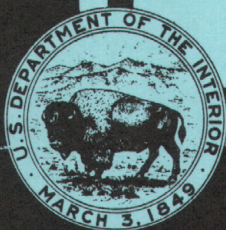
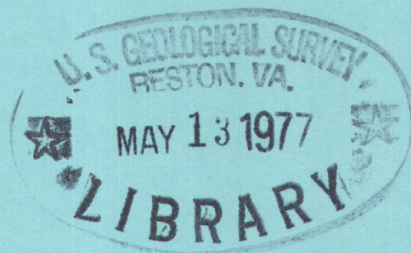


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Water Resources Data for South Dakota Water Year 1976

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U.S. GEOLOGICAL SURVEY WATER-DATA REPORT SD-76-1

Prepared in cooperation with the State of South Dakota and
with other agencies

CALENDAR FOR WATER YEAR 1976

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Water Resources Data for South Dakota Water Year 1976



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT SD-76-1

with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

CECIL D. ANDRUS, Secretary

GEOLOGICAL SURVEY

V. E. McKelvey, Director

For information on the water program in South Dakota write to
District Chief, Water Resources Division
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Huron, South Dakota 57350

1977

PREFACE

This report was prepared by personnel of the South Dakota district of the Water Resources Division of the U.S. Geological Survey under the supervision of J. E. Powell, District Chief, and Alfred Clebsch, Jr., Regional Hydrologist, Central Region. It was done in cooperation with the State of South Dakota and with other agencies.

This report is one of a series issued by State. General direction for the series is by J. S. Cragwall, Jr., Chief Hydrologist, U.S. Geological Survey, and G. W. Whetstone, Assistant Chief Hydrologist for Scientific Publications and Data Management.

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WATER RESOURCES DATA FOR SOUTH DAKOTA, 1976

INTRODUCTION

Water resources data for the 1976 water year for South Dakota consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water levels and water quality of ground water. This report contains discharge records for 96 gaging stations; stage and contents for 10 lakes and reservoirs; water quality for 26 gaging stations, 2 partial-record stations, and 94 wells; and water levels for 16 observation wells. Also included are 105 crest-stage partial-record stations. Additional water data were collected at various sites, not involved in the systematic data collection program, and are published as miscellaneous measurements. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in South Dakota.

COOPERATION

The U.S. Geological Survey and organizations of the State of South Dakota have had cooperative agreements for the systematic collection of surface-water records since 1914. Organizations that assisted in collecting data through cooperative agreement with the Survey are:

Department of Natural Resource Development, Vern W. Butler, secretary.

Department of Transportation, Herb Teske, secretary.

East Dakota Conservancy Sub-district, J. L. Siegel, manager-engineer.

Black Hills Conservancy Sub-district, Ed Glassgow, manager-treasurer.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army, in collecting records for 24 gaging, 10 stage, and 5 water-quality stations; the Bureau of Reclamation, U.S. Department of Interior, for 3 gaging stations; the Fish and Wildlife Service, U.S. Department of Interior, for one gaging station; and the Environmental Protection Agency, for 2 water-quality stations. The Missouri River basin development program provided funds for 19 gaging and 20 water-quality stations.

Organizations that supplied data are acknowledged in station descriptions.

ACKNOWLEDGEMENT

South Dakota district personnel who contributed significantly to the collection and preparation of the data in this report were: O. J. Larimer, chief, Hydrologic Surveillance and Analysis Section, N. F. Leibbrand, L. B. Yarger, H. L. Dixon, L. D. Becker, V. J. Wipf, and E. M. Decker.

HYDROLOGIC CONDITIONS

Combined storage in the four Missouri River main-stem reservoirs (Lakes Oahe, Sharpe, Francis Case, and Lewis and Clark) was 24,090,000 acre-feet at the end of the water year, a decrease of 2,357 acre-feet from the corresponding date a year ago.

Combined storage in the other major reservoirs (Shadehill, Angostura, Deerfield, Pactola, and Belle Fourche) was 218,221 acre-feet, a decrease of 30,900 acre-feet from the same date a year ago.

Drought conditions generally worsened throughout the water year except in the Black Hills and northwestern portion of the State where annual precipitation was 10 to 20 percent above normal. In the rest of the State, however, annual precipitation averaged 30 percent of normal in the northeast, 50 percent along the Missouri River, and near 85 percent in the western portion.

A comparison of monthly and yearly mean discharge with the median discharge for the 30-year base period (1931-60) for two key gaging stations is shown in figure 2.

DEFINITION OF TERMS

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

Adenosine triphosphate (ATP) is the primary energy donor in cellular life process. Its central role in living cells makes it an excellent indicator of the presence of living material in water. A measure of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter of the original water sample.

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

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

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

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

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, 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 the organisms which produce colonies within 24 hours when incubated at 35°C + 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 intestines 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 which produce blue colonies within 24 hours when incubated at 44.5°C + 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 intestines 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 + 1.0°C on M-enterococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the unconsolidated material 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 microorganisms, 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 meter (g/m²).

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105°C for 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.

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

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

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

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

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

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

Control designates a feature downstream from the gage that determines the stage-discharge relation at 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.

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

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

Cubic foot per second (FT³/s, 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 approximately 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

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 the amount of substance present in true chemical solution. In practice, however, the term includes all forms of substance that will pass through a 0.45-micrometer membrane filter, and thus may include some very small (colloidal) suspended particles. Analyses are performed on filtered samples.

Diversity index is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = - \sum_{i=1}^s \frac{n_i}{n} \log_2 \frac{n_i}{n}$$

Where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Diversity index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specific 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 river above the specified point. Figures of drainage area given herein include all closed basins, or noncontribution areas, within the area unless otherwise noted.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or 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 attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate (CaCO_3).

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an 8-digit number.

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

Methylene blue active substance (MBAS) is a measure of apparent detergents. This determination depends on the formation of a blue color when methylene blue dye reacts with synthetic detergent compounds.

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

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

Milligrams per liter (mg/L , mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represent 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 sediment per liter of water-sediment mixture.

Organism is any living entity, such as an insect, phytoplankter, or zooplankter.

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 meters (m^2), acres, or hectares. 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 milliliters (mL) or liters (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.

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 suspended sediment or bed material 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 recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology.

The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay.....	0.00024 - 0.004	Sedimentation.
Silt.....	.004 - .062	Sedimentation.
Sand.....	.062 - 2.	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 material is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

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

Pesticides are chemical compounds used to control undesirable plants and animals. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants respectively, are the two categories reported.

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/mL of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algal mats or floating "moss" in lakes. Their concentrations are expressed as number of 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.

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

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

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

Milligrams of oxygen per area or volume per unit time [$\text{mg O}_2/(\text{m}^2 \cdot \text{time})$ for periphyton and macrophytes and $\text{mg O}_2/(\text{m}^3 \cdot \text{time})$ for phytoplankton] are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

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.

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).

Suspended-sediment discharge (tons/day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight or volume, that passes a section in a given time. It is computed by multiplying discharge time mg/L times 0.0027.

Suspended-sediment load is quantity of suspended sediment passing a section in a specified period.

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 weight or volume, that passes a section during a given time.

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

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks 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 micromhos 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 micromhos). 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 lived.

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

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 multi-plate 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 that 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 the total concentration in a water-sediment mixture. The water-sediment mixture is associated with (or sorbed on) that material retained on a 0.45 micrometer filter.

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 in milligrams per liter by 0.00136.

Tons per day is the quantity of substance in solution or suspension that passes a stream section during a 24-hour day.

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

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

Kingdom.....Animal
Phylum.....Arthropoda
Class.....Insecta
Order.....Ephemeroptera
Family.....Ephemeridae
Genus.....Hexagenia
Species.....Hexagenia limbata

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.

WRD is used as an abbreviation for "Water-Resources Data" in the REVISED RECORDS paragraph to refer to State annual basic-data reports published before 1975.

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

DOWNSTREAM ORDER AND STATION NUMBER

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 main-stream station are listed before that station. A station on a tributary that enters between two main-stream 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 on which a station is situated with respect to the stream to which it is immediately tributary is indicated by an indentation in a list of stations in the front of the report. Each indentation represents one rank. This downstream order and system of indentation show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and 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 8-digit number for each station such as 06442500, which appears just to the left of the station name, includes the 2-digit part number "06" plus the 6-digit downstream order number "442500".

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

The 8-digit downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

The well and miscellaneous site numbering system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits (assigned sequentially) identify the wells or other sites within a 1-second grid. See figure 1 below.

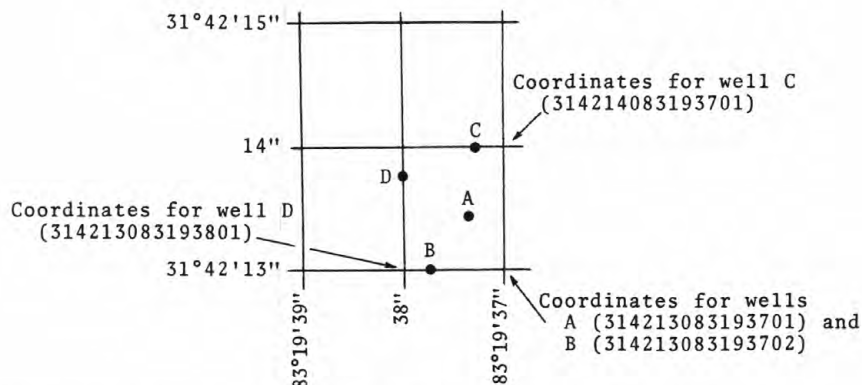


Figure 1. System for numbering wells and miscellaneous sites (latitude and longitude)

SPECIAL NETWORKS AND PROGRAMS

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

National stream-quality accounting network (NASQAN) is a data collection network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated into the network design. Areal configuration of the network is based on river-basin accounting units (identified by 8-digit hydrologic-unit numbers) designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of streamflow and water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in streamflow and stream quality.

Pesticide program is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams where potential contamination could result from the application of the commonly used insecticides and herbicides. Operation of the network is a Federal interagency activity.

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.

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

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from either direct readings on a nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at selected time intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey. These methods are described in standard text-books, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6.

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

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

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

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

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

For some gaging stations there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records for other stations in the same or nearby basins. Likewise daily contents may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs a monthly summary table of stage and contents or a table showing the daily contents is given. Tables of daily mean gage heights are included for some streamflow stations and for some reservoir stations. Records are published for the water year, which begins on October 1 and ends on September 30.

The description of the gaging station gives the location, drainage area, period of record, notations of revisions of previously published records, type and history of gages, general remarks, average discharge, and extremes of discharge or contents. The location of the gaging station and the drainage area are obtained from most accurate maps available. River mileage, given under "LOCATION" for some stations, is that determined and used by the Corps of Engineers or other agencies. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD."

Previously published streamflow records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISED RECORDS" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1965 stands for the water year October 1, 1964, to September 30, 1965. If no daily, monthly, or annual figures of discharge are affected by the revision, the fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

The type of gage currently in use, the datum of the present gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." In references to datum of gage, the phrase "mean sea level" denotes "Sea Level Datum of 1929" as used by the Topographic Division of the Geological Survey unless otherwise qualified.

Information pertaining to the accuracy of the discharge records and to conditions which affect the natural flow of the gaging station is given under "REMARKS." For reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir is given under "REMARKS."

The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. In addition, the median of yearly mean discharges is given for stream-gaging stations having 10 or more complete years of record if the median differs from the average by more than 10 percent. Under "EXTREMES" are given first, the extremes for the period of record, second, information available outside the period of record, and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge (or contents), it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations peak discharges are listed with EXTREMES FOR THE CURRENT YEAR; if they are, all independent peaks, including the maximum for the year, above the selected base with the time of occurrence and corresponding gage heights are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in a separate paragraph following the table of peaks.

Skeleton rating tables are published, immediately following EXTREMES, for stream-gaging stations where they serve a useful purpose and the dates of applicability can be easily identified.

The daily table for stream-gaging stations gives the 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 may be expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN"), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion, if the drainage area includes large noncontributing areas, or if the average annual rainfall over the drainage basin is usually less than 20 inches. In the yearly summary below the monthly summary, the figures shown are the appropriate daily discharges for the calendar and water years.

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

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents. For some reservoirs a table showing daily contents or stage is given. A skeleton table of capacity at given stages is published for all reservoirs for which records are published on a daily basis, but is not published for reservoirs for which only monthly data are given.

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 discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. Occasionally, a series of discharge measurements are made within a short time period to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements are also given in special tables following the tables of partial-record stations.

Accuracy of field data and computed results

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

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

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

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 data available

Information of a more detailed nature than that published for most of the gaging stations such as observations of water temperatures, discharge measurements, gage-height records, and rating tables is on file in the district office. Also most gaging-station records are available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the district office.

Records of discharge collected by agencies other than the Geological Survey

The National Water Data Exchange, Water Resources Division, U.S. Geological Survey, National Center, Reston, Va. 22092, maintains an index of all discharge measurement sites in the State. Information on records available at specific sites can be obtained upon request.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and examination of data

Surface water samples for analyses usually are collected at or near gaging stations. The quality-of-water records are given immediately following the discharge records at these stations.

The descriptive heading for water-quality records gives the period of record for all water-quality data; the period of daily record for parameters that are measured on a daily basis (specific conductance, pH, dissolved oxygen, water temperature, sediment discharge, etc.); extremes for the period of daily record; extremes for the current year; and general remarks.

For ground-water records, no descriptive statements are given; however, the well number, depth of well, date of sampling and/or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water analysis

Most methods for collecting and analyzing water samples are described in the U.S. Geological Survey Techniques of Water-Resources Investigations listed on a following page.

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.

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

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

Water temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diel 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.

Sediment

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

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

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

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

EXPLANATION OF GROUND-WATER LEVEL RECORDS

Collection of the data

Only ground-water level data from a basic network of observation wells are published herein. This basic network contains observation wells so located that the most significant data are obtained from the fewest wells in the most important aquifers.

Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude and (2) a local number that is provided for local needs. See figure 1.

Measurements are made in many types of wells, under varying conditions of access and at different temperatures, hence, neither the method of measurement nor the equipment can be standardized. At each observation well, however, the equipment and techniques used are those that will ensure that measurements at each well are consistent.

Water-level measurements in this report are given in feet with reference to either mean sea level (msl) or land-surface datum (lsd). Mean sea level is the datum plane on which the national network of precise levels is based; land-surface datum is a datum plane that is approximately at land surface at each well. If known, the altitude of the land-surface datum above mean sea level 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).

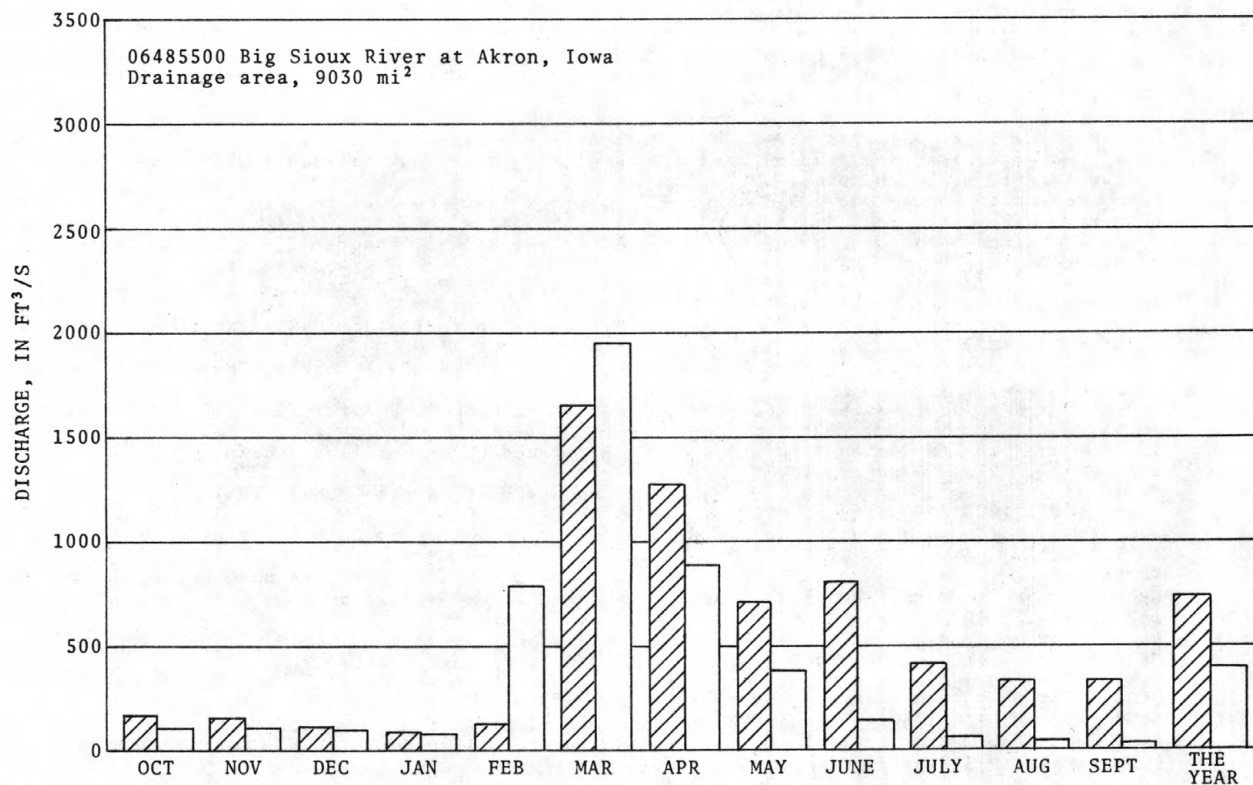
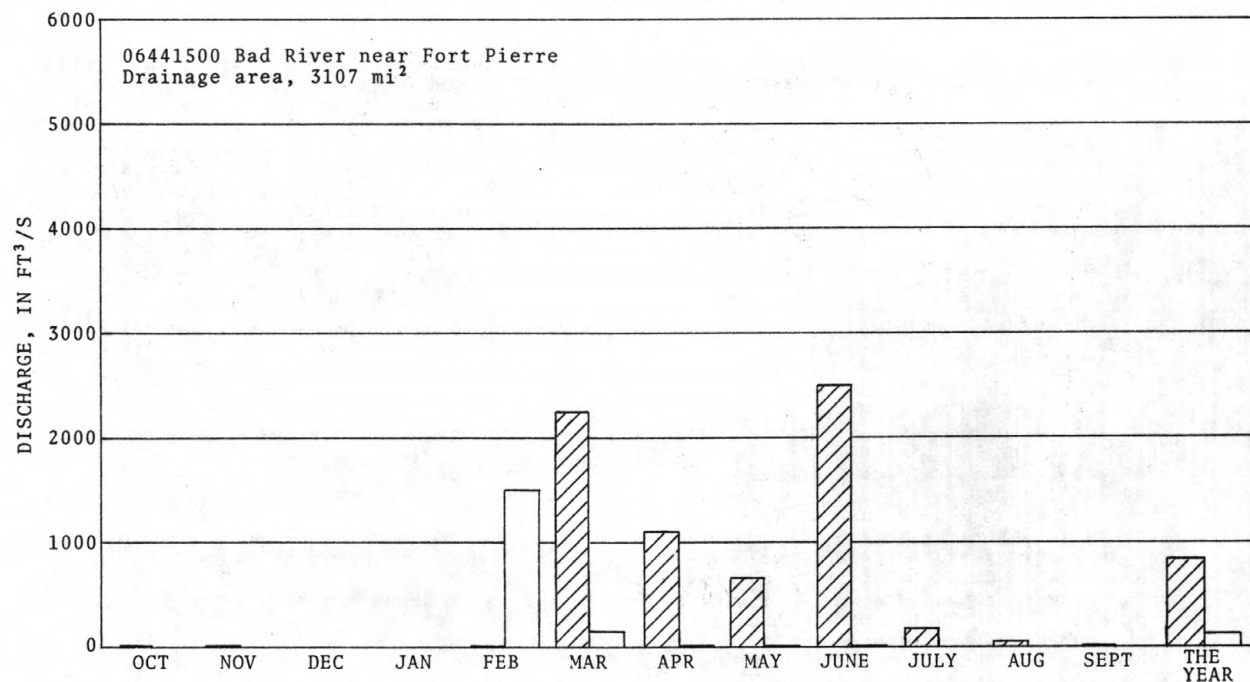
Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error in determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in 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 only to a tenth of a foot or a larger unit.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Thirty-one manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing 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) is on 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, Branch of Distribution, 604 South Picket Street, Alexandria, VA 22304 (authorized agent of the Superintendent of Documents, Government Printing Office).

NOTE: When ordering 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 p. \$1.60.
- 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. \$1.90.
- 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. \$1.75.
- 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. \$0.25.
- 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. \$0.20.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages. \$0.40.
- 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. \$1.00.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages. \$0.30.
- 3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages. \$0.20.
- 3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages. \$0.45.
- 3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages. \$1.25.
- 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. \$0.40.
- 3-A12. *Fluorometric procedures for dye tracing*, by J. F. Wilson Jr.: USGS--TWRI Book 3, Chapter A12. 1968. 31 pages. \$0.35. Not currently available.
- 3-B1. *Aquifer-test design, observation, and data analysis*, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages. \$0.70.
- 3-B2. *Introduction to ground-water hydraulics-a programed text for self-instruction*, by D. S. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.
- 3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages. \$0.65.
- 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. \$0.70.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages. \$1.15.
- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages. \$0.30.
- 4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages. \$0.65.
- 4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages. \$0.75.
- 4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages. \$0.75.
- 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. \$0.65.
- 5-A1. *Methods for collection and analysis of water samples for dissolved minerals and gases*, by Eugene Brown, M. W. Skougstad, and M. J. Fishman: USGS--TWRI Book 5, Chapter A1. 1970. 160 pages. \$2.40.
- 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. \$0.80.
- 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. \$0.90.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by K. V. Slack, R. C. Averett, P. E. Greeson, and R. G. Lipscomb: USGS--TWRI Book 5, Chapter A4. 1973. 165 pages. \$1.95.
- 5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages. \$0.65.
- 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.
- 3-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. \$0.70.
- 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. \$0.40.



Median of monthly and yearly mean discharge for period 1931-60.

Monthly and yearly mean discharge during 1976 water year.

FIGURE 2.--Discharge during 1971 water year compared with median discharge for period 1931-60 for two representative gaging stations.

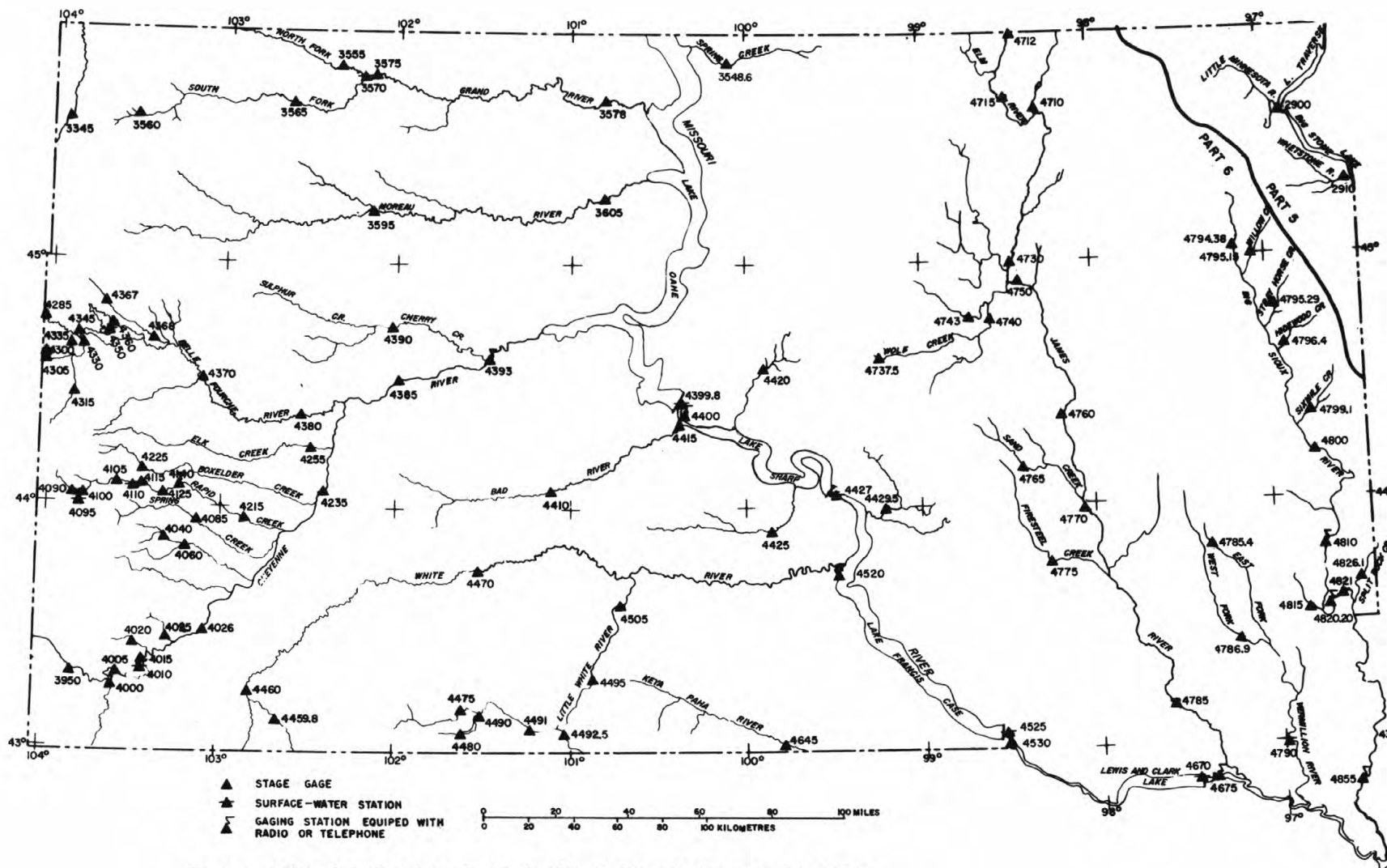


Figure 1.--Map of South Dakota showing location of lake and stream gaging stations.

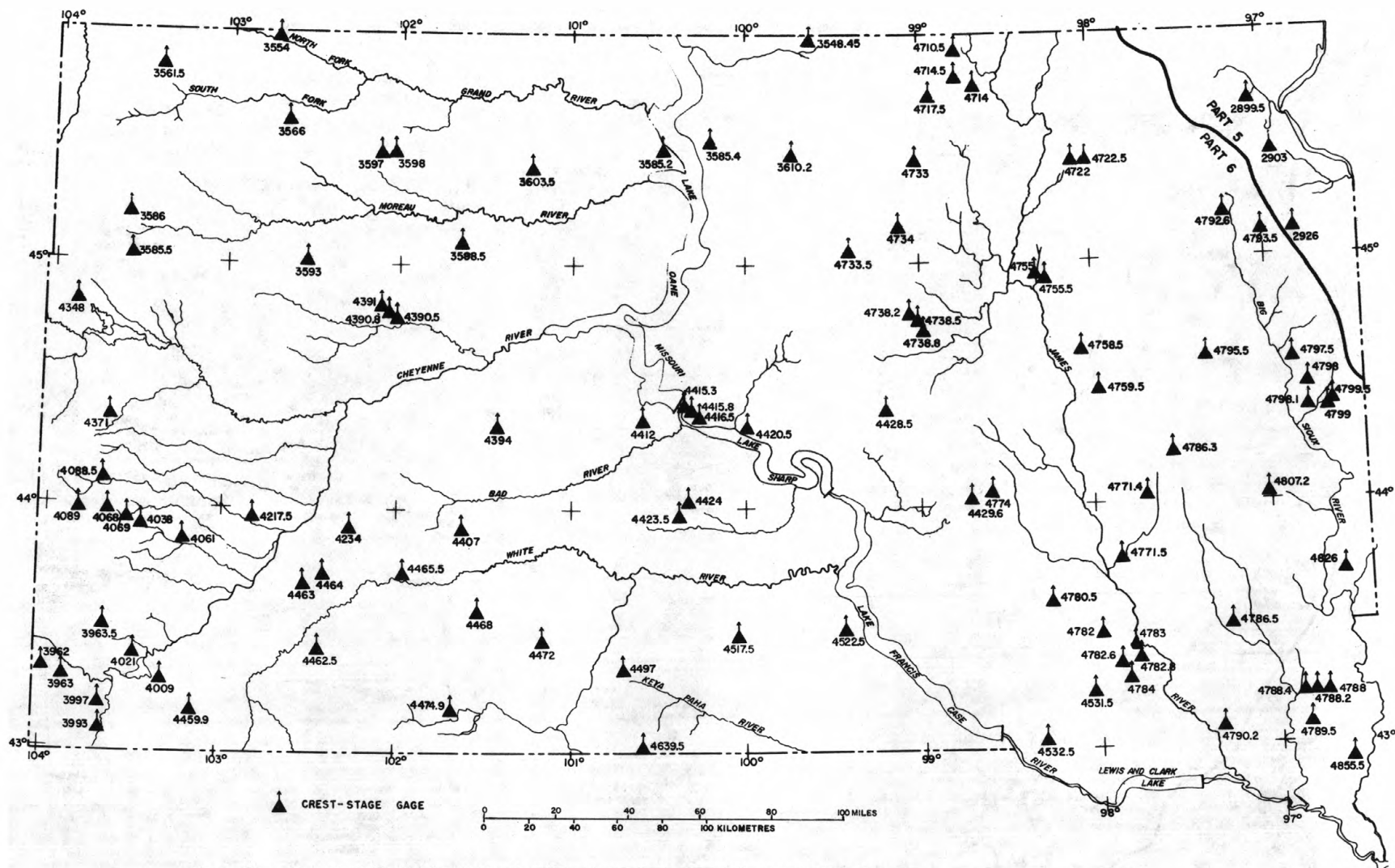


Figure 2.-- Map of South Dakota showing location of crest-stage partial-record stations

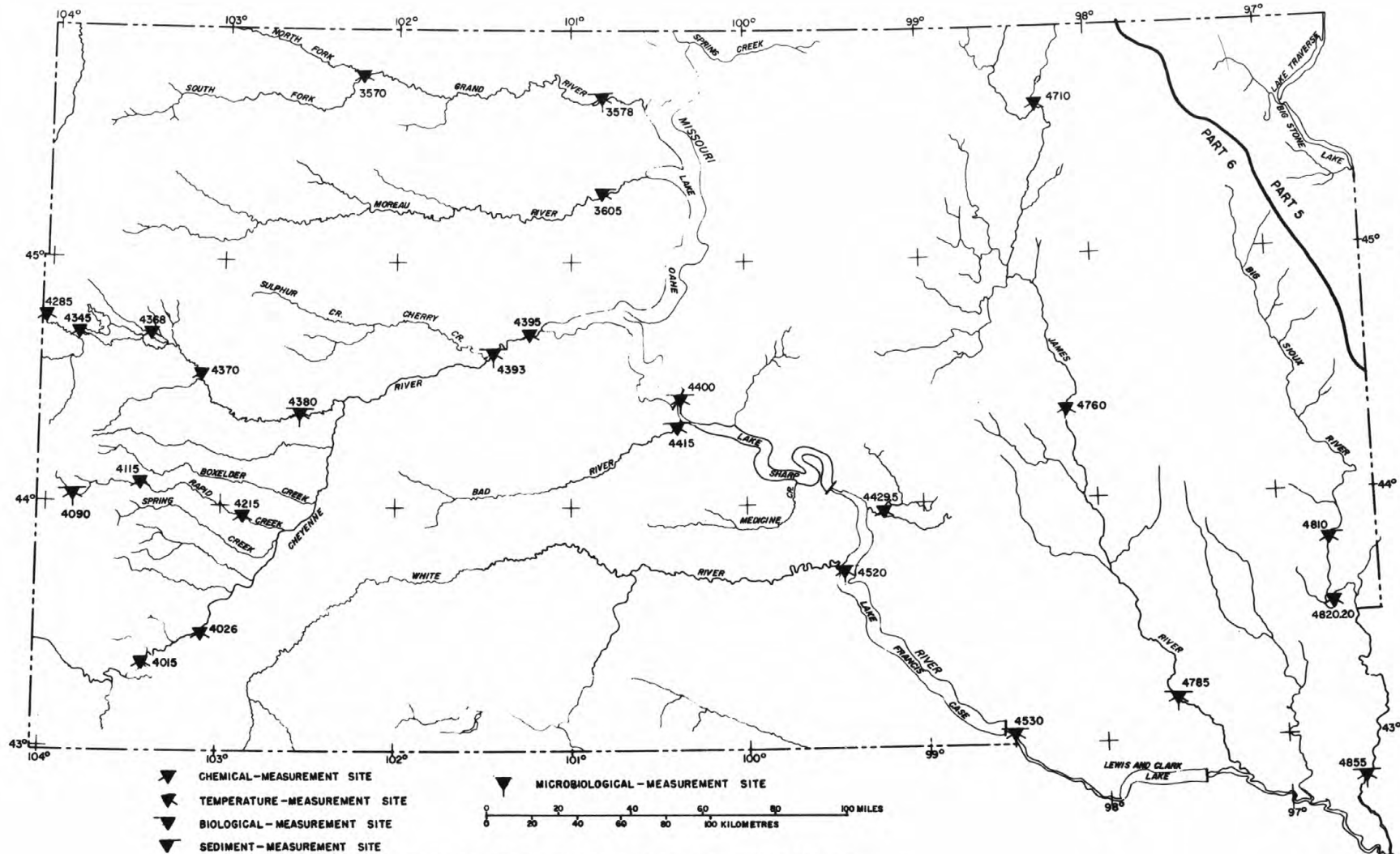


Figure 3.-- Map of South Dakota showing location of surface-water quality stations

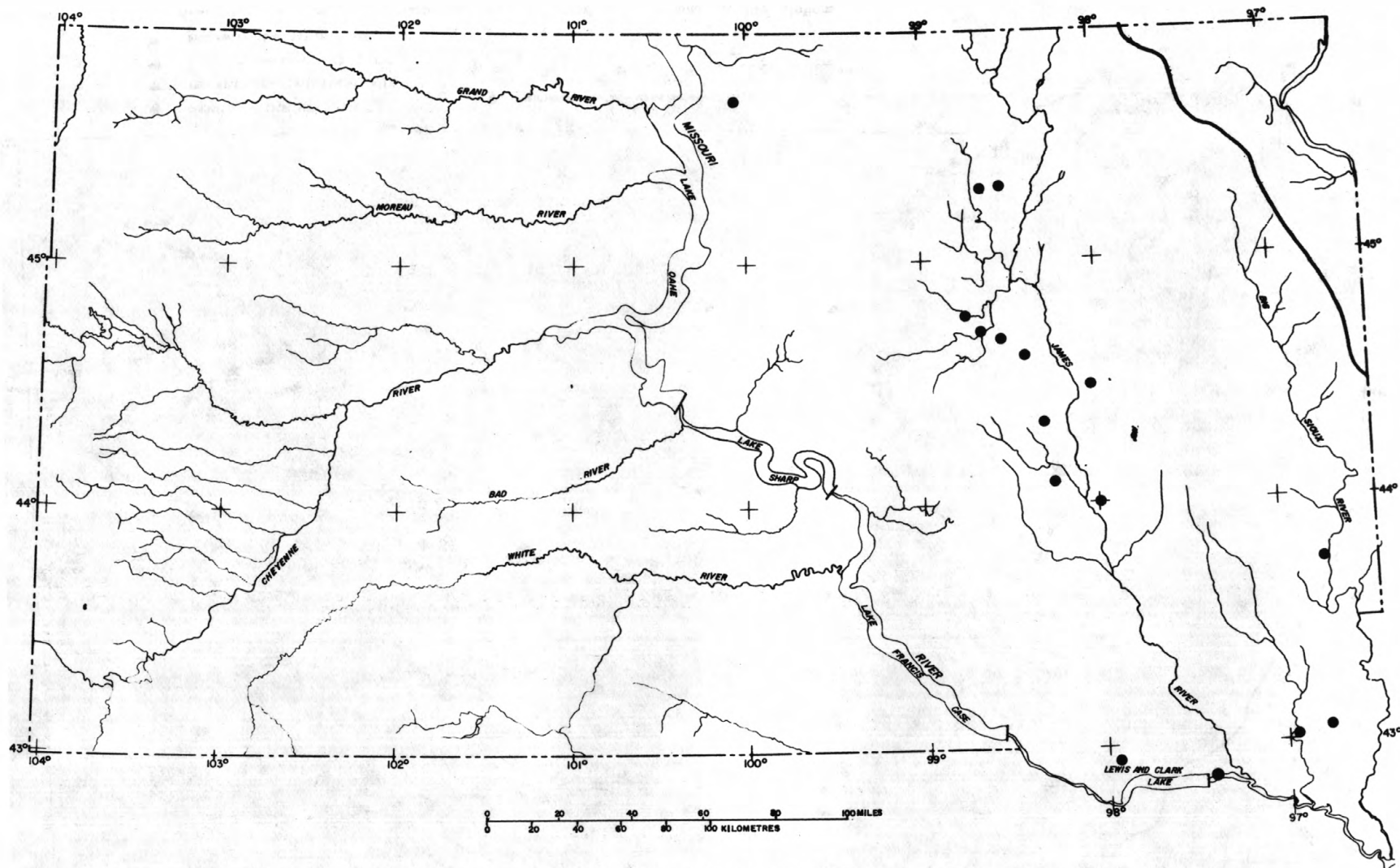


Figure 4. --Map of South Dakota showing location of ground-water observation wells

LITTLE MISSOURI RIVER BASIN

06334500 LITTLE MISSOURI RIVER AT CAMP CROOK, SD

LOCATION.--Lat 45°32'49", long 103°58'23", in SW¼ sec.2, T.18 N., R.1 E., Harding County, Hydrologic Unit 10110201, on left bank 15 ft (5 m) upstream from bridge on State Highway 20 at east edge of Camp Crook.

DRAINAGE AREA.--1,970 mi² (5,100 km²), approximately.

PERIOD OF RECORD.--September 1903 to November 1906, May 1956 to current year. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 1309: 1904. WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,110.98 ft (948.227 m) above mean sea level. Sept. 2, 1903 to Nov. 30, 1906, nonrecording gage at site 0.5 mi (0.8 km) upstream at different datum. May 1956 to Oct. 8, 1957, nonrecording gage at site 15 ft (5 m) downstream at present datum.

REMARKS.--Records good except those for winter periods, which are poor. Small diversions above station for irrigation.

AVERAGE DISCHARGE.--23 years, 135 ft³/s (3.823 m³/s), 97,810 acre-ft/yr (121 hm³/yr); median of yearly mean discharges, 110 ft³/s (3.12 m³/s), 79,700 acre-ft/yr (98 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,460 ft³/s (240 m³/s) May 7, 1975, gage height, 13.98 ft (4.261 m); maximum gage height, 14.43 ft (4.398 m) Mar. 20, 1975 (backwater from ice); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1952 reached a stage of about 16 ft (4.9 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,800 ft³/s (136 m³/s) June 16, gage height, 11.22 ft (3.420 m); minimum daily, 2.4 ft³/s (0.068 m³/s) Aug. 21.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 26 to July 9; stage-discharge relation
affected by ice Nov. 20 to Mar. 10)

0.1	1.8	0.7	25	2.0	212	8.0	2,400
.2	3.8	1.0	53	3.0	474	10.0	3,590
.4	9.5	1.5	120	6.0	1,550	11.0	4,580

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	20	6.5	7.0	15	15	17	118	27	118	26	5.8
2	4.3	13	7.0	6.5	15	14	16	101	20	101	21	4.0
3	4.0	9.9	8.0	6.0	15	10	15	69	17	95	16	4.3
4	4.8	8.9	9.0	6.5	10	10	14	51	13	89	15	5.3
5	4.0	7.9	8.5	7.0	8.0	10	12	37	17	79	20	5.3
6	4.0	7.9	8.0	6.5	9.0	15	12	31	25	92	23	4.6
7	4.0	6.6	8.5	6.0	10	30	11	40	51	321	19	4.6
8	4.8	6.0	9.0	5.0	12	50	12	37	32	367	18	4.3
9	7.3	6.0	9.5	5.5	15	70	11	38	21	261	15	4.8
10	7.3	6.3	10	7.0	15	125	10	28	28	159	10	4.8
11	6.0	6.6	9.5	8.0	20	166	9.9	25	61	151	20	4.6
12	6.9	7.6	9.0	9.0	25	133	9.2	24	104	125	16	4.6
13	6.9	11	8.0	9.0	25	138	9.2	36	101	110	14	5.3
14	7.3	6.9	8.5	9.0	25	117	12	16	287	98	9.9	5.3
15	7.3	6.9	7.0	10	25	146	18	13	3430	86	11	5.3
16	8.2	6.9	6.5	12	20	159	15	12	4330	75	8.5	8.9
17	6.6	6.6	6.0	15	20	134	40	11	3690	102	5.8	5.6
18	6.6	6.6	7.0	15	20	100	37	8.9	3630	233	6.1	5.6
19	6.6	6.9	8.0	15	20	61	32	11	3140	183	5.8	6.3
20	6.6	7.0	8.5	15	15	44	71	31	2850	134	5.6	6.3
21	6.6	6.6	8.5	15	15	44	81	25	2340	118	2.4	5.0
22	7.6	6.6	8.5	15	17	75	92	25	1730	114	4.8	5.3
23	8.2	6.6	8.5	18	20	65	68	35	1160	95	8.2	5.3
24	8.2	6.5	8.5	15	25	49	46	55	771	82	8.9	5.6
25	7.6	6.0	9.0	12	25	36	37	60	536	74	9.5	6.9
26	7.3	6.0	9.0	15	25	31	24	38	390	66	7.9	6.6
27	7.3	6.0	9.0	18	25	25	22	27	297	55	6.6	6.3
28	6.9	6.0	9.0	20	25	22	26	20	227	44	5.1	2.8
29	6.9	6.0	9.0	20	20	23	27	20	178	37	2.8	2.6
30	6.3	6.0	9.0	17	---	20	30	46	143	32	3.6	2.6
31	14	---	8.0	16	---	18	---	36	---	31	6.6	---
TOTAL	204.4	227.8	258.0	361.0	536.0	1955	836.3	1124.9	29646	3727	352.1	154.6
MEAN	6.59	7.59	8.32	11.6	18.5	63.1	27.9	36.3	988	120	11.4	5.15
MAX	14	20	10	20	25	166	92	118	4330	367	26	8.9
MIN	4.0	6.0	6.0	5.0	8.0	10	9.2	8.9	13	31	2.4	2.6
AC-FT	405	452	512	716	1060	3880	1660	2230	58800	7390	698	307

CAL YR 1975	TOTAL	67755.85	MEAN 186	MAX 7600	MIN .25	AC-FT 134400
WTR YR 1976	TOTAL	39383.10	MEAN 108	MAX 4330	MIN 2.4	AC-FT 78120

SPRING CREEK BASIN

06354860 SPRING CREEK NEAR HERREID, SD

LOCATION.--Lat 45°58'52", long 100°06'28", in SW¼ sec.13, T.127 N., R.77 W., Campbell County, Hydrologic Unit 10130102, on left bank 0.5 mi (0.8 km) upstream from county highway bridge, 2.4 mi (3.9 km) southwest of Herreid and 13.2 mi (21.2 km) upstream from high-water line of Lake Oahe.

DRAINAGE AREA.--440 mi² (1,140 km²), approximately, of which about 220 mi² (570 km²) is probably noncontributing.

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

GAGE.--Water-stage recorder. Datum of gage is 1,653.80 ft (504.078 m) above mean sea level.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--14 years, 9.05 ft³/s (0.256 m³/s), 6,560 acre-ft/yr (8.09 hm³/yr); median of yearly mean discharges, 5.2 ft³/s (0.15 m³/s), 3,800 acre-ft/yr (4.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,160 ft³/s (32.9 m³/s) Mar. 17, 1966, gage height, 11.60 ft (3.536 m); no flow for long periods each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2.5 ft³/s (0.07 m³/s) Mar. 21; maximum gage height, 4.79 ft (1.460 m) Mar. 21 (backwater from ice), no peak above base of 40 ft³/s (1.13 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	.52	.96	.44				
2					0	.37	.72	.44				
3					0	.28	.72	.44				
4					0	.25	.78	.40				
5					0	.25	.72	.40				
6					0	.16	.60	.22				
7					0	.19	.56	.19				
8					0	.16	.56	.16				
9					0	.19	.56	.13				
10					0	.25	.56	.07				
11					0	.34	.52	.06				
12					0	.34	.56	.03				
13					0	.40	.52	.03				
14					0	.44	.34	.03				
15					0	.48	.37	.02				
16					0	.52	.72	.02				
17					0	.66	1.1	.02				
18					0	.84	1.6	.01				
19					0	1.4	1.4	0				
20					0	2.0	1.1	0				
21					0	2.2	1.0	0				
22					0	1.4	1.0	0				
23					0	1.2	.96	0				
24					0	1.2	1.0	0				
25					0	1.4	1.0	0				
26					0	1.4	.96	0				
27					.06	1.4	.84	0				
28					.51	1.1	.66	0				
29					.37	1.0	.56	0				
30					---	1.0	.48	0				
31		---			---	.90	---	0	---			---
TOTAL	0	0	0	0	.94	24.24	23.43	3.11	0	0	0	0
MEAN	0	0	0	0	.032	.78	.78	.10	0	0	0	0
MAX	0	0	0	0	.51	2.2	1.6	.44	0	0	0	0
MIN	0	0	0	0	0	.16	.34	0	0	0	0	0
AC-FT	0	0	0	0	1.9	.48	.46	6.2	0	0	0	0
CAL YR 1975	TOTAL	1868.98	MEAN .12	MAX	200	MIN 0	AC-FT	3710				
WTR YR 1976	TOTAL	51.72	MEAN .14	MAX	2.2	MIN 0	AC-FT	103				

06355500 NORTH FORK GRAND RIVER NEAR WHITE BUTTE, SD

LOCATION (REVISED).--Lat 45°47'39", long 102°21'59", in NE¼SE¼ sec.10, T.21 N., R.14 E., Perkins County, Hydrologic Unit 10130301, on right bank 1,400 ft (430 m) upstream from highway bridge and 9.8 mi (15.8 km) south of White Butte.

DRAINAGE AREA.--1,190 mi² (3,080 km²), approximately.

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

REVISED RECORDS.--WSP 1279: 1947, 1950.

GAGE.--Water-stage recorder. Altitude of gage is 2,275 ft (693 m), by barometer. See WSP 1917 for history of changes prior to June 12, 1951. June 12, 1951, to Aug. 20, 1975, water-stage recorder, and Aug. 21 to Sept. 10, 1975, nonrecording gage at site 1,300 ft (400 m) downstream; Sept. 11, 1975, to Mar. 22, 1976, nonrecording gage at present site, and Mar. 23 to July 28, 1976, nonrecording gage at site 1,400 ft (430 m) downstream, all at present datum.

REMARKS.--Records poor. Flow regulated by Bowman-Haley Reservoir, capacity, 93,000 acre-ft (115 hm³), 71 mi (114 km) upstream, beginning August 1966. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years, 55.4 ft³/s (1.569 m³/s), 40,140 acre-ft/yr (50.7 hm³/yr); median of yearly mean discharges, 33 ft³/s (0.93 m³/s), 23,900 acre-ft/yr (29.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,900 ft³/s (875 m³/s) Apr. 16, 1950, gage height, 20.0 ft (6.10 m), from floodmarks, from rating curve extended above 19,000 ft³/s (538 m³/s) on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 200 ft³/s (5.66 m³/s) June 20; no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.66	5.2	3.5	2.5	13	18	22	22	3.1	5.0	.90	0
2	.66	5.0	3.6	2.5	13	16	20	19	2.8	5.0	.78	0
3	.66	4.5	4.0	2.5	13	16	18	16	2.5	5.7	.24	0
4	.66	4.8	4.5	3.0	12	17	16	13	2.0	8.0	.06	0
5	.66	5.2	5.0	3.0	10	18	14	12	1.5	100	0	3.4
6	.66	3.8	5.0	3.5	8.0	18	14	14	1.0	150	0	4.0
7	.90	3.3	5.0	2.5	8.0	19	14	13	.49	94	0	1.7
8	1.1	3.1	5.0	2.0	10	19	14	14	.14	40	0	.06
9	1.3	3.1	6.0	2.5	12	20	14	14	0	11	0	0
10	1.3	2.9	5.0	3.0	12	20	15	12	0	8.0	0	0
11	1.4	2.9	4.5	4.0	14	21	14	11	0	5.0	0	0
12	1.5	2.9	4.0	4.0	16	21	14	11	0	1.0	0	0
13	1.7	2.7	3.5	3.5	18	22	14	11	0	.49	0	0
14	1.9	2.5	3.0	4.0	22	23	14	12	5.0	.50	0	0
15	2.7	2.5	3.0	4.5	26	24	14	12	10	1.0	0	0
16	2.7	2.5	3.0	4.5	30	25	15	13	21	.49	0	0
17	3.1	2.5	2.5	5.0	32	28	35	13	28	.49	0	0
18	3.1	2.5	3.0	5.5	32	27	50	16	14	1.0	0	0
19	3.8	2.5	3.5	5.0	34	25	45	19	134	4.0	0	0
20	4.3	2.5	3.5	5.5	34	23	40	14	200	2.5	0	0
21	4.8	3.0	3.5	6.0	35	25	35	10	100	1.0	0	0
22	5.5	4.0	3.5	6.0	35	30	30	9.1	60	.54	0	0
23	5.5	3.5	3.0	6.0	35	33	28	8.0	40	.30	0	0
24	5.5	3.0	3.0	5.5	40	30	28	7.3	35	.10	0	0
25	5.5	3.0	3.5	5.0	40	30	28	7.1	30	.10	0	0
26	5.5	3.0	3.0	5.0	40	28	28	8.4	25	.10	0	0
27	5.5	3.0	3.0	8.0	30	28	28	8.2	20	.05	0	0
28	5.5	3.0	3.0	10	25	26	28	7.1	15	.60	0	0
29	5.2	3.5	3.5	13	20	25	28	5.3	10	1.9	0	0
30	5.2	3.5	3.5	12	---	24	25	6.9	5.0	1.1	0	0
31	5.2	---	3.0	13	---	23	---	3.9	---	2.1	0	---
TOTAL	93.66	99.4	115.6	162.0	669.0	722	702	362.3	765.53	451.06	1.98	9.16
MEAN	3.02	3.31	3.73	5.23	23.1	23.3	23.4	11.7	25.5	14.6	.064	.31
MAX	5.5	5.2	6.0	13	40	33	50	22	200	150	.90	4.0
MIN	.66	2.5	2.5	2.0	8.0	16	14	3.9	0	.05	0	0
AC-FT	186	197	229	321	1330	1430	1390	719	1520	895	3.9	18
CAL YR 1975 TOTAL	19316.40		MEAN 52.9	MAX 1210	MIN .07	AC-FT 38310						
WTR YR 1976 TOTAL	4153.69		MEAN 11.3	MAX 200	MIN 0	AC-FT 8240						

GRAND RIVER BASIN

06356000 SOUTH FORK GRAND RIVER AT BUFFALO, SD

LOCATION.--Lat 45°34'34", long 103°32'38", in SW¼ sec.29, T.19 N., R.5 E., Harding County, Hydrologic Unit 10130302, on right bank at downstream side of bridge on U.S. Highway 85, 0.3 mi (0.5 km) south of Buffalo.

DRAINAGE AREA.--148 mi² (383 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 2,839.60 ft (865.510 m) above mean sea level. Prior to May 5, 1970, nonrecording gage at same site and datum.

REVISED RECORDS.--WSP 1917: 1956-57.

REMARKS.--Records good except those for winter periods, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--21 years, 8.21 ft³/s (0.233 m³/s), 5,950 acre-ft/yr (7.34 hm³/yr); median of yearly mean discharges, 6.9 ft³/s (0.20 m³/s), 5,000 acre-ft/yr (6.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,780 ft³/s (78.7 m³/s) June 14, 1963, gage height, 9.01 ft (2.746 m), from rating curve extended above 550 ft³/s (15.6 m³/s) on basis of slope-area measurement of peak flow; no flow at times in 1956-58, 1960, 1962, 1965, 1972.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1908 reached a stage of 15.4 ft (4.69 m), from information by South Dakota Department of Transportation.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 200 ft³/s (5.7 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)		Gage height (ft) (m)		Date	Time	Discharge (ft ³ /s) (m ³ /s)		Gage height (ft) (m)	
Apr. 18	1730	288	8.16	5.45	1.611	June 14	2400	*1440	40.8	*7.88	2.402
June 5	1400	338	9.57	5.65	1.722						

Minimum daily, 0.50 ft³/s (0.014 m³/s) Dec. 17.

REVISIONS.--The maximum discharge for the water year 1974 has been revised to 157 ft³/s (4.45 m³/s) Oct. 10, 1973, gage height, 4.70 ft (1.433 m); revised daily discharges, in cubic feet per second, for the month of September 1975, are given below. These figures supersede those published in the report for 1975.

Sept. 7... 1.2	Sept. 11... 0.98	Sept. 15... 1.2	Sept. 19... 1.7	Sept. 23... 1.5	Sept. 27... 1.5
8... 1.2	12... .98	16... .98	20... 1.5	24... 1.5	28... 1.7
9... 1.2	13... .98	17... 1.2	21... 1.3	25... 1.5	29... 1.9
10... 1.3	14... 1.2	18... 1.5	22... 1.5	26... 1.3	30... 1.7
Month	Total	Mean	Max	Min	Ac-ft
September 1975	41.12	1.37	1.7	0.98	82
Wtr Yr 1975	5347.92	14.7	410	.40	10610

06356000 SOUTH FORK GRAND RIVER AT BUFFALO, SD--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	2.2	1.6	1.4	8.0	5.0	2.6	3.2	3.8	2.8	2.2	1.9
2	1.3	2.4	2.0	1.2	7.5	4.0	3.0	2.4	2.5	3.4	2.2	1.5
3	1.3	2.4	3.0	1.0	7.0	3.0	3.2	1.7	2.3	4.0	2.4	1.5
4	1.7	2.4	3.0	1.5	5.0	2.0	3.2	1.5	3.0	4.0	2.3	1.5
5	1.7	2.4	2.5	2.4	3.0	2.5	3.0	4.8	145	3.4	9.6	1.5
6	1.7	2.4	2.0	1.5	3.0	4.0	2.8	3.3	86	2.8	6.1	1.7
7	1.5	2.5	2.0	1.0	4.0	3.5	2.7	3.4	29	3.2	2.4	1.9
8	1.7	2.4	1.8	1.0	5.0	5.0	2.5	3.2	6.8	2.6	2.2	1.9
9	3.0	2.4	2.0	1.1	6.0	5.0	2.4	2.5	4.2	3.0	2.1	2.1
10	2.1	2.5	1.8	1.3	6.0	4.0	2.6	1.7	3.2	2.8	2.2	2.1
11	2.2	3.1	1.5	2.0	8.0	3.5	2.1	1.6	2.8	12	2.5	2.1
12	2.2	3.8	1.3	1.8	10	3.0	3.6	6.7	3.4	4.0	2.8	1.5
13	2.2	3.2	1.0	1.6	10	3.0	5.9	3.8	3.4	2.6	4.0	1.5
14	2.3	2.7	.80	1.8	12	3.0	6.4	3.3	533	5.7	50	1.5
15	2.3	2.7	.80	1.8	15	3.0	7.5	5.3	781	6.8	17	1.7
16	2.1	2.7	.60	1.8	12	4.0	6.4	6.1	60	7.2	6.1	1.7
17	2.1	2.8	.50	2.0	10	7.0	2.2	2.9	21	3.4	4.5	1.7
18	2.1	2.8	1.0	2.0	8.0	11	32	2.3	16	2.4	3.0	2.1
19	2.1	2.7	1.5	1.8	6.0	8.1	8.8	2.4	8.8	2.4	2.6	1.7
20	2.2	2.7	1.5	2.0	5.0	8.6	5.3	2.2	6.8	2.6	2.6	1.7
21	2.2	2.7	1.6	2.2	6.0	5.7	5.7	2.3	4.0	2.6	2.4	1.9
22	2.5	2.3	1.5	2.5	8.0	4.8	5.7	2.2	3.6	2.6	2.4	1.9
23	3.4	2.0	1.5	5.0	10	4.0	4.6	2.2	15	2.2	1.5	1.7
24	2.8	1.8	1.6	5.0	9.0	2.8	3.6	1.8	12	2.6	1.5	1.7
25	2.7	1.6	1.8	4.0	8.0	2.8	4.2	2.1	8.6	2.6	2.4	2.1
26	2.6	1.5	1.8	3.0	7.0	2.6	2.8	6.3	7.2	2.4	2.4	2.4
27	2.6	1.5	1.8	4.0	5.5	2.6	1.3	5.9	6.8	2.4	2.4	2.2
28	2.5	1.5	2.0	5.0	5.0	2.6	3.6	3.1	5.5	1.9	2.2	2.4
29	2.4	1.5	2.0	8.0	5.0	2.6	3.6	2.4	3.8	2.2	2.2	2.4
30	2.2	1.5	2.0	10	---	2.6	3.2	3.0	3.2	2.2	2.1	2.4
31	2.4	---	1.6	10	---	2.6	---	4.3	---	2.4	1.7	---
TOTAL	67.6	71.1	51.40	90.7	214.0	127.9	146.5	99.9	1791.7	107.2	152.0	55.9
MEAN	2.18	2.37	1.66	2.93	7.38	4.13	4.88	3.22	59.7	3.46	4.90	1.86
MAX	3.4	3.8	3.0	10	15	11	32	6.7	781	12	50	2.4
MIN	1.3	1.5	.50	1.0	3.0	2.0	1.3	1.5	2.3	1.9	1.5	1.5
AC-FT	134	141	102	180	424	254	291	198	3550	213	301	111
CAL YR 1975	TOTAL	5229.42	MEAN	14.3	MAX	410	MIN	.40	AC-FT	10370		
WTR YR 1976	TOTAL	2975.90	MEAN	8.13	MAX	781	MIN	.50	AC-FT	5900		

GRAND RIVER BASIN

06356500 SOUTH FORK GRAND RIVER NEAR CASH, SD

LOCATION.--Lat 45°38'56", long 102°38'27", in SW¼SW¼ sec.34, T.20 N., R.12 E., Perkins County, Hydrologic Unit 10130302, on left bank at downstream side of highway bridge, 1.0 mi (1.6 km) upstream from Little Nasty Creek, 4.0 mi (6.4 km) north of Cash, 10 mi (16 km) south of Lodgepole, 12 mi (19 km) northwest of Bison, and 16 mi (26 km) downstream from Big Nasty Creek.

DRAINAGE AREA.--1,350 mi² (3,500 km²), approximately.

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

GAGE.--Water-stage recorder. Altitude of gage is 2,416 ft (736 m), by barometer. Prior to Oct. 25, 1946, nonrecording gage, and Oct. 25, 1946, to May 16, 1966, water-stage recorder, at site 500 ft (152 m) upstream. May 17, 1966, to May 2, 1968, nonrecording gage, at present site, all at same datum.

REMARKS.--Records good except those for winter periods, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years, 54.9 ft³/s (1.555 m³/s), 39,780 acre-ft/yr (49.0 hm³/yr); median of yearly mean discharges, 36 ft³/s (1.02 m³/s), 26,100 acre-ft/yr (32 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,000 ft³/s (765 m³/s) Apr. 15, 1950, gage height, 15.40 ft (4.694 m), from rating curve extended above 14,000 ft³/s (396 m³/s) on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
June 16	0500	*3320 94.0	*7.61 2.320	July 3	1630	3050 86.4	7.30 2.225

Minimum daily discharge, 4.0 ft³/s (0.113 m³/s) Jan. 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	15	8.0	7.5	50	19	19	15	17	30	9.5	8.5
2	12	15	8.2	7.0	69	17	19	13	13	28	10	8.0
3	12	15	9.0	6.5	60	15	19	13	12	1070	8.5	7.0
4	12	15	10	7.0	50	15	18	13	15	744	10	6.5
5	12	15	11	8.0	40	15	18	14	15	340	10	7.5
6	12	15	11	6.0	40	20	17	15	17	137	11	8.0
7	12	15	11	4.0	45	20	17	15	156	70	13	8.5
8	12	15	11	4.0	50	25	17	16	182	48	28	8.5
9	13	15	12	5.0	55	30	17	15	129	32	18	9.0
10	12	14	11	7.0	50	25	18	15	54	24	11	9.0
11	12	13	10	8.0	55	25	17	13	31	17	11	8.5
12	13	13	9.0	8.0	65	20	16	16	24	13	10	9.0
13	15	13	8.5	8.0	75	25	16	18	23	14	10	9.5
14	16	13	8.0	9.0	85	25	15	28	54	17	11	9.5
15	16	14	8.0	10	100	30	16	34	837	11	63	10
16	16	15	7.5	11	100	50	24	26	2320	103	59	10
17	16	16	7.0	12	110	70	37	25	735	65	80	10
18	16	15	8.0	13	110	100	203	26	401	35	30	10
19	15	15	9.0	13	100	150	167	21	265	33	18	10
20	15	13	9.0	15	90	130	73	18	171	27	15	11
21	16	13	9.0	16	100	115	43	16	111	21	11	10
22	15	12	9.0	17	110	127	33	16	70	18	10	10
23	15	11	8.5	18	100	78	27	15	73	16	9.0	10
24	15	10	9.0	16	85	48	26	15	78	15	10	9.5
25	15	8.0	9.0	12	70	37	23	13	111	11	10	11
26	15	8.0	9.0	10	60	32	20	21	78	10	11	11
27	15	8.0	9.0	10	60	28	19	19	73	8.5	11	11
28	15	8.0	9.0	12	40	25	19	17	54	9.0	8.0	11
29	15	7.5	9.0	20	30	22	19	25	41	8.5	8.0	11
30	15	7.0	9.0	30	---	21	19	28	34	10	8.5	11
31	15	---	8.0	40	---	20	---	22	---	11	8.0	---
TOTAL	436	381.5	283.7	370.0	2054	1379	1011	576	6194	2996.0	540.5	283.5
MEAN	14.1	12.7	9.15	11.9	70.8	44.5	33.7	18.6	206	96.6	17.4	9.45
MAX	16	16	12	40	110	150	203	34	2320	1070	80	11
MIN	11	7.0	7.0	4.0	30	15	15	13	12	8.5	8.0	6.5
AC-FT	865	757	563	734	4070	2740	2010	1140	12290	5940	1070	562

CAL YR 1975	TOTAL	21536.6	MEAN	59.0	MAX	888	MIN	2.0	AC-FT	42720
WTR YR 1976	TOTAL	16505.2	MEAN	45.1	MAX	2320	MIN	4.0	AC-FT	32740

GRAND RIVER BASIN

25

06357000 SHADEHILL RESERVOIR AT SHADEHILL, SD

LOCATION.--Lat 45°45'12", long 102°12'12", in E½ sec.25, T.21 N., R.15 E., Perkins County, Hydrologic Unit 10130302, at dam on Grand River, 1.3 mi (2.1 km) southwest of Shadehill.

