2310	2890	2970
12	443	392	400	400	300	440	568	408	434	2670	2800	2960
13	451	391	410	390	250	489	564	343	372	2950	2800	3050
14	450	384	420	390	300	550	557	298	346	3010	2780	3110
15	448	396	380	390	350	648	605	315	495	2910	2740	2740
16	440	402	370	390	400	694	822	404	703	2550	2710	2990
17	432	394	370	390	500	743	890	444	681	2320	2730	3160
18	436	393	370	390	550	786	968	389	728	2140	2730	2960
19	443	379	370	400	550	719	1010	418	808	2140	2700	2950
20	442	353	370	410	550	694	1330	432	868	2210	2650	2980
21	442	300	360	400	537	694	1690	428	1080	2330	2660	2940
22	449	250	360	405	581	711	1900	436	1360	2370	2740	2970
23	437	260	360	394	557	711	1850	492	1640	2360	2790	2950
24	435	280	360	378	570	711	1880	487	1830	2400	2860	2930
25	413	300	360	394	565	702	2030	463	2140	2580	2890	2850
26	385	310	340	394	529	711	2180	497	2410	2760	2860	2830
27	389	320	360	392	490	694	2330	525	2320	2850	2860	2810
28	383	340	340	382	458	679	2370	517	1890	2800	2830	2770
29	375	350	340	397	---	663	2340	537	2460	2710	2830	2730
30	369	350	340	401	---	663	2490	523	2640	2580	2820	2760
31	370	---	350	407	---	743	---	460	---	2490	2860	---
TOTAL	13098	10622	11610	11684	12376	18733	37803	30689	29231	72620	86230	82360
MEAN	423	354	375	377	442	604	1260	990	974	2343	2782	2745
MAX	454	402	420	410	581	786	2490	2490	2640	3010	3050	3160
MIN	369	250	340	290	250	430	557	298	311	1570	2520	1650
AC-FT	25980	21070	23030	23180	24550	37160	74980	60870	57980	144000	171000	163400
CAL YR 1985	TOTAL	266811		MEAN	731	MAX	2740	MIN	206	AC-FT	529200	
WTR YR 1986	TOTAL	417056		MEAN	1143	MAX	3160	MIN	250	AC-FT	827200	

PLATTE RIVER BASIN

06762500 LODGEPOLE CREEK AT BUSHNELL, NE

LOCATION.--Lat 41°13'50", long 103°53'28", in sec.32, T.15 N., R.57 W., Kimball County, Hydrologic Unit 10190016, on right bank 0.1 mi south of Bushnell at south end of highway bridge on State Highway 53c.

DRAINAGE AREA.--1,350 mi².

PERIOD OF RECORD.--October 1931 to current year. Records for March to September 1931 at site 1.5 mi upstream not equivalent owing to diversions. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1390: 1933, 1935, 1937-38, 1941, 1948-49. WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,845.31 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 26, 1938, nonrecording gage, Mar. 26, 1938 to July 2, 1981 water stage recorder, July 3, 1981 to Sept. 30, 1981 a nonrecording gage at previous site 1.7 mi downstream from present site at datum 33.01 ft lower.

REMARKS.--Estimated daily discharges: Nov. 20-23, Nov. 30 to Dec. 3, Dec. 9-18, 24, 28, 31, Jan. 2-5, 8, Jan. 29 to Feb. 12, and Feb. 14. Records fair except for periods of estimated record, which are poor. Natural flow of stream affected by ground-water withdrawals and diversions for irrigation and return flow from irrigated areas. Diversions for irrigation of about 12,600 acres above station.

AVERAGE DISCHARGE.--55 years, 10.8 ft³/s, 7,820 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,500 ft³/s Sept. 15, 1950, gage height, 9.98 ft, from rating curve extended above 2,700 ft³/s on basis of slope-area measurement of peak flow; maximum gage height, 10.06 ft July 2, 1981, from highwater mark, site and datum then in use; minimum daily discharge, 0.09 ft³/s July 20, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 179 ft³/s June 13. gage height, 2.18 ft; minimum daily, 1.6 ft³/s Aug. 19, 20.

DISCHARGE. IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	4.1	3.0	3.9	5.0	10	7.9	8.4	5.7	4.0	2.6	4.5
2	5.0	4.1	3.0	3.9	5.0	9.9	8.1	8.6	5.4	3.9	2.6	2.7
3	5.2	4.1	3.0	3.6	5.0	9.7	7.5	8.9	5.3	3.8	2.6	2.7
4	4.5	4.2	4.4	3.0	5.0	9.5	5.5	8.8	5.2	3.6	2.3	2.6
5	4.4	4.4	4.2	3.6	5.0	9.5	11	7.4	5.2	3.3	2.0	2.7
6	4.5	4.2	4.2	3.9	4.5	9.4	22	7.8	5.2	3.3	1.9	2.7
7	4.8	4.2	4.2	3.7	4.5	9.3	11	7.6	5.1	3.3	1.8	2.8
8	4.2	4.5	4.2	3.6	4.5	9.5	12	7.6	5.3	3.3	1.8	2.9
9	3.9	4.5	4.2	4.5	4.5	9.4	13	7.9	5.4	3.3	2.0	2.8
10	3.8	4.2	4.0	4.5	4.5	9.4	11	8.1	9.6	3.3	1.9	2.8
11	4.2	3.9	3.6	4.5	4.5	9.3	11	7.7	10	2.9	2.1	2.8
12	4.2	4.2	4.6	4.5	5.0	9.2	10	7.3	9.0	2.7	2.2	2.9
13	4.4	5.0	4.5	4.4	6.0	9.4	9.4	7.3	17	2.6	2.2	2.8
14	4.2	4.5	4.4	4.4	6.4	9.6	7.3	7.0	13	2.5	2.2	2.9
15	4.2	4.4	4.3	4.5	6.7	9.5	8.7	7.0	6.6	2.6	2.2	2.8
16	4.1	4.4	4.2	4.4	10	9.5	8.4	7.3	6.2	2.5	1.8	3.1
17	3.9	4.4	4.2	4.2	11	9.7	7.9	8.2	5.4	2.9	1.7	2.8
18	4.1	4.5	4.2	4.4	13	9.9	8.2	8.2	5.2	2.8	1.7	2.8
19	4.1	4.2	4.2	4.5	14	8.4	8.1	7.6	5.1	2.7	1.6	2.9
20	3.9	4.2	4.5	4.5	9.5	10	7.7	7.0	5.0	2.7	1.6	2.9
21	4.1	4.2	4.7	4.5	8.7	9.8	7.5	7.0	5.0	2.9	1.7	3.0
22	4.5	4.2	4.8	4.4	9.3	9.2	7.8	6.6	4.8	2.7	1.7	3.0
23	4.7	4.4	4.7	4.2	11	9.1	7.7	6.2	4.8	2.8	1.7	3.0
24	4.4	4.5	4.5	4.2	10	8.8	8.0	6.0	4.7	2.6	1.7	3.0
25	4.2	4.5	4.5	4.2	11	8.6	8.2	6.1	4.6	2.6	1.9	3.0
26	4.4	4.4	4.5	4.2	9.8	8.6	8.2	6.0	4.5	2.6	2.0	2.9
27	4.4	4.1	4.5	4.5	9.9	8.5	8.2	6.0	4.4	2.5	2.1	3.0
28	4.1	3.9	4.4	5.0	9.5	8.1	8.4	6.1	4.2	2.5	2.1	2.9
29	3.9	3.4	4.4	5.0	---	8.1	8.3	6.1	4.1	2.3	2.1	2.8
30	3.9	3.2	4.4	5.0	---	7.7	8.4	6.0	4.1	2.3	2.1	2.9
31	4.1	---	4.0	5.0	---	7.6	---	5.8	---	2.3	7.0	---
TOTAL	132.1	127.0	130.5	132.7	212.8	284.2	276.4	223.6	185.1	90.1	66.9	87.4
MEAN	4.26	4.23	4.21	4.28	7.60	9.17	9.21	7.21	6.17	2.91	2.16	2.91
MAX	5.2	5.0	4.8	5.0	14	10	22	8.9	17	4.0	7.0	4.5
MIN	3.8	3.2	3.0	3.0	4.5	7.6	5.5	5.8	4.1	2.3	1.6	2.6
AC-FT	262	252	259	263	422	564	548	444	367	179	133	173
CAL YR 1985	TOTAL	2461.18	MEAN	6.74	MAX	22	MIN	.30	AC-FT	4880		
WTR YR 1986	TOTAL	1948.8	MEAN	5.34	MAX	22	MIN	1.6	AC-FT	3870		

PLATTE RIVER BASIN

99

06764000 SOUTH PLATTE RIVER AT JULESBURG, CO

LOCATION.--Lat 40°58'46", long 102°15'15", in NW1/4NE1/4 and SE1/4NE1/4 (two channels) sec.33, T.12 N., R.44 W., Sedgwick County, Hydrologic Unit 10190018, on left bank of channel 4 (left channel) 215 ft downstream from bridge, and on right bank of channel 2, 800 ft downstream from bridge on U.S. Highway 385, 0.9 mi southeast of Julesburg, 3.0 mi upstream from Colorado-Nebraska State line, and 8 mi downstream from Lodgepole Creek.

DRAINAGE AREA.--23,193 mi² (revised).

PERIOD OF RECORD.--April 1902 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as "near Julesburg" 1903-8, 1915-16, and as "at Ovid" 1922-24.

REVISED RECORDS.--WSP 1310: 1902, 1906-7, 1948(P). WSP 1440: 1903-4. WSP 1730: Drainage area.

GAGE.--Two water-stage recorders. Datum of gages is 3,446.76 ft above National Geodetic Vertical Datum of 1929. See WSP 1710 or 1730 for history of changes prior to Oct. 1, 1956. Since Oct. 1, 1956, water-stage recorders on channels nos. 2 and 4. Channel no. 2: Oct. 1, 1956, to Sept. 22, 1965, at site 300 ft downstream at present datum. Channel no. 4: Oct. 1, 1956, to Dec. 10, 1958, at site 135 ft downstream at present datum. Since May 11, 1973, supplementary water-stage recorder on channel no. 2 at bridge 800 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Oct. 1 to Feb. 25, Mar. 5, 19-23, Mar. 29 to Apr. 2, May 9 to June 7, July 4-13, July 16 to Aug. 1, Aug. 19-23, and 26-29. Records poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of 1,200,000 acres upstream from station, and return flow from irrigated areas.

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

AVERAGE DISCHARGE.--84 years, 543 ft³/s; 393,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,600 ft³/s, June 20, 1965, gage height, 10.44 ft, from floodmarks in gage well; no flow, Aug. 18-20, 1902, July 25 to Aug. 7, 1903.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, not determined; minimum daily, 34 ft³/s, Aug. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	805	520	560	1200	1400	530	450	1400	100	280	58	190
2	910	510	560	1200	1300	500	560	1340	120	215	62	280
3	915	500	560	1200	1200	490	680	1060	130	164	77	315
4	920	490	560	1200	1140	460	900	810	170	140	100	350
5	960	480	560	1200	1100	430	1040	670	200	135	86	410
6	955	460	575	1200	1040	430	1140	550	240	130	75	470
7	935	430	620	1200	1010	400	1250	410	490	127	63	580
8	880	410	680	1220	900	380	1900	330	1240	125	55	680
9	820	400	760	1240	840	375	2670	310	2370	126	90	740
10	765	390	840	1260	820	360	2700	280	3800	127	94	760
11	740	400	900	1280	800	360	2750	260	5800	130	92	820
12	740	410	980	1300	780	350	2750	250	6000	140	64	940
13	735	420	1040	1330	800	350	2800	240	6150	172	60	960
14	725	435	1050	1350	840	345	2800	210	6600	173	58	960
15	720	455	1060	1370	900	305	2700	210	6200	115	58	960
16	720	490	1060	1400	940	295	2600	205	5500	82	50	955
17	740	505	1070	1400	1000	255	2500	200	4650	80	47	940
18	740	520	1080	1400	1030	235	2400	197	4200	76	44	900
19	740	490	1090	1400	1050	235	2300	193	4050	74	40	840
20	760	490	1100	1400	1050	240	2170	190	3750	72	40	820
21	765	500	1110	1400	1050	260	2060	185	3500	72	36	800
22	745	520	1120	1400	1040	270	1950	183	3300	74	36	820
23	685	520	1130	1430	1000	280	1860	180	3000	72	35	870
24	640	520	1140	1450	950	310	1800	150	2800	70	34	990
25	620	520	1150	1450	900	325	1700	130	2500	70	43	1100
26	620	520	1160	1450	700	330	1650	120	1760	72	43	1070
27	600	540	1160	1450	640	335	1600	110	1240	72	43	1050
28	580	540	1170	1440	570	345	1530	100	800	70	45	1040
29	540	540	1180	1440	---	360	1460	96	540	66	48	1030
30	530	560	1190	1440	---	370	1430	96	350	62	53	1020
31	520	---	1200	1420	---	380	---	97	---	60	150	---
TOTAL	23070	14485	29415	41520	26790	10890	56100	10762	81550	3443	1879	23660
MEAN	744	483	949	1339	957	351	1870	347	2718	111	60.6	789
MAX	960	560	1200	1450	1400	530	2800	1400	6600	280	150	1100
MIN	520	390	560	1200	570	235	450	96	100	60	34	190
AC-FT	45760	28730	58340	82350	53140	21600	111300	21350	161800	6830	3730	46930
CAL YR 1985	TOTAL	283191		MEAN	776	MAX	2460	MIN	20	AC-FT	561700	
WTR YR 1986	TOTAL	323564		MEAN	886	MAX	6600	MIN	34	AC-FT	641800	

PLATTE RIVER BASIN

06764880 SOUTH PLATTE RIVER AT ROSCOE, NE

LOCATION.--Lat 41°07'33" long 101°34'35". in NW1/4SW1/4 sec.4, T.13 N., R.37 W., Keith County, Hydrologic Unit 10190018, on left bank 20 ft downstream from bridge on Highway L-51B connecting Interstate 80 and U.S. Highway 30, 0.5 mi southeast of Roscoe.

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,150 ft, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 20 to Feb. 26. Records good except for period of estimated record, which is poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,700 ft³/s July 2, 1983, gage height, 9.31 ft; maximum gage height, 10.23 ft Dec. 16, 1984, backwater from ice; minimum daily discharge, 3.9 ft³/s Aug. 24, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,780 ft³/s June 15, gage height, 8.24 ft; maximum gage height, 8.77 ft Feb. 17, backwater from ice; minimum daily discharge, 3.9 ft³/s Aug. 24.

DISCHARGE, IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	720	545	540	1350	1750	650	368	1450	165	640	37	24
2	740	549	540	1350	1800	569	379	1430	146	514	33	45
3	790	533	540	1350	1900	545	480	1300	139	405	28	58
4	870	514	540	1300	2000	525	716	1070	139	341	26	73
5	926	498	580	1300	1850	514	943	813	146	284	31	156
6	951	503	620	1300	1500	487	1050	663	179	233	30	252
7	875	493	720	1300	1450	468	1170	569	212	168	27	341
8	822	457	760	1350	1300	460	1310	455	324	128	25	425
9	744	416	800	1400	1250	450	1890	391	1120	117	26	514
10	716	409	900	1500	1350	434	2470	374	2670	132	36	587
11	676	436	960	1550	1100	434	2650	345	4720	144	40	619
12	706	471	1040	1600	800	434	2620	315	5610	150	46	656
13	718	468	1100	1650	900	422	2680	308	5760	215	34	746
14	697	464	1100	1650	960	413	2720	292	6340	215	27	869
15	665	551	1120	1650	1060	406	2580	282	6730	141	22	918
16	668	623	1120	1650	1250	394	2660	321	5870	89	16	971
17	692	603	1140	1650	1250	390	2620	274	4760	83	11	979
18	691	603	1140	1650	1900	366	2420	273	4210	81	11	959
19	712	530	1160	1650	2450	336	2220	270	4050	65	11	956
20	736	400	1160	1650	2300	329	2090	254	3770	53	11	930
21	742	450	1180	1650	2300	327	1930	237	3590	46	8.6	886
22	708	500	1200	1650	2100	317	1810	305	3290	52	6.5	856
23	648	500	1220	1700	2000	305	1740	390	2980	50	4.6	888
24	614	500	1220	1700	1900	311	1710	296	2780	49	3.9	916
25	575	500	1240	1700	1700	317	1640	219	2510	52	6.1	932
26	573	500	1240	1700	1250	332	1590	191	2170	60	9.5	948
27	625	520	1250	1700	838	352	1470	170	1810	62	9.5	916
28	656	520	1250	1700	735	355	1490	157	1380	50	12	940
29	602	520	1300	1700	---	352	1510	157	1050	38	11	948
30	542	520	1300	1700	---	350	1480	159	798	36	9.1	977
31	530	---	1350	1700	---	355	---	152	---	36	12	---
TOTAL	21930	15096	31330	48450	42943	12699	52406	13882	79418	4729	620.8	20285
MEAN	707	503	1011	1563	1534	410	1747	448	2647	153	20.0	676
MAX	951	623	1350	1700	2450	650	2720	1450	6730	640	46	979
MIN	530	400	540	1300	735	305	368	152	139	36	3.9	24
AC-FT	43500	29940	62140	96100	85180	25190	103900	27530	157500	9380	1230	40240
CAL YR 1985	TOTAL	304832.9		MEAN	835	MAX	2900	MIN	5.3	AC-FT	604600	
WTR YR 1986	TOTAL	343788.8		MEAN	942	MAX	6730	MIN	3.9	AC-FT	681900	

PLATTE RIVER BASIN

101

06765500 SOUTH PLATTE RIVER AT NORTH PLATTE, NE

LOCATION.--Lat 41°07'08", long 100°45'45", in NE1/4NW1/4 sec.9, T.13 N., R.30 W., Lincoln County, Hydrologic Unit 10190018, on left bank 50 ft downstream from bridge on U.S. Highway 83, 0.5 mi north of intersection of U.S. Highway 83 and Interstate 80 south of North Platte, and 4.5 mi upstream from confluence with North Platte River.

DRAINAGE AREA.--24,300 mi², approximately.

PERIOD OF RECORD.--June to November 1897, June to August 1914, May to September 1915, and May 1917 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1390: 1932-33, 1935.

GAGE.--Water-stage recorder. Datum of gage is 2,787.73 ft above National Geodetic Vertical Datum of 1929. See WSP 1918 for history of changes prior to Dec. 11, 1956. Dec. 11, 1956, to Mar. 29, 1973, at site 50 ft upstream at same datum. Mar. 30, 1973, to Aug. 12, 1981, at site 0.5 mi upstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 18 to Jan. 19. Records good except for period of estimated record, which is fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas. South Platte canal diverts around station; diversion began Nov. 13, 1946.

AVERAGE DISCHARGE.--40 years (water years 1947-86, since Sutherland Canal diversion), 454 ft³/s, 328,900 acre-ft/yr; median of yearly mean discharges, 268 ft³/s, 194,200 acre-ft/yr. Figures are unadjusted for storage or diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 37,100 ft³/s June 3, 1935, gage height, 14.02 ft, present datum; no flow at times in summers of most years prior to 1938.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,850 ft³/s June 16, gage height, 6.58 ft; minimum daily, 122 ft³/s Aug. 25, 27, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	194	158	150	1000	1100	470	227	1240	269	769	154	194
2	193	170	200	1000	1230	387	239	1210	256	617	152	202
3	192	169	400	960	1310	375	439	1200	252	484	161	179
4	194	163	600	960	1370	393	541	1080	252	412	176	165
5	218	161	660	960	1200	431	769	941	243	312	190	168
6	232	161	740	960	1110	450	972	609	243	283	182	199
7	234	171	800	960	1160	424	1000	464	274	256	151	268
8	178	163	880	980	1000	387	1120	393	269	235	159	344
9	161	156	860	1000	641	351	1310	375	260	237	246	413
10	174	152	840	1020	601	351	1650	302	452	278	220	432
11	167	145	820	920	477	334	2220	288	1350	299	230	421
12	191	160	810	940	437	312	2560	278	3100	294	221	397
13	188	173	800	1000	548	291	2540	292	4270	286	213	402
14	167	173	800	1060	484	288	2300	362	5090	295	219	488
15	161	175	800	1060	609	288	2220	312	6050	243	216	558
16	171	164	800	1140	716	297	2180	328	6700	235	205	615
17	176	163	760	1140	787	302	2220	328	5980	185	191	602
18	192	160	740	1140	1380	283	2030	307	5090	173	182	451
19	200	155	700	1200	1640	274	1840	283	4700	170	147	393
20	189	155	700	1410	1620	248	1640	256	4670	158	132	360
21	195	155	700	1110	1600	251	1440	260	4320	172	143	341
22	203	200	700	961	1420	223	1440	260	4200	202	150	357
23	177	300	740	1040	1350	216	1360	274	3740	201	150	537
24	173	350	800	951	1300	216	1360	317	3670	197	144	625
25	183	400	800	931	1280	227	1360	307	3410	196	122	756
26	181	400	840	1020	1090	212	1320	292	3000	209	124	865
27	168	400	900	992	843	227	1270	283	2440	213	122	938
28	183	350	920	992	609	231	1250	278	1980	215	122	960
29	180	300	940	982	---	231	1250	278	1420	192	134	980
30	154	200	960	992	---	248	1240	269	1010	162	129	976
31	149	---	980	992	---	239	---	274	---	172	155	---
TOTAL	5718	6302	23140	31773	28912	9457	43307	13940	78960	8352	5242	14586
MEAN	184	210	746	1025	1033	305	1444	450	2632	269	169	486
MAX	234	400	980	1410	1640	470	2560	1240	6700	769	246	980
MIN	149	145	150	920	437	212	227	256	243	158	122	165
AC-FT	11340	12500	45900	63020	57350	18760	85900	27650	156600	16570	10400	28930
CAL YR 1985	TOTAL	200354		MEAN	549	MAX	2610	MIN	131	AC-FT	397400	
WTR YR 1986	TOTAL	269689		MEAN	739	MAX	6700	MIN	122	AC-FT	534900	

PLATTE RIVER BASIN

06766000 PLATTE RIVER AT BRADY, NE

LOCATION.--Lat 41°01'10", long 100°22'16" (north channel only), on two channels in secs.11 and 23, T.12 N., R.27 W., Lincoln County, Hydrologic Unit 10200101, on downstream side of highway bridges 0.5 mi and 2.5 mi, respectively, south of Brady and 18 mi downstream from confluence of North Platte and South Platte Rivers.

DRAINAGE AREA.--56,200 mi², approximately, of which about 51,400 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--May to September 1937, May 1938 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1390: 1941(M). WDR NE-67, WDR NE-76-1: Drainage area.

GAGE.--Two water-stage recorders. Datum of gage on north channel is 2,639.19 ft and on south channel, 2,640.66 ft above National Geodetic Vertical Datum of 1929. No information available on gages operated by State engineer prior to Nov. 18, 1938. Nov. 18, 1938, to Sept. 30, 1942, gage on north channel at datum 1 ft higher. Nov. 18, 1938, to Oct. 1, 1983, gage on south channel at datum 1 ft higher.

REMARKS.--Estimated daily discharges: Nov. 8 to Jan 31, and Feb. 11-14. Records good except for periods of estimated record, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas. Tri-County main supply canal, capacity, about 2,000 ft³/s, diverts 18 mi above station; diversion started Nov. 26, 1940. River flows in two channels for which separate records are computed; figures given herein represent combined discharge.

AVERAGE DISCHARGE.--45 years (water years 1942-86, since storage in Lake McConaughy), 800 ft³/s, 579,600 acre-ft/yr; median of yearly mean discharges, 373 ft³/s, 270,200 acre-ft/yr. Figures are unadjusted for storage or diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,500 ft³/s June 29, 1983; no flow Aug. 22-24, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,500 ft³/s June 17; minimum daily, 122 ft³/s Nov. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	262	232	302	462	763	475	217	4400	275	4100	2570	2660
2	261	227	350	413	812	406	223	4160	241	3840	2580	2520
3	261	234	450	363	890	371	547	4290	200	3140	2620	1920
4	246	231	610	363	990	338	1910	4220	190	2190	2580	1700
5	239	228	722	310	1080	395	2480	3990	195	1860	2620	1560
6	242	235	734	360	901	444	2240	3610	201	1560	2870	1580
7	238	242	682	421	832	453	1910	3300	204	1500	2800	2190
8	234	233	531	560	812	463	1780	2600	202	1460	2770	2750
9	224	213	431	660	802	452	1740	1740	197	1430	3390	3190
10	229	213	381	700	693	413	2020	966	196	1900	3450	3460
11	229	213	434	720	615	391	2630	418	370	2430	3280	3670
12	232	214	485	664	662	391	3080	304	1750	2970	3240	3600
13	229	205	530	725	718	433	3200	265	3760	3240	3160	3620
14	235	208	574	686	788	502	2910	250	4760	3490	3120	3630
15	235	189	674	666	852	448	2820	241	6020	3540	3180	3840
16	229	170	772	707	825	604	3090	277	7120	3210	3060	3710
17	225	152	808	727	826	692	3320	278	7280	2610	2950	4000
18	238	132	664	768	902	792	3370	269	6280	2210	2890	3580
19	248	122	566	869	1370	753	2940	250	5790	2040	2670	3060
20	243	140	516	871	1350	596	3070	230	5580	2000	2620	3880
21	233	168	516	872	1360	635	3470	241	5390	2060	2560	1940
22	235	167	417	870	1360	635	3830	258	5310	2140	2600	1880
23	234	316	316	870	1200	677	3680	288	5170	2170	2580	1860
24	232	366	266	870	1230	618	3640	315	4980	2150	2600	1940
25	234	466	268	870	1250	632	3770	328	4980	2260	2630	2020
26	234	566	368	909	1200	623	3880	352	5040	2430	2560	2060
27	228	665	364	949	938	616	4030	398	4830	2710	2570	2130
28	228	512	313	988	638	581	4480	407	4310	2860	2570	2200
29	228	408	313	1070	---	453	4330	408	4210	2860	2580	2340
30	224	404	413	1090	---	283	4400	410	4280	2780	2590	2700
31	232	---	462	794	---	245	---	351	---	2620	2590	---
TOTAL	7321	8071	15232	22167	26659	15810	85007	39814	99311	77760	86850	81190
MEAN	236	269	491	715	952	510	2834	1284	3310	2508	2802	2706
MAX	262	665	808	1090	1370	792	4480	4400	7280	4100	3450	4000
MIN	224	122	266	310	615	245	217	230	190	1430	2560	1560
AC-FT	14520	16010	30210	43970	52880	31360	168600	78970	197000	154200	172300	161000
CAL YR 1985	TOTAL	352322		MEAN	965	MAX	4830	MIN	122	AC-FT	698800	
WTR YR 1986	TOTAL	565192		MEAN	1548	MAX	7280	MIN	122	AC-FT	1121000	

PLATTE RIVER BASIN

103

06766500 PLATTE RIVER NEAR COZAD, NE

LOCATION.--North Channel gage: Lat 40°50'13", long 99°59'09" in NE1/4SW1/4 sec.18, T.10 N., R.23 W., Dawson County, Hydrologic Unit 10200101, on left bank 30 ft upstream from highway bridge, 1.5 mi south of Cozad. South Channel gage: Lat 40°49'51", long 99°59'16" in SE1/4SW1/4 sec.18, T.10 N., R.23 W., Dawson County, on right bank on upstream side of highway bridge, 1.5 mi south of Cozad.

DRAINAGE AREA.--56,500 mi², approximately, of which about 51,700 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--July to September 1932, May 1937 to current year (prior to April 1939, irrigation seasons only). Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WDR NE-67, WDR NE-76-1: Drainage area.

GAGE.--Two water-stage recorders. Datum of gage on south channel is 2,473.07 ft and on north channel, 2,475.72 ft above National Geodetic Vertical Datum of 1929 (Nebraska Department of Roads bench mark). See WSP 2118 for history of changes prior to May 10, 1966. North channel gage: May 10, 1966, to May 10, 1976, at datum 1.00 ft higher and May 11, 1976, to June 16, 1977, at present datum, both at downstream side of highway bridge 30 ft downstream. South channel gage: May 10, 1966, to July 17, 1980, at downstream side of highway bridge at present datum.

REMARKS.--Estimated daily discharges on one or both channels: Nov. 25 to Jan. 7, Jan. 20, 21, Feb. 8, 9, 11, 12 and Mar. 30, 31. Records good except for periods of estimated record, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas. River flows in two channels for which separate records are computed; figures given herein represent combined discharge.

AVERAGE DISCHARGE.--45 years (water years 1942-86, since storage in Lake McConaughy), 710 ft³/s, 514,400 acre-ft/yr; median of yearly mean discharges, 321 ft³/s, 232,600 acre-ft/yr. Figures are unadjusted for storage or diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,500 ft³/s June 29, 1983; no flow at times in 1937-40.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,340 ft³/s June 17; minimum daily, 60 ft³/s June 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	311	359	410	404	1120	921	331	4060	183	2030	775	1420
2	296	346	360	365	1140	738	242	3980	131	1830	913	1660
3	293	347	410	336	1100	643	319	4070	104	1440	1000	1370
4	289	337	473	347	1160	584	819	4150	80	755	1070	976
5	282	339	536	347	1340	563	2260	3890	60	334	1240	811
6	282	341	600	354	1460	592	2490	3550	70	224	1290	800
7	278	397	660	455	1250	624	2260	3260	80	109	1380	1020
8	278	425	624	733	1230	651	2030	3230	74	140	1320	1520
9	285	405	640	790	1050	647	1910	2660	67	149	1500	1960
10	296	374	610	722	961	624	2050	2020	71	467	1560	2330
11	298	365	608	714	956	592	2410	1300	92	733	1510	2560
12	333	383	548	690	1180	578	2900	785	616	1070	1460	2860
13	331	396	498	745	1140	583	3190	527	2230	1350	1390	2910
14	347	392	590	750	1200	625	3140	366	3590	1540	1340	2990
15	359	375	690	716	1190	625	2930	244	4430	1620	1300	3070
16	327	375	776	679	1120	663	3020	297	5380	1420	1240	3220
17	307	366	864	761	1110	791	3240	324	6090	1050	1150	3520
18	373	366	850	843	1190	871	3370	286	5940	742	1060	3440
19	444	346	838	893	1530	934	3110	238	5130	515	1020	3100
20	395	278	724	995	1960	871	2940	191	5020	400	910	2870
21	364	288	613	916	1960	838	3150	164	4740	398	810	2580
22	364	314	612	824	2160	811	3380	149	4670	427	819	2190
23	355	345	511	797	2050	794	3540	149	4650	465	876	2100
24	346	392	410	824	1870	783	3370	169	4420	491	911	2170
25	342	414	310	850	1890	745	3440	176	4070	546	1010	2270
26	359	514	312	872	1820	712	3530	191	3940	644	1060	2360
27	359	564	360	892	1610	695	3800	161	3770	860	1040	2400
28	354	613	350	936	1220	668	4150	252	3190	1000	1080	2510
29	350	513	321	1140	---	618	4170	339	2290	1020	1290	2540
30	346	460	322	1170	---	517	4000	337	2160	946	1340	3080
31	346	---	403	1140	---	404	---	286	---	766	1380	---
TOTAL	10289	11729	16833	23000	38967	21305	81491	41801	77338	25481	36044	68607
MEAN	332	391	543	742	1392	687	2716	1348	2578	822	1163	2287
MAX	444	613	864	1170	2160	934	4170	4150	6090	2030	1560	3520
MIN	278	278	310	336	956	404	242	149	60	109	775	800
AC-FT	20410	23260	33390	45620	77290	42260	161600	82910	153400	50540	71490	136100
CAL YR 1985	TOTAL	300281		MEAN	823	MAX	4000	MIN	27	AC-FT	595600	
WTR YR 1986	TOTAL	452885		MEAN	1241	MAX	6090	MIN	60	AC-FT	898300	

PLATTE RIVER BASIN

06768000 PLATTE RIVER NEAR OVERTON, NE

LOCATION.--Lat 40°40'57", long 99°32'19", in NW1/4NE1/4 sec.12, T.8 N., R.20 W., Dawson County, Hydrologic Unit 10200101, on left bank 600 ft downstream from county highway bridge, 4 mi south of Overton and 4 mi downstream from Plum Creek.

DRAINAGE AREA.--57,700 mi², approximately, of which about 52,900 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July to September 1914 (gage heights only), October 1914 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as "near Elm Creek" 1914-15.

REVISED RECORDS.--WDR NE-67, WDR NE-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,297.83 ft above National Geodetic Vertical Datum of 1929. July 1914 to October 1917, nonrecording gages at site 8 mi downstream at different datum. June 1918 to Sept. 12, 1928, nonrecording gage at site 600 ft upstream (south channel only) at datum 4.0 ft higher. Sept. 13, 1928 to Sept. 30, 1930, nonrecording gage and Oct. 1, 1930 to Sept. 30, 1968, water-stage recorder, at site 600 ft upstream (south channel only) at datum 2.0 ft higher. Oct. 1, 1968 to Feb. 3, 1976, water-stage recorder on south channel at site 600 ft upstream at datum 2.0 ft higher, and Feb. 4 to June 2, 1976 (south channel gage discontinued), at datum 1.0 ft higher. Oct. 1, 1968 to July 10, 1974, north channel gage at site 600 ft upstream at datum 2.0 ft higher and July 11, 1974 to June 1, 1976, at datum 1.0 ft higher. June 2, 1976 to Aug. 19, 1984, at present site, at datum 1.0 ft higher.

REMARKS.--Estimated daily discharges: Dec. 2 to Jan. 12. Records good except for period of estimated record, which is poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE.--45 years (water years 1942-86, since storage in Lake McConaughy), 1,637 ft³/s, 1,186,000 acre-ft per year; median of yearly mean discharges, 1,210 ft³/s, 877,000 acre-ft per year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,600 ft³/s June 5, 1935, gage height, 6.25 ft, datum then in use, south channel; maximum gage height, 7.44 ft, present datum, June 22, 1983; no flow at times in 1919, 1922, 1925, 1927-28, 1930-41.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,590 ft³/s June 18, gage height, 4.32 ft; maximum gage height, 4.50 ft Dec. 16, backwater from ice; minimum daily discharge, 449 ft³/s July 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1670	1280	1180	2150	3650	2630	2340	4650	1970	2780	1970	2940
2	1720	1630	1140	2250	3690	2400	2260	4250	1670	2760	2370	3070
3	1800	1640	1140	2300	3720	2310	2290	4820	1240	2800	2370	3510
4	1600	1360	1200	2400	3760	2200	2400	5110	1160	2270	2570	3200
5	1780	1210	1250	2200	3870	2120	3000	5200	865	1600	2780	3170
6	1850	1160	1400	2400	3910	2020	4020	4860	817	1100	2810	3300
7	1840	1160	1800	2600	3980	2020	4060	4620	801	957	3040	3300
8	2090	1140	1900	2700	3800	2230	3870	5030	740	552	3070	3470
9	2210	1090	2000	2700	3720	2400	3760	6600	897	449	2940	3940
10	2130	1080	2200	2600	3340	2430	3620	4810	1110	801	3070	4250
11	2200	1160	2250	2600	3000	2430	3830	3860	1240	1380	3040	4490
12	2270	1240	2100	2700	2880	2480	3910	2990	1360	1430	2940	4570
13	2220	1890	2100	2970	2600	2510	4020	2470	1970	1650	2880	4770
14	2220	2230	1900	2810	2750	2460	4020	2050	3400	1820	2850	4730
15	2330	1890	1900	2750	3100	2450	4020	1490	4650	1790	2480	4770
16	2380	1650	2000	2750	3200	2470	3980	1410	5780	1740	2400	4940
17	1900	1540	2000	2850	2540	2590	4210	1540	6650	1560	2290	4980
18	1600	1450	2200	2880	2340	2710	4370	1540	7240	1300	2150	5200
19	1660	1970	2200	3140	2750	2700	4020	1450	6550	1090	2230	5200
20	1590	2480	2200	3200	2880	2780	3830	1670	5950	897	1990	4900
21	1720	2260	2100	3340	3230	2860	3650	1720	5830	740	1840	4690
22	2090	2020	2100	3540	3760	2890	4100	1580	5770	711	1770	4170
23	2100	1890	2100	3510	4020	2930	4490	1560	5730	696	1870	3830
24	2080	2040	2000	3340	3760	2900	4330	1360	5680	654	1970	3300
25	2090	2260	1900	3370	3650	2780	4410	1340	5180	740	2070	3270
26	1760	1790	1900	3340	3370	2680	4450	1340	4680	865	2290	3370
27	1540	1820	2000	3340	3100	2660	4530	1510	4100	1120	2290	3400
28	1560	1840	2100	3470	2850	2640	4940	1540	3870	1580	2600	3620
29	1850	1920	2100	3340	---	2630	5290	1940	3220	1840	2720	3370
30	1820	1700	2100	3580	---	2600	4820	2100	2710	2040	2880	4020
31	1680	---	2100	3470	---	2570	---	2040	---	2070	2880	---
TOTAL	59350	49790	58560	90590	93220	78480	116840	88450	102830	43782	77420	119740
MEAN	1915	1660	1889	2922	3329	2532	3895	2853	3428	1412	2497	3991
MAX	2380	2480	2250	3580	4020	2930	5290	6600	7240	2800	3070	5200
MIN	1540	1080	1140	2150	2340	2020	2260	1340	740	449	1770	2940
AC-FT	117700	98760	116200	179700	184900	155700	231800	175400	204000	86840	153600	237500
CAL YR 1985	TOTAL	725954		MEAN	1989	MAX	6500	MIN	155	AC-FT	1440000	
WTR YR 1986	TOTAL	979052		MEAN	2682	MAX	7240	MIN	449	AC-FT	1942000	

PLATTE RIVER BASIN

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06768000 PLATTE RIVER NEAR OVERTON, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952, 1958 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1958 to current year.

WATER TEMPERATURES: January 1958 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,480 microsiemens May 15, 1966 (south chan.); minimum daily,

214 microsiemens July 23, 1968 (south chan.).

WATER TEMPERATURES: Maximum, 37.0°C June 13, 1959 (south chan.), July 9, 1960 (north chan.); minimum,

0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,310 microsiemens Jan. 11, 15 (south chan.); minimum daily,

707 microsiemens Apr. 4 (north chan.).

WATER TEMPERATURES: Maximum daily, 33.0°C July 18, 29 (north chan.); minimum daily, 1.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)
OCT												
03...	1600	2070	850	8.30	14.5	755	17.2	19	78	32	270	100
NOV												
21...	1415	2260	1030	7.60	0.0	694	13.0	12	K23	58	330	0
DEC												
11...	1330	2250	1070	8.20	0.0	--	12.6	8	62	50	360	150
JAN												
07...	1445	2600	1210	8.20	0.5	710	13.3	13	24	75	400	180
FEB												
03...	1400	3470	1000	8.40	4.0	--	11.4	18	53	85	420	0
MAR												
06...	1430	2000	1100	8.50	10.5	695	10.3	26	K5	110	370	160
APR												
03...	1400	2290	920	8.40	13.5	692	10.6	22	130	200	300	110
28...	1545	5200	950	--	15.0	--	10.4	18	--	--	310	0
JUN												
09...	1030	680	1010	7.90	20.5	895	8.2	18	390	13	310	93
JUL												
21...	1430	750	875	8.00	27.0	--	8.3	18	72	55	280	84
AUG												
18...	1030	1670	785	8.20	23.0	--	7.5	23	55	40	260	0
SEP												
16...	1100	4860	788	8.00	18.5	--	9.0	27	200	270	250	56

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

PLATTE RIVER BASIN

06768000 PLATTE RIVER NEAR OVERTON, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINIT LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)
OCT 03...	69	23	75	2	9.6	166	210	21	0.50	20	530	0.72
NOV 21...	85	29	85	2	--	--	400	31	--	--	--	--
DEC 11...	89	33	97	2	10	211	380	38	0.60	25	800	1.1
JAN 07...	100	36	100	2	15	216	370	41	0.70	24	820	1.1
FEB 03...	110	37	110	2	--	--	310	44	--	--	--	--
MAR 06...	94	33	95	2	12	209	380	41	0.60	23	800	1.1
APR 03...	73	28	84	2	11	186	300	20	0.50	20	650	0.88
APR 28...	78	28	83	2	--	--	210	30	--	--	--	--
JUN 09...	78	27	80	2	12	213	230	35	0.60	23	610	0.83
JUL 21...	76	23	77	2	12	201	200	25	0.50	23	560	0.76
AUG 18...	68	22	80	2	--	--	160	21	--	--	--	--
SEP 16...	65	21	74	2	13	185	160	19	0.50	20	490	0.66

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 105 DEG. C. SUS- PENDE (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 03...	2950	30	0.530	0.550	0.050	0.67	0.72	1.2	0.090	0.040	4.9
NOV 21...	--	10	1.00	--	0.110	0.56	0.67	1.7	0.070	--	7.7
DEC 11...	4860	22	1.60	1.50	0.140	0.61	0.75	2.4	0.140	0.050	3.8
JAN 07...	5730	<4	2.40	2.20	0.230	0.62	0.85	3.3	0.200	0.150	4.8
FEB 03...	--	24	1.30	--	0.130	0.77	0.90	2.2	0.240	--	1.4
MAR 06...	4340	14	2.20	2.40	0.050	2.4	2.4	4.6	0.190	0.150	5.2
APR 03...	4010	30	1.20	1.20	0.080	0.62	0.70	1.9	0.090	0.040	4.6
APR 28...	--	74	1.00	--	0.080	0.89	0.97	2.0	0.160	--	6.4
JUN 09...	1130	14	1.40	1.40	0.050	0.55	0.60	2.0	0.110	0.090	3.7
JUL 21...	1130	44	1.20	1.00	0.060	0.39	0.45	1.7	0.090	0.060	5.0
AUG 18...	--	36	0.580	--	0.020	0.78	0.80	1.4	0.110	--	3.8
SEP 16...	6410	56	--	0.440	0.030	0.59	0.62	--	0.160	0.050	8.0

PLATTE RIVER BASIN

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06768000 PLATTE RIVER NEAR OVERTON, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	ARSENIC TOTAL (UG/L AS AS) (01002)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
OCT												
03...	1600	--	--	--	--	<3	--	2	--	--	--	--
NOV												
21...	1415	10	<15	<10	20	--	<20	--	<0.1	8	<1	<30
DEC												
11...	1330	--	--	--	--	4	--	5	--	--	--	--
JAN												
07...	1445	--	--	--	--	7	--	8	--	--	--	--
FEB												
03...	1400	8	<15	<10	20	--	40	--	0.2	6	<1	70
MAR												
06...	1430	--	--	--	--	7	--	2	--	--	--	--
APR												
03...	1400	--	--	--	--	8	--	6	--	--	--	--
28...	1545	10	<15	<10	<10	--	130	--	<0.1	10	<1	40
JUN												
09...	1030	--	--	--	--	13	--	10	--	--	--	--
JUL												
21...	1430	--	--	--	--	8	--	3	--	--	--	--
AUG												
18...	1030	13	<15	<10	<10	--	<20	--	<0.1	7	<1	50
SEP												
16...	1100	--	--	--	--	4	--	2	--	--	--	--

PLATTE RIVER BASIN

06767998 PLATTE RIVER NEAR OVERTON, NE (NORTH CHANNEL)

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 26 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	850	890	1040	1040	991	987	915	927	942	818	778	810
2	852	899	1020	1000	990	973	918	908	981	800	808	785
3	858	891	930	985	986	948	964	927	982	836	808	788
4	835	897	1030	975	955	1010	707	918	974	850	845	807
5	862	895	930	970	960	990	956	919	888	900	807	795
6	859	889	963	968	1000	983	750	899	984	929	807	715
7	860	1010	1080	895	998	992	803	878	974	923	795	785
8	889	872	990	930	980	999	855	817	940	965	805	777
9	880	880	950	892	1080	985	942	750	984	950	812	775
10	880	878	959	940	1200	976	988	939	950	888	772	790
11	880	886	939	900	1210	992	1120	910	967	836	778	788
12	880	875	955	909	1180	956	1110	888	962	862	795	798
13	861	788	980	900	1150	965	1110	940	900	817	778	798
14	878	880	1010	890	1120	965	1120	967	911	823	785	785
15	880	875	1020	897	1070	950	1100	977	898	815	790	795
16	880	876	1010	883	1000	945	1110	915	896	846	786	797
17	880	878	1000	872	930	902	1100	935	921	844	796	784
18	891	880	966	949	912	856	1030	978	929	892	803	796
19	910	940	914	978	883	852	1030	982	951	868	795	793
20	885	835	912	966	1000	826	985	962	944	893	795	785
21	879	960	897	938	1140	857	975	988	935	893	796	775
22	917	975	880	899	1140	867	958	985	922	910	802	775
23	911	932	953	903	1120	876	947	978	896	864	813	775
24	855	935	879	908	1050	859	938	975	880	887	787	774
25	886	969	1080	929	1040	880	935	965	876	879	808	795
26	862	1050	953	920	1000	874	945	928	886	877	792	810
27	893	1030	1040	980	993	885	935	905	892	835	813	780
28	894	930	1080	980	992	875	918	895	897	834	815	798
29	905	953	1040	1030	---	858	918	885	904	811	790	780
30	900	933	990	978	---	872	923	900	903	812	780	795
31	903	---	1020	1010	---	872	---	929	---	832	805	---
MEAN	879	913	981	942	1040	923	967	925	929	864	798	787

06767999 PLATTE RIVER NEAR OVERTON, NE (SOUTH CHANNEL)

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 26 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	811	973	1110	1260	1220	1190	964	1000	860	885	806	804
2	823	952	1100	1260	1220	1220	958	903	909	909	815	800
3	821	965	1060	1270	1210	1200	937	1020	919	911	805	815
4	825	962	1110	1260	1220	1200	955	1010	934	915	845	805
5	820	969	1070	1180	1220	1200	718	1020	935	903	749	805
6	837	967	1120	1280	1220	1200	954	1020	931	948	786	777
7	821	890	1030	1210	1200	1170	945	1020	916	917	805	805
8	828	972	1080	1280	1200	1170	948	985	955	990	805	775
9	827	988	1120	1290	1170	1180	947	858	929	969	825	812
10	843	1000	1100	1300	1210	1170	948	848	902	884	828	811
11	848	1000	1100	1310	1210	1160	975	1000	903	899	802	808
12	846	965	1150	1300	1180	1140	985	996	899	911	805	795
13	862	987	1120	1300	1130	1140	945	1020	867	897	803	787
14	852	931	1140	1280	1190	1130	985	1020	885	895	806	795
15	870	940	1060	1310	1200	1110	1000	995	901	884	815	803
16	860	1010	1160	1300	1210	1120	1010	995	896	916	785	799
17	869	1020	1100	1300	1240	1120	1020	988	890	905	815	798
18	858	1020	1200	1280	1230	1100	1010	985	896	903	815	812
19	893	1020	1200	1280	1230	1090	1020	965	894	883	806	828
20	860	1050	1200	1280	1260	1080	1020	958	904	915	818	803
21	892	971	1190	1270	1240	1070	1020	962	904	911	798	818
22	905	1040	1220	1250	1230	1070	1020	975	892	895	808	825
23	916	1060	1210	1260	1230	1050	1020	960	909	879	806	842
24	910	1040	1200	1220	1220	1060	1010	950	868	887	806	835
25	920	1050	1200	1240	1230	1010	1020	948	887	900	809	827
26	879	1080	1200	1240	1220	1020	1010	926	896	882	810	835
27	919	1060	1230	1230	1220	1010	1020	924	873	883	777	838
28	940	1080	1220	1240	1220	1010	1020	922	875	879	785	838
29	949	950	1200	1240	---	1010	1020	922	881	940	790	826
30	940	1090	1240	1230	---	1010	1010	886	894	867	802	840
31	960	---	1230	1240	---	1010	---	906	---	861	787	---
MEAN	871	1000	1150	1260	1210	1110	980	964	900	904	804	812

PLATTE RIVER BASIN

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06767998 PLATTE RIVER NEAR OVERTON, NE (NORTH CHANNEL)

TEMPERATURE, WATER (DEG C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	12.0	1.0	1.0	7.0	5.0	12.0	16.0	24.0	30.0	28.0	21.0
2	14.0	7.0	1.0	1.0	7.0	12.0	12.0	19.0	20.0	30.0	29.0	21.0
3	12.0	12.0	1.0	1.0	5.0	13.0	13.0	19.0	19.0	30.0	30.0	26.0
4	12.0	12.0	1.0	1.0	4.0	13.0	15.0	23.0	13.0	31.0	27.0	25.0
5	14.0	12.0	1.0	1.0	4.0	11.0	17.0	22.0	13.0	26.0	27.0	20.0
6	15.0	10.0	1.0	1.0	2.0	12.0	19.0	23.0	22.0	27.0	30.0	18.0
7	14.0	10.0	1.0	1.0	2.0	7.0	17.0	23.0	20.0	30.0	29.0	19.0
8	10.0	10.0	1.0	1.0	2.0	9.0	15.0	19.0	20.0	31.0	29.0	16.0
9	9.0	3.0	1.0	1.0	1.0	11.0	17.0	22.0	18.0	23.0	31.0	20.0
10	12.0	1.0	1.0	1.0	1.0	12.0	17.0	22.0	17.0	30.0	28.0	22.0
11	10.0	2.0	1.0	1.0	1.0	8.0	13.0	25.0	17.0	28.0	27.0	23.0
12	15.0	5.0	1.0	1.0	1.0	6.0	11.0	23.0	17.0	30.0	28.0	24.0
13	13.0	5.0	1.0	---	1.0	6.0	13.0	24.0	---	30.0	28.0	21.0
14	15.0	5.0	1.0	---	1.0	7.0	9.0	22.0	---	31.0	30.0	20.0
15	16.0	4.0	1.0	---	1.0	8.0	11.0	26.0	---	32.0	30.0	19.0
16	16.0	5.0	1.0	3.0	1.0	9.0	13.0	11.0	---	31.0	31.0	22.0
17	8.0	7.0	1.0	3.0	2.0	9.0	11.0	19.0	28.0	31.0	29.0	22.0
18	8.0	4.0	1.0	4.0	2.0	6.0	11.0	23.0	27.0	33.0	25.0	22.0
19	10.0	1.0	1.0	5.0	2.0	8.0	15.0	22.0	27.0	29.0	23.0	22.0
20	16.0	1.0	1.0	5.0	1.0	9.0	15.0	22.0	28.0	29.0	23.0	26.0
21	15.0	1.0	1.0	2.0	1.0	9.0	17.0	20.0	30.0	28.0	20.0	26.0
22	18.0	1.0	1.0	2.0	1.0	13.0	18.0	15.0	27.0	29.0	28.0	23.0
23	15.0	1.0	1.0	3.0	3.0	15.0	23.0	20.0	29.0	30.0	26.0	23.0
24	16.0	1.0	1.0	6.0	10.0	11.0	20.0	21.0	23.0	30.0	28.0	24.0
25	16.0	1.0	1.0	1.0	13.0	15.0	18.0	17.0	28.0	21.0	28.0	22.0
26	16.0	1.0	1.0	4.0	10.0	12.0	19.0	18.0	30.0	21.0	27.0	24.0
27	16.0	1.0	1.0	1.0	6.0	18.0	10.0	17.0	30.0	29.0	22.0	22.0
28	16.0	1.0	1.0	3.0	9.0	18.0	14.0	16.0	24.0	32.0	19.0	22.0
29	16.0	1.0	1.0	4.0	---	20.0	20.0	19.0	27.0	33.0	25.0	20.0
30	11.0	1.0	1.0	3.0	---	20.0	19.0	24.0	25.0	32.0	27.0	17.0
31	9.0	---	1.0	3.0	---	18.0	---	24.0	---	24.0	26.0	---
MEAN	13.5	4.5	1.0	---	3.5	11.5	15.0	20.5	---	29.0	27.0	21.5

06767999 PLATTE RIVER NEAR OVERTON, NE (SOUTH CHANNEL)

TEMPERATURE, WATER (DEG C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.0	12.0	1.0	1.0	5.0	2.0	12.0	15.0	20.0	29.0	25.0	20.0
2	15.0	9.0	1.0	1.0	5.0	8.0	12.0	18.0	18.0	29.0	28.0	20.0
3	15.0	12.0	1.0	1.0	3.0	8.0	13.0	18.0	17.0	29.0	28.0	23.0
4	12.0	12.0	1.0	1.0	4.0	9.0	14.0	20.0	14.0	30.0	26.0	23.0
5	14.0	12.0	1.0	1.0	4.0	7.0	16.0	19.0	13.0	25.0	27.0	20.0
6	14.0	10.0	1.0	1.0	2.0	9.0	16.0	20.0	20.0	27.0	28.0	18.0
7	14.0	12.0	1.0	1.0	2.0	6.0	15.0	22.0	18.0	30.0	27.0	20.0
8	10.0	10.0	1.0	1.0	2.0	7.0	14.0	18.0	18.0	30.0	28.0	18.0
9	9.0	5.0	1.0	2.0	1.0	9.0	14.0	19.0	17.0	23.0	28.0	20.0
10	12.0	4.0	1.0	4.0	1.0	9.0	14.0	20.0	15.0	30.0	27.0	20.0
11	10.0	5.0	1.0	4.0	1.0	7.0	12.0	22.0	16.0	28.0	26.0	21.0
12	13.0	5.0	1.0	2.0	1.0	6.0	11.0	20.0	16.0	29.0	27.0	21.0
13	11.0	5.0	1.0	---	1.0	6.0	13.0	22.0	---	29.0	27.0	18.0
14	13.0	5.0	1.0	---	1.0	7.0	10.0	21.0	---	28.0	30.0	20.0
15	13.0	5.0	1.0	---	1.0	7.0	11.0	23.0	---	30.0	28.0	19.0
16	13.0	7.0	1.0	5.0	1.0	8.0	13.0	13.0	---	30.0	29.0	21.0
17	12.0	7.0	1.0	4.0	5.0	8.0	10.0	18.0	27.0	30.0	27.0	21.0
18	11.0	4.0	1.0	4.0	3.0	6.0	11.0	20.0	28.0	32.0	25.0	21.0
19	13.0	1.0	1.0	5.0	3.0	7.0	14.0	20.0	29.0	28.0	23.0	25.0
20	15.0	3.0	1.0	5.0	1.0	8.0	14.0	20.0	27.0	28.0	23.0	24.0
21	14.0	1.0	1.0	2.0	2.0	9.0	15.0	20.0	29.0	28.0	20.0	25.0
22	16.0	1.0	1.0	3.0	2.0	10.0	16.0	15.0	27.0	29.0	26.0	22.0
23	15.0	1.0	1.0	3.0	3.0	11.0	23.0	18.0	28.0	30.0	24.0	22.0
24	15.0	1.0	1.0	5.0	7.0	15.0	17.0	20.0	23.0	29.0	27.0	23.0
25	16.0	1.0	1.0	3.0	7.0	11.0	16.0	16.0	27.0	21.0	26.0	20.0
26	16.0	1.0	1.0	1.0	5.0	11.0	17.0	17.0	29.0	21.0	26.0	21.0
27	15.0	1.0	1.0	1.0	3.0	14.0	10.0	17.0	29.0	31.0	21.0	21.0
28	15.0	1.0	1.0	4.0	6.0	14.0	15.0	16.0	24.0	31.0	20.0	21.0
29	16.0	1.0	1.0	4.0	---	15.0	18.0	17.0	25.0	30.0	24.0	19.0
30	12.0	1.0	1.0	3.0	---	15.0	16.0	23.0	25.0	29.0	25.0	18.0
31	9.0	---	1.0	3.0	---	15.0	---	23.0	---	25.0	24.0	---
MEAN	13.5	5.0	1.0	---	3.0	9.0	14.0	19.0	---	28.5	26.0	21.0

PLATTE RIVER BASIN

06770000 PLATTE RIVER NEAR ODESSA, NE

LOCATION.--Lat 40°39'44", long 99°15'03", in NE1/4SW1/4 sec.16, T.8 N., R.17 W., Phelps County, Hydrologic Unit 10200101, on right bank 1,500 ft downstream from county bridge, 2.5 mi south of Odessa and 5 mi downstream from Elm Creek.

DRAINAGE AREA.--58,100 mi², approximately, of which about 53,300 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--March 1937 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 2,195.07 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 7, 1938, nonrecording gage and Oct. 7, 1938 to Sept. 30, 1942, water-stage recorder, both at datum 3.00 ft higher and Oct. 1, 1942 to July 23, 1984, water-stage recorder at datum 2.00 ft higher, all at site 1,500 ft upstream.

REMARKS.--Estimated daily discharges: Nov. 29 to Jan. 18. Records good except for period of estimated record, which is fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE.--45 years (water years 1942-86, since storage in Lake McConaughy), 1,552 ft³/s, 1,124,000 acre-ft per year; median of yearly mean discharges, 1,220 ft³/s, 884,000 acre-ft per year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,900 ft³/s June 29, 1983, gage height, 5.82 ft, datum then in use; maximum gage height, 5.90 ft June 22, 1983, datum and site then in use; no flow for periods in each year prior to 1947 and in 1953-57, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,770 ft³/s June 19, gage height, 4.77 ft; maximum gage height, 5.07 ft Dec. 30, backwater from ice; minimum daily discharge, 534 ft³/s July 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1250	1170	1400	2200	3530	3090	2610	4970	1710	2090	1980	3210
2	1480	985	1300	2200	3560	2890	2610	4730	1530	2120	2140	3300
3	1280	1170	1400	2200	3590	2770	2660	4530	1220	2120	2050	3560
4	1350	1120	1500	2200	3560	2640	2750	5050	1080	1940	2140	3350
5	1460	985	1600	2200	3630	2560	2970	5140	899	1550	2480	3090
6	1550	899	1700	2200	3690	2480	3870	4890	705	1140	2450	3430
7	1620	885	1800	2200	3760	2480	4450	4850	680	1030	2580	3270
8	1750	858	1900	2200	3560	2560	4340	5100	619	858	2660	3210
9	1820	956	2000	2400	3660	2640	4120	6040	619	631	2690	3530
10	1820	998	2100	2600	3430	2660	3870	5010	872	830	2770	3900
11	1880	1010	2200	2800	2940	2580	3900	4300	1200	1250	2770	4380
12	1920	927	2300	2900	2560	2640	4080	3590	1300	1380	2770	4570
13	1940	1070	2200	2900	2830	2480	4450	3000	1520	1440	2750	4730
14	1900	1350	2200	2900	2640	2350	4610	2610	2160	1570	2690	4890
15	1880	1330	2000	2900	3000	2350	4530	2230	3400	1750	2480	5180
16	1880	1100	2000	3000	3090	2400	4530	2070	4650	1680	2280	5050
17	1710	1050	2300	3100	2940	2480	4770	2230	5660	1590	2030	5140
18	1790	998	2300	3200	2750	2800	5180	2140	6420	1280	1860	5220
19	1700	1200	2300	3240	3180	2800	5010	1820	6470	1050	1800	5050
20	1770	1840	2300	3150	3240	2800	4770	1770	5440	845	1790	4530
21	1700	1880	2250	3180	3460	2860	4490	1790	5270	801	1710	4040
22	1840	1840	2250	3180	3760	2860	4650	1700	4730	773	1700	3940
23	1820	1730	2250	3180	3940	2860	4970	1700	4610	692	1880	3530
24	1840	1750	2200	3150	3760	2860	5100	1730	4450	608	2090	3210
25	1860	1860	2000	3180	3690	2860	5010	1700	3970	534	2140	2940
26	1730	1820	2100	3210	3660	2800	5010	1700	3500	787	2280	3000
27	1500	1440	2200	3090	3500	2750	5010	1700	3370	1200	2230	3150
28	1330	1530	2200	3340	3340	2690	5270	1730	3000	1730	2380	3300
29	1360	1400	2200	3370	---	2750	5570	1820	2660	1730	2560	3240
30	1410	1400	2200	3370	---	2690	5350	1900	2160	1900	3000	3500
31	1240	---	2200	3460	---	2640	---	1840	---	1980	3210	---
TOTAL	51380	38551	62850	88400	94250	83070	130510	95380	85874	40879	72340	116440
MEAN	1657	1285	2027	2852	3366	2680	4350	3077	2862	1319	2334	3881
MAX	1940	1880	2300	3460	3940	3090	5570	6040	6470	2120	3210	5220
MIN	1240	858	1300	2200	2560	2350	2610	1700	619	534	1700	2940
AC-FT	101900	76470	124700	175300	186900	164800	258900	189200	170300	81080	143500	231000
CAL YR 1985	TOTAL	698532		MEAN	1914	MAX	6000	MIN	152	AC-FT	1386000	
WTR YR 1986	TOTAL	959924		MEAN	2630	MAX	6470	MIN	534	AC-FT	1904000	

PLATTE RIVER BASIN

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06770200 PLATTE RIVER NEAR KEARNEY, NE

LOCATION.--Lat 40°39'32", long 99°05'08", in SE1/4SE1/4 sec.14, T.8 N., R.16 W., Kearney county, Hydrologic Unit 10200101, on right bank near downstream side of bridge on State Highway 44, 2 mi south of Kearney.

DRAINAGE AREA.--58,200 mi², approximately, of which about 53,400 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--January 1982 to current year.

GAGE.--Water stage recorder.

REMARKS.--Estimated daily discharges: Nov. 19 to Jan. 17 and Feb. 20-21. Records fair except for period of estimated record, which is poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,700 ft³/s June 29, 1983, gage height, 7.42 ft; minimum daily discharge, 61 ft³/s July 25, Sept. 11, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,700 ft³/s June 19, gage height, 4.85 ft; maximum gage height, 5.11 ft Dec. 30, backwater from ice; minimum daily discharge, 502 ft³/s July 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1480	1490	1450	3000	3340	3280	2360	5370	1860	2240	1850	2300
2	1650	1060	1500	2900	3320	3170	2380	5200	1730	2110	2030	2600
3	1420	1460	1500	2600	3390	3020	2420	4620	1520	2070	1810	3170
4	1410	1490	1600	2100	3530	2870	2520	5080	1390	1940	1950	3160
5	1450	1220	1800	1800	3690	2900	2710	5060	1280	1450	2620	2750
6	1640	1100	1700	1600	3710	2840	3470	4640	1090	1060	2630	3170
7	1820	1040	2100	1800	3530	2730	4010	4430	1030	903	2740	2840
8	1970	1030	2400	2200	3410	2870	3910	4320	960	707	2750	2780
9	2080	1050	2650	2450	3460	3040	3700	5440	919	502	2700	3280
10	2090	1060	2600	2900	3270	3160	3450	4930	1040	660	2600	3840
11	2210	1050	2300	3200	3030	3220	3450	4110	1350	931	2590	4190
12	2370	1170	2300	3150	2870	3420	3700	3420	1480	1340	2430	4350
13	2340	1290	2200	3100	2990	3370	4200	2650	1690	1530	2320	4450
14	2360	1860	2000	3100	3000	3340	4640	2100	2410	1770	2210	4370
15	2330	1880	2000	3400	3240	3320	4740	1810	3540	1860	2110	4780
16	2280	1430	1900	3700	3380	3350	4680	1700	4440	1790	1920	4730
17	2060	1300	2000	3100	3160	3370	4840	1790	5340	1700	1870	5040
18	1910	1250	2050	2770	3040	3810	5190	1940	6060	1490	1740	5170
19	1730	1200	2100	2540	3180	3600	4900	1650	6360	1260	1680	5130
20	1850	2000	2150	2650	3200	3370	4460	1450	5620	1080	1690	4670
21	1800	2500	2150	2850	3400	3250	4050	1550	5210	941	1480	4370
22	2200	2300	2200	2910	3780	3060	4060	1520	5030	889	1410	4520
23	2200	2050	2100	3040	3940	2960	4230	1520	4950	829	1300	3820
24	2210	1700	1800	3150	3830	2820	4470	1550	4850	794	1410	3380
25	2170	1600	1600	3060	3680	2700	4460	1470	4630	714	1510	3090
26	2060	1400	1650	3080	3650	2650	4620	1500	4180	761	1630	3180
27	1640	1450	1900	2950	3580	2670	4850	1480	4050	983	1570	3210
28	1500	1350	2100	3230	3430	2680	5300	1600	3360	1670	1680	3170
29	1460	1150	2500	3170	---	2630	5780	1740	2990	1610	1850	3100
30	1610	1300	2800	3170	---	2590	5730	1920	2310	1760	2080	3150
31	1500	---	2900	3350	---	2480	---	1920	---	1840	2220	---
TOTAL	58800	43230	64000	88020	95030	94540	123280	89480	92669	41184	62380	111760
MEAN	1897	1441	2065	2839	3394	3050	4109	2886	3089	1329	2012	3725
MAX	2370	2500	2900	3700	3940	3810	5780	5440	6360	2240	2750	5170
MIN	1410	1030	1450	1600	2870	2480	2360	1450	919	502	1300	2300
AC-FT	116600	85750	126900	174600	188500	187500	244500	177500	183800	81690	123700	221700
CAL YR 1985	TOTAL	748933		MEAN	2052	MAX	7200	MIN	273	AC-FT	1486000	
WTR YR 1986	TOTAL	964373		MEAN	2642	MAX	6360	MIN	502	AC-FT	1913000	

PLATTE RIVER BASIN

06770478 PLATTE RIVER (SOUTH CHANNEL) NEAR GRAND ISLAND, NE

LOCATION.--Lat 40°48'06", long 98°22'42", in SW1/4SW1/4 sec.29, T.10 N., R.9 W., Hall County, Hydrologic Unit 10200101, on right bank near downstream side of bridge on U.S. Highway 281, 9 mi south of Grand Island.

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

GAGE.--Water-stage recorder. Elevation of gage is 1,870 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 19 to Jan. 29, Feb. 12-24, and Sept. 9-14. Records fair except for periods of estimated record, which are poor.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,470 ft³/s Feb. 25, gage height, 5.96 ft; maximum gage height, 6.12 ft Feb. 24, backwater from ice; minimum daily discharge, 105 ft³/s Feb. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	753	740	450	1300	105	1390	1100	2220	907	1330	810	1090
2	790	692	500	1250	610	1360	1060	2080	813	1210	899	1180
3	920	563	500	1200	1270	1280	1100	1970	733	1100	909	1330
4	841	692	550	1100	1350	1210	1060	1910	685	1090	862	1480
5	778	701	600	950	1340	1180	1070	2060	639	1060	938	1490
6	778	617	750	800	1380	1140	1120	2050	585	839	1110	1880
7	854	555	950	750	1390	1110	1370	1900	511	594	1220	1780
8	920	538	950	800	1250	1040	1520	1860	454	462	1110	1590
9	907	555	1150	900	1120	1090	1460	1950	400	380	1090	1520
10	947	529	1250	1050	1110	1110	1400	2420	440	489	1150	1630
11	933	581	1200	1200	655	1070	1380	2240	485	421	1140	1760
12	988	590	1100	1400	600	1150	1450	1890	552	552	1180	1860
13	1030	581	950	1350	650	1190	1600	1550	619	730	1210	1970
14	1070	590	850	1350	800	1130	1920	1200	671	806	1290	2100
15	1100	810	900	1400	750	1100	1900	1100	892	864	1150	2450
16	1110	852	900	1500	900	1100	1850	1140	1500	842	1020	2340
17	1140	740	950	1550	1500	1140	1850	1040	1940	781	876	2270
18	1200	663	900	1550	1400	1320	2010	945	2280	742	823	2320
19	1280	500	900	1500	1300	1400	2000	962	2570	655	774	2400
20	1170	280	950	1400	1200	1280	1860	862	2670	549	753	2320
21	1130	320	950	1350	1100	1270	1760	775	2450	485	767	2150
22	1020	700	1000	1300	1200	1250	1760	763	2370	416	725	2150
23	1060	800	1050	1200	2000	1210	1880	755	2190	360	714	2120
24	1020	800	1050	1200	2300	1250	2060	700	2090	341	714	1820
25	982	750	950	1150	2650	1320	2130	674	2010	322	806	1590
26	1000	850	800	1100	1770	1350	2120	675	1930	275	845	1410
27	906	900	800	950	1400	1320	2150	761	1890	317	906	1400
28	750	700	900	600	1410	1270	2180	824	1790	478	912	1400
29	711	500	1050	750	---	1200	2200	805	1510	715	932	1450
30	692	550	1250	278	---	1190	2320	865	1340	744	976	1520
31	740	---	1300	124	---	1170	---	931	---	750	1040	---
TOTAL	29520	19239	28350	34302	34510	37590	50640	41877	39916	20699	29651	53770
MEAN	952	641	915	1107	1233	1213	1688	1351	1331	668	956	1792
MAX	1280	900	1300	1550	2650	1400	2320	2420	2670	1330	1290	2450
MIN	692	280	450	124	105	1040	1060	674	400	275	714	1090
AC-FT	58550	38160	56230	68040	68450	74560	100400	83060	79170	41060	58810	106700
CAL YR 1985	TOTAL	359086		MEAN	984	MAX	3900	MIN	60	AC-FT	712200	
WTR YR 1986	TOTAL	420064		MEAN	1151	MAX	2670	MIN	105	AC-FT	833200	

PLATTE RIVER BASIN

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06770500 PLATTE RIVER NEAR GRAND ISLAND, NE

LOCATION.--Lat 40°52'28", long 98°16'54", in SW1/4SW1/4 sec.31, T.11 N., R.8 W., Merrick County, Hydrologic Unit 10200101, on left bank 20 ft downstream from bridge on U.S. Highway 34, 2 mi upstream from Burlington Northern Inc. bridge, and 5 mi southeast of Grand Island.

DRAINAGE AREA.--58,800 mi², approximately, of which about 54,000 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1933 to current year.

REVISED RECORDS.--WSP 956: 1935. WSP 1390: 1942. WDR NE-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,831.89 ft above National Geodetic Vertical Datum of 1929 (Nebraska Department of Highways bench mark). Prior to Oct. 23, 1933, nonrecording gage at bridge 68 ft downstream and Oct. 23, 1933, to Aug. 19, 1980, water-stage recorder at site 98 ft downstream, all at same datum.

REMARKS.--Estimated daily discharges: Nov. 19 to Feb. 2. Records good except for period of estimated record, which is poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE.--45 years (water years 1942-86, since storage in Lake McConaughy), 1,557 ft³/s, 1,128,000 acre-ft per year; median of yearly mean discharges, 1,180 ft³/s, 855,000 acre-ft per year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft³/s June 6, 1935, gage height, 5.99 ft, from rating curve extended above 18,000 ft³/s; maximum gage height, 6.16 ft Mar. 27, 1960, backwater from ice; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,460 ft³/s Feb. 25, gage height, 3.78 ft; maximum gage height, recorded, 3.91 ft Jan. 2, backwater from ice but may have been higher during period of no gage height record Dec. 12-19; minimum daily discharge, 550 ft³/s Nov. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1840	1830	1400	3000	4200	3420	2520	4820	2260	2830	1880	2190
2	1870	1790	1700	3100	3800	3190	2580	4710	2080	2470	2050	2350
3	2080	1470	1800	3100	3930	2950	2690	4740	1880	2220	2070	2630
4	1830	1690	1800	2800	3960	2770	2420	4410	1700	2130	2010	2910
5	1770	1760	1800	2450	3890	2620	2330	4870	1580	2010	2090	3060
6	1770	1530	2150	2000	3740	2600	2420	4910	1430	1620	2460	3850
7	1990	1430	2500	1550	3700	2440	3070	4670	1200	1290	2860	3700
8	2000	1390	2500	1750	3430	2400	3600	4580	1030	1060	2530	3130
9	2040	1290	2900	2150	2970	2450	3530	4510	894	893	2540	3020
10	2270	1300	3100	2550	3190	2550	3360	5620	1040	1150	2530	3220
11	2440	1390	2800	3000	2170	2630	3260	5480	1090	1040	2380	3460
12	2500	1400	2300	3200	838	2750	3250	4670	1300	1240	2350	3640
13	2460	1390	1900	3150	991	2830	3490	3850	1490	1620	2310	3810
14	2420	1420	1700	3100	991	2730	3780	3150	1640	1740	2560	4060
15	2460	2050	1700	3100	1580	2650	3850	2870	2190	1870	2450	4800
16	2440	2270	1800	3450	2100	2720	4080	2880	3410	1880	2280	4760
17	2580	2350	1850	3400	3450	2890	4170	2580	4410	1710	1980	4550
18	2870	1730	1900	3300	4510	3390	4450	2430	5180	1530	1900	4570
19	2950	800	2000	3200	4100	3510	4410	2430	6000	1300	1820	4740
20	2610	550	2100	3100	3140	3100	4160	2160	6280	1060	1710	4560
21	2560	650	2200	3000	3190	3040	3810	1930	5660	941	1670	4130
22	2460	1600	2300	2800	3350	2940	3500	2010	5270	796	1510	3900
23	2530	1850	2350	2700	4690	2820	3600	2000	4690	750	1390	3840
24	2570	1600	2250	3400	5430	2830	4010	1910	4500	679	1360	3310
25	2550	1350	1900	3000	6050	2860	4200	1820	4380	647	1510	2920
26	2570	1300	1700	2600	5270	2910	4210	1760	4170	580	1530	2590
27	2430	1550	1700	1600	3860	2880	4510	1890	4000	636	1620	2590
28	1990	1400	1900	1900	3620	2910	4580	2100	3760	954	1650	2600
29	1750	1200	2300	2700	---	2850	4670	2080	3240	1540	1710	2660
30	1660	1400	2800	3000	---	2750	4920	2130	3000	1740	1790	2820
31	1930	---	3000	3100	---	2640	---	2290	---	1760	1990	---
TOTAL	70190	44730	66100	86250	96140	88020	109430	102260	90754	43686	62490	104370
MEAN	2264	1491	2132	2782	3434	2839	3648	3299	3025	1409	2016	3479
MAX	2950	2350	3100	3450	6050	3510	4920	5620	6280	2830	2860	4800
MIN	1660	550	1400	1550	838	2400	2330	1760	894	580	1360	2190
AC-FT	139200	88720	131100	171100	190700	174600	217100	202800	180000	86650	123900	207000
CAL YR 1985	TOTAL	794472		MEAN	2177	MAX	8000	MIN	277	AC-FT	1576000	
WTR YR 1986	TOTAL	964420		MEAN	2642	MAX	6280	MIN	550	AC-FT	1913000	

PLATTE RIVER BASIN

06770500 PLATTE RIVER NEAR GRAND ISLAND, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1972 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1972 to September 1980.

WATER TEMPERATURES: July 1972 to September 1980.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,250 microsiemens Feb. 3, 1980; minimum daily, 575 microsiemens May 24, 1977.

WATER TEMPERATURES: Maximum, 34.5°C July 23, 1972; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT									
03...	0820	1980	880	8.00	10.0	10.6	12	150	100
NOV									
14...	1005	1410	1020	8.20	2.0	13.2	9	81	66
DEC									
03...	0940	1850	1220	7.50	0.5	9.8	11	37	58
JAN									
30...	0855	2780	1210	8.00	0.5	12.6	13	27	68
FEB									
27...	1000	3630	1100	7.90	0.5	12.4	56	59	440
MAR									
27...	0940	2910	1010	8.20	10.5	10.9	10	83	580
APR									
23...	1100	3670	1020	8.20	15.0	9.8	29	K29	K54
MAY									
14...	1020	3270	944	8.20	19.0	8.4	27	--	220
JUN									
03...	0950	1890	975	8.40	24.0	9.4	24	160	88
JUL									
15...	1050	1960	818	8.50	30.0	10.8	60	330	84
AUG									
05...	1010	2250	826	8.40	23.0	9.4	50	580	380
SEP									
15...	1000	5090	758	8.20	18.0	9.1	38	730	750

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

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT								
03...	330	0	83	29	90	2	220	24
NOV								
14...	350	0	90	30	88	2	240	25
DEC								
03...	380	0	97	34	99	2	390	27
JAN								
30...	430	0	110	38	110	2	290	39
FEB								
27...	360	0	91	32	88	2	290	36
MAR								
27...	300	0	76	26	88	2	220	35
APR								
23...	330	0	84	30	89	2	240	36
MAY								
14...	310	0	81	27	77	2	170	32
JUN								
03...	320	0	80	28	86	2	240	50
JUL								
15...	240	0	56	24	79	2	220	26
AUG								
05...	250	0	64	22	82	2	220	24
SEP								
15...	240	0	65	20	74	2	190	19

PLATTE RIVER BASIN

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06770500 PLATTE RIVER NEAR GRAND ISLAND, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, RESIDUE AT 105 DEG. C. SUS- PENDEED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L) AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L) AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L) AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L) AS N) (00625)	NITRO- GEN, TOTAL (MG/L) AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L) AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L) AS C) (00680)
OCT								
03...	56	0.920	0.070	0.40	0.47	1.4	0.180	3.1
NOV								
14...	15	1.00	0.090	0.39	0.48	1.5	0.240	4.8
DEC								
03...	<4	1.20	0.150	0.22	0.37	1.6	0.150	5.6
JAN								
30...	58	2.50	0.140	0.71	0.85	3.4	0.240	5.2
FEB								
27...	380	2.20	0.070	3.4	3.5	5.7	0.490	8.0
MAR								
27...	39	1.10	0.030	1.9	1.9	3.0	0.130	3.9
APR								
23...	146	1.20	0.100	1.6	1.7	2.9	0.290	6.1
MAY								
14...	120	1.20	0.070	1.3	1.4	2.6	0.200	7.8
JUN								
03...	90	0.450	0.070	1.2	1.3	1.7	0.280	6.8
JUL								
15...	256	0.060	0.050	2.8	2.8	2.9	0.500	9.5
AUG								
05...	278	0.230	0.070	2.3	2.4	2.6	0.410	7.1
SEP								
15...	126	0.170	<0.020	--	0.45	0.62	0.250	10

PLATTE RIVER BASIN

06772000 WOOD RIVER NEAR ALDA, NE

LOCATION.--Lat 40°51'10", long 98°28'20", in NE1/4SE1/4 sec.7, T.10 N., R.10 W., Hall County, Hydrologic Unit 10200102, on right bank 1.2 mi south of Alda, 2.2 mi upstream from old north channel of the Platte River, and 19 mi upstream from present mouth.

DRAINAGE AREA.--628 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 1,897.66 ft above National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark).

REMARKS.--Estimated daily discharges: Nov. 19 to Mar. 11 and July 21 to Aug. 3. Records fair except for periods of estimated record, which are poor. Numerous small pump diversions for irrigation above station.

AVERAGE DISCHARGE.--33 years, 10.6 ft³/s, 7,680 acre-ft/yr; median of yearly mean discharges, 7.9 ft³/s, 5,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,630 ft³/s June 16, 1967, gage height, 12.22 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)
Sept. 9	1415	*97	*6.11	No peaks greater than base discharge.			
No flow for many days.							

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	2.5	4.5	2.5	2.9	9.6	.90	.44	.56	5.6	.10	.00
2	5.3	2.0	4.3	2.4	2.9	11	1.0	.90	.38	10	20	.00
3	5.4	1.9	4.0	2.4	2.9	12	3.3	.82	3.2	8.6	12	.00
4	5.1	1.6	3.9	2.4	2.9	8.9	3.8	.48	4.3	6.4	9.4	.00
5	4.4	1.7	3.8	2.3	2.8	7.3	2.7	.42	4.5	6.1	6.5	.00
6	6.9	1.7	3.6	2.1	2.7	6.1	2.9	.16	1.5	4.9	6.2	.00
7	5.8	2.3	3.5	1.9	2.7	8.5	2.8	.06	.79	4.7	21	21
8	4.2	2.4	3.5	1.7	2.7	5.6	2.3	.07	.90	8.3	11	69
9	3.3	2.7	2.9	1.7	2.6	4.3	1.9	.06	.67	11	4.9	85
10	3.0	4.3	2.6	1.7	2.6	5.8	2.1	.04	2.4	13	2.9	48
11	3.3	2.9	2.4	1.6	2.5	4.8	2.1	.01	.69	10	2.0	14
12	2.3	2.8	2.3	1.6	2.6	6.0	2.0	.00	1.2	10	1.3	4.4
13	1.9	3.3	2.3	1.6	2.7	6.0	1.5	.00	.89	10	.75	1.2
14	2.1	3.1	2.4	1.6	2.6	5.8	1.7	.00	.35	9.1	.21	.17
15	1.7	3.5	2.4	1.6	2.6	4.6	.73	.00	.02	16	.21	.33
16	2.2	3.5	2.8	1.6	2.7	4.5	1.2	1.4	.00	20	.33	1.1
17	2.0	4.2	2.9	1.7	2.8	4.3	.53	3.5	.00	17	.66	.37
18	3.2	3.4	2.9	1.8	2.9	6.8	.63	2.2	.00	11	.83	.00
19	7.4	7.2	2.9	1.9	3.1	7.5	1.1	.85	.00	11	.01	.02
20	5.4	3.8	2.9	2.0	3.3	9.2	1.9	.50	.00	9.8	.06	6.3
21	5.8	4.7	2.9	2.1	3.5	6.9	.62	3.6	.00	9.4	.38	5.1
22	22	5.0	2.8	2.3	3.8	9.1	.17	7.3	.00	3.0	1.2	1.9
23	45	5.0	2.8	2.4	4.3	8.1	.04	4.7	.00	1.0	.72	1.1
24	24	4.7	2.9	2.5	4.8	8.6	.00	2.8	.00	.40	.81	.56
25	12	4.6	2.9	2.6	5.6	6.9	.68	1.7	.00	.10	1.1	.37
26	7.4	4.5	2.9	2.7	6.2	4.5	1.8	1.0	.80	.10	.61	.02
27	4.7	4.6	2.9	2.8	7.0	3.0	1.4	.52	2.4	.10	.14	.00
28	3.4	4.7	2.8	2.9	8.3	2.7	1.2	.45	1.9	.10	.00	.00
29	2.7	4.7	2.8	2.9	---	2.2	.97	.06	1.4	.10	.02	.00
30	1.8	4.7	2.7	2.9	---	1.4	.63	.00	3.7	.00	.00	.00
31	2.6	---	2.6	2.9	---	1.1	---	.00	---	.00	.00	---
TOTAL	213.3	108.0	93.8	67.1	99.0	193.1	44.60	34.04	32.55	216.80	105.34	259.94
MEAN	6.88	3.60	3.03	2.16	3.54	6.23	1.49	1.10	1.08	6.99	3.40	8.66
MAX	45	7.2	4.5	2.9	8.3	12	3.8	7.3	4.5	20	21	85
MIN	1.7	1.6	2.3	1.6	2.5	1.1	.00	.00	.00	.00	.00	.00
AC-FT	423	214	186	133	196	383	88	68	65	430	209	516
CAL YR 1985	TOTAL	7745.16	MEAN	21.2	MAX	540	MIN	.00	AC-FT	15360		
WTR YR 1986	TOTAL	1467.57	MEAN	4.02	MAX	85	MIN	.00	AC-FT	2910		

PLATTE RIVER BASIN

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06774000 PLATTE RIVER NEAR DUNCAN, NE
(National stream-quality accounting network station)

LOCATION.--Lat 41°22'05", long 97°29'35", in SE1/4SW1/4 sec.12, T.16 N., R.2 W., Platte County, Hydrologic Unit 10200103, on left bank 300 ft downstream from highway bridge, 1.5 mi south of Duncan, and 12 mi upstream from Loup River.

DRAINAGE AREA.--60,900 mi², approximately. of which about 56,100 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1895 to December 1909 (irrigation seasons only 1895-1900), July 1910 to December 1911 (gage heights and discharge measurements only), April 1912 to September 1915, June 1928 to current year. Published as "near Columbus" 1895-1915.

REVISED RECORDS.--WSP 956: 1935. WSP 1390: 1897, 1899-1901, 1903-5, 1929-32, 1935(M), 1936. WDR NE-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,476.82 ft above National Geodetic Vertical Datum of 1929. June 1895 to December 1909, April 1912 to September 1915, and June to October 1928, nonrecording gage at site 7 mi downstream at different datums. Oct. 25, 1928, to Feb. 20, 1935, nonrecording gage and Feb. 20, 1935 to Mar. 21, 1984 recording gage both at site 300 ft upstream at 2.00 ft higher datum.

REMARKS.--Estimated daily discharges: Nov. 18 to Feb. 26, June 25 to July 15. Records good except for periods of estimated record, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE.--45 years (water years 1942-86, since storage in Lake McConaughy), 1,755 ft³/s, 1,271,000 acre-ft/yr; median of yearly mean discharges, 1,350 ft³/s, 978,000 acre-ft/yr. Figures unadjusted for storage or diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 44,100 ft³/s June 23, 1905, gage height. 6.50 ft. site and datum then in use; no flow at times in 1896, 1902, 1904-5, 1910-11, 1913-14, 1928, all at site downstream, 1931, 1933-42, 1944, 1952-57, 1959, 1963, 1974, 1976, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,500 ft³/s Feb. 27, gage height, 6.13 ft, minimum daily, 473 ft³/s July 28.

DISCHARGE, IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2700	2890	820	2700	3100	5350	3370	6150	2690	3400	1540	2160
2	2680	2880	840	2800	3100	4270	3350	5870	2620	3200	2040	2400
3	2640	2800	880	2700	3200	3360	3690	5560	2500	3000	2260	2560
4	2600	2680	940	2600	3400	3330	3850	5330	2390	2700	2180	2710
5	2710	2480	1000	2400	3100	3160	3430	4710	2260	2400	2330	3010
6	2520	2530	1100	2100	3000	3030	3270	4850	2030	2300	2310	3570
7	2450	2510	1100	1900	2800	2890	3170	4890	1680	2200	2920	4230
8	2490	2330	1150	1900	2600	2870	3590	4790	1420	2100	3230	4230
9	2530	2210	1200	2000	2400	2840	4310	4960	1290	2000	3100	3850
10	2580	2060	1200	2200	2000	2850	4330	4660	1260	2100	3060	3640
11	2740	2040	1150	2200	1700	3010	4270	5330	1230	2200	2960	3720
12	2930	2270	1150	2300	1600	3840	4180	5270	1230	2400	3090	3970
13	2930	2360	1100	2400	1500	3870	4140	4550	1240	2500	3030	4110
14	2930	2350	1100	2500	1400	3780	4480	3930	1350	2500	2980	4250
15	2960	2350	1100	2600	1400	3420	5850	3290	1440	2400	2960	4380
16	2960	2640	1150	2600	1500	3300	4590	3410	1770	2200	2920	5190
17	2930	2980	1300	2800	1800	3440	4600	3580	2810	2160	2740	5690
18	3520	2500	1400	3000	2100	4140	5350	3110	3900	2030	2600	5420
19	3660	1900	1500	3200	2500	4740	4920	2820	4800	1530	2910	6430
20	3490	1500	1700	3400	2700	4710	4820	2820	5580	1320	2620	5900
21	3340	1200	1900	3200	2800	4420	4610	2830	6000	1180	2550	5260
22	3310	1000	2000	3300	3000	4240	4620	2680	5640	1030	2430	5060
23	3530	980	2100	3300	3500	4070	4590	2590	5310	866	2320	5140
24	3650	880	2000	3400	4500	3990	4680	2580	5010	684	2190	5270
25	3810	800	1900	3500	6000	3840	4930	2470	4600	631	2040	4670
26	3760	780	2000	3500	8100	3670	5060	2370	4300	552	1940	4230
27	3630	780	2100	3400	9380	3630	6560	2360	4000	506	2060	3820
28	3620	800	2300	3000	6110	3660	6870	2470	3800	473	2150	3730
29	3270	800	2500	2800	---	3660	6360	2680	3700	480	2270	3650
30	2970	800	2700	2900	---	3600	6210	2740	3600	884	2180	3740
31	2910	---	2700	3000	---	3460	---	2630	---	1330	2140	---
TOTAL	94750	57080	47080	85600	90290	114440	138050	118280	91450	55256	78050	125990
MEAN	3056	1903	1519	2761	3225	3692	4602	3815	3048	1782	2518	4200
MAX	3810	2980	2700	3500	9380	5350	6870	6150	6000	3400	3230	6430
MIN	2450	780	820	1900	1400	2840	3170	2360	1230	473	1540	2160
AC-FT	187900	113200	93380	169800	179100	227000	273800	234600	181400	109600	154800	249900
CAL YR 1985	TOTAL	963801		MEAN	2641	MAX	10000	MIN	290	AC-FT	1912000	
WTR YR 1986	TOTAL	1096316		MEAN	3004	MAX	9380	MIN	473	AC-FT	2175000	

PLATTE RIVER BASIN

06774000 PLATTE RIVER NEAR DUNCAN, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1977 to September 1981.

WATER TEMPERATURES: November 1977 to September 1980.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,100 microsiemens Feb. 12, 1981; minimum daily, 290 microsiemens Mar. 21, 1978.

WATER TEMPERATURES: Maximum, 33.0°C July 10, 11, 1980; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	BARO- METRIC PRES- SURE (MM HG) (00025)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS (MG/L AS CACO3) (95902)
NOV 06...	1030	2520	944	8.20	8.0	730	15	11.2	K20	90	320	320
JAN 29...	1200	2760	1100	8.10	0.5	739	3.0	13.3	K3	K13	360	360
MAR 26...	1545	3710	1350	8.60	14.0	740	20	11.4	K2	K6	340	340
MAY 20...	0945	2730	940	8.40	17.5	725	40	8.4	K43	K220	310	310
JUL 16...	0800	2240	690	8.40	27.0	722	100	7.7	K480	K540	200	200
SEP 09...	1030	3820	755	8.00	16.0	727	61	9.6	1900	920	230	230

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

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)
NOV 06...	86	26	79	2	12	201	230	34	0.6	22	629
JAN 29...	96	30	90	2	13	214	320	44	0.6	23	762
MAR 26...	88	28	90	2	12	205	270	36	0.7	21	690
MAY 20...	80	26	82	2	11	200	250	30	0.5	19	639
JUL 16...	48	19	62	2	15	144	180	25	0.4	19	461
SEP 09...	58	20	66	2	9.7	169	180	22	0.5	18	553

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)
NOV 06...	660	0.86	4280	1.80	0.05	0.06	0.65	0.7	0.21	0.13	0.13
JAN 29...	760	1.0	5470	2.60	0.10	0.11	0.9	1.0	0.17	0.15	0.14
MAR 26...	680	0.94	6910	1.70	0.06	0.05	0.94	1.0	0.15	0.06	0.06
MAY 20...	640	0.87	4710	1.60	0.11	0.03	1.4	1.5	0.45	0.12	0.11
JUL 16...	440	0.63	2790	0.80	0.05	0.02	2.0	2.0	0.33	0.14	0.13
SEP 09...	480	0.75	5700	0.58	<0.01	<0.01	1.1	1.1	0.28	0.06	0.06

PLATTE RIVER BASIN

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06774000 PLATTE RIVER NEAR DUNCAN, NE--Continued

WATER QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 06...	1030	10	4	100	<0.5	2	<1	<3	3	9	<1
MAR 26...	1545	10	4	79	<0.5	<1	<1	<3	6	<3	1
MAY 20...	0945	20	5	74	<0.5	<1	2	<3	<1	5	3

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 06...	33	7	0.1	<10	<1	2	<1	730	<6	11
MAR 26...	36	4	<0.1	<10	2	3	<1	810	7	23
MAY 20...	36	1	<0.1	<10	1	2	<1	760	7	8

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 06...	1030	2520	8.0	123	837	34
JAN 29...	1200	2760	0.5	170	1270	56
MAR 26...	1545	3710	14.0	243	2430	48
MAY 20...	0945	2730	17.5	215	1580	82
JUL 16...	0800	2240	27.0	205	1240	84
SEP 09...	1030	3820	16.0	259	2670	62

PLATTE RIVER BASIN

06775500 MIDDLE LOUP RIVER AT DUNNING, NE

LOCATION.--Lat 41°49'50", long 100°06'00", in NW1/4SE1/4 sec.33, T.22 N., R.24 W., Blaine County, Hydrologic Unit 10210001, on left bank just upstream from bridge on State Highway 2 at northeast corner of Dunning, 1 mi upstream from Dismal River.

DRAINAGE AREA.--1,850 mi², approximately, of which about 80 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR NE-72: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,607.14 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 12, 1946, nonrecording gage, and Sept. 12, 1946, to Sept. 30, 1962, water-stage recorder at site 0.2 mi upstream at datum 0.03 ft higher.

REMARKS.--Estimated daily discharges: Nov. 10, Nov. 19 to Jan. 1, Jan. 4-8, 21, 22, 25, 27, 31, Feb. 1, 5-13, 15, 20. Record good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--41 years, 405 ft³/s, 293,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,020 ft³/s Apr. 20, 1971, gage height, 2.50 ft; maximum gage height, 7.02 ft Mar. 31, 1949, backwater from ice, site and datum then in use; minimum daily discharge, 100 ft³/s Dec. 5, 6, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 686 ft³/s Apr. 4, gage height, 2.00 ft; maximum gage height, 3.89 ft Dec. 4, backwater from ice; minimum daily discharge, 395 ft³/s Dec. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	448	457	420	560	440	541	484	453	458	515	510	434
2	446	446	440	525	440	543	476	435	453	460	507	436
3	462	442	490	510	448	559	522	433	449	435	494	427
4	470	443	520	540	485	539	647	444	456	427	468	423
5	428	446	480	530	500	537	602	448	463	448	445	484
6	429	442	460	520	470	498	586	433	449	455	451	476
7	435	451	440	500	460	502	616	484	440	449	452	459
8	462	458	430	460	470	508	606	524	428	444	428	447
9	442	466	430	407	450	499	603	503	431	451	514	445
10	420	450	420	429	430	485	575	476	483	470	491	445
11	426	432	410	460	400	498	557	472	527	461	458	443
12	441	438	410	448	450	526	513	475	500	438	442	433
13	437	458	395	436	430	488	532	464	541	409	442	436
14	436	448	410	441	413	483	535	460	526	411	438	445
15	432	460	440	427	460	499	435	468	509	415	428	443
16	428	434	470	424	406	491	439	510	497	411	422	457
17	436	431	500	420	446	528	485	467	488	421	421	471
18	428	458	480	404	493	558	541	450	475	422	429	458
19	430	450	450	400	507	495	497	450	469	443	430	458
20	434	410	440	403	500	518	500	446	481	416	432	476
21	431	425	430	410	556	485	499	442	475	419	424	485
22	443	440	450	460	448	505	487	457	494	409	427	490
23	458	420	470	467	469	492	491	495	495	410	422	474
24	459	430	500	428	461	489	496	460	459	417	419	470
25	450	430	450	430	505	504	492	445	447	420	422	479
26	450	450	520	434	568	477	482	457	444	417	460	467
27	452	450	520	440	569	459	526	464	442	415	436	457
28	438	470	580	456	570	461	460	488	433	410	431	459
29	446	480	600	441	---	460	455	487	446	405	418	448
30	441	490	600	451	---	469	475	479	446	404	418	455
31	449	---	580	450	---	479	---	464	---	428	435	---
TOTAL	13687	13405	14635	14111	13244	15575	15614	14433	14104	13355	13814	13680
MEAN	442	447	472	455	473	502	520	466	470	431	446	456
MAX	470	490	600	560	570	559	647	524	541	515	514	490
MIN	420	410	395	400	400	459	435	433	428	404	418	423
AC-FT	27150	26590	29030	27990	26270	30890	30970	28630	27980	26490	27400	27130
CAL YR 1985	TOTAL	162629		MEAN	446	MAX	600	MIN	385	AC-FT	322600	
WTR YR 1986	TOTAL	169657		MEAN	465	MAX	647	MIN	395	AC-FT	336500	

PLATTE RIVER BASIN

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06775500 MIDDLE LOUP RIVER AT DUNNING, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1950-56, 1965 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1949 to September 1956, October 1965 to current year.

SUSPENDED SEDIMENT DISCHARGE: March 1950 to September 1952, October 1953 to September 1954.

INSTRUMENTATION.--Temperature recorder from Oct. 1, 1965.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURES: Maximum, 34.0°C June 21, 1956; minimum, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily, 3,800 mg/L Feb. 23, 1952; minimum daily, 56 mg/L Jan. 23, 1952.

SEDIMENT LOADS: Maximum daily, 5,160 tons Mar. 31, 1952; minimum daily, 21 tons Jan. 23, 1952.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 29.5°C June 28, July 15, 17, 18; minimum, 0.5°C on many days during winter period.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	13.0	6.0	9.0	6.0	.5	.5	.5	.5	8.0	3.5	10.5	4.0
2	13.5	9.0	9.5	6.0	.5	.5	1.5	.5	7.0	5.0	10.5	5.5
3	13.0	10.0	10.5	6.5	.5	.5	1.5	.5	7.0	5.0	10.0	6.5
4	10.5	7.0	11.0	6.5	.5	.5	1.0	.5	6.5	3.5	10.5	5.0
5	12.0	5.5	10.0	8.0	.5	.5	.5	.5	4.0	3.0	9.0	5.5
6	14.5	8.5	9.0	5.5	.5	.5	.5	.5	4.0	3.0	10.0	5.0
7	13.5	10.0	9.0	5.0	.5	.5	.5	.5	3.0	1.0	5.5	2.0
8	12.0	8.0	7.0	3.5	.5	.5	.5	.5	1.5	1.0	8.0	.5
9	8.0	6.0	3.5	1.0	.5	.5	2.0	.5	1.0	1.0	9.0	5.5
10	9.5	5.0	1.0	1.0	.5	.5	4.0	1.5	1.0	1.0	11.0	5.5
11	8.5	8.0	1.5	1.0	.5	.5	4.5	2.0	1.0	1.0	9.0	6.5
12	14.0	8.5	3.0	1.5	.5	.5	4.0	1.5	1.0	1.0	6.5	4.5
13	12.0	10.0	4.0	3.0	.5	.5	3.5	1.0	1.0	1.0	8.0	3.5
14	13.0	8.0	4.5	3.0	.5	.5	4.5	1.5	1.0	1.0	9.0	3.5
15	13.0	8.5	4.0	1.0	---	---	4.5	1.5	1.0	1.0	6.5	4.0
16	14.0	9.0	5.0	1.5	---	---	5.0	3.0	3.0	1.0	10.0	3.5
17	12.0	10.0	5.0	2.0	---	---	4.5	3.0	7.0	3.0	8.0	6.0
18	11.5	11.0	5.0	.5	---	---	4.5	2.0	7.0	4.0	6.0	3.0
19	13.5	9.5	.5	.5	---	---	5.5	2.0	5.0	1.0	4.5	3.0
20	13.5	9.0	.5	.5	---	---	6.0	3.0	.5	.5	6.0	.5
21	11.5	10.0	.5	.5	---	---	5.0	.5	4.5	.5	10.5	3.0
22	15.5	11.5	.5	.5	---	---	1.5	1.0	4.0	1.5	10.5	6.0
23	13.0	8.5	.5	.5	---	---	4.5	1.5	5.0	3.5	10.0	6.5
24	13.5	8.5	.5	.5	.5	.5	5.0	3.0	10.0	3.5	11.0	5.0
25	14.5	10.0	.5	.5	.5	.5	4.0	1.5	11.0	6.0	10.0	8.0
26	13.5	11.5	.5	.5	.5	.5	2.0	1.0	9.5	6.0	12.0	5.5
27	12.0	8.5	.5	.5	.5	.5	1.5	1.0	6.0	3.0	15.0	7.0
28	12.0	10.0	.5	.5	.5	.5	6.0	1.5	8.0	2.0	17.0	10.0
29	11.5	9.5	.5	.5	.5	.5	5.0	3.0	---	---	18.0	11.0
30	9.5	5.5	.5	.5	.5	.5	4.5	2.0	---	---	17.0	11.0
31	10.0	5.5	---	---	.5	.5	6.0	3.0	---	---	14.5	10.5
MONTH	15.5	5.0	11.0	.5	.5	.5	6.0	.5	11.0	.5	18.0	.5

06775500 MIDDLE LOUP RIVER AT DUNNING, NE--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX		MIN		MAX		MIN		MAX		MIN		MAX		MIN	
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER					
1	14.0	7.0	18.0	10.5	25.5	18.0	27.0	19.5	24.0	19.0	20.5	18.5				
2	9.5	7.0	15.0	10.5	25.0	18.5	28.0	21.0	25.5	19.5	20.5	19.0				
3	9.0	8.0	19.0	10.5	24.5	19.0	27.0	20.5	24.5	19.0	24.5	18.5				
4	8.5	5.5	21.5	14.5	22.0	19.0	29.5	21.0	24.5	20.0	23.5	18.5				
5	11.5	5.0	18.5	12.0	19.5	16.5	26.0	21.5	26.5	19.5	21.5	18.5				
6	15.5	7.0	18.5	11.0	24.5	18.0	22.0	18.5	27.0	20.5	20.5	15.0				
7	14.5	10.5	14.5	10.0	24.5	19.0	26.0	18.0	26.5	20.5	19.5	13.5				
8	15.5	9.5	15.0	11.0	23.5	18.0	28.0	20.5	26.0	20.5	16.5	13.5				
9	14.5	8.5	18.0	10.5	22.0	18.0	25.0	20.5	25.5	19.5	20.5	16.5				
10	15.0	9.0	19.5	11.5	23.5	18.5	26.5	18.5	24.5	19.0	21.0	17.0				
11	17.0	10.0	21.0	14.0	23.0	15.5	26.0	19.5	24.5	22.0	19.5	15.0				
12	14.5	8.0	18.5	13.5	25.5	17.0	26.0	19.0	25.5	19.5	20.5	14.5				
13	11.5	5.0	20.5	13.5	21.5	18.0	25.5	20.0	26.5	21.0	18.5	14.0				
14	5.0	1.5	20.5	14.0	25.5	18.0	29.0	20.5	25.5	20.0	18.0	14.5				
15	10.5	1.5	20.0	14.5	27.0	19.0	30.0	23.0	26.0	20.0	17.0	15.0				
16	11.5	5.5	17.0	10.5	27.0	21.0	28.5	21.0	27.0	20.0	17.0	15.0				
17	10.0	8.0	16.5	8.5	26.5	20.0	30.0	22.0	24.5	20.0	19.5	15.5				
18	10.0	8.5	19.5	10.5	26.0	23.5	30.0	22.0	23.0	19.5	19.0	15.5				
19	14.0	6.5	17.0	12.0	27.0	20.0	27.0	21.0	26.5	20.5	20.0	14.0				
20	11.5	9.0	17.0	13.0	28.0	21.5	24.5	20.0	24.5	20.0	18.5	15.5				
21	14.5	12.0	19.5	18.0	28.5	21.5	25.0	19.0	20.0	16.5	18.5	17.0				
22	16.0	8.5	18.0	14.5	25.5	18.0	26.0	19.0	23.5	18.0	17.0	16.0				
23	19.0	10.5	19.5	13.0	23.5	19.0	27.0	20.0	23.0	16.5	19.5	15.0				
24	18.5	13.0	19.5	13.5	25.5	18.5	24.0	21.0	25.0	18.0	20.5	17.0				
25	17.0	12.0	19.5	14.5	24.0	20.0	26.5	19.5	24.5	20.5	18.5	14.0				
26	16.5	11.0	17.0	14.5	23.0	19.5	27.0	19.0	22.0	20.0	19.5	14.0				
27	11.5	4.5	15.5	14.0	29.0	19.0	28.0	20.5	20.5	17.0	18.5	14.0				
28	14.5	4.5	16.5	14.0	30.0	21.5	28.5	20.0	18.5	14.5	18.0	14.0				
29	19.5	10.5	19.0	14.0	29.0	22.0	29.0	21.5	23.0	14.0	17.0	14.0				
30	18.0	11.5	21.5	16.0	25.5	21.0	28.5	21.5	25.0	18.5	18.0	13.5				
31	---	---	24.5	16.5	---	---	23.0	20.5	24.0	20.0	---	---				
MONTH	19.5	1.5	24.5	8.5	30.0	15.5	30.0	18.0	27.0	14.0	24.5	13.5				
YEAR	30.0	.5														

06775900 DISMAL RIVER NEAR THEDFORD, NE
(Hydrologic bench-mark station and Radiochemical program)

LOCATION.--Lat 41°46'45", long 100°31'30", in SE1/4NW1/4 sec.23, T.21 N., R.28 W., Thomas County, Hydrologic Unit 10210002, on right bank 1,400 ft downstream from bridge on U.S. Highway 83, 2 mi upstream from boundary of Nebraska National Forest (Bessey Division), and 14 mi south of Thedford.

DRAINAGE AREA.--960 mi², approximately, of which about 30 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,800.13 ft above National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--20 years, 195 ft³/s, 141,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,160 ft³/s Aug. 23, 1983, gage height, 3.83 ft; maximum gage height, 5.10 ft Dec. 18, 1983, backwater from ice; minimum daily discharge, 146 ft³/s Dec. 26, 30, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 347 ft³/s Apr. 4, gage height, 1.82 ft; minimum daily discharge, 149 ft³/s Apr. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	212	192	215	210	234	257	240	190	214	262	246	183
2	223	187	188	204	247	244	237	182	213	230	227	192
3	218	198	218	197	242	255	298	189	211	220	196	191
4	212	195	200	195	253	242	280	198	217	224	207	181
5	208	194	197	190	224	248	224	201	208	220	203	211
6	220	197	197	203	223	239	282	192	203	229	194	211
7	224	198	205	184	235	239	263	197	209	216	195	212
8	220	201	204	197	219	240	245	204	211	229	202	210
9	213	210	223	213	201	249	224	218	220	236	229	211
10	198	190	190	210	204	255	216	210	265	248	224	216
11	203	191	184	198	197	258	218	217	230	242	195	217
12	216	196	180	196	199	256	199	218	216	233	194	209
13	209	205	175	196	204	223	183	205	245	201	197	206
14	200	220	183	208	206	203	158	201	243	200	163	207
15	203	225	181	218	200	223	149	211	235	200	156	214
16	197	225	204	230	206	226	174	227	228	195	154	225
17	209	240	216	223	221	240	179	205	227	192	160	242
18	196	233	201	208	237	241	204	200	218	194	159	223
19	202	216	204	221	225	212	184	202	212	211	167	223
20	200	210	210	213	210	220	200	206	230	201	171	219
21	197	238	185	223	208	218	191	208	219	181	167	222
22	193	218	195	204	240	241	189	204	220	183	167	222
23	193	220	212	207	250	232	191	232	207	182	167	219
24	188	217	204	232	242	232	189	204	206	180	168	221
25	188	229	192	216	241	234	190	199	204	190	180	216
26	198	217	215	198	262	219	186	206	201	185	182	218
27	193	224	211	209	251	229	189	214	209	190	171	212
28	192	230	205	241	245	239	179	219	220	200	166	213
29	194	215	190	218	---	243	187	224	223	211	174	211
30	198	214	194	206	---	232	190	215	223	206	183	215
31	189	---	210	234	---	242	---	216	---	198	186	---
TOTAL	6306	6345	6188	6502	6326	7331	6238	6414	6587	6489	5750	6372
MEAN	203	212	200	210	226	236	208	207	220	209	185	212
MAX	224	240	223	241	262	258	298	232	265	262	246	242
MIN	188	187	175	184	197	203	149	182	201	180	154	181
AC-FT	12510	12590	12270	12900	12550	14540	12370	12720	13070	12870	11410	12640
CAL YR 1985	TOTAL	74942	MEAN	205	MAX	281	MIN	175	AC-FT	148600		
WTR YR 1986	TOTAL	76848	MEAN	211	MAX	298	MIN	149	AC-FT	152400		

PLATTE RIVER BASIN

06775900 DISMAL RIVER NEAR THEDFORD, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	BARO- METRIC PRES- SURE OF HG (00025)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)
NOV 20...	1035	200	162	7.70	2.0	692	10	12.0	K24	40	69	69
FEB 20...	1015	208	168	7.70	2.5	687	31	11.7	K15	66	70	70
MAY 22...	0940	198	170	7.48	15.5	678	8.0	7.9	210	260	66	66
AUG 12...	0900	207	173	7.60	18.5	682	26	7.7	270	220	69	69

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

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)
NOV 20...	22	3.4	6.7	0.4	5.2	76	6.7	0.9	0.3	58	151
FEB 20...	22	3.5	7.0	0.4	--	79	7.4	1.2	0.3	55	--
MAY 22...	21	3.3	6.6	0.4	4.9	83	6.9	0.8	0.3	55	148
AUG 12...	22	3.4	6.7	0.4	5.1	81	7.4	0.9	0.3	55	153

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)
NOV 20...	150	0.21	82	0.59	0.07	<0.01	0.13	0.2	0.19	0.13	0.08
FEB 20...	--	--	--	0.67	0.02	0.02	0.28	0.3	0.24	0.14	0.12
MAY 22...	150	0.2	79	0.41	0.04	0.02	0.36	0.4	0.20	0.13	0.11
AUG 12...	150	0.21	86	0.41	0.04	0.03	0.26	0.3	0.23	0.14	0.14

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 20...	1035	30	5	53	<0.5	<1	4	<3	<1	13	<1
FEB 20...	1015	--	6	54	<0.5	<1	3	<3	1	26	2

PLATTE RIVER BASIN

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06775900 DISMAL RIVER NEAR THEDFORD, NE--Continued

WATER QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 20...	11	2	1.6	<10	1	<1	<1	110	9	<3
FEB 20...	11	1	0.2	<10	<1	1	<1	120	9	4

DATE	TIME	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT) (80030)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT) (80040)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90) (80050)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90) (80060)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L) (80020)
NOV 20...	1035	2.7	<0.6	6.4	1.0	5.0	1.0	0.02	0.43

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 20...	1035	200	2.0	663	358	11
MAR 19...	1410	228	8.0	799	492	18
MAY 22...	0940	198	15.5	568	304	19
AUG 12...	0900	207	18.5	547	306	18

PLATTE RIVER BASIN

06776500 DISMAL RIVER AT DUNNING, NE

LOCATION.--Lat 41°49'23", long 100°06'05", in sec.4, T.21 N., R.24 W., Blaine County, Hydrologic Unit 10210002, on right bank 100 ft downstream from bridge on State Highway 2 at southeast corner of Dunning and 1 mi upstream from mouth.

DRAINAGE AREA.--2,040 mi², approximately, of which about 45 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--March to June 1932, September 1945 to current year.

REVISED RECORDS.--WSP 2118: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,606.3 ft above National Geodetic Vertical Datum of 1929. Mar. 1 to June 30, 1932, nonrecording gage at site 0.2 mi upstream at datum 0.5 ft lower. Sept. 13, 1945 to Apr. 19, 1956, nonrecording gage on bridge 100 ft upstream at present datum.