DRAINAGE AREA.--3,120 m² (8,080 km²), approximately.

PERIOD OF RECORD.--June 1950 to current year (monthend contents only).

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Prior to Apr. 3, 1952, occasional elevations obtained by level circuits and Apr. 3, 1952, to Apr. 28, 1970, nonrecording gage at same site and datum.

REMARKS.--Reservoir formed by earthfill dam. Storage began July 1, 1950; dam completed August 1951. Conservation storage, 81,443 acre-ft (100 hm³) between elevations 2,250.8 ft (686.04 m), invert of canal and river outlet, and elevation 2,272.0 ft (692.51 m), crest of morning-glory spillway. Dead storage, 58,231 acre-ft (71.8 hm³) below elevation 2,250.8 ft (686.04 m). Flood control, 217,708 acre-ft (268 hm³) between elevations 2,272.0 ft (692.51 m) and 2,302.0 ft (701.65 m), crest of emergency spillway. Surcharge, 111,203 acre-ft (137 hm³) at elevation 2,312.0 ft (704.70 m), maximum pool elevation. Total reservoir capacity is 468,585 acre-ft (578 hm³) at elevation 2,312.0 ft (704.70 m). The reservoir provides flood control and water for irrigation purposes. Figures given herein represent usable contents above elevation 2,250.8 ft (686.04 m). Prior to Oct. 1, 1968, reservoir contents published as total contents and included dead storage.

COOPERATION.--Records of elevations and contents furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum usable contents observed, 259,900 acre-ft (320 hm³) Apr. 10, 1952, elevation, 2,297.86 ft (700.388 m); minimum usable observed since first filling to spillway level, 25,950 acre-ft (32.0 hm³) Mar. 17, 1962, elevation, 2,258.90 ft (688.51 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 79,597 acre-ft (98.1 hm³) July 9-12, elevation, 2,271.62 ft (692.390 m); minimum, 57,980 acre-ft (71.5 hm³) Jan. 25, elevation, 2,266.93 ft (690.960 m).

MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	2268.16	62904	
Oct. 31	2267.47	60359	-2545
Nov. 30	2267.16	58990	-1369
Dec. 31	2267.08	58638	-352
CAL YR 1975			-20252
Jan. 31	2266.94	58024	-614
Feb. 29	2268.09	63128	+5104
Mar. 31	2268.65	65661	+2533
Apr. 30	2269.00	67258	+1597
May 31	2268.92	66892	-366
June 30	2270.71	75234	+8342
July 31	2270.89	76091	+857
Aug. 31	2269.80	70956	-5135
Sept. 30	2268.94	66984	-3972
WTR YR 1976			+4080

LOCATION.--Lat 45°45'25", long 102°11'41", in NW¼NW¼ sec.30, T.21 N., R.16 E., Perkins County, Hydrologic Unit 10130303, on left bank 0.2 mi (0.3 km) downstream from Shadehill Dam, 1.1 mi (1.8 km) southwest of Shadehill, and 12.0 mi (19.3 km) southwest of Lemmon.

PERIOD OF RECORD.--February 1943 to current year. Records for July 1904 to October 1906 collected at site 4 mi (6 km) upstream and published as "at Seim" in WSP 130, 172, and 208 have been found to be unreliable and should not be used.

GAGE.--Water-stage recorder. Datum of gage is 2,192.48 ft (668.268 m) above mean sea level. Prior to Aug. 31, 1947, nonrecording gage, and Aug. 31, 1947, to Oct. 24, 1958, water-stage recorder, at site 0.8 mi (1.3 km) downstream at datum 6.02 ft (1.835 m) lower.

AVERAGE DISCHARGE.--33 years, 116 ft³/s (3.285 m³/s, 84,040 acre-ft/yr (104 hm³/yr); median of yearly mean discharges, 66 ft³/s (1.87 m³/s), 47,800 acre-ft/yr (59 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 58,000 ft³/s (1,640 m³/s) Apr. 16, 1950, gage height, 21.0 ft (6.40 m), from floodmarks upstream from bridge; 19.06 ft (5.809 m), from floodmark in gage well, unreliable, site and datum then in use; no flow for many days in some years.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 107 ft³/s (3.03 m³/s) July 7; minimum daily, 19 ft³/s (0.54 m³/s) Dec. 17, May 6.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Nov. 29 to Dec. 3, Dec. 6, 14, 16-18,
Jan. 2-4, 6-9, 25, 26, Feb. 3-6)

2.7	14	3.3	76
2.8	20	3.5	117

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	34	24	23	22	22	20	21	26	34	64	44
2	49	35	24	22	21	21	20	21	30	33	64	42
3	49	34	24	21	22	22	20	21	30	34	64	43
4	48	35	24	21	21	22	20	21	30	34	59	43
5	48	35	21	23	21	21	20	21	30	34	51	44
6	48	35	21	20	21	21	20	19	31	72	49	44
7	48	31	21	20	20	22	20	20	30	107	49	44
8	48	28	21	21	20	21	20	20	30	90	48	44
9	48	28	20	21	20	22	20	20	30	60	48	43
10	48	28	20	24	20	21	21	20	30	66	48	42
11	48	29	20	24	20	23	20	20	31	68	48	42
12	49	28	21	23	21	22	20	21	30	68	48	42
13	44	28	20	23	20	21	20	20	30	68	48	42
14	40	28	20	23	20	21	20	23	32	66	48	43
15	34	28	21	23	20	21	20	25	31	68	48	43
16	32	28	20	23	20	21	21	24	31	66	48	43
17	36	26	19	22	20	20	20	24	33	66	48	43
18	36	26	20	22	20	20	20	24	32	66	48	43
19	36	26	21	22	20	20	20	24	32	66	47	43
20	36	25	20	21	21	21	21	25	32	66	47	43
21	36	22	20	21	20	20	21	25	33	66	48	43
22	36	22	20	21	20	20	21	25	33	64	48	43
23	35	22	20	21	20	20	22	25	33	66	48	44
24	35	22	20	21	21	20	21	25	33	64	48	41
25	34	21	20	20	21	20	21	25	33	66	47	39
26	35	21	20	20	21	20	21	25	33	66	47	39
27	35	20	20	21	21	20	21	24	33	66	47	38
28	35	21	20	21	21	20	20	25	33	64	48	35
29	35	20	20	21	21	20	20	25	33	64	48	34
30	35	20	20	21	---	20	21	25	33	64	48	33
31	35	---	20	21	---	20	---	25	---	64	48	---
TOTAL	1260	806	642	671	596	645	612	708	941	1946	1547	1249
MEAN	40.6	26.9	20.7	21.6	20.6	20.8	20.4	22.8	31.4	62.8	49.9	41.6
MAX	49	35	24	24	22	23	22	25	33	107	64	44
MIN	32	20	19	20	20	20	20	19	26	33	47	33
AC-FT	2500	1600	1270	1330	1180	1280	1210	1400	1870	3860	3070	2480
CAL YR 1975	TOTAL	26832	MEAN 73.5	MAX 490	MIN 11	AC-FT	53220					
WTR YR 1976	TOTAL	11623	MEAN 31.8	MAX 107	MIN 19	AC-FT	23050					

06357800 GRAND RIVER AT LITTLE EAGLE, SD

LOCATION.--Lat 45°39'28", long 100°49'04", in NE¼NE¼ sec.32, T.20 N., R.27 E., Corson County, Hydrologic Unit 10130303, on left bank at downstream side of bridge on State Highway 63, 1.3 mi (2.1 km) southwest of Little Eagle and 4.7 mi (7.6 km) downstream from Little Oak Creek.

DRAINAGE AREA.--5,370 mi² (13,910 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1958 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,628.63 ft (496.406 m) above mean sea level. Prior to May 12, 1959, nonrecording gage, and May 12, 1959, to Aug. 11, 1970, water-stage recorder at site 0.6 mi (1.0 km) downstream at datum 2.00 ft (0.610 m) lower.

REMARKS.--Records good except those for winter periods, which are poor. Flow regulated by Shadepill Reservoir 144 mi (232 km) upstream. (See station 06357000.)

AVERAGE DISCHARGE.--18 years, 230 ft³/s (6.514 m³/s), 166,600 acre-ft/yr (205 hm³/yr); median of yearly mean discharges, 210 ft³/s (5.95 m³/s), 152,000 acre-ft/yr (190 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft³/s (425 m³/s) Mar. 12, 1972; maximum gage height, 21.76 ft (6.632 m) Mar. 18, 1966, from floodmarks, ice jam, site and datum then in use; no flow at times in 1958-62, 1969, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,280 ft³/s (36.2 m³/s) June 25, gage height, 6.22 ft (1.896 m); minimum daily, 3.5 ft³/s (0.099 m³/s) Jan. 5-7.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 3-21; stage-discharge relation affected
by backwater from ice Nov. 22 to Mar. 19)

2.9	2.0	3.5	87	5.0	575
3.0	10	4.0	202	6.0	1,140
3.2	36				

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	39	19	7.0	18	150	69	82	29	120	41	21
2	41	38	19	6.0	16	100	64	69	21	70	39	21
3	39	39	20	5.0	16	90	62	62	16	59	36	17
4	38	39	21	4.0	14	85	59	59	24	78	32	22
5	38	39	21	3.5	14	75	57	57	133	202	33	22
6	36	39	21	3.5	16	80	54	52	78	184	38	21
7	38	39	20	3.5	30	85	52	49	47	122	38	17
8	35	39	18	4.0	50	90	50	50	30	82	35	22
9	35	39	16	5.0	80	85	47	49	23	57	32	23
10	38	39	14	6.0	120	85	44	42	21	50	29	26
11	38	36	12	7.0	220	85	42	35	30	91	26	28
12	38	23	9.0	7.0	240	80	41	32	25	76	23	26
13	44	30	9.0	7.0	260	85	41	35	29	49	28	23
14	46	22	8.0	8.0	260	85	41	41	15	50	36	28
15	49	33	7.0	8.0	280	90	39	59	33	49	23	28
16	49	32	6.0	9.0	280	90	66	66	26	52	17	23
17	49	36	5.0	10	300	100	151	55	199	49	17	21
18	49	44	6.0	10	290	250	313	50	216	42	18	21
19	44	35	7.0	11	280	330	409	44	156	41	18	26
20	41	17	9.0	12	280	305	270	39	124	35	20	28
21	35	20	9.0	12	300	224	192	38	82	35	18	32
22	38	19	9.0	14	300	205	176	47	78	32	17	26
23	39	19	8.0	14	320	213	146	50	74	32	14	32
24	42	19	8.5	14	300	194	142	82	59	32	10	33
25	41	19	9.0	12	280	176	128	80	765	26	11	30
26	41	20	8.0	14	260	169	207	55	661	28	10	29
27	41	20	8.0	16	240	133	202	52	295	28	8.4	28
28	39	20	8.0	16	220	103	161	82	276	30	9.2	15
29	39	19	8.5	18	200	87	115	80	299	32	15	73
30	41	18	9.0	18	---	78	99	59	181	35	17	52
31	41	---	8.0	18	---	74	---	42	---	38	23	---
TOTAL	1264	890	360.0	02.5	5484	4081	3539	1694	4045	1906	731.6	814
MEAN	40.8	29.7	11.6	9.76	189	132	118	54.6	135	61.5	23.6	27.1
MAX	49	44	21	18	320	330	409	82	765	202	41	73
MIN	35	17	5.0	3.5	14	74	39	32	15	26	8.4	15
AC-FT	2510	1770	714	600	10880	8090	7020	3360	8020	3780	1450	1610

CAL YR 1975 TOTAL 109707.00 MEAN 301 MAX 6200 MIN 0 AC-FT 217600
WTR YR 1976 TOTAL 25111.10 MEAN 68.6 MAX 765 MIN 3.5 AC-FT 49810

GRAND RIVER BASIN

06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued
(National stream-quality accounting network station)
(National pesticide water-monitoring network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1956, 1969, 1972 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1975 to current year.

WATER TEMPERATURES: October 1975 to current year.

SUSPENDED SEDIMENT DISCHARGE: October 1971 to September 1976 (discontinued).

INSTRUMENTATION.--Automatic pumping sediment sampler since September 1973.

REMARKS.--Sediment records fair. Flow affected by ice Nov. 22 to Mar. 19. Sediment-discharge records prior to Oct. 1, 1971, on file in the District office, Corps of Engineers, Omaha, Ne.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,100 micromhos Dec. 4, 7-9, 1976; minimum daily, 290 micromhos Feb. 7, 1976.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 19,000 mg/L May 2, 1972; minimum daily mean, 0 mg/L Jan. 10, 11, Feb. 5-10, 1975.

SEDIMENT LOADS: Maximum daily, 259,000 tons (235,000 tonnes) Mar. 12, 1972; minimum daily, 0 ton (0 tonne) Jan. 10, 11, Feb. 5-10, 1975.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,100 micromhos Dec. 4, 7-9; minimum daily, 290 micromhos Feb. 17, 1976.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 13,000 mg/L June 26; minimum daily mean, 117 mg/L Jan. 23.

SEDIMENT LOADS: Maximum daily, 23,200 tons (21,000 tonnes) June 26; minimum daily, 2.7 tons (2.4 tonnes) Jan. 5.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (JTU) (00070)	FECAL COLI- FORM (COL. PER 100 ML) (31616)	STREP- TOCOCCI (COL- ONIES PER 100 ML) (31679)	HARD- NESS (CA, MG) (MG/L) (00900)	NON- CAR- BONATE HARD- NESS (MG/L) (00902)	DIS- SOLVED CAL- CIUM (CA) (MG/L) (00915)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) (00925)
OCT												
02...	0900	43	1950	8.6	12.0	10	0	B60	270	0	52	33
28...	1450	40	1650	8.1	5.0	--	--	--	--	--	--	--
NOV												
24...	1310	18	2500	8.4	.0	4	ND	80	350	0	70	43
DEC												
22...	1350	8.7	3000	8.1	.0	5	B4	B40	470	0	94	57
JAN												
19...	1330	11	2300	8.0	.0	3	B360	B20	380	0	80	44
FEB												
17...	1530	297	590	8.0	1.0	250	ND	B1700	68	0	16	6.7
MAR												
16...	1400	88	1265	8.0	1.5	49	--	--	200	0	44	23
APR												
13...	1300	40	1950	8.4	18.0	8	B7	40	270	0	55	31
MAY												
10...	1510	38	1980	8.6	26.5	42	B100	B120	240	0	49	29
JUN												
07...	1550	46	1210	8.6	26.0	3000	B300	B900	110	0	23	12
JUL												
07...	1200	127	1260	8.5	25.0	1800	B7800	B30000	110	0	31	9.0
AUG												
02...	1440	43	1820	7.0	24.5	50	B640	B230	210	0	34	30
31...	1345	24	2050	8.6	25.5	20	B260	B400	200	0	28	32

B Non-ideal colony count.

ND Not detected.

06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SODIUM (NA) (00930)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	DIS- SOLVED PO- TAS- SIUM (K) (00935)	BICAR- BONATE (HCO3) (00440)	CAR- BONATE (CO3) (00445)	ALKA- LINITY AS CAC03 (00410)	DIS- SOLVED SULFATE (SO4) (00945)	DIS- SOLVED CHLO- RIDE (CL) (00940)	DIS- SOLVED FLUO- RIDE (F) (00950)	DIS- SOLVED SILICA (SiO2) (00955)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (07300)
OCT 02...	330	72	8.8	9.4	364	21	334	630	30	.3	1.8	1310
28...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 24...	430	72	10	11	518	15	450	820	19	.4	3.3	1620
DEC 22...	570	72	11	12	700	0	574	1100	24	.4	4.1	2090
JAN 19...	450	71	10	11	599	0	491	830	17	.5	4.4	1760
FEB 17...	93	73	4.9	5.7	167	0	137	130	5.8	.2	4.2	391
MAR 16...	240	71	7.3	7.9	369	0	303	410	9.1	.4	5.9	948
APR 13...	320	72	8.6	10	406	10	350	600	22	.3	2.5	1240
MAY 10...	340	74	9.5	10	413	16	365	600	14	.4	4.9	1290
JUN 07...	230	81	9.7	7.6	351	0	288	290	15	.4	6.9	928
JUL 07...	230	80	9.4	8.2	264	0	217	410	8.0	.4	8.5	828
AUG 02...	380	79	11	12	381	14	336	620	90	.4	4.0	1390
31...	440	81	13	13	372	25	347	790	12	.5	.9	1540

DATE	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (07301)	DIS- SOLVED SOLIDS (TONS PER AC-FT) (07303)	DIS- SOLVED SOLIDS (TONS PER DAY) (07302)	TOTAL NITRITE PLUS NITRATE (N) (00630)	TOTAL KJEL- DAHL NITRO- GEN (N) (00625)	TOTAL NITRO- GEN (N) (00600)	TOTAL NITRO- GEN (NO3) (N) (071887)	TOTAL PHOS- PHORUS (P) (00665)	TOTAL ARSENIC (AS) (UG/L) (01002)	SUS- PENDED ARSENIC (AS) (UG/L) (01001)	DIS- SOLVED ARSENIC (AS) (UG/L) (01000)	TOTAL CAD- MIUM (CD) (UG/L) (01027)
OCT 02...	1290	1.78	152	.00	.43	.43	1.9	.03	2	2	0	10
28...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 24...	1670	2.20	82.2	.07	1.7	1.8	7.8	.03	--	--	--	--
DEC 22...	2210	2.84	49.1	.02	.78	.80	3.5	.01	--	--	--	--
JAN 19...	1730	2.39	53.2	.22	1.1	1.3	5.8	.00	0	0	0	<10
FEB 17...	344	.53	314	.25	2.3	2.6	11	.31	--	--	--	--
MAR 16...	922	1.29	225	.22	1.4	1.6	7.2	.11	--	--	--	--
APR 13...	1250	1.69	135	.00	.76	.76	3.4	.02	1	1	0	<10
MAY 10...	1270	1.75	134	.01	.37	.38	1.7	.07	--	--	--	--
JUN 07...	758	1.26	116	1.2	8.3	9.5	42	1.9	--	--	--	--
JUL 07...	835	1.13	284	.36	2.7	3.1	14	.65	45	44	1	0
AUG 02...	1370	1.89	161	.00	.78	.78	3.5	.09	--	--	--	--
31...	1520	2.09	99.8	.02	.64	.66	2.9	.05	--	--	--	--

< Less than.

GRAND RIVER BASIN

06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued

WATER QUALITY DATA. WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	SUS- PENDED CAD- MIUM (CD) (UG/L) (01026)	DIS- SOLVED CAD- MIUM (CD) (UG/L) (01025)	TOTAL CHRO- MIUM (CR) (UG/L) (01034)	SUS- PENDED CHRO- MIUM (CR) (UG/L) (01031)	DIS- SOLVED CHRO- MIUM (CR) (UG/L) (01030)	TOTAL COBALT (CO) (UG/L) (01037)	SUS- PENDED COBALT (CO) (UG/L) (01036)	DIS- SOLVED COBALT (CO) (UG/L) (01035)	TOTAL COPPER (CU) (UG/L) (01042)	SUS- PENDED COPPER (CU) (UG/L) (01041)	DIS- SOLVED COPPER (CU) (UG/L) (01040)
OCT											
02...	10	0	10	0	10	100	99	1	0	0	2
28...	--	--	--	--	--	--	--	--	--	--	--
NOV											
24...	--	--	--	--	--	--	--	--	--	--	--
DEC											
22...	--	--	--	--	--	--	--	--	--	--	--
JAN											
19...	<10	0	0	0	0	<50	<50	0	<10	<8	2
FEB											
17...	--	--	--	--	--	--	--	--	--	--	--
MAR											
16...	--	--	--	--	--	--	--	--	--	--	--
APR											
13...	<10	0	0	0	10	<50	<50	0	10	9	1
MAY											
10...	--	--	--	--	--	--	--	--	--	--	--
JUN											
07...	--	--	--	--	--	--	--	--	--	--	--
JUL											
07...	0	0	60	50	10	49	49	0	140	130	10
AUG											
02...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--

DATE	TOTAL IRON (FE) (UG/L) (01045)	DIS- SOLVED IRON (FE) (UG/L) (01046)	TOTAL LEAD (PB) (UG/L) (01051)	SUS- PENDED LEAD (PB) (UG/L) (01050)	DIS- SOLVED LEAD (PB) (UG/L) (01049)	TOTAL MAN- GANESE (MN) (UG/L) (01055)	SUS- PENDED MAN- GANESE (MN) (UG/L) (01054)	DIS- SOLVED MAN- GANESE (MN) (UG/L) (01056)	TOTAL MERCURY (HG) (UG/L) (71900)	SUS- PENDED MERCURY (HG) (UG/L) (71895)	DIS- SOLVED MERCURY (HG) (UG/L) (71890)
OCT											
02...	870	30	<100	100	0	50	0	80	.2	.0	.2
28...	--	--	--	--	--	--	--	--	--	--	--
NOV											
24...	--	--	--	--	--	--	--	--	--	--	--
DEC											
22...	--	--	--	--	--	--	--	--	--	--	--
JAN											
19...	140	20	<100	<98	2	50	20	30	.1	.1	.0
FEB											
17...	--	--	--	--	--	--	--	--	--	--	--
MAR											
16...	--	--	--	--	--	--	--	--	--	--	--
APR											
13...	3600	20	<100	<100	0	70	70	0	.0	.0	.0
MAY											
10...	--	--	--	--	--	--	--	--	--	--	--
JUN											
07...	--	--	--	--	--	--	--	--	--	--	--
JUL											
07...	67000	20	65	64	1	1000	990	10	<.5	.0	<.5
AUG											
02...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--

< Less than.

06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL SELE- NIUM (SE) (UG/L) (01147)	SUS- PENDE SELE- NIUM (SE) (UG/L) (01146)	DIS- SOLVED SELE- NIUM (SE) (UG/L) (01145)	TOTAL ZINC (ZN) (UG/L) (01092)	SUS- PENDE ZINC (ZN) (UG/L) (01091)	DIS- SOLVED ZINC (ZN) (UG/L) (01090)	TOTAL ORGANIC CARBON (C) (MG/L) (00680)
OCT							
02...	0	0	0	10	0	20	25
28...	--	--	--	--	--	--	--
NOV							
24...	--	--	--	--	--	--	--
DEC							
22...	--	--	--	--	--	--	--
JAN							
19...	1	0	1	30	30	0	9.7
FEB							
17...	--	--	--	--	--	--	--
MAR							
16...	--	--	--	--	--	--	--
APR							
13...	0	0	0	60	60	0	--
MAY							
10...	--	--	--	--	--	--	--
JUN							
07...	--	--	--	--	--	--	--
JUL							
07...	2	2	0	350	340	10	171
AUG							
02...	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--

DATE	TOTAL PHYTO- PLANK- TON (CELLS PER ML) (60050)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	UNCOR- RECTED PERI- PHYTON CHLORO- PHYLL A MG/SQ M (32228)	UNCOR- RECTED PERI- PHYTON CHLORO- PHYLL B MG/SQ M (32226)	SUS- PENDE SEDI- MENT (MG/L) (R0154)	SUS- PENDE SEDI- MENT DIS- CHARGE (T/DAY) (R0155)
OCT							
02...	--	--	--	--	--	--	--
28...	950	--	--	--	--	--	--
NOV							
24...	670	--	--	--	--	--	--
DEC							
22...	120	--	--	--	--	--	--
JAN							
19...	37	--	--	--	--	--	--
FEB							
17...	9500	--	--	--	--	--	--
MAR							
16...	390	--	--	--	--	--	--
APR							
13...	380	--	--	--	--	--	--
MAY							
10...	3200	--	--	--	--	--	--
JUN							
07...	28000	--	--	--	--	--	--
JUL							
07...	0	--	--	--	--	--	--
AUG							
02...	7300	5.77	5.08	1.35	.000	--	--
31...	25000	--	--	--	--	--	--

GRAND RIVER BASIN

06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL ALDRIN (UG/L) (39330)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG) (39333)	TOTAL CHLOR- DANE (UG/L) (39350)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG) (39351)	TOTAL DDD (UG/L) (39360)	DDD IN BOTTOM MA- TERIAL (UG/KG) (39363)	TOTAL DDE (UG/L) (39365)	DDE IN BOTTOM MA- TERIAL (UG/KG) (39368)	TOTAL DDT (UG/L) (39370)	DDT IN BOTTOM MA- TERIAL (UG/KG) (39373)	TOTAL DI- AZINON (UG/L) (39570)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG) (39571)
OCT 02...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUN 07...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 16...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	TOTAL DI- ELDRIN (UG/L) (39380)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG) (39383)	TOTAL ENDRIN (UG/L) (39390)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG) (39393)	TOTAL ETHION (UG/L) (39398)	ETHION IN BOTTOM MA- TERIAL (UG/KG) (39399)	TOTAL HEPTA- CHLOR (UG/L) (39410)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG) (39413)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L) (39420)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG) (39423)	TOTAL LINDANE (UG/L) (39340)
OCT 02...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUN 07...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 16...	ND	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	LINDANE IN BOTTOM MA- TERIAL (UG/KG) (39343)	TOTAL MALA- THION (UG/L) (39530)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG) (39531)	TOTAL METH- CHLOR (UG/L) (39480)	METHOX- YCHLOR IN BOT- TOM MA- TERIAL (UG/KG) (39481)	TOTAL METHYL PARA- THION (UG/L) (39600)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG) (39601)	TOTAL METHYL TRI- THION (UG/L) (39790)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG) (39791)	TOTAL PARA- THION (UG/L) (39540)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG) (39541)
OCT 02...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUN 07...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 16...	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	TOTAL TOX- APHENE (UG/L) (39400)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG) (39403)	TOTAL TRI- THION (UG/L) (39786)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG) (39787)	TOTAL ATRA- ZINE (UG/L) (39630)	TOTAL 2,4-D (UG/L) (39730)	2,4-D IN BOTTOM MA- TERIAL (UG/KG) (39731)	TOTAL 2,4,5-T (UG/L) (39740)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG) (39741)	TOTAL SILVEX (UG/L) (39760)	SILVEX IN BOTTOM MA- TERIAL (UG/KG) (39761)
OCT 02...	ND	ND	ND	ND	--	--	--	--	--	--	--
JUN 07...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 16...	ND	--	ND	--	ND	ND	--	ND	--	ND	--

ND Not detected.

GRAND RIVER BASIN

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06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1930	1300	2900	2650	1700	---	1440	1340	1290	---	2070	2210
2	1930	800	2900	2650	1700	1370	1400	1340	---	---	2060	2210
3	1920	1220	---	2650	1700	1440	1530	1340	1800	1060	2060	2210
4	1920	1360	3100	2650	2450	1400	1570	1810	1790	1060	2050	2220
5	1920	1240	---	2600	1380	1500	1630	1800	---	1180	2040	2200
6	1920	1320	---	2650	1380	1470	1700	1810	1180	---	1930	2200
7	---	1600	3100	2650	1400	1440	1720	1810	1180	---	1980	2200
8	1950	1840	3100	2650	1380	1440	1750	1800	1070	---	1920	2190
9	1930	1800	3100	2650	1240	1620	1750	1800	1060	940	1970	2190
10	---	1140	2900	2650	1240	---	1760	1810	1070	940	1920	2170
11	1950	1700	2800	2650	940	---	1800	1880	1190	930	1920	2170
12	---	---	3000	2800	930	---	1820	1850	1180	1210	1930	2170
13	1910	---	2800	2800	930	---	1780	1850	---	1210	1920	2150
14	1910	---	2600	2500	920	1780	---	1830	1420	2000	1860	2150
15	1890	1600	2600	2500	930	1090	1770	1670	1420	2000	2020	2150
16	1890	1210	2650	2500	---	1110	1780	1600	1710	2000	2040	2140
17	1860	1390	2950	2450	290	1110	---	1700	870	2120	2040	2150
18	1880	1900	3000	2460	---	870	800	1730	860	2120	2070	2100
19	1860	1700	2950	2300	---	690	810	1630	---	2080	1990	2090
20	1870	1850	2700	2300	---	660	---	1630	770	---	1900	2120
21	1830	1880	2950	2320	630	650	1240	1650	770	---	2050	2100
22	1850	1730	2100	2300	---	640	970	1660	1090	---	2020	2100
23	1820	---	2550	2300	---	720	970	1560	1080	2080	2160	2100
24	1820	---	2300	2250	---	730	---	1800	---	2080	2150	2100
25	1700	---	2700	2250	---	770	1260	1790	480	2080	2240	---
26	1800	---	---	2250	1100	800	1240	---	---	2090	2240	---
27	1680	2550	2600	2300	1140	910	970	---	480	2100	2200	---
28	1750	2550	2600	2000	1220	1000	960	---	480	2090	2290	---
29	1800	2750	2550	2000	---	1140	1110	---	620	2130	2200	---
30	1750	2900	2500	2000	---	1210	1110	1290	630	2060	2300	1870
31	1800	---	2500	2000	---	1300	---	1290	---	---	2210	---
MONTH	1860	---	2760	2440	---	1110	1410	1670	1060	---	2060	2150

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.0	2.0	0.0	0.0	0.0	---	6.0	13.0	26.0	---	---	29.0
2	11.0	---	0.0	0.0	0.0	3.0	7.0	8.0	26.0	---	---	27.0
3	14.0	4.0	0.0	0.0	0.0	2.0	7.0	15.0	26.0	---	26.5	22.0
4	17.0	---	0.0	0.0	1.0	2.0	7.0	14.0	26.0	---	23.0	21.0
5	16.0	---	0.0	0.0	2.0	0.0	16.0	15.0	26.0	---	21.0	27.0
6	17.0	---	0.0	0.0	2.0	0.0	14.0	15.0	26.0	---	21.0	28.0
7	---	12.0	0.0	0.0	7.0	1.0	14.0	14.0	26.0	---	22.0	18.0
8	10.0	10.0	0.0	0.0	8.0	0.0	15.0	16.0	28.0	---	29.0	18.0
9	10.0	8.0	0.0	0.0	4.0	0.0	15.0	16.0	28.0	27.0	24.0	21.5
10	20.0	6.0	0.0	0.0	3.0	---	14.0	23.0	28.0	30.0	25.0	28.5
11	---	4.0	0.0	0.0	2.0	---	9.0	19.0	---	28.0	28.0	19.5
12	---	8.0	0.0	0.0	4.0	---	17.0	17.0	---	30.0	29.0	19.5
13	10.0	12.0	0.0	0.0	2.0	---	15.0	20.0	---	31.0	29.0	25.0
14	7.0	4.0	0.0	0.0	---	---	12.0	22.0	---	30.0	26.0	24.0
15	7.0	10.0	0.0	0.0	5.0	1.0	10.0	12.0	---	29.0	23.0	23.0
16	---	9.0	0.0	0.0	---	0.0	12.0	15.0	---	30.0	28.0	22.5
17	10.0	10.0	0.0	0.0	7.0	0.0	---	17.0	---	28.0	30.0	27.0
18	8.0	10.0	0.0	0.0	---	5.0	9.0	---	---	29.0	31.5	25.0
19	10.0	8.0	0.0	0.0	---	4.0	11.0	20.0	---	30.0	25.0	15.0
20	6.0	5.0	0.0	0.0	---	2.0	---	19.0	---	---	32.0	17.0
21	7.0	3.0	0.0	0.0	5.0	0.0	11.0	12.0	---	---	---	19.0
22	8.0	2.0	0.0	0.0	8.0	5.0	10.0	18.0	---	---	28.0	22.0
23	7.0	2.0	0.0	0.0	8.0	7.0	12.0	18.0	---	28.0	29.0	18.0
24	7.0	1.0	0.0	0.0	---	7.0	10.0	18.0	---	26.0	30.0	20.0
25	7.0	1.0	0.0	0.0	---	8.0	8.0	16.0	---	28.0	29.0	17.0
26	8.0	1.0	0.0	0.0	---	6.0	9.0	16.0	---	29.0	33.0	16.0
27	7.0	0.0	0.0	0.0	---	7.0	11.0	---	18.0	31.0	30.0	20.0
28	7.0	0.0	0.0	0.0	---	7.0	12.0	---	---	32.0	24.5	---
29	7.0	0.0	0.0	0.0	---	9.0	12.0	---	24.0	---	23.0	---
30	8.0	0.0	0.0	0.0	---	8.0	9.0	23.0	24.0	---	27.0	15.0
31	10.0	---	0.0	0.0	---	4.0	---	26.0	---	---	28.0	---
MONTH	10.0	5.0	0.0	0.0	---	3.5	11.0	17.0	---	---	27.0	21.5

GRAND RIVER BASIN

06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued

OCT. 2, 1974
1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,200 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
.CHLOROPHYCEAE			
...CHLOROCOCCALES			
...SCENEDESMACEAE			
...SCENEDESMUS		50	4
...VOLVOCALES			
...CHLAMYDOMONADACEAE			
DCHLAMYDOMONAS		1,000	83
	TOTALS	1,100	87
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCAEAE			
...CYCLOTELLA		50	4
...PENNALES	PENNATE		
...NITZSCHIAEAE		100	8
...NITZSCHIA			
	TOTALS	150	12

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER . 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.544
 CLASS 0.544
 ORDER 0.900
 FAMILY 0.900
 GENERA 0.900

06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued

OCT. 30, 1974
1015 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,600 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		18	1
	TOTALS	18	1
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		250	10
...PENNALES	PENNATE		
...ACHNANTHACEAE			
....ACHNANTHES		36	1
...CYMBELLACEAE			
....AMPHORA		36	1
...FRAGILARIACEAE			
....SYNEDRA		18	1
...NAVICULACEAE	NAVICULOID		
....NAVICULA		54	2
...PINNULARIA		36	1
...NITZSCHACEAE			
....NITZSCHIA		200	8
...SURIPELLACEAE			
....CYMATOPLEURA		36	1
	TOTALS	670	25
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...OSCILLATORIALES	FILAMENTOUS		
...NOSTOCACEAE			
DANABAENA		1,000	40
...OSCILLATORIAACEAE			
DLYNGBYA		900	34
	TOTALS	2,000	74

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.873
 CLASS 0.873
 ORDER 1.115
 FAMILY 2.184
 GENERA 2.217

GRAND RIVER BASIN

06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued

JAN. 13, 1975
1710 HOURS

IDENTIFICATION OF PHYTOPLANKTON

220 CELLS/ML

__ORGANISM__NAME__	__COMMON__NAME__	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		10	5
	TOTALS	10	5
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		10	5
...PENNIALES	PENNATE		
...CYMBELLACEAE			
...EPITHEMIA		10	5
...NAVICULACEAE	NAVICULOID		
...AMPHIPRORA		20	9
...NITZSCHIA			
DNITZSCHIA		170	77
	TOTALS	210	96

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.267
CLASS 0.267
ORDER 0.530
FAMILY 1.210
GENERA 1.210

MAR. 10, 1975
1105 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,400 CELLS/ML

__ORGANISM__NAME__	__COMMON__NAME__	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		81	6
	TOTALS	81	6
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...PENNIALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
...NAVICULA		81	6
...NITZSCHIA			
DNITZSCHIA		1,200	88
	TOTALS	1,300	94

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.323
CLASS 0.323
ORDER 0.323
FAMILY 0.640
GENERA 0.640

GRAND RIVER BASIN

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06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued

APR. 29, 1975

1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

710 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...CYMBELLACEAE			
DCYMBELLA		180	25
DEPITHEMIA		180	25
...NAVICULACEAE	NAVICULOID		
DNAVICULA		180	25
...NITZSCHACEAE			
DNITZSCHIA		180	25
	TOTALS	710	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 FAMILY 1.500
 GENERA 2.000

MAY 20, 1975

1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,700 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...SCENEDESMACEAE			
DSCENEDESMUS		440	17
	TOTALS	440	17
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
...CYCLOTELLA		220	8
..PENNALES	PENNATE		
...CYMBELLACEAE			
DCYMBELLA		670	25
...FRAGILARIACEAE			
...SYNEDRA		220	8
...GOMPHONEMATACEAE			
...GOMPHONEMA		220	8
...NAVICULACEAE	NAVICULOID		
...AMPHIPRORA		220	8
...NAVICULA		220	8
...NITZSCHACEAE			
DNITZSCHIA		440	17
	TOTALS	2,200	82

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.650
 CLASS 0.650
 ORDER 1.041
 FAMILY 2.689
 GENERA 2.855

GRAND RIVER BASIN

06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued

JUNE 11, 1975
1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,400 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...SCENEDESMACEAE			
DACTINASTRUM		300	22
	TOTALS	300	22
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCONODISCACEAE			
...CYCLOTELLA		76	6
..PENNALES	PENNATE		
...CYMBELLACEAE			
DCYMBELLA		230	17
...FRAGILARIACEAE			
...FRAGILARIA		76	6
DSYNEDRA		230	17
...GOMPHONEMACEAE			
...GOMPHONEMA		38	3
...NAVICULACEAE	NAVICULOID		
...AMPHIPRORA		110	8
...NITZSCHIA		300	22
DNITZSCHIA			
	TOTALS	1,100	79

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.764
CLASS 0.764
ORDER 1.053
FAMILY 2.551
GENERA 2.732

JULY 8, 1975
1020 HOURS

IDENTIFICATION OF PHYTOPLANKTON

5,000 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCONODISCACEAE			
...CYCLOTELLA		350	7
..PENNALES	PENNATE		
...CYMBELLACEAE			
...CYMBELLA		350	7
...NAVICULACEAE	NAVICULOID		
...NAVICULA		710	14
...NITZSCHIA			
DNITZSCHIA		2,800	57
...SURIPELLACEAE			
...SURIPELLA		710	14
	TOTALS	5,000	99

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

ORDER 0.371
FAMILY 1.807
GENERA 1.807

GRAND RIVER BASIN

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06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued

AUG. 5, 1975
0900 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,000 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNIALES	PENNATE		
...GOMPHONEMACEAE			
LGOMPHONEMA			0
...NAVICULACEAE	NAVICULOID		
LGYROSIGMA			0
DNAVICULA		330	33
...NITZSCHIAEAE			
DNITZSCHIA		670	67
	TOTALS	1,000	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1% MAY NOT HAVE BEEN ACTUALLY COUNTED
 SAMPLING METHOD: PLASTIC SLIDES, RANDOM
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 FAMILY 0.918
 GENERA 0.918

SEP. 3, 1975
0830 HOURS

IDENTIFICATION OF PHYTOPLANKTON

14,000 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCIDINODISCACEAE			
...MELOSIRA		1,400	10
..PENNIALES	PENNATE		
...FRAGILARIAEAE			
...FRAGILARIA		280	2
...NAVICULACEAE	NAVICULOID		
...NAVICULA		850	6
...NITZSCHIAEAE			
DNITZSCHIA		3,500	26
	TOTALS	6,100	44
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
LAGMENELLUM			0
..OSCILLATORIALES	FILAMENTOUS		
...NOSTOCACEAE			
DANABAENA		7,500	55
	TOTALS	7,500	55

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1% MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.992
 CLASS 0.992
 ORDER 1.343
 FAMILY 1.685
 GENERA 1.685

GRAND RIVER BASIN

06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued

OCT. 28, 1975
1450 HOURS

IDENTIFICATION OF PHYTOPLANKTON

950 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNIALES	PENNATE		
...FRAGILARIAEAE			
....SYNEORA		50	5
...GOMPHONEMATAEAE			
....GOMPHONEMA		50	5
...NAVICULAEAE	NAVICULOID		
...AMPHIPLEURA		50	5
L ...NAVICULA			0
...NITZSCHIAEAE			
DNITZSCHIA		800	84
TOTALS		950	99

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 FAMILY 0.880
 GENERA 0.880

NOV. 24, 1975
1310 HOURS

IDENTIFICATION OF PHYTOPLANKTON

670 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTAEAE			
....ANKISTRODESMUS		45	7
TOTALS		45	7
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
...CYCLOTELLA		45	7
..PENNIALES	PENNATE		
...GOMPHONEMATAEAE			
....GOMPHONEMA		45	7
...NAVICULAEAE	NAVICULOID		
...NAVICULA		45	7
...NITZSCHIAEAE			
DNITZSCHIA		490	73
TOTALS		630	94
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..CHROOCOCCALES	COCCOID		
...CHROOCOCCAEAE			
LAGMENELLUM			0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.353
 CLASS 0.353
 ORDER 0.700
 FAMILY 1.370
 GENERA 1.370

GRAND RIVER BASIN

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06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued

DEC. 22, 1975

0000 HOURS

IDENTIFICATION OF PHYTOPLANKTON

120 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
LANKISTRODESMUS			0
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
LCHLAMYDOMONAS			0
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...FRAGILARIACEAE			
LSYNEDRA			0
...GOMPHONEMATACEAE			
LGOMPHONEMA			0
...NITZSCHIACEAE			
DNITZSCHIA		120	100
	TOTALS	120	100
EUGLENOPHYTA	EUGLENOIDS		
..CRYPTOPHYCEAE	CRYPTOMONADS		
...CRYPTOMONIDALES			
...CRYPTOMONODACEAE			
LCRYPTOMONAS			0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE

JAN. 19, 1976

0000 HOURS

IDENTIFICATION OF PHYTOPLANKTON

37 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...FRAGILARIACEAE			
...SYNEDRA		3	9
...GOMPHONEMATACEAE			
DGOMPHONEMA		7	18
...NAVICULACEAE	NAVICULOID		
...NAVICULA		3	9
...NITZSCHIACEAE			
DNITZSCHIA		23	64
	TOTALS	37	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 FAMILY 1.491
 GENERA 1.491

GRAND RIVER BASIN

06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued

FEB. 17, 1976
1530 HOURS

IDENTIFICATION OF PHYTOPLANKTON

9,500 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...GOMPHONEMACEAE			
....GOMPHONEMA		860	9
...NAVICULACEAE	NAVICULOID		
LAMPHIPRORA			0
....NAVICULA		860	9
...NITZSCHIAEAE			
DNITZSCHIA		7,800	82
...SURIPELLACEAE			
LSURIPELLA			0
TOTALS		9,500	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 FAMILY 0.866
 GENERA 0.866

MAR. 16, 1976
1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

390 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
.CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		41	11
TOTALS		41	11
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
....AMPHIPRORA		41	11
....CALONEIS		20	5
....NAVICULA		41	11
...NITZSCHIAEAE			
DNITZSCHIA		200	53
TOTALS		300	80
PYRRHOPHYTA			
.DINOPHYCEAE	DINOFLAGELLATES		
..PERIDINIALES			
...GLENODINIAEAE			
....GLENODINIUM		41	11
TOTALS		41	11

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.953
 CLASS 0.953
 ORDER 0.953
 FAMILY 1.678
 GENERA 2.078

GRAND RIVER BASIN

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06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued

APR. 13, 1976
1300 HOURS

IDENTIFICATION OF PHYTOPLANKTON

380 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
.CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
DANKISTRODESMUS		160	42
	TOTALS	160	42
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		40	11
..PENNALES	PENNATE		
...CYMBELLACEAE			
LAMPHORA			0
....CYMBELLA		20	5
LEPITHEMIA			0
...NITZSCHACEAE			
DNITZSCHIA		120	32
...SURIRELLACEAE			
....SURIRELLA		20	5
	TOTALS	200	53
EUGLENOPHYTA	EUGLENOIDS		
.EUGLENOPHYCEAE			
..EUGLENALES			
...EUGLENACEAE			
....TRACHELOMONAS		20	5
	TOTALS	20	5

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.236
 CLASS 1.236
 ORDER 1.616
 FAMILY 2.063
 GENERA 2.063

GRAND RIVER BASIN

06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued

MAY 10, 1976
1510 HOURS

IDENTIFICATION OF PHYTOPLANKTON

3,200 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOPOCOCCALES			
..OCCYSTACEAE			
DANKISTRODESMUS		2,200	70
..SCENEDESMACEAE			
LSCENEDESMUS			0
..ZYGNEMATALES			
..DESMIDIACEAE	PLACODERM DESMIDS		
LEUASTRUM			0
	TOTALS	2,200	70
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
..COSCINODISCACEAE			
DCYCLOTELLA		480	15
..MELOSIRA		320	10
..PENNALES	PENNATE		
..CYMBELLACEAE			
LAMPHORA			0
LCYMBELLA			0
LRHOPALODIA			0
..FRAGILARIACEAE			
LFRAGILARIA			0
..GOMPHONEMACEAE			
LGOMPHONEMA			0
..NAVICULACEAE	NAVICULOID		
LNAVICULA			0
..NITZSCHACEAE			
..NITZSCHIA		160	5
	TOTALS	960	30
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..OSCILLATORIALES	FILAMENTOUS		
..OSCILLATORIACEAE			
LLYNGBYA			0
LOSCILLATORIA			0
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
..EUGLENALES			
..EUGLENACEAE			
LEUGLENA			0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 15% MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.881
 CLASS 0.881
 ORDER 1.076
 FAMILY 1.076
 GENERA 1.319

06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued

JUNE 7, 1976
1550 HOURS

IDENTIFICATION OF PHYTOPLANKTON

28,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
.CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		1,400	5
....KIRCHNERIELLA		710	2
..ZYGNEMATALES			
...DESMIDIACEAE	PLACODERM DESMIDS	710	2
....COSMARIUM			
	TOTALS	2,800	9
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...ACHNANTHACEAE			
....ACHNANTHES		2,100	7
...CYMBELLACEAE			
....CYMBELLA		2,100	7
....EPITHEMIA		710	2
....RHOPALODIA		710	2
...GOMPHONEMACEAE			
....GOMPHONEMA		710	2
...NAVICULACEAE	NAVICULOID		
DNAVICULA		7,800	27
LNEIDIUM			0
...NITZSCHACEAE			
....DENTICULA		710	2
DNITZSCHIA		9,900	35
	TOTALS	25,000	84
EUGLENOPHYTA	EUGLENOIDS		
.EUGLENOPHYCEAE			
..EUGLENALES			
...EUGLENACEAE			
....EUGLENA		710	2
	TOTALS	710	2

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.634

CLASS 0.634

ORDER 0.715

FAMILY 2.378

GENERA 2.750

JULY 7, 1976
1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

- - - NO ORGANISMS REPORTED - - -

GRAND RIVER BASIN

06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued

AUG. 2, 1976
1440 HOURS

IDENTIFICATION OF PHYTOPLANKTON

7,300 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		1,000	14
DDICTYOSPHAERIUM		1,100	16
....OOCYSTIS		760	10
...SCENEDESMACEAE			
....SCENEDESMUS		190	3
	TOTALS	3,100	43
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCAEAE			
....CYCLOTELLA		94	1
..PENNALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
....CALONEIS		94	1
....NAVICULA		280	4
...NITZSCHIAEAE			
DNITZSCHIA		2,400	32
	TOTALS	2,800	38
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...OSCILLATORIALES	FILAMENTOUS		
...NOSTOCACEAE			
DANABAENA		1,300	18
	TOTALS	1,300	18

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.501
CLASS 1.501
ORDER 1.583
FAMILY 1.942
GENERA 2.614

06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued

AUG. 31, 1976
1345 HOURS

IDENTIFICATION OF PHYTOPLANKTON

25,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		220	1
DDICTYOSPHAERIUM		21,000	85
....TETRAEDRON		590	2
....SCENEDESMACEAE			
....SCENEDESMUS		290	1
	TOTALS	22,000	89
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCAEAE			
....CYCLOTELLA		150	1
..PENNALES	PENNATE		
....ACHNANTHACEAE			
....ACHNANTHES		510	2
....NITZSCHIAEAE			
....NITZSCHIA		590	2
	TOTALS	1,200	5
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
....ANACYSTIS		1,000	4
	TOTALS	1,000	4
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
..EUGLENALES			
...EUGLENACEAE			
....TRACHELOMONAS		290	1
	TOTALS	290	1

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.624
CLASS 0.624
ORDER 0.651
FAMILY 0.786
GENERA 1.014

GRAND RIVER BASIN

06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	42	182	21	39	138	15	19	227	12
2	41	180	20	38	155	16	19	248	13
3	39	301	32	39	171	18	20	235	13
4	38	283	29	39	171	18	21	281	16
5	38	244	25	39	140	15	21	290	16
6	36	250	24	39	191	20	21	295	17
7	38	254	26	39	135	14	20	300	16
8	35	258	24	39	139	15	18	310	15
9	35	310	29	39	211	22	16	347	15
10	38	258	26	39	171	18	14	335	13
11	38	275	28	36	241	23	12	322	10
12	38	285	29	23	160	9.9	9.0	335	8.1
13	44	295	35	30	133	11	9.0	325	7.9
14	46	320	40	22	209	12	8.0	317	6.8
15	49	420	56	33	215	19	7.0	249	4.7
16	49	245	32	32	217	19	6.0	220	3.6
17	49	171	23	36	258	25	5.0	225	3.0
18	49	234	31	44	303	36	6.0	277	4.5
19	44	213	25	35	242	23	7.0	271	5.1
20	41	188	21	17	286	13	9.0	263	6.4
21	35	206	19	20	350	19	9.0	252	6.1
22	38	157	16	19	284	15	9.0	263	6.4
23	39	232	24	19	240	12	8.0	267	5.8
24	42	156	18	19	191	9.8	8.5	250	5.7
25	41	172	19	19	210	11	9.0	271	6.6
26	41	164	18	20	223	12	8.0	275	5.9
27	41	187	21	20	191	10	8.0	280	6.0
28	39	200	21	20	188	10	8.0	285	6.2
29	39	190	20	19	221	11	8.5	290	6.7
30	41	200	22	18	225	11	9.0	295	7.2
31	41	208	23	---	---	---	8.0	300	6.5
TOTAL	1264	---	797	890	---	482.7	360.0	---	275.2

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	TEMPERATURE (DEG C) (00010)	INSTANTANEOUS DISCHARGE (CFS) (00061)	SUSPENDED SEDIMENT (MG/L) (80154)	SUSPENDED SEDIMENT DISCHARGE (T/DAY) (80155)	SUS. SED. FALL DIAM. % FINER THAN (70337)	SUS. SED. FALL DIAM. % FINER THAN (70338)	SUS. SED. FALL DIAM. % FINER THAN (70340)	SUS. SED. FALL DIAM. % FINER THAN (70342)	SUS. SED. FALL DIAM. % FINER THAN (70343)	SUS. SED. FALL DIAM. % FINER THAN (70344)
APR											
29...	1350	4.0	5280	8270	118000	56	61	84	99	100	--
29...	1630	4.0	5720	7010	108000	54	61	--	99	100	--
JUN											
22...	1815	23.0	2000	3860	20100	74	81	94	100	--	--
JUL											
08...	1015	30.0	252	3480	2370	67	84	96	98	99	100
10...	1900	26.0	276	4220	3140	78	86	97	100	--	--
12...	1830	32.0	179	5890	2850	74	88	89	100	--	--
AUG											
24...	1730	--	83	3830	858	83	88	96	100	--	--

06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	7.0	305	5.8	18	207	10	150	312	126
2	6.0	303	4.9	16	175	7.6	100	315	85
3	5.0	277	3.7	16	298	13	90	310	75
4	4.0	332	3.6	14	331	13	85	336	77
5	3.5	282	2.7	14	650	25	75	324	66
6	3.5	395	3.7	16	841	36	80	355	77
7	3.5	314	3.0	30	508	41	85	442	101
8	4.0	360	3.9	50	410	55	90	352	86
9	5.0	268	3.6	80	545	118	85	298	68
10	6.0	336	5.4	120	415	134	85	300	69
11	7.0	356	6.7	220	310	184	85	310	71
12	7.0	302	5.7	240	300	194	80	320	69
13	7.0	244	4.6	260	296	208	85	330	76
14	8.0	250	5.4	260	255	179	85	350	80
15	8.0	251	5.4	280	322	243	90	368	89
16	9.0	254	6.2	280	500	378	90	428	104
17	10	240	6.5	300	645	522	100	406	110
18	10	226	6.1	290	700	548	250	853	576
19	11	281	8.3	280	800	605	330	1170	1040
20	12	261	8.5	280	900	680	305	1160	955
21	12	286	9.3	300	753	610	224	1080	653
22	14	189	7.1	300	700	567	205	1290	714
23	14	117	4.4	320	600	518	213	936	538
24	14	245	9.3	300	495	401	194	871	456
25	12	197	6.4	280	400	302	176	757	360
26	14	162	6.1	260	308	216	169	698	318
27	16	189	8.2	240	452	293	133	538	193
28	16	155	6.7	220	354	210	103	427	119
29	18	186	9.0	200	302	163	87	305	72
30	18	180	8.7	---	---	---	78	294	62
31	18	134	6.5	---	---	---	74	222	44
TOTAL	302.5	---	185.4	5484	---	7473.6	4081	---	7529

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	BED MAT. FALL DIAM. % FINER THAN 5.00 MM (R0161)	BED MAT. FALL DIAM. % FINER THAN 1.00 MM (R0162)	BED MAT. FALL DIAM. % FINER THAN 2.00 MM (R0169)	BED MAT. FALL DIAM. % FINER THAN 4.00 MM (R0170)	BED MAT. FALL DIAM. % FINER THAN 8.00 MM (R0171)	BED MAT. FALL DIAM. % FINER THAN 16.0 MM (R0172)	BED MAT. FALL DIAM. % FINER THAN 32.0 MM (R0173)
OCT 30...	97	100	--	--	--	--	--
APR 17...	80	94	97	98	99	100	--
29...	8	27	46	66	81	96	100
MAY 20...	96	97	98	99	99	100	--
JUN 11...	86	94	97	99	99	100	--
JUL 18...	98	99	100	--	--	--	--
AUG 05...	94	98	100	--	--	--	--

GRAND RIVER BASIN

06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY). WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	69	200	37	82	1510	334	29	3740	293
2	64	187	32	69	1490	278	21	2040	116
3	62	161	27	62	1480	248	16	2120	92
4	59	155	25	59	334	53	24	2300	149
5	57	153	24	57	314	48	133	8400	3020
6	54	158	23	52	307	43	78	7000	1470
7	52	141	20	49	420	56	47	6900	876
8	50	170	23	50	329	44	30	2900	235
9	47	157	20	49	364	48	23	2050	127
10	44	190	23	42	355	40	21	1980	112
11	42	170	19	35	434	41	30	1590	129
12	41	150	17	32	400	35	25	1400	94
13	41	130	14	35	380	36	29	2070	162
14	41	125	14	41	367	41	15	1490	60
15	39	120	13	59	503	80	33	1500	134
16	64	700	125	66	354	63	26	1000	70
17	151	2200	897	55	289	43	199	11000	5910
18	313	7200	6080	50	337	45	216	11000	6420
19	409	11400	12600	44	315	37	156	9500	4000
20	270	5400	3940	39	300	32	124	7710	2580
21	192	3200	1660	38	574	59	82	7690	1700
22	176	4300	2040	47	503	64	78	4610	971
23	144	4800	1890	50	573	77	74	4570	913
24	142	3900	1500	82	2200	487	59	5570	887
25	128	3400	1180	80	2070	447	765	7500	15500
26	207	2840	1590	55	3000	445	661	13000	23200
27	202	2930	1600	52	4000	562	295	7300	5810
28	161	2960	1290	82	5000	1110	276	4500	3350
29	115	1410	500	80	4000	864	299	6700	5410
30	99	1600	428	59	3780	602	181	4300	2100
31	---	---	---	42	3770	428	---	---	---
TOTAL	3539	---	37651	1694	---	6790	4045	---	85890

WATER QUALITY DATA. WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TEMPER- ATURE (DEG C) (00010)	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	SUS- PENDE SEDIM- ENT (MG/L) (80154)	SUS- PENDE DIS- CHARGE (T/DAY) (80155)	SUS. SED. FALL DIAM. % FINER THAN .002 MM (70337)	SUS. SED. FALL DIAM. % FINER THAN .004 MM (70338)	SUS. SED. FALL DIAM. % FINER THAN .016 MM (70340)	SUS. SED. FALL DIAM. % FINER THAN .062 MM (70342)
JUN									
05...	1645	26.0	120	8770	2840	82	94	98	100
19...	1915	22.0	133	10700	3840	86	92	99	100
JUL									
07...	1015	25.0	130	2700	948	68	79	96	100

06357800 GRAND RIVER AT LITTLE EAGLE, SD--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	120	3300	1070	41	314	35	21	255	14
2	70	2600	491	39	294	31	21	255	14
3	59	2000	319	36	265	26	17	258	12
4	78	2300	484	32	236	20	22	260	15
5	202	8000	4360	33	266	24	22	258	15
6	184	9000	4470	38	248	25	21	256	15
7	122	4800	1580	38	266	27	17	254	12
8	82	4700	1040	35	294	28	22	254	15
9	57	4600	708	32	281	24	23	254	16
10	50	4490	606	29	205	16	26	250	18
11	91	4840	1190	26	192	13	28	252	19
12	76	1270	261	23	187	12	26	250	18
13	49	1280	169	28	213	16	23	254	16
14	50	633	85	36	220	21	28	254	19
15	49	500	66	23	253	16	28	254	19
16	52	400	56	17	170	7.8	23	252	16
17	49	374	49	17	229	11	21	252	14
18	42	334	38	18	235	11	21	253	14
19	41	343	38	18	180	8.7	26	253	18
20	35	350	33	20	185	10	28	253	19
21	35	400	38	18	192	9.3	32	260	22
22	32	450	39	17	185	8.5	26	260	18
23	32	468	40	14	200	7.6	32	258	22
24	32	449	39	10	217	5.9	33	258	23
25	26	365	26	11	185	5.5	30	256	21
26	28	461	35	10	192	5.2	29	256	20
27	28	307	23	8.4	205	4.6	28	256	19
28	30	381	31	9.2	266	6.6	15	255	10
29	32	331	29	15	255	10	73	255	50
30	35	325	31	17	231	11	52	255	36
31	38	320	33	23	252	16	---	---	---
TOTAL	1906	---	17477	731.6	---	472.7	814	---	559
YEAR	25111.1		165582.6						

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TEMPER- ATURE (DEG C) (00010)	NUMBER OF SAM- PLING POINTS (00063)	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	BED	BED	BED	BED	BED	BED	BED
					MAT. FALL DIAM. % FINER THAN .062 MM (80158)	MAT. FALL DIAM. % FINER THAN .125 MM (80159)	MAT. FALL DIAM. % FINER THAN .250 MM (80160)	MAT. FALL DIAM. % FINER THAN .500 MM (80161)	MAT. FALL DIAM. % FINER THAN 1.00 MM (80162)	MAT. FALL DIAM. % FINER THAN 2.00 MM (80169)	MAT. FALL DIAM. % FINER THAN 4.00 MM (80170)
OCT 28...	1430	5.0	1	40	2	6	56	93	100	--	--
APR 13...	1315	18.0	1	40	1	2	33	82	95	98	100
JUN 07...	1530	26.0	1	46	0	1	68	94	99	100	--
JUL 07...	1015	25.0	1	130	0	2	78	96	99	100	--

MOREAU RIVER BASIN

06359500 MOREAU RIVER NEAR FAITH, SD

LOCATION.--Lat 45°11'52", long 102°09'22", in NW¼NW¼ sec.10, T.14 N., R.16 E., Perkins County, Hydrologic Unit 10130306, on left bank 10 ft (3 m) downstream from bridge on State Highway 73, 3.1 mi (5.0 km) downstream from Rabbit Creek and 13.5 mi (21.7 km) northwest of Faith.

DRAINAGE AREA.--2,660 mi² (6,890 km²), approximately.

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

REVISED RECORDS.--WSP 1176: 1944. WSP 1279: 1946(M).

GAGE.--Water-stage recorder. Datum of gage is 2,238.68 ft (682.350 m) above mean sea level. Prior to Oct. 5, 1949, nonrecording gage 0.3 mi (0.5 km) upstream and Oct. 5, 1949, to July 16, 1959, nonrecording gage and crest-stage gage at present site; both at datum 1.0 ft (0.30 m) higher. July 17, 1959, to Sept. 1, 1971, recording gage at site 500 ft (152 m) downstream at present datum.

REMARKS.--Records good except those for winter periods, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--33 years, 135 ft³/s (3.823 m³/s), 97,810 acre-ft/yr (121 hm³/yr); median of yearly mean discharges, 99 ft³/s (2.80 m³/s), 71,700 acre-ft/yr (88 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,000 ft³/s (736 m³/s) Apr. 9, 1944, gage height, 20.9 ft (6.37 m), from floodmarks, site and datum then in use, from rating curve extended above 12,000 ft³/s (34 m³/s) on basis of slope-area measurement of peak flow; no flow at times in 1944, 1946, 1948-51, 1955-66, 1968-71, 1974-75.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
June 17	1200	*11000 312	*15.63 4.764	June 19	2400	8590 243	14.04 4.279

Minimum daily discharge, 2.0 ft³/s (0.057 m³/s) Dec. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	8.2	4.0	6.0	250	25	19	15	11	114	17	6.0
2	3.8	8.2	4.5	5.0	200	15	15	13	10	99	14	5.4
3	4.0	8.5	5.0	4.5	150	15	17	13	8.2	418	13	5.1
4	4.0	8.5	6.0	5.0	100	15	17	13	7.2	566	12	5.1
5	4.0	8.5	6.0	6.0	50	17	17	17	6.3	379	12	4.0
6	4.0	8.5	5.0	6.0	55	20	15	14	5.7	169	13	3.4
7	3.8	8.5	5.0	4.0	60	20	14	13	6.3	159	14	3.4
8	3.0	8.5	5.0	3.0	65	25	14	13	6.3	196	13	4.0
9	3.0	8.5	6.0	3.5	70	40	13	12	5.7	135	12	4.0
10	2.7	8.8	6.0	4.0	70	50	13	9.8	5.1	101	12	4.0
11	3.2	8.5	5.0	5.0	75	45	13	9.1	118	83	13	4.0
12	3.8	8.0	4.5	5.0	80	50	13	9.8	70	65	13	4.0
13	4.0	8.0	4.0	4.0	90	50	13	12	41	61	12	4.0
14	4.5	8.5	3.5	4.5	120	50	12	12	68	129	14	4.0
15	5.1	8.8	3.0	5.0	150	60	12	14	492	148	12	4.5
16	5.4	8.8	2.5	5.0	200	100	18	17	3530	88	11	4.8
17	6.0	8.5	2.0	10	220	120	29	15	1970	68	10	4.8
18	6.0	8.0	3.0	15	200	120	21	19	4840	57	11	6.8
19	6.3	7.5	4.0	12	200	100	22	15	5980	49	26	6.0
20	6.3	7.0	5.0	15	200	50	22	12	5670	40	31	5.4
21	6.3	6.5	6.0	20	200	45	78	33	1310	37	20	4.2
22	6.3	6.0	6.0	25	210	50	98	33	591	34	14	3.8
23	6.9	5.0	5.5	30	240	55	68	36	477	31	12	4.5
24	7.2	4.5	6.0	25	150	45	51	23	512	28	9.8	4.8
25	7.2	4.0	7.0	20	100	46	39	18	335	24	9.4	5.4
26	7.5	4.0	7.5	15	100	40	31	23	239	21	9.4	6.0
27	7.5	4.0	8.0	20	70	36	26	23	198	19	8.8	6.0
28	7.5	4.0	8.0	25	50	29	22	17	237	18	8.2	6.0
29	7.5	4.0	8.0	50	25	25	21	13	168	19	8.2	6.0
30	7.8	4.0	8.0	100	---	23	17	11	136	21	7.5	6.0
31	8.2	---	7.0	200	---	22	---	10	---	19	6.9	---
TOTAL	166.4	212.3	166.0	657.5	3750	1403	780	507.7	27053.8	3395	399.2	145.4
MEAN	5.37	7.08	5.35	21.2	129	45.3	26.0	16.4	902	110	12.9	4.85
MAX	8.2	8.8	8.0	200	250	120	98	36	5980	566	31	6.8
MIN	2.7	4.0	2.0	3.0	25	15	12	9.1	5.1	18	6.9	3.4
AC-FT	330	421	329	1300	7440	2780	1550	1010	53660	6730	792	288

CAL YR 1975	TOTAL	67455.90	MEAN	185	MAX	6020	MIN	0	AC-FT	133800
WTR YR 1976	TOTAL	38636.30	MEAN	106	MAX	5980	MIN	2.0	AC-FT	76640

MOREAU RIVER BASIN

53

06360500 MOREAU RIVER NEAR WHITEHORSE, SD

LOCATION.--Lat 45°15'21", long 100°50'33", in SW¼SE¼ sec.17, T.15 N., R.27 E., Dewey County, Hydrologic Unit 10130306, on left bank 30 ft (9 m) downstream from bridge, 2.4 mi (3.9 km) southeast of Whitehorse, 8.8 mi (14.2 km) downstream from Little Moreau River, and 16.3 mi (26.2 km) southeast of town of Timber Lake.

DRAINAGE AREA.--4,880 mi² (12,640 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1954 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,661.48 ft (506.419 m) above mean sea level. Prior to Nov. 24, 1954, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are poor.

AVERAGE DISCHARGE.--22 years, 190 ft³/s (5.381 m³/s), 137,700 acre-ft/yr (170 hm³/yr); median of yearly mean discharges, 130 ft³/s (3.68 m³/s), 94,200 acre-ft/yr (120 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,000 ft³/s (595 m³/s) Mar. 14, 1972; maximum gage height, 26.20 ft (7.986 m) Mar. 14, 1972 (backwater from ice); no flow at times each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1953 reached a stage of about 26.2 ft (7.99 m). Flood in March 1947 was probably higher.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,800 ft³/s (51 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
June 19	1515	*8600 244	*16.34 4.980	June 25	0200	2500 70.8	7.83 2.387
June 21	1930	7390 209	15.19 4.630				

Minimum discharge, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0	.30	160	100	47	35	19	234	13	
2			0	.10	150	100	39	29	16	166	12	
3			0	0	100	100	38	26	13	139	10	
4			0	0	80	95	35	22	11	122	8.9	
5			0	0	70	95	32	19	8.9	103	7.8	
6			0	0	65	100	28	18	6.7	477	7.4	
7			0	0	70	120	27	16	4.7	534	6.5	
8			0	0	85	130	26	14	3.2	269	4.7	
9			0	0	90	130	24	11	2.1	162	4.5	
10			0	0	90	140	22	13	1.4	118	4.5	
11			0	0	95	120	19	11	2.1	149	4.1	
12			0	0	100	110	19	12	1.7	118	3.2	
13			0	0	130	120	17	14	1.6	90	2.0	
14			0	0	200	120	17	12	5.6	73	1.5	
15			0	0	240	140	17	13	606	60	1.0	
16			0	0	260	170	20	13	332	52	.80	
17			0	0	250	200	40	11	893	46	.60	
18			0	0	240	250	36	9.1	3690	76	.40	
19			.40	0	240	240	66	7.7	7860	95	.20	
20			.60	0	220	208	103	6.8	4460	71	0	
21			.50	0	220	166	78	9.7	6490	58	0	
22			.50	0	250	164	65	19	4410	44	0	
23			.40	0	300	128	51	14	1710	37	0	
24			.40	0	280	113	53	15	2020	31	0	
25			.50	0	260	101	71	11	2240	25	0	
26			.60	0	200	106	78	16	1360	20	0	
27			.60	0	150	88	73	18	795	18	0	
28			1.0	30	130	76	60	23	488	17	0	
29			1.0	70	110	62	50	29	315	16	0	
30			.80	150	---	58	42	27	231	15	0	
31		---	.50	130	---	51	---	22	---	14	0	---
TOTAL	0	0	7.80	380.40	4835	3901	1293	516.3	37997.0	3449	93.10	0
MEAN	0	0	.25	12.3	167	126	43.1	16.7	1267	111	3.00	0
MAX	0	0	1.0	150	300	250	103	35	7860	534	13	0
MIN	0	0	0	0	65	51	17	6.8	1.4	14	0	0
AC-FT	0	0	15	755	9590	7740	2560	1020	75370	6840	185	0
CAL YR 1975	TOTAL	135975.83	MEAN	373	MAX	9740	MIN	0	AC-FT	269700		
WTR YR 1976	TOTAL	52472.60	MEAN	143	MAX	7860	MIN	0	AC-FT	104100		

06360500 MOREAU RIVER NEAR WHITEHORSE, SD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969, 1972 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT DISCHARGE: October 1970 to current year.

INSTRUMENTATION.--Automatic pumping sediment sampler since September 1974.

REMARKS.--Records poor. Flow affected by ice Dec. 19 to Mar. 18; no flow Oct. 1 to Dec. 18, Jan. 3-27, Aug. 20 to Sept. 30. Sediment-discharge records prior to Oct. 1, 1971, on file in the District office, Corps of Engineers, Omaha, Ne.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 20,300 mg/L May 9, 1972; minimum daily mean, 0 mg/L on many days most years.

SEDIMENT LOADS: Maximum daily, 420,000 tons (381,000 tonnes) May 10, 1975; minimum daily, 0 ton (0 tonne) on many days each year.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 16,900 mg/L June 18; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOADS: Maximum daily, 267,000 tons (242,000 tonnes) June 19; minimum daily, 0 ton (0 tonne) on many days.

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1							0	0	0
2							0	0	0
3							0	0	0
4							0	0	0
5							0	0	0
6							0	0	0
7							0	0	0
8							0	0	0
9							0	0	0
10							0	0	0
11							0	0	0
12							0	0	0
13							0	0	0
14							0	0	0
15							0	0	0
16							0	0	0
17							0	0	0
18							0	0	0
19							.40	500	.54
20							.60	1000	1.6
21							.50	1500	2.0
22							.50	830	1.1
23							.40	850	.92
24							.40	800	.86
25							.50	750	1.0
26							.60	700	1.1
27							.60	650	1.1
28							1.0	600	1.6
29							1.0	500	1.4
30							.80	450	.97
31							.50	400	.54
TOTAL	0	0	0	0	0	0	7.80	---	14.73

06360500 MOREAU RIVER NEAR WHITEHORSE, SD--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	JANUARY				FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	
1	.30	350	.28	160	700	302	100	660	178	
2	.10	300	.08	150	500	202	100	640	173	
3	0	0	0	100	400	108	100	620	167	
4	0	0	0	80	350	76	95	600	154	
5	0	0	0	70	300	57	95	590	151	
6	0	0	0	65	310	54	100	570	154	
7	0	0	0	70	300	57	120	560	181	
8	0	0	0	85	290	67	130	550	193	
9	0	0	0	90	295	72	130	540	190	
10	0	0	0	90	300	73	140	530	200	
11	0	0	0	95	300	77	120	520	168	
12	0	0	0	100	300	81	110	510	151	
13	0	0	0	130	500	175	120	500	162	
14	0	0	0	200	800	432	120	500	162	
15	0	0	0	240	1000	648	140	495	187	
16	0	0	0	260	1200	842	170	497	228	
17	0	0	0	250	1000	675	200	794	429	
18	0	0	0	240	961	623	250	613	414	
19	0	0	0	240	800	518	240	650	421	
20	0	0	0	220	850	505	208	678	381	
21	0	0	0	220	700	416	166	646	290	
22	0	0	0	250	680	459	164	724	321	
23	0	0	0	300	660	535	128	710	245	
24	0	0	0	280	640	484	113	687	210	
25	0	0	0	260	620	435	101	347	95	
26	0	0	0	200	800	432	106	296	85	
27	0	0	0	150	750	304	88	323	77	
28	30	500	40	130	700	246	76	380	78	
29	70	1000	189	110	680	202	62	319	53	
30	150	1500	607	---	---	---	58	354	55	
31	130	900	316	---	---	---	51	300	41	
TOTAL	380.40	---	1152.36	4835	---	9157	3901	---	5994	

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	TEMPER- ATURE (DEG C) (00010)	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	SUS- PEN- DED SEDI- MENT (MG/L) (80154)	SUS- PEN- DED SEDI- MENT (T/DAY) (80155)	SUS- SED. FALL DIAM. % FINER THAN .002 MM (70337)	SUS- SED. FALL DIAM. % FINER THAN .004 MM (70338)
APR							
18...	1430	4.5	3590	7740	75000	52	61
28...	1445	10.0	2960	24500	196000	60	68
MAY							
02...	0810	7.0	5730	10600	164000	45	58
10...	1100	12.0	7310	20200	399000	42	59
JUN							
04...	1800	25.0	203	6540	3580	68	80
05...	1830	25.0	142	3420	1310	70	79

MOREAU RIVER BASIN

06360500 MOREAU RIVER NEAR WHITEHORSE, SD--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	47	250	32	35	484	46	19	410	21
2	39	173	18	29	376	29	16	420	18
3	38	107	31	26	465	33	13	450	16
4	35	302	29	22	292	17	11	470	14
5	32	235	20	19	300	15	8.9	480	12
6	28	193	15	18	320	16	6.7	490	8.9
7	27	279	20	16	340	15	4.7	485	6.2
8	26	222	16	14	350	13	3.2	480	4.1
9	24	204	13	11	355	11	2.1	450	2.6
10	22	202	12	13	392	14	1.4	400	1.5
11	19	200	10	11	656	19	2.1	380	2.2
12	19	171	8.8	12	742	24	1.7	360	1.7
13	17	196	9.0	14	604	23	1.6	360	1.6
14	17	148	6.8	12	550	18	5.6	350	5.3
15	17	150	6.9	13	500	18	606	11000	18000
16	20	180	9.7	13	350	12	332	12500	11200
17	40	200	22	11	300	8.9	893	6800	16400
18	36	210	20	9.1	260	6.4	3690	16900	168000
19	66	215	38	7.7	300	6.2	7860	12600	267000
20	103	500	139	6.8	311	5.7	4460	8000	96300
21	78	254	53	9.7	284	7.4	6490	8600	151000
22	65	316	55	19	351	18	4410	5900	70300
23	51	351	48	14	429	16	1710	2800	12900
24	53	400	57	15	567	23	2020	7000	38200
25	71	650	125	11	347	10	2240	2500	15100
26	78	600	126	16	319	14	1360	1500	5510
27	73	450	89	18	493	24	795	1660	3560
28	60	300	49	23	362	22	488	1200	1580
29	50	294	40	29	370	29	315	900	765
30	42	437	50	27	390	28	231	700	437
31	---	---	---	22	400	24	---	---	---
TOTAL	1293	---	1168.2	516.3	---	565.6	37997.0	---	876367.1

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	SUS. SED. FALL DIAM. % FINER THAN (70340)	SUS. SED. FALL DIAM. % FINER THAN (70342)	SUS. SED. FALL DIAM. % FINER THAN (70343)	SUS. SED. FALL DIAM. % FINER THAN (70344)	SUS. SED. FALL DIAM. % FINER THAN (70345)	SUS. SED. FALL DIAM. % FINER THAN (70346)	SUS. SED. FALL DIAM. % FINER THAN (70347)
	.016 MM	.062 MM	.125 MM	.250 MM	.500 MM	1.00 MM	2.00 MM
APR							
19...	79	94	96	98	99	99	100
28...	87	98	99	100	--	--	--
MAY							
02...	78	93	99	100	--	--	--
10...	80	96	99	100	--	--	--
AUG							
04...	90	91	92	99	100	--	--
05...	90	92	92	96	100	--	--

MOREAU RIVER BASIN

57

06360500 MOREAU RIVER NEAR WHITEHORSE, SD--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	234	500	316	13	248	8.7			
2	166	399	179	12	305	9.9			
3	139	370	139	10	232	6.3			
4	122	340	112	8.9	230	5.5			
5	103	300	83	7.8	225	4.7			
6	477	2000	2580	7.4	220	4.4			
7	534	3000	4330	6.5	220	3.9			
8	269	1500	1090	4.7	215	2.7			
9	162	700	306	4.5	210	2.6			
10	118	500	159	4.5	205	2.5			
11	149	1200	483	4.1	199	2.2			
12	118	1000	319	3.2	210	1.8			
13	90	600	146	2.0	223	1.2			
14	73	500	99	1.5	230	.93			
15	60	400	65	1.0	243	.66			
16	52	300	42	.80	235	.51			
17	46	200	25	.60	298	.48			
18	76	1000	205	.40	288	.31			
19	95	700	180	.20	222	.12			
20	71	500	96	0	0	0			
21	58	450	70	0	0	0			
22	44	400	48	0	0	0			
23	37	370	37	0	0	0			
24	31	350	29	0	0	0			
25	25	340	23	0	0	0			
26	20	330	18	0	0	0			
27	18	310	15	0	0	0			
28	17	300	14	0	0	0			
29	16	290	13	0	0	0			
30	15	280	11	0	0	0			
31	14	260	9.8	0	0	0			
TOTAL	3449	---	11241.8	93.10	---	59.41	0	0	0
YEAR	52472.60		905720.2						

MOREAU RIVER BASIN

06360500 MOREAU RIVER NEAR WHITEHORSE, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	TEMPER- ATURE (DEG C) (00010)	NUMBER OF SAM- PLING POINTS (00063)	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	BED MAT. FALL DIAM. % FINER THAN .062 MM (80158)	BED MAT. FALL DIAM. % FINER THAN .125 MM (80159)	BED MAT. FALL DIAM. % FINER THAN .250 MM (80160)
APR							
18...	1430	4.5	2	3590	1	1	4
28...	1445	10.0	2	2960	2	5	30
MAY							
21...	0930	12.5	2	309	1	4	64
JUN							
11...	1400	19.5	2	111	--	0	58
JUL							
08...	1415	30.0	2	141	1	5	66
AUG							
05...	1515	25.0	2	142	1	2	44

DATE	BED MAT. FALL DIAM. % FINER THAN .500 MM (80161)	BED MAT. FALL DIAM. % FINER THAN 1.00 MM (80162)	BED MAT. FALL DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. FALL DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. FALL DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. FALL DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. FALL DIAM. % FINER THAN 32.0 MM (80173)
APR							
18...	9	20	35	59	84	98	100
28...	51	61	70	79	90	98	100
MAY							
21...	75	81	87	94	99	100	--
JUN							
11...	81	86	89	91	93	99	100
JUL							
08...	89	95	98	99	100	--	--
AUG							
05...	58	61	64	70	81	95	100

CHEYENNE RIVER BASIN

59

06392900 BEAVER CREEK AT MALLO CAMP, NEAR FOUR CORNERS, WY

LOCATION.--Lat 44°05'04", long 104°03'41", in NE¼NE¼ sec.4, T.47 N., R.60 W., Weston County, Wy., Hydrologic Unit 10120107, between Forest Service Road 811 and right bank in Mallo Campgrounds, 300 ft (91 m) upstream from mouth, 800 ft (244 m) upstream from dam on Stockade Beaver Creek, and 3.8 mi (6.1 km) east of Four Corners, Wy.

DRAINAGE AREA.--10.3 mi² (26.7 km²).

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,030 ft (1,840 m), from topographic map.

REMARKS.--Records good except those for winter periods, which are poor. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21 ft³/s (0.595 m³/s) Apr. 26, gage height, 5.40 ft (1.646 m); minimum daily, 1.1 ft³/s (0.031 m³/s) Sept. 9.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5.5 ft³/s (0.156 m³/s) Mar. 8; maximum gage height, 5.21 ft (1.588 m) Nov. 22 (backwater from ice), no peak above base of 10 ft³/s (0.28 m³/s); minimum daily discharge, 0.42 ft³/s (0.012 m³/s) Sept. 29, 30.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 30 to Sept. 30; stage-discharge relation affected by ice Oct. 25, 26, Nov. 10-14, 20-26, Dec. 2, 14-28, Dec. 30 to Jan. 10, Jan. 25-27, Feb. 5-9, 21, 22, Mar. 3-7)

3.8	0.30	4.2	1.5
3.9	.50	4.4	2.7
4.1	1.1		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.6	1.5	1.0	1.1	1.3	1.5	1.5	1.5	1.9	1.1	.62
2	1.5	1.6	2.0	.90	1.1	1.3	1.5	1.4	1.5	1.9	1.1	.68
3	1.5	1.6	1.4	.80	1.1	1.3	1.5	1.3	1.5	1.8	1.1	.68
4	1.5	1.6	1.4	.90	1.1	1.3	1.5	1.3	1.5	1.8	1.1	.68
5	1.6	1.5	1.4	1.0	1.0	1.1	1.5	1.4	1.8	1.8	1.0	.71
6	1.6	1.5	1.4	.90	.90	1.3	1.7	1.4	2.3	1.6	.98	.74
7	1.6	1.5	1.4	.80	1.0	1.7	1.7	1.4	2.1	1.6	.86	.74
8	1.6	1.5	1.5	.70	1.1	1.7	1.7	1.4	2.0	1.6	.77	.80
9	1.6	1.5	1.5	.80	1.2	1.4	1.9	1.4	1.9	1.5	.71	.80
10	1.6	1.5	1.5	1.0	1.2	1.4	1.9	1.4	1.8	1.5	.71	.77
11	1.6	1.4	1.5	1.1	1.1	1.4	1.9	1.4	1.7	1.5	.71	.77
12	1.6	1.4	1.5	1.1	1.2	1.3	2.0	1.6	1.6	1.4	.68	.80
13	1.6	1.4	1.5	1.1	1.1	1.5	2.0	1.6	1.5	1.6	.65	.77
14	1.6	1.5	1.1	1.0	1.1	1.5	2.0	1.5	1.9	1.5	.65	.74
15	1.6	1.5	1.1	1.1	1.1	1.4	1.9	1.6	2.6	1.5	.71	.71
16	1.6	1.5	1.0	1.1	1.2	1.4	1.9	1.5	2.4	1.4	.71	.71
17	1.5	1.5	.70	1.1	1.2	1.4	1.9	1.6	2.2	1.4	.62	.68
18	1.5	1.5	.80	1.1	1.2	1.5	1.9	1.5	2.2	1.3	.59	.62
19	1.5	1.5	.80	1.1	1.2	1.5	1.8	1.5	2.1	1.3	.62	.56
20	1.5	1.5	.80	1.1	1.3	1.5	1.6	1.5	2.0	1.3	.62	.56
21	1.5	1.5	.90	1.2	1.3	1.5	1.6	2.0	2.1	1.3	.68	.50
22	1.5	1.5	.90	1.1	1.3	1.5	1.6	1.9	2.2	1.3	.68	.48
23	1.5	1.5	.90	1.2	1.3	1.5	1.6	1.8	2.2	1.3	.65	.48
24	1.6	1.5	.90	1.1	1.3	1.5	1.6	1.6	2.1	1.2	.65	.48
25	1.5	1.5	1.0	1.1	1.3	1.5	1.6	1.5	2.1	1.2	.65	.44
26	1.5	1.5	1.0	1.0	1.3	1.4	1.5	1.5	2.1	1.2	.65	.48
27	1.6	1.5	1.0	1.1	1.3	1.5	1.5	1.5	2.0	1.2	.65	.46
28	1.6	1.4	1.0	1.2	1.3	1.5	1.5	1.5	2.0	1.1	.68	.44
29	1.6	1.3	1.1	1.1	1.3	1.5	1.5	1.5	2.0	1.1	.68	.42
30	1.6	1.1	1.0	1.1	---	1.5	1.5	1.5	1.9	1.1	.65	.42
31	1.6	---	1.0	1.1	---	1.5	---	1.5	---	1.1	.59	---
TOTAL	48.2	44.4	36.50	32.00	34.20	44.6	50.8	47.0	58.8	44.3	23.20	18.74
MEAN	1.55	1.44	1.18	1.03	1.18	1.44	1.69	1.52	1.96	1.43	.75	.62
MAX	1.6	1.6	2.0	1.2	1.3	1.7	2.0	2.0	2.6	1.9	1.1	.80
MIN	1.4	1.1	.70	.70	.90	1.1	1.5	1.3	1.5	1.1	.59	.42
AC-FT	96	88	72	63	68	88	101	93	117	88	46	37

CAL YR 1975	TOTAL	693.20	MEAN	1.90	MAX	6.9	MIN	.70	AC-FT	1370
WTR YR 1976	TOTAL	482.74	MEAN	1.32	MAX	2.6	MIN	.42	AC-FT	958

CHEYENNE RIVER BASIN

06392950 STOCKADE BEAVER CREEK NEAR NEWCASTLE, WY

LOCATION.--Lat 43°51'30", long 104°06'23", in SW¼SE¼ sec.19, T.45 N., R.60 W., Weston County, Hydrologic Unit 10120107, on left bank at downstream side of bridge on county highway 0.6 mi (1.0 km) upstream from South Draw, 2.5 mi (4.0 km) upstream of LAK Reservoir Dam, and 4.7 mi (7.6 km) east of Newcastle.

DRAINAGE AREA.--107 mi² (277 km²).

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,455 ft (1,358 m), from topographic map.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39 ft³/s (1.10 m³/s) Apr. 7, gage height, 6.72 ft (2.048 m); maximum gage height, 7.91 ft (2.411 m) Jan. 12 (backwater from ice); minimum daily discharge, 8.9 ft³/s (0.25 m³/s) for many days.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 22 ft³/s (0.623 m³/s) June 15; maximum gage height, 7.45 ft (2.271 m) Jan. 4 (backwater from ice); minimum daily discharge, 8.9 ft³/s (0.252 m³/s) June 4-11.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Nov. 19, Nov. 22-28, Dec. 2-14, 19, 30;
stage-discharge relation affected by ice Nov. 20, 21, Nov. 29 to Dec. 1,
Dec. 15-18, Jan. 1-4, 7-9, 13, 14, 25, 26, Feb. 4-7, Mar. 5, 12)

5.9	6.9	6.3	18
6.1	12	6.4	22

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	15	14	13	14	14	13	12	10	14	11	13
2	11	15	15	13	14	14	14	12	9.8	14	11	12
3	11	15	14	12	14	14	13	12	9.4	14	11	12
4	11	15	15	12	12	14	14	12	8.9	13	11	12
5	12	15	14	14	11	14	14	11	8.9	13	10	12
6	11	15	14	14	10	14	14	11	8.9	13	10	12
7	11	15	14	12	13	14	15	11	8.9	13	10	13
8	11	14	14	12	14	14	14	11	8.9	13	9.8	13
9	12	14	15	13	15	14	14	11	8.9	13	9.8	12
10	12	14	15	14	14	14	14	11	8.9	12	10	11
11	12	15	15	14	14	14	13	9.6	8.9	12	11	10
12	12	15	16	14	14	14	14	10	9.8	12	10	11
13	12	15	16	13	14	14	14	10	11	12	10	10
14	12	15	16	13	15	14	14	9.6	18	12	10	10
15	12	14	15	14	14	15	12	9.4	22	13	12	10
16	12	14	15	14	14	14	12	9.4	16	13	11	9.8
17	12	14	14	14	14	15	13	9.4	14	13	9.8	9.8
18	12	14	13	14	14	14	13	9.4	14	13	9.4	9.8
19	12	14	14	14	14	14	12	9.1	14	13	9.1	9.8
20	13	13	14	14	13	14	12	9.1	14	13	9.4	10
21	13	13	14	14	13	14	12	11	14	13	9.6	10
22	13	14	14	14	13	14	12	11	14	13	10	9.8
23	13	14	14	14	13	14	12	10	16	13	10	11
24	13	14	14	14	13	14	12	10	15	12	12	11
25	13	14	14	13	13	14	12	9.8	14	12	12	11
26	14	14	14	12	14	14	13	9.8	14	12	13	11
27	14	14	14	14	15	14	13	9.1	14	13	13	11
28	15	14	14	14	14	14	13	9.1	14	13	12	11
29	15	13	14	14	14	14	12	9.1	14	12	12	11
30	15	12	14	14	---	13	13	10	14	10	12	10
31	15	---	14	14	---	13	---	12	---	11	13	---
TOTAL	388	426	446	418	393	434	392	319.9	376.2	392	333.9	329.0
MEAN	12.5	14.2	14.4	13.5	13.6	14.0	13.1	10.3	12.5	12.6	10.8	11.0
MAX	15	15	16	14	15	15	15	12	22	14	13	13
MIN	11	12	13	12	10	13	12	9.1	8.9	10	9.1	9.8
AC-FT	770	845	885	829	780	861	778	635	746	778	662	653
CAL YR 1975	TOTAL	4740.1	MEAN 13.0	MAX 26	MIN 8.9	AC-FT 9400						
WTR YR 1976	TOTAL	4648.0	MEAN 12.7	MAX 22	MIN 8.9	AC-FT 9220						

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LOCATION.--Lat 43°18'20", long 103°49'14", in SW¼SE¼ sec.36, T.8 S., R.2 E., Fall River County, Hydrologic Unit 10120106, on right bank at downstream side of bridge on U.S. Highway 18, at Edgemont, 300 ft (91 m) downstream from Burlington Northern Railroad bridge and 600 ft (183 m) upstream from Cottonwood Creek.

PERIOD OF RECORD.--June 1903 to November 1906 (no winter records), April 1928 to February 1933, October 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3,414.56 ft (1,040.758 m) above mean sea level. Prior to Dec. 1, 1906, nonrecording gage 20 ft (6 m) upstream at datum 0.7 ft (0.21 m) lower. Apr. 11, 1928, to Feb. 28, 1933, Oct. 4, 1946, to Oct. 23, 1947, and Jan. 11, 1961, to Apr. 24, 1963, nonrecording gage, and Apr. 25, 1963, to Sept. 30, 1972, water-stage recorder all at present site at datum 2.00 ft (0.610 m) higher.

AVERAGE DISCHARGE.--34 years, 99.5 ft³/s (2.818 m³/s), 72,090 acre-ft/yr (88.9 hm³/yr); median of yearly mean discharges, 76 ft³/s (2.15 m³/s), 55,100 acre-ft/yr (68 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,800 ft³/s (391 m³/s) May 25, 1971, gage height, 10.57 ft (3.222 m), present datum; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 12, 1920, reached a stage of 13.0 ft (3.96 m) and May 1, 1922, 14.0 ft (4.27 m), present datum, from floodmarks at railroad bridge.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,830 ft³/s (51.8 m³/s) June 18, gage height, 5.27 ft (1.606 m); minimum, 0.12 ft³/s (0.003 m³/s) Sept. 3.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.48	11	4.0	6.0	6.0	20	15	10	767	24	30	.48
2	.72	12	10	4.0	6.0	10	14	9.6	451	22	786	.25
3	.56	12	15	3.0	5.0	5.0	15	13	343	18	224	.12
4	.48	13	15	3.0	3.0	5.0	14	11	223	15	88	.19
5	.64	14	12	5.0	2.0	5.0	10	8.4	120	65	43	.18
6	.64	14	14	3.0	2.0	7.0	16	13	73	83	27	.12
7	.56	14	14	2.0	3.0	8.0	16	12	43	31	21	.19
8	.48	14	16	2.0	5.0	10	13	6.6	23	73	16	.25
9	.80	7.0	20	4.0	10	12	9.6	4.2	18	27	13	.64
10	.80	6.0	18	5.0	9.0	15	11	3.0	16	54	11	.48
11	.72	5.0	15	5.0	9.0	20	10	3.6	13	26	9.6	.40
12	.80	1.8	10	5.0	10	18	12	4.8	12	11	8.4	.48
13	.72	6.0	8.0	4.0	12	15	14	3.0	13	9.6	7.2	.40
14	1.2	19	5.0	4.0	15	15	15	3.6	32	8.4	11	.33
15	2.1	23	5.0	5.0	15	15	16	7.2	96	12	6.6	.33
16	2.4	22	4.0	6.0	12	18	22	5.4	242	8.4	13	.33
17	2.1	22	4.0	7.0	11	20	16	3.6	1620	4.8	8.4	.25
18	2.4	10	5.0	7.0	11	30	14	3.6	1550	2.7	5.4	.19
19	4.8	8.0	6.0	6.0	10	35	12	2.7	513	1.9	2.7	3.6
20	6.0	4.5	7.0	4.0	10	50	13	3.9	318	18	1.9	.56
21	6.6	5.0	8.0	5.0	10	235	27	13	238	26	1.3	.33
22	7.2	6.0	8.0	6.0	12	117	18	8.1	163	6.0	1.0	.33
23	13	2.0	7.0	6.0	15	99	11	25	114	4.2	.72	.33
24	13	2.0	9.0	4.0	20	81	11	20	170	112	.56	.19
25	9.6	2.0	10	3.0	25	70	13	24	157	383	.56	.40
26	11	2.0	9.0	2.0	30	81	16	40	114	90	.48	.33
27	12	2.0	9.0	2.0	50	79	23	68	64	27	.40	.33
28	13	2.0	8.0	4.0	30	53	18	30	49	20	.33	.25
29	18	1.5	9.0	6.0	25	38	14	12	38	15	.32	.25
30	25	1.5	9.0	6.0	---	26	13	12	28	11	.25	.19
31	12	---	8.0	6.0	---	17	---	307	---	10	.48	---
TOTAL	169.80	264.3	301.0	140.0	383.0	1229.0	441.6	691.3	7621	1219.0	1339.60	12.70
MEAN	5.48	8.81	9.71	4.52	13.2	39.6	14.7	22.3	254	39.3	43.2	.42
MAX	25	23	20	7.0	50	235	27	307	1620	383	786	3.6
MIN	.48	1.5	4.0	2.0	2.0	5.0	9.6	2.7	12	1.9	.25	.12
AC-FT	337	524	597	278	760	2440	876	1370	15120	2420	2660	25
CAL YR 1975	TOTAL	13927.67	MEAN	38.2	MAX	642	MIN	0	AC-FT	27630		
WTR YR 1976	TOTAL	13812.30	MEAN	37.7	MAX	1620	MIN	.12	AC-FT	27400		

CHEYENNE RIVER BASIN

06400000 HAT CREEK NEAR EDMONT, SD

LOCATION (REVISED).--Lat 43°14'24", long 103°35'16", in SW¼SE¼NE¼ sec.25, T.9 S., R.4 E., Fall River County, Hydrologic Unit 10120108, on right bank at upstream side of bridge on State Highway 71, 2.0 mi (3.2 km) upstream from mouth, 2.0 mi (3.2 km) west of Heppner, and 12.5 mi (20.1 km) southeast of Edgemont.

DRAINAGE AREA.--1,044 mi² (2,704 km²).

PERIOD OF RECORD.--April 1905 to September 1906, October 1950 to current year. Monthly discharge only for some periods, published in WSP 1309.

GAGE (revised).--Water-stage recorder. Datum of gage is 3,295.71 ft (1,004.532 m) above mean sea level. Non-recording gage Apr. 8, 1905, to May 2, 1906, at site 0.6 mi (1.0 km) downstream and May 3 to July 7, 1906, at site 0.4 mi (0.6 km) upstream at different datum. Nov. 6, 1950, to May 1, 1951, and July 18 to Sept. 7, 1975, nonrecording gage and May 2, 1951, to July 17, 1975, recording gage, at site 0.4 mi (0.6 km) downstream at present datum.

REMARKS.--Records fair except those for winter periods, which are poor. A few small diversions above station for irrigation. Lander ditch diverts water from Hat Creek 0.4 mi (0.6 km) upstream from gaging station for irrigating hay meadows downstream from station. Several observations of water temperature were made during the year. Results of discharge measurements, in cubic feet per second, of Lander ditch during water year 1975-76 are given herewith:

Oct. 16	0	Feb. 27	0.29	July 14	0
Nov. 12	0	Mar. 23	.15	July 19	0
Dec. 9	0	Apr. 21	.50	Aug. 10	0
Dec. 30	0	May 18	0	Sept. 8	0
Jan. 27	0	June 15	5.11		

AVERAGE DISCHARGE.--27 years, 21.3 ft³/s (0.603 m³/s), 15,430 acre-ft/yr (19.0 hm³/yr); median of yearly mean discharges, 13 ft³/s (0.37 m³/s), 9,400 acre-ft/yr (12 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,300 ft³/s (377 m³/s) June 16, 1967, gage height, 13.35 ft (4.069 m), from rating curve extended above 2,600 ft³/s (73.6 m³/s) on basis of slope-area measurement at 11.98 ft (3.652 m); no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge observed, about 373 ft³/s (10.6 m³/s) June 18, gage height, 8.10 ft (2.469 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	2.0	0	0	49	2.3	.24	
2					0	1.1	0	0	100	1.7	0	
3					0	1.1	0	0	80	.89	2.3	
4					0	.37	0	0	41	1.7	1.6	
5					0	.37	0	.30	18	.30	.89	
6					0	.37	0	0	18	0	.37	
7					0	1.9	0	0	16	2.7	0	
8					0	1.8	0	0	14	3.3	0	
9					0	1.0	0	0	14	2.5	0	
10					0	1.0	0	0	15	1.4	0	
11					0	.30	1.6	0	17	1.8	1.4	
12					0	.30	.97	0	16	1.3	.89	
13					0	.30	.67	0	18	1.0	.18	
14					0	.60	.45	0	22	.32	0	
15					15	.97	1.4	.89	41	.82	0	
16					18	.97	.06	0	131	.52	0	
17					16	.60	0	0	207	.30	0	
18					13	.24	0	0	286	1.5	0	
19					13	.24	.37	0	44	0	0	
20					6.5	0	1.6	.52	18	0	0	
21					.45	.52	1.6	2.7	16	1.9	0	
22					5.9	.18	1.4	1.7	14	1.0	0	
23					5.2	.18	0	50	13	0	0	
24					1.2	0	0	350	12	0	0	
25					1.6	0	0	200	9.0	0	0	
26					2.4	0	0	49	7.4	2.1	0	
27					1.2	0	0	43	8.3	.97	0	
28					2.4	0	0	31	6.4	.18	0	
29					2.4	0	0	18	4.5	0	0	
30					---	0	0	14	3.4	.30	0	
31		---			---	0	---	14	---	.82	0	---
TOTAL	0	0	0	0	104.25	16.41	10.12	775.11	1259.0	31.62	7.87	0
MEAN	0	0	0	0	3.59	.53	.34	25.0	42.0	1.02	.25	0
MAX	0	0	0	0	18	2.0	1.6	350	286	3.3	2.3	0
MIN	0	0	0	0	0	0	0	0	3.4	0	0	0
AC-FT	0	0	0	0	207	33	20	1540	2500	63	16	0
CAL YR 1975	TOTAL	463.04	MEAN 1.27	MAX 104	MIN 0	AC-FT 918						
WTR YR 1976	TOTAL	2204.38	MEAN 6.02	MAX 350	MIN 0	AC-FT 4370						

06401000 ANGOSTURA RESERVOIR NEAR HOT SPRINGS, SD

LOCATION.--Lat 43°20'35", long 103°26'16", in SW¼NW¼ sec.20, T.8 S., R.6 E., Fall River County, Hydrologic Unit 10120106, at dam on Cheyenne River, 6.5 mi (10.5 km) southeast of Hot Springs.

DRAINAGE AREA.--9,100 mi² (23,570 km²), approximately.

PERIOD OF RECORD.--October 1949 to current year (monthend contents only).

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Prior to Aug. 26, 1965, nonrecording gage at same site and datum.

REMARKS.--Reservoir formed by concrete gravity dam with earth embankment with gated concrete gravity spillway section. Storage began Oct. 3, 1949; dam completed December 1949. Conservation capacity, 127,558 acre-ft (157 hm³) between elevations 3,139.75 ft (956.996 m), invert of lowest outlet, and 3,187.2 ft (971.46 m), top of spillway gates. Dead storage below elevation 3,139.75 ft (956.996 m), 11,203 acre-ft (13.8 hm³). Surcharge capacity, 196,221 acre-ft (242 hm³), maximum pool elevation. Figures given herein represent contents above elevation 3,139.75 ft (956.996 m). Water is stored for irrigation.

COOPERATION.--Records of elevations, contents, and diversion to Angostura project furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 145,200 acre-ft (179 hm³) June 18, 1962, elevation, 3,189.00 ft (972.007 m); minimum observed since normal operating level reached, 45,350 acre-ft (55.9 hm³) Sept. 28, 1960, elevation, 3,162.90 ft (964.052 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 105,039 acre-ft (130 hm³) June 25-27, elevation, 3,182.14 ft (969.916 m); minimum, 76,131 acre-ft (93.9 hm³) Oct. 12, 13, elevation, 3,174.60 ft (967.618 m).

MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	†Diversions (acre-feet)
Sept. 30	3174.63	76235		
Oct. 31	3174.77	76719	+484	
Nov. 30	3175.05	77694	+975	
Dec. 30	3175.71	80057	+2363	
CAL YR 1975			-1553	44946
Jan. 31	3176.19	81794	+1737	
Feb. 29	3177.05	84960	+3166	
Mar. 31	3178.78	91551	+6591	
Apr. 30	3179.47	94256	+2705	
May 31	3179.37	93861	-395	3531
June 30	3181.99	104410	+10549	2984
July 31	3178.85	91821	-12589	14462
Aug. 31	3176.47	82823	-8998	10870
Sept. 30	3174.66	76339	-6484	6416
WTR YR 1976			+104	38263

† Diversions to Angostura irrigation project.

CHEYENNE RIVER BASIN

06401500 CHEYENNE RIVER BELOW ANGOSTURA DAM, SD

LOCATION.--Lat 43°20'42", long 103°26'12", in NE&NW&NW¼ sec.20, T.8 S., R.6 E., Fall River County, Hydrologic Unit 10120109, on right bank 800 ft (244 m) downstream from Angostura Dam, 4.8 mi (7.7 km) upstream from Fall River and 6.5 mi (10.5 km) southeast of Hot Springs.

DRAINAGE AREA.--9,100 mi² (23,600 km²), 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 1309: 1946(M).

GAGE.--Water-stage recorder. Datum of gage is 3,058.02 ft (932.084 m) above mean sea level (Bureau of Reclamation bench mark). Prior to Oct. 17, 1946, nonrecording gage and Oct. 17, 1946, to July 7, 1953, water-stage recorder at site 4.8 mi (7.7 km) downstream at different datum.

REMARKS.--Records fair. Flow completely regulated by Angostura Reservoir 800 ft (244 m) upstream since October 1949. (See station 06401000.)

AVERAGE DISCHARGE.--31 years, 76.4 ft³/s (2.164 m³/s), 55,350 acre-ft/yr (68.2 hm³/yr); median of yearly mean discharges, 52 ft³/s (1.47 m³/s), 37,700 acre-ft/yr (46 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,300 ft³/s (688 m³/s) June 18, 1962, gage height, 13.81 ft (4.209 m), from rating curve extended above 6,000 ft³/s (170 m³/s); no flow Oct. 9, 1949, to Feb. 5, 1950, Apr. 28, Aug. 26, 30, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2.0 ft³/s (0.057 m³/s) Jan. 19; minimum daily, 0.67 ft³/s (0.019 m³/s) Sept. 9, 11, 12.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Jan. 6-9, Feb. 3-6)

2.7	0.58
2.8	1.4
2.9	3.1

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.4	1.2	1.0	1.4	1.6	1.3	1.0	1.1	1.2	1.5	.80
2	1.0	1.2	1.1	1.0	1.4	1.5	1.3	1.0	1.1	1.2	1.4	.73
3	1.0	1.4	1.1	1.3	1.4	1.4	1.3	1.0	1.1	1.3	1.3	.80
4	1.0	1.2	1.0	1.3	1.4	1.5	1.3	1.0	1.2	1.2	1.3	.80
5	1.1	1.2	1.0	1.2	1.4	1.4	1.2	1.0	1.2	1.2	1.4	.80
6	1.0	1.3	1.0	1.2	1.4	1.3	1.4	1.0	1.2	1.2	1.4	.73
7	1.0	1.5	1.1	1.2	1.5	1.3	1.3	1.0	1.2	1.2	1.3	.80
8	.93	1.5	1.0	1.1	1.4	1.3	1.3	1.0	1.1	1.2	1.3	.80
9	.99	1.5	1.0	1.1	1.4	1.4	1.2	1.0	1.1	1.1	1.3	.67
10	1.0	1.5	1.0	1.1	1.5	1.3	1.1	1.0	1.2	1.1	1.3	.73
11	1.0	1.5	1.1	1.2	1.3	1.3	1.1	1.0	1.2	1.1	1.4	.67
12	1.0	1.5	1.0	1.3	1.3	1.4	1.2	1.0	1.2	1.2	1.2	.67
13	1.0	1.5	1.1	1.3	1.3	1.4	1.2	1.0	1.2	1.3	1.2	.73
14	1.0	1.4	1.1	1.4	1.2	1.5	1.2	1.0	1.9	1.2	1.4	.80
15	.98	1.4	1.1	1.3	1.3	1.4	1.2	1.0	1.4	1.3	1.2	.80
16	1.0	1.4	1.1	1.3	1.3	1.3	1.1	1.0	1.3	1.3	1.2	.80
17	1.0	1.5	1.1	1.3	1.3	1.2	1.0	1.0	1.4	1.2	1.1	.80
18	.99	1.3	1.0	1.3	1.3	1.2	1.0	1.0	1.3	1.2	1.1	.73
19	1.1	1.4	.96	2.0	1.4	1.1	1.0	.96	1.3	1.3	1.1	.88
20	1.1	1.4	.87	1.2	1.5	1.2	1.0	1.0	1.3	1.4	1.1	.80
21	1.1	1.4	.88	1.2	1.3	1.2	1.0	1.1	1.3	1.3	1.0	.80
22	1.2	1.4	.91	1.3	1.3	1.2	1.0	1.2	1.5	1.3	1.0	1.2
23	1.3	1.3	.93	1.3	1.3	1.1	1.0	1.3	1.4	1.2	1.0	1.1
24	1.2	1.4	.92	1.4	1.3	1.1	1.0	1.1	1.3	1.3	1.0	1.1
25	1.2	1.5	.90	1.4	1.3	1.1	1.0	1.0	1.3	1.3	.96	1.1
26	1.2	1.4	.96	1.5	1.3	1.2	1.0	1.1	1.3	1.3	.96	1.1
27	1.2	1.4	.97	1.4	1.3	1.2	1.0	1.1	1.3	1.3	.96	1.1
28	1.2	1.4	.96	1.3	1.4	1.2	1.0	1.1	1.3	1.4	.96	1.1
29	1.2	1.4	.93	1.3	1.6	1.4	1.0	1.1	1.3	1.3	.88	1.1
30	1.2	1.2	.94	1.4	---	1.4	1.0	1.2	1.3	1.3	.88	1.1
31	1.2	---	1.0	1.4	---	1.4	---	1.2	---	1.4	.80	---
TOTAL	33.49	41.8	31.23	40.0	39.5	40.5	33.7	32.46	38.3	38.8	35.90	26.14
MEAN	1.08	1.39	1.01	1.29	1.36	1.31	1.12	1.05	1.28	1.25	1.16	.87
MAX	1.3	1.5	1.2	2.0	1.6	1.6	1.4	1.3	1.9	1.4	1.5	1.2
MIN	.93	1.2	.87	1.0	1.2	1.1	1.0	.96	1.1	1.1	.80	.67
AC-FT	66	83	62	79	78	80	67	64	76	77	71	52

CAL YR 1975 TOTAL 466.43 MEAN 1.28 MAX 1.9 MIN .84 AC-FT 925
WTR YR 1976 TOTAL 431.82 MEAN 1.18 MAX 2.0 MIN .67 AC-FT 857

06401500 CHEYENNE RIVER BELOW ANGOSTURA DAM, SD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1968 to September 1970, October 1971 to current year.

WATER TEMPERATURES: October 1968 to September 1970, October 1971 to September 1973, October 1975 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,750 micromhos Jan. 13, 1975; minimum daily, 1,300 micromhos Nov. 20, Dec. 26, 1975.

WATER TEMPERATURES: Maximum daily, 31.0°C July 6, 10, 18, 23, 1976; minimum daily, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,350 micromhos Apr. 5-7, 12, 13, 29; minimum daily, 2,000 micromhos Feb. 13.

WATER TEMPERATURES: Maximum daily, 31.0°C July 6, 10, 18, 23; minimum daily, 1.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	HARD- NESS (CA.MG) (MG/L) (00900)	NON- CAR- BONATE HARD- NESS (MG/L) (00902)	DIS- SOLVED CAL- CIUM (CA) (MG/L) (00915)	DIS- SOLVED MAG- NE- SIUM (MG) (00925)
OCT 15...	1500	.92	--	--	12.0	930	800	250	73
NOV 10...	1610	1.4	1950	--	8.0	910	770	250	70
DEC 10...	1345	.97	2050	--	3.0	910	770	240	76
JAN 26...	1515	1.3	2440	--	2.5	1000	870	270	83
FEB 25...	1515	1.2	2300	7.9	5.0	1000	890	280	79
MAR 22...	1415	1.1	2700	--	7.0	980	840	260	80
APR 19...	1430	1.0	1700	--	12.0	970	830	250	84
MAY 19...	1330	.99	2600	--	17.0	1000	880	270	83
JUN 14...	1415	2.0	2500	--	16.0	1000	870	270	80
JUL 12...	1500	1.1	2820	8.1	24.5	950	830	240	85
AUG 09...	1400	1.2	2500	7.6	24.0	970	850	260	79
SEP 09...	1500	.90	2300	7.9	19.5	920	790	240	79

CHEYENNE RIVER BASIN

06401500 CHEYENNE RIVER BELOW ANGOSTURA DAM, SD--Continued

WATER QUALITY DATA. WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SODIUM (NA) (MG/L) (00930)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L) (00935)	BICAR- BONATE (HCO3) (MG/L) (00440)	CAR- BONATE (CO3) (MG/L) (00445)	ALKA- LITY AS CAC03 (MG/L) (00410)	DIS- SOLVED SULFATE (SO4) (MG/L) (00945)	DIS- SOLVED CHLO- RIDE (CL) (MG/L) (00940)
OCT									
15...	200	32	2.9	9.7	152	--	125	1100	110
NOV									
10...	200	32	2.9	11	179	--	147	1000	120
DEC									
10...	190	31	2.7	11	169	--	139	950	120
JAN									
26...	200	30	2.7	10	177	--	145	1100	130
FEB									
25...	200	30	2.7	11	170	0	139	1100	140
MAR									
22...	200	31	2.8	10	171	--	140	1100	120
APR									
19...	190	30	2.7	11	168	--	138	980	130
MAY									
19...	200	30	2.7	10	165	--	135	1100	130
JUN									
14...	190	29	2.6	9.8	158	--	130	1100	130
JUL									
12...	200	31	2.8	13	140	0	115	1100	120
AUG									
09...	210	32	2.9	11	152	0	125	950	120
SEP									
09...	200	32	2.9	11	160	0	131	1000	130

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L) (00950)	DIS- SOLVED SILICA (SiO2) (MG/L) (00955)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) (70301)	DIS- SOLVED SOLIDS (TONS PER AC-FT) (70303)	DIS- SOLVED SOLIDS (TONS PER DAY) (70302)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	TOTAL PHOS- PHORUS (P) (MG/L) (00665)	DIS- SOLVED PHOS- PHORUS (P) (MG/L) (00666)	DIS- SOLVED BORON (B) (UG/L) (01020)
OCT									
15...	.6	6.5	1830	2.49	4.55	.06	.01	.01	190
NOV									
10...	.6	6.5	1750	2.38	6.62	.08	.01	.00	170
DEC									
10...	.6	7.0	1680	2.28	4.40	.14	.00	.00	190
JAN									
26...	.7	6.9	1890	2.57	6.63	.19	.00	.00	160
FEB									
25...	.6	6.3	1900	2.58	6.16	.14	.00	.01	180
MAR									
22...	.6	6.3	1860	2.53	5.52	.12	.00	.00	180
APR									
19...	.6	6.9	1740	2.37	4.70	.10	.00	.00	180
MAY									
19...	.6	6.3	1880	2.56	5.03	.08	.02	.01	210
JUN									
14...	.6	6.6	1870	2.54	10.1	.05	.02	.02	170
JUL									
12...	.6	7.5	1840	2.50	5.46	.04	.02	.06	170
AUG									
09...	.7	6.7	1710	2.33	5.54	.11	.01	.00	180
SEP									
09...	.7	8.7	1750	2.38	4.25	.07	.02	.01	170

06401500 CHEYENNE RIVER BELOW ANGOSTURA DAM, SD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C) • WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2150	2250	2150	2250	2150	2200	2300	2250	2200	2200	2150	2200
2	2200	2200	2150	2150	2250	2150	2300	2280	2200	2200	2200	2200
3	2200	2200	2150	2150	2200	2200	2300	2280	2200	2200	2200	2200
4	2200	2200	2150	2150	2250	2200	2300	2280	2200	2200	2200	2200
5	2150	2200	2200	2150	2250	2200	2350	2150	2200	2150	2200	2200
6	2150	2200	2200	2250	2250	2200	2350	2150	2200	2150	2200	2200
7	2200	2200	2150	2100	2100	2200	2350	2150	2200	2200	2150	2200
8	2200	2200	2200	2200	2100	2100	2300	2150	2200	2200	2200	2200
9	2150	2150	2150	2150	2100	2200	2300	2170	2200	2200	2200	2200
10	2200	2250	2200	2250	2200	2200	2300	2250	2250	2200	2200	2200
11	2150	2200	2200	2150	2250	2250	2300	2200	2250	2200	2200	2200
12	2200	2200	2200	2200	2200	2200	2350	2120	2250	2150	2200	2200
13	2150	2150	2200	2250	2000	2150	2350	2120	2200	2150	2200	2200
14	2200	2200	2200	2150	2150	2200	2300	2300	2200	2150	2200	2200
15	2200	2200	2200	2200	2200	2200	2250	2300	2200	2150	2200	2200
16	2200	2250	2200	2200	2200	2200	2300	2300	2200	2150	2200	2200
17	2150	2200	2200	2150	2250	2200	2300	2270	2200	2150	2200	2200
18	2200	2300	2200	2150	2250	2200	2300	2270	2200	2200	2200	2200
19	2150	2250	2200	2250	2250	2200	2300	2270	2200	2150	2200	2200
20	2200	2200	2200	2200	2250	2200	2300	2200	2250	2200	2200	2200
21	2200	2200	2200	2200	2200	2200	2300	2230	2250	2200	2200	2200
22	2200	2200	2200	2200	2250	2150	2300	2200	2250	2200	2200	2200
23	2150	2200	2150	2200	2250	2200	2300	2220	2250	2200	2200	2250
24	2150	2200	2200	2100	2200	2200	2300	2200	2200	2200	2200	2200
25	2150	2200	2150	2150	2250	2200	2300	2200	2200	2200	2200	2200
26	2200	2200	2150	2150	2200	2200	2300	2200	2250	2200	2200	2300
27	2200	2200	2150	2150	2100	2200	2300	2200	2250	2200	2200	2250
28	2150	2200	2150	2150	2250	2200	2300	2200	2250	2200	2200	2250
29	2150	2200	2150	2200	2200	2200	2350	2200	2250	2200	2200	2250
30	2150	2200	2200	2150	---	2200	2300	2200	2200	2200	2200	2300
31	2200	---	2200	2200	---	2200	---	2200	---	2200	2200	---
MONTH	2180	2210	2180	2180	2200	2190	2310	2220	2220	2190	2200	2210

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	9.0	1.0		1.0	2.0	12.0	18.0	20.0	30.0	28.0	---
2	---	9.0	2.0		1.0	3.0	12.0	18.0	22.0	29.0	28.0	---
3	---	7.0	2.0		1.0	2.0	14.0	17.0	24.0	28.0	27.0	---
4	---	9.0	3.0		1.0	4.0	14.0	18.0	25.0	27.0	30.0	---
5	---	7.0	4.0		1.0	4.0	15.0	18.0	27.0	29.0	30.0	---
6	---	8.0	4.0		1.0	5.0	15.0	18.0	29.0	31.0	29.0	---
7	---	6.0	4.0		2.0	6.0	15.0	19.0	30.0	29.0	28.0	---
8	---	7.0	3.0		2.0	6.0	16.0	20.0	30.0	29.0	29.0	---
9	---	8.0	3.0		2.0	7.0	16.0	19.0	29.0	30.0	30.0	---
10	---	6.0	3.0		3.0	7.0	16.0	20.0	28.0	31.0	30.0	20.0
11	---	4.0	3.0		2.0	6.0	16.0	18.0	26.0	29.0	29.0	20.0
12	---	3.0	3.0		2.0	7.0	15.0	19.0	25.0	29.0	30.0	21.0
13	---	2.0	3.0		2.0	8.0	15.0	19.0	25.0	28.0	29.0	20.0
14	---	3.0	3.0		1.0	8.0	13.0	20.0	24.0	28.0	29.0	22.0
15	---	4.0	2.0		2.0	9.0	13.0	20.0	24.0	29.0	28.0	23.5
16	---	5.0	2.0		2.0	9.0	10.0	21.0	24.0	30.0	29.0	25.0
17	6.0	---	2.0		3.0	10.0	10.0	23.0	24.0	29.0	30.0	22.0
18	8.0	---	3.0		4.0	11.0	12.0	25.0	25.0	31.0	29.0	21.0
19	10.0	3.0	3.0		3.0	12.0	12.0	25.0	25.0	29.0	30.0	20.0
20	10.0	3.0	2.0		2.0	12.0	13.0	25.0	26.0	28.0	29.0	20.0
21	10.0	2.0	2.0		2.0	11.0	12.0	23.0	28.0	30.0	28.0	21.0
22	10.0	2.0	2.0		2.0	13.0	12.0	23.0	28.0	28.0	28.0	21.0
23	8.0	1.0	3.0		2.0	13.0	12.0	22.0	29.0	31.0	30.0	20.0
24	6.0	1.0	4.0		2.0	13.0	12.0	22.0	29.0	30.0	30.0	17.5
25	6.0	1.0	4.0		2.0	14.0	13.0	21.0	30.0	30.0	30.0	---
26	7.0	1.0	4.0		2.0	13.0	13.0	19.0	30.0	30.0	29.0	19.0
27	9.0	1.0	4.0		1.0	12.0	13.0	19.0	30.0	29.0	29.0	16.5
28	8.0	1.0	5.0		1.0	12.0	17.0	22.0	30.0	30.0	28.0	15.5
29	7.0	1.0	5.0		1.0	13.0	18.0	20.0	30.0	29.0	28.0	15.0
30	9.0	1.0	4.0		---	13.0	18.0	19.0	30.0	28.0	28.0	18.0
31	10.0	---	4.0		---	14.0	---	19.0	---	27.0	28.0	---
MONTH	---	4.0	3.0		2.0	9.0	14.0	20.5	27.0	29.0	29.0	---

06402000 FALL RIVER AT HOT SPRINGS, SD

LOCATION.--Lat 43°25'50", long 103°28'33", in NW¼NW¼ sec.24, T.7 S., R.5 E., Fall River County, Hydrologic Unit 10120109, on left bank at intersection of River Street and University Avenue in Hot Springs and 6.0 mi (9.7 km) upstream from mouth.

DRAINAGE AREA.--137 mi² (355 km²).

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

REVISED RECORDS.--WSP 1279: 1938, 1941(M), 1947(M). WSP 1729: 1959(M).

GAGE.--Water-stage recorder. Datum of gage is 3,413.20 ft (1,040.343 m) above mean sea level. Prior to June 2, 1939, nonrecording gage at site 300 ft (91 m) upstream at datum 3.00 ft (0.914 m) higher.

REMARKS.--Records good. Flow regulated by Coldbrook Reservoir, capacity, 7,200 acre-ft (8.88 hm³), beginning September 1952, and Cottonwood Springs Lake, capacity, 8,385 acre-ft (10.3 hm³), since June 1969. Some diversion above station for municipal supply of Hot Springs. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--39 years, 25.5 ft³/s (0.722 m³/s), 18,470 acre-ft/yr (22.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,100 ft³/s (371 m³/s) Sept. 4, 1938, gage height, 18.4 ft (5.61 m), site and datum then in use, from rating curve extended above 51 ft³/s (1.44 m³/s) on basis of weir formula and slope-area measurement of peak flow; minimum, 4 ft³/s (0.11 m³/s) Sept. 23, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 370 ft³/s (10.5 m³/s) July 31, gage height, 3.12 ft (0.951 m); minimum daily, 15 ft³/s (0.425 m³/s) June 28, July 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	22	22	22	20	21	19	17	18	16	29	20
2	22	22	22	22	21	21	21	17	18	17	23	20
3	22	22	22	22	20	22	21	17	18	17	23	20
4	22	22	22	22	20	22	22	16	18	17	23	20
5	22	21	22	22	20	22	22	17	19	16	23	21
6	21	21	22	22	20	23	25	17	19	16	23	22
7	21	21	22	22	19	23	22	17	17	16	23	22
8	22	21	23	22	20	22	22	16	17	16	23	22
9	22	22	23	22	20	22	22	17	19	16	22	21
10	22	22	23	22	20	22	22	17	18	15	22	21
11	22	21	22	22	20	23	24	17	18	15	22	22
12	22	20	23	22	21	22	24	17	19	17	22	22
13	22	20	23	22	21	22	24	17	20	18	22	22
14	22	20	22	22	21	24	24	17	29	17	22	22
15	22	21	23	22	21	25	23	17	18	18	22	22
16	22	20	23	22	21	25	23	17	19	17	22	22
17	22	19	22	22	21	27	22	17	19	18	22	22
18	22	19	22	22	21	25	22	19	18	18	21	22
19	21	19	22	22	21	24	22	22	17	17	21	23
20	21	19	22	22	21	25	21	22	18	25	20	23
21	21	19	22	22	21	25	21	23	17	22	21	22
22	21	19	22	22	21	23	22	24	24	22	21	23
23	21	20	22	22	21	22	19	25	18	22	22	23
24	20	21	22	22	21	21	19	22	18	21	21	23
25	20	21	22	22	21	21	18	22	17	21	22	24
26	20	21	22	22	21	21	19	21	17	21	21	24
27	20	20	22	22	21	21	21	19	16	21	21	23
28	20	21	21	21	21	21	18	21	15	22	21	23
29	20	22	21	21	21	22	17	21	16	22	21	23
30	20	22	21	21	---	22	17	21	16	22	21	23
31	21	---	22	21	---	20	---	20	---	63	21	---
TOTAL	660	620	686	678	598	701	638	589	550	621	683	662
MEAN	21.3	20.7	22.1	21.9	20.6	22.6	21.3	19.0	18.3	20.0	22.0	22.1
MAX	22	22	23	22	21	27	25	25	29	63	29	24
MIN	20	19	21	21	19	20	17	16	15	15	20	20
AC-FT	1310	1230	1360	1340	1190	1390	1270	1170	1090	1230	1350	1310
CAL YR 1975	TOTAL	7798	MEAN 21.4	MAX 35	MIN 17	AC-FT	15470					
WTR YR 1976	TOTAL	7686	MEAN 21.0	MAX 63	MIN 15	AC-FT	15250					

06402500 BEAVER CREEK NEAR BUFFALO GAP, SD

LOCATION.--Lat 43°27'56", long 103°18'22", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.5, T.7 S., R.7 E., Fall River County, Hydrologic Unit 10120109, on left bank 1.5 mi (2.4 km) south of Buffalo Gap and 4.5 mi (7.2 km) upstream from mouth.

DRAINAGE AREA.--130 mi² (340 km²), approximately.

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for October, November, 1937 (corrected), published in WSP 1309.

REVISED RECORDS.--WSP 956: 1941. WSP 1309: 1939-40(M), 1947(M).

GAGE.--Water-stage recorder. Altitude of gage is 3,150 ft (960 m), from topographic map. Prior to June 20, 1939, nonrecording gage at site 0.8 mi (1.3 km) downstream at different datum.