REMARKS.--Estimated daily discharges: Nov. 27 to Feb. 17. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--41 years (1945-86), 324 ft³/s, 234,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,290 ft³/s June 13, 1983, gage height, 2.40 ft; maximum gage height observed, 5.21 ft Jan. 19, 1947, backwater from ice; minimum daily discharge, 100 ft³/s Jan. 25, 1950, Jan. 9, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 554 ft³/s Apr. 4, gage height, 1.29 ft; maximum gage height observed, 2.32 ft Dec. 4, or may have been higher during period of no gage height record Nov. 29 to Dec. 2, Dec. 25 to Jan. 21, Jan. 23 to Feb. 18, backwater from ice; minimum daily discharge, 303 ft³/s Apr. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	321	359	320	400	360	370	348	375	343	382	380	370
2	332	356	350	370	380	369	355	367	344	363	408	339
3	347	353	350	360	390	369	416	368	342	340	366	342
4	346	360	350	345	380	362	517	387	338	334	352	333
5	328	365	380	345	370	360	424	382	335	338	359	403
6	332	360	390	365	365	348	439	356	338	326	360	395
7	348	351	380	370	380	344	441	402	339	321	383	368
8	368	351	350	360	370	339	407	430	337	329	336	353
9	350	339	340	350	350	351	395	416	337	337	375	350
10	339	338	325	340	340	349	392	398	384	351	363	356
11	342	326	340	350	360	365	388	387	389	360	353	354
12	358	339	330	350	350	366	375	376	357	386	339	343
13	362	352	330	350	350	347	393	363	363	345	341	339
14	354	343	320	340	350	337	344	357	371	341	336	336
15	353	344	355	340	360	343	303	360	366	337	332	339
16	355	350	350	345	370	353	316	377	357	332	323	368
17	365	368	370	350	380	380	369	338	350	331	316	377
18	366	363	360	350	375	375	388	333	340	398	314	385
19	365	328	340	350	366	351	379	326	339	411	327	378
20	365	328	370	350	340	344	372	326	350	348	321	370
21	368	326	360	360	336	354	369	323	361	342	314	363
22	381	332	420	370	344	369	378	324	347	331	319	391
23	378	333	460	360	376	356	383	356	365	322	314	384
24	364	345	450	350	370	358	390	335	374	328	316	363
25	364	353	400	350	384	364	388	325	347	331	321	357
26	370	332	445	360	383	356	383	340	342	325	368	347
27	364	330	450	370	363	363	397	337	338	325	335	336
28	359	320	460	370	355	373	376	351	341	318	322	329
29	362	315	455	360	---	377	386	359	370	322	314	323
30	358	300	455	350	---	369	383	354	346	318	319	324
31	360	---	440	340	---	367	---	352	---	332	346	---
TOTAL	11024	10259	11795	11020	10197	11128	11594	11180	10550	10604	10572	10715
MEAN	356	342	380	355	364	359	386	361	352	342	341	357
MAX	381	368	460	400	390	380	517	430	389	411	408	403
MIN	321	300	320	340	336	337	303	323	335	318	314	323
AC-FT	21870	20350	23400	21860	20230	22070	23000	22180	20930	21030	20970	21250
CAL YR 1985	TOTAL	126777		MEAN	347	MAX	460	MIN	285	AC-FT	251500	
WTR YR 1986	TOTAL	130638		MEAN	358	MAX	517	MIN	300	AC-FT	259100	

PLATTE RIVER BASIN

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06779000 MIDDLE LOUP RIVER AT ARCADIA. NE

LOCATION.--Lat 41°25'20", long 99°08'10". in sec.26, T.17 N., R.16 W., Valley County, Hydrologic Unit 10210003, on left bank 80 ft downstream from bridge on State Highway 70 at southwest edge of Arcadia.

DRAINAGE AREA.--5,040 mi², approximately, of which about 820 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--July 1937 to current year.

REVISED RECORDS.--WDR NE-72: Drainage area. WDR NE-82-1: 1981(M).

GAGE.--Water-stage recorder. Datum of gage is 2,146.30 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to Apr. 23, 1938, nonrecording gage at bridge just upstream at datum 1.23 ft lower.

REMARKS.--Estimated daily discharges: Nov. 20 to Feb. 25. Records poor. Middle Loup Public Power and Irrigation District began diversion above station Mar. 30, 1938. Farwell Irrigation District canal began diversion from river in November 1962 at point 8 mi above station.

AVERAGE DISCHARGE.--24 years (1962-86), 688 ft³/s. 498,400 acre-ft/yr since diversion to Farwell Irrigation District canal.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge estimated. about 18,500 ft³/s June 22, 1947. gage height, 6.24 ft; maximum discharge computed. 9,700 ft³/s May 27, 1945, gage height, 5.12 ft; maximum gage height. 6.41 ft Mar. 27, 1960, backwater from ice; minimum daily discharge. 6.0 ft³/s July 23, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge. 4,940 ft³/s Feb. 25, gage height, 4.05 ft, backwater from ice; maximum gage height, 5.61 ft Feb. 1, backwater from ice; minimum daily discharge. 73 ft³/s June 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	676	1010	300	1200	1050	989	943	722	742	140	205	388
2	696	1020	320	1200	840	911	854	666	730	128	281	526
3	986	1020	320	1200	700	938	915	579	725	98	278	552
4	951	965	370	1200	610	989	1210	579	720	83	253	692
5	1020	1020	420	1250	550	1110	1350	691	751	82	232	1330
6	995	1020	800	1200	510	923	863	684	746	86	246	1890
7	972	1000	1000	1000	460	966	766	635	766	82	332	1220
8	923	966	960	890	440	936	915	795	758	78	411	934
9	882	1020	900	950	420	985	960	1020	743	88	392	823
10	1160	1020	750	1050	390	943	862	834	876	249	370	1480
11	1000	1020	650	1050	410	921	799	757	856	165	412	1360
12	966	1020	590	1000	440	973	675	769	877	282	356	1330
13	975	1020	530	1000	480	1080	807	817	641	432	335	1550
14	931	1020	580	1000	540	864	1090	805	540	240	304	1390
15	1170	1020	800	1000	630	907	917	872	533	137	214	1490
16	960	1070	800	1000	860	911	702	935	489	116	203	1520
17	1050	1040	780	1050	1000	898	722	918	433	87	172	1850
18	1140	1110	760	1000	1000	1160	945	938	310	80	152	1670
19	1310	1090	840	960	910	934	833	872	195	102	144	1740
20	939	1100	1050	960	950	921	749	918	167	148	127	1980
21	926	1100	1100	960	1050	956	744	849	161	97	126	1710
22	935	1150	1100	960	1150	950	675	757	238	79	123	2000
23	1050	950	1100	930	1300	946	689	902	243	78	117	835
24	1200	700	900	880	1550	945	660	721	224	79	117	705
25	940	600	860	860	3200	929	720	704	349	87	134	979
26	944	500	930	930	1980	910	730	719	134	82	316	599
27	970	460	1000	950	926	919	865	757	108	81	590	495
28	969	440	1100	980	935	943	924	795	75	82	413	508
29	942	400	1150	1000	---	943	776	793	73	82	508	565
30	973	360	1200	1000	---	967	779	751	99	91	439	677
31	933	---	1200	1000	---	983	---	745	---	123	391	---
TOTAL	30484	27231	25160	31610	25281	29650	25439	24299	14302	3864	8693	34788
MEAN	983	908	812	1020	903	956	848	784	477	125	280	1160
MAX	1310	1150	1200	1250	3200	1160	1350	1020	877	432	590	2000
MIN	676	360	300	860	390	864	660	579	73	78	117	388
AC-FT	60470	54010	49900	62700	50140	58810	50460	48200	28370	7660	17240	69000
CAL YR 1985	TOTAL	287740		MEAN	788	MAX	2380	MIN	21	AC-FT	570700	
WTR YR 1986	TOTAL	280801		MEAN	769	MAX	3200	MIN	73	AC-FT	557000	

PLATTE RIVER BASIN

06783500 MUD CREEK NEAR SWEETWATER, NE

LOCATION.--Lat 41°02'15", long 98°59'35", in NE1/4SE1/4 sec.3, T.12 N., R.15 W., Buffalo County, Hydrologic Unit 10210005, on right bank 12 ft downstream from bridge on State Highway 2, 0.9 mi southeast of Sweetwater, and 11.6 mi upstream from mouth.

DRAINAGE AREA.--707 mi², of which 655 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR NE-72: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,013.69 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 19 to Feb. 19. Records good except for period of estimated record, which is poor. Minor irrigation developments above station.

AVERAGE DISCHARGE.--40 years, 39.0 ft³/s, 28,260 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge estimated. about 27,000 ft³/s June 22, 1947, gage height, 23.20 ft; maximum discharge computed. 5,600 ft³/s June 24, 1968, gage height, 20.07 ft; no flow at times in 1955-56.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1929, that of June 22, 1947, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 550 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sept. 21	1930	*349	*10.47	No peaks greater than base discharge.			
Minimum daily discharge, 4.4 ft ³ /s July 31.							

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	26	24	30	37	76	31	33	36	15	4.9	9.7
2	25	26	25	33	37	59	32	31	31	14	5.9	10
3	24	26	25	33	36	54	33	31	30	13	12	10
4	25	26	25	30	33	46	33	32	30	12	14	11
5	25	27	25	27	30	43	34	30	33	13	15	14
6	25	28	25	26	29	38	33	29	29	9.9	11	171
7	26	27	26	23	28	36	36	28	29	9.4	8.1	74
8	26	27	27	25	27	33	35	28	28	7.2	6.7	26
9	26	26	28	27	27	33	32	32	27	6.1	6.1	34
10	27	28	27	29	25	33	31	31	27	8.4	8.0	20
11	27	28	27	29	28	32	31	31	27	16	9.3	16
12	29	28	26	35	28	33	31	32	26	38	9.6	17
13	29	29	22	37	26	36	32	29	30	30	10	15
14	29	27	22	35	27	35	39	27	55	20	11	13
15	29	27	25	37	28	36	34	27	30	21	9.5	80
16	30	28	27	33	30	37	33	55	26	16	7.8	38
17	28	28	28	33	30	36	40	37	24	13	8.0	63
18	29	27	29	35	35	40	38	36	23	10	7.4	72
19	47	25	29	30	50	41	36	35	22	9.3	6.1	27
20	31	22	25	30	77	37	38	33	22	11	7.5	21
21	31	22	27	35	60	35	42	30	20	11	9.7	202
22	32	22	28	25	49	34	37	28	20	9.9	8.3	121
23	29	20	30	40	43	33	34	29	20	11	6.6	32
24	28	19	39	45	41	33	34	29	19	8.6	8.7	25
25	27	19	45	40	54	33	33	29	17	8.7	8.8	99
26	28	20	50	30	63	32	33	31	16	7.5	9.5	34
27	27	21	50	25	94	32	34	33	14	6.1	9.1	21
28	27	20	40	35	134	32	34	35	14	7.3	10	19
29	28	20	35	40	---	32	34	36	16	7.7	11	17
30	27	22	30	40	---	31	33	37	14	6.8	11	17
31	26	---	30	40	---	31	---	38	---	4.4	11	---
TOTAL	872	741	921	1012	1206	1172	1030	1002	755	381.3	281.6	1328.7
MEAN	28.1	24.7	29.7	32.6	43.1	37.8	34.3	32.3	25.2	12.3	9.08	44.3
MAX	47	29	50	45	134	76	42	55	55	38	15	202
MIN	24	19	22	23	25	31	31	27	14	4.4	4.9	9.7
AC-FT	1730	1470	1830	2010	2390	2320	2040	1990	1500	756	559	2640
CAL YR 1985	TOTAL	13009.3	MEAN	35.6	MAX	291	MIN	9.3	AC-FT	25800		
WTR YR 1986	TOTAL	10702.6	MEAN	29.3	MAX	202	MIN	4.4	AC-FT	21230		

PLATTE RIVER BASIN

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06783500 MUD CREEK NEAR SWEETWATER, NE--Continued

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT									
31...	1355	26	667	7.80	6.5	11.3	14	K68	560
NOV									
20...	1310	22	750	7.80	0.5	13.3	19	37	140
DEC									
18...	1105	29	743	7.20	0.5	7.4	8	450	760
JAN									
16...	1020	33	648	7.50	0.5	10.7	10	67	360
FEB									
14...	1110	27	735	7.20	0.5	9.9	19	K17	K51
MAR									
10...	1030	33	657	7.80	4.5	11.0	32	35	220
APR									
10...	1320	32	672	7.90	12.0	9.7	17	150	--
MAY									
07...	1330	27	654	8.20	17.0	12.5	27	130	270
JUN									
04...	0945	30	633	7.80	20.0	7.0	46	1100	3800
JUL									
01...	1340	17	607	7.80	23.0	7.0	53	K9900	6800
AUG									
25...	0940	9.3	587	7.90	20.0	7.5	42	1700	3000
SEP									
24...	1410	24	409	7.60	18.5	6.9	54	4900	3700

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

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT								
31...	340	0	100	18	17	0.4	22	5.7
NOV								
20...	350	0	110	20	16	0.4	18	8.6
DEC								
18...	320	0	98	19	7.7	0.2	23	9.9
JAN								
16...	280	0	85	16	12	0.3	20	18
FEB								
14...	340	0	100	19	16	0.4	30	8.9
MAR								
10...	290	0	90	17	12	0.3	23	8.1
APR								
10...	320	0	100	18	10	0.3	21	8.4
MAY								
07...	320	0	100	17	7.9	0.2	21	13
JUN								
04...	310	0	98	16	14	0.4	20	13
JUL								
01...	280	0	86	15	14	0.4	22	7.5
AUG								
25...	280	0	87	15	12	0.3	29	5.8
SEP								
24...	180	0	56	9.2	8.6	0.3	2.5	5.8

PLATTE RIVER BASIN

06783500 MUD CREEK NEAR SWEETWATER, NE--Continued

WATER QUALITY DATA. WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, RESIDUE AT 105 DEG. C. SUS- PENDEED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L) AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L) AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L) AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L) AS N) (00625)	NITRO- GEN, TOTAL (MG/L) AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L) AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L) AS C) (00680)
OCT								
31...	32	0.700	0.090	0.47	0.56	1.3	0.930	5.5
NOV								
20...	22	0.450	0.120	0.66	0.78	1.2	0.340	5.3
DEC								
18...	32	1.70	0.280	0.35	0.63	2.3	0.440	4.5
JAN								
16...	14	1.60	0.280	0.42	0.70	2.3	0.520	3.2
FEB								
14...	26	1.70	0.280	1.4	1.7	3.4	0.430	3.5
MAR								
10...	80	1.50	0.350	2.6	2.9	4.4	0.650	5.7
APR								
10...	98	0.910	0.100	0.75	0.85	1.8	0.440	6.3
MAY								
07...	66	0.130	0.060	1.8	1.9	2.0	0.680	7.9
JUN								
04...	360	1.70	0.160	2.5	2.7	4.4	1.50	9.7
JUL								
01...	395	1.30	0.200	2.4	2.6	3.9	1.10	10
AUG								
25...	126	0.520	0.070	0.15	0.22	0.74	0.590	3.9
SEP								
24...	292	0.950	0.150	1.9	2.1	3.1	0.460	5.9

PLATTE RIVER BASIN

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06784000 SOUTH LOUP RIVER AT ST. MICHAEL, NE

LOCATION.--Lat 41°01'53", long 98°44'25", in NW1/4NW1/4 sec.12, T.12 N., R.13 W., Buffalo County, Hydrologic Unit 10210004, 5 ft downstream and 30 ft shoreward from right downstream corner of county highway bridge, 0.6 mi northeast of St. Michael, and 3.4 mi upstream from Sweet Creek.

DRAINAGE AREA.--2,350 mi², approximately, of which about 1,610 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR NE-74: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,921.26 ft above National Geodetic Vertical Datum of 1929.

Prior to June 22, 1947, water-stage recorder, and June 25 to Sept. 30, 1947, nonrecording gage, at present site at datum 2.00 ft higher. Oct. 1, 1947 to July 3, 1958, nonrecording gage at present site and datum. July 4, 1958 to Sept. 7, 1960, water-stage recorder at site 600 ft upstream at present datum. Sept. 8, 1960 to June 24, 1968, water-stage recorder at site 100 ft upstream at present datum. June 25 to Nov. 21, 1968, nonrecording gage at present site and datum. Nov. 22, 1968 to May 19, 1981, water-stage recorder at site 40 ft upstream at present datum. May 20 to July 16, 1981, water-stage recorder at site 70 ft upstream at present datum.

REMARKS.--Estimated daily discharges: Nov. 19 to Feb. 25. Records good except for period of estimated record, which is poor. Minor irrigation developments above station.

AVERAGE DISCHARGE.--43 years, 238 ft³/s, 172,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge estimated, about 50,000 ft³/s June 22, 1947, gage height, 12.0 ft, present datum, from graph based on gage readings; maximum discharge computed, 27,500 ft³/s June 24, 1968, gage height, 11.00 ft; no flow Aug. 5-8, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,070 ft³/s Sept. 6, gage height, 4.91 ft; minimum daily discharge, 67 ft³/s July 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	216	220	145	220	155	348	215	254	268	130	78	115
2	202	214	145	220	160	326	230	253	248	158	90	110
3	195	219	150	220	160	358	244	239	223	134	105	111
4	189	225	160	220	160	375	223	248	209	112	127	113
5	174	226	170	220	160	346	360	222	214	100	143	126
6	172	226	190	200	165	321	438	204	248	93	134	623
7	177	219	210	175	165	283	288	194	217	88	135	379
8	180	209	220	175	140	266	288	198	184	85	110	214
9	182	213	220	175	110	234	288	223	166	86	105	186
10	185	223	220	180	175	241	312	229	177	139	114	208
11	192	235	220	200	170	240	333	232	201	155	112	183
12	195	247	215	225	125	277	306	205	183	173	97	162
13	200	244	210	235	140	301	299	181	166	245	96	151
14	203	245	205	250	180	292	329	169	205	206	107	145
15	204	251	205	255	300	273	283	285	197	155	108	413
16	204	255	210	235	460	280	234	270	180	139	90	414
17	206	252	210	175	500	295	217	416	174	107	76	258
18	249	247	220	135	600	389	253	289	154	86	74	331
19	335	220	230	140	700	365	266	260	146	74	75	281
20	379	130	235	110	800	293	249	255	135	68	75	198
21	301	170	235	105	750	254	237	238	131	76	78	193
22	297	170	230	90	700	269	232	233	133	76	91	559
23	288	160	240	90	650	276	227	230	126	72	88	387
24	263	150	260	100	600	263	228	220	118	70	89	234
25	248	150	275	95	450	247	229	212	106	74	87	224
26	235	150	275	95	374	239	223	214	98	69	86	279
27	229	150	250	80	422	228	219	231	123	67	86	200
28	224	160	230	90	421	225	225	274	153	69	92	178
29	218	150	230	125	---	224	243	296	123	74	109	156
30	216	145	230	145	---	220	253	306	113	73	123	152
31	218	---	230	150	---	223	---	289	---	73	120	---
TOTAL	6976	6075	6675	5130	9892	8771	7971	7569	5119	3326	3100	7283
MEAN	225	203	215	165	353	283	266	244	171	107	100	243
MAX	379	255	275	255	800	389	438	416	268	245	143	623
MIN	172	130	145	80	110	220	215	169	98	67	74	110
AC-FT	13840	12050	13240	10180	19620	17400	15810	15010	10150	6600	6150	14450
CAL YR 1985	TOTAL	87796	MEAN	241	MAX	1660	MIN	54	AC-FT	174100		
WTR YR 1986	TOTAL	77887	MEAN	213	MAX	800	MIN	67	AC-FT	154500		

PLATTE RIVER BASIN

06784000 SOUTH LOUP RIVER AT ST. MICHAEL, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1946-53, 1974 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT DISCHARGE: June 1946 to June 1953.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily, 19,300 mg/L June 19, 1946; minimum daily, 13 mg/L Dec. 30, 31, 1951.

SEDIMENT LOADS: Maximum daily, 672,000 tons June 22, 1947; minimum daily, 6.1 tons Dec. 30, 31, 1951.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

		DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)					
		OCT											
		31...	0950	216	472	7.70	5.5	11.3					
		NOV											
		20...	1000	101	539	7.60	0.5	12.8					
		DEC											
		16...	1500	210	495	7.10	0.5	9.2					
		JAN											
		15...	1520	251	412	7.60	0.5	13.9					
		FEB											
		13...	1050	132	670	7.40	0.5	12.3					
		MAR											
		13...	1330	298	442	7.80	4.5	11.8					
		APR											
		10...	1000	304	411	7.70	12.5	10.1					
		MAY											
		07...	1005	194	438	8.10	15.5	9.9					
		JUN											
		04...	1055	210	403	8.30	23.0	9.7					
		JUL											
		29...	1320	75	355	8.40	34.0	8.3					
		AUG											
		25...	1110	90	326	8.20	24.0	9.2					
		SEP											
		24...	1020	235	349	7.70	18.5	8.2					
		DATE	TIME	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
MAR		13...	1330	25	200	200	65	10	12	0.4	8.8	208	18
JUL		29...	1320	80	160	160	50	7.7	12	0.4	9.7	173	17
		DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
MAR		13...	5.2	0.3	45	290	0.39	233	0.91	0.20	40	<3	11
JUL		29...	3.3	0.3	52	260	0.35	52	<0.10	0.05	50	14	4

06784200 SHERMAN RESERVOIR NEAR LOUP CITY, NE

LOCATION.--Lat 41°18'10", long 98°52'45", in SW1/4NW1/4 sec.1, T.15 N., R.14 W., Sherman County, Hydrologic Unit 10210003, in control house of outlet works of Sherman Dam, 5 mi northeast of Loup City.

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

GAGE.--Mercury-column pressure gage read once daily. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earthfill dam; closure date of dam, August 1960. First diversions from Middle Loup River, Nov. 8, 1962. Usable capacity, 65,237 acre-ft between elevations 2,118.5 ft, sill of canal outlet works, and 2,162.3 ft, crest of spillway. Dead and inactive storage, 3,839 acre-ft below elevation 2,118.5 ft. Figures given herein represent total contents. Water is used for irrigation of Farwell Unit of Bureau of Reclamation.

COOPERATION.--Records of elevations and capacity table furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 70,230 acre-ft June 22, 1975, elevation, 2,162.7 ft; minimum observed since appreciable storage was attained, 9,450 acre-ft Aug. 2, 1980, elevation, 2,127.7 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 69,360 acre-ft June 13, elevation, 2,162.4 ft; minimum observed, 45,580 acre-ft Aug. 2, elevation, 2,153.0 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	2,156.2	52,970	-
Oct. 31	2,155.7	51,770	-1,200
Nov. 30	2,155.2	50,580	-1,190
Dec. 31	2,154.8	49,650	-930
CAL YR 1985	-	-	-3,560
Jan. 31	2,154.4	48,730	-920
Feb. 28	2,154.0	47,810	-920
Mar. 31	2,153.5	46,700	-1,110
Apr. 30	2,157.6	56,420	+9,720
May 31	2,162.3	69,080	+12,660
June 30	2,160.4	63,760	-5,320
July 31	2,153.6	46,920	-16,840
Aug. 31	2,157.1	55,170	+8,250
Sept. 30	2,157.8	56,930	+1,760
WTR YR 1986	-	-	+3,960

PLATTE RIVER BASIN

06784800 TURKEY CREEK NEAR DANNEBROG, NE

LOCATION.--Lat 41°09'24", long 98°33'22", in SW1/4NW1/4 sec.26, T.14 N., R.11 W., Howard County, Hydrologic Unit 10210003, on left bank 25 ft downstream from bridge on State Highway 11, 2.8 mi north of Dannebrog, and 10 mi upstream from mouth.

DRAINAGE AREA.--66.2 mi².

PERIOD OF RECORD.--May 1966 to September 1970, October 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,870.35 ft above National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark).

REMARKS.--Estimated daily discharges: Nov. 19, 20, 25-27, Dec. 11, 12, 17, 18, 23-26, Jan. 7 and Feb. 7-16. Records good except for periods of estimated record, which are poor. Low flow includes return water from Farwell Irrigation District.

AVERAGE DISCHARGE.--8 years (1979-86), 21.0 ft³/s, 15,210 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,680 ft³/s June 14, 1967, gage height, 19.21 ft; maximum gage height, 19.26 ft June 12, 1983; no flow May 17-20, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 776 ft³/s July 10, gage height, 13.88 ft; minimum daily, 9.2 ft³/s Nov. 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	18	9.6	12	14	14	14	12	17	39	28	14
2	19	22	10	13	15	15	17	11	15	37	41	15
3	18	17	13	13	16	14	30	12	15	31	27	13
4	17	15	14	18	17	14	21	12	15	27	23	11
5	16	15	12	13	17	14	18	11	57	26	29	13
6	17	18	11	11	15	13	16	10	24	28	33	89
7	17	14	12	11	14	12	16	9.7	16	32	50	62
8	18	14	13	11	14	12	15	9.9	14	29	36	20
9	15	14	12	12	13	14	14	10	13	28	20	16
10	16	13	12	13	13	14	15	9.7	25	333	88	15
11	19	13	12	14	13	13	15	78	19	244	31	14
12	20	15	12	14	12	20	16	19	14	63	23	12
13	18	16	12	12	12	25	17	14	13	58	21	11
14	18	14	14	13	12	18	29	23	12	28	23	11
15	19	14	14	14	11	16	17	143	12	22	20	12
16	19	16	13	14	11	17	17	139	12	21	22	12
17	22	15	12	14	15	22	17	112	11	20	19	14
18	28	16	13	15	26	55	22	24	11	19	92	14
19	56	12	13	14	25	37	18	20	11	21	447	205
20	25	10	13	15	23	22	16	18	11	24	55	65
21	22	9.8	13	15	15	21	16	18	11	31	27	27
22	29	10	15	12	13	21	15	17	11	35	23	56
23	80	9.9	19	12	13	19	15	17	11	40	21	29
24	29	9.5	25	14	15	19	15	16	11	65	19	28
25	22	9.5	18	15	32	19	15	15	12	120	18	19
26	21	9.5	16	13	37	17	15	15	14	48	18	16
27	19	9.5	13	15	21	16	16	17	18	28	17	16
28	18	9.5	12	14	14	16	16	20	18	25	16	14
29	18	9.2	12	15	---	16	14	25	20	23	15	14
30	17	9.2	12	14	---	15	14	56	25	24	15	15
31	18	---	12	16	---	15	---	21	---	23	13	---
TOTAL	712	396.6	413.6	421	468	575	511	934.3	488	1592	1330	872
MEAN	23.0	13.2	13.3	13.6	16.7	18.5	17.0	30.1	16.3	51.4	42.9	29.1
MAX	80	22	25	18	37	55	30	143	57	333	447	205
MIN	15	9.2	9.6	11	11	12	14	9.7	11	19	13	11
AC-FT	1410	787	820	835	928	1140	1010	1850	968	3160	2640	1730
CAL YR 1985	TOTAL	9223.6	MEAN	25.3	MAX	782	MIN	5.8	AC-FT	18300		
WTR YR 1986	TOTAL	8713.5	MEAN	23.9	MAX	447	MIN	9.2	AC-FT	17280		

06785000 MIDDLE LOUP RIVER AT ST. PAUL, NE

LOCATION.--Lat 41°12'13", long 98°26'46", in SE1/4NW1/4NE1/4 sec.10, T.14 N., R.10 W., Howard County.
Hydrologic Unit 10210003, on left bank at St. Paul, 20 ft upstream from bridge on U.S. Highway 281 and 6 mi upstream from confluence with North Loup River.

DRAINAGE AREA.--8,090 mi², approximately, of which about 3,130 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1894 to September 1915, August 1928 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1036: 1943. WSP 1390: 1896, 1903, 1928(M), 1944. WDR NE-72: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,776.61 ft above National Geodetic Vertical Datum of 1929. See WSP 1918 for history of changes prior to June 5, 1957. June 5, 1957, to Mar. 16, 1978, water-stage recorder on left bank 430 ft upstream at same datum. Mar. 17 to May 31, 1978, nonrecording gage on railroad bridge 30 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 22 to Feb. 26. Records poor. Diversions above station for irrigation.

AVERAGE DISCHARGE.--79 years, 1,193 ft³/s, 864,300 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 72,000 ft³/s June 23, 1947, gage height, 12.69 ft, site then in use, present datum, from rating curve extended above 55,000 ft³/s; minimum daily since 1929, 23 ft³/s Aug. 9, 10, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,310 ft³/s Feb. 26, gage height, 4.67 ft backwater from ice; maximum gage height, 5.03 ft Feb. 24, backwater from ice; minimum daily discharge, 246 ft³/s July 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1410	1330	490	1800	1400	1870	1350	844	1210	410	368	733
2	1410	1220	470	1800	1350	1730	1330	901	1200	471	489	760
3	1420	1170	550	1850	1300	1780	1550	989	1150	444	543	876
4	1420	1060	850	1900	1250	1650	1660	938	1180	384	592	1140
5	1640	1120	1300	1950	1150	1740	1690	806	1200	312	741	1350
6	1810	1230	1400	2000	920	1590	1800	736	1170	330	654	3340
7	1890	1210	1500	1550	810	1320	1270	868	1130	376	706	3550
8	2040	1260	1450	1200	720	1170	1480	861	1050	403	933	1390
9	1990	1350	1400	1500	600	1240	1480	943	997	418	676	1330
10	1800	1500	1300	1550	540	1280	1490	1120	1040	697	828	1260
11	2070	1420	1000	1600	540	1300	1550	1180	1080	1260	707	1660
12	2180	1390	900	1600	600	1510	1640	1110	1160	742	636	1610
13	1640	1530	800	1550	730	1490	1700	1030	1050	565	637	1430
14	1480	1350	960	1550	1000	1340	1940	1090	952	611	626	1910
15	1480	1270	1200	1600	1350	1190	2000	1170	813	594	600	1610
16	1470	1200	1200	1600	1500	1220	1430	1250	821	455	545	2180
17	1420	1210	1100	1600	1500	1360	941	1260	760	364	474	1410
18	1420	1150	1000	1600	1400	2310	1120	1140	629	314	561	1570
19	1440	1200	1200	1500	1300	2500	1240	956	606	263	769	2590
20	1590	963	1300	1500	1500	1680	1050	964	559	246	484	2530
21	1430	488	1600	1500	1700	1530	1030	1110	477	290	286	2080
22	1420	530	1600	1500	1800	1520	1030	1100	475	406	270	2940
23	1430	630	1550	1400	2000	1520	1100	1140	469	310	284	3240
24	1460	710	1450	1250	2200	1610	1220	1170	490	337	281	1650
25	1440	770	1400	1200	5300	1500	1290	1170	467	508	277	1290
26	1450	780	1600	1200	4640	1510	1300	1120	450	429	280	1590
27	1470	740	1700	1300	2070	1440	1460	1130	541	326	355	1350
28	1400	690	1750	1250	1860	1270	1650	1160	397	317	771	1290
29	1380	600	1800	1500	---	1320	1260	1170	372	289	784	1210
30	1530	550	1800	1500	---	1390	789	1200	299	253	810	1300
31	1540	---	1800	1300	---	1320	---	1210	---	262	834	---
TOTAL	48970	31621	39420	47700	43030	47200	41840	32836	24194	13386	17801	52169
MEAN	1580	1054	1272	1539	1537	1523	1395	1059	806	432	574	1739
MAX	2180	1530	1800	2000	5300	2500	2000	1260	1210	1260	933	3550
MIN	1380	488	470	1200	540	1170	789	736	299	246	270	733
AC-FT	97130	62720	78190	94610	85350	93620	82990	65130	47990	26550	35310	103500
CAL YR 1985 TOTAL	455146			MEAN	1247	MAX	8890	MIN	239	AC-FT	902800	
WTR YR 1986 TOTAL	440167			MEAN	1206	MAX	5300	MIN	246	AC-FT	873100	

PLATTE RIVER BASIN

06785000 MIDDLE LOUP RIVER AT ST. PAUL, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

				STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)			

06786000 NORTH LOUP RIVER AT TAYLOR, NE

LOCATION.--Lat 41°46'37", long 99°22'45", in NE1/4SE1/4 sec.22, T.21 N., R.18 W., Loup County, Hydrologic Unit 10210006, on left bank 64 ft downstream from bridge on U.S. Highway 183 and 0.4 mi north of Taylor.

DRAINAGE AREA.--2,280 mi², approximately, of which about 180 mi² contributes directly to surface runoff.

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

REVISED RECORDS.--WSP 856: 1937. WSP 1310: 1939(M). WSP 1730: 1956-57(M). WSP 1918: 1952. WDR NE-72: Drainage area. WDR NE-75: 1974.

GAGE.--Water-stage recorder. Datum of gage is 2,248.21 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 28, 1938, nonrecording gage at same site and datum. Sept. 28, 1938, to July 16, 1958, water-stage recorder at site 450 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 21 to Feb. 5, Feb. 10-22, Mar. 10 to Apr. 10, and June 22-25. Records fair except for periods of estimated record, which are poor. North Loup Public Power and Irrigation District canal began diversion from river in April 1939 at point 5 mi above station. Several smaller diversions above station for irrigation.

AVERAGE DISCHARGE.--49 years (1937-86), 467 ft³/s, 338,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,210 ft³/s June 27, 1983, gage height, 5.94 ft; maximum gage height, 9.5 ft Feb. 25, 1957, ice jam, from floodmarks; minimum daily discharge, 45 ft³/s July 26, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,710 ft³/s May 8, gage height, 5.32 ft, maximum gage height, 7.60 ft Feb. 20, backwater from ice; minimum daily discharge, 180 ft³/s July 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	430	512	470	500	700	609	540	544	577	698	503	429
2	464	518	470	520	720	668	540	536	555	595	573	479
3	475	496	480	520	740	684	540	524	528	460	514	485
4	455	500	550	520	760	673	620	527	553	369	463	467
5	437	522	600	520	800	611	740	525	521	323	392	542
6	439	549	660	500	790	546	740	498	518	299	347	577
7	464	529	640	450	645	555	680	404	488	316	366	538
8	478	513	620	500	543	533	680	835	450	312	427	519
9	451	499	600	540	529	540	660	738	432	302	497	488
10	436	488	550	560	520	560	660	602	487	382	465	481
11	452	515	430	540	450	540	652	591	525	384	501	471
12	471	535	360	540	470	600	623	530	804	514	477	470
13	492	599	390	540	500	620	589	494	675	552	430	442
14	522	618	450	580	540	620	507	502	909	489	384	425
15	503	647	520	600	600	600	417	503	757	491	339	432
16	503	629	540	600	660	640	507	602	645	551	275	479
17	489	571	540	600	640	640	579	564	570	571	245	592
18	532	574	450	640	620	680	634	477	482	502	267	602
19	518	482	480	660	580	660	646	456	413	422	304	655
20	495	332	540	660	660	640	593	482	406	347	341	759
21	496	320	580	680	620	620	599	497	410	273	352	630
22	514	330	560	640	700	620	583	502	430	206	361	815
23	509	340	560	700	1050	660	594	577	460	180	336	726
24	497	350	560	900	850	660	600	637	490	200	345	675
25	504	370	500	600	686	640	593	548	450	233	339	641
26	524	390	420	580	707	640	582	549	410	216	545	574
27	509	400	500	580	682	620	548	563	399	215	523	536
28	506	420	450	640	703	600	670	605	359	226	495	529
29	499	440	450	680	---	580	577	653	301	206	476	513
30	505	460	480	660	---	580	545	675	448	228	455	524
31	519	---	480	680	---	580	---	635	---	297	439	---
TOTAL	15088	14448	15880	18430	18465	19019	18038	17375	15452	11359	12776	16495
MEAN	487	482	512	595	659	614	601	560	515	366	412	550
MAX	532	647	660	900	1050	684	740	835	909	698	573	815
MIN	430	320	360	450	450	533	417	404	301	180	245	425
AC-FT	29930	28660	31500	36560	36630	37720	35780	34460	30650	22530	25340	32720
CAL YR 1985	TOTAL	178971		MEAN	490	MAX	1200	MIN	162	AC-FT	355000	
WTR YR 1986	TOTAL	192825		MEAN	528	MAX	1050	MIN	180	AC-FT	382500	

PLATTE RIVER BASIN

06787000 CALAMUS RIVER NEAR HARROP, NE

LOCATION.--Lat 41°56'48", long 99°23'10" in NW1/4SE1/4 sec.22, T.23 N., R.18 W., Loup County, Hydrologic Unit 10210008, on right bank 44 ft upstream from bridge on U.S. Highway 183, 12.2 mi north of Taylor.

DRAINAGE AREA.--983 mi², most of which does not contribute directly to surface runoff.

PERIOD OF RECORD.--March to July 1932. August 1931 to February 1932, July 1932 to June 1939, 1955-64 and 1977, gage heights or discharge measurements only. June 1978 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,260 ft from topographic map. Prior to June 5, 1978, staff gage or reference point at same site at datum 1.0 ft higher.

REMARKS.--Estimated daily discharges: Nov. 22 to Dec. 4. Records good except for periods of estimated estimated record, which are fair. Diversions for irrigation above station.

AVERAGE DISCHARGE.--8 years, 246 ft³/s, 178,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,170 ft³/s May 4, 1964, gage height, 4.80 ft, from floodmark; minimum daily discharge, 90 ft³/s Jan. 7, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 545 ft³/s May 10, gage height, 2.89 ft; maximum gage height, 3.65 ft Nov. 22, backwater from ice; minimum daily discharge, 174 ft³/s Nov. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	223	225	205	246	265	310	254	259	261	392	268	212
2	228	228	220	258	266	304	251	249	253	316	282	224
3	223	226	230	259	269	300	282	243	242	277	252	224
4	223	228	235	233	299	300	319	240	278	253	241	225
5	219	228	239	220	320	304	346	233	288	239	230	246
6	222	231	252	222	312	283	359	221	259	234	224	256
7	221	227	272	188	294	268	362	219	247	231	220	247
8	226	223	272	228	264	263	341	278	242	228	220	238
9	220	223	269	258	254	267	311	420	234	231	287	228
10	216	221	254	255	247	267	291	487	250	246	272	226
11	223	225	238	252	243	266	276	472	292	241	276	227
12	237	229	207	252	239	280	257	377	259	259	279	217
13	234	236	219	248	224	287	265	302	260	246	250	219
14	234	242	231	248	225	290	276	260	318	241	240	221
15	229	242	240	250	219	291	243	235	288	231	229	221
16	225	242	245	258	230	298	268	266	277	216	216	236
17	227	247	240	263	243	309	275	269	263	211	209	297
18	229	250	246	269	245	321	289	250	253	209	225	313
19	232	235	226	266	247	319	283	233	244	238	253	342
20	230	190	247	276	220	307	287	230	245	224	240	365
21	229	180	239	280	216	298	278	223	247	225	233	340
22	237	180	257	256	228	298	263	218	266	219	224	328
23	236	174	281	269	231	289	257	253	269	208	214	316
24	232	177	236	271	232	283	253	261	260	204	215	311
25	230	182	203	269	253	275	250	246	249	212	215	304
26	233	200	197	256	284	268	248	259	244	207	269	299
27	225	218	238	247	314	269	246	267	242	207	246	291
28	228	210	241	259	316	273	257	273	237	205	234	275
29	231	208	241	262	---	270	261	283	240	203	226	261
30	226	194	245	260	---	264	262	274	290	227	220	253
31	228	---	245	264	---	262	---	271	---	223	216	---
TOTAL	7056	6521	7410	7842	7199	8883	8410	8571	7797	7303	7425	7962
MEAN	228	217	239	253	257	287	280	276	260	236	240	265
MAX	237	250	281	280	320	321	362	487	318	392	287	365
MIN	216	174	197	188	216	262	243	218	234	203	209	212
AC-FT	14000	12930	14700	15550	14280	17620	16680	17000	15470	14490	14730	15790
CAL YR 1985	TOTAL	88224		MEAN	242	MAX	347	MIN	174	AC-FT	175000	
WTR YR 1986	TOTAL	92379		MEAN	253	MAX	487	MIN	174	AC-FT	183200	

PLATTE RIVER BASIN

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06787300 CALAMUS RESERVOIR NEAR BURWELL, NE

LOCATION.--Lat 41°49'38", long 99°13'11", in SW1/4SW1/4 sec.31, T.22 N., R.16W., Garfield County, Hydrologic Unit 1021008, near right bank in control house of outlet works of Calamus Dam on Calamus River, 4 mi upstream from mouth, 5.5 mi northwest of Burwell.

DRAINAGE AREA.--1,050 mi², approximately, of which about 110 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--November 1985 to current year.

GAGE.--Fluid gage with continuous recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earthfill dam; storage began Oct. 1, 1985. Usable capacity, 102,750 acre-ft between elevations 2213.3 ft, bottom of conservation pool, and 2244.0 ft, top of inlet structure; inactive capacity, 23,830 acre-ft between elevations 2185.0 ft, sill of outlet gate, and 2213.3 ft. Dead storage 817 acre-ft below elevation 2185.0 ft. Figures given herein represent total contents. Water is used for irrigation of North Loup project of Bureau of Reclamation.

COOPERATION.--Records of elevations and capacity table furnished by Bureau of Reclamation.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 53,320 acre-ft June 1, elevation, 2225.38 ft; minimum observed--not published because reservoir started filling this year.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	-	-	-
Oct. 31	-	-	-
Nov. 30	2,199.35	7,050	-
Dec. 31	2,203.90	11,220	+4,170
CAL YR 1985	-	-	+11,220
Jan. 31	2,211.47	21,480	+10,260
Feb. 28	2,216.73	31,350	+9,870
Mar. 31	2,221.61	42,860	+11,510
Apr. 30	2,225.11	52,530	+9,670
May 31	2,225.37	53,290	+760
June 30	2,224.93	52,000	-1,290
July 31	2,222.77	45,930	-6,070
Aug. 31	2,221.10	41,540	-4,390
Sept. 30	2,222.25	44,540	+3,000
WTR YR 1986	-	-	+44,540

PLATTE RIVER BASIN

06787500 CALAMUS RIVER NEAR BURWELL, NE

LOCATION.--Lat 41°48'35", long 99°10'56", in NW1/4NW1/4 sec.9, T.21 N., R.16 W., Garfield County, Hydrologic Unit 10210008, on left bank 20 ft downstream from highway bridge, 1.1 mi downstream from Calamus Dam, 1.5 mi upstream from mouth, and 3 mi northwest of Burwell.

DRAINAGE AREA.--1.060 mi², approximately, of which about 110 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 1918: 1958. WDR NE-72: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,156.48 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to Apr. 20, 1945, nonrecording gage at site 20 ft upstream; Apr. 21, 1945 to Jan. 28, 1964, water-stage recorder at site 400 ft downstream; Jan. 29, 1964 to Oct. 4, 1977, water-stage recorder at site 230 ft downstream; and Oct. 5, 1977 to July 30, 1985, water-stage recorder at site 190 ft downstream, all at present datum.

REMARKS.--Estimated daily discharges: Nov. 21-23, Dec. 13, 14, 18-20, 24, 25, Jan. 27, and Feb. 11, 20. Record good except for periods of estimated record, which are fair. Diversions for irrigation above station, and since Oct. 1, 1985, flow regulated by the Calamus Dam.

AVERAGE DISCHARGE.--45 years (water years 1941-85), 305 ft³/s, 221,000 acre-ft/yr; 1986 water year 263 ft³/s, 190,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,790 ft³/s May 4, 1964, gage height, 4.35 ft; maximum gage height, 5.90 ft Jan. 26, 1967, backwater from ice; minimum daily discharge, 13 ft³/s Apr. 27, 1986, due to temporary closure of Calamus Dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 472 ft³/s July 11, gage height, 3.72 ft; maximum gage height, 4.32 ft Dec. 25, backwater from ice; minimum daily discharge, 13 ft³/s Apr. 27, due to temporary closure of Calamus Dam.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	296	304	258	195	154	148	72	329	319	292	391	301
2	266	308	258	191	149	148	111	311	325	287	387	299
3	279	306	255	196	148	149	152	315	324	291	391	299
4	285	310	254	217	150	149	160	296	321	291	393	303
5	289	311	254	178	151	148	163	266	322	289	403	304
6	291	306	254	157	151	150	163	268	322	286	409	291
7	279	294	254	157	151	152	168	278	320	311	411	283
8	266	308	254	159	156	157	160	286	313	343	415	282
9	281	304	254	160	152	155	156	279	315	349	419	283
10	265	300	252	155	155	156	162	273	320	358	415	307
11	243	297	260	148	155	164	166	300	316	398	415	317
12	240	293	264	145	157	163	163	322	305	436	406	321
13	237	288	260	148	156	163	165	329	303	430	405	318
14	238	286	252	149	151	163	152	321	313	430	392	321
15	271	311	246	153	149	163	165	319	317	430	386	306
16	301	311	241	151	145	166	167	318	317	415	383	331
17	302	310	242	151	147	163	178	317	317	410	385	326
18	306	307	241	149	148	160	174	317	317	400	376	328
19	312	215	240	148	150	159	173	312	317	386	348	333
20	322	274	240	148	150	160	173	313	318	390	342	330
21	320	320	240	141	152	157	179	312	317	395	337	330
22	323	340	238	145	155	156	147	312	313	415	329	326
23	317	330	232	153	157	152	216	313	312	415	318	321
24	317	318	230	155	157	149	319	307	298	410	327	326
25	317	275	228	156	152	149	329	295	283	401	332	324
26	317	274	226	156	147	145	200	305	281	397	335	323
27	316	257	224	155	144	147	13	301	280	399	330	322
28	314	247	224	155	146	148	109	307	286	392	316	320
29	312	247	227	154	---	151	342	314	288	397	306	317
30	314	248	212	154	---	155	332	319	291	396	305	317
31	312	---	196	154	---	115	---	321	---	386	304	---
TOTAL	9048	8799	7510	4933	4235	4760	5329	9475	9290	11625	11411	9409
MEAN	292	293	242	159	151	154	178	306	310	375	368	314
MAX	323	340	264	217	157	166	342	329	325	436	419	333
MIN	237	215	196	141	144	115	13	266	280	286	304	282
AC-FT	17950	17450	14900	9780	8400	9440	10570	18790	18430	23060	22630	18660
CAL YR 1985	TOTAL	119098		MEAN	326	MAX	514	MIN	102	AC-FT	236200	
WTR YR 1986	TOTAL	95824		MEAN	263	MAX	436	MIN	13	AC-FT	190100	

PLATTE RIVER BASIN

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06788500 NORTH LOUP RIVER AT ORD, NE

LOCATION.--Lat 41°36'27", long 98°55'17", in SW1/4NW1/4 sec.22, T.19 N., R.14 W., Valley County, Hydrologic Unit 10210007, on right bank 150 ft downstream from bridge on State Highway 70 at Ord.

DRAINAGE AREA.--3,750 mi², approximately, of which about 700 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--November 1936 to September 1938 (published as "near Ord"), June 1952 to current year.

REVISED RECORDS.--WSP 1730: 1957(M). WDR NE-74: Drainage area. WDR NE-75: 1974.

GAGE.--Water-stage recorder. Datum of gage is 2,012.14 ft above National Geodetic Vertical Datum of 1929. Nov. 25, 1936, to Sept. 30, 1938, nonrecording gage at site 2 mi downstream at different datum.

REMARKS.--Estimated daily discharges: Nov. 22 to Jan. 24, Jan. 27 to Feb. 1, and Feb. 12-24. Records good except for periods of estimated record, which are poor. Diversions above station for irrigation. Flow includes return water from North Loup irrigation project.

AVERAGE DISCHARGE.--35 years (1937-38, 1952-86), 885 ft³/s, 641,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,100 ft³/s June 7, 1962, gage height, 5.52 ft; maximum gage height, 6.56 ft Jan. 16, 1981, ice jam; minimum daily discharge, 100 ft³/s Jan. 3, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,240 ft³/s Sept. 22, gage height, 4.30 ft, maximum gage height, 5.00 ft Jan. 28, backwater from ice; minimum daily discharge, 400 ft³/s Nov. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	923	900	540	940	1400	1150	843	958	994	1220	853	863
2	896	900	560	960	1040	1100	886	923	948	1120	1080	853
3	894	902	620	1000	952	1030	951	941	939	968	1010	838
4	906	908	700	1050	1020	978	1040	932	921	850	964	837
5	905	910	900	1000	1030	947	1210	833	956	799	902	920
6	898	912	1200	900	978	937	1200	851	926	757	932	1060
7	895	914	1150	780	956	937	1150	823	914	736	885	1100
8	895	917	1100	860	911	946	1140	801	904	839	891	1030
9	899	919	1050	940	892	925	1090	1450	908	810	1030	989
10	903	897	960	940	996	945	1030	1110	954	870	1010	967
11	906	846	880	920	751	947	990	933	957	983	1000	949
12	905	914	760	920	740	1010	922	954	1010	1370	1030	950
13	903	928	680	1000	760	1050	956	877	1240	1150	989	919
14	899	1010	720	1000	880	1040	954	865	1130	1100	945	892
15	900	1010	760	940	1000	1010	734	865	1350	1060	815	883
16	895	967	900	960	1100	1070	728	999	1220	1020	790	995
17	897	969	900	1000	1050	1070	751	1010	1150	978	732	1050
18	911	1070	750	1000	960	1140	820	952	1090	919	794	1190
19	904	1060	780	1000	900	1110	933	885	1020	831	725	1320
20	896	841	820	960	860	1070	881	897	989	797	692	1290
21	897	688	920	960	780	1030	842	869	995	783	715	1270
22	908	600	980	1000	840	1040	822	859	1070	706	728	2610
23	905	400	900	1050	980	1100	763	1000	1110	665	727	1460
24	893	420	820	1200	1200	1100	868	976	1090	732	722	1260
25	901	440	760	1280	1810	1070	903	1020	1010	648	719	1180
26	901	470	800	959	1670	1070	966	969	932	653	965	1080
27	901	490	840	580	1370	1040	720	996	887	624	1030	1100
28	900	520	860	900	1190	1010	780	1050	854	627	1020	1040
29	900	520	880	940	---	993	1070	1060	806	612	978	1010
30	896	520	900	980	---	977	1010	1060	815	607	948	1030
31	899	---	940	1100	---	946	---	1050	---	634	919	---
TOTAL	27931	23762	26330	30019	29016	31788	27953	29768	30089	26468	27540	32935
MEAN	901	792	849	968	1036	1025	932	960	1003	854	888	1098
MAX	923	1070	1200	1280	1810	1150	1210	1450	1350	1370	1080	2610
MIN	893	400	540	580	740	925	720	801	806	607	692	837
AC-FT	55400	47130	52230	59540	57550	63050	55440	59040	59680	52500	54630	65330
CAL YR 1985	TOTAL	336191		MEAN	921	MAX	1750	MIN	400	AC-FT	666800	
WTR YR 1986	TOTAL	343599		MEAN	941	MAX	2610	MIN	400	AC-FT	681500	

PLATTE RIVER BASIN

06788988 MIRA CREEK NEAR NORTH LOUP, NE

LOCATION.--Lat 41°30'09", long 98°47'47", in NW1/4SE1/4 sec.27, T.18 N., R.13 W., Valley County, Hydrologic Unit 10210007, on left bank near county road 1.4 mi northwest of North Loup.

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

REVISED RECORDS.--WDR NE-83-1: 1982(M).

GAGE.--Water-stage recorder. Datum of gage is 1,964.41 ft above National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--7 years, 2.21 ft³/s, 1,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,460 ft³/s Aug. 5, 1981, gage height, 10.56 ft, from floodmark, from rating curve extended above 200 ft³/s on basis of indirect measurement of peak flow; no flow at times in 1980-81.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 23 ft³/s and maximim (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 25	1600	36	2.45	Sept. 20	1830	38	2.44
Aug. 19	0630	*135	*3.19				

Minimum daily discharge, 0.06 ft³/s, July 18, Aug. 15, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	.45	.19	.51	.68	4.6	.80	.61	.61	.21	.56	.23
2	.86	.42	.12	.55	.71	4.2	1.0	.51	.41	.33	.76	.24
3	.84	.45	.12	.57	.74	3.0	1.7	.61	.33	.34	.35	.27
4	.72	.46	.31	.55	1.0	2.6	1.7	.54	.34	.32	.18	.31
5	.74	.43	.35	.50	1.1	1.8	1.5	.47	.33	.24	.13	.61
6	.78	.40	.45	.45	.86	1.4	1.2	.38	.31	.15	.08	1.9
7	.84	.39	.46	.34	.75	1.3	1.1	.33	.29	.17	.11	1.2
8	.88	.37	.45	.36	.68	1.3	1.1	.32	.26	.17	.12	.41
9	.86	.34	.47	.42	.62	1.2	.97	.41	.25	.17	.18	.30
10	.87	.43	.54	.50	.58	1.1	.98	.53	.24	.59	.15	.27
11	.88	.47	.54	.64	.53	.98	.97	.58	.22	.95	.09	.24
12	.91	.46	.52	.73	.45	1.6	.87	.57	.17	.29	.07	.21
13	.76	.27	.46	.64	.44	2.2	1.0	.41	.20	.15	.07	.22
14	.70	.38	.44	.66	.50	2.0	1.2	.32	.23	.25	.07	.19
15	.73	.46	.49	.68	.49	1.4	1.7	.30	.26	.33	.06	.19
16	.72	.64	.53	.79	.50	1.4	1.2	.57	.27	.17	.06	.23
17	.67	.64	.56	.90	.98	1.5	1.1	.68	.27	.09	.07	.33
18	.79	.63	.52	.94	2.1	2.3	1.3	.79	.23	.06	5.1	.49
19	.96	.53	.51	.92	2.7	2.5	1.1	.72	.21	.07	63	4.1
20	1.0	.40	.50	.96	3.3	2.1	.92	.60	.16	.34	10	16
21	.88	.39	.52	.92	1.8	1.8	.82	.52	.15	.34	3.8	15
22	.76	.38	1.9	.75	1.2	1.6	.77	.38	.25	.38	1.2	3.1
23	.78	.36	4.6	.75	1.2	1.3	.72	.49	.40	.76	.63	1.5
24	.67	.34	4.4	.85	5.1	1.3	.72	.49	.45	.33	.42	1.0
25	.59	.34	1.3	.86	27	1.3	.70	.47	.37	.33	.33	.73
26	.49	.35	2.7	.73	14	1.2	.87	.40	.24	.41	.44	.69
27	.46	.28	1.3	.63	3.9	1.1	.95	.42	.15	.34	.42	.77
28	.46	.24	.91	.71	3.7	1.1	.90	.51	.15	.26	.35	.70
29	.60	.20	.69	.73	---	.88	.80	.63	.25	.19	.32	.67
30	.67	.19	.61	.66	---	.85	.73	.80	.21	.23	.29	.68
31	.65	---	.56	.67	---	.85	---	.72	---	.27	.26	---
TOTAL	23.22	12.09	28.02	20.87	77.61	53.76	31.39	16.08	8.21	9.23	89.67	52.78
MEAN	.75	.40	.90	.67	2.77	1.73	1.05	.52	.27	.30	2.89	1.76
MAX	1.0	.64	4.6	.96	.27	4.6	1.7	.80	.61	.95	.63	.16
MIN	.46	.19	.12	.34	.44	.85	.70	.30	.15	.06	.06	.19
AC-FT	46	24	56	41	154	107	62	32	16	18	178	105
CAL YR 1985	TOTAL	452.03		MEAN	1.24	MAX	33	MIN	.09	AC-FT	897	
WTR YR 1986	TOTAL	422.93		MEAN	1.16	MAX	63	MIN	.06	AC-FT	839	

PLATTE RIVER BASIN

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06790500 NORTH LOUP RIVER NEAR ST. PAUL, NE

LOCATION.--Lat 41°15'48", long 98°26'56", in NW1/4NW1/4NE1/4 sec.22, T.15 N., R.10 W., Howard County, Hydrologic Unit 10210007, on right bank 310 ft downstream from bridge on U.S. Highway 281, 3 mi north of St. Paul, and 4 mi upstream from confluence with Middle Loup River.

DRAINAGE AREA.--4,290 mi², approximately, of which about 1,240 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1894 to September 1915, August 1928 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 976: 1942. WSP 1390: 1896. WDR NE-74: Drainage area. WDR NE-75: 1974.

GAGE.--Water-stage recorder. Datum of gage is 1,759.29 ft, adjusted, above National Geodetic Vertical Datum of 1929. See WSP 1918 for history of changes prior to Oct. 1, 1954.

REMARKS.--Estimated daily discharges: Nov. 23 to Jan. 25, Jan. 28-31, Feb. 7, 8, 10-25. Records good except for period of estimated record, which is poor. Natural flow affected by diversions and ground-water withdrawals for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--79 years, 976 ft³/s, 707,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 90,000 ft³/s, estimated, June 6, 1896, gage height, 14.9 ft, from floodmark, datum then in use; minimum daily since 1931, 85 ft³/s Aug. 8, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,560 ft³/s Feb. 25, gage height, 5.00 ft, backwater from ice; maximum gage height, 6.46 ft Feb. 25, ice jam; minimum daily discharge, 361 ft³/s Nov. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1070	974	560	1050	1710	1200	896	1330	1210	806	746	985
2	1050	910	560	1100	1750	1220	881	1230	1120	1090	1060	1010
3	977	931	700	1150	1580	1210	1050	1240	1070	953	1120	1030
4	1030	901	1000	1200	1360	1190	1100	1230	1150	815	1030	1020
5	1030	920	1250	1200	1520	1190	1200	1160	1550	706	1070	1120
6	1060	902	1350	1150	1340	1050	1390	940	1070	644	916	1530
7	1050	855	1400	1100	1300	979	1320	950	991	600	1200	1210
8	1080	888	1350	860	1250	958	1280	841	972	561	955	1050
9	1110	910	1200	980	1120	952	1250	1200	957	632	918	986
10	1140	823	1100	1050	900	996	1170	1320	1020	1360	1070	964
11	1100	859	960	1100	800	1020	1130	1170	1180	1150	961	930
12	1060	940	900	1150	800	1150	1090	1070	1050	1240	974	924
13	1050	994	800	1150	900	1180	1060	1060	1150	1550	1030	955
14	1070	1040	900	1100	1100	1100	1200	1040	1230	1080	1050	948
15	1090	1060	940	1100	1250	1060	926	1220	1210	925	1060	949
16	1020	1070	960	1150	1350	1050	826	1390	1270	862	985	942
17	1030	1050	1000	1200	1300	1180	789	1260	1090	844	944	1070
18	1120	1080	860	1200	1150	1410	991	1180	1050	838	1990	1150
19	1160	1060	1050	1200	1050	1270	1050	1130	996	804	1960	1880
20	1070	889	1200	1100	1000	1180	1140	1080	921	707	1050	1750
21	1050	421	1100	1100	900	1120	1100	1080	975	670	889	1500
22	1030	361	1050	1100	840	1040	915	1070	967	679	870	2010
23	1130	400	1050	1150	1000	1080	940	1100	986	603	884	1930
24	1090	450	1050	1200	1600	1160	924	1140	970	632	864	1480
25	1020	500	860	1400	2700	1170	1260	1110	904	723	844	1350
26	975	530	1000	1760	2590	1130	1330	1110	799	615	871	1290
27	933	540	1000	1120	1610	1070	1370	1110	818	609	1090	1230
28	942	560	1000	720	1320	989	1090	1200	734	608	1030	1190
29	978	560	1050	1140	---	941	1080	1290	679	604	1070	1150
30	971	560	1050	1500	---	895	1410	1300	699	634	1030	1100
31	970	---	1050	1600	---	913	---	1240	---	641	999	---
TOTAL	32456	23938	31300	36080	37090	34053	33158	35791	30788	25185	32530	36633
MEAN	1047	798	1010	1164	1325	1098	1105	1155	1026	812	1049	1221
MAX	1160	1080	1400	1760	2700	1410	1410	1390	1550	1550	1990	2010
MIN	933	361	560	720	800	895	789	841	679	561	746	924
AC-FT	64380	47480	62080	71560	73570	67540	65770	70990	61070	49950	64520	72660
CAL YR 1985	TOTAL	382598		MEAN	1048	MAX	2550	MIN	295	AC-FT	758900	
WTR YR 1986	TOTAL	389002		MEAN	1066	MAX	2700	MIN	361	AC-FT	771600	

PLATTE RIVER BASIN

06790500 NORTH LOUP RIVER NEAR ST. PAUL, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1946-53, 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1974 to September 1978.

WATER TEMPERATURES: July 1974 to September 1978.

SUSPENDED SEDIMENT DISCHARGE: April 1946 to June 1953.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 426 microsiemens Jan. 18, 1976; minimum daily, 138 microsiemens Oct. 21, 1977.

WATER TEMPERATURES: Maximum, 34.0°C July 17, 1978; minimum, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily, 17,400 mg/L Apr. 27, 1951; minimum daily, not determined.

SEDIMENT LOADS: Maximum daily, 463,000 tons June 22, 1947; minimum daily, 20 tons Aug. 3, 1946, Feb. 22, 1953.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)
OCT						
28...	1120	939	251	7.40	12.5	10.1
NOV						
26...	1015	532	303	7.40	0.5	13.2
DEC						
16...	1050	968	258	7.20	0.5	11.0
JAN						
14...	1100	1100	228	7.10	0.5	12.5
FEB						
21...	1140	898	248	7.20	0.5	13.2
MAR						
12...	1410	1190	278	7.80	4.0	11.8
APR						
08...	1050	1220	243	7.50	13.0	10.4
MAY						
08...	0950	801	238	7.80	20.5	9.7
JUN						
05...	1010	1710	206	7.20	19.0	6.6
JUL						
14...	1240	1000	241	8.30	30.0	9.4
AUG						
27...	1020	1120	233	8.10	19.0	10.4
SEP						
16...	1000	939	234	7.60	17.5	9.7

DATE	TIME	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
MAR											
12...	1410	15	120	120	36	6.3	8.3	0.3	6.7	126	11
JUL											
14...	1240	20	100	100	32	5.5	8.5	0.4	8.8	118	10

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
MAR											
12...	2.9	0.4	47	190	0.26	624	0.82	0.14	20	15	1
JUL											
14...	2.8	0.3	40	180	0.24	483	<0.10	0.17	40	55	8

PLATTE RIVER BASIN

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06791500 CEDAR RIVER NEAR SPALDING, NE

LOCATION.--Lat 41°42'41", long 98°26'48", in NE1/4NE1/4NE1/4 sec.15, T.20 N., R.10 W., Greeley County, Hydrologic Unit 10210010, on left bank 15 ft downstream from bridge on county road, 0.4 mi upstream from small tributary, and 4.7 mi northwest of Spalding.

DRAINAGE AREA.--762 mi², approximately, of which about 50 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1944 to September 1953, October 1957 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WDR NE-73: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,896.24 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 4, 1961, at two sites 6.5 mi upstream at different datum.

REMARKS.--Estimated daily discharges: Nov. 20 to Jan. 12, Jan. 27-29, and Feb. 5-18, 21-24. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--38 years, 161 ft³/s, 116,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,000 ft³/s June 23, 1947, gage height, 7.50 ft, site and datum then in use, from rating curve extended above 640 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 30 ft³/s Jan. 30, 1946.

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)
Mar. 2	0330	356	4.08	July 1	0930	480	4.44
Mar. 19	0530	389	4.18	July 12	1400	473	4.42
Apr. 19	0230	314	3.94	Sept. 22	1030	*774	*5.10
May 30	2200	360	4.09				

Minimum daily discharge, 147 ft³/s July 26-29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	186	171	155	190	190	309	187	204	252	362	165	220
2	186	170	160	190	180	330	198	194	211	354	181	209
3	187	173	170	190	190	281	221	185	189	384	186	203
4	186	172	175	190	212	265	234	180	183	350	179	193
5	182	174	190	190	230	261	237	174	175	337	176	215
6	184	177	195	180	230	243	236	168	165	373	176	226
7	185	175	200	180	210	227	250	165	178	323	208	225
8	187	173	200	190	195	213	253	173	182	288	200	224
9	183	173	190	200	185	213	253	182	182	235	202	219
10	183	171	180	210	180	208	235	185	183	233	209	211
11	190	172	175	240	165	204	203	183	181	290	199	202
12	193	177	165	280	180	220	201	178	183	438	192	199
13	192	182	150	184	190	236	190	170	188	416	187	195
14	191	187	170	179	195	240	239	160	210	346	182	195
15	189	191	180	182	195	245	232	165	219	322	177	193
16	185	193	185	182	210	268	244	212	220	270	177	193
17	180	196	185	186	250	285	245	216	224	223	173	214
18	192	195	165	192	280	338	280	201	230	195	177	219
19	197	184	180	195	210	383	297	196	234	176	207	268
20	198	170	200	204	205	371	289	190	261	151	216	371
21	187	170	200	213	210	364	279	182	235	164	198	366
22	188	180	210	214	215	347	260	177	235	159	192	612
23	198	180	190	211	220	306	232	180	211	153	189	526
24	193	185	190	209	225	273	209	186	205	149	187	558
25	187	190	170	210	231	250	199	186	197	149	185	510
26	179	190	180	206	244	223	199	191	187	147	239	452
27	176	185	190	175	250	213	203	194	184	147	281	436
28	174	180	195	190	277	211	213	206	174	147	265	408
29	174	170	195	220	---	192	213	237	176	147	254	355
30	168	160	195	196	---	196	210	331	197	149	243	271
31	169	---	190	187	---	193	---	304	---	150	229	---
TOTAL	5749	5366	5675	6165	5954	8108	6951	6055	6051	7727	6231	8888
MEAN	185	179	183	199	213	262	232	195	202	249	201	296
MAX	198	196	210	280	280	383	297	331	261	438	281	612
MIN	168	160	150	175	165	192	187	160	165	147	165	193
AC-FT	11400	10640	11260	12230	11810	16080	13790	12010	12000	15330	12360	17630
CAL YR 1985	TOTAL	73416	MEAN	201	MAX	788	MIN	120	AC-FT	145600		
WTR YR 1986	TOTAL	78920	MEAN	216	MAX	612	MIN	147	AC-FT	156500		

PLATTE RIVER BASIN

06792000 CEDAR RIVER NEAR FULLERTON, NE

LOCATION.--Lat 41°23'45", long 98°00'15", in SE1/4SE1/4 sec.33, T.17 N., R.6 W., Nance County, Hydrologic Unit 10210010, on left bank upstream from highway bridge, 3 mi northwest of Fullerton and 7.2 mi. upstream from mouth.

DRAINAGE AREA.--1,220 mi², approximately, of which about 480 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1931 to June 1932, October 1940 to current year.

REVISED RECORDS.--WSP 1086: Drainage area. WSP 1390: 1932, 1941, 1943. WSP 1710: 1951(P), 1952(M), 1953, 1955(M).

GAGE.--Water-stage recorder. Datum of gage is 1,638.39 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 5, 1942, nonrecording gage, Nov. 5, 1942, to June 23, 1947, water-stage recorder, June 24, 1947, to Apr. 6, 1948, nonrecording gage, Apr. 7, 1948, to Apr. 15, 1971, water-stage recorder, all on downstream side of bridge pier at datum 2.00 ft higher, and Apr. 16, 1971, to Aug. 26, 1980, on downstream side of bridge pier at present datum.

REMARKS.--Estimated daily discharges: Nov. 20 to Feb. 26 and July 4-8, 12, 13. Records good except for periods of estimated record, which are poor. Natural flow affected by power developments, ground-water and surface-water withdrawals for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE.--46 years (1940-86), 247 ft³/s, 179,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 64,700 ft³/s Aug. 13, 1966, gage height, 16.90 ft, present datum, from high point on surge, from rating curve extended above 6,600 ft³/s on basis of flow-over-highway-embankment and contracted-opening measurement of peak flow; minimum daily, 30 ft³/s July 18, 1974.

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)
July 1	2000	*2070	*5.27	July 25	0630	1890	5.02

Minimum daily discharge, 175 ft³/s July 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	358	268	210	340	290	334	292	295	482	1180	212	273
2	353	241	200	340	270	338	308	284	391	694	234	260
3	333	246	210	330	250	361	339	278	334	534	264	243
4	309	248	240	330	250	316	361	279	305	580	241	234
5	295	234	250	310	270	303	353	244	286	540	466	255
6	286	247	260	300	270	291	341	232	284	520	330	383
7	261	245	270	300	260	273	339	234	258	560	1030	368
8	256	247	280	300	260	262	340	236	271	500	491	300
9	251	247	280	290	260	263	351	241	272	458	356	291
10	261	250	280	300	250	293	354	245	283	445	317	293
11	266	248	270	320	240	299	336	255	468	660	398	285
12	282	255	260	350	230	361	301	272	363	900	347	290
13	264	252	250	350	240	349	297	255	296	800	304	271
14	264	252	240	270	250	285	341	249	292	650	280	274
15	259	258	260	280	260	311	293	640	313	398	256	274
16	256	271	280	300	280	322	300	467	327	419	246	271
17	253	271	290	300	330	321	300	431	323	316	230	270
18	247	277	290	300	380	527	335	296	308	241	255	278
19	287	261	290	320	450	528	359	316	295	205	360	733
20	285	230	270	330	390	419	386	318	307	235	270	405
21	287	200	280	320	370	394	374	317	465	220	285	465
22	288	210	290	300	360	373	363	290	412	177	274	669
23	277	230	290	300	400	354	347	287	326	175	256	579
24	287	230	270	290	480	331	327	278	313	181	254	534
25	279	230	260	260	600	316	308	287	290	810	243	505
26	276	240	250	240	840	316	304	306	268	347	264	458
27	264	240	270	220	390	298	293	290	303	224	423	432
28	264	230	300	250	323	320	297	349	283	196	346	419
29	261	220	320	280	---	324	301	360	257	183	354	415
30	258	210	340	310	---	302	304	502	643	219	329	386
31	248	---	340	300	---	303	---	431	---	218	312	---
TOTAL	8615	7288	8390	9330	9443	10387	9844	9764	10018	13785	10227	11113
MEAN	278	243	271	301	337	335	328	315	334	445	330	370
MAX	358	277	340	350	840	528	386	640	643	1180	1030	733
MIN	247	200	200	220	230	262	292	232	257	175	212	234
AC-FT	17090	14460	16640	18510	18730	20600	19530	19370	19870	27340	20290	22040
CAL YR 1985	TOTAL	110402	MEAN	302	MAX	1470	MIN	130	AC-FT	219000		
WTR YR 1986	TOTAL	118204	MEAN	324	MAX	1180	MIN	175	AC-FT	234500		

PLATTE RIVER BASIN

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06792000 CEDAR RIVER NEAR FULLERTON, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958-59, 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1974 to September 1983.

WATER TEMPERATURES: July 1974 to September 1983.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 550 microsiemens Jan. 1, 1978; minimum daily, 119 microsiemens Nov. 23, 1980.

WATER TEMPERATURES: Maximum, 36.0°C July 7, 1975; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

		STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	
OCT										
09...	0950	259	305	8.60	11.0	20	140	140	43	
NOV										
05...	1430	270	325	8.10	9.5	10	140	140	44	
DEC										
04...	1530	235	330	7.60	0.0	5	130	130	41	
JAN										
28...	1515	254	343	7.80	0.0	30	150	150	47	
FEB										
26...	1130	880	272	7.50	2.0	50	120	120	36	
MAR										
28...	0900	329	340	7.70	13.0	30	130	130	40	
APR										
22...	1500	363	293	7.80	15.5	35	120	120	37	
MAY										
21...	0910	311	290	8.30	18.0	25	130	130	40	
JUN										
19...	0830	296	271	7.80	23.0	25	120	120	38	
JUL										
15...	1530	290	245	7.60	30.0	30	98	98	31	
AUG										
12...	1420	332	278	8.07	22.5	20	110	110	35	
SEP										
08...	1245	303	295	7.55	15.0	25	120	120	37	
DATE		MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
OCT										
09...	6.9	8.3	0.3	7.3	138	10	2.4	0.2	42	
NOV										
05...	7.3	8.7	0.3	7.0	143	10	2.1	0.3	43	
DEC										
04...	7.1	8.4	0.3	7.0	153	11	2.2	0.2	46	
JAN										
28...	8.3	10	0.4	7.8	162	12	2.9	0.3	44	
FEB										
26...	6.4	6.9	0.3	10	128	12	3.3	0.2	34	
MAR										
28...	7.3	10	0.4	8.1	152	12	3.2	0.3	36	
APR										
22...	6.4	11	0.5	6.6	140	11	3.1	0.3	34	
MAY										
21...	6.8	8.2	0.3	8.0	143	11	2.1	0.2	37	
JUN										
19...	6.2	9.2	0.4	5.7	133	9.8	1.9	0.3	35	
JUL										
15...	5.1	7.1	0.3	7.0	113	9.5	2.1	0.3	32	
AUG										
12...	5.9	7.7	0.3	7.8	126	10	2.0	0.2	35	
SEP										
08...	6.5	8.3	0.3	9.3	134	9.5	2.7	0.3	37	

PLATTE RIVER BASIN

06792000 CEDAR RIVER NEAR FULLERTON, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
OCT									
09...	200	0.28	142	0.54	0.26	0.19	30	32	8
NOV									
05...	210	0.28	152	<0.10	0.28	0.18	30	47	23
DEC									
04...	210	0.29	136	0.89	0.28	0.17	30	27	17
JAN									
28...	230	0.31	157	0.74	0.28	0.17	20	43	41
FEB									
26...	190	0.25	441	0.85	0.76	0.31	30	69	45
MAR									
28...	210	0.28	185	0.44	0.39	0.17	30	67	7
APR									
22...	190	0.26	190	0.26	0.30	--	20	71	20
MAY									
21...	200	0.27	167	3.90	0.36	0.20	40	28	4
JUN									
19...	190	0.25	149	<0.10	0.32	0.17	30	28	4
JUL									
15...	160	0.22	127	0.13	--	0.27	20	32	<1
AUG									
12...	180	0.24	161	0.25	0.43	0.23	30	60	9
SEP									
08...	190	0.26	156	0.50	0.37	0.36	30	61	10

PLATTE RIVER BASIN

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06792499 LOUP RIVER POWER CANAL AT DIVERSION NEAR GENOA, NE
(National stream-quality accounting network station)

LOCATION.--Lat 41°23'31", long 97°49'20", in NE1/4NW1/4 sec.6, T.16 N., R.4 W., Nance County, Hydrologic Unit 10210009, at diversion structure, 2 mi upstream from gaging station and 5.5 mi southwest of Genoa.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to September 1986 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1972 to September 1981.

WATER TEMPERATURES: October 1972 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 479 microsiemens June 1, 1977; minimum daily, 178 microsiemens Aug. 16, 1980.

WATER TEMPERATURES: Maximum, 36.5°C July 11, 13, 14, 1980; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)
NOV 06...	1520	2700	293	8.10	8.5	727	18	11.6	K40	100	120	120
FEB 04...	1250	653	265	7.90	0.0	714	41	--	K160	2700	110	110
MAR 27...	1450	2080	340	8.40	12.0	745	33	10.7	K14	330	130	130
MAY 20...	1555	2380	290	8.30	18.0	725	53	9.8	1600	1300	120	120
JUL 15...	1330	2200	275	8.40	30.0	720	130	8.2	2500	K580	110	110
SEP 08...	1415	2350	259	7.66	15.5	738	280	8.8	K31000	K60000	98	98

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

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)
NOV 06...	38	6.4	9.2	0.4	6.7	129	12	2.6	0.3	51	200
FEB 04...	33	5.5	8.2	0.4	6.6	116	11	2.4	0.3	44	185
MAR 27...	41	7.1	11	0.4	8.4	147	12	3.4	0.4	48	226
MAY 20...	38	6.6	9.5	0.4	8.2	135	12	2.9	0.3	42	206
JUL 15...	34	5.4	8.1	0.4	8.7	122	10	3.0	0.3	35	183
SEP 08...	30	5.5	7.3	0.3	8.5	111	11	3.0	0.3	34	193

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)
NOV 06...	210	0.27	1460	0.75	0.04	0.04	0.66	0.7	0.24	0.16	0.15
FEB 04...	190	0.25	326	0.80	0.10	--	0.7	0.8	0.26	0.14	0.13
MAR 27...	240	0.31	1270	0.67	0.06	0.04	0.84	0.9	0.21	0.16	0.15
MAY 20...	200	0.28	1320	0.32	0.06	0.07	0.94	1.0	0.28	0.18	0.18
JUL 15...	190	0.25	1090	<0.10	0.05	0.04	1.2	1.3	0.43	0.35	0.17
SEP 08...	160	0.26	1220	0.75	0.06	0.04	1.8	1.9	0.66	0.23	0.22

PLATTE RIVER BASIN

06792499 LOUP RIVER POWER CANAL AT DIVERSION NEAR GENOA, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 06...	1520	30	7	120	<0.5	1	<1	<3	2	21	1
MAR 27...	1450	10	8	130	<0.5	<1	<1	<3	1	6	1
MAY 20...	1555	10	7	120	<0.5	<1	<1	<3	<1	5	1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 06...	15	9	0.2	<10	<1	<1	<1	200	9	9
MAR 27...	17	6	<0.1	<10	2	1	<1	210	11	16
MAY 20...	15	6	<0.1	<10	<1	<1	<1	190	9	5

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 06...	1520	2700	8.5	342	2490	22
FEB 04...	1250	653	0.0	152	268	93
MAR 27...	1450	2080	12.0	284	1590	81
MAY 20...	1555	2380	18.0	210	1350	98

PLATTE RIVER BASIN

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06792500 LOUP RIVER POWER CANAL NEAR GENOA, NE

LOCATION.--Lat 41°25'03", long 97°47'37", in NE1/4NE1/4 sec.32, T.17 N., R.4 W., Nance County, Hydrologic Unit 10210009, at skimming weir on downstream end of settling basin on left bank, 2 mi downstream from point of diversion and 3.5 mi southwest of Genoa.

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

GAGE.--Water-stage recorder and concrete weir. Datum of gage is 1,566.26 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1956, at datum 3.0 feet higher.

REMARKS.--Estimated daily discharges: Nov. 21-25. Records good except for period of estimated record, which is fair. Canal diverts from Loup River in sec.6, T.16 N., R.4 W.; water is used in powerplants near Monroe and Columbus and is returned to Platte River 1.5 mi downstream from Loup River. Diversion began Dec. 2, 1936.

AVERAGE DISCHARGE.--49 years (water years 1938-86), 1,597 ft³/s, 1,157,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 3,410 ft³/s Apr. 27, 1944; no flow Aug. 16, 24-27, 30, 31, 1966, flood damage to canal was being repaired.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3,120 ft³/s Mar. 4; minimum daily, 12 ft³/s Nov. 21-24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2870	2800	108	2150	686	2430	1540	2090	2890	2780	954	1660
2	2700	2780	197	2170	774	2820	1730	2160	2830	2610	1180	45
3	2780	2700	606	2180	781	2860	1770	2130	2640	2260	1590	45
4	2770	2630	1010	2150	728	3120	1730	2080	2440	1840	1730	45
5	2940	2600	1240	2110	652	3010	1830	1980	2850	1560	1920	45
6	2680	2670	1450	2150	568	3010	2130	2020	2800	1390	2480	1130
7	2380	2660	1620	2120	396	2990	1950	1990	2790	1280	2600	2350
8	2490	2510	1790	2070	121	2950	1930	2030	2600	1250	2870	2270
9	2790	2560	1900	2050	111	2750	1930	2060	2230	1120	2590	2280
10	2810	2290	1940	2140	361	2310	1840	2310	2250	1490	1980	2280
11	2530	1040	2040	2110	170	2670	1920	2460	2630	2780	2360	2350
12	2660	2370	2110	2060	309	3040	1980	2530	2690	2820	2180	2480
13	2630	2430	2050	2080	321	3030	1990	2300	2590	2800	1950	2340
14	2780	2580	2050	2080	429	3010	2520	2250	2770	2750	1900	2290
15	2740	2570	2100	2050	859	2980	2390	2690	2650	2190	1830	2550
16	2530	2530	2120	2030	967	2990	2070	2820	2380	2040	1720	2480
17	2620	2520	2130	2040	1340	2960	1870	2850	2520	1690	1430	2650
18	2740	2550	2020	2010	2110	2990	1900	2860	2270	1420	1420	2780
19	2820	415	2010	2010	2220	2940	1990	2600	2050	1260	2510	2860
20	2780	16	2140	2010	1210	2920	1870	2380	1940	1100	2600	2830
21	2760	12	2120	2020	1830	2880	1810	2360	1970	1020	1840	2820
22	2760	12	2020	1660	2370	2660	1730	2390	2020	932	1480	2870
23	2800	12	2120	2010	2350	2330	1780	2240	1820	1010	1350	2760
24	2800	12	2120	1670	2330	2260	1670	2290	1790	948	1290	2840
25	2680	19	2100	1280	1640	2180	1650	2380	1740	1900	1240	2850
26	2640	70	2160	684	1690	2210	1840	2530	1580	1500	1220	2930
27	2750	84	2170	209	1830	2020	1950	2580	1550	1200	1370	2890
28	2710	116	1990	470	2380	1700	2110	2780	1600	1020	1550	2870
29	2220	113	1870	896	---	1610	2040	2790	1380	893	1770	2880
30	2050	109	1960	795	---	1620	2060	2900	2390	872	1770	2850
31	2760	---	2120	723	---	1680	---	2830	---	882	1720	---
TOTAL	82970	45780	55381	54187	31533	80930	57520	74660	68650	50607	56394	66320
MEAN	2676	1526	1786	1748	1126	2611	1917	2408	2288	1632	1819	2211
MAX	2940	2800	2170	2180	2380	3120	2520	2900	2890	2820	2870	2930
MIN	2050	12	108	209	111	1610	1540	1980	1380	872	954	45
AC-FT	164600	90800	109800	107500	62550	160500	114100	148100	136200	100400	111900	131500
CAL YR 1985	TOTAL	669658.9		MEAN	1835	MAX	3070	MIN	4.5	AC-FT	1328000	
WTR YR 1986	TOTAL	724932		MEAN	1986	MAX	3120	MIN	12	AC-FT	1438000	

PLATTE RIVER BASIN

06793000 LOUP RIVER NEAR GENOA, NE
(National stream-quality accounting network station)

LOCATION.--Lat 41°25'05", long 97°43'25" in SW1/4NE1/4 sec.25, T.17 N., R.4 W., Nance County, Hydrologic Unit 10210009, on right bank 12 ft downstream from bridge on State Highway 39, 2 mi south of Genoa, 3 mi upstream from Beaver Creek, and 6 mi downstream from diversion dam of Loup River Public Power District.

DRAINAGE AREA.--14,400 mi², approximately, of which about 5,650 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1928 to June 1932, October 1943 to current year (October 1953 to April 1955, monthly discharge only).

REVISED RECORDS.--WDR NE-74: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,540.13 ft above National Geodetic Vertical Datum of 1929. Aug. 17, 1928, to June 30, 1932, nonrecording gage at present site at datum 1.49 ft higher. Oct. 1, 1943, to Sept. 16, 1974, (Apr. 26 to Dec. 22, 1949, wire-weight gage only), at present site and datum. Sept. 17, 1974, to Nov. 21, 1977, at site 300 ft upstream at present datum.

REMARKS.--Estimated daily discharges: Nov. 19, 20, and Nov. 22 to Feb. 26. Records fair except for periods of estimated record, which are poor. Natural flow of stream affected by power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas. Records do not include flow of Loup River power canal (station 06792500) which diverts at point 6 mi upstream and returns to Platte River below mouth of Loup River; diversion began Dec. 2, 1936.

AVERAGE DISCHARGE.--43 years (water years 1944-86), 654 ft³/s, 473,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 129,000 ft³/s Aug. 13, 1966, gage height, 13.93 ft, from rating curve extended above 42,000 ft³/s on basis of indirect measurement of peak flow; no flow at times during 1956, 1959, 1961, 1963, 1970, 1973, 1974, 1975, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,500 ft³/s Feb. 27, gage height, 7.08 ft; maximum gage height, 10.14 ft Jan. 27, backwater from ice; minimum daily discharge, 21 ft³/s July 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	575	176	1400	1000	3200	1980	1260	358	203	196	40	39
2	194	126	1300	900	3500	604	1160	245	97	620	40	1990
3	110	54	800	500	3900	652	1370	187	51	48	36	2460
4	72	78	65	700	4200	358	1670	174	52	38	32	2570
5	135	41	1000	800	3700	283	1710	184	182	33	32	2680
6	79	68	1500	960	3000	297	2230	134	738	30	36	2010
7	69	312	1200	1000	2500	226	2040	95	52	26	1630	3120
8	70	169	1200	1000	2300	161	1690	99	38	24	773	1470
9	223	25	1100	980	2100	153	1410	94	33	21	71	379
10	344	274	900	960	1900	403	1330	350	40	97	54	254
11	161	1940	600	980	2100	81	985	332	38	97	57	165
12	486	131	470	1000	1700	370	1000	231	135	860	61	160
13	105	92	400	1100	1000	908	823	133	133	606	55	120
14	95	167	450	1200	400	623	1450	83	49	71	56	111
15	114	169	560	1200	100	317	1130	780	71	39	61	113
16	81	393	660	1300	110	173	925	1390	89	33	52	101
17	96	411	640	1400	400	485	551	2670	37	31	102	507
18	111	353	580	1500	390	1840	429	1330	30	32	110	187
19	514	2000	600	1600	800	3050	837	219	28	33	1510	3120
20	874	2500	700	1700	4000	1630	1080	103	28	31	566	2870
21	816	1480	900	1800	3000	894	829	92	27	31	126	1640
22	390	1000	1100	2000	2000	675	747	83	55	31	87	1890
23	383	1200	1100	2200	1300	830	522	68	27	31	86	5380
24	538	1350	1000	2200	1200	1010	470	60	25	33	91	2480
25	610	1400	900	2400	2500	888	638	56	23	71	101	1850
26	422	1450	1000	2700	5000	998	600	61	24	38	103	1060
27	110	1500	1100	2900	6360	1010	836	151	51	34	81	630
28	158	1550	1100	2600	3380	1140	874	83	65	31	51	228
29	476	1600	1100	2900	---	1270	459	371	38	30	94	132
30	1360	1500	1420	3000	---	1380	447	948	126	30	73	109
31	222	---	1180	3100	---	1280	---	518	---	30	38	---
TOTAL	9993	23509	28025	49580	66040	25969	31502	11682	2585	3356	6305	39825
MEAN	322	784	904	1599	2359	838	1050	377	86.2	108	203	1328
MAX	1360	2500	1500	3100	6360	3050	2230	2670	738	860	1630	5380
MIN	69	25	65	500	100	81	429	56	23	21	32	39
AC-FT	19820	46630	55590	98340	131000	51510	62480	23170	5130	6660	12510	78990
CAL YR 1985	TOTAL	339894		MEAN	931	MAX	8880	MIN	12	AC-FT	674200	
WTR YR 1986	TOTAL	298371		MEAN	817	MAX	6360	MIN	21	AC-FT	591800	

PLATTE RIVER BASIN

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06793000 LOUP RIVER NEAR GENOA, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976, 1979 to February 1986 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	BARO- METRIC PRES- SURE (MM HG) (00025)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS AS CACO3 (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)
FEB												
05...	1030	3660	273	7.90	0.5	722	35	12.7	140	330	110	110
27...	0930	6400	230	7.60	0.5	732	150	12.7	K260	8000	94	94

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

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)
FEB											
05...	35	5.7	8.1	0.3	6.6	115	11	2.3	0.3	45	185
27...	29	5.1	6.5	0.3	7.6	106	11	2.8	0.3	36	164

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, ORGANIC TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)
FEB											
05...	190	0.25	1770	0.80	0.11	0.09	0.69	0.8	0.19	0.14	0.13
27...	160	0.22	2830	0.74	0.22	0.17	1.7	1.9	0.80	0.23	0.21

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
FEB											
05...	1030	10	6	120	<0.5	<1	<1	<3	<1	9	<1
27...	0930	10	5	100	<0.5	<1	<1	<3	3	34	1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
FEB										
05...	13	6	<0.1	<10	<1	1	<1	190	<6	10
27...	11	46	0.2	<10	1	1	<1	160	<6	19

PLATTE RIVER BASIN

06793000 LOUP RIVER NEAR GENOA, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
FEB						
05...	1030	3660	0.5	2450	24200	11
27...	0930	6400	0.5	2720	47000	20

06793500 BEAVER CREEK AT LORETTO, NE

LOCATION.--Lat 41°45'50", long 98°04'50". in NE1/4SE1/4 sec.26, T.21 N., R.7 W., Boone County, Hydrologic Unit 10210009, on left bank 5 ft downstream from county road bridge, at the west edge of Loretto.

DRAINAGE AREA.--311 mi², of which about 100 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1944 to September 1953, October 1979 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,785.95 ft above National Geodetic Vertical Datum of 1929. Prior to May 15, 1945, staff gage at bridge 25 ft upstream, May 15, 1945, to Aug. 16, 1946, water-stage recorder at site 85 ft upstream, Aug. 17, 1946, to Sept. 30, 1953, at site 5 ft downstream, all at present datum.

REMARKS.--Estimated daily discharges: Nov. 20 to Feb. 25. Records fair except for period of estimated record, which is poor. There are diversions for irrigation above station during the summer period.

COOPERATION.--Records were furnished by Nebraska Department of Water Resources.

AVERAGE DISCHARGE.--16 years (water years 1945-53, 1980-86), 82.9 ft³/s. 60,060 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,570 ft³/s June 2, 1950, gage height, 11.74 ft; minimum daily, 12 ft³/s July 8, Aug. 8, 9, 1980.

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)
Mar. 18	1830	935	7.11	Sept. 22	1200	*962	*7.42
July 1	1200	725	6.44				

Minimum daily discharge, 49 ft³/s June 24, 26, 28.

DISCHARGE, IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	72	61	64	72	162	112	102	92	425	54	67
2	71	71	56	64	80	153	109	96	81	184	66	64
3	70	71	61	64	80	148	161	95	74	131	59	61
4	68	71	66	66	85	141	181	92	73	102	57	58
5	73	70	67	67	80	136	176	84	103	85	56	59
6	74	70	72	64	75	126	172	78	79	73	59	72
7	75	71	74	60	66	118	154	76	74	75	174	73
8	73	72	72	56	64	112	130	75	67	64	120	72
9	73	72	68	58	62	108	115	75	64	60	92	67
10	76	74	66	60	62	109	108	75	64	76	92	68
11	78	74	65	62	56	110	102	77	65	267	92	68
12	81	75	63	77	54	150	100	72	62	264	82	66
13	80	83	54	74	54	218	99	68	57	190	79	63
14	75	85	54	72	56	194	167	66	83	145	76	63
15	75	87	58	72	58	193	184	67	96	123	69	63
16	72	89	58	74	62	193	195	82	75	106	66	63
17	69	94	58	78	66	231	206	134	65	84	60	72
18	70	97	55	82	80	508	204	129	60	75	58	74
19	86	95	55	82	74	386	186	104	55	66	61	97
20	80	60	55	82	70	349	156	96	53	60	62	118
21	76	55	57	82	68	291	130	89	55	57	59	132
22	75	50	64	78	68	244	117	85	53	54	59	571
23	87	55	64	78	70	206	109	83	52	521	58	251
24	90	56	64	80	76	177	99	87	49	130	57	180
25	83	56	58	80	108	160	94	82	50	200	56	153
26	81	58	64	70	157	152	86	80	49	70	147	136
27	74	56	62	66	180	149	89	85	50	57	121	128
28	71	58	58	64	176	139	103	102	49	54	92	120
29	70	60	60	74	---	134	115	115	59	50	83	117
30	68	60	62	70	---	129	112	102	263	51	78	111
31	71	---	64	72	---	122	---	99	---	50	73	---
TOTAL	2338	2117	1915	2192	2259	5748	4071	2752	2171	3949	2417	3307
MEAN	75.4	70.6	61.8	70.7	80.7	185	136	88.8	72.4	127	78.0	110
MAX	90	97	74	82	180	508	206	134	263	521	174	571
MIN	68	50	54	56	54	108	86	66	49	50	54	58
AC-FT	4640	4200	3800	4350	4480	11400	8070	5460	4310	7830	4790	6560
CAL YR 1985	TOTAL 34061	MEAN 93.3	MAX 1090	MIN 33	AC-FT 67560							
WTR YR 1986	TOTAL 35236	MEAN 96.5	MAX 571	MIN 49	AC-FT 69890							

PLATTE RIVER BASIN

06794000 BEAVER CREEK AT GENOA, NE

LOCATION.--Lat 41°26'32", long 97°44'11", in NE1/4SE1/4 sec.14, T.17 N., R.4 W., Nance County, Hydrologic Unit 10210009, on left bank in city park at southwest corner of Genoa, 0.2 mi downstream from Union Pacific Railroad bridge, 0.2 mi upstream from bridge on State Highway 39, and 2.5 mi upstream from mouth.

DRAINAGE AREA.--647 mi², of which about 410 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 1310: 1942(M). WDR NE-73: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,542.13 ft above National Geodetic Vertical Datum of 1929. October 1940 to Nov. 5, 1942, nonrecording gage and Nov. 6, 1942, to Nov. 1, 1955, water-stage recorder, at site 0.4 mi upstream at datum 4.62 ft higher.

REMARKS.--Estimated daily discharges: Nov. 20 to Feb. 24. Records fair except for period of estimated record, which is poor. Natural flow affected slightly by ground-water and surface-water withdrawals for irrigation.

AVERAGE DISCHARGE.--46 years, 127 ft³/s, 92,010 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,200 ft³/s July 19, 1950, gage height, 18.70 ft, site and datum then in use, from rating curve extended above 8,500 ft³/s; minimum daily, 0.41 ft³/s July 25, 1974.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 19	0730	1760	9.91	July 12	2200	1040	8.13
June 30	1330	*2190	*10.81	Aug. 7	1530	1160	8.44

Minimum daily discharge, 78 ft³/s Nov. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	100	82	114	155	236	157	147	147	1340	90	105
2	112	100	84	114	150	229	152	141	142	564	95	101
3	111	98	86	116	140	221	170	133	129	260	96	99
4	107	97	92	118	130	213	195	130	121	200	94	95
5	106	97	96	116	120	206	217	130	120	167	102	97
6	107	98	98	112	120	196	206	124	141	143	193	109
7	108	98	100	110	120	182	204	118	128	130	683	110
8	112	98	102	112	118	174	185	117	117	122	324	100
9	106	99	104	118	114	169	170	119	110	118	176	101
10	108	100	104	120	110	166	157	117	111	160	145	100
11	115	101	106	114	120	167	146	120	114	327	132	99
12	124	102	106	112	140	186	138	118	108	755	168	99
13	120	103	102	114	160	260	135	119	102	474	133	97
14	122	109	104	116	170	254	134	115	101	245	124	94
15	116	114	109	120	170	228	178	151	109	194	118	95
16	115	116	110	130	200	229	195	177	138	168	111	96
17	114	118	108	140	240	241	200	244	119	148	105	112
18	112	121	108	140	230	621	217	190	106	134	105	110
19	108	114	110	135	220	1260	217	194	98	122	134	413
20	122	114	110	140	230	498	204	172	94	112	101	190
21	122	116	108	135	250	430	182	155	111	105	100	176
22	117	110	104	135	270	350	161	144	103	100	99	282
23	118	110	102	135	290	314	145	139	94	99	98	660
24	119	112	102	135	300	269	137	134	91	93	97	284
25	127	108	110	120	376	232	131	135	88	480	91	230
26	119	100	120	130	273	211	131	132	87	248	95	202
27	116	98	118	140	242	199	133	130	92	124	164	185
28	109	94	116	145	242	186	130	137	96	103	157	171
29	103	82	114	155	---	179	134	147	99	93	123	165
30	101	78	114	160	---	174	147	165	1470	89	116	159
31	99	---	114	160	---	166	---	159	---	85	110	---
TOTAL	3506	3105	3243	3961	5400	8646	5008	4453	4686	7502	4479	4936
MEAN	113	104	105	128	193	279	167	144	156	242	144	165
MAX	127	121	120	160	376	1260	217	244	1470	1340	683	660
MIN	99	78	82	110	110	166	130	115	87	85	90	94
AC-FT	6950	6160	6430	7860	10710	17150	9930	8830	9290	14880	8880	9790
CAL YR 1985	TOTAL	50171		MEAN	137	MAX	1110	MIN	52	AC-FT	99510	
WTR YR 1986	TOTAL	58925		MEAN	161	MAX	1470	MIN	78	AC-FT	116900	

PLATTE RIVER BASIN

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06794000 BEAVER CREEK AT GENOA, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT 09...	1330	107	360	8.90	7.5	11.0	30	5300	10000
NOV 05...	1630	97	375	7.80	10.0	11.9	20	1800	860
DEC 03...	1630	86	401	7.50	0.0	11.6	17	E9300	E22000
JAN 28...	1700	145	402	7.90	0.0	13.7	16	K21	120
FEB 26...	1430	277	295	7.50	4.0	11.4	120	3000	31000
MAR 27...	0840	200	420	7.80	9.0	10.8	57	K47	J200
APR 23...	1500	146	402	7.90	16.5	9.6	45	K50	K220
MAY 19...	1630	188	315	8.10	19.5	9.2	96	K37000	34000
JUN 19...	1245	97	370	7.90	26.0	9.1	40	1200	2000
JUL 15...	1615	182	300	7.50	30.0	6.4	90	5700	9500
AUG 12...	1600	175	295	7.60	21.5	9.8	59	19000	K110000
SEP 09...	1300	101	360	7.80	15.5	9.5	27	3900	5300

E Estimated value.

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

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 09...	170	0	54	8.5	9.6	0.3	11	<5.0
NOV 05...	170	0	55	8.9	10	0.3	1.7	<5.0
DEC 03...	170	0	54	9.2	9.4	0.3	15	<5.0
JAN 28...	180	0	57	10	11	0.4	11	<5.0
FEB 26...	110	0	33	6.5	5.9	0.3	6.9	<5.0
MAR 27...	150	0	46	8.0	12	0.4	12	5.6
APR 23...	160	0	49	8.2	6.4	0.2	14	<5.0
MAY 19...	130	0	41	7.5	9.9	0.4	8.4	6.1
JUN 19...	160	0	50	8.6	10	0.4	<2.0	<5.0
JUL 15...	120	0	38	6.3	7.4	0.3	<2.0	5.1
AUG 12...	110	0	35	5.7	6.5	0.3	2.1	<5.0
SEP 09...	170	0	52	9.1	9.1	0.3	<2.0	<5.0

PLATTE RIVER BASIN

06794000 BEAVER CREEK AT GENOA, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, RESIDUE AT 105 DEG. C. SUS- PENDE (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L) AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L) AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L) AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L) AS N) (00625)	NITRO- GEN, TOTAL (MG/L) AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L) AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L) AS C) (00680)
OCT								
09...	96	0.750	0.020	0.68	0.70	1.5	0.410	5.4
NOV								
05...	64	0.820	0.040	0.36	0.40	1.2	0.670	4.8
DEC								
03...	50	0.880	0.270	0.23	0.50	1.4	0.400	2.5
JAN								
28...	70	0.980	0.260	0.11	0.37	1.4	0.370	4.3
FEB								
26...	2910	1.20	0.850	12	13	14	1.20	26
MAR								
27...	388	0.740	0.190	3.1	3.3	4.0	0.470	12
APR								
23...	230	0.570	0.100	1.5	1.6	2.2	0.740	13
MAY								
19...	879	0.730	0.080	1.8	1.9	2.6	1.10	15
JUN								
19...	148	0.280	0.120	1.3	1.4	1.7	0.780	4.5
JUL								
15...	404	0.850	0.040	5.8	5.8	6.7	1.30	13
AUG								
12...	818	0.960	0.070	4.5	4.6	5.6	0.970	12
SEP								
09...	156	0.830	<0.020	--	0.80	1.6	0.640	5.5

PLATTE RIVER BASIN

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06795500 SHELL CREEK NEAR COLUMBUS, NE

LOCATION.--Lat 41°31'33", long 97°16'55", in NE1/4NW1/4 sec.23, T.18 N., R.1 E., Platte County, Hydrologic Unit 10200201, on right bank 80 ft upstream from county road bridge, 1 mi upstream from Loseke Creek, and 7 mi northeast of Columbus.

DRAINAGE AREA.--270 mi², approximately.

PERIOD OF RECORD.--August 1947 to September 1975, October 1977 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,435 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 18 to Mar 5 and Feb, 11, 12. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--37 years, 44.3 ft³/s, 32,100 acre-ft/yr; median of yearly mean discharges, 40 ft³/s, 29,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,970 ft³/s June 3, 1950, gage height, 21.38 ft; maximum gage height, 22.11 ft May 20, 1982, backwater from log jam; minimum daily discharge, 0.4 ft³/s July 27, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1947, reached a stage of 21.7 ft, from floodmark, discharge, 4,600 ft³/s.

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)
Mar. 19	2200	973	10.91	July 12	2000	953	10.77
May 17	0800	838	9.94	Aug. 7	2330	821	9.81
June 30	1600	*1900	*16.62				

Minimum daily discharge, 12 ft³/s Aug. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	18	20	24	28	170	36	36	40	1560	15	15
2	23	18	21	23	29	150	34	32	31	712	16	14
3	22	18	22	23	30	130	47	31	29	211	17	15
4	21	18	22	23	29	110	63	30	32	134	15	20
5	20	18	22	23	28	95	53	29	328	108	15	25
6	20	19	23	22	27	85	42	27	129	80	22	36
7	19	19	23	21	27	77	38	25	46	60	249	70
8	19	18	24	21	26	67	35	25	35	53	400	28
9	19	19	24	24	26	69	32	28	31	50	95	21
10	20	20	24	26	25	65	30	28	31	261	50	20
11	21	19	22	28	25	61	29	26	35	284	33	22
12	20	20	21	28	24	123	29	35	47	689	26	22
13	24	21	22	27	27	468	29	25	67	395	27	23
14	21	22	23	27	32	236	32	24	35	101	26	25
15	20	22	24	26	35	121	48	186	49	60	24	26
16	19	23	23	26	38	96	43	243	82	45	22	28
17	20	23	23	26	52	92	36	594	39	38	22	56
18	21	23	22	25	72	331	40	112	32	34	28	74
19	23	21	19	25	68	885	44	51	28	32	86	74
20	22	20	22	25	64	399	37	41	25	29	37	170
21	21	18	23	25	68	132	34	38	28	28	28	52
22	21	19	23	25	78	80	32	35	74	28	12	38
23	20	20	23	25	84	62	31	34	28	26	21	270
24	22	20	22	24	82	54	29	33	24	24	20	167
25	22	21	21	24	84	50	28	32	22	142	19	50
26	19	21	21	23	110	50	28	32	21	248	21	30
27	18	21	21	23	130	44	36	32	29	65	37	22
28	18	20	23	22	145	41	82	34	86	27	92	21
29	18	19	24	24	---	40	74	41	54	17	37	20
30	18	20	25	26	---	38	44	39	1490	15	22	20
31	18	---	24	27	---	36	---	41	---	13	16	---
TOTAL	639	598	696	761	1493	4457	1195	2019	3027	5569	1550	1474
MEAN	20.6	19.9	22.5	24.5	53.3	144	39.8	65.1	101	180	50.0	49.1
MAX	30	23	25	28	145	885	82	594	1490	1560	400	270
MIN	18	18	19	21	24	36	28	24	21	13	12	14
AC-FT	1270	1190	1380	1510	2960	8840	2370	4000	6000	11050	3070	2920
CAL YR 1985	TOTAL	16054		MEAN	44.0	MAX	1360	MIN	12	AC-FT	31840	
WTR YR 1986	TOTAL	23478		MEAN	64.3	MAX	1560	MIN	12	AC-FT	46570	

PLATTE RIVER BASIN

06796000 PLATTE RIVER AT NORTH BEND, NE

LOCATION.--Lat 41°27'10", long 96°45'50". in SE1/4 sec.7, T.17 N., R.6 E., Dodge County, Hydrologic Unit 10200201, on left bank 80 ft upstream from bridge on State Highway 79, 1 mi south of North Bend, and 5 mi downstream from Shell Creek.

DRAINAGE AREA.--77,100 mi². approximately, of which about 63,300 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1949 to current year.

REVISED RECORDS.--WDR NE-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,262.32 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 12, 1951, nonrecording gage and Sept. 12, 1951, to Sept. 30, 1970, water-stage recorder, at present site at datum 2.00 ft higher.

REMARKS.--Estimated daily discharges: Nov. 23 to Feb. 27. Records good except for period of estimated record, which is poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE.--37 years, 4,460 ft³/s, 3,231,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 112,000 ft³/s Mar. 29, 1960, gage height, 10.04 ft, present datum; maximum gage height, 15.55 ft Mar. 19, 1978, ice jam; minimum daily discharge, 36 ft³/s July 29, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20,700 ft³/s Feb. 27, gage height, 7.12 ft, backwater from ice; maximum gage height, 7.80 ft Feb. 26, backwater from ice; minimum daily discharge, 820 ft³/s Nov. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6240	5140	2900	4500	6600	13600	6540	9890	6080	14900	3270	5110
2	6260	5220	3000	4600	7000	13200	6900	9390	5880	12000	2890	5390
3	5570	4590	3100	4700	7600	10200	7200	8620	5450	8710	3530	4600
4	5680	4940	3100	4800	8000	9550	7750	8630	5370	6450	3750	5390
5	5380	4670	3000	5200	8000	9450	8330	8600	5730	5450	4330	5440
6	5410	4400	2800	5200	7800	8830	7800	7390	4880	5350	4930	6490
7	5180	4520	3000	5400	7000	9120	8580	7870	5610	4480	5600	7450
8	4690	4710	2900	5600	6000	8180	7970	8010	4400	3910	8520	11500
9	4730	4840	3200	6000	5000	8490	8430	8150	3880	3760	7450	8490
10	4750	5070	3300	6400	3500	9150	8390	7950	4030	3470	6030	7900
11	5260	3330	3300	6400	2700	8030	8260	8350	4790	5890	5130	7430
12	5490	5120	3300	6400	3000	9600	8390	9890	3910	8180	5710	7820
13	6260	4950	3200	6200	3200	11000	8310	10100	3940	9780	5730	7900
14	4920	5870	3200	6600	3300	11000	9280	8300	3760	9020	5570	8160
15	6370	4300	3100	7200	3400	9000	10200	7410	3570	7500	5920	8320
16	5420	4450	3000	7600	3500	10300	8030	8560	3960	5670	5530	8590
17	5220	5600	3100	8000	3600	10200	8810	10000	3570	5080	5690	9760
18	6410	5140	3300	8200	3800	11300	9000	11200	5220	4230	4960	10500
19	6770	5180	3400	8200	4000	15900	8890	8600	6140	4310	5120	11800
20	6920	2360	3600	8000	4300	15300	9290	6900	6500	3770	7340	15500
21	7130	2440	4000	7800	4500	12900	9010	5970	8390	3340	7010	12400
22	8540	1760	4200	7800	5200	10800	8690	5360	8250	3210	5520	11300
23	6290	867	4400	7800	6400	9050	8060	5160	7980	2970	4640	14300
24	5010	840	4200	7600	6200	9350	7480	4670	7000	3140	4140	14200
25	5700	820	4100	7400	7000	8200	7630	4700	6540	2070	4140	11000
26	6490	2500	4400	7200	10000	7530	7470	4570	6290	3660	3760	10100
27	6050	2800	4700	6600	19000	7950	11900	4720	5860	3750	3840	8860
28	5840	3000	4700	5600	18200	7130	12600	5080	5630	2990	3970	8590
29	5810	2900	4700	5800	---	7050	11500	5220	5450	2550	4370	8480
30	4850	2800	4600	6000	---	6210	10100	5410	10900	2320	4830	7900
31	5040	---	4500	6200	---	6280	---	6320	---	2130	4890	---
TOTAL	179680	115127	111300	201000	177800	303850	260790	230990	168960	164040	158110	270670
MEAN	5796	3838	3590	6484	6350	9802	8693	7451	5632	5292	5100	9022
MAX	8540	5870	4700	8200	19000	15900	12600	11200	10900	14900	8520	15500
MIN	4690	820	2800	4500	2700	6210	6540	4570	3570	2070	2890	4600
AC-FT	356400	228400	220800	398700	352700	602700	517300	458200	335100	325400	313600	536900
CAL YR 1985	TOTAL	1910647		MEAN	5235	MAX	23800	MIN	820	AC-FT	3790000	
WTR YR 1986	TOTAL	2342317		MEAN	6417	MAX	19000	MIN	820	AC-FT	4646000	

PLATTE RIVER BASIN

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06796000 PLATTE RIVER AT NORTH BEND, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1972 to September 1977.

WATER TEMPERATURES: October 1972 to September 1977.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 790 microsiemens June 25, 1973; minimum daily, 218 microsiemens Sept. 19, 1977.

WATER TEMPERATURE: Maximum, 29.5°C several days during summer periods; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT									
15...	1000	6290	775	8.50	10.0	11.5	20	K110	K210
NOV									
07...	1115	4920	510	7.80	6.0	11.7	13	320	84
DEC									
05...	1230	2810	744	8.10	0.5	13.7	9	K120	110
JAN									
30...	1300	5890	710	--	0.0	14.5	8	K16	150
FEB									
27...	1630	18900	638	7.80	0.5	13.4	52	K93	2800
MAR									
26...	1030	7670	850	8.20	11.0	10.5	21	130	200
APR									
24...	1200	7650	868	8.40	18.0	10.8	26	--	K68
MAY									
22...	1045	5900	470	8.20	18.5	9.2	38	K2000	K330
JUN									
20...	1100	8300	481	8.00	26.0	8.1	59	200	400
JUL									
16...	1330	5870	545	7.70	28.0	8.4	52	770	K210
AUG									
14...	1230	6200	320	7.60	26.5	7.2	61	1000	380
SEP									
10...	0930	8400	313	7.60	18.5	8.6	54	K16000	7900

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

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT								
15...	240	0	65	19	61	2	150	18
NOV								
07...	200	0	56	14	33	1	24	6.7
DEC								
05...	260	0	72	20	48	1	200	16
JAN								
30...	250	0	69	20	51	1	140	18
FEB								
27...	220	0	60	18	48	1	150	18
MAR								
26...	250	0	68	20	57	2	140	23
APR								
24...	270	0	72	23	63	2	230	26
MAY								
22...	210	0	58	16	36	1	130	17
JUN								
20...	160	0	41	13	38	1	110	15
JUL								
16...	180	0	47	15	40	1	120	14
AUG								
14...	110	0	34	7.3	14	0.6	17	<5.0
SEP								
10...	120	0	37	7.4	12	0.5	11	<5.0

PLATTE RIVER BASIN

06796000 PLATTE RIVER AT NORTH BEND, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, RESIDUE AT 105 DEG. C. SUS- PENDE (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L) AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L) AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L) AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L) AS N) (00625)	NITRO- GEN, TOTAL (MG/L) AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L) AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L) AS C) (00680)
OCT 15...	72	0.890	0.020	1.2	1.2	2.1	0.190	7.7
NOV 07...	54	1.10	0.050	0.35	0.40	1.5	0.290	3.6
DEC 05...	8	1.40	0.170	0.30	0.47	1.9	0.350	3.4
JAN 30...	12	1.70	0.120	0.68	0.80	2.5	0.160	4.8
FEB 27...	816	1.60	0.130	5.1	5.2	6.8	0.890	9.0
MAR 26...	92	1.70	0.030	1.7	1.7	3.4	0.230	5.0
APR 24...	58	1.30	0.100	1.5	1.6	2.9	0.230	6.0
MAY 22...	186	0.940	0.050	1.4	1.4	2.3	0.410	7.2
JUN 20...	234	0.020	0.120	1.7	1.8	1.8	0.560	12
JUL 16...	326	0.020	0.030	2.6	2.6	2.6	0.560	9.1
AUG 14...	289	0.120	0.030	3.4	3.4	3.5	0.630	7.0
SEP 10...	508	0.970	0.030	2.3	2.3	3.3	0.820	7.6

PLATTE RIVER BASIN

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06796973 ELKHORN RIVER NEAR ATKINSON, NE

LOCATION.--Lat 42°29'12", long 98°54'42". in SW1/4NW1/4 sec.13, T.29 N., R.14 W, Holt County, Hydrologic Unit 10220001, on left bank 10 ft downstream from county road bridge, 4.0 mi southeast of Atkinson.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,042 ft from topographic map.

REMARKS.--Estimated daily discharges: Nov. 15 to Jan. 30, Feb. 8-24, and Aug. 30 to Sept. 22. Records good except for periods of estimated daily discharges, which are poor. Minor diversions for irrigation above station.