REMARKS.--Records good except those above 50 ft³/s (1.42 m³/s) and those for winter periods, which are poor. Nearly all flow is diverted above station during irrigation season. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--39 years, 7.04 ft³/s (0.199 m³/s), 5,100 acre-ft/yr (6.29 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,700 ft³/s (331 m³/s) Sept. 4, 1938, gage height, 16.46 ft (5.017 m), site and datum then in use, from rating curve extended above 11 ft³/s (0.31 m³/s) on basis of slope-area measurement of peak flow; no flow at times in some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1927 reached a stage of 18.0 ft (5.49 m), former site and datum, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 660 ft³/s (18.7 m³/s) July 31, gage height, 7.80 ft (2.377 m); minimum daily, 0.18 ft³/s (0.005 m³/s) Oct. 4.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Nov. 24 to Dec. 1, Dec. 14-19,
Jan. 1-12, Feb. 4-8, Mar. 4, 5)

2.8	0	3.3	2.4	4.5	24	5.5	84
2.9	.3	3.5	4.1	5.0	48	6.0	132
3.1	1.1	4.0	10				

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.34	3.3	7.5	7.5	11	11	7.3	7.8	1.0	5.2	20	6.2
2	.21	9.0	7.9	7.5	11	11	7.0	7.8	.98	5.6	8.0	5.6
3	.21	9.1	7.6	7.0	11	11	7.1	7.8	.90	4.8	5.0	3.1
4	.18	7.0	7.5	7.0	10	10	7.1	7.6	.90	3.4	6.0	1.9
5	.24	1.5	7.4	7.5	9.0	10	7.1	7.6	.86	1.2	6.0	3.0
6	.58	1.5	7.4	7.5	9.0	11	7.6	7.9	1.0	.66	8.0	3.3
7	.66	1.5	7.1	7.0	9.0	11	8.3	7.4	.90	.74	8.0	2.0
8	1.0	1.5	7.3	7.0	10	11	7.6	5.6	.78	1.0	10	1.9
9	1.0	1.6	7.3	7.5	12	11	7.1	5.7	.74	1.0	10	1.9
10	1.0	1.6	7.4	8.0	11	11	6.3	5.7	.70	.62	10	1.8
11	1.1	1.7	7.1	9.0	11	11	6.5	5.7	.66	.58	9.6	1.6
12	1.1	1.6	7.0	11	11	11	6.5	5.8	.66	.58	10	1.0
13	1.2	1.7	7.1	12	11	11	6.7	5.7	.66	.66	9.8	1.0
14	1.2	1.8	6.8	11	11	11	6.4	5.8	3.1	.62	11	1.0
15	1.3	3.8	6.5	12	10	12	6.5	5.8	5.7	.78	9.5	.90
16	1.3	7.6	6.5	12	10	11	7.1	5.9	3.9	.66	9.3	2.2
17	1.3	8.4	6.5	12	10	11	7.4	5.7	3.8	.62	8.8	3.6
18	.98	9.3	7.0	12	10	11	7.1	2.5	3.0	.70	7.0	3.8
19	1.1	9.1	7.0	11	10	10	7.0	4.0	2.8	.78	5.0	3.9
20	1.1	9.3	7.3	11	10	10	6.7	2.6	1.6	1.1	7.0	4.4
21	1.4	9.5	7.3	11	10	10	6.2	1.1	1.3	1.3	5.9	4.5
22	1.1	9.5	7.3	12	10	10	6.5	.94	1.3	1.3	2.7	4.6
23	2.7	9.5	7.1	12	10	10	7.1	2.0	2.4	1.3	2.6	4.8
24	9.1	9.5	7.1	11	10	9.6	7.9	1.4	5.2	1.5	2.6	5.1
25	8.7	9.0	7.3	11	10	9.0	7.0	1.0	6.8	1.5	4.1	5.2
26	7.4	8.5	7.0	11	11	9.5	6.5	.98	6.8	1.5	5.7	5.3
27	5.2	8.3	7.3	11	10	8.7	7.9	.94	6.3	1.5	6.3	5.3
28	1.3	8.0	7.1	11	10	7.8	8.0	.98	4.7	1.5	6.2	5.6
29	1.3	7.0	6.9	11	11	7.5	7.4	.98	4.7	2.0	6.2	5.5
30	1.4	7.0	6.9	11	---	7.4	8.0	1.1	4.4	2.0	6.3	5.8
31	1.5	---	7.5	11	---	7.3	---	1.2	---	100	6.2	---
TOTAL	58.20	177.7	222.0	309.5	299.0	313.8	212.9	133.02	78.54	146.70	232.8	105.80
MEAN	1.88	5.92	7.16	9.98	10.3	10.1	7.10	4.29	2.62	4.73	7.51	3.53
MAX	9.1	9.5	7.9	12	12	12	8.3	7.9	6.8	100	20	6.2
MIN	.18	1.5	6.5	7.0	9.0	7.3	6.2	.94	.66	.58	2.6	.90
AC-FT	115	352	440	614	593	622	422	264	156	291	462	210
CAL YR 1975	TOTAL	2463.62	MEAN	6.75	MAX	170	MIN	.18	AC-FT	4890		
WTR YR 1976	TOTAL	2289.96	MEAN	6.26	MAX	100	MIN	.18	AC-FT	4540		

CHEYENNE RIVER BASIN

06402600 CHEYENNE RIVER NEAR BUFFALO GAP, SD

LOCATION.--Lat 43°30'05", long 103°04'23", in SW¼NE¼ sec.29, T.6 S., R.9 E., Custer County, Hydrologic Unit 10120109, on right bank at right end of highway bridge, 5.8 mi (9.3 km) upstream from Cottonwood Creek and 12 mi (19 km) east of Buffalo Gap.

DRAINAGE AREA.--9,810 mi² (25,410 km²), approximately.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 2,811.45 ft (856.930 m) above mean sea level.

REMARKS.--Records good except those for winter periods, which are poor. Flow regulated by Angostura Reservoir 34 mi (55 km) upstream, see station 06401000.

AVERAGE DISCHARGE.--8 years, 102 ft³/s (2.889 m³/s), 73,900 acre-ft/yr (91.1 hm³/yr). The figures published in the 1974 and 1975 reports were in error; the correct figures are 117 ft³/s (3.313 m³/s), 84,770 acre-ft/yr (105 hm³/yr), and 109 ft³/s (3.087 m³/s), 78,970 acre-ft/yr (97.4 hm³/yr), respectively.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,600 ft³/s (498 m³/s) May 25, 1971, gage height, 11.44 ft (3.487 m); minimum daily, 13 ft³/s (0.368 m³/s) July 25, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 516 ft³/s (14.6 m³/s) July 31, gage height, 4.38 ft (1.335 m); minimum daily, 13 ft³/s (0.368 m³/s) July 25.

REVISIONS.--The maximum and minimum discharges for some water years have been revised as shown in the following table. They supersede figures published in WSP 2117 and the reports for 1971-75.

Water year	Date	Maximum Discharge		Gage height		Water year	Date	Minimum daily Discharge	
		(ft ³ /s)	(m ³ /s)	(ft)	(m)			(ft ³ /s)	(m ³ /s)
1970	Apr. 24, 1970	429	12.1	4.13	1.259	1970	July 19, 1970	21	0.595
1972	June 10, 1972	2750	77.9	7.24	2.207	1971	July 19, 20, 1971	21	.595
1973	May 10, 1973	1140	32.3	5.45	1.661	1972	July 15, 1972	26	.736
1974	Feb. 21, 1974	762	21.6	4.80	1.463	1973	July 7, 1973	21	.595
1975	June 19, 1975	460	13.0	4.12	1.256	1975	June 15, July 18, 1975	34	.963

a Maximum gage height for year, 6.14 ft (1.871 m) Jan. 23, 1974 (backwater from ice).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	71	60	78	80	58	48	46	71	30	52	97
2	78	71	60	76	75	62	52	46	52	33	50	97
3	73	71	56	74	76	64	48	46	37	37	52	76
4	92	71	62	72	77	60	41	46	34	44	62	58
5	97	69	60	70	77	58	39	39	39	48	64	48
6	87	69	60	65	78	56	39	32	44	48	62	48
7	82	71	66	60	80	60	37	39	48	37	89	76
8	80	71	66	55	80	66	37	44	50	46	82	66
9	78	69	60	60	82	71	37	46	50	54	87	60
10	80	64	55	70	85	65	37	46	52	66	85	69
11	80	62	60	75	82	60	42	44	60	58	82	73
12	85	62	65	75	80	60	73	42	146	54	76	62
13	89	64	75	75	75	65	56	44	152	64	69	78
14	85	58	90	76	76	66	44	44	109	48	64	139
15	85	71	106	75	78	69	66	41	97	41	54	121
16	73	64	106	70	78	71	82	30	89	36	54	94
17	69	66	104	65	76	76	71	26	62	23	52	92
18	64	60	99	60	74	82	126	26	41	34	48	85
19	64	56	99	60	70	80	101	60	48	21	46	76
20	62	64	114	60	75	71	76	193	48	26	50	64
21	76	58	109	65	85	71	89	221	44	37	54	64
22	66	60	89	68	95	73	109	124	39	44	50	62
23	64	58	73	75	124	69	175	69	44	60	48	60
24	69	62	71	80	71	73	285	58	60	76	50	69
25	66	60	68	85	60	71	175	54	69	62	60	80
26	66	60	66	80	64	66	97	46	48	58	62	76
27	64	58	70	85	64	60	78	37	34	42	71	69
28	66	66	80	80	62	58	69	56	27	80	80	71
29	71	64	85	75	---	58	56	78	27	126	82	73
30	69	62	85	75	---	56	50	66	27	87	71	73
31	71	---	80	80	---	54	---	80	---	76	82	---
TOTAL	2338	1932	2399	2219	2179	2029	2335	1869	1748	1596	1990	2276
MEAN	75.4	64.4	77.4	71.6	77.8	65.5	77.8	60.3	58.3	51.5	64.2	75.9
MAX	97	71	114	85	124	82	285	221	152	126	89	139
MIN	62	56	55	55	60	54	37	26	27	21	46	48
AC-FT	4640	3830	4760	4400	4320	4020	4630	3710	3470	3170	3950	4510
CAL YR 1969	TOTAL	48768	MEAN	134	MAX	5980	MIN	25	AC-FT	96730		
WTR YR 1970	TOTAL	24910	MEAN	68.2	MAX	285	MIN	21	AC-FT	49410		

06402600 CHEYENNE RIVER NEAR BUFFALO GAP, SD--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	69	50	58	55	90	58	159	4540	80	66	78
2	85	60	50	55	56	80	50	371	6520	78	64	87
3	82	64	50	50	54	85	66	152	3160	78	66	87
4	85	80	52	45	52	88	65	264	2720	71	54	111
5	80	82	48	40	50	85	64	178	1630	69	50	136
6	85	78	55	40	45	80	63	402	1820	66	50	111
7	116	76	55	42	38	70	62	161	1910	69	41	114
8	109	71	55	45	40	70	64	114	1610	62	36	114
9	101	69	53	45	42	72	62	621	1050	69	32	94
10	94	69	50	43	45	75	62	727	896	52	36	85
11	89	66	48	42	55	76	60	376	702	52	46	85
12	87	60	49	42	60	78	60	291	512	46	50	85
13	92	58	48	45	70	80	60	254	570	48	54	87
14	92	58	49	50	85	75	52	310	454	46	62	89
15	87	58	50	56	100	72	50	229	644	29	71	87
16	85	60	52	57	110	70	54	159	476	23	66	82
17	85	58	53	58	115	68	48	183	629	26	50	82
18	82	56	52	57	120	66	48	134	520	29	42	87
19	81	54	50	58	125	66	69	85	150	21	46	89
20	80	58	52	60	110	65	104	76	139	21	62	92
21	78	60	55	58	100	65	89	69	279	22	66	94
22	76	55	54	56	105	60	82	66	204	25	73	92
23	75	55	54	58	110	58	73	565	210	41	69	85
24	74	60	54	60	120	59	62	3180	165	37	58	82
25	74	64	54	60	120	60	89	10900	116	42	50	82
26	73	62	55	58	110	62	119	12500	92	64	46	80
27	78	57	54	60	100	65	134	3000	78	71	52	78
28	76	55	55	62	100	62	146	2980	69	69	62	87
29	73	53	57	65	---	60	119	1850	89	71	69	85
30	73	50	59	60	---	60	101	1270	111	62	80	85
31	69	---	60	56	---	60	---	1880	---	62	76	---
TOTAL	2594	1877	1632	1641	2292	2182	2235	43506	32065	1601	1745	2732
MEAN	83.7	62.6	52.6	52.9	81.9	70.4	74.5	1403	1069	51.6	56.3	91.1
MAX	116	82	60	65	125	90	146	12500	6520	80	80	136
MIN	69	50	48	40	38	58	48	66	69	21	32	78
AC-FT	5150	3720	3240	3250	4550	4330	4430	86290	63600	3180	3460	5420
CAL YR 1970	TOTAL	24344	MEAN	66.7	MAX	285	MIN	21	AC-FT	48290		
WTR YR 1971	TOTAL	96102	MEAN	263	MAX	12500	MIN	21	AC-FT	190600		

CHEYENNE RIVER BASIN

06402600 CHEYENNE RIVER NEAR BUFFALO GAP, SD--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	76	69	60	48	62	58	73	56	125	78	85
2	85	76	69	55	47	60	60	69	54	78	78	99
3	82	78	73	50	48	58	56	69	52	73	104	104
4	82	78	69	48	50	56	58	69	62	64	114	114
5	80	73	69	50	50	58	62	64	69	60	124	109
6	82	73	80	55	55	60	60	60	80	52	104	82
7	80	71	72	60	58	58	60	58	82	46	87	80
8	78	76	75	65	58	56	56	58	64	34	78	85
9	76	73	86	65	57	50	56	58	76	27	73	64
10	76	73	85	63	57	48	56	80	939	42	60	78
11	73	71	75	63	58	52	52	116	159	41	58	80
12	71	71	76	63	60	54	42	111	85	34	60	73
13	71	73	76	55	62	50	39	89	80	41	58	76
14	74	71	76	50	60	54	52	78	80	27	64	80
15	80	71	76	52	60	58	46	76	85	26	76	64
16	86	73	74	55	62	54	41	76	80	27	80	69
17	92	76	76	60	62	58	41	64	90	39	71	64
18	92	76	78	60	62	56	48	62	85	60	71	69
19	78	71	78	58	65	52	52	64	150	58	66	66
20	71	76	76	56	65	58	52	71	300	54	69	64
21	69	73	76	58	63	60	52	66	100	71	62	66
22	69	71	78	60	65	54	52	62	90	114	66	73
23	69	71	80	60	65	52	50	54	76	109	78	71
24	71	71	80	55	63	73	46	52	238	99	60	69
25	71	71	80	50	60	71	80	64	187	80	64	69
26	71	71	70	45	62	66	104	62	162	69	76	71
27	71	71	60	45	64	62	92	58	129	42	92	69
28	71	71	62	46	66	60	89	64	89	44	94	73
29	71	71	62	47	65	56	73	69	66	37	89	69
30	76	69	60	48	---	58	73	62	58	41	87	66
31	78	---	62	48	---	58	---	58	---	39	80	---
TOTAL	2381	2186	2278	1705	1717	1782	1758	2136	3923	1753	2421	2301
MEAN	76.8	72.9	73.5	55.0	59.2	57.5	58.6	68.9	131	56.5	78.1	76.7
MAX	92	78	86	65	66	73	104	116	939	125	124	114
MIN	69	69	60	45	47	48	39	52	52	26	58	64
AC-FT	4720	4340	4520	3380	3410	3530	3490	4240	7780	3480	4800	4560
CAL YR 1971	TOTAL	96844	MEAN 265	MAX 12500	MIN 21	AC-FT 192100						
WTR YR 1972	TOTAL	26341	MEAN 72.0	MAX 939	MIN 26	AC-FT 52250						

CHEYENNE RIVER BASIN

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06402600 CHEYENNE RIVER NEAR BUFFALO GAP, SD--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	71	70	70	65	60	82	106	50	37	48	66
2	64	71	70	70	60	62	89	82	52	30	48	120
3	62	71	65	65	60	66	89	78	62	23	42	197
4	64	71	60	60	60	64	87	66	56	27	39	126
5	76	73	60	55	60	62	92	52	60	27	39	106
6	78	73	60	50	55	64	85	58	60	26	50	104
7	71	73	60	50	55	62	71	56	54	21	56	106
8	62	73	60	50	55	60	64	93	52	27	46	106
9	62	73	60	50	55	60	64	71	48	30	42	105
10	62	73	60	55	60	56	62	895	50	36	52	104
11	64	76	65	60	65	56	62	603	56	37	58	102
12	62	76	65	70	70	58	64	575	60	42	66	100
13	66	76	65	70	65	66	58	382	44	50	64	98
14	64	73	65	70	60	157	58	406	37	71	58	98
15	64	73	65	70	60	109	58	285	46	78	41	96
16	64	73	65	70	70	82	58	243	50	87	37	96
17	66	73	70	70	80	71	52	193	50	111	36	94
18	66	73	70	70	90	71	56	207	54	110	41	94
19	66	69	70	70	95	64	124	116	64	110	46	92
20	66	69	70	70	100	64	152	60	66	105	37	90
21	66	71	70	70	134	64	104	54	66	100	25	86
22	66	64	70	70	114	97	80	54	56	95	42	85
23	69	64	75	70	60	85	66	50	56	90	39	84
24	69	64	75	70	60	76	60	46	52	85	46	84
25	69	71	75	70	58	71	64	54	52	80	56	82
26	69	69	75	70	56	64	69	56	41	80	66	80
27	69	69	75	70	56	64	64	80	26	75	69	76
28	69	65	75	60	58	69	56	73	29	70	73	58
29	71	60	70	70	---	66	54	73	36	65	69	64
30	71	65	70	70	---	69	76	80	42	60	66	64
31	71	---	70	70	---	78	---	64	---	60	62	---
TOTAL	2077	2115	2095	2025	1936	2217	2220	5311	1527	1945	1559	2863
MEAN	67.0	70.5	67.6	65.3	69.1	71.5	74.0	171	50.9	62.7	50.3	95.4
MAX	78	76	75	70	134	157	152	895	66	111	73	197
MIN	62	60	60	50	55	56	52	46	26	21	25	58
AC-FT	4120	4200	4160	4020	3840	4400	4400	10530	3030	3860	3090	5680
CAL YR 1972	TOTAL	25783	MEAN 70.4	MAX 939	MIN 26	AC-FT 51140						
WTR YR 1973	TOTAL	27890	MEAN 76.4	MAX 895	MIN 21	AC-FT 55320						

CHEYENNE RIVER BASIN

06402600 CHEYENNE RIVER NEAR BUFFALO GAP, SD--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	89	62	20	70	212	54	60	48	36	97	89
2	62	92	62	22	75	210	50	60	48	30	64	97
3	62	94	58	20	75	210	56	71	48	37	60	71
4	64	90	58	20	75	267	56	66	46	37	60	62
5	66	90	55	20	70	300	54	62	44	37	56	62
6	66	90	50	20	65	306	52	69	48	30	50	66
7	64	94	55	22	65	306	58	66	48	27	44	64
8	60	87	56	22	60	310	60	60	48	29	44	56
9	58	89	47	20	50	306	58	76	66	26	34	52
10	71	87	50	18	52	306	56	71	66	25	64	52
11	87	97	50	18	50	313	97	66	56	26	78	56
12	97	94	50	25	151	134	119	50	50	26	66	76
13	87	87	48	40	178	66	191	50	50	29	64	78
14	78	85	44	60	126	58	482	50	44	30	60	78
15	73	89	40	85	204	54	410	58	41	36	58	73
16	71	87	40	90	333	54	468	62	41	34	52	64
17	71	89	30	85	361	52	562	64	41	34	39	56
18	76	89	17	80	365	54	343	60	41	34	44	50
19	73	94	15	80	480	52	240	58	41	50	42	44
20	71	85	20	80	607	52	294	60	36	50	50	46
21	73	85	30	75	722	50	313	56	36	48	54	52
22	73	85	40	200	433	50	297	54	42	44	64	50
23	76	92	35	400	383	50	221	56	42	46	66	58
24	85	73	35	400	383	50	207	50	44	48	64	56
25	94	56	35	250	376	52	196	58	42	41	58	44
26	80	60	35	250	365	52	185	58	37	36	58	44
27	71	71	35	250	204	52	170	58	34	39	46	50
28	69	66	30	170	212	52	172	58	39	44	46	54
29	78	69	25	70	---	50	121	50	32	42	56	54
30	82	69	20	70	---	52	66	56	30	46	71	54
31	82	---	20	65	---	56	---	46	---	46	76	---
TOTAL	2282	2524	1247	3047	6590	4188	5708	1839	1329	1143	1785	1808
MEAN	73.6	84.1	40.2	98.3	235	135	190	59.3	44.3	36.9	57.6	60.3
MAX	97	97	62	400	722	313	562	76	66	50	97	97
MIN	58	56	15	18	50	50	50	46	30	25	34	44
AC-FT	4530	5010	2470	6040	13070	8310	11320	3650	2640	2270	3540	3590
CAL YR 1973	TOTAL	27656	MEAN 75.8	MAX 895	MIN 15	AC-FT 54860						
WTR YR 1974	TOTAL	33490	MEAN 91.8	MAX 722	MIN 15	AC-FT 66430						

06402600 CHEYENNE RIVER NEAR BUFFALO GAP, SD--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	87	55	58	57	80	60	50	39	54	36	52
2	54	78	57	58	60	85	60	50	39	56	37	54
3	56	76	60	58	58	85	62	50	44	64	37	58
4	54	73	62	59	54	90	62	50	48	50	42	58
5	73	73	62	59	50	90	60	50	46	48	42	54
6	87	71	62	60	52	85	60	87	44	46	44	54
7	69	69	60	58	54	85	60	85	44	62	41	54
8	60	71	58	56	48	94	71	73	48	62	39	56
9	48	71	60	56	52	76	64	76	64	60	39	58
10	52	71	60	54	65	73	60	69	48	64	39	56
11	54	71	60	50	68	69	60	69	46	66	41	56
12	54	71	60	55	68	65	58	71	42	48	42	58
13	58	71	58	67	70	65	50	82	39	41	37	56
14	62	66	58	68	68	56	50	78	37	44	41	56
15	56	66	58	68	60	62	50	64	34	36	44	56
16	58	66	60	65	58	64	50	62	39	36	50	50
17	58	60	60	67	55	71	50	60	64	37	44	50
18	60	66	60	68	56	62	48	58	42	34	54	54
19	62	73	59	68	58	64	46	54	249	37	60	60
20	62	70	58	68	60	66	44	69	129	39	60	60
21	62	72	60	68	60	69	44	54	104	39	52	62
22	62	72	60	69	58	64	42	85	97	42	48	64
23	62	70	57	70	60	60	46	87	76	44	44	62
24	62	70	55	70	65	55	46	60	73	78	48	62
25	58	70	56	68	70	50	46	48	62	64	52	62
26	60	68	58	65	65	50	44	39	62	48	46	62
27	64	65	60	60	70	50	48	37	54	44	46	62
28	66	62	62	55	75	50	60	37	52	44	48	64
29	66	60	62	55	---	50	58	41	62	39	48	73
30	76	55	59	55	---	50	54	42	56	50	50	71
31	126	---	58	55	---	55	---	37	---	36	50	---
TOTAL	1955	2084	1834	1910	1694	2090	1613	1874	1883	1512	1401	1754
MEAN	63.1	69.5	59.2	61.6	60.5	67.4	53.8	60.5	62.8	48.8	45.2	58.5
MAX	126	87	62	70	75	94	71	87	249	78	60	73
MIN	48	55	55	50	48	50	42	37	34	34	36	50
AC-FT	3880	4130	3640	3790	3360	4150	3200	3720	3730	3000	2780	3480
CAL YR 1974	TOTAL	33310	MEAN 91.3	MAX 722	MIN 18	AC-FT 66070						
WTR YR 1975	TOTAL	21604	MEAN 59.2	MAX 249	MIN 34	AC-FT 42850						

CHEYENNE RIVER BASIN

06402600 CHEYENNE RIVER NEAR BUFFALO GAP, SD--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	62	55	60	55	64	58	82	50	39	280	54
2	58	64	60	50	50	60	56	69	41	50	149	62
3	60	71	65	40	45	55	58	60	44	60	119	50
4	58	69	70	40	40	50	58	60	42	60	85	44
5	58	66	70	45	40	50	58	56	34	54	64	42
6	58	58	70	40	40	50	62	54	34	50	60	42
7	58	60	70	30	45	55	89	54	34	46	64	52
8	58	60	75	30	50	60	80	50	34	39	64	54
9	58	62	71	35	55	66	71	46	29	23	60	50
10	62	64	69	40	60	64	64	46	27	21	60	48
11	66	66	69	40	60	66	56	69	29	19	54	42
12	64	64	66	40	60	65	56	58	39	16	54	44
13	62	64	60	38	60	60	56	48	36	17	54	52
14	62	69	55	38	65	62	56	46	51	22	73	54
15	62	69	55	40	73	62	54	48	142	22	64	56
16	62	69	55	40	71	62	64	52	78	27	60	56
17	62	69	50	45	69	62	78	52	56	23	56	58
18	62	73	55	45	64	62	62	48	54	20	58	58
19	64	78	60	40	62	62	56	46	58	22	54	54
20	60	70	60	40	64	62	54	44	56	19	48	60
21	62	65	60	45	64	60	52	42	42	42	39	60
22	60	65	60	50	64	58	52	46	42	29	34	62
23	66	65	55	60	64	60	52	69	56	17	30	62
24	78	60	60	50	62	60	52	87	66	14	30	62
25	82	60	60	40	62	58	52	73	54	13	37	62
26	76	60	60	35	62	58	52	73	54	15	41	64
27	73	60	60	45	60	58	82	76	50	15	41	66
28	71	55	65	50	60	58	104	71	52	17	52	66
29	66	50	65	55	60	58	87	64	46	17	52	66
30	64	50	66	60	---	58	94	64	44	19	60	66
31	64	---	65	60	---	58	---	71	---	165	58	---
TOTAL	1976	1917	1936	1366	1686	1843	1925	1824	1474	1012	2054	1668
MEAN	63.7	63.9	62.5	44.1	58.1	59.5	64.2	58.8	49.1	32.6	66.3	55.6
MAX	82	78	75	60	73	66	104	87	142	165	280	66
MIN	58	50	50	30	40	50	52	42	27	13	30	42
AC-FT	3920	3800	3840	2710	3340	3660	3820	3620	2920	2010	4070	3310
CAL YR 1975	TOTAL	21560	MEAN 59.1	MAX 249	MIN 34	AC-FT 42760						
WTR YR 1976	TOTAL	20681	MEAN 56.5	MAX 280	MIN 13	AC-FT 41020						

06402600 CHEYENNE RIVER NEAR BUFFALO GAP, SD--Continued

WATER-QUALITY RECORDS

LOCATION--Samples collected 6.0 mi (9.6 km) downstream from discharge station.

PERIOD OF RECORD.--Water years 1969 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,140 micromhos Jan. 13, 1971; minimum daily, 1,440 micromhos July 25, 1975.

WATER TEMPERATURES: October 1968 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,140 micromhos Jan. 13, 1971; minimum daily, 1,440 micromhos July 25, 1975.

WATER TEMPERATURES: Maximum daily, 32.0°C on several days during July to August, 1969; minimum daily, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,700 micromhos Nov. 22; minimum daily, 1,700 micromhos July 31, Aug. 1.

WATER TEMPERATURES: Maximum daily, 23.0°C July 6, 10, 12, Aug. 18; minimum daily, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	HARD- NESS (CA,MG) (MG/L) (00900)	NON- CAR- BONATE HARD- NESS (MG/L) (00902)	DIS- SOLVED CAL- CIUM (CA) (MG/L) (00915)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) (00925)
OCT									
15...	0945	62	--	--	6.0	930	740	250	74
NOV									
10...	0945	62	2480	--	2.5	940	740	250	76
DEC									
11...	1330	65	2300	7.7	1.0	950	750	250	80
JAN									
26...	0930	30	2200	--	.0	1100	850	290	83
FEB									
25...	0930	60	2100	8.3	2.0	940	760	250	76
MAR									
22...	0920	56	2450	--	7.0	880	710	230	75
APR									
19...	1000	54	2380	--	13.0	960	770	250	81
MAY									
20...	1400	43	2700	--	22.0	910	750	230	82
JUN									
14...	0930	35	2650	--	14.5	890	740	240	70
JUL									
12...	0945	16	2810	7.6	25.5	960	830	240	88
AUG									
09...	0945	59	2770	7.8	22.0	1000	850	270	82
SEP									
10...	1230	50	2520	8.2	19.0	970	820	250	83

CHEYENNE RIVER BASIN

06402600 CHEYENNE RIVER NEAR BUFFALO GAP, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SODIUM (NA) (00930)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	DIS- SOLVED PO- TAS- SIUM (K) (00935)	BICAR- BONATE (HCO3) (00440)	CAR- BONATE (CO3) (00445)	ALKA- LINITY AS CAC03 (00410)	DIS- SOLVED SULFATE (SO4) (00945)	DIS- SOLVED CHLO- RIDE (CL) (00940)
OCT									
15...	220	33	3.1	18	236	--	194	1000	120
NOV									
10...	210	32	3.0	19	241	--	198	1000	130
DEC									
11...	190	30	2.7	17	248	0	203	940	110
JAN									
26...	190	28	2.5	16	268	--	220	1100	120
FEB									
25...	180	29	2.6	15	217	0	178	1000	120
MAR									
22...	180	30	2.6	16	216	--	177	960	110
APR									
19...	190	30	2.7	15	224	--	184	1000	120
MAY									
20...	220	34	3.2	12	196	--	161	1100	120
JUN									
14...	210	34	3.1	14	179	--	147	1100	140
JUL									
12...	300	40	4.2	20	160	0	131	1200	150
AUG									
09...	210	31	2.9	17	200	0	164	1100	130
SEP									
10...	230	34	3.2	18	182	0	149	1100	140

DATE	DIS- SOLVED FLUO- RIDE (F) (00950)	DIS- SOLVED SILICA (SiO2) (00955)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (00301)	DIS- SOLVED SOLIDS (TONS PER AC-FT) (00303)	DIS- SOLVED SOLIDS (TONS PER DAY) (00302)	DIS- SOLVED NITRITE PLUS NITRATE (N) (00631)	TOTAL PHOS- PHORUS (P) (00665)	DIS- SOL- VED- PHOS- PHORUS (P) (00666)	DIS- SOLVED BORON (B) (01020)
OCT									
15...	.6	12	1810	2.46	303	.77	.04	.01	350
NOV									
10...	.6	11	1820	2.48	305	.93	.03	.00	360
DEC									
11...	.5	12	1730	2.35	304	1.3	.02	.00	280
JAN									
26...	.7	12	1950	2.65	158	1.4	.00	.00	350
FEB									
25...	.5	7.1	1760	2.39	285	.76	.00	.00	280
MAR									
22...	.5	8.6	1690	2.30	256	.69	.01	.01	270
APR									
19...	.6	11	1780	2.42	260	.71	.04	.00	310
MAY									
20...	.6	8.0	1870	2.54	217	.23	.02	.01	470
JUN									
14...	.6	7.6	1870	2.54	177	.09	.07	.12	250
JUL									
12...	.6	9.8	2090	2.84	90.3	.18	.05	.01	300
AUG									
09...	.6	12	1920	2.61	306	.59	.02	.00	320
SEP									
10...	.6	12	1930	2.62	261	.64	.05	.01	300

CHEYENNE RIVER BASIN

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06402600 CHEYENNE RIVER NEAR BUFFALO GAP, SD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C) • WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2400	2400	2550	2250	1900	2250	2300	2200	2350	2350	1700	2500
2	2350	2400	2550	2250	2000	2450	2370	2250	2350	2400	1850	2450
3	2400	2350	2300	2500	2000	2350	2370	2250	2350	2300	2150	2400
4	2450	2400	2250	2450	2050	2400	2370	2330	2350	2200	2150	2450
5	2450	2400	2200	2500	2400	2450	2370	2330	2400	2250	2250	2400
6	2450	2400	2300	2450	2300	2500	2370	2300	2400	2250	2300	2450
7	2400	2350	2300	2350	2200	2350	2360	2300	2400	2250	2350	2450
8	2400	2400	2300	2500	2050	2200	2360	2300	2400	2250	2350	2400
9	2450	2400	2200	2550	1950	2250	2400	2300	2400	2250	2300	2450
10	2400	2350	2200	2350	1900	2350	2400	2300	2400	2350	2350	2450
11	2400	2400	2250	2250	1900	2350	2400	2350	2450	2400	2300	2450
12	2450	2400	2250	2250	1900	2400	2400	2450	2500	2500	2300	2500
13	2400	2450	2300	2350	2000	2400	2400	2420	2350	2500	2300	2450
14	2400	2400	2400	2250	1900	2300	2380	2250	2400	2550	2300	2400
15	2400	2400	2550	2250	1900	2250	2370	2350	2100	2400	2250	2450
16	2400	2400	2650	2300	1850	2250	2380	2350	2100	2400	2400	2450
17	2400	2400	2550	2200	2000	2300	2400	2300	2200	2350	2400	2450
18	2400	2400	2500	2350	2000	2300	2400	2300	2300	2400	2400	2450
19	2400	2400	2450	2250	2100	2300	2400	2350	2300	2400	2400	2450
20	2400	2400	2300	2300	2000	2300	2400	2350	2350	2350	2400	2450
21	2400	2600	2300	2350	2100	2300	2410	2400	2350	2300	2450	2450
22	2400	2700	2300	2250	2050	2250	2380	2400	2350	2300	2450	2500
23	2400	2600	2400	2250	2050	2300	2380	2250	2200	2300	2500	2500
24	2400	2500	2350	2250	2100	2300	2370	2300	2200	2400	2400	2450
25	2400	2500	2300	2300	2100	2350	2370	2300	2150	2450	2450	2450
26	2400	2500	2300	2400	2100	2300	2120	2300	2150	2450	2400	2450
27	2400	2550	2250	2500	2100	2300	2120	2300	2300	2450	2400	2450
28	2400	2600	2250	2350	2000	2300	2300	2300	2300	2450	2400	2400
29	2400	2550	2250	2200	2050	2300	2360	2300	2350	2450	2400	2450
30	2400	2600	2300	2200	---	2300	2400	2310	2300	1750	2400	2450
31	2400	---	2300	2250	---	2300	---	2300	---	1700	2400	---
MONTH	2410	2450	2340	2330	2030	2320	2360	2320	2320	2330	2320	2450

TEMPERATURE (DEG. C) OF WATER • WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	5.0	0.0	0.0	0.0	1.0	5.0	11.0	20.0	19.5	19.5	18.0
2	9.0	5.5	0.0	0.0	0.0	0.0	4.0	17.0	20.0	20.5	19.0	17.0
3	9.0	5.0	0.5	0.0	0.0	0.0	4.0	8.5	19.5	20.5	19.0	17.0
4	11.5	6.0	0.5	0.0	0.0	0.0	4.0	13.0	19.5	21.0	19.0	16.5
5	12.0	6.0	0.5	0.0	0.0	0.0	5.0	10.0	19.5	22.0	20.0	17.0
6	10.0	7.0	0.5	0.0	0.0	0.0	6.0	9.0	19.0	23.0	20.0	17.0
7	11.0	5.0	0.5	0.0	0.0	0.0	7.0	9.0	20.0	22.5	21.0	17.5
8	11.0	5.5	1.0	0.0	0.0	0.5	6.0	4.5	20.5	22.0	22.0	15.5
9	9.0	5.0	0.5	0.0	0.0	1.0	6.0	11.0	21.0	22.0	20.0	14.0
10	9.5	3.0	0.5	0.0	0.5	3.0	5.0	9.0	19.0	23.0	20.0	13.0
11	9.5	2.5	0.0	0.0	0.5	4.0	5.0	14.0	20.0	22.0	20.0	13.5
12	9.0	0.5	0.0	0.0	0.5	2.0	5.0	11.0	18.0	23.0	20.0	15.0
13	9.0	0.5	0.5	0.0	0.5	1.0	11.0	19.0	16.0	21.0	20.0	15.0
14	7.5	2.0	0.0	0.0	0.5	1.0	11.0	11.0	15.0	20.5	21.0	16.5
15	5.0	3.0	0.0	0.0	0.5	1.0	10.0	10.0	14.0	19.5	21.0	17.0
16	6.0	3.5	0.0	0.0	1.5	1.0	9.0	10.0	14.0	19.5	22.0	17.0
17	6.5	3.0	0.0	0.0	1.0	2.0	8.0	11.0	16.0	19.5	22.0	15.0
18	7.0	2.0	0.5	0.0	1.0	3.0	7.0	11.0	14.0	21.5	23.0	15.0
19	9.0	2.0	0.5	0.0	0.5	4.0	7.0	12.0	15.0	22.0	22.0	14.0
20	9.0	1.0	0.0	0.0	0.0	4.0	10.0	19.0	17.0	20.0	21.0	14.5
21	8.0	1.0	0.0	0.0	0.0	4.0	12.0	16.0	18.0	20.0	20.0	14.0
22	---	0.5	0.0	0.0	0.5	4.0	10.0	14.0	19.5	20.5	20.0	14.0
23	6.5	0.5	0.0	0.0	1.0	4.0	11.0	10.0	16.0	20.5	21.0	13.0
24	5.0	0.5	0.0	0.0	1.5	5.0	10.0	11.0	16.0	22.0	20.0	12.5
25	6.0	0.0	0.0	0.0	1.5	4.0	9.0	10.0	15.0	21.5	20.0	13.0
26	5.0	0.0	0.0	0.0	2.0	4.0	7.0	11.0	15.0	22.0	20.0	13.0
27	7.0	0.0	0.0	0.0	2.0	3.0	4.0	12.0	17.0	21.5	19.0	11.0
28	5.5	0.0	0.0	0.0	3.0	4.0	6.0	17.0	17.0	20.5	19.0	10.0
29	4.0	0.0	0.0	0.0	1.5	5.0	6.0	18.0	18.5	20.0	19.0	10.0
30	6.0	0.0	0.0	0.0	---	5.0	6.0	17.0	17.5	19.5	19.0	10.0
31	7.5	---	0.0	0.0	---	5.0	---	17.0	---	19.5	19.0	---
MONTH	8.0	2.5	0.0	0.0	0.5	2.5	7.0	12.5	17.5	21.0	20.0	14.5

CHEYENNE RIVER BASIN

06404000 BATTLE CREEK NEAR KEYSTONE, SD

LOCATION.--Lat 43°52'21", long 103°20'10", in SW¼SW¼ sec.18, T.2 S., R.7 E., Pennington County, Hydrologic Unit 10120109, at right downstream end county highway bridge, 0.6 mi (1.0 km) downstream from Iron Creek and 4.5 mi (7.2 km) southeast of Keystone.

DRAINAGE AREA.--66 mi² (171 km²).

PERIOD OF RECORD.--July 1945 to July 1947, October 1961 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,800 ft (1,160 m), from topographic map. Prior to Nov. 13, 1961, nonrecording gage at site 250 ft (76 m) downstream at different datum and Nov. 13 to Dec. 5, 1961, at same site at present datum. Dec. 6, 1961, to June 9, 1972, water-stage recorder at site 210 ft (64 m) downstream at present datum (destroyed by flood); June 10 to Nov. 20, 1972, nonrecording gage 180 ft (55 m) downstream at present datum; Nov. 21, 1972, to Nov. 27, 1973, water-stage recorder at present site and datum; Nov. 28, 1973, to Nov. 7, 1974, nonrecording gage 180 ft (55 m) downstream at present datum.

REMARKS.--Records good except those for winter periods, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--16 years (1945-46, 1961-76), 10.8 ft³/s (0.306 m³/s), 7,820 acre-ft/yr (9.64 hm³/yr); median of yearly mean discharges, 11 ft³/s (0.31 m³/s), 8,000 acre-ft/yr (9.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,200 ft³/s (742 m³/s) June 9, 1972, gage height, 14.5 ft (4.42 m), from floodmarks, site then in use, from rating curve extended above 550 ft³/s (15.6 m³/s) on basis of slope-area measurement of peak flow; no flow for many days in 1961, 1962, 1970, 1974, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft³/s (30 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 1	2200	115 3.26	4.02 1.225	June 9	0530	117 3.31	4.03 1.228
May 23	2015	311 8.81	4.69 1.430	June 15	0015	*1260 35.7	*6.55 1.996
May 26	0315	166 4.70	4.18 1.274				

No flow Oct. 1-14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.17	.50	1.0	1.2	1.0	2.2	5.8	39	22	9.9	2.5
2	0	.23	.50	.90	1.2	.80	2.3	7.7	33	22	11	2.1
3	0	.47	1.0	.60	1.0	.60	2.3	5.6	29	26	10	1.7
4	0	.39	1.5	.60	.80	.60	2.3	5.7	23	28	25	1.7
5	0	.43	1.8	1.0	.60	.60	2.3	5.5	20	22	13	2.1
6	0	.48	2.1	.80	.60	.80	2.6	4.0	17	19	15	1.9
7	0	.22	1.7	.60	.80	1.0	4.9	3.3	16	9.9	11	1.7
8	0	.28	1.8	.50	1.0	1.2	6.3	2.7	14	6.8	9.0	2.1
9	0	.25	1.9	.80	1.5	1.5	4.8	2.3	73	18	8.3	2.6
10	0	.25	1.9	1.0	1.5	2.0	4.2	2.0	44	20	7.6	2.5
11	0	.25	1.8	2.0	2.0	1.8	3.8	1.8	34	19	7.9	2.1
12	0	.30	2.0	1.6	2.0	1.5	3.4	1.7	31	20	9.9	2.1
13	0	.64	1.8	1.0	2.0	1.8	3.2	1.5	22	23	10	1.9
14	0	.68	1.5	1.2	2.5	1.8	3.2	1.4	222	27	11	1.6
15	.05	.81	1.5	1.5	3.0	1.8	3.4	1.3	617	17	8.3	1.7
16	.07	.81	1.5	1.6	2.5	2.0	3.6	1.3	217	11	11	1.7
17	.07	.88	1.0	2.0	2.0	2.3	4.5	1.2	132	7.2	9.0	1.4
18	.07	.79	1.5	2.0	2.0	2.4	4.2	9.9	99	5.4	6.8	1.2
19	.07	.70	1.5	2.0	2.0	2.7	3.8	9.4	77	6.4	7.2	1.9
20	.07	.60	1.5	2.5	1.8	2.4	3.7	8.6	60	15	6.1	1.7
21	.07	.60	1.5	2.5	2.0	2.3	3.7	1.4	48	17	4.9	1.6
22	.07	.60	1.3	2.5	2.5	2.1	3.7	1.3	48	13	4.4	1.4
23	.10	.80	1.0	2.5	2.8	2.2	4.0	129	53	13	4.1	1.6
24	.21	.50	1.0	1.7	3.0	2.1	5.3	195	43	7.9	3.8	2.1
25	.15	.40	1.2	1.2	2.8	2.3	5.2	120	34	5.2	4.1	2.3
26	.16	.30	1.2	.80	2.5	2.2	5.3	140	27	4.4	3.8	2.8
27	.17	.20	1.4	1.0	2.5	2.3	10	102	25	4.1	3.5	2.6
28	.33	.20	1.5	1.0	2.0	2.2	13	79	24	4.4	3.0	2.1
29	.05	.20	2.0	1.1	1.5	2.2	14	67	23	5.4	2.6	1.9
30	.26	.20	2.0	1.1	---	2.1	22	57	24	3.5	2.6	1.6
31	.32	---	1.5	1.2	---	2.2	---	51	---	6.8	2.8	---
TOTAL	2.29	13.63	45.90	41.70	53.60	54.80	157.2	1542.9	2168	429.4	246.6	58.2
MEAN	.074	.45	1.48	1.35	1.85	1.77	5.24	49.8	72.3	13.9	7.95	1.94
MAX	.33	.88	2.1	2.5	3.0	2.7	22	195	617	28	25	2.8
MIN	0	.17	.50	.50	.60	.60	2.2	8.6	14	3.5	2.6	1.2
AC-FT	4.5	27	91	83	106	109	312	3060	4300	852	489	115
CAL YR 1975	TOTAL	1694.65	MEAN	4.64	MAX	93	MIN	0	AC-FT	3360		
WTR YR 1976	TOTAL	4814.22	MEAN	13.2	MAX	617	MIN	0	AC-FT	9550		

CHEYENNE RIVER BASIN

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06405000 GRACE COOLIDGE CREEK NEAR CUSTER, SD

LOCATION.--Lat 43°45'40", long 103°21'42", in SE¼NE¼ sec.26, T.3 S., R.6 E., Custer County, Hydrologic Unit 10120109, on right bank at U.S. Highway Alternate 16, 1.7 mi (2.7 km) southwest of junction U.S. Highways 36 and Alternate 16 and 11.5 mi (18.5 km) east of Custer.

DRAINAGE AREA.--25.3 mi² (65.5 km²).

PERIOD OF RECORD.--July 1945 to July 1947 (published as Squaw Creek near Custer), June 1967 to current year.

GAGE.--Water-stage recorder and grouted-rock control. Altitude of gage is 4,100 ft (1,250 m), from topographic map. Prior to July 31, 1947, nonrecording gage at site 0.5 mi (0.8 km) upstream at different datum. June 29, 1967, to Sept. 30, 1972, at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records fair except those for winter periods, which are poor. Considerable losses in sinkholes in vicinity of gage. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--10 years, 3.51 ft³/s (0.099 m³/s), 2,540 acre-ft/yr (3.13 hm³/yr); median of yearly mean discharges, 3.2 ft³/s (0.09 m³/s), 2,300 acre-ft/yr (2.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 980 ft³/s (27.8 m³/s) June 15, 1976, gage height, 5.44 ft (1.658 m), present datum, from rating curve extended above 80 ft³/s (2.27 m³/s) on basis of slope-area measurement of peak flow; no flow for many days most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 12, 1967, reached a stage of 2.45 ft (0.747 m), present datum, from floodmarks, discharge, 151 ft³/s (4.28 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 25 ft³/s (0.71 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)		Gage height (ft) (m)		Date	Time	Discharge (ft ³ /s) (m ³ /s)		Gage height (ft) (m)	
May 4	0600	39	1.10	1.91	0.582	June 9	0500	326	9.23	3.34	1.018
May 23	2300	134	3.79	2.51	0.765	June 15	0100	*980	27.8	*5.44	1.658

No flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						0	0	14	23	16	6.9	1.3
2						0	0	34	21	15	8.3	.88
3						0	0	34	19	15	7.4	.69
4						0	0	38	18	15	5.6	.57
5						0	0	36	15	13	5.3	.45
6						0	0	28	14	12	5.3	.34
7						0	.02	23	14	10	4.5	.34
8						0	.04	20	14	10	4.1	.51
9						0	0	17	74	9.8	3.7	.51
10						0	0	15	21	9.3	3.0	.51
11						0	0	12	18	7.4	3.4	.45
12						0	0	11	20	6.9	3.4	.40
13						0	0	7.4	18	6.9	3.4	.40
14						0	0	9.3	131	6.0	3.7	.34
15						0	0	7.4	481	6.0	4.1	.34
16						0	.08	6.4	157	6.4	5.6	.28
17						0	.28	6.0	88	5.6	4.9	.16
18						0	.28	5.3	55	5.6	3.7	.22
19						0	.40	4.9	41	6.0	3.0	.57
20						0	.34	4.5	34	6.0	2.6	.57
21						0	.16	4.9	28	7.4	2.4	.63
22						0	.08	6.0	29	6.4	2.2	.57
23						0	.08	44	33	6.0	2.0	.57
24						0	.10	103	27	5.3	2.0	.63
25						0	.06	66	24	4.9	1.8	.63
26						0	.16	55	22	4.9	1.8	.63
27						0	5.0	42	20	4.1	1.8	.63
28						0	2.4	36	18	4.1	1.6	.63
29						0	3.4	30	18	4.1	1.1	.63
30						0	5.6	28	17	4.1	.51	.57
31		---			---	.01	---	26	---	4.9	.69	---
TOTAL	0	0	0		0	.01	18.48	774.1	1512	244.1	109.80	15.95
MEAN	0	0	0	0	0	.0003	.62	25.0	50.4	7.87	3.54	.53
MAX	0	0	0	0	0	.01	5.6	103	481	16	8.3	1.3
MIN	0	0	0	0	0	0	0	4.5	14	4.1	.51	.16
AC-FT	0	0	0	0	0	.02	37	1540	3000	484	218	32

CAL YR 1975	TOTAL	496.71	MEAN 1.36	MAX 57	MIN 0	AC-FT 985
WT? YR 1976	TOTAL	2674.44	MEAN 7.31	MAX 481	MIN 0	AC-FT 5300

CHEYENNE RIVER BASIN

06406000 BATTLE CREEK AT HERMOSA, SD

LOCATION.--Lat 43°49'41", long 103°11'44", in NE&SW&SW sec.32, T.2 S., R.8 E., Custer County, Hydrologic Unit 10120109, on right bank 50 ft (15 m) downstream from Chicago and North Western Transportation Company bridge, 0.8 mi (1.3 km) south of Hermosa and 2.9 mi (4.7 km) downstream from Grace Coolidge Creek.

DRAINAGE AREA.--178 mi² (461 km²).

PERIOD OF RECORD.--August to December 1903 (gage heights only), July 1949 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,290 ft (1,000 m), from topographic map. Nonrecording gage, August to December 1903, at site 50 ft (15 m) upstream, July 7, 1949, to Nov. 2, 1950, at site 0.5 mi (0.8 km) upstream, Nov. 3, 1950, to Dec. 6, 1961, at site 170 ft (52 m) downstream, all at different datum. Dec. 7, 1961, to June 10, 1972, water-stage recorder (destroyed by flood), and June 11, 1972, to Aug. 28, 1972, non-recording gage at site 80 ft (24 m) downstream at present datum.

REMARKS.--Records good except those for winter periods, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--27 years, 9.52 ft³/s (0.270 m³/s), 6,900 acre-ft/yr (8.51 hm³/yr); median of yearly mean discharges, 6.1 ft³/s (0.17 m³/s), 4,400 acre-ft/yr (5.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,400 ft³/s (606 m³/s) June 10, 1972, gage height, 17.72 ft (5.401 m), from floodmarks, from rating curve extended above 2,800 ft³/s (79.3 m³/s) on basis of contracted-opening and flow-over-railroad embankment measurement of peak flow; no flow at times in 1954-57, 1959.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 150 ft³/s (4.2 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 24	1000	502 14.2	6.40 1.951	June 9	0230	957 27.1	8.80 2.682
May 26	0945	186 5.27	4.45 1.356	June 15	0800	*1390 39.4	*11.40 3.475

Minimum daily, 1.0 ft³/s (0.028 m³/s) Jan. 8, Feb. 5-7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	3.7	2.0	2.5	2.0	3.4	2.2	8.9	35	29	13	7.2
2	2.5	3.7	2.5	2.0	1.6	3.3	2.2	65	26	28	12	6.4
3	2.2	3.8	3.0	2.0	1.5	2.8	2.3	49	21	30	11	5.9
4	2.3	3.4	3.5	2.0	1.3	3.3	2.4	45	16	28	17	5.8
5	2.3	2.3	3.2	2.7	1.0	2.9	2.5	48	11	25	17	5.4
6	2.5	2.1	3.1	2.0	1.0	3.2	2.7	39	8.7	25	16	4.8
7	2.3	2.1	3.2	1.5	1.0	3.3	3.9	28	7.1	23	15	5.0
8	2.5	2.1	3.3	1.0	1.5	3.4	3.9	20	28	21	13	6.6
9	3.0	2.3	3.4	1.1	2.0	3.2	3.5	15	210	19	12	7.8
10	3.8	2.5	3.4	1.3	2.5	3.2	3.1	11	56	16	12	7.2
11	4.0	2.5	3.3	1.5	3.7	3.3	2.8	8.8	38	15	12	6.7
12	3.8	2.3	3.4	1.4	3.2	2.8	2.8	8.0	38	14	12	6.3
13	3.3	2.6	3.0	1.2	1.9	3.5	2.8	7.7	28	13	11	6.1
14	3.2	2.9	2.7	1.2	1.9	3.3	2.7	7.1	115	13	11	6.3
15	2.8	2.6	2.5	1.5	1.9	3.4	2.6	6.3	860	18	11	6.5
16	2.9	2.5	2.5	2.0	2.4	3.2	3.1	6.0	442	18	11	6.2
17	2.9	2.4	2.0	3.1	3.3	3.4	3.1	5.6	249	16	9.4	5.6
18	2.8	2.4	2.0	3.0	3.2	3.0	3.5	5.4	176	14	9.4	5.5
19	2.7	2.2	2.2	2.6	3.0	2.8	3.9	5.3	136	14	10	5.8
20	2.8	2.0	2.5	2.6	3.3	2.9	3.9	5.1	109	13	11	6.1
21	2.8	2.0	3.0	2.6	3.0	2.9	3.8	5.4	90	16	11	5.6
22	2.9	1.7	3.0	2.7	3.2	3.0	3.7	5.1	79	18	10	5.6
23	3.8	2.0	2.8	2.9	3.3	2.9	3.6	55	85	17	9.8	5.8
24	4.6	1.8	3.0	2.3	3.2	2.8	3.7	304	76	13	8.8	6.4
25	4.2	1.8	3.0	1.9	3.1	2.9	3.6	145	63	11	8.4	6.3
26	4.1	1.6	3.0	2.0	3.1	2.6	3.7	144	53	11	8.1	6.4
27	4.2	1.6	3.2	2.5	2.9	1.8	6.9	104	46	11	8.2	6.2
28	4.1	1.6	3.0	2.7	3.1	2.0	7.1	73	40	11	7.9	6.4
29	3.8	1.6	2.7	3.6	3.2	2.1	6.7	57	35	11	7.9	5.6
30	3.7	1.5	2.9	2.7	---	2.1	6.1	49	32	11	8.1	4.1
31	3.7	---	2.9	2.0	---	2.1	---	41	---	12	8.6	---
TOTAL	97.7	69.6	89.2	66.1	71.3	90.8	108.8	1376.7	3208.8	534	342.6	181.6
MEAN	3.15	2.32	2.88	2.13	2.46	2.93	3.63	44.4	107	17.2	11.1	6.05
MAX	4.6	3.8	3.5	3.6	3.7	3.5	7.1	304	860	30	17	7.8
MIN	1.2	1.5	2.0	1.0	1.0	1.8	2.2	5.1	7.1	11	7.9	4.1
AC-FT	194	138	177	131	141	180	216	2730	6360	1060	680	360

CAL YR 1975	TOTAL	1733.18	MEAN	4.75	MAX	152	MIN	.57	AC-FT	3440
WTR YR 1976	TOTAL	6237.20	MEAN	17.0	MAX	860	MIN	1.0	AC-FT	12370

06408500 SPRING CREEK NEAR HERMOSA, SD

LOCATION.--Lat 43°56'31", long 103°09'32", in SE¼SE¼SE¼ sec.21, T.1 S., R.8 E., Pennington County, Hydrologic Unit 10120109, at left upstream end of county highway bridge, 0.3 mi (0.5 km) upstream from Chicago and North Western Transportation Company bridge and 7.5 mi (12.1 km) north of Hermosa.

DRAINAGE AREA.--199 mi² (515 km²).

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

REVISED RECORDS.--WSP 1729: 1950.

GAGE.--Water-stage recorder. Datum of gage is 3,265.30 ft (995.263 m) above mean sea level. Prior to Mar. 30, 1973, nonrecording gage and crest-stage gage 210 ft (64.0 m) upstream, and Mar. 30 to Sept. 30, 1973, water-stage recorder at present site, both at datum 2.00 ft (0.610 m) higher.

REMARKS.--Records good except those for winter periods, which are poor. Considerable loss in sinkholes in reach 10 to 15 mi (16 to 24 km) above station. Flow slightly regulated by Lake Sheridan, capacity, 12,657 acre-ft (15.6 hm³), 24 mi (39 km) above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--27 years, 5.81 ft³/s (0.165 m³/s), 4,210 acre-ft/yr (5.19 hm³/yr); median of yearly mean discharges, 1.6 ft³/s (0.05 m³/s), 1,200 acre-ft/yr (1.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,400 ft³/s (379 m³/s) June 10, 1972, gage height, 13.12 ft (3.999 m), site and datum then in use, from floodmarks, from rating curve extended above 350 ft³/s (9.91 m³/s) on basis of contracted-opening measurement of peak flow; no flow for many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 361 ft³/s (10.2 m³/s) June 16, gage height, 5.20 ft (1.585 m); no flow for many days.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 15-22; stage-discharge relation affected
by ice Dec. 13 to Mar. 17)

2.14	0	2.4	6.4	3.5	113
2.2	.70	2.6	16	4.0	194
2.3	2.9	3.0	51	5.0	412

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	0	.10	.80	.40	1.2	.85	.50	26	2.1	.96
2		0	0	.10	.70	.30	1.2	.61	.50	23	2.1	.85
3		0	0	.10	.50	.30	1.2	.60	.50	23	2.1	.78
4		0	.05	.15	.40	.30	1.3	.75	.50	21	2.1	.78
5		0	.08	.25	.30	.20	1.3	.80	.50	20	1.9	.78
6		0	0	.20	.20	.40	1.4	.80	.50	19	1.7	.62
7		0	0	.20	.30	.40	1.4	.80	.50	17	1.7	.62
8		0	0	.20	.50	.50	.92	.80	.50	14	1.5	.82
9		0	.10	.25	1.0	.50	.42	.80	20	11	1.4	1.1
10		0	.20	.25	.90	.60	.40	.60	10	8.7	1.3	1.3
11		0	.20	.30	.80	.60	.28	.80	8.0	6.2	1.8	1.1
12		0	.11	.25	.80	.40	.29	.80	5.0	4.3	1.5	1.0
13		0	.10	.20	.80	.40	.36	.50	5.0	3.1	1.7	1.2
14		0	.10	.25	1.0	.40	.20	.62	100	3.0	1.6	1.3
15		0	.10	.25	.80	.50	.20	.40	253	2.5	1.5	1.3
16		0	.10	.25	.70	.70	.76	.60	342	2.1	1.8	1.4
17		0	.05	.30	.70	1.0	.65	.40	286	1.9	1.5	1.3
18		.58	.10	.30	.70	1.4	.20	.60	212	1.9	1.5	1.3
19		.22	.15	.25	.60	1.4	.27	.60	162	1.9	1.4	1.3
20		0	.15	.30	.50	1.2	.40	.40	128	2.2	1.4	1.5
21		0	.15	.35	.60	1.1	.52	.60	103	2.1	1.2	1.5
22		0	.15	.40	.80	.98	.60	.80	89	3.0	1.3	1.7
23		0	.15	.45	.90	.91	.72	2.3	83	5.1	1.2	1.8
24		0	.20	.30	1.0	.91	.63	2.0	77	3.7	1.1	2.1
25		0	.20	.25	.60	.92	.60	1.2	66	2.3	1.3	2.1
26		0	.20	.20	.60	.99	.61	1.2	55	1.9	1.2	2.2
27		0	.20	.50	.60	.88	1.6	.80	46	1.9	1.2	2.1
28		0	.20	.70	.60	1.0	1.6	.60	40	1.7	1.2	1.7
29		0	.20	.80	.50	1.0	1.3	.60	34	1.7	.95	.70
30		0	.20	.80	---	1.1	.96	.50	30	1.9	1.0	.62
31		---	.15	.80	---	1.3	---	.50	---	2.0	1.3	---
TOTAL	0	.80	3.59	10.00	19.20	22.99	23.49	24.23	2158.00	239.1	46.55	37.83
MEAN	0	.027	.12	.32	.66	.74	.78	.78	71.9	7.71	1.50	1.26
MAX	0	.58	.20	.80	1.0	1.4	1.6	2.3	342	26	2.1	2.2
MIN	0	0	0	.10	.20	.20	.20	.40	.50	1.7	.95	.62
AC-FT	0	1.6	7.1	20	38	46	47	48	4280	474	92	75
CAL YR 1975	TOTAL	84.92	MEAN	.23	MAX	5.8	MIN	0	AC-FT	168		
WTR YR 1976	TOTAL	2585.78	MEAN	7.07	MAX	342	MIN	0	AC-FT	5130		

CHEYENNE RIVER BASIN

06409000 CASTLE CREEK ABOVE DEERFIELD RESERVOIR, NEAR HILL CITY, SD
(Hydrologic bench-mark station)

LOCATION.--Lat 44°00'49", long 103°49'48", in SW¼ sec.25, T.1 N., R.2 E., Pennington County, Hydrologic Unit 10120110, on right bank 50 ft (15 m) downstream from highway bridge, 250 ft (76 m) downstream from South Fork Castle Creek, 600 ft (183 m) upstream from high-water line of Deerfield Reservoir, 2.5 mi (4.0 km) southwest of Deerfield Dam, and 14 mi (23 km) northwest of Hill City.

DRAINAGE AREA.--83 mi² (215 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1948 to current year. Prior to October 1953, published as "above Deerfield Reservoir, near Deerfield".

REVISED RECORDS.--WSP 1917: 1952(M).

GAGE.--Water-stage recorder and grouted-rock control. Altitude of gage is 5,910 ft (1,800 m), from reservoir elevation. Prior to Aug. 31, 1948, nonrecording gage at site 50 ft (15 m) upstream at datum 2.05 ft (0.625 m) higher.

REMARKS.--Records good except those for winter periods, which are poor. Recording rain gage located at Deerfield Dam 2.5 mi (4.0 km) northeast of station.

AVERAGE DISCHARGE.--28 years, 10.1 ft³/s (0.286 m³/s), 7,320 acre-ft/yr (9.03 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,120 ft³/s (31.7 m³/s) May 22, 1952, gage height, 5.81 ft (1.771 m), from rating curve extended above slope-area measurement at gage height, 5.67 ft (1.728 m); minimum, 1.2 ft³/s (0.034 m³/s) Apr. 25, 1969; minimum gage height, 1.35 ft (0.411 m) Nov. 12, 1949, Feb. 19, 1954, Mar. 7, 1957, Mar. 29, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 52 ft³/s (1.47 m³/s) June 15, gage height, 2.78 ft (0.847 m); maximum gage height, 3.14 ft (0.957 m) Feb. 10 (backwater from ice), no peak above base of 100 ft³/s (2.83 m³/s); minimum daily discharge, 5.0 ft³/s (0.142 m³/s) Nov. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.3	9.6	7.5	8.1	8.1	9.3	12	13	9.3	12	9.8	8.6
2	9.3	9.3	8.0	8.6	7.9	9.1	9.8	11	8.8	13	9.8	8.6
3	9.1	9.3	9.0	8.1	7.9	8.0	10	10	8.8	13	9.6	8.6
4	9.3	9.3	11	8.1	7.7	7.0	12	10	8.4	12	9.8	8.6
5	9.3	9.8	10	8.6	8.1	7.0	12	11	8.4	12	9.3	8.4
6	9.3	9.8	10	8.8	8.1	7.5	13	11	11	11	9.6	8.4
7	9.3	9.8	10	8.8	8.4	8.0	15	11	9.6	12	9.1	9.1
8	9.3	9.6	10	8.8	8.5	8.0	14	11	9.6	11	9.1	9.1
9	9.8	9.5	10	8.8	10	8.5	16	10	8.6	11	9.3	9.1
10	10	9.0	10	8.8	10	9.0	15	10	8.4	10	9.3	9.1
11	9.8	5.0	10	8.6	9.5	9.0	14	10	8.1	10	9.3	9.1
12	9.6	7.5	9.8	8.4	9.0	8.0	14	10	8.8	10	9.3	9.1
13	9.6	7.7	9.8	8.4	9.1	9.0	14	10	8.8	11	9.3	9.1
14	9.8	9.8	9.0	8.1	9.1	10	14	11	22	10	9.3	9.1
15	10	13	8.0	8.4	8.6	10	14	12	34	10	9.1	8.8
16	9.6	14	7.0	8.6	8.5	10	15	11	19	10	9.1	8.8
17	9.6	10	6.5	8.8	8.0	10	14	9.8	17	9.8	8.8	8.8
18	9.6	8.5	7.0	8.6	8.0	11	13	9.6	15	9.8	8.6	8.8
19	9.6	7.0	8.0	8.1	8.0	11	13	9.3	15	9.8	8.6	8.8
20	9.6	7.0	9.0	8.4	7.5	10	12	9.3	14	10	8.6	8.8
21	9.6	7.5	9.0	8.4	8.0	10	12	12	14	9.8	8.6	8.8
22	9.6	8.0	9.0	8.4	8.0	11	12	10	14	10	8.6	8.8
23	9.8	8.0	8.5	8.1	7.5	11	12	12	18	9.8	8.6	9.1
24	8.8	7.5	9.0	7.9	8.0	11	11	11	16	9.3	8.8	8.8
25	9.0	7.0	10	7.5	9.3	12	11	10	15	9.3	8.8	9.1
26	9.0	7.0	9.5	7.5	9.1	11	11	9.6	15	9.3	8.8	9.1
27	9.0	7.0	9.5	9.0	9.3	11	7.7	9.3	14	9.3	8.8	8.8
28	9.6	7.0	9.5	9.0	9.3	11	8.1	8.8	14	9.1	8.8	8.6
29	10	7.0	10	8.5	9.1	8.8	11	9.6	13	9.3	8.8	8.6
30	9.8	7.0	10	8.1	---	9.3	12	10	13	9.3	8.8	8.6
31	9.6	---	9.6	7.7	---	12	---	11	---	9.8	8.8	---
TOTAL	294.6	257.5	283.2	260.0	247.6	297.5	373.6	323.3	398.6	321.7	280.9	265.1
MEAN	9.50	8.58	9.14	8.39	8.54	9.60	12.5	10.4	13.3	10.4	9.06	8.84
MAX	10	14	11	9.0	10	12	16	13	34	13	9.8	9.1
MIN	8.8	5.0	6.5	7.5	7.5	7.0	7.7	8.8	8.1	9.1	8.6	8.4
AC-FT	584	511	562	516	491	590	741	541	791	638	557	526

CAL YR 1975 TOTAL 4030.3 MEAN 11.0 MAX 43 MIN 5.0 AC-FT 7990
WTR YR 1976 TOTAL 3603.6 MEAN 9.85 MAX 34 MIN 5.0 AC-FT 7150

CHEYENNE RIVER BASIN

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06409000 CASTLE CREEK ABOVE DEERFIELD RESERVOIR, NEAR HILL CITY, SD--Continued
(Hydrologic benchmark and radiochemical station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES.--May 1964 to current year.

INSTRUMENTATION.--Recorder with thermograph attachment.

REMARKS.--Periodic samples obtained for analysis of suspended-sediment concentration most years. Monthly samples obtained for water-quality analysis.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 22.0°C July 17, 1969; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 21.0°C July 12; minimum, 0.0°C Nov. 8 to Mar. 23.

WATER QUALITY DATA. WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	IMME- DIATE COLI- FORM (COL. PER 100 ML) (31501)	FECAL COLI- FORM (COL. PER 100 ML) (31616)	STREP- TOCOCCI (COL- ONIES PER 100 ML) (31679)	HARD- NESS (CA, MG) (MG/L) (00900)	NON- CAR- BONATE HARD- NESS (MG/L) (00902)	DIS- SOLVED CAL- CIUM (CA) (MG/L) (00915)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) (00925)
OCT 16...	1130	9.7	530	8.6	4.0	30	85	40	260	0	55	30
NOV 11...	1045	3.4	490	8.3	.0	840	820	820	270	2	58	30
DEC 08...	1230	10	560	8.3	.0	840	85	830	260	0	57	28
JAN 11...	1045	8.0	560	8.6	.0	--	--	--	290	29	66	31
JAN 27...	1045	9.1	390	7.9	.0	820	85	85	250	0	57	27
FEB 24...	1035	7.2	490	8.1	.0	810	ND	810	260	0	56	28
MAR 22...	1100	10	490	8.7	.5	45	85	30	260	3	58	29
APR 20...	1115	12	460	8.4	4.0	815	ND	83	270	5	57	30
MAY 18...	1100	10	570	--	7.5	840	81	850	250	0	53	28
JUN 23...	1215	22	500	7.9	10.5	--	E500	E1600	250	0	52	29
JUL 20...	1115	11	500	8.4	13.0	8160	840	8110	250	20	54	29
AUG 16...	1130	9.5	490	9.6	14.0	E420	40	50	250	30	52	30
SEP 14...	1400	9.0	460	8.5	12.5	90	70	50	250	27	51	29

B Non-ideal colony count.

E Estimated.

ND Not detected.

CHEYENNE RIVER BASIN

06409000 CASTLE CREEK ABOVE DEERFIELD RESERVOIR, NEAR HILL CITY, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SODIUM (NA) (00930)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	DIS- SOLVED PO- TAS- SIUM (K) (00935)	BICAR- BONATE (HCO3) (00440)	CAR- BONATE (CO3) (00445)	ALKA- LINITY AS CACO3 (MG/L) (00410)	DIS- SOLVED SULFATE (SO4) (MG/L) (00945)	DIS- SOLVED CHLO- RIDE (CL) (MG/L) (00940)	DIS- SOLVED FLUO- RIDE (F) (MG/L) (00950)	DIS- SOLVED SILICA (SI02) (MG/L) (00955)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L) (70300)
OCT 16...	1.3	1	.0	1.3	314	2	261	5.5	1.6	.2	7.7	243
NOV 11...	1.8	1	.0	1.6	325	0	267	5.4	1.6	.2	8.2	259
DEC 08...	1.8	1	.0	1.8	321	0	263	4.3	1.6	.2	8.7	268
JAN 11...	3.8	3	.1	1.3	321	0	263	21	1.2	.1	9.2	290
27...	.9	1	.0	1.2	314	0	258	5.4	1.7	.1	8.1	248
FEB 24...	3.0	2	.1	1.3	315	0	258	11	1.1	.2	7.9	257
MAR 22...	1.5	1	.0	1.5	319	0	262	7.0	.9	.0	8.2	275
APR 20...	3.0	2	.1	1.4	318	0	261	14	1.2	.2	7.3	263
MAY 18...	2.4	2	.1	1.2	309	--	253	5.7	1.3	.2	7.4	262
JUN 23...	2.5	2	.1	1.6	304	0	249	1.0	2.4	.2	9.3	254
JUL 20...	1.7	1	.0	1.0	285	0	234	11	1.1	.1	7.8	235
AUG 16...	1.2	1	.0	1.1	272	0	223	7.4	.8	.2	8.4	240
SEP 14...	2.8	2	.1	1.3	266	1	220	22	1.9	.2	7.6	227

DATE	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) (70301)	DIS- SOLVED SOLIDS (TONS PER AC-FT) (70303)	DIS- SOLVED SOLIDS (TONS PER DAY) (70302)	TOTAL FILT- RABLE RESIDUE (MG/L) (00515)	TOTAL NON- FILT- RABLE RESIDUE (MG/L) (00530)	TOTAL NITRITE PLUS NITRATE (N) (MG/L) (00630)	TOTAL PHOS- PHORUS (P) (MG/L) (00665)	TOTAL ARSENIC (AS) (UG/L) (01002)	TOTAL BARIUM (BA) (UG/L) (01007)	TOTAL CAD- MIUM (CD) (UG/L) (01027)	TOTAL CHRO- MIUM (CR) (UG/L) (01034)	TOTAL COPPER (CU) (UG/L) (01042)
OCT 16...	259	.33	6.36	240	3	.03	.02	0	100	20	40	20
NOV 11...	267	.35	2.38	--	--	.26	.02	--	--	--	--	--
DEC 08...	262	.36	7.24	--	--	.12	.02	--	--	--	--	--
JAN 11...	292	.39	6.26	--	--	.33	.03	--	--	--	--	--
27...	256	.34	6.09	--	--	.24	.01	--	--	--	--	--
FEB 24...	264	.35	5.00	--	--	.25	.02	--	--	--	--	--
MAR 22...	263	.37	7.43	--	--	.23	.05	--	--	--	--	--
APR 20...	271	.36	8.52	--	--	.09	.03	1	300	<10	10	10
MAY 18...	252	.36	7.07	--	--	.04	.03	--	--	--	--	--
JUN 23...	248	.35	15.1	--	--	.07	.07	--	--	--	--	--
JUL 20...	246	.32	6.98	--	--	.01	.01	--	--	--	--	--
AUG 16...	235	.33	6.16	--	--	.02	.01	--	--	--	--	--
SEP 14...	248	.31	5.52	--	--	.09	.00	1	100	<10	0	<10

< Less than.

06409000 CASTLE CREEK ABOVE DEERFIELD RESERVOIR, NEAR HILL CITY, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL IRON (FE) (UG/L) (01045)	TOTAL LEAD (PB) (UG/L) (01051)	TOTAL MAN- GANESE (MN) (UG/L) (01055)	TOTAL MERCURY (HG) (UG/L) (71900)	TOTAL SELE- NIUM (SE) (UG/L) (01147)	TOTAL SILVER (AG) (UG/L) (01077)	TOTAL ZINC (ZN) (UG/L) (01092)	DIS- SOLVED GROSS ALPHA AS U-NAT. (UG/L) (80030)	SUS- PENDEd GROSS ALPHA AS U-NAT. (UG/L) (80040)	DIS- SOLVED GROSS BETA AS CS-137 (PC/L) (03515)	SUS- PENDEd GROSS BETA AS CS-137 (PC/L) (03516)
OCT 16...	60	100	10	.0	0	0	310	3.8	<.4	2.0	<.4
NOV 11...	--	--	--	--	--	--	--	--	--	--	--
DEC 08...	--	--	--	--	--	--	--	--	--	--	--
JAN 11...	--	--	--	--	--	--	--	--	--	--	--
JAN 27...	--	--	--	--	--	--	--	--	--	--	--
FEB 24...	--	--	--	--	--	--	--	--	--	--	--
MAR 22...	--	--	--	--	--	--	--	--	--	--	--
APR 20...	510	<100	30	.0	0	<10	10	--	--	--	--
MAY 18...	--	--	--	--	--	--	--	--	--	--	--
JUN 23...	--	--	--	--	--	--	--	--	--	--	--
JUL 20...	--	--	--	--	--	--	--	--	--	--	--
AUG 16...	--	--	--	--	--	--	--	--	--	--	--
SEP 14...	130	<100	10	.0	1	<10	10	--	--	--	--

DATE	DIS- SOLVED GROSS BETA AS SR90 /Y90 (UG/L) (80050)	SUS- PENDEd GROSS BETA AS SR90 /Y90 (PC/L) (80060)	DIS- SOLVED RA-226 (RADON METHOD) (PC/L) (09511)	CYANIDE (CN) (MG/L) (00720)	TOTAL PCB (UG/L) (39516)	PCB IN BOTTOM MA- TERIAL (UG/KG) (39519)	TOTAL ALDRIN (UG/L) (39330)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG) (39333)	TOTAL CHLOR- DANE (UG/L) (39350)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG) (39351)	TOTAL DDD (UG/L) (39360)
OCT 16...	1.6	<.4	.05	.00	.0	0	.00	.0	.0	0	.00
NOV 11...	--	--	--	--	--	--	--	--	--	--	--
DEC 08...	--	--	--	--	--	--	--	--	--	--	--
JAN 11...	--	--	--	--	--	--	--	--	--	--	--
JAN 27...	--	--	--	--	--	--	--	--	--	--	--
FEB 24...	--	--	--	--	--	--	--	--	--	--	--
MAR 22...	--	--	--	--	--	--	--	--	--	--	--
APR 20...	--	--	--	.00	--	--	--	--	--	--	--
MAY 18...	--	--	--	--	--	--	--	--	--	--	--
JUN 23...	--	--	--	--	--	--	--	--	--	--	--
JUL 20...	--	--	--	--	--	--	--	--	--	--	--
AUG 16...	--	--	--	--	--	--	--	--	--	--	--
SEP 14...	--	--	--	.04	--	--	--	--	--	--	--

< Less than.

CHEYENNE RIVER BASIN

06409000 CASTLE CREEK ABOVE DEERFIELD RESERVOIR, NEAR HILL CITY, SD--Continued

WATER QUALITY DATA. WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

[illegible][illegible]

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

[illegible]

CHEYENNE RIVER BASIN

06409000 CASTLE CREEK ABOVE DEERFIELD RESERVOIR, NEAR HILL CITY, SD--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.5	2.0	2.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	7.5	4.5	2.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	8.5	4.5	2.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	7.5	5.5	2.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	7.5	5.5	2.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	9.0	5.0	2.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	9.0	6.0	2.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	8.5	4.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	5.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	6.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	7.5	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	7.5	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	7.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	5.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	5.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	4.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	4.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	5.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	5.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	5.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	5.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	5.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
23	3.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
24	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.5
25	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	1.5
26	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.5
27	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.5
28	2.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	1.0
29	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.5
30	2.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	---	---	1.5	1.5
31	2.5	0.5	---	---	0.0	0.0	0.0	0.0	---	---	2.5	1.0
MONTH	9.0	0.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0
DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	4.5	1.0	10.0	2.0	16.5	9.0	19.0	11.0	16.0	14.0	15.0	10.5
2	4.0	2.0	9.5	2.5	19.0	9.5	16.5	12.0	13.5	12.5	15.5	11.0
3	5.0	1.0	10.5	2.0	19.0	10.0	16.5	11.0	18.5	12.5	15.0	10.5
4	6.5	1.5	11.5	5.0	20.5	11.0	19.0	11.0	17.0	12.5	15.0	10.5
5	6.5	1.0	11.5	6.0	20.0	12.0	17.5	13.5	16.0	12.5	15.0	10.5
6	4.5	2.0	8.5	5.0	17.5	12.0	19.0	13.5	17.0	11.0	15.0	10.5
7	4.5	2.0	12.5	2.5	20.5	11.5	19.5	12.5	18.5	14.0	15.5	10.5
8	5.0	4.0	14.0	4.5	20.5	9.5	20.0	13.5	17.5	12.0	10.5	9.0
9	9.0	4.5	12.5	5.5	19.0	12.0	20.0	12.5	17.5	14.0	11.0	7.0
10	4.5	3.5	12.0	7.0	20.0	10.5	20.5	13.5	15.5	12.0	12.0	7.5
11	6.0	4.5	11.5	7.5	20.0	12.0	20.5	14.5	16.5	12.0	13.5	7.5
12	10.0	3.5	8.5	4.5	13.5	10.5	21.0	15.0	15.0	12.0	13.5	12.0
13	11.0	5.0	13.5	3.5	14.0	7.5	18.5	14.5	15.5	12.0	13.5	10.0
14	8.5	5.0	16.5	6.5	12.0	5.0	17.5	12.5	16.5	13.5	12.5	10.5
15	10.5	5.0	13.5	6.5	12.5	5.0	17.5	13.5	17.5	13.5	12.5	10.0
16	6.5	5.0	14.0	5.0	12.5	7.0	17.5	11.0	17.5	14.0	13.5	9.0
17	6.5	2.5	15.0	6.0	11.0	9.0	18.5	11.5	17.5	12.0	14.0	10.0
18	9.0	2.5	15.5	7.0	11.5	5.5	16.5	14.0	17.5	14.0	12.5	10.0
19	8.5	2.5	14.5	9.0	15.5	6.0	16.5	13.5	17.5	14.5	12.0	11.0
20	9.0	1.5	13.5	8.5	17.0	7.5	15.5	12.5	17.5	13.5	11.0	7.5
21	9.0	2.0	14.5	10.0	17.0	11.0	17.5	12.0	17.0	11.5	10.0	6.0
22	9.0	1.5	11.5	8.5	15.0	10.0	16.5	12.5	16.5	11.0	9.5	6.0
23	8.5	4.5	8.5	6.5	14.0	10.5	17.0	11.5	17.0	12.0	9.5	8.5
24	9.5	2.0	9.0	6.0	12.0	9.0	19.0	13.5	16.0	14.0	8.5	6.0
25	10.0	4.0	15.0	7.5	12.0	7.5	19.0	14.5	17.0	11.5	8.5	7.0
26	6.5	1.5	14.5	7.0	13.5	8.5	17.0	12.0	17.0	11.5	8.5	7.0
27	1.5	1.5	16.5	6.5	14.5	7.5	17.5	13.5	14.5	11.0	7.0	4.5
28	2.5	1.5	16.5	13.5	15.5	8.5	18.5	14.0	14.0	9.5	6.0	4.0
29	4.5	2.0	13.5	9.5	16.5	9.0	17.0	12.0	15.5	10.0	7.0	4.0
30	9.0	2.0	11.0	9.0	17.5	10.0	17.0	14.0	16.0	12.0	8.5	4.5
31	---	---	15.5	8.5	---	---	16.5	14.0	15.0	11.5	---	---
MONTH	11.0	1.0	16.5	2.0	20.5	5.0	21.0	11.0	18.5	9.5	15.5	4.0

06409500 DEERFIELD RESERVOIR NEAR HILL CITY, SD

LOCATION.--Lat 44°01'46", long 103°47'09", in NE¼SW¼ sec.20, T.1 N., R.3 E., at dam on Castle Creek, Hydrologic Unit 10120110, 0.4 mi (0.6 km) upstream from Dutchman Creek and 12.5 mi (20.1 km) northwest of Hill City.

DRAINAGE AREA.--95 mi² (246 km²), approximately.

PERIOD OF RECORD.--May 1947 to current year (monthend contents only). Some elevations obtained during period of initial filling, December 1945 to May 1947, are available in Bureau of Reclamation files. Prior to October 1953, published as "near Deerfield."

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Bureau of Reclamation). Prior to July 20, 1964, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by earthfill dam. Storage began Dec. 3, 1945; dam completed in 1947. Usable capacity, 15,153 acre-ft (18.7 hm³) between elevations 5,839 ft (1,779.7 m), lowest outlet, and 5,908 ft (1,800.8 m), crest of spillway. Dead storage below elevation 5,839 ft (1,779.7 m), 565 acre-ft (0.697 hm³). Figures given herein represent usable contents. Water is used to supplement Rapid City water supply and for irrigation in Rapid Creek basin downstream from Rapid City.

COOPERATION.--Records of elevation and contents furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 15,340 acre-ft (18.9 hm³) May 22, 1952, elevation, 5,908.50 ft (1,800.911 m), from capacity table extended above elevation 5,908.00 ft (1,800.758 m), crest of spillway; minimum observed, 5 acre-ft (6,160 m³) Oct. 2, 1959, elevation, 5,839.10 ft (1,779.758 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 15,157 acre-ft (18.7 hm³) Mar. 26 to Apr. 5, elevation, 5,908.01 ft (1,800.761 m); minimum, 13,391 acre-ft (16.5 hm³) Oct. 14, elevation, 5,903.60 ft (1,799.417 m).

MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	5904.43	13714	
Oct. 31	5904.06	13569	-145
Nov. 30	5904.72	13828	+259
Dec. 31	5905.62	14184	+356
CAL YR 1975			+79
Jan. 31	5906.80	14660	+476
Feb. 29	5907.94	15128	+468
Mar. 31	5908.01	15157	+29
Apr. 30	5907.76	15053	-104
May 31	5907.51	14950	-103
June 30	5907.74	15045	+95
July 31	5907.32	14872	-173
Aug. 31	5907.13	14794	-78
Sept. 30	5905.77	14244	-550
WTR YR 1976			+530

CHEYENNE RIVER BASIN

06410000 CASTLE CREEK BELOW DEERFIELD DAM, SD

LOCATION.--Lat 44°01'45", long 103°46'53", in NW¼SE¼ sec.20, T.1 N., R.3 E., Pennington County, Hydrologic Unit 10120110, on left bank 200 ft (61 m) upstream from Dutchman Creek, 1,100 ft (335 m) downstream from Deerfield Dam, and 12.5 mi (20.1 km) northwest of Hill City.

DRAINAGE AREA.--96 mi² (249 km²), approximately.

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

GAGE.--Water-stage recorder. Datum of gage is 5,784.52 ft (1,763.122 m) above mean sea level (Bureau of Reclamation bench mark). Prior to Oct. 15, 1947, at site 400 ft (122 m) downstream at datum 0.23 ft (0.070 m) higher. Oct. 15, 1947, to Sept. 1, 1948, at site 550 ft (168 m) downstream at datum 1.77 ft (0.540 m) lower, and Sept. 2, 1948, to Nov. 2, 1971, at site 300 ft (91 m) upstream at datum 4.0 ft (1.22 m) higher.

REMARKS.--Records good. Flow completely regulated by Deerfield Reservoir 1,100 ft (335 m) upstream. (See station 06409500.) Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--30 years, 10.3 ft³/s (0.292 m³/s), 7,460 acre-ft/yr (9.20 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 200 ft³/s (5.66 m³/s) May 22, 1952; maximum gage height, 3.87 ft (1.180 m) May 23, 1952 (backwater from spillway overflow), site and datum then in use; no flow at times in 1948, 1950-60.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 28 ft³/s (0.793 m³/s) Apr. 7; minimum daily, 2.2 ft³/s (0.062 m³/s) Jan. 4, 13, 14.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 14 to Dec. 17, Mar. 11 to July 5)

2.4	1.9	3.0	10
2.6	3.7	3.6	30
2.8	6.4		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	2.6	2.5	2.3	2.4	9.2	12	15	14	18	9.3	9.1
2	20	2.6	2.4	2.3	2.4	8.8	14	15	14	18	9.5	9.1
3	20	2.6	2.4	2.3	2.4	7.8	13	15	14	18	9.6	9.1
4	20	2.6	2.4	2.2	2.5	8.1	13	15	13	18	9.6	8.9
5	20	2.5	2.4	2.3	2.4	7.5	14	15	11	18	9.1	9.2
6	20	2.6	2.3	2.3	2.4	7.5	23	15	11	18	9.1	9.3
7	20	2.4	2.3	2.3	2.4	7.8	28	15	11	18	9.1	9.3
8	21	2.4	2.3	2.3	2.4	8.0	24	15	11	18	9.1	9.7
9	21	2.4	2.3	2.3	2.4	8.0	21	15	11	15	9.0	15
10	21	2.5	2.4	2.3	2.5	8.2	20	15	12	12	8.9	18
11	21	2.5	2.4	2.3	2.4	8.5	19	15	12	12	8.9	17
12	21	2.5	2.3	2.3	2.4	8.1	19	15	12	12	8.8	17
13	21	2.5	2.4	2.2	2.5	7.9	19	15	12	12	8.7	17
14	14	2.5	2.4	2.2	2.5	8.3	19	15	12	12	8.5	18
15	3.5	2.5	2.5	2.3	2.5	9.0	17	15	13	12	8.5	19
16	3.6	2.5	2.5	2.3	2.5	8.6	15	15	13	11	8.5	19
17	3.3	2.5	2.5	2.3	2.5	8.7	15	15	15	9.8	8.7	19
18	3.2	2.6	2.5	2.3	2.5	10	15	15	17	9.8	8.6	19
19	3.2	2.6	2.5	2.4	2.5	12	15	15	18	9.9	8.6	19
20	3.2	2.6	2.4	2.4	2.5	11	15	15	17	9.6	8.7	19
21	3.3	2.6	2.5	2.3	2.6	10	15	15	16	9.6	8.7	19
22	3.3	2.6	2.5	2.3	2.6	10	15	15	17	9.6	8.5	19
23	3.3	2.6	2.5	2.3	2.7	11	15	15	20	9.6	8.5	19
24	3.3	2.6	2.5	2.3	2.7	12	15	15	21	9.6	8.6	19
25	3.0	2.6	2.5	2.3	2.7	11	15	14	20	9.6	9.1	19
26	2.9	2.7	2.6	2.3	2.8	12	15	14	19	9.6	9.1	18
27	2.9	2.6	2.3	2.4	2.8	12	15	14	19	9.3	9.1	18
28	2.9	2.6	2.3	2.5	3.7	11	15	14	19	9.2	9.1	17
29	2.9	2.5	2.3	2.4	5.8	11	15	14	18	9.3	8.9	17
30	2.6	2.5	2.3	2.4	---	10	15	14	18	9.3	8.9	17
31	2.6	---	2.3	2.4	---	10	---	14	---	9.3	9.0	---
TOTAL	333.0	76.4	74.7	71.8	77.4	293.0	500	458	450	385.1	276.3	471.7
MEAN	10.7	2.55	2.41	2.32	2.67	9.45	16.7	14.8	15.0	12.4	8.91	15.7
MAX	21	2.7	2.6	2.5	5.8	12	28	15	21	18	9.6	19
MIN	2.6	2.4	2.3	2.2	2.4	7.5	12	14	11	9.2	8.5	8.9
AC-FT	661	152	148	142	154	581	992	908	893	764	548	936

CAL YR 1975 TOTAL 3897.7 MEAN 10.7 MAX 46 MIN 2.3 AC-FT 7730
WTR YR 1976 TOTAL 3467.4 MEAN 9.47 MAX 28 MIN 2.2 AC-FT 6880

06410500 RAPID CREEK ABOVE PACTOLA RESERVOIR, AT SILVER CITY, SD

LOCATION.--Lat 44°05'05", long 103°34'48", in SW¼SE¼ sec.36, T.2 N., R.4 E., Pennington County, Hydrologic Unit 10120110, on right bank 0.8 mi (1.3 km) west of Silver City and 3.0 mi (4.8 km) downstream from Slate Creek.

DRAINAGE AREA.--292 mi² (756 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 4,620.00 ft (1,408.176 m) above mean sea level (Bureau of Reclamation bench mark).

REMARKS.--Records good except those for winter periods, which are poor. Flow regulated by Deerfield Reservoir on Castle Creek since December 1945 (see station 06409500). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--23 years, 40.4 ft³/s (1.144 m³/s), 29,270 acre-ft/yr (36.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,060 ft³/s (58.3 m³/s) May 15, 1965, gage height, 10.44 ft (3.182 m); from rating curve extended above 1,000 ft³/s (28.3 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 4.0 ft³/s (0.11 m³/s) Jan. 20, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 614 ft³/s (17.4 m³/s) June 15, gage height, 7.17 ft (2.185 m); minimum daily, 8.0 ft³/s (0.227 m³/s) Jan. 7, 8.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 21-24; stage-discharge relation affected
by ice Nov. 10-13, Nov. 20 to Dec. 2, Dec. 6, Dec. 13 to Mar. 18)

4.3	14	5.0	88	6.0	302
4.5	28	5.5	182	7.0	583
4.7	48				

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	19	30	12	20	16	41	54	102	84	50	26
2	31	19	40	11	18	15	42	54	84	82	47	25
3	30	18	37	10	15	14	41	48	75	86	43	25
4	30	18	29	11	12	12	42	46	68	80	41	24
5	30	18	25	13	10	13	44	46	62	77	41	24
6	30	18	25	10	10	14	49	45	61	75	43	23
7	30	18	21	8.0	12	15	71	44	57	79	38	25
8	30	19	20	8.0	15	16	69	43	55	71	36	28
9	31	19	19	10	18	18	60	42	51	66	36	27
10	31	18	20	12	18	20	58	43	48	59	35	31
11	31	18	19	15	19	20	54	43	46	56	35	33
12	32	20	22	14	19	17	52	43	46	54	36	34
13	32	23	16	13	19	18	51	43	45	56	38	35
14	32	25	15	14	20	18	52	41	103	59	37	35
15	26	21	15	14	18	25	51	43	483	59	34	36
16	19	20	12	17	16	30	51	45	404	55	33	38
17	18	22	10	20	16	35	57	41	311	52	31	37
18	17	19	12	18	16	38	50	39	274	50	30	36
19	17	19	15	18	16	40	48	38	223	52	29	36
20	17	18	15	19	15	40	46	38	196	65	29	36
21	17	18	16	20	15	40	44	49	173	67	28	36
22	19	18	15	20	15	40	43	46	161	62	28	35
23	19	19	14	20	15	42	43	55	175	74	28	36
24	20	16	15	18	15	41	42	62	147	55	27	37
25	22	14	17	16	18	42	42	55	129	49	28	39
26	22	14	16	12	20	42	43	51	120	46	27	40
27	22	14	17	16	20	42	49	47	111	46	27	39
28	21	13	17	20	20	42	44	45	101	43	26	36
29	18	12	18	20	18	41	43	50	95	42	25	34
30	20	12	17	18	---	41	45	83	91	41	26	33
31	20	---	15	19	---	41	---	90	---	43	26	---
TOTAL	765	539	594	466.0	478	888	1467	1512	4097	1885	1038	979
MEAN	24.7	18.0	19.2	15.0	16.5	28.6	48.9	48.8	137	60.8	33.5	32.6
MAX	32	25	40	20	20	42	71	90	483	86	50	40
MIN	17	12	10	8.0	10	12	41	38	45	41	25	23
AC-FT	1520	1070	1180	924	948	1760	2910	3000	8130	3740	2060	1940
CAL YR 1975	TOTAL	14449.5	MEAN	39.6	MAX	180	MIN	6.0	AC-FT	28660		
WTR YR 1976	TOTAL	14708.0	MEAN	40.2	MAX	483	MIN	8.0	AC-FT	29170		

CHEYENNE RIVER BASIN

06411000 PACTOLA RESERVOIR NEAR SILVER CITY, SD

LOCATION.--Lat 44°04'20", long 103°29'17", in NE¼SW¼ sec.2, T.1 N., R.5 E., Pennington County, Hydrologic Unit 10120110, in outlet works of dam on Rapid Creek, 3.8 mi (6.1 km) east of Silver City.

DRAINAGE AREA.--319 mi² (826 km²).

PERIOD OF RECORD.--August 1956 to current year (monthend contents only).

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (Bureau of Reclamation datum). Prior to Feb. 18, 1970, nonrecording gage at same site and datum.

REMARKS.--Reservoir formed by an earthfill dam completed August 1956. Storage began August 22, 1956. Conservation capacity, 54,960 acre-ft (67.8 hm³) between elevations 4,456.1 ft (1,358.22 m) and 4,580.2 ft (1,396.04 m). Combined dead and inactive storage below elevation 4,456.1 ft (1,358.22 m) is 1,003 acre-ft (1.24 hm³). Flood storage capacity, 43,050 acre-ft (53.1 hm³) between elevations 4,580.2 ft (1,396.04 m) and 4,621.5 ft (1,408.63 m), crest of spillway. Surge capacity, 15,780 acre-ft (19.5 hm³) between elevations 4,621.5 ft (1,408.63 m) and 4,633.7 ft (1,412.35 m), maximum pool elevation. Figures given herein represent contents above elevation 4,456.1 ft (1,358.22 m). Reservoir provides flood control and water for municipal and irrigation uses.

COOPERATION.--Records of elevations and contents furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 60,970 acre-ft (75.2 hm³) May 19, 1964, elevation, 4,585.87 ft (1,397.773 m); minimum observed since initial filling, 42,122 acre-ft (51.9 hm³) Sept. 30, 1974, elevation, 4,563.72 ft (1,391.022 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 55,888 acre-ft (68.9 hm³) June 20, elevation, 4,581.27 ft (1,396.371 m); minimum, 48,003 acre-ft (59.2 hm³) Oct. 1, elevation, 4,571.68 ft (1,393.448 m).

MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	4571.67	47996	
Oct. 31	4572.19	48398	+402
Nov. 30	4572.02	48266	-132
Dec. 31	4572.17	48383	+117
CAL YR 1975			+5927
Jan. 31	4572.23	48430	+47
Feb. 29	4572.62	48734	+304
Mar. 31	4573.42	49363	+629
Apr. 30	4575.92	51370	+2007
May 31	4577.20	52424	+1054
June 30	4579.43	54302	+1878
July 31	4579.10	54020	-282
Aug. 31	4577.13	52366	-1654
Sept. 30	4575.69	51184	-1182
WTR YR 1976			+3188

06411500 RAPID CREEK BELOW PACTOLA DAM, SD

LOCATION.--Lat 44°04'36", long 103°28'54", in SW¼NE¼ sec.2, T.1 N., R.5 E., Pennington County, Hydrologic Unit 10120110, on right bank 2,000 ft (610 m) downstream from Pactola Dam, 3.9 mi (6.3 km) upstream from Deer Creek and 13 mi (21 km) west of Rapid City.

DRAINAGE AREA.--320 mi² (829 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1928 to September 1932 (combined records of Creek and Dakota Power and Light Co. flume), July 1946 to current year. Prior to October 1953, published as "near Pactola." Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 1309: 1931(M).

GAGE.--Water-stage recorder; concrete control since Oct. 16, 1962. Datum of gage is 4,406.00 ft (1,342.949 m) above mean sea level, Bureau of Reclamation bench mark. Apr. 19, 1929, to June 30, 1932, nonrecording gage at site 3,500 ft (1,070 m) upstream at different datum. July 24, 1946, to Aug. 24, 1947, nonrecording gage and Aug. 25, 1947, to Nov. 18, 1953, water-stage recorder, at site 2 mi (3 km) upstream at different datum.

REMARKS.--Records good. Flow regulated by dam on Castle Creek since December 1945 (see station 06409500) and completely regulated by Pactola Reservoir 2,000 ft (610 m) upstream since Aug. 22, 1956 (see station 06411000).

AVERAGE DISCHARGE.--34 years, 44.4 ft³/s (1.257 m³/s), 32,170 acre-ft/yr (39.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,170 ft³/s (61.5 m³/s) May 22, 1952, gage height, 6.74 ft (2.054 m), site and datum then in use; no flow Oct. 11-17, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 234 ft³/s (6.63 m³/s) June 29; minimum daily, 15 ft³/s (0.425 m³/s) on many days.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

7.1	12	7.5	38	8.1	147
7.3	22	7.8	77	8.4	255

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	16	16	15	16	16	20	21	50	145	59	46
2	16	16	16	15	16	19	20	21	50	79	59	46
3	16	16	16	15	16	20	20	21	50	68	59	50
4	16	16	16	15	16	21	20	21	50	68	59	54
5	16	16	16	15	16	21	20	22	50	70	59	54
6	15	16	16	15	16	20	20	22	50	68	59	54
7	16	16	16	15	16	20	20	22	48	68	59	54
8	16	16	16	15	16	21	20	22	50	70	58	54
9	16	16	16	15	16	21	20	22	50	70	58	54
10	16	16	16	15	16	21	20	22	49	70	58	53
11	16	16	16	15	16	20	21	22	49	70	58	53
12	16	16	16	15	16	20	21	22	49	71	57	53
13	16	16	16	15	16	20	21	22	49	71	53	53
14	16	16	16	15	16	20	21	22	44	71	52	46
15	16	16	16	15	16	20	21	23	31	65	52	40
16	15	16	16	15	16	20	21	23	103	59	52	40
17	15	16	16	16	16	20	21	23	191	59	42	40
18	15	16	16	16	16	20	21	34	217	59	37	40
19	15	16	16	16	16	20	21	40	213	59	61	40
20	15	16	15	16	22	20	21	40	213	62	71	40
21	15	16	15	16	17	20	21	70	221	62	62	40
22	15	16	15	16	17	20	21	88	221	62	62	40
23	15	16	15	16	17	20	21	88	221	62	62	40
24	15	16	15	16	17	20	21	68	226	62	56	40
25	15	16	15	15	17	20	21	56	226	61	50	40
26	15	16	16	15	17	20	21	50	226	61	50	40
27	15	16	16	15	17	20	22	50	226	61	50	40
28	15	16	16	15	17	20	21	50	230	61	50	39
29	15	16	16	15	17	20	21	50	234	61	50	39
30	16	16	16	15	---	20	21	50	217	61	50	39
31	16	---	16	15	---	20	---	50	---	61	47	---
TOTAL	487	480	490	473	479	620	621	1157	3904	2097	1711	1361
MEAN	15.7	16.0	15.8	15.3	16.5	20.0	20.7	37.3	130	67.6	55.2	45.4
MAX	22	16	16	16	22	21	22	88	234	145	71	54
MIN	15	16	15	15	16	16	20	21	31	59	37	39
AC-FT	966	952	972	938	950	1230	1230	2290	7740	4160	3390	2700
CAL YR 1975	TOTAL	11494	MEAN 32.6	MAX 85	MIN 15	AC-FT 23590						
WTR YR 1976	TOTAL	13480	MEAN 37.9	MAX 234	MIN 15	AC-FT 27530						

CHEYENNE RIVER BASIN

06411500 RAPID CREEK BELOW PACTOLA DAM, SD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1968 to current year.

WATER TEMPERATURES: October 1968 to September 1972, October 1973 to September 1975.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 435 micromhos Feb. 8, 17, 22, 1971; minimum daily, 240 micromhos Mar. 28-30, 1971.

WATER TEMPERATURES: Maximum daily, 9.5°C Aug. 27, Sept. 23, 25, 1974; minimum daily, 0.0°C on several days during December 1968.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 370 micromhos on many days in October, November, January, March, April, and September; minimum daily, 330 micromhos July 2, 22.

WATER QUALITY DATA. WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	HARD- NESS (CA, MG) (MG/L) (00900)	NON- CAR- BONATE HARD- NESS (MG/L) (00902)	DIS- SOLVED CAL- CIUM (CA) (MG/L) (00915)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) (00925)
OCT									
14...	1415	15	430	8.1	7.0	190	34	43	21
NOV									
13...	1000	15	375	8.4	6.0	190	35	41	21
DEC									
10...	1330	15	400	8.8	4.5	190	37	43	21
JAN									
27...	1345	15	350	--	3.5	190	29	43	20
FEB									
24...	1130	16	385	--	4.0	200	40	44	22
MAR									
25...	1215	19	390	8.7	5.5	200	35	42	22
APR									
21...	1330	21	350	8.5	8.5	190	34	40	22
MAY									
18...	1510	39	--	--	7.0	190	34	40	21
JUN									
21...	1115	221	445	--	7.0	190	39	43	20
JUL									
21...	1545	63	410	8.1	9.0	200	45	44	22
AUG									
17...	1500	36	425	8.1	10.5	200	48	45	21
SEP									
16...	1500	40	410	8.3	10.0	190	48	42	21

CHEYENNE RIVER BASIN

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06411500 RAPID CREEK BELOW PACTOLA DAM, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SODIUM (NA) (MG/L) (00930)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L) (00935)	BICAR- BONATE (HCO3) (MG/L) (00440)	CAR- BONATE (CO3) (MG/L) (00445)	ALKA- LINITY AS CAC03 (MG/L) (00410)	DIS- SOLVED SULFATE (SO4) (MG/L) (00945)	DIS- SOLVED CHLO- RIDE (CL) (MG/L) (00940)
OCT 14...	6.7	7	.2	2.8	195	0	160	53	3.2
NOV 13...	3.3	4	.1	2.8	188	0	154	48	1.5
DEC 10...	3.8	4	.1	2.8	181	5	157	47	5.8
JAN 27...	3.0	3	.1	2.8	196	--	161	41	1.5
FEB 24...	3.5	4	.1	2.6	196	--	161	45	.7
MAR 25...	3.8	4	.1	2.7	190	3	161	39	1.3
APR 21...	3.4	4	.1	2.9	183	4	157	49	.6
MAY 18...	3.0	3	.1	2.8	186	--	153	44	4.0
JUN 21...	3.2	3	.1	2.6	184	--	151	44	.8
JUL 21...	2.9	3	.1	2.5	189	0	155	51	1.3
AUG 17...	3.0	3	.1	2.6	184	0	151	46	1.1
SEP 16...	3.2	3	.1	2.6	175	0	144	56	1.3

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L) (00950)	DIS- SOLVED SILICA (SiO2) (MG/L) (00955)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) (70301)	DIS- SOLVED SOLIDS (TONS PER AC-FT) (70303)	DIS- SOLVED SOLIDS (TONS PER DAY) (70302)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	TOTAL PHOS- PHORUS (P) (MG/L) (00665)	DIS- SOL- VED- PHOS- PHORUS (P) (MG/L) (00666)	DIS- SOLVED BORON (B) (UG/L) (01020)
OCT 14...	.3	7.2	234	.32	9.48	.06	.03	.01	10
NOV 13...	.3	6.7	218	.30	8.83	.04	.04	.00	20
DEC 10...	.3	7.1	226	.31	9.15	.11	.00	.00	20
JAN 27...	.2	7.5	216	.29	8.75	.12	.00	.00	20
FEB 24...	.2	7.3	222	.30	9.59	.08	.01	.00	8
MAR 25...	.2	7.4	216	.29	11.1	.09	.01	.01	20
APR 21...	.3	6.4	219	.30	12.4	.03	.00	.00	20
MAY 18...	.2	7.5	214	.29	22.5	.03	.02	.02	0
JUN 21...	.2	7.6	212	.29	127	.04	.04	.01	20
JUL 21...	.2	7.3	225	.31	38.3	.02	.00	.00	20
AUG 17...	.2	7.8	218	.30	21.2	.04	.00	.00	10
SEP 16...	.3	7.8	221	.30	23.9	.04	.00	.01	10

06411500 RAPID CREEK BELOW PACTOLA DAM, SD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	360	360	350	350	360	360	370	350	350	350	350	360
2	360	360	360	360	360	360	370	350	350	330	340	360
3	360	370	350	360	360	360	370	350	340	340	350	360
4	360	370	350	350	360	360	370	350	350	350	350	360
5	370	370	350	360	360	360	370	360	340	350	350	360
6	360	370	350	360	360	360	370	340	340	350	340	360
7	360	370	350	360	360	360	370	350	350	350	340	360
8	360	360	350	360	360	370	370	350	350	350	350	360
9	360	370	350	360	360	360	370	350	350	350	350	360
10	370	370	350	360	360	360	370	350	350	350	340	360
11	360	360	350	360	360	370	370	360	350	350	350	360
12	360	360	350	360	360	370	370	360	350	350	350	360
13	360	360	350	360	360	370	370	350	350	350	340	360
14	360	360	350	360	360	370	370	350	350	350	350	360
15	360	360	350	360	360	370	370	350	350	350	350	360
16	360	360	350	360	360	370	370	350	350	350	350	360
17	360	360	350	360	360	370	370	350	350	350	350	360
18	360	360	350	360	360	370	370	350	350	350	340	360
19	360	360	350	360	360	370	370	350	350	350	340	360
20	360	360	350	370	360	370	370	350	350	350	340	370
21	360	370	350	370	360	370	360	350	350	340	340	370
22	370	360	350	360	360	370	360	350	350	330	350	360
23	360	360	350	370	360	370	360	350	350	340	350	360
24	360	360	350	370	360	370	370	350	340	340	350	360
25	370	360	350	370	360	370	360	350	340	350	350	360
26	360	360	350	370	360	370	370	340	350	350	350	360
27	360	350	350	370	360	370	360	350	350	350	350	360
28	360	350	350	370	360	370	360	350	350	350	350	360
29	370	350	350	370	360	370	360	350	350	350	350	360
30	370	350	350	370	---	370	360	360	350	350	350	360
31	360	---	350	360	---	370	---	350	---	350	340	---
MONTH	362	361	350	363	360	367	367	351	348	347	347	361

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	---	3.5	---	2.5	3.0	5.5	---	8.0	8.0	---	9.5
2	7.0	---	4.0	---	3.0	3.0	5.5	---	8.5	7.0	8.0	8.5
3	8.0	6.5	4.5	2.0	2.5	3.0	---	7.5	8.0	---	8.5	8.5
4	---	6.0	4.0	2.0	2.0	3.0	---	8.0	7.0	---	8.5	---
5	5.5	6.5	3.5	2.0	2.0	3.5	5.5	5.5	8.5	---	8.5	---
6	8.0	6.0	---	2.0	2.0	---	4.5	6.0	8.0	7.5	8.5	---
7	---	5.5	---	2.0	2.5	---	4.0	8.0	8.0	8.5	---	8.0
8	---	6.0	3.5	2.0	3.0	3.5	4.5	7.5	7.0	---	---	8.0
9	6.5	5.5	4.0	2.0	3.0	4.0	6.5	7.5	7.5	7.0	8.5	8.5
10	5.5	5.0	4.5	2.0	3.0	4.0	---	7.5	7.0	---	8.5	9.0
11	---	5.0	3.0	2.0	3.5	4.0	---	7.5	6.5	---	8.0	---
12	---	---	3.0	2.0	3.5	4.0	7.0	5.5	---	8.0	8.0	---
13	---	6.5	3.0	2.0	3.5	4.0	6.5	8.0	---	8.0	7.5	8.5
14	6.0	7.0	3.0	2.0	---	3.5	6.0	8.5	---	8.0	---	8.0
15	---	---	2.5	2.0	---	3.5	6.0	---	7.5	8.5	---	8.5
16	---	6.5	2.0	2.0	3.5	3.5	6.0	---	6.5	8.0	8.0	9.5
17	---	6.0	2.0	---	3.5	4.5	---	9.0	6.0	---	9.0	9.0
18	---	5.0	3.0	---	3.0	4.5	---	---	6.5	---	9.5	---
19	---	4.5	3.0	---	3.5	5.0	5.5	---	---	7.5	8.0	---
20	5.5	5.0	3.0	---	2.5	4.0	6.5	---	---	7.5	8.5	8.5
21	6.5	6.5	2.5	---	---	4.0	6.5	---	6.5	8.5	---	8.5
22	5.0	6.0	2.5	---	---	5.0	6.5	---	---	8.0	---	9.0
23	5.0	5.0	2.0	---	---	5.0	6.0	---	6.5	8.0	8.5	9.0
24	---	3.5	---	2.0	---	5.0	---	6.0	6.0	---	8.0	---
25	6.0	3.5	---	2.0	---	4.0	---	7.5	---	---	8.0	---
26	---	4.0	---	2.0	---	4.5	4.5	7.0	---	8.5	8.5	---
27	---	---	---	2.0	---	---	---	7.0	---	8.5	8.0	8.5
28	6.5	---	---	2.0	---	---	---	7.5	---	8.5	---	8.0
29	6.0	---	---	2.0	---	4.0	---	6.5	---	8.5	---	8.0
30	6.0	---	---	2.0	---	4.0	---	7.0	---	8.0	8.0	8.0
31	6.5	---	---	2.0	---	5.5	---	7.0	---	8.0	8.5	---
MONTH	---	---	---	---	---	4.0	---	---	---	---	---	---

CHEYENNE RIVER BASIN

99

06412500 RAPID CREEK ABOVE CANYON LAKE, NEAR RAPID CITY, SD

LOCATION.--Lat 44°03'04", long 103°18'47", in NE¼NE¼ sec.18, T.1 N., R.7 E., Pennington County, Hydrologic Unit 10120110, on right bank at bridge on State Highway 40, 1.0 mi (1.6 km) southwest of city limits of Rapid City and 2.8 mi (4.5 km) downstream from Victoria Creek.

DRAINAGE AREA.--371 mi² (961 km²).

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

GAGE.--Water-stage recorder. Concrete control Oct. 17, 1962, to Nov. 2, 1967 (destroyed). Datum of gage is 3,407.39 ft (1,038.572 m) above mean sea level, levels by Corps of Engineers. Prior to Oct. 6, 1947, non-recording gage, and Oct. 6, 1947, to Nov. 2, 1967, water-stage recorder at present site and datum. Nov. 3, 1967, to Sept. 28, 1968, nonrecording gage at site 0.2 mi (0.3 km) downstream at datum 3.12 ft (0.951 m) lower.

REMARKS.--Records good except those for winter periods, which are poor. Flow regulated by dam on Castle Creek since December 1945 (see station 06409500) and by Pactola Reservoir 21 mi (34 km) upstream since August 1956 (see station 06411000). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--30 years, 39.3 ft³/s (1.113 m³/s), 28,470 acre-ft/yr (35.1 hm³/yr); median of yearly mean discharges, 32 ft³/s (0.91 m³/s), 23,200 acre-ft/yr (29 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,200 ft³/s (884 m³/s) June 9, 1972, gage height, 15.77 ft (4.807 m), from floodmarks, from rating curve extended above 1,300 ft³/s (36.8 m³/s) on basis of slope-area measurement of peak flow; no flow at times in 1950-51, 1957-60, 1962-63.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 636 ft³/s (18.0 m³/s) June 15, gage height, 4.00 ft (1.219 m); minimum daily, 3.5 ft³/s (0.099 m³/s) Nov. 21.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Nov. 21 to Dec. 2, Dec. 13-20, 23, 29,
Dec. 31 to Jan. 14, Jan. 19, 24-27, Feb. 3-9, 21, 22, Mar. 1-8, 12-14)

0.9	.5.6	1.3	38	2.5	255
1.1	18	1.7	92	3.1	398

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	10	5.0	8.0	13	10	13	18	49	213	55	40
2	15	10	12	7.0	13	9.0	13	18	50	111	54	43
3	10	10	13	6.0	12	8.0	13	18	49	82	54	43
4	10	10	12	7.0	10	7.0	13	15	49	77	56	50
5	10	9.5	12	10	8.0	7.0	13	16	48	77	54	50
6	9.0	9.5	9.5	6.0	8.0	9.0	13	16	51	76	53	50
7	8.4	10	11	5.0	8.0	10	15	16	49	74	53	49
8	8.4	10	10	5.0	9.0	15	15	15	50	73	51	50
9	8.4	10	11	6.0	12	17	14	15	53	74	50	50
10	9.0	10	10	8.0	18	16	13	15	50	73	50	49
11	8.4	10	10	9.0	18	16	13	15	50	71	50	46
12	9.0	7.8	11	9.0	13	15	12	15	51	71	51	49
13	9.0	10	11	8.0	13	15	12	15	51	74	48	50
14	9.5	9.5	9.0	10	13	13	12	14	136	73	49	49
15	9.5	9.0	10	13	13	14	11	15	376	70	46	40
16	9.5	9.0	10	15	12	17	14	15	203	60	46	39
17	9.5	9.0	8.0	17	11	14	14	15	273	58	45	39
18	9.5	8.4	10	17	10	15	13	15	286	59	35	39
19	9.0	8.4	10	17	11	15	13	24	273	62	37	37
20	9.0	4.6	11	16	10	15	13	27	262	63	63	37
21	9.0	3.5	9.5	19	10	15	13	37	259	60	54	37
22	9.0	5.0	9.0	19	11	14	12	77	259	59	54	37
23	10	7.0	9.0	20	11	14	12	97	262	59	54	35
24	11	6.0	7.3	19	11	14	12	99	253	55	54	36
25	11	3.6	9.0	15	11	14	12	71	251	55	48	36
26	10	3.8	9.0	10	11	14	13	58	248	54	46	37
27	10	5.0	9.5	7.5	11	14	18	54	242	55	46	35
28	10	5.0	9.0	13	11	13	18	51	242	54	45	35
29	10	5.0	10	15	11	13	16	50	240	55	45	35
30	10	5.0	10	14	---	13	16	50	237	55	45	35
31	10	---	10	13	---	13	---	50	---	55	46	---
TOTAL	315.1	233.6	306.8	363.5	333.0	408.0	404	1026	4952	2207	1537	1257
MEAN	10.2	7.79	9.90	11.7	11.5	13.2	13.5	33.1	165	71.2	49.6	41.9
MAX	25	10	13	20	18	17	18	99	376	213	63	50
MIN	8.4	3.5	5.0	5.0	8.0	7.0	11	14	48	54	35	35
AC-FT	625	463	609	721	661	809	801	2040	9820	4380	3050	2490
CAL YR 1975	TOTAL	9708.20	MEAN	26.6	MAX	73	MIN	.50	AC-FT	19260		
WTR YR 1976	TOTAL	13343.00	MEAN	36.5	MAX	376	MIN	3.5	AC-FT	26470		

LOCATION.--Lat 44°05'09", long 103°14'31", in SW¼SE¼ sec.35, T.2 N., R.7 E., Pennington County, Hydrologic Unit 10120110, on left bank 300 ft (91 m) upstream from Oskosh Street in Rapid City and 3.6 mi (5.8 m) downstream from Canyon Lake Dam.

PERIOD OF RECORD.--June 1903 to November 1906, July 1942 to current year. Monthly discharge only for some periods published in WSP 1309.

GAGE.--Water-stage recorder. Datum of gage is 3,230.00 ft (984.504 m) above mean sea level. Prior to Nov. 30, 1906, nonrecording gage at site 1 mi (1.6 km) downstream at different datum, and June 10, 1972, to Nov. 1, 1972, nonrecording gage at site 800 ft (244 m) downstream at datum 0.80 ft (0.244 m) higher. July 1942 to June 9, 1972, water-stage recorder at site 300 ft (91 m) downstream at datum 0.80 ft (0.244 m) higher (destroyed by flood).

REMARKS.--Records good except those for winter periods, which are poor. Several small diversions above station to municipal park pools and for irrigation of about 320 acres (130 hm²). Flow regulated by Pactola Reservoir 25.4 mi (40.9 km) upstream (see station 06411000). Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,000 ft³/s (1,420 m³/s) June 9, 1972, gage height, 19.66 ft (5.992 m), from floodmarks, on basis of slope-area measurement of peak flow; minimum, 1.6 ft³/s (0.045 m³/s) Apr. 20, 1962.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 12, 13, 1920, reached a stage of 14.4 ft (4.39 m) present datum, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,400 ft³/s (39.6 m³/s) June 14, gage height, 6.88 ft (2.097 m); minimum daily, 18 ft³/s (0.510 m³/s) Oct. 3, 5, Jan. 7, 8.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 17-19, July 17-23; stage-discharge relation
affected by ice Nov. 30, Dec. 14-18, Jan. 1-14, 26, Feb. 4-7, Mar. 1-13)

3.6	18	4.0	87	5.0	400
3.8	46	4.5	221	6.0	860

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	26	26	25	28	25	31	35	67	197	92	42
2	27	27	33	22	28	25	31	35	65	159	92	37
3	18	27	30	20	28	23	34	35	59	139	89	33
4	21	28	30	21	25	20	34	33	59	136	89	50
5	18	28	30	23	20	22	30	33	56	131	89	57
6	19	28	28	20	22	30	28	35	59	121	92	52
7	19	28	27	18	25	30	28	35	56	121	89	59
8	19	27	27	18	30	30	30	33	75	111	83	72
9	26	28	26	20	33	30	30	30	63	92	78	67
10	27	30	27	25	30	30	30	30	56	104	80	57
11	30	28	30	32	28	30	30	30	45	101	69	43
12	26	27	28	30	28	30	28	30	50	97	80	54
13	26	28	30	28	28	30	25	30	48	109	94	63
14	28	26	25	30	28	31	25	28	419	114	87	65
15	27	25	21	30	27	30	26	28	488	111	78	56
16	28	26	21	30	27	30	26	28	262	94	74	54
17	28	23	20	31	26	33	27	28	302	87	51	52
18	27	25	23	31	26	33	28	27	316	80	45	57
19	25	25	30	31	25	31	29	28	320	78	40	59
20	22	23	30	28	26	31	30	27	292	83	46	63
21	21	19	28	30	22	31	30	52	265	80	54	61
22	25	22	27	30	23	30	30	97	268	80	59	56
23	26	27	26	30	28	30	30	154	278	72	54	57
24	28	26	27	28	26	30	30	134	272	72	59	56
25	25	26	27	26	26	30	30	114	265	65	48	56
26	28	26	27	25	27	30	30	94	268	65	42	61
27	27	28	27	26	26	31	45	83	252	59	54	61
28	27	28	27	25	26	31	40	76	243	63	52	57
29	26	27	26	28	28	30	35	69	230	72	37	56
30	25	26	28	28	---	33	35	74	227	69	48	50
31	26	---	28	28	---	31	---	67	---	80	61	---
TOTAL	782	788	840	817	770	911	915	1632	5725	3042	2105	1663
MEAN	25.2	26.3	27.1	26.4	26.6	29.4	30.5	52.6	191	98.1	67.9	55.4
MAX	37	30	33	32	33	33	45	154	488	197	94	72
MIN	18	19	20	18	20	20	25	27	45	59	37	33
AC-FT	1550	1560	1670	1620	1530	1810	1810	3240	11360	6030	4180	3300
CAL YR 1975	TOTAL	15111	MEAN	41.4	MAX	215	MIN	15	AC-FT	29970		
WTR YR 1976	TOTAL	19990	MEAN	54.6	MAX	488	MIN	18	AC-FT	39650		

CHEYENNE RIVER BASIN

101

06421500 RAPID CREEK NEAR FARMINGDALE, SD

LOCATION.--Lat 43°56'31", long 102°51'12", in SW¼SW¼SW¼ sec.19, T.1 S., R.11 E., Pennington County, Hydrologic Unit 10120110, on right bank at downstream side of bridge, 2 mi (3.2 km) southeast of Farmingdale and 4.8 mi (7.7 km) downstream from Antelope Creek.

DRAINAGE AREA.--602 mi² (1,559 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Altitude of gage is 2,700 ft (823 m), from topographic map. Prior to Sept. 19, 1947, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are poor. Flow regulated by Pactola Reservoir 67 mi (108 km) upstream since August 1956 (see station 06411000) and by Deerfield Reservoir on Castle Creek since December 1945 (see station 06409500). Diversions for irrigation of about 10,000 acres (4,050 hm²) above station.

AVERAGE DISCHARGE.--30 years, 54.9 ft³/s (1.555 m³/s), 39,780 acre-ft/yr (49.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,320 ft³/s (207 m³/s) June 10, 1972, gage height, 11.85 ft (3.612 m), from floodmarks, from rating curve extended above 400 ft³/s (11.3 m³/s) on basis of contracted-opening and flow-over-road measurement of peak flow; no flow at times in 1949, 1952-56, 1958-63, 1969-71.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,370 ft³/s (38.8 m³/s) June 16, gage height, 9.59 ft (2.923 m); minimum daily, 6.2 ft³/s (0.176 m³/s) May 22.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Nov. 20, Apr. 13-29, July 2-29;
stage-discharge relation affected by ice Nov. 21 to Mar. 15)

Feb. 1 to Sept. 30

4.3	5.8	5.7	58	7.0	235
4.6	9.2	6.0	86	8.0	505
4.9	16	6.5	146	9.0	940
5.3	32				

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	33	22	35	48	35	40	50	42	271	34	23
2	16	33	30	32	48	30	41	46	35	219	53	21
3	17	33	32	30	46	30	40	44	40	149	48	16
4	13	30	35	31	38	30	38	33	39	119	52	13
5	16	27	38	33	30	35	39	28	38	98	55	14
6	15	28	40	30	30	40	37	23	38	86	46	22
7	17	30	42	25	35	43	42	19	39	72	48	21
8	17	30	42	25	40	45	65	16	40	65	38	18
9	17	30	44	30	50	45	52	15	40	61	37	22
10	18	37	47	38	48	45	44	13	45	60	30	28
11	20	40	45	45	48	40	40	16	36	50	28	28
12	23	38	43	43	48	32	35	12	29	40	32	26
13	21	43	42	42	48	35	36	11	33	39	25	23
14	18	39	40	44	48	35	31	10	70	40	42	39
15	20	41	36	44	45	45	35	13	924	45	46	36
16	24	40	36	44	45	54	39	11	718	51	37	34
17	23	38	35	45	45	45	74	11	358	45	36	34
18	20	41	38	45	44	49	50	9.8	366	30	25	33
19	22	39	40	45	42	49	46	10	364	27	19	30
20	22	25	42	44	40	46	44	11	335	32	15	27
21	24	25	41	44	42	42	40	7.5	308	43	17	27
22	24	23	40	44	44	42	35	6.2	308	50	19	30
23	28	25	40	44	46	43	32	115	325	46	19	25
24	34	23	39	42	49	42	33	550	323	45	16	23
25	40	22	40	40	49	42	31	412	303	39	19	25
26	40	20	40	37	50	42	35	301	290	34	20	24
27	33	21	40	40	50	40	54	107	285	38	19	30
28	34	20	41	43	50	37	138	55	280	28	17	32
29	33	20	42	48	45	39	109	46	278	23	15	30
30	32	18	41	48	---	40	64	45	276	28	15	30
31	33	---	40	48	---	40	---	44	---	27	17	---
TOTAL	729	912	1213	1228	1291	1257	1439	2090.5	6605	2000	939	784
MEAN	23.5	30.4	39.1	39.6	44.5	40.5	48.0	67.4	220	64.5	30.3	26.1
MAX	40	43	47	48	50	54	138	550	924	271	55	39
MIN	13	18	22	25	30	30	31	6.2	29	23	15	13
AC-FT	1450	1810	2410	2440	2560	2490	2850	4150	13100	3970	1860	1560
CAL YR 1975	TOTAL	15561.6	MEAN	42.6	MAX	435	MIN	1.5	AC-FT	30870		
WTR YR 1976	TOTAL	20487.5	MEAN	56.0	MAX	924	MIN	6.2	AC-FT	40640		

CHEYENNE RIVER BASIN

06421500 RAPID CREEK NEAR FARMINGDALE, SD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1953, 1956-58, 1969 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1955 to September 1958, October 1968 to current year.

WATER TEMPERATURES: October 1955 to September 1958, October 1968 to September 1969, October 1971 to September 1975.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,650 micromhos Oct. 16, 1956; minimum daily, 420 micromhos Jan. 8, 1958.

WATER TEMPERATURES: Maximum daily, 34.0°C June 12, 1956; minimum daily, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,400 micromhos Oct. 21, 24; minimum daily, 500 micromhos June 28.