COOPERATION.--Discharge record furnished by Nebraska Department of Water Resources.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,500 ft³/s Apr.8, 1984, gage height, 8.41 ft; minimum daily, 5.8 ft³/s Dec. 30, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1550 ft³/s Sept. 18, gage height, 7.90 ft; minimum daily, 17 ft³/s Dec. 10-11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	22	19	34	48	120	72	116	162	226	30	68
2	24	21	20	36	45	145	69	100	152	209	30	68
3	23	21	21	36	46	142	75	90	135	193	28	66
4	24	21	21	35	53	132	95	84	120	159	28	64
5	24	21	20	33	57	120	140	76	122	127	29	62
6	24	20	20	32	61	107	213	67	140	104	30	60
7	24	20	19	30	61	94	224	61	145	86	37	56
8	23	22	18	29	45	84	181	85	129	75	33	54
9	22	20	18	29	44	83	146	280	118	64	33	54
10	23	19	17	31	42	85	122	610	209	60	31	56
11	23	20	17	33	37	82	106	688	361	60	30	54
12	24	21	18	35	39	90	91	560	390	57	30	52
13	23	21	18	35	42	111	90	411	325	50	29	50
14	22	21	19	34	42	139	104	306	287	46	28	50
15	22	21	20	35	44	174	65	248	278	44	27	90
16	23	22	21	36	45	207	153	213	219	39	25	500
17	25	22	22	37	46	248	282	188	190	35	23	1330
18	24	21	23	39	50	308	349	169	163	33	22	1500
19	24	22	24	40	54	323	354	152	140	35	23	1300
20	24	21	25	42	60	266	304	139	124	31	22	1280
21	24	20	27	45	72	257	253	127	110	31	21	1250
22	28	20	27	48	74	238	210	117	107	29	22	1200
23	25	21	27	50	70	211	180	118	93	28	21	1020
24	24	21	28	50	68	180	154	113	80	26	21	819
25	23	22	28	44	67	161	132	109	70	25	23	653
26	23	23	28	45	116	139	116	106	62	24	29	499
27	22	22	29	40	159	121	111	107	56	23	24	384
28	25	21	29	41	128	112	130	116	51	25	24	311
29	24	20	30	43	---	101	143	135	67	24	35	259
30	21	20	32	44	---	90	135	152	176	34	45	220
31	22	---	33	45	---	80	---	159	---	31	56	---
TOTAL	729	629	718	1186	1715	4750	4799	6002	4781	2033	889	13429
MEAN	23.5	21.0	23.2	38.3	61.2	153	160	194	159	65.6	28.7	448
MAX	28	23	33	50	159	323	354	688	390	226	56	1500
MIN	21	19	17	29	37	80	65	61	51	23	21	50
AC-FT	1450	1250	1420	2350	3400	9420	9520	11900	9480	4030	1760	26640
CAL YR 1985	TOTAL	17162	MEAN	47.0	MAX	423	MIN	12	AC-FT	34040		
WTR YR 1986	TOTAL	41660	MEAN	114	MAX	1500	MIN	17	AC-FT	82630		

PLATTE RIVER BASIN

06796973 ELKHORN RIVER NEAR ATKINSON, NE--Continued

WATER QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT									
09...	1430	21	225	8.20	7.5	13.7	17	160	92
NOV									
25...	1505	22	208	7.50	0.5	10.6	3	700	80
DEC									
19...	1055	25	240	7.40	0.5	10.1	<5	1700	1500
JAN									
24...	1115	50	191	7.40	0.5	12.0	13	1800	940
FEB									
14...	1400	42	229	7.20	0.5	9.4	26	3100	1300
MAR									
14...	1125	138	222	7.90	4.5	11.3	53	930	740
APR									
10...	1115	124	323	7.80	14.0	9.1	46	1100	--
MAY									
09...	1130	228	192	7.30	17.5	6.8	66	K25000	12000
JUN									
05...	1120	121	289	7.70	18.0	7.9	52	3000	1400
JUL									
03...	1210	196	243	7.60	26.0	6.4	52	3500	740
AUG									
28...	1335	24	232	7.80	15.0	9.9	20	480	1400
SEP									
26...	1145	503	253	7.30	17.0	6.8	52	1100	4700

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

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM. DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT								
09...	91	0	29	4.4	9.5	0.5	11	<5.0
NOV								
25...	83	0	26	4.3	8.6	0.4	6.7	<5.0
DEC								
19...	83	0	26	4.5	10	0.5	8.2	<5.0
JAN								
24...	82	0	26	4.2	9.6	0.5	7.6	<5.0
FEB								
14...	96	0	30	5.1	10	0.5	8.1	<5.0
MAR								
14...	75	0	23	4.3	8.7	0.5	3.6	<5.0
APR								
10...	120	0	39	6.0	12	0.5	<2.0	6.4
MAY								
09...	73	0	23	3.8	9.8	0.5	<2.0	<5.0
JUN								
05...	110	0	35	5.8	15	0.6	<2.0	<5.0
JUL								
03...	99	0	32	4.6	10	0.5	<2.0	<5.0
AUG								
28...	96	0	31	4.5	9.8	0.5	<2.0	<5.0
SEP								
26...	110	0	35	4.7	11	0.5	<2.0	<5.0

PLATTE RIVER BASIN

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06796973 ELKHORN RIVER NEAR ATKINSON, NE--Continued

WATER QUALITY DATA. WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, RESIDUE AT 105 DEG. C. SUS- PENDEED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 09...	<4	2.10	0.040	0.49	0.53	2.6	0.190	3.1
NOV 25...	<4	2.10	0.160	0.24	0.40	2.5	0.300	2.5
DEC 19...	4	3.10	0.320	0.33	0.65	3.8	0.420	3.2
JAN 24...	30	1.70	0.120	0.78	0.90	2.6	0.260	5.8
FEB 14...	6	1.80	0.130	1.3	1.4	3.2	0.190	7.7
MAR 14...	34	0.480	0.040	0.96	1.0	1.5	0.200	13
APR 10...	10	0.670	0.050	2.0	2.1	2.8	0.140	18
MAY 09...	56	0.230	0.070	4.0	4.1	4.3	0.360	22
JUN 05...	35	0.790	0.050	1.5	1.6	2.4	0.230	17
JUL 03...	54	0.340	0.030	2.6	2.6	2.9	0.240	16
AUG 28...	12	2.60	<0.020	--	0.92	3.5	0.220	3.9
SEP 26...	8	0.080	0.030	1.1	1.1	1.2	0.090	6.1

PLATTE RIVER BASIN

06796978 HOLT CREEK NEAR EMMET, NE

LOCATION.--Lat 42°25'19", long 98°51'46", in SE1/4SW1/4 sec.5, T.28 N., R.13 W., Holt County, Hydrologic Unit 10220001, on left bank 12 ft downstream from bridge on county road, 4 mi southwest of Emmet.

PERIOD OF RECORD.--October 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,070.12 ft above National Geodetic Vertical Datum of 1929. (Levels by Nebraska Natural Resources Commission.)

REMARKS.--Estimated daily discharges: Nov. 9 to Feb. 27. Records good except for period of estimated record which is poor.

AVERAGE DISCHARGE.--8 years, 33.5 ft³/s, 24,270 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 657 ft³/s Sept. 19, 1986, gage height, 6.64 ft; maximum gage height, 7.61 ft Feb. 28, 1979, backwater from ice; minimum daily discharge, 0.10 ft³/s Jan. 24, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 657 ft³/s Sept. 19, gage height, 6.64 ft; minimum daily, 3.5 ft³/s Dec. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	11	6.0	14	34	100	24	45	49	310	41	64
2	11	11	3.5	15	33	94	25	40	51	413	45	62
3	11	11	5.8	16	32	82	32	40	45	431	43	64
4	13	11	8.0	15	33	78	35	37	39	364	43	59
5	12	10	8.6	15	34	75	57	34	47	273	45	57
6	11	9.8	8.4	14	34	62	99	28	63	209	44	52
7	11	9.8	7.8	14	33	54	98	23	71	152	52	52
8	11	9.8	7.8	15	32	42	72	22	98	114	54	46
9	11	9.0	7.6	16	30	44	57	25	108	89	53	45
10	11	8.8	7.2	17	29	44	48	23	203	83	47	46
11	11	9.6	7.2	17	27	38	43	32	187	99	43	44
12	13	11	6.8	18	26	47	37	37	168	92	39	41
13	12	10	6.8	17	26	62	38	38	164	80	37	38
14	13	10	7.0	18	27	70	87	33	220	74	35	38
15	14	9.6	7.2	19	28	78	118	27	185	73	33	38
16	14	9.4	7.2	21	28	89	141	26	142	74	30	197
17	12	9.2	7.4	23	29	101	150	26	119	63	26	460
18	12	9.8	7.6	26	30	124	148	23	95	59	25	555
19	12	9.6	7.6	28	30	111	133	21	76	68	24	614
20	11	9.2	8.0	29	31	106	113	19	65	68	22	610
21	11	9.4	8.4	31	31	85	94	19	58	59	20	590
22	11	9.6	8.6	32	32	71	94	17	60	54	19	520
23	11	9.8	8.8	32	33	58	78	29	53	48	17	445
24	11	10	9.2	31	42	50	68	28	46	42	17	396
25	11	11	9.6	31	66	47	58	25	38	39	21	345
26	12	11	10	30	100	39	52	26	34	37	38	269
27	11	10	10	29	140	36	51	27	29	36	36	233
28	11	9.8	11	30	108	35	63	31	25	32	38	211
29	11	9.6	12	31	---	34	59	33	61	28	49	184
30	9.3	9.4	12	32	---	29	57	35	325	42	64	167
31	9.8	---	13	33	---	27	---	42	---	42	68	---
TOTAL	356.1	298.2	256.1	709	1158	2012	2229	911	2924	3647	1168	6542
MEAN	11.5	9.94	8.26	22.9	41.4	64.9	74.3	29.4	97.5	118	37.7	218
MAX	14	11	13	33	140	124	150	45	325	431	68	614
MIN	9.3	8.8	3.5	14	26	27	24	17	25	28	17	38
AC-FT	706	591	508	1410	2300	3990	4420	1810	5800	7230	2320	12980
CAL YR 1985	TOTAL	7834.6	MEAN	21.5	MAX	225	MIN	3.2	AC-FT	15540		
WTR YR 1986	TOTAL	22210.4	MEAN	60.9	MAX	614	MIN	3.5	AC-FT	44050		

PLATTE RIVER BASIN

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06797500 ELKHORN RIVER AT EWING, NE

LOCATION.--Lat 42°16'03", long 98°20'11", in NW1/4SW1/4 sec.35, T.27 N., R.9 W., Holt County, Hydrologic Unit 10220001, on right bank 800 ft downstream from bridge on State Highway L-45B, 0.8 mi north of Ewing, and 1.5 mi upstream from South Fork Elkhorn River.

DRAINAGE AREA.--1,400 mi², approximately, of which about 740 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--August 1947 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,836.24 ft, above National Geodetic Vertical Datum of 1929, levels by Nebraska Department of Roads. Prior to Oct. 22, 1952, at site 300 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 18 to Feb. 28. Records good except for period of estimated record, which is poor.

AVERAGE DISCHARGE.--39 years, 178 ft³/s, 129,000 acre-ft/yr; median of yearly mean discharges, 119 ft³/s, 86,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,500 ft³/s June 10, 1962, gage height, 10.60 ft; minimum daily, 5.2 ft³/s Sept. 6, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 11.32 ft June 23, 24, 1947, from floodmark at site 300 ft upstream, discharge, 6,600 ft³/s.

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)
Mar. 18	2330	740	5.86	May 13	2030	583	5.53
Apr. 19	1830	784	5.96	July 5	0930	1120	6.57
June 15	0730	814	6.02	Sept. 23	1130	*2520	*8.42

Minimum daily discharge, 41 ft³/s Dec. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	61	47	80	130	445	177	314	249	572	127	113
2	66	61	46	82	150	433	178	284	253	726	121	118
3	65	63	46	80	180	422	212	257	254	960	114	124
4	70	64	48	78	220	370	252	231	246	1070	111	123
5	71	64	50	74	250	344	262	206	232	1100	107	119
6	73	63	48	70	210	318	273	184	226	1070	109	117
7	71	63	47	66	190	291	309	170	236	892	115	114
8	70	63	45	68	190	265	371	160	242	662	115	111
9	69	62	43	70	180	237	387	161	247	470	134	109
10	70	61	42	72	180	219	341	181	262	374	127	107
11	71	58	42	76	160	214	281	241	312	356	119	107
12	72	67	42	76	170	243	238	420	430	338	112	108
13	74	81	41	74	190	267	221	558	613	308	106	101
14	73	88	42	78	190	285	313	566	741	296	104	95
15	71	84	45	80	190	322	247	483	796	266	101	96
16	69	77	50	82	190	404	393	448	759	231	94	119
17	68	70	52	84	200	511	589	400	704	199	89	781
18	68	62	52	84	200	649	684	340	579	174	85	1310
19	67	54	50	86	190	703	768	286	453	161	83	1830
20	67	50	54	90	190	672	749	249	366	169	81	2320
21	66	47	58	96	190	654	668	227	310	167	78	2410
22	65	46	60	94	200	615	570	209	318	146	75	2400
23	66	47	60	92	200	544	480	206	284	131	70	2460
24	67	48	60	96	210	467	424	207	248	120	66	2300
25	65	50	60	98	220	403	372	206	217	118	63	2080
26	63	52	62	100	230	338	327	204	192	108	86	1790
27	61	50	64	98	300	293	311	201	171	103	97	1590
28	61	49	68	96	350	258	355	214	154	109	104	1360
29	61	49	72	92	---	231	357	229	168	97	104	1120
30	61	48	76	98	---	211	340	234	335	106	106	940
31	61	---	78	110	---	194	---	239	---	116	109	---
TOTAL	2088	1802	1650	2620	5650	11822	11449	8515	10597	11715	3112	26472
MEAN	67.4	60.1	53.2	84.5	202	381	382	275	353	378	100	882
MAX	74	88	78	110	350	703	768	566	796	1100	134	2460
MIN	61	46	41	66	130	194	177	160	154	97	63	95
AC-FT	4140	3570	3270	5200	11210	23450	22710	16890	21020	23240	6170	52510
CAL YR 1985	TOTAL	43898		MEAN	120	MAX	850	MIN	23	AC-FT	87070	
WTR YR 1986	TOTAL	97492		MEAN	267	MAX	2460	MIN	41	AC-FT	193400	

PLATTE RIVER BASIN

06798000 SOUTH FORK ELKHORN RIVER NEAR EWING, NE

LOCATION.--Lat 42°14'29", long 98°23'53", in SE1/4NE1/4 sec.7, T.26 N., R.9 W., Holt County, Hydrologic Unit 10220001, on right bank 17 ft downstream from bridge on county highway, 2.9 mi southwest of intersection with U.S. Highway 275 in Ewing and 5.5 mi upstream from mouth.

DRAINAGE AREA.--314 mi², approximately, of which about 190 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--July 1947 to September 1953, August 1960 to September 1972, October 1977 to current year. Prior to October 1977 station published as "at Ewing" at sites 4.5 mi downstream at different datum.

GAGE.--Water-stage recorder. Elevation of gage is 1,880 ft from topographic map. See WSP 1918 for history of changes prior to June 14, 1963.

REMARKS.--Estimated daily discharges: Nov. 10, 11, Nov. 19 to Jan. 14, Jan. 26-28, and Feb. 7-17, 20-22. Records fair except for periods of estimated record, which are poor.

COOPERATION.--Records were furnished by Nebraska Department of Water Resources.

AVERAGE DISCHARGE.--27 years (water years 1948-53, 1961-72, 1978-86) 68.5 ft³/s, 49,630 acre-ft/yr; median of yearly mean discharges, 52.8 ft³/s, 38,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,860 ft³/s Apr. 1, 1983, gage height, 4.77 ft; maximum gage height, 6.12 ft Mar. 7, 1949, backwater from ice, site then in use; minimum daily discharge, 11 ft³/s Jan. 15, 1953.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 21, 1947, reached a stage of 7.22 ft, from floodmarks at site and datum then in use; discharge, about 3,400 ft³/s.

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)
Mar. 19	1500	293	1.83	July 4	0400	415	2.21
June 14	0900	306	1.91	Sept. 21	1400	*802	*2.71
June 17	1600	293	1.87				

Minimum daily discharge, 26 ft³/s Dec. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	46	27	44	58	112	63	98	65	188	45	45
2	50	46	28	47	58	90	71	82	58	283	42	45
3	48	46	31	50	58	95	72	71	52	348	40	48
4	48	46	33	54	62	86	74	67	59	395	38	45
5	48	50	35	56	64	83	72	67	56	355	40	45
6	50	50	37	54	64	79	84	58	63	283	38	40
7	50	48	40	52	64	72	96	56	124	232	42	40
8	48	48	40	50	60	66	84	54	163	172	45	42
9	42	50	39	54	56	58	76	56	140	137	63	38
10	39	43	38	56	54	58	69	50	105	137	58	38
11	40	44	37	58	50	58	67	54	86	147	65	38
12	46	46	34	62	42	64	59	50	103	142	63	40
13	46	46	27	72	43	68	63	48	195	137	56	40
14	44	46	26	74	44	86	68	47	269	129	48	38
15	44	54	37	66	45	100	134	50	213	119	47	37
16	44	48	38	64	48	127	115	93	228	98	45	67
17	48	56	32	64	54	152	158	71	270	80	45	158
18	46	54	27	62	64	218	158	71	235	69	42	396
19	44	52	31	64	62	276	150	63	192	58	43	679
20	46	48	31	66	56	267	140	59	158	54	43	730
21	48	45	36	68	47	222	119	56	127	54	38	792
22	46	47	40	68	54	180	107	56	110	52	37	735
23	44	47	44	68	64	145	107	59	91	48	32	674
24	46	48	33	66	60	124	105	52	86	47	28	624
25	46	48	30	58	62	110	96	54	80	47	32	585
26	48	49	40	50	70	96	89	59	72	47	40	499
27	46	45	38	48	97	91	89	61	72	47	38	369
28	48	41	36	45	125	84	93	67	65	48	47	290
29	48	42	35	52	---	82	98	69	73	47	48	232
30	48	41	39	54	---	76	107	76	103	47	47	181
31	48	---	42	56	---	69	---	76	---	45	47	---
TOTAL	1439	1420	1081	1802	1685	3494	2883	1950	3713	4092	1382	7630
MEAN	46.4	47.3	34.9	58.1	60.2	113	96.1	62.9	124	132	44.6	254
MAX	52	56	44	74	125	276	158	98	270	395	65	792
MIN	39	41	26	44	42	58	59	47	52	45	28	37
AC-FT	2850	2820	2140	3570	3340	6930	5720	3870	7360	8120	2740	15130

CAL YR 1985 TOTAL 19259 MEAN 52.8 MAX 290 MIN 26 AC-FT 38200
WTR YR 1986 TOTAL 32571 MEAN 89.2 MAX 792 MIN 26 AC-FT 64600

PLATTE RIVER BASIN

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06798300 CLEARWATER CREEK NR CLEARWATER, NE

LOCATION.--Lat 42°08'20", long 98°12'10", in SW1/4NW1/4 sec.13, T.25 N., R.8 W., Antelope County, Hydrologic Unit 10220001, on left bank at downstream side of county road bridge, 0.5 mi west and 2 mi south of Clearwater, and about 3 mi upstream from mouth.

DRAINAGE AREA.--210 mi², approximately, of which about 130 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--July 1961 to September 1964, October 1977 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,810 ft from topographic map. Prior to Sept. 7, 1961, wire-weight gage at same site and datum.

REMARKS.--Estimated daily discharges: Nov. 19 to Jan. 14, Jan. 26-30, and Feb. 7-22. Records fair except for periods of estimated record, which are poor.

COOPERATION.--Records were furnished by Nebraska Department of Water Resources.

AVERAGE DISCHARGE.--12 years (water years 1962-64, 1978-86), 42.9 ft³/s, 31,080 acre-ft/yr; median of yearly mean discharges, 41 ft³/s, 29,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 770 ft³/s Mar. 31, 1983, gage height, 8.09 ft from rating curve extended above 538 ft³/s; maximum gage height, 9.00 ft Aug. 5, 1981; minimum daily discharge, 4.4 ft³/s Aug. 8, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 27	1400	116	4.51	July 1	2200	152	4.65
Mar. 19	2000	*323	*5.47	July 13	1400	112	4.41
Apr. 17	0800	158	4.81	Sept. 19	0630	170	4.74

Minimum daily discharge, 13 ft³/s July 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	35	22	28	43	84	50	72	48	117	26	30
2	37	33	20	27	44	86	54	65	44	140	23	29
3	35	35	21	28	45	86	80	61	38	108	23	28
4	35	33	24	32	55	83	91	54	38	81	24	25
5	37	33	26	30	69	77	90	49	55	61	24	29
6	37	33	26	28	61	72	88	42	62	43	25	30
7	37	33	27	26	59	65	77	40	49	36	33	30
8	37	33	26	29	50	59	62	43	42	32	34	28
9	38	33	25	30	40	57	57	46	37	23	41	28
10	38	33	25	35	40	62	53	43	35	31	55	30
11	38	33	24	37	33	60	49	42	32	54	34	30
12	40	36	24	40	33	81	44	40	32	87	30	28
13	41	38	22	49	35	112	54	37	29	102	30	26
14	41	38	22	43	33	129	103	35	59	84	30	26
15	38	39	25	45	31	139	118	34	75	63	27	30
16	38	42	25	49	33	144	131	61	60	52	26	39
17	38	43	25	53	39	182	150	70	45	43	25	50
18	39	45	23	56	38	227	117	70	38	30	24	50
19	39	34	23	59	34	304	102	62	32	24	28	117
20	38	24	25	60	31	302	91	52	32	23	26	107
21	38	20	28	55	33	216	79	48	34	22	27	134
22	38	22	28	50	33	179	67	45	35	20	27	134
23	40	24	27	53	36	139	63	49	34	19	26	126
24	38	23	26	49	36	114	56	47	30	15	22	128
25	40	25	25	49	49	99	53	43	28	16	24	111
26	39	24	28	42	89	86	54	46	25	16	45	88
27	37	23	28	35	111	76	57	50	27	14	46	74
28	37	24	28	36	104	70	79	59	26	15	40	62
29	35	24	27	39	---	65	99	57	26	13	36	54
30	33	23	28	41	---	61	85	57	61	40	32	55
31	34	---	28	42	---	56	---	53	---	28	30	---
TOTAL	1168	938	781	1275	1337	3572	2353	1572	1208	1452	943	1756
MEAN	37.7	31.3	25.2	41.1	47.8	115	78.4	50.7	40.3	46.8	30.4	58.5
MAX	41	45	28	60	111	304	150	72	75	140	55	134
MIN	33	20	20	26	31	56	44	34	25	13	22	25
AC-FT	2320	1860	1550	2530	2650	7090	4670	3120	2400	2880	1870	3480
CAL YR 1985	TOTAL	17031		MEAN	46.7	MAX	335	MIN	20	AC-FT	33780	
WTR YR 1986	TOTAL	18355		MEAN	50.3	MAX	304	MIN	13	AC-FT	36410	

PLATTE RIVER BASIN

06798500 ELKHORN RIVER AT NELIGH, NE

LOCATION.--Lat 42°07'20", long 98°01'40", in SE1/4NE1/4 sec.20, T.25 N., R.6 W., Antelope County. Hydrologic Unit 10220001, on right bank 30 ft downstream from bridge on old State Highway 14 at Neligh.

DRAINAGE AREA.--2,200 mi², approximately, of which about 1,200 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1930 to September 1958, August 1960 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1006: 1935, 1942. WSP 1390: 1931-32, 1937(M). WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,714.00 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 16, 1933, nonrecording gage at site 10 ft downstream at present datum. Apr. 16, 1933, to Jan. 23, 1939, nonrecording gage at bridge 30 ft upstream at present datum. Jan. 24, 1939, to Oct. 9, 1958, and Aug. 8, 1960, to Sept. 8, 1970, water-stage recorder at site 20 ft upstream at present datum.

REMARKS.--Estimated daily discharges: Nov. 18 to Feb. 27. Records good except for period of estimated record, which is poor.

AVERAGE DISCHARGE.--54 years, 300 ft³/s, 217,400 acre-ft/yr; median of yearly mean discharges, 238 ft³/s, 172,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 12,000 ft³/s June 23, 1947, gage height, 12.53 ft. from main channel rating curve extended above 4,900 ft³/s and field estimate of flow through break in highway fill; minimum daily, 12 ft³/s July 2, 1932.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 29, 1960, reached a stage of 12.24 ft, from floodmark. discharge, 12,300 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 19	0100	1780	5.80	July 5	1330	1780	5.85
Apr. 19	1200	1320	5.23	Sept. 21	1130	*4260	*8.17
June 15	1230	1550	5.52				

Minimum daily discharge, 137 ft³/s Aug. 25.

DISCHARGE. IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	191	197	190	250	300	828	410	594	363	784	227	231
2	194	191	180	250	320	822	404	532	344	1300	234	228
3	200	196	200	250	340	814	534	491	334	1560	208	227
4	213	202	210	240	400	756	613	428	352	1690	201	221
5	227	204	220	230	430	679	663	372	377	1700	200	216
6	218	202	220	210	410	610	640	318	404	1590	190	217
7	209	191	210	180	370	548	646	282	382	1350	208	210
8	212	196	210	190	360	474	669	269	437	1080	216	198
9	206	199	200	190	340	436	687	292	476	822	254	189
10	207	191	200	200	310	420	641	279	429	684	356	193
11	210	193	200	200	290	401	564	304	419	700	306	195
12	222	207	210	210	280	530	493	385	470	705	284	187
13	220	218	210	200	290	673	450	647	805	689	255	179
14	220	230	220	210	320	738	700	764	1400	642	232	171
15	214	243	220	210	310	824	476	733	1440	561	215	174
16	206	246	230	220	310	1000	869	797	1350	468	207	226
17	218	246	220	220	310	1220	1190	813	1290	384	193	631
18	211	249	220	220	300	1510	1260	660	1180	317	184	1780
19	207	170	220	220	290	1680	1240	553	940	274	187	2690
20	203	170	230	230	280	1570	1210	450	758	264	181	3640
21	203	160	230	240	280	1360	1110	387	630	275	173	4110
22	208	160	230	230	280	1180	946	341	548	264	166	4080
23	218	160	230	230	290	1010	805	346	487	238	153	3760
24	214	180	230	240	290	857	703	346	414	211	142	3490
25	207	200	220	230	350	743	636	331	347	214	137	3110
26	206	210	220	220	500	649	580	330	294	202	213	2630
27	201	200	233	200	814	570	559	334	259	189	248	2150
28	202	190	230	220	799	548	639	378	234	208	241	1750
29	201	190	240	240	---	518	689	396	233	187	242	1410
30	204	190	250	280	---	474	659	397	423	217	235	1130
31	199	---	250	270	---	439	---	385	---	222	233	---
TOTAL	6471	5981	6783	6930	10163	24881	21685	13934	17819	19991	6721	39623
MEAN	209	199	219	224	363	803	723	449	594	645	217	1321
MAX	227	249	250	280	814	1680	1260	813	1440	1700	356	4110
MIN	191	160	180	180	280	401	404	269	233	187	137	171
AC-FT	12840	11860	13450	13750	20160	49350	43010	27640	35340	39650	13330	78590
CAL YR 1985	TOTAL	111739		MEAN	306	MAX	1970	MIN	87	AC-FT	221600	
WTR YR 1986	TOTAL	180982		MEAN	496	MAX	4110	MIN	137	AC-FT	359000	

06799000 ELKHORN RIVER AT NORFOLK, NE

LOCATION.--Lat 42°00'14", long 97°25'31", in SW1/4SW1/4 sec.34, T.24 N., R.1 W., Madison County, Hydrologic Unit 10220001, on left bank 200 ft downstream from U.S. Highway 81 bridge, 1 mi south of intersection of U.S. Highways 81 and 275, and 3.6 mi upstream from North Fork Elkhorn River.

DRAINAGE AREA.--2,790 mi², approximately, of which about 1,790 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1896 to November 1903 (no winter records), October 1945 to current year. Gage height records collected at site 200 ft upstream from May 10, 1941 to Sept. 26, 1945 are contained in reports of U.S. Weather Bureau. Published as "near Norfolk" from October 1957 to September 1977.

REVISED RECORDS.--WSP 1390: 1898-1900. WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,504.95 ft above National Geodetic Vertical Datum of 1929. See WSP 1918 for history of changes prior to Aug. 30, 1958. Aug. 30, 1958, to July 27, 1978, water-stage recorder at site 3.2 mi upstream at datum 17.88 ft higher.

REMARKS.--Estimated daily discharges: Nov. 20 to Feb. 26. Records fair except for period of estimated record, which is poor.

AVERAGE DISCHARGE.--41 years, 509 ft³/s, 368,800 acre-ft/yr; median of yearly mean discharges, 425 ft³/s, 308,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,900 ft³/s June 14, 1967, gage height, 8.52 ft, site and datum then in use; maximum gage height observed, 13.63 ft Mar. 11, 1949, at site 200 ft upstream at present datum, backwater from ice; minimum daily discharge, 33 ft³/s Aug. 3, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 13, 1944, reached a stage of 11.8 ft, at site 200 ft upstream at present datum, discharge, 14,300 ft³/s.

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)
Mar. 18	1715	4020	4.10	July 5	0500	2570	3.35
June 14	1815	*6510	*5.18	Sept. 22	1400	4700	4.21
June 30	1000	3010	3.58				

Minimum daily discharge, 253 ft³/s Oct. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	334	277	290	390	450	1070	632	1140	558	895	409	330
2	308	282	290	390	520	1020	612	1110	482	1230	380	333
3	289	293	300	390	600	887	759	1060	417	1920	383	326
4	282	293	320	390	660	874	792	936	445	2330	368	326
5	278	284	330	370	700	851	726	815	665	2490	349	328
6	279	294	330	340	700	770	715	683	603	2340	342	333
7	279	288	330	310	660	736	693	602	541	2060	380	352
8	269	284	330	320	600	704	683	564	479	2010	368	338
9	253	289	320	320	540	632	726	536	518	1770	406	341
10	266	289	310	330	470	622	792	494	605	1490	396	373
11	289	271	310	340	380	632	804	462	552	1250	490	383
12	314	303	320	350	380	815	1090	441	538	1210	472	377
13	316	331	320	350	540	1160	1100	509	579	1150	487	327
14	317	339	320	350	640	1140	1270	740	3920	1130	460	318
15	317	356	330	360	620	1110	1200	1110	2310	1070	403	312
16	316	369	340	370	620	1230	1010	1550	1880	942	373	344
17	314	351	340	370	640	1560	1470	1580	1400	801	352	536
18	322	374	340	380	640	2810	1690	1470	1210	668	334	811
19	326	298	330	380	600	2750	1510	1180	1160	560	326	2580
20	340	280	350	380	580	1540	1440	875	1060	464	306	2700
21	328	270	360	380	580	1380	1320	700	874	406	286	3170
22	329	260	370	370	560	1240	1060	612	899	396	298	3970
23	349	260	370	390	580	1240	1040	568	670	383	281	4290
24	326	270	360	400	660	1310	1150	549	635	456	269	4040
25	305	320	350	370	820	1180	1150	525	561	1100	268	3760
26	291	310	350	330	980	936	1140	483	482	740	334	3210
27	290	300	360	290	1210	804	1050	474	433	615	384	2790
28	281	300	370	330	1090	748	1050	571	404	626	432	2380
29	275	260	370	380	---	770	926	669	382	482	350	1950
30	264	290	380	400	---	770	1100	619	1900	434	349	1700
31	272	---	380	390	---	704	---	592	---	465	341	---
TOTAL	9318	8985	10470	11210	18020	33995	30700	24219	27162	33883	11376	43328
MEAN	301	300	338	362	644	1097	1023	781	905	1093	367	1444
MAX	349	374	380	400	1210	2810	1690	1580	3920	2490	490	4290
MIN	253	260	290	290	380	622	612	441	382	383	268	312
AC-FT	18480	17820	20770	22240	35740	67430	60890	48040	53880	67210	22560	85940
CAL YR 1985	TOTAL	160901		MEAN	441	MAX	2380	MIN	138	AC-FT	319100	
WTR YR 1986	TOTAL	262666		MEAN	720	MAX	4290	MIN	253	AC-FT	521000	

PLATTE RIVER BASIN

06799000 ELKHORN RIVER AT NORFOLK. NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-69, 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT									
23...	1245	350	405	8.40	13.0	10.0	10	K180	280
NOV									
13...	1400	340	348	8.00	2.5	13.3	14	97	220
DEC									
17...	1715	340	360	6.80	0.0	11.6	<5	650	140
JAN									
07...	1500	304	380	7.80	0.0	10.9	5	K31	K64
FEB									
12...	1400	380	387	7.80	0.0	10.2	26	K26	390
MAR									
04...	1440	892	258	8.10	9.0	11.3	64	K110	220
APR									
08...	1730	685	375	8.30	15.5	10.2	37	700	K140
29...	1630	920	295	8.00	17.0	10.0	29	7500	740
JUN									
03...	1755	417	328	8.40	25.0	10.7	43	120	84
JUL									
22...	1340	408	315	8.00	28.0	9.5	43	--	--
AUG									
27...	1400	380	342	7.80	20.5	11.0	53	1800	3300
SEP									
23...	1400	4380	219	7.40	18.0	8.5	83	K28000	K82000

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

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT								
23...	160	0	51	7.9	10	0.4	11	<5.0
NOV								
13...	170	0	52	8.8	9.5	0.3	8.8	<5.0
DEC								
17...	150	0	46	7.9	9.6	0.4	8.4	8.4
JAN								
07...	150	0	47	8.1	8.8	0.3	9.2	<5.0
FEB								
12...	150	0	47	8.3	11	0.4	<2.0	<5.0
MAR								
04...	99	0	31	5.2	8.7	0.4	6.2	<5.0
APR								
08...	140	0	45	7.8	12	0.5	<2.0	<5.0
29...	150	0	46	8.1	7.0	0.3	9.8	5.8
JUN								
03...	140	0	45	7.1	11	0.4	<2.0	<5.0
JUL								
22...	130	0	43	6.0	10	0.4	<2.0	<5.0
AUG								
27...	150	0	46	7.9	8.5	0.3	<2.0	<5.0
SEP								
23...	78	0	25	3.9	8.1	0.4	<2.0	<5.0

PLATTE RIVER BASIN

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06799000 ELKHORN RIVER AT NORFOLK, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, RESIDUE AT 105 DEG. C. SUS- PENDEED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L) AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L) AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L) AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L) AS N) (00625)	NITRO- GEN, TOTAL (MG/L) AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L) AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L) AS C) (00680)
OCT								
23...	21	0.370	0.020	0.40	0.42	0.79	0.180	4.3
NOV								
13...	32	0.730	0.140	0.12	0.26	0.99	0.330	4.2
DEC								
17...	8	1.30	0.230	0.40	0.63	1.9	0.290	4.3
JAN								
07...	12	1.30	0.200	0.27	0.47	1.8	0.300	3.1
FEB								
12...	60	1.10	0.220	0.98	1.2	2.3	0.320	9.0
MAR								
04...	274	0.510	0.120	4.1	4.2	4.7	0.340	1.0
APR								
08...	28	0.680	0.020	0.90	0.92	1.6	0.320	5.5
29...	48	0.670	0.050	2.0	2.0	2.7	0.120	11
JUN								
03...	86	0.020	0.030	1.7	1.7	1.7	0.270	11
JUL								
22...	54	0.020	0.030	0.27	0.30	0.32	0.240	9.8
AUG								
27...	82	0.020	0.030	2.2	2.2	2.2	0.390	15
SEP								
23...	534	0.100	0.060	3.2	3.3	3.4	0.480	17

PLATTE RIVER BASIN

06799080 WILLOW CREEK NEAR FOSTER, NE

LOCATION.--Lat 42°10'38", long 97°40'02" in NW1/4NE1/4 sec.4, T.25 N., R.3 W., Pierce County, Hydrologic Unit 10220002, on left downstream bank at county road bridge, 6.8 mi south of Foster and 7.2 mi southwest of Pierce.

DRAINAGE AREA.--137 mi².

PERIOD OF RECORD.--October 1975 (monthly discharge only) to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,650 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 20 to Jan. 30, 1987, Feb. 8-24, Mar. 7-9. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--11 years, 14.6 ft³/s, 10,580 acre-ft/yr; median of yearly mean discharges, 9.4 ft³/s, 6,800 acre-ft per year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 442 ft³/s Apr. 13, 1984, gage height, 7.41 ft, from floodmark; maximum gage height, 8.28 ft Feb. 24, 1983, backwater from ice; minimum daily discharge, 1.5 ft³/s Feb. 2, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 19	2230	153	5.70	Apr. 18	1000	*172	*5.90

Minimum daily discharge, 7.6 ft³/s Dec. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	10	8.2	11	13	16	25	24	16	23	9.1	8.1
2	11	10	8.6	11	13	16	28	21	14	19	9.4	8.1
3	11	10	9.6	11	13	17	53	20	13	16	8.6	8.3
4	11	10	10	9.0	19	17	79	19	12	15	9.3	7.8
5	11	10	10	9.4	22	16	74	17	16	13	9.4	8.2
6	11	10	10	9.6	16	16	57	15	19	12	9.3	8.6
7	11	9.8	9.6	9.2	14	13	43	15	20	12	11	9.0
8	11	9.8	9.0	9.8	12	13	33	15	19	12	9.1	8.4
9	11	9.6	8.8	10	12	15	28	16	16	11	9.4	8.7
10	12	9.7	8.2	10	11	17	24	15	14	14	11	9.2
11	12	11	7.6	11	10	17	22	15	13	17	9.4	9.0
12	13	11	7.8	11	9.8	28	20	13	12	16	9.3	8.3
13	12	11	8.6	11	10	36	22	13	13	14	13	8.5
14	12	11	9.2	11	11	39	43	13	40	13	11	8.7
15	12	11	9.4	11	12	44	47	13	50	13	10	8.8
16	11	11	9.4	11	14	51	86	19	66	11	9.5	9.6
17	12	11	8.8	11	16	74	126	23	69	11	8.9	12
18	11	12	8.2	11	14	119	156	23	50	10	9.1	9.4
19	12	11	8.4	11	13	145	92	22	33	9.9	9.6	21
20	11	10	8.2	10	11	136	54	18	26	9.6	9.1	22
21	12	9.2	9.0	10	10	105	39	16	23	9.8	8.9	17
22	12	9.0	11	9.8	11	72	32	15	20	9.8	9.0	27
23	12	8.6	11	10	12	56	27	16	18	9.3	8.2	30
24	11	9.6	9.1	11	13	50	23	16	15	9.1	8.2	29
25	11	10	9.2	11	15	45	22	15	14	9.3	8.0	27
26	11	10	9.6	11	17	41	24	14	12	9.0	13	24
27	11	9.0	10	10	18	39	25	15	12	8.9	10	20
28	11	9.4	9.6	11	16	35	32	22	11	9.0	9.3	17
29	10	9.6	9.4	12	---	33	31	20	16	8.6	9.2	15
30	10	9.2	9.8	12	---	30	28	20	38	9.5	9.1	13
31	10	---	11	13	---	28	---	18	---	8.8	8.4	---
TOTAL	350	302.5	286.3	329.8	377.8	1379	1395	536	710	372.6	295.8	420.7
MEAN	11.3	10.1	9.24	10.6	13.5	44.5	46.5	17.3	23.7	12.0	9.54	14.0
MAX	13	12	11	13	22	145	156	24	69	23	13	30
MIN	10	8.6	7.6	9.0	9.8	13	20	13	11	8.6	8.0	7.8
AC-FT	694	600	568	654	749	2740	2770	1060	1410	739	587	834
CAL YR 1985	TOTAL	7152.6		MEAN	19.6	MAX	331	MIN	6.2	AC-FT	14190	
WTR YR 1986	TOTAL	6755.5		MEAN	18.5	MAX	156	MIN	7.6	AC-FT	13400	

PLATTE RIVER BASIN

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06799100 NORTH FORK ELKHORN RIVER NEAR PIERCE, NE

LOCATION.--Lat 42°10'44", long 97°29'04", in SW1/4 sec.31, T.26 N., R.1 W., Pierce County, Hydrologic Unit 10220002, on left downstream wingwall of county road bridge, 2.5 mi southeast of Pierce.

DRAINAGE AREA.--700 mi², approximately, of which about 30 mi² is noncontributing.

PERIOD OF RECORD.--August 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,553.07 ft above National Geodetic Vertical Datum of 1929 (U.S. Weather Bureau levels).

REMARKS.--Estimated daily discharges: Nov. 18 to Feb. 2, Feb. 8-26, July 5-24, and Aug. 15 to Sept. 15. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--26 years, 91.3 ft³/s, 66,150 acre-ft/yr; median of yearly mean discharges, 72 ft³/s, 52,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,200 ft³/s Feb. 19, 1971, gage height, 15.10 ft; minimum daily, 3.8 ft³/s July 24, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 870 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 18	2300	*2100	*12.93	June 30	1430	984	9.18
Apr. 19	0130	1520	11.56				

Minimum daily discharge, 31 ft³/s Dec. 12.

DISCHARGE, IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	49	36	48	50	104	164	158	130	624	32	34
2	52	48	34	48	48	112	163	142	115	370	35	33
3	50	48	36	46	50	121	307	140	105	187	35	33
4	49	48	38	38	63	120	403	141	98	145	35	33
5	49	48	42	40	289	121	328	134	137	130	37	33
6	49	48	40	41	195	111	262	120	163	110	35	34
7	49	48	43	42	131	89	215	110	147	94	50	35
8	49	48	40	42	110	79	182	106	132	82	50	35
9	49	48	39	44	100	96	160	131	119	74	51	35
10	50	46	35	45	90	100	149	131	105	76	45	35
11	51	46	34	46	84	101	140	161	104	82	45	34
12	56	50	31	45	82	144	137	300	95	92	42	32
13	59	53	32	39	80	291	145	178	90	90	47	32
14	59	54	32	41	80	254	300	129	267	80	43	32
15	57	55	41	43	78	236	372	115	425	66	40	34
16	55	55	44	45	70	408	161	150	292	56	37	34
17	53	54	44	48	62	593	437	495	202	48	36	69
18	53	52	42	52	72	1550	1150	354	146	43	36	65
19	53	45	40	58	82	1800	1140	212	127	39	35	91
20	53	42	41	62	90	1230	474	165	120	38	37	163
21	53	43	43	58	94	521	343	143	131	37	38	194
22	54	41	44	54	72	472	284	130	125	37	39	219
23	54	39	46	56	66	719	237	133	116	38	42	190
24	52	44	38	54	58	431	204	139	104	39	45	159
25	50	46	41	50	58	295	181	133	95	40	54	125
26	50	47	46	48	70	267	182	125	87	37	62	100
27	49	38	43	45	208	235	245	128	81	36	50	76
28	49	39	44	52	159	212	236	171	75	36	44	68
29	48	41	44	54	---	204	231	190	127	33	39	63
30	48	38	45	54	---	193	190	177	802	34	37	61
31	49	---	47	56	---	180	---	150	---	34	36	---
TOTAL	1605	1401	1245	1494	2691	11389	9122	5191	4862	2927	1289	2181
MEAN	51.8	46.7	40.2	48.2	96.1	367	304	167	162	94.4	41.6	72.7
MAX	59	55	47	62	289	1800	1150	495	802	624	62	219
MIN	48	38	31	38	48	79	137	106	75	33	32	32
AC-FT	3180	2780	2470	2960	5340	22590	18090	10300	9640	5810	2560	4330
CAL YR 1985	TOTAL	38857		MEAN	106	MAX	1590	MIN	24	AC-FT	77070	
WTR YR 1986	TOTAL	45397		MEAN	124	MAX	1800	MIN	31	AC-FT	90040	

PLATTE RIVER BASIN

06799230 UNION CREEK AT MADISON, NE

LOCATION.--Lat 41°49'52", long 97°27'19", in SW1/4SE1/4 sec.32, T.22 N., R.1 W., Madison County, Hydrologic Unit 10220003, on left bank 12 ft downstream from bridge on U.S. Highway 81, in Madison.

DRAINAGE AREA.--174 mi².

PERIOD OF RECORD.--October 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,549.70 ft, above National Geodetic Vertical Datum of 1929, levels by Nebraska Natural Resources Commission.

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

AVERAGE DISCHARGE.--8 years, 40.6 ft³/s, 29,410 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,630 ft³/s June 17, 1984, gage height, 22.90 ft; minimum daily, 3.6 ft³/s July 30, 31, 1980.

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)
Mar. 18	1530	1610	17.33	June 14	0930	1650	17.42
May 15	1630	1050	15.36	June 30	0500	*2470	*19.72
May 17	0430	1610	17.32	July 24	2230	931	14.84

Minimum daily discharge, 13 ft³/s Aug. 24, 25.

DISCHARGE. IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	22	15	19	22	29	30	34	35	873	21	15
2	25	21	14	20	23	30	40	31	31	143	20	14
3	21	21	15	20	23	28	52	31	28	54	18	16
4	21	21	15	20	38	26	47	28	63	41	17	16
5	20	22	15	20	63	26	39	28	245	39	20	18
6	20	20	15	20	79	25	35	26	62	36	26	21
7	20	20	15	18	46	23	31	24	37	30	283	22
8	20	21	16	19	31	23	28	23	28	29	234	23
9	19	20	16	21	25	26	27	28	26	28	48	19
10	21	20	16	24	22	27	26	23	27	35	29	18
11	23	20	16	28	21	27	26	22	25	62	24	18
12	25	22	16	30	21	196	27	20	24	75	22	17
13	24	22	16	27	22	434	32	19	23	56	22	16
14	25	22	16	28	22	149	37	18	669	42	21	17
15	22	23	16	29	22	73	39	596	113	31	19	20
16	25	24	17	30	22	58	43	671	78	27	19	21
17	21	23	17	30	27	72	40	859	63	24	19	42
18	23	25	16	31	50	1160	42	67	36	22	18	42
19	22	21	16	30	95	844	40	43	27	20	32	51
20	23	18	16	30	51	79	34	37	31	18	45	92
21	23	18	16	28	38	54	31	33	37	15	23	42
22	23	18	19	24	32	46	29	30	52	15	17	93
23	26	18	25	25	28	42	29	32	32	14	15	189
24	23	18	26	25	29	41	26	29	24	149	13	53
25	23	19	20	25	67	41	25	28	21	391	13	35
26	24	19	19	22	222	39	34	29	24	139	39	29
27	21	17	18	21	101	37	78	32	67	40	47	25
28	22	16	18	22	38	36	91	38	77	33	33	22
29	21	16	18	22	---	36	58	39	157	23	22	20
30	21	15	18	22	---	35	40	38	1820	23	16	22
31	22	---	18	22	---	33	---	40	---	20	15	---
TOTAL	698	602	529	752	1280	3795	1156	2996	3982	2547	1210	1048
MEAN	22.5	20.1	17.1	24.3	45.7	122	38.5	96.6	133	82.2	39.0	34.9
MAX	29	25	26	31	222	1160	91	859	1820	873	283	189
MIN	19	15	14	18	21	23	25	18	21	14	13	14
AC-FT	1380	1190	1050	1490	2540	7530	2290	5940	7900	5050	2400	2080
CAL YR 1985	TOTAL	12420	MEAN	34.0	MAX	1030	MIN	13	AC-FT	24640		
WTR YR 1986	TOTAL	20595	MEAN	56.4	MAX	1820	MIN	13	AC-FT	40850		

06799350 ELKHORN RIVER AT WEST POINT, NE

LOCATION.--Lat 41°50'22", long 96°43'38", in SW1/4NW1/4 sec.34, T.22 N., R.6 E., Cuming county, Hydrologic Unit 10220003, on right bank near right downstream wingwall of bridge on State Highway 32 and 1 mi west of West Point.

DRAINAGE AREA.--5,100 mi², approximately, of which about 4,100 mi² contributes directly to surface runoff.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--October 1972 to current year. March 1960 to September 1972 (no winter records 1960-68) in files of Corps of Engineers. Gage-height records collected since 1940 are in reports of U.S. Weather Bureau.

GAGE.--Water-stage recorder. Datum of gage is 1,291.26 ft above National Geodetic Vertical Datum of 1929. Prior to May 18, 1976, at site on left bank 50 ft upstream from bridge at same datum.

REMARKS.--Estimated daily discharges: Nov. 19 to Mar. 3. Records fair except for period of estimated record, which is poor. Some small diversions above station for irrigation.

AVERAGE DISCHARGE.--18 years (water years 1969-86), 861 ft³/s, 623,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge estimated, 33,000 ft³/s June 25, 1969, gage height, 13.21 ft; maximum gage height, 16.09 ft Mar. 18, 1978, ice jam; minimum daily, 41 ft³/s Aug. 31, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 31, 1960 reached a stage of 19.09 ft, backwater from ice; observed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 5	0200	(a)	*10.90	June 14	2200	8810	9.69
Mar. 12	2230	6950	8.96	July 1	0230	6290	8.94
Mar. 18	1330	*10400	9.91	July 26	0430	5830	8.64
May 16	1600	7860	9.23	Sept. 22	2100	5230	8.90

a Backwater from ice.

Minimum daily discharge, 420 ft³/s Feb. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	640	555	480	580	680	1900	1450	2100	1080	5620	545	551
2	588	553	490	580	780	1800	1280	1240	978	3620	548	531
3	570	559	520	600	880	2000	1470	1160	910	1800	520	523
4	553	556	540	600	1100	2100	1830	1470	874	1620	543	522
5	540	556	540	600	1400	1950	1760	1520	1020	1840	570	524
6	547	556	520	580	1400	1440	1520	1330	1730	1940	559	528
7	556	556	500	560	1000	1130	1410	1140	2030	1970	569	548
8	559	552	500	580	800	1090	1370	1020	1380	2000	659	559
9	556	538	490	600	700	1010	1230	1130	1130	2620	958	564
10	556	537	480	620	600	953	1210	1160	1170	2460	810	575
11	577	542	470	620	500	989	1370	1030	1340	2490	637	576
12	619	561	470	640	450	3530	1280	933	1110	2430	581	578
13	663	571	470	660	420	4660	1110	939	1030	2000	646	578
14	666	605	470	680	800	3560	1830	1090	5210	1860	682	583
15	660	628	480	700	860	2720	1970	2510	6320	1680	699	625
16	638	694	480	700	840	2600	1430	3510	3470	1340	648	647
17	622	747	490	720	840	3530	2220	3640	2970	1080	623	695
18	653	756	470	720	860	8990	3190	3100	2250	849	607	817
19	628	775	460	740	840	8360	3650	1600	1490	731	572	1500
20	626	500	480	740	820	6230	3330	1340	1150	637	570	2800
21	625	450	500	760	800	4490	2520	1160	1100	574	585	3210
22	635	440	500	720	840	2560	2400	1070	1220	537	599	4210
23	664	430	520	740	880	1680	2190	1030	1350	500	573	4920
24	640	440	520	760	960	2000	2290	1020	1270	479	545	4690
25	610	480	530	760	1100	1480	2460	962	987	1300	546	4340
26	595	520	520	680	1300	1120	2460	935	838	4520	559	3620
27	574	500	540	600	2500	1070	3590	923	766	1890	669	3140
28	570	500	540	540	1900	1050	3690	978	741	1120	623	2720
29	564	500	560	580	---	1200	2840	1140	710	717	614	2070
30	557	490	560	600	---	1450	2550	1220	3030	657	610	1640
31	556	---	580	640	---	1630	---	1160	---	585	577	---
TOTAL	18607	16647	15670	20200	26850	80272	62900	44560	50654	53466	19046	49384
MEAN	600	555	505	652	959	2589	2097	1437	1688	1725	614	1646
MAX	666	775	580	760	2500	8990	3690	3640	6320	5620	958	4920
MIN	540	430	460	540	420	953	1110	923	710	479	520	522
AC-FT	36910	33020	31080	40070	53260	159200	124800	88380	100500	106000	37780	97950
CAL YR 1985	TOTAL	318639	MEAN	873	MAX	9810	MIN	286	AC-FT	632000		
WTR YR 1986	TOTAL	458256	MEAN	1255	MAX	8990	MIN	420	AC-FT	909000		

PLATTE RIVER BASIN

06799350 ELKHORN RIVER AT WEST POINT, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968-69, October 1980 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF ACAR (COLS. PER 100 ML) (31673)
OCT									
23...	1800	670	580	8.43	16.0	10.7	6	320	240
NOV									
13...	1010	563	506	7.50	2.5	13.0	17	480	980
DEC									
17...	1250	487	555	7.20	0.0	14.8	8	630	540
JAN									
07...	1035	560	527	7.90	0.0	14.7	5	250	210
FEB									
13...	1015	422	592	7.80	0.0	12.7	37	190	870
MAR									
04...	0940	1930	430	8.00	4.0	12.0	69	520	1900
APR									
08...	1255	1410	540	8.30	15.0	9.4	48	1400	K380
29...	1200	2800	--	7.80	10.0	9.2	67	K52000	K48000
JUN									
03...	1245	930	480	8.40	24.0	12.3	41	260	80
JUL									
22...	1000	537	425	7.80	24.0	8.2	50	--	--
AUG									
27...	1100	688	448	7.80	19.0	8.8	92	--	--
SEP									
23...	1015	4810	269	7.40	18.0	7.6	85	K41000	K92000

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

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT								
23...	240	0	70	15	19	0.6	44	7.8
NOV								
13...	250	0	73	16	16	0.5	35	6.2
DEC								
17...	220	0	66	14	7.8	0.2	25	7.4
JAN								
07...	220	0	65	14	15	0.5	27	5.9
FEB								
13...	240	0	68	16	19	0.6	39	11
MAR								
04...	140	0	41	8.6	9.3	0.4	21	6.9
APR								
08...	220	0	62	15	19	0.6	21	7.2
29...	220	0	63	15	13	0.4	37	13
JUN								
03...	220	0	65	14	17	0.5	34	7.8
JUL								
22...	180	0	55	10	16	0.5	12	7.6
AUG								
27...	180	0	52	13	14	0.5	34	8.3
SEP								
23...	100	0	31	5.5	10	0.5	<2.0	<5.0

PLATTE RIVER BASIN

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06799350 ELKHORN RIVER AT WEST POINT, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, RESIDUE AT 105 DEG. C. SUS- PENDEDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 23...	56	6.70	0.020	0.58	0.60	7.3	0.230	6.1
NOV 13...	46	1.40	0.180	0.62	0.80	2.2	0.490	4.0
DEC 17...	12	2.10	0.350	0.30	0.65	2.8	0.280	4.8
JAN 07...	20	2.20	0.300	0.27	0.57	2.8	0.330	3.6
FEB 13...	10	2.40	0.660	1.5	2.2	4.6	0.360	1.2
MAR 04...	548	1.00	0.390	6.0	6.4	7.4	0.650	13
APR 08...	156	1.50	0.040	0.86	0.90	2.4	0.460	11
29...	298	0.960	0.240	4.9	5.1	6.1	0.160	13
JUN 03...	130	0.230	0.070	1.1	1.2	1.4	0.400	7.8
JUL 22...	158	0.090	0.040	1.2	1.2	1.3	0.480	10
AUG 27...	450	0.720	0.040	5.2	5.2	5.9	0.790	14
SEP 23...	656	0.320	0.120	4.1	4.2	4.5	0.540	8.1

PLATTE RIVER BASIN

06799385 PEBBLE CREEK AT SCRIBNER, NE

LOCATION.--Lat 41°39'34", long 96°41'00", in NW1/4SE1/4 sec.36, T.20 N., R.6 E., Dodge County, Hydrologic Unit 10220003, on right bank 12 ft downstream from bridge on county road, 1 mi southwest of Scribner and 3 mi upstream from mouth.

DRAINAGE AREA.--204 mi².

PERIOD OF RECORD.--October 1978 to current year.

REVISED RECORDS.--WRD NE-82-1: 1980.

GAGE.--Water-stage recorder. Datum of gage is 1,234.72 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 18 to Feb. 3, Feb. 8-24, and June 18. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--8 years, 69.9 ft³/s, 50,640 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,300 ft³/s June 16, 1984, gage height, 23.75 ft; minimum daily, 0.29 ft³/s July 20, 1981.

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)
Feb. 26	0900	836	8.49	May 16	1200	1070	9.30
Mar. 12	1600	2660	13.99	June 14	1800	*5260	*a19.23
Mar. 18	1230	3520	15.91	June 30	0500	1520	10.77
Apr. 27	0300	1510	10.74	July 10	0930	1160	9.64
Apr. 28	0900	1340	10.19	July 11	0800	2050	12.37

a From floodmark.

Minimum daily discharge, 15 ft³/s Jan. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	27	17	24	25	42	38	84	45	84	21	37
2	34	26	18	23	30	48	38	73	40	55	23	37
3	33	25	19	22	28	46	73	70	38	45	21	36
4	32	27	21	21	46	39	142	67	40	41	21	35
5	26	26	22	20	118	39	76	60	44	37	30	35
6	24	25	23	19	100	37	53	53	41	169	32	42
7	25	25	24	17	60	33	48	49	41	42	29	46
8	29	25	23	16	35	47	44	54	36	37	26	33
9	32	26	22	16	25	32	39	144	35	36	26	31
10	34	27	20	18	22	31	38	69	52	326	30	31
11	35	26	19	18	22	28	36	61	48	712	26	30
12	39	27	19	19	24	1220	36	56	42	111	25	28
13	33	29	19	19	25	712	35	52	56	62	29	28
14	30	29	21	18	25	172	148	50	3500	52	28	38
15	28	29	23	19	24	66	55	139	804	43	27	83
16	28	30	22	19	23	43	76	623	173	39	24	42
17	27	30	22	19	22	65	65	247	91	35	96	165
18	53	24	21	18	22	1790	112	98	64	33	72	91
19	40	20	20	17	21	190	72	79	63	30	37	72
20	29	19	22	17	21	63	54	73	56	28	42	73
21	27	19	24	16	22	59	50	68	54	26	354	52
22	27	18	26	17	23	56	46	60	51	26	68	47
23	27	17	27	19	26	53	45	58	45	25	48	63
24	28	19	25	18	35	50	43	57	42	25	40	46
25	26	22	22	16	54	50	41	51	40	26	39	39
26	25	21	23	15	543	48	82	49	39	26	209	34
27	26	21	24	17	281	43	805	50	47	26	69	29
28	26	20	25	21	59	44	760	64	39	25	47	32
29	25	19	25	20	---	43	169	56	38	24	41	33
30	26	18	26	19	---	40	118	50	625	23	41	29
31	26	---	26	20	---	38	---	49	---	22	38	---
TOTAL	938	716	690	577	1761	5267	3437	2813	6329	2291	1659	1417
MEAN	30.3	23.9	22.3	18.6	62.9	170	115	90.7	211	73.9	53.5	47.2
MAX	53	30	27	24	543	1790	805	623	3500	712	354	165
MIN	24	17	17	15	21	28	35	49	35	22	21	28
AC-FT	1860	1420	1370	1140	3490	10450	6820	5580	12550	4540	3290	2810
CAL YR 1985	TOTAL	16300		MEAN	44.7	MAX	2580	MIN	13	AC-FT	32330	
WTR YR 1986	TOTAL	27895		MEAN	76.4	MAX	3500	MIN	15	AC-FT	55330	

PLATTE RIVER BASIN

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06799450 LOGAN CREEK AT PENDER, NE

LOCATION.--Lat 42°06'40", long 96°42'00", in NW1/4 sec.26, T.25 N., R.6 E., Thurston County, Hydrologic Unit 10220004, on right bank 200 ft downstream from bridge on Nebraska State Highway 94 at Pender and 0.7 mi downstream from Rattlesnake Creek.

DRAINAGE AREA.--731 mi², approximately.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 1,300.96 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 23, 1966, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Oct. 23 to Nov. 13, Nov. 18 to Feb. 3, and Feb. 9-25. Records fair except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--21 years, 163 ft³/s, 118,100 acre-ft/yr; median of yearly mean discharges, 123 ft³/s, 89,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,900 ft³/s Feb. 19, 1971, gage height, 23.11 ft; minimum daily, 12 ft³/s Aug. 11, 1976.

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)
Feb. 4	----	3200	ice jam	June 14	1645	4070	10.42
Mar. 13	0100	3460	9.71	June 30	1230	2860	8.95
Mar. 15	0700	1860	7.40	July 25	1045	1890	7.46
Mar. 16	0715	2960	9.09	Sept. 20	2315	1830	7.36
Mar. 18	1800	*15300	*18.67				

Minimum daily discharge, 80 ft³/s Nov. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	201	165	86	135	122	146	298	329	233	570	120	125
2	176	165	90	130	130	150	281	291	215	309	115	122
3	165	160	94	125	135	159	357	329	199	254	110	123
4	159	155	100	120	975	154	522	343	266	231	110	125
5	152	150	102	115	1660	150	435	288	390	210	114	125
6	152	150	102	110	413	146	328	252	218	195	116	124
7	149	145	100	100	231	131	274	238	546	186	124	125
8	150	145	100	105	171	128	240	235	288	184	133	125
9	150	150	98	110	145	146	223	312	224	211	118	125
10	150	155	98	120	145	147	213	357	275	204	118	124
11	150	160	96	125	145	144	210	266	689	206	121	124
12	164	165	96	135	147	1380	207	257	317	208	124	124
13	176	176	90	145	150	2050	210	233	234	187	129	124
14	173	174	90	150	155	1210	380	224	2000	172	174	125
15	166	173	120	153	155	1320	160	221	921	166	126	142
16	160	174	130	150	160	2010	300	253	399	157	119	140
17	156	173	134	150	165	2070	771	407	302	147	180	142
18	158	150	140	145	170	11400	1250	295	266	137	191	149
19	167	100	140	140	165	3470	838	245	243	132	139	207
20	168	80	145	130	160	1040	413	225	224	128	135	583
21	165	82	140	125	155	621	348	210	780	124	133	886
22	163	84	140	120	150	796	298	202	319	123	132	346
23	167	88	135	120	165	565	275	199	252	116	129	384
24	165	90	135	110	180	446	251	206	223	110	128	257
25	160	92	130	100	200	415	239	201	208	753	125	217
26	155	92	135	98	337	404	275	196	199	209	144	190
27	155	90	140	90	311	365	671	205	194	153	183	173
28	150	88	135	96	176	347	916	313	185	137	148	166
29	155	88	130	98	---	343	517	381	190	132	137	165
30	160	88	135	102	---	335	393	301	1730	126	132	158
31	160	---	140	114	---	313	---	258	---	122	129	---
TOTAL	4997	3947	3646	3766	7373	32501	12093	8272	12729	6299	4136	6045
MEAN	161	132	118	121	263	1048	403	267	424	203	133	202
MAX	201	176	145	153	1660	11400	1250	407	2000	753	191	886
MIN	149	80	86	90	122	128	160	196	185	110	110	122
AC-FT	9910	7830	7230	7470	14620	64470	23990	16410	25250	12490	8200	11990
CAL YR 1985	TOTAL	87079		MEAN	239	MAX	6510	MIN	80	AC-FT	172700	
WTR YR 1986	TOTAL	105804		MEAN	290	MAX	11400	MIN	80	AC-FT	209900	

PLATTE RIVER BASIN

06799450 LOGAN CREEK AT PENDER, NE--Continued

PERIOD OF RECORD.--Water years 1964-68, 1973 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT									
23...	1500	160	1010	8.20	15.0	10.3	24	400	1000
NOV									
13...	1100	176	900	7.80	2.5	12.8	8	260	2100
DEC									
17...	1530	134	880	6.90	0.0	15.9	11	400	830
JAN									
07...	1215	100	978	7.80	0.0	11.0	7	220	K210
FEB									
12...	1645	148	965	8.00	0.0	10.5	21	380	860
MAR									
04...	1055	150	819	8.10	4.5	11.1	36	230	K210
APR									
08...	1515	231	910	8.20	15.0	9.1	23	2000	620
29...	1325	480	--	7.90	14.0	8.9	70	K85000	K80000
JUN									
03...	1545	196	915	7.80	24.0	8.3	10	730	410
JUL									
22...	1100	123	860	8.00	22.0	9.9	9	--	--
AUG									
27...	1200	190	762	7.60	18.5	8.2	62	K86000	4300
SEP									
23...	1140	354	710	7.70	16.5	7.9	100	E210000	E250000

E Estimated value.

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

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT								
23...	470	0	130	36	33	0.7	150	9.9
NOV								
13...	480	0	130	37	27	0.6	140	6.2
DEC								
17...	450	0	120	34	16	0.3	150	6.4
JAN								
07...	460	0	130	35	26	0.5	140	5.1
FEB								
12...	460	0	130	35	30	0.6	180	10
MAR								
04...	370	0	100	29	23	0.5	120	6.9
APR								
08...	440	0	120	36	32	0.7	200	12
29...	420	0	110	35	25	0.5	150	15
JUN								
03...	440	0	120	34	27	0.6	150	8.3
JUL								
22...	410	0	120	30	26	0.6	140	7.6
AUG								
27...	350	0	95	27	24	0.6	120	10
SEP								
23...	300	0	82	22	22	0.6	110	<9.8

PLATTE RIVER BASIN

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06799450 LOGAN CREEK AT PENDER, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, RESIDUE AT 105 DEG. C. SUS- PENDE (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L) AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L) AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L) AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L) AS N) (00625)	NITRO- GEN, TOTAL (MG/L) AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L) AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L) AS C) (00680)
OCT 23...	98	2.30	0.080	0.59	0.67	3.0	0.290	5.1
NOV 13...	52	2.40	0.110	0.04	0.15	2.6	0.290	3.7
DEC 17...	38	4.30	0.200	--	<0.10	--	0.200	2.4
JAN 07...	38	4.60	0.190	0.06	0.25	4.9	0.230	3.6
FEB 12...	62	4.10	0.490	0.71	1.2	5.3	0.260	6.2
MAR 04...	334	3.30	0.190	3.0	3.2	6.5	0.420	6.3
APR 08...	184	3.70	0.080	0.74	0.82	4.5	0.470	11
29...	728	3.70	0.210	5.2	5.4	9.1	0.640	14
JUN 03...	170	4.90	0.120	0.48	0.60	5.5	0.330	3.9
JUL 22...	72	3.00	0.050	0.45	0.50	3.5	0.220	2.7
AUG 27...	380	3.10	0.060	2.5	2.6	5.7	0.590	9.0
SEP 23...	916	2.30	<0.140	--	6.1	8.4	1.30	24

PLATTE RIVER BASIN

06799500 LOGAN CREEK NEAR UEHLING, NE

LOCATION.--Lat 41°42'50", long 96°31'15", on south line of SE1/4SE1/4 sec.9, T.20 N., R.8 E., Dodge County, Hydrologic Unit 10220004, near right bank on downstream side of bridge on county road, 2 mi southwest of Uehling and 8 mi upstream from mouth.

DRAINAGE AREA.--1,030 mi², approximately.

PERIOD OF RECORD.--March 1941 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,208.73 ft above National Geodetic Vertical Datum of 1929. See WSP 1918 for history of changes prior to July 15, 1963.

REMARKS.--Estimated daily discharges: Nov. 18 to Feb. 25. Records good except for period of estimated record, which is poor.

AVERAGE DISCHARGE.--45 years, 201 ft³/s, 145,600 acre-ft/yr; median of yearly mean discharges, 168 ft³/s, 122,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,200 ft³/s Feb. 20, 1971, gage height, 20.15 ft, from floodmark; maximum gage height, 20.15 ft, Mar. 27, 1962, present datum, in addition to Feb. 20, 1971; minimum daily discharge, 6.1 ft³/s July 26, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 5, 1940, reached a stage of 20.6 ft, present datum, from floodmarks, discharge, 22,200 ft³/s.

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)
Feb. 5	----	3400	ice jam	Apr. 28	0730	1860	7.42
Mar. 13	0530	2580	8.79	June 14	0800	8420	16.10
Mar. 16	1500	1550	6.75	July 1	0130	2080	7.86
Mar. 19	0600	*10800	*17.88				

Minimum daily discharge, 110 ft³/s Jan. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	262	183	140	170	155	211	346	570	371	1530	157	173
2	231	184	145	165	160	202	326	475	335	562	152	169
3	202	182	160	160	160	212	380	460	311	397	155	174
4	193	179	165	155	165	446	600	507	314	342	170	174
5	180	180	155	150	1800	295	632	461	517	309	171	172
6	174	180	160	135	1000	201	489	400	419	296	171	176
7	171	179	170	125	400	184	397	362	500	272	171	176
8	174	179	170	150	250	250	347	356	753	272	173	173
9	173	179	165	180	160	191	314	604	397	282	185	173
10	175	182	165	210	155	208	295	561	542	434	176	174
11	179	182	160	205	154	201	287	485	553	557	170	170
12	190	189	155	200	155	1010	282	408	841	375	175	166
13	198	193	140	190	160	2130	281	382	438	319	209	164
14	199	198	150	230	165	1230	362	352	4810	274	221	169
15	189	201	170	230	170	1030	436	369	2570	254	219	228
16	182	205	160	235	210	1200	324	912	1130	242	179	208
17	178	207	155	235	235	1110	541	763	701	226	218	223
18	203	195	165	230	240	7580	1140	626	538	212	270	217
19	199	186	167	220	225	7780	1240	455	464	202	232	281
20	201	180	170	200	210	1320	749	397	413	193	195	374
21	194	185	175	175	205	711	501	369	466	187	197	891
22	189	190	170	150	200	598	435	350	899	181	192	645
23	191	160	175	160	205	751	383	350	433	177	186	445
24	193	165	170	155	220	509	354	346	365	170	181	399
25	188	175	165	145	250	442	332	342	330	216	180	300
26	182	170	165	120	540	424	343	329	311	732	255	258
27	179	160	165	110	494	400	935	328	299	244	231	231
28	177	150	160	116	329	372	1510	362	287	198	231	222
29	176	145	150	130	---	367	1170	519	278	183	196	225
30	177	140	160	145	---	366	810	495	749	176	186	214
31	180	---	165	150	---	356	---	419	---	162	179	---
TOTAL	5879	5383	5007	5331	8772	32287	16541	14114	21334	10176	5983	7764
MEAN	190	179	162	172	313	1042	551	455	711	328	193	259
MAX	262	207	175	235	1800	7780	1510	912	4810	1530	270	891
MIN	171	140	140	110	154	184	281	328	278	162	152	164
AC-FT	11660	10680	9930	10570	17400	64040	32810	28000	42320	20180	11870	15400
CAL YR 1985	TOTAL	107267		MEAN	294	MAX	4440	MIN	90	AC-FT	212800	
WTR YR 1986	TOTAL	138571		MEAN	380	MAX	7780	MIN	110	AC-FT	274900	

06800000 MAPLE CREEK NEAR NICKERSON, NE

LOCATION.--Lat 41°32'44", long 96°30'09", in NE1/4SW1/4 sec.10, T.18 N., R.8 E., Dodge County, Hydrologic Unit 10220003, on right bank 120 ft upstream from bridge on U.S. Highways 77 and 275, 1.5 mi northwest of Nickerson, and 4 mi upstream from mouth.

DRAINAGE AREA.--450 mi², approximately.

PERIOD OF RECORD.--October 1951 to current year.

REVISED RECORDS.--WSP 1630; 1957-58.

GAGE.--Water-stage recorder. Datum of gage is 1,194.56 ft above National Geodetic Vertical Datum of 1929. Prior to July 28, 1960, nonrecording gage at site 120 ft downstream at present datum.

REMARKS.--Estimated daily discharges: Nov. 9 to Feb. 26. Records fair except for period of estimated record, which is poor.

AVERAGE DISCHARGE.--35 years, 66.8 ft³/s, 48,400 acre-ft/yr; median of yearly mean discharges, 52 ft³/s, 37,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,800 ft³/s June 21, 1960, gage height, 14.67 ft; maximum gage height, 16.54 ft June 18, 1983; minimum daily discharge, 0.1 ft³/s Jan. 15, 16, 1956, Aug. 1, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge known since 1944, 35,000 ft³/s June 11, 1944, from indirect measurement of peak flow; gage height, 16.28 ft, from floodmarks.

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)
Feb. 26	----	2600	Ice jam	June 14	2000	*3480	*a14.62
Mar. 12	2200	1860	11.57	June 30	1130	2230	12.32
Mar. 18	1300	3020	a13.80	July 10	1730	950	9.36
Apr. 27	0700	1760	11.36	July 11	1800	877	9.15
May 16	2400	1130	9.86	July 12	1900	1250	10.16

a From floodmark.

Minimum daily discharge, 25 ft³/s Dec. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	42	31	52	44	89	67	147	83	400	35	36
2	58	42	30	50	42	104	65	124	77	160	34	35
3	54	42	31	46	44	101	74	120	68	107	34	34
4	53	42	33	40	44	78	143	109	74	94	35	37
5	50	43	34	34	44	65	130	98	113	85	48	37
6	49	43	35	31	43	56	97	90	96	143	52	39
7	48	43	35	28	43	39	81	85	83	105	54	50
8	48	43	34	30	43	34	74	84	69	74	87	46
9	45	40	33	31	42	51	69	113	63	69	48	41
10	43	38	32	32	38	45	66	121	101	357	46	39
11	45	38	30	32	35	54	64	101	193	555	45	38
12	51	40	28	31	37	648	68	95	221	569	40	36
13	63	39	27	30	39	949	74	85	110	292	43	33
14	56	39	25	32	45	277	148	80	1240	107	45	34
15	49	40	28	33	52	169	93	228	591	87	42	77
16	48	41	28	34	54	134	93	403	189	77	39	53
17	47	44	29	35	54	122	106	642	147	67	54	58
18	53	47	30	34	54	1400	107	211	110	59	45	241
19	76	51	31	34	54	439	148	140	103	53	39	129
20	68	50	35	33	52	183	96	115	92	50	40	168
21	58	49	38	32	50	126	82	98	88	46	376	77
22	52	47	43	30	60	116	74	83	108	44	92	62
23	49	45	44	32	56	112	69	76	85	42	51	86
24	51	47	45	32	56	98	68	72	76	40	47	81
25	51	49	44	33	56	95	68	73	70	40	44	60
26	48	45	43	31	400	95	68	78	68	43	47	54
27	45	40	42	28	424	87	983	84	74	40	82	49
28	44	34	42	34	160	78	615	87	114	39	55	47
29	43	33	42	40	---	79	327	120	79	37	44	49
30	43	32	50	43	---	78	193	128	1180	35	39	49
31	41	---	52	45	---	72	---	106	---	34	38	---
TOTAL	1616	1268	1104	1082	2165	6073	4410	4196	5765	3950	1820	1875
MEAN	52.1	42.3	35.6	34.9	77.3	196	147	135	192	127	58.7	62.5
MAX	87	51	52	52	424	1400	983	642	1240	569	376	241
MIN	41	32	25	28	35	34	64	72	63	34	34	33
AC-FT	3210	2520	2190	2150	4290	12050	8750	8320	11430	7830	3610	3720
CAL YR 1985	TOTAL	29209	MEAN	80.0	MAX	1840	MIN	24	AC-FT	57940		
WTR YR 1986	TOTAL	35324	MEAN	96.8	MAX	1400	MIN	25	AC-FT	70070		

PLATTE RIVER BASIN

06800500 ELKHORN RIVER AT WATERLOO, NE
(National stream-quality accounting network station)

LOCATION.--Lat 41°17'25", long 96°17'05", in SW1/4 sec.3, T.15 N., R.10 E., Douglas County, Hydrologic Unit 10220003, on right bank 100 ft upstream from bridge at north edge of Waterloo and 3.5 mi downstream from Rawhide Creek.

DRAINAGE AREA.--6,900 mi², approximately, of which about 5,870 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1899 to November 1903, May 1911 to September 1915, August 1928 to current year.
Published as "at Arlington" 1899-1903, July 1913 to September 1915. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1390: 1914(M), 1915, 1936, 1943(M). WDR NE-74: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,104.73 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1960, to June 28, 1978, at datum 2.00 ft higher. See WSP 1918 for history of changes prior to Oct. 1, 1960.

REMARKS.--Estimated daily discharges: Nov. 16 to Feb. 24. Records good except for period of estimated record, which is poor. Some small diversions above station for irrigation.

AVERAGE DISCHARGE.--66 years, 1,205 ft³/s, 873,000 acre-ft/yr; median of yearly mean discharges, 1,010 ft³/s, 732,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 100,000 ft³/s June 12, 1944, gage height, 16.6 ft from floodmark in gage well, site and datum then in use, from rating curve extended above 22,000 ft³/s on basis of current-meter measurement of peak flow in main channel and velocity-area studies of overflow section; minimum observed, 50 ft³/s Nov. 12, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Stage and discharge of the flood of June 12, 1944, are the greatest known since at least 1880.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 13	1015	12700	9.60	June 15	1100	19700	12.10
Mar. 19	1430	*20500	*12.35	July 1	1200	8470	7.76
Apr. 28	1930	10300	8.63	July 11	2130	6120	6.50
May 17	0645	8940	7.99	Sept. 23	1130	6210	6.69

Minimum daily discharge, 540 ft³/s Nov. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1160	1030	640	720	810	2600	2420	4060	2300	7970	1040	911
2	1270	1040	640	720	820	2470	2360	3390	2110	5620	962	863
3	1120	1060	660	740	810	2650	2480	3060	1940	3600	960	843
4	1050	1060	680	760	810	2380	2830	2940	1860	3170	947	864
5	992	1040	680	780	1000	1920	4110	2830	2430	2890	990	863
6	954	1050	700	820	2400	1790	3600	2620	2270	3030	1100	923
7	942	1050	700	840	1800	1700	3150	2430	2550	3250	1130	963
8	931	1040	680	860	1400	1550	2890	2270	3230	2830	1050	957
9	956	1030	680	860	1100	1620	2700	2440	2660	3650	1130	939
10	954	1020	680	840	1000	1660	2490	3200	3430	3360	1280	930
11	966	1020	680	880	1000	1610	2360	2840	4070	4800	1400	926
12	1030	1020	660	920	1100	3080	2350	2490	3310	4220	1080	896
13	1100	1040	660	940	1000	11200	2300	2260	2840	2620	1000	852
14	1130	1060	660	960	1000	7200	2400	2120	9390	2430	1150	820
15	1120	1080	660	960	1100	5150	3190	2180	17600	2270	1240	1080
16	1070	1080	680	980	1200	4580	3030	3430	8000	2200	1230	1260
17	1050	1080	700	1000	1300	4640	2850	6960	5160	2020	1160	1300
18	1220	1060	700	1020	1400	11200	4180	5000	4050	1840	1390	1650
19	1360	1020	700	1040	1400	20000	5520	3990	3380	1670	1400	3090
20	1280	700	680	1060	1500	13100	5290	3080	2970	1530	1100	4120
21	1200	600	680	1060	1600	7060	4360	2680	2690	1410	1220	4650
22	1140	540	660	1040	1800	5000	3780	2440	2860	1310	1800	5510
23	1130	580	680	1000	1800	4150	3390	2270	2780	1230	1170	5990
24	1130	600	680	980	1800	3970	3030	2220	2250	1160	958	5900
25	1160	620	700	980	2060	3640	2770	2170	2120	1110	889	5430
26	1120	640	720	980	2950	3210	2840	2090	1940	1820	858	4950
27	1080	640	700	1000	4100	2990	5160	2020	1860	3490	1440	4420
28	1070	660	700	940	3100	2810	8080	2100	1800	1980	1410	3950
29	1050	660	720	900	---	2660	7050	2220	1710	1630	1200	3730
30	1030	640	720	850	---	2590	4600	2560	2930	1220	1030	3120
31	1030	---	720	800	---	2460	---	2540	---	1200	1000	---
TOTAL	33795	26760	21200	28230	43160	142640	108560	88900	108490	82530	35714	72700
MEAN	1090	892	684	911	1541	4601	3619	2868	3616	2662	1152	2423
MAX	1360	1080	720	1060	4100	20000	8080	6960	17600	7970	1800	5990
MIN	931	540	640	720	810	1550	2300	2020	1710	1110	858	820
AC-FT	67030	53080	42050	55990	85610	282900	215300	176300	215200	163700	70840	144200
CAL YR 1985	TOTAL	570662		MEAN	1563	MAX	17300	MIN	458	AC-FT	1132000	
WTR YR 1986	TOTAL	792679		MEAN	2172	MAX	20000	MIN	540	AC-FT	1572000	

06800500 ELKHORN RIVER AT WATERLOO, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1977 to September 1981.

WATER TEMPERATURES: November 1977 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 750 microsiemens Jan. 10, 1979; minimum daily, 235 microsiemens Mar. 15, 1979.

WATER TEMPERATURES: Maximum, 36.0°C Aug. 19, 1979; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)
OCT										
17...	0930	1050	635	8.40	12.5	740	--	9.8	31	930
NOV										
13...	1105	1040	628	8.20	2.5	749	30	12.5	25	K740
DEC										
10...	1440	680	700	8.00	0.0	--	--	11.2	11	1200
JAN										
14...	1130	960	640	7.80	0.0	745	8.5	11.5	--	K5500
FEB										
28...	0955	3000	430	7.60	0.0	739	--	10.8	130	K2000
MAR										
28...	1100	2900	588	7.90	13.0	730	85	9.8	99	K560
APR										
30...	1100	4580	600	8.00	15.0	730	--	9.1	110	K63000
MAY										
28...	1200	2090	613	8.30	18.0	734	55	9.3	30	12000
JUN										
30...	1040	1920	560	8.10	26.0	--	--	6.6	75	>6000
JUL										
30...	1330	1220	502	8.10	28.0	730	310	6.6	63	3000
AUG										
28...	1110	1350	515	7.20	19.5	750	--	8.0	92	K67000
SEP										
30...	1130	3170	418	7.90	18.5	741	42	7.7	75	7000

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

DATE	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT										
17...	9200	300	0	84	21	25	0.7	--	--	60
NOV										
13...	800	300	35	87	20	25	0.7	6.2	251	61
DEC										
10...	1400	290	0	84	20	20	0.5	--	--	53
JAN										
14...	1600	270	27	78	18	22	0.6	6.5	237	58
FEB										
28...	K48000	160	0	46	12	10	0.4	--	--	35
MAR										
28...	18000	280	41	81	19	24	0.6	11	257	57
APR										
30...	K20000	240	0	67	18	14	0.4	--	--	57
MAY										
28...	13000	290	39	83	20	24	0.6	7.6	259	67
JUN										
30...	6900	230	0	63	17	22	0.7	--	--	42
JUL										
30...	K1500	210	21	60	14	17	0.5	9.6	191	48
AUG										
28...	K36000	200	0	54	15	17	0.5	--	--	51
SEP										
30...	15000	170	2	50	10	15	0.5	10	168	28

PLATTE RIVER BASIN

06800500 ELKHORN RIVER AT WATERLOO, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)
OCT 17...	11	--	--	--	--	--	--	132	2.30	--
NOV 13...	14	0.40	26	400	430	0.54	1120	140	--	2.50
DEC 10...	12	--	--	--	--	--	--	18	2.10	--
JAN 14...	13	0.30	29	386	390	0.52	1000	44	2.10	--
FEB 28...	8.4	--	--	--	--	--	--	1370	2.40	--
MAR 28...	9.2	0.40	24	405	370	0.55	3170	530	3.00	3.00
APR 30...	9.9	--	--	--	--	--	--	1250	3.10	--
MAY 28...	9.9	0.40	24	407	390	0.55	2300	316	3.80	3.30
JUN 30...	12	--	--	--	--	--	--	512	2.10	--
JUL 30...	8.8	0.40	20	311	290	0.42	1020	823	2.30	<2.30
AUG 28...	9.3	--	--	--	--	--	--	560	1.70	--
SEP 30...	6.7	0.30	27	275	250	0.37	2350	676	1.00	1.20

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS, DIS-SOLVED (MG/L AS P) (00666)	PHOSPHORUS, ORTHO-DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 17...	0.070	--	1.5	1.6	3.9	0.410	--	--	5.3
NOV 13...	0.150	0.110	0.85	1.0	--	0.380	0.210	0.200	7.6
DEC 10...	0.410	--	0.59	1.0	3.1	0.410	--	--	1.7
JAN 14...	0.340	0.310	0.66	1.0	3.1	0.370	0.310	0.280	--
FEB 28...	1.30	--	17	18	20	1.80	--	--	30
MAR 28...	0.190	0.180	1.2	1.4	4.4	0.330	0.250	0.220	20
APR 30...	0.360	--	12	12	15	1.10	--	--	19
MAY 28...	0.080	0.030	0.82	0.90	4.7	0.540	0.270	0.240	7.1
JUN 30...	0.090	--	3.1	3.2	5.3	0.950	--	--	11
JUL 30...	<0.070	<0.010	1.7	1.8	4.1	0.500	0.300	0.280	15
AUG 28...	0.080	--	3.8	3.9	5.6	0.200	--	--	7.5
SEP 30...	0.090	0.030	1.7	1.8	2.8	0.670	0.300	0.240	16

06800500 ELKHORN RIVER AT WATERLOO, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	
NOV 13...	1105	<10	8	4	180	<0.5	<15	1	<10	<1	
FEB 28...	0955	--	18	--	--	--	<15	--	40	--	
MAR 28...	1100	20	--	5	190	<0.5	--	<1	--	<1	
MAY 28...	1200	10	14	6	160	<0.5	<15	1	<10	1	
AUG 28...	1110	--	25	--	--	--	<15	--	<10	--	
DATE		COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANCA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)
NOV 13...	<3	10	3	6	60	<1	25	33	<0.1	--	
FEB 28...	--	40	--	--	30	--	--	--	0.3	--	
MAR 28...	<3	--	5	17	--	2	23	9	--	<0.1	
MAY 28...	<3	<10	3	--	<20	--	26	6	0.3	<0.1	
AUG 28...	--	30	--	--	<20	--	--	--	0.4	--	
DATE		MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 13...	<10	<1	--	7	<1	<1	410	<6	40	7	
FEB 28...	--	--	<2	--	<1	--	--	--	140	--	
MAR 28...	<10	4	--	8	--	<1	370	<6	--	32	
MAY 28...	<10	2	6	7	<1	<1	400	7	40	20	
AUG 28...	--	--	4	--	<1	--	--	--	70	--	
	DATE	TIME		STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVF DIAM. % FINER THAN .062 MM (70331)			
	NOV 13...	1105	1040	2.5	243	682	62				
	JAN 14...	1130	960	0.0	34	88	71				
	MAR 28...	1100	2900	13.0	1080	8460	60				
	MAY 28...	1200	2090	18.0	575	3240	61				
	JUL 30...	1330	1220	28.0	925	3050	89				
	SEP 30...	1130	3170	18.5	1180	10100	68				

PLATTE RIVER BASIN

06803000 SALT CREEK AT ROCA, NE

LOCATION.--Lat 40°39'29", long 96°39'55", in NW1/4SW1/4 sec.17, T.8 N., R.7 E., Lancaster County. Hydrologic Unit 10200203, on left bank 15 ft downstream from highway bridge at west edge of Roca.

DRAINAGE AREA.--167 mi².

PERIOD OF RECORD.--May 1951 to current year.

REVISED RECORDS.--WDR NE-71: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,192.50 ft above National Geodetic Vertical Datum of 1929, Kansas City supplementary adjustment of 1943. Prior to May 16, 1956, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Nov. 21-24, Dec. 1-3, 12-15, 17-25, Jan. 5-7, 26, and Feb. 8-13. Records good except for periods of estimated record, which are poor. Flood flow affected by several detention dams.

AVERAGE DISCHARGE.--35 years, 44.6 ft³/s. 32,310 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,700 ft³/s July 10, 1958, gage height, 22.70 ft; minimum daily, 0.2 ft³/s July 23, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 8, 1950, reached a stage of 26.0 ft, from floodmark established by Corps of Engineers, discharge, 67,000 ft³/s, but may have been exceeded by flood of July 5, 1908.

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)
Apr. 28	0830	1510	12.82	Aug. 21	1045	*2330	*15.65
July 1	1945	1610	13.24	Sept. 30	1230	1230	11.66
July 6	0645	1500	12.81				

Minimum daily discharge, 6.5 ft³/s Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.1	6.7	8.5	12	13	13	19	181	18	958	8.3	14
2	7.5	7.0	8.4	13	14	13	19	151	17	471	8.9	13
3	8.8	7.2	9.4	13	14	13	64	122	15	169	8.7	12
4	9.5	7.2	11	12	16	12	85	96	15	91	8.9	11
5	7.7	7.1	11	12	16	12	48	77	14	59	9.2	12
6	7.3	7.1	11	11	16	12	35	62	14	1010	15	45
7	7.4	6.9	11	10	15	12	31	53	14	367	14	47
8	6.5	7.2	11	11	14	11	28	44	14	212	12	23
9	7.1	7.6	11	12	12	12	25	98	13	136	11	18
10	9.1	7.8	10	12	12	12	23	121	13	160	16	15
11	11	7.9	9.9	13	12	11	24	71	15	103	12	14
12	13	8.0	9.7	14	13	35	25	55	14	78	14	12
13	11	8.0	10	13	14	62	28	45	12	59	14	11
14	8.1	8.5	11	12	15	28	87	40	12	46	12	9.9
15	9.5	8.5	11	12	15	20	47	41	12	37	9.5	10
16	8.0	8.9	11	15	15	18	35	58	12	29	9.6	9.7
17	8.2	9.7	11	14	14	19	32	102	10	24	8.2	14
18	51	8.9	11	15	16	101	41	52	10	20	44	30
19	30	8.9	12	15	16	139	43	40	9.6	17	37	19
20	9.5	8.6	11	14	14	51	31	34	9.4	15	34	15
21	7.5	8.4	14	14	12	37	26	29	9.4	11	1120	14
22	6.9	8.6	14	14	13	36	24	27	9.4	11	244	13
23	6.7	9.0	12	13	13	28	22	25	11	11	123	13
24	7.9	9.2	15	14	14	24	20	23	11	9.5	71	13
25	7.5	9.5	13	14	15	22	20	21	10	9.6	47	13
26	7.9	9.9	14	13	16	20	183	21	9.1	9.4	34	12
27	9.4	9.0	15	12	16	20	253	21	8.9	9.4	27	10
28	7.9	8.7	13	13	14	19	1080	21	9.2	9.5	22	9.2
29	7.3	8.8	11	14	---	18	361	26	8.9	9.5	18	92
30	7.5	9.0	11	13	---	18	249	25	256	9.1	16	776
31	6.7	---	12	13	---	18	---	19	---	9.0	16	---
TOTAL	322.5	247.8	353.9	402	399	866	3008	1801	605.9	4169.0	2044.3	1319.8
MEAN	10.4	8.26	11.4	13.0	14.3	27.9	100	58.1	20.2	134	65.9	44.0
MAX	51	9.9	15	15	16	139	1080	181	256	1010	1120	776
MIN	6.5	6.7	8.4	10	12	11	19	19	8.9	9.0	8.2	9.2
AC-FT	640	492	702	797	791	1720	5970	3570	1200	8270	4050	2620
CAL YR 1985	TOTAL	7357.9		MEAN	20.2	MAX	560	MIN	2.5	AC-FT	14590	
WTR YR 1986	TOTAL	15539.2		MEAN	42.6	MAX	1120	MIN	6.5	AC-FT	30820	

06803500 SALT CREEK AT LINCOLN, NE

LOCATION.--Lat 40°50'49", long 96°40'54", in NW1/4SW1/4 sec.7, T.10 N., R.7 E., Lancaster County, Hydrologic Unit 10200203 on right bank 135 ft downstream from bridge on North 27th Street at north edge of Lincoln, 1 mi downstream from Oak Creek.

DRAINAGE AREA.--684 mi².

PERIOD OF RECORD.--October 1949 to current year.

REVISED RECORDS.--WDR NE-71: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,113.90 ft above National Geodetic Vertical Datum of 1929. Prior to July 27, 1979, water-stage recorder for stages above 6.2 ft on downstream side of bridge pier, 135 ft upstream at same datum, and nonrecording gage read twice daily.

REMARKS.--Estimated daily discharges: Nov. 6-25 and July 2-8. Records good except for periods of estimated record, which are poor. Flood flow affected by several detention dams.

AVERAGE DISCHARGE.--37 years, 225 ft³/s, 163,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,200 ft³/s June 2, 1951, gage height, 26.15 ft; minimum daily, 21 ft³/s July 10, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1951, may have been equaled or exceeded in discharge by flood of July 6, 1908, which reached a stage of 33.6 ft. Channel changes since 1908 have materially altered the stage-discharge relation.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 28	0700	6940	13.49	July 6	unknown	4660	a10.95
June 30	1000	3750	9.82	July 10	0830	4080	10.24
July 1	unknown	*8290	*a14.88	Aug. 20	2030	4660	10.94

a From floodmark.

Minimum daily discharge, 72 ft³/s Jan. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	172	140	116	138	114	135	196	948	219	3750	137	132
2	142	129	116	141	116	134	187	776	208	1450	126	137
3	133	125	122	143	120	128	367	661	200	840	118	156
4	126	122	129	130	139	130	385	569	239	620	136	223
5	123	124	137	125	139	129	300	498	226	580	126	212
6	109	124	137	121	141	132	244	439	203	2500	132	305
7	106	122	145	114	141	121	221	392	198	900	252	272
8	100	120	148	114	124	111	200	389	186	680	205	222
9	117	121	142	124	99	121	179	517	180	618	253	188
10	115	120	145	128	104	124	167	572	502	2610	188	177
11	136	123	142	130	111	138	161	407	530	830	168	170
12	169	127	134	140	111	645	232	350	504	1900	198	158
13	132	128	127	134	105	545	257	310	323	1240	148	151
14	119	121	122	135	108	365	357	282	240	713	262	167
15	111	124	126	136	115	294	303	275	202	561	315	150
16	107	130	129	142	122	262	239	833	242	453	146	151
17	314	121	133	139	143	321	259	558	178	380	141	664
18	736	132	127	144	145	698	339	397	161	329	343	250
19	461	130	125	139	141	661	285	323	150	288	257	552
20	297	122	129	137	107	398	239	292	142	249	773	440
21	236	130	131	155	113	347	209	274	132	225	1550	271
22	204	132	157	149	130	343	190	258	138	209	1020	249
23	186	125	193	153	129	306	175	241	132	191	498	328
24	177	120	181	137	120	273	168	225	124	176	370	305
25	167	125	158	132	132	244	160	211	129	166	321	248
26	166	129	152	105	162	228	586	203	124	153	285	212
27	153	114	149	72	186	209	2550	209	142	146	204	206
28	150	127	142	126	152	204	4950	222	124	144	200	237
29	142	116	134	125	---	193	1900	280	164	137	191	651
30	135	119	133	119	---	179	1160	254	3110	134	142	1120
31	136	---	141	120	---	180	---	237	---	127	137	---
TOTAL	5677	3742	4302	4047	3569	8298	17165	12402	9352	23299	9342	8704
MEAN	183	125	139	131	127	268	572	400	312	752	301	290
MAX	736	140	193	155	186	698	4950	948	3110	3750	1550	1120
MIN	100	114	116	72	99	111	160	203	124	127	118	132
AC-FT	11260	7420	8530	8030	7080	16460	34050	24600	18550	46210	18530	17260
CAL YR 1985	TOTAL	81807		MEAN	224	MAX	6620	MIN	63	AC-FT	162300	
WTR YR 1986	TOTAL	109899		MEAN	301	MAX	4950	MIN	72	AC-FT	218000	

PLATTE RIVER BASIN

06803510 LITTLE SALT CREEK NEAR LINCOLN, NE

LOCATION.--Lat 40°53'36", long 96°40'52", in NW1/4SW1/4 sec.30, T.11 N., R.7 E., Lancaster County, Hydrologic Unit 10200203, on left bank 10 ft downstream from county road bridge and 0.4 mi north of intersection of Interstate Highway 80 and North 27th Street north of Lincoln.

DRAINAGE AREA.--43.6 mi².

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

REVISED RECORDS.--WDR NE-77-1: 1969-73(M).

GAGE.--Water-stage recorder. Datum of gage is 1,114.73 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 10, 1980, water-stage recorder at present site and datum 3.00 ft higher.

REMARKS.--Estimated daily discharges: Oct. 6-21, Nov. 20 to Jan. 10, Jan. 18 to Mar. 20, Mar. 22, 23, May 12-14, and Aug. 28 to Sept. 2. Records fair except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--17 years, 14.5 ft³/s, 10,510 acre-ft/yr; median of yearly mean discharges, 15 ft³/s, 10,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,000 ft³/s July 19, 1985, gage height, 18.24 ft, from floodmark, from rating curve extended above 3,710 ft³/s; minimum daily, 0.20 ft³/s Sept. 29, 30, 1969.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 550 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 28	0700	735	8.53	Aug. 20	2230	*1140	*10.46
July 10	0500	964	9.62	Sept. 19	0430	706	8.26
July 12	0930	964	9.63				

Minimum daily discharge, 4.4 ft³/s Sept. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	9.4	5.6	11	11	15	13	25	13	66	6.5	4.7
2	11	9.5	5.4	11	12	16	13	21	10	26	6.8	5.4
3	11	9.6	8.4	11	12	16	39	20	9.6	15	6.1	6.6
4	10	9.4	11	10	12	15	29	19	15	7.7	5.9	4.5
5	9.8	9.4	10	9.8	11	14	18	18	20	12	6.3	4.4
6	9.9	9.3	9.0	9.0	11	14	15	16	17	35	7.5	20
7	9.9	9.6	9.2	8.4	10	12	13	16	12	20	17	17
8	10	11	9.2	9.0	10	12	12	16	9.0	7.1	7.9	7.4
9	11	12	8.8	9.4	9.6	13	11	35	7.9	16	9.1	7.1
10	12	9.4	8.6	10	9.0	13	11	34	53	351	11	7.5
11	15	9.8	8.0	11	8.0	12	12	18	15	41	6.6	5.6
12	25	11	7.4	10	8.0	30	17	15	10	342	6.3	5.7
13	14	9.8	7.4	9.6	9.0	42	17	12	8.9	41	6.0	6.0
14	13	8.9	8.0	10	10	24	28	11	8.3	20	7.2	7.2
15	12	11	8.6	10	11	19	18	11	8.2	15	18	10
16	11	10	8.8	9.6	12	19	20	95	9.6	11	5.2	11
17	11	11	8.4	9.6	13	32	18	45	8.0	9.4	5.7	55
18	90	12	8.2	12	15	80	34	30	8.7	8.8	4.9	24
19	30	7.6	8.0	12	15	31	19	27	8.0	8.5	5.5	229
20	17	8.0	8.8	11	14	20	15	24	7.8	8.1	147	35
21	14	9.2	8.6	11	14	20	13	22	8.1	7.9	120	25
22	12	9.0	10	10	13	18	12	19	8.3	7.9	15	58
23	11	8.4	12	9.6	14	17	12	19	6.8	7.7	9.1	76
24	10	7.2	10	9.8	15	16	11	17	7.1	7.5	7.6	37
25	9.8	6.6	9.0	9.8	20	15	11	16	9.6	7.2	6.8	31
26	9.5	6.2	8.8	8.8	70	13	18	17	9.6	7.3	5.7	25
27	9.8	7.0	9.0	8.0	30	12	196	20	9.9	7.4	5.1	24
28	9.9	6.8	9.4	8.8	17	12	339	29	6.6	7.3	4.7	26
29	9.8	5.8	9.6	9.2	---	12	55	26	5.5	6.5	4.6	43
30	9.4	5.6	10	9.8	---	11	36	22	291	6.2	4.5	60
31	9.7	---	11	10	---	11	---	17	---	6.0	4.5	---
TOTAL	460.5	269.5	274.2	308.2	415.6	606	1075	732	621.5	1139.5	484.1	878.1
MEAN	14.9	8.98	8.85	9.94	14.8	19.5	35.8	23.6	20.7	36.8	15.6	29.3
MAX	90	12	12	12	70	80	339	95	291	351	147	229
MIN	9.4	5.6	5.4	8.0	8.0	11	11	11	5.5	6.0	4.5	4.4
AC-FT	913	535	544	611	824	1200	2130	1450	1230	2260	960	1740
CAL YR 1985	TOTAL	7192.2		MEAN	19.7	MAX	2420	MIN	3.5	AC-FT	14270	
WTR YR 1986	TOTAL	7264.2		MEAN	19.9	MAX	351	MIN	4.4	AC-FT	14410	

PLATTE RIVER BASIN

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06803520 STEVENS CREEK NEAR LINCOLN, NE

LOCATION.--Lat 40°51'25", long 96°35'42", in NW1/4NE1/4 sec.11, T.10 N., R.7 E., Lancaster County, Hydrologic Unit 10200203, on left bank 20 ft upstream from county road bridge on Havelock Avenue and 1.6 mi east of 70th Street at east edge of Lincoln.

DRAINAGE AREA.--47.8 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 1,125.57 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 28 to Mar. 8. Records fair except for period of estimated record, which is poor.

AVERAGE DISCHARGE.--18 years, 17.0 ft³/s, 12,320 acre-ft/yr; median of yearly mean discharges, 16 ft³/s, 11,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,620 ft³/s June 13, 1984, gage height, 19.57 ft; no flow July 31, Aug. 2-4, 1977.

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)
Apr. 28	1000	732	8.52	July 12	1300	948	8.91
July 1	1530	654	7.49	Aug. 15	0200	1110	9.59
July 6	0700	*3550	*17.11	Aug. 21	0330	1670	11.72

Minimum daily discharge, 1.5 ft³/s Oct. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	7.8	6.0	5.4	8.6	13	14	24	7.7	294	4.5	6.7
2	2.1	7.6	5.8	5.6	10	13	14	21	7.0	39	4.9	6.6
3	1.7	7.6	5.6	5.6	9.8	12	30	19	6.5	17	4.7	6.9
4	1.5	7.4	5.4	5.6	9.4	12	42	18	12	13	4.3	22
5	1.7	7.4	5.4	5.4	8.8	12	26	16	22	31	4.9	11
6	1.7	7.2	5.2	5.2	8.4	12	19	14	10	1590	5.1	27
7	2.0	7.2	4.8	5.0	8.0	11	16	12	8.8	79	8.0	25
8	2.4	7.2	4.6	5.4	7.8	18	14	12	7.6	37	8.2	14
9	3.8	7.2	4.3	5.6	7.4	31	13	35	7.5	37	7.3	11
10	5.4	7.2	3.9	5.8	6.6	33	12	24	8.2	202	13	9.8
11	8.1	7.0	3.7	5.8	5.4	30	13	18	111	36	8.1	8.7
12	20	7.0	3.5	6.0	4.8	78	18	15	15	318	7.2	7.4
13	14	7.0	3.0	6.0	3.9	63	17	13	9.2	46	8.2	7.1
14	18	6.8	3.9	6.2	4.4	26	25	11	9.1	27	21	7.3
15	17	6.6	4.5	6.4	5.0	20	18	11	9.1	20	234	8.1
16	23	6.4	4.9	7.2	5.2	17	18	75	47	15	16	9.0
17	47	6.0	4.8	7.4	6.8	19	18	37	11	11	18	71
18	97	5.0	3.5	7.4	7.6	117	26	18	8.7	11	29	20
19	19	5.4	4.2	7.2	7.4	119	21	14	8.2	10	23	24
20	10	5.8	3.8	6.8	6.6	28	16	12	8.8	7.2	94	14
21	9.8	5.8	4.3	6.6	6.0	23	14	11	9.3	6.7	563	9.9
22	9.1	5.3	4.6	6.8	6.8	21	13	11	9.7	6.6	39	9.1
23	8.4	2.6	4.5	7.0	8.6	18	13	10	9.4	6.5	22	9.5
24	7.7	6.0	4.7	7.4	10	17	13	9.7	11	6.6	17	9.9
25	7.6	6.0	4.8	6.8	16	16	11	9.2	12	6.2	14	11
26	7.6	6.2	5.0	5.6	20	14	61	8.8	12	5.9	12	9.4
27	7.5	6.2	5.2	4.7	18	12	181	9.4	12	5.9	10	7.0
28	7.6	6.2	5.2	5.2	15	13	471	10	12	5.6	9.3	7.0
29	7.6	6.2	5.2	5.6	---	12	54	9.6	12	5.1	8.6	35
30	7.6	6.0	5.4	6.2	---	11	34	9.3	209	4.8	8.0	127
31	7.8	---	5.4	7.2	---	11	---	8.5	---	4.6	7.2	---
TOTAL	387.8	193.3	145.1	190.1	242.3	852	1255	525.5	642.8	2904.7	1233.5	551.4
MEAN	12.5	6.44	4.68	6.13	8.65	27.5	41.8	17.0	21.4	93.7	39.8	18.4
MAX	97	7.8	6.0	7.4	20	119	471	75	209	1590	563	127
MIN	1.5	2.6	3.0	4.7	3.9	11	11	8.5	6.5	4.6	4.3	6.6
AC-FT	769	383	288	377	481	1690	2490	1040	1270	5760	2450	1090
CAL YR 1985	TOTAL	4171.5		MEAN	11.4	MAX	365	MIN	1.5	AC-FT	8270	
WTR YR 1986	TOTAL	9123.5		MEAN	25.0	MAX	1590	MIN	1.5	AC-FT	18100	

06803525 SALT CREEK BELOW STEVENS CREEK, NEAR WAVERLY, NE

LOCATION.--Lat 40°54'18", long 96°35'09", in NW1/4SW1/4 sec.24, T.11 N., R.7 E., Lancaster County, Hydrologic Unit 10200203, at bridge 0.5 mi north of Interstate Highway 80 and 3 mi southwest of Waverly.

DRAINAGE AREA.--815 mi².

PERIOD OF RECORD.--Water years 1971 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF ACAP (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
OCT 23...	1205	248	--	7.90	14.5	--	K10000	1800	320	320	84
NOV 19...	1100	200	--	7.90	2.5	12.1	K27000	7400	220	220	60
DEC 16...	1100	150	5600	7.80	1.0	11.1	K19000	5000	360	360	98
JAN 22...	1315	190	4000	7.90	2.0	12.1	K15000	1800	320	320	88
FEB 18...	1235	186	4410	7.50	3.5	11.7	--	K2900	350	350	90
MAR 19...	1130	982	1300	7.80	6.0	10.6	45000	160000	200	200	54
APR 15...	1130	374	2760	7.76	5.0	11.1	1900	13000	280	280	80
MAY 14...	1130	350	3100	7.40	19.5	8.4	--	K120	330	330	90
JUN 10...	1030	300	4320	7.90	22.5	5.8	K450	540	360	360	97
JUL 09...	1545	678	1650	7.35	26.5	6.5	K1500	800	220	220	60
AUG 06...	0840	170	5650	8.00	20.5	5.7	120	170	350	350	90
SEP 05...	0935	175	4160	7.60	19.5	6.6	1100	1200	300	300	80

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

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)
OCT 23...	26	670	17	--	--	220	870	--	--	--	--
NOV 19...	18	600	18	8.9	200	180	790	0.6	18	1800	2.4
DEC 16...	29	1000	24	12	316	290	1500	0.6	21	3100	4.3
JAN 22...	25	730	18	14	265	200	1100	0.5	16	2300	3.2
FEB 18...	30	750	18	10	270	230	1100	0.5	21	2400	3.3
MAR 19...	15	220	7	8.2	149	23	340	0.4	11	760	1.0
APR 15...	20	450	12	8.6	240	160	650	0.5	15	1500	2.1
MAY 14...	25	540	13	9.5	279	180	730	0.5	17	1800	2.4
JUN 10...	29	880	21	11	294	240	1200	0.6	21	2700	3.6
JUL 09...	18	250	8	9.2	195	100	340	0.4	14	910	1.2
AUG 06...	30	960	23	11	286	260	1500	0.6	21	3000	4.1
SEP 05...	25	940	24	14	255	260	1300	0.6	20	2800	3.8

06803525 SALT CREEK BELOW STEVENS CREEK, NEAR WAVERLY, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	CADMIUM TOTAL, RECOV- ERABLE (UG/L AS CD) (01027)
OCT 23...	--	0.98	--	1.80	2.7	4.5	5.5	1.50	--	--	--
NOV 19...	970	0.60	0.51	2.00	0.7	2.7	3.3	1.00	1	100	1
DEC 16...	1270	1.70	1.60	4.10	1.6	5.7	7.4	1.90	--	--	--
JAN 22...	1200	1.30	1.30	3.00	1.0	4.0	5.3	1.60	--	--	--
FEB 18...	1200	1.50	1.50	3.10	1.0	4.1	5.6	0.25	4	200	2
MAR 19...	2020	1.60	1.60	0.69	3.1	3.8	5.4	0.75	--	--	--
APR 15...	1540	1.30	1.30	1.10	3.8	4.9	6.2	1.70	--	--	--
MAY 14...	1660	1.60	1.60	1.00	1.1	2.1	3.7	0.90	7	300	<1
JUN 10...	2150	2.10	2.10	1.30	1.0	2.3	4.4	1.60	--	--	--
JUL 09...	1660	1.60	1.90	0.48	1.2	1.7	3.3	0.72	--	--	--
AUG 06...	1400	1.90	1.80	2.40	0.8	3.2	5.1	<0.01	5	200	<1
SEP 05...	1320	1.80	4.10	2.30	0.7	3.0	4.8	1.70	--	--	--

[illegible]

PLATTE RIVER BASIN

06803530 ROCK CREEK NEAR CERESCO, NE

LOCATION.--Lat 41°00'56", long 96°32'39", in NE1/4NE1/4 sec.17, T.12 N., R.8 E., Lancaster County, Hydrologic Unit 10200203, on right bank 20 ft downstream from bridge on east-west county road and 5.7 mi southeast of Ceresco.

DRAINAGE AREA.--119 mi².

PERIOD OF RECORD.--April 1970 to current year.

REVISED RECORDS.--WDR NE-76-1: 1975(M).

GAGE.--Water-stage recorder. Datum of gage is 1,112.18 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 6, 1980, at present site at datum 3.0 ft higher. July 14, 1981 to Feb. 29, 1984, on left bank 30 ft downstream from bridge at present datum.

REMARKS.--Estimated daily discharges: Nov. 18 to Feb. 25, Feb. 28 to Mar 2, and Mar. 7, 8. Records fair except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--16 years, 35.9 ft³/s, 26,010 acre-ft/yr; median of yearly mean discharges, 34 ft³/s, 24,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,800 ft³/s June 15, 1982, gage height, 18.84 ft, present datum. from floodmark; minimum daily, 0.25 ft³/s July 13, 1976.

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)
Apr. 28	0730	1460	8.98	Aug. 21	0700	*2860	*12.50
July 10	1200	1200	8.19	Sept. 19	0330	1140	7.99
July 12	1730	2100	10.73	Sept. 22	2230	1130	7.98

Minimum daily discharge, 8.7 ft³/s July 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	20	14	20	16	25	25	51	26	195	9.0	15
2	19	18	15	20	17	27	24	44	24	47	10	16
3	17	19	16	19	17	28	74	40	23	21	10	17
4	16	19	17	18	18	25	93	37	24	18	10	20
5	15	19	18	16	18	25	45	34	31	17	12	18
6	15	20	18	16	17	23	33	29	27	24	13	107
7	15	18	17	15	16	19	29	28	26	18	449	75
8	14	18	17	16	15	20	26	29	23	17	38	24
9	16	18	16	18	13	22	23	98	22	16	26	20
10	19	18	16	19	12	24	24	96	289	626	53	20
11	19	18	15	19	11	23	24	45	59	66	20	18
12	49	19	14	18	10	382	28	35	31	1070	18	17
13	23	21	15	20	12	185	31	30	26	250	19	17
14	17	20	15	20	14	65	72	27	23	50	18	17
15	17	21	16	19	15	47	43	25	23	29	20	19
16	16	23	15	22	16	40	59	238	23	22	17	18
17	20	22	15	23	17	61	50	165	21	18	74	140
18	387	21	14	27	18	320	100	48	20	16	24	47
19	59	24	14	25	18	86	52	35	19	15	31	640
20	39	22	15	24	18	40	35	30	18	14	310	68
21	30	18	16	21	18	39	31	29	19	14	1610	31
22	27	17	18	19	17	37	29	27	22	14	101	373
23	25	17	20	19	19	33	28	26	19	12	34	303
24	22	16	21	20	25	30	27	25	18	12	25	60
25	20	16	20	20	40	29	26	25	17	11	23	46
26	20	15	18	17	175	26	36	25	16	10	21	30
27	20	15	17	13	98	24	367	26	16	11	18	25
28	20	14	18	15	28	25	915	221	15	11	17	58
29	19	13	19	15	---	25	136	65	15	11	17	138
30	18	12	19	16	---	23	76	35	191	8.7	16	113
31	18	---	19	16	---	22	---	30	---	9.4	16	---
TOTAL	1059	551	517	585	728	1800	2561	1698	1126	2673.1	3079.0	2510
MEAN	34.2	18.4	16.7	18.9	26.0	58.1	85.4	54.8	37.5	86.2	99.3	83.7
MAX	387	24	21	27	175	382	915	238	289	1070	1610	640
MIN	14	12	14	13	10	19	23	25	15	8.7	9.0	15
AC-FT	2100	1090	1030	1160	1440	3570	5080	3370	2230	5300	6110	4980
CAL YR 1985	TOTAL	13666.6		MEAN	37.4	MAX	2300	MIN	8.8	AC-FT	27110	
WTR YR 1986	TOTAL	18887.1		MEAN	51.7	MAX	1610	MIN	8.7	AC-FT	37460	

PLATTE RIVER BASIN

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06803555 SALT CREEK AT GREENWOOD, NE

LOCATION.--Lat 40°57'56", long 96°27'01", at center of sec.31, T.12 N., R.9 E., Cass County, Hydrologic Unit 10200203, on right bank just downstream from county road bridge, 0.5 mi west of Greenwood.