WATER QUALITY DATA. WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	HARD- NESS (CA, MG) (00900)	NON- CAR- BONATE HARD- NESS (MG/L) (00902)	DIS- SOLVED CAL- CIUM (CA) (MG/L) (00915)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) (00925)
OCT									
14...	1100	17	1440	8.2	8.5	520	260	120	53
NOV									
13...	1430	45	900	8.6	3.0	410	190	100	39
DEC									
10...	1330	47	860	8.4	.0	370	170	92	35
JAN									
29...	1430	48	1100	7.4	.5	420	200	110	35
FEB									
25...	1430	49	990	--	.5	380	190	92	36
MAR									
24...	1430	44	960	9.2	9.5	370	170	89	37
APR									
20...	1400	46	900	8.6	13.5	370	190	87	37
MAY									
17...	1200	12	--	--	13.5	500	260	120	49
JUN									
17...	0945	342	810	7.7	16.0	350	200	92	29
JUL									
22...	1115	51	1050	8.3	22.5	440	220	100	45
AUG									
18...	1330	23	920	8.3	26.0	380	180	88	39
SEP									
16...	1130	33	1100	7.9	18.0	390	180	90	39

CHEYENNE RIVER BASIN

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06421500 RAPID CREEK NEAR FARMINGDALE, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SODIUM (NA) (MG/L) (00930)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L) (00935)	BICAR- BONATE (HCO3) (MG/L) (00440)	CAR- BONATE (CO3) (MG/L) (00445)	ALKA- LINITY AS CACO3 (MG/L) (00410)	DIS- SOLVED SULFATE (SO4) (MG/L) (00945)	DIS- SOLVED CHLO- RIDE (CL) (MG/L) (00940)
OCT 14...	76	24	1.5	8.4	310	0	254	340	60
NOV 13...	45	19	1.0	7.2	271	0	222	230	34
DEC 10...	40	19	.9	6.2	246	0	202	210	34
JAN 29...	55	22	1.2	7.0	262	0	215	230	63
FEB 25...	42	19	.9	6.3	226	--	185	230	35
MAR 24...	38	18	.9	5.5	235	6	203	220	25
APR 20...	44	20	1.0	7.3	223	0	183	240	30
MAY 17...	60	20	1.2	6.8	292	--	240	330	39
JUN 17...	28	15	.7	7.7	183	0	150	230	14
JUL 22...	48	19	1.0	7.2	259	0	212	290	32
AUG 18...	38	18	.8	7.4	244	0	200	200	27
SEP 16...	41	18	.9	6.6	249	0	204	230	29

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L) (00950)	DIS- SOLVED SILICA (SiO2) (MG/L) (00955)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) (70301)	DIS- SOLVED SOLIDS (TONS PER AC-FT) (70303)	DIS- SOLVED SOLIDS (TONS PER DAY) (70302)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	TOTAL PHOS- PHORUS (P) (MG/L) (00665)	DIS- SOLVED- PHOS- PHORUS (P) (MG/L) (00666)	DIS- SOLVED BORON (R) (UG/L) (01020)
OCT 14...	.7	1.0	820	1.12	37.6	1.3	.82	.74	230
NOV 13...	.5	3.2	605	.82	73.5	2.0	1.3	1.1	170
DEC 10...	.4	7.8	559	.76	70.9	2.0	1.1	1.1	140
JAN 29...	.6	9.2	656	.89	85.0	2.8	1.8	1.7	170
FEB 25...	.4	6.2	574	.78	75.9	2.7	1.2	1.0	140
MAR 24...	.4	3.3	548	.75	65.1	1.3	1.0	.87	150
APR 20...	.5	6.7	571	.78	70.9	1.5	.56	.52	250
MAY 17...	.5	1.9	754	1.03	24.4	.40	.42	.33	130
JUN 17...	.3	12	507	.69	468	.78	.77	.13	120
JUL 22...	.5	5.3	662	.90	91.2	1.1	.42	.33	190
AUG 18...	.5	8.3	534	.73	33.2	.94	.51	.42	160
SEP 16...	.6	6.3	571	.78	50.9	.94	.66	.52	170

CHEYENNE RIVER BASIN

06421500 RAPID CREEK NEAR FARMINGDALE, SD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1100	1040	950	900	850	890	850	870	900	780	950	1160
2	1150	1090	990	960	860	910	910	900	900	520	900	1060
3	1200	1000	950	1040	880	1000	910	950	890	600	880	1040
4	1080	1000	920	930	870	950	920	1010	900	660	780	1050
5	1100	1000	920	1060	900	1000	930	1000	920	720	800	1040
6	1180	990	900	1040	950	1000	930	1000	940	730	820	1050
7	1200	970	920	1050	1000	950	900	1020	940	890	840	1060
8	1240	990	930	1060	920	870	950	1050	950	830	840	1100
9	1240	980	900	1020	1040	810	910	1070	940	830	840	1050
10	1250	980	1000	1050	930	900	920	1090	910	860	860	1060
11	1250	980	900	1100	910	840	930	1120	800	890	900	1040
12	1300	960	1080	1170	860	900	950	1160	840	930	850	1020
13	1280	950	900	950	910	850	1000	1200	890	970	870	1000
14	1250	980	1000	890	910	830	990	1180	800	920	890	990
15	1310	970	1080	940	910	860	1020	1180	600	880	900	850
16	1240	1000	1000	960	850	840	1000	1170	650	850	910	890
17	1280	1000	980	900	860	830	970	1170	760	870	920	860
18	1260	960	970	910	860	890	950	1240	630	890	900	890
19	1360	950	960	910	940	940	910	1310	550	900	940	930
20	1350	960	950	900	970	900	930	1290	510	990	950	930
21	1400	940	960	970	970	900	990	1300	530	970	960	950
22	1380	1060	970	970	950	870	1040	1250	580	960	1010	980
23	1340	1030	910	930	940	880	1060	1180	560	880	1000	1000
24	1400	1000	950	940	930	850	1060	900	530	870	1020	980
25	1240	950	970	960	880	890	1060	670	540	900	1040	1020
26	1280	1000	990	970	870	870	1060	760	530	890	1060	1050
27	1300	940	1010	940	860	890	1060	690	550	880	1090	1080
28	1220	950	1010	900	900	870	920	900	500	910	1060	1020
29	1180	960	970	1000	960	890	940	940	540	950	1100	1030
30	1080	960	940	950	---	880	830	950	560	980	1120	1020
31	1010	---	920	860	---	830	---	980	---	1020	1130	---
MONTH	1240	985	961	972	912	890	960	1050	721	862	940	1010

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	8.0	0.0	0.0	0.0	0.0	12.5	15.5	22.0	---	---	19.5
2	13.0	8.5	0.0	0.0	0.0	0.0	9.0	---	22.0	---	---	19.0
3	14.0	9.0	0.0	0.0	0.0	0.0	10.0	---	23.0	---	---	20.0
4	15.0	9.5	0.0	0.0	0.0	0.0	---	17.5	---	---	---	19.0
5	---	9.0	0.0	0.0	0.0	0.0	10.5	---	---	---	---	20.0
6	14.5	6.5	0.0	0.0	0.0	0.0	11.5	12.0	25.0	---	---	---
7	15.0	5.5	---	0.0	0.0	0.0	9.0	12.0	---	---	---	18.0
8	14.0	6.0	0.0	0.0	0.0	0.0	9.0	---	27.0	---	---	17.0
9	12.0	6.0	0.0	0.0	0.0	0.0	15.0	---	29.0	---	---	16.5
10	---	4.5	---	0.0	0.0	0.0	---	22.0	28.0	---	---	16.0
11	10.0	3.0	0.0	0.0	0.0	0.0	---	19.0	28.0	---	---	---
12	11.0	3.5	0.0	0.0	0.0	0.0	16.0	---	---	---	---	---
13	10.5	3.5	0.0	0.0	0.0	0.0	19.0	16.0	25.0	---	---	17.0
14	9.0	---	---	0.0	0.0	0.0	16.5	22.0	---	---	---	16.5
15	10.0	4.0	0.0	0.0	0.0	0.0	16.0	15.0	20.0	---	---	16.0
16	10.0	4.5	---	0.0	0.0	1.0	---	---	---	---	---	17.0
17	9.0	3.5	0.0	0.0	0.0	2.0	---	18.0	18.0	---	---	17.0
18	11.5	2.5	0.0	0.0	0.0	2.0	10.0	21.5	18.0	---	---	---
19	10.0	0.5	---	0.0	0.0	4.0	8.0	21.5	20.0	---	---	---
20	11.5	0.0	0.0	0.0	0.0	5.0	14.0	20.5	21.0	---	---	16.0
21	10.5	0.0	0.0	0.0	0.0	5.0	12.0	16.5	19.0	---	---	16.0
22	8.5	0.0	0.0	0.0	0.0	6.0	14.0	10.0	19.0	---	---	15.0
23	6.5	---	0.0	0.0	0.0	7.0	13.0	11.5	17.0	---	---	14.0
24	6.0	0.0	---	0.0	0.0	5.0	---	---	18.0	---	---	15.0
25	5.0	0.0	---	0.0	0.0	7.0	---	11.0	19.0	---	---	---
26	5.0	0.0	---	0.0	0.0	8.0	---	16.0	18.0	---	---	---
27	7.0	0.0	0.0	0.0	0.0	10.0	5.0	19.0	20.0	---	---	14.0
28	7.5	---	0.0	0.0	0.0	8.0	---	---	20.0	---	---	12.5
29	7.0	0.0	0.0	0.0	0.0	6.0	6.0	21.0	20.5	---	---	14.0
30	8.0	0.0	0.0	0.0	---	7.0	11.0	---	21.0	---	---	14.0
31	8.5	---	---	0.0	---	5.0	---	22.0	---	---	---	---
MONTH	10.0	3.5	---	0.0	0.0	3.0	---	---	21.5	---	---	---

06422500 BOXELDER CREEK NEAR NEMO, SD

LOCATION.--Lat 44°08'38", long 103°27'16", in SE¼SE¼ sec.12, T.2 N., R.5 E., Lawrence County, Hydrologic Unit 10120111, on right bank at ranch 0.2 mi (0.3 km) upstream from county line, 0.9 mi (1.4 km) downstream from Jim Creek and 4.5 mi (7.2 km) southeast of Nemo.

DRAINAGE AREA.--96 mi² (249 km²), approximately.

PERIOD OF RECORD.--July 1945 to July 1947, May 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,320.27 ft (1,316.818 m) above mean sea level. July 1945 to July 1947 nonrecording gage at site 100 ft (30 m) upstream at different datum. May 17, 1966, to June 9, 1972, water-stage recorder (destroyed by flood) and June 10, 1972, to Aug. 8, 1972, nonrecording gage, both at site 100 ft (30 m) upstream at datum 2.00 ft (0.610 m) higher.

REMARKS.--Records good except those for winter periods, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--11 years (1946, 1967-76), 22.2 ft³/s (0.629 m³/s), 16,080 acre-ft/yr (19.8 hm³/yr); median of yearly mean discharges, 21 ft³/s (0.60 m³/s), 15,200 acre-ft/yr (19 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,100 ft³/s (852 m³/s) June 9, 1972, gage height, 20.4 ft (6.22 m), site and datum then in use, 22.0 ft (6.71 m), present site and datum, from floodmarks, from rating curve extended above 600 ft³/s (17.0 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 0.70 ft³/s (0.020 m³/s) Dec. 30, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1911 reached a stage of about 16 ft (4.9 m), present datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft³/s (2.8 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
June 15	0100	*1460 41.3	*6.19 1.887	July 22	unknown	150 4.2	unknown

Minimum daily, 3.0 ft³/s (0.085 m³/s) Jan. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	7.4	5.0	5.0	7.3	8.9	9.5	29	38	47	19	11
2	5.4	7.2	6.0	4.0	6.0	7.0	9.8	30	31	47	20	10
3	5.4	6.9	7.0	3.5	5.5	7.8	9.2	20	27	54	20	9.5
4	5.2	6.5	8.0	4.5	5.0	8.3	8.9	18	25	45	20	9.2
5	5.0	6.3	9.0	5.0	5.0	8.9	9.5	16	24	43	15	9.2
6	5.0	6.0	9.6	4.0	5.0	8.9	11	16	28	42	15	8.6
7	4.8	5.8	7.4	3.0	5.0	7.8	20	16	30	39	15	8.6
8	4.8	5.8	8.5	3.5	7.0	7.8	21	14	26	36	14	9.5
9	4.4	6.3	7.2	4.0	17	9.5	16	14	25	32	15	9.8
10	4.8	5.2	6.9	4.5	20	8.6	14	14	24	31	15	9.8
11	4.8	5.6	6.0	5.0	11	9.2	14	13	23	29	15	9.2
12	5.0	6.0	6.0	5.0	11	8.3	13	14	24	27	15	9.8
13	5.0	5.4	5.0	4.5	12	9.2	12	15	23	28	15	9.2
14	5.0	6.3	4.0	4.5	11	11	11	14	268	32	15	8.9
15	5.0	6.9	4.0	5.0	13	9.5	11	14	829	30	15	10
16	5.0	6.9	4.0	5.0	11	9.8	15	16	382	25	14	10
17	5.0	5.6	3.5	5.5	11	10	34	13	293	24	13	10
18	5.0	5.5	4.5	5.5	9.8	11	21	11	218	23	13	9.8
19	5.2	5.5	5.0	5.5	9.0	14	17	11	170	24	13	9.2
20	4.8	5.0	6.0	5.5	7.8	11	15	11	137	32	12	9.2
21	4.8	4.5	6.0	8.0	9.0	11	13	18	113	70	11	8.9
22	4.8	5.0	6.0	8.5	9.8	8.0	12	18	104	100	11	8.3
23	5.6	5.0	5.5	8.8	7.6	11	13	29	109	60	11	8.3
24	6.0	4.5	6.0	7.2	6.4	13	13	38	89	30	11	8.3
25	4.8	4.0	6.5	6.3	8.1	13	12	27	76	24	13	8.6
26	7.4	4.0	6.0	7.2	7.0	11	12	48	70	24	12	8.9
27	8.2	4.0	6.0	5.6	9.8	9.8	15	30	65	23	11	9.2
28	8.2	4.0	6.5	6.7	8.3	10	14	26	56	22	11	9.5
29	6.0	4.0	6.5	6.0	7.0	8.6	15	25	52	21	11	8.9
30	6.9	3.5	6.0	6.0	---	7.6	16	27	49	20	11	8.3
31	7.4	---	6.0	7.9	---	7.8	---	34	---	40	13	---
TOTAL	170.1	164.6	189.6	170.2	262.4	297.3	426.9	639	3428	1124	434	277.7
MEAN	5.49	5.49	6.12	5.49	9.05	9.59	14.2	20.6	114	36.3	14.0	9.26
MAX	8.2	7.4	9.6	8.8	20	14	34	48	829	100	20	11
MIN	4.4	3.5	3.5	3.0	5.0	7.0	8.9	11	23	20	11	8.3
AC-FT	337	326	376	338	520	590	847	1270	6800	2230	861	551

CAL YR 1975	TOTAL	5766.1	MEAN 15.8	MAX 92	MIN 1.3	AC-FT 11440
WTR YR 1976	TOTAL	7583.8	MEAN 20.7	MAX 829	MIN 3.0	AC-FT 15040

06423500 CHEYENNE RIVER NEAR WASTA, SD

LOCATION.--Lat 44°04'52", long 102°24'03", in NE¼NE¼NW¼ sec.2, T.1 N., R.14 E., Pennington County, Hydrologic Unit 10120111, on left bank at downstream side of highway bridge, 200 ft (61 m) downstream from Chicago and North Western Transportation Co. bridge, 3.0 mi (4.8 m) east of Wasta, and 8.6 mi (13.8 m) downstream from Boxelder Creek.

DRAINAGE AREA.--12,800 mi² (33,200 km²), approximately.

PERIOD OF RECORD.--July 1914 to June 1915, August 1928 to June 1932, March 1934 to current year. Monthly discharge only for some periods, published in WSP 1309. Records for Feb. 19-28, 1930, published in WSP 701, have been found to be unreliable and should not be used.

REVISED RECORDS.--WSP 786: Drainage area. WSP 1279: 1930(M), 1931, 1937. See also Period of Record.

GAGE.--Water-stage recorder. Datum of gage is 2,260.78 ft (689.086 m) above mean sea level. Prior to Aug. 1, 1940, nonrecording gage at site 50 ft (15 m) upstream; Aug. 1, 1940, to Dec. 3, 1940, nonrecording gage and Dec. 4, 1940, to Sept. 30, 1968, water-stage recorder at present site all at datum 2.00 ft (0.610 m) higher. Oct. 1, 1968, to Sept. 30, 1972, at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good except those for winter periods, which are poor. Flow regulated by Angostura Reservoir 108 mi (174 km) upstream (see station 06401000) since October 1949 and by upstream reservoirs on Rapid Creek since 1957. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--45 years (1928-31, 1934-76), 359 ft³/s (10.17 m³/s), 260,100 acre-ft/yr (321 hm³/yr); median of yearly mean discharges, 310 ft³/s (8.78 m³/s), 225,000 acre-ft/yr (280 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 46,300 ft³/s (1,310 m³/s) May 6, 1932, gage height, 13.28 ft (4.048 m), present datum, from rating curve extended above 11,000 ft³/s (312 m³/s) on basis of an incomplete discharge measurement at gage height 10.65 ft (3.246 m), present datum; maximum gage height observed, 14.5 ft (4.42 m), present datum, June 13, 1915; minimum discharge, 0.6 ft³/s (0.017 m³/s) July 27, 1961.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1920 reached a stage of 18 ft (5.5 m), present datum, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,400 ft³/s (238 m³/s) June 15, gage height, 7.81 ft (2.380 m); minimum daily, 30 ft³/s (0.850 m³/s) Jan. 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	102	80	70	75	100	99	238	194	382	307	44
2	65	102	80	50	75	90	102	191	187	355	351	45
3	62	102	90	40	70	90	99	158	191	299	278	45
4	60	99	100	35	65	80	99	139	180	364	184	45
5	60	102	150	35	60	90	99	128	161	270	145	45
6	55	102	150	35	55	100	102	128	164	227	324	44
7	51	102	140	30	70	110	125	119	220	194	198	40
8	52	99	140	30	80	120	303	114	198	170	117	50
9	52	99	150	35	100	150	198	99	187	142	95	60
10	51	102	140	35	140	150	139	88	180	117	90	60
11	51	102	120	35	170	120	167	77	254	92	75	50
12	57	88	120	35	180	100	180	77	278	1510	67	50
13	64	99	120	35	170	90	111	90	258	154	69	50
14	67	104	100	35	170	120	104	79	282	106	114	50
15	67	111	100	35	160	160	95	71	3480	106	133	70
16	64	109	90	40	160	187	114	65	3350	106	139	110
17	64	111	80	40	160	184	1710	62	2990	92	106	99
18	65	111	80	40	150	184	510	59	1960	79	95	92
19	64	100	80	45	150	170	231	57	1660	67	81	90
20	62	50	80	45	150	158	184	49	1440	64	77	83
21	64	60	90	45	140	142	170	59	1220	60	67	73
22	64	80	100	45	140	131	128	67	1190	67	59	75
23	73	80	100	50	140	125	111	1290	1730	79	55	79
24	92	80	100	50	150	119	106	2060	1340	77	52	79
25	88	75	100	55	155	111	104	642	980	65	51	73
26	148	75	100	55	180	109	95	876	800	55	47	71
27	231	85	100	60	160	106	205	663	600	64	45	69
28	201	90	100	70	150	106	2610	337	460	122	44	73
29	128	90	105	75	130	104	720	266	428	194	44	81
30	109	85	100	75	---	99	364	227	400	510	44	79
31	102	---	90	75	---	99	---	205	---	67	44	---
TOTAL	2488	2796	3275	1435	3755	3804	9384	8780	26962	6256	3597	1974
MEAN	80.3	93.2	106	46.3	129	123	313	283	899	202	116	65.8
MAX	231	111	150	75	180	187	2610	2060	3480	1510	351	110
MIN	51	50	80	30	55	80	95	49	161	55	44	40
AC-FT	4930	5550	6500	2850	7450	7550	18610	17420	53480	12410	7130	3920
CAL YR 1975	TOTAL	64768	MEAN 177	MAX 2470	MIN 21	AC-FT 128500						
WTR YR 1976	TOTAL	74506	MEAN 204	MAX 3480	MIN 30	AC-FT 147800						

CHEYENNE RIVER BASIN

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06425500 ELK CREEK NEAR ELM SPRINGS, SD

LOCATION.--Lat 44°14'54", long 102°30'10", in SW¼NW¼ sec.1, T.3 N., R.13 E., Meade County, Hydrologic Unit 10120111, near center of span on downstream side of county highway bridge, 1.4 mi (2.3 km) downstream from Hay Draw, 5.0 mi (8.0 km) southeast of Elm Springs, and 7.0 mi (11.3 km) upstream from mouth.

DRAINAGE AREA.--540 mi² (1,400 km²), approximately.

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

GAGE.--Nonrecording gage and crest-stage gage; crest-stage gage since Sept. 29, 1954. Datum of gage is 2,304.49 ft (702.409 m) above mean sea level. Prior to Sept. 16, 1954, on upstream side of bridge, Sept. 16, 1954, to Jan. 31, 1967, on downstream side of bridge, at site 350 ft (107 m) downstream at same datum.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--27 years, 23.8 ft³/s (0.674 m³/s), 17,240 acre-ft/yr (21.3 hm³/yr); median of yearly mean discharges, 20 ft³/s (0.57 m³/s), 14,500 acre-ft/yr (18 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,540 ft³/s (242 m³/s) Mar. 29, 1952, gage height, 10.61 ft (3.234 m), from floodmarks, site and datum then in use, from rating curve extended above 5,100 ft³/s (144 m³/s); maximum gage height, 11.0 ft (3.35 m) May 29, 1962, from floodmarks, site and datum then in use; no flow for long periods in each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 17 ft (5.2 m), at former site, in May 1920, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,230 ft (63.2 m³/s) June 17, gage height, 9.55 ft (2.911 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	4.3	.63	4.3	4.1	45	.10	
2					0	3.6	0	3.2	3.9	38	.10	
3					0	1.5	0	2.3	3.7	34	0	
4					0	.70	0	1.5	2.6	33	0	
5					0	.60	0	1.2	2.1	22	0	
6					0	.50	0	.96	1.9	14	0	
7					0	.70	0	1.7	1.3	9.2	0	
8					0	1.0	0	1.4	3.8	6.7	0	
9					0	1.1	0	1.2	62	5.8	0	
10					0	1.3	0	1.2	61	4.8	0	
11					0	1.1	0	1.1	38	3.7	25	
12					1.0	1.0	0	.96	18	3.4	2.8	
13					1.0	1.1	0	.74	18	3.4	1.3	
14					1.0	1.5	0	.74	32	2.8	3.2	
15					1.0	2.0	.52	.85	269	2.8	2.3	
16					1.0	3.0	.74	.96	825	3.4	1.9	
17					1.0	3.5	53	.20	1550	2.8	1.2	
18					1.0	8.2	4.3	.20	454	2.1	3.4	
19					1.0	11	.96	.10	350	1.5	2.3	
20					1.0	8.9	1.1	.10	308	1.4	1.9	
21					.90	6.1	.74	.20	153	1.1	1.8	
22					1.0	4.8	.42	.20	90	.63	.10	
23					3.0	4.5	.63	1.4	108	.63	.10	
24					5.0	4.3	.63	3.7	82	.52	0	
25					8.1	4.1	.74	4.5	74	.42	0	
26					8.6	3.9	.96	8.9	68	.31	0	
27					7.9	2.8	5.6	8.9	46	.20	0	
28					8.2	2.2	16	9.6	37	.10	0	
29					6.1	1.7	7.2	9.2	39	.10	0	
30					---	1.2	9.2	7.2	42	.10	0	
31		---			---	.63	---	6.1	---	.10	0	---
TOTAL	0	0	0	0	57.80	92.83	103.37	84.81	4747.4	244.01	47.50	0
MEAN	0	0	0	0	1.99	2.99	3.45	2.74	158	7.87	1.53	0
MAX	0	0	0	0	8.6	11	53	9.6	1550	45	25	0
MIN	0	0	0	0	0	.50	0	.10	1.3	.10	0	0
AC-FT	0	0	0	0	115	184	205	168	9420	484	94	0
CAL YR 1975	TOTAL	6675.01	MEAN 18.3	MAX 767	MIN 0	AC-FT 13240						
WTR YR 1976	TOTAL	5377.72	MEAN 14.7	MAX 1550	MIN 0	AC-FT 10670						

CHEYENNE RIVER BASIN

06427000 KEYHOLE RESERVOIR NEAR MOORCROFT, WY

LOCATION.--Lat 44°22'55", long 104°46'45", in NW¼NW¼ sec.27, T.51 N., R.66 W., Crook County, Hydrologic Unit 10120201, at reservoir dam on Belle Fourche River 12 mi (19 km) northeast of Moorcroft.

DRAINAGE AREA.--2,000 mi² (5,180 km²), approximately.

PERIOD OF RECORD.--March 1952 to current year (monthend contents only).

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (Bureau of Reclamation datum). Prior to May 15, 1958, and Oct. 1, 1968, to Mar. 13, 1970, nonrecording gages, and May 15, 1958, to Sept. 30, 1968, water-stage recorder, all at present site and datum.

REMARKS.--Reservoir is formed by a zoned earth-fill dam completed by the Bureau of Reclamation Oct. 25, 1952. Storage began Feb. 12, 1952. Dead storage, below elevation 4,036.0 ft (1,230.17 m), 1,170 acre-ft (1.44 hm³). Inactive storage, between elevations 4,036.0 ft (1,230.17 m) and 4,051.0 ft (1,234.74 m), 8,310 acre-ft (10.2 hm³). Total capacity below elevation 4,099.3 ft (1,249.47 m), crest of spillway, 199,900 acre-ft (246 hm³). Figures given herein represent total contents. The reservoir provides flood control and water for irrigation in Wyoming and near Belle Fourche, S. Dak.

COOPERATION.--Records furnished by the Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 195,800 acre-ft (241 hm³) Mar. 8, 1972, elevation, 4,098.87 ft (1,249.336 m); minimum daily contents (since appreciable storage was attained), 6,030 acre-ft (7.43 hm³) Mar. 8, 9, 1955, elevation, 4,046.35 ft (1,233.327 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 143,289 acre-ft (177 hm³) June 22, 23, elevation, 4,093.73 ft (1,247.769 m); minimum, 124,132 acre-ft (153 hm³) Nov. 28 to Dec. 7, elevation, 4,091.06 ft (1,246.955 m).

MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	4091.42	126619	
Oct. 31	4091.19	125030	-1589
Nov. 30	4091.06	124132	-898
Dec. 31	4091.09	124340	+208
CAL YR 1975			-4005
Jan. 31	4091.13	124616	+276
Feb. 29	4091.70	128552	+3936
Mar. 31	4091.94	130210	+1658
Apr. 30	4092.07	131128	+918
May 31	4092.17	131847	+719
June 30	4093.58	142165	+10318
July 31	4093.00	137819	-4346
Aug. 31	4092.10	131343	-6476
Sept. 30	4091.08	124271	-7072
WTR YR 1976			-2348

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DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	25	15	17	35	25	97	80	39	112	129	81
2	23	26	19	16	33	22	85	88	37	107	119	81
3	22	25	20	15	30	21	79	91	126	125	116	80
4	22	25	23	16	25	20	73	78	102	133	122	82
5	20	26	25	18	20	20	69	71	66	133	137	81
6	20	26	24	18	22	25	65	68	204	115	140	82
7	21	25	24	16	25	25	66	64	77	102	113	84
8	21	25	24	16	30	28	65	61	63	97	98	83
9	23	24	25	17	35	30	65	58	116	90	88	85
10	22	23	25	18	35	30	64	55	98	83	77	87
11	22	22	22	20	37	28	62	52	61	78	72	86
12	23	15	22	21	40	25	61	53	45	75	69	88
13	25	16	20	20	40	30	61	52	39	74	80	88
14	24	29	18	20	45	30	64	53	462	75	80	88
15	25	35	15	23	45	40	66	59	1720	107	67	89
16	25	29	14	26	45	60	75	61	1240	121	63	90
17	24	31	12	30	45	92	100	58	2220	84	71	89
18	24	27	14	30	45	106	104	62	1970	72	74	88
19	23	26	17	30	42	95	156	60	1870	115	64	84
20	23	25	17	30	40	79	150	56	1010	117	59	84
21	22	22	17	35	35	101	137	58	575	113	56	85
22	21	23	17	35	40	117	120	60	418	112	53	84
23	23	25	16	35	42	168	98	55	352	146	49	84
24	24	20	16	30	42	166	86	52	273	224	45	84
25	23	17	17	25	42	133	80	52	231	239	42	86
26	25	15	16	20	45	105	76	56	196	201	44	84
27	26	15	17	23	45	125	74	65	170	157	47	61
28	26	15	17	25	45	184	83	55	155	137	46	47
29	25	13	18	30	35	186	85	49	138	133	48	40
30	26	12	18	30	---	156	83	46	122	118	68	35
31	26	---	17	35	---	123	---	42	---	117	78	---
TOTAL	722	682	581	740	1085	2395	2549	1870	14195	3712	2414	2390
MEAN	23.3	22.7	18.7	23.9	37.4	77.3	85.0	60.3	473	120	77.9	79.7
MAX	26	35	25	35	45	186	156	91	2220	239	140	90
MIN	20	12	12	15	20	20	61	42	37	72	42	35
AC-FT	1430	1350	1150	1470	2150	4750	5060	3710	28160	7360	4790	4740
CAL YR 1975	TOTAL	38958.5	MEAN	107	MAX	1250	MIN	7.0	AC-FT	77270		
WTR YR 1976	TOTAL	33335.0	MEAN	91.1	MAX	2220	MIN	12	AC-FT	66120		

CHEYENNE RIVER BASIN

06429500 COLD SPRINGS CREEK AT BUCKHORN, WY

LOCATION.--Lat 44°09'14", long 102°04'39", in NW¼ sec.9, T.48 N., R.60 W., Weston County, Hydrologic Unit 10120303, on right shoulder of Cold Springs Creek road, 155 ft (47 m) upstream from centerline of U.S. Highway 85, and 0.5 mi (0.8 km) northeast of Buckhorn.

DRAINAGE AREA.--19.0 mi² (49.2 km²).

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,090 ft (1,855 m), from topographic map.

REMARKS.--Records good except those for winter periods, which are poor. Several observations of water temperature were made during the 1976 water year.

EXTREMES FOR CURRENT PERIOD.--Water year 1975: Maximum daily discharge, about 11 ft³/s (0.31 m³/s) Apr. 4, maximum gage height, 6.77 ft (2.063 m), backwater from snow; minimum daily discharge, 2.0 ft³/s (0.057 m³/s) Mar. 28.

Water year 1976: Maximum daily discharge, 7.2 ft³/s (0.204 m³/s) Apr. 9; maximum gage height, 5.86 ft (1.786 m); minimum daily discharge, 3.5 ft³/s (0.099 m³/s) Jan. 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	3.0	2.5	3.1	3.6	3.0	4.0	4.4	4.8	4.1	5.3	5.5
2	2.4	2.8	2.6	3.2	3.6	3.0	4.0	4.6	5.0	4.1	5.3	5.7
3	2.4	2.6	3.0	3.4	3.6	3.0	4.0	4.4	5.0	4.1	5.3	5.5
4	2.4	2.4	3.2	3.4	3.4	3.0	7.0	4.4	5.0	4.1	5.3	5.5
5	2.4	2.4	3.0	3.4	3.2	3.1	3.5	4.8	4.6	4.3	5.3	5.5
6	2.4	2.4	2.8	3.4	3.0	3.0	3.5	5.1	4.6	4.3	5.3	5.5
7	2.4	2.4	2.5	3.4	3.4	2.8	3.7	4.8	4.8	4.6	5.3	5.7
8	2.4	2.4	3.0	3.0	3.2	2.8	4.0	4.8	4.8	4.6	5.3	5.7
9	2.4	2.4	3.2	2.8	2.8	2.8	4.1	5.1	5.0	4.4	5.3	5.7
10	2.4	2.4	3.2	2.5	3.2	2.8	3.2	5.1	4.8	4.4	5.5	5.7
11	2.5	2.4	3.3	2.2	3.6	2.8	3.1	5.0	4.6	4.6	5.5	5.7
12	2.5	2.4	3.5	2.6	3.8	2.8	3.2	5.0	4.6	4.8	5.3	5.7
13	2.5	2.4	3.4	3.1	3.8	2.8	3.1	4.8	4.6	4.6	5.3	5.5
14	2.5	2.4	3.3	3.0	3.9	2.8	3.4	4.8	4.6	4.6	5.3	5.5
15	2.5	2.4	3.2	3.2	3.9	3.0	3.1	4.8	4.6	4.8	5.5	5.5
16	2.5	2.4	3.2	3.0	4.0	3.2	3.5	4.8	4.8	4.8	5.5	5.7
17	2.5	2.4	3.1	3.6	4.0	3.4	3.4	4.6	4.8	4.6	5.5	5.9
18	2.5	2.4	3.0	3.6	4.1	3.4	3.2	5.0	4.6	4.6	5.3	5.9
19	2.5	2.4	2.9	3.6	4.1	3.8	4.1	5.0	4.6	4.6	5.3	5.7
20	2.5	2.5	2.8	4.0	4.1	3.5	3.7	5.1	4.4	4.6	5.3	5.5
21	2.5	2.5	2.7	4.2	4.2	3.3	3.5	5.0	4.1	5.5	5.3	5.7
22	2.5	2.5	2.7	4.4	4.2	3.5	3.7	5.0	4.4	5.7	5.3	5.5
23	2.5	2.5	2.7	4.6	4.2	4.0	3.7	5.0	4.4	5.5	5.3	5.7
24	2.5	2.5	2.7	4.4	4.0	3.9	3.8	5.0	4.3	5.7	5.3	5.7
25	2.6	2.5	2.7	4.3	3.2	3.9	4.4	5.0	4.3	5.7	5.3	5.7
26	2.6	2.5	2.7	4.2	3.0	3.6	4.6	5.0	4.4	5.5	5.5	5.7
27	2.6	2.5	2.8	4.2	3.0	3.0	4.6	5.0	4.3	5.9	5.3	5.7
28	2.7	2.5	2.8	4.2	3.0	2.0	4.5	5.0	4.3	5.5	5.5	5.5
29	2.7	2.5	2.8	4.1	---	3.2	4.4	4.6	4.3	5.3	5.3	5.5
30	3.1	2.5	2.8	4.0	---	3.5	4.4	4.6	4.3	5.3	5.5	5.7
31	3.1	---	3.0	3.6	---	4.0	---	5.0	---	5.5	5.5	---
TOTAL	78.4	74.3	91.1	109.7	101.1	98.7	116.4	150.6	137.7	150.7	166.1	169.0
MEAN	2.53	2.42	2.94	3.54	3.61	3.18	3.88	4.86	4.59	4.86	5.36	5.63
MAX	3.1	3.0	3.5	4.6	4.2	4.0	7.0	5.1	5.0	5.9	5.5	5.9
MIN	2.4	2.4	2.5	2.2	2.8	2.0	3.1	4.4	4.1	4.1	5.3	5.5
AC-FT.	156	147	181	218	201	196	231	299	273	299	329	335

WTR YR 1975 TOTAL 1443.8 MEAN 3.96 MAX 7.0 MIN 2.0 AC-FT 2860

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06429500 COLD SPRINGS CREEK AT BUCKHORN, WY--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	4.6	5.0	5.5	5.6	5.8	6.3	5.8	4.8	6.0	5.6	5.0
2	5.6	4.8	5.2	5.0	5.6	5.4	6.0	5.8	4.8	6.3	5.4	5.0
3	6.0	4.6	4.8	4.5	5.4	5.2	6.0	6.0	4.8	6.0	5.2	5.0
4	5.8	4.6	4.8	4.5	5.0	5.0	6.3	6.0	4.6	6.0	5.2	5.0
5	5.8	4.5	4.8	5.0	4.0	5.0	6.5	6.0	4.6	6.0	5.2	5.2
6	5.8	4.8	4.8	4.0	4.0	5.0	6.8	6.0	5.2	6.0	5.4	5.4
7	5.6	4.8	4.8	3.5	4.8	5.4	6.8	6.0	5.0	6.0	5.2	5.2
8	5.4	4.8	4.8	3.5	5.4	5.8	6.8	6.0	4.8	6.3	5.2	5.2
9	5.2	4.8	4.8	4.0	5.4	5.8	7.2	6.0	4.8	6.3	5.2	5.2
10	5.2	4.8	4.8	4.5	5.2	5.6	6.8	5.8	4.8	6.0	5.4	5.2
11	5.2	5.0	4.8	5.0	5.4	5.4	6.8	5.4	4.8	6.3	5.0	5.2
12	5.4	5.2	4.8	5.0	5.5	4.0	6.5	5.4	5.0	6.0	5.0	5.0
13	5.4	5.4	4.7	4.5	5.5	5.0	6.0	5.4	5.0	5.8	5.2	5.0
14	5.4	5.6	4.5	5.0	5.6	5.2	6.0	5.4	5.0	5.8	5.4	5.0
15	5.2	5.2	4.5	5.5	5.5	5.2	5.8	5.6	5.6	6.0	5.2	5.0
16	5.2	5.2	4.5	5.5	5.5	5.8	6.0	5.4	5.8	6.0	5.2	5.2
17	5.2	5.2	4.0	5.6	5.5	5.4	5.8	5.2	5.8	6.0	5.2	5.2
18	5.2	5.2	4.5	5.6	5.5	5.4	5.8	5.2	5.8	5.8	5.2	5.2
19	5.2	5.0	5.0	5.6	5.7	5.4	5.8	5.2	5.6	5.6	5.2	5.2
20	5.0	4.8	5.0	5.6	5.7	4.5	6.0	5.0	5.6	5.8	5.2	5.2
21	5.0	4.6	5.5	5.6	5.7	5.5	6.0	5.0	5.4	5.8	5.0	5.2
22	5.0	4.5	6.0	5.6	5.8	6.0	6.0	5.0	5.8	5.8	5.0	5.2
23	5.0	4.5	6.8	5.6	5.8	6.0	6.0	5.0	6.3	5.6	5.2	5.0
24	5.0	4.6	6.5	5.4	5.8	6.0	6.0	5.0	6.0	5.6	5.2	5.0
25	4.8	4.8	6.5	5.2	5.8	6.0	6.0	5.0	5.8	5.6	5.2	5.0
26	4.8	4.8	6.0	5.0	5.8	6.0	6.0	4.8	6.0	5.8	5.0	5.0
27	4.8	4.8	6.0	5.4	5.7	6.0	5.8	4.8	6.0	5.8	5.0	5.0
28	4.8	4.8	6.0	5.6	5.6	6.0	5.8	4.8	5.8	5.8	5.0	5.0
29	4.7	5.0	6.0	5.6	5.6	6.0	5.8	4.8	5.8	5.8	5.0	5.2
30	4.6	5.2	6.0	5.6	---	6.5	5.8	4.8	6.0	5.6	5.0	5.0
31	4.6	---	5.5	5.6	---	6.5	---	4.8	---	5.6	5.2	---
TOTAL	161.5	146.6	161.7	157.1	157.4	171.8	185.2	166.4	161.1	182.8	160.6	153.2
MEAN	5.21	4.89	5.22	5.07	5.43	5.54	6.17	5.37	5.37	5.90	5.18	5.11
MAX	6.0	5.6	6.8	5.6	5.8	6.5	7.2	6.0	6.3	6.3	5.6	5.4
MIN	4.6	4.5	4.0	3.5	4.0	4.0	5.8	4.8	4.6	5.6	5.0	5.0
AC-FT	320	291	321	312	312	341	367	330	320	363	319	304
CAL YR 1975	TOTAL	1669.8	MEAN	4.57	MAX	7.0	MIN	2.0	AC-FT	3310		</

CHEYENNE RIVER BASIN

06429900 SAND CREEK AT RANCH A, NEAR BEULAH, WY

LOCATION.--Lat 44°29'42", long 104°06'34", in SW¼ sec.18, T.52 N., R.60 W., Crook County, Hydrologic Unit 10120203, on right bank 0.35 mi (0.6 km) downstream from headquarters building of Fish Genetic Laboratory, 0.9 mi (1.4 km) upstream from Hospital Gulch and 3.6 mi (5.8 km) south of Beulah.

DRAINAGE AREA.--260 mi² (673 km²).

PERIOD OF RECORD.--October 1974 to September 1976 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 3,750 ft (1,143 m), from topographic map.

REMARKS.--Records good. Several observations of water temperature were made during the 1976 water year.

EXTREMES FOR CURRENT YEAR.--Water year 1975: Maximum discharge, 53 ft³/s (1.50 m³/s) May 7, gage height, 4.62 ft (1.408 m); minimum daily, 19 ft³/s (0.538 m³/s) Mar. 14, 29.

Water year 1976: Maximum discharge, 700 ft³/s (19.8 m³/s) June 15, gage height, 7.19 ft (2.192 m), from rating curve extended above 60 ft³/s (1.70 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 17 ft³/s (0.481 m³/s) Feb. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	23	22	21	20	20	20	21	27	31	27	25
2	25	24	22	22	20	20	20	22	27	31	27	23
3	26	24	23	22	20	20	20	22	27	31	27	23
4	25	24	23	22	20	20	20	23	28	32	25	23
5	24	24	23	22	20	20	20	24	27	33	25	23
6	24	24	22	23	20	20	20	34	28	34	26	23
7	24	24	22	22	20	20	20	32	28	34	26	22
8	23	24	22	22	20	20	20	26	27	32	26	22
9	23	25	21	22	21	20	20	26	29	33	25	22
10	24	25	20	22	22	20	20	27	29	33	25	22
11	23	25	21	22	22	20	20	30	29	33	25	22
12	23	25	20	22	20	20	20	32	28	33	25	22
13	23	25	20	23	20	20	20	27	30	34	26	23
14	23	27	21	22	21	19	20	29	30	34	27	23
15	22	27	22	23	21	20	20	30	30	34	27	23
16	23	27	20	22	21	21	20	30	30	34	26	23
17	23	25	21	23	22	21	20	29	28	34	26	23
18	22	25	21	24	22	20	20	28	28	33	26	23
19	22	25	20	23	22	21	20	29	28	32	26	24
20	22	25	21	23	22	21	20	30	28	31	25	25
21	22	25	21	22	22	22	21	31	30	32	25	25
22	22	25	21	22	20	22	22	30	30	31	25	25
23	22	24	20	22	20	22	22	30	30	31	25	25
24	22	22	21	22	20	22	22	28	30	30	25	25
25	22	23	21	22	20	21	23	28	30	29	25	25
26	23	23	21	22	20	20	24	27	30	29	25	24
27	23	23	21	24	20	20	24	28	30	29	25	25
28	23	23	22	21	20	20	23	28	30	28	25	25
29	23	22	21	21	---	19	24	28	31	29	25	25
30	23	22	21	20	---	20	22	27	31	28	25	25
31	23	---	21	20	---	20	---	27	---	28	25	---
TOTAL	717	729	658	685	578	631	627	863	868	980	793	708
MEAN	23.1	24.3	21.2	22.1	20.6	20.4	20.9	27.8	28.9	31.6	25.6	23.6
MAX	26	27	23	24	22	22	24	34	31	34	27	25
MIN	22	22	20	20	20	19	20	21	27	28	25	22
AC-FT	1420	1450	1310	1360	1150	1250	1240	1710	1720	1940	1570	1400
WTR YR 1975	TOTAL	8837	MEAN	24.2	MAX	34	MIN	19	AC-FT	17530		

06429900 SAND CREEK AT RANCH A, NEAR BEULAH, WY--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	25	23	24	18	20	21	22	27	36	36	31
2	25	25	23	24	18	20	21	22	25	36	36	30
3	25	25	23	23	18	19	21	21	25	36	36	29
4	25	25	23	22	18	19	21	21	26	36	36	29
5	25	25	23	22	18	19	21	22	27	34	35	29
6	25	25	22	19	17	18	22	20	27	34	35	29
7	25	25	23	18	18	18	21	20	27	32	34	29
8	25	25	23	19	18	18	20	20	27	32	33	29
9	25	25	23	20	18	18	20	20	27	33	33	29
10	25	25	22	20	18	20	21	22	27	34	34	30
11	25	25	23	19	18	20	21	22	27	35	34	29
12	25	25	23	20	18	20	21	22	27	35	33	28
13	25	25	23	20	18	20	22	22	27	34	33	28
14	25	25	22	20	18	20	22	23	71	34	32	27
15	25	26	23	21	18	20	22	23	369	32	32	26
16	25	26	23	20	18	20	25	22	105	32	32	27
17	25	27	21	20	18	20	27	35	138	33	31	27
18	25	27	21	20	18	20	23	25	113	33	31	25
19	25	27	22	19	18	20	22	22	92	33	31	25
20	25	27	22	19	18	20	22	23	65	34	31	25
21	25	27	22	19	18	20	22	23	48	34	30	24
22	25	26	22	19	18	20	22	23	40	34	30	24
23	25	27	23	19	18	20	22	24	57	34	30	24
24	25	27	23	18	18	20	22	24	39	34	30	24
25	25	26	23	18	19	20	22	24	38	34	29	25
26	25	25	23	18	20	21	23	24	38	35	29	25
27	25	25	23	18	20	21	23	24	38	36	28	24
28	25	25	23	18	20	21	22	25	38	35	28	24
29	25	25	23	18	20	21	22	25	37	36	27	24
30	25	24	23	18	---	21	22	26	37	36	27	24
31	25	---	24	18	---	21	---	26	---	36	28	---
TOTAL	775	767	703	610	530	615	658	717	1709	1062	984	803
MEAN	25.0	25.6	22.7	19.7	18.3	19.8	21.9	23.1	57.0	34.3	31.7	26.8
MAX	25	27	24	24	20	21	27	35	369	36	36	31
MIN	25	24	21	18	17	18	20	20	25	32	27	24
AC-FT	1540	1520	1390	1210	1050	1220	1310	1420	3390	2110	1950	1590
CAL YR 1975	TOTAL	8978	MEAN 24.6	MAX 34	MIN 19	AC-FT	17810					
WTR YR 1976	TOTAL	9933	MEAN 27.1	MAX 369	MIN 17	AC-FT	19700					

CHEYENNE RIVER BASIN

06430000 MURRAY DITCH AT WYOMING-SOUTH DAKOTA STATE LINE

LOCATION.--Lat 44°34'35", long 104°02'58", in SW¼SW¼ sec.7, T.7 N., R.1 E., Butte County, Hydrologic Unit 10120203, on right bank 15 ft (5 m) downstream from State line and 12 mi (19 km) southwest of Belle Fourche, SD.

PERIOD OF RECORD.--June 1954 to current year (irrigation seasons only prior to October 1959).

GAGE.--Water-stage recorder. Altitude of gage is 3,440 ft (1,050 m), from topographic map.

REMARKS.--Records fair. Ditch diverts water from left bank of Redwater Creek, 2.0 mi (3.2 km) upstream, for irrigation of about 700 acres (283 hm²). Flow maintained during irrigation season only. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 37 ft³/s (1.05 m³/s) July 17, 1973; no flow for long periods in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	9.1						0	1.8	0	11	15
2	4.6	3.7						0	4.4	0	12	14
3	5.6	4.9						0	4.2	0	12	16
4	4.5	9.1						0	4.1	0	12	17
5	3.9	11						0	3.8	0	12	16
6	3.6	6.0						0	6.7	0	11	16
7	5.1	1.6						0	7.3	0	11	17
8	7.4	3.4						0	7.3	0	11	17
9	3.6	4.9						0	7.2	0	10	14
10	4.0	4.8						0	7.2	1.4	11	12
11	2.4	4.7						0	7.0	6.7	11	12
12	4.2	6.2						0	6.9	7.8	10	12
13	3.3	8.3						0	6.8	5.2	9.5	12
14	0	8.4						5.6	8.1	4.8	9.7	11
15	0	8.7						17	3.3	4.6	9.5	10
16	0	8.1						20	.72	4.5	8.7	9.4
17	.83	8.1						13	1.4	5.4	8.7	8.1
18	2.7	7.2						8.4	.21	6.2	8.4	7.4
19	6.8	6.7						7.6	0	6.0	8.8	6.3
20	7.2	8.3						6.6	0	7.8	7.0	5.6
21	6.8	10						7.8	0	9.5	10	5.4
22	7.5	8.1						7.8	0	9.7	13	4.7
23	8.0	3.9						7.6	0	9.8	12	4.4
24	7.6	2.0						7.6	0	9.7	12	4.0
25	7.5	1.3						7.6	0	9.5	12	3.7
26	5.8	.60						7.6	0	9.2	13	3.5
27	6.3	.05						6.8	0	9.7	14	3.1
28	6.7	0						6.7	0	11	14	2.8
29	5.8	0						6.7	0	9.8	15	2.5
30	5.7	0						8.0	0	9.1	15	2.4
31	8.7	---			---		---	3.6	---	9.5	15	---
TOTAL	146.03	159.15	0	0	0	0	0	156.0	88.43	166.9	349.3	284.3
MEAN	4.71	5.31	0	0	0	0	0	5.03	2.95	5.38	11.3	9.48
MAX	8.7	11	0	0	0	0	0	20	8.1	11	15	17
MIN	0	0	0	0	0	0	0	0	0	0	7.0	2.4
AC-FT	290	316	0	0	0	0	0	309	175	331	693	564
CAL YR 1975	TOTAL	1555.38	MEAN	4.26	MAX	34	MIN	0	AC-FT	3090		
WTR YR 1976	TOTAL	1350.11	MEAN	3.69	MAX	20	MIN	0	AC-FT	2680		

CHEYENNE RIVER BASIN

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06430500 REDWATER CREEK AT WYOMING-SOUTH DAKOTA STATE LINE

LOCATION.--Lat 44°34'26", long 104°02'54", in NW¼NW¼ sec.18, T.7 N., R.1 E., Butte County, Hydrologic Unit 10120203, on left bank 800 ft (244 m) downstream from State line, 5.7 mi (9.2 km) upstream from Crow Creek, and 12 mi (19 km) southwest of Belle Fourche, SD.

DRAINAGE AREA.--471 mi² (1,220 km²).

PERIOD OF RECORD.--April 1929 to September 1931 and February 1936 to July 1937 (published as "near Beulah, Wy."), June 1954 to current year.

REVISED RECORDS.--WSP 1309: 1931(M), 1936-37(M).

GAGE.--Water-stage recorder. Altitude of gage is 3,410 ft (1,040 m), from topographic map. Apr. 25, 1929, to Sept. 30, 1931, and Feb. 28, 1936, to July 31, 1937, nonrecording gage at site 2 mi (3 km) upstream at different datum.

REMARKS.--Records good except those for winter periods, which are fair. Large diversions for irrigation above station. Total flow passing State line may be obtained by adding flow of Murray ditch. (See station 06430000.) Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--24 years, 36.6 ft³/s (1.037 m³/s), 26,520 acre-ft/yr (32.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,440 ft³/s (69.1 m³/s) Aug. 22, 1973, gage height, 12.19 ft (3.716 m); no flow Aug. 13-15, 1929.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 150 ft³/s (4.2 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 30	1845	164 4.64	3.58 1.091	July 13	0015	542 15.3	5.68 1.731
June 15	0845	*1500 42.5	*9.56 2.914				

Minimum daily discharge, 22 ft³/s (0.623 m³/s) Aug. 22-25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	35	40	38	37	37	35	41	44	68	38	28
2	33	38	39	37	37	37	36	42	38	68	36	29
3	33	35	39	37	37	37	36	41	37	67	36	29
4	32	32	39	38	37	36	36	41	35	65	35	27
5	32	32	38	39	35	37	36	42	35	62	36	25
6	34	34	37	38	35	35	36	41	34	58	37	24
7	35	35	37	38	37	35	37	40	32	59	36	25
8	32	35	37	38	37	36	36	40	32	59	37	25
9	35	35	38	37	39	39	36	40	31	58	37	26
10	35	37	38	37	40	39	36	41	31	55	36	28
11	36	38	38	37	38	38	36	41	32	49	36	29
12	36	35	37	37	38	36	37	41	32	66	36	27
13	38	35	38	36	38	36	37	40	32	121	37	28
14	39	36	37	36	38	37	39	34	80	68	36	29
15	38	36	37	37	38	35	38	31	732	65	36	30
16	37	38	37	36	38	35	51	29	336	63	35	30
17	36	38	37	38	38	36	54	31	570	60	35	32
18	35	38	36	38	38	36	51	29	402	55	36	32
19	32	38	36	36	37	36	50	28	239	55	36	34
20	34	36	37	37	37	36	49	29	161	52	36	34
21	34	35	38	37	37	36	50	30	120	46	29	35
22	35	36	38	37	37	35	49	29	101	42	22	39
23	35	38	37	38	37	35	48	29	110	42	22	39
24	35	38	38	38	38	34	43	29	91	41	22	38
25	34	39	38	37	37	34	41	29	85	40	22	39
26	37	38	37	40	37	34	41	29	80	40	25	39
27	38	39	38	37	37	35	42	29	74	38	25	38
28	38	39	37	36	37	36	42	30	68	34	26	38
29	38	38	37	37	36	35	41	32	67	35	28	38
30	38	35	38	37	---	35	41	47	68	35	29	37
31	35	---	39	37	---	36	---	42	---	35	28	---
TOTAL	1092	1091	1167	1156	1082	1114	1240	1097	3829	1701	1001	951
MEAN	35.2	36.4	37.6	37.3	37.3	35.9	41.3	35.4	128	54.9	32.3	31.7
MAX	39	39	40	40	40	39	54	47	732	121	38	39
MIN	32	32	36	36	35	34	35	28	31	34	22	24
AC-FT	2170	2160	2310	2290	2150	2210	2460	2180	7590	3370	1990	1890

CAL YR 1975	TOTAL	14022.3	MEAN 38.4	MAX 105	MIN	7.6	AC-FT 27810
WTR YR 1976	TOTAL	16521.0	MEAN 45.1	MAX 732	MIN	22	AC-FT 32770

06431500 SPEARFISH CREEK AT SPEARFISH, SD

LOCATION.--Lat 44°28'57", long 103°51'40", in SE¼NW¼ sec.15, T.6 N., R.2 E., Lawrence County, Hydrologic Unit 10120203, on right bank in city park in Spearfish, 500 ft (152 m) downstream from fish hatchery and nearest tributary, and 9.8 mi (15.8 km) upstream from mouth.

DRAINAGE AREA.--168 mi² (435 km²).

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

REVISED RECORDS.--WSP 1116: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 3,640 ft (1,110 m), from topographic map. Prior to Dec. 5, 1946, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are fair. Regulation by fish hatchery and by hydro-electric plant 0.5 mi (0.8 km) upstream causes diurnal fluctuation, but since storage capacity is small, daily flows are not appreciably affected. Prior to water year 1962 average monthly diversion by Homestake Mining Co. about 7 ft³/s (0.20 m³/s). Figures of daily discharge do not include diversion by Homestake Mining Co. Several observations of water temperature were made during the year.

COOPERATION.--Figures of monthly diversion are furnished by Homestake Mining Co.

AVERAGE DISCHARGE.--30 years, 51.1 ft³/s (1.447 m³/s), 37,020 acre-ft/yr (45.6 hm³/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,240 ft³/s (120 m³/s) May 15, 1965, gage height, 10.53 ft (3.210 m), from rating curve extended above 520 ft³/s (14.7 m³/s) on basis of slope-area measurement of peak flow; maximum gage height, 10.54 ft (3.213 m) June 15, 1976; no flow for part of Oct. 18, 1970.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 5, 1904, reached a stage of 7.00 ft (2.134 m), site and datum of former gage near Spearfish, 1 mi (2 km) upstream, drainage area, 157 mi² (407 km²); discharge about 5,000 ft³/s (142 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,870 ft³/s (110 m³/s) June 15, gage height, 10.54 ft (3.213 m); minimum daily, 30 ft³/s (0.850 m³/s) Jan. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	36	49	35	38	45	50	70	65	90	62	43
2	44	42	50	35	38	43	50	71	62	85	59	44
3	42	40	47	35	38	40	50	67	60	85	59	45
4	43	39	46	36	34	40	50	68	58	85	57	46
5	45	39	45	51	34	42	50	74	57	80	58	47
6	43	44	46	50	35	46	55	72	74	80	55	47
7	42	46	47	48	35	46	63	71	61	80	56	50
8	43	45	47	45	47	45	60	69	58	75	53	49
9	43	49	46	45	47	43	65	70	54	74	55	47
10	41	45	46	45	46	43	69	73	57	73	54	46
11	42	44	47	48	42	44	66	73	53	72	54	45
12	43	41	45	46	44	39	68	75	54	71	53	46
13	43	43	46	44	42	45	70	70	52	71	55	46
14	42	43	40	35	41	44	82	68	561	67	59	46
15	40	43	40	43	41	43	78	73	1500	65	58	47
16	42	45	40	40	41	42	90	72	309	61	50	46
17	39	44	34	42	42	43	102	69	447	61	47	44
18	40	43	45	44	43	44	102	68	365	58	45	45
19	41	44	48	41	39	48	99	66	223	53	47	48
20	40	42	47	38	41	48	92	64	153	59	48	48
21	39	31	47	37	40	44	91	67	135	57	48	53
22	41	39	45	39	42	44	86	65	144	52	49	51
23	40	48	44	38	42	45	82	68	163	51	46	49
24	41	48	44	38	43	45	93	65	139	52	45	52
25	37	48	47	30	43	45	79	62	120	48	47	52
26	41	47	47	36	40	45	78	62	115	49	48	57
27	43	47	48	43	44	45	77	60	110	59	50	56
28	40	47	47	41	46	45	74	59	100	61	52	54
29	38	41	42	38	46	43	73	64	100	61	50	53
30	39	44	46	37	---	43	71	66	90	60	50	53
31	40	---	44	37	---	45	---	68	---	59	47	---
TOTAL	1281	1297	1402	1260	1194	1362	2205	2109	5539	2054	1616	1455
MEAN	41.3	43.2	45.2	40.6	41.2	43.9	73.5	68.0	185	66.3	52.1	48.5
MAX	45	49	50	51	47	48	102	75	1500	90	62	57
MIN	37	31	34	30	34	39	50	59	52	48	45	43
AC-FT	2540	2570	2780	2500	2370	2700	4370	4180	10990	4070	3210	2890
MEAN†	50.9	51.5	53.3	49.4	50.9	55.0	83.8	78.4	194	74.7	62.6	61.9
(†)	592	496	501	541	558	682	613	640	525	514	646	797
AC-FT‡	3130	3070	3280	3040	2930	3380	4980	4820	11520	4580	3860	3690

CAL YR 1975 TOTAL 19508 MEAN 53.4 MAX 143 MIN 28 AC-FT 38690
WTR YR 1976 TOTAL 22774 MEAN 62.2 MAX 1500 MIN 30 AC-FT 45170

† Diversion, in acre-ft, by Homestake Mining Company

‡ Adjusted for diversion

CHEYENNE RIVER BASIN

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06433000 REDWATER RIVER ABOVE BELLE FOURCHE, SD

LOCATION.--Lat 44°40'02", long 103°50'20", in NW¼SE¼ sec.11, T.8 N., R.2 E., Butte County, Hydrologic Unit 10120203, on right bank at upstream side of bridge on U.S. Highway 212 in Belle Fourche, 0.5 mi (0.8 km) upstream from Hay Creek and 0.9 mi (1.4 km) upstream from mouth.

DRAINAGE AREA.--920 mi² (2,383 km²).

PERIOD OF RECORD.--November 1945 to current year. Records for water year 1946 incomplete, yearly discharge published in WSP 1309. Prior to October 1960, published as Redwater Creek above Belle Fourche.

REVISED RECORDS.--WSP 1389: 1954 (maximum gage height only).

GAGE.--Water-stage recorder. Altitude of gage is 3,000 ft (910 m), from topographic map. Prior to Dec. 13, 1946, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are poor. Diversions for irrigation of about 13,000 acres (5,260 hm²) above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years, 135 ft³/s (3.823 m³/s), 97,810 acre-ft/yr (121 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,400 ft³/s (464 m³/s) June 16, 1962, gage height, 11.69 ft (3.563 m), from rating curve extended above 6,000 ft³/s (170 m³/s) on basis of slope-area measurement of peak flow; no flow for part of Aug. 5, 1960, Aug. 8-10, 1968, and Aug. 13, 1969.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
June 6	2100	632 17.9	4.42 1.347	July 13	0545	740 21.0	4.56 1.390
June 15	0700	*6780 192	a9.11 2.777	July 21	1545	686 19.4	4.41 1.344

Minimum daily discharge, 30 ft³/s (0.850 m³/s) Aug. 24.

a Maximum gage height, 9.20 ft (2.804 m) Dec. 1 (backwater from ice).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	112	144	150	155	150	150	139	162	100	270	70	49
2	105	144	190	150	151	140	140	163	82	254	90	48
3	91	148	173	140	150	135	139	161	84	259	80	51
4	89	146	173	145	140	130	139	159	83	247	85	64
5	89	146	172	155	130	130	141	164	73	238	91	67
6	93	146	165	170	140	140	143	161	178	227	84	69
7	89	146	165	150	148	150	149	158	171	221	85	79
8	91	148	167	140	174	150	145	155	118	215	81	89
9	99	151	166	145	165	147	147	151	94	173	72	84
10	107	154	165	150	163	148	152	156	95	153	68	87
11	114	156	167	150	155	148	150	157	117	141	70	86
12	117	151	164	160	157	148	152	161	114	148	67	94
13	119	148	163	170	159	148	150	153	118	390	91	109
14	124	148	150	160	157	148	159	145	562	233	97	107
15	129	151	140	160	157	146	161	157	5030	208	103	120
16	131	148	130	160	156	141	185	161	3190	184	99	121
17	129	154	110	160	154	140	257	147	2780	171	98	108
18	129	151	140	160	153	141	233	142	2800	170	90	99
19	129	154	183	160	150	144	219	121	1520	173	76	99
20	126	154	163	156	148	144	208	105	843	169	66	104
21	126	150	163	157	146	144	201	108	593	217	54	105
22	131	155	163	159	149	143	193	100	506	154	45	109
23	138	165	160	158	150	142	190	99	480	119	36	105
24	141	165	162	155	151	143	182	105	463	116	30	110
25	138	162	163	155	149	144	177	85	390	111	32	111
26	141	165	165	155	148	143	171	74	360	114	43	111
27	144	160	169	155	148	142	173	67	341	115	52	121
28	144	150	172	156	151	143	174	58	315	110	50	123
29	141	140	167	153	148	144	169	38	294	100	50	120
30	141	140	167	153	---	139	166	74	281	90	50	119
31	144	---	165	151	---	138	---	119	---	80	50	---
TOTAL	3741	4540	5012	4803	4397	4433	5104	3966	22175	5570	2155	2868
MEAN	121	151	162	155	152	143	170	128	739	180	69.5	95.6
MAX	144	165	190	170	174	150	257	164	5030	390	103	123
MIN	89	140	110	140	130	130	139	38	73	80	30	48
AC-FT	7420	9010	9940	9530	8720	8790	10120	7870	43980	11050	4270	5690

CAL YR 1975	TOTAL	51357.8	MEAN	141	MAX	465	MIN	2.0	AC-FT	101900
WTR YR 1976	TOTAL	68764.0	MEAN	188	MAX	5030	MIN	30	AC-FT	136400

CHEYENNE RIVER BASIN

06433500 HAY CREEK AT BELLE FOURCHE, SD

LOCATION.--Lat 44°40'01", long 103°50'46", in NW¼SW¼ sec.11, T.8 N., R.2 E., Butte County, Hydrologic Unit 10120203, on right bank at intersection of Tenth Avenue and Jackson Street in Belle Fourche, 0.5 mi (0.8 km) upstream from mouth.

DRAINAGE AREA.--121 mi² (313 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 3,005.18 ft (915.979 m) above mean sea level (City of Belle Fourche bench mark). Prior to Dec. 8, 1953, nonrecording gage at site 300 ft (91 m) downstream at same datum.

REMARKS.--Records fair. Minor diversion to the stream at times from city reservoir overflow, which enters stream above gage.

AVERAGE DISCHARGE.--23 years, 1.42 ft³/s (0.040 m³/s), 1,030 acre-ft/yr (1.27 hm³/yr); median of yearly mean discharges, 1.0 ft³/s (0.03 m³/s), 720 acre-ft/yr (888,000 m³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 930 ft³/s (26.3 m³/s) June 19, 1972, gage height, 9.15 ft (2.789 m); no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 50 ft³/s (1.4 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
June 15	0200	*654 18.5	*8.24 2.512	June 18	0600	236 6.68	6.67 2.033

No flow for many days.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Jan. 31 to Feb. 1, Feb. 8, May 4 to June 3,
June 16, July 4 to Aug. 5; stage-discharge relation affected by ice Feb. 9-21,
Mar. 6, 7)

3.2	0	3.7	3.6	5.0	48	6.5	199
3.3	.35	4.0	9.6	5.5	82	7.0	295
3.4	.85	4.5	25	6.0	134	7.5	418
3.5	1.5						

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	.02	0	.07	0	.24	3.9	.20	
2				0	0	0	.07	0	.14	3.9	.05	
3				0	0	0	.07	.04	.22	3.5	0	
4				0	0	0	.07	.23	13	2.9	.04	
5				0	0	0	.07	.32	3.0	2.8	.14	
6				0	0	.05	.14	.24	1.8	2.8	0	
7				0	0	.10	.25	.24	17	2.5	0	
8				0	.29	.14	.61	.21	11	2.1	0	
9				0	.35	.32	.11	.14	2.5	1.9	0	
10				0	.30	.40	0	.10	.92	1.6	0	
11				0	.30	.45	0	.10	.67	1.4	0	
12				0	.35	.32	.11	.14	.49	1.2	0	
13				0	.30	.32	.35	.14	.67	.98	0	
14				0	.30	.28	.98	.14	94	1.1	0	
15				0	.35	.28	.65	.70	365	.85	0	
16				0	.25	.25	3.6	.40	158	.75	0	
17				.46	.25	.25	4.0	.21	142	.65	0	
18				.51	.20	.18	.92	.18	180	.55	0	
19				0	.15	.14	.60	.14	68	.65	0	
20				0	.10	.18	.55	.04	33	.50	0	
21				0	.10	.21	.45	.18	20	.50	0	
22				.14	0	.18	.60	.10	15	.28	0	
23				0	0	.18	.04	.18	14	.14	0	
24				0	0	.18	0	.07	12	0	0	
25				0	0	.25	0	.50	9.9	0	0	
26				0	0	.18	0	.32	7.8	0	0	
27				.01	0	.14	.21	.14	6.3	0	0	
28				.01	0	.14	.32	.04	5.5	0	0	
29				.05	0	.11	.07	0	5.1	0	0	
30				0	---	.07	0	1.1	4.5	0	0	
31		---		.05	---	.07	---	.92	---	0	0	---
TOTAL	0	0	0	1.23	3.61	5.37	14.91	7.26	1191.75	37.45	.43	0
MEAN	0	0	0	.040	.12	.17	.50	.23	39.7	1.21	.014	0
MAX	0	0	0	.51	.35	.45	4.0	1.1	365	3.9	.20	0
MIN	0	0	0	0	0	0	0	0	.14	0	0	0
AC-FT	0	0	0	2.4	7.2	11	30	14	2360	74	.9	0
CAL YR 1975	TOTAL	489.39	MEAN 1.34	MAX 16	MIN 0	AC-FT 971						
WTR YR 1976	TOTAL	1262.01	MEAN 3.45	MAX 365	MIN 0	AC-FT 2500						

CHEYENNE RIVER BASIN

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06434500 INLET CANAL NEAR BELLE FOURCHE, SD

LOCATION.--Lat 44°42'14", long 103°49'23", in NE¼NW¼ sec.36, T.9 N., R.2 E., Butte County, Hydrologic Unit 10120202, on right bank 0.5 mi (0.8 km) downstream from Crow Creek, 0.9 mi (1.4 km) downstream from diversion dam on Belle Fourche River, and 2.5 mi (4.0 km) northeast of Belle Fourche.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1945 to current year. Monthly diversions from Inlet Canal between station and reservoir for some periods, published in WSP 1309.

GAGE.--Water-stage recorder. Datum of gage is 2,985.22 ft (909.895 m) above mean sea level. Prior to Dec. 10, 1946, nonrecording gage, and Dec. 10, 1946, to Nov. 26, 1949, water-stage recorder at site 0.8 mi (1.3 km) upstream at same datum.

REMARKS.--Records good except those for winter periods, which are poor. Records show actual diversions to Belle Fourche Reservoir (see station 06435000), from Belle Fourche River and Crow Creek, except for 3,971 acre-ft (4.90 hm³) which was diverted for irrigation from the canal between the station and reservoir.

COOPERATION.--Records of diversion from the canal furnished by Bureau of Reclamation.

AVERAGE DISCHARGE.--31 years, 159 ft³/s (4.503 m³/s), 115,200 acre-ft/yr (142 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,340 ft³/s (37.9 m³/s) May 30, 1962; no flow for many days in 1946-49, 1963, 1966, 1971-76.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	139	174	160	170	184	160	258	248	163	52	57	93
2	136	172	170	160	186	150	237	242	136	50	61	106
3	110	179	180	155	187	150	227	250	145	47	59	100
4	89	175	178	155	170	140	219	246	243	48	60	121
5	91	174	178	160	160	140	216	242	154	54	65	118
6	96	174	185	155	150	150	212	234	335	59	74	125
7	87	177	186	160	160	150	228	224	402	72	74	131
8	91	178	185	150	180	160	222	217	236	77	73	148
9	101	182	181	150	200	180	218	210	174	75	71	150
10	113	183	186	160	190	180	222	209	219	110	68	147
11	121	179	185	165	194	180	224	202	205	140	61	148
12	124	169	183	160	202	170	221	200	167	88	69	160
13	129	170	175	160	204	186	216	191	158	91	90	184
14	138	174	166	160	208	205	232	191	562	87	90	182
15	145	184	171	170	218	222	237	230	946	84	84	200
16	144	187	170	180	219	263	290	233	806	107	71	205
17	144	185	170	180	215	256	403	209	783	123	70	190
18	142	185	170	180	218	240	371	201	747	107	70	176
19	141	183	170	180	210	254	362	178	660	101	70	179
20	140	174	170	180	205	234	376	167	749	113	62	193
21	141	175	170	190	198	228	353	167	754	112	61	198
22	147	180	169	190	201	256	338	169	716	92	67	198
23	159	179	166	190	205	269	313	167	43	87	56	198
24	167	185	163	180	210	314	291	170	0	92	46	198
25	166	187	161	170	206	297	273	140	0	88	40	191
26	165	170	164	170	211	267	256	126	0	82	34	195
27	170	170	168	180	222	248	258	121	0	77	42	198
28	172	170	169	180	216	292	263	131	26	85	62	170
29	169	160	166	179	211	323	260	101	49	99	85	158
30	169	150	169	181	---	313	256	147	49	76	87	149
31	173	---	173	179	---	286	---	201	---	62	103	---
TOTAL	4219	5284	5357	5279	5740	6863	8052	5964	9627	2637	2082	4909
MEAN	136	176	173	170	198	221	258	192	321	85.1	67.2	164
MAX	173	187	186	190	222	323	403	250	946	140	103	205
MIN	87	150	160	150	150	140	212	101	0	47	34	93
AC-FT	8370	10480	10630	10470	11390	13610	15970	11830	19100	5230	4130	9740
CAL YR 1975 TOTAL	74199.00			MEAN 203	MAX 988	MIN 0	AC-FT 147200					
WTR YR 1976 TOTAL	66013.00			MEAN 180	MAX 946	MIN 0	AC-FT 130900					

06434500 INLET CANAL NEAR BELLE FOURCHE, SD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1968 to current year.

WATER TEMPERATURES: October 1968 to current year.

REMARKS.--No flow June 24-28.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,100 micromhos Feb. 13, 1969; minimum daily, 335 micromhos Feb. 12, 1971.

WATER TEMPERATURES: Maximum daily, 29.0°C July 1, 1971; minimum daily, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,500 micromhos Aug. 24-27, 29, 30; minimum daily, 500 micromhos June 16, 21.

WATER TEMPERATURES: Maximum daily, 24.0°C July 24, 25, 27, 28, 30.

WATER QUALITY DATA. WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	HARD- NESS (CA.MG) (MG/L) (00900)	NON- CAR- BONATE HARD- NESS (MG/L) (00902)	DIS- SOLVED CAL- CIUM (CA) (MG/L) (00915)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) (00925)
OCT									
01...	1515	142	1500	8.4	13.0	720	540	200	53
NOV									
06...	0915	176	1300	8.0	6.0	650	490	190	48
DEC									
08...	1045	185	1160	8.2	2.0	690	480	200	46
JAN									
06...	1220	153	1260	7.8	.0	800	560	240	48
FEB									
02...	1645	184	1100	8.1	3.5	720	500	210	47
MAR									
02...	0900	140	1180	8.4	.0	680	470	200	44
APR									
06...	0845	212	1180	7.5	9.0	660	470	190	46
MAY									
04...	1400	244	1310	8.3	14.0	680	500	190	49
JUN									
04...	1030	235	1310	--	21.0	780	630	210	63
JUL									
07...	0830	75	1260	8.1	21.0	670	490	190	47
AUG									
04...	0930	62	1300	8.2	20.5	570	390	160	41
31...	1515	115	1500	8.3	22.5	760	590	210	58

CHEYENNE RIVER BASIN

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06434500 INLET CANAL NEAR BELLE FOURCHE, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SODIUM (NA) (MG/L) (00930)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L) (00935)	BICAR- BONATE (HCO3) (MG/L) (00440)	CAR- BONATE (CO3) (MG/L) (00445)	ALKA- LINITY AS CACO3 (MG/L) (00410)	DIS- SOLVED SULFATE (SO4) (MG/L) (00945)	DIS- SOLVED CHLO- RIDE (CL) (MG/L) (00940)
OCT 01...	29	8	.5	4.0	222	0	192	570	5.5
NOV 06...	31	9	.5	3.6	192	0	157	530	4.7
DEC 08...	22	6	.4	3.3	259	0	212	490	4.0
JAN 06...	16	4	.2	3.6	289	0	237	540	7.1
FEB 02...	21	6	.3	3.5	265	0	217	540	4.8
MAR 02...	11	3	.2	2.7	261	0	214	480	2.6
APR 06...	22	7	.4	4.3	236	0	194	480	3.2
MAY 04...	27	8	.5	4.2	217	0	178	530	3.6
JUN 04...	60	14	.9	8.4	187	--	153	720	6.1
JUL 07...	33	10	.6	5.7	218	0	179	560	5.2
AUG 04...	63	19	1.2	6.9	217	0	178	480	10
SEP 31...	72	17	1.1	7.3	215	0	176	680	6.8

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1300	1240	1260	1100	1230	1040	1160	1200	1480	1180	1180	1440
2	1300	1220	1280	1280	1250	960	1180	1200	1480	1200	1150	1340
3	1300	1240	1200	1400	1380	1100	1200	1160	1320	1210	1140	1330
4	1310	1220	1280	1420	1260	1280	1230	1230	1330	1220	1150	1330
5	1310	1200	1120	1300	1380	1240	1200	1200	1360	1220	1130	1280
6	1340	1220	1270	1280	1240	1170	1250	1160	1340	1260	1160	1280
7	1250	1220	1300	1360	1380	1300	1200	1100	1080	1180	1160	1270
8	1280	1240	1240	1300	1260	1300	1260	1160	1200	1180	1160	1220
9	1280	1220	1220	1280	1260	1320	1270	1180	1240	1220	1300	1240
10	1290	1200	1260	1420	1280	1240	1270	1180	1240	1280	1220	1250
11	1300	1220	1200	1300	1220	1310	1220	1170	1220	1280	1300	1280
12	1280	1220	1160	1240	1260	1100	1250	1180	1240	1280	1200	1240
13	1290	1160	1160	1220	1260	1180	1260	1200	1140	1280	1300	1230
14	1280	1220	1180	1260	1260	1220	1270	1190	950	1220	1170	1220
15	1250	1280	1220	1300	1250	1200	1220	1210	950	1220	1280	1220
16	1250	1340	1220	1200	1210	1200	1290	1220	500	1320	1270	1210
17	1260	1260	1220	1220	1220	1120	1290	1180	940	1340	1400	1200
18	1250	1260	1200	1200	1220	1200	1200	1200	560	1360	1400	1300
19	1250	1240	1220	1200	1220	1100	1200	1310	640	1360	1400	1230
20	1250	1160	1240	1200	1230	1100	1210	1330	680	1400	1410	1230
21	1240	1260	1100	1200	1220	1140	1160	1330	500	1260	1410	1230
22	1240	1260	1160	1160	1220	1140	1150	1280	1000	1240	1480	1220
23	1240	1260	1220	1240	1220	1140	1150	1320	950	1280	1480	1220
24	1220	1260	1240	1300	1210	1140	1090	1320	---	1230	1500	1220
25	1210	1260	1240	1300	1220	1140	1140	1360	---	1160	1500	1190
26	1200	1280	1230	1240	1220	1140	1160	1390	---	1070	1500	1250
27	1220	1280	1240	1220	1220	1140	1160	1440	---	1000	1500	1220
28	1210	1260	1240	1240	1240	1120	1130	1450	---	1000	1490	1220
29	1220	1260	1240	1260	1270	1100	1170	1460	1120	1130	1500	1240
30	1230	1100	1200	1270	---	1100	1220	1410	1080	1200	1500	1240
31	1230	---	1270	1160	---	1100	---	1270	---	1200	1450	---
MONTH	1260	1240	1220	1260	1250	1160	1210	1260	1060	1230	1330	1250

CHEYENNE RIVER BASIN

06434500 INLET CANAL NEAR BELLE FOURCHE, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L) (00950)	DIS- SOLVED SILICA (SiO ₂) (MG/L) (00955)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) (70301)	DIS- SOLVED SOLIDS (TONS PER (70303)	DIS- SOLVED SOLIDS (TONS PER (70302)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	TOTAL PHOS- PHORUS (P) (MG/L) (00665)	DIS- SOL- VED- PHOS- PHORUS (P) (MG/L) (00666)	DIS- SOLVED BORON (R) (UG/L) (01020)
OCT 01...	.4	8.5	981	1.33	376	.14	.00	.00	100
NOV 06...	.3	6.9	901	1.23	428	.28	.02	.00	90
DEC 08...	.3	8.8	904	1.23	452	.36	.03	.00	110
JAN 06...	.3	10	1010	1.37	417	.49	.02	.01	90
FEB 02...	.4	8.8	969	1.32	481	.55	.06	.02	90
MAR 02...	.3	8.3	879	1.20	332	.28	.05	.02	60
APR 06...	.3	6.7	869	1.18	497	.08	.07	.01	70
MAY 04...	.3	5.9	918	1.25	605	.18	.03	.00	110
JUN 04...	.4	7.8	1170	1.59	742	.11	.40	.03	200
JUL 07...	.4	10	960	1.31	194	.24	.15	.02	140
AUG 04...	.5	7.6	877	1.19	147	.19	.10	.03	130
31...	.5	8.4	1150	1.56	357	.25	.24	.03	170

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.0	7.0	0.0	0.0	0.0	1.0	6.0	8.0	14.0	17.0	21.0	16.0
2	10.0	9.0	0.5	0.0	0.0	1.0	5.0	9.0	16.0	16.0	22.0	17.0
3	11.0	8.0	1.0	0.0	0.0	0.5	5.0	7.0	15.0	16.0	23.0	17.0
4	12.0	8.0	0.5	0.0	0.0	1.0	6.0	11.0	18.0	17.0	22.0	17.0
5	11.0	9.0	0.5	0.0	0.0	0.5	7.0	9.0	16.0	19.0	22.0	16.0
6	10.0	7.0	0.0	0.0	0.0	0.0	6.0	9.0	17.0	20.0	21.0	17.0
7	12.0	7.0	0.5	0.0	0.0	0.0	10.0	10.0	17.0	21.0	20.0	16.0
8	11.0	8.0	0.5	0.0	0.0	0.5	8.0	11.0	16.0	22.0	19.0	15.0
9	10.0	5.0	0.5	0.0	0.0	1.0	6.0	15.0	17.0	21.0	20.0	14.0
10	10.0	5.0	0.5	0.0	0.0	3.0	11.0	13.0	18.0	22.0	19.0	16.0
11	7.0	3.0	0.0	0.0	0.0	2.0	9.0	12.0	17.0	20.0	20.0	15.0
12	8.0	4.0	0.0	0.0	0.0	1.0	10.0	10.0	16.0	22.0	21.0	16.0
13	10.0	3.0	0.0	0.0	0.0	1.0	13.0	9.0	17.0	23.0	20.0	16.0
14	9.0	2.0	0.0	0.0	0.5	2.0	13.0	11.0	15.0	21.0	20.0	15.0
15	7.0	3.0	0.0	0.0	0.5	---	13.0	11.0	16.0	22.0	21.0	15.0
16	10.0	7.0	0.0	0.0	0.5	1.0	11.0	13.0	18.0	20.0	20.0	16.0
17	8.0	5.0	0.0	0.0	0.5	2.0	7.0	13.0	17.0	21.0	21.0	16.0
18	10.0	3.0	0.0	0.0	1.0	2.0	8.0	15.0	15.0	22.0	20.0	17.0
19	9.0	4.0	0.0	0.0	1.0	3.0	7.0	14.0	15.0	22.0	19.0	16.0
20	10.0	3.0	0.0	0.0	0.5	3.0	7.0	12.0	17.0	22.0	21.0	15.0
21	10.0	2.0	0.0	0.0	0.5	3.0	8.0	16.0	16.0	21.0	20.0	15.0
22	9.0	2.0	0.0	0.0	1.0	2.0	7.0	14.0	17.0	21.0	21.0	16.0
23	9.0	1.0	0.0	0.0	1.5	4.0	10.0	14.0	15.0	23.0	21.0	15.0
24	8.0	1.0	0.0	0.0	2.0	3.0	7.0	12.0	---	24.0	22.0	14.0
25	9.0	0.5	0.0	0.0	1.5	3.0	9.0	14.0	---	24.0	21.0	14.0
26	10.0	0.5	0.0	0.0	1.0	3.0	8.0	15.0	---	23.0	21.0	15.0
27	9.0	0.0	0.0	0.0	2.0	5.0	7.0	13.0	---	24.0	20.0	14.0
28	9.0	0.0	0.0	0.0	2.0	6.0	---	14.0	---	24.0	19.0	13.0
29	8.0	0.0	0.0	0.0	1.0	4.0	6.0	14.0	17.0	23.0	19.0	12.0
30	10.0	0.0	0.0	0.0	---	4.0	7.0	16.0	17.0	24.0	18.0	11.0
31	8.0	---	0.0	0.0	---	4.0	---	14.0	---	22.0	18.0	---
MONTH	9.5	4.0	0.0	0.0	0.5	2.0	8.0	12.0	16.5	21.5	20.5	15.0

06435000 BELLE FOURCHE RESERVOIR NEAR BELLE FOURCHE, SD

LOCATION.--Lat 44°44'12", long 103°40'27", in SW¼SE¼ sec.18, T.9 N., R.4 E., Butte County, Hydrologic Unit 10120202, at dam on Owl Creek, 9.8 mi (15.8 km) northeast of Belle Fourche.

PERIOD OF RECORD.--January 1912 to current year (monthend contents only).

GAGE.--Water-stage recorder. Datum of gage is at mean sea level, adjustment of 1912. Prior to June 6, 1967, nonrecording gage at present site and datum.

REMARKS.--Offstream reservoir formed by earthfill dam. Storage began in May 1910; dam completed in April 1911. Conservation capacity, 185,170 acre-ft (228 hm³) 1949 survey, between elevations 2,927.0 ft (892.15 m), lowest outlet, and 2,975.0 ft (906.78 m), crest of spillway weir. Dead storage below elevation 2,927.0 ft (892.15 m) 6,800 acre-ft (8.38 hm³). Figures given herein represent contents above elevation 2,927.0 ft (892.15 m). Water diverted from Belle Fourche River through Inlet Canal (see station 06434500) is stored in Belle Fourche Reservoir for irrigation.

COOPERATION.--Elevations and contents furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 197,400 acre-ft (243 hm³) Apr. 30, 1919, May 20, 1920, elevation, 2,974.9 ft (906.75 m); minimum observed, -3,000 acre-ft (-3.70 hm³) Sept. 30, 1936, water was lowered below dead storage level of 2,927.0 ft (892.15 m) by opening holes in crib walls.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 149,184 acre-ft (184 hm³) June 24, 25, elevation, 2,970.3 ft (905.35 m); minimum, 8,405 acre-ft (10.4 hm³) Sept. 27, elevation, 2,934.8 ft (894.53 m).

MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	2952.1	48300	
Oct. 31	2954.0	55850	+7550
Nov. 30	2956.6	66820	+10970
Dec. 31	2959.0	78200	+11380
CAL YR 1975			+8880
Jan. 31	2961.6	93680	+15480
Feb. 29	2963.5	104500	+10820
Mar. 31	2966.0	119700	+15200
Apr. 30	2968.4	135720	+16020
May 31	2968.2	134360	-1360
June 30	2969.9	146271	+11911
July 31	2961.5	93100	-53171
Aug. 31	2946.4	30380	-62720
Sept. 30	2935.6	9470	-20910
WTR YR 1976			-38830

06436000 BELLE FOURCHE RIVER NEAR FRUITDALE, SD

LOCATION.--Lat 44°41'27", long 103°44'14", in NW¼NE¼ sec.3, T.8 N., R.3 E., Butte County, Hydrologic Unit 10120202, on right bank 5 ft (2 m) downstream from bridge on U.S. Highway 212, 2.5 mi (4.0 km) northwest of Fruitdale and 8.8 mi (14.2 km) downstream from point of diversion to Belle Fourche Reservoir.

DRAINAGE AREA.--4,540 mi² (11,760 km²), approximately.

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

GAGE.--Water-stage recorder. Altitude of gage is 2,925 ft (892 m), from topographic map. Prior to Apr. 9, 1947, nonrecording gage and Apr. 10, 1947, to Oct. 14, 1948, water-stage recorder, at site 100 ft (30 m) upstream at same datum. Oct. 15, 1948, to Dec. 30, 1958, water-stage recorder and Dec. 31, 1958, to Sept. 23, 1959, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter periods, which are poor. Flow regulated by Keyhole Reservoir, usable capacity, 191,600 acre-ft (236 hm³), 180 mi (290 km) upstream. At a point 8.8 mi (14.2 km) above station, water is diverted to Belle Fourche Reservoir (see station 06435000) through Inlet Canal (see station 06434500), with other smaller diversions from the main stem and tributaries for irrigation. Total diversions for irrigation of about 60,000 acres (243 km²) above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years, 92.0 ft³/s (2.605 m³/s), 66,650 acre-ft/yr (82.2 hm³/yr); median of yearly mean discharges, 63 ft³/s (1.78 m³/s), 45,600 acre-ft/yr (56 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,200 ft³/s (346 m³/s) June 15, 1976, gage height, 13.18 ft (4.017 m); no flow at times in 1945, 1948, 1959-62.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,200 ft³/s (346 m³/s) June 15, gage height, 13.18 ft (4.017 m); minimum daily, 1.0 ft³/s (0.028 m³/s) May 22.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 14 to July 22; stage-discharge relation
affected by ice Nov. 9-12, Nov. 19 to Feb. 16, Feb. 19, 21, Mar. 1-7, 11, 12)

1.8	1.0	2.9	77	5.0	1,030	8.0	4,130
2.2	18	3.2	140	6.0	1,820	11.0	9,200
2.6	43	4.0	450				

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.9	5.0	4.0	5.0	7.0	4.5	2.6	3.8	10	470	119	13
2	4.6	5.0	4.6	5.0	6.0	4.5	2.2	3.8	6.8	432	165	12
3	4.6	5.0	5.0	5.0	5.6	4.3	2.6	3.8	5.9	437	124	13
4	4.6	5.0	5.5	6.0	5.0	4.5	2.6	3.8	8.2	432	132	14
5	3.4	5.0	5.0	7.0	5.0	5.0	2.6	4.6	8.2	415	178	14
6	4.6	5.0	4.5	7.0	5.5	6.0	3.0	4.6	10	372	162	14
7	6.4	4.6	4.5	6.8	6.0	5.5	3.0	4.6	9.1	317	168	12
8	6.4	4.6	5.0	6.0	6.5	6.4	3.4	4.6	9.5	286	124	10
9	6.4	4.2	5.0	6.0	7.0	5.9	3.4	4.2	8.2	214	87	9.5
10	5.9	4.0	5.0	6.5	7.0	5.9	2.6	4.2	6.8	147	74	12
11	6.4	4.0	4.5	7.0	7.0	5.0	3.8	3.4	5.9	50	59	10
12	6.4	4.0	4.5	7.0	7.5	5.0	4.2	2.2	6.8	96	48	8.2
13	6.4	4.2	4.0	6.5	7.0	4.2	3.8	3.0	6.8	350	44	8.2
14	6.4	4.2	3.5	6.5	7.0	3.8	4.2	3.0	449	236	53	7.7
15	6.8	4.2	4.0	6.5	7.2	3.4	4.6	4.6	9110	171	64	7.7
16	5.5	4.2	4.0	7.0	7.2	3.4	5.9	4.6	4020	162	59	7.3
17	5.0	4.2	3.0	7.5	6.4	3.4	10	3.8	3490	108	51	7.7
18	5.0	4.2	3.5	7.0	5.9	3.8	5.9	3.0	4690	92	56	8.2
19	5.0	4.0	4.5	7.0	6.0	2.6	5.0	3.0	2620	86	51	8.6
20	5.9	4.0	4.0	7.0	5.9	1.8	4.6	3.0	1790	110	48	10
21	5.9	3.8	4.0	7.0	5.5	2.6	4.2	2.6	851	110	41	8.2
22	5.5	3.8	4.0	8.0	5.5	3.4	5.0	1.0	471	119	33	7.7
23	5.9	3.8	4.0	8.0	5.5	2.6	4.6	2.6	1230	106	27	7.3
24	5.9	3.6	4.0	7.0	5.5	2.6	4.6	3.4	1200	190	22	7.7
25	5.9	3.6	5.0	6.0	5.5	2.6	5.0	3.8	1010	242	19	8.6
26	5.9	3.6	5.5	5.0	5.5	2.6	4.6	5.9	904	252	18	7.7
27	5.5	3.6	5.5	5.5	5.5	3.0	5.0	6.4	800	199	16	7.7
28	5.5	3.6	6.0	6.0	4.2	2.6	6.4	8.2	662	168	15	7.7
29	5.5	3.5	6.5	6.5	4.6	2.6	5.0	7.7	560	135	15	7.7
30	5.5	3.5	7.0	6.5	---	2.6	4.2	9.5	520	143	14	7.3
31	5.0	---	6.0	7.0	---	2.6	---	14	---	117	12	---
TOTAL	173.6	125.0	145.1	201.8	175.0	118.7	128.6	140.7	34479.2	6764	2098	284.7
MEAN	5.60	4.17	4.68	6.51	6.03	3.83	4.29	4.54	1149	218	67.7	9.49
MAX	6.8	5.0	7.0	8.0	7.5	6.4	10	14	9110	470	178	14
MIN	3.4	3.5	3.0	5.0	4.2	1.8	2.2	1.0	5.9	50	12	7.3
AC-FT	344	248	288	400	347	235	255	279	68390	13420	4160	565

CAL YR 1975 TOTAL 27356.7 MEAN 74.9 MAX 1880 MIN 2.5 AC-FT 54260
WTR YR 1976 TOTAL 44834.4 MEAN 122 MAX 9110 MIN 1.0 AC-FT 88930

CHEYENNE RIVER BASIN

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06436700 INDIAN CREEK NEAR ARPAN, SD

LOCATION.--Lat 44°48'51", long 103°41'22", in SE¼NE¼ sec.24, T.10 N., R.3 E., Butte County, Hydrologic Unit 10120202, on left bank 3,200 ft (975 m) upstream from North Canal flume, 3.5 mi (5.6 km) northwest of Arpan and 6.9 mi (11.1 km) downstream from Bitter Creek.

DRAINAGE AREA.--315 mi² (815 km²), approximately.

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

GAGE.--Water-stage recorder. Altitude of gage is 2,900 ft (880 m), from topographic map.

REMARKS.--Records fair except those for winter periods, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--15 years, 19.6 ft³/s (0.555 m³/s), 14,200 acre-ft/yr (17.5 hm³/yr); median of yearly mean discharges, 16 ft³/s (0.45 m³/s), 11,600 acre-ft/yr (14 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,700 ft³/s (473 m³/s) June 15, 1976, gage height, 18.00 ft (5.486 m), from floodmarks, from rating curve extended above 3,000 ft³/s (85.0 m³/s) on basis of slope-area measurement of peak flow; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 350 ft³/s (9.9 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
June 15	0430	*16700 473	*18.00 5.486	June 17	1500	3200 90.6	15.52 4.730

No flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	.50	.05			0	.30	0	0
2				0	.40	.05			0	.30	0	0
3				0	.40	.02			0	.35	0	0
4				0	.20	0			0	53	0	0
5				0	.10	0			0	58	.33	0
6				0	.10	0			0	19	7.2	1.0
7				0	.20	0			0	9.7	.47	.05
8				0	.50	0			0	4.2	.02	.02
9				0	.60	0			0	1.1	0	0
10				0	.50	0			0	.75	0	0
11				0	.50	0			0	.01	0	0
12				0	.60	0			0	1.5	0	0
13				0	.50	0			0	0	0	0
14				0	.50	0			114	0	0	0
15				0	.50	0			3710	65	.11	0
16				0	.40	0			1430	13	.05	0
17				0	.40	0			1900	4.0	.10	0
18				0	.40	0			1690	.40	.05	0
19				0	.40	0			869	14	0	0
20				0	.30	0			270	17	2.0	0
21				0	.30	0			77	11	.10	0
22				0	.35	0			38	25	0	0
23				0	.50	0			20	43	4.0	0
24				0	.50	0			15	19	0	0
25				0	.40	0			42	6.3	0	0
26				0	.40	0			29	2.9	0	0
27				.10	.50	0			13	1.6	0	0
28				.30	.20	0			5.5	.35	0	0
29				.50	.10	0			1.4	.15	0	0
30				.30	---	0			.47	0	0	.08
31				.40	---	0	---		---	0	0	---
TOTAL	0	0	0	1.60	11.25	.12	0	0	10224.37	370.91	14.43	1.15
MEAN	0	0	0	.052	.39	.004	0	0	341	12.0	.47	.038
MAX	0	0	0	.50	.60	.05	0	0	3710	65	7.2	1.0
MIN	0	0	0	0	.10	0	0	0	0	0	0	0
AC-FT	0	0	0	3.2	22	.2	0	0	20280	736	29	2.3

CAL YR 1975	TOTAL	9295.17	MEAN	25.5	MAX	1300	MIN	0	AC-FT	18440
WTR YR 1976	TOTAL	10623.83	MEAN	29.0	MAX	3710	MIN	0	AC-FT	21070

CHEYENNE RIVER BASIN

06436800 HORSE CREEK NEAR VALE, SD

LOCATION.--Lat 44°39'30", long 103°20'17", in SE¼NW¼ sec.13, T.8 N., R.6 E., Butte County, Hydrologic Unit 10120202, on right bank 600 ft (183 m) downstream from Dry Creek, 2.9 mi (4.7 km) upstream from mouth and 4.0 mi (6.4 km) northeast of Vale.

DRAINAGE AREA.--530 mi² (1,370 km²), approximately.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 2,688.96 ft (819.595 m) above mean sea level.

REMARKS.--Records good except those for winter periods, which are poor. Natural flow of stream affected by diversions for irrigation above station and by return flow from Belle Fourche Irrigation Project.

AVERAGE DISCHARGE.--14 years, 59.1 ft³/s (1.674 m³/s), 42,820 acre-ft/yr (52.8 hm³/yr); median of yearly mean discharges, 52 ft³/s (1.47 m³/s), 37,700 acre-ft/yr (46 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft³/s (329 m³/s) June 16, 1976, gage height, 14.61 ft (4.453 m), from floodmarks, from rating curve extended above 2,000 ft³/s (57 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 0.20 ft³/s (0.006 m³/s) May 7-9, 1962, Jan. 17, 18, 1970.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft³/s (11 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
June 16	0100	*11600 329	*14.61 4.453	July 13	0300	621 17.6	7.00 2.134
June 18	1800	3860 109	12.11 3.691				

Minimum daily discharge, 1.5 ft³/s (0.042 m³/s) Jan. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	4.7	2.6	2.0	8.0	7.0	4.0	4.2	86	35	241	140
2	56	4.7	3.0	1.8	7.5	6.0	3.8	3.3	79	24	266	142
3	58	4.9	3.0	1.5	7.5	5.5	3.6	2.9	84	29	246	136
4	60	4.7	3.5	1.8	7.0	5.0	3.8	2.7	80	31	235	133
5	47	4.9	3.0	2.0	7.0	5.0	3.6	2.7	90	34	296	136
6	18	4.7	2.8	2.3	7.0	5.5	3.6	2.9	108	94	272	135
7	9.9	4.7	2.8	2.3	7.0	5.5	4.0	3.1	117	72	280	140
8	7.4	4.7	3.0	2.0	8.0	6.0	4.0	2.9	100	66	266	138
9	6.9	4.5	3.2	2.0	10	7.0	3.8	3.1	99	85	262	125
10	6.0	4.5	3.2	2.0	15	8.0	3.6	2.5	101	133	250	124
11	5.2	4.7	3.0	2.2	15	9.0	3.8	2.7	85	151	239	117
12	4.5	4.5	2.8	2.2	20	9.0	3.8	2.9	108	188	235	114
13	4.2	4.5	2.5	2.0	25	10	3.3	3.3	130	448	228	107
14	3.8	4.2	2.0	2.0	30	11	3.3	3.3	347	239	226	112
15	3.8	4.5	2.0	2.0	25	11	3.3	4.2	2550	232	245	131
16	3.8	4.0	2.0	2.2	20	9.6	4.2	4.9	6660	221	254	110
17	3.6	4.2	2.0	2.5	20	11	7.1	4.7	2320	228	258	103
18	3.8	4.2	2.2	2.5	15	13	6.6	4.0	2780	224	224	104
19	3.8	4.0	2.5	2.5	12	14	5.2	51	2510	243	215	92
20	3.6	3.8	2.2	2.5	10	11	4.5	21	948	239	226	99
21	3.8	3.5	2.2	2.7	7.0	11	3.8	8.4	381	226	201	118
22	4.0	2.8	2.2	3.0	8.0	8.1	3.1	13	172	214	188	120
23	4.5	2.5	2.2	3.0	10	7.4	2.9	46	124	233	188	104
24	4.5	2.5	2.2	2.8	12	7.1	2.9	43	80	284	193	103
25	4.5	2.0	2.5	2.5	12	6.6	2.9	31	55	272	176	103
26	4.5	2.0	2.5	2.5	15	5.7	2.9	41	57	250	174	99
27	4.5	2.0	2.5	3.0	15	5.5	4.0	62	62	256	170	86
28	4.7	2.0	2.5	4.0	10	4.9	5.7	49	39	248	169	80
29	4.7	2.0	2.5	5.0	8.0	4.7	5.7	42	26	246	163	59
30	4.5	2.0	2.6	5.0	---	4.7	5.2	52	20	245	164	29
31	4.9	---	2.5	7.0	---	4.2	---	62	---	233	159	---
TOTAL	409.4	112.9	79.7	82.8	373.0	239.0	122.0	581.7	20398	5723	6909	3339
MEAN	13.2	3.76	2.57	2.67	12.9	7.71	4.07	18.8	680	185	223	111
MAX	60	4.9	3.5	7.0	30	14	7.1	62	6660	448	296	142
MIN	3.6	2.0	2.0	1.5	7.0	4.2	2.9	2.5	20	24	159	29
AC-FT	812	224	158	164	740	474	242	1150	40460	11350	13700	6620
CAL YR 1975	TOTAL	22678.9	MEAN	62.1	MAX	1180	MIN	1.0	AC-FT	44980		
WTR YR 1976	TOTAL	38369.5	MEAN	105	MAX	6660	MIN	1.5	AC-FT	76110		

CHEYENNE RIVER BASIN

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06436800 HORSE CREEK NEAR VALE, SD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1968 to September 1969, October 1971 to current year.

WATER TEMPERATURES: October 1968 to September 1969, October 1971 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 8,080 micromhos Feb. 1-3, 1969; minimum daily, 550 micromhos June 19, 1976.

WATER TEMPERATURES: Maximum daily, 33.0°C June 29, 1974; minimum daily, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 7,500 micromhos Apr. 29; minimum daily, 550 micromhos June 19.

WATER TEMPERATURES: Maximum daily, 30.0°C July 10, 11; minimum daily, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS-CHARGE (CFS) (00061)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (00095)	PH (UNITS) (00400)	TEMPERATURE (DEG C) (00010)	HARDNESS (CA.MG) (MG/L) (00900)	NON-CAP-BONATE HARDNESS (MG/L) (00902)	DIS-SOLVED CALCIUM (CA) (MG/L) (00915)	DIS-SOLVED MAGNESIUM (MG) (MG/L) (00925)
OCT 06...	1045	19	1700	8.1	11.0	940	770	210	100
NOV 05...	1530	4.6	5800	8.2	8.5	2200	1900	360	320
DEC 01...	1530	2.6	5800	7.7	.5	2500	2100	440	350
JAN 07...	1400	2.3	4700	7.5	.0	2700	2200	440	390
FEB 04...	1430	7.9	5600	7.2	.0	2400	2000	370	350
MAR 03...	1230	6.0	2840	8.1	.0	1400	1100	220	200
APR 07...	1045	3.9	3800	8.1	11.5	2000	1700	300	300
MAY 05...	1300	2.6	5900	8.6	11.0	2600	2300	340	430
JUN 07...	1215	121	2200	7.9	21.0	980	810	210	110
JUN 22...	1100	178	1260	7.5	20.0	370	260	84	39
JUL 06...	1500	91	2020	8.0	27.0	840	670	200	82
AUG 05...	1215	288	1540	8.0	22.0	730	610	180	68
AUG 31...	1000	162	1720	8.1	18.0	850	700	210	79

DATE	DIS-SOLVED SODIUM (NA) (MG/L) (00930)	PERCENT SODIUM (00932)	SODIUM AD-SORPTION RATIO (00931)	DIS-SOLVED POTASSIUM (K) (MG/L) (00935)	RICARBONATE (HCO3) (MG/L) (00440)	CARBONATE (CO3) (MG/L) (00445)	ALKALINITY AS CaCO3 (MG/L) (00410)	DIS-SOLVED SULFATE (SO4) (MG/L) (00945)	DIS-SOLVED CHLORIDE (CL) (MG/L) (00940)
OCT 06...	140	24	2.0	8.7	203	0	167	1000	19
NOV 05...	740	42	6.8	12	403	0	331	3200	120
DEC 01...	800	41	6.9	14	526	0	431	3500	120
JAN 07...	870	41	7.3	15	566	0	464	3700	150
FEB 04...	880	45	7.9	18	464	0	381	3500	230
MAR 03...	420	40	4.9	9.8	300	0	246	1900	72
APR 07...	620	40	6.1	11	343	0	281	2900	100
MAY 05...	1000	45	8.5	15	359	0	294	4300	160
JUN 07...	150	25	2.1	10	205	0	168	990	23
JUN 22...	96	36	2.2	6.8	135	0	111	440	16
JUL 06...	160	29	2.4	8.8	200	0	164	980	31
AUG 05...	98	22	1.6	8.3	150	0	123	730	16
AUG 31...	96	20	1.4	8.9	186	0	153	800	15

CHEYENNE RIVER BASIN

06436800 HORSE CREEK NEAR VALE, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L) (00950)	DIS- SOLVED SILICA (SI02) (MG/L) (00955)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) (70301)	DIS- SOLVED SOLIDS (TONS PER AC-FT) (70303)	DIS- SOLVED SOLIDS (TONS PER DAY) (70302)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	TOTAL PHOS- PHORUS (P) (MG/L) (00665)	DIS- SOLVED PHOS- PHORUS (P) (MG/L) (00666)	DIS- SOLVED BORON (B) (UG/L) (01020)
OCT									
06...	.5	3.5	1590	2.16	81.6	1.0	.05	.01	290
NOV									
05...	.3	1.6	4990	6.79	62.0	8.5	.02	.00	1000
DEC									
01...	.2	1.5	5510	7.49	38.7	4.3	.00	.01	1200
JAN									
07...	.3	4.7	5950	8.09	37.0	22	.02	.00	1100
FEB									
04...	.4	5.8	5690	7.74	121	23	.07	.05	880
MAR									
03...	.3	4.2	3050	4.15	49.4	19	.04	.02	490
APR									
07...	.3	.9	4440	6.04	46.8	7.6	.09	.01	800
MAY									
05...	.4	1.0	6520	8.87	45.8	21	.07	.01	1100
JUN									
07...	.5	7.6	1610	2.19	526	2.6	.35	.03	260
22...	.3	8.8	760	1.03	365	.43	1.1	.03	210
JUL									
06...	.4	5.0	1570	2.14	386	.60	.21	.01	300
AUG									
05...	.5	4.4	1200	1.63	933	4.4	.62	.04	190
31...	.5	5.3	1310	1.78	573	.85	.17	.04	270

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1900	4600	5300	5600	5300	3400	4700	7000	2150	1900	1440	1750
2	1950	4600	5300	4500	5400	4050	4700	6900	2050	1850	1440	1750
3	3000	4600	5500	5200	5500	4600	4800	6800	2000	2150	1440	1750
4	1900	4600	5600	5300	5400	3800	4800	6700	1950	2250	1500	1800
5	1950	4750	5700	6000	5800	3800	4900	6500	1900	2000	1500	1800
6	2100	4700	5500	6000	5000	4000	5500	6800	1900	1480	1440	1800
7	2350	4700	5700	5100	5000	4200	5100	6100	1900	1600	1450	1850
8	2700	4700	5600	5800	3300	4350	5300	6600	1950	1600	1440	1750
9	2600	4700	5800	5800	3800	4500	5200	6600	1950	1650	1420	1800
10	3300	4800	6000	5200	4600	5000	5300	6400	1900	1600	1460	1850
11	4150	4900	6100	6150	3100	4500	5400	6500	1950	1650	1420	1850
12	3200	4900	5600	6150	4900	5000	5600	6600	1850	1650	1440	1800
13	3300	4850	6100	6100	4200	4500	5400	6300	1750	1550	1460	1800
14	3500	4700	6000	6100	4450	4000	5700	6000	1650	1600	1440	1800
15	3600	4800	6000	6200	3800	4000	5700	6300	900	1550	1440	1900
16	3700	4700	5500	6000	3600	4050	5400	6250	600	1550	1450	1850
17	3900	4800	5850	5900	3400	4100	5400	6500	900	1440	1440	1900
18	3900	4800	5750	6000	3300	3800	7000	6500	900	1500	1470	1850
19	4100	4850	5850	5900	3050	3700	7000	2550	550	1500	1550	1850
20	4100	4850	5700	5900	3400	3600	7250	3000	720	1460	1550	1900
21	4100	5000	6000	6000	3400	3800	7000	4600	710	1550	1600	1850
22	4150	4800	6000	6000	3100	3500	6600	3700	1120	1440	1650	1800
23	4200	4900	6000	5900	3300	3350	6600	3600	1380	1440	1600	1750
24	4200	4900	6100	5400	2900	3250	6000	3150	1550	1440	1600	1800
25	4300	5000	6200	6000	3100	3800	6000	3350	1700	1380	1600	1850
26	4300	4900	6000	6200	3100	4100	6300	3300	1800	1400	1650	1850
27	4400	5000	5700	6100	3000	4100	6100	2350	1550	2000	1650	1850
28	4400	5000	6000	6000	3250	4300	7000	2350	2150	1430	1700	1950
29	4400	5000	6100	6100	3200	4200	7500	2400	1800	1400	1750	2000
30	4500	5000	5500	5900	---	3400	7300	2400	1950	1430	1650	2150
31	4600	---	5700	6000	---	4200	---	2250	---	1420	1700	---
MONTH	3510	4810	5800	5820	3950	4030	5890	5040	1570	1610	1530	1840

06436800 HORSE CREEK NEAR VALE, SD--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.0	7.0	0.0	0.0	0.0	0.0	8.0	16.0	24.0	23.0	24.0	20.0
2	7.0	8.0	0.0	0.0	0.0	0.5	7.0	14.0	24.0	24.0	24.0	20.0
3	10.0	---	0.0	0.0	0.0	0.0	10.0	17.0	24.0	25.0	25.0	21.0
4	10.0	---	0.0	0.0	0.0	0.0	16.0	19.0	24.0	25.0	24.0	22.0
5	9.0	---	0.0	0.0	0.0	0.0	15.0	19.0	24.0	26.0	25.0	20.0
6	7.5	---	0.0	0.0	0.0	0.0	12.0	19.0	23.0	26.0	25.0	20.0
7	8.0	---	0.0	0.0	0.0	0.0	10.0	22.0	23.0	26.0	25.0	19.0
8	9.0	---	0.0	0.0	0.0	0.0	10.0	21.0	24.0	27.0	25.0	17.0
9	10.0	---	0.0	0.0	0.0	0.0	10.0	18.0	25.0	28.0	25.0	18.0
10	---	---	0.0	0.0	0.0	0.0	10.0	24.0	26.0	30.0	25.0	18.0
11	11.0	---	0.0	0.0	0.0	0.0	11.0	15.0	24.0	30.0	25.0	18.0
12	10.0	---	0.0	0.0	0.0	0.0	17.0	10.0	22.0	28.0	25.0	17.0
13	10.0	---	0.0	0.0	0.0	0.0	22.0	19.0	21.0	26.0	25.0	18.0
14	8.0	---	0.0	0.0	0.0	0.0	13.0	26.0	18.0	24.0	25.0	19.0
15	8.0	---	0.0	0.0	0.0	0.5	16.0	15.0	19.0	23.0	25.0	19.0
16	11.0	---	0.5	0.0	0.0	1.0	11.0	22.0	16.0	24.0	26.0	20.0
17	10.0	---	0.5	0.0	0.0	2.0	6.0	24.0	16.0	24.0	26.0	21.0
18	12.0	---	1.0	0.0	0.0	3.0	8.0	24.0	15.0	25.0	26.0	21.0
19	12.0	---	0.5	0.0	0.0	5.0	13.5	21.0	16.0	25.0	26.0	19.0
20	11.0	---	0.0	0.0	0.0	6.0	16.0	20.0	19.0	26.0	26.0	19.0
21	12.0	---	0.0	0.0	0.0	4.0	11.0	19.0	20.0	26.0	26.0	18.0
22	---	---	0.0	0.0	---	6.0	15.0	16.0	20.0	24.0	25.0	20.0
23	10.0	---	0.0	0.0	---	7.0	14.0	17.0	21.0	25.0	25.0	18.0
24	10.0	---	0.0	0.0	---	8.0	13.0	13.0	21.0	24.0	24.0	16.0
25	8.0	---	0.0	0.0	---	9.0	14.0	20.0	21.0	25.0	24.0	15.0
26	9.0	---	0.0	0.0	---	9.0	8.0	21.0	21.0	25.0	24.0	15.0
27	6.0	---	0.0	0.0	---	8.0	7.0	22.0	21.0	26.0	23.0	15.0
28	6.0	---	0.0	0.0	---	5.0	---	23.0	21.0	25.0	22.0	14.0
29	7.0	---	0.0	0.0	---	7.0	11.0	21.0	21.0	25.0	21.0	15.0
30	7.0	---	0.0	0.0	---	8.0	14.0	23.0	22.0	25.0	19.0	15.0
31	6.0	---	0.0	0.0	---	10.0	---	23.0	---	24.0	19.0	---
MONTH	9.0	---	0.0	0.0	---	3.0	12.0	19.5	21.0	25.5	24.5	18.0

CHEYENNE RIVER BASIN

06437000 BELLE FOURCHE RIVER NEAR STURGIS, SD

LOCATION.--Lat 44°30'47", long 103°08'11", in SE¼NW¼ sec.3, T.6 N., R.8 E., Meade County, Hydrologic Unit 10120202, near right bank on downstream side of bridge on State Highway 34, 0.5 mi (0.8 km) upstream from Bear Butte Creek and 20 mi (32 km) northeast of Sturgis.

DRAINAGE AREA.--5,870 mi² (15,200 km²), approximately.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 2,526.13 ft (769.964 m) above mean sea level. Prior to Oct. 31, 1946, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are poor. Flow regulated by Keyhole Reservoir, usable capacity, 191,600 acre-ft (236 hm³), 246 mi (396 km) upstream, since February 1952. At a point 75 mi (121 km) above station, water is diverted to Belle Fourche Reservoir (see station 06435000), through Inlet Canal (see station 06434500), with other small diversions from the main stem and tributaries for irrigation. Total diversion for irrigation of about 60,000 acres (243 km²) above station.

AVERAGE DISCHARGE.--31 years, 273 ft³/s (7.731 m³/s), 197,800 acre-ft/yr (244 hm³/yr); median of yearly mean discharges, 230 ft³/s (6.51 m³/s), 167,000 acre-ft/yr (210 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,100 ft³/s (541 m³/s) June 15, 1976, gage height, 16.04 ft (4.889 m), from rating curve extended above 11,000 ft³/s (312 m³/s); no flow for many days in 1945, 1950, and Aug. 9, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,100 ft³/s (541 m³/s) June 15, gage height, 16.04 ft (4.889 m); minimum daily, 15 ft³/s (0.425 m³/s) Jan. 8.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 5 to Nov. 20, Mar. 12 to May 31; stage-discharge relation affected by ice Nov. 21 to Mar. 11)

June 15 to Sept. 30

3.3	154	5.0	860	8.0	3,400	14.0	14,000
4.0	405	6.0	1,500	11.0	7,800	15.0	16,500

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	237	57	30	40	90	55	50	79	224	776	807	442
2	237	57	35	35	85	50	44	65	226	756	818	393
3	224	57	45	30	80	40	47	65	222	849	776	376
4	243	55	55	25	75	30	50	63	217	855	741	372
5	214	54	50	25	65	30	47	61	228	849	771	397
6	147	55	45	25	60	35	44	83	358	834	823	442
7	98	56	45	20	60	35	55	67	399	651	807	454
8	84	55	50	15	65	35	63	67	321	615	818	471
9	77	55	55	20	70	80	60	95	278	568	771	436
10	71	55	55	25	70	250	56	92	282	576	646	384
11	73	60	50	35	70	350	59	97	260	568	624	368
12	73	65	45	40	75	580	59	79	254	525	624	368
13	73	60	40	40	70	577	58	71	325	1580	606	356
14	73	67	35	45	75	621	59	73	652	1150	602	340
15	73	51	30	50	75	504	69	61	14000	982	598	368
16	69	51	25	55	70	428	69	69	15900	866	646	312
17	71	51	20	60	70	368	197	69	8310	855	624	301
18	63	50	20	60	70	178	204	61	8860	812	585	308
19	65	49	30	60	70	203	160	55	8030	834	550	304
20	65	42	40	60	65	169	131	150	4260	823	550	312
21	61	45	40	65	60	133	112	184	2210	776	529	332
22	61	45	40	70	60	121	98	200	1130	736	525	352
23	64	45	35	75	65	112	92	230	920	698	538	344
24	67	45	40	70	60	96	84	260	1280	722	516	340
25	66	45	45	60	60	96	84	243	1180	751	504	328
26	65	40	45	50	65	65	77	207	1070	797	500	308
27	62	35	45	55	70	58	82	299	1020	802	487	293
28	62	35	45	60	60	61	104	249	948	787	500	278
29	63	35	45	65	55	49	110	195	849	797	491	242
30	60	30	45	70	---	47	98	190	771	807	500	163
31	57	---	45	80	---	50	---	233	---	807	500	---
TOTAL	3018	1502	1270	1485	1985	5506	2522	4012	74984	24804	19377	10484
MEAN	97.4	50.1	41.0	47.9	68.4	178	84.1	129	2499	800	625	349
MAX	243	67	55	80	90	621	204	299	15900	1580	823	471
MIN	57	30	20	15	55	30	44	55	217	525	487	163
AC-FT	5990	2980	2520	2950	3940	10920	5000	7960	148700	49200	38430	20800
CAL YR 1975	TOTAL	112426	MEAN	308	MAX	3570	MIN	12	AC-FT	223000		
WTR YR 1976	TOTAL	150949	MEAN	412	MAX	15900	MIN	15	AC-FT	299400		

06437000 BELLE FOURCHE RIVER NEAR STURGIS, SD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1954-58, 1969 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: August 1954 to September 1958, October 1968 to September 1971, October 1973 to current year.

WATER TEMPERATURES: August 1954 to September 1958, October 1968 to September 1971, October 1974 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 5,770 micromhos May 25, 1958; minimum daily, 650 micromhos Feb. 15, 1971.

WATER TEMPERATURES: Maximum daily, 30.0°C June 28, July 4, 7, 9, Aug. 7-10, 1970; minimum daily, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,800 micromhos Jan. 6; minimum daily, 690 micromhos June 19.

WATER TEMPERATURES: Maximum daily, 25.0°C July 8, 9, 11, Aug. 20; minimum daily, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTAN-	SPE-	PH	TEMPER-	HARD-	NON-	DIS-	DIS-	DIS-	PERCENT	SODIUM	
		TANE- DIS- CHARGE (CFS) (00061)	CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)				CAR- BONATE HARD- NESS (MG/L) (00902)	SOLVED CAL- CIUM (CA) (MG/L) (00915)	SOLVED MAG- NE- SIUM (MG) (MG/L) (00925)				SOLVED SODIUM (NA) (MG/L) (00930)
OCT. 06...	1400	152	2150	8.2	14.5	920	750	210	96	120	22	1.7	
NOV. 05...	1130	55	2800	8.2	8.0	1200	960	260	130	200	26	2.5	
DEC. 01...	1230	29	3300	7.7	.0	1600	1300	360	180	280	27	3.0	
JAN. 12...	1400	40	2250	7.4	.0	1600	1300	370	170	260	26	2.8	
FEB. 04...	1145	41	2600	7.9	.0	1200	980	250	150	280	33	3.5	
MAR. 08...	1130	35	2600	8.1	.0	1100	890	260	120	210	28	2.7	
APR. 07...	1615	54	2050	8.1	11.0	930	730	190	110	150	26	2.1	
MAY 06...	1100	69	1950	8.8	9.0	760	590	150	93	130	27	2.1	
JUNE 07...	1545	396	1900	7.5	23.5	730	500	170	74	97	22	1.6	
18...	1800	8440	750	--	--	270	150	71	22	36	22	1.0	
JULY 06...	1145	823	1480	7.9	24.5	750	600	200	62	51	13	.8	
AUG. 02...	1430	844	1630	8.1	20.0	790	650	210	65	71	16	1.1	
SEP. 02...	1130	388	1800	8.2	20.0	890	730	230	76	92	18	1.3	
DATE		DIS- SOLVED PO- TAS- SIUM (K) (MG/L) (00935)	BICAR- BONATE (HCO3) (MG/L) (00440)	CAR- BONATE (CO3) (MG/L) (00445)	ALKA- LINITY AS CACO3 (MG/L) (00410)	DIS- SOLVED SULFATE (SO4) (MG/L) (00945)	DIS- SOLVED CHLO- RIDE (CL) (MG/L) (00940)	DIS- SOLVED FLUO- RIDE (F) (MG/L) (00950)	DIS- SOLVED SILICA (SiO2) (MG/L) (00955)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) (70301)	DIS- SOLVED SOLIDS (TONS PER DAY) (70303)	DIS- SOLVED SOLIDS (TONS PER DAY) (70302)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)
OCT. 06...	12	213	0	175	1000	13	.5	5.0	1570	2.14	644	1.2	
NOV. 05...	20	281	0	230	1300	62	.5	6.1	2130	2.90	316	3.1	
DEC. 01...	22	410	0	336	1800	35	.4	4.0	2890	3.93	226	2.4	
JAN. 12...	18	431	0	354	1700	35	.5	9.0	2800	3.81	308	4.9	
FEB. 04...	18	324	0	266	1500	9.8	.6	6.6	2410	3.28	267	8.6	
MAR. 08...	16	313	0	257	1300	32	.7	6.7	2120	2.88	200	3.4	
APR. 07...	19	244	0	200	1000	23	.5	6.0	1630	2.22	238	2.0	
MAY 06...	19	206	0	169	800	24	.6	6.3	1340	1.82	250	2.0	
JUNE 07...	28	279	0	229	730	13	.5	6.5	1260	1.71	1350	1.2	
18...	7.0	147	--	121	240	3.9	.3	7.7	462	.63	10500	.36	
JULY 06...	8.4	189	0	155	690	8.8	.4	7.8	1120	1.52	2490	.50	
AUG. 02...	10	177	0	145	730	9.4	.5	5.3	1190	1.62	2710	.78	
SEP. 02...	11	194	0	159	900	13	.5	5.6	1430	1.94	1500	.86	

CHEYENNE RIVER BASIN

06437000 BELLE FOURCHE RIVER NEAR STURGIS, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL PHOS- PHORUS (P) (MG/L) (00665)	DIS- SOL- VED- PHOS- PHORUS (P) (MG/L) (00666)	DIS- SOLVED ALUM- INUM (AL) (UG/L) (01106)	DIS- SOLVED ARSENIC (AS) (UG/L) (01000)	DIS- SOLVED BORON (B) (UG/L) (01020)	DIS- SOLVED CAD- MIUM (CD) (UG/L) (01025)	DIS- SOLVED CHRO- MIUM (CR) (UG/L) (01030)	DIS- SOLVED COBALT (CO) (UG/L) (01035)	DIS- SOLVED COPPER (CU) (UG/L) (01040)	DIS- SOLVED IRON (FE) (UG/L) (01046)	DIS- SOLVED LEAD (PB) (UG/L) (01049)
OCT.											
06...	.27	.01	--	--	270	--	--	--	--	--	--
NOV.											
05...	.01	.00	30	95	420	0	4	3	28	80	2
DEC.											
01...	.00	.00	--	--	490	--	--	--	--	--	--
JAN.											
12...	.01	.00	--	--	510	--	--	--	--	--	--
FEB.											
04...	.04	.01	--	--	400	--	--	--	--	--	--
MAR.											
08...	.20	.00	--	--	310	--	--	--	--	--	--
APR.											
07...	.26	.03	--	--	300	--	--	--	--	--	--
MAY											
06...	1.8	.02	10	100	230	0	0	0	6	70	1
JUNE											
07...	11	.01	--	--	200	--	--	--	--	--	--
18...	3.0	.02	--	--	110	--	--	--	--	--	--
JULY											
06...	.47	.02	--	--	170	--	--	--	--	--	--
AUG.											
02...	.95	.01	--	--	200	--	--	--	--	--	--
SEP.											
02...	.22	.01	--	--	250	--	--	--	--	--	--

[illegible]

06437000 BELLE FOURCHE RIVER NEAR STURGIS, SD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1850	2400	3150	3100	2200	2250	2250	2400	1750	1410	1480	1650
2	1850	2400	3150	3200	2300	2500	2300	2150	1950	1420	1480	1700
3	1850	2400	2900	3100	2400	2600	2200	2050	1950	1360	1470	1750
4	1850	2450	2900	3200	2650	2600	2120	1880	1900	1400	1500	1750
5	1800	2400	3000	3100	2900	3000	2150	1750	1850	1400	1460	1700
6	1900	2450	2850	3800	3050	2600	2200	1730	1950	1360	1500	1680
7	2000	2450	2700	3600	3450	2600	2200	1730	1900	1480	1480	1670
8	2050	2350	2700	3600	3250	2650	1970	1730	1800	1440	1520	1650
9	2200	2300	2650	3500	3100	2600	1860	1850	1750	1500	1480	1600
10	2200	2400	2600	3400	2950	2150	1900	1800	1750	1550	1500	1630
11	2150	2350	2500	3300	2200	1900	1840	1800	1750	1500	1550	1700
12	2200	2650	2700	3300	2200	2450	1760	1700	1800	1550	1530	1690
13	2300	2600	2800	3200	2200	2500	1820	1800	1900	1480	1550	1690
14	2350	2450	2950	3300	2500	2600	1850	1700	1650	1420	1550	1690
15	2400	2400	3100	3200	2300	2250	1760	1750	1240	1240	1570	1650
16	2350	2400	3100	3100	2200	2300	1560	1750	900	1400	1560	1680
17	2250	2400	3200	3100	2250	2450	1720	1750	820	1440	1560	1750
18	2150	2400	3300	3000	2300	2200	2250	1900	760	1440	1580	1750
19	2200	2450	3000	3000	2300	2050	1900	2900	690	1400	1600	1700
20	2250	2600	2800	2900	2300	2150	1730	3000	830	1480	1530	1720
21	2250	2850	3000	2900	2450	2100	1600	1800	950	1460	1640	1750
22	2250	2800	3000	2900	2450	2100	1600	1800	1100	1500	1650	1650
23	2250	3000	2850	2900	2500	2350	1400	2300	1340	1460	1650	1660
24	2200	3150	2900	2900	2400	2300	1500	2500	1160	1500	1650	1600
25	2250	3100	2850	2800	2200	1850	1520	2100	1180	1470	1650	1630
26	2250	3050	2800	2900	2150	2350	1520	2100	1240	1460	1670	1630
27	2300	3100	2800	3000	2100	2250	1560	2050	1260	1410	1670	1700
28	2300	3150	2500	3100	2150	2350	1560	1850	1280	1440	1650	1740
29	2300	3100	2750	3150	2000	2350	1900	1830	1340	1420	1680	1730
30	2300	3150	2800	2900	---	2250	2300	1900	1380	1420	1700	1870
31	2400	---	3150	2500	---	2250	---	1900	---	1450	1660	---
MONTH	2170	2640	2890	3130	2460	2350	1860	1980	1440	1440	1570	1690

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.0	---	---	0.0	0.0	0.5	7.0	10.0	20.0	21.0	20.0	17.5
2	15.5	---	---	0.0	0.0	0.5	8.5	17.0	21.5	20.0	21.0	18.5
3	16.5	10.0	---	0.0	0.0	0.5	12.0	9.0	20.5	20.0	20.0	18.0
4	15.5	9.5	---	0.0	0.0	0.5	5.5	11.5	20.5	20.0	21.0	20.0
5	15.5	10.5	---	0.0	0.0	0.5	8.0	11.0	19.5	22.0	21.0	20.0
6	16.5	8.0	---	0.0	0.0	0.5	9.5	8.5	21.0	23.0	20.0	19.0
7	18.0	8.0	---	0.0	0.0	1.0	9.5	20.0	19.0	23.0	20.0	17.5
8	15.0	8.5	---	0.0	0.0	1.0	13.5	14.5	20.0	25.0	21.0	15.5
9	13.0	7.5	---	0.0	0.0	1.0	10.0	13.0	21.0	25.0	---	14.0
10	12.5	6.0	---	0.0	0.0	0.5	11.0	16.0	21.5	24.0	22.0	13.0
11	13.0	5.0	---	0.0	0.0	1.0	14.0	15.5	21.5	25.0	23.0	15.0
12	---	4.0	---	0.0	0.5	2.0	10.0	9.5	19.0	23.5	23.0	---
13	---	3.0	---	0.0	0.5	1.0	14.5	7.0	22.0	22.5	21.0	15.5
14	---	2.0	---	0.0	1.0	1.0	13.0	14.0	22.0	24.0	22.0	15.5
15	10.0	---	---	0.0	1.0	0.5	21.0	13.0	22.0	23.0	22.0	17.0
16	10.5	---	---	0.0	0.5	1.0	12.5	20.5	23.0	21.0	23.0	17.0
17	13.5	1.0	---	0.0	1.0	1.0	6.0	14.0	20.5	23.0	23.0	17.5
18	13.5	1.0	---	0.0	1.0	1.0	7.0	12.0	20.5	22.0	24.0	17.0
19	12.5	1.0	---	0.0	1.0	1.0	10.0	24.0	18.0	23.0	24.0	---
20	13.5	0.5	---	0.0	1.0	2.0	8.5	17.5	19.5	23.0	25.0	16.0
21	13.5	0.5	---	0.0	1.5	3.0	9.0	16.0	21.5	22.0	23.0	17.5
22	11.0	0.0	---	0.0	1.0	2.0	8.5	15.5	22.0	24.0	24.0	17.5
23	9.0	---	---	0.0	1.0	4.0	10.5	---	19.0	22.0	24.0	15.0
24	8.0	0.5	---	0.0	1.0	5.0	11.0	12.5	19.0	23.0	22.0	14.0
25	6.0	---	---	0.0	1.0	6.0	13.0	19.5	19.5	23.0	22.0	14.0
26	7.5	---	---	0.0	1.5	5.0	7.5	15.5	18.0	22.5	23.0	14.0
27	7.0	---	---	0.0	1.0	4.0	6.0	22.5	18.5	23.0	21.0	12.0
28	6.0	---	---	0.0	0.5	6.0	6.0	23.5	17.0	21.5	20.0	9.5
29	---	---	---	0.0	---	4.0	12.0	18.5	19.0	21.0	21.0	10.0
30	---	---	---	0.0	---	4.0	16.5	16.5	19.5	20.5	19.0	12.0
31	---	---	---	0.0	---	4.0	---	19.0	---	21.5	19.0	---
MONTH	12.5	---	---	0.0	0.5	2.0	10.5	15.0	20.0	22.5	22.0	15.5

CHEYENNE RIVER BASIN

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD

LOCATION.--Lat 44°22'11", long 102°33'56", in NE¼NE¼ sec.29, T.5 N., R.13 E., Meade County, Hydrologic Unit 10120202, on right bank 10 ft (3 m) downstream from highway bridge, 4.3 mi (6.9 km) northwest of Elm Springs and 4.7 mi (7.6 km) downstream from Hay Creek.