DRAINAGE AREA.--1,051 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1951 to current year. Records furnished by Corps of Engineers prior to Oct. 1, 1972.

REVISED RECORDS.--WDR NE-71: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,068.14 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 5, 1964, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Nov. 26 to Jan. 12, Jan. 27-30, and Feb. 9-17, 21. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--34 years (water years 1953-86), 325 ft³/s, 235,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,800 ft³/s June 13, 1984, gage height, 26.50 ft; minimum daily, 14 ft³/s Jan. 10, 1957.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 28	0915	*12700	*14.57	July 12	1700	6510	10.54
June 30	1445	4440	8.76	Aug. 15	0045	8340	11.89
July 1	1715	7190	11.07	Aug. 21	0200	8330	11.88
July 6	0630	6660	10.66	Sept. 19	0545	4350	8.68
July 10	0800	10700	13.43				

Minimum daily discharge, 160 ft³/s Jan. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	327	228	195	250	203	199	315	1030	331	4170	210	210
2	266	224	190	260	201	196	294	826	307	2770	231	205
3	245	215	210	260	208	194	570	711	294	1280	205	220
4	234	212	225	245	235	188	690	640	288	899	192	336
5	222	215	240	250	220	184	488	578	430	730	216	261
6	213	214	260	225	228	181	385	513	319	4270	200	553
7	204	210	250	210	219	171	344	467	299	1720	854	547
8	198	204	270	225	206	163	322	450	281	958	375	338
9	205	207	250	245	205	166	298	762	267	822	300	271
10	223	207	240	230	200	172	282	861	567	5740	437	253
11	220	202	220	255	190	172	274	605	800	1400	277	237
12	341	207	200	240	180	1270	365	500	545	4130	287	220
13	253	211	180	212	170	1080	311	449	408	2040	251	207
14	222	211	190	211	200	490	624	406	322	989	832	198
15	212	204	205	208	200	382	442	379	285	770	2470	233
16	202	218	215	215	210	346	425	968	520	640	324	207
17	327	208	210	219	220	384	413	1110	298	544	475	1260
18	1470	236	195	235	236	1150	559	569	260	479	315	455
19	698	233	180	238	210	1270	456	442	247	432	503	2310
20	442	209	205	230	188	580	385	400	236	388	743	703
21	359	238	230	233	200	440	348	373	226	354	4940	399
22	321	212	210	235	204	441	324	343	246	335	1550	580
23	300	211	240	229	204	403	309	322	227	316	630	870
24	284	201	225	229	198	367	304	314	211	300	456	423
25	272	205	210	222	210	338	294	309	205	282	383	370
26	272	210	250	204	365	315	809	298	204	267	338	280
27	260	220	230	160	333	293	3110	294	219	245	296	249
28	247	230	220	185	237	288	8410	426	212	243	270	255
29	240	220	250	195	---	286	2590	442	199	240	252	924
30	229	200	240	200	---	278	1410	376	3000	229	233	1380
31	228	---	260	206	---	274	---	356	---	222	221	---
TOTAL	9736	6422	6895	6961	6080	12661	26150	16519	12253	38204	19266	14954
MEAN	314	214	222	225	217	408	872	533	408	1232	621	498
MAX	1470	238	270	260	365	1270	8410	1110	3000	5740	4940	2310
MIN	198	200	180	160	170	163	274	294	199	222	192	198
AC-FT	19310	12740	13680	13810	12060	25110	51870	32770	24300	75780	38210	29660
CAL YR 1985	TOTAL	135062		MEAN	370	MAX	16100	MIN	113	AC-FT	267900	
WTR YR 1986	TOTAL	176101		MEAN	482	MAX	8410	MIN	160	AC-FT	349300	

06803555 SALT CREEK AT GREENWOOD, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1971 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to October 1984.

WATER TEMPERATURES: October 1980 to October 1984.

SUSPENDED SEDIMENT DISCHARGE: October 1971 to September 1976.

REMARKS.--Prior to July 1, 1971, sediment records were obtained by the U.S. Corps of Engineers.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 9,100 microsiemens Sep. 22, 1981; minimum daily, 170 microsiemens June 13, 1984.

WATER TEMPERATURES: Maximum, 36.0°C June 25, 1981; minimum, 0.0°C on many days during winter period.

SEDIMENT CONCENTRATIONS: Maximum daily, 15,900 mg/L May 18, 1974; minimum daily, 5 mg/L Oct. 9, 1971.

SEDIMENT LOADS: Maximum daily, 492,000 tons Oct. 11, 1973; minimum daily, 1.0 ton Oct. 9, 1971.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANECUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MP (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT									
23...	1025	306	3040	8.00	15.0	--	82	K9300	1900
NOV									
19...	1000	228	3450	8.00	3.0	12.8	35	K11000	7400
DEC									
16...	1015	214	4550	7.70	0.0	11.4	28	K14000	K4800
JAN									
22...	1230	235	3400	7.90	1.0	12.6	45	K12000	2000
FEB									
18...	1130	232	3650	7.60	3.5	9.4	60	--	K2400
MAR									
19...	1000	1330	1000	7.60	4.0	10.4	140	23000	190000
APR									
15...	1000	430	2180	7.90	5.0	10.9	85	14000	7400
MAY									
14...	1015	409	2650	7.60	19.5	7.9	20	--	680
JUN									
10...	0900	277	3520	8.00	23.5	5.6	57	K8300	K24000
JUL									
09...	1405	778	1440	7.50	26.5	6.2	47	7000	5800
AUG									
06...	1020	202	4520	7.90	22.5	7.6	63	140	1200
SEP									
05...	0805	238	3160	7.60	20.5	6.2	68	4000	7200

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

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT								
23...	310	0	86	24	560	14	200	790
NOV								
19...	300	0	80	25	700	18	210	950
DEC								
16...	330	0	86	28	810	20	340	370
JAN								
22...	300	0	79	26	650	17	120	740
FEB								
18...	300	0	79	24	670	18	150	820
MAR								
19...	150	0	39	13	140	5	69	180
APR								
15...	280	0	74	23	320	9	180	470
MAY								
14...	320	0	85	25	380	10	130	630
JUN								
10...	270	0	72	23	590	16	200	860
JUL								
09...	200	0	54	16	180	6	110	300
AUG								
06...	310	0	81	25	770	20	210	940
SEP								
05...	280	0	74	22	600	16	260	870

06803555 SALT CREEK AT GREENWOOD. NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

		SOLIDS, RESIDUE AT 105 DEG. C. SUS- PENDEED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	
		OCT 23...	134	1.40	1.10	2.1	3.2	4.6	1.20	8.7
		NOV 19...	68	0.710	4.10	2.2	6.3	7.0	0.850	16
		DEC 16...	14	2.30	5.40	0.0	4.0	6.3	1.30	5.3
		JAN 22...	68	1.90	2.80	3.0	5.8	7.7	1.30	6.9
		FEB 18...	60	1.90	2.90	4.1	7.0	8.9	1.60	7.9
		MAR 19...	1900	1.60	0.810	1.6	2.4	4.0	1.70	14
		APR 15...	736	1.50	1.30	3.4	4.7	6.2	1.20	13
		MAY 14...	102	2.40	0.610	1.1	1.7	4.1	0.580	5.4
		JUN 10...	222	2.30	0.770	0.63	1.4	3.7	1.50	9.0
		JUL 09...	378	1.50	0.240	2.3	2.5	4.0	0.800	13
		AUG 06...	28	2.20	1.20	0.20	1.4	3.6	1.40	6.2
		SEP 05...	156	2.20	0.860	1.3	2.2	4.4	1.20	6.7
DATE	TIME	ARSENIC TOTAL (UG/L AS AS) (01002)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	LEAD. TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
NOV										
19...	1000	11	<15	<10	20	<20	<0.1	13	<1	<30
FEB										
18...	1130	10	<15	<10	30	30	<0.1	6	<1	70
AUG										
06...	1020	25	<15	<10	20	<20	<0.1	13	1	150

PLATTE RIVER BASIN

06804000 WAHOO CREEK AT ITHACA, NE

LOCATION.--Lat 41°08'40", long 96°32'10", in NW1/4NW1/4 sec.33, T.14 N., R.8 E., Saunders County, Hydrologic Unit 10200203, on right bank 16 ft downstream from bridge on State Highway 63 and 0.5 mi south of Ithaca.

DRAINAGE AREA.--271 mi², of which 268 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1949 to current year.

REVISED RECORDS.--WDR NE-71-1: Drainage area. WDR NE-78-1: 1977(P).

GAGE.--Water-stage recorder. Datum of gage is 1,110.48 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 27, 1959, nonrecording gages at same site and datum. Oct. 28, 1959, to Feb. 22, 1961, nonrecording gage at site 1.5 mi upstream at datum 8.21 ft higher.

REMARKS.--Estimated daily discharges: Nov. 19 to Jan. 12 and Jan 18 to Feb. 25. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--37 years, 85.3 ft³/s, 61,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 77,400 ft³/s June 24, 1963, gage height, 22.93 ft, from rating curve extended above 13,000 ft³/s on basis of indirect measurement of peak flow; minimum daily, 3.3 ft³/s June 11, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since about 1910, 23.22 ft, from floodmark, Aug. 2, 1959, discharge, 45,300 ft³/s.

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	1330	2930	17.82	Sept. 19	2315	*4130	*19.75
July 12	1930	3650	19.08	Sept. 23	0430	2750	19.26
Aug. 17	1245	1520	13.41	Sept. 29	0445	2940	17.85
Aug. 21	0830	3180	18.30				

Minimum daily discharge, 33 ft³/s Dec. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	51	47	70	50	71	73	308	90	269	54	55
2	51	52	50	66	50	77	71	149	86	123	54	53
3	49	52	52	62	49	71	93	129	82	87	54	53
4	49	51	55	58	47	68	125	120	82	83	65	57
5	48	52	54	60	45	68	103	113	241	75	64	55
6	49	53	54	64	44	67	84	105	105	95	65	116
7	48	51	52	66	42	62	80	100	104	70	156	104
8	48	51	51	66	40	58	76	100	92	72	89	59
9	48	51	49	60	39	70	76	327	82	71	62	53
10	49	52	47	55	38	67	75	170	541	238	80	53
11	51	53	45	47	37	65	76	120	1770	135	61	53
12	62	54	43	48	37	250	77	110	318	1960	95	49
13	60	55	41	49	42	355	77	102	188	593	73	48
14	51	55	42	54	47	116	105	97	164	171	60	48
15	50	54	41	52	48	95	90	108	139	119	57	51
16	50	58	39	52	48	88	102	224	128	93	56	52
17	50	60	36	53	47	92	96	376	119	85	536	94
18	358	58	33	52	48	159	123	134	120	80	110	378
19	159	54	38	49	48	121	119	118	115	77	73	2960
20	77	57	44	47	47	87	89	111	110	73	231	1100
21	66	66	50	44	48	86	87	106	106	71	1720	193
22	62	62	58	44	48	85	84	103	107	71	197	844
23	61	59	54	45	47	83	81	98	93	71	115	1720
24	57	56	46	46	51	80	79	96	100	68	92	224
25	54	54	49	47	64	79	78	94	93	66	82	162
26	54	50	62	48	378	76	81	93	92	64	76	116
27	54	50	70	48	310	74	342	94	82	62	72	100
28	54	49	74	49	88	73	754	111	82	61	67	448
29	51	47	74	50	---	73	314	113	79	60	63	1630
30	51	46	74	49	---	72	425	101	373	58	61	303
31	50	---	72	50	---	71	---	94	---	57	58	---
TOTAL	2085	1613	1606	1650	1927	2959	4135	4224	5883	5278	4698	11231
MEAN	67.3	53.8	51.8	53.2	68.8	95.5	138	136	196	170	152	374
MAX	358	66	74	70	378	355	754	376	1770	1960	1720	2960
MIN	48	46	33	44	37	58	71	93	79	57	54	48
AC-FT	4140	3200	3190	3270	3820	5870	8200	8380	11670	10470	9320	22280
CAL YR 1985	TOTAL	28896	MEAN	79.2	MAX	832	MIN	32	AC-FT	57320		
WTR YR 1986	TOTAL	47289	MEAN	130	MAX	2960	MIN	33	AC-FT	93800		

PLATTE RIVER BASIN

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06805500 PLATTE RIVER AT LOUISVILLE, NE
(National stream-quality accounting network station)

LOCATION.--Lat 41°00'55", long 96°09'28", in NW1/4NW1/4 sec.14, T.12 N., R.11 E., Sarpy County, Hydrologic Unit 10200202, on the left bank at the upstream side of bridge on Nebraska Highway 50, 1 mi north of Louisville.

DRAINAGE AREA.--85,800 mi², approximately, of which about 71,000 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1953 to current year. October 1961 to September 1973 published as Platte River at South Bend.

REVISED RECORDS.--WDR NE-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,007.10 ft above National Geodetic Vertical Datum of 1929. Dec. 5, 1961, to Sept. 30, 1973, at site 7 mi upstream at datum 31.43 feet higher.

REMARKS.--Estimated daily discharges: Nov. 18 to Feb. 25. Records good except for period of estimated record, which is poor. Natural flow of stream affected by storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE.--33 years. 6,493 ft³/s, 4,704,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 144,000 ft³/s June 14, 1984, gage height, 11.34 ft; maximum gage height, 12.45 ft Mar. 30, 1960; minimum daily discharge, 131 ft³/s Sept. 3, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge known since at least 1881, 144,000 ft³/s June 14, 1984, gage height, 11.34 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 45,400 ft³/s Mar. 20, gage height, 8.14 ft; minimum daily discharge, 2,500 ft³/s Nov. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6720	7380	3800	5600	9000	16200	9840	20600	8900	26500	3550	6000
2	7310	7320	4300	6200	9800	15100	10200	17100	8460	28000	4080	5660
3	7370	7450	4500	6000	10000	16300	11400	15500	7790	19200	3710	6200
4	6720	6940	4700	6200	10200	13300	13600	13700	7580	13700	4610	5470
5	6740	6880	4600	6600	10200	11900	15000	13600	8240	10900	4670	6600
6	6450	6730	4400	6800	10000	11200	14600	13000	8740	14300	5190	7100
7	6470	6410	4600	6400	10000	10800	13000	11600	7570	11600	7080	8690
8	6320	6800	4600	7300	9000	10500	13200	11600	9150	9070	7220	8790
9	6200	6860	4500	7600	7800	9870	12100	13300	7860	8620	9330	13100
10	6370	7000	4400	8000	6000	10300	11900	14100	7740	16800	9330	10200
11	6480	7350	4300	8000	5000	10800	11700	12600	13000	10900	7980	9120
12	7070	6920	4200	7800	4700	11400	11800	12300	11300	18300	7030	8580
13	7240	7390	4200	7600	4200	25500	12200	13200	8990	19000	6910	8690
14	7430	7710	4300	8200	4000	22100	12900	12900	10000	15300	6770	8110
15	6670	8420	4400	8800	4300	19300	15300	11000	27700	12400	12300	8310
16	7260	7770	4200	9200	4400	15800	15900	11300	16800	9200	7160	8040
17	7240	7810	4100	10000	4700	17200	13500	21200	11400	8420	8120	10900
18	8670	7600	4200	10400	4800	22400	15700	18900	9160	7160	7520	12100
19	9590	6000	4500	10400	5200	37600	18300	16400	9250	6370	6550	22300
20	8960	4500	4500	10200	6000	36900	18000	12300	9480	5980	6430	22700
21	8700	3700	4800	10000	7200	24500	17300	9900	9510	5370	15600	23200
22	8970	3000	5200	10000	8000	19400	15700	8830	10900	4970	12200	20400
23	10500	2700	5600	10000	8800	15700	14600	8330	11200	4670	8420	25400
24	8630	2500	5200	10000	8600	14200	13400	7940	10700	4340	6640	24500
25	7610	2800	5000	9600	9200	14300	12500	7700	9550	4430	5770	19700
26	7830	3500	5400	9000	12600	12700	14000	7450	9040	4110	5770	15700
27	8320	3800	6000	8800	26000	11500	17500	7130	8950	5100	5210	14100
28	7970	4200	6000	8600	22700	12000	39300	7390	8620	5890	5430	12000
29	7920	3800	5900	8600	---	11400	31000	7800	8550	4760	5370	15500
30	7990	3400	5800	8400	---	11100	23000	7970	10700	4200	5470	14300
31	7390	---	5600	8200	---	10000	---	8380	---	3740	5400	---
TOTAL	235110	174640	147800	258500	242400	501270	468440	375020	306830	323300	216820	381460
MEAN	7584	5821	4768	8339	8657	16170	15610	12100	10230	10430	6994	12720
MAX	10500	8420	6000	10400	26000	37600	39300	21200	27700	28000	15600	25400
MIN	6200	2500	3800	5600	4000	9870	9840	7130	7570	3740	3550	5470
AC-FT	466300	346400	293200	512700	480800	994300	929200	743900	608600	641300	430100	756600
CAL YR 1985	TOTAL	2869040		MEAN	7860	MAX	33700	MIN	1920	AC-FT	5691000	
WTR YR 1986	TOTAL	3631590		MEAN	9950	MAX	39300	MIN	2500	AC-FT	7203000	

PLATTE RIVER BASIN

06805500 PLATTE RIVER AT LOUISVILLE, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1972 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1974 to September 1981.

WATER TEMPERATURES: November 1974 to September 1981.

SUSPENDED SEDIMENT DISCHARGE: October 1971 to September 1981.

REMARKS.--Prior to July 1, 1971, sediment records were obtained by the U.S. Corps of Engineers.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,450 microsiemens Sept. 1, 1976; minimum daily, 254 microsiemens Aug. 7, 1981.

WATER TEMPERATURES: Maximum, 36.0°C July 24, 1977, Aug. 19, 1979; minimum, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily, 11,600 mg/L May 19, 1974; minimum daily, 60 mg/L July 19, 1976.

SEDIMENT LOADS: Maximum daily, 1,180,000 tons Mar. 21, 1978; minimum daily, 64 tons July 19, 1976.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)
OCT										
02...	1150	8200	545	8.00	10.5	735	--	11.3	24	5600
NOV										
05...	1035	7340	841	8.20	9.0	732	25	11.6	25	K150
DEC										
10...	1145	4390	1100	8.00	0.0	--	--	14.2	12	K260
JAN										
08...	1220	7280	950	7.30	0.5	750	--	13.4	7	420
FEB										
04...	1200	10200	820	8.00	0.5	735	25	13.9	10	220
28...	1100	23800	500	8.00	0.0	752	--	13.8	80	1100
APR										
03...	1145	10600	649	8.30	13.0	737	--	10.4	29	K560
MAY										
07...	1300	11400	830	8.40	19.0	734	50	8.2	170	260
JUN										
03...	1045	8370	610	8.30	23.5	737	--	--	39	270
JUL										
21...	1120	4870	527	8.40	26.5	--	--	9.8	41	K170
AUG										
19...	1100	6350	1020	8.00	24.0	740	100	8.6	70	K2200
SEP										
16...	1030	8210	532	8.50	18.5	749	--	8.8	54	K7500

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

DATE	STREP- TOCOC FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINEITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT										
02...	4700	240	0	67	18	32	0.9	--	--	74
NOV										
05...	K97	250	64	70	17	67	2	8.9	187	110
DEC										
10...	220	250	0	69	19	140	4	--	--	83
JAN										
08...	130	250	0	66	20	100	3	--	--	140
FEB										
04...	210	240	60	68	18	66	2	8.5	174	140
28...	K33000	170	0	48	13	24	0.8	--	--	79
APR										
03...	4200	220	0	63	16	33	1	--	--	88
MAY										
07...	310	230	63	62	19	84	2	9.7	200	160
JUN										
03...	100	220	0	60	16	35	1	--	--	110
JUL										
21...	480	180	0	52	13	34	1	--	--	71
AUG										
19...	4600	180	17	47	14	130	4	9.1	159	110
SEP										
16...	K11000	190	0	51	14	33	1	--	--	85

PLATTE RIVER BASIN

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06805500 PLATTE RIVER AT LOUISVILLE, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS P) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
OCT 02...	11	--	--	--	--	--	--	236	1.80	--
NOV 05...	61	0.50	33	488	490	0.66	9670	132	1.40	1.40
DEC 10...	180	--	--	--	--	--	--	12	1.20	--
JAN 08...	94	--	--	--	--	--	--	26	1.80	--
FEB 04...	57	0.40	32	506	510	0.69	13900	216	1.70	1.80
FEB 28...	11	--	--	--	--	--	--	1490	1.80	--
APR 03...	15	--	--	--	--	--	--	216	1.60	--
MAY 07...	68	0.40	23	585	530	0.80	18000	154	0.420	0.480
JUN 03...	19	--	--	--	--	--	--	242	0.750	--
JUL 21...	18	--	--	--	--	--	--	222	0.020	--
AUG 19...	160	0.40	21	592	590	0.81	10100	470	0.640	0.650
SEP 16...	11	--	--	--	--	--	--	362	0.630	--

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 02...	0.070	--	0.58	0.65	2.5	0.440	--	--	4.8
NOV 05...	0.070	0.070	0.93	1.0	2.4	0.360	0.240	0.210	6.8
DEC 10...	0.410	--	0.79	1.2	2.4	0.360	--	--	4.8
JAN 08...	0.250	--	0.05	0.40	2.2	0.430	--	--	4.4
FEB 04...	0.160	0.140	0.74	0.90	2.6	0.270	0.190	0.180	5.4
FEB 28...	0.470	--	9.1	9.6	11	1.20	--	--	14
APR 03...	0.030	--	2.4	2.4	4.0	0.410	--	--	6.3
MAY 07...	0.100	0.060	1.2	1.3	1.7	0.340	0.070	0.060	46
JUN 03...	0.030	--	1.3	1.3	2.1	0.680	--	--	7.9
JUL 21...	0.030	--	2.0	2.0	2.0	0.390	--	--	8.3
AUG 19...	0.040	0.010	2.1	2.1	2.7	0.780	0.240	0.220	7.7
SEP 16...	<0.020	--	--	2.2	2.8	1.10	--	--	18

PLATTE RIVER BASIN

06805500 PLATTE RIVER AT LOUISVILLE, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)
NOV 05...	1035	10	8	6	140	<0.5	<15	<1	<10	<1
FEB 04...	1200	20	8	5	130	<0.5	<15	<1	<10	<1
MAY 07...	1300	610	11	5	140	<0.5	<15	<1	<10	<1
AUG 19...	1100	--	23	--	--	--	<15	--	20	--

DATE	COBALT,	COPPER,	COPPER,	IRON,	LEAD,	LEAD,	LITHIUM	MANGA-	MERCURY	
	DIS-	TOTAL	DIS-	DIS-	TOTAL	DIS-	DIS-	NESE,	TOTAL	
	SOLVED	RECOV-	SOLVED	SOLVED	RECOV-	SOLVED	SOLVED	DIS-	RECOV-	DIS-
	(UG/L	ERABLE	(UG/L	(UG/L	ERABLE	(UG/L	(UG/L	SOLVED	ERABLE	SOLVED
	AS CO)	AS CU)	AS CU)	AS FE)	AS PB)	AS PB)	AS LI)	AS MN)	AS HG)	AS HG)
	(01035)	(01042)	(01040)	(01046)	(01051)	(01049)	(01130)	(01056)	(71900)	(71890)
NOV										
05...	<3	20	2	7	60	<1	26	7	<0.1	0.2
FEB										
04...	<3	30	1	10	40	<1	25	13	0.1	<0.1
MAY										
07...	<3	<10	6	520	50	4	28	120	<0.1	<0.1
AUG										
19...	--	20	--	--	<20	--	--	--	0.2	--

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 05...	<10	<1	<2	2	1	<1	470	<6	30	8
FEB 04...	<10	<1	<2	<1	<1	<1	530	<6	40	7
MAY 07...	<10	2	4	2	<1	<1	500	9	<30	9
AUG 19...	--	--	15	--	<1	--	--	--	80	--

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 05...	1035	7340	9.0	391	7750	31
FEB 04...	1200	10200	0.5	723	19900	43
MAY 07...	1300	11400	19.0	840	25900	35
AUG 19...	1100	6350	24.0	593	10200	68

WEEPING WATER CREEK BASIN

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06806500 WEEPING WATER CREEK AT UNION, NE

LOCATION (REVISED).--Lat 40°47'35", long 95°54'40", in SW1/4NW1/4 sec.36, T.10 N., R.13 E., Cass County, Hydrologic unit 10240001, on left bank near downstream side of bridge on U.S. Highways 73 and 75, 1.5 mi southeast of Union and 2.8 mi downstream from South Branch Weeping Water Creek.

DRAINAGE AREA.--241 mi².

PERIOD OF RECORD.--February 1950 to current year.

REVISED RECORDS.--WSP 2118: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 926.72 ft above National Geodetic Vertical Datum of 1929. Prior to May 14, 1951, nonrecording gage at site 2 mi upstream at different datum. May 15, 1951, to Aug. 22, 1968, water-stage recorder for stages above 7.9 ft and nonrecording gage, Aug. 23, 1968 to Aug. 22, 1980, water-stage recorder on downstream side of bridge pier. Aug. 23, 1980 to Nov. 4, 1980 at present site, all at datum 3.00 ft higher. Nov. 5, 1980 to Aug. 23, 1984 at present site and datum. Aug. 24, 1984, to Mar. 5, 1986, on left bank 200 ft upstream at present datum.

REMARKS.--Estimated daily discharges: Nov. 15 to Feb. 3, Feb. 7-25, and July 9 to Aug. 4. Records good except for periods of estimated record. which are poor.

AVERAGE DISCHARGE.--36 years, 94.1 ft³/s, 68,180 acre-ft/yr; median of yearly mean discharges, 71 ft³/s, 51,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 60,300 ft³/s May 9, 1950, gage height, 29.80 ft, from floodmark, present site and datum, from rating curve extended above 12,000 ft³/s on basis of measurement of peak flow through bridges and over highway embankment; minimum daily, 0.1 ft³/s Sept. 10-12, 14, 15, 17, 18, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 6	0800	*4270	*17.99	No other peak greater than base discharge.			
Minimum daily discharge. 18 ft ³ /s Jan. 22, 27.							

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	45	25	36	33	62	71	178	101	119	68	41
2	48	43	27	35	40	62	72	148	96	81	68	40
3	42	44	29	34	50	60	287	142	94	70	68	41
4	41	45	31	31	294	57	390	129	156	64	70	51
5	39	45	32	29	125	57	233	124	342	72	68	79
6	38	48	32	27	83	57	135	115	133	3290	56	92
7	38	47	33	25	66	55	114	109	143	325	335	148
8	38	47	33	29	58	54	104	106	105	153	111	89
9	46	48	32	27	54	56	96	555	96	600	63	54
10	68	49	30	30	50	56	92	981	119	450	62	50
11	56	49	28	27	43	56	92	291	153	200	57	48
12	73	51	26	28	35	98	92	173	137	150	61	44
13	60	55	26	29	38	195	98	147	96	800	81	42
14	46	54	28	30	37	113	147	134	89	300	69	40
15	42	54	30	30	40	85	129	128	87	200	56	40
16	41	50	33	29	45	76	131	270	179	130	61	40
17	43	47	35	29	50	76	147	329	186	110	69	213
18	116	40	37	29	49	103	189	172	88	100	76	159
19	118	35	38	28	48	276	153	142	78	94	72	79
20	77	26	34	25	48	148	116	129	74	90	56	75
21	56	27	42	22	43	98	107	121	73	86	70	53
22	54	28	44	18	46	94	103	117	72	78	109	138
23	50	29	44	19	50	87	100	111	71	76	69	192
24	47	30	43	20	56	79	96	109	69	74	55	77
25	45	30	35	21	70	76	94	107	66	72	51	56
26	44	30	30	20	134	71	639	106	65	70	47	51
27	44	30	36	18	102	69	329	105	67	70	45	46
28	43	30	34	23	70	70	867	109	67	68	44	44
29	44	29	33	27	---	70	439	108	64	68	43	98
30	42	28	35	31	---	67	208	109	88	66	42	726
31	42	---	36	34	---	68	---	107	---	66	41	---
TOTAL	1639	1213	1031	840	1857	2651	5870	5711	3254	8192	2243	2946
MEAN	52.9	40.4	33.3	27.1	66.3	85.5	196	184	108	264	72.4	98.2
MAX	118	55	44	36	294	276	867	981	342	3290	335	726
MIN	38	26	25	18	33	54	71	105	64	64	41	40
AC-FT	3250	2410	2040	1670	3680	5260	11640	11330	6450	16250	4450	5840
CAL YR 1985	TOTAL	25428.4		MEAN	69.7	MAX	3170	MIN	6.7	AC-FT	50440	
WTR YR 1986	TOTAL	37447		MEAN	103	MAX	3290	MIN	18	AC-FT	74280	

MISSOURI RIVER MAIN STEM

06807000 MISSOURI RIVER AT NEBRASKA CITY, NE

LOCATION.--Lat 40°40'55", long 95°50'48", in NW1/4NE1/4 sec.9, T.8 N., R.14 E., Otoe County, Hydrologic Unit 10240001, on right bank 0.7 mi upstream from Waubonsie Highway Bridge at Nebraska City, and at mile 562.6.

DRAINAGE AREA.--410,000 mi², approximately. The 3,959 mi² in Great Divide basin are not included.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--August 1929 to current year. Gage-height records collected in this vicinity from August 1878 to December 1899 are contained in reports of Missouri River Commission.

REVISED RECORDS.--WSP 761: Drainage area.

GAGE--Water-stage recorder. Datum of gage is 905.36 ft above NGVD, supplementary adjustment of 1954. See WSP 1918 or 1919 for history of changes prior to Apr. 1, 1963.

REMARKS.--Estimated daily discharges: Nov. 30, Dec. 2, 3, and 13-15. Records good except those for estimated daily discharges, which are poor. Flow regulated by upstream main-stem reservoirs. U.S. National Weather Service gage-height telemeter at station. U.S. Army Corps of Engineers rain-gage and gage-height satellite data collection platform at station.

AVERAGE DISCHARGE.--57 years, 36,880 ft³/s, 26,720,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 414,000 ft³/s Apr. 19, 1952; maximum gage height, 27.66 ft Apr. 18, 1952; minimum discharge, 1,600 ft³/s Dec. 31, 1946 (discharge measurement); minimum gage height observed, -0.28 ft Dec. 24, 1960, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 99,800 ft³/s Mar. 19, gage height, 18.62 ft; minimum daily, 20,700 ft³/s Dec. 28; minimum gage height, 4.87 ft Dec. 27, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42200	40100	36500	22800	25600	41800	49300	75800	62500	71300	44500	51600
2	42100	39900	36800	23800	25600	38200	49400	72200	62300	80900	44800	50900
3	41600	40200	37000	25000	27700	39100	51600	70400	61500	71500	46200	50500
4	41300	40500	37700	25600	29600	37400	55300	70000	61400	65400	46000	51800
5	41400	40600	36900	25500	29800	35900	57800	66200	61900	62800	47200	51500
6	41100	41200	34300	25500	31300	36000	59100	64200	62600	67900	47500	52500
7	40700	41200	32000	24300	34200	36700	58900	61100	62900	66600	49100	53400
8	40900	41600	30900	23800	31900	36000	57900	59400	62800	62000	49500	54000
9	41300	41700	30000	23800	30300	35500	58600	60600	62500	63700	49400	54200
10	41700	41800	29200	23500	28500	35100	58500	63800	62200	69800	51700	52100
11	41600	41800	27200	24800	26300	37000	58600	65200	66100	66700	50000	49100
12	41300	41400	26500	25700	25200	37500	57400	64300	65500	72400	49700	48300
13	41300	40200	26200	25900	25000	50100	56500	67400	61500	70900	49200	48100
14	41600	40700	26000	26200	24800	64800	55200	70300	62100	64300	49300	48400
15	41800	40900	25700	26100	25200	56700	56200	71300	73500	63000	51900	49300
16	41800	41500	25300	26200	25200	50300	58600	72400	71800	58800	52000	50700
17	42400	41100	25300	26600	24800	47100	56200	79500	63200	55800	50800	51600
18	43100	41300	25400	27300	24800	54600	56200	85700	56200	53900	52500	54100
19	44900	41900	25300	28100	25800	94900	60000	84500	53300	52700	51200	61700
20	44200	41200	24300	28500	26700	92900	62600	80800	53400	51100	50200	68200
21	43600	38000	24000	29100	27000	74300	62600	77300	53300	50200	55500	71800
22	42800	35800	23900	28500	27700	62400	61500	73500	55300	49200	58700	74200
23	42800	36800	24000	28600	28800	60000	61100	70400	57900	48100	53300	75200
24	41900	38100	24900	28400	29500	58500	60800	68000	57500	47500	50700	72500
25	40900	37400	25800	28600	30100	56600	59600	65600	57100	46500	50000	71900
26	40100	36900	24500	28500	31600	54000	59100	64000	57000	46900	50600	68500
27	40800	37200	21700	26400	44800	51900	63500	62500	58000	46700	51900	67800
28	40500	37700	20700	25800	48500	52800	84900	62400	59800	47100	51900	68200
29	40300	37700	23700	25000	---	53100	93700	62400	61300	46500	51600	72200
30	40300	36600	23900	24300	---	51200	83000	62800	62500	45900	50900	75300
31	40300	---	22900	25800	---	50000	---	62400	---	45100	50700	---
TOTAL	1292600	1193000	858500	808000	816300	1582400	1823700	2136400	1828900	181120	1558500	1769600
MEAN	41700	39770	27690	26060	29150	51050	60790	68920	60960	5843	50270	58990
MAX	44900	41900	37700	29100	48500	94900	93700	85700	73500	8090	58700	75300
MIN	40100	35800	20700	22800	24800	35100	49300	59400	53300	4510	44500	48100
AC-FT	2564000	2366000	1703000	1603000	1619000	3139000	3617000	4238000	3628000	359300	3091000	3510000
CAL YR 1985	TOTAL	14833700	MEAN	40640	MAX	79100	MIN	20700	AC-FT	29423000		
WTR YR 1986	TOTAL	17479100	MEAN	47890	MAX	94900	MIN	20700	AC-FT	34670000		

LITTLE NEMAHA RIVER BASIN

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06811500 LITTLE NEMAHA RIVER AT AUBURN, NE

LOCATION.--Lat 40°23'33", long 95°48'46", in NE1/4NW1/4 sec.23, T.5 N., R.14 E., Nemaha County, Hydrologic Unit 10240006, on left bank at downstream side of bridge on U.S. Highway 136, 1 mi downstream from Longs Creek and Willow Creek and 1 mi east of Auburn.

DRAINAGE AREA.--793 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1949 to current year.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 889.87 ft above National Geodetic Vertical Datum of 1929. See WSP 2119 for history of changes prior to July 24, 1967.

REMARKS.--Estimated daily discharges: Nov. 21 to Feb. 2 and Feb. 7 to 24. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--37 years, 290 ft³/s, 210,100 acre-ft/yr; median of yearly mean discharges, 203 ft³/s, 147,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 164,000 ft³/s May 9, 1950, gage height, 27.65 ft, from floodmark, from rating curve extended above 49,000 ft³/s on basis of computations of peak flow through bridge and culvert openings and over highway and railway embankments at gage heights 24.96 ft and 27.65 ft; minimum daily, 0.87 ft³/s July 6-8, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 10	1400	5350	12.25	Aug. 13	0730	5540	12.34
July 6	1730	*21200	*22.69	Sept. 19	1100	6620	13.38
July 10	1800	6120	13.05	Sept. 30	1930	6570	13.33
July 12	2200	6330	13.24				

Minimum daily discharge, 83 ft³/s June 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	269	114	90	108	120	165	200	420	182	565	115	105
2	164	110	92	112	130	164	208	329	160	719	121	102
3	131	110	98	118	147	159	706	285	145	235	120	101
4	119	108	102	120	1090	153	2300	261	171	164	115	140
5	109	107	108	120	814	151	1080	244	188	135	125	319
6	101	107	110	114	316	148	535	222	194	11200	125	161
7	97	106	110	98	150	139	411	202	176	3880	154	284
8	93	106	110	90	130	133	351	186	156	1000	158	218
9	493	104	108	92	120	141	303	1190	145	730	125	151
10	960	104	106	96	116	142	272	3010	156	4290	128	135
11	651	106	94	100	112	140	260	1160	160	1500	125	132
12	513	110	86	110	110	218	256	534	232	2800	167	115
13	334	114	86	118	110	938	269	381	169	1910	3190	140
14	206	117	92	122	116	454	1180	304	139	565	655	109
15	162	116	98	120	124	297	516	264	128	378	487	101
16	142	118	102	122	135	248	394	330	129	293	226	98
17	131	118	106	120	140	230	365	1210	220	231	321	647
18	186	117	102	120	160	313	429	525	155	220	507	1000
19	370	113	94	124	180	504	505	336	122	198	966	3330
20	254	111	92	120	155	419	369	275	109	183	330	950
21	182	106	94	118	150	272	302	242	102	172	306	431
22	158	100	96	108	140	244	271	221	100	166	542	299
23	144	102	98	118	150	232	250	204	102	161	248	242
24	136	100	96	120	170	218	236	192	95	153	176	211
25	125	108	92	114	203	205	223	185	89	142	154	199
26	119	110	90	98	214	194	1020	178	83	128	141	176
27	117	106	98	88	241	182	986	176	84	133	128	157
28	117	100	100	94	195	175	2120	172	88	131	121	151
29	113	96	98	100	---	179	1520	171	85	129	117	188
30	113	90	96	104	---	171	582	319	165	127	111	2910
31	115	---	100	110	---	164	---	234	---	120	108	---
TOTAL	6924	3234	3044	3416	5938	7492	18419	13962	4229	32758	10412	13302
MEAN	223	108	98.2	110	212	242	614	450	141	1057	336	443
MAX	960	118	110	124	1090	938	2300	3010	232	11200	3190	3330
MIN	93	90	86	88	110	133	200	171	83	120	108	98
AC-FT	13730	6410	6040	6780	11780	14860	36530	27690	8390	64980	20650	26380
CAL YR 1985	TOTAL	54687		MEAN	150	MAX	1750	MIN	16	AC-FT	108500	
WTR YR 1986	TOTAL	123130		MEAN	337	MAX	11200	MIN	83	AC-FT	244200	

LITTLE NEMAHA RIVER BASIN
06811500 LITTLE NEMAHA RIVER AT AUBURN, NE--Continued
WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT									
02...	1330	164	420	7.40	12.0	10.4	35	10000	6500
NOV									
06...	1445	105	610	8.30	11.0	10.5	17	4100	440
26...	1530	109	790	8.10	0.0	14.4	7	1000	370
JAN									
22...	1300	108	568	8.10	0.0	15.3	14	E7700	1600
FEB									
20...	1100	155	465	7.90	0.0	12.8	37	2000	8200
MAR									
18...	1200	325	525	7.80	11.0	10.8	34	1300	K24000
APR									
15...	1300	472	450	7.70	5.5	11.9	59	27000	64000
MAY									
13...	1300	379	490	7.80	21.0	7.8	46	2500	8000
JUN									
10...	1240	163	575	8.10	26.5	7.6	21	3900	5900
JUL									
08...	1520	848	250	7.10	27.0	6.6	80	10000	13000
AUG									
05...	1130	125	625	7.60	20.0	9.3	20	5900	1800
SEP									
03...	1550	101	600	8.20	25.5	9.0	18	1800	210
30...	1315	2980	340	7.30	17.0	7.0	230	E260000	E340000

E Estimated value.

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

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM- DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT								
02...	190	0	54	13	24	0.8	33	6.6
NOV								
06...	270	0	76	19	36	1	31	8.7
26...	260	0	75	18	29	0.8	47	12
JAN								
22...	230	0	66	17	32	0.9	41	9.6
FEB								
20...	210	0	58	15	25	0.8	34	10
MAR								
18...	200	0	52	16	26	0.8	43	8.6
APR								
15...	160	0	44	12	15	0.5	28	7.4
MAY								
13...	200	0	56	14	14	0.4	34	17
JUN								
10...	230	0	65	17	31	0.9	80	12
JUL								
08...	120	0	33	8.2	15	0.6	7.1	5.5
AUG								
05...	250	0	70	18	33	0.9	58	14
SEP								
03...	250	0	71	18	31	0.9	87	11
30...	120	0	36	8.3	17	0.7	3.5	5.8

LITTLE NEMAHA RIVER BASIN

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06811500 LITTLE NEMAHA RIVER AT AUBURN, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT								
02...	142	1.80	0.080	0.82	0.90	2.7	0.470	8.5
NOV								
06...	24	1.20	0.180	0.26	0.44	1.6	0.460	3.6
26...	34	2.20	0.140	0.33	0.47	2.7	0.070	2.8
JAN								
22...	120	2.10	0.230	1.2	1.4	3.5	0.320	4.9
FEB								
20...	74	2.40	0.320	2.2	2.5	4.9	0.380	8.0
MAR								
18...	536	2.50	0.060	1.5	1.6	4.1	0.660	8.6
APR								
15...	1810	2.00	0.220	6.6	6.8	8.8	0.100	12
MAY								
13...	646	3.00	0.070	1.9	2.0	5.0	0.830	9.3
JUN								
10...	274	2.10	0.070	0.93	1.0	3.1	0.480	4.7
JUL								
08...	1100	2.90	0.140	2.5	2.6	5.5	0.940	16
AUG								
05...	38	1.90	0.140	0.86	1.0	2.9	0.290	3.8
SEP								
03...	41	1.60	0.040	0.53	0.57	2.2	0.270	3.1
30...	5940	1.10	0.070	5.1	5.2	6.3	1.10	20

MISSOURI RIVER MAIN STEM

06813500 MISSOURI RIVER AT RULO, NE

LOCATION.--Lat 40°03'13", long 95°25'19", in NW1/4NW1/4 sec.17, T.1 N., R.18 E., Richardson County, Hydrologic Unit 10240005, on right bank at downstream side of bridge on U.S. Highway 159 at Rulo, 3.2 mi upstream from Big Nemaha River, and at mile 498.0.

DRAINAGE AREA.--414,900 mi². approximately. The 3,959 mi² in Great Divide basin are not included.

PERIOD OF RECORD.--October 1949 to current year in reports of Geological Survey. Gage-height record collected at site 80 ft upstream January 1886 to December 1899 published in reports of Missouri River Commission September 1929 to September 1950 in files of Kansas City office of U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is 837.23 ft above NGVD. Oct. 1949 to Sept. 12, 1950, nonrecording gage at site 80 ft upstream and Sept. 13, 1950 to Apr. 19, 1983, recording gage on downstream end of middle pier, all at same datum.

REMARKS.--Estimated daily discharges: Oct. 9-13, Nov. 28 to Dec. 3, Dec. 6-9, Dec. 15 to Jan. 15, Jan. 18, 19, Jan. 28 to Feb. 3, Feb. 11-15, Apr. 4, 5, Aug. 13, 14, and Sept. 27. 28. Records good except those for estimated daily discharges, which are poor. Flow regulated by upstream main-stem reservoirs. U.S. Army Corps of Engineers gage-height satellite data collection platform at station.

AVERAGE DISCHARGE.--37 years, 41,350 ft³/s. 29,960,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 358,000 ft³/s Apr. 22, 1952, gage height, 25.60 ft; minimum daily, 4,420 ft³/s Jan. 13, 1957; minimum gage height, 0.65 ft Jan. 7, 1971, result of freezeup.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1881 reached a stage of 22.9 ft, from floodmark, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 113,000 ft³/s July 7, gage height, 20.00 ft; maximum gage height 20.25 ft. Jan.12, (ice jam); minimum daily, 21,900 ft³/s Dec. 28; minimum gage height not determined, occurred during period of no gage-height record Jan. 17-19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46200	40800	37200	23500	26200	43500	50000	84900	64200	73500	46600	52700
2	44100	40900	37000	24500	26200	39100	50000	79400	63500	89300	46700	53900
3	43500	41000	37500	25700	28500	38400	56400	75300	63100	80300	47300	53100
4	43000	41300	39200	26300	32100	40400	64000	74100	62700	68900	47600	53600
5	42500	41300	39000	26200	37900	37900	67000	71100	66900	62900	48400	53800
6	42400	41800	37500	26200	36100	36700	64900	67900	66300	82100	49300	54400
7	41700	41700	34000	25000	37000	36600	62200	66900	65800	99900	50300	55000
8	41900	41300	32500	24500	34400	36800	59500	63300	64800	73000	51500	55400
9	43000	41900	31500	24500	31400	36000	58900	66000	65000	76900	50300	54900
10	44000	41700	30500	24200	29700	34700	59300	70200	63400	86200	51700	56200
11	44000	42100	29600	25500	28100	35100	59700	81900	65100	89800	52000	54300
12	43000	42200	27900	26500	27000	36800	58800	75500	70500	87400	50800	53200
13	43000	41200	26700	26600	26000	41500	57900	74100	66300	101000	52000	52200
14	43300	40700	25900	27000	25500	64900	57200	73700	62100	78500	56000	52300
15	42700	41300	27500	27000	25600	55900	58200	73600	75800	76300	56900	53200
16	42000	42100	26400	27100	25300	48900	61100	83500	84200	67800	56700	54800
17	42300	42100	26400	27500	25600	46200	60200	105000	71700	61900	52300	56700
18	42800	42300	26400	28000	25700	48600	56900	99500	63300	58200	52900	58900
19	45600	42500	26500	29000	26100	84000	58500	91400	58500	55200	54000	71600
20	46800	43300	26000	29100	27300	98200	61900	86600	57400	53600	51500	84900
21	44500	41900	25200	28700	28000	85300	63100	83000	56900	52300	51800	72100
22	42700	38000	24800	29200	28000	70000	62500	80100	57700	51200	62000	72700
23	42500	37300	25000	28400	28700	63600	61200	76800	60700	50200	58100	80300
24	43500	38200	25800	28700	29400	62500	61300	73700	61100	49100	53400	73200
25	41900	38400	26800	27900	29800	60300	60000	70400	60100	48100	51200	72400
26	41100	37400	25500	28600	31700	58300	59000	68600	59700	47600	50700	69400
27	41200	37300	23000	28500	43600	56100	62700	66700	59800	48600	51300	68500
28	41800	38400	21900	26300	58800	55100	78600	65800	60300	48200	52600	70000
29	41100	38500	24500	25500	---	54400	99300	66700	61200	48400	52500	79600
30	40600	37500	25000	25000	---	53000	96200	66900	62900	47600	52500	77200
31	41000	---	24000	26400	---	50800	---	65100	---	47300	52400	---
TOTAL	1329700	1216400	896700	827100	859700	1609600	1886500	2347700	1921000	2061300	1613300	1870500
MEAN	42890	40550	28930	26680	30700	51920	62880	75730	64030	66490	52040	62350
MAX	46800	43300	39200	29200	58800	98200	99300	105000	84200	101000	62000	84900
MIN	40600	37300	21900	23500	25300	34700	50000	63300	56900	47300	46600	52200
ACFT	2637000	2413000	1779000	1641000	1705000	3193000	3742000	4657000	3810000	4089000	3200000	3710000
CAL YR 1985	TOTAL	15382900	MEAN	42140	MAX	85600	MIN	21900	AC-FT	30512000		
WTR YR 1986	TOTAL	18439500	MEAN	50520	MAX	105000	MIN	21900	AC-FT	36575000		

BIG NEMAHA RIVER BASIN

06814000 TURKEY CREEK NEAR SENECA, KS

LOCATION.--Lat 39°56'52", long 96°06'30", in SW1/4 NW1/4 SW1/4 sec.20, T.1 S., R.12 E., Nemaha County, Hydrologic Unit 10240007, on left bank at downstream side of highway bridge, 2.0 mi downstream from Clear Creek, 5.0 mi upstream from Big Nemaha River, and 8.0 mi northwest of Seneca.

DRAINAGE AREA.--276 mi².

PERIOD OF RECORD.--October 1948 to current year. Monthly discharge only for some periods, published in WSP 1310.

GAGE.--Water-stage recorder. Datum of gage is 1,037.53 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 19, 1956, water-stage recorder (occasional operation only) and nonrecording gage on former channel 400 ft south of present site at present datum. Oct. 19, 1956, to June 15, 1957, nonrecording gage at highway bridge 1.2 mi upstream at different datum. June 16, 1957, to Mar. 27, 1958, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Nov. 24 to Feb. 24. Records fair except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--38 years, 129 ft³/s, 93,460 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,400 ft³/s Oct. 11, 1973, gage height, 24.77 ft; no flow at times in 1956-57, 1977.

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)
Oct. 10	1200	3,980	19.87	July 7	0200	*11,800	*23.15
Apr. 3	2400	4,490	20.51	Sep. 29	1500	4,840	20.70
May 16	1500	3,380	18.43				

Minimum daily discharge, 17 ft³/s Sept. 4, 5, 14, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	217	88	36	60	40	58	450	113	91	1430	32	18
2	131	81	36	59	42	61	188	106	83	482	32	18
3	104	79	42	58	44	59	2430	115	77	143	31	18
4	91	74	50	56	250	57	2950	118	79	97	29	18
5	78	71	55	52	165	58	659	106	93	80	31	17
6	70	70	58	44	110	56	396	233	81	2470	38	26
7	64	67	60	36	80	52	307	996	79	5090	60	43
8	58	65	59	33	64	48	251	234	72	539	47	26
9	2350	65	56	37	54	55	209	1110	67	1250	58	22
10	3650	64	50	46	47	58	188	322	71	951	95	20
11	1050	62	43	48	44	53	178	246	73	687	43	36
12	896	63	39	50	38	389	163	182	61	1300	202	26
13	421	64	35	51	41	619	151	151	42	855	229	19
14	270	64	37	52	44	197	190	143	54	309	82	18
15	209	64	55	53	48	139	175	139	55	229	48	19
16	171	64	64	54	54	117	146	1760	55	170	43	18
17	154	63	56	53	56	146	145	663	52	122	37	18
18	200	62	42	52	58	684	160	314	62	81	41	563
19	311	60	40	51	57	308	172	214	71	61	46	507
20	219	52	45	50	53	167	145	179	68	54	46	176
21	169	62	50	48	48	135	139	159	67	51	41	50
22	152	61	58	45	50	128	135	145	78	50	41	34
23	145	54	64	39	60	116	134	130	75	47	73	35
24	127	52	42	35	68	104	132	122	71	45	39	39
25	113	60	40	33	78	101	128	114	65	41	29	40
26	110	54	44	29	88	92	126	107	62	38	25	32
27	108	48	54	21	85	83	132	106	59	43	25	25
28	99	47	52	25	68	82	146	107	59	42	20	89
29	94	50	56	35	---	81	138	124	58	40	18	3650
30	90	43	58	37	---	76	127	101	202	38	18	1190
31	89	---	60	38	---	75	---	96	---	36	18	---
TOTAL	12010	1873	1536	1380	1934	4454	10990	8755	2182	16871	1617	6810
MEAN	387	62.4	49.5	44.5	69.1	144	366	282	72.7	544	52.2	227
MAX	3650	88	64	60	250	684	2950	1760	202	5090	229	3650
MIN	58	43	35	21	38	48	126	96	42	36	18	17
AC-FT	23820	3720	3050	2740	3840	8830	21800	17370	4330	33460	3210	13510
CAL YR 1985	TOTAL	42750.5	MEAN	117	MAX	3650	MIN	3.0	AC-FT	84800		
WTR YR 1986	TOTAL	70412.0	MEAN	193	MAX	5090	MIN	17	AC-FT	139700		

BIG NEMAHA RIVER BASIN

06814500 NORTH FORK BIG NEMAHA RIVER AT HUMBOLDT, NE

LOCATION.--Lat 40°09'25", long 95°56'40", in NW1/4NE1/4 sec.10, T.2 N., R.13 E., Richardson County, Hydrologic Unit 10240008, on right pile bent of bridge on State Highway 105 at south edge of Humboldt, 800 ft downstream from Long Branch Creek.

DRAINAGE AREA.--548 mi².

PERIOD OF RECORD.--October 1952 to current year. Prior to October 1967 published as North Fork Nemaha River at Humboldt.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder for stages above 4.95 ft Oct. 1 to Sept. 5, complete stage record Sept. 6-30; nonrecording gage read twice daily. Datum of gage is 944.44 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 5, 1968, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Nov. 19 to Feb. 2 and Feb. 7-27. Records fair except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--34 years, 199 ft³/s, 144,200 acre-ft/yr; median of yearly mean discharges, 188 ft³/s, 136,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 59,500 ft³/s Aug. 13, 1982, gage height, 31.25 ft, from floodmark; maximum gage height, 31.70 ft July 10, 1958; minimum daily, 0.07 ft³/s July 22, 23, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 9	1130	6200	10.35	July 12	0530	9780	13.03
July 6	1430	16100	*16.81	Sept. 19	0700	*21100	a16.00
July 10	0430	6520	10.62				

a Observer reading.

Minimum daily discharge, 39 ft³/s Jan. 25, 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	196	89	60	78	54	45	209	173	83	1110	46	45
2	122	84	68	78	58	53	120	136	79	938	62	45
3	103	82	74	78	69	60	2310	118	72	327	57	43
4	87	78	80	76	738	58	2250	107	70	182	52	46
5	74	80	86	74	448	57	605	103	156	135	58	47
6	68	78	82	72	167	59	288	102	108	6860	63	74
7	63	72	82	68	112	49	260	124	78	2270	97	99
8	57	76	78	66	60	52	242	96	67	873	83	92
9	2470	77	78	68	58	78	184	339	59	693	71	74
10	2610	76	78	70	54	80	205	573	56	3360	90	61
11	785	77	76	72	54	75	236	592	62	920	80	86
12	742	83	74	74	54	469	222	262	61	3300	152	66
13	336	84	72	70	58	611	205	167	55	722	583	54
14	196	82	80	66	62	272	410	133	57	359	160	49
15	148	81	92	62	70	176	270	120	62	233	104	47
16	120	85	100	60	90	149	159	386	57	162	84	47
17	121	82	100	56	120	240	104	401	53	125	71	48
18	171	82	96	54	163	551	127	303	51	103	123	87
19	516	70	88	52	164	556	151	166	50	91	200	7360
20	221	68	96	50	96	336	125	131	48	84	128	1190
21	158	68	100	48	66	211	114	115	47	83	91	838
22	138	72	88	45	60	181	111	107	74	80	169	770
23	125	74	82	41	64	138	114	100	69	78	150	648
24	113	80	94	40	66	122	115	93	60	79	97	438
25	100	76	92	39	68	115	113	86	61	72	76	267
26	97	74	90	39	66	103	289	82	59	62	66	166
27	92	74	88	47	74	87	509	81	55	67	62	131
28	88	70	86	52	58	88	574	87	70	64	53	736
29	89	66	80	52	---	78	631	86	77	54	49	2050
30	82	64	82	50	---	71	257	91	702	50	47	2100
31	80	---	84	56	---	68	---	93	---	48	47	---
TOTAL	10368	2304	2606	1853	3271	5288	11509	5553	2658	23584	3271	17804
MEAN	334	76.8	84.1	59.8	117	171	384	179	88.6	761	106	593
MAX	2610	89	100	78	738	611	2310	592	702	6860	583	7360
MIN	57	64	60	39	54	45	104	81	47	48	46	43
AC-FT	20560	4570	5170	3680	6490	10490	22830	11010	5270	46780	6490	35310
CAL YR 1985	TOTAL	45097		MEAN	124	MAX	2610	MIN	14	AC-FT	89450	
WTR YR 1986	TOTAL	90069		MEAN	247	MAX	7360	MIN	39	AC-FT	178700	

BIG NEMAHA RIVER BASIN

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06815000 BIG NEMAHA RIVER AT FALLS CITY, NE

LOCATION.--Lat 40°02'08", long 95°35'45", in NE1/4SE1/4 sec.22, T.1 N., R.16 E., Richardson County, Hydrologic Unit 10240008, on right bank near upstream side of bridge on U.S. Highway 73, 1 mi south of Falls City and 13 mi upstream from mouth.

DRAINAGE AREA.--1,340 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1944 to current year. Prior to October 1967, published as Nemaha River at Falls City.

REVISED RECORDS.--WSP 1086: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 861.24 ft National Geodetic Vertical Datum of 1929. Prior to Oct. 16, 1952, nonrecording gage and Oct. 17, 1952 to Aug. 24, 1982, water-stage recorder for stages above 6.1 ft and nonrecording gage read twice daily at site 150 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 22 to Feb. 3, Feb. 8-25, Apr. 20-23, and May 10-12, 14. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--42 years, 606 ft³/s, 439,000 acre-ft/yr; median of yearly mean discharges, 532 ft³/s, 385,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 71,600 ft³/s Oct. 11, 1973, gage height, 31.40 ft; minimum daily discharge, 3.0 ft³/s July 9, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 15,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 10	1300	*23200	*19.22	July 6	2100	20800	18.18
Apr. 4	1200	17300	16.38	Sept. 19	1330	18000	15.95
May 17	0300	19500	17.46	Sept. 29	1600	15500	14.82

Minimum daily discharge, 92 ft³/s Jan. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1500	413	260	300	120	350	1220	490	456	4630	229	160
2	685	395	290	310	140	330	1230	404	414	4110	228	155
3	486	383	320	310	230	330	7150	373	384	1280	225	153
4	409	365	340	300	779	315	14400	401	446	784	216	158
5	363	347	330	290	2010	309	4330	378	586	590	216	161
6	322	340	330	280	894	315	1980	490	575	8710	224	187
7	298	332	330	260	568	305	1450	4000	426	12000	301	217
8	277	320	330	240	400	297	1190	1400	366	3280	313	258
9	10200	315	320	230	280	307	1000	7860	329	4090	297	214
10	21000	311	310	250	240	337	892	3700	319	4990	348	188
11	7740	303	300	260	200	336	825	960	318	2720	405	225
12	3640	304	290	260	200	443	775	780	308	5910	1110	335
13	2170	317	270	260	200	2400	712	795	280	3300	6520	246
14	1180	323	290	240	200	1290	735	830	257	1280	1180	191
15	870	319	310	230	215	809	905	630	259	891	611	187
16	715	344	310	220	240	655	695	6360	265	718	457	185
17	629	349	320	220	280	608	619	15300	249	598	363	198
18	597	339	310	210	400	1640	671	3100	244	522	456	958
19	2150	326	290	200	480	1910	706	1430	233	466	609	8870
20	1300	300	300	180	560	1360	520	1040	226	426	414	2430
21	833	276	310	150	620	841	410	876	217	399	323	1270
22	681	260	300	130	700	716	400	777	256	381	301	1380
23	600	250	300	120	620	646	400	702	273	364	324	1270
24	554	280	340	110	560	581	435	635	250	345	288	873
25	503	310	400	96	490	534	426	593	224	325	256	741
26	472	360	370	92	448	499	424	555	218	307	230	621
27	464	360	350	104	452	455	876	534	205	301	222	477
28	460	360	320	110	405	422	815	541	198	308	203	567
29	445	330	310	120	---	419	1160	549	214	276	180	12100
30	431	280	310	120	---	403	662	518	565	255	170	10700
31	418	---	320	110	---	388	---	483	---	239	165	---
TOTAL	62392	9811	9780	6312	12931	20550	48013	57484	9560	64795	17384	45675
MEAN	2013	327	315	204	462	663	1600	1854	319	2090	561	1523
MAX	21000	413	400	310	2010	2400	14400	15300	586	12000	6520	12100
MIN	277	250	260	92	120	297	400	373	198	239	165	153
AC-FT	123800	19460	19400	12520	25650	40760	95230	114000	18960	128500	34480	90600
CAL YR 1985	TOTAL	187009		MEAN	512	MAX	21000	MIN	25	AC-FT	370900	
WTR YR 1986	TOTAL	364687		MEAN	999	MAX	21000	MIN	92	AC-FT	723400	

BIG NEMAHA RIVER BASIN

06815000 BIG NEMAHA RIVER AT FALLS CITY, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951, 1973 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT									
02...	1700	613	460	7.55	12.0	10.2	51	K12000	K17000
NOV									
06...	1230	342	720	8.30	10.0	10.8	6	K64	K140
26...	1330	357	820	8.10	0.0	15.2	9	83	270
JAN									
22...	1515	130	700	8.30	0.5	14.2	13	120	120
FEB									
20...	0900	564	610	8.00	0.0	13.8	37	770	30000
MAR									
18...	1345	1670	580	7.80	9.5	11.6	88	5800	K200000
APR									
15...	1630	758	645	7.80	6.5	11.8	56	K38000	65000
MAY									
13...	1700	783	600	8.00	23.0	8.0	41	3200	4800
JUN									
10...	1750	321	630	7.90	29.0	14.7	24	K320	K250
JUL									
09...	0915	6270	245	6.70	24.0	5.7	110	K80000	K250000
AUG									
06...	1010	220	622	7.70	20.5	9.3	14	K71	650
SEP									
03...	1300	153	658	8.20	24.0	11.1	23	K40	K74
30...	1700	5660	295	7.40	18.0	7.5	120	61000	190000

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

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT								
02...	220	0	64	15	23	0.7	41	17
NOV								
06...	350	0	100	24	30	0.7	41	10
26...	360	0	100	25	26	0.6	76	15
JAN								
22...	290	0	82	20	38	1	62	24
FEB								
20...	270	0	78	19	24	0.7	57	12
MAR								
18...	220	0	61	17	22	0.7	57	10
APR								
15...	290	0	82	20	14	0.4	64	9.4
MAY								
13...	290	0	86	19	11	0.3	52	13
JUN								
10...	270	0	71	23	28	0.8	84	19
JUL								
09...	93	0	28	5.5	6.8	0.3	5.3	<5.0
AUG								
06...	270	0	70	22	30	0.8	79	26
SEP								
03...	280	0	74	23	32	0.9	84	24
30...	120	0	37	6.8	9.1	0.4	3.8	5.0

06815000 BIG NEMAHA RIVER AT FALLS CITY, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

		SOLIDS, RESIDUE AT 105 DEG. C. SUS- PENDE (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L) AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L) AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L) AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L) AS N) (00625)	NITRO- GEN, TOTAL (MG/L) AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L) AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L) AS C) (00680)		
	OCT										
	02...	330	1.80	0.070	1.5	1.6	3.4	0.430	12		
	NOV										
	06...	26	2.10	0.090	0.21	0.30	2.4	0.210	4.2		
	26...	34	2.30	0.070	0.26	0.33	2.6	0.080	3.1		
	JAN										
	22...	70	2.10	0.090	0.56	0.65	2.8	0.210	5.1		
	FEB										
	20...	166	2.20	0.280	2.5	2.8	5.0	0.340	7.1		
	MAR										
	18...	1910	2.30	0.090	3.5	3.6	5.9	1.30	15		
	APR										
	15...	1580	2.40	0.040	3.2	3.2	5.6	1.10	13		
	MAY										
	13...	514	2.80	0.080	1.0	1.1	3.9	1.00	8.6		
	JUN										
	10...	116	2.00	0.030	1.4	1.4	3.4	0.220	4.3		
	JUL										
	09...	4930	1.70	0.140	3.5	3.6	5.3	1.60	16		
	AUG										
	06...	42	1.20	0.060	0.84	0.90	2.1	0.160	3.9		
	SEP										
	03...	54	0.890	0.020	0.90	0.92	1.8	0.150	3.3		
	30...	2950	0.890	0.050	5.8	5.8	6.7	1.10	15		
		ARSENIC TOTAL (UG/L) AS AS) (01002)	CADMIUM TOTAL RECOV- ERABLE (UG/L) AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L) AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L) AS CU) (01042)	LEAD, TOTAL RECOV- ERABLE (UG/L) AS PB) (01051)	MERCURY TOTAL RECOV- ERABLE (UG/L) AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L) AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L) AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L) AS ZN) (01092)	
NOV	06...	1230	4	<15	<10	20	60	<0.1	<2	<1	150
FEB	20...	0900	8	<15	<10	80	40	<0.1	<2	<1	40
AUG	06...	1010	6	<15	<10	<10	<20	0.1	3	<1	<30

KANSAS RIVER BASIN

06821500 ARIKAREE RIVER AT HAIGLER, NE

LOCATION.--Lat 40°01'45", long 101°58'10", in NE1/4NE1/4 sec.29, T.1 N., R.41 W., Dundy County, Hydrologic Unit 10250001, on right bank at downstream side of bridge on U.S. Highway 34, 1.3 mi upstream from Burlington Northern Inc. bridge, 1.8 mi upstream from confluence with North Fork Republican River, 2 mi northwest of Haigler, and 3.2 mi downstream from Kansas-Nebraska State line.

DRAINAGE AREA.--1,640 mi², approximately, of which about 980 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1931 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1919: 1951, 1954, 1956, 1960. WSP 2119: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 3,250.98 ft above National Geodetic Vertical Datum of 1929. See WSP 1919 for history of changes prior to Sept. 29, 1964. Sept. 29, 1964 to Apr. 25, 1982 on left bank 57 ft downstream from bridge at present datum.

REMARKS.--Estimated daily discharge: Nov. 19 to Jan. 30 and Feb. 5-17, 21, 22. Records fair except for periods of estimated record, which are poor. Natural flow affected by ground-water withdrawals and diversions for irrigation of about 1,500 ft³/s in Colorado and by return flow from Pioneer Canal.

AVERAGE DISCHARGE.--55 years. 22.2 ft³/s, 16,080 acre-ft/yr; median of yearly mean discharges, 18 ft³/s, 13,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,000 ft³/s May 31, 1935, gage height, 11.2 ft, site and datum then in use, from floodmarks, from rating curve extended above 3,800 ft³/s on basis of slope-area measurement of peak flow; no flow for some periods in most years.

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)
July 9	2130	*2470	*10.62	No other peak greater than base discharge.			
Minimum daily discharge, 0.70 ft ³ /s, Dec. 3, 4.							

DISCHARGE, IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.4	1.0	.90	10	13	15	5.5	3.4	8.2	2.7	12	7.2
2	7.3	.98	.80	11	12	13	6.8	2.8	7.9	2.8	7.3	7.2
3	8.6	.97	.70	11	13	14	20	2.6	6.3	4.1	8.1	7.2
4	8.4	1.0	.70	11	13	13	36	2.0	5.8	4.2	9.8	7.2
5	8.9	1.0	1.0	10	12	12	24	1.5	11	4.1	9.7	7.2
6	9.3	1.0	2.0	9.0	11	11	16	1.3	17	3.5	9.3	7.2
7	10	1.0	3.0	9.0	9.0	11	13	1.2	14	3.6	10	7.2
8	11	1.0	4.0	9.0	8.0	12	18	1.2	15	173	11	7.2
9	10	1.0	3.5	10	7.0	12	16	1.3	28	332	49	7.2
10	6.2	1.1	3.0	12	6.4	11	15	2.0	22	132	18	7.2
11	3.1	.97	2.0	13	6.8	11	14	4.3	23	10	10	7.2
12	2.6	1.0	1.5	13	6.0	9.5	11	1.3	13	2.5	8.2	7.2
13	2.3	1.1	1.5	13	7.0	9.1	11	1.3	6.7	2.5	6.3	7.2
14	2.1	1.1	2.0	14	9.0	9.0	11	1.2	3.3	2.8	4.0	7.2
15	1.9	1.1	3.0	14	12	9.9	11	1.2	1.7	3.3	1.5	7.2
16	1.6	1.1	4.0	14	15	16	12	1.3	4.6	4.3	1.1	6.8
17	1.5	1.1	5.0	13	20	18	13	2.3	8.3	4.9	.99	7.1
18	1.6	1.0	6.0	13	22	13	13	2.7	6.5	5.9	1.7	7.2
19	1.7	1.1	6.5	13	15	10	12	2.2	2.5	6.8	3.7	7.1
20	1.4	1.5	6.5	14	9.4	11	14	2.0	3.3	11	7.0	6.9
21	1.2	1.5	8.0	13	13	10	12	2.0	2.8	8.3	7.4	6.7
22	1.2	1.5	10	14	15	9.9	13	1.6	1.3	7.8	7.3	6.5
23	1.2	1.5	12	14	14	9.0	13	1.6	1.3	8.1	7.4	6.2
24	1.2	1.5	9.0	14	12	9.0	11	2.5	3.6	8.3	7.2	6.2
25	1.2	1.3	9.0	11	12	9.2	10	2.6	4.8	8.7	7.2	6.2
26	1.1	1.3	10	11	11	8.1	8.0	2.9	4.6	9.1	7.3	6.2
27	1.1	1.2	12	10	12	8.0	8.3	3.2	2.9	9.8	7.3	5.7
28	1.1	1.2	11	10	14	7.7	12	4.4	2.9	11	7.3	5.5
29	1.0	1.2	10	12	---	7.2	10	15	2.4	3.6	7.2	5.3
30	1.0	1.0	11	13	---	6.5	6.7	22	2.4	9.1	7.2	5.1
31	1.0	---	11	14	---	6.4	---	15	---	10	7.2	---
TOTAL	120.2	34.32	170.60	372.0	329.6	331.5	396.3	111.9	237.1	809.8	268.69	202.7
MEAN	3.88	1.14	5.50	12.0	11.8	10.7	13.2	3.61	7.90	26.1	8.67	6.76
MAX	11	1.5	12	14	22	18	36	22	28	332	49	7.2
MIN	1.0	.97	.70	9.0	6.0	6.4	5.5	1.2	1.3	2.5	.99	5.1
AC-FT	238	68	338	738	654	658	786	222	470	1610	533	402
CAL YR 1985	TOTAL	3747.67		MEAN	10.3	MAX	368	MIN	.60	AC-FT	7430	
WTR YR 1986	TOTAL	3384.71		MEAN	9.27	MAX	332	MIN	.70	AC-FT	6710	

06823000 NORTH FORK REPUBLICAN RIVER AT COLORADO-NEBRASKA STATE LINE

LOCATION.--Lat 40°04'10", long 102°03'05", in sec.10, T.1 N., R.42 W., Dundy County, Nebraska, Hydrologic Unit 10250002, on right bank 100 ft east of Colorado-Nebraska State line and 9.5 mi upstream from confluence with Arikaree River.

DRAINAGE AREA.--1,360 mi², approximately, of which about 100 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1930 to current year. Prior to October 1932, published as North Fork of Arikaree River at Colorado-Nebraska State line. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1240: 1947(M). WSP 1390: 1934. WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Steel piling control since January 1965. Datum of gage is 3,336.09 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 17, 1934, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Nov. 29 to Dec. 6, Dec. 10-16, Jan. 5, and Feb. 10-14. Records good except for periods of estimated record, which are fair. Natural flow affected by diversion in Pioneer Canal for irrigation of about 2,700 acres in Colorado and Nebraska.

AVERAGE DISCHARGE.--56 years, 47.1 ft³/s, 34,120 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,110 ft³/s Apr. 28, 1947, gage height, 5.92 ft, from rating curve extended above 800 ft³/s on basis of slope-area measurement of peak flow; no flow Aug. 25, 26, 1932.

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)
Dec. 4	0800	(a)	*2.17	July 10	0800	*129	1.52

No peak greater than base discharge.

a Backwater from ice

Minimum daily discharge, 5.5 ft³/s, June 27-29.

DISCHARGE, IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	57	46	58	61	58	53	55	33	7.0	9.0	21
2	50	57	42	58	61	56	53	56	33	6.3	9.0	35
3	48	57	48	58	62	58	64	54	33	6.3	9.6	39
4	44	58	54	58	62	57	82	49	34	5.9	9.9	32
5	42	58	70	58	65	57	81	50	31	5.9	10	35
6	38	60	60	58	65	56	66	49	29	7.1	11	34
7	36	60	57	58	63	55	62	49	26	8.8	9.6	39
8	35	60	57	58	62	55	61	51	24	16	9.1	38
9	42	59	58	58	61	56	61	33	31	25	9.4	45
10	53	57	58	60	52	55	59	23	42	88	11	46
11	57	57	56	61	50	55	61	14	40	66	10	45
12	61	59	45	62	47	55	62	12	37	52	9.5	45
13	57	62	47	61	54	56	59	9.0	36	48	11	41
14	58	63	52	61	58	56	59	9.1	38	59	10	34
15	57	64	66	61	60	57	59	8.4	34	52	11	32
16	57	64	60	61	65	61	59	28	21	44	10	32
17	57	66	57	61	63	61	60	31	17	39	11	32
18	60	64	57	60	62	58	61	11	16	30	12	32
19	65	62	57	60	61	57	58	8.5	13	20	11	32
20	59	60	57	60	60	57	60	7.6	9.9	12	12	31
21	57	60	60	60	60	57	60	7.3	8.8	11	13	31
22	57	61	61	61	61	57	60	7.1	7.4	11	12	31
23	56	60	62	61	61	56	60	6.9	6.9	11	11	33
24	58	57	61	59	60	57	59	6.8	8.0	10	11	36
25	59	58	60	58	60	60	59	6.6	5.9	9.7	10	34
26	59	61	60	57	59	57	59	6.9	5.7	10	10	32
27	57	61	59	58	58	56	62	8.4	5.5	10	9.8	26
28	57	60	60	61	57	57	61	8.0	5.5	9.5	10	23
29	59	56	58	60	---	56	59	11	5.5	9.2	9.0	24
30	56	54	59	60	---	55	57	19	6.5	11	9.6	23
31	57	---	59	61	---	54	---	32	---	10	13	---
TOTAL	1658	1792	1763	1846	1670	1758	1836	727.6	643.6	710.7	323.5	1013
MEAN	53.5	59.7	56.9	59.5	59.6	56.7	61.2	23.5	21.5	22.9	10.4	33.8
MAX	65	66	70	62	65	61	82	56	42	88	13	46
MIN	35	54	42	57	47	54	53	6.6	5.5	5.9	9.0	21
AC-FT	3290	3550	3500	3660	3310	3490	3640	1440	1280	1410	642	2010
CAL YR 1985	TOTAL	15616.9		MEAN	42.8	MAX	81	MIN	8.6	AC-FT	30980	
WTR YR 1986	TOTAL	15741.4		MEAN	43.1	MAX	88	MIN	5.5	AC-FT	31220	

KANSAS RIVER BASIN

06823500 BUFFALO CREEK NEAR HAIGLER, NE

LOCATION.--Lat 40°02'22", long 101°51'57", in SE1/4NW1/4 sec.20, T.1 N., R.40 W., Dundy County, Hydrologic Unit 10250002, on left bank 10 ft upstream from county highway bridge, 0.4 mi upstream from mouth, and 4 mi northeast of Haigler.

DRAINAGE AREA.--260 mi², approximately, of which about 13 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 2119: 1948-50(M). 1957(M). drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,188.90 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 19, 1980, at site 0.5 mi upstream at datum 15.67 ft higher.

REMARKS.--Estimated daily discharges: Nov. 22 to Jan. 9, Jan. 22, Jan. 26-27, Feb. 8-16, Feb. 21, June 29 to July 9, July 16-29, and July 31 to Aug. 8. Records fair except for periods of estimated record, which are poor. Natural flow affected by diversion about 1 mi upstream for irrigation of 880 acres.

AVERAGE DISCHARGE.--46 years. 7.42 ft³/s, 5,380 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 140 ft³/s June 27, 1948, gage height, 4.37 ft, site and datum then in use; minimum gage height, 5.93 ft Jan. 3, 1976, site and datum then in use, backwater from ice; no flow at times in 1955, 1968, 1973-80, 1984.

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)
Oct. 1	0400	*14	3.07	Nov. 22	1215	(a)	*3.28

No peak greater than base discharge.

a Backwater from ice

Minimum daily discharge, 0.08 ft³/s, July 18-27, Aug. 2-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	6.9	8.2	8.0	4.9	7.0	7.0	7.8	6.2	.40	.09	.68
2	11	7.4	8.4	7.2	4.9	6.9	7.4	7.5	6.1	.40	.08	.71
3	11	7.3	8.6	6.4	5.0	7.0	7.9	7.3	6.3	.40	.08	.64
4	9.3	6.8	8.8	6.0	5.5	7.2	8.9	7.1	6.4	.40	.08	.71
5	11	6.4	9.2	6.4	5.3	7.1	8.6	6.8	6.6	.40	.08	.69
6	12	6.6	9.6	7.0	5.2	7.0	7.9	6.6	6.2	.40	.08	1.1
7	11	7.0	9.2	6.8	5.4	6.8	7.8	6.6	6.0	.50	.09	4.0
8	10	7.0	9.0	7.4	5.0	7.1	8.3	6.5	6.3	.60	.10	5.7
9	11	6.6	8.4	7.6	4.5	7.2	8.1	6.8	7.7	1.0	.21	5.7
10	12	6.6	7.6	7.4	4.0	7.2	8.0	6.7	8.4	2.2	.31	5.9
11	12	6.9	7.0	7.4	3.9	7.0	7.9	6.3	8.3	1.8	.26	6.7
12	9.7	7.0	6.6	7.2	4.1	7.0	7.8	6.2	6.9	1.5	.23	5.6
13	10	7.1	7.0	7.3	5.0	7.2	7.5	6.0	6.1	1.1	.27	5.4
14	9.9	7.2	7.0	7.1	5.4	7.3	7.2	6.1	5.9	1.5	.27	3.3
15	8.9	7.0	7.6	7.2	6.0	7.3	7.2	6.4	5.6	.78	.40	1.4
16	8.7	7.3	7.8	7.2	10	9.0	7.2	8.2	5.3	.10	.70	1.6
17	8.5	7.5	7.6	7.1	7.5	8.6	7.2	8.6	4.7	.09	.62	1.6
18	7.1	8.1	7.8	7.1	7.6	7.6	7.8	7.4	4.8	.08	.63	1.6
19	11	8.1	8.2	6.9	7.4	7.4	7.8	6.8	4.7	.08	.67	1.6
20	8.7	7.9	8.4	6.7	6.9	7.3	8.2	6.5	5.0	.08	.40	1.5
21	7.0	7.0	8.2	6.2	10	7.4	8.2	6.2	5.0	.08	.26	4.1
22	6.5	7.6	8.0	6.0	7.3	7.3	8.3	6.2	5.3	.08	.26	6.1
23	7.2	7.8	8.2	5.9	7.0	7.5	8.1	6.3	5.3	.08	.26	6.5
24	7.2	7.8	8.6	5.8	7.0	7.2	8.0	6.1	5.8	.08	.27	6.3
25	6.8	7.6	8.0	5.5	7.0	7.0	7.8	5.7	4.6	.08	.59	6.0
26	7.6	8.0	7.6	5.6	7.0	6.9	8.0	5.8	4.9	.08	.64	5.8
27	7.0	8.2	8.0	5.6	7.2	6.9	8.0	6.5	5.1	.08	.75	5.9
28	6.7	7.6	8.4	5.6	7.0	7.0	8.2	7.1	1.5	.10	.73	6.0
29	6.9	7.8	8.2	5.3	---	6.8	8.2	7.5	.50	.30	.52	6.2
30	6.9	8.0	8.0	5.3	---	7.0	7.8	7.3	.40	.38	.69	6.1
31	7.0	---	7.8	5.1	---	7.2	---	6.6	---	.10	.67	---
TOTAL	282.6	220.1	251.0	203.3	173.0	224.4	236.3	209.5	161.90	15.25	11.29	115.13
MEAN	9.12	7.34	8.10	6.56	6.18	7.24	7.88	6.76	5.40	.49	.36	3.84
MAX	13	8.2	9.6	8.0	10	9.0	8.9	8.6	8.4	2.2	.75	6.7
MIN	6.5	6.4	6.6	5.1	3.9	6.8	7.0	5.7	.40	.08	.08	.64
AC-FT	561	437	498	403	343	445	469	416	321	30	22	228
CAL YR 1985	TOTAL	2268.96		MEAN	6.22	MAX	17	MIN	.27	AC-FT	4500	
WTR YR 1986	TOTAL	2103.77		MEAN	5.76	MAX	13	MIN	.08	AC-FT	4170	

KANSAS RIVER BASIN

219

06824000 ROCK CREEK AT PARKS, NE

LOCATION.--Lat 40°02'30", long 101°43'40", in SW1/4NE1/4 sec.21, T.1 N., R.39 W., Dundy County, Hydrologic Unit 10250002, on right bank at west edge of Parks, 100 ft downstream from county road bridge and 0.5 mi upstream from mouth.

DRAINAGE AREA.--20 mi², approximately, of which about 17 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 1630: 1951(M). WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,093.35 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 19, 20, Nov. 29 to Dec. 3, Dec. 11-14, 24, Jan. 5, 22, and Feb. 7-14. Records good except for periods of estimated record, which are poor. One diversion about 2 mi above station for irrigation of 215 acres; flow regulated at times by reservoir at State fish hatchery 7 mi upstream.

AVERAGE DISCHARGE.--46 years, 13.7 ft³/s, 9,930 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 493 ft³/s July 5, 1965, gage height, 6.00 ft. from rating curve extended above 40 ft³/s on basis of slope-conveyance study; minimum daily, 2.6 ft³/s Nov. 19, 1975.

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)
Jan. 5	----	ice jam	*2.96	July 10	0545	*17	1.94

No peaks greater than base discharge.

Minimum daily discharge, 7.9 ft³/s July 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	14	10	13	12	12	11	11	11	9.2	11	10
2	12	13	10	12	12	11	10	11	11	8.8	10	10
3	12	13	12	12	12	11	12	11	11	8.5	9.9	12
4	13	13	13	12	11	11	13	11	11	8.1	9.6	12
5	13	14	13	12	12	11	13	11	11	7.9	9.1	11
6	13	19	13	12	11	10	12	11	11	7.9	8.5	11
7	13	19	13	12	11	9.4	12	11	12	8.4	8.4	11
8	13	17	13	12	10	9.5	12	12	13	9.8	9.3	11
9	14	16	13	12	10	9.4	12	13	14	11	12	11
10	13	16	13	12	10	9.2	12	12	14	14	11	12
11	14	16	12	12	9.4	9.3	11	12	14	14	9.8	13
12	14	16	11	12	9.0	11	11	11	13	12	9.2	13
13	13	16	12	12	14	13	11	10	12	11	9.3	12
14	13	13	12	12	13	11	11	9.9	11	13	9.3	12
15	13	13	13	13	12	12	11	11	11	12	9.3	12
16	12	14	13	13	13	15	11	15	11	10	8.9	12
17	12	13	13	13	13	16	11	14	10	9.7	8.9	12
18	12	13	13	13	13	15	12	13	9.1	9.7	8.9	12
19	13	12	13	13	13	15	11	12	9.0	9.7	8.9	12
20	12	14	13	13	12	14	11	12	9.4	9.7	8.7	11
21	12	13	13	12	12	12	11	11	8.6	9.8	8.7	11
22	12	13	13	12	12	11	11	11	8.7	9.7	8.6	12
23	13	13	13	12	12	10	11	11	8.9	9.4	8.6	12
24	13	13	12	12	12	11	11	9.9	9.3	9.3	8.9	11
25	13	13	13	12	12	11	11	9.9	8.7	10	9.2	11
26	13	13	14	12	12	12	11	10	8.7	12	9.4	10
27	13	13	13	12	12	12	12	11	8.8	12	9.4	10
28	13	13	13	12	11	11	12	11	8.6	11	9.3	10
29	13	13	13	12	---	12	11	12	8.3	10	9.2	10
30	12	11	13	12	---	12	11	12	8.8	9.6	9.1	11
31	12	---	13	12	---	11	---	11	---	9.6	9.7	---
TOTAL	395	422	391	379	327.4	359.8	342	353.7	315.9	316.8	290.1	340
MEAN	12.7	14.1	12.6	12.2	11.7	11.6	11.4	11.4	10.5	10.2	9.36	11.3
MAX	14	19	14	13	14	16	13	15	14	14	12	13
MIN	12	11	10	12	9.0	9.2	10	9.9	8.3	7.9	8.4	10
AC-FT	783	837	776	752	649	714	678	702	627	628	575	674
CAL YR 1985	TOTAL	4120.9		MEAN	11.3	MAX	21	MIN	5.6	AC-FT	8170	
WTR YR 1986	TOTAL	4232.7		MEAN	11.6	MAX	19	MIN	7.9	AC-FT	8400	

KANSAS RIVER BASIN

06824500 REPUBLICAN RIVER AT BENKELMAN, NE

LOCATION.--Lat 40°01'55", long 101°32'30", in SE1/4SW1/4 sec.19, T.1 N., R.37 W., Dundy County, Hydrologic Unit 10250002, on left bank at downstream side of bridge on U.S. Highway 34, 0.6 mi south of Burlington Northern Inc. track, 1 mi southwest of Benkelman, 2 mi upstream from South Fork Republican River, and 11 mi downstream from Rock Creek.

DRAINAGE AREA.--4,830 mi², approximately, of which about 1,230 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1894 to September 1895 (published as North Fork Republican River at Benkelman). October 1902 to November 1906, October 1946 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1895. WSP 1919: 1952, 1956. WSP 2119: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,975.34 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 17, 1946, nonrecording gages at several sites within 1.5 mi of present site at various datums; Dec. 17, 1946, to May 26, 1972, water-stage recorder at present site and datum and May 27, 1972, to Aug 11, 1978, at site 150 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 19 to Jan. 17 and Feb. 9-17. Records good except for periods of estimated record. which are poor. Natural flow affected by irrigation development above station.

AVERAGE DISCHARGE.--45 years. 86.2 ft³/s. 62,450 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,040 ft³/s Sept. 7, 1951, gage height, 7.58 ft; maximum gage height, 7.80 ft Aug. 9, 1950; no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1826, 13.1 ft May 31, 1935, from elevations furnished by State Highway Department.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 550 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 10	1745	*710	*5.04	No other peak greater than base discharge.			
Minimum daily discharge, 1.2 ft ³ /s, July 5.							

DISCHARGE, IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	69	48	80	93	100	82	52	51	4.4	12	8.2
2	79	72	45	78	93	98	81	49	52	3.1	8.1	9.4
3	77	76	62	78	96	95	92	48	52	2.4	6.9	6.9
4	71	75	70	82	92	89	127	45	54	1.5	5.8	7.5
5	70	73	76	90	95	86	140	43	56	1.2	5.8	8.1
6	71	77	82	94	101	83	127	42	56	1.4	4.0	12
7	73	72	76	100	94	81	111	42	61	2.1	2.8	16
8	72	69	80	92	76	80	110	41	56	4.8	5.8	22
9	67	70	76	110	74	80	108	39	57	58	41	23
10	74	72	66	110	72	85	102	37	72	266	15	28
11	87	75	54	120	68	85	97	35	84	159	10	28
12	87	71	45	130	70	82	104	28	63	87	10	30
13	87	73	50	120	66	78	97	25	56	64	9.8	32
14	88	70	52	135	80	85	88	24	51	57	9.0	32
15	82	80	64	130	90	91	84	23	53	62	8.8	30
16	80	81	66	125	120	102	85	35	44	50	6.6	33
17	78	80	64	114	150	127	85	38	32	45	6.6	33
18	78	81	58	105	136	112	81	39	25	39	6.4	33
19	82	78	60	102	119	94	77	32	24	33	6.5	34
20	85	72	64	101	115	90	76	25	20	31	6.9	33
21	82	74	66	100	102	93	79	15	16	26	7.0	31
22	84	66	72	88	107	91	78	17	13	17	7.2	31
23	83	62	74	86	109	91	79	15	13	4.8	7.7	33
24	80	64	70	94	100	89	77	12	14	2.1	7.1	35
25	79	64	64	83	106	90	70	10	9.4	2.1	6.5	36
26	80	66	68	76	107	90	66	14	8.8	2.4	6.8	31
27	77	60	72	80	104	86	69	18	9.4	3.5	6.9	28
28	72	62	70	91	99	88	70	20	6.9	2.1	6.7	26
29	73	58	72	93	---	90	69	31	4.0	2.4	6.0	24
30	70	56	78	91	---	88	63	44	3.1	4.4	5.3	28
31	68	---	78	93	---	86	---	47	---	4.8	5.9	---
TOTAL	2415	2118	2042	3071	2734	2805	2674	985	1116.6	1043.5	260.9	762.1
MEAN	77.9	70.6	65.9	99.1	97.6	90.5	89.1	31.8	37.2	33.7	8.42	25.4
MAX	88	81	82	135	150	127	140	52	84	266	41	36
MIN	67	56	45	76	66	78	63	10	3.1	1.2	2.8	6.9
AC-FT	4790	4200	4050	6090	5420	5560	5300	1950	2210	2070	517	1510
CAL YR 1985	TOTAL	22807.94		MEAN	62.5	MAX	300	MIN	.22	AC-FT	45240	
WTR YR 1986	TOTAL	22027.1		MEAN	60.3	MAX	266	MIN	1.2	AC-FT	43690	

06824500 REPUBLICAN RIVER AT BENKELMAN, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-73, October 1980 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT									
21...	1400	85	495	8.30	14.5	9.2	10	270	480
NOV									
20...	1200	83	550	8.40	0.0	11.9	9	110	120
DEC									
03...	1615	63	595	7.90	0.0	11.8	14	52	400
JAN									
14...	1200	130	520	4.30	0.0	14.7	18	69	190
FEB									
21...	1135	103	540	8.90	4.5	12.2	40	78	280
MAR									
11...	1645	88	510	8.40	11.5	10.0	17	40	K58
APR									
17...	1200	86	538	8.30	14.0	11.1	12	49	210
MAY									
16...	1200	29	639	7.40	12.5	7.2	10	1300	4500
JUN									
10...	1630	75	--	8.10	21.0	7.8	21	160	33
JUL									
15...	1600	64	555	8.10	32.0	6.5	38	2400	810
AUG									
19...	1200	12	630	8.70	27.0	7.4	29	1600	1100
SEP									
17...	1300	32	560	8.60	28.0	6.4	46	K200	120

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

DATE	HARD- NESS (MG/L AS CaCO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CaCO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS Ca) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg) (00925)	SODIUM, DIS- SOLVED (MG/L AS Na) (00930)	SODIUM AD- SORP- TION RATIO (00931)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS Cl) (00940)
OCT								
21...	220	0	60	18	26	0.8	71	6.8
NOV								
20...	220	0	60	18	18	0.5	57	<5.0
DEC								
03...	240	0	63	21	25	0.7	68	15
JAN								
14...	190	0	49	17	20	0.6	53	6.9
FEB								
21...	220	0	57	19	24	0.7	62	5.8
MAR								
11...	190	0	43	19	23	0.8	60	6.1
APR								
17...	220	0	56	20	18	0.5	71	5.8
MAY								
16...	250	0	63	23	32	0.9	89	11
JUN								
10...	200	0	51	18	24	0.8	80	5.8
JUL								
15...	230	0	60	20	26	0.8	110	5.6
AUG								
19...	240	0	60	22	42	1	120	11
SEP								
17...	230	0	61	20	30	0.9	120	5.8

KANSAS RIVER BASIN

06824500 REPUBLICAN RIVER AT BENKELMAN, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, RESIDUE AT 105 DEG. C. SUS- PENDE (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L) AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L) AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L) AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L) AS N) (00625)	NITRO- GEN, TOTAL (MG/L) AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L) AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L) AS C) (00680)
OCT 21...	50	0.410	<0.020	--	0.67	1.1	0.060	3.9
NOV 20...	44	1.20	0.050	0.40	0.45	1.7	0.050	4.9
DEC 03...	14	1.00	0.280	0.72	1.0	2.0	0.130	2.9
JAN 14...	76	1.30	0.070	0.58	0.65	2.0	0.180	4.0
FEB 21...	79	1.10	0.020	0.88	0.90	2.0	0.120	3.4
MAR 11...	54	0.810	<0.020	--	0.27	1.1	0.100	3.1
APR 17...	72	0.800	0.050	0.82	0.87	1.7	0.100	3.6
MAY 16...	44	0.440	0.050	0.21	0.26	0.70	0.070	3.4
JUN 10...	150	0.480	0.030	0.97	1.0	1.5	0.210	6.9
JUL 15...	290	0.750	0.030	2.2	2.2	3.0	0.440	7.6
AUG 19...	80	0.160	0.020	0.78	0.80	0.96	0.110	3.4
SEP 17...	154	0.670	<0.020	--	0.58	1.2	0.230	11

KANSAS RIVER BASIN

223

06827500 SOUTH FORK REPUBLICAN RIVER NEAR BENKELMAN, NE

LOCATION.--Lat 40°00'34", long 101°32'32", in NE1/4SW1/4 sec.31, T.1 N., R.37 W., Dundy County, Hydrologic Unit 10250003, on right bank 100 ft upstream from bridge on State Highway 61, 1 mi downstream from Kansas-Nebraska State line, 2.5 mi southwest of Benkelman, and 4 mi upstream from mouth.

DRAINAGE AREA.--2,740 mi², approximately, of which about 2,190 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1894 to September 1895, October 1902 to November 1906, October 1930 to September 1932, August 1937 to current year. Published as South Fork of Republican River at Benkelman prior to 1906 and as Republican River at Benkelman 1931-32. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1904-6, 1931. WSP 1390: 1940, 1945, 1947. WSP 1919: 1951-52, 1954-56. WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,990.91 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 10, 1947, nonrecording gages at several sites within 3.5 mi of present site at various datums. Dec. 10, 1947, to Sept. 28, 1966, water-stage recorder 130 ft downstream at datum 2.00 ft higher, and Sept. 29, 1966, to Mar. 7, 1968, at present site at datum 2.00 ft higher.

REMARKS.--Estimated daily discharges: Nov. 21 to Jan. 19, Jan. 22, 26-27, and Feb. 9-17, 21. Records fair except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station, and since July 6, 1950, by storage in Bonny Reservoir.

AVERAGE DISCHARGE.--56 years, 48.6 ft³/s, 35,210 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge determined, 19,600 ft³/s Aug. 16, 1958, gage height, 8.70 ft, site and datum then in use, but may have been higher during flood of June 24, 1945; no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1923, 10.1 ft May 31, 1935, from floodmarks at site 0.2 mi downstream, at datum 2.00 ft higher, discharge, 150,000 ft³/s, by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 949 ft³/s Aug. 9, gage height, 5.30 ft; no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	15	4.5	23	28	23	21	19	18	4.3	.00	.61
2	.00	15	4.0	25	27	24	23	18	15	3.3	.00	.62
3	.52	14	5.0	28	26	25	26	17	16	2.6	.00	.90
4	.57	14	6.2	29	28	24	36	15	15	1.6	.00	.39
5	.70	15	8.0	28	32	23	36	14	15	.84	.00	.19
6	1.1	16	11	31	30	22	31	13	16	.66	.00	.23
7	1.8	15	11	30	30	20	29	11	14	.67	.00	.33
8	2.2	15	13	31	13	23	29	9.4	12	.69	.00	.17
9	2.3	15	12	33	14	24	30	9.4	16	12	542	.00
10	2.8	26	11	36	15	23	30	8.8	20	28	449	.00
11	6.1	20	10	37	18	22	30	8.5	20	17	118	.00
12	8.8	17	9.0	45	17	20	28	7.2	19	11	65	.00
13	8.5	17	12	42	20	19	28	5.9	16	6.6	42	.00
14	9.5	15	15	46	23	19	26	5.1	14	3.6	28	.00
15	9.0	20	18	56	25	23	23	4.3	12	1.7	20	.00
16	9.6	22	18	58	32	25	24	12	10	.53	14	.00
17	9.9	21	17	52	40	35	24	110	7.5	.42	10	.00
18	11	22	15	54	35	32	24	55	5.3	.41	8.0	.00
19	12	16	16	60	30	26	23	40	5.6	.20	6.3	.00
20	13	15	20	52	31	25	23	32	23	.30	5.2	.00
21	13	14	20	39	29	24	21	26	17	.34	4.4	.00
22	13	11	21	38	27	24	21	21	14	.12	3.8	.00
23	14	10	21	37	26	23	23	18	12	.00	2.9	.00
24	13	12	21	33	26	23	23	16	12	.00	2.2	.00
25	14	11	17	32	26	24	21	14	12	.01	1.9	.00
26	14	11	20	31	24	23	21	14	8.7	.00	1.7	.00
27	14	10	21	31	21	23	22	20	6.8	.00	1.5	.00
28	14	10	20	30	22	23	25	22	5.0	.00	1.3	.00
29	15	9.0	22	27	---	23	25	28	3.5	.00	.94	.00
30	16	8.0	23	26	---	24	22	24	3.9	.00	.57	.00
31	17	---	21	25	---	23	---	21	---	.00	.80	---
TOTAL	266.39	451.0	462.7	1145	715	734	768	638.6	384.3	96.89	1329.51	3.44
MEAN	8.59	15.0	14.9	36.9	25.5	23.7	25.6	20.6	12.8	3.13	42.9	.11
MAX	17	26	23	60	40	35	36	110	23	28	542	.90
MIN	.00	8.0	4.0	23	13	19	21	4.3	3.5	.00	.00	.00
AC-FT	528	895	918	2270	1420	1460	1520	1270	762	192	2640	6.8
CAL YR 1985	TOTAL	6998.74		MEAN	19.2	MAX	340	MIN	.00	AC-FT	13880	
WTR YR 1986	TOTAL	6994.83		MEAN	19.2	MAX	542	MIN	.00	AC-FT	13870	

KANSAS RIVER BASIN

06828500 REPUBLICAN RIVER AT STRATTON, NE

LOCATION.--Lat 40°08'28", long 101°13'42", in SW1/4NW1/4 sec.13, T.2 N., R.35 W., Hitchcock County, Hydrologic Unit 10250004, on right bank at downstream side of county bridge, 0.5 mi south of Stratton, 0.2 mi downstream from Muddy Creek, 10 mi upstream from Trenton Dam, and 19 mi downstream from South Fork Republican River.

DRAINAGE AREA.--8,450 mi², approximately, of which about 3,800 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--July 1950 to current year.

REVISED RECORDS.--WSP 2119: Drainage area. WDR NE-73: 1968-71(M), 1972.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,775.49 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 1, 1967, at site 0.3 mi downstream at present datum.

REMARKS.--Estimated daily discharges: Nov. 19 to Jan. 13, Jan. 24 to Feb. 1, and Feb. 9-18. Records good except for periods of estimated records, which are poor. Natural flow affected by irrigation development above station and by storage in Bonny Reservoir (station 06826000).

AVERAGE DISCHARGE.--36 years, 126 ft³/s, 91,290 acre-ft/yr; median of yearly mean discharges, 112 ft³/s, 81,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,800 ft³/s July 31, 1962, gage height, 9.34 ft, site then in use; no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood since at least 1826 occurred May 31, 1935, discharge, about 200,000 ft³/s, based on slope-area measurement at Max.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2100 ft³/s June 9, gage height, 8.27 ft; no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	104	52	140	130	107	119	70	50	.48	.00	.00
2	55	107	50	140	130	110	120	65	48	.33	.00	.00
3	52	107	54	145	127	117	117	64	48	.18	.00	.00
4	51	107	60	150	127	112	135	63	48	.10	.00	.00
5	47	107	90	140	132	111	163	62	48	.00	.00	.00
6	43	105	120	150	134	108	171	57	53	.00	.00	.00
7	43	101	116	145	137	104	169	55	76	.00	.00	.00
8	46	97	120	150	108	108	160	50	56	.00	.00	.00
9	46	95	110	160	110	109	155	48	168	.00	40	.00
10	48	92	100	170	110	109	158	47	98	.00	705	.00
11	58	95	80	185	114	110	147	42	104	229	273	.00
12	70	99	60	200	106	109	135	35	88	115	74	.00
13	68	100	70	195	130	107	133	30	72	59	44	.00
14	67	100	80	191	140	109	120	23	58	43	24	.00
15	60	103	90	161	145	114	113	19	52	26	16	.00
16	58	106	92	163	160	128	116	26	46	21	7.3	.00
17	63	107	90	173	200	190	125	34	38	13	1.9	.00
18	82	113	80	164	180	180	129	89	27	8.8	.04	.23
19	84	112	84	157	169	157	130	61	19	4.4	.00	1.8
20	83	110	98	131	148	134	127	47	18	1.6	.00	2.3
21	84	110	104	111	143	123	118	36	31	2.0	.00	1.0
22	85	90	110	83	132	120	112	28	30	1.5	.00	.97
23	83	94	114	84	139	123	101	24	26	.07	.00	5.5
24	85	96	110	100	143	123	100	18	31	.00	.00	8.4
25	85	90	100	125	133	134	99	16	19	.39	.00	3.4
26	85	100	120	120	121	134	93	14	12	.03	.00	3.4
27	87	90	125	116	114	134	87	24	6.7	.00	.00	3.0
28	90	94	120	120	104	128	89	32	3.1	.00	.00	3.6
29	93	80	125	125	---	127	88	40	.89	.00	.00	3.8
30	98	70	135	130	---	124	81	45	.44	.00	.00	2.4
31	102	---	130	130	---	120	---	56	---	.00	.00	---
TOTAL	2158	2981	2989	4454	3766	3823	3710	1320	1375.13	525.88	1185.24	39.80
MEAN	69.6	99.4	96.4	144	135	123	124	42.6	45.8	17.0	38.2	1.33
MAX	102	113	135	200	200	190	171	89	168	229	705	8.4
MIN	43	70	50	83	104	104	81	14	.44	.00	.00	.00
AC-FT	4280	5910	5930	8830	7470	7580	7360	2620	2730	1040	2350	79
CAL YR 1985	TOTAL	31988.22		MEAN	87.6	MAX	605	MIN	.00	AC-FT	63450	
WTR YR 1986	TOTAL	28327.05		MEAN	77.6	MAX	705	MIN	.00	AC-FT	56190	

06829000 SWANSON LAKE NEAR TRENTON, NE

LOCATION.--Lat 40°10'10", long 101°03'35", in SE1/4NE1/4 sec.5, T.2 N., R.33 W., Hitchcock County, Hydrologic Unit 10250004, in gate-control house at right end of spillway on downstream side of Trenton Dam on Republican River, 2.5 mi west of Trenton.

DRAINAGE AREA.--8,620 mi², approximately, of which about 3,940 mi² contributes directly to surface runoff.

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

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Nov. 13, 1953, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by earthfill dam; storage began May 4, 1953. Capacity, 110,100 acre-ft between elevations 2,710.0 ft, sill of outlet gates, and 2,752.0 ft, top of storage pool. Top of flood-control pool is at elevation 2,773.0 ft, capacity, 246,300 acre-ft. Top of superstorage flood-control pool at elevation 2,785.0 ft, capacity, 353,900 acre-ft. Dead storage, 2,120 acre-ft. Figures given herein represent total contents. Water used for irrigation in Frenchman-Cambridge irrigation project.

COOPERATION.--Capacity table furnished by Bureau of Reclamation (effective Feb. 1984).

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 148,900 acre-ft Aug. 2, 3, 1962, elevation, 2,757.42 ft; minimum since operation of reservoir began, 19,950 acre-ft Oct. 24, 1954, elevation, 2,722.61 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 106,500 acre-ft May 19, elevation, 2,750.82 ft; minimum contents, 57,710 acre-ft Sept. 30, elevation, 2,738.88 ft.

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

2,730	31,690	2,750	102,600
2,735	45,210	2,755	127,700
2,740	61,590	2,760	156,100
2,745	80,700		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67800	71170	74590	79800	87810	94460	101100	106100	105700	97790	75420	59120
2	67830	71280	74670	80050	88020	94640	101100	106100	105700	97120	74830	58950
3	67870	71360	74670	80250	88070	94860	101300	106200	105600	96390	74200	58810
4	67910	71510	74710	80460	88450	95000	101600	106400	105600	95670	73490	58700
5	67910	71630	74830	80660	88880	95220	101700	106500	105600	94950	72790	58600
6	67910	71780	74910	80870	89180	95310	101900	106400	105700	94330	72290	58570
7	67910	71860	75070	81030	89530	95540	102100	106400	105800	93610	71710	58570
8	67950	72020	75220	81240	89700	95720	102500	106400	105800	92860	70930	58570
9	67950	72050	75420	81450	89750	95990	102800	106400	106100	92150	70630	58570
10	68020	72130	75620	81610	90010	96170	103100	106400	106200	91400	70290	58530
11	68280	72210	75820	81820	90050	96350	103300	106400	106200	90880	70290	58530
12	68360	72360	75900	81980	90140	96570	103400	106200	106200	90400	69910	58500
13	68540	72560	76020	82310	90230	96710	103800	106100	106000	89830	69370	58460
14	68660	72670	76210	82520	90360	96840	103900	106000	106100	89570	68880	58460
15	68660	73020	76290	82850	90440	97210	103900	106100	106100	88840	68390	58430
16	68840	73100	76450	83190	90660	97520	103900	106400	105300	88070	68020	58400
17	69070	73340	76650	83560	91270	97880	104100	106400	105200	87290	67420	58330
18	69370	73490	76770	83940	91710	98250	104300	106500	104800	86270	66970	58290
19	69600	73650	77010	84190	92060	98480	104300	106500	104400	85290	66420	58220
20	69720	73650	77130	84530	92280	98710	104400	106400	104000	84320	65720	58190
21	69830	73770	77330	84900	92590	98980	104500	106400	103600	83270	64990	58150
22	70060	73810	77530	85240	92770	99120	104600	106300	103100	82310	64340	58120
23	70100	73890	77780	85410	93030	99350	104800	106100	102700	81360	63690	58050
24	70170	73890	78020	85800	93300	99530	104900	106000	102400	80370	63050	58020
25	70320	74040	78300	86010	93560	99760	105100	105800	101700	79800	62520	57950
26	70400	74120	78500	86180	93880	99990	105200	105700	101000	79110	61870	57850
27	70550	74200	78700	86520	94010	100100	105600	105600	100300	78420	61240	57750
28	70670	74280	78900	86730	94240	100400	105700	105600	99760	77900	60720	57750
29	70780	74400	79190	86990	---	100500	105900	105700	99170	77330	60190	57750
30	70900	74510	79390	87250	---	100800	105900	105700	98520	76650	59810	57710
31	70970	---	79600	87550	---	101000	---	105700	---	76020	59670	---
MEAN	69130	72930	76680	83450	90930	97640	103700	106200	104100	87080	67420	58330
MAX	70970	74510	79600	87550	94240	101000	105900	106500	106200	97790	75420	59120
MIN	67800	71170	74590	79800	87810	94460	101100	105600	98520	76020	59670	57710
(†)	2742.55	2743.66	2744.73	2746.63	2748.16	2749.64	2750.70	2750.65	2749.11	2743.84	2739.45	2738.88
(††)	+3250	+3540	+5090	+7950	+6690	+6790	+4900	-200	-7180	-22500	-16350	-1960
CAL YR 1985	MEAN	95230	MAX	124800	MIN	67800	(††)	-3090				
WTR YR 1986	MEAN	84750	MAX	106500	MIN	57710	(††)	-10010				

(†) Elevation, in feet, at end of month.

(††) Change in contents, in acre-feet.

KANSAS RIVER BASIN

06829500 REPUBLICAN RIVER AT TRENTON, NE

LOCATION.--Lat 40°10'00", long 101°02'40", in SE1/4 sec.4, T.2 N., R.33 W., Hitchcock County, Hydrologic Unit 10250004, on left bank 300 ft upstream from Elm Creek, 0.9 mi downstream from centerline of spillway of Trenton Dam, and 1.5 mi southwest of Trenton.

DRAINAGE AREA.--8,620 mi², approximately, of which about 3,940 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1946 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,671.06 ft above National Geodetic Vertical Datum of 1929. See WSP 2119 for history of changes prior to Oct. 1, 1959.

REMARKS.--No estimated daily discharges. Records fair. Natural flow affected by irrigation development above station, since July 6, 1950, by storage in Bonny Reservoir (station 06826000), since 1953 by storage in Swanson Lake (station 06829000), and since June 1957 by Meeker-Driftwood Canal which diverts directly from Swanson Lake for irrigation of about 16,400 acres.

AVERAGE DISCHARGE.--33 years (1954-86), 55.1 ft³/s, 39,900 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,800 ft³/s June 16, 1948, gage height, 5.64 ft, former site and datum; no flow at times in 1947-50, 1952-54.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood known since about 1826 occurred May 31, 1935, discharge, about 200,000 ft³/s. Discharge of 21,100 ft³/s was measured July 3, 1946, gage height, 6.0 ft, former site and datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 233 ft³/s June 16, gage height, 4.22 ft; minimum daily, 0.36 ft³/s May 10.

DISCHARGE. IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.1	.97	.83	1.8	1.1	.60	.73	.79	111	103	42
2	1.2	1.1	1.1	1.1	1.8	1.1	.64	.80	.86	110	102	42
3	1.3	1.1	1.2	1.1	1.8	1.1	.82	.73	.99	110	101	17
4	1.1	1.1	1.2	1.1	1.8	1.1	.78	.78	1.4	110	100	.79
5	1.2	1.1	1.2	1.2	1.9	.94	.79	.66	2.8	108	98	.69
6	1.4	1.1	1.1	1.2	2.1	.94	.87	.81	7.4	107	98	.66
7	1.5	.99	1.1	1.1	1.9	1.0	.90	.88	7.1	107	97	.60
8	1.3	1.1	1.1	1.1	1.6	1.0	1.1	.55	5.1	107	97	.60
9	1.3	1.2	1.0	1.2	1.6	1.0	1.0	.40	11	107	98	.60
10	1.2	1.1	1.0	1.2	1.8	1.1	.91	.36	4.4	108	96	.60
11	1.5	1.1	.99	1.2	1.6	1.1	.89	.50	1.0	105	97	.55
12	1.3	1.1	.94	1.3	1.6	1.1	1.1	.55	1.0	107	97	.94
13	1.2	1.2	.94	1.4	1.6	1.1	.99	.72	2.4	107	95	.86
14	1.2	1.3	.97	1.5	1.5	1.1	.55	.87	2.4	108	95	.84
15	1.3	1.3	1.0	1.5	1.5	1.1	.60	.99	3.7	108	93	.87
16	1.3	1.3	.95	1.5	1.5	1.1	1.0	1.1	74	107	92	.87
17	1.4	1.3	.94	1.5	1.5	.78	1.0	.89	146	105	91	.87
18	1.9	1.3	.89	1.5	1.5	.76	.66	.85	127	138	91	.87
19	1.3	1.0	.87	1.5	1.5	.79	.72	.79	126	161	89	.88
20	1.3	.93	.87	1.6	1.4	.80	.73	.79	124	161	89	.94
21	2.0	1.0	.87	1.5	1.4	.82	.50	.82	123	163	88	.94
22	1.3	1.0	.87	1.4	1.5	.82	.55	.81	124	161	88	.94
23	.97	1.0	.83	1.6	1.5	.85	.62	.73	124	161	88	.94
24	.96	.97	.79	1.6	1.4	.83	.62	.66	121	160	88	.94
25	1.0	.94	.79	1.3	1.0	.79	.60	.66	119	160	86	.97
26	1.0	.94	.84	1.4	1.0	.83	.60	.72	116	160	85	1.0
27	1.0	.94	.79	1.7	1.0	.90	.77	.79	116	160	83	.99
28	1.2	.94	.82	1.7	1.1	.98	.75	.90	113	128	83	.98
29	1.2	.94	.92	1.6	---	.87	.73	.98	113	105	61	1.0
30	1.1	.94	.98	1.7	---	.55	.73	.89	111	103	45	1.0
31	1.1	---	.81	1.8	---	.55	---	.80	---	104	44	---
TOTAL	39.33	32.43	29.64	42.93	43.2	28.90	23.12	23.51	1829.34	3857	2758	123.73
MEAN	1.27	1.08	.96	1.38	1.54	.93	.77	.76	61.0	124	89.0	4.12
MAX	2.0	1.3	1.2	1.8	2.1	1.1	1.1	1.1	146	163	103	42
MIN	.96	.93	.79	.83	1.0	.55	.50	.36	.79	103	44	.55
AC-FT	78	64	59	85	86	57	46	47	3630	7650	5470	245
CAL YR 1985	TOTAL	7986.70		MEAN	21.9	MAX	172	MIN	.60	AC-FT	15840	
WTR YR 1986	TOTAL	8831.13		MEAN	24.2	MAX	163	MIN	.36	AC-FT	17520	

KANSAS RIVER BASIN

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06829500 REPUBLICAN RIVER AT TRENTON, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)					
OCT											
22...	1430	1.0	738	8.00	19.0	17.2					
NOV											
20...	1400	1.0	870	7.80	5.0	14.3					
MAR											
11...	1430	1.1	750	7.90	11.0	18.8					
JUN											
10...	1300	1.2	985	7.80	24.0	10.6					
JUL											
07...	1320	109	619	8.20	25.0	8.1					
AUG											
19...	1100	96	605	8.10	24.0	7.2					
SEP											
17...	1730	0.87	740	8.60	26.0	14.6					

DATE	TIME	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
NOV											
20...	1400	7	300	300	75	27	72	2	--	257	160
MAR											
11...	1430	10	250	250	60	24	65	2	15	223	160
AUG											
19...	1100	5	190	190	39	23	50	2	14	191	110

DATE	TIME	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
NOV												
20...	23	1.3	39	560	--	--	1.20	0.04	170	21	35	
MAR												
11...	22	1.2	28	510	0.69	1.5	0.51	0.01	150	9	27	
AUG												
19...	15	1.3	18	390	0.52	100	0.11	0.05	140	44	11	

KANSAS RIVER BASIN

06831500 FRENCHMAN CREEK NEAR IMPERIAL, NE

LOCATION.--Lat 40°25'45", long 101°37'25", in SW1/4NW1/4 sec.3, T.5 N., R.38 W., Chase County, Hydrologic Unit 10250005, on right bank 0.2 mi downstream from bridge on county highway, 5.8 mi upstream from Enders Dam, and 6.1 miles south of Imperial.

DRAINAGE AREA.--880 mi², approximately, of which about 720 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1940 to current year. Published as Frenchman River near Imperial October 1965 to September 1972.

REVISED RECORDS.--WSP 976: 1942(M). WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,130 ft, from topographic map. Prior to Mar. 7, 1941, nonrecording gage at bridge 0.2 mi upstream at different datum. Mar. 7, 1941, to Sept. 30, 1958, water-stage recorder at site 0.2 mi downstream at datum 4.35 ft lower.

REMARKS.--Estimated daily discharges: Nov. 21 to Dec. 5 and Dec. 12-15, 18. Records good except for periods of estimated record, which are fair. Natural flow affected by irrigation development above station.

AVERAGE DISCHARGE.--46 years, 60.5 ft³/s, 43,830 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,340 ft³/s Mar. 22, 1960, gage height, 8.43 ft; minimum daily, 4.8 ft³/s Mar. 12, 1977, backwater from ice.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 7, 1940, reached a stage of 12.4 ft, from floodmarks, site and datum in use Mar. 7, 1941, to Sept. 30, 1958 (discharge not determined but believed greater than that of Mar. 22, 1960).

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)
Feb. 13	1200	*48	*1.33	No peaks greater than base discharge.			
Minimum daily discharge, 19 ft ³ /s Aug. 23-31 and Sept. 12.							

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	26	25	32	34	29	27	26	27	25	25	20
2	23	26	26	32	33	28	28	25	27	24	24	23
3	23	26	26	32	32	29	32	26	27	23	23	22
4	23	25	28	32	32	29	32	25	27	22	22	21
5	22	25	30	31	33	28	30	25	26	22	22	20
6	23	25	30	33	33	28	29	22	27	22	21	20
7	23	25	30	33	33	27	28	25	30	22	21	21
8	23	25	30	33	29	28	28	25	32	23	21	20
9	23	26	31	33	30	28	28	25	31	24	32	20
10	24	26	30	34	29	28	28	25	34	27	29	20
11	24	27	25	35	27	28	28	25	35	26	25	20
12	25	28	26	36	28	28	28	24	31	26	24	19
13	25	28	26	36	31	28	27	25	30	25	23	20
14	25	29	27	35	29	28	29	25	29	29	24	20
15	24	29	30	35	33	29	26	27	28	28	23	20
16	24	29	31	35	32	32	26	32	28	26	22	21
17	24	28	30	35	34	31	27	30	27	26	22	21
18	28	28	29	34	33	32	28	27	26	25	21	21
19	36	27	31	34	32	30	26	26	26	25	20	22
20	30	26	32	35	30	30	27	25	28	24	20	21
21	26	26	33	35	29	30	27	25	27	23	20	20
22	26	26	33	33	29	30	27	25	26	23	20	21
23	25	26	33	34	29	30	27	26	26	22	19	21
24	25	26	33	34	29	29	27	25	26	22	19	21
25	25	26	32	34	29	28	26	25	26	22	19	20
26	25	26	32	33	29	28	27	26	25	22	19	20
27	25	25	32	34	28	28	28	26	25	22	19	20
28	25	25	31	34	28	28	28	28	25	22	19	20
29	25	23	31	34	---	28	27	32	25	21	19	20
30	25	25	32	34	---	27	27	30	25	21	19	21
31	25	---	32	35	---	27	---	28	---	21	19	---
TOTAL	772	788	927	1049	857	891	833	811	832	735	675	616
MEAN	24.9	26.3	29.9	33.8	30.6	28.7	27.8	26.2	27.7	23.7	21.8	20.5
MAX	36	29	33	36	34	32	32	32	35	29	32	23
MIN	22	23	25	31	27	27	26	22	25	21	19	19
AC-FT	1530	1560	1840	2080	1700	1770	1650	1610	1650	1460	1340	1220
CAL YR 1985	TOTAL	10674	MEAN	29.2	MAX	49	MIN	18	AC-FT	21170		
WTR YR 1986	TOTAL	9786	MEAN	26.8	MAX	36	MIN	19	AC-FT	19410		

KANSAS RIVER BASIN

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06832000 ENDERS RESERVOIR NEAR ENDERS, NE

LOCATION.--Lat 40°25'05", long 101°30'55", in NE1/4 sec.9, T.5 N., R.37 W., Chase County, Hydrologic Unit 10250005, near right bank in control house at outlet tube of Enders Dam on Frenchman Creek, 2.2 mi southeast of Enders.

DRAINAGE AREA.--950 mi², approximately, of which about 790 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Sept. 3, 1960, mercury-column pressure gage at same datum.

REMARKS.--Reservoir is formed by earthfill dam; storage began Oct. 23, 1950. Capacity, 36,010 acre-ft between elevations 3,080.0 ft, sill of outlet gates, and 3,112.3 ft, top of storage pool. Top of flood-control pool at elevation 3,127.0 ft, capacity, 74,520 acre-ft. Top of superstorage flood-control pool at elevation 3,129.5 ft, capacity, 80,730 acre-ft. Dead storage, 8,470 acre-ft. Figures given herein represent total contents. Water used for irrigation in Frenchman-Cambridge irrigation project.

COOPERATION.--Capacity table furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 55,330 acre-ft Mar. 25, 1960, elevation, 3,118.20 ft; minimum since operation of reservoir began, 8,870 acre-ft Aug. 28, 1978, elevation, 3,080.67 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 29,450 acre-ft June 21, elevation, 3,102.29 ft; minimum, 13,440 acre-ft Aug. 19, elevation, 3,087.17 ft.

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

3,085	11,770	3,100	26,540
3,090	15,830	3,110	40,660

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14910	17050	18850	20990	23060	24660	26170	27370	28570	26970	18400	14180
2	14990	17100	18940	21050	23130	24720	26230	27420	28630	26690	18160	14260
3	15060	17170	19000	21100	23190	24760	26280	27490	28660	26480	17910	14340
4	15110	17260	19070	21160	23260	24810	26350	27570	28670	26320	17630	14390
5	15140	17310	19150	21230	23370	24840	26420	27520	28700	26020	17350	14440
6	15220	17350	19220	21290	23420	24860	26470	27500	28810	25760	17110	14450
7	15300	17400	19290	21380	23480	24900	26520	27560	28850	25470	16850	14510
8	15340	17470	19370	20890	23530	24960	26540	27550	28900	25110	16690	14570
9	15390	17520	19460	21510	23590	24980	26580	27590	28960	24850	16520	14660
10	15460	17560	19530	21580	23630	25020	26620	27610	29020	24660	16300	14710
11	15600	17600	19590	21650	23670	25060	26670	27660	29080	24360	16070	14760
12	15650	17680	19640	21710	23730	25070	26700	27650	29170	24040	15840	14810
13	15740	17770	19690	21790	23780	25100	26700	27700	29260	23680	15650	14850
14	15800	17810	19760	21850	23880	25170	26690	27720	29290	23600	15320	14930
15	15860	17910	19850	21920	23950	25270	26720	27840	29360	23330	14960	14930
16	15920	17950	19930	22010	23990	25350	26750	27930	29380	23040	14560	15040
17	16000	17990	19990	22060	24090	25380	26830	27950	29370	22740	14090	15100
18	16110	18030	20060	22140	24160	25410	26840	28000	29380	22420	13670	15130
19	16210	18110	20130	22220	24160	25470	26890	28030	29400	22080	13440	15210
20	16290	18130	20210	22280	24220	25530	26930	28070	29450	21720	13480	15300
21	16370	18210	20290	22320	24290	25630	26980	28120	29460	21340	13540	15350
22	16430	18250	20350	22400	24320	25680	27020	28110	29420	20970	13600	15380
23	16510	18320	20400	22490	24380	25720	27060	28130	29420	20640	13660	15470
24	16560	18390	20450	22530	24440	25820	27090	28170	29240	20390	13720	15510
25	16620	18450	20550	22590	24490	25870	27130	28170	28960	20120	13800	15560
26	16690	18510	20600	22650	24180	25910	27180	28210	28660	19920	13810	15590
27	16750	18580	20670	22740	24560	26010	27230	28250	28380	19720	13860	15640
28	16810	18640	20720	22790	24610	26030	27280	28310	28030	19530	13910	15680
29	16860	18720	20790	22860	---	26080	27350	28400	27700	19290	13980	15650
30	16930	18780	20860	22930	---	26120	27360	28450	27300	19020	14060	15690
31	17000	---	20930	23010	---	26140	---	28500	---	18720	14100	---
MEAN	15960	17900	19910	21970	23880	25370	26790	27890	28920	22970	15230	15000
MAX	17000	18780	20930	23010	24610	26140	27360	28500	29460	26970	18400	15690
MIN	14910	17050	18850	20890	23060	24660	26170	27370	27300	18720	13440	14180
(+)	3091.27	3093.10	3095.16	3097.04	3098.41	3099.68	3100.65	3101.55	3100.60	3093.04	3087.99	3089.84
(++)	+2140	+1780	+2150	+2080	+1600	+1530	+1220	+1140	-1200	-8580	-4620	+1590
CAL YR 1985	MEAN	23120	MAX	31610	MIN	12890	(++)	-1530				
WTR YR 1986	MEAN	21790	MAX	29460	MIN	13440	(++)	+830				

(+) Elevation, in feet, at end of month.

(++) Change in contents, in acre-feet.

KANSAS RIVER BASIN

06832500 FRENCHMAN CREEK NEAR ENDERS, NE

LOCATION.--Lat 40°25'05", long 101°30'35", in NW1/4NW1/4 sec.10, T.5 N., R.37 W., Chase County, Hydrologic Unit 10250005, on left bank 0.2 mi downstream from Enders Dam and 2.5 mi southeast of Enders.

DRAINAGE AREA.--950 mi², approximately, of which about 790 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--February 1946 to current year. Published as Frenchman River near Enders October 1965 to September 1972.

REVISED RECORDS.--WSP 2119: 1956, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,026.22 ft above National Geodetic Vertical Datum of 1929. Prior to June 14, 1948, at site 800 ft upstream at datum 6.03 ft higher. June 14, 1948, to Sept. 14, 1972, at present site at datum 5.00 ft higher.

REMARKS.--Estimated daily discharges: Mar. 3-10, 12. Records good except those below 5.0 ft³/s, which are poor. Flow regulated by Enders Reservoir (station 06832000).

AVERAGE DISCHARGE.--40 years, 58.7 ft³/s, 42,530 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 763 ft³/s Aug. 20, 1953, gage height, 11.31 ft, present datum; maximum gage height, 11.65 ft, present datum, July 18, 1958, backwater from downstream tributary; no flow for many days in 1972-85.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 262 ft³/s Aug. 16, gage height, 8.05 ft; minimum daily discharge, 0.02 ft³/s Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.28	.78	.20	.19	.24	.32	.48	.43	.46	159	189	.38
2	.26	.98	.20	.20	.26	.32	.42	.39	.39	131	185	.44
3	.32	1.0	.20	.23	.28	.30	.42	.36	.36	100	166	.51
4	.47	.90	.20	.20	.36	.30	.37	.26	.31	81	169	.54
5	.47	.80	.20	.19	.48	.30	.32	.35	.20	91	173	.54
6	.42	.86	.20	.19	.47	.25	.28	.54	.26	112	152	.51
7	.36	.68	.19	.19	.33	.25	.37	.48	.27	140	152	.48
8	.31	.61	.19	.20	.27	.25	.39	.39	.38	158	152	.46
9	.39	.55	.19	.19	.24	.25	.38	.37	.43	168	154	.43
10	.30	.54	.19	.19	.26	.20	.34	.24	.40	160	150	.43
11	.28	.54	.19	.20	.28	.20	.32	.20	.43	154	147	.43
12	.27	.46	.19	.24	.28	.20	.35	.35	.32	151	152	.43
13	.37	.34	.19	.24	.30	.19	.35	.33	.42	134	160	.43
14	.32	.24	.19	.24	.32	.19	.43	.40	.44	134	188	1.2
15	.37	.23	.19	.24	.32	.19	.45	.55	.47	144	215	.89
16	.31	.28	.19	.26	.32	.19	.43	.34	.47	163	231	.32
17	.26	.78	.19	.36	.32	.19	.41	.35	.44	174	261	.24
18	.42	1.2	.20	.37	.37	.19	.32	.32	.38	179	247	.20
19	.35	1.0	.20	.32	.54	.20	.31	.46	.38	199	150	.20
20	.34	.70	.43	.32	.48	.20	.33	.41	.32	227	2.3	.19
21	.23	.20	.55	.37	.42	.20	.33	.41	.36	232	.46	.18
22	.20	.19	.67	.36	.37	.24	.20	.37	.37	226	.43	.17
23	.29	.19	.52	.33	.28	.24	.20	.37	30	213	.43	.16
24	.41	.19	.37	.33	.42	.20	.29	.36	68	169	.43	.15
25	.42	.19	.31	.20	.37	.20	.28	.37	104	164	.40	.13
26	.33	.19	.31	.20	.37	.28	.31	.45	134	142	.37	.16
27	.48	.19	.37	.20	.37	.28	.39	.51	146	139	.37	.15
28	.54	.19	.27	.20	.32	.28	.32	.51	154	133	.37	.13
29	.54	.19	.24	.20	---	.28	.31	.48	161	144	.37	.06
30	.60	.20	.23	.20	---	.32	.45	.43	162	150	.36	.02
31	.61	---	.19	.22	---	.32	---	.41	---	164	.37	---
TOTAL	11.52	15.39	8.15	7.57	9.64	7.52	10.55	12.19	967.26	4835	3399.66	10.56
MEAN	.37	.51	.26	.24	.34	.24	.35	.39	32.2	156	110	.35
MAX	.61	1.2	.67	.37	.54	.32	.48	.55	162	232	261	1.2
MIN	.20	.19	.19	.19	.24	.19	.20	.20	.20	81	.36	.02
AC-FT	23	31	16	15	19	15	21	24	1920	9590	6740	21
CAL YR 1985	TOTAL	11099.37		MEAN	30.4	MAX	264	MIN	.00	AC-FT	22020	
WTR YR 1986	TOTAL	9295.01		MEAN	25.5	MAX	261	MIN	.02	AC-FT	18440	

KANSAS RIVER BASIN

231

06834000 FRENCHMAN CREEK AT PALISADE, NE

LOCATION.--Lat 40°21'12", long 101°07'35", in SW1/4SE1/4 sec.36, T.5 N., R.34 W., Hayes County, Hydrologic Unit 10250005, on right bank at upstream side of bridge on U.S. Highway 6, 0.7 mi west of Palisade, and 1.5 mi upstream from Stinking Water Creek.

DRAINAGE AREA.--1,110 mi², approximately, of which about 950 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1894 to October 1896, June 1950 to current year. Published as Frenchman River at Palisade, October 1894 to October 1896 and October 1965 to September 1972.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,743.49 ft above National Geodetic Vertical Datum of 1929. October 1894 to October 1896, nonrecording gage at railroad bridge 0.4 mi downstream at different datum; June 1950 to Feb. 7, 1977, recording gage at site 2,000 ft upstream at datum 4.0 ft higher.

REMARKS.--Estimated daily discharges: Nov. 19 to Jan. 15 and Feb. 8-17. Records good except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station and, since Oct. 23, 1950, by storage in Enders Reservoir (station 06832000).

AVERAGE DISCHARGE.--38 years, 81.0 ft³/s, 58,680 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,560 ft³/s June 17, 1956, gage height, 8.79 ft, site and datum then in use; minimum daily, 11 ft³/s Sept. 11, 12, 14, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 527 ft³/s July 11, gage height, 6.71 ft; minimum daily, 14 ft³/s June 22, 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	26	20	33	34	30	27	23	24	215	147	23
2	25	26	19	33	33	30	26	23	26	211	167	23
3	24	27	19	33	33	29	28	24	22	189	177	22
4	24	26	18	35	33	29	31	23	23	161	163	21
5	22	26	19	31	35	29	29	22	27	137	163	19
6	23	26	20	33	35	29	28	21	26	130	170	18
7	23	26	22	30	34	27	27	19	29	140	153	18
8	23	27	22	30	32	28	26	19	24	154	149	19
9	23	25	22	32	31	29	26	19	29	173	177	20
10	22	25	21	45	30	28	27	21	38	202	166	20
11	24	26	20	40	31	28	27	19	29	382	156	19
12	24	27	19	45	32	28	27	19	25	187	153	17
13	24	27	20	43	34	28	26	18	23	175	158	17
14	24	27	23	42	35	27	28	18	22	157	159	17
15	24	28	25	40	40	28	27	23	21	152	179	17
16	24	28	27	36	50	31	27	29	21	151	201	19
17	24	28	29	35	45	31	27	28	19	158	209	55
18	24	28	32	35	41	30	28	24	18	163	238	25
19	25	27	33	35	35	29	28	22	17	164	235	22
20	24	25	35	35	33	29	27	21	17	170	188	21
21	24	25	35	36	38	29	27	21	16	194	93	19
22	25	25	35	37	33	29	26	21	14	198	66	19
23	26	25	35	36	33	28	26	22	14	195	53	19
24	25	25	34	35	31	27	26	21	143	191	45	19
25	25	25	32	35	31	27	25	21	121	162	39	18
26	25	24	34	35	30	27	24	21	145	158	36	17
27	24	23	35	36	30	27	26	22	183	143	33	17
28	24	22	32	36	29	27	27	24	201	141	30	16
29	24	22	32	34	---	27	26	25	204	131	27	17
30	24	21	35	33	---	26	25	25	214	135	25	18
31	25	---	35	34	---	26	---	24	---	141	24	---
TOTAL	746	768	839	1108	961	877	805	682	1735	5360	3979	611
MEAN	24.1	25.6	27.1	35.7	34.3	28.3	26.8	22.0	57.8	173	128	20.4
MAX	26	28	35	45	50	31	31	29	214	382	238	55
MIN	22	21	18	30	29	26	24	18	14	130	24	16
AC-FT	1480	1520	1660	2200	1910	1740	1600	1350	3440	10630	7890	1210
CAL YR 1985	TOTAL	18383	MEAN	50.4	MAX	218	MIN	13	AC-FT	36460		
WTR YR 1986	TOTAL	18471	MEAN	50.6	MAX	382	MIN	14	AC-FT	36640		

KANSAS RIVER BASIN

06835000 STINKING WATER CREEK NEAR PALISADE, NE

LOCATION.--Lat 40°22'10", long 101°06'50", in SW1/4NW1/4 sec.30, T.5 N., R.33 W., Hayes County, Hydrologic Unit 10250006, on right bank 25 ft downstream from county bridge, 1.2 mi upstream from mouth, and 1.8 mi northwest of Palisade.

DRAINAGE AREA.--1,500 mi², approximately, of which about 380 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1949 to current year.

REVISED RECORDS.--WSP 1730: 1952(M). WSP 1919: 1951(P), 1955. WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,740.99 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 20 to Jan. 8, Feb 8-14, May 17 and June 9, 10. Records good except for period of estimated record, which is poor. Natural flow affected by irrigation development above station.

AVERAGE DISCHARGE.--37 years, 39.3 ft³/s, 28,470 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,030 ft³/s June 17, 1956, gage height, 11.30 ft, from rating curve extended above 1,200 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 6.0 ft³/s Aug. 4, 1955.

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)
May 17	1200	*74	*3.86	No peaks greater than base discharge.			

Minimum daily discharge, 9.8 ft³/s Aug. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	26	23	29	36	36	31	30	35	18	11	11
2	22	26	23	29	36	35	31	29	34	18	12	13
3	22	26	22	31	37	34	32	28	32	18	12	14
4	22	26	22	28	37	34	34	27	31	17	12	14
5	21	26	24	26	39	34	38	26	30	16	12	14
6	22	26	24	29	39	33	39	25	30	15	12	13
7	22	26	25	29	39	33	39	24	33	15	11	14
8	21	26	26	29	36	32	36	24	29	15	10	14
9	22	27	27	30	32	33	33	24	34	15	13	14
10	23	27	28	31	33	32	32	25	43	19	13	14
11	23	27	30	32	33	32	32	26	35	23	14	14
12	25	27	29	36	34	32	32	24	34	21	13	14
13	25	28	29	36	35	32	32	23	32	19	13	14
14	26	29	29	35	36	32	31	23	31	17	12	13
15	26	30	29	35	36	32	30	25	30	16	12	13
16	27	31	29	35	39	33	31	30	28	16	12	14
17	26	31	30	36	40	36	31	62	26	15	12	22
18	27	31	29	38	41	38	31	48	25	15	12	15
19	27	31	29	38	47	41	31	39	24	14	12	15
20	35	26	29	39	49	39	31	35	23	14	11	15
21	33	23	30	43	47	38	30	32	23	14	10	15
22	33	24	30	42	41	35	30	29	24	15	10	14
23	31	22	30	37	42	35	29	29	22	15	10	14
24	31	22	35	39	41	34	29	28	22	13	11	15
25	29	22	35	36	39	33	29	28	22	13	11	15
26	27	22	30	37	38	32	29	27	22	13	10	14
27	26	22	30	35	38	32	29	28	21	13	9.8	14
28	26	20	35	34	37	32	30	30	20	13	9.9	14
29	26	23	24	36	---	32	32	31	19	12	10	14
30	26	21	29	36	---	31	31	33	18	11	10	14
31	26	---	29	36	---	31	---	36	---	11	11	---
TOTAL	800	774	873	1062	1077	1048	955	928	832	479	353.7	427
MEAN	25.8	25.8	28.2	34.3	38.5	33.8	31.8	29.9	27.7	15.5	11.4	14.2
MAX	35	31	35	43	49	41	39	62	43	23	14	22
MIN	21	20	22	26	32	31	29	23	18	11	9.8	11
AC-FT	1590	1540	1730	2110	2140	2080	1890	1840	1650	950	702	847
CAL YR 1985	TOTAL	9391.2	MEAN	25.7	MAX	47	MIN	9.8	AC-FT	18630		
WTR YR 1986	TOTAL	9608.7	MEAN	26.3	MAX	62	MIN	9.8	AC-FT	19060		

KANSAS RIVER BASIN

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06835500 FRENCHMAN CREEK AT CULBERTSON, NE

LOCATION.--Lat 40°14'05", long 100°52'40", in SW1/4SE1/4 sec.12, T.3 N., R.32 W., Hitchcock County, Hydrologic Unit 10250005, on right bank 8 ft upstream from bridge on U.S. Highways 6 and 34, 2 mi west of Culbertson, and 4.5 mi upstream from mouth.

DRAINAGE AREA.--2,770 mi², approximately, of which about 1,470 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1913 to September 1915 (gage heights and discharge measurements only), October 1930 to current year. Published as Frenchman River at Culbertson October 1965 to September 1972. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1390: 1931, 1933, 1934(M), 1938(M). WSP 2119: Drainage area. WDR NE-84-1: 1979, 1982(M).

GAGE.--Water-stage recorder. Datum of gage is 2,583.44 ft above National Geodetic Vertical Datum of 1929. See WSP 1919 for history of changes prior to Nov. 2, 1950.

REMARKS.--Estimated daily discharges: Nov. 19 to Dec. 5, Dec. 26, Feb. 8-14 and Apr. 7-16. Records good except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station and, since Oct. 23, 1950, by storage in Enders Reservoir (station 06832000). Principal diversion is by Culbertson Canal, 20,800 acres.

AVERAGE DISCHARGE.--56 years, 99.7 ft³/s, 72,230 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft³/s, estimated, May 31, 1935, gage height, 14.8 ft, from floodmarks, present site and datum; no flow Aug. 7, 8, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 203 ft³/s July 12, gage height, 3.90 ft; minimum daily discharge, 0.98 ft³/s Aug. 6-7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	55	40	75	81	82	75	26	33	9.8	1.4	1.9
2	45	55	44	71	81	83	75	28	33	7.4	1.3	1.5
3	45	55	52	75	82	82	77	28	35	6.9	1.2	1.7
4	45	55	60	73	84	82	75	22	35	6.7	1.2	2.4
5	50	55	55	66	86	81	75	16	30	5.9	1.0	3.2
6	49	56	59	65	87	80	75	14	24	5.8	.98	4.5
7	44	57	60	70	84	79	55	14	26	5.6	.98	5.4
8	41	57	62	70	76	79	45	13	24	5.2	1.0	5.1
9	45	57	63	75	62	80	40	13	22	4.8	1.3	3.0
10	46	56	60	76	60	81	40	12	26	5.0	3.0	5.6
11	49	57	55	81	56	80	40	11	31	60	1.7	5.8
12	55	57	41	84	58	80	35	11	23	91	1.3	5.5
13	55	58	43	88	66	79	35	11	21	17	1.1	7.0
14	55	59	48	85	74	79	35	10	20	10	1.1	7.1
15	46	62	60	83	79	80	30	11	19	14	1.3	6.6
16	63	62	61	83	83	81	30	13	19	5.9	1.2	4.2
17	53	62	64	83	89	85	29	11	19	4.9	1.7	6.9
18	55	63	64	83	99	87	28	38	18	4.3	1.6	33
19	51	62	63	84	96	85	26	26	18	4.5	2.2	19
20	51	60	64	84	93	83	26	19	19	4.0	1.9	20
21	56	60	67	84	90	82	26	16	17	3.8	2.7	18
22	57	50	67	85	90	82	25	14	13	3.4	1.9	17
23	55	50	69	85	86	81	25	12	7.4	3.1	1.9	14
24	55	50	71	83	87	80	25	12	6.7	2.6	5.0	18
25	55	53	66	82	86	80	24	13	43	3.2	7.8	17
26	55	56	62	80	85	78	24	14	17	2.7	4.9	16
27	54	54	70	80	83	77	26	21	11	3.7	4.0	19
28	53	50	72	80	82	78	25	22	10	2.2	3.7	19
29	53	47	68	80	---	78	25	26	10	1.6	3.8	17
30	54	48	66	81	---	77	25	29	8.1	1.5	3.3	15
31	54	---	71	82	---	76	---	31	---	1.4	2.3	---
TOTAL	1582	1678	1867	2456	2265	2497	1196	557	638.2	307.9	69.76	319.4
MEAN	51.0	55.9	60.2	79.2	80.9	80.5	39.9	18.0	21.3	9.93	2.25	10.6
MAX	63	63	72	88	99	87	77	38	43	91	7.8	33
MIN	38	47	40	65	56	76	24	10	6.7	1.4	.98	1.5
AC-FT	3140	3330	3700	4870	4490	4950	2370	1100	1270	611	138	634
CAL YR 1985	TOTAL	16063.0	MEAN	44.0	MAX	148	MIN	1.1	AC-FT	31860		
WTR YR 1986	TOTAL	15433.26	MEAN	42.3	MAX	99	MIN	.98	AC-FT	30610		

KANSAS RIVER BASIN

06835500 FRENCHMAN CREEK AT CULBERTSON, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1970 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

		DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)				
		OCT 22...	1500	56	522	8.20	16.0	8.8				
		NOV 20...	1425	60	550	8.30	1.0	11.0				
		MAR 11...	1340	80	512	7.60	9.5	10.9				
		JUN 10...	1045	24	695	7.60	17.5	8.7				
		JUL 07...	1230	5.6	676	8.00	29.0	8.9				
		AUG 19...	1000	2.3	590	--	21.5	7.5				
		SEP 17...	1850	6.6	500	8.50	22.0	7.3				
DATE	TIME	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	
NOV 20...	1425	10	240	240	65	18	23	0.7	13	227	36	
MAR 11...	1340	20	220	220	59	17	23	0.7	13	224	40	
AUG 19...	1000	10	230	230	56	22	31	0.9	17	245	60	
DATE	TIME	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
NOV 20...	6.9	0.9	55	350	0.48	55	2.80	0.08	100	270	32	
MAR 11...	7.6	1.0	52	350	0.47	75	2.70	0.04	90	38	3	
AUG 19...	8.5	1.1	49	390	0.53	2.4	3.70	0.02	150	20	29	

06836000 BLACKWOOD CREEK NEAR CULBERTSON, NE

LOCATION.--Lat 40°14'10", long 100°48'39", in SE1/4SW1/4 sec.10, T.3 N., R.31 W., Hitchcock County.
Hydrologic Unit 10250004, on right bank 500 ft upstream from bridge on U.S. Highways 6 and 34, 0.2 mi north of Burlington Northern Inc. bridge, 1 mi east of Culbertson, and 1.8 mi upstream from mouth.

DRAINAGE AREA.--320 mi², approximately, of which about 270 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--May 1946 to Sept. 30, 1986 (discontinued).

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,555.25 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1967, at site 0.2 mile downstream at present datum and Oct. 1, 1967, to Aug. 28, 1968, at site 0.8 mi downstream at datum 8.96 ft lower.

REMARKS.--Records poor. Entire year affected by backwater from beaver dams. Natural flow affected by irrigation development above station, return flow from irrigated areas, and waste from Culbertson Canal.

AVERAGE DISCHARGE.--40 years. 5.85 ft³/s, 4,240 acre-ft/yr; median of yearly mean discharges, 5.3 ft³/s, 3,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,650 ft³/s June 17, 1955, gage height, 14.64 ft, site then in use; no flow Jan. 4-6, 1950.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 31, 1935, reached a stage of 24.0 ft, at site 0.2 mi downstream, at present datum, from floodmarks, discharge, about 5,300 ft³/s, from information by Nebraska Department of Roads.

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. 29	----	*26	*a3.95	No peak greater than base discharge.			
a Backwater from beaver dam.							
Minimum daily discharge, 0.01 ft ³ /s Sept. 5.							

DISCHARGE. IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.39	.50	.40	.46	.46	.67	.72	4.6	7.7	4.5	.04	.21
2	.39	.50	.50	.41	.46	.54	.67	4.2	7.0	3.5	.25	.04
3	.40	.50	.50	.40	.50	.40	.67	4.2	7.6	2.5	3.0	.04
4	.40	.54	.54	.40	.50	.40	.72	3.7	8.7	1.6	2.1	.02
5	.40	.54	.45	.40	.50	.40	.72	4.2	7.6	.80	2.1	.01
6	.44	.54	.46	.36	.50	.40	.72	4.0	2.4	.90	2.3	.02
7	.43	.54	.43	.36	.50	.40	.72	4.2	2.8	.97	3.0	.06
8	.45	.55	.43	.33	.50	.31	.72	4.2	2.8	.49	1.4	.10
9	.41	.54	.43	.35	.50	.31	.72	4.6	3.3	1.2	1.2	.10
10	.41	.54	.43	.36	.40	.33	.67	4.9	4.5	2.2	1.6	.10
11	.41	.54	.43	.36	.40	.31	.58	4.7	8.6	1.6	1.7	.04
12	.40	.54	.43	.36	.40	.30	1.1	4.2	3.1	2.1	1.0	.04
13	.39	.54	.40	.36	.50	.28	2.8	4.0	2.7	.78	.98	.04
14	.38	.54	.40	.36	.50	.29	4.7	3.5	2.8	2.0	1.9	.04
15	.42	.54	.43	.46	.50	.31	5.4	2.8	3.3	4.4	3.1	.04
16	.46	.54	.43	.46	.60	.32	4.6	3.8	2.1	1.1	2.1	.09
17	.46	.54	.43	.46	.70	.33	5.1	5.1	1.8	.35	1.2	.14
18	.43	.54	.43	.46	.70	.33	4.6	4.9	1.3	1.4	1.1	.14
19	.43	.50	.43	.46	.70	.33	4.7	4.7	1.7	.43	1.0	.59
20	.43	.54	.43	.46	.60	.33	1.5	4.5	2.2	.04	.85	.30
21	.43	.50	.43	.46	.62	.33	.67	4.4	1.8	.02	2.3	.03
22	.43	.50	.40	.46	.67	.33	3.4	5.3	2.2	.41	3.9	.05
23	.43	.50	.40	.36	.67	.33	.82	7.5	1.9	.30	1.9	.06
24	.43	.50	.40	.46	.67	.36	2.8	9.3	1.5	.13	4.0	.06
25	.43	.54	.40	.46	.67	.33	1.4	6.6	1.7	.11	.56	.02
26	.46	.50	.40	.46	.72	.40	1.1	6.3	2.8	.27	.21	.02
27	.43	.50	.39	.50	.67	.50	3.8	10	5.8	.02	.18	.02
28	.46	.50	.40	.46	.67	.54	4.2	13	3.5	.06	.21	.04
29	.46	.50	.40	.50	---	.54	2.8	11	2.0	.09	.13	.04
30	.46	.40	.40	.50	---	.62	4.9	9.6	1.0	.02	.23	.04
31	.50	---	.40	.50	---	.54	---	8.6	---	.04	.32	---
TOTAL	13.25	15.59	13.23	13.15	15.78	12.11	68.02	176.6	108.2	34.33	45.86	2.54
MEAN	.43	.52	.43	.42	.56	.39	2.27	5.70	3.61	1.11	1.48	.08
MAX	.50	.55	.54	.50	.72	.67	5.4	13	8.7	4.5	4.0	.59
MIN	.38	.40	.39	.33	.40	.28	.58	2.8	1.0	.02	.04	.01
AC-FT	26	31	26	26	31	24	135	350	215	68	91	5.0
CAL YR 1985	TOTAL	750.41		MEAN	2.06	MAX	77	MIN	.13	AC-FT	1490	
WTR YR 1986	TOTAL	518.66		MEAN	1.42	MAX	13	MIN	.01	AC-FT	1030	

KANSAS RIVER BASIN

06836500 DRIFTWOOD CREEK NEAR MCCOOK, NE

LOCATION.--Lat 40°09'41", long 100°39'35", in SE1/4SW1/4 sec.1, T.2 N., R.30 W., Red Willow County, Hydrologic Unit 10250004, on right bank downstream from county road bridge, 3.0 mi downstream from siphon and wasteway on Meeker-Driftwood Canal, 3.5 mi southwest of McCook, and 2.6 miles upstream from mouth.

DRAINAGE AREA.--360 mi², approximately, of which about 350 mi² contributes directly to surface runoff.

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

REVISED RECORDS.--WSP 1210: 1950.

GAGE.--Water-stage recorder. Datum of gage is 2,485.23 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 12, 1962, at site 1.7 mi upstream in old channel at datum 8.55 ft higher, Oct. 12, 1962, to Apr. 11, 1963, at site 1.4 mi upstream at datum 4.80 ft higher, and Apr. 12, 1963 to Apr. 22, 1982 at site 1.9 mi upstream at datum 8.55 ft higher.

REMARKS.--Estimated daily discharges: Nov. 22, 23, Nov. 27 to Dec. 7, Dec 11-19, 25, 29, Jan. 5, 7, 8, and Feb. 8-16. Records fair except for periods of estimated record, which are poor. Natural flow affected by waste from Meeker-Driftwood Canal and by irrigation development above station.

AVERAGE DISCHARGE.--40 years. 10.3 ft³/s, 7,460 acre-ft/yr; median of yearly mean discharges, 8.3 ft³/s, 6,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,740 ft³/s Aug. 7, 1950, gage height, 25.43 ft, at site then in use, from floodmark, from rating curve extended above 3,000 ft³/s; no flow at times in 1946-50, 1952-56.

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 26	1315	*74	*4.26	No peak greater than base discharge.			
Minimum daily discharge, 3.2 ft ³ /s, May 14.							

DISCHARGE, IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	6.2	4.5	5.7	6.2	6.0	5.6	4.9	4.6	6.1	7.4	8.6
2	5.8	6.0	4.0	5.7	6.2	5.9	5.6	4.8	4.4	10	8.8	8.8
3	6.0	6.0	5.6	5.6	6.3	5.9	5.7	4.8	4.3	7.8	9.1	8.8
4	6.3	6.0	6.0	5.7	6.3	5.8	5.7	4.7	4.9	6.2	7.6	8.6
5	6.6	6.0	6.4	5.6	6.6	5.7	5.6	4.4	5.3	8.3	8.3	6.6
6	6.8	6.2	6.8	6.1	6.8	5.6	5.6	4.0	5.1	11	9.3	5.9
7	6.8	6.2	6.2	5.8	6.8	5.4	5.5	4.0	5.6	12	8.6	5.8
8	6.7	5.9	6.1	6.0	5.4	5.6	5.6	4.0	5.0	11	7.9	5.1
9	6.5	5.9	6.0	6.2	5.6	5.7	5.7	4.0	4.6	11	9.4	5.1
10	6.6	5.8	6.0	6.2	5.8	5.7	5.6	4.0	4.7	19	22	5.1
11	6.9	5.7	5.2	6.2	5.2	5.7	5.6	3.9	5.3	19	13	4.7
12	8.0	6.0	4.7	6.2	5.0	5.7	5.5	3.9	5.0	19	11	4.8
13	8.1	6.2	4.5	6.1	5.4	5.8	5.3	3.7	5.8	8.6	7.1	4.6
14	7.9	6.2	5.2	6.0	7.0	5.9	5.0	3.2	5.4	8.1	7.1	4.5
15	8.4	6.4	5.8	6.1	6.6	5.7	4.8	3.3	4.8	7.6	8.4	5.0
16	9.1	6.6	6.4	6.2	6.8	5.7	4.8	4.3	4.3	7.2	11	5.3
17	10	6.7	6.6	6.0	6.9	5.9	5.3	4.5	4.1	7.9	11	5.2
18	14	6.3	5.6	6.1	7.0	7.4	5.9	4.0	3.9	7.4	8.9	5.1
19	12	6.3	6.4	6.2	6.6	7.0	5.5	4.0	3.9	15	7.0	4.9
20	15	6.1	6.2	6.2	6.6	6.3	5.3	11	4.5	16	7.4	4.8
21	12	5.9	6.0	6.6	6.3	6.1	5.1	6.5	4.8	14	7.7	4.8
22	8.7	5.8	6.1	5.7	6.4	6.0	4.5	7.8	4.4	12	7.5	5.3
23	7.8	6.0	6.9	5.9	6.3	6.0	4.5	8.7	4.7	7.7	7.2	5.4
24	7.4	6.0	6.7	6.4	6.3	5.9	4.5	5.5	5.3	8.8	7.7	5.1
25	6.8	6.0	6.4	6.4	6.3	5.9	4.5	5.4	5.2	12	7.1	5.0
26	6.9	6.0	6.5	5.9	6.1	5.8	4.5	5.6	5.2	37	8.6	4.8
27	6.3	5.8	6.0	6.3	5.8	5.6	4.8	6.8	5.1	12	8.1	4.7
28	6.3	5.6	5.8	6.1	6.3	5.6	5.8	7.1	4.8	8.7	8.6	4.5
29	6.3	5.8	5.6	6.2	---	5.6	5.1	7.4	4.3	7.5	13	4.5
30	6.2	5.6	6.1	6.0	---	5.6	5.0	5.7	4.4	7.4	15	4.5
31	6.2	---	5.9	6.1	---	5.6	---	4.8	---	7.2	9.4	---
TOTAL	244.2	181.2	182.2	187.5	174.9	182.1	157.5	160.7	143.7	352.5	290.2	165.9
MEAN	7.88	6.04	5.88	6.05	6.25	5.87	5.25	5.18	4.79	11.4	9.36	5.53
MAX	15	6.7	6.9	6.6	7.0	7.4	5.9	11	5.8	37	22	8.8
MIN	5.8	5.6	4.0	5.6	5.0	5.4	4.5	3.2	3.9	6.1	7.0	4.5
AC-FT	484	359	361	372	347	361	312	319	285	699	576	329
CAL YR 1985	TOTAL	4295.6		MEAN	11.8	MAX	585	MIN	4.0	AC-FT	8520	
WTR YR 1986	TOTAL	2422.6		MEAN	6.64	MAX	37	MIN	3.2	AC-FT	4810	

KANSAS RIVER BASIN

237

06837000 REPUBLICAN RIVER AT MCCOOK, NE

LOCATION.--Lat 40°11'15", long 100°37'05", in SW1/4NE1/4 sec.32, T.3 N., R.29 W., Red Willow County, Hydrologic Unit 10250004, on left bank 25 ft downstream from bridge on U.S. Highway 83 at south edge of McCook, 2.5 mi downstream from Driftwood Creek, and 10.5 mi upstream from Red Willow Creek.

DRAINAGE AREA.--12,310 mi², approximately, of which about 6,260 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1930 to June 1932, October 1954 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,456.37 ft above National Geodetic Vertical Datum of 1929. October 1930 to June 1932, nonrecording gage on former highway bridge 325 ft upstream at different datum and October 1954 to Mar. 13, 1959, on highway bridge 25 ft upstream at present datum.

REMARKS.--Estimated daily discharges: Nov. 19 to Jan. 17 and Feb. 11 to 17. Records good except for period of estimated record, which is poor. Natural flow affected by irrigation development above station and by storage in Bonny Reservoir, Enders Reservoir (station 06832000), and Swanson Lake (station 06829000).

AVERAGE DISCHARGE.--33 years, 175 ft³/s, 126,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,890 ft³/s Mar. 21, 1960, gage height, 9.14 ft; no flow for several days in July and August 1931.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood since at least 1826 occurred May 31, 1935, discharge, about 245,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 296 ft³/s July 2, gage height, 4.36 ft; minimum daily, 24 ft³/s Sept. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	84	74	102	120	108	94	66	65	165	100	74
2	65	82	68	104	119	106	94	64	68	186	107	76
3	63	81	76	94	119	103	94	61	66	163	107	76
4	64	81	84	94	120	100	98	59	112	126	103	61
5	66	76	90	86	127	99	97	52	110	117	103	37
6	69	79	100	90	129	98	98	50	68	115	96	32
7	67	82	96	82	130	93	100	45	67	118	93	36
8	61	80	100	90	122	96	95	42	53	120	89	35
9	65	79	96	96	114	95	89	46	46	127	110	31
10	70	83	86	110	111	99	86	44	53	141	120	30
11	77	87	76	110	100	99	84	45	73	139	111	30
12	81	85	74	140	90	98	80	41	59	216	105	28
13	85	81	72	130	100	97	81	36	48	150	93	25
14	83	84	76	135	125	100	79	33	46	128	91	24
15	74	95	90	140	110	99	85	38	43	119	97	27
16	76	93	92	160	110	105	82	66	39	110	99	31
17	78	91	94	155	110	111	80	61	55	101	96	30
18	103	91	80	153	119	122	79	64	125	104	98	33
19	94	88	92	147	125	111	76	80	107	138	95	40
20	87	82	94	143	120	107	72	65	125	163	95	32
21	86	74	92	136	116	103	68	61	119	163	91	33
22	80	72	110	129	111	100	64	61	118	162	96	41
23	78	76	104	126	109	99	61	66	117	156	90	37
24	79	78	100	123	109	101	64	57	121	154	95	32
25	79	80	90	119	109	100	66	53	114	168	93	31
26	81	86	110	116	111	98	63	55	150	194	87	29
27	82	80	114	112	109	98	70	61	152	175	89	30
28	81	76	96	114	109	97	78	74	133	159	89	33
29	80	80	100	113	---	97	66	76	123	126	92	34
30	80	78	106	114	---	97	70	75	120	96	86	34
31	85	---	100	118	---	95	---	65	---	92	74	---
TOTAL	2389	2464	2832	3681	3203	3131	2413	1762	2695	4391	2990	1122
MEAN	77.1	82.1	91.4	119	114	101	80.4	56.8	89.8	142	96.5	37.4
MAX	103	95	114	160	130	122	100	80	152	216	120	76
MIN	61	72	68	82	90	93	61	33	39	92	74	24
AC-FT	4740	4890	5620	7300	6350	6210	4790	3490	5350	8710	5930	2230
CAL YR 1985	TOTAL	35988		MEAN	98.6	MAX	932	MIN	27	AC-FT	71380	
WTR YR 1986	TOTAL	33073		MEAN	90.6	MAX	216	MIN	24	AC-FT	65600	

KANSAS RIVER BASIN

06837000 REPUBLICAN RIVER AT MC COOK, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: December 1966 to current year.

INSTRUMENTATION.--Temperature recorder since Dec. 13, 1966.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 38.5°C June 24, 1971; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 35.5°C June 18, 1985; minimum, 0.0°C on many days during winter period.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	16.0	---	10.5	6.0	.0	.0	.0	.0	7.0	1.0	10.5	2.0
2	15.5	10.0	10.0	5.0	.0	.0	.0	.0	6.5	3.0	11.0	4.0
3	15.5	10.5	10.0	5.0	.0	.0	.5	.0	4.5	3.0	13.5	4.5
4	13.5	9.0	10.5	5.0	.0	.0	.5	.0	4.5	1.5	12.0	5.0
5	15.0	7.0	10.0	6.0	.0	.0	.5	.0	4.0	1.0	13.0	6.0
6	16.0	8.5	9.5	5.5	.0	.0	.5	.0	3.5	1.5	13.5	4.5
7	18.0	11.0	9.0	3.5	.0	.0	.5	.0	2.0	.5	8.0	3.0
8	14.5	9.0	9.5	5.0	.0	.0	.5	.0	1.5	.5	9.0	1.5
9	6.5	6.0	6.5	2.0	.0	.0	1.0	.0	1.0	.5	10.0	5.5
10	10.0	5.0	2.0	1.0	4.0	.5	1.0	.5	1.5	.0	9.0	6.5
11	8.5	7.0	1.0	.0	.5	.0	---	---	1.5	1.0	8.5	7.0
12	14.0	6.0	2.0	.5	.5	.0	---	---	1.5	.0	7.0	5.5
13	9.0	8.0	5.0	2.0	.5	.0	---	---	.0	.0	6.0	5.0
14	14.0	6.0	4.0	2.0	.0	.0	---	---	.0	.0	8.0	4.0
15	14.5	7.0	3.0	1.5	.5	.0	---	---	.0	.0	8.0	5.5
16	12.0	10.0	5.0	1.0	.5	.0	---	---	.0	.0	6.5	5.0
17	10.5	10.0	5.0	1.5	2.0	.0	---	---	4.0	.0	8.0	6.0
18	14.0	9.0	5.0	3.5	4.0	1.5	---	---	4.5	2.0	8.0	3.5
19	---	---	3.0	.5	5.0	1.5	---	---	5.0	3.5	8.5	2.0
20	---	---	.5	.0	.0	.0	---	---	4.0	1.0	9.5	3.0
21	10.5	9.0	.0	.0	.0	.0	---	---	4.5	1.0	14.0	4.5
22	15.5	10.5	.0	.0	.5	.0	---	---	5.5	1.5	14.0	6.5
23	14.5	9.0	.0	.0	.0	.0	---	---	5.0	4.5	13.0	8.0
24	14.5	8.5	.0	.0	.0	.0	---	---	7.0	4.0	13.5	8.0
25	15.0	9.0	---	.0	.0	.0	---	---	9.0	5.5	14.5	10.5
26	15.5	10.0	.0	.0	.5	.0	---	---	8.5	6.0	17.0	14.5
27	14.0	8.5	.0	.0	.5	.0	---	---	6.0	4.0	20.0	9.5
28	13.0	10.0	.0	.0	.0	.0	---	---	9.5	4.0	21.5	10.5
29	13.0	9.0	.0	.0	.5	.0	6.0	4.5	---	---	22.0	11.5
30	11.0	8.0	.0	.0	.0	.0	6.0	1.5	---	---	23.0	11.5
31	10.5	5.0	---	---	.0	.0	5.0	1.5	---	---	20.5	13.5
MONTH	18.0	5.0	10.5	.0	5.0	.0	6.0	.0	9.5	.0	23.0	1.5

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TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

[illegible]

KANSAS RIVER BASIN

06837300 RED WILLOW CREEK ABOVE HUGH BUTLER LAKE, NE

LOCATION.--Lat 40°24'05", long 100°46'45", in NE1/4SE1/4 sec.13, T.5 N., R.31 W., Hayes County, Hydrologic Unit 10250007, on right bank 1,000 ft above county road bridge, 7.2 mi upstream from Red Willow Dam, and 12 mi northeast of Culbertson.

DRAINAGE AREA.--600 mi², approximately, of which about 200 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Artificial control since March 1961. Datum of gage is 2,594.80 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 23, 1961, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Nov. 19-24, Nov. 28 to Dec. 3, Dec. 12-28, 30, 31, Jan. 2-21, 26-28, and Feb. 8-14, 20-22. Records good except for periods of estimated record, which are poor. Natural flow affected by pump irrigation development above station.

AVERAGE DISCHARGE.--26 years, 27.4 ft³/s, 19,850 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,020 ft³/s June 16, 1972, gage height, 13.27 ft, from rating curve extended above 1,000 ft³/s on basis of slope-conveyance study; minimum daily, 4.0 ft³/s July 4, 5, 1963.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base of 150 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sept. 17	0445	*377	*3.65	No other peak greater than base discharge.			
Minimum daily discharge, 6.8 ft ³ /s Aug. 21, Sept. 2.							

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	20	15	21	33	29	24	18	39	12	10	8.3
2	22	20	14	21	34	28	23	19	35	12	10	6.8
3	22	20	16	21	35	28	24	19	29	12	10	6.9
4	21	20	19	20	35	28	28	19	33	11	9.4	7.3
5	20	20	20	19	36	28	37	18	27	9.8	7.8	8.2
6	19	21	20	17	37	27	42	18	25	8.8	7.7	8.8
7	19	21	21	16	36	26	44	17	34	9.2	8.5	9.6
8	18	21	22	18	30	25	51	16	35	9.4	8.6	9.7
9	18	20	22	19	29	25	28	16	35	9.2	11	10
10	19	20	21	23	27	25	18	16	33	12	13	10
11	19	20	19	24	23	25	22	16	32	24	12	10
12	20	21	11	25	22	25	24	16	40	21	11	11
13	22	22	15	24	25	25	24	16	41	15	11	10
14	22	23	18	26	27	25	24	16	39	14	11	10
15	23	24	20	27	31	26	24	16	28	13	11	9.9
16	22	24	20	25	32	26	22	24	23	11	9.8	11
17	22	24	20	25	34	29	21	38	20	9.7	9.6	231
18	24	25	16	26	40	32	22	59	18	9.2	7.4	33
19	24	23	17	26	47	32	23	57	16	9.3	7.9	19
20	26	20	19	26	45	29	23	34	20	9.4	7.1	18
21	27	18	20	27	40	28	23	27	23	7.7	6.8	16
22	26	16	22	24	36	27	22	24	21	8.3	7.5	15
23	23	18	21	19	34	27	21	22	19	8.7	8.3	15
24	22	19	20	27	33	26	20	20	17	9.1	8.6	15
25	21	19	18	28	34	26	13	20	15	9.3	7.9	14
26	21	18	19	27	35	26	12	19	14	9.3	8.3	14
27	21	16	23	24	33	25	12	20	14	9.9	8.8	14
28	20	15	19	27	31	24	14	22	13	12	8.7	14
29	20	16	17	32	---	24	14	26	10	12	8.0	13
30	20	17	18	33	---	24	13	28	10	10	7.8	13
31	20	---	20	33	---	24	---	33	---	9.8	8.4	---
TOTAL	663	601	582	750	934	824	712	729	758	347.1	282.9	591.5
MEAN	21.4	20.0	18.8	24.2	33.4	26.6	23.7	23.5	25.3	11.2	9.13	19.7
MAX	27	25	23	33	47	32	51	59	41	24	13	231
MIN	18	15	11	16	22	24	12	16	10	7.7	6.8	6.8
AC-FT	1320	1190	1150	1490	1850	1630	1410	1450	1500	688	561	1170
CAL YR 1985	TOTAL	7479.1		MEAN	20.5	MAX	68	MIN	7.1	AC-FT	14830	
WTR YR 1986	TOTAL	7774.5		MEAN	21.3	MAX	231	MIN	6.8	AC-FT	15420	

06837390 HUGH BUTLER LAKE NEAR MCCOOK, NE

LOCATION.--Lat 40°21'35", long 100°39'55", in SW1/4NW1/4 sec.31, T.5 N., R.29 W., Frontier County, Hydrologic Unit 10250007, in gate-control house at outlet tube of Red Willow Dam on Red Willow Creek, 12 mi north of McCook.

DRAINAGE AREA.--730 mi², approximately, of which about 310 mi² contributes directly to surface runoff.

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

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to July 10, 1962, nonrecording gage at present datum.

REMARKS.--Reservoir is formed by earthfill dam; storage began Sept. 5, 1961. Capacity, 31,470 acre-ft between elevations 2,522.0 ft, sill of outlet works, and 2,581.8 ft, top of irrigation pool. Top of flood-control pool and crest of mean spillway at elevation 2,604.9 ft, capacity, 86,360 acre-ft. Top of superstorage flood control pool at elevation 2,627.8 ft, capacity, 162,600 acre-ft. Dead storage, 6,310 acre-ft. Figures given herein represent total contents. Water used for irrigation in Frenchman-Cambridge irrigation project.

COOPERATION.--Capacity table furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 41,680 acre-ft July 15, 16, 1967, elevation, 2,584.14 ft; minimum since operation of reservoir began, 16,930 acre-ft Sept. 8, 1978, elevation, 2,565.31 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 33,640 acre-ft June 15, elevation, 2,579.17 ft; minimum, 23,610 acre-ft Sept. 7, elevation, 2,571.59 ft.

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

2,570	21,800	2,580	34,910
2,575	27,800	2,585	43,170

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26010	27000	27610	28570	29720	30910	31750	32280	33130	31760	27130	23770
2	26060	27020	27620	28620	29760	30940	31770	32280	33160	31620	27110	23710
3	26130	27030	27660	28640	29790	30980	31820	32310	33170	31470	27010	23660
4	26110	27060	27710	28670	29840	31000	31830	32330	33290	31340	26950	23650
5	26120	27110	27740	28680	29920	31030	31840	32330	33310	31140	26820	23640
6	26150	27100	27760	28710	29990	31040	31930	32280	33470	30940	26690	23630
7	26220	27110	27800	28720	30070	31000	31990	32280	33500	30750	26530	23610
8	26180	27130	27830	28750	30090	31040	32050	32310	33520	30600	26380	23630
9	26170	27110	27890	28840	30090	31130	32030	32280	33530	30430	26320	23660
10	26180	27110	27930	28870	30100	31140	32030	32300	33560	30280	26180	23700
11	26260	27120	27950	28910	30140	31170	32090	32270	33530	30190	26060	23680
12	26310	27160	27950	28920	30150	31270	32080	32270	33560	30070	26000	23680
13	26330	27200	27960	28960	30070	31270	32050	32270	33610	29950	25910	23680
14	26360	27250	28000	29000	30100	31280	32020	32300	33610	29830	25820	23680
15	26390	27310	28050	29050	30140	31330	31990	32360	33610	29650	25710	23700
16	26430	27350	28100	29120	30190	31350	32000	32420	33520	29490	25620	23720
17	26570	27380	28140	29150	30250	31440	32090	32420	33410	29310	25500	24020
18	26640	27440	28160	29190	30320	31480	32090	32520	33290	29150	25380	24130
19	26680	27420	28210	29220	30370	31470	32110	32610	33320	28910	25220	24130
20	26710	27400	28220	29260	30370	31490	32120	32640	33340	28700	25040	24150
21	26740	27430	28280	29320	30470	31540	32140	32650	33320	28490	24830	24160
22	26850	27450	28310	29320	30570	31580	32170	32670	33230	28300	24730	24170
23	26860	27490	28350	29390	30620	31590	32200	32670	33140	28160	24590	24790
24	26870	27510	28370	29430	30700	31630	32230	32700	33040	27980	24490	24190
25	26910	27560	28380	29460	30700	31660	32230	32680	32880	27910	24380	24170
26	26930	27570	28450	29460	30830	31650	32240	32700	32800	27790	24250	24170
27	26930	27540	28470	29530	30840	31680	32270	32710	32610	27680	24140	24150
28	26960	27570	28490	29560	30870	31720	32260	32800	32450	27600	24040	24150
29	26980	27570	28510	29600	---	31760	32310	32940	32260	27490	23970	24150
30	26970	27620	28550	29640	---	31770	32300	33010	31970	27360	23890	24150
31	27000	---	28580	29660	---	31800	---	33070	---	27260	23820	---
MEAN	26520	27300	28100	29100	30250	31360	32070	32510	33200	29410	25500	23920
MAX	27000	27620	28580	29660	30870	31800	32310	33070	33610	31760	27130	24790
MIN	26010	27000	27610	28570	29720	30910	31750	32270	33170	27260	23820	23610
(†)	2574.37	2574.86	2575.59	2576.40	2577.27	2577.93	2578.27	2578.79	2578.05	2574.58	2571.77	2572.05
(††)	+1020	+620	+960	+1080	+1210	+930	+500	+770	-1100	-4710	-3440	+330
CAL YR 1985	MEAN	30850	MAX	35930	MIN	25640	(††)	-1610				
WTR YR 1986	MEAN	29090	MAX	33610	MIN	23610	(††)	-1830				

(†) Elevation, in feet, at end of month.

(††) Change in contents, in acre-feet.

KANSAS RIVER BASIN

06837500 RED WILLOW CREEK NEAR MCCOOK, NE

LOCATION.--Lat 40°20'50", long 100°38'35", in SW1/4NW1/4 sec.6, T.4 N., R.29 W., Red Willow County, Hydrologic Unit 10250007, on left bank 45 ft downstream from bridge on U.S. Highway 83, 3 mi downstream from Red Willow Dam and 10 mi north of McCook.

DRAINAGE AREA.--740 mi², approximately, of which about 320 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1940 to September 1947. Annual maximums, water years 1958-60. October 1960 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder, concrete control since Dec. 23, 1965. Datum of gage is 2,485.97 ft above National Geodetic Vertical Datum of 1929. October 1940 to September 1947, water-stage recorder at site 45 ft upstream at datum 9.55 ft higher. Nov. 22, 1957, to Sept. 30, 1960, crest-stage gage, Oct. 1, 1960, to Apr. 5, 1961, nonrecording gage, and Apr. 6, 1961, to Sept. 26, 1974, water-stage recorder at site 45 ft upstream, present datum.

REMARKS.--No estimated daily discharges. Records good. Natural flow affected by irrigation development above station and, since Sept. 5, 1961, by storage in Hugh Butler Lake (station 06837390).

AVERAGE DISCHARGE.--25 years (1962-86), 20.4 ft³/s, 14,780 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft³/s June 22, 1947, gage height, 31.95 ft, present datum, from rating curve extended above 2,500 ft³/s on basis of contracted-opening measurement of peak flow; minimum daily, 0.60 ft³/s Sept. 22, 1961.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1935, reached a stage of 33.45 ft, from floodmarks. discharge, 45,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 136 ft³/s July 1, gage height, 10.04 ft; minimum daily, 3.3 ft³/s Apr. 15, 16, 23-26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	3.7	4.0	3.8	3.9	4.0	3.9	4.5	3.7	129	57	32
2	3.8	3.6	3.9	3.8	3.9	3.7	4.0	3.9	3.7	105	53	27
3	3.7	3.6	4.1	3.8	3.9	3.8	4.1	3.7	3.7	84	55	25
4	3.5	3.7	4.2	3.5	3.9	3.8	3.9	3.6	3.9	80	61	24
5	3.6	3.7	4.2	3.6	4.1	3.8	3.8	3.7	3.9	80	63	13
6	3.6	3.7	4.2	3.6	3.9	3.8	3.7	3.6	4.1	83	74	4.1
7	3.6	3.7	4.2	3.5	3.9	3.9	3.7	3.8	4.4	98	90	3.8
8	3.4	3.7	4.1	3.6	3.8	4.0	3.6	3.7	3.9	92	77	3.8
9	3.5	3.6	4.3	3.6	3.8	3.8	3.5	3.7	22	96	75	3.8
10	3.6	3.6	4.0	3.6	3.8	3.8	3.5	3.7	45	105	75	3.8
11	3.6	3.7	3.9	3.6	3.7	3.8	3.5	3.7	5.6	89	66	3.8
12	3.7	3.7	3.8	3.5	3.7	4.0	3.5	3.7	3.9	72	52	3.7
13	3.6	3.7	3.8	3.6	3.9	4.0	3.6	3.7	3.5	74	49	3.8
14	3.7	3.7	3.8	3.5	4.0	4.0	3.4	3.7	3.6	85	51	3.8
15	3.6	3.9	3.8	3.6	4.0	4.1	3.3	3.8	14	88	53	3.8
16	3.6	4.0	3.9	3.9	4.0	4.3	3.3	4.3	54	85	49	3.9
17	3.8	3.8	3.9	3.7	4.1	4.2	3.4	3.7	52	92	52	3.7
18	4.1	3.7	3.8	3.8	4.1	4.2	3.5	3.7	46	99	67	3.8
19	3.5	3.7	3.9	3.8	4.0	3.7	3.5	3.7	36	97	75	3.7
20	3.5	3.9	3.9	3.8	3.7	4.0	3.5	3.7	28	99	78	3.6
21	3.7	3.9	3.9	3.7	3.7	4.2	3.5	3.5	28	97	77	3.5
22	4.1	3.9	3.9	3.7	3.8	4.3	3.4	3.5	31	90	63	3.7
23	3.8	3.9	3.9	3.8	3.7	4.3	3.3	3.5	47	89	56	3.6
24	3.7	3.9	3.8	3.9	3.7	4.2	3.3	3.5	53	85	55	3.5
25	3.8	3.9	3.8	3.8	4.0	4.3	3.3	3.5	62	76	56	3.6
26	3.7	3.9	3.9	3.7	4.0	3.8	3.3	3.5	83	66	54	3.7
27	3.7	3.9	3.8	3.8	3.9	3.9	3.7	3.5	95	65	47	3.6
28	3.8	3.9	3.8	3.8	3.9	3.9	3.4	4.0	89	62	41	3.6
29	3.7	4.1	3.8	3.8	---	3.9	3.7	4.4	91	56	38	3.6
30	3.7	4.1	3.9	3.8	---	3.9	3.7	4.0	114	57	36	3.7
31	3.7	---	3.8	3.9	---	3.9	---	3.7	---	59	36	---
TOTAL	114.1	113.8	122.0	114.9	108.8	123.3	106.8	116.2	1037.9	2634	1831	214.0
MEAN	3.68	3.79	3.94	3.71	3.89	3.98	3.56	3.75	34.6	85.0	59.1	7.13
MAX	4.1	4.1	4.3	3.9	4.1	4.3	4.1	4.5	114	129	90	32
MIN	3.4	3.6	3.8	3.5	3.7	3.7	3.3	3.5	3.5	56	36	3.5
AC-FT	226	226	242	228	216	245	212	230	2060	5220	3630	424
CAL YR 1985	TOTAL	6825.5	MEAN	18.7	MAX	154	MIN	3.3	AC-FT	13540		
WTR YR 1986	TOTAL	6636.8	MEAN	18.2	MAX	129	MIN	3.3	AC-FT	13160		

06838000 RED WILLOW CREEK NEAR RED WILLOW, NE

LOCATION.--Lat 40°14'10", long 100°30'00", in NE1/4NE1/4 sec.17, T.3 N., R.28 W., Red Willow County, Hydrologic Unit 10250007, on left bank near downstream side of bridge on U.S. Highways 6 and 34, 0.8 mi north of Red Willow and 2.5 mi upstream from mouth.

DRAINAGE AREA.--830 mi², approximately, of which about 410 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--September 1939 to current year.

REVISED RECORDS.--WSP 1510: 1945(M). WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,398.64 ft above National Geodetic Vertical Datum of 1929. Prior to May 26, 1945, nonrecording gage at bridge 1.2 mi upstream at datum 11.16 ft higher, May 26, 1945, to Aug. 2, 1974, water-stage recorder at present site and datum, and Aug. 3, 1974, to June 27, 1980, on right bank at downstream side of bridge, present datum.

REMARKS.--Estimated daily discharges: Nov. 13, 14, Nov. 20 to Jan. 13, Jan. 22, 27, 28 and Feb. 10-17, 20, 21. Records fair except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station, since Sept. 5, 1961, by storage in Hugh Butler Lake (station 06837390), and since June 1963 by Red Willow Canal which diverts 4.5 mi above station for irrigation of about 4,150 acres.

AVERAGE DISCHARGE.--24 years (1963-86), 14.4 ft³/s, 10,430 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft³/s June 22, 1947, gage height, 18.36 ft, from rating curve extended above 6,800 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 0.33 ft³/s Sept. 8, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 261 ft³/s June 4, gage height, 8.02 ft; minimum daily, 0.46 ft³/s Sept. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	7.6	5.0	20	6.8	7.7	9.2	9.2	8.3	43	9.8	5.5
2	6.6	7.5	6.4	10	6.8	8.1	9.1	10	8.1	36	8.2	2.0
3	6.7	7.6	7.4	9.6	6.8	8.2	9.3	9.1	7.8	8.0	11	2.0
4	6.9	7.6	8.0	10	6.8	7.9	9.2	8.6	46	6.7	10	2.4
5	7.0	7.6	8.6	8.0	7.1	7.8	9.0	8.5	9.0	13	8.7	19
6	7.4	7.7	9.0	8.6	7.3	7.8	9.0	8.3	6.7	17	12	8.8
7	7.2	7.7	9.0	7.6	7.0	7.8	9.0	8.4	10	23	25	6.9
8	6.8	7.8	9.6	8.0	6.4	7.9	8.8	8.5	7.8	20	22	6.4
9	7.2	7.6	9.4	8.4	6.8	8.2	8.6	8.7	7.6	13	18	5.6
10	7.5	7.4	9.0	9.2	9.6	8.4	9.0	8.5	47	15	15	.46
11	8.1	7.6	8.8	11	7.6	8.3	9.0	8.5	26	23	19	7.2
12	9.0	8.2	7.4	13	7.2	8.3	9.0	8.2	9.4	10	13	6.2
13	8.4	7.8	7.0	11	8.0	7.6	9.0	8.1	8.1	8.5	5.8	5.7
14	8.6	8.0	7.4	11	9.2	1.9	8.9	8.1	7.7	12	2.8	5.4
15	8.1	8.3	8.4	11	9.0	6.4	9.1	8.2	7.6	8.7	6.2	5.1
16	7.9	8.2	8.6	10	9.6	9.5	9.5	11	20	10	6.2	5.5
17	8.6	8.1	9.0	10	9.6	21	11	9.1	31	8.4	5.6	5.6
18	11	8.3	8.0	9.8	9.9	11	11	8.6	29	20	7.7	5.6
19	8.2	7.6	8.2	9.3	7.9	9.8	9.9	8.7	27	21	3.8	5.6
20	7.4	7.6	9.0	9.0	7.0	9.2	9.9	8.3	15	21	4.0	5.4
21	7.4	7.4	9.0	8.7	7.2	9.4	9.9	8.1	6.7	20	12	5.2
22	7.6	7.0	11	8.4	7.4	9.4	9.7	8.0	9.1	16	14	6.2
23	8.2	7.2	10	8.6	7.4	9.3	9.7	8.6	14	10	7.7	5.7
24	7.6	7.4	9.6	8.0	7.5	9.2	9.5	7.9	14	12	6.6	5.7
25	7.5	7.4	8.6	7.5	7.5	9.2	9.4	7.8	8.6	16	5.9	5.4
26	7.5	7.6	8.8	7.6	7.7	9.3	9.5	8.1	12	6.8	5.4	5.4
27	7.4	6.0	9.8	7.4	7.6	9.3	11	8.7	20	1.9	7.9	5.1
28	7.6	5.8	10	7.2	7.6	9.4	11	9.4	8.2	4.9	2.0	5.3
29	7.5	6.2	9.8	6.8	---	9.4	9.8	9.7	7.8	8.4	5.2	5.2
30	7.4	5.8	10	6.8	---	9.4	9.5	10	11	6.2	5.6	5.2
31	7.6	---	9.8	6.8	---	9.4	---	8.8	---	10	4.7	---
TOTAL	238.3	223.6	269.6	288.3	216.3	275.5	285.5	269.7	450.5	449.5	290.8	170.76
MEAN	7.69	7.45	8.70	9.30	7.72	8.89	9.52	8.70	15.0	14.5	9.38	5.69
MAX	11	8.3	11	20	9.9	21	11	11	47	43	25	19
MIN	6.4	5.8	5.0	6.8	6.4	1.9	8.6	7.8	6.7	1.9	2.0	.46
AC-FT	473	444	535	572	429	546	566	535	894	892	577	339
CAL YR 1985	TOTAL	4227.28		MEAN	11.6	MAX	120	MIN	.49	AC-FT	8380	
WTR YR 1986	TOTAL	3428.36		MEAN	9.39	MAX	47	MIN	.46	AC-FT	6800	

LOCATION.--Lat 40°38'00", long 100°29'20", in SE1/4NW1/4 sec.27, T.8 N., R.28 W., Frontier County, Hydrologic Unit 10250008, on left bank 15 ft upstream from bridge on State Highway 23, 0.5 mi upstream from mouth, and 1 mi east of Curtis.

PERIOD OF RECORD.--March 1951 to September 1958. Annual maximums, water years 1960-70. October 1977 to current year.

REMARKS.--Estimated daily discharge: Dec. 12. Records fair.

AVERAGE DISCHARGE.--16 years (1952-58, 1978-86), 6.73 ft³/s, 4,880 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,340 ft³/s May 31, 1951, gage height, 15.35 ft; minimum daily, 0.71 ft³/s July 26, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 27.3 ft June 21, 1947, from floodmark (discharge not determined).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 23 ft³/s July 10, gage height, 5.08 ft; minimum daily, 2.0 ft³/s July 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	4.8	5.0	5.1	5.9	5.6	6.2	6.1	5.8	3.1	3.3	3.5
2	4.4	4.7	5.2	5.2	5.8	5.7	6.1	6.0	5.6	2.4	3.4	3.5
3	4.4	4.8	5.2	5.3	5.7	5.7	7.6	5.9	5.5	2.4	2.5	3.4
4	4.4	4.9	5.3	5.2	6.0	5.6	7.2	5.9	5.4	2.1	2.5	3.4
5	4.4	5.0	5.4	5.0	6.1	5.7	6.4	5.9	5.4	2.1	3.2	3.5
6	4.5	5.0	5.3	5.3	5.9	5.6	6.3	5.4	5.5	2.1	3.7	3.4
7	4.6	5.0	5.2	5.1	5.5	5.5	6.1	5.4	5.7	2.2	2.6	4.1
8	4.6	5.0	5.2	5.3	4.6	5.6	6.1	5.7	5.5	2.4	2.3	3.4
9	4.6	5.0	5.2	5.3	4.9	5.8	6.0	6.0	5.4	2.8	2.6	3.4
10	4.6	5.0	5.1	5.4	5.0	5.8	6.0	5.6	6.0	5.5	3.2	3.4
11	4.7	5.0	4.8	5.7	5.0	6.0	6.0	5.4	5.9	4.8	3.3	3.3
12	4.9	5.0	5.1	6.0	5.0	5.8	6.0	5.1	5.3	3.0	2.9	3.4
13	4.9	5.0	5.0	5.6	5.7	5.8	6.0	5.0	5.0	2.6	3.0	3.4
14	4.9	5.0	5.2	5.4	5.9	5.8	6.0	4.8	4.8	2.8	3.4	3.4
15	4.9	5.0	5.4	5.4	6.0	5.5	5.8	5.4	4.8	2.5	3.6	3.4
16	4.9	5.0	5.4	5.4	6.2	5.8	6.0	6.4	4.6	2.4	3.8	3.4
17	5.0	5.0	5.4	5.5	6.3	6.1	6.3	6.1	4.5	2.4	3.3	4.6
18	6.7	5.0	5.1	5.6	10	6.3	7.0	5.4	4.4	2.9	3.3	3.4
19	5.2	5.0	5.4	5.5	14	6.0	6.7	6.7	4.5	2.8	3.4	3.4
20	5.0	5.0	5.4	5.7	9.3	6.0	6.3	6.3	5.9	2.4	2.4	3.4
21	5.0	5.1	5.3	5.7	7.4	6.0	6.0	5.9	5.4	2.3	2.5	3.4
22	5.1	4.9	5.4	5.5	6.5	6.0	6.0	5.8	4.6	2.3	3.4	3.4
23	5.1	5.0	5.4	5.5	7.3	6.0	6.0	6.0	4.5	2.5	3.2	3.4
24	5.1	5.1	5.3	5.6	7.6	6.0	6.1	5.7	4.5	2.2	3.8	3.4
25	5.1	5.1	5.1	5.5	7.3	6.2	6.2	5.3	4.4	2.0	3.6	3.4
26	5.1	5.0	5.3	5.4	6.5	6.1	6.2	5.4	4.3	2.3	3.4	3.4
27	5.1	4.9	5.3	5.4	6.1	6.0	6.9	5.7	4.4	2.6	3.4	3.4
28	5.0	5.0	5.0	6.3	6.1	6.0	7.6	6.2	4.1	3.0	3.4	3.4
29	5.0	5.0	5.0	5.8	---	6.0	6.8	6.5	3.7	3.0	3.4	3.5
30	5.0	5.0	5.2	5.8	---	6.1	6.3	6.6	2.5	3.4	3.4	3.4
31	4.9	---	5.1	5.6	---	6.1	---	6.0	---	3.5	3.6	---
TOTAL	151.5	149.3	161.7	170.1	183.6	182.2	190.2	179.6	147.9	84.8	98.8	104.2
MEAN	4.89	4.98	5.22	5.49	6.56	5.88	6.34	5.79	4.93	2.74	3.19	3.47
MAX	6.7	5.1	5.4	6.3	14	6.3	7.6	6.7	6.0	5.5	3.8	4.6
MIN	4.4	4.7	4.8	5.0	4.6	5.5	5.8	4.8	2.5	2.0	2.3	3.3
AC-FT	300	296	321	337	364	361	377	356	293	168	196	207
CAL YR 1985	TOTAL 2001.1		MEAN 5.48	MAX 19	MIN 2.0	AC-FT 3970						
WTR YR 1986	TOTAL 1803.9		MEAN 4.94	MAX 14	MIN 2.0	AC-FT 3580						

06841000 MEDICINE CREEK ABOVE HARRY STRUNK LAKE, NE

LOCATION.--Lat 40°30'10", long 100°19'20", in SW1/4 sec.7, T.6 N., R.26 W., Frontier County, Hydrologic Unit 10250008, on right bank 0.3 mi downstream from top of Harry Strunk Lake flood-control pool, 2.5 mi upstream from top of irrigation pool, 3.8 mi southeast of Stockville, and 13.5 mi upstream from Medicine Creek Dam.

DRAINAGE AREA.--770 mi², approximately, of which about 530 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--January 1950 to current year. Prior to October 1950, published as "above Medicine Creek Reservoir."

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Concrete control since November 1950. Datum of gage is 2,380.94 ft above National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark).

REMARKS.--Estimated daily discharges: Nov. 22 to Jan. 14 and Feb. 9-21. Records good except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station.

AVERAGE DISCHARGE.--36 years, 64.6 ft³/s, 46,800 acre-ft/yr; median of yearly mean discharges, 57 ft³/s, 41,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft³/s June 21, 1967, gage height, 20.05 ft; minimum daily, 9.1 ft³/s Aug. 9, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1874, 24.4 ft June 22, 1947, from floodmark (discharge not determined).

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 4	2130	*699	*9.30	No peaks greater than base discharge.			

Minimum daily discharge, 18 ft³/s Aug. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	48	36	49	56	60	52	56	56	32	20	19
2	43	48	32	50	56	58	53	53	56	32	21	21
3	43	47	40	47	56	57	53	51	51	30	21	22
4	42	47	45	48	56	56	53	50	108	28	20	24
5	41	47	46	45	56	56	53	48	83	26	22	25
6	42	46	48	48	56	54	54	47	72	25	22	25
7	42	46	47	43	56	54	54	46	56	25	20	27
8	40	46	47	45	56	53	54	46	51	24	19	29
9	41	46	46	52	54	54	54	47	50	24	20	29
10	43	46	43	62	52	54	54	48	53	27	23	28
11	44	46	38	70	48	54	54	47	113	76	26	27
12	45	46	37	64	45	55	53	46	97	66	26	27
13	47	47	36	62	50	55	52	46	61	47	23	26
14	46	48	39	60	60	55	50	45	50	39	20	25
15	46	50	45	59	58	54	49	46	45	33	20	25
16	45	50	46	58	62	55	48	57	41	32	21	26
17	44	50	45	57	74	55	51	62	39	28	21	40
18	52	50	44	57	80	55	54	63	36	27	20	36
19	57	49	44	57	62	55	52	63	37	26	22	32
20	55	47	44	57	68	55	52	59	56	25	22	31
21	52	43	47	58	64	54	51	53	89	25	20	30
22	51	35	52	58	62	54	50	51	112	24	19	30
23	50	38	50	58	60	53	50	50	61	22	20	30
24	50	40	48	58	60	53	50	49	48	22	20	31
25	49	41	39	57	60	53	51	47	42	24	20	30
26	49	43	45	58	60	53	50	46	38	24	19	30
27	49	41	48	58	60	54	54	46	36	23	19	30
28	49	36	46	55	60	53	60	46	36	23	20	30
29	49	37	48	56	---	53	68	46	35	24	21	30
30	48	37	52	56	---	53	61	47	33	23	20	30
31	48	---	48	56	---	53	---	52	---	20	18	---
TOTAL	1445	1341	1371	1718	1647	1690	1594	1559	1741	926	645	845
MEAN	46.6	44.7	44.2	55.4	58.8	54.5	53.1	50.3	58.0	29.9	20.8	28.2
MAX	57	50	52	70	80	60	68	63	113	76	26	40
MIN	40	35	32	43	45	53	48	45	33	20	18	19
AC-FT	2870	2660	2720	3410	3270	3350	3160	3090	3450	1840	1280	1680
CAL YR 1985	TOTAL	17510	MEAN	48.0	MAX	150	MIN	22	AC-FT	34730		
WTR YR 1986	TOTAL	16522	MEAN	45.3	MAX	113	MIN	18	AC-FT	32770		

KANSAS RIVER BASIN

06842000 HARRY STRUNK LAKE NEAR CAMBRIDGE, NE

LOCATION.--Lat 40°22'40", long 100°13'00", in NE1/4 sec.25, T.5 N., R.26 W., Frontier County, Hydrologic Unit 10250008, near right bank in control house at outlet tube of Medicine Creek Dam on Medicine Creek, 7 mi northwest of Cambridge.

DRAINAGE AREA.--880 mi², approximately, of which about 640 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--August 1949 to current year.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Aug. 18, 1960, nonrecording gage at present datum.

REMARKS.--Reservoir is formed by earthfill dam; storage began Aug. 8, 1949. Capacity, 31,540 acre-ft between elevation 2,335.0 ft, sill of outlet gates, and 2,366.1 ft, top of storage pool and crest of slot in spillway. Top of flood-control pool and crest of main spillway at elevation 2,386.2 ft, capacity, 88,420 acre-ft. Top of superstorage flood-control pool at elevation 2,400.0 ft, capacity, 146,300 acre-ft. Maximum water-surface elevation, 2,408.9 ft, 194,100 acre-ft. Dead storage, 4,160 acre-ft. Figures given herein represent total contents. Water used for irrigation in Frenchman-Cambridge irrigation project.

COOPERATION.--Capacity table furnished by Bureau of Reclamation (effective Oct. 1982).

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 55,750 acre-ft Mar. 23, 1960, elevation, 2,374.10 ft; minimum since operation of reservoir began, 7,840 acre-ft Sept. 7, 1978, elevation, 2,340.39 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 38,450 acre-ft June 13, elevation, 2,367.55 ft; minimum, 15,400 acre-ft Sept. 1, elevation, 2,350.97 ft.

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

2,350	14,500	2,365	33,730
2,355	19,630	2,370	43,470
2,360	25,910	2,375	55,110

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22150	24680	26850	29530	32510	35470	35340	35890	37780	34680	23030	15400
2	22230	24760	26880	29610	32580	35480	35310	35910	37780	34180	22970	15470
3	22340	24830	26970	29700	32700	35500	35380	36100	37740	33730	22870	15460
4	22380	24900	27040	29710	32850	35500	35360	36210	38110	33330	22730	15500
5	22450	25010	27120	29810	32990	35480	35380	36270	38130	32850	22540	15460
6	22540	25060	27210	29860	33110	35470	35480	36270	38310	32410	22250	15500
7	22710	25130	27310	29950	33180	35360	35480	36460	38270	31980	22010	15490
8	22640	25220	27390	30070	33250	35380	35480	36440	38230	31490	21760	15430
9	22680	25260	27450	30200	33280	35390	35410	36550	38190	30980	21600	15550
10	22770	25330	27560	30290	33420	35360	35390	36640	38350	30650	21410	15650
11	22870	25370	27630	30400	33470	35320	35500	36740	38310	30440	21190	15680
12	22980	25460	27770	30470	33520	35340	35430	36740	38440	30280	20960	15740
13	23030	25550	27810	30600	33630	35320	35390	36770	38420	30060	20700	15770
14	23120	25650	27900	30710	33710	35310	35270	36810	38350	29860	20330	15820
15	23210	22760	27990	30830	33840	35320	35250	36920	38400	29500	20010	15820
16	23310	25870	28070	30980	33930	35340	35230	36890	38310	28970	19660	15900
17	23430	25970	28170	31060	34070	35430	35410	36920	38110	28410	19280	15980
18	23530	26080	28270	31140	34210	35470	35380	37050	37880	27890	18880	16080
19	23650	26110	28330	31270	34390	35430	35410	37130	38090	27220	18510	16150
20	23740	26140	28450	31400	34500	35410	35430	37170	38090	26660	18060	16210
21	23830	26220	28540	31440	34680	35410	35430	37200	38170	26080	17630	16290
22	24000	26250	28630	31500	34840	35430	35430	37200	38170	25570	17350	16310
23	24070	26320	28750	31650	34930	35390	35590	37200	38130	25130	17040	16370
24	24130	26390	28750	31760	35070	35450	35450	37280	37880	24670	16800	16470
25	24240	26470	28860	31780	35200	35470	35480	37240	37510	24220	16560	16500
26	24300	26540	29000	31830	35340	35430	35470	37240	37090	23910	16280	16560
27	24340	26620	29090	31910	35410	35480	35380	37240	36720	23650	16030	16590
28	24400	26660	29180	32100	35430	35560	35520	37390	36310	23490	15830	16640
29	24480	26700	29260	32160	---	35540	35800	37490	35840	23470	15730	16680
30	24530	26800	29340	32290	---	35520	35840	37600	35160	23360	15660	16720
31	24650	---	29430	32370	---	35430	---	37680	---	23180	15520	---
MEAN	23380	25670	28100	30920	33930	35430	35440	36860	37810	28460	19390	15970
MAX	24650	26800	29430	32370	35430	35560	35840	37680	38440	34680	23030	16720
MIN	22150	22760	26850	29530	32510	35310	35230	35890	35160	23180	15520	15400
(†)	2359.07	2360.63	2362.40	2364.21	2365.95	2365.95	2366.17	2367.15	2365.80	2357.94	2351.09	2352.30
(††)	+2590	+2150	+2630	+2940	+3060	0	+410	+1840	-2520	-11980	-7660	+1200
CAL YR 1985	MEAN	32100	MAX	39760	MIN	21690	(††)	+1080				
WTR YR 1986	MEAN	29250	MAX	38440	MIN	15400	(††)	-5340				

(†) Elevation, in feet, at end of month.

(††) Change in contents, in acre-feet.

KANSAS RIVER BASIN

247

06842500 MEDICINE CREEK BELOW HARRY STRUNK LAKE, NE

LOCATION.--Lat 40°22'20", long 100°13'20", at center of sec.25, T.5 N., R.26 W., Frontier County, Hydrologic Unit 10250008, on right bank 0.5 mi downstream from Medicine Creek Dam and 6.5 mi northwest of Cambridge.

DRAINAGE AREA.--880 mi², approximately, of which about 640 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1949 to current year. Prior to October 1950, published as "below Medicine Creek Dam." Monthly discharge only for some periods, published in WSP 1730.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Concrete control since August 1950. Datum of gage is 2,295.26 ft above National Geodetic Vertical Datum of 1929 (Bureau of Reclamation-bench mark). Prior to Apr. 24, 1950, nonrecording gage at site 0.5 mi upstream at different datum.

REMARKS.--No estimated daily discharges. Records good except those below 1.0 ft³/s, which are fair. Flow regulated by Harry Strunk Lake (station 06842000).

AVERAGE DISCHARGE.--37 years, 60.6 ft³/s, 43,900 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,300 ft³/s Mar. 23, 1960, gage height, 5.97 ft; minimum daily, 0.10 ft³/s Nov. 13, 1952, Sept. 19, 1963, Sept. 27-29, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 339 ft³/s July 16, 17, 19, 20, gage height, 2.94 ft; minimum daily, 0.21 ft³/s Feb. 12.

DISCHARGE, IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.91	1.2	.82	.78	.28	42	54	1.3	42	295	71	57
2	.92	1.2	.81	.78	.26	42	52	1.3	42	260	70	40
3	.95	1.2	.83	.78	.26	47	52	1.3	42	235	81	29
4	.97	1.2	.82	.77	.29	50	53	1.4	45	208	116	27
5	1.1	1.2	.79	.77	.36	54	53	1.4	58	197	147	9.4
6	1.1	1.2	.78	.78	.34	53	53	1.6	59	206	155	.49
7	1.2	1.2	.78	.76	.31	51	53	1.8	59	233	154	.38
8	1.2	1.2	.78	.77	.25	46	54	2.6	57	254	138	.34
9	1.2	1.2	.78	.77	.25	43	54	3.2	56	264	120	.32
10	1.2	1.2	.78	.77	.25	44	54	3.5	58	252	117	.31
11	1.2	1.2	.78	.75	.22	46	54	3.9	62	190	137	.38
12	1.2	1.3	.78	.73	.21	46	54	9.8	62	161	146	.34
13	1.3	1.2	.78	.73	.24	46	54	12	63	161	169	.35
14	1.6	1.2	.78	.73	.25	46	54	12	62	148	204	.39
15	1.7	1.2	.78	.73	.25	46	53	16	60	177	216	.53
16	1.4	1.1	.78	.75	.26	46	53	26	87	261	208	.60
17	.84	1.1	.78	.69	.28	46	53	26	127	326	213	.60
18	.88	1.1	.78	.69	.29	52	54	26	94	320	224	.60
19	.78	1.0	.78	.68	.29	56	54	27	56	328	217	.60
20	.77	1.0	.78	.68	.27	58	53	28	50	333	223	.56
21	.78	.98	.77	.67	.31	54	54	29	50	324	223	.57
22	.77	.97	.78	.64	.31	52	53	30	63	301	182	.67
23	.75	.97	.78	.65	.31	52	49	32	99	274	160	.61
24	.86	.94	.78	3.5	.32	52	52	31	144	267	147	.62
25	1.1	.92	.77	.33	.32	52	55	32	198	247	138	.58
26	1.1	.90	.78	.30	.34	52	55	33	254	216	131	.57
27	1.2	.88	.77	.29	.31	52	55	35	256	190	117	.58
28	1.2	.85	.77	.28	27	49	17	37	226	98	104	.61
29	1.2	.86	.77	.28	---	52	1.3	40	248	50	82	.69
30	1.2	.88	.77	.28	---	57	1.3	40	299	66	70	.83
31	1.2	---	.77	.28	---	60	---	41	---	76	69	---
TOTAL	33.78	32.55	24.28	22.39	34.63	1544	1460.6	586.1	3078	6918	4549	175.52
MEAN	1.09	1.08	.78	.72	1.24	49.8	48.7	18.9	103	223	147	5.85
MAX	1.7	1.3	.83	3.5	.27	60	55	41	299	333	224	.57
MIN	.75	.85	.77	.28	.21	42	1.3	1.3	42	50	69	.31
AC-FT	67	65	48	44	69	3060	2900	1160	6110	13720	9020	348
CAL YR 1985	TOTAL	14945.74		MEAN	40.9	MAX	323	MIN	.75	AC-FT	29640	
WTR YR 1986	TOTAL	18458.85		MEAN	50.6	MAX	333	MIN	.21	AC-FT	36610	

KANSAS RIVER BASIN

06843500 REPUBLICAN RIVER AT CAMBRIDGE, NE

LOCATION.--Lat 40°17'05", long 100°08'35", in NW1/4SE1/4 sec.28, T.4 N., R.25 W., Furnas County, Hydrologic Unit 10250004, on left bank 400 ft south of U.S. Highways 6 and 34, 0.5 mi downstream from Medicine Creek, 1 mi east of Cambridge, and 1.3 mi upstream from Cambridge diversion dam.

DRAINAGE AREA.--14,520 mi², approximately, of which about 7,810 mi² contributes directly to surface runoff.

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

REVISED RECORDS.--WSP 2119: Drainage area. WDR NE-84: 1983(M).

GAGE.--Water-stage recorder. Datum of gage is 2,239.07 ft above National Geodetic Vertical Datum of 1929. Prior to July 13, 1948, nonrecording gage at site 150 ft upstream at same datum and July 13, 1948, to Sept. 25, 1950, at present site and datum.

REMARKS.--Estimated daily discharges: Nov. 19 to Jan. 22 and Feb. 8-18. Records good except for period of estimated record, which is poor. Natural flow affected by irrigation development above station and since 1949 by regulation from upstream reservoirs.

AVERAGE DISCHARGE.--37 years (water years 1950-86, since storage in Harry Strunk Lake), 270 ft³/s, 195,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 160,000 ft³/s June 22, 1947, gage height, 16.7 ft, from floodmarks, from rating curve extended above 12,000 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 0.07 ft³/s Sept. 27, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1826, 17.6 ft May 31 to June 1, 1935, from information by local resident, discharge, about 280,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 384 ft³/s June 5, gage height, 4.65 ft; minimum daily, 12 ft³/s Sept. 14, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	118	90	120	140	186	184	84	119	311	148	102
2	89	118	86	120	139	189	185	79	112	313	138	93
3	86	117	94	118	139	190	188	78	113	308	163	76
4	89	118	100	116	142	194	186	72	115	266	192	66
5	87	121	110	114	149	194	184	65	216	225	191	61
6	89	126	114	116	151	197	184	59	193	220	192	49
7	92	126	110	108	152	196	181	59	163	245	178	38
8	91	127	116	120	145	191	184	73	150	264	164	34
9	90	128	110	130	140	182	179	71	136	283	153	32
10	91	128	106	140	135	181	171	65	137	309	163	27
11	97	129	100	160	130	179	169	62	169	290	185	20
12	104	129	94	175	125	169	167	58	135	259	202	19
13	103	132	92	170	135	165	165	60	127	277	200	14
14	105	137	94	175	145	164	161	61	118	250	234	12
15	106	139	108	180	135	160	158	68	112	217	232	12
16	103	141	108	195	130	166	163	91	107	240	247	15
17	105	139	110	190	130	172	162	102	166	287	227	17
18	128	139	106	185	135	202	180	94	170	272	237	19
19	131	135	108	185	139	199	162	95	170	272	217	18
20	120	125	110	180	136	188	149	100	164	284	201	20
21	115	110	110	175	132	185	140	90	163	303	200	21
22	114	100	125	170	129	179	136	89	154	285	198	35
23	112	100	118	163	135	177	127	95	180	267	180	41
24	111	102	114	151	156	179	125	97	227	256	172	34
25	112	104	110	148	159	179	130	95	266	255	149	27
26	113	104	125	140	155	179	130	96	294	275	148	26
27	112	98	130	142	150	178	140	106	356	299	137	24
28	109	94	120	142	150	178	147	119	292	216	129	23
29	112	96	118	139	---	176	109	142	270	164	118	23
30	115	94	125	137	---	180	92	137	304	141	106	30
31	118	---	120	138	---	185	---	127	---	151	111	---
TOTAL	3242	3574	3381	4642	3938	5639	4738	2689	5398	8004	5512	1028
MEAN	105	119	109	150	141	182	158	86.7	180	258	178	34.3
MAX	131	141	130	195	159	202	188	142	356	313	247	102
MIN	86	94	86	108	125	160	92	58	107	141	106	12
AC-FT	6430	7090	6710	9210	7810	11180	9400	5330	10710	15880	10930	2040
CAL YR 1985	TOTAL	57285	MEAN	157	MAX	951	MIN	48	AC-FT	113600		
WTR YR 1986	TOTAL	51785	MEAN	142	MAX	356	MIN	12	AC-FT	102700		

KANSAS RIVER BASIN

249

06844000 MUDDY CREEK AT ARAPAHOE, NE

LOCATION.--Lat 40°18'20", long 99°54'40", in NW1/4NW1/4 sec.22, T.4 N., R.23 W., Furnas County. Hydrologic Unit 10250009, on left bank 10 ft upstream from bridge on U.S. Highways 6 and 34, 0.2 mi west of Arapahoe, and 1.5 mi upstream from mouth.

DRAINAGE AREA.--246 mi².

PERIOD OF RECORD.--December 1950 to September 1972, and October 1977 to current year.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,143.92 ft, above National Geodetic Vertical Datum of 1929. December 1950 to Jan. 11, 1951, nonrecording gage, and Jan. 12, 1951, to Sept. 30, 1972, recording gage at site on left bank 20 ft downstream from bridge at present datum.

REMARKS.--Estimated daily discharges: Nov. 19 to Dec. 26, Jan. 4, 5, 22, 27, and Feb. 6-11, 20-22. Records good except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station and return flow from irrigated areas.

AVERAGE DISCHARGE.--30 years (1951-72, 1978-86), 14.8 ft³/s, 10,720 acre-ft/yr; median of yearly mean discharges, 11 ft³/s, 8,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,800 ft³/s May 8, 1986, gage height, 28.90 ft, observed; no flow Aug. 26 to Sept. 2, 1953, July 23, 29, Aug. 4, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 31 ft occurred June 22, 1947, discharge not determined.

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 8	2400	*10800	*a28.90	No other peak greater than base discharge.			

a Observed.

Minimum daily discharge, 5.2 ft³/s Dec. 13.

DISCHARGE, IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.8	7.7	6.4	8.0	8.0	7.8	8.5	7.7	42	11	6.9	6.3
2	7.4	7.6	5.8	7.9	7.9	7.5	8.5	7.3	27	9.9	7.0	6.2
3	7.1	7.7	6.4	7.5	7.9	7.3	8.5	7.3	23	11	8.2	6.2
4	6.6	7.7	7.0	7.4	8.6	7.5	8.5	7.2	21	13	8.5	6.3
5	6.6	7.7	7.2	8.6	9.2	7.5	8.4	6.9	43	9.8	7.7	6.1
6	6.6	7.6	7.4	8.0	8.8	7.4	7.8	6.9	106	8.7	9.5	6.3
7	6.7	7.8	7.4	7.7	8.2	7.3	7.6	7.0	35	8.4	23	6.3
8	6.5	7.8	7.4	7.7	7.0	7.3	7.6	1210	25	8.7	11	6.2
9	6.9	7.6	7.2	7.7	7.4	7.3	7.6	4570	20	8.5	8.3	6.1
10	7.3	7.6	6.6	7.6	7.0	7.5	7.6	301	20	9.2	7.1	6.1
11	7.5	7.6	5.8	7.6	6.6	7.3	7.6	132	25	9.8	6.9	6.3
12	7.6	7.6	5.6	7.6	7.2	7.8	7.6	72	80	42	6.8	6.1
13	7.5	7.9	5.2	7.7	8.9	8.3	7.8	53	37	23	7.3	6.0
14	7.4	7.9	6.0	7.9	8.9	7.8	7.8	48	22	12	7.4	6.0
15	7.5	8.1	7.0	7.9	9.4	7.6	7.3	51	17	10	8.1	6.0
16	7.3	8.3	7.6	8.2	9.5	7.6	7.2	59	16	9.3	7.2	6.0
17	7.5	8.2	8.0	8.0	10	7.7	7.1	51	16	8.7	6.8	6.2
18	8.9	8.2	7.2	8.3	12	8.1	68	43	19	8.2	7.2	6.4
19	11	8.0	7.4	8.1	27	8.3	95	40	15	7.8	6.9	6.7
20	9.5	7.4	7.4	8.1	20	8.1	18	35	12	8.4	6.7	6.6
21	8.3	7.2	8.0	8.2	13	7.9	11	32	11	8.0	6.5	6.5
22	8.0	6.6	8.6	7.6	11	7.9	9.9	30	17	7.9	6.3	13
23	7.8	6.8	8.0	8.0	9.7	7.9	9.1	29	15	7.6	5.8	8.2
24	7.6	6.8	7.4	8.1	8.7	7.9	8.8	28	11	7.8	5.8	6.9
25	7.6	6.8	6.6	7.8	8.1	7.9	8.5	27	16	7.5	5.9	6.8
26	7.5	7.0	7.6	7.9	8.2	7.9	8.3	26	13	7.4	5.9	6.6
27	7.6	6.8	8.6	7.4	8.2	7.9	7.9	27	14	7.1	5.8	6.3
28	7.7	6.6	8.8	8.3	7.9	7.9	8.8	31	15	58	5.8	6.3
29	7.7	6.8	9.0	8.0	---	8.0	8.6	32	13	16	5.9	6.3
30	7.5	6.6	8.3	8.1	---	8.2	8.1	36	12	9.1	6.1	6.5
31	7.6	---	8.0	8.0	---	8.5	---	44	---	7.3	6.3	---
TOTAL	236.1	224.0	224.9	244.9	274.3	240.9	403.0	7057.3	758	445.0	234.6	197.8
MEAN	7.62	7.47	7.25	7.90	9.80	7.77	13.4	228	25.3	14.4	7.57	6.59
MAX	11	8.3	9.0	8.6	27	8.5	95	4570	106	71	23	13
MIN	6.5	6.6	5.2	7.4	6.6	7.3	7.1	6.9	11	7.3	5.8	6.0
AC-FT	468	444	446	486	544	478	799	14000	1500	883	465	392
CAL YR 1985	TOTAL	3711.0		MEAN	10.2	MAX	293	MIN	5.0	AC-FT	7360	
WTR YR 1986	TOTAL	10540.8		MEAN	28.9	MAX	4570	MIN	5.2	AC-FT	20910	

KANSAS RIVER BASIN

06844210 TURKEY CREEK AT EDISON, NE

LOCATION.--Lat 40°16'15", long 99°44'00", in the center of sec.31, T.4 N., R.21 W., Furnas County, Hydrologic Unit 10250009, on left bank 10 ft downstream from bridge on State Highway 136, 2 mi east of Edison and 5 mi upstream from mouth.

DRAINAGE AREA.--74.9 mi².

PERIOD OF RECORD.--October 1977 to current year.

REVISED RECORDS.--WDR NE-81-1: 1978-80(M).

GAGE.--Water-stage recorder. Elevation of gage is 2,090 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 21 to Dec. 11, Dec. 14 to 25, 28, 29, Dec. 31 to Jan. 10, 11, Jan. 22 to Feb. 1, and Feb. 7-15. Records good except for periods of estimated record, which are poor. Natural flow affected by pump irrigation development above station and by return flow from irrigated areas.

AVERAGE DISCHARGE.--9 years, 6.24 ft³/s, 4,520 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 940 ft³/s July 18, 1981, gage height, 11.95 ft, from floodmark; minimum daily, 0.74 ft³/s Sept. 9, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 460 ft³/s July 27, gage height, 9.74 ft; minimum daily, 2.6 ft³/s Sept. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.9	6.9	6.0	12	9.8	9.1	9.2	8.0	8.2	16	5.0	2.7
2	5.3	6.9	8.0	10	9.4	9.1	9.1	7.9	8.3	6.1	5.4	2.6
3	5.4	6.9	7.0	11	9.5	9.0	9.8	7.6	8.4	7.9	6.0	2.7
4	5.1	7.1	6.6	8.6	9.9	9.0	9.9	7.4	9.6	6.6	5.7	2.8
5	4.9	7.1	7.4	7.0	10	8.9	10	7.3	9.8	5.6	7.4	2.7
6	5.3	6.8	8.2	4.5	9.9	8.7	9.5	6.5	9.5	5.1	7.6	2.9
7	5.8	6.6	9.0	3.4	9.5	8.4	9.5	6.1	9.8	4.9	5.0	4.7
8	5.4	6.6	8.8	9.0	9.0	8.5	9.4	7.6	10	4.6	4.8	4.7
9	5.1	6.6	8.6	8.0	6.4	8.8	9.4	96	10	5.3	4.7	3.3
10	5.3	6.6	8.0	7.6	6.0	9.1	9.4	37	10	5.8	4.3	3.3
11	5.6	6.4	6.2	12	6.0	9.0	9.7	11	13	7.9	3.9	3.6
12	5.9	6.7	4.5	11	5.4	8.8	9.9	9.4	8.7	7.7	3.7	3.6
13	6.2	7.0	4.7	9.4	5.0	9.2	9.9	8.7	7.9	6.4	3.7	3.3
14	5.7	7.1	6.0	8.5	7.0	9.1	9.5	8.0	7.9	5.8	3.8	3.1
15	5.9	7.2	8.0	8.2	10	8.7	9.5	8.3	8.5	4.4	4.2	3.1
16	6.3	7.4	7.2	8.3	11	8.7	9.5	12	8.9	3.6	4.7	3.2
17	6.4	7.3	7.0	8.7	11	9.0	10	14	9.5	4.0	4.6	3.4
18	9.0	7.2	9.0	9.0	12	9.5	12	8.3	9.7	4.2	5.0	3.6
19	50	6.7	12	8.7	12	9.5	11	8.0	9.2	4.4	4.1	3.6
20	42	5.1	4.3	8.9	12	8.8	9.9	8.2	8.6	4.3	3.9	3.6
21	9.7	6.8	8.0	8.6	6.2	8.8	9.8	8.2	7.9	4.1	3.3	3.5
22	8.9	7.6	11	8.0	11	9.0	9.9	8.2	7.4	4.4	3.6	9.4
23	8.5	6.6	10	6.0	11	9.0	9.9	8.3	7.2	3.8	3.1	7.5
24	7.6	6.4	9.0	8.0	10	8.5	10	8.4	6.3	3.7	3.4	4.6
25	6.9	6.4	8.0	8.4	10	8.6	10	8.4	5.8	3.7	4.0	4.1
26	6.9	6.8	4.7	9.0	11	9.1	9.7	8.3	6.1	3.2	3.1	4.1
27	6.9	6.2	5.2	8.0	9.4	9.0	9.7	8.8	7.4	175	3.0	4.2
28	6.9	3.8	11	6.0	9.2	9.0	9.6	10	5.6	80	2.9	4.2
29	6.9	4.0	8.0	9.0	---	9.0	9.6	12	4.4	12	2.8	4.0
30	6.9	4.6	4.5	9.2	---	9.1	8.6	9.8	4.4	5.5	2.9	4.1
31	6.9	---	5.4	9.0	---	9.5	---	8.4	---	4.9	2.9	---
TOTAL	279.5	195.4	231.3	263.0	258.6	277.5	292.9	386.1	248.0	420.9	132.5	116.2
MEAN	9.02	6.51	7.46	8.48	9.24	8.95	9.76	12.5	8.27	13.6	4.27	3.87
MAX	50	7.6	12	12	12	9.5	12	96	13	175	7.6	9.4
MIN	4.9	3.8	4.3	3.4	5.0	8.4	8.6	6.1	4.4	3.2	2.8	2.6
AC-FT	554	388	459	522	513	550	581	766	492	835	263	230
CAL YR 1985	TOTAL	3145.8	MEAN	8.62	MAX	134	MIN	2.5	AC-FT	6240		
WTR YR 1986	TOTAL	3101.9	MEAN	8.50	MAX	175	MIN	2.6	AC-FT	6150		

KANSAS RIVER BASIN

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06844500 REPUBLICAN RIVER NEAR ORLEANS, NE

LOCATION.--Lat 40°07'53", long 99°30'08", in NE1/4NE1/4 sec.19, T.2 N., R.19 W., Harlan County, Hydrologic Unit 10250009, on right bank 18 ft downstream from bridge on State Highway 89, 200 ft downstream from Burlington Northern Inc. bridge, 2 mi west of Orleans, 2.8 mi upstream from Sappa Creek, and 23 mi upstream from Harlan County Dam.

DRAINAGE AREA.--15,640 mi², approximately, of which about 8,910 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1947 to current year.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,972.57 ft above National Geodetic Vertical Datum of 1929. Prior to June 2, 1948, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Nov. 20 to Jan. 25, Feb. 9-22, and May 11. Records fair except for periods of estimated discharge, which are poor. Natural flow affected by irrigation development above station and regulation by upstream reservoirs.

AVERAGE DISCHARGE.--39 years, 291 ft³/s, 210,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,600 ft³/s June 22, 1948, gage height, 11.25 ft, from rating curve extended above 29,000 ft³/s; maximum gage height, 12.60 ft Mar. 22, 1960, backwater from ice; no flow at times in 1952-57, 1963, 1978-80.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood since at least 1826 occurred June 1, 1935. Flood of June 23, 1947, reached a stage of 14.00 ft, from floodmark (discharge not determined).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,990 ft³/s May 10, gage height, 10.97 ft observed; minimum daily, 25 ft³/s Sept. 16-18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	120	154	98	145	223	215	227	173	238	76	63	31
2	126	155	94	145	219	221	230	161	228	81	65	34
3	123	160	94	140	216	232	232	157	211	78	56	41
4	122	158	120	140	216	226	236	152	205	84	51	39
5	116	161	125	140	218	225	233	148	206	94	60	33
6	115	161	135	140	224	222	234	141	323	83	65	31
7	119	164	130	145	223	221	234	135	366	67	51	60
8	118	169	135	150	218	222	228	147	259	56	56	70
9	119	168	130	160	215	224	224	1650	226	57	54	48
10	119	168	125	175	200	220	229	4260	217	68	50	39
11	119	168	120	190	190	222	229	1600	205	68	47	42
12	122	168	114	195	185	228	225	543	206	76	48	36
13	127	168	106	185	210	225	222	407	226	89	49	32
14	134	168	114	180	235	222	214	325	199	88	43	28
15	132	168	120	195	235	208	207	294	177	85	36	27
16	133	170	125	210	230	208	202	308	166	66	37	25
17	137	182	135	230	240	211	205	325	155	44	32	25
18	146	182	130	245	250	246	228	284	137	35	33	25
19	162	176	130	240	265	239	245	250	130	38	30	26
20	169	165	130	260	260	250	299	236	123	32	32	27
21	198	160	135	290	250	242	224	220	119	32	32	28
22	178	135	145	270	245	237	203	213	110	32	32	31
23	169	120	140	260	266	229	197	207	102	39	34	45
24	167	110	135	255	239	230	193	202	91	33	39	56
25	165	102	135	250	235	227	185	200	84	29	43	48
26	164	120	150	249	229	219	186	199	78	29	43	46
27	162	116	155	234	222	218	187	201	82	41	35	40
28	159	114	150	231	217	220	193	207	78	356	35	38
29	156	112	145	234	---	224	203	231	95	211	36	35
30	155	110	150	235	---	226	198	260	81	125	33	37
31	155	---	145	226	---	229	---	247	---	80	32	---
TOTAL	4406	4532	3995	6344	6375	6988	6552	14083	5123	2372	1352	1123
MEAN	142	151	129	205	228	225	218	454	171	76.5	43.6	37.4
MAX	198	182	155	290	266	250	299	4260	366	356	65	70
MIN	115	102	94	140	185	208	185	135	78	29	30	25
AC-FT	8740	8990	7920	12580	12640	13860	13000	27930	10160	4700	2680	2230
CAL YR 1985	TOTAL	61871	MEAN	170	MAX	993	MIN	35	AC-FT	122700		
WTR YR 1986	TOTAL	63245	MEAN	173	MAX	4260	MIN	25	AC-FT	125400		

KANSAS RIVER BASIN

06844500 REPUBLICAN RIVER NEAR ORLEANS, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)
OCT												
23...	1400	166	850	8.30	15.0	700	9.6	27	430	460	310	0
NOV												
25...	1230	100	900	7.30	0.0	704	12.1	7	170	240	340	0
DEC												
03...	1015	93	795	7.40	0.5	710	10.6	14	140	130	350	9
JAN												
14...	1300	180	790	--	1.0	720	13.3	18	26	42	250	0
FEB												
24...	1400	240	740	--	6.5	620	10.1	21	38	120	270	0
MAR												
10...	1615	222	673	7.90	11.5	--	10.3	15	K27	K270	240	0
APR												
21...	1045	215	640	7.90	14.0	712	9.8	45	1800	4500	260	16
MAY												
20...	1340	237	749	8.40	22.0	710	9.2	30	1500	470	310	0
JUN												
09...	1445	227	642	7.80	26.5	--	7.3	43	1000	400	220	0
JUL												
17...	1600	42	621	8.20	33.0	708	8.7	32	K78	98	240	6
AUG												
21...	1100	31	540	7.80	21.0	716	7.2	45	230	960	200	0
SEP												
18...	1340	25	740	8.80	25.0	625	8.2	14	340	160	280	7

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

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)
OCT												
23...	82	25	49	1	--	--	86	24	--	--	--	--
NOV												
25...	90	29	52	1	0.40	--	68	25	0.80	47	--	--
DEC												
03...	92	30	54	1	18	344	91	26	0.80	29	550	0.74
JAN												
14...	64	21	41	1	15	254	68	17	0.80	40	420	0.57
FEB												
24...	71	23	40	1	--	--	81	18	--	--	--	--
MAR												
10...	57	23	39	1	15	268	70	21	0.80	38	420	0.58
APR												
21...	66	22	31	0.9	15	239	48	20	0.60	30	380	0.51
MAY												
20...	81	27	46	1	--	--	84	30	--	--	--	--
JUN												
09...	58	19	40	1	17	230	69	26	0.60	30	400	0.54
JUL												
17...	58	22	40	1	20	229	100	18	0.70	35	430	0.59
AUG												
21...	42	22	39	1	--	--	82	17	--	--	--	--
SEP												
18...	73	24	44	1	18	274	98	23	0.70	36	480	0.65

KANSAS RIVER BASIN

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06844500 REPUBLICAN RIVER NEAR ORLEANS, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 105 SUS- PENDE (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 23...	--	112	0.710	--	0.030	0.84	0.87	1.6	0.350	--	8.7
NOV 25...	--	8	2.30	--	0.130	0.52	0.65	3.0	--	0.180	3.6
DEC 03...	137	4	1.70	--	0.200	0.75	0.95	2.7	0.210	--	3.4
JAN 14...	204	18	2.80	2.60	0.120	0.71	0.83	3.6	0.300	0.210	4.4
FEB 24...	--	118	2.50	--	0.080	1.5	1.6	4.1	0.240	--	8.2
MAR 10...	255	116	2.00	2.10	0.020	0.73	0.75	2.8	0.250	0.120	4.1
APR 21...	218	434	1.50	1.70	0.080	2.2	2.3	3.8	0.210	0.200	0.0
MAY 20...	--	118	1.10	--	0.050	1.0	1.1	2.2	0.400	--	6.3
JUN 09...	244	382	1.20	1.20	0.030	2.0	2.0	3.2	0.510	0.230	10
JUL 17...	49	86	0.270	0.250	0.050	2.8	2.8	3.1	0.290	0.050	8.2
AUG 21...	--	48	0.020	--	0.020	1.1	1.1	1.1	0.240	--	5.2
SEP 18...	33	28	0.610	0.630	0.050	0.95	1.0	1.6	0.350	0.220	16

DATE	TIME	ARSENIC TOTAL (UG/L AS AS) (01002)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
NOV 25...	1230	12	<15	<10	20	14	<30	13	<0.1	5	<1	30
DEC 03...	1015	--	--	--	--	17	--	16	--	--	--	--
JAN 14...	1300	--	--	--	--	7	--	10	--	--	--	--
FEB 24...	1400	10	<15	10	<10	--	20	--	0.2	<2	<1	50
MAR 10...	1615	--	--	--	--	10	--	6	--	--	--	--
APR 21...	1045	--	--	--	--	19	--	4	--	--	--	--
MAY 20...	1340	14	<15	<10	<10	--	<20	--	<0.1	13	1	<30
JUN 09...	1445	--	--	--	--	19	--	2	--	--	--	--
JUL 17...	1600	--	--	--	--	15	--	8	--	--	--	--
AUG 21...	1100	16	<15	<10	20	--	<20	--	0.2	6	<10	<30
SEP 18...	1340	--	--	--	--	15	--	9	--	--	--	--

KANSAS RIVER BASIN

06846500 BEAVER CREEK AT CEDAR BLUFFS, KS

LOCATION.--Lat 39°59'06" long 100°33'35" in NW1/4 NE1/4 sec.10, T.1 S., R.29 W., Decatur County, Hydrologic Unit 10250014, on right bank at downstream side of bridge on U.S. Highway 83, 0.2 mi north of Cedar Bluffs, 1.0 mi south of Kansas-Nebraska State line, and at mile 107.4.

DRAINAGE AREA.--1,618 mi², of which 294 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1945 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1510: 1947, 1950-51.

GAGE.--Water-stage recorder. Datum of gage is 2,520.33 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 19, 1971, at site 0.1 mi upstream at same datum. Aug. 19, 1971, to July 12, 1972, at site 0.8 mi downstream at datum 5.00 ft lower.

REMARKS.--Estimated daily discharges: Dec. 24, 25. Records fair except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--41 years, 16.6 ft³/s, 12,030 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,940 ft³/s June 11, 1960, gage height, 18.71 ft at site 0.1 mi upstream at same datum; no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1944 reached a stage of 18.16 ft, from floodmark.

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)
Dec. 24	0500	ice jam	*5.51	No peak greater than base discharge.			
July 2	1300	*1.4	4.15				

No flow most days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.05	.18	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.97	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.79	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.73	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.40	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.01	.19	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.02	.05	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.01	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.10	.00	.00	.01
11	.00	.00	.00	.00	.00	.00	.00	.00	.08	.00	.00	.02
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.20	.00	.00	.00
21	.00	.00	.05	.00	.00	.00	.00	.00	.03	.00	.00	.00
22	.00	.00	.04	.00	.00	.00	.00	.13	.46	.00	.00	.04
23	.00	.00	.19	.00	.00	.00	.00	.08	.19	.00	.00	.09
24	.00	.00	.30	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.01	.00	.00	.00	.00	.04	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.09	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.11	.00	.00	.00	.01
30	.00	.00	.00	.00	---	.00	.00	.14	.00	.00	.00	.03
31	.00	---	.00	.00	---	.00	---	.02	---	.00	.00	---
TOTAL	.00	.00	.61	.00	.00	.00	.00	.79	1.19	3.31	.03	.20
MEAN	.000	.000	.020	.000	.000	.000	.000	.025	.040	.11	.001	.007
MAX	.00	.00	.30	.00	.00	.00	.00	.14	.46	.97	.01	.09
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	1.2	.00	.00	.00	.00	1.6	2.4	6.6	.06	.4

CAL YR 1985 TOTAL 173.21 MEAN .47 MAX 91 MIN .00 AC-FT 344
WTR YR 1986 TOTAL 6.13 MEAN .017 MAX .97 MIN .00 AC-FT 12

06847000 BEAVER CREEK NEAR BEAVER CITY, NE

LOCATION.--Lat 40°07'12", long 99°53'35", in SW1/4SW1/4 sec.23, T.2 N., R.23 W., Furnas County, Hydrologic Unit 10250014, on left bank 400 ft downstream from bridge on U.S. Highway 283, 3.5 mi west of Beaver City, and at mi 24.7.

DRAINAGE AREA.--1,950 mi², approximately, of which about 1,650 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1936 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1340: 1937-38(M), 1939, 1940-41(M), 1943(M). WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,162.96 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 13, 1947, nonrecording gages and Aug. 13, 1947, to Nov. 14, 1957, water-stage recorder, at site 400 ft upstream at datum 2.0 ft higher. Nov. 15, 1957, to Sept. 22, 1958, at site 3.6 mi upstream at different datum.

REMARKS.--Estimated daily discharges: Mar. 6, 7. Records fair.

AVERAGE DISCHARGE.--50 years. 22.6 ft³/s, 16,660 acre-ft/yr; median of yearly mean discharges, 12 ft³/s, 8,690 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,510 ft³/s June 14, 1983, gage height, 15.68 ft; no flow at times in 1937-40, 1946, 1953-57, 1959, 1969-74, 1976, 1978-81.

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 9	0500	*515	*9.14	No other peak greater than base discharge.			

Minimum daily discharge, 0.16 ft³/s Sept. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.35	.65	.63	.93	1.1	2.0	1.5	1.7	2.5	.98	.37	.23
2	.34	.64	.67	.91	1.1	1.4	1.3	1.6	2.1	1.0	.45	.27
3	.36	.65	.66	.91	1.1	1.4	1.6	1.5	2.0	.91	.36	.28
4	.43	.67	.65	.91	2.2	1.5	1.7	1.4	1.8	1.1	.36	.23
5	.43	.68	.66	.91	1.7	1.6	1.2	1.3	7.4	2.1	.45	.21
6	.43	.66	.65	.87	1.5	1.6	1.3	1.3	3.8	.95	.42	.27
7	.44	.62	.67	.87	1.4	1.5	1.3	1.8	3.4	.90	.35	.26
8	.44	.70	.70	.87	1.3	1.4	1.2	21	2.3	.91	.34	.21
9	.46	.66	.68	.87	1.2	1.4	1.2	273	3.0	.98	.39	.21
10	.54	.69	.70	.87	1.2	1.5	1.2	58	2.1	.98	.37	.22
11	.55	.70	.70	.91	1.2	1.4	1.2	24	2.1	.92	.35	.28
12	.55	.71	.68	.91	1.1	1.2	1.2	11	1.9	1.0	.27	.36
13	.49	.68	.68	.91	1.2	1.2	1.3	6.9	1.9	.78	.25	.29
14	.48	.62	.68	.91	1.2	1.1	1.2	5.1	1.7	.97	.27	.21
15	.48	.65	.68	.91	1.3	1.3	1.2	4.5	1.7	.73	.23	.19
16	.47	.65	.72	.91	1.4	1.3	1.3	7.6	1.8	.64	.24	.26
17	.51	.67	.72	.96	1.4	1.3	1.4	5.7	1.7	.68	.27	.43
18	1.1	.66	.73	.96	1.5	1.6	2.0	4.5	1.5	.62	.28	.16
19	3.1	.64	.76	.96	1.5	1.5	1.6	4.2	1.4	.60	.19	.18
20	1.8	.62	.76	.96	1.4	1.3	1.4	4.2	1.3	.59	.20	.36
21	.94	.62	.79	.96	1.4	1.2	1.5	3.8	1.4	.54	.21	.35
22	.62	.61	.84	.96	1.4	1.2	1.5	3.3	1.3	.65	.21	.32
23	.72	.61	.84	.96	1.5	1.3	1.5	3.2	1.1	.58	.20	.22
24	.69	.62	.87	.96	1.6	1.4	1.4	2.9	1.0	.44	.22	.23
25	.68	.62	.86	.96	1.7	1.3	1.5	2.4	.85	.50	.22	.19
26	.65	.62	.86	1.1	1.9	1.3	1.6	1.8	1.1	.49	.22	.40
27	.65	.61	.88	1.1	1.6	1.2	1.8	1.8	1.1	.41	.21	.28
28	.67	.63	.87	1.1	1.6	1.4	2.2	2.2	1.5	.39	.22	.24
29	.66	.62	.87	1.1	---	1.4	2.0	2.5	1.8	.38	.21	.51
30	.68	.62	.89	1.1	---	1.5	2.0	2.6	.89	.32	.19	.46
31	.67	---	.90	1.1	---	1.8	---	4.4	---	.36	.21	---
TOTAL	21.38	19.40	23.25	29.62	39.7	43.5	44.3	471.2	59.44	23.40	8.73	8.31
MEAN	.69	.65	.75	.96	1.42	1.40	1.48	15.2	1.98	.75	.28	.28
MAX	3.1	.71	.90	1.1	2.2	2.0	2.2	273	7.4	2.1	.45	.51
MIN	.34	.61	.63	.87	1.1	1.1	1.2	1.3	.85	.32	.19	.16
AC-FT	42	38	46	59	79	86	88	935	118	46	17	16
CAL YR 1985	TOTAL	432.00		MEAN	1.18	MAX	13	MIN	.10	AC-FT	857	
WTR YR 1986	TOTAL	792.23		MEAN	2.17	MAX	273	MIN	.16	AC-FT	1570	

KANSAS RIVER BASIN

06847500 SAPPA CREEK NEAR STAMFORD, NE

LOCATION.--Lat 40°07'53", long 99°33'15", in NW1/4NW1/4 sec.23, T.2 N., R.20 W., Harlan County. Hydrologic Unit 10250011, on left bank 40 ft south of Burlington Northern Inc. track, 500 ft downstream from bridge on county highway, 2 mi east of Stamford, and 5.5 mi upstream from mouth.

DRAINAGE AREA.--3,740 mi². approximately, of which about 3,280 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1945 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1919: 1960. WSP 2119: Drainage area. WDR NE-71-1: Calendar year totals. WRD NE-82-1: 1979(M).

GAGE.--Water-stage recorder. Datum of gage is 1,981.31 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 19 to Mar. 3 and May 10-14. Records good except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station.

AVERAGE DISCHARGE.--41 years. 53.9 ft³/s. 39,050 acre-ft/yr; median of yearly mean discharges, 24 ft³/s, 17,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,400 ft³/s June 24, 1966, gage height, 22.13 ft, from floodmark, from contracted opening and flow-over-road measurement of peak flow; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 11	1800	*530	*9.24	No peaks greater than base discharge.			
No flow for many days.							

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	2.4	.80	3.1	4.0	20	11	8.2	22	3.2	.14	.00
2	.00	3.0	.90	3.3	5.8	18	11	8.1	17	1.6	.26	.00
3	.00	3.2	1.4	3.4	5.6	15	12	7.6	14	2.0	.12	.00
4	.00	3.3	1.6	3.4	5.4	14	13	7.5	12	1.9	.09	.00
5	.00	3.5	1.8	2.7	4.8	12	11	7.7	46	3.1	.09	.00
6	.00	3.8	1.8	3.0	4.5	11	11	6.7	35	2.2	.09	.00
7	.00	4.4	1.7	2.5	3.7	9.8	11	6.1	17	1.6	.02	.00
8	.00	5.1	1.7	2.7	3.1	10	10	8.8	24	.97	.01	.00
9	.00	5.4	1.7	3.5	3.0	10	9.6	17	15	.56	.31	.00
10	.00	5.3	1.3	4.0	3.1	9.8	9.5	90	18	2.1	39	.00
11	.00	2.0	1.2	4.5	3.3	9.7	9.8	320	37	428	12	.00
12	.00	1.9	1.0	5.0	2.5	10	9.8	230	12	287	2.0	.00
13	.00	2.0	.80	4.0	3.0	12	10	130	10	84	.54	.00
14	.00	2.1	.90	4.2	4.0	9.8	9.5	72	8.6	38	.17	.00
15	.00	2.5	1.2	4.0	3.8	9.5	9.1	41	7.2	22	.01	.00
16	.00	2.8	1.5	4.2	4.5	9.3	8.7	32	6.3	15	.00	.00
17	.00	2.8	1.6	4.3	5.6	9.6	9.5	25	5.3	8.5	.00	.00
18	.01	2.7	1.2	4.5	7.0	11	12	21	4.5	4.8	.00	.00
19	.06	1.5	1.3	4.0	5.2	11	10	22	3.8	4.0	.00	.00
20	.27	1.0	1.9	4.2	4.0	10	11	39	3.5	2.9	.00	.00
21	.47	1.2	2.5	4.3	3.8	10	9.1	27	3.0	3.0	.00	.00
22	.19	1.2	2.8	3.5	5.0	11	8.7	22	3.0	.71	.00	.00
23	.34	1.0	3.0	3.7	6.0	10	8.6	18	2.1	.98	.00	.00
24	.74	.90	2.9	4.5	6.0	10	8.3	18	1.6	1.2	.00	.00
25	.82	.90	2.0	5.0	9.0	10	8.6	15	1.8	.81	.00	.00
26	.93	1.0	2.1	4.0	15	11	9.2	14	1.5	.52	.85	.00
27	1.1	.90	2.6	3.0	17	10	8.6	13	1.8	.43	.77	.00
28	1.2	.90	2.5	3.2	23	10	8.7	15	1.8	.21	.62	.00
29	1.6	.90	2.6	5.4	---	11	8.5	25	1.5	.28	.34	.00
30	1.9	.90	2.9	4.5	---	11	8.2	22	1.6	.21	.17	.00
31	2.2	---	3.2	5.0	---	11	---	17	---	.15	.09	---
TOTAL	11.83	70.50	56.40	120.6	170.7	346.5	295.0	1305.7	337.9	921.93	57.69	.00
MEAN	.38	2.35	1.82	3.89	6.10	11.2	9.83	42.1	11.3	29.7	1.86	.00
MAX	2.2	5.4	3.2	5.4	23	20	13	320	46	428	39	.00
MIN	.00	.90	.80	2.5	2.5	9.3	8.2	6.1	1.5	.15	.00	.00
AC-FT	23	140	112	239	339	687	585	2590	670	1830	114	.00
CAL YR 1985	TOTAL	3588.79		MEAN	9.83	MAX	258	MIN	.00	AC-FT	7120	
WTR YR 1986	TOTAL	3694.75		MEAN	10.1	MAX	428	MIN	.00	AC-FT	7330	

KANSAS RIVER BASIN

257

06848500 PRAIRIE DOG CREEK NEAR WOODRUFF, KS

LOCATION.--Lat 39°59'09", long 99°28'39", in NW1/4 NW1/4 sec.9, T.1 S., R.19 W., Phillips County, Hydrologic Unit 10250015, on left bank at downstream side of bridge on U.S. Highway 383, 1.0 mi south of Kansas-Nebraska State line, 2.5 mi west of Woodruff, and at mile 26.5.

DRAINAGE AREA.--1,007 mi².

PERIOD OF RECORD.--October 1928 to September 1932, October 1944 to current year. Monthly discharge only for some periods, published in WSP 1310.

GAGE.--Water-stage recorder. Datum of gage is 2,016.20 ft above National Geodetic Vertical Datum of 1929. See WSP 1919 for history of changes prior to Oct. 7, 1955.

REMARKS.--No estimated daily discharges. Records poor. Flow regulated to some extent since 1964 by Keith Sebelius Lake (station 06847950) 48.4 mi upstream and by irrigation development upstream from station.

AVERAGE DISCHARGE.--46 years, (water years 1929-32, 1945-86), 32.5 ft³/s, 23,550 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft³/s June 23, 1947, gage height, 21.04 ft, site and datum then in use, from rating curve extended above 6,500 ft³/s on basis of contracted-opening measurement of 11,300 ft³/s; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 454 ft³/s July 10, gage height, 8.39 ft; no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	.00	.00	.00	.00	.00	.00	.00	.01	.00	.03	.00
2	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00
3	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00
4	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00
5	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00
6	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.01	.00	.36	.00	.00
9	.01	.00	.00	.00	.00	.00	.00	.00	.00	1.1	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	285	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	110	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	93	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	14	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.7	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.6	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.8	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.4	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.94	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.57	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.50	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.63	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.55	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.45	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.31	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.21	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.20	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.16	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.11	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.02	.00	.08	.00	.01
30	.00	.00	.00	.00	---	.00	.00	.03	.00	.05	.00	.06
31	.00	---	.00	.00	---	.00	---	.02	---	.03	.00	---
TOTAL	.15	.00	.00	.00	.00	.00	.00	.08	.01	517.75	.09	.07
MEAN	.005	.000	.000	.000	.000	.000	.000	.003	.000	16.7	.003	.002
MAX	.04	.00	.00	.00	.00	.00	.00	.03	.01	285	.03	.06
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.3	.00	.00	.00	.00	.00	.00	.2	.02	1030	.2	.1
CAL YR 1985	TOTAL	1131.51	MEAN 3.10	MAX 350	MIN .00	AC-FT 2240						
WTR YR 1986	TOTAL	518.15	MEAN 1.42	MAX 285	MIN .00	AC-FT 1030						

KANSAS RIVER BASIN

06849000 HARLAN COUNTY LAKE NEAR REPUBLICAN CITY, NE

LOCATION.--Lat 40°04'10", long 99°12'30", in sec.11, T.1 N., R.17 W., Harlan County, Hydrologic Unit 10250009, at left end of spillway on upstream side of Harlan County Dam on Republican River, 2 mi southeast of Republican City and 8 mi southeast of Alma.

DRAINAGE AREA.--20,750 mi², approximately, of which about 13,530 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--November 1952 to current year. Prior to October 1965 published as Harlan County Reservoir near Republican City.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earthfill dam with gravity-type concrete spillway section; storage began Nov. 14, 1952. Capacity, 327,600 acre-ft between elevations 1,885.0 ft, sill of outlet gates, and 1,946.0 ft, top of storage pool. Top of flood-control pool at elevation 1,973.5 ft, capacity, 825,800 acre-ft. Top of superstorage flood-control pool at elevation 1,975.5 ft, capacity, 872,700 acre-ft. Figures given herein represent total contents. Water used for irrigation is the Bostwick irrigation project.

COOPERATION.--Capacity table furnished by Corps of Engineers (revised Jan. 1, 1982).

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 497,700 acre-ft Apr. 6, 1960, elevation, 1,955.67 ft; minimum since operation of reservoir began, 110,300 acre-ft Oct. 22 to Nov. 6, 1953, elevation, 1,922.00 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 339,800 acre-ft June 11, elevation, 1,946.90 ft; minimum, 229,700 acre-ft Sept. 5, elevation, 1,937.60 ft.

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

1,935	203,900	1,945	314,600
1,940	255,200	1,950	383,900

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	247600	255300	260800	266400	275600	285800	299200	309500	336300	314700	264100	230300
2	247800	255500	260600	266700	276000	286300	300100	309400	336800	312900	262000	230100
3	248500	255600	260800	266800	276300	286700	300600	309600	337100	311000	259900	230100
4	248400	255800	260900	267000	276700	287100	301300	309900	337800	308900	258200	229900
5	248300	256500	261100	267200	277000	287600	301400	309900	337800	307000	256800	229700
6	248300	256600	261200	267300	277400	288100	301700	309100	338400	305100	255300	230800
7	248500	256500	261500	267600	277700	288500	302600	309600	338700	303600	254300	230600
8	248400	256700	261700	267800	278100	288900	302800	310500	338700	302000	252800	239300
9	248500	256700	261900	267900	278400	289400	303200	311500	339100	303800	251900	239200
10	248600	256700	262100	268100	278800	289800	303400	316200	339800	303700	251100	230400
11	249200	256900	262300	268400	279100	290300	303700	320900	339700	302600	249700	230900
12	249400	257200	262500	268500	279500	290700	303600	322800	339700	301700	249000	230800
13	249600	257300	262700	268900	279800	291200	304100	323400	339700	300400	248300	230700
14	249800	257800	262800	269300	280200	291700	304700	366100	339500	299100	247600	230600
15	249800	258300	263200	269600	280500	292000	304400	325700	338900	297400	246400	230600
16	250000	258300	263300	269900	280900	292500	304300	326800	339100	295400	245800	230600
17	251100	258700	263500	270300	281200	293000	305500	327000	338300	293200	244700	230800
18	251600	259100	263700	270500	281600	294100	305800	327500	337100	291200	243200	231000
19	252000	259200	263800	270900	281900	293800	306200	327800	335400	289200	242500	230800
20	252300	259000	264100	271300	282300	294300	306500	328000	334200	287200	241400	231100
21	252700	259400	264300	271700	282600	294800	306700	328300	332700	285100	240500	231000
22	253300	259400	264500	272000	283000	295200	306700	329100	331300	282800	239500	231100
23	253700	259500	264600	272400	283300	295600	307100	329400	329600	280900	238200	231300
24	253700	259600	264900	272700	283700	296100	307500	329400	327900	279000	237500	231600
25	253900	259800	265100	273100	283900	296500	307600	329600	326100	276400	236500	231000
26	254300	259900	265200	273400	284600	296900	308400	330000	324200	274700	235500	231000
27	254400	260000	265400	273800	285000	297200	309000	330700	322500	272900	234200	230800
28	254700	260000	265600	274100	285400	297600	308900	333400	320400	271300	233400	230700
29	254800	260400	265900	274600	---	298000	309000	334900	318200	269500	232600	230700
30	255000	260600	266000	274900	---	298500	309400	335600	316400	267500	231900	230900
31	255200	---	266200	275200	---	299200	---	336000	---	265200	231100	---
MEAN	251100	258100	263300	270300	280400	292500	304800	324100	333700	292100	245700	231300
MAX	255200	260600	266200	275200	285400	299200	309400	366100	339800	314700	264100	239300
MIN	247600	255300	260600	266400	275600	285800	299200	309100	316400	265200	231100	229700
(†)	1940.00	1940.48	1940.98	1941.76	1942.64	1943.78	1944.59	1946.62	1945.14	1940.89	1937.74	1937.72
(††)	+7400	+5400	+5600	+9000	+10200	+13800	+10200	+26600	-19600	-51200	-34100	-200
CAL YR 1985	MEAN	271300	MAX	319200	MIN	243100	(††)	+22500				
WTR YR 1986	MEAN	278900	MAX	366100	MIN	229700	(††)	-16900				

(†) Elevation, in feet, at end of month.

(††) Change in contents, in acre-feet.

KANSAS RIVER BASIN

259

06849500 REPUBLICAN RIVER BELOW HARLAN COUNTY DAM, NE

LOCATION.--Lat 40°04'45", long 99°10'05", in SW1/4 sec.6, T.1 N., R.16 W., Franklin County, Hydrologic Unit 10250016, on left bank 1.4 mi west of Naponee, 1.4 mi upstream from Turkey Creek, and 2.8 mi downstream from Harlan County Dam.

DRAINAGE AREA.--20,760 mi², approximately, of which about 13,550 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--December 1952 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,863.38 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--Estimated daily discharges: Dec. 1, 3, 4, 12-14, 17, 18, and Feb. 10-15, 17. Records good except for periods of estimated record, which are fair. Flow completely regulated by Harlan County Lake (station 06849000) and partially regulated by six upstream reservoirs.

AVERAGE DISCHARGE.--33 years (1953-86), 250 ft³/s, 181,100 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,320 ft³/s June 25, 1957, gage height, 8.65 ft; minimum daily, 1.5 ft³/s Apr. 28, 29, 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood since at least 1826 occurred June 1, 1935, discharge, about 260,000 ft³/s, from slope-area measurement near Bloomington.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 920 ft³/s Aug. 2, gage height, 3.53 ft; minimum daily, 2.0 ft³/s Nov. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	7.2	2.5	15	15	11	6.9	6.1	7.0	696	889	219
2	6.0	5.4	6.6	14	15	11	7.0	6.0	6.6	659	876	111
3	6.0	4.7	7.8	13	15	11	4.7	5.2	6.9	661	847	14
4	5.4	4.7	8.2	15	14	10	4.8	4.8	30	665	796	11
5	4.7	5.4	8.6	18	14	5.7	6.9	5.0	68	758	697	10
6	4.7	4.7	8.6	36	15	4.9	6.6	6.0	152	707	583	13
7	3.6	5.4	7.9	30	15	4.1	5.1	4.9	209	520	444	9.5
8	3.6	5.4	7.9	19	15	4.2	5.6	4.7	228	469	378	8.7
9	4.1	5.4	7.9	16	16	4.2	6.3	5.7	234	493	374	7.7
10	4.1	5.4	7.9	14	17	4.2	5.7	5.4	170	551	370	6.6
11	5.4	5.4	11	13	70	4.3	4.8	6.0	122	473	300	7.9
12	6.6	5.4	35	12	20	7.2	5.0	6.0	121	546	255	6.5
13	5.4	5.4	90	13	16	6.2	5.0	5.4	122	601	246	6.5
14	4.7	5.4	25	14	15	6.0	6.8	4.8	210	549	246	6.4
15	4.7	5.4	19	14	14	5.2	5.6	5.3	243	466	243	5.9
16	4.1	5.4	14	14	14	5.7	5.2	7.6	320	505	258	5.8
17	7.2	5.4	35	14	13	5.7	5.6	7.0	456	631	277	5.8
18	8.6	4.7	70	14	12	5.7	5.8	6.2	530	698	274	5.7
19	7.2	4.7	22	14	12	5.2	5.9	6.3	573	721	270	5.8
20	6.6	4.7	19	14	11	4.5	5.2	6.8	573	739	270	5.8
21	6.6	3.6	17	13	14	4.6	6.2	6.4	579	760	252	4.7
22	6.6	3.2	16	15	11	4.6	6.0	5.5	630	781	225	4.4
23	6.6	2.8	15	15	11	4.9	5.5	5.4	591	781	225	4.9
24	6.0	2.8	17	15	11	3.7	5.2	5.4	611	781	225	5.1
25	6.0	2.8	23	15	11	3.6	5.4	5.5	695	776	222	5.0
26	6.0	2.4	18	14	11	3.7	4.7	6.4	718	776	220	5.0
27	6.0	2.4	17	16	11	3.9	10	7.1	714	763	220	4.7
28	6.6	2.4	17	15	11	4.6	8.6	7.7	739	837	220	4.7
29	4.7	2.4	20	15	---	4.7	5.4	9.8	752	890	220	4.9
30	4.1	2.0	19	15	---	4.1	4.8	8.5	749	891	219	4.9
31	4.7	---	16	15	---	6.6	---	7.3	---	892	219	---
TOTAL	172.6	132.4	608.9	489	439	175.0	176.3	190.2	11159.5	21036	11360	520.9
MEAN	5.57	4.41	19.6	15.8	15.7	5.65	5.88	6.14	372	679	366	17.4
MAX	8.6	7.2	90	36	70	11	10	9.8	752	892	889	219
MIN	3.6	2.0	2.5	12	11	3.6	4.7	4.7	6.6	466	219	4.4
AC-FT	342	263	1210	970	871	347	350	377	22130	41720	22530	1030
CAL YR 1985	TOTAL	31656.7		MEAN	86.7	MAX	802	MIN	2.0	AC-FT	62790	
WTR YR 1986	TOTAL	46459.8		MEAN	127	MAX	892	MIN	2.0	AC-FT	92150	

KANSAS RIVER BASIN

06851000 CENTER CREEK AT FRANKLIN, NE

LOCATION.--Lat 40°06'12", long 98°58'45", in NW1/4NE1/4 sec.35, T.2 N., R.15 W., Franklin County, Hydrologic Unit 10250016, on right bank at downstream side of bridge on State Highway 136, 1 mi northwest of Franklin and 3 mi upstream from mouth.

DRAINAGE AREA.--177 mi² approximately, of which about 56 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--April 1948 to September 1956. Annual maximums and occasional low-flow measurements, water years 1961-68. October 1968 to September 1975, October 1977 to current year.

REVISED RECORDS.--WSP 2119: 1963(M), 1965(M), drainage area. WRD NE-83: 1981-82(P).

GAGE.--Water-stage recorder. Datum of gage is 1,858.34 ft above National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark). Prior to Dec. 19, 1952, nonrecording gage at site 1.5 mi downstream at datum 30.27 ft lower and Dec. 19, 1952, to Sept. 30, 1956, at present site at datum 0.84 ft higher. Sept. 7, 1961, to Sept. 30, 1968, crest-stage gage and Oct. 1, 1968, to Sept. 30, 1975, recording gage at present site and datum.

REMARKS.--Estimated daily discharges: Nov. 30 to Dec. 3, Dec. 11-14, 18, 24, 25, Jan. 7, 27, and Feb. 11, 12, 14. Records fair except for periods of estimated record, which are poor. Two small diversions above station for irrigation.

AVERAGE DISCHARGE.--24 years (1948-56, 1968-75, 1978-86) 8.07 ft³/s, 5,850 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,150 ft³/s Sept. 20, 1950, gage height, 6.8 ft, from floodmark, site and datum then in use, from rating curve extended above 420 ft³/s on basis of slope-area measurement of peak flow; no flow at times during 1948-50.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 18	2315	214	2.85	July 10	0030	*329	*3.86
July 9	1630	275	3.34	Aug. 28	2115	161	2.74

Minimum daily discharge, 2.3 ft³/s Aug. 16.

DISCHARGE, IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	11	8.0	6.7	5.4	5.8	5.7	7.2	9.2	10	15	7.9
2	7.0	9.9	8.4	7.9	5.4	5.8	5.9	8.3	9.2	9.2	8.2	9.1
3	7.7	11	9.2	8.4	5.7	5.8	5.9	7.6	9.5	6.3	8.0	9.2
4	11	11	8.4	8.9	5.7	6.2	5.5	7.6	9.5	6.4	7.3	7.9
5	11	9.5	8.3	10	5.9	6.1	5.4	7.1	9.5	7.1	7.5	7.2
6	13	9.8	7.7	9.0	5.7	5.7	5.8	7.4	9.7	7.0	6.9	22
7	14	9.3	7.4	8.0	5.5	5.8	5.7	7.4	10	6.4	7.0	40
8	13	8.6	7.4	6.6	5.0	6.0	6.2	7.6	9.5	5.9	6.3	12
9	16	9.5	7.0	8.4	4.3	5.8	5.8	7.4	9.5	33	9.2	7.2
10	17	9.5	6.5	8.9	5.4	5.5	6.0	7.3	9.5	48	8.8	6.4
11	22	8.4	7.2	9.3	5.0	5.5	5.7	6.9	9.5	12	8.2	7.1
12	19	8.7	7.0	8.8	4.5	8.4	5.5	6.6	9.7	9.6	7.0	5.5
13	15	9.2	6.6	7.2	4.2	8.1	5.5	6.8	9.7	8.3	6.0	5.1
14	14	8.4	8.0	7.8	4.1	7.1	6.5	6.7	9.8	7.8	5.1	4.7
15	13	11	6.9	7.8	4.0	6.0	6.1	7.0	9.9	7.8	2.5	5.2
16	14	8.7	7.8	8.4	4.7	6.0	6.2	9.0	11	6.6	2.3	6.3
17	26	7.8	8.4	8.4	5.4	7.1	7.4	7.9	8.3	4.5	3.4	6.1
18	34	8.1	8.0	8.4	5.7	7.2	8.6	7.4	7.1	3.0	3.1	6.1
19	33	8.4	6.3	8.5	5.7	7.1	7.1	7.4	6.0	5.8	2.6	6.6
20	18	8.7	7.9	8.1	6.1	5.9	6.2	7.4	8.1	4.2	3.6	6.0
21	15	8.0	7.0	7.4	5.4	5.5	6.3	7.4	8.6	4.6	3.7	5.5
22	13	9.8	6.7	7.2	5.5	6.6	6.0	7.4	7.9	4.3	7.7	6.3
23	9.5	9.5	7.8	6.9	5.6	6.0	6.1	7.9	7.5	3.2	8.4	6.9
24	9.8	8.4	7.6	7.0	6.1	6.0	6.5	7.5	6.4	2.9	10	5.6
25	11	8.5	6.8	6.5	6.6	5.6	6.5	7.6	5.9	4.2	9.0	4.7
26	11	9.5	6.7	7.9	6.9	6.1	6.7	7.9	7.0	3.4	8.6	4.5
27	9.6	9.0	7.2	6.0	7.4	6.5	7.7	9.2	8.4	6.0	8.6	4.3
28	10	9.0	7.4	5.0	7.2	5.8	7.0	9.8	8.4	28	14	4.5
29	11	11	6.5	5.3	---	5.7	6.9	9.6	9.4	4.2	12	5.1
30	11	8.6	6.5	5.8	---	5.4	6.7	9.2	9.9	3.2	8.6	7.8
31	12	---	6.5	6.1	---	6.0	---	8.7	---	5.4	8.7	---
TOTAL	447.0	277.8	229.1	236.6	154.1	192.1	189.1	240.2	263.6	278.3	227.3	242.8
MEAN	14.4	9.26	7.39	7.63	5.50	6.20	6.30	7.75	8.79	8.98	7.33	8.09
MAX	34	11	9.2	10	7.4	8.4	8.6	9.8	11	48	15	40
MIN	6.4	7.8	6.3	5.0	4.0	5.4	5.4	6.6	5.9	2.9	2.3	4.3
AC-FT	887	551	454	469	306	381	375	476	523	552	451	482
CAL YR 1985	TOTAL	4159.8		MEAN	11.4	MAX	642	MIN	4.4	AC-FT	8250	
WTR YR 1986	TOTAL	2978.0		MEAN	8.16	MAX	48	MIN	2.3	AC-FT	5910	

KANSAS RIVER BASIN

261

06851500 THOMPSON CREEK AT RIVERTON, NE

LOCATION.--Lat 40°05'21", long 98°45'38", in NW1/4NW1/4 sec.2, T.1 N., R.13 W., Franklin County, Hydrologic Unit 10250016, on left bank at downstream side of bridge on State Highway 136, at west edge of Riverton, 240 ft upstream from Burlington Northern Inc. bridge, and 0.5 mi upstream from mouth.

DRAINAGE AREA.--279 mi², of which about 190 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--April 1948 to September 1956, October 1968 to September 1975. Annual maximums, water years 1962-68 and occasional low-flow measurements, water years 1961-68. October 1977 to current year.

REVISED RECORDS.--WRD Nebr. 1972: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,753.38 ft above National Geodetic Vertical Datum of 1929. Apr. 1 to Oct. 1, 1948, nonrecording gage 240 ft downstream at datum 2.32 ft higher. Oct. 1, 1948, to July 11, 1950, water-stage recorder at present site at datum 1.32 ft higher, July 12, 1950, to Sept. 30, 1956, and Oct. 1, 1968, to Sept. 30, 1975, at present site and datum. Sept. 7, 1961, to Sept. 30, 1968, crest-stage gage at present site and datum. Non-recording gage only, June 27, 1983 to Mar. 29, 1984 at site 240 ft downstream at present datum.

REMARKS.--Estimated daily discharges: Nov. 20, Nov. 27 to Dec. 5, Dec. 11-15, 18-21, 25, 26, 28, 29, Jan. 5-10, 22, 27, 28, and Feb. 5-17. Records good except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station.

AVERAGE DISCHARGE.--24 years (1948-56, 1968-75, 1978-86), 31.4 ft³/s, 22,750 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,200 ft³/s July 9, 1950, gage height, 13.22 ft, present datum, by slope-area measurement; minimum daily, 8.1 ft³/s Dec. 19, 1951.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 280 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 10	0500	*376	*6.18	No other peak greater than base discharge.			
Minimum daily discharge, 11 ft ³ /s Aug. 29-31.							

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	24	16	23	25	23	18	23	23	15	44	12
2	25	24	17	23	25	22	19	23	22	13	30	14
3	24	24	19	23	25	21	20	24	22	13	18	14
4	25	24	23	22	25	21	18	25	22	14	13	12
5	26	25	22	21	25	20	17	24	22	13	13	12
6	27	24	20	20	24	21	17	23	22	13	13	45
7	25	24	18	21	24	20	20	21	23	14	12	19
8	23	23	19	22	22	21	19	22	20	15	13	18
9	25	23	19	24	21	22	19	23	21	14	15	18
10	26	23	19	23	22	21	19	24	22	151	15	16
11	26	24	18	24	20	21	22	25	29	38	13	17
12	26	24	17	24	19	24	22	24	19	26	14	15
13	24	24	16	24	21	21	22	23	19	27	13	15
14	24	23	22	24	22	22	22	23	19	25	13	15
15	23	23	25	25	22	21	25	24	19	15	33	16
16	23	23	23	25	23	22	24	26	19	16	17	17
17	30	22	23	26	24	22	23	23	17	14	15	17
18	33	23	20	27	25	21	25	23	17	13	15	17
19	57	23	23	28	26	20	21	23	16	14	15	18
20	30	22	24	27	26	21	22	22	16	14	15	17
21	26	22	23	28	25	21	22	22	15	15	15	16
22	26	22	21	28	24	20	21	23	16	14	15	16
23	25	21	21	28	23	20	22	23	21	13	13	18
24	26	20	20	28	23	22	22	22	22	13	14	20
25	26	20	18	27	24	20	22	22	15	12	16	17
26	26	21	21	27	23	20	23	22	15	14	24	16
27	25	19	23	22	21	19	26	24	15	25	19	16
28	24	21	21	23	20	18	25	26	14	13	12	16
29	24	24	22	24	---	18	24	24	15	13	11	17
30	24	25	23	23	---	17	23	23	14	12	11	19
31	24	---	22	23	---	19	---	23	---	14	11	---
TOTAL	825	684	638	757	649	641	644	722	571	635	510	515
MEAN	26.6	22.8	20.6	24.4	23.2	20.7	21.5	23.3	19.0	20.5	16.5	17.2
MAX	57	25	25	28	26	24	26	26	29	151	44	45
MIN	23	19	16	20	19	17	17	21	14	12	11	12
AC-FT	1640	1360	1270	1500	1290	1270	1280	1430	1130	1260	1010	1020
CAL YR 1985	TOTAL	14163	MEAN	38.8	MAX	2280	MIN	13	AC-FT	28090		
WTR YR 1986	TOTAL	7791	MEAN	21.3	MAX	151	MIN	11	AC-FT	15450		

KANSAS RIVER BASIN

06852000 ELM CREEK AT AMBOY, NE

LOCATION.--Lat 40°05'20", long 98°26'07", in NE1/4NW1/4 sec.3, T.1 N., R.10 W., Webster County, Hydrologic Unit 10250016, on left bank at downstream side of bridge on State Highway 136 at east edge of Amboy, 2.5 mi upstream from mouth, and 4.5 mi east of Red Cloud.

DRAINAGE AREA.--39.2 mi².

PERIOD OF RECORD.--April 1948 to December 1953. Annual maximums, water years 1959, 1961-77 and occasional low flow measurements, water years 1954-77. October 1977 to current year.

REVISED RECORDS.--WRD NE-83: 1982(M).

GAGE.--Water-stage recorder. Datum of gage is 1,659.07 ft above National Geodetic Vertical Datum of 1929. Prior to July 17, 1952, nonrecording gage at upstream side of bridge at datum 7.26 ft higher, July 17, 1952, to Jan. 4, 1954, water-stage recorder, present site, at datum 6.26 ft higher, and Sept. 6, 1961, to Sept. 30, 1977, crest-stage gage at present site and datum.

REMARKS.--Estimated daily discharges: Dec. 1, 2, 12-15, 18-20, and Feb. 6-16. Records good except for periods of estimated record, which are poor. Natural flow affected by pump irrigation development above station.

AVERAGE DISCHARGE.--14 years (water years 1949-53, 1978-86), 22.0 ft³/s, 15,940 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,800 ft³/s Sept. 29, 1983, gage height, 16.96 ft, from floodmark, from rating curve extended above 6,400 ft³/s on basis of velocity-area study; maximum gage height, 17.05 ft July 4, 1959; minimum daily discharge, 6.7 ft³/s July 30, 1986.

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)
Aug. 7	1800	724	12.59	Sept. 6	1400	*1500	*13.79

Minimum daily discharge, 6.7 ft³/s July 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	16	16	14	15	13	15	15	15	13	12	12
2	14	16	14	14	15	13	15	14	15	12	11	12
3	14	16	15	14	16	13	16	14	14	12	9.9	12
4	14	16	15	15	16	14	15	15	25	12	9.9	12
5	14	16	15	14	15	13	14	14	21	11	21	21
6	14	16	15	14	14	13	15	14	17	11	12	1130
7	14	16	15	14	13	13	15	14	16	10	292	203
8	14	16	15	14	13	13	14	15	15	8.7	102	51
9	14	16	16	14	13	14	14	16	15	8.8	36	27
10	15	16	16	14	12	14	15	15	16	13	26	18
11	15	16	15	14	12	15	15	15	15	11	20	16
12	16	16	13	15	13	16	14	15	13	13	15	15
13	15	16	12	15	13	15	17	15	14	12	14	15
14	15	16	12	15	13	14	17	16	14	12	14	14
15	15	16	12	15	13	14	15	17	15	10	13	15
16	15	17	13	15	14	15	15	24	16	9.1	13	17
17	25	17	13	15	15	15	16	16	13	8.7	12	15
18	30	17	13	15	15	14	17	15	13	7.1	10	15
19	43	16	13	15	15	14	16	14	13	7.1	9.4	14
20	50	16	12	15	14	13	16	15	13	7.6	9.6	22
21	22	16	13	15	14	14	15	14	12	8.4	9.3	14
22	17	16	14	14	15	14	16	14	13	8.9	11	12
23	16	16	15	15	15	14	16	14	12	11	11	13
24	16	16	14	15	14	14	16	14	11	9.4	12	12
25	16	16	13	15	15	14	15	14	10	8.7	13	12
26	16	16	13	15	13	14	16	14	9.5	9.6	12	12
27	16	16	14	14	13	14	22	15	9.6	11	12	11
28	16	17	14	15	13	14	19	15	9.4	9.1	12	11
29	16	16	14	15	---	14	16	15	10	8.2	12	12
30	16	16	14	15	---	14	15	14	9.2	6.7	12	12
31	16	---	14	14	---	15	---	14	---	8.0	12	---
TOTAL	564	484	432	452	391	433	472	465	413.7	308.1	790.1	1777
MEAN	18.2	16.1	13.9	14.6	14.0	14.0	15.7	15.0	13.8	9.94	25.5	59.2
MAX	50	17	16	15	16	16	22	24	25	13	292	1130
MIN	14	16	12	14	12	13	14	14	9.2	6.7	9.3	11
AC-FT	1120	960	857	897	776	859	936	922	821	611	1570	3520
CAL YR 1985	TOTAL	7766.5		MEAN	21.3	MAX	973	MIN	7.5	AC-FT	15400	
WTR YR 1986	TOTAL	6981.9		MEAN	19.1	MAX	1130	MIN	6.7	AC-FT	13850	

06852500 COURTLAND CANAL AT NEBRASKA-KANSAS STATE LINE

LOCATION.--Lat 40°00'15", long 98°07'55", in SW1/4SE1/4 sec.32, T.1 N., R.7 W., Nuckolls County, Nebraska, Hydrologic Unit 10250016, on left bank 0.2 mi upstream from Nebraska-Kansas State line and 3.5 mi southwest of Superior, NE.

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

GAGE.--Water-stage recorder and concrete Parshall flume. Datum of gage is 1,612.46 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Canal diverts from Republican River at Courtland diversion dam in sec.7, T.1 N., R.9 W. Water is used for irrigation in Nebraska and Kansas; figures published herein represent that portion which flows into Kansas.

AVERAGE DISCHARGE.--32 years, 78.0 ft³/s, 56,510 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 781 ft³/s Sept. 2, 1973, gage height, 5.05 ft; no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 629 ft³/s Aug. 2-4; no flow for many days.

DISCHARGE. IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	454	623	85
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	422	629	70
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	370	629	16
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	372	629	16
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	370	614	12
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	372	541	12
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	366	498	8.7
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	326	424	14
9	.00	.00	.00	.00	.00	.00	.00	.00	63	290	323	17
10	.00	.00	.00	.00	.00	.00	.00	.00	154	292	319	15
11	.00	.00	.00	.00	.00	.00	.00	.00	109	305	316	16
12	.00	.00	.00	.00	.00	.00	.00	.00	118	298	267	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	127	299	195	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	130	307	174	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	128	298	169	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	154	285	168	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	195	272	172	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	226	274	167	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	278	340	167	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	333	376	167	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	352	422	167	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	360	468	143	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	368	498	125	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	370	504	126	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	364	504	130	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	370	504	130	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	396	512	108	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	412	516	87	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	412	534	86	.00
30	.00	.00	.00	.00	.00	.00	.00	.00	429	585	86	.00
31	.00	---	.00	.00	---	.00	---	.00	---	614	85	---
TOTAL	.00	.00	.00	.00	.00	.00	.00	.00	5848.00	12349	8464	281.70
MEAN	.00	.00	.00	.00	.00	.00	.00	.00	195	398	273	9.39
MAX	.00	.00	.00	.00	.00	.00	.00	.00	429	614	629	85
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	272	85	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	11600	24490	16790	559
CAL YR 1985	TOTAL	21957.30		MEAN	60.2	MAX	534	MIN	.00	AC-FT	43550	
WTR YR 1986	TOTAL	26942.70		MEAN	73.8	MAX	629	MIN	.00	AC-FT	53440	

KANSAS RIVER BASIN

06853020 REPUBLICAN RIVER AT GUIDE ROCK, NE

LOCATION.--Lat 40°03'49", long 98°19'53", in NE1/4SE1/4 sec.9, T.1 N., R.9 W., Webster County, Hydrologic Unit 10250016, on right downstream bank at Nebraska State Highway 78 bridge, 0.2 mi downstream from Minnie Creek and 0.5 mi south of Guide Rock. Station is 3.1 river miles downstream from station 06853000, Republican River near Guide Rock, previous site.

DRAINAGE AREA.--22,090 mi², approximately, of which about 14,600 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1950 to current year. August 1950 to September 1984 published as Republican River near Guide Rock (06853000).

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,616.15 ft above National Geodetic Vertical Datum of 1929, levels by U.S. Corps of Engineers. Prior to Oct. 1, 1959, at datum 12.98 ft higher, and Oct. 1, 1959 to Nov. 28, 1984, at datum 7.98 ft higher, both at site 3.1 miles upstream.

REMARKS.--Estimated daily discharges: Nov. 22 to Jan. 8, Jan. 26, 27, Feb. 7-21, May 19, 20, and May 30 to June 2. Records good except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station, by regulation of upstream reservoirs, and since Nov. 14, 1952, by storage in Harlan County Lake (station 06849000).

AVERAGE DISCHARGE.--36 years, 328 ft³/s, 237,600 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,200 ft³/s June 16, 1957, gage height, 20.73 ft, at site and datum then in use; minimum daily, 0.1 ft³/s May 26, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood since at least 1826 occurred June 1 or 2, 1935, discharge, about 250,000 ft³/s, from slope-area measurements near Bloomington and Hardy.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,310 ft³/s Sept. 6, gage height, 10.29 ft from floodmark; minimum daily, 11 ft³/s July 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	170	164	125	155	145	137	127	141	69	32	70	177
2	164	162	120	170	146	140	133	131	44	56	238	228
3	156	161	125	180	148	138	139	127	25	44	227	273
4	153	162	130	180	155	135	140	130	22	26	147	210
5	145	162	135	180	155	133	130	128	42	19	197	140
6	140	161	135	175	150	129	123	121	25	18	180	1840
7	140	156	140	180	135	123	122	115	46	90	266	1030
8	136	156	145	200	125	119	117	117	46	67	293	329
9	133	156	140	224	120	122	113	131	91	33	204	208
10	136	152	140	248	110	125	113	140	92	25	211	148
11	140	151	135	229	110	124	116	129	125	312	165	125
12	146	156	130	212	115	141	119	121	105	150	155	103
13	147	160	125	196	125	144	144	116	44	98	132	88
14	142	159	150	188	140	142	174	117	29	145	90	75
15	135	159	170	187	150	137	138	134	24	125	79	70
16	133	163	150	189	155	137	133	186	45	51	64	68
17	170	166	140	188	160	142	131	159	39	20	47	65
18	240	166	140	192	165	144	143	143	40	12	51	63
19	275	157	145	183	165	133	147	130	44	20	37	64
20	368	149	150	178	150	128	139	120	51	13	29	67
21	276	149	150	173	135	127	128	109	41	27	29	66
22	229	145	145	158	150	129	121	106	37	23	63	61
23	211	140	140	157	157	127	120	105	58	20	101	69
24	196	140	140	165	146	126	121	105	66	12	103	75
25	187	145	135	159	148	126	120	102	28	11	111	71
26	183	150	145	140	149	123	123	98	20	12	123	68
27	179	145	150	115	143	121	190	101	32	28	152	67
28	175	140	145	127	137	123	180	113	24	60	175	67
29	172	135	145	175	---	121	167	126	19	43	178	76
30	167	130	140	166	---	119	157	119	28	46	182	80
31	164	---	140	152	---	120	---	97	---	34	183	---
TOTAL	5508	4597	4345	5521	3989	4035	4068	3817	1401	1672	4282	6071
MEAN	178	153	140	178	142	130	136	123	46.7	53.9	138	202
MAX	368	166	170	248	165	144	190	186	125	312	293	1840
MIN	133	130	120	115	110	119	113	97	19	11	29	61
AC-FT	10930	9120	8620	10950	7910	8000	8070	7570	2780	3320	8490	12040
CAL YR 1985	TOTAL	75536		MEAN	207	MAX	6680	MIN	22	AC-FT	149800	
WTR YR 1986	TOTAL	49306		MEAN	135	MAX	1840	MIN	11	AC-FT	97800	

KANSAS RIVER BASIN

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06853020 REPUBLICAN RIVER AT GUIDE ROCK, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962 to current year. Prior to October 1985 published as Republican River near Guide Rock (06853000).

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT 08...	1745	135	900	7.50	13.0	9.4	33	190	740
NOV 08...	1145	154	790	7.30	8.0	12.0	13	K130	K80
DEC 04...	1500	128	880	7.30	0.0	12.8	11	K12	540
JAN 29...	1000	170	650	8.60	0.0	13.0	<5	K26	96
FEB 25...	1500	148	795	8.10	11.5	11.0	18	<3	K10
MAR 26...	0900	122	758	8.20	9.0	10.2	14	K86	100
APR 24...	1030	120	740	8.10	19.0	8.9	10	K100	200
MAY 21...	1035	108	749	8.10	18.5	8.9	160	490	370
JUN 18...	1200	46	650	8.20	30.0	7.2	27	K640	360
JUL 17...	1315	21	650	7.90	29.0	6.8	18	250	280
AUG 14...	1545	94	648	7.80	28.0	8.0	31	240	660
SEP 10...	1330	143	680	7.50	22.5	7.9	240	2000	2700

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

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 08...	350	0	110	20	37	0.9	120	22
NOV 08...	370	0	110	22	36	0.9	130	18
DEC 04...	370	0	110	21	34	0.8	140	20
JAN 29...	340	0	100	19	36	0.9	110	22
FEB 25...	320	0	98	19	33	0.8	120	20
MAR 26...	270	0	76	20	33	0.9	98	24
APR 24...	320	0	95	19	28	0.7	110	23
MAY 21...	330	0	100	19	32	0.8	81	23
JUN 18...	210	0	56	18	38	1	84	28
JUL 17...	240	0	64	19	40	1	100	23
AUG 14...	240	0	58	22	43	1	97	25
SEP 10...	280	0	82	19	31	0.8	110	20

KANSAS RIVER BASIN

06853020 REPUBLICAN RIVER AT GUIDE ROCK, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

		SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDEED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L) AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L) AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L) AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L) AS N) (00625)	NITRO- GEN, TOTAL (MG/L) AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L) AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L) AS C) (00680)	
	OCT									
	08...	30	0.850	0.040	0.70	0.74	1.6	0.130	4.7	
	NOV									
	08...	16	0.820	0.070	0.13	0.20	1.0	0.220	4.9	
	DEC									
	04...	12	1.60	0.230	0.22	0.45	2.0	0.170	5.7	
	JAN									
	29...	28	1.70	0.150	0.80	0.95	2.7	0.140	4.0	
	FEB									
	25...	28	1.60	0.090	0.69	0.78	2.4	0.140	3.5	
	MAR									
	26...	16	0.770	0.030	0.75	0.78	1.5	0.130	3.6	
	APR									
	24...	50	0.690	0.120	0.43	0.55	1.2	0.120	5.6	
	MAY									
	21...	48	0.920	0.080	0.57	0.65	1.6	0.190	3.6	
	JUN									
	18...	78	0.590	0.040	1.1	1.1	1.7	0.200	5.1	
	JUL									
	17...	14	0.770	0.040	1.4	1.4	2.2	0.620	5.9	
	AUG									
	14...	64	0.520	0.020	1.3	1.3	1.8	0.220	5.1	
	SEP									
	10...	178	1.50	0.070	1.0	1.1	2.6	0.420	5.6	
DATE	TIME	ARSENIC TOTAL (UG/L AS AS) (01002)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	LEAD. TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
NOV										
08...	1145	8	<15	<10	<10	<20	<0.1	6	<1	<30
MAR										
26...	0900	3	<15	<10	<10	<20	0.2	4	<1	50
MAY										
21...	1035	12	<15	<10	<10	<20	<0.1	14	<1	<30
AUG										
14...	1545	15	<15	<10	20	<20	<0.1	8	<1	70

KANSAS RIVER BASIN

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06853500 REPUBLICAN RIVER NEAR HARDY, NE

LOCATION.--Lat 39°59'33", long 97°55'53", in NE1/4 NE1/4 SE1/4 sec.1, T.1 S., R.6 W., in Kansas, Republic County, Hydrologic Unit 10250016, on right bank at upstream side of highway bridge, 1.2 mi southwest of Hardy and at mile 141.2.

DRAINAGE AREA.--22,401 mi², of which about 7,500 mi² does not contribute directly to surface runoff.

PERIOD OF RECORD.--June 1904 to September 1915 (no winter records), April 1931 to current year. Prior to May 1932, published as "at Bostwick." Records for June 1896 to November 1903 published as "near Superior" in 18th to 22nd Ann. Repts., inclusive, Pt. 4, and WSP 75, 84, and 99, have been found to be unreliable and should not be used.

REVISED RECORDS.--WSP 806: Drainage area. WSP 1006: 1941. WSP 1340: 1905(M), 1907-09, 1912, 1914-15, 1931. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 1,501.46 ft above National Geodetic Vertical Datum of 1929. Prior to May 19, 1932, nonrecording gage at site at Bostwick, 20 mi upstream at different datum.

REMARKS.--Estimated daily discharges: Nov. 28 to Jan. 18, Jan. 27, and Feb. 12-19. Records good except those for estimated daily discharges, which are poor. Natural flow affected by irrigation development upstream from station and by storage in reservoirs in Colorado, Kansas, and Nebraska. Considerable regulation since 1952 by Harlan County Lake (station 06849000).

AVERAGE DISCHARGE.--21 years (water years 1914, 1933-52), 882 ft³/s, 639,000 acre-ft/yr; 29 years (water years 1958-86, since conservation pool at Harlan County Lake was first filled), 377 ft³/s, 273,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 225,000 ft³/s June 2, 1935, gage height, 19.4 ft, based on records for stations upstream; no flow Aug. 9-19, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stages since at least 1895, that of June 2, 1935, and 17.00 ft June 24, 1947, discharge, 100,000 ft³/s, based on records for upstream stations.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,920 ft³/s Sept. 7, gage height, 8.90 ft; minimum discharge, 54 ft³/s July 18-20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	251	225	150	230	214	194	181	289	194	270	141	264
2	256	220	160	228	210	194	187	255	176	455	238	261
3	248	222	180	227	224	191	203	233	157	423	392	313
4	236	216	200	222	246	191	199	216	120	325	330	357
5	216	212	205	219	248	201	191	209	116	286	337	286
6	206	209	200	209	237	198	181	199	164	401	353	1730
7	200	204	198	170	231	208	176	187	128	301	454	3030
8	193	203	198	197	224	185	169	182	152	334	484	855
9	188	202	200	227	203	185	162	196	150	312	450	480
10	189	201	200	237	197	185	160	190	233	292	406	367
11	197	197	190	254	134	191	163	189	274	283	339	307
12	211	195	163	262	120	201	163	177	276	301	287	266
13	209	201	134	272	135	211	166	164	247	171	270	222
14	200	201	150	280	160	219	537	188	169	155	236	204
15	189	201	171	288	150	204	299	233	152	201	202	194
16	185	203	176	300	230	201	199	702	145	187	175	194
17	194	203	174	297	260	204	179	474	170	107	170	188
18	341	201	152	294	267	226	182	287	172	70	163	181
19	375	197	160	281	268	226	185	242	190	56	161	185
20	402	180	170	262	251	204	189	207	226	72	149	178
21	439	189	180	251	231	198	180	196	239	64	181	172
22	332	187	190	239	211	194	169	188	310	102	198	160
23	290	202	200	226	216	191	166	181	330	98	181	158
24	273	209	185	228	213	188	165	173	331	85	208	163
25	259	207	172	229	204	188	171	172	353	72	219	160
26	258	200	190	220	204	188	189	172	332	63	219	155
27	253	210	208	208	202	182	1710	172	326	71	219	146
28	246	197	220	198	197	180	1240	176	320	103	230	141
29	238	178	223	205	---	181	526	187	255	130	266	175
30	233	164	226	250	---	175	349	280	257	98	266	280
31	227	---	228	231	---	176	---	218	---	112	266	---
TOTAL	7734	6036	5753	7441	5887	6060	8936	7134	6664	6000	8190	11772
MEAN	249	201	186	240	210	195	298	230	222	194	264	392
MAX	439	225	228	300	268	226	1710	702	353	455	484	3030
MIN	185	164	134	170	120	175	160	164	116	56	141	141
AC-FT	15340	11970	11410	14760	11680	12020	17720	14150	13220	11900	16240	23350
CAL YR 1985	TOTAL	107522	MEAN 295	MAX 6460	MIN 70	AC-FT 213300						
WTR YR 1986	TOTAL	87607	MEAN 240	MAX 3030	MIN 56	AC-FT 173800						

KANSAS RIVER BASIN

06879900 BIG BLUE RIVER AT SURPRISE, NE

LOCATION.--Lat 41°06'05", long 97°18'35", in NW1/4NW1/4 sec.15, T.13 N., R.1 E., Butler County, Hydrologic Unit 10270201, on left bank 50 ft downstream from bridge on county road at south edge of Surprise.

DRAINAGE AREA.--345 mi².

PERIOD OF RECORD.--April 1964 to current year. Prior to October 1965, published as North Branch Big Blue River at Surprise.

GAGE.--Water-stage recorder and concrete broad-crested weir control. Elevation of gage is 1,520 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 12-15, 24, 25, Dec. 31 to Jan. 27, and Feb. 6-23. Records good above 5 ft³/s and poor below and also poor for periods of estimated record.

AVERAGE DISCHARGE.--22 years, 28.9 ft³/s, 20,940 acre-ft/yr; median of yearly mean discharges, 27 ft³/s, 19,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,700 ft³/s July 19, 1965, gage height, 11.52 ft; no flow for many days in most 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	1730	1220	6.73	June 30	0530	*4860	*10.64
Apr. 30	2130	388	3.49	July 12	1330	959	5.64
June 11	0630	500	3.91	Aug. 9	2230	609	4.31

Minimum daily discharge, 0.23 ft³/s Nov. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	3.2	1.8	2.9	2.6	4.9	3.2	234	6.4	2670	19	4.7
2	7.9	2.6	1.7	3.2	2.8	4.9	3.4	74	9.3	1620	20	4.8
3	6.3	2.8	1.5	3.1	2.8	4.1	4.6	45	8.5	518	20	5.3
4	5.6	2.6	3.0	2.9	2.7	4.9	4.9	32	6.4	167	18	5.8
5	3.6	2.6	3.2	2.7	2.6	4.6	4.1	19	12	68	19	8.3
6	4.4	1.1	2.5	2.6	2.2	2.6	4.4	12	4.9	48	20	22
7	4.9	1.1	3.7	2.7	2.1	2.3	4.1	8.2	3.7	45	47	117
8	5.1	.89	3.3	2.8	1.9	1.8	3.7	6.8	4.2	42	75	124
9	5.4	.23	2.4	2.9	1.8	2.3	3.4	7.5	3.7	31	220	133
10	5.4	.30	1.9	3.0	1.7	2.1	3.0	7.4	19	34	230	72
11	3.8	.34	1.8	3.0	1.7	2.1	3.2	9.3	246	41	50	37
12	4.6	.58	1.6	2.8	1.7	4.6	3.4	6.6	31	731	45	25
13	6.4	.70	1.5	2.5	1.8	6.2	3.5	5.1	7.9	662	93	15
14	5.4	1.1	1.8	2.4	1.9	7.5	2.8	4.2	4.4	373	37	15
15	4.0	.78	2.2	2.5	2.1	5.2	2.6	4.2	3.3	183	23	14
16	4.3	1.4	2.7	2.6	2.4	3.7	18	5.8	3.4	73	12	12
17	5.6	2.2	2.5	2.6	2.7	3.0	44	9.7	2.2	42	16	9.9
18	42	1.9	1.6	2.6	3.0	5.0	21	10	3.6	32	14	8.9
19	35	1.4	2.1	2.5	2.9	26	12	10	4.1	27	12	32
20	16	1.3	2.3	2.5	2.8	10	8.5	19	4.6	19	11	50
21	11	1.1	2.4	2.3	2.8	5.9	6.0	22	12	13	146	32
22	8.3	1.3	3.2	2.2	2.9	4.9	4.7	14	4.0	12	208	20
23	6.4	1.6	4.0	2.3	3.0	3.7	3.9	11	2.0	11	114	28
24	12	1.5	2.7	2.4	3.2	3.5	3.2	8.7	2.0	12	61	22
25	13	1.4	3.2	2.3	4.3	3.3	2.7	7.1	1.4	19	32	18
26	7.8	1.9	3.6	2.2	6.1	3.7	3.0	3.7	1.4	15	23	9.2
27	4.6	1.8	3.4	2.3	8.0	3.4	273	4.2	1.6	15	19	4.1
28	5.2	1.5	3.2	2.4	5.6	3.9	1050	4.1	1.5	23	12	44
29	4.9	1.8	2.1	2.1	---	3.4	652	4.7	107	21	8.5	33
30	4.1	1.8	2.2	2.6	---	2.6	250	4.6	3250	25	7.2	7.8
31	4.1	---	2.6	2.9	---	3.0	---	4.3	---	22	5.7	---
TOTAL	270.1	44.82	77.7	80.8	82.1	149.1	2406.3	618.2	3771.5	7614	1637.4	933.8
MEAN	8.71	1.49	2.51	2.61	2.93	4.81	80.2	19.9	126	246	52.8	31.1
MAX	42	3.2	4.0	3.2	8.0	26	1050	234	3250	2670	230	133
MIN	3.6	.23	1.5	2.1	1.7	1.8	2.6	3.7	1.4	11	5.7	4.1
AC-FT	536	89	154	160	163	296	4770	1230	7480	15100	3250	1850

CAL YR 1985	TOTAL	11899.07	MEAN	32.6	MAX	1870	MIN	.23	AC-FT	23600
WTR YR 1986	TOTAL	17685.82	MEAN	48.5	MAX	3250	MIN	.23	AC-FT	35080

KANSAS RIVER BASIN

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06880000 LINCOLN CREEK NEAR SEWARD, NE

LOCATION.--Lat 40°54'57", long 97°08'43", in NW1/4NE1/4 sec.24, T.11 N., R.2 E., Seward County, Hydrologic Unit 10270201, on left bank at downstream side of county road bridge, 2 mi west of Seward, and 2.5 mi upstream from mouth.

DRAINAGE AREA.--446 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1953 to September 1973, March 1974 to current year. Monthly discharge only for some periods, published in WSP 1730.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,429.27 ft above National Geodetic Vertical Datum of 1929. June 27, 1984 to June 2, 1985 at temporary site upstream from county road at same datum.

REMARKS.--Estimated daily discharges: Nov. 19 to Jan. 21, Jan. 27 to Feb. 1, and Feb. 6-22. Records fair except for periods of estimated record, which are poor. Small diversions for irrigation above station.

AVERAGE DISCHARGE.--32 years, (1953-73, 1975-86) 51.3 ft³/s, 37,170 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,100 ft³/s June 17, 1957, gage height, 20.53 ft; minimum daily, 1.3 ft³/s July 31, 1955.

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. 29	1630	449	9.95	July 13	1430	1170	14.50
June 14	1530	867	13.07	Aug. 10	1930	683	12.01
July 1	2100	*4420	*19.26	Aug. 22	0400	365	9.47
July 10	1730	572	11.22				

Minimum daily discharge, 17 ft³/s Nov. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	29	18	33	25	24	25	198	36	3320	49	28
2	35	28	19	32	23	24	26	88	30	3550	51	27
3	30	27	20	31	23	23	28	56	27	2430	57	27
4	35	27	24	28	24	24	27	45	29	1420	61	27
5	36	26	24	26	25	24	27	40	36	661	62	28
6	32	26	25	25	25	24	26	35	29	335	56	60
7	30	26	25	27	25	22	26	33	28	143	71	239
8	31	26	24	28	24	22	25	32	25	90	102	219
9	29	25	22	29	21	23	24	35	25	70	188	113
10	28	25	21	29	20	23	24	32	70	373	613	149
11	27	26	21	30	22	23	25	31	49	250	344	119
12	28	26	21	28	23	31	26	30	204	628	113	62
13	27	27	25	28	24	40	25	29	613	1130	224	44
14	27	26	27	29	25	33	38	29	796	712	116	36
15	26	26	27	29	26	29	31	28	211	300	56	33
16	25	27	28	31	25	28	28	30	86	212	80	30
17	29	26	27	33	24	30	27	31	65	146	63	29
18	245	27	26	31	24	33	29	28	44	102	45	27
19	160	24	26	31	23	30	29	27	37	76	40	35
20	98	19	27	32	22	27	28	27	33	61	35	46
21	77	18	28	33	23	27	27	36	32	52	200	30
22	75	17	32	23	26	27	27	41	31	49	321	28
23	75	19	29	23	26	27	27	33	29	52	170	28
24	62	22	28	24	23	27	27	30	27	58	88	27
25	48	24	30	24	23	27	26	28	26	58	60	29
26	42	25	31	21	26	26	27	27	25	68	50	29
27	37	20	33	25	26	26	113	26	25	79	41	28
28	34	19	33	25	25	26	194	29	25	77	35	27
29	32	18	32	24	---	26	392	55	26	69	32	50
30	32	18	32	25	---	25	386	106	1210	62	30	54
31	30	---	33	25	---	25	---	60	---	54	29	---
TOTAL	1564	719	818	862	671	826	1790	1355	3929	16687	3482	1708
MEAN	50.5	24.0	26.4	27.8	24.0	26.6	59.7	43.7	131	538	112	56.9
MAX	245	29	33	33	26	40	392	198	1210	3550	613	239
MIN	25	17	18	21	20	22	24	26	25	49	29	27
AC-FT	3100	1430	1620	1710	1330	1640	3550	2690	7790	33100	6910	3390
CAL YR 1985	TOTAL	35129		MEAN	96.2	MAX	4470	MIN	17	AC-FT	69680	
WTR YR 1986	TOTAL	34411		MEAN	94.3	MAX	3550	MIN	17	AC-FT	68250	

KANSAS RIVER BASIN

06880000 LINCOLN CREEK NEAR SEWARD, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963-70, 1973 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT									
11...	1120	25	555	8.60	8.5	11.2	28	930	880
NOV									
05...	1045	26	605	8.00	8.0	11.4	14	K130	820
DEC									
03...	1215	25	--	7.60	0.0	15.7	11	210	1400
JAN									
28...	1100	24	--	7.90	0.0	14.9	10	K20	100
FEB									
25...	1230	22	590	7.90	4.0	14.8	24	K9	92
MAR									
25...	1100	27	660	8.20	12.0	10.9	20	K50	200
APR									
22...	1035	27	627	8.20	10.0	12.9	32	K150	5000
MAY									
19...	1200	28	580	8.20	15.0	8.2	27	930	3800
JUN									
18...	0940	43	390	7.10	23.5	6.3	75	3100	17000
JUL									
16...	1500	211	205	7.50	27.5	5.6	93	K1800	10000
AUG									
12...	1000	112	264	7.40	20.5	8.2	52	5200	7600
SEP									
08...	1010	222	158	7.20	14.5	7.2	120	K130000	K170000

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

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT								
11...	240	0	73	14	25	0.7	43	5.8
NOV								
05...	260	0	79	16	29	0.8	69	<5.0
DEC								
03...	280	0	85	17	29	0.8	53	8.9
JAN								
28...	280	0	84	18	35	0.9	56	11
FEB								
25...	250	0	72	16	28	0.8	51	9.9
MAR								
25...	240	0	70	15	28	0.8	49	9.2
APR								
22...	260	0	77	16	22	0.6	60	9.4
MAY								
19...	260	0	76	16	27	0.8	76	9.7
JUN								
18...	130	0	38	9.7	18	0.7	35	7.5
JUL								
16...	64	0	18	4.6	6.7	0.4	4.7	<5.0
AUG								
12...	83	0	24	5.6	10	0.5	6.1	<5.0
SEP								
08...	46	0	13	3.4	3.5	0.2	4.0	<5.0

KANSAS RIVER BASIN

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06880000 LINCOLN CREEK NEAR SEWARD, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, RESIDUE AT 105 DEG. C. SUS- PENDE (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 11...	42	3.00	0.030	1.1	1.1	4.1	0.070	5.4
NOV 05...	40	3.30	0.090	0.39	0.48	3.8	0.700	4.5
DEC 03...	<4	2.80	0.040	0.29	0.33	3.1	0.350	7.1
JAN 28...	11	3.60	0.060	--	<0.10	--	0.230	4.2
FEB 25...	16	2.80	0.020	0.88	0.90	3.7	0.260	4.9
MAR 25...	90	2.40	0.090	2.0	2.1	4.5	0.370	9.4
APR 22...	88	2.00	0.100	1.9	2.0	4.0	0.530	6.8
MAY 19...	214	3.90	0.080	1.4	1.5	5.4	0.510	6.5
JUN 18...	846	3.60	0.500	0.70	1.2	4.8	1.30	17
JUL 16...	934	2.30	0.050	6.0	6.0	8.3	0.030	15
AUG 12...	458	1.80	0.060	4.9	5.0	6.8	0.560	12
SEP 08...	880	1.20	0.190	5.9	6.1	7.3	1.50	11

KANSAS RIVER BASIN

06880500 BIG BLUE RIVER AT SEWARD, NE

LOCATION.--Lat 40°54'10", long 97°06'40", in SE1/4SW1/4 sec.20, T.11 N., R.3 E., Seward County, Hydrologic Unit 10270201, at downstream end of right abutment of bridge on U.S. Highway 34 at west edge of Seward, 1.7 mi upstream from Plum Creek and 0.2 mi downstream from Lincoln Creek.

DRAINAGE AREA.--1,099 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1953 to current year. Monthly discharge only for some periods, published in WSP 1730.

REVISED RECORDS.--WSP 1919: Drainage area. WDR NE-80-1: 1979(M).

GAGE.--Water-stage recorder. Datum of gage is 1,421.49 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 19, 1969, at present site and datum. Dec. 19, 1969 to Nov. 7, 1983 at site 1.2 mi downstream at datum 6.33 ft lower.

REMARKS.--Estimated daily discharges: Nov. 17 to Dec. 2, Dec. 8-13, 22-28, Jan. 4-8, 26-28, and Feb. 3-13, 18-23. Records good except for periods of estimated record, which are poor. Natural flow of stream affected by ground-water withdrawals and diversions for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--33 years, 129 ft³/s, 93,460 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,300 ft³/s June 18, 1957, gage height, 22.34 ft; maximum gage height, 22.83 ft June 16, 1967; from stage readings during 1967 flood, gage height at downstream site and datum was approximately 25.66 ft; no flow July 30, 31, 1955, result of irrigation pumping.

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)
Oct. 18	1300	911	7.42	July 10	1900	1200	9.50
Apr. 30	1200	1810	12.15	July 13	0600	2340	14.26
June 14	1600	990	8.09	Aug. 11	0500	1050	8.59
July 2	0400	*9080	*22.37	Sept. 29	2400	930	7.58

Minimum daily discharge, 40 ft³/s Jan. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	143	69	46	53	58	89	65	932	109	5730	107	78
2	128	65	44	54	55	76	65	719	93	8580	107	75
3	103	64	47	55	54	74	70	383	84	6630	113	75
4	93	64	48	54	54	74	72	185	86	4620	114	71
5	91	64	50	45	57	72	83	147	104	2530	116	74
6	82	63	52	40	60	66	84	122	91	960	105	105
7	79	63	52	41	58	63	76	105	102	445	116	292
8	74	65	52	43	58	62	69	98	96	265	159	335
9	71	66	49	47	60	60	64	102	88	221	327	307
10	68	61	46	49	56	57	62	104	181	994	946	335
11	68	60	47	49	50	61	59	109	163	712	905	312
12	71	59	48	50	47	79	64	94	753	1400	365	194
13	73	59	50	50	55	134	61	89	896	2280	357	141
14	79	60	50	52	59	209	77	85	953	2090	238	114
15	76	62	52	55	57	134	122	80	365	1470	193	98
16	69	65	53	59	61	107	115	85	180	751	161	88
17	72	64	54	73	62	98	92	89	151	391	137	85
18	756	64	51	75	66	106	111	128	122	221	110	83
19	571	60	51	78	67	118	137	103	107	160	100	141
20	285	54	54	79	63	125	123	89	97	133	95	557
21	185	49	55	79	56	115	98	91	86	113	235	328
22	153	52	62	72	62	91	87	104	88	103	478	178
23	138	54	55	62	66	83	78	100	89	91	499	137
24	125	54	56	70	64	79	72	87	83	98	344	350
25	109	52	60	62	62	75	66	82	75	98	221	183
26	99	51	57	58	70	71	64	78	73	104	164	138
27	95	48	58	56	89	69	156	76	69	121	125	110
28	88	47	58	60	111	68	938	87	65	126	102	92
29	81	46	58	65	---	65	1470	152	67	118	96	501
30	76	46	53	59	---	64	1750	174	1940	119	88	696
31	71	---	53	59	---	66	---	145	---	113	82	---
TOTAL	4272	1750	1621	1803	1737	2710	6450	5024	7456	41787	7305	6273
MEAN	138	58.3	52.3	58.2	62.0	87.4	215	162	249	1348	236	209
MAX	756	69	62	79	111	209	1750	932	1940	8580	946	696
MIN	68	46	44	40	47	57	59	76	65	91	82	71
AC-FT	8470	3470	3220	3580	3450	5380	12790	9970	14790	82880	14490	12440
CAL YR 1985	TOTAL	71362	MEAN	196	MAX	5510	MIN	34	AC-FT	141500		
WTR YR 1986	TOTAL	88188	MEAN	242	MAX	8580	MIN	40	AC-FT	174900		

KANSAS RIVER BASIN

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06880500 BIG BLUE RIVER AT SEWARD, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT									
08...	1020	67	540	8.50	13.0	8.3	39	390	1900
NOV									
05...	0915	64	--	8.00	7.0	10.8	28	720	K150
DEC									
03...	1045	47	780	7.60	0.0	14.6	11	210	370
JAN									
28...	0955	60	750	8.00	0.5	14.9	13	K19	210
FEB									
25...	1000	62	698	7.90	1.5	15.8	33	K23	K74
MAR									
25...	0900	76	810	8.10	10.5	9.5	21	K50	390
APR									
22...	0910	90	720	8.00	10.0	11.3	37	K140	3400
MAY									
19...	1000	103	670	7.90	15.5	8.4	43	2200	5500
JUN									
18...	0845	122	500	7.20	24.0	5.8	72	3000	8400
JUL									
16...	1600	711	230	7.30	28.0	5.5	95	3000	14000
AUG									
12...	0900	350	228	7.50	21.0	8.3	110	>3500	4600
SEP									
08...	0940	362	200	7.10	14.5	7.8	130	K70000	--

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

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM. DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT								
08...	270	0	80	18	30	0.8	61	5.8
NOV								
05...	310	0	89	21	36	0.9	67	6.2
DEC								
03...	320	0	93	22	34	0.9	97	9.4
JAN								
28...	330	0	94	24	42	1	87	6.3
FEB								
25...	310	0	86	22	35	0.9	84	10
MAR								
25...	310	0	87	23	37	0.9	90	12
APR								
22...	300	0	85	21	31	0.8	76	14
MAY								
19...	300	0	82	22	34	0.9	80	7.6
JUN								
18...	190	0	52	14	25	0.8	58	7.5
JUL								
16...	76	0	21	5.7	7.4	0.4	5.5	<5.0
AUG								
12...	69	0	20	4.6	8.5	0.5	14	<5.0
SEP								
08...	63	0	18	4.5	5.9	0.3	3.1	<5.0

KANSAS RIVER BASIN

06880500 BIG BLUE RIVER AT SEWARD, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, RESIDUE AT 105 DEG. C. SUS- PENDE (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L) AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L) AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L) AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L) AS N) (00625)	NITRO- GEN, TOTAL (MG/L) AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L) AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L) AS C) (00680)
OCT								
08...	82	2.60	0.050	1.2	1.3	3.9	0.590	6.8
NOV								
05...	46	2.30	0.070	0.83	0.90	3.2	0.610	6.2
DEC								
03...	<4	2.60	0.090	0.41	0.50	3.1	0.380	3.8
JAN								
28...	6	2.70	0.080	0.67	0.75	3.5	0.210	3.0
FEB								
25...	10	2.60	0.080	2.5	2.6	5.2	0.330	8.6
MAR								
25...	68	2.50	0.270	2.6	2.9	5.4	0.450	5.9
APR								
22...	88	1.60	0.080	2.2	2.3	3.9	0.550	8.6
MAY								
19...	176	2.90	0.160	1.0	1.2	4.1	0.550	11
JUN								
18...	716	3.00	0.150	2.3	2.4	5.4	1.10	6.3
JUL								
16...	1030	1.70	0.060	7.5	7.6	9.3	1.20	17
AUG								
12...	596	1.20	0.080	5.3	5.4	6.6	0.030	14
SEP								
08...	1140	1.20	0.210	4.5	4.7	5.9	1.80	15

06880800 WEST FORK BIG BLUE RIVER NEAR DORCHESTER, NE

LOCATION.--Lat 40°43'52", long 97°10'38", in SW1/4SW1/4 sec.23, T.9 N., R.2 E., Seward County, Hydrologic Unit 10270203, on right bank 60 ft downstream from bridge on county road, 6.2 mi northwest of Dorchester, and 19 mi upstream from mouth.

DRAINAGE AREA.--1,206 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1958 to current year.

REVISED RECORDS.--WSP 1919: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,403.48 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 14, 1970, on bridge pier 60 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 16 to Jan. 3, and Feb. 9-22. Records good except for periods of estimated record, which are poor. Some diversion by pumping for irrigation above station. Natural flow of stream affected by ground-water withdrawals for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--28 years, 182 ft³/s, 131,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,800 ft³/s July 1, 1986, gage height, 22.62 ft; minimum daily, 12 ft³/s Dec. 31, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 10, 1950, reached a stage of 24.8 ft, present datum, from floodmarks, discharge, 49,400 ft³/s, from contracted-opening and flow-over-road measurement of peak flow.

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)
July 1	1500	*11800	*22.62	No other peak greater than base discharge.			

Minimum daily discharge, 48 ft³/s Dec. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	130	89	48	78	75	87	72	285	96	9280	196	125
2	113	85	54	80	74	83	73	180	121	9400	232	122
3	104	83	62	82	76	82	77	147	102	6520	235	121
4	106	82	68	86	80	82	75	127	85	4290	242	117
5	120	80	74	76	83	78	73	112	77	2730	217	149
6	120	79	76	64	86	77	71	101	74	1080	200	192
7	109	78	76	70	87	77	72	96	95	633	261	319
8	100	78	70	82	81	76	71	94	96	466	298	443
9	92	78	66	88	78	76	68	103	74	373	414	293
10	85	77	58	90	74	75	68	92	101	794	612	200
11	83	76	54	94	68	76	67	94	477	1110	495	166
12	84	76	56	88	64	93	69	84	945	550	641	151
13	81	75	60	96	66	102	75	79	859	769	507	129
14	79	74	66	96	78	101	80	78	581	984	366	118
15	77	79	70	72	82	88	100	76	351	720	289	111
16	76	78	70	72	88	84	78	94	215	392	319	132
17	83	70	68	74	94	88	74	98	148	258	248	184
18	293	66	66	74	90	92	76	94	121	199	199	161
19	410	62	64	74	90	93	74	83	104	168	242	358
20	402	58	66	74	86	87	77	78	94	160	859	287
21	493	54	70	70	84	83	70	76	88	178	925	252
22	619	56	72	68	86	81	68	78	82	203	490	172
23	469	56	68	68	91	79	68	79	78	231	329	164
24	278	58	60	70	89	78	70	74	72	245	284	178
25	191	60	62	72	85	77	68	70	65	250	223	146
26	154	54	68	70	90	75	73	69	64	242	182	114
27	129	52	74	60	95	73	242	70	68	234	162	98
28	119	52	74	62	92	73	721	72	76	216	149	90
29	109	52	72	66	---	72	601	79	88	192	141	84
30	99	50	72	68	---	71	503	85	1870	183	135	88
31	93	---	74	72	---	71	---	107	---	183	129	---
TOTAL	5500	2067	2058	2356	2312	2530	3974	3054	7367	43233	10221	5264
MEAN	177	68.9	66.4	76.0	82.6	81.6	132	98.5	246	1395	330	175
MAX	619	89	76	96	95	102	721	285	1870	9400	925	443
MIN	76	50	48	60	64	71	67	69	64	160	129	84
AC-FT	10910	4100	4080	4670	4590	5020	7880	6060	14610	85750	20270	10440
CAL YR 1985	TOTAL	72640	MEAN	199	MAX	4220	MIN	48	AC-FT	144100		
WTR YR 1986	TOTAL	89936	MEAN	246	MAX	9400	MIN	48	AC-FT	178400		

KANSAS RIVER BASIN

06880800 WEST FORK BIG BLUE RIVER NEAR DORCHESTER, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963-70, 1973 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT 29...	1005	109	480	8.00	12.0	9.2	41	K650	5400
NOV 20...	1045	58	620	7.90	0.0	15.2	26	110	280
DEC 17...	0930	68	660	7.80	0.0	8.0	10	K50	K180
JAN 23...	1110	69	610	8.00	1.5	14.4	10	<10	K180
FEB 19...	1000	90	625	7.80	2.0	12.9	15	730	820
MAR 18...	0937	95	575	8.10	8.0	11.1	10	300	3500
APR 16...	0955	82	590	7.80	6.0	10.9	29	4400	5700
MAY 13...	1000	81	565	7.90	17.0	6.8	27	--	5000
JUN 09...	0820	74	478	8.20	19.5	7.7	35	1300	K10000
JUL 08...	1535	488	289	7.60	25.5	5.9	50	2100	15000
AUG 05...	1320	210	525	7.80	21.5	7.1	33	480	4200
SEP 04...	0840	117	513	7.60	19.0	8.1	29	380	2000

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

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 29...	170	0	50	9.8	21	0.7	36	12
NOV 20...	250	0	75	15	28	0.8	86	26
DEC 17...	200	0	62	12	25	0.8	62	22
JAN 23...	230	0	71	14	37	1	53	14
FEB 19...	230	0	71	14	37	1	56	19
MAR 18...	200	0	60	13	28	0.9	59	16
APR 16...	220	0	66	13	27	0.8	80	24
MAY 13...	240	0	73	14	18	0.5	42	16
JUN 09...	130	0	47	2.7	22	0.9	53	15
JUL 08...	93	0	27	6.2	8.8	0.4	5.2	7.5
AUG 05...	180	0	55	11	25	0.8	55	15
SEP 04...	220	0	67	13	26	0.8	89	12

KANSAS RIVER BASIN

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06880800 WEST FORK BIG BLUE RIVER NEAR DORCHESTER, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT								
29...	98	1.70	0.050	2.1	2.2	3.9	0.650	11
NOV								
20...	16	0.850	0.070	0.53	0.60	1.5	0.280	7.1
DEC								
17...	14	3.20	0.220	0.05	0.27	3.5	0.670	3.4
JAN								
23...	22	2.70	0.420	0.36	0.78	3.5	0.550	3.1
FEB								
19...	18	2.60	0.410	2.0	2.4	5.0	0.790	3.4
MAR								
18...	36	2.00	0.060	0.74	0.80	2.8	0.520	3.9
APR								
16...	216	0.770	0.190	1.9	2.1	2.9	1.20	6.5
MAY								
13...	172	2.50	0.170	1.1	1.3	3.8	0.790	5.8
JUN								
09...	274	2.70	0.080	0.85	0.93	3.6	0.830	8.0
JUL								
08...	454	2.20	0.080	1.6	1.7	3.9	0.970	16
AUG								
05...	184	2.20	0.040	0.73	0.77	3.0	0.270	7.2
SEP								
04...	74	2.00	0.020	1.2	1.2	3.2	0.470	4.1

KANSAS RIVER BASIN

06881000 BIG BLUE RIVER NEAR CRETE, NE

LOCATION (REVISED).--Lat 40°35'47", long 96°57'33", in SW1/4SE1/4 sec.3, T.7 N., R.4 E., Saline County, Hydrologic Unit 10270202, on right bank 250 ft downstream from county road bridge, 1.8 mi south of Missouri Pacific Railroad station in Crete, 3.3 mi downstream from Walnut Creek, and 3.6 mi upstream from Squaw Creek.

DRAINAGE AREA.--2,716 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1945 to current year. Prior to Oct. 1, 1953, discharge published only for stages above 12.0 ft because of variable backwater from dam downstream until 1952 and diurnal fluctuation from powerplant upstream in 1952-53.

REVISED RECORDS.--WSP 1919: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,311.7 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 20, 1954, nonrecording gage and Jan. 21, 1954 to Mar. 27, 1986, recording gage on right bank at downstream side of county road bridge at present datum.

REMARKS.--Estimated daily discharges: Dec. 7-10, Jan. 11-16, 18-22, and July 1, 4-7, 20-30. Records good except for periods of estimated record, which are poor. Natural flow of stream affected by ground-water and surface-water withdrawals for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--33 years (1953-86), 390 ft³/s, 282,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,600 ft³/s July 10, 1950, gage height, 28.74 ft; maximum gage height, 29.86 ft July 3, 1986, from floodmark; minimum daily discharge, 6.0 ft³/s Aug. 1, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 3	1000	*21600	*a29.86	July 14	1400	4230	19.56
July 11	0700	3660	18.41				

a From floodmark.

Minimum daily discharge, 130 ft³/s Dec. 24, Jan. 6, 7, Feb. 12, June 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	383	227	160	157	180	260	191	2180	311	16900	331	181
2	354	221	160	155	187	238	190	1220	249	18000	353	170
3	311	214	170	160	189	225	204	903	249	21000	376	164
4	267	204	170	170	199	218	221	637	225	20000	380	171
5	247	205	170	135	200	215	225	469	226	19000	373	197
6	249	204	172	130	205	212	209	395	236	15000	342	290
7	246	199	170	130	190	203	201	345	214	4500	337	332
8	231	198	170	140	190	198	189	310	225	1220	431	589
9	215	196	169	140	160	189	174	310	226	972	481	714
10	208	196	169	176	140	193	165	369	218	1620	939	531
11	200	196	170	203	150	197	161	315	539	3450	1460	463
12	205	198	160	175	130	242	167	291	1030	2150	1310	432
13	205	198	150	170	140	334	178	258	1660	2910	1140	339
14	212	199	160	165	160	399	210	239	1620	4120	790	263
15	199	199	160	165	170	412	234	224	1380	3880	593	235
16	197	201	155	180	173	331	246	249	753	2650	478	209
17	208	207	153	196	179	298	257	341	444	1520	467	226
18	458	211	140	195	186	326	223	318	340	1070	384	270
19	1430	214	140	195	199	344	251	292	284	869	320	508
20	1020	215	140	190	190	328	264	259	254	760	472	780
21	798	203	146	180	175	304	235	232	230	700	1190	851
22	763	200	146	185	190	290	201	219	217	640	1020	599
23	782	180	164	190	200	265	182	231	201	580	778	391
24	624	190	130	175	200	248	175	228	188	540	685	350
25	466	190	145	160	210	235	172	212	170	500	557	299
26	376	185	160	150	221	229	189	198	149	450	419	370
27	320	160	145	170	250	212	742	191	138	420	332	364
28	291	150	140	190	256	206	1900	198	134	400	273	363
29	272	155	160	200	---	202	2420	265	130	380	236	362
30	255	145	159	190	---	194	2250	350	2190	360	213	520
31	239	---	159	187	---	187	---	309	---	351	196	---
TOTAL	12231	5860	4862	5304	5219	7934	12626	12557	14430	146912	17656	11533
MEAN	395	195	157	171	186	256	421	405	481	4739	570	384
MAX	1430	227	172	203	256	412	2420	2180	2190	21000	1460	851
MIN	197	145	130	130	130	187	161	191	130	351	196	164
AC-FT	24260	11620	9640	10520	10350	15740	25040	24910	28620	291400	35020	22880
CAL YR 1985	TOTAL	169212	MEAN	464	MAX	8070	MIN	110	AC-FT	335600		
WTR YR 1986	TOTAL	257124	MEAN	704	MAX	21000	MIN	130	AC-FT	510000		

KANSAS RIVER BASIN

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06881200 TURKEY CREEK NEAR WILBER, NE

LOCATION.--Lat 40°28'48", long 97°00'43", in NE1/4NE1/4 sec.19, T.6 N., R.4 E., Saline County, Hydrologic Unit 10270204, on left bank near downstream side of bridge on State Highway 41, 2.8 mi west of Wilber.

DRAINAGE AREA.--460 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1919: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,322.00 ft above National Geodetic Vertical Datum of 1929. Prior to July 10, 1970, at site 0.2 mile downstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 18-19, Nov. 21 to Dec. 4, Dec. 9-16, 18-22, 26-28, Jan. 4-19, 25-30, and Feb. 9-15, 20-23. Records good except for periods of estimated record, which are poor. Many diversions above station for irrigation.

AVERAGE DISCHARGE.--27 years, 92.4 ft³/s, 66,940 acre-ft/yr; median of yearly mean discharges, 64.9 ft³/s, 47,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,000 ft³/s June 13, 1984, gage height, 21.43 ft, from highwater mark; no flow Sept. 20, 21, 24, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 30	0200	3000	15.74	July 6	1430	1030	11.28
July 1	1230	*8820	*18.33	Aug. 12	1330	1010	11.24

Minimum daily discharge, 6.4 ft³/s Jan. 29.

DISCHARGE. IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	14	7.6	15	21	29	19	775	34	6290	35	16
2	35	14	7.4	15	17	30	19	255	30	5310	39	16
3	58	14	7.8	15	17	24	20	157	28	5210	39	15
4	44	14	8.3	15	19	23	23	107	27	3850	38	15
5	34	14	8.9	12	19	24	25	93	51	1680	37	26
6	27	13	9.5	10	21	17	26	81	32	778	37	341
7	20	13	11	9.6	21	11	23	65	27	351	38	183
8	17	13	12	9.3	19	14	21	61	27	196	49	71
9	14	13	13	9.8	12	17	19	59	30	141	50	62
10	14	11	12	11	9.0	15	18	53	30	197	72	55
11	15	10	11	12	8.0	15	18	44	39	259	67	43
12	15	10	8.4	12	9.0	21	17	41	42	235	721	34
13	15	11	7.4	14	9.9	53	19	51	43	688	333	28
14	20	10	7.2	14	11	66	51	53	49	558	98	24
15	18	11	7.8	15	12	42	72	48	98	223	74	61
16	15	11	8.8	16	13	37	47	51	61	127	48	96
17	23	11	9.5	16	16	31	41	85	38	94	35	68
18	160	11	9.6	17	19	31	51	86	31	76	28	61
19	187	9.0	10	18	23	37	50	77	26	65	25	44
20	318	8.7	9.6	19	26	42	51	69	24	60	44	35
21	245	8.8	10	19	20	36	42	55	23	60	260	31
22	132	9.4	11	20	15	33	40	46	22	59	145	33
23	88	9.0	12	18	13	28	40	34	22	65	80	37
24	67	9.7	14	16	30	26	38	34	23	65	56	30
25	45	10	15	15	38	24	39	31	36	65	42	26
26	34	9.6	15	13	33	22	136	30	37	61	32	25
27	26	9.0	15	10	32	20	333	30	28	57	27	22
28	21	8.0	15	7.0	31	19	1570	29	22	55	22	22
29	18	7.7	15	6.4	---	19	2350	34	18	50	20	118
30	16	7.6	15	9.0	---	19	2560	38	2480	43	18	327
31	15	---	15	18	---	18	---	41	---	38	16	---
TOTAL	1793	324.5	338.8	426.1	533.9	843	7778	2713	3478	27006	2625	1965
MEAN	57.8	10.8	10.9	13.7	19.1	27.2	259	87.5	116	871	84.7	65.5
MAX	318	14	15	20	38	66	2560	775	2480	6290	721	341
MIN	14	7.6	7.2	6.4	8.0	11	17	29	18	38	16	15
AC-FT	3560	644	672	845	1060	1670	15430	5380	6900	53570	5210	3900
CAL YR 1985	TOTAL	15628.0		MEAN	42.8	MAX	1080	MIN	3.0	AC-FT	31000	
WTR YR 1986	TOTAL	49824.3		MEAN	137	MAX	6290	MIN	6.4	AC-FT	98830	

KANSAS RIVER BASIN

06881200 TURKEY CREEK NEAR WILBER, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966-70, 1973 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND. CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT									
29...	1215	18	425	8.30	13.0	9.4	61	800	2300
NOV									
20...	1205	8.4	720	7.80	1.0	12.9	12	77	260
DEC									
17...	1030	9.6	770	7.70	0.0	13.8	8	K20	220
JAN									
23...	1015	16	610	8.10	0.5	14.8	7	K36	K73
FEB									
19...	1145	23	668	7.80	0.5	13.8	18	K10	690
MAR									
20...	1000	42	630	8.00	3.0	14.4	34	420	1900
APR									
16...	1200	46	512	7.70	7.0	10.1	34	3500	8000
MAY									
13...	1220	50	530	7.90	19.0	6.8	46	--	2600
JUN									
09...	1015	32	581	8.10	22.0	7.7	35	1600	1500
JUL									
08...	1350	190	224	7.80	23.5	6.2	61	K6400	9800
AUG									
05...	1140	36	519	7.80	21.5	8.0	30	240	2000
SEP									
04...	1000	14	535	7.40	19.5	6.8	42	500	1300

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

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM. DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT								
29...	110	0	32	7.5	25	1	30	27
NOV								
20...	220	0	67	14	55	2	63	64
DEC								
17...	220	0	67	14	46	1	59	57
JAN								
23...	220	0	66	13	45	1	54	26
FEB								
19...	240	0	72	15	44	1	69	30
MAR								
20...	210	0	58	16	37	1	96	23
APR								
16...	180	0	53	12	22	0.7	45	16
MAY								
13...	200	0	58	13	16	0.5	38	24
JUN								
09...	190	0	58	12	34	1	66	28
JUL								
08...	66	0	19	4.6	9.0	0.5	5.8	<5.0
AUG								
05...	180	0	54	11	29	1	53	20
SEP								
04...	170	0	51	11	45	2	56	58

KANSAS RIVER BASIN

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06881200 TURKEY CREEK NEAR WILBER. NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, RESIDUE AT 105 DEG. C. SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L) AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L) AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L) AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L) AS N) (00625)	NITRO- GEN, TOTAL (MG/L) AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L) AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L) AS C) (00680)
OCT 29...	114	0.440	0.040	3.4	3.4	3.8	0.730	16
NOV 20...	10	0.260	0.060	0.68	0.74	1.0	0.180	4.4
DEC 17...	8	0.900	0.060	0.33	0.39	1.3	0.300	3.7
JAN 23...	6	0.360	0.040	0.53	0.57	0.93	0.230	3.2
FEB 19...	<4	0.990	0.110	1.5	1.6	2.6	0.260	5.1
MAR 20...	62	0.770	0.090	1.7	1.8	2.6	0.390	8.6
APR 16...	256	0.630	0.270	1.9	2.2	2.8	0.530	9.7
MAY 13...	316	1.40	0.080	1.4	1.5	2.9	0.540	7.9
JUN 09...	176	0.120	0.040	0.96	1.0	1.1	0.550	8.3
JUL 08...	650	0.950	0.220	2.3	2.5	3.5	0.920	15
AUG 05...	75	0.530	0.040	1.2	1.2	1.7	0.580	8.2
SEP 04...	86	0.320	0.020	1.4	1.4	1.7	0.440	5.8

06881500 BIG BLUE RIVER AT BEATRICE, NE

LOCATION.--Lat 40°15'22", long 96°44'47", in SW1/4NW1/4 sec.3, T.3 N., R.6 E., Gage County, Hydrologic Unit 10270202, at left upstream corner of 6th Street and U.S. Highway 77 bridge in Beatrice, 0.7 mi south of the intersection of U.S. Highways 136 and 77, 1.2 mi downstream from Indian Creek, and 3.1 mi upstream from Bear Creek.

DRAINAGE AREA.--3,900 mi², of which about 3,830 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1910 to September 1915, (monthly discharge only for some periods, published in WSP 1310), 1954, 1960-65, 1967-69, 1971-74 (discharge measurements only), October 1974 to current year. Gage-height records collected 1905-10, 1916-74, are in reports of U.S. Weather Bureau.

GAGE.--Water-stage recorder. Datum of gage is 1,219.90 ft above National Geodetic Vertical Datum of 1929. October 1910 to September 1915, non-recording gage at present site and datum.

REMARKS.--Estimated daily discharges: Nov. 22 to Jan. 19, Jan. 26 to Feb. 16, Feb. 21-24, and July 19-28. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--17 years (water years 1911-15, 1975-86), 745 ft³/s, 539,800 acre-ft/yr; median of yearly mean discharges, 647 ft³/s, 469,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,100 ft³/s June 14, 1984, gage height, 31.27 ft; minimum daily, 20 ft³/s Aug. 15, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since 1902, 55,100 ft³/s June 14, 1984; maximum gage height, 33.02 ft Oct. 12, 1973, from floodmark.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 29	1430	7050	13.76	Aug. 12	1900	8380	15.28
July 4	2030	*23300	*26.07	Aug. 21	0730	4960	11.27
July 10	0400	4810	11.08	Sept. 30	1600	8780	15.73
July 12	1130	7780	14.60				

Minimum daily discharge, 150 ft³/s Feb. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	716	358	210	235	260	378	288	5350	511	10600	527	362
2	662	342	210	240	250	382	294	3310	484	18800	514	345
3	594	333	220	245	270	363	821	1920	434	22000	514	344
4	547	319	230	250	290	333	705	1400	412	22400	529	322
5	471	317	250	235	300	315	496	1060	445	21900	556	322
6	410	309	260	220	290	306	430	800	508	19600	561	591
7	390	307	260	190	280	290	383	659	460	14800	585	1490
8	379	301	250	195	270	279	346	579	397	6160	554	985
9	452	300	250	200	260	276	315	592	366	2480	639	881
10	635	294	250	210	230	265	297	704	366	3120	829	1010
11	635	295	240	220	170	263	281	595	358	2380	1230	791
12	554	305	240	225	150	372	276	563	450	6740	5590	684
13	485	305	235	230	190	843	288	488	1000	6080	6050	640
14	397	305	235	235	200	868	550	452	1730	4840	2440	547
15	357	308	240	230	240	685	693	425	1850	4790	1450	490
16	313	309	250	235	260	585	627	575	1710	4150	1020	585
17	299	312	250	240	299	507	468	875	1120	2950	776	528
18	554	317	240	250	349	894	447	842	698	2070	703	595
19	1580	317	240	260	394	1950	438	730	531	1100	900	965
20	2120	313	235	350	356	986	402	576	433	1000	2100	741
21	1780	304	235	339	310	687	410	516	379	940	4140	1000
22	1360	290	245	317	300	554	368	437	361	880	2850	1010
23	1120	280	250	304	310	476	316	405	357	820	1860	844
24	1080	260	260	317	310	424	283	383	313	760	1320	629
25	913	310	260	317	318	379	259	385	291	740	1060	533
26	697	270	250	200	347	349	937	383	246	700	874	595
27	958	250	250	170	358	322	2330	364	279	680	685	575
28	825	230	250	200	353	305	5050	354	256	640	566	480
29	492	220	250	230	---	286	6910	358	216	629	486	1460
30	415	215	245	240	---	263	6160	407	4930	595	430	6810
31	385	---	240	250	---	261	---	517	---	554	391	---
TOTAL	22575	8895	7530	7579	7914	15446	31868	27004	21891	185898	42729	27154
MEAN	728	297	243	244	283	498	1062	871	730	5997	1378	905
MAX	2120	358	260	350	394	1950	6910	5350	4930	22400	6050	6810
MIN	299	215	210	170	150	261	259	354	216	554	391	322
AC-FT	44780	17640	14940	15030	15700	30640	63210	53560	43420	368700	84750	53860
CAL YR 1985	TOTAL	244955		MEAN	671	MAX	7650	MIN	148	AC-FT	485900	
WTR YR 1986	TOTAL	406483		MEAN	1114	MAX	22400	MIN	150	AC-FT	806300	

06882000 BIG BLUE RIVER AT BARNESTON, NE

LOCATION.--Lat 40°02'40", long 96°35'12", in NE1/4NW1/4 sec.24, T.1 N., R.7 E., Gage County, Hydrologic Unit 10270202, on right bank at right downstream end of bridge on State Highway 8, 0.6 mi southwest of Barneston, 1.3 mi upstream from Plum Creek, and 4.3 mi upstream from Nebraska-Kansas State line.

DRAINAGE AREA.--4,447 mi², of which about 4,370 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 896: 1932, 1935. WSP 1919: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,162.2 ft above National Geodetic Vertical Datum of 1929. Prior to June 9, 1941, water-stage recorder at site 0.3 mi downstream at datum 1.56 ft higher. June 9 to Nov. 17, 1941, nonrecording gage and Nov. 18, 1941, to Sept. 30, 1979, water-stage recorder at site 0.7 mi upstream at datum 2.0 ft higher.

REMARKS.--Estimated daily discharges: Nov. 18 to Dec. 5, Dec. 11-21, 24-29, Jan. 7-10, Feb. 4-15, 20-22, Apr. 27-29, June 5-10, and Aug. 4. Records fair except for periods of estimated record, which are poor. Low flow regulated by dam at unused powerplant 0.7 mi upstream. No large tributaries between station and Nebraska-Kansas State line. Some pump diversions for irrigation above station. Natural flow of stream affected by ground-water withdrawals for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--54 years, 828 ft³/s, 599,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 57,700 ft³/s June 9, 1941, gage height, 34.3 ft; minimum daily, 1 ft³/s Nov. 30, 1945.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 29	----	unknown	unknown	Aug. 13	0200	10100	16.59
July 6	1700	*28900	*28.49	Sept. 30	2100	11300	17.69

Minimum daily discharge, 215 ft³/s Jan. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1190	500	230	285	376	473	473	5570	594	15800	587	433
2	928	463	230	291	369	481	486	4050	543	17600	586	415
3	799	446	240	304	369	468	2730	2380	507	21200	582	399
4	698	427	260	322	400	445	2850	1770	504	22300	540	385
5	616	412	300	307	400	417	1220	1350	620	22800	527	372
6	548	404	312	285	390	404	833	978	680	26700	618	499
7	508	390	283	240	360	386	702	791	600	24500	760	1660
8	496	382	282	220	330	370	598	825	500	12200	685	1410
9	2330	369	286	230	290	381	538	1370	470	5500	814	1010
10	4320	365	290	240	260	369	501	2850	460	6310	1110	1170
11	2350	359	280	251	240	359	466	1820	444	4020	1300	1020
12	1850	380	270	269	220	625	446	1200	452	8020	5590	827
13	1160	373	260	281	240	1560	441	827	1020	6790	8930	744
14	772	367	260	287	260	1320	914	640	1600	4760	4660	654
15	608	363	270	280	300	995	918	577	1870	4470	2650	551
16	511	368	280	320	318	837	873	998	1760	4140	1700	612
17	466	372	290	341	346	763	625	1990	1300	3250	1170	586
18	623	370	280	391	452	1150	628	1340	792	2000	983	734
19	1900	360	270	389	515	3270	660	1010	592	1360	904	2010
20	2440	340	270	387	400	1620	566	768	493	1130	2440	1720
21	2070	320	270	411	350	1010	559	678	438	1040	5740	1580
22	1580	310	286	377	360	794	532	574	427	980	5080	1410
23	1280	290	334	369	514	678	479	500	427	924	3090	1210
24	1200	280	320	379	396	609	428	471	367	877	1920	936
25	1070	330	310	378	411	558	395	463	336	847	1380	724
26	869	310	300	354	451	499	936	442	319	771	1170	670
27	1520	290	300	233	481	472	3500	434	342	754	926	739
28	1270	250	290	215	460	456	7000	407	294	745	741	837
29	748	240	290	351	---	443	9000	467	251	727	598	5910
30	591	230	299	371	---	420	6490	496	4670	685	528	8570
31	537	---	294	381	---	418	---	624	---	621	481	---
TOTAL	37848	10660	8736	9739	10258	23050	46787	38660	23672	223821	58790	39797
MEAN	1221	355	282	314	366	744	1560	1247	789	7220	1896	1327
MAX	4320	500	334	411	515	3270	9000	5570	4670	26700	8930	8570
MIN	466	230	230	215	220	359	395	407	251	621	481	372
AC-FT	75070	21140	17330	19320	20350	45720	92800	76680	46950	443900	116600	78940
CAL YR 1985	TOTAL	300582		MEAN	824	MAX	7120	MIN	37	AC-FT	596200	
WTR YR 1986	TOTAL	531818		MEAN	1457	MAX	26700	MIN	215	AC-FT	1055000	

KANSAS RIVER BASIN

06882000 BIG BLUE RIVER AT BARNESTON, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967-69, October 1980 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1966 to September 1969.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 29.0°C on several days in summer periods; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT									
01...	1100	1100	325	7.10	8.0	11.1	48	K11000	K22000
NOV									
06...	1015	405	700	8.10	10.0	11.0	28	K120	200
25...	1030	326	830	7.60	0.5	16.2	18	93	200
JAN									
23...	1100	362	688	8.00	0.5	14.5	4	K16	K52
FEB									
19...	1200	522	700	8.00	0.5	14.3	24	--	1800
MAR									
19...	0845	4090	434	7.50	6.5	11.1	190	12000	K56000
APR									
16...	1230	891	620	7.60	8.5	11.0	37	23000	43000
MAY									
14...	1145	659	600	7.30	22.0	8.5	27	K9000	800
JUN									
11...	1100	458	635	8.10	24.5	8.8	30	580	180
JUL									
09...	1515	4670	240	6.80	25.0	7.6	110	17000	65000
AUG									
06...	1700	601	635	7.60	23.0	8.8	25	K79	600
SEP									
02...	1145	411	529	7.80	22.0	8.2	29	220	200

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

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT								
01...	130	0	36	9.0	20	0.8	19	12
NOV								
06...	260	0	75	18	43	1	36	19
25...	300	0	86	20	44	1	82	33
JAN								
23...	250	0	73	17	48	1	65	27
FEB								
19...	280	0	80	20	49	1	82	28
MAR								
19...	140	0	36	11	22	0.9	46	13
APR								
16...	210	0	59	15	31	1	48	22
MAY								
14...	210	0	61	15	22	0.7	46	21
JUN								
11...	230	0	64	16	42	1	73	32
JUL								
09...	84	0	24	5.8	10	0.5	6.3	<5.0
AUG								
06...	230	0	66	15	41	1	80	32
SEP								
02...	190	0	54	13	33	1	79	30

KANSAS RIVER BASIN

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06882000 BIG BLUE RIVER AT BARNESTON, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

		SOLIDS, RESIDUE AT 105 DEG. C. SUS- PENDE (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L) AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L) AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L) AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L) AS N) (00625)	NITRO- GEN, TOTAL (MG/L) AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L) AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L) AS C) (00680)
	OCT 01...	162	2.00	0.250	0.95	1.2	3.2	0.720	15
	NOV 06...	30	2.00	0.050	0.95	1.0	3.0	0.650	7.4
	25...	4	2.10	0.050	0.62	0.67	2.8	0.300	3.9
	JAN 23...	<4	2.50	0.140	0.51	0.65	3.2	0.480	4.6
	FEB 19...	22	2.50	0.430	2.2	2.6	5.1	0.190	6.1
	MAR 19...	2160	1.80	0.460	7.3	7.8	9.6	0.260	20
	APR 16...	86	1.80	0.170	1.8	2.0	3.8	--	10
	MAY 14...	72	3.00	0.130	2.2	2.3	5.3	0.290	8.9
	JUN 11...	120	2.60	0.080	1.1	1.2	3.8	0.630	7.2
	JUL 09...	1850	1.70	0.110	4.1	4.2	5.9	1.40	16
	AUG 06...	46	2.00	0.040	0.96	1.0	3.0	0.860	5.7
	SEP 02...	38	2.70	0.020	1.4	1.4	4.1	0.460	5.6

KANSAS RIVER BASIN

06883000 LITTLE BLUE RIVER NEAR DEWEESE, NE

LOCATION.--Lat 40°19'58", long 98°04'00". in SW1/4NW1/4 sec.12, T.4 N., R.7 W., Nuckolls County, Hydrologic Unit 10270206, on right bank 10 ft downstream from bridge on State Highway 14, 1 mi upstream from Walnut Creek. 3.2 mi southeast of Deweese, and 6 mi northwest of Angus.

DRAINAGE AREA.--979 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1953 to September 1972, October 1974 to current year.

REVISED RECORDS.--WSP 1919: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,632.67 ft above National Geodetic Vertical Datum of 1929. Prior to May 16, 1957, non-recording gage and Oct. 1, 1974, to Mar. 24, 1981, recording gage at present site and datum; May 16, 1957, to Sept. 30, 1972, and Mar. 25, 1981 to Mar. 24, 1982, at site 1,500 ft upstream from bridge at present datum.

REMARKS.--Estimated daily discharges: Nov. 19 to Jan. 1, Jan. 4-10, 24-28, and Feb. 7-20. Records good except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station.

AVERAGE DISCHARGE.--31 years (water years 1954-72, 1975-86), 148 ft³/s, 107,200 acre-ft/yr; median of yearly mean discharges, 132 ft³/s, 95,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,100 ft³/s Aug. 31, 1969, gage height, 18.57 ft; minimum daily, 6.3 ft³/s Sept. 7, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 26, 1951, reached a stage of 14.9 ft, from information by local residents, discharge, 16,000 ft³/s, based on records for former station at Angus.

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)
Aug. 8	0100	3040	7.65	Sept. 6	1700	*4210	*8.86

Minimum daily discharge, 50 ft³/s June 26, 30.

DISCHARGE, IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	122	95	69	160	74	70	71	81	78	54	77	54
2	169	91	78	135	74	69	73	78	74	106	72	56
3	158	91	84	132	76	68	75	78	72	101	63	57
4	128	88	88	110	76	67	74	78	71	104	62	56
5	108	86	97	96	76	68	71	79	85	70	63	55
6	100	85	94	88	74	66	71	79	81	59	261	2330
7	95	82	100	80	70	66	72	79	79	58	1380	3330
8	89	80	94	74	69	66	71	80	89	56	1580	1320
9	84	79	92	76	67	67	70	81	79	57	534	666
10	81	78	93	78	63	68	70	79	105	129	323	415
11	80	77	91	79	56	67	71	80	205	263	194	312
12	81	78	88	83	52	72	71	78	223	579	133	239
13	79	78	82	82	58	70	72	76	151	388	109	197
14	77	78	90	83	56	69	73	75	107	232	147	162
15	75	78	110	83	59	68	72	79	88	134	107	204
16	74	79	108	82	64	66	72	87	81	97	85	194
17	81	79	102	81	66	66	72	87	78	80	87	282
18	166	78	97	83	69	67	73	86	74	72	89	210
19	336	70	104	81	73	65	74	87	69	76	79	267
20	488	54	99	80	76	62	73	81	66	76	75	546
21	400	59	110	80	76	61	74	78	62	77	79	276
22	266	64	117	80	73	61	74	74	59	79	79	171
23	205	61	110	78	72	62	74	75	56	70	79	157
24	165	68	105	76	71	61	76	74	54	65	78	141
25	145	75	110	72	71	64	75	72	53	61	71	125
26	134	72	112	74	72	68	76	70	50	57	63	109
27	122	69	116	75	71	69	95	72	52	143	63	100
28	113	66	120	77	69	70	112	76	52	408	59	96
29	107	64	125	77	---	71	99	76	53	331	57	94
30	101	65	130	76	---	72	87	80	50	163	58	91
31	96	---	142	76	---	72	---	81	---	98	55	---
TOTAL	4525	2267	3157	2687	1923	2078	2283	2436	2496	4343	6261	12312
MEAN	146	75.6	102	86.7	68.7	67.0	76.1	78.6	83.2	140	202	410
MAX	488	95	142	160	76	72	112	87	223	579	1580	3330
MIN	74	54	69	72	52	61	70	70	50	54	55	54
AC-FT	8980	4500	6260	5330	3810	4120	4530	4830	4950	8610	12420	24420
CAL YR 1985	TOTAL	80157		MEAN	220	MAX	10200	MIN	42	AC-FT	159000	
WTR YR 1986	TOTAL	46768		MEAN	128	MAX	3330	MIN	50	AC-FT	92760	

KANSAS RIVER BASIN

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06883000 LITTLE BLUE RIVER NEAR DEWEESE, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1959-70, 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1979 to September 1981.

WATER TEMPERATURES: February 1979 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 508 microsiemens Feb. 14, 1980; minimum daily, 82 microsiemens May 4, 1979.

WATER TEMPERATURES: Maximum, 28.0°C Aug. 8, 9, 10, 1980; minimum, 1.0°C Jan. 29, 30, 31, Feb. 1, 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT									
08...	1330	89	505	7.30	13.0	9.2	19	K220	250
NOV									
08...	1350	82	485	7.50	11.0	12.4	6	K28	K100
DEC									
04...	1200	88	520	7.40	1.0	13.0	14	K58	150
JAN									
29...	1400	77	430	8.60	3.0	12.8	<5	K3	K32
FEB									
25...	1105	78	--	8.00	7.5	11.2	15	<3	K13
MAR									
25...	1550	70	512	8.20	18.0	10.6	11	K71	K26
APR									
24...	1240	75	482	8.20	21.0	10.4	7	K46	K31
MAY									
21...	1505	79	469	8.10	20.0	8.7	16	530	370
JUN									
18...	1620	75	472	8.20	30.0	7.6	16	450	480
JUL									
17...	1000	80	352	7.60	23.0	7.6	30	1300	2600
AUG									
14...	1000	181	196	7.20	22.5	7.2	78	6700	K78000
SEP									
10...	0930	410	165	7.00	18.0	8.6	62	2000	10000

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

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT								
08...	200	0	63	10	16	0.5	32	9.0
NOV								
08...	230	0	71	12	16	0.5	29	8.7
DEC								
04...	210	0	65	11	17	0.5	34	10
JAN								
29...	210	0	67	11	19	0.6	36	12
FEB								
25...	210	0	64	11	17	0.5	35	9.9
MAR								
25...	190	0	56	11	16	0.5	32	12
APR								
24...	200	0	63	11	11	0.4	36	14
MAY								
21...	200	0	62	11	15	0.5	38	11
JUN								
18...	180	0	57	9.9	16	0.5	44	14
JUL								
17...	130	0	41	7.6	11	0.4	16	7.6
AUG								
14...	67	0	20	4.2	5.2	0.3	2.7	0.33
SEP								
10...	46	0	13	3.3	4.5	0.3	<2.0	<5.0

KANSAS RIVER BASIN

06883000 LITTLE BLUE RIVER NEAR DEWEESE, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, RESIDUE AT 105 DEG. C. SUS- PENDE (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT								
08...	32	1.20	0.030	0.53	0.56	1.8	0.490	6.2
NOV								
08...	<4	0.810	<0.020	--	0.10	0.91	0.290	3.3
DEC								
04...	<4	1.10	0.060	0.27	0.33	1.4	0.300	5.6
JAN								
29...	26	1.30	0.040	0.49	0.53	1.8	0.250	1.9
FEB								
25...	14	1.30	0.030	0.42	0.45	1.7	0.200	4.1
MAR								
25...	14	1.20	0.030	0.77	0.80	2.0	0.290	2.4
APR								
24...	20	0.360	0.070	0.33	0.40	0.76	0.250	2.5
MAY								
21...	152	1.30	0.200	0.80	1.0	2.3	0.550	4.6
JUN								
18...	102	1.10	0.030	0.57	0.60	1.7	0.400	3.8
JUL								
17...	128	1.30	0.030	2.0	2.0	3.3	0.310	7.8
AUG								
14...	688	1.00	<0.020	--	4.1	5.1	0.330	10
SEP								
10...	428	0.790	0.070	2.3	2.4	3.2	0.940	10

KANSAS RIVER BASIN

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06883570 LITTLE BLUE RIVER NEAR ALEXANDRIA, NE

LOCATION.--Lat 40°12'25", long 97°23'18", in SE1/4SE1/4 sec.23, T.3 N., R.1 W., Thayer County, Hydrologic Unit 10270206, on left bank 10 ft upstream from bridge on State Highway 53, 2.7 mi south of Alexandria, 9.8 mi downstream from Dry Creek, and 5.7 mi upstream from Big Sandy Creek.

DRAINAGE AREA.--1,557 mi².

PERIOD OF RECORD.--July 1959 to September 1972 (published as "near Gilead"), April 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,359.29 ft above National Geodetic Vertical Datum of 1929. July 1959 to Sept. 30, 1972, at site 2.3 mi upstream at datum 12.0 ft higher. Apr. 23, 1974 to Aug. 7, 1984, at site 750 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Oct. 1-22, Nov. 19 to Jan. 29, and Feb. 1 to 23. Records good except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station.

AVERAGE DISCHARGE.--25 years (water years 1960-72, 1975-86), 245 ft³/s, 178,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,600 ft³/s Mar. 28, 1960, gage height, 17.30 ft, site and datum then in use; maximum gage height, 19.15 ft Aug. 5, 1985; minimum daily discharge, 2.9 ft³/s Aug. 9, 1980.

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)
Apr. 28	0700	*4430	*13.24	Sept. 8	0300	2280	10.89

Minimum daily discharge, 76 ft³/s Nov. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	210	153	111	170	129	123	125	477	146	109	195	86
2	205	150	118	160	118	119	125	362	129	96	165	85
3	195	148	120	160	108	117	134	305	121	92	140	88
4	185	144	125	155	103	115	136	272	128	115	118	86
5	170	144	129	160	101	112	128	247	192	124	101	83
6	165	142	119	140	100	110	124	231	191	147	96	191
7	155	139	130	120	99	110	121	221	174	159	171	1390
8	155	138	126	110	95	110	117	205	145	121	934	2020
9	155	135	123	120	95	114	114	209	146	155	1220	1240
10	155	132	120	125	94	111	115	192	173	250	787	808
11	160	132	119	130	91	113	116	174	210	169	532	575
12	175	132	115	125	92	113	117	161	213	295	374	447
13	170	133	112	125	108	115	121	151	277	531	280	357
14	160	133	123	125	100	114	141	145	244	482	214	295
15	150	132	138	127	110	127	246	151	190	349	189	349
16	150	134	130	130	121	126	188	368	160	238	176	336
17	160	133	125	130	135	130	146	763	141	172	148	270
18	260	132	120	130	140	134	141	498	132	136	171	306
19	650	131	130	130	145	131	133	270	126	111	459	339
20	400	94	118	125	146	122	130	212	119	102	238	362
21	340	76	125	125	140	120	122	190	115	98	163	520
22	300	80	135	120	141	121	119	176	111	100	143	422
23	292	86	134	120	149	119	119	161	131	106	131	287
24	282	92	130	120	161	119	114	149	118	103	124	238
25	261	100	127	111	149	119	115	141	101	97	118	206
26	226	103	126	110	134	118	1190	134	93	94	111	177
27	204	97	135	121	127	116	2160	132	93	92	105	156
28	184	94	140	136	123	118	3940	129	87	89	98	141
29	171	99	145	148	---	118	1950	129	83	207	94	381
30	162	108	150	158	---	118	745	247	91	344	91	1360
31	157	---	165	142	---	120	---	161	---	275	90	---
TOTAL	6764	3646	3963	4108	3354	3732	13292	7363	4380	5558	7976	13601
MEAN	218	122	128	133	120	120	443	238	146	179	257	453
MAX	650	153	165	170	161	135	3940	763	277	531	1220	2020
MIN	150	76	111	110	91	110	114	129	83	89	90	83
AC-FT	13420	7230	7860	8150	6650	7400	26360	14600	8690	11020	15820	26980
CAL YR 1985	TOTAL	140550		MEAN	385	MAX	16300	MIN	55	AC-FT	278800	
WTR YR 1986	TOTAL	77737		MEAN	213	MAX	3940	MIN	76	AC-FT	154200	

KANSAS RIVER BASIN

06883940 BIG SANDY CREEK AT ALEXANDRIA, NE

LOCATION.--Lat 40°14'06", long 97°23'20", in SE1/4SE1/4 sec.11, T.3 N., R.1 W., Thayer County, Hydrologic Unit 10270206, on right bank 15 ft upstream from bridge on State Highway 53, 0.8 mi south of Alexandria.

DRAINAGE AREA.--607 mi².

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

REVISED RECORDS.--WRD NE-82-1: 1981(M).

GAGE.--Water stage recorder. Elevation of gage is 1,395 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Natural flow of stream affected by ground-water withdrawals and return flow from irrigated areas.

AVERAGE DISCHARGE.--7 years, 119 ft³/s, 86,220 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,900 ft³/s June 13, 1984, gage height, 16.71 ft; minimum daily, 16 ft³/s Apr. 6, 1981.

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)
Oct. 18	0800	1400	7.73	June 4	2200	980	6.87
Apr. 28	0830	*4050	*11.74	July 12	0900	2990	10.31
May 16	1800	1550	8.00	Aug. 19	0800	2210	9.10

Minimum daily discharge, 23 ft³/s Feb. 10-13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	165	31	25	27	24	26	26	120	28	114	80	32
2	107	31	27	27	24	26	25	86	27	142	89	32
3	73	30	27	27	25	26	26	81	27	142	77	32
4	56	29	27	27	32	26	25	62	188	97	64	31
5	44	29	27	27	30	25	25	56	167	91	58	30
6	42	29	27	26	26	25	25	52	43	235	58	129
7	42	27	27	25	25	25	25	47	35	125	179	166
8	36	27	27	25	24	25	25	45	33	76	318	90
9	32	27	27	25	24	25	25	51	31	390	272	64
10	33	26	27	26	24	25	25	53	179	456	648	53
11	42	27	27	26	23	25	25	43	91	240	412	46
12	114	27	27	27	23	27	25	39	50	2110	183	42
13	56	27	26	26	23	27	26	35	38	662	95	40
14	42	26	26	26	24	26	128	34	74	271	73	37
15	36	26	27	27	25	26	70	128	63	141	59	36
16	33	26	27	26	25	25	40	604	49	92	52	35
17	73	26	27	26	25	25	33	437	45	69	47	35
18	989	27	27	26	34	26	34	64	45	56	248	33
19	506	26	28	26	30	27	31	47	42	58	1440	33
20	240	25	28	26	28	25	28	41	39	76	328	32
21	127	25	29	26	25	25	27	38	39	83	149	31
22	90	25	30	25	26	25	25	37	94	88	85	31
23	82	25	33	25	26	25	25	33	162	91	65	31
24	67	25	36	25	26	24	25	31	73	87	56	31
25	52	25	36	25	27	25	25	31	52	86	50	30
26	48	25	38	25	28	25	239	30	45	82	45	30
27	42	25	33	24	28	25	1570	29	51	78	41	29
28	38	25	30	25	27	25	3340	29	53	67	37	30
29	36	25	28	24	---	25	1340	33	59	61	35	116
30	34	25	28	24	---	25	286	31	98	68	33	428
31	33	---	27	24	---	25	---	28	---	78	32	---
TOTAL	3410	799	886	796	731	787	7594	2475	2020	6512	5408	1815
MEAN	110	26.6	28.6	25.7	26.1	25.4	253	79.8	67.3	210	174	60.5
MAX	989	31	38	27	34	27	3340	604	188	2110	1440	428
MIN	32	25	25	24	23	24	25	28	27	56	32	29
AC-FT	6760	1580	1760	1580	1450	1560	15060	4910	4010	12920	10730	3600
CAL YR 1985	TOTAL	32272	MEAN	88.4	MAX	2450	MIN	23	AC-FT	64010		
WTR YR 1986	TOTAL	33233	MEAN	91.0	MAX	3340	MIN	23	AC-FT	65920		

KANSAS RIVER BASIN

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06884000 LITTLE BLUE RIVER NEAR FAIRBURY, NE

LOCATION.--Lat 40°06'54", long 97°10'13", in NW1/4NE1/4 sec.26, T.2 N., R.2 E., Jefferson County, Hydrologic Unit 10270207, at right downstream wingwall of bridge on State Highway 15, 0.8 mi south of Fairbury, and 5.2 mi upstream from Rose Creek.

DRAINAGE AREA.--2,350 mi².

PERIOD OF RECORD.--May 1908 to September 1915, October 1928 to September 1956 (published as "near Endicott"), October 1956 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1086: 1941(M). WSP 1390: 1908(M), 1912, 1915, 1935, 1939, 1945(M). WSP 1510: 1947 (calendar year figures only). WSP 1919: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,282.19 ft above National Geodetic Vertical Datum of 1929. May 23, 1908, to Sept. 30, 1915, nonrecording gage at present site at different datum. Apr. 26, 1929, to Sept. 24, 1957, nonrecording gage or water-stage recorder at site 3.5 mi downstream at various datums.

REMARKS.--Estimated daily discharges: Nov. 20 to Dec. 22, 24-29, Jan. 3-9, and Feb. 9-24. Records good except for periods of estimated record, which are poor. Some regulation at low stage by thermoelectric plant above station. Natural flow of stream affected by irrigation development above station.

AVERAGE DISCHARGE.--65 years, 379 ft³/s, 274,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,900 ft³/s June 13, 1984, gage height, 16.98 ft; maximum gage height, 18.96 ft Oct. 12, 1973; minimum daily discharge, 14 ft³/s Nov. 22, 1929, discharge measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 26	0630	3200	6.41	Aug. 19	1600	3070	6.29
Apr. 28	1500	*10900	*11.43	Sept. 8	0600	3910	7.10
July 12	1630	4330	7.49	Sept. 30	1730	3430	6.64

Minimum daily discharge, 103 ft³/s Jan. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	487	217	125	189	174	174	190	798	212	784	329	159
2	370	210	130	182	160	175	192	577	201	881	300	153
3	323	205	140	200	168	169	208	514	190	381	276	163
4	318	200	140	190	191	165	201	423	314	299	245	154
5	295	199	145	185	190	166	194	377	994	266	222	154
6	269	193	150	175	195	163	188	340	317	373	204	211
7	251	192	150	170	180	161	185	323	269	512	229	1570
8	243	190	150	145	170	161	179	310	223	304	954	3570
9	247	187	145	150	155	165	175	303	199	245	2210	1810
10	253	185	140	148	140	166	174	305	289	720	1550	1010
11	239	185	135	157	130	170	175	278	348	585	1180	670
12	310	185	130	170	125	211	179	261	318	3070	757	508
13	301	185	130	190	135	216	184	247	309	2060	496	410
14	249	182	140	169	130	218	334	236	318	1100	363	345
15	233	182	155	184	140	198	361	246	276	691	306	327
16	218	181	170	175	150	190	333	500	226	476	286	431
17	215	180	170	190	170	197	239	1840	198	358	250	355
18	992	178	145	186	170	258	229	836	184	291	253	326
19	1260	176	155	180	170	227	215	439	175	254	2380	361
20	773	150	150	171	165	210	210	318	170	242	995	415
21	678	120	160	171	165	189	196	283	166	250	504	461
22	603	116	165	164	175	183	184	259	169	254	336	527
23	469	125	182	170	185	180	176	241	327	260	272	378
24	391	130	205	161	200	175	170	228	278	257	238	319
25	334	135	200	163	198	175	160	217	194	246	218	286
26	296	130	190	158	196	172	1990	210	165	237	208	261
27	271	120	190	103	196	167	3200	202	167	223	194	245
28	252	116	190	127	170	170	9920	201	164	217	181	237
29	238	120	195	153	---	174	5510	202	161	224	172	375
30	227	125	202	188	---	172	1610	278	261	418	167	2670
31	222	---	199	212	---	173	---	253	---	404	162	---
TOTAL	11827	4999	4973	5276	4693	5690	27461	12045	7782	16882	16437	18861
MEAN	382	167	160	170	168	184	915	389	259	545	530	629
MAX	1260	217	205	212	200	258	9920	1840	994	3070	2380	3570
MIN	215	116	125	103	125	161	160	201	161	217	162	153
AC-FT	23460	9920	9860	10460	9310	11290	54470	23890	15440	33490	32600	37410
CAL YR 1985	TOTAL	180023		MEAN	493	MAX	14700	MIN	87	AC-FT	357100	
WTR YR 1986	TOTAL	136926		MEAN	375	MAX	9920	MIN	103	AC-FT	271600	

KANSAS RIVER BASIN

06884025 LITTLE BLUE RIVER AT HOLLENBERG, KS

LOCATION.--Lat 39°58'48", long 97°00'16". NE1/4SW1/4 sec.8, T.1 S., R.4 E., Washington County, Hydrologic Unit 10270207, on right bank and 2 ft downstream from bridge on county road, 0.6 mi west of Hollenberg, and 1.75 mi downstream from Nebraska-Kansas State line.

DRAINAGE AREA.--2,752 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1973 to February 1974 (discharge measurements only), March 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,216.10 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 22 to Feb. 23. Records good except for period of estimated record, which are poor. Discharge measurements made prior to 1974 water year are published in table of miscellaneous sites in WDR NE-73.

AVERAGE DISCHARGE.--12 years, 533 ft³/s, 386,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,600 ft³/s June 13, 1984, gage height, 21.00 ft; minimum daily, 40 ft³/s Dec. 17, 1975.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 12, 1973, reached a stage of 23.07 ft, present datum, from floodmark. discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 26	2030	3080	7.59	Aug. 19	2100	5130	9.43
Apr. 28	2130	*11800	*13.79	Aug. 20	2330	4400	8.82
July 12	2130	4890	9.23	Sept. 8	1300	5010	9.33
Aug. 9	1800	3100	7.61	Sept. 30	2330	5210	9.49
Aug. 12	0930	4990	9.31				

Minimum daily discharge, 155 ft³/s Feb. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	847	317	200	300	210	242	266	1260	367	1320	441	208
2	629	304	230	300	220	235	296	887	290	1060	374	203
3	487	299	250	290	230	236	490	774	254	709	343	207
4	424	291	255	255	235	236	392	643	241	445	313	209
5	387	287	260	230	245	233	307	540	1050	376	288	203
6	353	283	260	210	235	227	279	476	603	697	293	327
7	333	277	250	210	220	221	272	481	438	678	270	716
8	317	276	235	220	210	216	264	438	362	535	456	4530
9	591	275	220	240	190	209	255	450	305	504	2480	2640
10	793	272	210	225	180	211	252	433	282	704	2030	1320
11	614	269	200	225	170	212	254	411	466	798	1700	915
12	586	269	200	215	155	216	252	371	438	3150	2440	695
13	656	269	205	210	160	385	254	351	395	3100	856	556
14	510	269	210	215	175	367	343	330	411	1550	530	456
15	442	266	235	220	180	316	508	318	392	983	412	399
16	372	266	250	225	190	292	496	636	324	681	439	469
17	349	266	260	230	195	274	403	2320	274	521	338	451
18	857	266	240	235	200	311	349	2080	245	414	314	393
19	1950	266	190	240	210	493	314	923	229	331	2890	411
20	1340	237	225	245	215	442	295	546	217	287	3100	450
21	986	210	195	235	220	333	280	435	220	278	1940	460
22	956	200	210	230	210	277	259	378	206	276	706	642
23	777	200	225	230	250	272	247	338	252	280	447	507
24	625	200	240	215	283	262	243	312	436	283	394	394
25	527	220	215	210	275	257	239	288	287	275	337	334
26	457	220	250	190	268	252	1520	271	213	259	305	298
27	458	205	255	175	267	245	2710	262	200	251	279	270
28	382	190	255	185	262	236	10300	256	199	251	254	279
29	358	190	270	195	---	236	7800	256	188	233	238	756
30	337	190	280	200	---	236	2800	264	406	338	227	3430
31	327	---	290	205	---	242	---	409	---	507	215	---
TOTAL	19027	7549	7270	7010	6060	8422	32939	18137	10190	22074	25649	23128
MEAN	614	252	235	226	216	272	1098	585	340	712	827	771
MAX	1950	317	290	300	283	493	10300	2320	1050	3150	3100	4530
MIN	317	190	190	175	155	209	239	256	188	233	215	203
AC-FT	37740	14970	14420	13900	12020	16710	65330	35970	20210	43780	50870	45870
CAL YR 1985	TOTAL	223677		MEAN	613	MAX	15800	MIN	130	AC-FT	443700	
WTR YR 1986	TOTAL	187455		MEAN	514	MAX	10300	MIN	155	AC-FT	371800	

KANSAS RIVER BASIN

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06884025 LITTLE BLUE RIVER AT HOLLENBERG, KS--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1972 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)
OCT 10...	1015	885	368	7.20	7.0	742	10.7	85	--	--	120	120
NOV 07...	1030	278	605	7.60	6.5	743	11.4	11	730	250	250	250
DEC 03...	1200	257	720	7.20	0.0	740	14.0	14	300	120	270	270
JAN 28...	1030	200	--	8.40	0.0	720	12.8	5	K32	1200	260	260
FEB 26...	1350	284	598	8.00	8.0	722	12.2	21	K58	96	220	220
MAR 25...	1025	250	650	8.18	13.0	726	11.5	16	1000	160	210	210
APR 23...	0850	237	612	8.10	12.5	--	10.4	12	K530	K40	230	230
MAY 20...	1140	552	408	7.40	17.5	741	7.8	49	6100	4800	140	140
JUN 19...	1415	237	590	8.40	29.5	--	8.3	27	1400	190	190	190
JUL 16...	1230	672	280	7.10	28.0	736	7.1	60	10000	2700	78	78
AUG 13...	1300	821	213	6.90	24.0	725	7.3	67	K10000	11000	65	65
SEP 10...	1430	1210	180	7.00	20.5	735	8.4	110	4200	17000	51	51

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

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)
OCT 10...	39	6.0	15	0.6	8.5	99	22	12	0.2	17	180	0.24
NOV 07...	81	12	37	1	--	--	47	26	--	--	--	--
DEC 03...	87	13	41	1	7.5	265	55	36	0.3	29	430	0.58
JAN 28...	84	13	55	2	6.6	235	55	60	0.3	25	440	0.6
FEB 26...	69	11	34	1	--	--	46	31	--	--	--	--
MAR 25...	64	12	37	1	6.1	205	49	35	0.3	17	340	0.47
APR 23...	72	11	39	1	6.2	214	46	35	0.4	21	360	0.49
MAY 20...	45	7.7	18	0.7	--	--	38	20	--	--	--	--
JUN 19...	61	10	34	1	7.7	196	33	37	0.4	25	330	0.44
JUL 16...	24	4.3	10	0.5	14	77	5.1	13	0.3	17	130	0.18
AUG 13...	20	3.7	8.1	0.5	--	--	3.6	7.3	--	--	--	--
SEP 10...	16	2.7	4.5	0.3	11	59	<2.0	<5.0	0.4	12	--	--

KANSAS RIVER BASIN

06884025 LITTLE BLUE RIVER AT HOLLENBERG, KS--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 105 DEG. C. SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 10...	428	400	0.97	1.00	0.06	3.0	3.1	4.1	0.52	0.31	18
NOV 07...	--	26	1.20	--	0.08	0.21	0.29	1.5	0.42	--	5.4
DEC 03...	297	13	1.40	--	0.15	0.3	0.45	1.9	0.29	0.23	5.1
JAN 28...	238	4	1.80	1.80	0.15	0.58	0.73	2.5	0.15	0.16	--
FEB 26...	--	70	1.50	--	0.04	0.66	0.7	2.2	0.19	--	3.0
MAR 25...	232	46	0.87	0.88	0.04	0.91	0.95	1.8	0.23	0.15	3.3
APR 23...	230	58	0.83	0.86	0.08	0.42	0.5	1.3	0.23	0.20	3.8
MAY 20...	--	554	2.30	--	0.14	1.3	1.4	3.7	0.83	--	13
JUN 19...	208	122	1.30	1.30	0.03	1.1	1.1	2.4	0.50	0.34	6.1
JUL 16...	243	777	2.30	2.20	0.02	2.8	2.8	5.1	1.10	0.32	18
AUG 13...	--	592	1.30	--	0.02	2.6	2.6	3.9	0.65	--	8.8
SEP 10...	--	1550	1.20	1.20	0.08	4.2	4.3	5.5	1.50	0.26	10

DATE	TIME	ARSENIC TOTAL (UG/L AS AS) (01002)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
OCT 10...	1015	--	--	--	--	74	--	27	--	--	--	--
NOV 07...	1030	6	<15	<10	<10	--	40	--	<0.1	<5	<1	<30
DEC 03...	1200	--	--	--	--	10	--	79	--	--	--	--
JAN 28...	1030	--	--	--	--	6	--	120	--	--	--	--
MAR 25...	1025	--	<15	<10	<10	14	20	40	<0.1	3	<1	<30
APR 23...	0850	--	--	--	--	13	--	21	--	--	--	--
MAY 20...	1140	20	<15	20	20	--	<20	--	<0.1	<2	<1	70
JUN 19...	1415	--	--	--	--	13	--	10	--	--	--	--
JUL 16...	1230	--	--	--	--	54	--	<1	--	--	--	--
AUG 13...	1300	31	<15	20	20	--	<20	--	<0.1	<25	<10	120
SEP 10...	1430	--	--	--	--	110	--	4	--	--	--	--

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest stage partial record stations during water year 1986

Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (ft ³ /s)
Tekamah Creek basin							
06608000	Tekamah Creek at Tekamah, NE	Lat 41°46'30", long 96°13'10" in SE1/4 sec.19, T.21 N., R.11 E., Burt County, on left bank upstream from bridge, 1 block east of U.S. Highway 73 in Tekamah.	23	1949-81† 1982-86	06-14-86	15.92	5,700
Kansas River basin							
06838200	Coon Creek at Indianola, NE	Lat 40°14'03", long 100°25'37", in NW1/4NE1/4 sec.13, T.3 N., R.28 W., Red Willow County, at bridge on U.S. Highways 6 and 34, 0.5 mile west of Indianola.	a69	1961-86	--	--	<5
06838550	Dry Creek at Bartley, NE	Lat 40°15'02", long 100°19'02", in SW1/4SE1/4 sec.1, T.3 N., R.27 W., Red Willow County, at bridge on U.S. Highway 6 and 34, 0.5 mile west of Bartley.	a42	1961-86	--	--	<5
06850000	Turkey Creek at Naponee, NE	Lat 40°04'34", long 99°08'17", in SW1/4SW1/4 sec.4, T.1 N., R.16 W., Franklin County, on downstream side of county bridge at east side of Naponee.	129	1948-53†, 1954-61b 1962-77c 1978-86b	07-10-86	4.21	450
06881450	Indian Creek at Beatrice, NE	Lat 40°17'08", long 96°44'47", in SE1/4NE1/4 sec.28, T.4 N., R.6 E., Gage County, at bridge on U.S. Highway 77 at north edge of Beatrice.	74.7	1960-86	06-30-86	13.19	2,600

† Operated as a continuous-record gaging station.

c Discharge measurements published in table for low flow partial record sites.

a Approximate.

b Discharge measurements published in table for miscellaneous sites.

DISCHARGE AT PARTIAL RECORD STATIONS AND MISCELLANEOUS SITES

Measurements of streamflow at points other than gaging stations are given in the following table. Some measurements were made during periods of base flow when streamflow is primarily from ground-water storage and may be correlated with the simultaneous discharge of a nearby stream where continuous records are available to give a picture of the low-flow potentiality of the stream.

Discharge measurements made at miscellaneous sites during water year 1986

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
Niobrara River basin						
Eagle Creek (06465050)	Niobrara River	Lat 42°38'01", long 98°46'21", in SW1/4NW1/4 sec.30, T.31 N., R.12 W., Holt County, at county road bridge 4.3 miles south and 6 miles west of Midway.	--	1969-85	11-08-85 04-30-86	22 26
East Branch Eagle Creek (06465100)	Eagle Creek	Lat 42°37'35", long 98°45'49", in SW1/4SE1/4 sec.30, T.31 N., R.12 W., Holt County, at county road bridge 5 miles south and 5.4 miles west of Midway.	--	1969-85	11-08-85 04-30-86	9.2 12
Redbird Creek (06465398)	Niobrara River	Lat 42°39'33", long 98°33'31", in NE1/4SE1/4 sec.14, T.31 N., R.11 W., Holt County, at site 3.2 miles east and 2.7 miles south of Meek.	--	1969-85	11-07-85 04-29-86	19 30
Blackbird Creek (06465420)	Redbird Creek	Lat 42°39'46", long 98°34'24", in SW1/4NW1/4 sec.14, T.31 N., R.11 W., Holt County, at county road bridge 2.4 miles east and 2.3 miles south of Meek.	--	1969-85	11-07-85 04-29-86	9.9 17
Platte River basin						
Platte River (06770262)	Missouri River	Lat 40°40'38", long 98°50'51", in SW1/4NE1/4 sec.12, T.8 N., R.14 W., Buffalo County, at bridge on county road 4.5 miles south of Gibbon.	--	1985	03-06-86 04-02-86 04-28-86 05-29-86 06-24-86 07-21-86 08-18-86 09-15-86	2630 2530 5060 1950 5310 949 1950 5300
Dane Creek (06788495)	North Loup River	Lat 41°36'31", long 98°56'36", in NE1/4NE1/4 sec.20, T.19 N., R.14 W., Valley County, at bridge on State Highway 11 at northwest edge of Ord.	--	1962a 1977-85	11-18-85 04-25-86	.73 .72
Mira Creek (06788990)	North Loup River	Lat 41°29'54", long 98°46'46", in SE1/4SW1/4 sec.26, T.18 N., R.13 W., Valley County, at bridge on State Highway 11 at west edge of North Loup.	--	1977-85	11-18-85 04-24-86	1.6 1.4

1 Also published with additional data elsewhere in this report.
a Gage heights, or gage heights and discharge measurements only.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	
06465050 EAGLE CREEK NEAR MIDWAY NEBR (LAT 42 38 02N LONG 098 46 29W)										
NOV 1985										
08...	1055	22	292	7.70	3.0	10	130	130	41	
APR 1986										
30...	1000	26	296	7.89	12.0	20	120	120	40	
06465100 EASTBRANCH EAGLE CREEK NR MIDWAY NEBR (LAT 42 37 30N LONG 098 45 56W)										
NOV 1985										
08...	0915	9.3	267	7.70	5.5	7	130	130	44	
APR 1986										
30...	1120	12	293	7.76	14.0	15	140	140	46	
06465398 REDBIRD CREEK NR MEEK NEBRASKA (LAT 42 39 33N LONG 098 33 31W)										
NOV 1985										
07...	1415	19	195	8.00	9.0	5	84	84	28	
APR 1986										
29...	1420	30	212	7.82	18.0	25	88	88	29	
06465420 BLACKBIRD CREEK NEAR MEEK NEBR (LAT 42 39 46N LONG 098 34 24W)										
NOV 1985										
07...	1530	9.9	262	8.40	8.5	7	120	120	41	
APR 1986										
29...	1600	17	309	8.12	18.0	30	140	140	45	
DATE		MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINIT LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
06465050 EAGLE CREEK NEAR MIDWAY NEBR (LAT 42 38 02N LONG 098 46 29W)										
NOV 1985										
08...	5.7	9.0	0.4	5.2	97	16	5.0	0.2	39	
APR 1986										
30...	5.3	8.4	0.3	5.2	110	14	4.9	0.2	36	
06465100 EASTBRANCH EAGLE CREEK NR MIDWAY NEBR (LAT 42 37 30N LONG 098 45 56W)										
NOV 1985										
08...	4.5	6.6	0.3	5.0	130	6.4	1.8	0.3	52	
APR 1986										
30...	4.9	6.9	0.3	6.1	149	8.0	2.3	0.3	44	
06465398 REDBIRD CREEK NR MEEK NEBRASKA (LAT 42 39 33N LONG 098 33 31W)										
NOV 1985										
07...	3.4	7.0	0.3	4.4	80	7.5	2.3	0.2	43	
APR 1986										
29...	3.8	7.0	0.3	4.2	94	10	2.5	0.2	34	
06465420 BLACKBIRD CREEK NEAR MEEK NEBR (LAT 42 39 46N LONG 098 34 24W)										
NOV 1985										
07...	4.6	8.2	0.3	4.8	119	--	--	0.3	45	
APR 1986										
29...	5.5	9.1	0.4	4.9	146	11	3.6	0.3	38	

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
06465050 EAGLE CREEK NEAR MIDWAY NEBR (LAT 42 38 02N LONG 098 46 29W)								
NOV 1985 08...	180	0.24	11	7.70	0.08	20	13	4
APR 1986 30...	180	0.24	13	7.00	0.11	20	50	5
06465100 EASTBRANCH EAGLE CREEK NR MIDWAY NEBR (LAT 42 37 30N LONG 098 45 56W)								
NOV 1985 08...	200	0.27	5.0	1.40	0.03	20	20	14
APR 1986 30...	210	0.28	6.7	1.20	0.10	30	61	10
06465398 REDBIRD CREEK NR MEEK NEBRASKA (LAT 42 39 33N LONG 098 33 31W)								
NOV 1985 07...	140	0.2	7.4	1.80	0.06	20	39	6
APR 1986 29...	150	0.2	12	1.70	0.07	10	74	16
06465420 BLACKBIRD CREEK NEAR MEEK NEBR (LAT 42 39 46N LONG 098 34 24W)								
NOV 1985 07...	--	--	--	1.80	0.07	20	20	10
APR 1986 29...	210	0.28	9.2	1.60	0.08	20	40	14

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	
06788495 DANE C AT ORD. NEBR. (LAT 41 36 31N LONG 098 56 36W)										
NOV 1985										
18...	1600	0.73	814	7.60	3.5	10	390	390	120	
APR 1986										
25...	1110	0.72	789	7.75	13.5	20	390	390	120	
06788990 MIRA C AT NORTH LOUP, NEBR. (LAT 41 29 54N LONG 098 46 46W)										
NOV 1985										
18...	1430	1.6	756	7.50	2.5	15	360	360	100	
APR 1986										
24...	1520	1.4	772	8.63	20.5	30	390	390	110	
DATE		MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
06788495 DANE C AT ORD, NEBR. (LAT 41 36 31N LONG 098 56 36W)										
NOV 1985										
18...	22	26	0.6	15	355	51	15	0.3	43	
APR 1986										
25...	23	28	0.6	17	371	54	12	0.3	36	
06788990 MIRA C AT NORTH LOUP, NEBR. (LAT 41 29 54N LONG 098 46 46W)										
NOV 1985										
18...	27	25	0.6	14	380	29	12	0.3	35	
APR 1986										
24...	28	25	0.6	17	402	53	9.1	0.3	24	
DATE		SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	
06788495 DANE C AT ORD, NEBR. (LAT 41 36 31N LONG 098 56 36W)										
NOV 1985										
18...	510	0.69	1.1	4.90	0.32	80	25	160		
APR 1986										
25...	510	0.7	1.0	3.50	0.69	80	57	290		
06788990 MIRA C AT NORTH LOUP, NEBR. (LAT 41 29 54N LONG 098 46 46W)										
NOV 1985										
18...	470	0.64	2.0	0.66	0.43	70	11	200		
APR 1986										
24...	510	0.69	1.9	0.22	0.64	100	19	350		

GROUND-WATER LEVELS

ADAMS COUNTY

403403098244001. Local number 7N-10W-23AB.

LOCATION.--Lat 40°34'03", long 98°24'40", NW1/4NE1/4 sec.23, T.7 N., R.10 W., Hydrologic Unit 10270206, 0.5 mi west of the west junction of Routes 281 and 6, in the south part of Hastings. Owner: Henry Fricke.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled unused irrigation water-table well, diameter 8 in, depth 155 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,927 ft. Measuring point: Top of casing 1.0 ft above land-surface datum.

REMARKS.--Large amounts of ground water are pumped from municipal and industrial wells located east and northeast of the well and from irrigation wells in other directions.

PERIOD OF RECORD.--August 1934 to October 1938; August 1948 to December 1950; and January 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 99.95 ft below land-surface datum, Jan. 22, 1935; lowest, 128.82 ft below land-surface datum, July 10, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	116.09	115.46	115.16	114.75	114.51	115.22	114.19	113.95	114.10	115.68	116.86	116.36
10	115.90	115.42	115.15	115.10	114.37	114.40	114.06	114.25	113.98	117.81	116.27	115.94
15	.....	115.34	114.91	114.73	114.41	114.30	116.44	114.15	114.00	115.71	116.20	115.87
20	115.67	115.32	114.97	114.57	114.56	114.42	114.06	114.06	118.02	118.23	118.46	115.73
25	117.08	115.17	114.89	114.79	114.37	114.28	113.98	114.08	116.72	119.90	116.94	115.65
EOY	115.50	115.17	114.90	114.53	114.51	114.29	114.06	114.03	119.62	117.31	116.60	115.55

WTR YEAR 1986 MAX 113.76 JUN 9, 1986 MIN 119.90 JUL 25, 26, 1986

BLAINE COUNTY

414958100061501. Local number 22N-24W-33CA.

LOCATION.--Lat 41°49'58", long 100°06'15", NE1/4SW1/4 sec.33, T.22 N., R.24 W., Hydrologic Unit 10210001, approximately 500 ft west of junction of State Highways 91 and 2 north of Dunning. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits, undifferentiated, of Quaternary age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1 in, depth 13 ft, screened 11 to 13 ft.

DATUM.--Altitude of land-surface datum is 2,618 ft. Measuring point: Top of casing 1.40 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.04 ft below land-surface datum, Mar. 8, 1950; lowest, 6.97 ft below land-surface datum, Aug. 8, 1951.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	4.05	DEC 23	3.53	FEB 19	3.23	APR 21	2.75	JUN 18	3.45	AUG 11	3.65
NOV 20	3.89	JAN 22	3.44	MAR 19	2.92	MAY 21	2.94	JUL 14	3.69	SEP 9	3.69

GROUND-WATER LEVELS

301

BOONE COUNTY

413323098074501. Local number 18N-7W-4CA.

LOCATION.--Lat 41°33'23", long 98°07'45", NE1/4SW1/4 sec.4, T.18 N., R.7 W., Hydrologic Unit 10210010, at junction of State Highways 52 and 56 approximately 1 mi east of Cedar Rapids. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

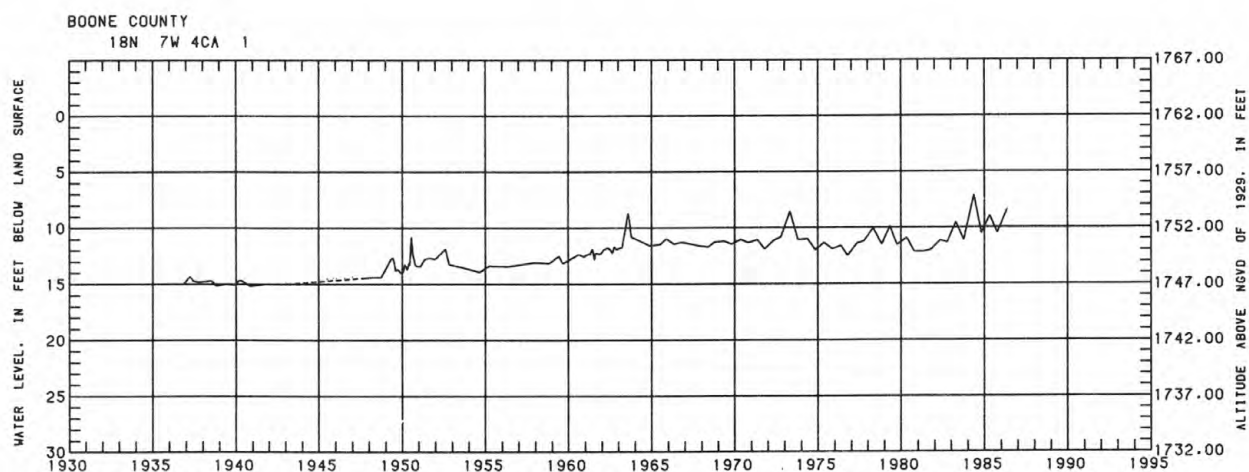
WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1 in, depth 22 ft, screened 20 to 22 ft.

DATUM.--Altitude of land-surface datum is 1,762 ft. Measuring point: Top of casing 2.90 ft above land-surface datum.

PERIOD OF RECORD.--November 1936 to October 1942; April 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.15 ft below land-surface datum, May 17, 1984; lowest, 15.17 ft below land-surface datum, Oct. 26, 1940.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986											
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11	10.50	MAY 21	8.44								



BOX BUTTE COUNTY

420945102551501. Local number 25N-48W-4DDD.

LOCATION.--Lat 42°09'45", long 102°55'15", SE1/4SE1/4SE1/4 sec.4, T.25 N., R.48 W., Hydrologic Unit 10150003, approximately 3.6 mi south and 2.8 mi east of Berea. Owner: U.S. Geological Survey.

AQUIFER.--Marsland Formation of Miocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1.25 in, depth 204 ft, screened 190 to 193 ft.

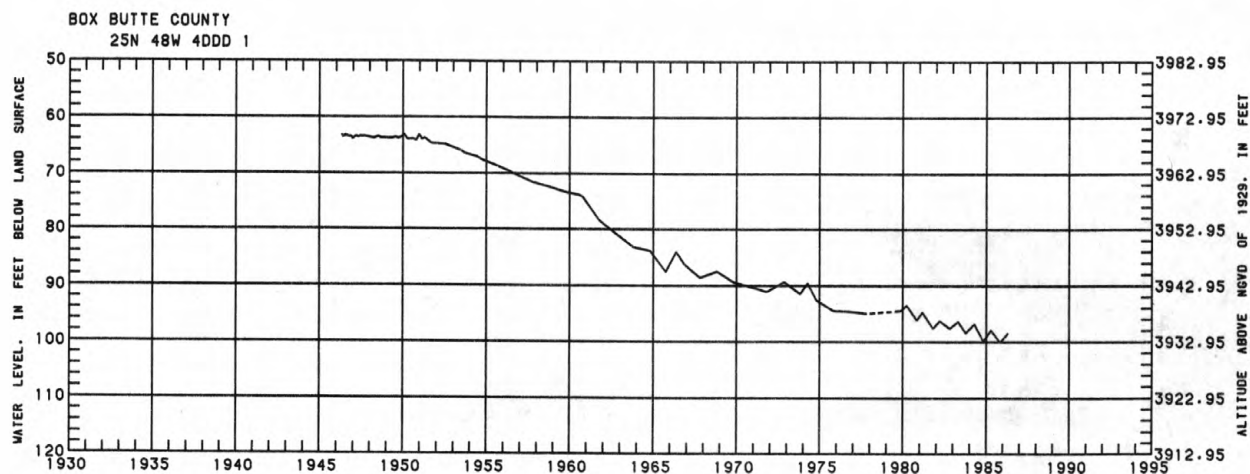
DATUM.--Altitude of land-surface datum is 4,032.95 ft. Measuring point: Top of pipe 2.00 ft above land-surface datum.

REMARKS.--Water levels in vicinity of well are affected by large withdrawals of ground water for irrigation use.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 63.14 ft below land-surface datum, Jan. 25, 1950; lowest, 100.08 ft below land-surface datum, Nov. 1, 1985.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986											
WATER		WATER		WATER		WATER		WATER		WATER	
DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL
NOV 1	100.08	APR 23	98.49								



BROWN COUNTY

423307099494501. Local number 30N-21W-19CC.

LOCATION.--Lat 42°33'07", long 99°49'45", SW1/4SW1/4 sec.19, T.30 N., R.21 W., Hydrologic Unit 10150004, 1.2 mi east of junction of U.S. Highway 20 and Route 7 in Ainsworth. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in. depth 52 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 2,511.44 ft. Measuring point: Top of casing 0.20 ft above land-surface datum.

REMARKS.--Water levels in well are affected by pumpage of ground water for irrigation and seepage losses from nearby irrigation project.

PERIOD OF RECORD.--November 1947 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 31.70 ft below land-surface datum, Oct. 18, 1984; lowest, 40.96 ft below land-surface datum, Sept. 7, 1965.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	33.52	33.43	33.51	33.63	33.85	33.99	34.14	34.22	34.31	34.30	34.43	34.04
10	33.48	33.46	33.55	33.72	33.90	34.01	34.14	34.28	34.31	34.30	34.28	33.91
15	33.42	33.46	33.54	33.69	33.88	34.03	34.19	34.28	34.29	34.34	34.25	33.84
20	33.42	33.50	33.57	33.72	33.97	34.09	34.21	34.30	34.28	34.41	34.24	33.75
25	33.43	33.44	33.61	33.81	33.95	34.10	34.19	34.31	34.27	34.42	34.10	33.62
EOM	33.38	33.49	33.62	33.80	33.98	34.14	34.26	34.31	34.27	34.49	34.08	33.49

WTR YEAR 1986 MAX 33.33 OCT 22, 1985 MIN 34.50 AUG 1, 1986

BUFFALO COUNTY

404618098504401. Local number 9N-14W-1DC.

LOCATION.--Lat 40°46'18", long 98°50'44", SW1/4SE1/4 sec.1, T.9 N., R.14 W., Hydrologic Unit 10200102, 1.3 mi north of the intersection of Route 30 and the North-South range-line road on the east side of Gibbon, then 0.5 mi west on section-line road. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in, depth 38 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 2,060.43 ft. Measuring point: Top of casing 0.80 ft above land-surface datum.

REMARKS.--Water levels in well are affected by pumpage from nearby irrigation wells.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.36 ft below land-surface datum, June 11, 1952; lowest, 29.22 ft below land-surface datum, Aug. 10, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	22.28	21.42	20.99	20.79	20.58	20.46	20.41	20.19	20.04	22.76	24.07	23.95
10	22.12	21.37	20.95	20.73	20.58	20.48	20.36	20.22	20.00	23.20	23.96	23.67
15	21.94	21.27	.....	20.64	20.50	20.48	20.46	20.15	19.97	23.08	24.39	23.50
20	21.80	21.26	.....	20.60	20.58	20.59	20.33	20.16	19.96	23.57	24.47	23.35
25	21.69	21.10	20.86	20.69	20.49	20.44	20.24	20.16	21.28	24.03	24.64	23.17
EOM	21.52	21.03	20.79	20.59	20.55	20.43	20.30	20.06	22.02	24.38	24.10	23.06

WTR YEAR 1986 MAX 19.92 JUN 19, 1986 MIN 24.74 AUG 24, 1986

GROUND-WATER LEVELS

BUFFALO COUNTY

404345098560001. Local number 9N-14W-19DD.

LOCATION.--Lat 40°43'45", long 98°56'00", SE1/4SE1/4 sec.19, T.9 N., R.14 W., Hydrologic Unit 10200102, 4.7 mi west-southwest of Gibbon on U.S. Highway 30. Owner: Robert D. Lewis.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled irrigation water-table well, diameter 24 in, depth 54 ft, casing perforated below water table.

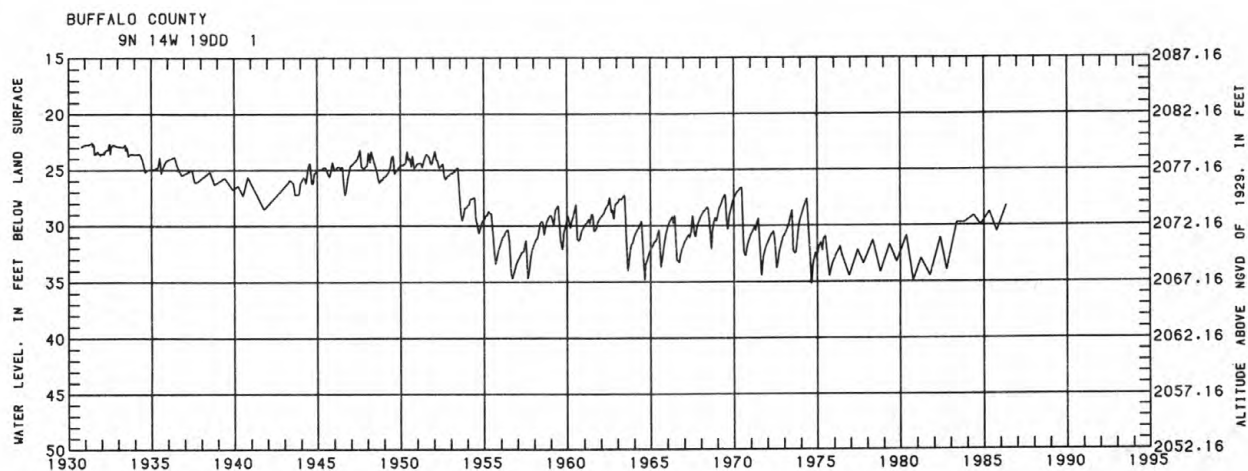
DATUM.--Altitude of land-surface datum is 2,102.16 ft. Measuring point: Hole in pump base 0.70 ft above land-surface datum.

REMARKS.--Water levels in well are affected by pumping of well and of nearby wells for irrigation supplies.

PERIOD OF RECORD.--October 1930 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.55 ft below land-surface datum, June 9, 1931; lowest, 35.20 ft below land-surface datum, Aug. 30, 1974.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986											
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 9	30.57	MAY 6	28.28								



BUTLER COUNTY

411420097173002. Local number 15N-1E-27DD2.

LOCATION.--Lat 41°14'20", long 97°17'30", SE1/4SE1/4 sec.27, T.15 N., R.1 E., Hydrologic Unit 10270201. 2 mi north of the northeast corner of Rising City. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 5 in, depth 210.0 ft, perforated 199 to 210 ft.

DATUM.--Altitude of land-surface datum is 1,618 ft. Measuring point: Top of platform, at land-surface datum.

REMARKS.--Replacement for 411420097173001, local number 15N-1E-27DD, period of record June 1958 to January 1977. Water levels in well affected by pumping from nearby wells during irrigation season.

PERIOD OF RECORD.--February 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 98.54 ft below land-surface datum, June 5, 1986; lowest, 174.50 ft below land-surface datum, Aug. 3, 1977.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	100.18	99.89	.....	99.20	.....	.....	98.54H	.....	.....	.....
10	100.10	99.80	.....	99.03	.....	.....	.....	.....	.....	101.40
15	101.17	.....	99.94	99.66	.....	99.08	.....	.....	.....	.....	.....	100.98
20	100.24	99.95	99.55	.....	99.11	.....	.....	.....	.....	.....	.....
25	100.24	99.85	99.51	.....	99.16	.....	.....	.....	.....	.....	99.92
EOM	100.19	99.86	.....	.....	.....	.....	.....	.....	.....	.....	99.79

WTR YEAR 1986 MAX 98.54H JUN 5, 1986 MIN 124.50 AUG 7, 1986

H TAPE MEASUREMENT

CHASE COUNTY

403220101384001. Local number 7N-38W-28CC.

LOCATION.--Lat 40°32'20", long 101°38'40", SW1/4SW1/4 sec.28, T.7 N., R.38 W., Hydrologic Unit 10250005, about 0.5 mi north of Imperial. Owner: Roy Hust.

AQUIFER.--Ogallala Formation of Pliocene age.

WELL CHARACTERISTICS.--Drilled unused observation water-table well, diameter 18 in, depth 143 ft, casing perforated below water table.

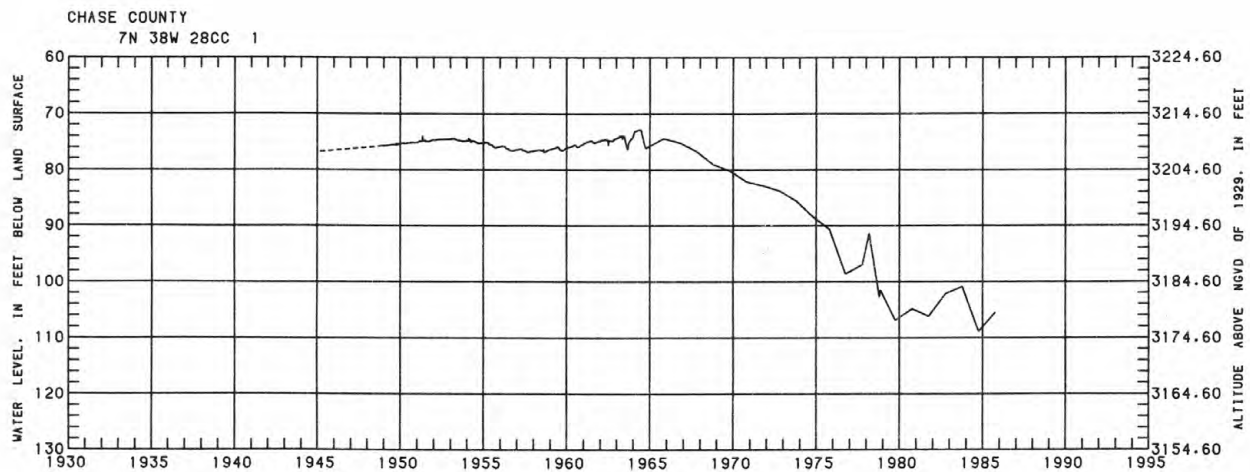
DATUM.--Altitude of land-surface datum is 3,284.6 ft. Measuring point: Top of casing 0.30 ft above land-surface datum.

REMARKS.--Recording gage was installed on this well from December 1948 to December 1963. Water levels in well are affected by irrigation pumpage in area.

PERIOD OF RECORD.--December 1944; December 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 72.82 ft below land-surface datum, June 29, 1964; lowest measured, 108.91 ft below land-surface datum, Oct. 3, 1984.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986											
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	105.55										



CHASE COUNTY

403235101395501. Local number 7N-38W-29CBB.

LOCATION.--Lat 40°32'35", long 101°39'55", NW1/4NW1/4SW1/4 sec.29, T.7 N., R.38 W., Hydrologic Unit 10250005, 0.5 mi north and 1 mi west of Imperial on U.S. Highway 6, then 0.5 mi north on gravel road. Owner: U.S. Geological Survey.

AQUIFER.--Ogallala Formation of Pliocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 5.50 in, depth 230 ft, perforated 190 to 230 ft.

DATUM.--Altitude of land-surface datum is 3,290.30 ft. Measuring point: Top of casing 0.50 ft above land-surface datum.

REMARKS.--Water levels in well are affected by irrigation pumpage in area.

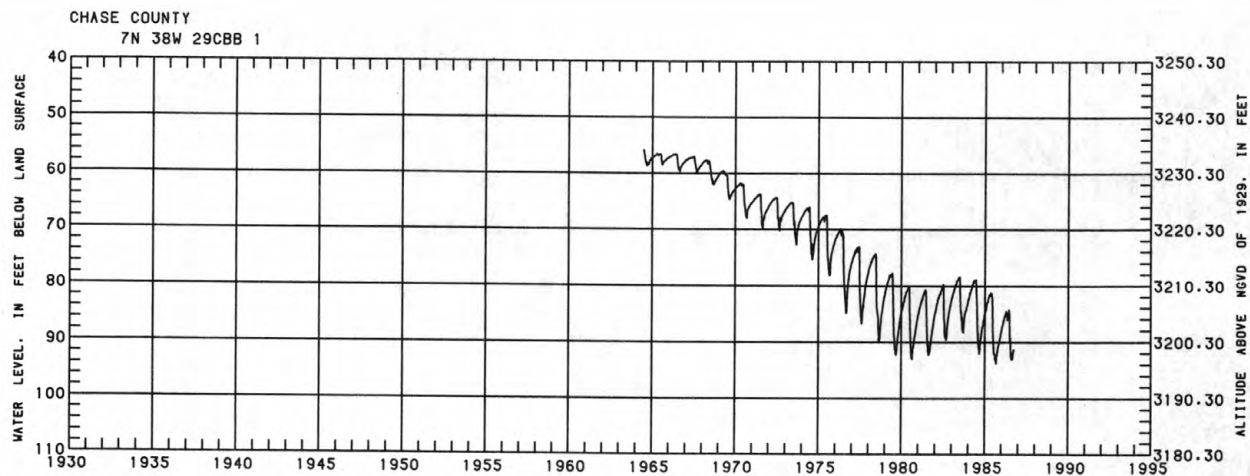
PERIOD OF RECORD.--June 1964 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 55.87 ft below land-surface datum, July 4, 1964; lowest, 94.17 ft below land-surface datum, Aug. 30, 1985.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	91.60	90.34	89.11	87.75	86.58	85.69	84.87	85.38	84.57	89.37	92.88	92.23
10	91.31	90.11	88.89	87.61	86.43	85.61	84.55	86.17	84.59	90.21	91.87	92.00
15	91.11	89.84	88.66	87.23	86.05	85.38	84.72	85.83	84.22	89.18	93.14	91.78
20	90.85	89.76	88.40	87.03	86.25	85.44	.....	85.05	84.99	90.41	.....	91.51
25	90.70	89.39	88.23	87.08	85.93	85.17	.....	85.16	85.47	92.23	.....	91.46
EOM	90.44	89.27	88.02	86.65	85.93	85.10	.....	84.69	89.01	92.57	.....	91.28

WTR YEAR 1986 MAX 84.04 JUN 18, 1986 MIN 93.28 AUG 7, 1986



307

423205100321501. Local number 30N-28W-36AAA.

AQUIFER.--Sand deposits of Pleistocene age.

DATUM.--Altitude of land-surface datum is 2,897.26 ft. Measuring point: Top of casing 3.00 ft above land-surface datum.

REMARKS.--Water levels affected by evapotranspiration.

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

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986									
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	0.15	JAN 27	0.00	SEP 2	0.90				

CLAY COUNTY

402940098154001. Local number 6N-8W-17BB.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

DATUM.--Altitude of land-surface datum is 1,846 ft. Measuring point: Hole in turbine base at land-surface datum.

REMARKS.--Water levels affected by pumping during irrigation season.

PERIOD OF RECORD.--October 1952; June 1954 to current year.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986									
WATER		WATER		WATER		WATER		WATER	
DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL
OCT 22	106.55	MAR 20	104.87	APR 16	106.98				

COLFAX COUNTY

412810097054501. Local number 17N-3E-4CC.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

DATUM.--Altitude of land-surface datum is 1,370.58 ft. Measuring point: Top of casing 1.00 ft above land-surface datum.

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

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986					
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 4	5.81				

GROUND-WATER LEVELS

DAWES COUNTY

424100103243501. Local number 31N-52W-3DC.

LOCATION.--Lat 42°41'00", long 103°24'35", SW1/4SE1/4 sec.3, T.31 N., R.52 W., Hydrologic Unit 10140201, behind house at 312 Annin Street in Crawford. Owner: T. P. Moody.

AQUIFER.--Sand and gravel deposits, undifferentiated, of Quaternary age.

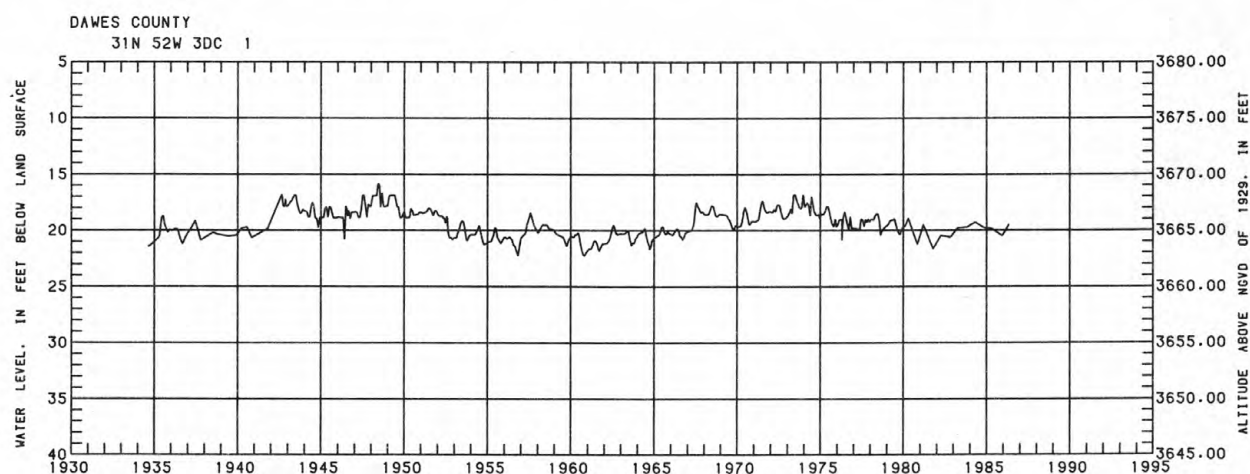
WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in, depth 39 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 3,685 ft. Measuring point: Edge of iron plate 1.07 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.87 ft below land-surface datum, May 30, 1948; lowest, 22.28 ft below land-surface datum, Oct. 31, 1956.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986											
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 8	20.52	MAY 2	19.52								



DAWSON COUNTY

405250099445501. Local number 10N-21W-18DDD.

LOCATION.--Lat 40°52'50", long 99°44'55", SE1/4SE1/4 sec.18, T.10 N., R.21 W., Hydrologic Unit 10200101, 3.5 mi north of the intersection of Route 21 and U.S. Highway 30 in Lexington. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in, depth 120 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 2,420.58 ft. Measuring point: Top of casing 0.50 ft above land-surface datum.

REMARKS.--Water levels in well affected by pumpage from nearby irrigation wells and by seepage from irrigation canals.

PERIOD OF RECORD.--July 1964 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.06 ft below land-surface datum, June 18, 1984; lowest, 21.50 ft below land-surface datum, July 16, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	9.60	9.37	9.84	10.26	10.59	10.78	10.89	11.06	9.22	14.02	9.16	10.43
10	9.70	9.50	9.95	10.32	10.66	10.79	10.86	10.75	8.81	13.72	9.49	10.27
15	9.77	9.52	9.97	10.30	10.65	10.85	10.98	10.62	8.37	9.11	13.88	10.36
20	9.63	9.67	10.03	10.36	10.79	10.89	10.95	10.13	8.31	13.47	14.17	10.44
25	9.37	9.65	10.13	10.51	10.73	10.84	10.95	9.98	9.00	14.41	14.51	10.45
EOM	9.27	9.77	10.18	10.50	10.78	10.88	11.05	9.65	10.01	9.38	10.66	10.59

WTR YEAR 1986 MAX 8.22 JUN 19, 1986 MIN 15.13 AUG 28, 1986

DAWSON COUNTY

404850099503501. Local number 10N-22W-29AA.

LOCATION.--Lat 40°48'50", long 99°50'35", NE1/4NE1/4 sec.29, T.10 N., R.22 W., Hydrologic Unit 10200101, 2 mi east of Dorr. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1 in, depth 12 ft, screened 10 to 12 ft.

DATUM.--Altitude of land-surface datum is 2,435.14 ft. Measuring point: Top of casing 1.80 ft above land-surface datum.

REMARKS.--Water levels in well affected by pumping from nearby wells during irrigation season. No well reading was made in 1983 water year.

PERIOD OF RECORD.--October 1931 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.52 ft below land-surface datum, July 12, 1947; lowest, 8.88 ft below land-surface datum, Oct. 19, 1972.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986											
WATER		WATER		WATER		WATER		WATER		WATER	
DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL
NOV 13	4.39	APR 30	5.28								

DUNDY COUNTY

400155101521302. Local number 1N-40W-29BB2.

LOCATION.--Lat 40°01'55", long 101°52'13", NW1/4NW1/4 sec.29, T.1 N., R.40 W., Hydrologic Unit 10250002, 3.5 mi east of Haigler on U.S. Highway 34 and 0.5 mi north. Well is within 0.5 mi of Republican River. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits, undifferentiated, of Quaternary age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in, depth 48.8 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 3,205 ft. Measuring point: South side of casing 1.6 ft above land-surface datum.

REMARKS.--Replacement for well 400155101521301, local number 1N-40W-29BB1 with period of record from May 1946 to June 1975. Water levels in well are affected by pumping from nearby irrigation wells, evapotranspiration, and changes in stage of Republican River.

PERIOD OF RECORD.--October 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.41 ft below land-surface datum, June 21, 1984; lowest, 20.97 ft below land-surface datum, Sept. 12, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	17.34	17.01	16.78	16.59	16.43	16.32	16.27	16.42	16.63	17.22	17.99	18.20
10	17.27	16.97	16.75	16.57	16.41	16.31	16.20	16.63	16.82	17.21	17.97	18.02
15	17.22	16.92	16.71	16.53	16.38	16.28	16.19	16.76	16.71	17.15	17.93	18.08
20	17.16	16.87	16.68	16.50	16.38	16.27	16.14	16.70	16.90	17.49	18.13	18.37
25	17.10	16.82	16.66	16.50	16.35	16.22	16.17	16.74	16.93	17.61	18.20	18.27
EOM	17.04	16.78	16.63	16.45	16.34	16.34	16.39	16.66	17.14	17.78	18.14	18.11

WTR YEAR 1986 MAX 16.10 MAR 25, 1986 MIN 18.42 SEP 23, 1986

GROUND-WATER LEVELS

FILLMORE COUNTY

402504097432201. Local number 5N-4W-12BDC.

LOCATION.--Lat 40°25'04", long 97°43'22", SW1/4SE1/4NW1/4 sec.12, T.5 N., R.4 W., Hydrologic Unit 10270206, one-half block south of fire station on principal north-south street in Shickley. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 5 in, depth 260.0 ft, perforated 100 to 260 ft.

DATUM.--Altitude of land-surface datum is 1651 ft. Measuring point: Top of casing 1.5 ft above land-surface datum.

REMARKS.--Replacement for 402450097434001, local number 5N-4W-12BC, period of record October 1956 to September 1977. Water levels in well affected by pumping from nearby municipal and irrigation wells.

PERIOD OF RECORD.--June 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 90.85 ft below land-surface datum, June 8, 1978; lowest, 98.69 ft below land-surface datum, Sept. 14, 1984.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	95.36	94.95	94.83	94.49	94.30	94.02	93.82	93.39	93.19	94.08	95.20	95.32
10	95.27	95.17	94.79	94.39H	94.16	94.10	93.60	93.41	93.11	94.08	95.43	95.22
15	95.21	94.92	94.68	94.44	93.97	93.94	93.77	93.35	93.07	94.09	95.34	95.26
20	95.16	94.89	94.70	94.26	94.33	94.12	93.58	93.32	93.74	94.44	95.47	95.23
25	95.21	94.69	94.68	94.50	94.02	93.95	93.48	93.30	93.67	94.83	95.30	95.22
EOM	94.86	94.77	94.65	94.18	94.14	93.95	93.62	93.17	93.92	95.04	95.33	95.20

WTR YEAR 1986 MAX 92.83 JUNE 15, 1986 MIN 95.58 AUG 12, 1986

H TAPE MEASUREMENT

FILLMORE COUNTY

403800097300701. Local number 8N-2W-26AD.

LOCATION.--Lat 40°38'00", long 97°30'07", SE1/4NE1/4 sec.26, T.8 N., R.2 W., Hydrologic Unit 10270203, 2.5 mi west on Route 6 from the principal street of Exeter, then 0.4 mi south. Owner: U.S. Geological Survey.

AQUIFER.--Loess of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in, depth 40 ft, perforated 25 to 40 ft.

DATUM.--Altitude of land-surface datum is 1,610 ft. Measuring point: Top of casing at land-surface datum.

REMARKS.--Perched aquifer, water levels affected by infiltration and deep percolation of applied irrigation water pumped from deeper aquifer.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.24 ft below land-surface datum, June 18, 1983; lowest, 24.16 ft below land-surface datum, July 10, 1958.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	7.09	5.43	.....	6.73	.....	7.25	5.68	3.65	5.35	.....	5.84	6.03
10	7.14	5.67	.....	6.79	.....	7.30	5.80	4.25	5.60	.....	5.55	5.78
15	7.08	5.77	.....	6.80	7.20	6.33	5.90	4.63	5.75	4.64	5.49	6.05
20	4.91	5.96	6.47	6.82	7.29	5.78	5.85	4.67	6.06	5.15	5.30	5.29
25	5.14	5.95	6.52	7.14	7.28	5.58	5.90	4.95	6.20	5.44	5.41	5.47
EOM	5.22	6.09	6.60	.....	7.29	5.69	2.72	5.06	.....	5.77	5.80	5.70

WTR YEAR 1986 MAX 2.15 APR 28, 1986 MIN 7.34 MAR 7, 1986

311

401718099491001. Local number 4N-22W-29AD.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

DATUM.--Altitude of land-surface datum is 2,134 ft. Measuring point: Top of casing 1.00 ft above land-surface datum.

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

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

GARDEN COUNTY

414124102230101. Local number 20N-44W-22CB.

AQUIFER.--Sand deposits of Pleistocene age.

DATUM.--Altitude of land-surface datum is 3783.16 ft. Measuring point: Top of casing 1.61 ft above land-surface datum.

PERIOD OF RECORD.--August 1934-39; 1943 to current year.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

GARDEN COUNTY

414728102292601. Local number 21N-45W-13CA.

AQUIFER.--Sand deposits of Pleistocene age.

DATUM.--Altitude of land-surface datum is 3,839.78 ft. Measuring point: Top of casing 1.52 ft above land-surface datum.

PERIOD OF RECORD.--August 1934-39, 1943 to current year.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

[illegible]

414718099083201. Local number 21N-16W-14CB.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled irrigation water-table well, diameter 18 in, depth 154 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 2,174 ft. Measuring point: Hole in turbine base 2.00 ft above land-surface datum.

REMARKS.--Water levels affected by pumping during irrigation season.

PERIOD OF RECORD.--October 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.07 ft below land-surface datum, Oct. 13, 1983; lowest, 24.92 ft below land-surface datum, Oct. 28, 1959.

[illegible]

403626099451401. Local number 7N-21W-6BC.

LOCATION.--Lat 40°36'26", long 99°45'14", SW1/4NW1/4 sec.2, T.7 N., R.21 W., Hydrologic Unit 10200101, 1 mi west and 2 mi north of Smithfield. Owner: Andy Larson Estate.

AQUIFER.--Ogallala Formation of Pliocene age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in, depth 132 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 2,466.95 ft. Measuring point: Top of casing 0.40 ft above land-surface datum.

REMARKS.--Water levels in well affected by pumping from nearby irrigation wells and by infiltration and deep percolation from nearby irrigation canal.

PERIOD OF RECORD.--September 1934 to July 1940; January 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 45.63 ft below land-surface datum, Oct. 3, 1985; lowest, 117.80 ft below land-surface datum, Sept. 26, 1935.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986					
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 3	45.63				

HALL COUNTY

405315098304302. Local number 11N-11W-25CC2.

LOCATION.--Lat 40°53'15", long 98°30'43", SW1/4SW1/4 sec.25, T.11 N., R.11 W., Hydrologic Unit 10200103, 1.0 mi north and 2.0 mi west of Alda. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in, depth 65 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,924.0 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

REMARKS.--Replacement for 405315098304301, local number 11N-11W-25CC, period of record October 1946 to November 1977. Water levels in wells affected by pumping from nearby wells during irrigation season.

PERIOD OF RECORD.-- April 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.29 ft below land-surface datum, June 15, 1986; lowest, 25.98 ft below land-surface datum, Aug. 31, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	16.39	16.04	15.91	15.83	15.67	15.63	15.60	15.49	15.37	15.51	16.60	17.06
10	16.34	16.07	15.88	15.79	15.70	15.63	15.58	15.50	15.34	15.56	16.72	16.97
15	16.22	16.00	15.82	15.73	15.65	15.66	15.64	15.46	15.32	15.61	16.77	17.00
20	16.19	16.04	15.83	15.68	15.70	15.73	15.57	15.46	15.34	15.74	16.86	16.93
25	16.18	15.93	15.84	15.74	15.65	15.63	15.50	15.45	15.38	15.91	16.92	16.87
EOM	16.06	15.91	15.80	15.68	15.72	15.62	15.59	15.38	15.46	16.16	17.02	16.92

WTR YEAR 1986 MAX 15.29 JUN 15, 1986 MIN 17.06 SEP 5-7, 1986

HAMILTON COUNTY

404836097584101 Local number 10N-6W-27ACAA.

LOCATION.--Lat 40°48'36", long 97°58'41", SE1/4NE1/4 sec.27, T.10 N., R.6 W., Hydrologic Unit 10270203, 4.0 mi south of junction of Route 14 and U.S. Highway 34 in Aurora, then 1.0 mi east and 0.3 mi south. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of the Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in, depth 170 ft, casing perforated below water-table.

DATUM.--Altitude of land surface datum is 1791.3 ft. Measuring point: Top of casing 1.5 ft above land surface datum.

REMARKS.--Replacement for well 404825097583301. Local number 10N-6W-26BC with period of record March 1956 to March 1982 located across the county road to the east.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 93.87 ft below land-surface datum, June 21, 1986; lowest, 107.40 ft below land-surface datum, Aug. 24, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	97.52	96.85	96.44	95.91	95.45	95.16	94.77	94.40	94.10	.....	97.17H	.....
10	97.39	96.89	96.36	.....	95.44	94.94	94.64	94.36	94.06	.....	.....	96.39
15	97.25	96.64	.....	.....	95.26	95.00	94.76	94.30	94.02	.....	.....	96.35
20	97.15	96.75	.....	.....	95.41	95.15	94.57	94.25	93.96	.....	.....	96.20
25	97.13	96.52	.....	.....	95.19	95.26	94.47	94.25	94.51	.....	.....	96.10
EOM	96.90	96.48	96.05	95.60	95.26	94.93	94.56	94.12	.....	.....	.....	96.00

WTR YEAR 1986 MAX 93.87 JUN 21, 1986 MIN 97.56 OCT 4, 1985

H TAPE MEASUREMENT

GROUND-WATER LEVELS

HAMILTON COUNTY

405514097573901. Local number 11N-6W-13CB.

LOCATION.--Lat 40°55'14", long 97°57'39", NW1/4SW1/4 sec.13, T.11 N., R.6 W., Hydrologic Unit 10270201, 2 mi east and 3.5 mi north of Aurora. Owner: O. S. Swedberg.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled irrigation water-table well, diameter 24 in, depth 194 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,812.2 ft. Measuring point: Hole in south side turbine base at land-surface datum.

REMARKS.--Water levels affected by pumping during irrigation season.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 90.04 ft below land-surface datum, Sept. 29, 1934; lowest, 117.18 ft below land-surface datum, Nov. 15, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986											
WATER		WATER		WATER		WATER		WATER		WATER	
DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL
NOV 7	98.04	APR 30	96.69								

HARLAN COUNTY

400920099215501. Local number 2N-18W-9BCC.

LOCATION.--Lat 40°09'20", long 99°21'55", SW1/4SW1/4NW1/4 sec.9, T.2 N., R.18 W., Hydrologic Unit 10250009, 3.5 mi north of the junction of Route 3 and U.S. Highway 183 in Alma. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 5.50 in, depth 170 ft, perforated from 140 to 170 ft.

DATUM.--Altitude of land-surface datum is 2,120 ft. Measuring point: Top of casing 0.50 ft above land-surface datum.

REMARKS.--Water levels affected by pumping from nearby wells during irrigation season.

PERIOD OF RECORD.--June 1964 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 84.39 ft below land-surface datum, May 11, 1966; lowest, 109.96 ft below land-surface datum, Sept. 15, 1974.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	91.83	91.20	90.96	90.77	90.39	90.25	90.13	89.91	89.87	96.73	103.61	93.41
10	91.72	91.25	90.89	90.62	90.39	90.50	90.03	90.01	89.74	93.62	99.53	92.04
15	91.54	91.16	90.82	90.50	90.33	90.25	90.11	89.95	89.76	91.11	98.48	91.99
20	91.48	91.18	90.79	90.42	90.42	90.37	89.97	89.91	89.79	103.60	100.04	91.88
25	91.48	90.99	90.82	90.52	90.33	90.16	89.92	89.96	91.65	102.67	96.23	91.74
EOM	91.20	90.94	90.71	90.37	90.40	90.14	90.01	89.82	96.43	98.62	93.63	91.76

WTR YEAR 1986 MAX 89.70 JUN 9, 10, 1986 MIN 104.06 AUG 6, 1986

HARLAN COUNTY

400620099274001. Local number 2N-19W-28DD.

LOCATION.--Lat 40°06'20", long 99°27'40", SE1/4SE1/4 sec.28, T.2 N., R.19 W., Hydrologic Unit 10250009, 1.8 mi south of Orleans. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

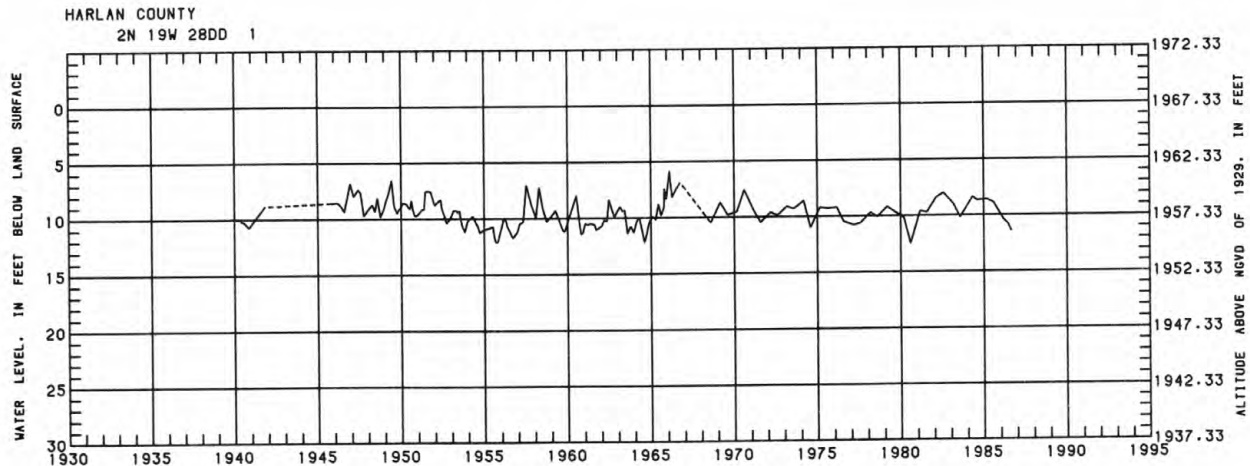
WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1 in, depth 22 ft, screened 20 to 22 ft.

DATUM.--Altitude of land-surface datum is 1,967.53 ft. Measuring point: Top of casing 1.20 ft above land-surface datum.

PERIOD OF RECORD.--May 1940 to October 1941; March 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.9 ft below land-surface datum, Feb. 15, 1966; lowest, 12.50 ft below land-surface datum, Aug. 5, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986					
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 12	10.40	JUN 18	10.80	AUG 28	11.40



HOLT COUNTY

421605098203001. Local number 27N-9W-34DA.

LOCATION.--Lat 42°16'05", long 98°20'30", NE1/4SE1/4 sec.34, T.27 N., R.9 W., Hydrologic Unit 10220001, 0.5 mi north of Ewing. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

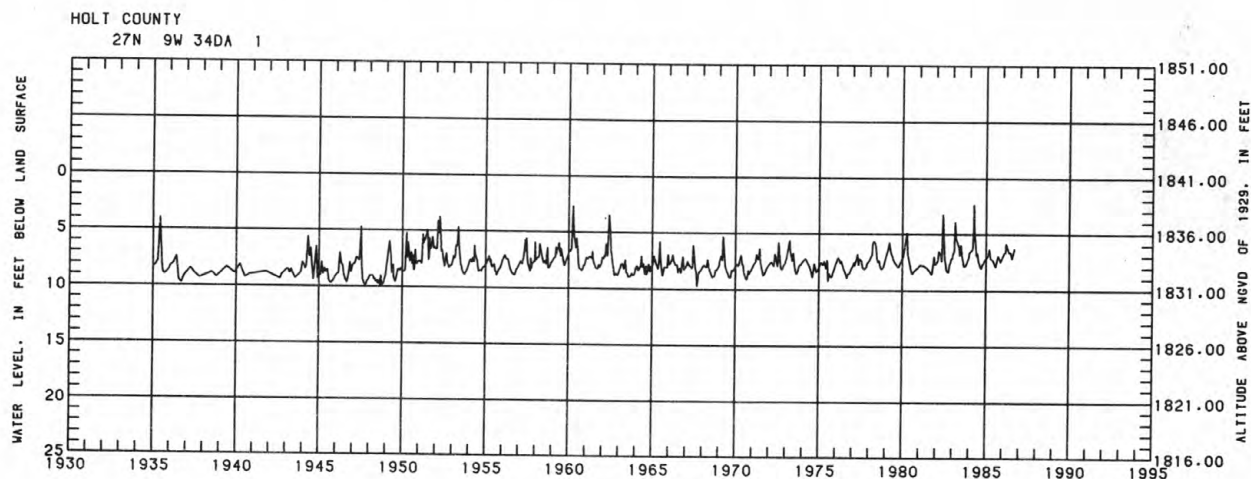
WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1 in, depth 17 ft, screened 15 to 17 ft.

DATUM.--Altitude of land-surface datum is 1,841 ft. Measuring point: Top of casing 1.10 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.34 ft below land-surface datum, Apr. 9, 1984; lowest, 9.90 ft below land-surface datum, Sept. 1, 1948.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986											
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 14	7.44	FEB 6	6.64	MAR 19	5.80	MAY 28	6.63	JUL 23	7.17	SEP 17	6.29
JAN 8	6.94	MAR 6	6.60	APR 30	6.40	JUN 23	6.60				



HOLT COUNTY

423148098300601. Local number 30N-10W-32DAA.

LOCATION.--Lat 42°31'48", long 98°30'06", NE1/4NE1/4SE1/4 sec.32, T.30 N., R.10 W., Hydrologic Unit 10150007, 2 mi east on paved road from O'Neill, then 2 mi north, 4 mi east, 2 mi north, 2 mi east, and 0.5 mi north. Owner: William J. Murphy.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in, depth 85 ft, perforated 25.5 to 85 ft.

DATUM.--Altitude of land-surface datum is 1,952 ft. Measuring point: Top of casing 1.00 ft above land-surface datum.

REMARKS.--Water levels in this well affected by withdrawals by nearby irrigation wells completed in this aquifer and withdrawals from a deeper aquifer which has resulted in water movement from the upper aquifer to the deeper aquifer.

PERIOD OF RECORD.--October 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 35.41 ft below land-surface datum, Oct. 21, 1966; lowest, 53.73 ft below land-surface datum, Sept. 17, 1982.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	45.99	45.85	45.77	45.60	45.48	.....	45.20	45.03	44.94	45.00	45.56	46.00
10	45.99	45.88	45.77	45.58	45.49	.....	45.18	45.05	44.91	45.05	45.64	45.98
15	45.94	45.86	45.71	45.55	45.45	45.35	45.21	45.04	44.91	45.13	45.68	46.05
20	45.95	45.88	45.70	45.52	45.52	45.39	45.14	45.06	44.86	45.26	45.81	46.01
25	45.94	45.78	45.68	45.56	.....	45.29	45.09	45.03	44.89	45.34	45.88	45.89
EOM	45.89	45.77	45.62	45.50	.....	45.27	45.09	44.98	44.92	45.48	45.95	45.85

WTR YEAR 1986 MAX 44.84 JUN 22, 1986 MIN 46.06 SEP 13, 1986

GROUND-WATER LEVELS

317

HOLT COUNTY

423730098560001. Local number 31N-14W-27DDD.

LOCATION.--Lat 42°37'30", long 98°56'00", SE1/4SE1/4SE1/4 sec.27, T.31 N., R.14 W., Hydrologic Unit 10150007, 6 mi north from Atkinson on Route 11, then 2 mi east. Owner: Elmer Goldfuss.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in, depth 72 ft, perforated 32 to 72 ft.

DATUM.--Altitude of land-surface datum is 2,080 ft. Measuring point: Top of casing at land-surface datum.

REMARKS.--Water levels in well affected by pumping of nearby wells during irrigation season.

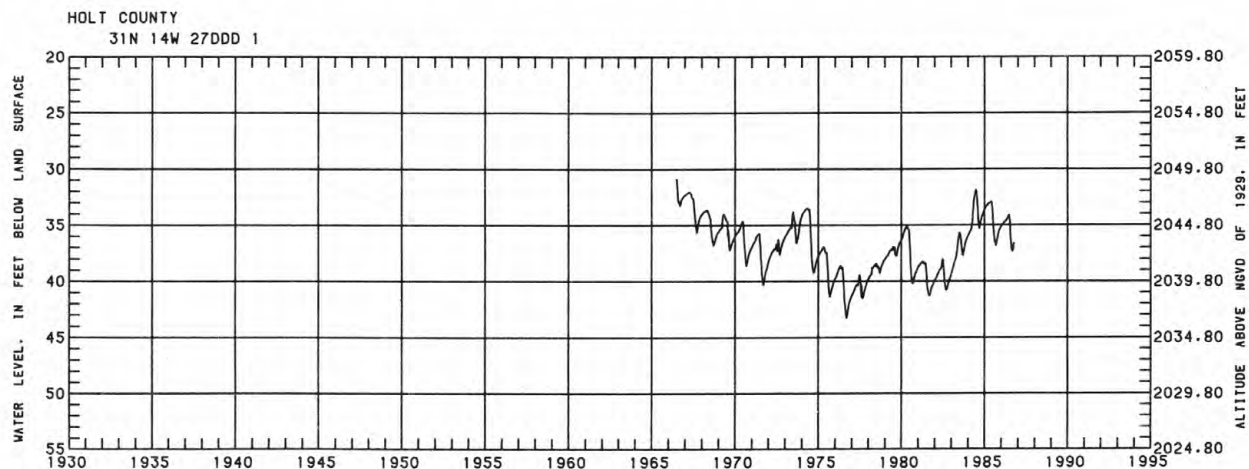
PERIOD OF RECORD.--July 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 30.91 ft below land-surface datum, July 7, 1966; lowest, 43.30 ft below land-surface datum, Sept. 10, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	36.32	35.71	35.34	35.13	34.91	.....	34.64	34.47	34.27	34.45	36.57	37.20
10	36.23	35.64	35.31	35.08	34.90	34.76	34.64	34.46	34.22	34.85	36.67	37.34
15	36.11	35.57	35.25	35.04	34.87	34.74	34.64	34.44	34.17	35.18	36.97	37.27
20	36.02	35.51	35.23	35.00	34.87	34.78	34.59	34.42	34.10	35.56	37.11	37.10
25	35.92	35.44	35.20	35.00	34.82	34.70	34.55	34.37	34.11	35.96	37.29	36.89
EOM	35.80	35.38	35.13	34.96	34.83	34.67	34.52	34.33	34.44	36.34	37.21	36.62

WTR YEAR 1986 MAX 34.08 JUN 21 AND 22, 1986 MIN 37.35 SEP 7, 8, AND 9, 1986



402625098594501. Local number 6N-15W-34DC.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in, depth 210 ft, cased with steel, perforated 190 to 210 ft.

DATUM.--Altitude of land-surface datum is 2,210 ft. Measuring point: Top of casing 1.00 ft above land-surface datum.

REMARKS.--Replacement for 402615099000001, local number 5N-15W-3BA1, period of record August 1947 to September 1967. Water levels in well affected by seepage losses from nearby canals and by pumping of nearby wells during irrigation season.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 73.98 ft below land-surface datum, June 15 and 16, 1986; lowest, 119.43 ft below land-surface datum, Aug. 27, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	79.46	78.11	77.41	76.92	75.96	75.58	75.07	74.64	74.19	92.87	79.83	79.62
10	79.23	78.14	77.34	76.68	76.08	75.34	75.10	74.80	74.03	93.55	78.96	78.31
15	78.86	77.99	77.08	76.36	75.75	75.45	75.10	74.76	74.15	93.14	78.37	78.11
20	78.78	77.99	77.05	76.16	75.94	75.74	74.89	74.67	76.08	102.73	87.76	77.76
25	78.63	77.55	77.10	76.38	75.74	75.19	74.68	74.76	106.55	106.68	94.27	77.19
EOM	78.18	77.39	76.79	75.99	75.87	75.05	74.78	74.39	108.91	81.69	82.27	77.31

WTR YEAR 1986 MAX 73.98 JUN 15 AND 16, 1986 MIN 110.66 JUL 24, 1986

403354098553702. Local number 7N-14W-20BA2.

LOCATION.--Lat 40°33'54", long 98°55'37", NE1/4NW1/4 sec.20, T.7 N., R.14 W., Hydrologic Unit 10270206, 1.4 mi east and 4.5 mi north of intersection of U.S. Highway 6 and State Highway 10 in Minden. Owner: Gary Dornhoff.

AQUIFER.--Sand deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled irrigation water-table well, diameter 16 in, depth 214 ft.

DATUM.--Altitude of land-surface datum is 2,150 ft. Measuring point: 0.30 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 56.62 ft below land-surface datum, Oct. 9, 1985; lowest, 59.06 ft below land surface datum, Oct. 24, 1983.

[illegible]

KIMBALL COUNTY

411416103361101. Local number 15N-55W-26CC.

LOCATION.--Lat 41°14'16", long 103°36'11", SW1/4SW1/4 sec.26, T.15 N., R.55 W., Hydrologic Unit 10190016, east of intersection of U.S. Highway 30 and State Highway 71 in Kimball. Owner: Henry Meier.

AQUIFER.--Ogallala Formation of Pliocene age.

WELL CHARACTERISTICS.--Drilled irrigation water-table well, diameter 24 in, depth 124 ft, casing perforated below water table.

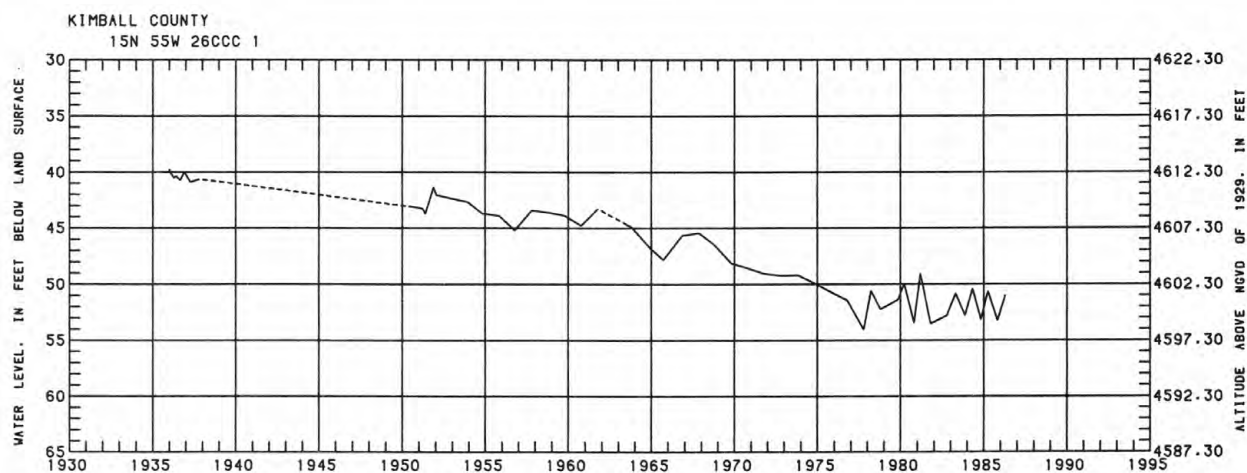
DATUM.--Altitude of land-surface datum is 4,652.3 ft. Measuring point: Top of casing 0.00 ft above land-surface datum.

REMARKS.--Replacement for 411600103393501, local number 15N-55W-17CC1, period of record January 1935 to November 1942; June 1950 to October 1975.

PERIOD OF RECORD.--January 1936 to October 1937; January 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 39.82 ft below land-surface datum, Jan. 2, 1936; lowest, 54.07 ft below land-surface datum, Oct. 18, 1977.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986			
DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	53.25	APR 16	51.04



LANCASTER COUNTY

403929096401001. Local number 8N-7E-18DDB.

LOCATION.--Lat 40°39'29", long 96°40'10", NW1/4SE1/4SE1/4 sec.18, T.8 N., R.7 E., Hydrologic Unit 10200203, 0.6 mi west of Roca. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits, undifferentiated, of Quaternary age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in, depth 41 ft, perforated 36 to 41 ft.

DATUM.--Altitude of land-surface datum is 1,215 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

REMARKS.--Water level not measured during 1984 water year.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.63 ft below land-surface datum, Aug. 25, 1954; lowest, 13.24 ft below land-surface datum, Nov. 9, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986			
DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	9.40		

403833096385501. Local number 8N-7E-20DDA.

AQUIFER.--Sand and gravel deposits, undifferentiated, of Quaternary age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in, depth 33 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,243 ft. Measuring point: Top of casing 1.00 ft above land-surface datum.

REMARKS.--Water level not measured during 1984 water year.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.16 ft below land-surface datum, Mar. 27, 1960; lowest, 12.28 ft below land-surface datum, Oct. 17, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986									
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	3.02								

404730096440401. Local number 10N-6E-34CA.

LOCATION.--Lat 40°47'30", long 96°44'04", NE1/4SW1/4 sec.34, T.10 N., R.6 E., Hydrologic Unit 10200203, 0.3 mi west of intersection of Folsom and South Streets in Lincoln. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in, depth 36 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,149 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

PERIOD OF RECORD.--December 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.74 ft below land-surface datum, Oct. 3, 1983; lowest, 18.53 ft below land-surface datum, Feb. 20, 1957.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986					
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	11.40				

LANCASTER COUNTY

404706096413001. Local number 10N-6E-36CDD.

LOCATION.--Lat 40°47'06", long 96°41'30", SE1/4SE1/4SW1/4 sec.36, T.10 N., R.6 E., Hydrologic Unit 10200203, in Irvingdale Park on the north side of Van Dorn Street between 19th and 20th Streets in Lincoln. Owner: City of Lincoln.

AQUIFER.--Dakota Formation of Lower Cretaceous age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 16 in, depth 170 ft, casing perforated below water table.

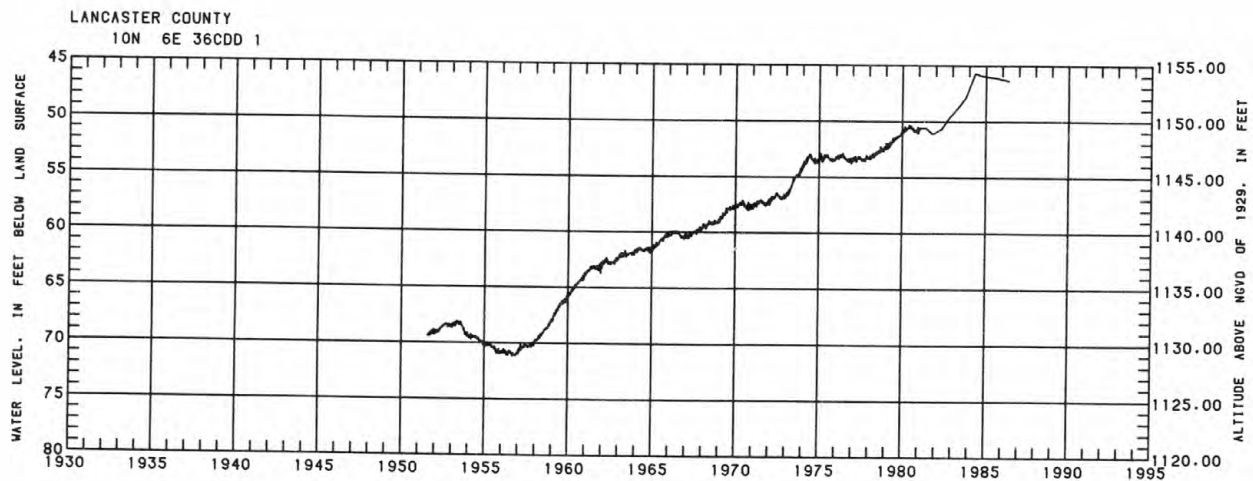
DATUM.--Altitude of land-surface datum is 1,200 ft. Measuring point: Top of casing 1.00 ft above land-surface datum.

REMARKS.--Recorder removed in January 1983. Well measured in spring and fall thereafter.

PERIOD OF RECORD.--August 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 45.71 ft below land-surface datum, May 10, 1984; lowest 71.19 ft below land-surface datum, Sept. 5, 1956.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986											
WATER		WATER		WATER		WATER		WATER		WATER	
DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL
OCT 2	46.15	MAY 14	46.37								



GROUND-WATER LEVELS

323

NUCKOLLS COUNTY

400240098111301. Local number 1N-8W-23AB.

LOCATION.--Lat 40°02'40", long 98°11'13", NW1/4NE1/4 sec.23, T.1 N., R.8 W., Hydrologic Unit 10250016, 0.5 mi south and 0.5 mi west of Bostwick. Owner: U.S. Geological Survey.

AQUIFER.--Loess of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in, depth 18 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,598.15 ft. Measuring point: Top of casing 1.50 ft above land-surface datum.

PERIOD OF RECORD.--April 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.02 ft below land-surface datum, July 29, 1951; lowest, 7.91 ft below land-surface datum, July 8, 1950.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986			
DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	4.35	MAY 8	4.23

PHELPS COUNTY

403123099261501. Local number 6N-19W-2AA.

LOCATION.--Lat 40°31'23", long 99°26'15", NE1/4NE1/4 sec.2, T.6 N., R.19 W., Hydrologic Unit 10200101, 10 mi east of Bertrand. Owner: Central Nebraska Public Power and Irrigation District.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1 in, depth 151 ft, screened 149 to 151 ft.

DATUM.--Altitude of land-surface datum is 2,360.81 ft. Measuring point: Top of casing 1.00 ft above land-surface datum.

REMARKS.--Water levels in well affected by seepage losses from nearby irrigation canal.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 42.22 ft below land-surface datum, Oct. 3, 1985; lowest, 123.70 ft below land-surface datum, Mar. 9, 1945.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986			
DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 3	42.22		

PLATTE COUNTY

412955097192001. Local number 18N-1E-28CD.

LOCATION.--Lat 41°29'55", long 97°19'20", SE1/4SW1/4 sec.28, T.18 N., R.1 E., Hydrologic Unit 10200201, 3 mi south and 8.5 mi east of Platte Center. Owner: Loup River Public Power District.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2 in, depth 99 ft, screened 97 to 99 ft.

DATUM.--Altitude of land-surface datum is 1,511.8 ft. Measuring point: Top of casing 0.50 ft above land-surface datum.

PERIOD OF RECORD.--November 1935 to August 1940; March 1942 to November 1953; November 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 60.30 ft below land-surface datum, Mar. 27, 1940; lowest, 72.81 ft below land-surface datum, Oct. 9, 1958.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986			
DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 9	65.43		

SALINE COUNTY

403855097072501. Local number 8N-3E-19ADA.

LOCATION.--Lat 40°38'55", long 97°07'25", NE1/4SE1/4NE1/4 sec.19, T.8 N., R.3 E., Hydrologic Unit 10270202, west edge of Dorchester, on west side of Route 15 between U.S. Highway and Route 33. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 5 in, depth 151 ft, perforated 142 to 151 ft.

DATUM.--Altitude of land-surface datum is 1,496 ft. Measuring point: Top of casing at land-surface datum.

REMARKS.--Water levels in well affected by pumping of nearby wells during irrigation season.

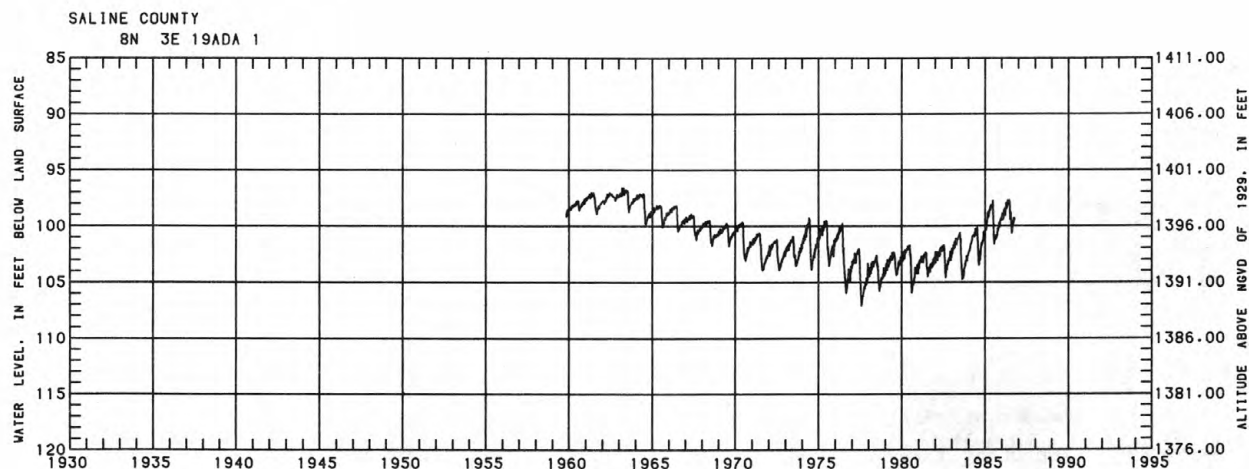
PERIOD OF RECORD.--October 1959 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 96.56 ft below land-surface datum, Mar. 16, 1963; lowest, 107.15 ft below land-surface datum, Aug. 25, 1977.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	100.51	99.86	99.52	99.24	99.31	98.44	98.42	97.73	97.82	99.27	.....	99.88
10	100.50	100.09	99.57	99.07	98.89	98.54	98.27	98.12	97.68	98.78	100.68	99.32
15	100.17	99.85	99.32	98.85	98.54	98.55	98.51	97.98	97.80	98.78	100.26	99.67
20	100.17	100.11	.....	99.53	99.02	99.09	98.21	98.09	97.85	.....	100.22	99.53
25	100.22	99.50	99.48	99.12	98.59	98.32	98.05	98.10	98.36	.....	99.90	99.26
EOM	99.69	99.47	99.24	99.38	98.89	98.44	98.34	97.86	99.47	.....	99.85	99.45

WTR YEAR 1986 MAX 97.46 MAY 5, 1986 MIN 100.70 AUG 8, 1986



SAUNDERS COUNTY

410426096220401. Local number 13N-9E-24CC.

LOCATION.--Lat 41°04'26", long 96°22'04", SW1/4SW1/4 sec.24, T.13 N., R.9 E., Hydrologic Unit 10200202, 2 mi north of Ashland. Owner: City of Lincoln.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1.25 in, depth 12 ft, screened 10 to 12 ft.

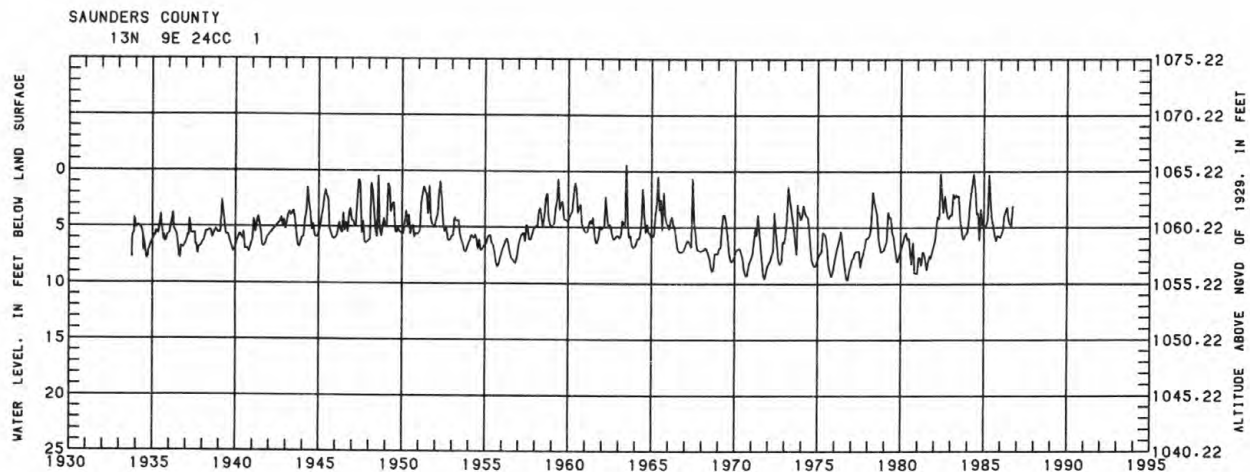
DATUM.--Altitude of land-surface datum is 1,065.22 ft. Measuring point: Top of casing 4.50 ft above land-surface datum.

REMARKS.--Water levels affected by pumping of nearby wells in City of Lincoln well field and high water in the Platte River.

PERIOD OF RECORD.--October 1933 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, +0.30 ft below land-surface datum, Apr. 25, 1985; lowest, 9.65 ft below land-surface datum, Oct. 18, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986											
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	5.70	DEC 25	5.90	FEB 25	5.15	APR 25	3.54	JUN 25	4.35	AUG 25	4.90
NOV 25	5.80	JAN 25	5.55	MAR 25	3.92	MAY 25	3.20	JUL 25	4.77	SEP 25	3.08



SAUNDERS COUNTY

411005096281502. Local number 14N-8E-24ACD2.

LOCATION.--Lat 41°10'05", long 96°28'15", SE1/4SW1/4NE1/4 sec.24, T.14 N., R.8 E., Hydrologic Unit 10200203, 4 mi south from the intersection of Routes 92 and 692 near Mead, then 0.65 mi east and 0.4 mi south to the south end of load line 2 of the Mead Field Station. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in, depth 80 ft, screened 60 to 80 ft.

DATUM.--Altitude of land-surface datum is 1,171 ft. Measuring point: Top of casing 0.5 ft above land-surface datum.

REMARKS.--Replacement for well 411005096281501, local number 14N-8E-24ACD1, with period of record July 1964 to November 1970. Water levels in well affected by pumping of nearby wells during irrigation season.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 41.48 ft below land-surface datum, June 16, 1985; lowest, 46.98 ft below land-surface datum, Sept. 25, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	42.00	41.89	41.82	41.79	41.77	41.75	41.75	41.88	.....	.....
10	42.02	41.98	41.88	41.83	41.80	41.79	41.78	41.76	41.94	.....	41.92
15	42.02	41.96	41.85	41.81	41.82	41.81	41.77	41.75	.....	.....	41.93
20	42.00	41.96	41.80	41.87	41.85	41.79	.....	41.74	.....	.....	41.91
25	42.00	41.91	41.84	41.85	41.82	41.81	41.78	41.75	.....	.....	41.79
EOM	42.00	41.91	41.81	41.85	41.82	41.82	41.77	41.80	.....	.....	41.77

WTR YEAR 1986 MAX 41.65 MAY 16, 1986 MIN 42.04 AUG 7, 1986

GROUND-WATER LEVELS

SCOTTSBLUFF COUNTY

415325103392801. Local number 22N-55W-11DDC.

LOCATION.--Lat 41°53'25", long 103°39'28", SW1/4NE1/4NE1/4 sec.11. T.22 N., R.55 W., Hydrologic Unit 10180009, 0.5 mi north of the west intersection of Routes 71 and 26 in Scottsbluff, then 0.8 mi east. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits, undifferentiated, of Quaternary age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in, depth 32 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 3,953 ft. Measuring point: Top of casing 0.00 ft above land-surface datum.

REMARKS.--Recorder removed in January 1984. Well measured monthly thereafter.

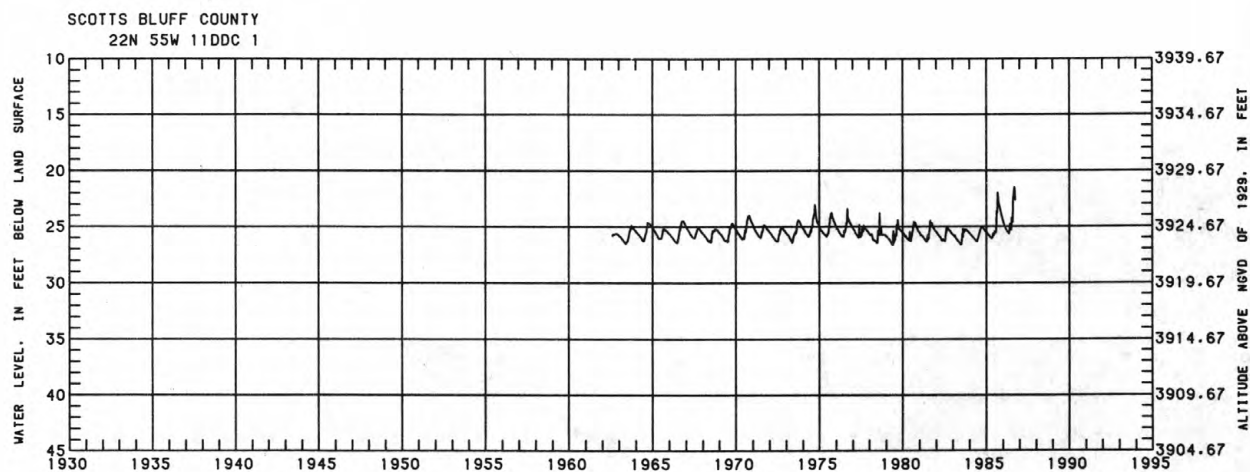
PERIOD OF RECORD.--August 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 21.27 ft below land-surface datum, Sept. 9, 1986; lowest, 26.72 ft below land-surface datum, May 31, 1979.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	23.07	23.64	24.12	24.59	25.00	25.23	25.47	25.64	24.76	24.91	24.35	21.48
10	23.17	23.71	24.21	24.67	25.04	25.27	25.51	25.68	25.09	24.31	23.08	21.57
15	23.26	23.79	24.27	24.73	25.08	25.30	25.54	25.69	25.19	24.35	22.36	22.15
20	23.35	23.87	24.35	24.79	25.14	25.34	25.56	25.54	25.24	24.50	22.49	22.47
25	23.44	23.95	24.43	24.86	25.17	25.37	25.55	25.08	25.28	24.62	.....	22.65
END	23.53	24.03	24.51	24.93	25.20	25.41	25.59	24.95	25.36	24.67	.....	.....

WTR YEAR 1986 MAX 21.27 SEP 9, 1986 MIN 25.70 MAY 17 AND 18, 1986



SCOTTSBLUFF COUNTY

420000103511501. Local number 23N-56W-6AA.

LOCATION.--Lat 42°00'00", long 103°51'15", NE1/4NE1/4 sec.6, T.23 N., R.56 W., Hydrologic Unit 10180009, 4 mi north and 2 mi west of intersection of U.S. Highway 26 and State Highway 29 in Mitchell. Owner: Carl Gompert.

AQUIFER.--Sand and gravel deposits, undifferentiated, of Quaternary age.

WELL CHARACTERISTICS.--Drilled irrigation water-table well, diameter 6 in, depth 118 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 4,087.7 ft. Measuring point: Hole in pump base 0.7 ft above land-surface datum.

REMARKS.--Water levels affected by withdrawals during irrigation season.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 29.24 ft below land-surface datum, Oct. 26, 1949; lowest, 41.72 ft below land-surface datum, Mar. 14, 1983.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986											
WATER		WATER		WATER		WATER		WATER		WATER	
DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL
OCT 21	37.65	MAR 21	38.70								

SEWARD COUNTY

405406097115001. Local number 11N-2E-21DD.

LOCATION.--Lat 40°54'06", long 97°11'50", SE1/4SE1/4 sec.21, T.11 N., R.2 E., Hydrologic Unit 10270201, 4.5 mi west of Seward. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 5 in, depth 123 ft, perforated 112 to 123 ft.

DATUM.--Altitude of land-surface datum is 1,550 ft. Measuring point: Top of casing 0.00 ft above land-surface datum.

REMARKS.--Water levels in well affected by withdrawals from nearby irrigation wells.

PERIOD OF RECORD.--May 1958 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 76.37 ft below land-surface datum, Dec. 20, 1965; lowest, 90.17 ft below land-surface datum, Aug. 5, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	80.13	79.48	78.65	78.67	78.06	78.02	77.70	77.27	77.20	79.23	81.54	79.33
10	80.08	79.45	78.68	78.57	78.32	77.85	77.85	77.41	77.13	79.06	81.17	78.84
15	79.76	79.39	78.48	78.31	78.06	78.00	77.79	77.31	77.25	78.71	80.57	78.95
20	79.78	79.45	78.63	78.11	78.22	78.38	77.63	77.55	77.10	78.68	80.36	78.70
25	79.77	79.15	78.70	78.35	78.12	77.79	77.41	77.45	78.00	78.89	79.91	78.28
EOM	79.50	.....	78.41	78.18	78.35	77.67	77.49	77.34	79.48	81.02	.....	78.53

WTR YEAR 1986 MAX 77.05 JUN 10 AND 11, 1986 MIN 81.56 AUG 4, 1986

GROUND-WATER LEVELS

SHERIDAN COUNTY

423034102415001. Local number 29N-46W-10AA.

LOCATION.--Lat 42°30'34", long 102°41'50", NE1/4NE1/4 sec.10, T.29 N., R.46 W., Hydrologic Unit 10150003, at Mirage Flats project headquarters, 11.5 mi south of Hay Springs. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in, depth 100 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 3,794.5 ft. Measuring point: Top of casing 1.5 ft above land-surface datum.

REMARKS.--Water levels affected by seepage losses from nearby irrigation canal and laterals and by withdrawals from nearby irrigation wells.

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

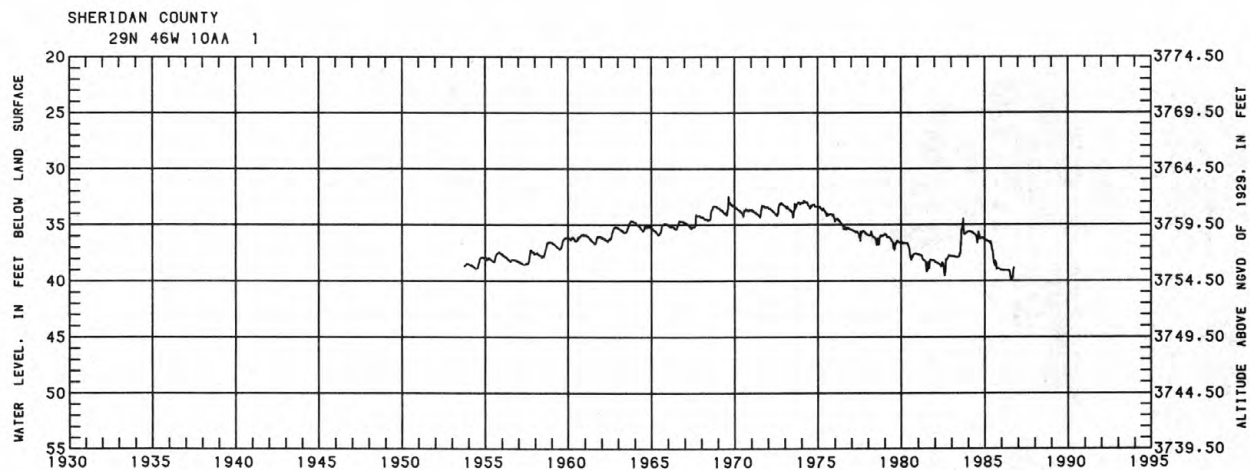
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 32.47 ft below land-surface datum, Aug. 25, 1969; lowest, 39.95 ft below land-surface datum, Aug. 8 and 9, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	38.92	38.91H	38.99	39.00	39.06	.....	.....	39.03	39.07	39.18	39.72	39.74
10	38.89	38.93	39.00	39.03	39.07	.....	.....	39.04	39.07	39.38	39.92	39.39
15	38.88	38.93	39.02	38.99	.....	.....	39.07	39.06	39.06	39.65	39.59	39.17
20	38.87	38.95	39.01	39.02	.....	.....	39.06	39.05	39.07	39.72	39.75	39.00
25	38.87	38.94	39.03	39.07	.....	.....	39.04	39.10	39.07	39.70	39.63	38.87
EOM	38.87	38.95	39.03	39.03	.....	.....	39.07	39.08	39.13	39.93	39.85	38.81

WTR YEAR 1986 MAX 38.81 SEP 30, 1986 MIN 39.95 AUG 8 AND 9, 1986

H TAPE MEASUREMENT



THOMAS COUNTY

415845100334001. Local number 23N-28W-9DA.

LOCATION.--Lat 41°58'45", long 100°33'40", NE1/4SE1/4 sec.9, T.23 N., R.28 W., Hydrologic Unit 10210001, 1 mi east of courthouse in Thedford. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits, undifferentiated, of Quaternary age.

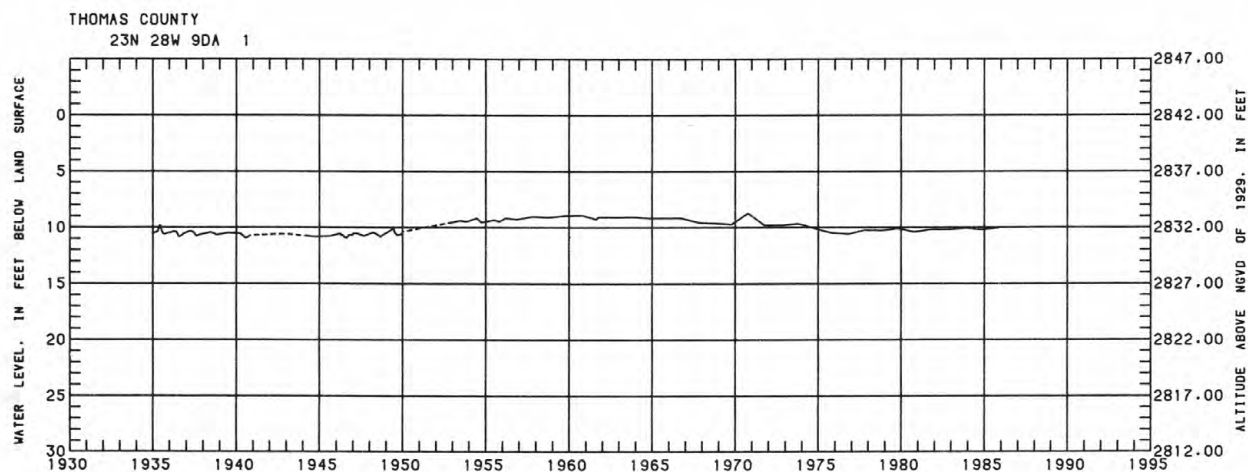
WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1.25 in, depth 15 ft, screened from 13 to 15 ft.

DATUM.--Altitude of land-surface datum is 2,842 ft. Measuring point: Top of pipe 2.3 ft above land-surface datum.

PERIOD OF RECORD.--December 1934 to November 1942; August 1944 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.73 ft below land-surface datum, Oct. 16, 1970; lowest, 10.98 ft below land-surface datum, July 23, 1940.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986											
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	10.05										



VALLEY COUNTY

412955099123201. Local number 18N-16W-30CC.

LOCATION.--Lat 41°29'55", long 99°12'32", SW1/4SW1/4 sec.30, T.18 N., R.16 W., Hydrologic Unit 10210003, 4 mi west and 5 mi north of Arcadia. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 0.75 in, depth 15 ft, screened from 13 to 15 ft.

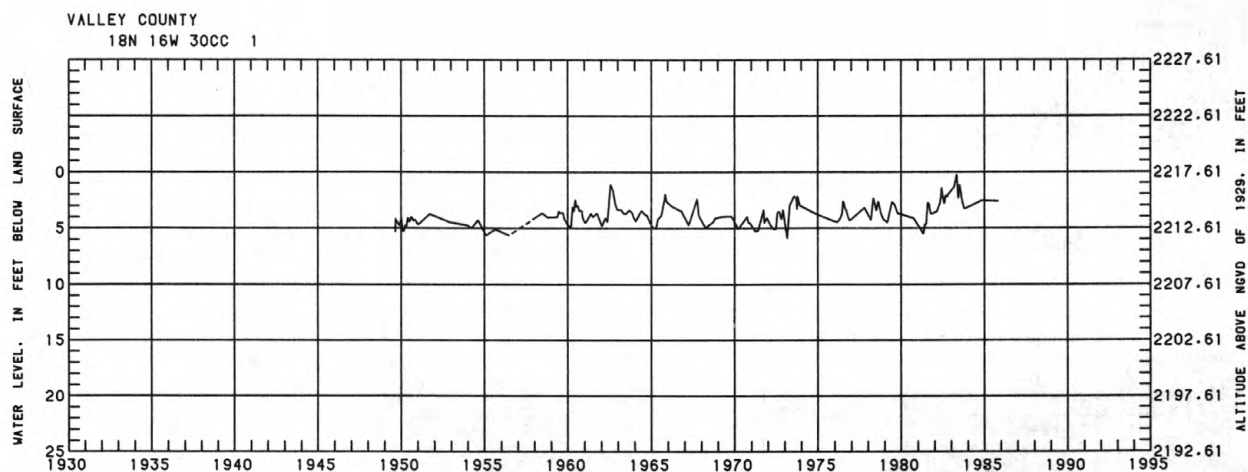
DATUM.--Altitude of land-surface datum is 2,217.61 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

REMARKS.--Water levels in well affected by evapotranspiration.

PERIOD OF RECORD.--August 1949 to June 1956; June 1958 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.25 ft below land-surface datum, May 3, 1983; lowest, 5.90 ft below land-surface datum, Mar. 1, 1973.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986											
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	2.62										



WEBSTER COUNTY

400423098314001. Local number 1N-11W-11AB.

LOCATION.--Lat 40°04'23", long 98°31'40", NW1/4NE1/4 sec.11, T.1 N., R.11 W., Hydrologic Unit 10250016, 1 mi south and 0.25 mi west of intersection of U.S. Highways 136 and 281 in Red Cloud. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in, depth 16.9 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,686 ft. Measuring point: Top of casing 1.1 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.34 ft below land-surface datum, July 11, 1951; lowest, 10.56 ft below land-surface datum, Apr. 5, 1957.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986											
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	3.67	MAY 8	5.77								

YORK COUNTY

404618097482201. Local number 9N-4W-5CCC.

LOCATION.--Lat 40°46'18", long 97°48'22", SW1/4SW1/4SW1/4 sec.5, T.9 N., R.4 W., Hydrologic Unit 10270203, 0.5 mi south of Henderson. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 5 in, depth 170 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,708 ft. Measuring point: Top of casing 1.50 ft above land-surface datum.

REMARKS.--Replacement for well 404620097482501, local number 9N-4W-6DD with period of record May 1959 to September 1981 located on east side of highway across from old well.

PERIOD OF RECORD.--April 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 77.79 ft below land-surface datum, June 10, 1986; lowest, 87.52 ft below land-surface datum, Aug. 20, 1982.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	79.71	79.39	79.21	79.02	78.67	78.45	78.27	78.09	78.00	78.70	79.84	79.72
10	79.57	79.50	79.18	78.90	78.59	78.54	78.10	78.02	77.85	78.43	79.90	79.54
15	79.47	79.14	.....	78.77	78.45	78.39	78.27	78.04	77.82	78.46	79.78	79.54
20	79.52	79.46	.....	78.62	78.74	78.56	78.13	78.00	77.91	78.83	79.81	79.44
25	79.58	79.12	79.10	78.83	78.45	78.40	78.09	78.07	78.35	79.32	79.60	79.39
EOM	79.28	79.17	79.02	78.60	78.60	78.42	78.17	77.87	78.63	79.90	79.71	79.33

WTR YEAR 1986 MAX 77.79 JUN 10, 1986 MIN 79.95 AUG 17, 1986

GROUND-WATER LEVELS

YORK COUNTY

405305097351503. Local number 11N-2W-31BA3.

LOCATION.--Lat 40°53'05", long 97°35'15", NE1/4NW1/4 sec.31, T.11 N., R.2 W., Hydrologic Unit 10270203, south edge of York County Fairgrounds on the north side of York. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in, depth 165 ft, perforated below water table.

DATUM.--Altitude of land-surface datum is 1,659 ft. Measuring point: Top of casing 1.6 ft above land-surface datum.

REMARKS.--Replacement for well 405305097351501, local number 11N-2W-31BA1, with period of record October 1957 to January 1969. Water levels in well affected by withdrawals from nearby municipal well and by withdrawals from nearby irrigation wells.

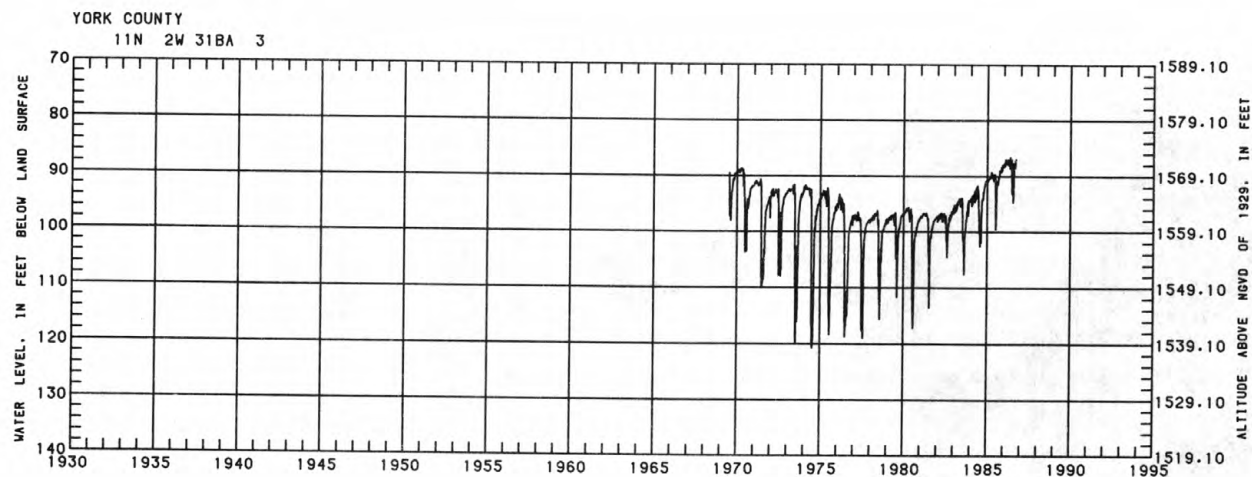
PERIOD OF RECORD.--May 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 86.25 ft below land-surface datum, May 31, 1986; lowest, 120.81 ft below land-surface datum, July 15, 1974.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	88.91	.....	.....	88.22	87.35	87.21	87.05	88.08	87.63	88.38	90.74	88.59
10	.....	89.34	88.49	88.36	87.91	87.69	87.89	88.05	87.68	88.21	88.86	87.08
15	.....	88.27	.....	87.77	87.93	87.83	87.08	88.67	86.92	87.65	87.77	87.19
20	.....	89.06	88.33	88.12	87.45	87.10	87.08	86.54	88.92	91.95	87.69	86.95
25	89.23	.....	.....	88.27	87.35	87.51	87.56	87.19	92.49	94.81	88.51	.....
EOM	.....	88.92	.....	88.21	.....	87.93	88.15	86.25	93.25	93.32	87.86	.....

WTR YEAR 1986 MAX 86.25 MAY 31, 1986 MIN 94.81 JUL 25, 1986



CHEMICAL ANALYSES OF GROUND WATER

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(Local identifier: indicates location by township, range, and section. Geologic unit: 112 SDGV, sand and gravel deposits; 110 SDGV, sand and gravel deposits, undifferentiated; 121 OGLL, Ogallala Formation; 211 DKOT, Dakota Formation; 211 NBRR, Niobrara Formation; 112 PLSC, Pleistocene Series)

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	LOCAL IDENT- I- FIER	LAT- I- TUDE	LONG- I- TUDE	GEO- LOGIC UNIT	DATE	TIME	DEPTH OF WELL, TOTAL (FEET) (72008)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)
ADAMS COUNTY									
402727098261901	6N 10W28DA	1	40 27 27 N	098 26 19 W	112SDGV	08-04-86	1602	--	374
402753098391801	6N 12W27AB	1	40 27 53 N	098 39 18 W	112SDGV	08-05-86	1116	190.00	424
403710098395101	8N 12W34BC	1	40 37 10 N	098 39 51 W	110SDGV	08-05-86	0905	130.00	266
BOONE COUNTY									
415223098142901	22N 8W16DDCD1		41 52 23 N	098 14 29 W	112SDGV	11-06-85	0930	110.00	85
415223098142902	22N 8W16DDCD2				112SDGV	11-06-85	0930	65.00	158
415223098142903	22N 8W16DDCD3				112SDGV	11-06-85	0930	30.00	70
415223098142904	22N 8W16DDCD4				112SDGV	11-06-85	0930	14.00	138
415250098152901	22N 8W17ADDD1		41 52 50 N	098 15 29 W	112SDGV	11-06-85	1530	170.00	98
415250098152902	22N 8W17ADDD2				112SDGV	11-06-85	1530	100.00	80
415250098152903	22N 8W17ADDD3				112SDGV	11-06-85	1530	65.00	90
415250098152904	22N 8W17ADDD4				112SDGV	11-06-85	1530	30.00	65
415250098152905	22N 8W17ADDD5				112SDGV	11-06-85	1530	13.00	78
415204098135401	22N 8W22BDBD1		41 52 04 N	098 13 54 W	112SDGV	11-06-85	1300	145.00	209
415204098135402	22N 8W22BDBD2				112SDGV	11-06-85	1300	100.00	182
415204098135403	22N 8W22BDBD3				112SDGV	11-06-85	1300	65.00	90
415204098135404	22N 8W22BDBD4				112SDGV	11-06-85	1300	30.00	132
415204098135405	22N 8W22BDBD5				112SDGV	11-06-85	1300	13.00	148
415151098131901	22N 8W22DABD1		41 51 51 N	098 13 19 W	112SDGV	11-05-85	1530	90.00	197
415151098131902	22N 8W22DABD2				112SDGV	11-05-85	1530	60.00	80
415151098131903	22N 8W22DABD3				112SDGV	11-05-85	1530	12.00	56
415141098124001	22N 8W23CDAB1		41 51 41 N	098 12 40 W	112SDGV	11-07-85	1000	135.00	226
415141098124002	22N 8W23CDAB2				112SDGV	11-07-85	1000	80.00	155
415141098124003	22N 8W23CDAB3				112SDGV	11-07-85	1000	25.00	258
415141098124004	22N 8W23CDAB4				112SDGV	11-07-85	1000	13.00	125
415004098175401	22N 9W36DADA1		41 50 04 N	098 17 54 W	112SDGV	11-07-85	1500	175.00	125
415004098175402	22N 9W36DADA2				112SDGV	11-07-85	1500	118.00	111
CLAY COUNTY									
402207097580801	5N 6W26CD	1	40 22 07 N	097 58 08 W	112SDGV	08-04-86	1315	183.00	702
403123098031401	6N 7W 1AA	1	40 31 23 N	098 03 14 W		08-04-86	1415	--	768
403001098152903	6N 8W 8CB	3	40 30 01 N	098 15 29 W	112SDGV	08-04-86	1510	192.00	346
FILLMORE COUNTY									
402516097272001	5N 1W 8BA	1	40 25 16 N	097 27 20 W	112SDGV	08-04-86	1000	--	814
402500097431401	5N 4W12BD	1	40 25 00 N	097 43 14 W	112SDGV	08-04-86	1103	131.00	413
FRANKLIN COUNTY									
401801098433901	4N 13W24AD	1	40 18 01 N	098 43 39 W	112SDGV	08-05-86	1313	150.00	706
GARFIELD COUNTY									
420406098454301	24N 13W12ADDD1		42 04 06 N	098 45 43 W	112SDGV	10-31-85	1030	148.00	208
420406098454302	24N 13W12ADDD2				112SDGV	10-31-85	1030	71.00	178
420406098454303	24N 13W12ADDD3				112SDGV	10-31-85	1030	50.00	199
420406098454304	24N 13W12ADDD4				112SDGV	10-31-85	1030	32.00	152
420406098454305	24N 13W12ADDD5				112SDGV	10-31-85	1030	13.00	151

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
ADAMS COUNTY												
402727098261901	08-04-86	6.80	17.0	--	140	0	46	6.7	15	0.6	7.2	
402753098391801	08-05-86	7.25	14.0	--	180	10	58	7.9	15	0.5	7.4	
403710098395101	08-05-86	6.90	14.0	--	120	0	37	5.8	11	0.5	5.7	
BOONE COUNTY												
415223098142901	11-06-85	7.00	12.0	3.1	--	--	--	--	--	--	--	
415223098142902	11-06-85	7.50	11.0	0.9	--	--	--	--	--	--	--	
415223098142903	11-06-85	6.80	12.0	0.7	--	--	--	--	--	--	--	
415223098142904	11-06-85	6.70	13.0	2.1	--	--	--	--	--	--	--	
415250098152901	11-06-85	7.10	12.0	1.8	--	--	--	--	--	--	--	
415250098152902	11-06-85	7.30	11.5	0.5	--	--	--	--	--	--	--	
415250098152903	11-06-85	8.10	11.5	0.5	--	--	--	--	--	--	--	
415250098152904	11-06-85	6.80	11.5	0.7	--	--	--	--	--	--	--	
415250098152905	11-06-85	6.70	13.0	0.7	--	--	--	--	--	--	--	
415204098135401	11-06-85	7.20	12.0	3.7	--	--	--	--	--	--	--	
415204098135402	11-06-85	7.10	12.0	0.3	--	--	--	--	--	--	--	
415204098135403	11-06-85	7.50	12.0	0.2	--	--	--	--	--	--	--	
415204098135404	11-06-85	6.80	11.5	0.2	--	--	--	--	--	--	--	
415204098135405	11-06-85	6.70	13.0	2.3	--	--	--	--	--	--	--	
415151098131901	11-05-85	7.30	11.5	0.4	--	--	--	--	--	--	--	
415151098131902	11-05-85	7.20	12.0	0.3	--	--	--	--	--	--	--	
415151098131903	11-05-85	7.30	13.0	5.7	--	--	--	--	--	--	--	
415141098124001	11-07-85	7.10	11.0	3.6	--	--	--	--	--	--	--	
415141098124002	11-07-85	7.40	11.0	0.4	--	--	--	--	--	--	--	
415141098124003	11-07-85	6.90	11.0	0.3	--	--	--	--	--	--	--	
415141098124004	11-07-85	6.50	12.0	1.0	--	--	--	--	--	--	--	
415004098175401	11-07-85	7.40	12.0	--	--	--	--	--	--	--	--	
415004098175402	11-07-85	7.40	12.0	6.8	--	--	--	--	--	--	--	
CLAY COUNTY												
402207097580801	08-04-86	7.20	14.0	--	270	15	88	13	40	1	6.5	
403123098031401	08-04-86	7.10	14.0	--	320	69	110	12	38	1	8.9	
403001098152903	08-04-86	7.55	20.0	--	120	0	40	5.8	13	0.5	5.2	
FILLMORE COUNTY												
402516097272001	08-04-86	7.25	14.0	--	370	20	110	23	27	0.6	8.1	
402500097431401	08-04-86	7.30	11.5	--	160	0	50	7.9	24	0.9	4.7	
FRANKLIN COUNTY												
401801098433901	08-05-86	6.65	14.5	--	270	33	88	12	15	0.4	7.2	
GARFIELD COUNTY												
420406098454301	10-31-85	7.60	12.0	1.3	--	--	--	--	--	--	--	
420406098454302	10-31-85	7.70	11.0	0.3	--	--	--	--	--	--	--	
420406098454303	10-31-85	7.20	11.0	0.4	--	--	--	--	--	--	--	
420406098454304	10-31-85	7.10	11.0	0.4	--	--	--	--	--	--	--	
420406098454305	10-31-85	6.90	13.0	0.5	--	--	--	--	--	--	--	

CHEMICAL ANALYSES OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L AC-FT) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
ADAMS COUNTY												
402727098261901	08-04-86	149		27	5.3	0.30	31	230	0.31	0.860	30	18
402753098391801	08-05-86	167		44	5.6	0.40	29	270	0.36	0.910	30	10
403710098395101	08-05-86	123		14	2.7	0.30	31	180	0.25	1.40	30	<3
BOONE COUNTY												
415223098142901	11-06-85	--	--	--	--	--	--	--	--	1.50	--	--
415223098142902	11-06-85	--	--	--	--	--	--	--	--	1.40	--	--
415223098142903	11-06-85	--	--	--	--	--	--	--	--	1.90	--	--
415223098142904	11-06-85	--	--	--	--	--	--	--	--	0.150	--	--
415250098152901	11-06-85	--	--	--	--	--	--	--	--	<0.100	--	--
415250098152902	11-06-85	--	--	--	--	--	--	--	--	0.240	--	--
415250098152903	11-06-85	--	--	--	--	--	--	--	--	1.00	--	--
415250098152904	11-06-85	--	--	--	--	--	--	--	--	0.960	--	--
415250098152905	11-06-85	--	--	--	--	--	--	--	--	<0.440	--	--
415204098135401	11-06-85	--	--	--	--	--	--	--	--	0.690	--	--
415204098135402	11-06-85	--	--	--	--	--	--	--	--	<0.100	--	--
415204098135403	11-06-85	--	--	--	--	--	--	--	--	<0.100	--	--
415204098135404	11-06-85	--	--	--	--	--	--	--	--	<0.900	--	--
415204098135405	11-06-85	--	--	--	--	--	--	--	--	1.70	--	--
415151098131901	11-05-85	--	--	--	--	--	--	--	--	<0.280	--	--
415151098131902	11-05-85	--	--	--	--	--	--	--	--	<0.100	--	--
415151098131903	11-05-85	--	--	--	--	--	--	--	--	<0.100	--	--
415141098124001	11-07-85	--	--	--	--	--	--	--	--	1.60	--	--
415141098124002	11-07-85	--	--	--	--	--	--	--	--	0.810	--	--
415141098124003	11-07-85	--	--	--	--	--	--	--	--	4.30	--	--
415141098124004	11-07-85	--	--	--	--	--	--	--	--	8.70	--	--
415004098175401	11-07-85	--	--	--	--	--	--	--	--	<0.100	--	--
415004098175402	11-07-85	--	--	--	--	--	--	--	--	<2.60	--	--
CLAY COUNTY												
402207097580801	08-04-86	258		44	18	0.40	33	400	0.54	9.10	50	8
403123098031401	08-04-86	255		76	35	0.30	27	460	0.63	7.60	40	8
403001098152903	08-04-86	138		12	4.7	0.30	26	190	0.26	1.90	20	46
FILLMORE COUNTY												
402516097272001	08-04-86	349		98	2.0	0.40	48	530	0.72	<0.100	90	20
402500097431401	08-04-86	160		37	13	0.40	28	260	0.35	0.950	40	28
FRANKLIN COUNTY												
401801098433901	08-05-86	236		47	9.9	0.20	42	360	0.49	3.60	50	<3
GARFIELD COUNTY												
420406098454301	10-31-85	--	--	--	--	--	--	--	--	<0.130	--	--
420406098454302	10-31-85	--	--	--	--	--	--	--	--	<0.100	--	--
420406098454303	10-31-85	--	--	--	--	--	--	--	--	<0.100	--	--
420406098454304	10-31-85	--	--	--	--	--	--	--	--	<0.100	--	--
420406098454305	10-31-85	--	--	--	--	--	--	--	--	<0.100	--	--

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	PRO- PAZINE TOTAL (UG/L) (39024)	SIME- TRYNE TOTAL (UG/L) (39054)	SIMA- ZINE TOTAL (UG/L) (39055)	PROME- TONE TOTAL (UG/L) (39056)	PROME- TRYNE TOTAL (UG/L) (39057)	ATRA- ZINE, TOTAL (UG/L) (39630)	CYAN- AZINE TOTAL (UG/L) (81757)	AME- TRYNE TOTAL (82184)
ADAMS COUNTY												
402727098261901	08-04-86	6	--	--	--	--	--	--	--	--	--	--
402753098391801	08-05-86	33	--	--	--	--	--	--	--	--	--	--
403710098395101	08-05-86	<1	--	--	--	--	--	--	--	--	--	--
BOONE COUNTY												
415223098142901	11-06-85	--	1.2	--	--	--	--	--	--	--	--	--
415223098142902	11-06-85	--	1.0	--	--	--	--	--	--	--	--	--
415223098142903	11-06-85	--	1.1	--	--	--	--	--	--	--	--	--
415223098142904	11-06-85	--	2.5	<0.10	<0.1	<0.10	<0.1	<0.1	<0.1	0.10	<0.10	<0.10
415250098152901	11-06-85	--	1.2	--	--	--	--	--	--	--	--	--
415250098152902	11-06-85	--	0.6	--	--	--	--	--	--	--	--	--
415250098152903	11-06-85	--	1.1	--	--	--	--	--	--	--	--	--
415250098152904	11-06-85	--	0.7	--	--	--	--	--	--	--	--	--
415250098152905	11-06-85	--	2.5	<0.10	<0.1	<0.10	<0.1	<0.1	<0.1	<0.10	<0.10	<0.10
415204098135401	11-06-85	--	0.9	--	--	--	--	--	--	--	--	--
415204098135402	11-06-85	--	1.0	--	--	--	--	--	--	--	--	--
415204098135403	11-06-85	--	1.4	--	--	--	--	--	--	--	--	--
415204098135404	11-06-85	--	1.3	--	--	--	--	--	--	--	--	--
415204098135405	11-06-85	--	2.6	<0.10	<0.1	<0.10	<0.1	<0.1	<0.1	<0.10	<0.10	<0.10
415151098131901	11-05-85	--	0.7	--	--	--	--	--	--	--	--	--
415151098131902	11-05-85	--	1.2	--	--	--	--	--	--	--	--	--
415151098131903	11-05-85	--	1.0	<0.10	<0.1	<0.10	<0.1	<0.1	<0.1	<0.10	<0.10	<0.10
415141098124001	11-07-85	--	0.7	--	--	--	--	--	--	--	--	--
415141098124002	11-07-85	--	1.4	--	--	--	--	--	--	--	--	--
415141098124003	11-07-85	--	2.8	--	--	--	--	--	--	--	--	--
415141098124004	11-07-85	--	4.4	<0.10	<0.1	<0.10	<0.1	<0.1	<0.1	<0.10	<0.10	<0.10
415004098175401	11-07-85	--	0.8	--	--	--	--	--	--	--	--	--
415004098175402	11-07-85	--	1.5	<0.10	<0.1	<0.10	<0.1	<0.1	<0.1	<0.10	<0.10	<0.10
CLAY COUNTY												
402207097580801	08-04-86	1	--	--	--	--	--	--	--	--	--	--
403123098031401	08-04-86	<1	--	--	--	--	--	--	--	--	--	--
403001098152903	08-04-86	2	--	--	--	--	--	--	--	--	--	--
FILLMORE COUNTY												
402516097272001	08-04-86	190	--	--	--	--	--	--	--	--	--	--
402500097431401	08-04-86	11	--	--	--	--	--	--	--	--	--	--
FRANKLIN COUNTY												
401801098433901	08-05-86	<1	--	--	--	--	--	--	--	--	--	--
GARFIELD COUNTY												
420406098454301	10-31-85	--	0.9	--	--	--	--	--	--	--	--	--
420406098454302	10-31-85	--	2.0	--	--	--	--	--	--	--	--	--
420406098454303	10-31-85	--	2.3	--	--	--	--	--	--	--	--	--
420406098454304	10-31-85	--	1.5	--	--	--	--	--	--	--	--	--
420406098454305	10-31-85	--	3.0	<0.10	<0.1	<0.10	<0.1	<0.1	<0.1	<0.10	<0.10	<0.10

CHEMICAL ANALYSES OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION NUMBER	LOCAL IDENT- I- FIER	LAT- I- TUDE	LONG- I- TUDE	GEO- LOGIC UNIT	DATE	TIME	DEPTH OF WELL, TOTAL (FEET) (72008)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)
GARFIELD COUNTY								
420337098461401	24N 13W13ABBB1	42 03 37 N	098 46 14 W	112SDGV	10-30-85	1530	155.00	212
420337098461402	24N 13W13ABBB2			112SDGV	10-30-85	1530	50.00	185
420337098461403	24N 13W13ABBB3			112SDGV	10-30-85	1530	30.00	124
420337098461404	24N 13W13ABBB4			112SDGV	10-30-85	1530	15.00	162
420314098454301	24N 13W13ADDD1	42 03 14 N	098 45 43 W	112SDGV	10-30-85	1230	142.00	148
420314098454302	24N 13W13ADDD2			112SDGV	10-30-85	1230	68.00	103
420314098454303	24N 13W13ADDD3			112SDGV	10-30-85	1230	30.00	81
420314098454304	24N 13W13ADDD4	42 03 14 N	098 45 40 W	112SDGV	10-30-85	1230	16.00	78
420251098501701	24N 13W16CCCB1	42 02 51 N	098 50 17 W	112SDGV	10-31-85	1430	173.00	218
420251098501702	24N 13W16CCCB2			112SDGV	10-31-85	1430	65.00	122
420251098501703	24N 13W16CCCB3			112SDGV	10-31-85	1430	31.00	70
420248098491201	24N 13W16DDDD1	42 02 48 N	098 49 12 W	112SDGV	10-30-85	0930	168.00	156
420248098491202	24N 13W16DDDD2			112SDGV	10-30-85	0930	527.00	198
420248098491203	24N 13W16DDDD3			112SDGV	10-30-85	0930	104.00	212
420248098491204	24N 13W16DDDD4			112SDGV	10-30-85	0930	20.00	228
420245098475801	24N 13W23BBBB1	42 02 45 N	098 47 58 W	112SDGV	10-29-85	1130	155.00	182
420245098475802	24N 13W23BBBB2			112SDGV	10-29-85	1130	60.00	87
420245098475803	24N 13W23BBBB3			112SDGV	10-29-85	1130	40.00	96
420245098475804	24N 13W23BBBB4			112SDGV	10-29-85	1130	15.00	80
GREELEY COUNTY								
412813098420501	17N 12W 4DBCD1	41 28 13 N	098 42 05 W	121OGLL	08-11-86	0940	159.00	678
412521098401901	17N 12W26BBA1	41 25 21 N	098 40 19 W	121OGLL	08-12-86	0900	110.00	646
413121098444101	18N 12W19BA 1	41 31 21 N	098 44 41 W		08-11-86	1055	262.00	696
HOLT COUNTY								
423047098320301	29N 10W 6CA 1	42 30 47 N	098 32 03 W		07-10-86	--	259.00	518
					08-22-86	--	259.00	370
422951098341501	29N 11W 8DD 1	42 29 51 N	098 34 15 W		07-10-86	--	--	358
					08-21-86	--	--	358
423007098341501	29N 11W11BD 1	42 30 07 N	098 34 15 W		07-10-86	--	235.00	287
					08-20-86	--	235.00	278
422858098372001	29N 11W17DO 1	42 28 58 N	098 37 20 W		07-07-86	--	--	304
					08-20-86	--	--	236
423007098415901	29N 12W10AD 1	42 30 07 N	098 41 59 W		07-10-86	--	--	210
					08-18-86	--	--	192
422925098435001	29N 12W16BO 1	42 29 25 N	098 43 50 W		07-07-86	--	328.00	180
					08-18-86	--	328.00	172
423601098283401	30N 10W 3CC 1	42 36 01 N	098 28 34 W		07-09-86	--	260.00	178
					08-20-86	--	260.00	168
423510098272201	30N 10W11CA 1	42 35 10 N	098 27 22 W		07-10-86	--	286.00	212
					08-20-86	--	286.00	206
423348098283201	30N 10W22BO 1	42 33 48 N	098 28 32 W		07-10-86	--	269.00	196
					08-22-86	--	269.00	171

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)
GARFIELD COUNTY											
420337098461401		10-30-85	7.80	12.0	0.4	--	--	--	--	--	--
420337098461402		10-30-85	7.60	11.0	0.2	--	--	--	--	--	--
420337098461403		10-30-85	7.00	11.0	0.3	--	--	--	--	--	--
420337098461404		10-30-85	7.10	13.0	0.5	--	--	--	--	--	--
420314098454301		10-30-85	7.80	12.0	0.3	--	--	--	--	--	--
420314098454302		10-30-85	6.40	12.0	1.7	--	--	--	--	--	--
420314098454303		10-30-85	6.50	13.0	4.6	--	--	--	--	--	--
420314098454304		10-30-85	6.60	14.0	5.8	--	--	--	--	--	--
420251098501701		10-31-85	7.80	12.0	1.9	--	--	--	--	--	--
420251098501702		10-31-85	7.10	12.0	6.3	--	--	--	--	--	--
420251098501703		10-31-85	6.50	14.0	1.6	--	--	--	--	--	--
420248098491201		10-30-85	8.00	12.0	4.9	--	--	--	--	--	--
420248098491202		10-30-85	7.90	14.0	4.9	--	--	--	--	--	--
420248098491203		10-30-85	7.60	12.0	5.8	--	--	--	--	--	--
420248098491204		10-30-85	6.20	12.0	1.4	--	--	--	--	--	--
420245098475801		10-29-85	8.00	12.5	2.7	--	--	--	--	--	--
420245098475802		10-29-85	6.60	12.0	13.4	--	--	--	--	--	--
420245098475803		10-29-85	6.70	13.0	0.2	--	--	--	--	--	--
420245098475804		10-29-85	7.60	16.0	2.5	--	--	--	--	--	--
GREELEY COUNTY											
412813098420501		08-11-86	6.80	13.0	--	340	24	110	16	16	0.4
412521098401901		08-12-86	6.80	14.0	--	290	11	93	14	15	0.4
413121098444101		08-11-86	7.00	17.0	--	340	15	110	15	14	0.3
HOLT COUNTY											
423047098320301		07-10-86	6.68	12.0	--	180	140	54	11	8.7	0.3
		08-22-86	--	12.0	--	150	100	45	9.3	8.4	0.3
422951098341501		07-10-86	6.91	12.0	--	130	51	42	6.8	8.7	0.3
		08-21-86	6.27	12.5	--	130	69	41	7.3	8.8	0.3
423007098341501		07-10-86	6.66	12.0	--	100	58	31	5.9	7.5	0.3
		08-20-86	6.30	12.0	--	100	59	32	6.0	7.6	0.3
422858098372001		07-07-86	7.60	13.0	--	120	33	37	5.7	8.5	0.4
		08-20-86	6.79	12.5	--	96	9	31	4.4	8.5	0.4
423007098415901		07-10-86	7.70	13.0	--	83	0	27	3.7	5.4	0.3
		08-18-86	7.16	13.0	--	77	0	25	3.5	5.3	0.3
422925098435001		07-07-86	7.87	13.0	--	74	0	24	3.4	4.9	0.3
		08-18-86	7.50	13.0	--	71	0	23	3.2	4.7	0.3
423601098283401		07-09-86	6.93	13.0	--	60	0	19	3.1	8.2	0.5
		08-20-86	6.68	12.0	--	57	0	18	2.9	7.9	0.5
423510098272201		07-10-86	6.58	13.0	--	68	19	21	3.8	9.3	0.5
		08-20-86	6.44	12.0	--	69	21	21	3.9	9.5	0.5
423348098283201		07-10-86	6.69	13.0	--	63	21	19	3.7	8.3	0.5
		08-22-86	6.36	12.0	--	63	21	19	3.7	8.3	0.5

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
GARFIELD COUNTY											
420337098461401		10-30-85	--	--	--	--	--	--	--	--	--
420337098461402		10-30-85	--	--	--	--	--	--	--	--	--
420337098461403		10-30-85	--	--	--	--	--	--	--	--	--
420337098461404		10-30-85	--	--	--	--	--	--	--	--	--
420314098454301		10-30-85	--	--	--	--	--	--	--	--	--
420314098454302		10-30-85	--	--	--	--	--	--	--	--	--
420314098454303		10-30-85	--	--	--	--	--	--	--	--	--
420314098454304		10-30-85	--	--	--	--	--	--	--	--	--
420251098501701		10-31-85	--	--	--	--	--	--	--	--	--
420251098501702		10-31-85	--	--	--	--	--	--	--	--	--
420251098501703		10-31-85	--	--	--	--	--	--	--	--	--
420248098491201		10-30-85	--	--	--	--	--	--	--	--	--
420248098491202		10-30-85	--	--	--	--	--	--	--	--	--
420248098491203		10-30-85	--	--	--	--	--	--	--	--	--
420248098491204		10-30-85	--	--	--	--	--	--	--	--	--
420245098475801		10-29-85	--	--	--	--	--	--	--	--	--
420245098475802		10-29-85	--	--	--	--	--	--	--	--	--
420245098475803		10-29-85	--	--	--	--	--	--	--	--	--
420245098475804		10-29-85	--	--	--	--	--	--	--	--	--
GREELEY COUNTY											
412813098420501		08-11-86	8.9	317	53	6.3	0.20	60	460	0.63	--
412521098401901		08-12-86	9.5	279	27	4.4	0.20	55	390	0.52	--
413121098444101		08-11-86	8.8	321	28	9.2	0.10	57	430	0.59	--
HOLT COUNTY											
423047098320301		07-10-86	3.9	45	19	11	--	--	--	--	37.0
		08-22-86	4.6	50	17	11	--	--	--	--	26.0
422951098341501		07-10-86	5.5	82	13	4.5	--	--	--	--	20.0
		08-21-86	5.3	63	18	6.6	--	--	--	--	21.0
423007098341501		07-10-86	4.3	44	20	4.8	--	--	--	--	14.0
		08-20-86	4.4	46	21	5.6	--	--	--	--	15.0
422858098372001		07-07-86	5.7	83	7.8	3.6	--	--	--	--	14.0
		08-20-86	4.9	87	5.9	1.9	--	--	--	--	6.60
423007098415901		07-10-86	4.4	87	3.7	1.4	--	--	--	--	2.00
		08-18-86	4.6	88	3.2	1.3	--	--	--	--	1.60
422925098435001		07-07-86	4.1	78	3.3	1.2	--	--	--	--	2.80
		08-18-86	3.9	77	2.6	1.0	--	--	--	--	2.00
423601098283401		07-09-86	4.2	67	5.2	2.3	--	--	--	--	2.40
		08-20-86	4.1	66	5.8	2.3	--	--	--	--	2.70
423510098272201		07-10-86	2.9	49	9.5	3.8	--	--	--	--	9.40
		08-20-86	2.9	48	11	3.4	--	--	--	--	9.20
423348098283201		07-10-86	2.6	42	10	2.6	--	--	--	--	8.40
		08-22-86	2.6	42	12	2.8	--	--	--	--	7.40

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)
GARFIELD COUNTY											
420337098461401	10-30-85	<0.100	--	--	--	--	--	--	--	--	--
420337098461402	10-30-85	<0.100	--	--	--	--	--	--	--	--	--
420337098461403	10-30-85	<0.100	--	--	--	--	--	--	--	--	--
420337098461404	10-30-85	<0.100	--	--	--	--	--	--	--	--	--
420314098454301	10-30-85	0.310	--	--	--	--	--	--	--	--	--
420314098454302	10-30-85	1.60	--	--	--	--	--	--	--	--	--
420314098454303	10-30-85	1.90	--	--	--	--	--	--	--	--	--
420314098454304	10-30-85	2.10	--	--	--	--	--	--	--	--	--
420251098501701	10-31-85	0.480	--	--	--	--	--	--	--	--	--
420251098501702	10-31-85	5.80	--	--	--	--	--	--	--	--	--
420251098501703	10-31-85	0.970	--	--	--	--	--	--	--	--	--
420248098491201	10-30-85	1.50	--	--	--	--	--	--	--	--	--
420248098491202	10-30-85	2.50	--	--	--	--	--	--	--	--	--
420248098491203	10-30-85	6.20	--	--	--	--	--	--	--	--	--
420248098491204	10-30-85	17.0	--	--	--	--	--	--	--	--	--
420245098475801	10-29-85	0.930	--	--	--	--	--	--	--	--	--
420245098475802	10-29-85	1.60	--	--	--	--	--	--	--	--	--
420245098475803	10-29-85	0.200	--	--	--	--	--	--	--	--	--
420245098475804	10-29-85	0.660	--	--	--	--	--	--	--	--	--
GREELEY COUNTY											
412813098420501	08-11-86	2.90	--	--	--	--	--	--	--	80	--
412521098401901	08-12-86	7.70	--	--	--	--	--	--	--	80	--
413121098444101	08-11-86	5.50	--	--	--	--	--	--	--	60	--
HOLT COUNTY											
423047098320301	07-10-86	--	0.020	0.30	0.050	<1	450	<0.5	--	<1	--
	08-22-86	--	0.020	0.50	0.040	--	--	--	--	--	--
422951098341501	07-10-86	--	0.020	0.50	0.030	--	--	--	--	--	--
	08-21-86	--	<0.010	0.40	0.040	--	--	--	--	--	--
423007098341501	07-10-86	--	0.040	0.30	0.040	--	--	--	--	--	--
	08-20-86	--	0.010	0.50	0.040	--	--	--	--	--	--
422858098372001	07-07-86	--	<0.010	0.40	0.030	--	--	--	--	--	--
	08-20-86	--	<0.010	0.20	0.010	4	--	0.6	--	3	--
423007098415901	07-10-86	--	<0.010	<0.20	0.020	--	--	--	--	--	--
	08-18-86	--	<0.010	<0.20	0.020	--	--	--	--	--	--
422925098435001	07-07-86	--	<0.010	<0.20	0.020	--	--	--	--	--	--
	08-18-86	--	<0.010	0.20	<0.010	4	--	<0.5	--	<1	--
423601098283401	07-09-86	--	<0.010	0.20	0.050	--	--	--	--	--	--
	08-20-86	--	<0.010	0.20	0.040	--	--	--	--	--	--
423510098272201	07-10-86	--	<0.010	0.20	0.060	--	--	--	--	--	--
	08-20-86	--	<0.010	0.30	0.050	2	--	<0.5	--	<1	--
423348098283201	07-10-86	--	0.030	0.30	0.070	--	--	--	--	--	--
	08-22-86	--	<0.010	0.30	0.060	--	--	--	--	--	--

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	DI- SYSTON TOTAL (UG/L) (39011)	PHORATE OTAL (UG/L) (39023)	PRO- PAZINE TOTAL (UG/L) (39024)	PER- THANE TOTAL (UG/L) (39034)	METHO- MYL TOTAL (UG/L) (39051)	PROPHAM TOTAL (UG/L) (39052)	SIME- TRYNE TOTAL (UG/L) (39054)	SIMA- ZINE TOTAL (UG/L) (39055)
GARFIELD COUNTY											
420337098461401		10-30-85	1.7	--	--	--	--	--	--	--	--
420337098461402		10-30-85	1.7	--	--	--	--	--	--	--	--
420337098461403		10-30-85	0.9	--	--	--	--	--	--	--	--
420337098461404		10-30-85	2.3	--	--	<0.10	--	--	--	<0.1	<0.10
420314098454301		10-30-85	1.2	--	--	--	--	--	--	--	--
420314098454302		10-30-85	1.1	--	--	--	--	--	--	--	--
420314098454303		10-30-85	1.2	--	--	--	--	--	--	--	--
420314098454304		10-30-85	5.9	--	--	<0.10	--	--	--	<0.1	<0.10
420251098501701		10-31-85	2.5	--	--	--	--	--	--	--	--
420251098501702		10-31-85	1.0	--	--	--	--	--	--	--	--
420251098501703		10-31-85	1.2	--	--	<0.10	--	--	--	<0.1	<0.10
420248098491201		10-30-85	1.8	--	--	--	--	--	--	--	--
420248098491202		10-30-85	0.4	--	--	--	--	--	--	--	--
420248098491203		10-30-85	1.2	--	--	--	--	--	--	--	--
420248098491204		10-30-85	0.7	--	--	<0.10	--	--	--	<0.1	<0.10
420245098475801		10-29-85	1.1	--	--	--	--	--	--	--	--
420245098475802		10-29-85	1.1	--	--	--	--	--	--	--	--
420245098475803		10-29-85	0.9	--	--	--	--	--	--	--	--
420245098475804		10-29-85	1.1	--	--	<0.10	--	--	--	<0.1	0.10
GREELEY COUNTY											
412813098420501		08-11-86	--	--	--	--	--	--	--	--	--
412521098401901		08-12-86	--	--	--	--	--	--	--	--	--
413121098444101		08-11-86	--	--	--	--	--	--	--	--	--
HOLT COUNTY											
423047098320301		07-10-86	2.5	<0.01	<0.01	<0.10	<0.1	<2.0	<2.0	<0.1	<0.10
		08-22-86	1.6	--	--	--	--	--	--	--	--
422951098341501		07-10-86	0.9	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	--	--	--	--	--	--
423007098341501		07-10-86	1.7	<0.01	<0.01	<0.10	<0.1	<2.0	<2.0	<0.1	<0.10
		08-20-86	2.0	--	--	--	--	--	--	--	--
422858098372001		07-07-86	0.7	--	--	--	--	--	--	--	--
		08-20-86	0.7	--	--	--	--	--	--	--	--
423007098415901		07-10-86	0.4	--	--	--	--	--	--	--	--
		08-18-86	2.4	--	--	<0.10	<0.1	<2.0	<2.0	<0.1	<0.10
422925098435001		07-07-86	0.4	--	--	--	--	--	--	--	--
		08-18-86	0.8	--	--	--	--	--	--	--	--
423601098283401		07-09-86	1.3	--	--	--	--	--	--	--	--
		08-20-86	1.0	--	--	--	--	--	--	--	--
423510098272201		07-10-86	0.7	--	--	--	--	--	--	--	--
		08-20-86	1.0	--	--	--	--	--	--	--	--
423348098283201		07-10-86	0.9	--	--	--	--	--	--	--	--
		08-22-86	1.1	--	--	<0.10	<0.1	<2.0	<2.0	<0.1	<0.10

CHEMICAL ANALYSES OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	PROMETHYNE	PROMETHYNE	NAPHTHALENES, POLYCHLOR.	ALDRIN,	LINDANE	CHLORDANE,	DDD,	DDE,	DDT,
			TOTAL (UG/L) (39056)	TOTAL (UG/L) (39057)	TOTAL (UG/L) (39250)	TOTAL (UG/L) (39330)	TOTAL (UG/L) (39340)	TOTAL (UG/L) (39350)	TOTAL (UG/L) (39360)	TOTAL (UG/L) (39365)	TOTAL (UG/L) (39370)
GARFIELD COUNTY											
420337098461401	10-30-85	--	--	--	--	--	--	--	--	--	--
420337098461402	10-30-85	--	--	--	--	--	--	--	--	--	--
420337098461403	10-30-85	--	--	--	--	--	--	--	--	--	--
420337098461404	10-30-85	<0.1	<0.1	--	--	--	--	--	--	--	--
420314098454301	10-30-85	--	--	--	--	--	--	--	--	--	--
420314098454302	10-30-85	--	--	--	--	--	--	--	--	--	--
420314098454303	10-30-85	--	--	--	--	--	--	--	--	--	--
420314098454304	10-30-85	<0.1	<0.1	--	--	--	--	--	--	--	--
420251098501701	10-31-85	--	--	--	--	--	--	--	--	--	--
420251098501702	10-31-85	--	--	--	--	--	--	--	--	--	--
420251098501703	10-31-85	<0.1	<0.1	--	--	--	--	--	--	--	--
420248098491201	10-30-85	--	--	--	--	--	--	--	--	--	--
420248098491202	10-30-85	--	--	--	--	--	--	--	--	--	--
420248098491203	10-30-85	--	--	--	--	--	--	--	--	--	--
420248098491204	10-30-85	<0.1	<0.1	--	--	--	--	--	--	--	--
420245098475801	10-29-85	--	--	--	--	--	--	--	--	--	--
420245098475802	10-29-85	--	--	--	--	--	--	--	--	--	--
420245098475803	10-29-85	--	--	--	--	--	--	--	--	--	--
420245098475804	10-29-85	<0.1	<0.1	--	--	--	--	--	--	--	--
GREELEY COUNTY											
412813098420501	08-11-86	--	--	--	--	--	--	--	--	--	--
412521098401901	08-12-86	--	--	--	--	--	--	--	--	--	--
413121098444101	08-11-86	--	--	--	--	--	--	--	--	--	--
HOLT COUNTY											
423047098320301	07-10-86	<0.1	<0.1	<0.10	<0.010	<0.010	<0.1	<0.010	<0.010	<0.010	<0.010
	08-22-86	--	--	--	--	--	--	--	--	--	--
422951098341501	07-10-86	--	--	--	--	--	--	--	--	--	--
	08-21-86	--	--	--	--	--	--	--	--	--	--
423007098341501	07-10-86	<0.1	<0.1	<0.10	<0.010	<0.010	<0.1	<0.010	<0.010	<0.010	<0.010
	08-20-86	--	--	--	--	--	--	--	--	--	--
422858098372001	07-07-86	--	--	--	--	--	--	--	--	--	--
	08-20-86	--	--	--	--	--	--	--	--	--	--
423007098415901	07-10-86	--	--	--	--	--	--	--	--	--	--
	08-18-86	<0.1	<0.1	<0.10	<0.010	<0.010	<0.1	<0.010	<0.010	<0.010	<0.010
422925098435001	07-07-86	--	--	--	--	--	--	--	--	--	--
	08-18-86	--	--	--	--	--	--	--	--	--	--
423601098283401	07-09-86	--	--	--	--	--	--	--	--	--	--
	08-20-86	--	--	--	--	--	--	--	--	--	--
423510098272201	07-10-86	--	--	--	--	--	--	--	--	--	--
	08-20-86	--	--	--	--	--	--	--	--	--	--
423348098283201	07-10-86	--	--	--	--	--	--	--	--	--	--
	08-22-86	<0.1	<0.1	<0.10	<0.010	<0.010	<0.1	<0.010	<0.010	<0.010	<0.010

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	DI- ELDRIN TOTAL (UG/L) (39380)	ENDO- SULFAN, TOTAL (UG/L) (39388)	ENDRIN, TOTAL (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	TOX- APHENE, TOTAL (UG/L) (39400)	HEPTA- CHLOR, TOTAL (UG/L) (39410)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	PCB, TOTAL (UG/L) (39516)
GARFIELD COUNTY											
420337098461401	10-30-85	--	--	--	--	--	--	--	--	--	--
420337098461402	10-30-85	--	--	--	--	--	--	--	--	--	--
420337098461403	10-30-85	--	--	--	--	--	--	--	--	--	--
420337098461404	10-30-85	--	--	--	--	--	--	--	--	--	--
420314098454301	10-30-85	--	--	--	--	--	--	--	--	--	--
420314098454302	10-30-85	--	--	--	--	--	--	--	--	--	--
420314098454303	10-30-85	--	--	--	--	--	--	--	--	--	--
420314098454304	10-30-85	--	--	--	--	--	--	--	--	--	--
420251098501701	10-31-85	--	--	--	--	--	--	--	--	--	--
420251098501702	10-31-85	--	--	--	--	--	--	--	--	--	--
420251098501703	10-31-85	--	--	--	--	--	--	--	--	--	--
420248098491201	10-30-85	--	--	--	--	--	--	--	--	--	--
420248098491202	10-30-85	--	--	--	--	--	--	--	--	--	--
420248098491203	10-30-85	--	--	--	--	--	--	--	--	--	--
420248098491204	10-30-85	--	--	--	--	--	--	--	--	--	--
420245098475801	10-29-85	--	--	--	--	--	--	--	--	--	--
420245098475802	10-29-85	--	--	--	--	--	--	--	--	--	--
420245098475803	10-29-85	--	--	--	--	--	--	--	--	--	--
420245098475804	10-29-85	--	--	--	--	--	--	--	--	--	--
GREELEY COUNTY											
412813098420501	08-11-86	--	--	--	--	--	--	--	--	--	--
412521098401901	08-12-86	--	--	--	--	--	--	--	--	--	--
413121098444101	08-11-86	--	--	--	--	--	--	--	--	--	--
HOLT COUNTY											
423047098320301	07-10-86	<0.010	<0.010	<0.010	<0.01	<1	<0.010	<0.010	<0.01	<0.1	
	08-22-86	--	--	--	--	--	--	--	--	--	--
422951098341501	07-10-86	--	--	--	--	--	--	--	--	--	--
	08-21-86	--	--	--	--	--	--	--	--	--	--
423007098341501	07-10-86	<0.010	<0.010	<0.010	<0.01	<1	<0.010	<0.010	<0.01	<0.1	
	08-20-86	--	--	--	--	--	--	--	--	--	--
422858098372001	07-07-86	--	--	--	--	--	--	--	--	--	--
	08-20-86	--	--	--	--	--	--	--	--	--	--
423007098415901	07-10-86	--	--	--	--	--	--	--	--	--	--
	08-18-86	<0.010	<0.010	<0.010	<0.01	<1	<0.010	<0.010	<0.01	<0.1	
422925098435001	07-07-86	--	--	--	--	--	--	--	--	--	--
	08-18-86	--	--	--	--	--	--	--	--	--	--
423601098283401	07-09-86	--	--	--	--	--	--	--	--	--	--
	08-20-86	--	--	--	--	--	--	--	--	--	--
423510098272201	07-10-86	--	--	--	--	--	--	--	--	--	--
	08-20-86	--	--	--	--	--	--	--	--	--	--
423348098283201	07-10-86	--	--	--	--	--	--	--	--	--	--
	08-22-86	<0.010	<0.010	<0.010	<0.01	<1	<0.010	<0.010	<0.01	<0.1	

CHEMICAL ANALYSES OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	MALA- THION, TOTAL (UG/L) (39530)	PARA- THION, TOTAL (UG/L) (39540)	DI- AZINON, TOTAL (UG/L) (39570)	GUTHION TOTAL (UG/L) (39580)	METHYL PARA- THION, TOTAL (UG/L) (39600)	ATRA- ZINE, TOTAL (UG/L) (39630)	PICLO- RAM (TOR- DON) (AMDON) TOTAL (UG/L) (39720)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)
GARFIELD COUNTY											
420337098461401		10-30-85	--	--	--	--	--	--	--	--	--
420337098461402		10-30-85	--	--	--	--	--	--	--	--	--
420337098461403		10-30-85	--	--	--	--	--	--	--	--	--
420337098461404		10-30-85	--	--	--	--	--	<0.10	--	--	--
420314098454301		10-30-85	--	--	--	--	--	--	--	--	--
420314098454302		10-30-85	--	--	--	--	--	--	--	--	--
420314098454303		10-30-85	--	--	--	--	--	--	--	--	--
420314098454304		10-30-85	--	--	--	--	--	<0.10	--	--	--
420251098501701		10-31-85	--	--	--	--	--	--	--	--	--
420251098501702		10-31-85	--	--	--	--	--	--	--	--	--
420251098501703		10-31-85	--	--	--	--	--	<0.10	--	--	--
420248098491201		10-30-85	--	--	--	--	--	--	--	--	--
420248098491202		10-30-85	--	--	--	--	--	--	--	--	--
420248098491203		10-30-85	--	--	--	--	--	--	--	--	--
420248098491204		10-30-85	--	--	--	--	--	<0.10	--	--	--
420245098475801		10-29-85	--	--	--	--	--	--	--	--	--
420245098475802		10-29-85	--	--	--	--	--	--	--	--	--
420245098475803		10-29-85	--	--	--	--	--	--	--	--	--
420245098475804		10-29-85	--	--	--	--	--	<0.10	--	--	--
GREELEY COUNTY											
412813098420501		08-11-86	--	--	--	--	--	--	--	--	--
412521098401901		08-12-86	--	--	--	--	--	--	--	--	--
413121098444101		08-11-86	--	--	--	--	--	--	--	--	--
HOLT COUNTY											
423047098320301		07-10-86	<0.01	<0.01	<0.01	<0.10	<0.01	0.20	<0.01	<0.01	<0.01
		08-22-86	--	--	--	--	--	--	--	--	--
422951098341501		07-10-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	--	--	--	--	--	--
423007098341501		07-10-86	<0.01	<0.01	<0.01	<0.10	<0.01	<0.10	<0.01	<0.01	<0.01
		08-20-86	--	--	--	--	--	--	--	--	--
422858098372001		07-07-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423007098415901		07-10-86	--	--	--	--	--	--	--	--	--
		08-18-86	<0.01	<0.01	<0.01	--	<0.01	<0.10	<0.01	--	--
422925098435001		07-07-86	--	--	--	--	--	--	--	--	--
		08-18-86	--	--	--	--	--	--	--	--	--
423601098283401		07-09-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423510098272201		07-10-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423348098283201		07-10-86	--	--	--	--	--	--	--	--	--
		08-22-86	<0.01	<0.01	<0.01	--	<0.01	0.10	<0.01	<0.01	<0.01

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	SEVIN, TOTAL (UG/L) (39750)	MIREX, TOTAL (UG/L) (39755)	SILVEX, TOTAL (UG/L) (39760)	TOTAL TRI- THION (UG/L) (39786)	METHYL TRI- THION, TOTAL (UG/L) (39790)	CYAN- AZINE TOTAL (UG/L) (81757)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L) (82052)	2, 4-DP TOTAL (UG/L) (82183)	AME- TRYNE TOTAL (82184)
GARFIELD COUNTY											
420337098461401		10-30-85	--	--	--	--	--	--	--	--	--
420337098461402		10-30-85	--	--	--	--	--	--	--	--	--
420337098461403		10-30-85	--	--	--	--	--	--	--	--	--
420337098461404		10-30-85	--	--	--	--	--	<0.10	--	--	<0.10
420314098454301		10-30-85	--	--	--	--	--	--	--	--	--
420314098454302		10-30-85	--	--	--	--	--	--	--	--	--
420314098454303		10-30-85	--	--	--	--	--	--	--	--	--
420314098454304		10-30-85	--	--	--	--	--	<0.10	--	--	<0.10
420251098501701		10-31-85	--	--	--	--	--	--	--	--	--
420251098501702		10-31-85	--	--	--	--	--	--	--	--	--
420251098501703		10-31-85	--	--	--	--	--	<0.10	--	--	<0.10
420248098491201		10-30-85	--	--	--	--	--	--	--	--	--
420248098491202		10-30-85	--	--	--	--	--	--	--	--	--
420248098491203		10-30-85	--	--	--	--	--	--	--	--	--
420248098491204		10-30-85	--	--	--	--	--	<0.10	--	--	<0.10
420245098475801		10-29-85	--	--	--	--	--	--	--	--	--
420245098475802		10-29-85	--	--	--	--	--	--	--	--	--
420245098475803		10-29-85	--	--	--	--	--	--	--	--	--
420245098475804		10-29-85	--	--	--	--	--	<0.10	--	--	<0.10
GREELEY COUNTY											
412813098420501		08-11-86	--	--	--	--	--	--	--	--	--
412521098401901		08-12-86	--	--	--	--	--	--	--	--	--
413121098444101		08-11-86	--	--	--	--	--	--	--	--	--
HOLT COUNTY											
423047098320301		07-10-86	<2.0	<0.01	<0.01	<0.01	<0.01	<0.10	<0.01	<0.01	<0.10
		08-22-86	--	--	--	--	--	--	--	--	--
422951098341501		07-10-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	--	--	--	--	--	--
423007098341501		07-10-86	<2.0	<0.01	<0.01	<0.01	<0.01	<0.10	<0.01	<0.01	<0.10
		08-20-86	--	--	--	--	--	--	--	--	--
422858098372001		07-07-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423007098415901		07-10-86	--	--	--	--	--	--	--	--	--
		08-18-86	<2.0	<0.01	--	<0.01	<0.01	<0.10	--	--	<0.10
422925098435001		07-07-86	--	--	--	--	--	--	--	--	--
		08-18-86	--	--	--	--	--	--	--	--	--
423601098283401		07-09-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423510098272201		07-10-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423348098283201		07-10-86	--	--	--	--	--	--	--	--	--
		08-22-86	<2.0	<0.01	<0.01	<0.01	<0.01	<0.10	<0.01	<0.01	<0.10

CHEMICAL ANALYSES OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	LOCAL IDENT- I- FIER	LAT- I- TUDE	LONG- I- TUDE	GEO- LOGIC UNIT	DATE	DEPTH OF WELL, TOTAL (FEET) (72008)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)
HOLT COUNTY									
423204098294401	30N 10W33BB	1	42 32 04 N	098 29 44 W		07-10-86	200.00	242	6.87
423319098363801	30N 11W21CO	1	42 33 19 N	098 36 38 W		08-21-86	200.00	264	6.51
						07-10-86	--	204	7.12
						08-21-86	--	182	6.89
423137098380501	30N 11W32CO	1	42 31 37 N	098 38 05 W		07-09-86	221.00	225	7.64
						08-20-86	221.00	206	7.26
423616098423201	30N 12W 3BD	1	42 36 16 N	098 42 32 W		07-09-86	322.00	228	7.64
						08-21-86	322.00	195	7.06
423439098423801	30N 12W15BO	1	42 34 39 N	098 42 38 W		07-09-86	327.00	280	6.94
						08-20-86	327.00	298	6.70
423132098461001	30N 12W31CC	1	42 31 32 N	098 46 10 W		07-09-86	244.00	345	7.26
						08-19-86	244.00	339	7.00
423345098475701	30N 13W23A	1	42 33 45 N	098 47 57 W		07-11-86	--	404	7.17
						08-20-86	--	460	6.96
423254098483401	30N 13W26BB	1	42 32 54 N	098 48 34 W		07-09-86	--	308	6.91
						08-19-86	--	302	6.98
423553098561201	30N 14W 3DD	1	42 35 53 N	098 56 12 W		07-08-86	92.00	455	6.79
						08-21-86	92.00	398	6.36
423554098590701	30N 14W 5C	1	42 35 54 N	098 59 07 W		07-08-86	--	308	6.71
						08-20-86	--	296	6.28
423418098301501	30N 10W17DAC	1	42 34 18 N	098 30 15 W		07-11-86	265.00	531	6.35
						08-20-86	265.00	549	6.46
423753098291201	31N 10W28DA	1	42 37 53 N	098 29 12 W		07-09-86	269.00	244	6.93
						08-20-86	269.00	242	6.61
423704098355901	31N 11W33AD	1	42 37 04 N	098 35 59 W		07-09-86	142.00	253	7.76
						08-21-86	142.00	238	7.13
424107098505501	31N 13W 4CO	1	42 41 07 N	098 50 55 W		07-08-86	182.00	222	6.71
						08-19-86	182.00	185	6.56
424020098520501	31N 13W 8CC	1	42 40 20 N	098 52 05 W		07-08-86	156.00	355	6.77
						08-19-86	156.00	338	6.50
424018098494101	31N 13W10CC	1	42 40 18 N	098 49 41 W		07-08-86	220.00	335	6.61
						08-19-86	220.00	258	6.51
423741098531801	31N 13W30CC	1	42 37 41 N	098 53 18 W		07-08-86	155.00	439	6.71
						08-19-86	155.00	418	6.45
424106098594401	31N 14W 6DA	1	42 41 06 N	098 59 44 W		07-08-86	143.00	554	6.38
423852098575401	31N 14W21BD	1	42 38 52 N	098 57 54 W		07-08-86	167.00	462	6.84
						08-19-86	167.00	451	6.36
423804098594301	31N 14W30AA	1	42 38 04 N	098 59 43 W		07-08-86	84.00	303	7.03
						08-19-86	84.00	282	6.58
423713098553601	31N 14W35BB	1	42 37 13 N	098 55 36 W		07-08-86	91.00	638	6.56
						08-19-86	91.00	632	6.26

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY LAB (MG/L AS CACO3) (90410)
HOLT COUNTY											
423204098294401		07-10-86	12.0	76	33	23	4.4	6.8	0.4	3.3	43
		08-21-86	12.5	100	59	31	6.0	7.2	0.3	3.1	43
423319098363801		07-10-86	12.0	70	4	22	3.7	6.5	0.4	4.5	66
		08-21-86	12.0	72	1	23	3.6	6.9	0.4	5.0	71
423137098380501		07-09-86	13.0	86	0	28	3.8	7.7	0.4	5.3	95
		08-20-86	12.0	83	0	27	3.9	7.9	0.4	5.2	95
423616098423201		07-09-86	12.5	80	13	28	2.5	5.4	0.3	4.2	67
		08-21-86	12.0	86	18	30	2.6	5.5	0.3	4.3	68
423439098423801		07-09-86	12.5	100	26	32	4.8	7.3	0.3	4.7	74
		08-20-86	13.0	110	40	36	5.7	7.7	0.3	5.0	73
423132098461001		07-09-86	12.5	160	0	51	7.3	7.2	0.3	5.4	169
		08-19-86	12.0	140	0	46	6.7	6.7	0.3	5.0	162
423345098475701		07-11-86	12.0	180	5	56	8.6	8.6	0.3	5.7	170
		08-20-86	13.0	190	8	61	9.9	11	0.4	5.6	185
423254098483401		07-09-86	12.5	140	7	44	6.1	6.1	0.2	5.2	128
		08-19-86	12.5	130	3	41	5.7	5.8	0.2	3.5	123
423553098561201		07-08-86	11.5	150	99	48	7.5	10	0.4	4.8	52
		08-21-86	12.5	140	90	46	7.0	10	0.4	5.0	54
423554098590701		07-08-86	12.0	95	53	30	4.8	7.8	0.4	4.7	42
		08-20-86	12.0	100	61	33	5.3	8.1	0.4	4.5	43
423418098301501		07-11-86	12.0	200	150	61	12	14	0.4	4.0	50
		08-20-86	13.0	200	160	62	12	15	0.5	4.2	49
423753098291201		07-09-86	13.0	78	30	24	4.4	9.1	0.5	2.8	48
		08-20-86	12.0	86	33	27	4.6	9.3	0.5	2.6	53
423704098355901		07-09-86	13.0	95	0	32	3.6	9.2	0.4	5.8	110
		08-21-86	12.0	100	0	34	3.6	8.2	0.4	5.3	114
424107098505501		07-08-86	13.0	75	20	23	4.3	7.2	0.4	4.5	55
		08-19-86	12.5	61	7	19	3.4	7.0	0.4	4.0	54
424020098520501		07-08-86	12.0	120	69	36	6.5	8.3	0.3	4.3	48
		08-19-86	12.0	120	66	36	6.7	8.5	0.4	4.3	51
424018098494101		07-08-86	12.0	120	70	36	7.6	7.4	0.3	4.3	51
		08-19-86	12.0	93	35	28	5.7	7.6	0.4	4.6	58
423741098531801		07-08-86	12.0	150	88	47	8.2	11	0.4	5.3	63
		08-19-86	12.0	150	84	46	7.9	11	0.4	5.4	63
424106098594401		07-08-86	12.0	190	170	59	11	13	0.4	5.2	26
423852098575401		07-08-86	12.0	170	110	54	8.3	9.1	0.3	5.3	61
		08-19-86	12.0	170	110	55	8.3	9.5	0.3	5.4	61
423804098594301		07-08-86	12.5	110	45	37	4.7	8.2	0.4	4.7	67
		08-19-86	12.0	110	35	34	5.6	8.4	0.4	4.6	73
423713098553601		07-08-86	12.0	230	160	71	12	12	0.4	6.2	63
		08-19-86	12.0	210	150	67	11	12	0.4	6.3	62

CHEMICAL ANALYSES OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)
HOLT COUNTY											
423204098294401		07-10-86	9.1	4.7	11.0	<0.010	0.30	0.060	--	--	--
		08-21-86	11	6.5	16.0	<0.010	0.50	0.040	1	--	0.7
423319098363801		07-10-86	9.8	1.6	4.60	<0.010	0.30	0.040	3	100	<0.5
		08-21-86	7.5	2.1	4.50	<0.010	0.40	0.030	--	--	--
423137098380501		07-09-86	5.7	1.4	1.30	<0.010	0.20	0.020	6	87	<0.5
		08-20-86	6.0	1.7	1.80	<0.010	0.20	0.020	--	--	--
423616098423201		07-09-86	8.4	1.6	6.70	<0.010	0.40	0.020	2	83	<0.5
		08-21-86	8.9	1.5	6.80	0.020	<0.20	0.020	--	--	--
423439098423801		07-09-86	7.1	4.6	11.0	<0.010	<0.20	0.020	3	160	<0.5
		08-20-86	10	5.4	14.0	0.070	0.70	0.040	--	--	--
423132098461001		07-09-86	3.3	1.3	1.60	0.020	0.30	0.030	--	--	--
		08-19-86	2.8	1.2	1.60	<0.010	<0.20	0.030	4	--	<0.5
423345098475701		07-11-86	6.5	2.8	4.50	0.020	0.30	0.030	--	--	--
		08-20-86	11	3.8	10.0	0.060	0.50	0.040	--	--	--
423254098483401		07-09-86	11	2.3	5.30	<0.010	<0.20	0.030	--	--	--
		08-19-86	4.2	2.2	4.40	<0.010	0.40	0.020	3	--	0.9
423553098561201		07-08-86	19	9.1	31.0	0.020	0.60	0.130	--	--	--
		08-21-86	20	9.1	25.0	0.060	0.90	0.120	--	--	--
423554098590701		07-08-86	12	4.9	15.0	<0.010	0.30	0.130	3	180	<0.5
		08-20-86	15	4.6	18.0	0.060	0.50	0.120	--	--	--
423418098301501		07-11-86	17	15	44.0	0.020	<0.20	0.040	--	--	--
		08-20-86	21	20	41.0	0.020	0.40	0.030	--	--	--
423753098291201		07-09-86	14	1.8	13.0	<0.010	0.30	0.070	1	120	<0.5
		08-20-86	16	2.2	12.0	0.060	0.60	0.080	--	--	--
423704098355901		07-09-86	3.6	1.4	1.30	<0.010	<0.20	0.020	--	--	--
		08-21-86	4.3	1.5	1.60	0.010	<0.20	0.010	4	--	<0.5
424107098505501		07-08-86	7.5	3.0	8.30	<0.010	0.40	0.150	--	--	--
		08-19-86	6.2	1.8	4.90	0.070	0.50	0.150	--	--	--
424020098520501		07-08-86	11	7.1	20.0	0.160	0.60	0.120	3	240	<0.5
		08-19-86	12	7.4	20.0	0.090	0.60	0.120	--	--	--
424018098494101		07-08-86	14	7.8	18.0	0.010	0.50	0.120	2	320	<0.5
		08-19-86	10	4.9	12.0	0.060	<0.20	0.120	--	--	--
423741098531801		07-08-86	16	7.9	27.0	0.040	0.50	0.090	4	280	<0.5
		08-19-86	16	7.1	24.0	0.060	0.60	0.080	--	--	--
424106098594401		07-08-86	18	12	47.0	0.170	0.60	0.200	--	--	--
423852098575401		07-08-86	18	8.0	28.0	0.020	0.40	0.090	--	--	--
		08-19-86	20	11	29.0	<0.010	0.40	0.070	2	--	<0.5
423804098594301		07-08-86	14	4.8	15.0	<0.010	0.50	0.120	--	--	--
		08-19-86	10	4.4	20.0	0.050	0.60	0.130	2	--	<0.5
423713098553601		07-08-86	27	19	44.0	0.030	0.90	0.080	--	--	--
		08-19-86	27	23	39.0	0.060	0.50	0.070	2	--	<0.5

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
HOLT COUNTY											
423204098294401		07-10-86	--	--	--	--	--	--	--	--	0.9
		08-21-86	<1	<10	<1	<5	<0.1	1	<1	6	1.2
423319098363801		07-10-86	<1	<10	3	<5	0.1	1	1	9	0.7
		08-21-86	--	--	--	--	--	--	--	--	0.8
423137098380501		07-09-86	<1	<10	1	<5	<0.1	1	<1	130	2.2
		08-20-86	--	--	--	--	--	--	--	--	1.0
423616098423201		07-09-86	<1	<10	1	<5	<0.1	<1	<1	6	0.6
		08-21-86	--	--	--	--	--	--	--	--	1.9
423439098423801		07-09-86	<1	<10	1	<5	<0.1	<1	<1	23	0.9
		08-20-86	--	--	--	--	--	--	--	--	1.1
423132098461001		07-09-86	--	--	--	--	--	--	--	--	0.9
		08-19-86	<1	<10	1	<5	<0.1	2	<1	11	0.9
423345098475701		07-11-86	--	--	--	--	--	--	--	--	1.4
		08-20-86	--	--	--	--	--	--	--	--	2.0
423254098483401		07-09-86	--	--	--	--	--	--	--	--	0.6
		08-19-86	<1	<10	1	<5	<0.1	1	<1	11	1.5
423553098561201		07-08-86	--	--	--	--	--	--	--	--	1.8
		08-21-86	--	--	--	--	--	--	--	--	1.4
423554098590701		07-08-86	<1	<10	2	<5	<0.1	1	<1	6	1.2
		08-20-86	--	--	--	--	--	--	--	--	0.9
423418098301501		07-11-86	--	--	--	--	--	--	--	--	1.6
		08-20-86	--	--	--	--	--	--	--	--	1.9
423753098291201		07-09-86	<1	<10	2	5	4.0	1	<1	7	0.9
		08-20-86	--	--	--	--	--	--	--	--	1.4
423704098355901		07-09-86	--	--	--	--	--	--	--	--	1.7
		08-21-86	<1	<10	3	<5	<0.1	2	<1	7	0.7
424107098505501		07-08-86	--	--	--	--	--	--	--	--	0.7
		08-19-86	--	--	--	--	--	--	--	--	0.9
424020098520501		07-08-86	<1	<10	3	<5	2.0	2	<1	8	0.9
		08-19-86	--	--	--	--	--	--	--	--	1.1
424018098494101		07-08-86	<1	<10	2	<5	0.1	2	<1	7	1.7
		08-19-86	--	--	--	--	--	--	--	--	1.4
423741098531801		07-08-86	<1	<10	2	<5	0.2	1	<1	27	1.3
		08-19-86	--	--	--	--	--	--	--	--	2.0
424106098594401		07-08-86	--	--	--	--	--	--	--	--	1.5
423852098575401		07-08-86	--	--	--	--	--	--	--	--	3.5
		08-19-86	<1	<10	2	<5	<0.1	3	<1	10	2.2
423804098594301		07-08-86	--	--	--	--	--	--	--	--	1.1
		08-19-86	<1	<10	11	<5	<0.1	1	<1	86	1.0
423713098553601		07-08-86	--	--	--	--	--	--	--	--	2.3
		08-19-86	<1	<10	3	<5	<0.1	2	<1	13	6.5

CHEMICAL ANALYSES OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	DI- SYSTON TOTAL (UG/L) (39011)	PHORATE OTAL (UG/L) (39023)	PRO- PAZINE TOTAL (UG/L) (39024)	PER- THANE TOTAL (UG/L) (39034)	DEF TOTAL (UG/L) (39040)	METHO- MYL TOTAL (UG/L) (39051)	PROPHAM TOTAL (UG/L) (39052)	SIME- TRYNE TOTAL (UG/L) (39054)	SIMA- ZINE TOTAL (UG/L) (39055)
HOLT COUNTY											
423204098294401		07-10-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	--	--	--	--	--	--
423319098363801		07-10-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	--	--	--	--	--	--
423137098380501		07-09-86	<0.01	<0.01	<0.10	<0.1	--	--	--	<0.1	<0.10
		08-20-86	--	--	--	--	--	--	--	--	--
423616098423201		07-09-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	--	--	--	--	--	--
423439098423801		07-09-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423132098461001		07-09-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
423345098475701		07-11-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423254098483401		07-09-86	<0.01	<0.01	<0.10	<0.1	--	<2.0	<2.0	<0.1	<0.10
		08-19-86	--	--	--	--	--	--	--	--	--
423553098561201		07-08-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	--	--	--	--	--	--
423554098590701		07-08-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423418098301501		07-11-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423753098291201		07-09-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423704098355901		07-09-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	<0.1	0.03	<2.0	<2.0	--	--
424107098505501		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
424020098520501		07-08-86	<0.01	<0.01	<0.10	<0.1	--	<2.0	<2.0	<0.1	<0.10
		08-19-86	--	--	--	--	--	--	--	--	--
424018098494101		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
423741098531801		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
424106098594401		07-08-86	--	--	--	--	--	--	--	--	--
423852098575401		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	<0.10	<0.1	0.03	<2.0	<2.0	<0.1	<0.10
423804098594301		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
423713098553601		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	<0.10	<0.1	0.05	<2.0	<2.0	<0.1	<0.10

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	PROMETHYL- TONE TOTAL (UG/L) (39056)	PROMETHYL- TRYNE TOTAL (UG/L) (39057)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L) (39250)	ALDRIN, TOTAL (UG/L) (39330)	LINDANE TOTAL (UG/L) (39340)	CHLOR- DANE, TOTAL (UG/L) (39350)	DDD, TOTAL (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	DDT, TOTAL (UG/L) (39370)
HOLT COUNTY											
423204098294401		07-10-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	--	--	--	--	--	--
423319098363801		07-10-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	--	--	--	--	--	--
423137098380501		07-09-86	<0.1	<0.1	<0.10	<0.010	<0.010	<0.1	<0.010	<0.010	<0.010
		08-20-86	--	--	--	--	--	--	--	--	--
423616098423201		07-09-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	--	--	--	--	--	--
423439098423801		07-09-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423132098461001		07-09-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
423345098475701		07-11-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423254098483401		07-09-86	<0.1	<0.1	<0.10	<0.010	<0.010	<0.1	<0.010	<0.010	<0.010
		08-19-86	--	--	--	--	--	--	--	--	--
423553098561201		07-08-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	--	--	--	--	--	--
423554098590701		07-08-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423418098301501		07-11-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423753098291201		07-09-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423704098355901		07-09-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	<0.10	<0.010	<0.010	<0.1	<0.010	<0.010	<0.010
424107098505501		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
424020098520501		07-08-86	<0.1	<0.1	<0.10	<0.010	<0.010	<0.1	<0.010	<0.010	<0.010
		08-19-86	--	--	--	--	--	--	--	--	--
424018098494101		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
423741098531801		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
424106098594401		07-08-86	--	--	--	--	--	--	--	--	--
423852098575401		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	<0.1	<0.1	<0.10	<0.010	<0.010	<0.1	<0.010	<0.010	<0.010
423804098594301		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
423713098553601		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	<0.1	<0.1	<0.10	<0.010	<0.010	<0.1	<0.010	<0.010	<0.010

CHEMICAL ANALYSES OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	DI- ELDRIN TOTAL (UG/L) (39380)	ENDO- SULFAN, TOTAL (UG/L) (39388)	ENDRIN, TOTAL (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	TOX- APHENE, TOTAL (UG/L) (39400)	HEPTA- CHLOR, TOTAL (UG/L) (39410)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	PCB, TOTAL (UG/L) (39516)
HOLT COUNTY											
423204098294401		07-10-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	--	--	--	--	--	--
423319098363801		07-10-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	--	--	--	--	--	--
423137098380501		07-09-86	<0.010	<0.010	<0.010	<0.01	<1	<0.010	<0.010	<0.01	<0.1
		08-20-86	--	--	--	--	--	--	--	--	--
423616098423201		07-09-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	--	--	--	--	--	--
423439098423801		07-09-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423132098461001		07-09-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
423345098475701		07-11-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423254098483401		07-09-86	<0.010	<0.010	<0.010	<0.01	<1	<0.010	<0.010	<0.01	<0.1
		08-19-86	--	--	--	--	--	--	--	--	--
423553098561201		07-08-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	--	--	--	--	--	--
423554098590701		07-08-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423418098301501		07-11-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423753098291201		07-09-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423704098355901		07-09-86	--	--	--	--	--	--	--	--	--
		08-21-86	<0.010	<0.010	<0.010	<0.01	<1	<0.010	<0.010	<0.01	<0.1
424107098505501		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
424020098520501		07-08-86	<0.010	<0.010	<0.010	<0.01	<1	<0.010	<0.010	<0.01	<0.1
		08-19-86	--	--	--	--	--	--	--	--	--
424018098494101		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
423741098531801		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
424106098594401		07-08-86	--	--	--	--	--	--	--	--	--
423852098575401		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	<0.010	<0.010	<0.010	<0.01	<1	<0.010	<0.010	<0.01	<0.1
423804098594301		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
423713098553601		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	<0.010	<0.010	<0.010	<0.01	<1	<0.010	<0.010	<0.01	<0.1

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	MALA- THION, TOTAL (UG/L) (39530)	PARA- THION, TOTAL (UG/L) (39540)	DI- AZINON, TOTAL (UG/L) (39570)	GUTHION TOTAL (UG/L) (39580)	METHYL PARA- THION, TOTAL (UG/L) (39600)	ATRA- ZINE, TOTAL (UG/L) (39630)	PICLO- RAM (TOR- DON) (AMDN) TOTAL (UG/L) (39720)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)
HOLT COUNTY											
423204098294401		07-10-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	--	--	--	--	--	--
423319098363801		07-10-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	--	--	--	--	--	--
423137098380501		07-09-86	<0.01	<0.01	<0.01	<0.10	<0.01	<0.10	<0.01	<0.01	<0.01
		08-20-86	--	--	--	--	--	--	--	--	--
423616098423201		07-09-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	--	--	--	--	--	--
423439098423801		07-09-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423132098461001		07-09-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
423345098475701		07-11-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423254098483401		07-09-86	<0.01	<0.01	<0.01	<0.10	<0.01	<0.10	<0.01	<0.01	<0.01
		08-19-86	--	--	--	--	--	--	--	--	--
423553098561201		07-08-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	--	--	--	--	--	--
423554098590701		07-08-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423418098301501		07-11-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423753098291201		07-09-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423704098355901		07-09-86	--	--	--	--	--	--	--	--	--
		08-21-86	<0.01	<0.01	<0.01	--	<0.01	--	<0.01	<0.01	<0.01
424107098505501		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
424020098520501		07-08-86	<0.01	<0.01	<0.01	<0.10	<0.01	1.8	<0.01	<0.01	<0.01
		08-19-86	--	--	--	--	--	--	--	--	--
424018098494101		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
423741098531801		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
424106098594401		07-08-86	--	--	--	--	--	--	--	--	--
423852098575401		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	<0.01	<0.01	<0.01	--	<0.01	0.30	<0.01	<0.01	<0.01
423804098594301		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
423713098553601		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	<0.01	<0.01	<0.01	--	<0.01	0.40	<0.01	<0.01	<0.01

CHEMICAL ANALYSES OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	SEVIN, TOTAL (UG/L) (39750)	MIREX, TOTAL (UG/L) (39755)	SILVEX, TOTAL (UG/L) (39760)	TOTAL TRI- THION (UG/L) (39786)	METHYL TRI- THION, TOTAL (UG/L) (39790)	CYAN- AZINE TOTAL (UG/L) (81757)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L) (82052)	2, 4-DP TOTAL (UG/L) (82183)	AME- TRYNE TOTAL (82184)
HOLT COUNTY											
423204098294401		07-10-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	--	--	--	--	--	--
423319098363801		07-10-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	--	--	--	--	--	--
423137098380501		07-09-86	--	<0.01	<0.01	<0.01	<0.01	<0.10	<0.01	<0.01	<0.10
		08-20-86	--	--	--	--	--	--	--	--	--
423616098423201		07-09-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	--	--	--	--	--	--
423439098423801		07-09-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423132098461001		07-09-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
423345098475701		07-11-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423254098483401		07-09-86	<2.0	<0.01	<0.01	<0.01	<0.01	<0.10	<0.01	<0.01	<0.10
		08-19-86	--	--	--	--	--	--	--	--	--
423553098561201		07-08-86	--	--	--	--	--	--	--	--	--
		08-21-86	--	--	--	--	--	--	--	--	--
423554098590701		07-08-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423418098301501		07-11-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423753098291201		07-09-86	--	--	--	--	--	--	--	--	--
		08-20-86	--	--	--	--	--	--	--	--	--
423704098355901		07-09-86	--	--	--	--	--	--	--	--	--
		08-21-86	<2.0	<0.01	<0.01	<0.01	<0.01	--	<0.01	<0.01	--
424107098505501		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
424020098520501		07-08-86	<2.0	<0.01	<0.01	<0.01	<0.01	<0.10	<0.01	<0.01	<0.10
		08-19-86	--	--	--	--	--	--	--	--	--
424018098494101		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
423741098531801		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
424106098594401		07-08-86	--	--	--	--	--	--	--	--	--
423852098575401		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	<2.0	<0.01	<0.01	<0.01	<0.01	<0.10	<0.01	<0.01	<0.10
423804098594301		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	--	--	--	--	--	--	--	--	--
423713098553601		07-08-86	--	--	--	--	--	--	--	--	--
		08-19-86	<2.0	<0.01	<0.01	<0.01	<0.01	<0.10	<0.01	<0.01	<0.10

CHEMICAL ANALYSES OF GROUND WATER
WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION NUMBER	LOCAL IDENT- I- FIER	LAT- I- TUDE	LONG- I- TUDE	GEO- LOGIC UNIT	DATE	TIME	DEPTH OF WELL, TOTAL (FEET) (72008)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)
HOWARD COUNTY								
411711098213201	15N 9W 9BDCB1	41 17 11 N	098 21 32 W	121OGLL	08-11-86	1305	165.00	636
411616098273301	15N 10W16DAAA1	41 16 16 N	098 27 33 W	121OGLL	08-11-86	1342	110.00	554
411705098341701	15N 11W10CBA 1	41 17 05 N	098 34 17 W	121OGLL	08-11-86	1515	150.00	586
411952098341001	16N 11W27BC 1	41 19 52 N	098 34 10 W		08-11-86	1605	90.00	652
412249098371301	16N 11W 6CDD1	41 22 49 N	098 37 13 W	110SDGV	08-11-86	1640	80.00	607
411935098364801	16N 11W30DADA1	41 19 35 N	098 36 48 W	121OGLL	08-11-86	1435	120.00	612
JEFFERSON COUNTY								
400422097195901	1N 1E 8AA 1	40 04 22 N	097 19 59 W	112SDGV	08-06-86	1515	--	628
400223097011901	1N 4E19BD 1	40 02 23 N	097 01 19 W	211DKOT	08-06-86	1715	--	358
400751097122001	2N 2E21AB 1	40 07 51 N	097 12 20 W	112SDGV	08-06-86	1620	--	486
KEARNEY COUNTY								
403055098570001	6N 14W 6CB 1	40 30 55 N	098 57 00 W	112SDGV	08-05-86	1015	--	727
NANCE COUNTY								
412152097581001	16N 6W14ABAC1	41 21 52 N	097 58 10 W	121OGLL	08-11-86	1052	70.00	856
411923098061001	16N 7W27DCD 1	41 19 23 N	098 06 10 W	121OGLL	08-11-86	1137	80.00	588
411850098094701	16N 7W31DBBD1	41 18 50 N	098 09 47 W	121OGLL	08-11-86	1204	210.00	534
NUCKOLLS COUNTY								
400843097522601	2N 5W15BBDB1	40 08 43 N	097 52 26 W	112SDGV	08-06-86	0930	180.00	668
401458098035801	3N 7W 1CC 1	40 14 58 N	098 03 58 W	211NBRR	08-05-86	1610	163.00	617
401735098155201	4N 8W19DC 1	40 17 35 N	098 15 52 W	121OGLL	08-05-86	1705	205.00	562
ROCK COUNTY								
424728099182201	33N 17W34BDDD1	42 47 28 N	099 18 22 W		05-13-86	1215	14.00	273
					06-25-86	1200	14.00	280
					07-22-86	1120	14.00	240
					08-19-86	1520	14.00	260
					09-25-86	1030	14.00	233
424728099182202	33N 17W34BDDD2				05-13-86	1150	29.00	291
					06-25-86	1100	29.00	310
					07-22-86	1100	29.00	260
					08-19-86	1510	29.00	290
					09-25-86	1010	29.00	293
THAYER COUNTY								
401436097232401	3N 1W11AD 1	40 14 36 N	097 23 24 W	112SDGV	08-06-86	1250	--	323
401238097354601	3N 3W24DA 1	40 12 38 N	097 35 46 W	112SDGV	08-06-86	1153	--	535
401857097484801	4N 4W18BD 1	40 18 57 N	097 48 48 W	112SDGV	08-04-86	1215	--	354
400037097371201	1N 3W35AC 1	40 00 37 N	097 37 12 W	112SDGV	08-06-86	1036	190.00	318

CHEMICAL ANALYSES OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY LAB AS CACO3) (90410)
HOWARD COUNTY												
411711098213201	08-11-86	6.90	14.0	300	22	97	13	10	0.3	7.1	274	
411616098273301	08-11-86	7.00	15.0	270	0	89	11	9.1	0.3	5.6	277	
411705098341701	08-11-86	7.00	15.0	280	4	91	13	12	0.3	7.2	277	
411952098341001	08-11-86	6.90	15.0	310	0	100	15	16	0.4	8.7	315	
412249098371301	08-11-86	6.80	15.0	300	2	100	13	9.2	0.2	5.9	301	
411935098364801	08-11-86	6.90	18.0	300	2	97	13	12	0.3	7.0	294	
JEFFERSON COUNTY												
400422097195901	08-06-86	7.20	14.5	280	0	96	9.5	28	0.8	2.3	280	
400223097011901	08-06-86	7.20	15.0	120	15	37	7.0	25	1	2.1	106	
400751097122001	08-06-86	7.50	15.0	210	37	70	8.3	21	0.7	3.2	172	
KEARNEY COUNTY												
403055098570001	08-05-86	6.95	14.0	310	77	100	14	32	0.8	13	230	
NANCE COUNTY												
412152097581001	08-11-86	7.00	18.0	430	110	140	20	14	0.3	8.3	324	
411923098061001	08-11-86	6.95	20.0	300	0	91	17	11	0.3	8.7	303	
411850098094701	08-11-86	7.10	15.0	270	0	88	12	8.2	0.2	5.2	276	
NUCKOLLS COUNTY												
400843097522601	08-06-86	7.70	19.5	280	52	93	12	22	0.6	3.8	230	
401458098035801	08-05-86	7.20	16.0	290	37	94	13	20	0.5	3.2	251	
401735098155201	08-05-86	6.95	20.0	250	16	79	14	17	0.5	4.8	239	
ROCK COUNTY												
424728099182201	05-13-86	7.40	10.5	100	0	34	3.8	8.1	0.4	6.1	113	
	06-25-86	7.20	16.0	100	0	34	3.7	8.1	0.4	6.4	110	
	07-22-86	7.10	13.0	110	0	37	4.1	8.7	0.4	6.8	126	
	08-19-86	7.30	15.0	110	0	36	3.8	8.9	0.4	7.0	127	
	09-25-86	7.20	15.5	84	0	29	2.9	9.5	0.5	7.3	107	
424728099182202	05-13-86	7.50	12.0	130	0	42	4.9	10	0.4	5.9	146	
	06-25-86	7.20	11.0	130	0	43	4.9	9.9	0.4	5.3	148	
	07-22-86	7.00	10.5	130	0	42	5.0	9.5	0.4	5.6	150	
	08-19-86	7.30	11.0	120	0	41	4.8	9.2	0.4	5.0	146	
	09-25-86	7.20	10.5	130	0	42	5.0	9.5	0.4	5.3	144	
THAYER COUNTY												
401436097232401	08-06-86	7.40	16.0	110	0	34	5.7	21	0.9	4.2	118	
401238097354601	08-06-86	7.50	15.0	190	0	62	9.4	31	1	5.0	198	
401857097484801	08-04-86	7.05	14.0	130	0	42	6.5	13	0.5	4.4	139	
400037097371201	08-06-86	7.30	15.0	120	4	42	3.9	14	0.6	3.0	117	

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
HOWARD COUNTY												
411711098213201	08-11-86	14	9.0	0.20	56	370	0.50	--	8.10	--	--	--
411616098273301	08-11-86	12	5.6	0.20	58	360	0.48	--	1.70	--	--	--
411705098341701	08-11-86	23	5.5	0.20	57	380	0.51	--	2.70	--	--	--
411952098341001	08-11-86	27	9.1	0.20	59	420	0.58	--	1.90	--	--	--
412249098371301	08-11-86	20	4.7	0.20	60	390	0.54	--	3.60	--	--	--
411935098364801	08-11-86	15	4.0	0.20	54	380	0.51	--	5.00	--	--	--
JEFFERSON COUNTY												
400422097195901	08-06-86	16	16	0.20	39	370	0.51	--	5.90	--	--	--
400223097011901	08-06-86	40	10	0.20	28	210	0.29	--	5.50	--	--	--
400751097122001	08-06-86	36	10	0.50	33	290	0.39	--	8.20	--	--	--
KEARNEY COUNTY												
403055098570001	08-05-86	130	22	0.40	27	480	0.65	--	1.20	--	--	--
NANCE COUNTY												
412152097581001	08-11-86	130	7.8	0.40	51	570	0.77	--	2.90	--	--	--
411923098061001	08-11-86	22	4.0	0.30	59	390	0.54	--	1.30	--	--	--
411850098094701	08-11-86	10	4.0	0.20	55	350	0.47	--	1.70	--	--	--
NUCKOLLS COUNTY												
400843097522601	08-06-86	26	47	0.20	50	390	0.53	--	3.90	--	--	--
401458098035801	08-05-86	26	29	0.40	45	380	0.52	--	1.70	--	--	--
401735098155201	08-05-86	21	26	0.50	45	350	0.48	--	0.840	--	--	--
ROCK COUNTY												
424728099182201	05-13-86	14	3.1	--	--	--	--	<0.100	--	0.090	0.30	
	06-25-86	15	2.1	--	--	--	--	<0.100	--	0.080	1.1	
	07-22-86	12	1.9	--	--	--	--	<0.100	--	0.090	0.30	
	08-19-86	10	1.8	--	--	--	--	<0.100	--	0.090	0.40	
	09-25-86	8.8	1.5	--	--	--	--	<0.100	--	0.100	0.20	
424728099182202	05-13-86	7.2	2.1	--	--	--	--	<0.100	--	0.060	0.30	
	06-25-86	5.4	0.20	--	--	--	--	<0.100	--	0.070	0.30	
	07-22-86	5.2	1.8	--	--	--	--	<0.100	--	0.050	0.40	
	08-19-86	6.4	1.9	--	--	--	--	<0.100	--	0.030	0.40	
	09-25-86	5.9	1.5	--	--	--	--	<0.100	--	0.070	0.20	
THAYER COUNTY												
401436097232401	08-06-86	25	7.9	0.20	28	200	0.27	--	2.80	--	--	--
401238097354601	08-06-86	28	18	0.20	32	300	0.41	--	5.20	--	--	--
401857097484801	08-04-86	14	8.9	0.20	37	210	0.28	--	1.30	--	--	--
400037097371201	08-06-86	12	12	0.20	31	190	0.26	--	2.90	--	--	--

CHEMICAL ANALYSES OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE) (01012)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)
HOWARD COUNTY												
411711098213201	08-11-86	--	--	--	--	--	50	--	--	--	12	--
411616098273301	08-11-86	--	--	--	--	--	50	--	--	--	7	--
411705098341701	08-11-86	--	--	--	--	--	60	--	--	--	5	--
411952098341001	08-11-86	--	--	--	--	--	80	--	--	--	13	--
412249098371301	08-11-86	--	--	--	--	--	60	--	--	--	6	--
411935098364801	08-11-86	--	--	--	--	--	50	--	--	--	6	--
JEFFERSON COUNTY												
400422097195901	08-06-86	--	--	--	--	--	50	--	--	--	31	--
400223097011901	08-06-86	--	--	--	--	--	50	--	--	--	17	--
400751097122001	08-06-86	--	--	--	--	--	40	--	--	--	7	--
KEARNEY COUNTY												
403055098570001	08-05-86	--	--	--	--	--	50	--	--	--	77	--
NANCE COUNTY												
412152097581001	08-11-86	--	--	--	--	--	50	--	--	--	790	--
411923098061001	08-11-86	--	--	--	--	--	70	--	--	--	120	--
411850098094701	08-11-86	--	--	--	--	--	50	--	--	--	13	--
NUCKOLLS COUNTY												
400843097522601	08-06-86	--	--	--	--	--	50	--	--	--	5	--
401458098035801	08-05-86	--	--	--	--	--	60	--	--	--	3	--
401735098155201	08-05-86	--	--	--	--	--	70	--	--	--	100	--
ROCK COUNTY												
424728099182201	05-13-86	0.150	--	200	<10	--	<1	<10	22	--	8	--
	06-25-86	0.180	13	100	<10	--	3	<10	210	--	13	--
	07-22-86	0.110	10	200	<10	--	<1	<10	42	--	<5	--
	08-19-86	0.090	12	200	<10	--	<1	<10	36	--	<5	--
	09-25-86	0.120	16	100	<10	--	<10	<10	17	--	<5	--
424728099182202	05-13-86	0.130	--	200	<10	--	<1	<10	17	--	1	--
	06-25-86	0.130	7	100	<10	--	<1	<10	24	--	50	--
	07-22-86	0.130	7	200	<10	--	<1	<10	41	--	<5	--
	08-19-86	0.090	7	100	<10	--	<1	<10	18	--	<5	--
	09-25-86	0.110	8	100	<10	--	<10	<10	20	--	<5	--
THAYER COUNTY												
401436097232401	08-06-86	--	--	--	--	--	50	--	--	--	15	--
401238097354601	08-06-86	--	--	--	--	--	30	--	--	--	8	--
401857097484801	08-04-86	--	--	--	--	--	30	--	--	--	8	--
400037097371201	08-06-86	--	--	--	--	--	40	--	--	--	8	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

[illegible]

361

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

[illegible]

[illegible]

363

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

[illegible]

DICAMBA
(MED-
IBEN)
(BAN-
VEL D)
TOTAL
(UG/L)
(82052)

[illegible]

CHEMICAL ANALYSES OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	LOCAL IDENT- I- FIER	LAT- I- TUDE	LONG- I- TUDE	GEO- LOGIC UNIT	DATE	TIME	DEPTH OF WELL, TOTAL (FEET) (72008)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)
VALLEY COUNTY									
413639099050501	19N 15W18DCCD1		41 36 39 N	099 05 05 W	112PLSC	08-13-86	0840	--	596
412849098484801	17N 13W 4ABAA1		41 28 49 N	098 48 48 W	121OGLL	08-12-86	1146	300.00	687
412720098494901	17N 13W 8DD 1		41 27 20 N	098 49 49 W	121OGLL	08-12-86	1134	287.00	605
413053098541701	18N 14W22DADD1		41 30 53 N	098 54 17 W	121OGLL	08-12-86	1235	195.00	596
413305099034201	18N 15W 8AABC1		41 33 05 N	099 03 42 W	121OGLL	08-12-86	1412	235.00	858
413155098590001	18N 15W13ADDC1		41 31 55 N	098 59 00 W	121OGLL	08-12-86	1332	248.00	764
413654099092001	19N 16W16DADC1		41 36 54 N	099 09 20 W	121OGLL	08-12-86	1522	215.00	586
413452099071301	19N 16W35ABAA1		41 34 52 N	099 07 13 W	121OGLL	08-12-86	1443	160.00	1460
WEBSTER COUNTY									
401906098354803	4N 11W18AA 3		40 19 06 N	098 35 48 W	112SDGV	08-05-86	1408	168.00	664
WHEELER COUNTY									
415645098265001	23N 10W23CCDD1		41 56 45 N	098 26 50 W	112SDGV	11-05-85	1130	113.00	168
415645098265002	23N 10W23CCDD2				112SDGV	11-05-85	1130	73.00	204
415645098265003	23N 10W23CCDD3				112SDGV	11-05-85	1130	25.00	142
415645098265004	23N 10W23CCDD4				112SDGV	11-05-85	1130	12.00	108
415658098262001	23N 10W23DBDC1		41 56 58 N	098 26 20 W	112SDGV	11-05-85	1400	443.00	282
415658098262002	23N 10W23DBDC2				112SDGV	11-05-85	1400	98.00	178
415658098262003	23N 10W23DBDC3				112SDGV	11-05-85	1400	56.00	188
415658098262004	23N 10W23DBDC4				112SDGV	11-05-85	1400	33.00	194
415658098262005	23N 10W23DBDC5				112SDGV	11-05-85	1400	11.00	278
415628098270301	23N 10W26BCBB1		41 56 28 N	098 27 03 W	112SDGV	11-01-85	1530	117.00	182
415628098270302	23N 10W26BCBB2				112SDGV	11-01-85	1530	64.00	85
415628098270303	23N 10W26BCBB3				112SDGV	11-01-85	1530	28.00	92
415628098270304	23N 10W26BCBB4				112SDGV	11-01-85	1530	16.00	96
415618098273801	23N 10W27ACCC1		41 56 18 N	098 27 38 W	112SDGV	11-01-85	1330	134.00	185
415618098273802	23N 10W27ACCC2				112SDGV	11-01-85	1330	70.00	178
415618098273803	23N 10W27ACCC3				112SDGV	11-01-85	1330	33.00	90
415618098273804	23N 10W27ACCC4				112SDGV	11-01-85	1330	24.00	105
415552098292201	23N 10W28CCCC1		41 55 52 N	098 29 22 W	112SDGV	11-01-85	0930	56.00	108
415552098292202	23N 10W28CCCC2				112SDGV	11-01-85	0930	130.00	102
415552098292203	23N 10W28CCCC3				112SDGV	11-01-85	0930	28.00	108
415552098292204	23N 10W28CCCC4				112SDGV	11-01-85	0930	16.00	105
415552098281701	23N 10W28DDDD1		41 55 52 N	098 28 17 W	112SDGV	11-01-85	1130	134.00	76
415552098281702	23N 10W28DDDD2				112SDGV	11-01-85	1130	77.00	158
415552098281703	23N 10W28DDDD3				112SDGV	11-01-85	1130	58.00	155
415552098281704	23N 10W28DDDD4				112SDGV	11-01-85	1130	25.00	72

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
VALLEY COUNTY												
413639099050501	08-13-86	7.00	16.0	--	290	3	94	14	7.7	0.2	8.0	
412849098484801	08-12-86	6.90	16.5	--	340	17	110	16	16	0.4	10	
412720098494901	08-12-86	7.00	14.5	--	290	0	96	11	13	0.4	8.7	
413053098541701	08-12-86	6.90	15.0	--	300	14	97	13	9.0	0.2	7.5	
413305099034201	08-12-86	7.00	17.0	--	420	140	140	18	12	0.3	14	
413155098590001	08-12-86	6.90	16.0	--	340	15	110	15	18	0.4	15	
413654099092001	08-12-86	7.10	15.0	--	290	22	92	14	8.6	0.2	7.3	
413452099071301	08-12-86	7.00	15.0	--	720	380	240	29	43	0.7	22	
WEBSTER COUNTY												
401906098354803	08-05-86	7.05	15.0	--	300	60	98	13	11	0.3	5.4	
WHEELER COUNTY												
415645098265001	11-05-85	7.20	11.5	0.5	--	--	--	--	--	--	--	
415645098265002	11-05-85	6.90	12.0	0.3	--	--	--	--	--	--	--	
415645098265003	11-05-85	6.70	13.0	0.4	--	--	--	--	--	--	--	
415645098265004	11-05-85	6.50	14.0	2.4	--	--	--	--	--	--	--	
415658098262001	11-05-85	7.60	11.5	3.4	--	--	--	--	--	--	--	
415658098262002	11-05-85	6.90	11.5	1.2	--	--	--	--	--	--	--	
415658098262003	11-05-85	7.20	12.0	0.3	--	--	--	--	--	--	--	
415658098262004	11-05-85	7.10	11.0	0.3	--	--	--	--	--	--	--	
415658098262005	11-05-85	7.30	15.0	1.0	--	--	--	--	--	--	--	
415628098270301	11-01-85	7.50	12.0	0.3	--	--	--	--	--	--	--	
415628098270302	11-01-85	6.50	12.0	0.3	--	--	--	--	--	--	--	
415628098270303	11-01-85	6.50	12.0	0.3	--	--	--	--	--	--	--	
415628098270304	11-01-85	6.50	13.0	1.8	--	--	--	--	--	--	--	
415618098273801	11-01-85	7.50	12.0	0.5	--	--	--	--	--	--	--	
415618098273802	11-01-85	6.70	12.0	4.3	--	--	--	--	--	--	--	
415618098273803	11-01-85	6.60	14.5	8.1	--	--	--	--	--	--	--	
415618098273804	11-01-85	7.00	14.5	9.7	--	--	--	--	--	--	--	
415552098292201	11-01-85	7.30	12.0	0.6	--	--	--	--	--	--	--	
415552098292202	11-01-85	7.50	12.0	0.5	--	--	--	--	--	--	--	
415552098292203	11-01-85	6.90	12.0	0.5	--	--	--	--	--	--	--	
415552098292204	11-01-85	6.10	15.0	6.7	--	--	--	--	--	--	--	
415552098281701	11-01-85	7.70	12.0	0.4	--	--	--	--	--	--	--	
415552098281702	11-01-85	7.00	12.0	2.0	--	--	--	--	--	--	--	
415552098281703	11-01-85	7.30	12.0	2.4	--	--	--	--	--	--	--	
415552098281704	11-01-85	6.50	14.0	8.0	--	--	--	--	--	--	--	

CHEMICAL ANALYSES OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE	ALKA- LINTY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
VALLEY COUNTY												
413639099050501	08-13-86	289	33	2.2	0.20	55	390	0.53	0.110	50	1500	
412849098484801	08-12-86	324	47	4.8	0.20	63	460	0.63	1.50	70	11	
412720098494901	08-12-86	294	22	4.7	0.30	58	390	0.53	1.90	60	5	
413053098541701	08-12-86	282	34	4.1	0.20	62	400	0.54	1.50	60	13	
413305099034201	08-12-86	288	150	8.7	0.20	50	570	0.77	3.70	60	9	
413155098590001	08-12-86	321	47	11	0.20	51	460	0.63	7.10	60	9	
413654099092001	08-12-86	265	25	8.5	0.20	55	370	0.50	5.10	50	<3	
413452099071301	08-12-86	341	420	11	0.20	50	1000	1.4	21.0	170	21	
WEBSTER COUNTY												
401906098354803	08-05-86	238	26	32	0.30	42	370	0.50	4.60	40	4	
WHEELER COUNTY												
415645098265001	11-05-85	--	--	--	--	--	--	--	<0.100	--	--	
415645098265002	11-05-85	--	--	--	--	--	--	--	<0.100	--	--	
415645098265003	11-05-85	--	--	--	--	--	--	--	<0.100	--	--	
415645098265004	11-05-85	--	--	--	--	--	--	--	<0.440	--	--	
415658098262001	11-05-85	--	--	--	--	--	--	--	0.880	--	--	
415658098262002	11-05-85	--	--	--	--	--	--	--	<0.550	--	--	
415658098262003	11-05-85	--	--	--	--	--	--	--	<0.100	--	--	
415658098262004	11-05-85	--	--	--	--	--	--	--	<0.100	--	--	
415658098262005	11-05-85	--	--	--	--	--	--	--	1.80	--	--	
415628098270301	11-01-85	--	--	--	--	--	--	--	<0.100	--	--	
415628098270302	11-01-85	--	--	--	--	--	--	--	<0.100	--	--	
415628098270303	11-01-85	--	--	--	--	--	--	--	<0.100	--	--	
415628098270304	11-01-85	--	--	--	--	--	--	--	<0.550	--	--	
415618098273801	11-01-85	--	--	--	--	--	--	--	0.860	--	--	
415618098273802	11-01-85	--	--	--	--	--	--	--	12.0	--	--	
415618098273803	11-01-85	--	--	--	--	--	--	--	5.10	--	--	
415618098273804	11-01-85	--	--	--	--	--	--	--	5.70	--	--	
415552098292201	11-01-85	--	--	--	--	--	--	--	0.210	--	--	
415552098292202	11-01-85	--	--	--	--	--	--	--	<0.100	--	--	
415552098292203	11-01-85	--	--	--	--	--	--	--	<1.70	--	--	
415552098292204	11-01-85	--	--	--	--	--	--	--	9.30	--	--	
415552098281701	11-01-85	--	--	--	--	--	--	--	2.80	--	--	
415552098281702	11-01-85	--	--	--	--	--	--	--	1.90	--	--	
415552098281703	11-01-85	--	--	--	--	--	--	--	1.80	--	--	
415552098281704	11-01-85	--	--	--	--	--	--	--	1.20	--	--	

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). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

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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