DRAINAGE AREA.--7,210 mi² (18,670 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1928 to June 1932, March 1934 to current year. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 786: Drainage area. WSP 926: 1929, 1931(M), 1935, 1937.

GAGE.--Water-stage recorder. Datum of gage is 2,171.60 ft (661.904 m) above mean sea level. Prior to July 27, 1939, nonrecording gage at same site and datum.

REMARKS.--Records good except those for June 15-22, which are fair and those for winter periods, which are poor. Flow regulated by Keyhole Reservoir, usable capacity, 191,600 acre-ft (236 hm³), 304 mi (489 km) upstream, since February 1952. At a point 133 mi (214 km) above station, water is diverted to Belle Fourche Reservoir (see station 06435000), through Inlet Canal near Belle Fourche (see station 06434500), with other smaller diversions from the main stem and tributaries for irrigation. Total diversion for irrigation of about 60,000 acres (243 km²) above station.

AVERAGE DISCHARGE.--45 years (1928-31, 1934-76), 367 ft³/s (10.4 m³/s), 265,900 acre-ft/yr (328 hm³/yr); median of yearly mean discharges, 360 ft³/s (10 m³/s), 261,000 acre-ft/yr (320 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,100 ft³/s (1,280 m³/s) June 8, 1964, gage height, 15.90 ft (4.846 m), from rating curve extended above 23,000 ft³/s (651 m³/s); no flow for many days in 1936-37, 1939-40, 1961-62.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 1927 reached a stage of 21.8 ft (6.64 m). Flood in spring of 1933 reached a stage of about 20 ft (6.1 m), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 31,100 ft³/s (881 m³/s) June 16, gage height, 14.44 ft (4.401 m); minimum daily, 10 ft³/s (0.283 m³/s) Jan. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	255	54	30	50	50	80	61	126	236	557	737	476
2	255	49	45	35	50	70	57	106	225	593	751	443
3	255	49	50	25	45	60	54	87	221	617	828	407
4	251	49	50	25	30	50	52	81	217	684	779	392
5	244	49	50	30	25	40	52	76	213	678	758	387
6	228	49	50	20	20	40	52	76	236	678	814	397
7	153	48	50	12	30	40	57	74	530	671	814	412
8	120	48	50	10	40	50	57	74	373	587	807	427
9	81	48	55	15	50	70	63	70	312	587	786	454
10	72	48	55	30	60	100	68	65	283	563	751	412
11	72	50	50	40	60	150	74	61	287	581	671	382
12	59	50	50	40	70	400	72	66	259	575	647	368
13	66	30	45	45	80	600	68	66	263	672	647	364
14	66	32	35	45	80	800	68	61	348	1770	665	364
15	72	35	35	50	100	400	68	66	6610	1030	623	359
16	72	35	35	50	100	150	81	68	26400	1030	623	373
17	72	32	25	60	110	150	166	63	15400	902	641	337
18	65	32	30	60	100	300	236	65	8910	894	617	337
19	59	30	40	55	100	324	240	57	11100	910	581	337
20	57	25	50	55	100	324	213	75	6450	934	551	337
21	55	20	50	60	110	240	163	186	3340	863	551	346
22	54	20	50	60	140	179	135	217	1380	870	533	355
23	54	20	50	60	135	144	115	247	730	800	516	359
24	59	18	58	55	135	126	108	255	849	772	516	359
25	59	15	60	45	135	118	96	255	902	793	522	346
26	57	15	60	35	140	108	94	247	779	821	504	324
27	57	15	60	40	150	92	98	232	751	835	493	267
28	55	15	60	50	160	83	176	259	710	821	487	217
29	54	15	60	46	120	81	166	232	653	786	487	196
30	52	20	60	45	---	72	144	199	593	786	476	166
31	54	---	65	50	---	66	---	199	---	737	481	---
TOTAL	3184	1015	1513	1298	2525	5507	3154	4011	89560	24397	19657	10700
MEAN	103	33.8	48.8	41.9	87.1	178	105	129	2985	787	634	357
MAX	255	54	65	60	160	800	240	259	26400	1770	828	476
MIN	52	15	25	10	20	40	52	57	213	557	476	166
AC-FT	6320	2010	3000	2570	5010	10920	6260	7960	177600	48390	38990	21220
CAL YR 1975	TOTAL	158964.5	MEAN	436	MAX	6840	MIN	4.0	AC-FT	315300		
WTR YR 1976	TOTAL	166521.0	MEAN	455	MAX	26400	MIN	10	AC-FT	330300		

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1974 to current year.

WATER TEMPERATURES: October 1974 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 4,600 micromhos Jan. 6, 1976; minimum daily, 800 micromhos June 19, 1976.

WATER TEMPERATURES: Maximum daily, 30.0°C July 1, 2, 6, Aug. 1, 2, 6, 1975; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 4,600 micromhos Jan. 6; minimum daily, 800 micromhos June 19.

WATER TEMPERATURES: Maximum daily, 26.0°C June 3, 4; minimum daily, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (JTU) (00070)	FECAL COLI- FORM (COL. PER 100 ML) (31616)	STREP- TOCOCCI (COL- ONIES PER 100 ML) (31679)	HARD- NESS (CA, MG) (MG/L) (00900)	NON- CAR- BONATE HARD- NESS (MG/L) (00902)	DIS- SOLVED CAL- CIUM (CA) (MG/L) (00915)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) (00925)
OCT 15...	1230	74	2450	8.1	9.5	8	820	850	1000	850	230	110
NOV 12...	1100	55	2900	8.3	.5	10	830	820	1200	970	250	130
DEC 09...	1030	57	2150	7.6	.0	2	810	840	1500	1200	340	160
JAN 28...	1115	47	2680	7.5	.0	3	82	815	1400	1100	300	150
FEB 23...	1230	136	2400	7.7	.5	130	870	880	740	590	150	89
MAR 23...	1100	153	1840	8.7	9.0	180	180	820	720	580	150	83
APR 19...	1045	230	1950	8.9	11.0	2900	811000	89800	740	580	160	82
MAY 17...	1100	60	1750	--	17.5	--	70	50	--	--	--	--
JUN 21...	1430	3050	1020	7.6	21.5	1200	81200	81400	380	250	100	32
JUL 19...	1400	925	1640	8.1	24.0	40	730	290	740	600	190	64
AUG 16...	1000	608	1780	8.1	21.0	200	330	630	820	690	210	72
SEP 14...	1200	360	1100	8.4	17.0	10	830	830	880	750	220	81

B Non-ideal colony count.

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SODIUM (NA) (00930)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	DIS- SOLVED PO- TAS- SIUM (K) (00935)	BICAR- BONATE (HCO3) (00440)	CAR- BONATE (CO3) (00445)	ALKA- LINITY AS CAC03 (00410)	DIS- SOLVED SULFATE (SO4) (00945)	DIS- SOLVED CHLO- RIDE (CL) (00940)	DIS- SOLVED FLUO- RIDE (F) (00950)	DIS- SOLVED SILICA (SiO2) (00955)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (70300)
OCT 15...	160	25	2.2	18	222	0	182	1200	20	.5	5.3	2030
NOV 12...	190	26	2.4	20	231	0	189	1300	29	.5	3.6	2280
DEC 09...	240	25	2.7	19	369	0	303	1600	32	.5	7.6	2880
JAN 28...	270	30	3.2	18	376	0	308	1500	41	.6	7.1	2850
FEB 23...	220	39	3.5	12	184	0	151	1000	34	.4	4.7	1810
MAR 23...	220	40	3.6	12	168	0	138	960	30	.2	4.7	1740
APR 19...	150	30	2.4	20	187	0	153	840	21	.5	5.1	1550
MAY 17...	--	--	--	--	--	--	--	--	--	--	--	--
JUN 21...	43	19	1.0	8.5	161	0	132	400	5.8	.4	8.0	700
JUL 19...	70	17	1.1	9.9	171	0	140	720	9.9	.4	5.8	1250
AUG 16...	42	10	.6	11	161	0	132	710	11	.5	5.4	1320
SEP 14...	100	20	1.5	11	163	1	135	870	13	.5	4.0	1490

DATE	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) (70301)	DIS- SOLVED SOLIDS (TONS PER AC-FT) (70303)	DIS- SOLVED SOLIDS (TONS PER DAY) (70302)	TOTAL NITRITE PLUS NITRATE (N) (00630)	TOTAL KJEL- DAHL NITRO- GEN (N) (00625)	TOTAL NITRO- GEN (N) (00600)	TOTAL NITRO- GEN (NO3) (MG/L) (71887)	TOTAL PHOS- PHORUS (P) (MG/L) (00665)	TOTAL ARSENIC (AS) (UG/L) (01002)	SUS- PENDE ARSENIC (AS) (UG/L) (01001)	DIS- SOLVED ARSENIC (AS) (UG/L) (01000)	TOTAL CAD- MIUM (CD) (UG/L) (01027)
OCT 15...	1850	2.76	406	1.3	.80	2.1	9.3	.04	75	25	50	10
NOV 12...	2040	3.10	339	2.7	.86	3.6	16	.03	--	--	--	--
DEC 09...	2580	3.92	443	3.6	1.9	5.5	24	.00	--	--	--	--
JAN 28...	2470	3.88	362	2.8	2.0	4.8	21	.01	--	--	--	--
FEB 23...	1600	2.46	665	6.9	1.8	8.7	39	.25	220	180	36	<10
MAR 23...	1540	2.37	719	2.9	2.1	5.0	22	.84	--	--	--	--
APR 19...	1370	2.11	963	1.8	1.9	3.7	16	1.0	22000	22000	140	10
MAY 17...	--	--	--	--	--	--	--	--	--	--	--	--
JUN 21...	677	.95	5760	.49	3.5	4.0	18	3.1	--	--	--	--
JUL 19...	1150	1.70	3120	.56	.59	1.2	5.1	.28	450	420	35	<10
AUG 16...	1140	1.80	2170	.68	.82	1.5	6.6	.32	--	--	--	--
SEP 14...	1380	2.03	1450	.89	.48	1.4	6.1	.04	--	--	--	--

< Less than.

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	SUS- PENDE D CAD- MIUM (CD) (UG/L) (01026)	DIS- SOLVED CAD- MIUM (CD) (UG/L) (01025)	TOTAL CHRO- MIUM (CR) (UG/L) (01034)	SUS- PENDE D CHRO- MIUM (CR) (UG/L) (01031)	DIS- SOLVED CHRO- MIUM (CR) (UG/L) (01030)	TOTAL COBALT (CO) (UG/L) (01037)	SUS- PENDE D COBALT (CO) (UG/L) (01036)	DIS- SOLVED COBALT (CO) (UG/L) (01035)	TOTAL COPPER (CU) (UG/L) (01042)	SUS- PENDE D COPPER (CU) (UG/L) (01041)	DIS- SOLVED COPPER (CU) (UG/L) (01040)
OCT 15...	10	0	40	40	0	70	69	1	20	19	1
NOV 12...	--	--	--	--	--	--	--	--	--	--	--
DEC 09...	--	--	--	--	--	--	--	--	--	--	--
JAN 28...	--	--	--	--	--	--	--	--	--	--	--
FEB 23...	<10	0	10	10	0	<50	<46	4	40	24	16
MAR 23...	--	--	--	--	--	--	--	--	--	--	--
APR 19...	9	1	330	320	10	100	98	2	410	410	5
MAY 17...	--	--	--	--	--	--	--	--	--	--	--
JUN 21...	--	--	--	--	--	--	--	--	--	--	--
JUL 19...	<10	0	40	30	10	<50	<48	2	50	47	3
AUG 16...	--	--	--	--	--	--	--	--	--	--	--
SEP 14...	--	--	--	--	--	--	--	--	--	--	--

DATE	TOTAL IRON (FE) (UG/L) (01045)	DIS- SOLVED IRON (FE) (UG/L) (01046)	TOTAL LEAD (PB) (UG/L) (01051)	SUS- PENDE D LEAD (PB) (UG/L) (01050)	DIS- SOLVED LEAD (PB) (UG/L) (01049)	TOTAL MAN- GANESE (MN) (UG/L) (01055)	SUS- PENDE D MAN- GANESE (MN) (UG/L) (01054)	DIS- SOLVED MAN- GANESE (MN) (UG/L) (01056)	TOTAL MERCURY (HG) (UG/L) (71900)	SUS- PENDE D MERCURY (HG) (UG/L) (71895)	DIS- SOLVED MERCURY (HG) (UG/L) (71890)
OCT 15...	1100	0	100	100	0	150	40	110	.0	.0	.0
NOV 12...	--	--	--	--	--	--	--	--	--	--	--
DEC 09...	--	--	--	--	--	--	--	--	--	--	--
JAN 28...	--	--	--	--	--	--	--	--	--	--	--
FEB 23...	--	20	100	99	1	760	530	230	.2	.1	.1
MAR 23...	--	--	--	--	--	--	--	--	--	--	--
APR 19...	740000	40	500	500	0	29000	29000	320	9.3	9.3	.0
MAY 17...	--	--	--	--	--	--	--	--	--	--	--
JUN 21...	--	--	--	--	--	--	--	--	--	--	--
JUL 19...	50000	10	100	100	0	1500	1500	20	.6	.6	.0
AUG 16...	--	--	--	--	--	--	--	--	--	--	--
SEP 14...	--	--	--	--	--	--	--	--	--	--	--

< Less than.

CHEYENNE RIVER BASIN

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL SELE- NIUM (SE) (UG/L) (01147)	SUS- PENDE SELE- NIUM (SE) (UG/L) (01146)	DIS- SOLVED SELE- NIUM (SE) (UG/L) (01145)	TOTAL ZINC (ZN) (UG/L) (01092)	SUS- PENDE ZINC (ZN) (UG/L) (01091)	DIS- SOLVED ZINC (ZN) (UG/L) (01090)	TOTAL ORGANIC CARBON (C) (MG/L) (00680)
OCT 15...	6	3	3	60	0	60	5.8
NOV 12...	--	--	--	--	--	--	--
DEC 09...	--	--	--	--	--	--	--
JAN 28...	--	--	--	--	--	--	--
FEB 23...	22	0	22	50	50	0	6.1
MAR 23...	--	--	--	--	--	--	--
APR 19...	0	0	5	1100	1100	0	112
MAY 17...	--	--	--	--	--	--	--
JUN 21...	--	--	--	--	--	--	--
JUL 19...	3	1	2	110	110	0	--
AUG 16...	--	--	--	--	--	--	--
SEP 14...	--	--	--	--	--	--	--

DATE	TOTAL PHYTO- PLANK- TON (CELLS PER ML) (60050)	PEPI- PHYTON BIOMASS DRY WEIGHT G/SQ M (00573)	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	UNCOR- RECTED PERI- PHYTON CHLORO- PHYLL A MG/SQ M (32228)	UNCOR- RECTED PERI- PHYTON CHLORO- PHYLL B MG/SQ M (32226)	SUS- PENDE SEDIMENT CHARGE (MG/L) (80154)	SUS- PENDE SEDIMENT CHARGE (T/DAY) (80155)
OCT 15...	7800	--	--	--	--	144	29
NOV 12...	1700	--	--	--	--	305	45
DEC 09...	280	--	--	--	--	294	45
JAN 28...	300	--	--	--	--	377	48
FEB 23...	1200	--	--	--	--	501	184
MAR 23...	300	--	--	--	--	986	407
APR 19...	1200	--	--	--	--	7960	4940
MAY 17...	10000	--	--	--	--	202	33
JUN 21...	110	--	--	--	--	4290	35300
JUL 19...	2100	--	--	--	--	772	1930
AUG 16...	4100	--	--	--	--	--	--
SEP 14...	37000	47.1	43.0	15.2	.354	--	--

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1900	2450	3600	3400	2400	2000	2600	1730	1900	1480	1420	1800
2	1900	2400	3300	3800	2300	2200	2550	2000	1900	1600	1420	1800
3	1900	2400	3300	2800	2600	2200	2600	2200	2000	1440	1500	1800
4	1950	2450	3300	3300	2500	2400	2600	2300	2100	1480	1500	1800
5	1950	2450	3300	3200	2900	2500	2600	2300	1950	1500	1500	1800
6	1950	2500	3300	4600	2000	2350	2550	2150	2000	1450	1500	1800
7	1950	2500	3300	4000	1800	2500	2550	2000	2050	1450	1500	1700
8	1950	2500	3100	3600	2300	2650	2380	1850	1450	1600	1500	1750
9	2050	2500	3000	2800	2300	2700	2430	1950	1750	1600	1480	1800
10	2100	2450	2900	3000	1800	2600	2400	1900	1750	1600	1480	1800
11	2200	2500	2800	3900	2050	2150	2200	1900	1850	1650	1500	1800
12	2250	2500	2800	4300	2850	2000	2200	1900	1800	1650	1530	1750
13	2250	2550	2800	4300	2500	1850	2100	2000	1800	1600	1520	1700
14	2350	2550	2700	3200	2300	2000	2100	2000	1200	1380	1540	1800
15	2300	2600	2700	4200	2500	2000	2100	1900	1600	1480	1500	1800
16	2300	2550	3000	4200	2500	2200	2000	1900	1040	1420	1550	1850
17	2350	2500	3000	4050	2500	1750	2000	1850	890	1500	1550	1800
18	2450	2550	3300	4000	2300	1750	2030	1850	890	1480	1620	1850
19	2450	2700	3100	4000	2000	1750	2030	1950	800	1480	1620	1750
20	2500	3000	3300	3600	2000	1650	2030	3000	880	1460	1630	1750
21	2350	3000	3400	3100	1550	1800	2030	3000	870	1550	1620	1750
22	2400	3000	3400	3500	1950	1950	2030	3000	1020	1500	1620	1750
23	2300	3100	3300	3500	1950	2150	1830	2100	1260	1500	1630	1750
24	2250	3200	3300	3600	1950	2100	1780	2100	1420	1470	1550	1750
25	2300	3300	3100	3300	1750	2050	1780	2050	1260	1500	1620	1850
26	2350	3200	3200	3300	2050	2250	1700	2100	1220	1500	1650	2050
27	2250	3650	3200	3200	1800	2330	1800	2100	1320	1470	1670	2100
28	2400	3600	3200	3100	1550	2400	1700	2150	1360	1460	1670	2100
29	2300	3600	3000	2700	1850	2450	1780	2100	1380	1480	1670	2100
30	2300	3500	2800	2700	---	2450	1780	1950	1420	1480	1650	2100
31	2350	---	2700	2700	---	2400	---	1850	---	1460	1750	---
MONTH	2210	2790	3110	3510	2170	2180	2140	2100	1470	1510	1560	1830

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	6.0	0.0	0.0	0.0	0.0	6.0	10.0	21.5	22.0	21.0	---
2	11.0	8.0	0.5	0.0	0.0	0.0	8.0	14.0	23.0	22.0	20.0	---
3	12.0	8.0	0.0	0.0	0.0	0.0	5.0	17.5	26.0	20.0	20.0	---
4	12.0	9.0	0.0	0.0	0.0	0.0	8.5	18.0	26.0	20.0	21.0	---
5	10.5	8.0	0.0	0.0	0.0	0.0	8.0	12.0	21.0	21.0	22.0	---
6	11.5	9.0	0.0	0.0	0.0	0.0	8.5	17.0	21.0	22.0	21.0	---
7	14.0	7.5	0.0	0.0	0.0	0.0	8.5	19.0	20.0	23.0	23.0	---
8	13.0	5.0	0.0	0.0	0.0	0.0	10.0	20.0	22.0	24.0	23.0	---
9	12.5	5.0	0.0	0.0	0.0	0.0	12.0	15.0	23.0	26.0	23.0	---
10	8.0	5.0	0.0	0.0	0.0	0.0	11.0	15.0	25.0	25.0	24.0	---
11	8.0	5.0	0.0	0.0	0.0	0.0	9.0	16.0	25.0	25.0	23.0	---
12	13.0	4.0	0.0	0.0	0.0	0.0	10.0	18.0	23.0	25.0	22.0	---
13	10.0	3.0	0.0	0.0	0.0	0.0	16.5	20.0	23.0	25.0	23.0	---
14	10.0	2.0	0.0	0.0	0.0	0.0	13.0	14.0	21.0	23.0	21.0	21.0
15	8.5	2.0	0.0	0.0	0.0	0.0	11.0	12.0	18.0	---	21.0	21.0
16	6.0	1.5	0.0	0.0	0.0	0.0	11.0	14.0	17.0	---	23.0	22.0
17	6.5	1.0	0.0	0.0	0.0	0.0	10.0	23.0	16.0	---	23.0	22.0
18	6.0	1.0	0.0	0.0	0.0	0.0	10.0	15.0	14.0	---	24.0	20.0
19	9.0	1.0	0.0	0.0	0.0	0.0	11.0	26.0	16.0	---	24.0	18.0
20	9.0	1.0	0.0	0.0	0.0	0.0	11.0	21.0	18.0	23.0	22.0	18.0
21	8.0	0.5	0.0	0.0	0.0	0.5	13.5	15.0	19.0	23.0	23.0	16.0
22	7.5	0.5	0.0	0.0	0.0	0.5	9.0	15.0	21.0	21.0	24.0	15.0
23	7.5	0.5	0.0	0.0	0.0	1.0	11.0	14.0	19.0	23.0	25.0	14.0
24	6.0	0.5	0.0	0.0	0.0	0.5	9.5	13.0	17.0	24.0	23.0	14.0
25	5.0	0.0	0.0	0.0	0.0	0.0	10.0	15.0	16.0	26.0	22.0	15.0
26	4.0	0.0	0.0	0.0	0.0	1.0	7.0	12.0	15.0	24.0	23.0	13.0
27	6.0	0.0	0.0	0.0	0.0	1.0	7.0	17.0	17.0	24.0	25.0	12.0
28	4.0	0.0	0.0	0.0	0.0	2.0	6.5	18.0	18.0	24.0	25.0	15.0
29	5.0	0.0	0.0	0.0	0.0	1.5	14.0	18.5	20.0	25.0	23.0	15.0
30	4.0	0.0	0.0	0.0	---	1.0	15.5	18.0	20.0	23.0	---	14.0
31	6.0	---	0.0	0.0	---	2.0	---	20.0	---	23.0	---	---
MONTH	8.5	3.0	0.0	0.0	0.0	0.5	10.0	16.5	20.0	23.5	22.5	---

CHEYENNE RIVER BASIN

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD--Continued

OCT. 16, 1974
1130 HOURS

IDENTIFICATION OF PHYTOPLANKTON

3,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...SCENEDESMACEAE			
....SCENEDESMUS		250	8
...VOLVOCALES			
...CHLAMYDOMONADACEAE		380	12
....CHLAMYDOMONAS			
TOTALS		630	20
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		1,300	44
....MELOSIRA		84	3
...PENNALES	PENNATE		
...FRAGILARIACEAE			
...SYNEDRA		330	11
...NITZSCHACEAE			
DNITZSCHIA		670	22
TOTALS		2,400	80

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.733
CLASS 0.733
ORDER 1.710
FAMILY 2.012
GENERA 2.162
NOV. 5, 1974
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,800 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...SCENEDESMACEAE			
....SCENEDESMUS		60	3
...VOLVOCALES			
...CHLAMYDOMONADACEAE		60	3
....CHLAMYDOMONAS			
TOTALS		120	6
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...PENNALES	PENNATE		
...ACHNANTHACEAE			
DACHNANTHES		600	33
...CYMBELLACEAE			
....AMPHORA		30	2
...FRAGILARIACEAE			
DSYNEDRA		360	20
...NAVICULACEAE	NAVICULOID		
....AMPHIPRORA		90	5
....NAVICULA		90	5
...NITZSCHACEAE			
DNITZSCHIA		540	30
TOTALS		1,700	95

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.349
CLASS 0.349
ORDER 0.415
FAMILY 2.258
GENERA 2.357

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD--Continued

DEC. 2, 1974
1130 HOURS

IDENTIFICATION OF PHYTOPLANKTON

700 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		42	6
...SCENEDESMACEAE			
....SCENEDESMUS		34	5
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		8	1
TOTALS		84	12
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...ACHNANTHACEAE			
DACHNANTHES		350	51
...FRAGILARIACEAE			
DSYNEDRA		260	37
TOTALS		620	88

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.531
CLASS 0.531
ORDER 0.587
FAMILY 1.560
GENERA 1.560

FEB. 19, 1975
1245 HOURS

IDENTIFICATION OF PHYTOPLANKTON

290 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		12	4
..PENNALES	PENNATE		
...ACHNANTHACEAE			
DACHNANTHES		120	43
...NAVICULACEAE	NAVICULOID		
....STAURONEIS		12	4
...NITZSCHACEAE			
DNITZSCHIA		87	30
...TABELLARIACEAE			
DTABELLARIA		50	17
TOTALS		290	98

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

ORDER 0.258
FAMILY 1.877
GENERA 1.877

CHEYENNE RIVER BASIN

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD--Continued

MAR. 17, 1975

1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

7,600 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...ACHNANTHACEAE			
....ACHNANTHES		1,100	14
...FRAGILARIACEAE			
....FRAGILARIA		1,100	14
....SYNEDRA		1,100	14
...NAVICULACEAE	NAVICULOID		
....NAVICULA		1,100	14
...NITZSCHIACEAE			
DNITZSCHIA		3,200	43
	TOTALS	7,600	99

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 FAMILY 1.842
 GENERA 2.128

APR. 16, 1975

1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

180 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
DGYROSIGMA		180	100
	TOTALS	180	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD--Continued

MAY 21, 1975
1230 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,700 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		160	10
	TOTALS	160	10
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCONODISCACEAE			
DCYCLOTELLA		270	16
..PENNALES	PENNATE		
...ACHNANTHACEAE		110	6
...ACHNANTHES			
...CYMBELLACEAE		53	3
...AMPHORA		53	3
...CYMBELLA			
...DIATOMACEAE		53	3
...DIATOMA			
...GOMPHONEMATACEAE		53	3
...GOMPHONEMA			
...NAVICULACEAE	NAVICULOID	53	3
...CALONEIS		320	19
DNAVICULA			
...NITZSCHACEAE		530	32
DNITZSCHIA			
	TOTALS	1,500	88

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.459
CLASS 0.459
ORDER 1.070
FAMILY 2.592
GENERA 2.790

JUNE 9, 1975
1130 HOURS

IDENTIFICATION OF PHYTOPLANKTON

21,000 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCONODISCACEAE			
DCYCLOTELLA		19,000	90
..PENNALES	PENNATE		
...NITZSCHACEAE		1,600	8
...NITZSCHIA		530	3
...SURIPELLACEAE			
....SURIPELLA			
	TOTALS	21,000	101

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
ORDER 0.477
FAMILY 0.560
GENERA 0.560

CHEYENNE RIVER BASIN

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD--Continued

JULY 7, 1975
1045 HOURS

IDENTIFICATION OF PHYTOPLANKTON

28,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		1,000	4
...SCENEDESMACEAE			
....ACTINASTRUM		2,700	9
DSCENEDESMUS		4,600	16
	TOTALS	8,300	29
CHRYCOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		1,300	5
DMELOSIRA		15,000	54
..PENNALES	PENNATE		
...NITZSCHACEAE			
....NITZSCHIA		2,700	9
	TOTALS	19,000	68
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
....ANACYSTIS		660	2
	TOTALS	660	2

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.023
CLASS 1.023
ORDER 1.418
FAMILY 1.573
GENERA 2.055

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD--Continued

AUG. 11, 1975

1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

22,000 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...CHARACIACEAE			
LSCHROEDERIA			0
...OCCYSTACEAE			
...ANKISTROOESMUS		380	2
...SCENEDESMACEAE			
LSCENEDESMUS			0
	TOTALS	380	2
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		4,600	21
DMELOSIRA		8,300	39
..PENNALES	PENNATE		
...FRAGILARIACEAE			
LSYNEDRA			0
...NAVICULACEAE	NAVICULOID		
...GYROSIGMA		380	2
...NITZSCHIA			
DNITZSCHIA		7,600	35
...SURIPELLACEAE			
...SURIPELLA		380	2
	TOTALS	21,000	99
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
..EUGLENALES			
...EUGLENACEAE			
LPHACUS			0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

SAMPLING METHOD: PLASTIC SLIDES, RANDOM

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.127

CLASS 0.127

ORDER 1.077

FAMILY 1.282

GENERA 1.841

CHEYENNE RIVER BASIN

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD--Continued

SEP. 9, 1975
1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

6,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		280	5
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
LCHLAMYDOMONAS			0
	TOTALS	280	5
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		1,200	21
....MELOSIRA		420	7
..PENNALES	PENNATE		
...FRAGILARIACEAE			
....SYNEDRA		690	12
...NAVICULACEAE	NAVICULOID		
....NAVICULA		140	2
...NITZSCHIACEAE			
DNITZSCHIA		3,200	53
	TOTALS	5,700	95
EUGLENOPHYTA	EUGLENIDS		
..EUGLENOPHYCEAE			
...EUGLENALES			
....EUGLENACEAE			
LTRACHELOMONAS			0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1% MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.271
 CLASS 0.271
 ORDER 1.103
 FAMILY 1.690
 GENERA 1.916

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD--Continued

OCT. 15, 1975

1230 HOURS

IDENTIFICATION OF PHYTOPLANKTON

7,800 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...MICRACTINIACEAE			
....GOLENKINIA		75	1
...OCCYSTACEAE			
....ANKISTRODESMUS		75	1
...SCENEDESMACEAE			
....SCENEDESMUS		150	2
	TOTALS	300	4
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		2,700	34
DMELOSIRA		2,800	36
..PENNALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
....NAVICULA		150	2
...NITZSCHIA			
....NITZSCHIA		670	9
	TOTALS	6,400	81
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
....ANACYSTIS		600	8
...OSCILLATORIALES	FILAMENTOUS		
...RIVULARIACEAE			
....RAPHIIDIOPSIS		600	8
	TOTALS	1,200	16

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.840
CLASS 0.840
ORDER 1.442
FAMILY 1.571
GENERA 2.276

NOV. 12, 1975
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,800 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...FRAGILARIACEAE			
DSYNEDRA		830	47
...GOMPHONEMATACEAE			
LGOMPHONEMA			0
...NAVICULACEAE	NAVICULOID		
LNAVICULA			0
...NITZSCHIA			
DNITZSCHIA		950	53
	TOTALS	1,800	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

FAMILY 0.997
GENERA 0.997

CHEYENNE RIVER BASIN

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD--Continued

DEC. 9, 1975

1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

280 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
....ACHNANTHACEAE		15	6
....ACHNANTHES			
....FRAGILARIACEAE			
DSYNEDRA		61	22
....NAVICULACEAE	NAVICULOID		
LGYROSIGMA			0
....NAVICULA		15	6
....NITZSCHIA			
DNITZSCHIA		180	67
	TOTALS	280	101
CYANOPHYTA	BLUE-GREEN ALGAE		
.MYXOPHYCEAE			
..OSCILLATORIALES	FILAMENTOUS		
....OSCILLATORIA			0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1% MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 FAMILY 1.336
 GENERA 1.336

JAN. 28, 1976

1115 HOURS

IDENTIFICATION OF PHYTOPLANKTON

300 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
.CHLOROPHYCEAE			
..CHLOROCOCCALES			
....SCENEDESMACEAE			
LSCENEDESMUS			0
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
....ACHNANTHACEAE			
DACHNANTHES		64	21
....DIATOMACEAE			
LDIATOMA			0
....FRAGILARIACEAE			
....SYNEDRA		21	7
....NAVICULACEAE	NAVICULOID		
....AMPHIPRORA		11	4
....NAVICULA		11	4
....NITZSCHIA			
DNITZSCHIA		130	43
....SURIPELLACEAE			
DSURIPELLA		64	21
	TOTALS	300	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1% MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 FAMILY 2.020
 GENERA 2.092

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD--Continued

FEB. 23, 1976
1230 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,200 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...FRAGILARIACEAE			
DSYNEDRA		290	24
...NAVICULACEAE	NAVICULOID		
...AMPHIPRORA		120	10
...NITZSCHIAEAE			
DNITZSCHIA		460	38
...SURIPELLACEAE			
DSURIPELLA		350	29
	TOTALS	1,200	101

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
FAMILY 1.863
GENERA 1.863

MAR. 23, 1976
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

300 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...FRAGILARIACEAE			
DSYNEDRA		76	25
...NAVICULACEAE	NAVICULOID		
DNAVICULA		76	25
...NITZSCHIAEAE			
DNITZSCHIA		150	50
	TOTALS	300	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
FAMILY 1.500
GENERA 1.500

CHEYENNE RIVER BASIN

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD--Continued

APR. 19, 1976
1045 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,200 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...NITZSCHIA			
DNITZSCHIA		1,200	100
TOTALS		1,200	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPEMAY 17, 1976
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

10,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA			
.CHLOROPHYCEAE	GREEN ALGAE		
...MICRACCTINIACEAE			
LMICRACCTINIUM			0
...OCCYSTACEAE			
...ANKISTRODESMUS		790	8
...SCENEDESMACEAE			
....SCENEDESMUS		910	9
TOTALS		1,700	17
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSINODISCACEAE			
DCYCLOTELLA		5,000	48
..PENNALES	PENNATE		
...ACHNANTHACEAE			
....ACHNANTHES		550	5
...DIATOMACEAE			
....DIATOMA		610	6
...NAVICULACEAE	NAVICULOID		
....AMPHIPRORA		120	1
...NITZSCHIA			
DNITZSCHIA		1,800	18
TOTALS		8,100	78
CYANOPHYTA			
.MYXOPHYCEAE	BLUE-GREEN ALGAE		
...CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
....ANACYSTIS		490	5
TOTALS		490	5
EUGLENOPHYTA			
.EUGLENOPHYCEAE	EUGLENOIDS		
..EUGLENALES			
...EUGLENACEAE			
....TRACHELOMONAS		61	1
TOTALS		61	1

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
L - LESS THAN 1% MAY NOT HAVE BEEN ACTUALLY COUNTED
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:PHYL/DIV 0.957
CLASS 0.957
ORDER 1.708
FAMILY 2.333
GENERA 2.333

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD--Continued

JUNE 21, 1976
1430 HOURS

IDENTIFICATION OF PHYTOPLANKTON

110 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNIALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
DGYROSIGMA		57	50
DNAVICULA		57	50
	TOTALS	110	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
GENERA 1.000

JULY 19, 1976
1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,100 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE		140	7
...CYCLOTELLA			
..PENNIALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
DNAVICULA		430	20
...NITZSCHIAEAE			
DNITZSCHIA		1,600	73
	TOTALS	2,100	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
ORDER 0.353
FAMILY 1.053
GENERA 1.053

CHEYENNE RIVER BASIN

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD--Continued

AUG. 16, 1976
1000 HOURS

IDENTIFICATION OF PHYTOPLANKTON

4,100 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....KIRCHNERIELLA		87	2
...SCENEDESMACEAE			
....SCENEDESMUS		170	4
....TETRASTRUM		350	9
	TOTALS	610	15
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		1,500	36
DMELOSIRA		1,200	30
..PENNALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
....NAVICULA		440	11
...NITZSCHACEAE			
....NITZSCHIA		350	9
	TOTALS	3,500	86

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.607
CLASS 0.607
ORDER 1.262
FAMILY 1.540
GENERA 2.312

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD--Continued

SEP. 14, 1976
1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

37,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
.CHLOROPHYCEAE			
..CHLOROCOCCALES			
...CHARACIACEAE			
LSCHROEDERIA			0
...OCCYSTACEAE			
...ANKISTRODESMUS		950	3
LOOCYSTIS			0
...SCENEDESMACEAE			
LSCENEDESMUS			0
...VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		720	2
TOTALS		1,700	5
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCEAE			
DCYCLOTELLA		31,000	85
..PENNALES	PENNATE		
...FRAGILARIACEAE			
LSYNEDRA			0
...NITZSCHIACEAE			
....NITZSCHIA		3,600	10
TOTALS		35,000	95
CYANOPHYTA	BLUE-GREEN ALGAE		
.MYXOPHYCEAE			
..OSCILLATORIALES	FILAMENTOUS		
...OSCILLATORIA			
LOSCILLATORIA			0
EUGLENOPHYTA	EUGLENIDS		
.CRYPTOPHYCEAE	CRYPTOMONADS		
..CRYPTOMONIDALES			
...CRYPTOMONODACEAE			
....CRYPTOMONAS		240	1
TOTALS		240	1

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.321
 CLASS 0.321
 ORDER 0.817
 FAMILY 0.817
 GENERA 0.817

06438500 CHEYENNE RIVER NEAR PLAINVIEW, SD

LOCATION.--Lat 44°31'16", long 101°59'34", in NE¼SW¼ sec.31, T.7 N., R.18 E., Ziebach County, Hydrologic Unit 10120112, near left bank on downstream side of highway bridge, 1.0 mi (1.6 km) downstream from Ash Creek and 10 mi (16 km) southeast of Plainview.

DRAINAGE AREA.--21,600 mi² (55,900 km²), approximately.

PERIOD OF RECORD.--October 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,877.65 ft (572.308 m) above mean sea level. Prior to Mar. 22, 1951, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are poor. Flow slightly regulated by Angostura Reservoir 164 mi (264 km) upstream (see station 06401000) since October 1949 and upstream reservoirs on Rapid Creek since 1956 and Belle Fourche River since 1952. Flow also affected by diversions for irrigation of about 70,000 acres (283 km²) and return flow from irrigated areas.

AVERAGE DISCHARGE.--26 years, 627 ft³/s (17.76 m³/s), 454,300 acre-ft/yr (560 hm³/yr); median of yearly mean discharges, 630 ft³/s (17.8 m³/s), 456,000 acre-ft/yr (560 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,700 ft³/s (1,180 m³/s) May 26, 1957, from rating curve extended above 18,000 ft³/s (510 m³/s); maximum gage height, 11.68 ft (3.560 m) May 26, 1965; no flow Dec. 14, 19-21, 1961.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood late in May 1920 reached a stage of about 17.5 ft (5.33 m), and flood in May 1927 reached a stage of about 14 ft (4.3 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 25,900 ft³/s (733 m³/s) June 16, gage height, 10.45 ft (3.185 m); minimum discharge, 34 ft³/s (0.96 m³/s) Jan. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	320	199	100	100	80	160	185	513	379	1280	745	466
2	325	160	120	60	80	160	173	370	385	1230	806	453
3	331	154	140	45	75	150	154	273	391	1210	880	408
4	341	150	160	40	75	150	157	264	351	1230	870	391
5	325	130	150	35	75	160	160	228	331	1210	788	385
6	346	120	150	36	80	180	157	209	310	1140	770	379
7	325	120	150	35	90	210	166	202	385	1080	870	385
8	239	120	150	34	140	230	173	182	641	1000	806	408
9	185	130	170	36	180	240	327	170	492	919	770	434
10	145	130	160	37	180	280	305	154	421	860	729	446
11	131	121	140	37	190	300	239	129	368	815	745	414
12	121	134	130	38	190	400	235	118	397	1230	657	391
13	116	131	130	38	190	500	310	104	368	1240	626	379
14	126	148	130	40	180	800	216	118	888	1330	785	385
15	134	140	120	42	180	850	216	121	5690	1240	695	379
16	143	140	120	44	180	750	206	97	18400	1030	634	374
17	148	140	100	46	170	664	377	71	20700	948	641	446
18	151	120	120	48	170	533	1350	93	11700	909	626	408
19	145	120	140	48	160	720	641	93	10500	880	590	357
20	137	120	150	50	160	641	459	71	8630	851	547	357
21	134	120	150	55	150	611	374	101	4910	870	513	357
22	131	110	140	60	160	712	351	228	3250	797	506	357
23	134	110	140	60	160	357	331	282	2600	842	479	362
24	151	100	140	65	180	310	320	1800	2360	753	479	374
25	170	100	150	70	200	277	310	1440	2340	737	486	374
26	166	100	150	70	200	264	300	824	1990	745	472	374
27	192	110	150	75	190	239	295	1070	1820	762	446	357
28	294	110	150	80	180	232	978	824	1680	788	446	341
29	341	110	140	85	170	206	1670	619	1550	762	446	336
30	247	100	140	85	---	206	806	506	1430	807	466	331
31	209	---	130	80	---	176	---	440	---	957	446	---
TOTAL	6403	3797	4310	1674	4415	11668	11941	11714	105657	30452	19765	11608
MEAN	207	127	139	54.0	152	376	398	378	3522	982	638	387
MAX	346	199	170	100	200	850	1670	1800	20700	1330	880	466
MIN	116	100	100	34	75	150	154	71	310	737	446	331
AC-FT	12700	7530	8550	3320	8760	23140	23680	23230	209600	60400	39200	23020
CAL YR 1975 TOTAL	238420			MEAN 653	MAX 9410	MIN 35	AC-FT 472900					
WTR YR 1976 TOTAL	223404			MEAN 610	MAX 20700	MIN 34	AC-FT 443100					

CHEYENNE RIVER BASIN

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06439000 CHERRY CREEK NEAR PLAINVIEW, SD

LOCATION.--Lat 44°44'38", long 102°03'11", in SW¼NE¼ sec.16, T.9 N., R.17 E., Meade County, Hydrologic Unit 10120113, on left bank 5 ft (2 m) downstream from bridge on State Highway 73, 0.2 mi (0.3 km) downstream from small right-bank tributary, 6.2 mi (10.0 km) downstream from Red Owl Creek, and 11 mi (18 km) northeast of Plainview.

DRAINAGE AREA.--1,190 mi² (3,080 km²), approximately.

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

GAGE.--Water-stage recorder. Datum of gage is 2,158.06 ft (657.777 m) above mean sea level. Prior to June 8, 1948, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years, 46.0 ft³/s (1.303 m³/s), 33,330 acre-ft/yr (41.1 hm³/yr); median of yearly mean discharges, 28 ft³/s (0.79 m³/s), 20,300 acre-ft/yr (25 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,500 ft³/s (496 m³/s) Apr. 1, 1952, gage height, 22.63 ft (6.898 m); no flow for long periods in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 420 ft³/s (11.9 m³/s) June 19, gage height, 6.83 ft (2.082 m), no peak above base of 1,000 ft³/s (28.3 m³/s); no flow for most of year.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Feb. 12 to Mar. 11)

3.5	0	4.0	14	5.0	96
3.6	1.5	4.2	25	6.0	240
3.7	3.6	4.5	46	7.0	442
3.8	6.4				

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	9.0	4.2	.75	0	11		
2					0	7.0	3.6	.45	0	8.2		
3					0	5.0	3.0	.30	0	6.1		
4					0	4.0	2.6	0	0	9.4		
5					0	4.0	2.1	0	0	5.8		
6					0	4.0	1.7	0	0	14		
7					0	5.0	1.5	0	0	25		
8					0	6.0	1.5	0	0	16		
9					0	6.0	1.5	0	0	10		
10					.30	7.0	1.2	0	0	6.1		
11					1.2	7.0	1.0	0	0	4.4		
12					4.0	7.1	.90	0	0	2.8		
13					13	6.8	.45	0	0	1.9		
14					25	7.4	.30	0	0	1.0		
15					30	9.6	.15	0	21	.15		
16					29	9.2	.75	0	2.8	0		
17					29	10	1.0	0	.75	0		
18					28	13	1.0	0	13	0		
19					28	13	1.2	0	294	0		
20					30	17	1.4	0	106	0		
21					32	17	1.2	0	84	0		
22					35	17	1.0	0	67	0		
23					30	17	.75	0	59	0		
24					25	20	.90	0	52	0		
25					16	18	1.0	0	47	0		
26					15	13	.90	0	42	0		
27					13	9.9	.60	0	38	0		
28					10	8.2	.60	0	28	0		
29					10	6.4	.90	0	23	0		
30					---	5.0	.90	0	18	0		
31		---			---	4.4	---	0	---	0		---
TOTAL	0	0	0	0	403.50	293.0	39.80	1.50	895.55	121.85	0	0
MEAN	0	0	0	0	13.9	9.45	1.33	.048	29.9	3.93	0	0
MAX	0	0	0	0	35	20	4.2	.75	294	25	0	0
MIN	0	0	0	0	0	4.0	.15	0	0	0	0	0
AC-FT	0	0	0	0	800	581	79	3.0	1780	242	0	0
CAL YR 1975	TOTAL	35661.60	MEAN 97.7	MAX 4320	MIN 0	AC-FT 70730						
WTR YR 1976	TOTAL	1755.20	MEAN 4.80	MAX 294	MIN 0	AC-FT 3480						

CHEYENNE RIVER BASIN

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD

LOCATION.--Lat 44°36'10", long 101°29'24", in NE¼NW¼ sec.5, T.7 N., R.22 E., Ziebach County, Hydrologic Unit 10120112, on left bank 0.5 mi (0.8 km) east of village of Cherry Creek, 0.5 mi (0.8 km) downstream from Cherry Creek and 1.7 mi (2.7 km) upstream from Plum Creek.

DRAINAGE AREA.--23,900 mi² (61,900 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,699.29 ft (517.944 m) above mean sea level. Prior to Oct. 17, 1960, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter periods, which are poor. Flow regulated by Angostura Reservoir 197 mi (317 km) upstream (see station 06401000) since October 1949 and upstream reservoirs on Rapid Creek since 1956 and Belle Fourche River since 1952. Flow also affected by diversions for irrigation of about 70,000 acres (283 km²) and return flow from irrigated areas.

AVERAGE DISCHARGE.--16 years, 844 ft³/s (23.90 m³/s), 611,500 acre-ft/yr (754 hm³/yr); median of yearly mean discharges, 740 ft³/s (21.0 m³/s), 536,000 acre-ft/yr (660 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,800 ft³/s (1,240 m³/s) June 16, 1967, gage height, 14.75 ft (4.496 m); no flow Jan. 6 to Feb. 2, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 25,500 ft³/s (722 m³/s) June 17, gage height, 11.80 ft (3.600 m); minimum daily, 35 ft³/s (0.99 m³/s) Jan. 6, 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	278	177	95	130	85	180	205	566	418	1390	807	436
2	286	166	100	100	85	170	189	418	396	1280	724	440
3	294	160	120	60	85	160	183	338	400	1300	943	422
4	294	144	140	45	80	150	180	291	387	1260	1010	387
5	294	138	160	40	80	150	177	255	338	1290	927	371
6	286	136	150	35	75	160	166	218	318	1220	822	358
7	302	136	140	36	80	180	164	192	295	1100	830	346
8	267	138	140	36	90	200	166	177	475	1030	1090	375
9	214	141	160	35	140	220	172	161	532	846	838	422
10	186	144	170	35	200	260	312	148	427	777	807	479
11	166	136	160	36	210	280	273	134	375	692	784	484
12	149	138	150	36	210	300	241	120	338	658	784	440
13	144	141	140	37	200	400	234	118	383	1750	633	413
14	138	146	140	37	200	600	255	111	400	799	887	409
15	138	141	130	40	200	800	205	114	4880	1890	943	409
16	136	149	130	42	190	885	192	105	10800	1180	685	392
17	138	149	120	45	190	639	192	101	24000	1090	645	428
18	138	135	100	45	180	566	1170	90	16900	910	671	450
19	138	133	110	50	180	577	952	88	11100	869	607	392
20	141	130	130	50	170	572	554	85	11000	830	572	371
21	133	130	150	50	160	577	422	86	6910	830	516	375
22	126	130	160	55	150	510	371	94	4570	814	494	371
23	126	120	150	55	150	422	334	161	3500	846	479	358
24	133	110	150	60	160	379	291	780	2970	747	445	387
25	138	110	150	65	180	350	258	2260	3240	706	460	413
26	144	100	160	65	210	326	234	1080	2560	706	465	422
27	144	105	160	70	210	303	214	795	2180	747	427	418
28	163	115	160	75	205	288	208	1230	1950	770	418	387
29	234	115	160	80	200	266	2030	726	1780	762	422	371
30	241	105	150	90	---	241	1040	577	1610	762	436	350
31	202	---	150	90	---	224	---	484	---	1120	436	---
TOTAL	5911	4019	4385	1725	4555	11335	11584	12103	115432	30971	21007	12076
MEAN	191	134	141	55.6	157	366	386	390	3848	999	678	403
MAX	302	177	170	130	210	885	2030	2260	24000	1890	1090	484
MIN	126	100	95	35	75	150	164	85	295	658	418	346
AC-FT	11720	7970	8700	3420	9030	22480	22980	24010	229000	61430	41670	23950
CAL YR 1975 TOTAL	285739		MEAN 783	MAX 8330	MIN 35	AC-FT 566800						
WTR YR 1976 TOTAL	235103		MEAN 642	MAX 24000	MIN 35	AC-FT 466300						

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued
(National stream-quality accounting network station)
(National pesticide water-monitoring network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1972 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1975 to current year.

WATER TEMPERATURES: January 1975 to current year.

SUSPENDED SEDIMENT:DISCHARGE: October 1971 to September 1976 (discontinued).

INSTRUMENTATION.--Automatic pumping sediment sampler since August 1973.

REMARKS.--Sediment records fair. Flow affected by ice Nov. 20 to Mar. 19. Sediment-discharge records prior to Oct. 1, 1971, are on file in the District office, Corps of Engineers, Omaha, Ne. In addition to the pumping sampler, sediment samples were collected on a daily basis by a local observer.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,400 micromhos Jan. 27, 28, 1975; minimum daily, 620 micromhos Apr. 25, 1975.

WATER TEMPERATURES: Maximum daily, 35.0°C Aug. 26, 1975; minimum daily, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 66,000 mg/L May 25, 1976; minimum daily mean, 80 mg/L Nov. 15-17, 1972.

SEDIMENT LOADS: Maximum daily, 2,530,000 tons (2,300,000 tonnes) June 12, 1972; minimum daily 15 tons (14 tonnes) Dec. 14, 1973.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,200 micromhos Jan. 13; minimum daily, 800 micromhos Apr. 28-30.

WATER TEMPERATURES: Maximum daily, 35.0°C Aug. 26; minimum daily, 0.0°C on many days during winter period.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 66,000 mg/L May 25; minimum daily mean, 152 mg/L Sept. 11.

SEDIMENT LOADS: Maximum daily, 791,000 tons (718,000 tonnes) June 17; minimum daily, 21 tons (19 tonnes) Jan. 6.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (JTU) (00070)	FECAL COLI- FORM (COL. PER 100 ML) (31616)	STREP- TOCOCCI (COL- ONIES PER 100 ML) (31679)	HARD- NESS (CA.MG) (MG/L) (00900)	NON- CAR- BONATE HARD- NESS (MG/L) (00902)	DIS- SOLVED CAL- CIUM (CA) (MG/L) (00915)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) (00925)
OCT												
15...	1110	135	2550	8.2	9.5	3	ND	810	1100	930	230	120
NOV												
12...	1245	137	2180	8.1	1.5	55	B20	B50	870	740	200	90
DEC												
16...	1430	132	2450	8.0	.0	15	B15	B30	900	690	220	86
JAN												
14...	1130	37	3400	7.9	.0	1	B40	B15	1300	1000	320	120
FEB												
11...	1100	207	2150	7.7	.0	130	B70	B600	730	540	180	68
MAR												
10...	1130	255	2450	8.1	.0	62	B20	B40	800	620	200	73
APR												
06...	1100	174	2450	8.2	14.0	12	B1	B10	850	690	200	85
MAY												
05...	1200	261	2600	8.3	12.0	190	B200	ND	710	540	180	63
JUN												
02...	1115	401	1900	8.3	26.0	230	660	B210	680	540	160	68
29...	1445	1750	1270	8.4	23.0	350	B500	B500	490	330	120	46
JUL												
27...	1100	698	1800	8.2	26.0	130	B760	B90	800	690	210	68
AUG												
24...	1230	443	1840	8.2	23.0	65	B40	B40	860	750	220	76
SEP												
22...	1115	372	2160	8.3	15.5	120	B130	B50	850	730	200	85

B Non-ideal colony count.
ND Not detected.

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SODIUM (NA) (MG/L) (00930)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L) (00935)	BICAR- BONATE (HCO3) (MG/L) (00440)	CAR- BONATE (CO3) (MG/L) (00445)	ALKA- LINITY AS CACO3 (MG/L) (00410)	DIS- SOLVED SULFATE (SO4) (MG/L) (00945)	DIS- SOLVED CHLO- RIDE (CL) (MG/L) (00940)	DIS- SOLVED FLUO- RIDE (F) (MG/L) (00950)	DIS- SOLVED SILICA (SI02) (MG/L) (00955)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L) (70300)
OCT 15...	190	28	2.5	15	171	0	140	1200	54	.7	4.6	2010
NOV 12...	210	34	3.1	16	162	0	133	1100	73	.5	1.5	1970
DEC 16...	190	31	2.8	14	265	0	217	990	63	.5	8.5	1910
JAN 14...	330	35	4.0	18	358	0	294	1600	83	.5	8.9	2850
FEB 11...	180	35	2.9	11	230	0	189	860	47	.4	7.8	1630
MAR 10...	230	38	3.5	12	224	0	184	1000	57	.5	7.7	1730
APR 06...	220	36	3.3	14	190	0	156	1100	67	.5	3.2	1920
MAY 05...	190	36	3.1	13	209	0	171	830	60	.5	9.8	1530
JUN 02...	140	30	2.3	17	175	0	144	750	36	.5	9.0	1450
29...	79	26	1.6	8.5	199	0	163	490	14	.4	10	930
JUL 27...	95	20	1.5	11	137	0	112	830	19	.5	5.8	1410
AUG 24...	110	21	1.6	12	131	0	107	890	25	.5	5.6	1520
SEP 22...	150	27	2.2	14	140	0	115	950	36	.5	4.7	1670

DATE	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) (70301)	DIS- SOLVED SOLIDS (TONS PER AC-FT) (70303)	DIS- SOLVED SOLIDS (TONS PER DAY) (70302)	TOTAL NITRITE PLUS NITRATE (N) (MG/L) (00630)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L) (00625)	TOTAL NITRO- GEN (N) (MG/L) (00600)	TOTAL NITRO- GEN (NO3) (MG/L) (71887)	TOTAL PHOS- PHORUS (P) (MG/L) (00665)	TOTAL ARSENIC (AS) (UG/L) (01002)	SUS- PENDE D ARSENIC (AS) (UG/L) (01001)	DIS- SOLVED ARSENIC (AS) (UG/L) (01000)	TOTAL CAD- MIUM (CD) (UG/L) (01027)
OCT 15...	1900	2.73	733	.49	.95	1.4	6.4	.01	28	2	26	20
NOV 12...	1770	2.68	729	.37	1.0	1.4	6.1	.20	--	--	--	--
DEC 16...	1700	2.60	681	1.8	1.1	2.9	13	.10	--	--	--	--
JAN 14...	2660	3.88	287	2.6	.76	3.4	15	.04	17	0	17	<10
FEB 11...	1470	2.22	911	2.3	1.8	4.1	18	.32	--	--	--	--
MAR 10...	1700	2.31	1170	1.9	.68	2.6	11	.18	--	--	--	--
APR 06...	1780	2.61	902	.34	.57	.91	4.0	.06	28	10	18	<10
MAY 05...	1450	2.08	1080	1.3	1.0	2.3	10	.54	--	--	--	--
JUN 02...	1270	1.97	1570	.58	.88	1.5	6.5	.48	--	--	--	--
29...	866	1.26	4390	.56	1.0	1.6	6.9	.60	200	170	26	1
JUL 27...	1310	1.92	2660	.27	.97	1.2	5.5	.26	--	--	--	--
AUG 24...	1400	2.07	1820	.44	.63	1.1	4.7	.17	--	--	--	--
SEP 22...	1510	2.27	1680	.53	.58	1.1	4.9	.26	--	--	--	--

< Less than.

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

WATER QUALITY DATA. WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	SUS- PENDE D CAD- MIUM (CD) (UG/L) (01026)	DIS- SOLVED CAD- MIUM (CD) (UG/L) (01025)	TOTAL CHRO- MIUM (CR) (UG/L) (01034)	SUS- PENDE D CHRO- MIUM (CR) (UG/L) (01031)	DIS- SOLVED CHRO- MIUM (CR) (UG/L) (01030)	TOTAL COBALT (CO) (UG/L) (01037)	SUS- PENDE D COBALT (CO) (UG/L) (01036)	DIS- SOLVED COBALT (CO) (UG/L) (01035)	TOTAL COPPER (CU) (UG/L) (01042)	SUS- PENDE D COPPER (CU) (UG/L) (01041)	DIS- SOLVED COPPER (CU) (UG/L) (01040)
OCT 15...	20	0	0	0	0	40	39	1	20	20	0
NOV 12...	--	--	--	--	--	--	--	--	--	--	--
DEC 16...	--	--	--	--	--	--	--	--	--	--	--
JAN 14...	<10	0	0	0	0	<50	<50	0	10	7	3
FEB 11...	--	--	--	--	--	--	--	--	--	--	--
MAR 10...	--	--	--	--	--	--	--	--	--	--	--
APR 06...	<5	5	20	0	20	<50	<50	0	10	8	2
MAY 05...	--	--	--	--	--	--	--	--	--	--	--
JUN 02...	--	--	--	--	--	--	--	--	--	--	--
JUL 29...	1	0	20	10	10	10	10	0	20	20	0
AUG 27...	--	--	--	--	--	--	--	--	--	--	--
SEP 24...	--	--	--	--	--	--	--	--	--	--	--
SEP 22...	--	--	--	--	--	--	--	--	--	--	--

DATE	TOTAL IRON (FE) (UG/L) (01045)	DIS- SOLVED IRON (FE) (UG/L) (01046)	TOTAL LEAD (PB) (UG/L) (01051)	SUS- PENDE D LEAD (PB) (UG/L) (01050)	DIS- SOLVED LEAD (PB) (UG/L) (01049)	TOTAL MAN- GANESE (MN) (UG/L) (01055)	SUS- PENDE D MAN- GANESE (MN) (UG/L) (01054)	DIS- SOLVED MAN- GANESE (MN) (UG/L) (01056)	TOTAL MERCURY (HG) (UG/L) (71900)	SUS- PENDE D MERCURY (HG) (UG/L) (71895)	DIS- SOLVED MERCURY (HG) (UG/L) (71890)
OCT 15...	280	10	100	100	0	50	20	30	.1	.1	.0
NOV 12...	--	--	--	--	--	--	--	--	--	--	--
DEC 16...	--	--	--	--	--	--	--	--	--	--	--
JAN 14...	60	10	<100	<100	0	440	0	460	.0	.0	.0
FEB 11...	--	--	--	--	--	--	--	--	--	--	--
MAR 10...	--	--	--	--	--	--	--	--	--	--	--
APR 06...	1100	20	<100	<99	1	90	60	30	.2	.2	.0
MAY 05...	--	--	--	--	--	--	--	--	--	--	--
JUN 02...	--	--	--	--	--	--	--	--	--	--	--
JUL 29...	21000	30	28	28	0	750	730	20	<.5	.0	<.5
AUG 27...	--	--	--	--	--	--	--	--	--	--	--
SEP 24...	--	--	--	--	--	--	--	--	--	--	--
SEP 22...	--	--	--	--	--	--	--	--	--	--	--

< Less than.

CHEYENNE RIVER BASIN

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

WATER QUALITY DATA. WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL SELE- NIUM (SE) (UG/L) (01147)	SUS- PENDE SELE- NIUM (SE) (UG/L) (01146)	DIS- SOLVED SELE- NIUM (SE) (UG/L) (01145)	TOTAL ZINC (7N) (UG/L) (01092)	SUS- PENDE ZINC (7N) (UG/L) (01091)	DIS- SOLVED ZINC (7N) (UG/L) (01090)	TOTAL ORGANIC CARBON (C) (MG/L) (00680)
OCT							
15...	5	2	3	10	0	10	5.0
NOV							
12...	--	--	--	--	--	--	--
DEC							
16...	--	--	--	--	--	--	--
JAN							
14...	6	0	6	20	20	0	3.0
FEB							
11...	--	--	--	--	--	--	--
MAR							
10...	--	--	--	--	--	--	--
APR							
06...	4	1	3	10	10	0	4.5
MAY							
05...	--	--	--	--	--	--	--
JUN							
29...	0	0	0	60	60	1	17
JUL							
27...	--	--	--	--	--	--	--
AUG							
24...	--	--	--	--	--	--	--
SEP							
22...	--	--	--	--	--	--	--

DATE	TOTAL PHYTO- PLANK- TON (CELLS PER ML) (60050)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	UNCOR- RECTED PERI- PHYTON CHLORO- PHYLL A MG/SQ M (32228)	UNCOR- RECTED PERI- PHYTON CHLORO- PHYLL B MG/SQ M (32226)	SUS- PENDE SEDIM- MENT (MG/L) (80154)	SUS- PENDE SEDIM- MENT CHARGE (T/DAY) (80155)
OCT							
15...	13000	--	--	--	--	--	--
NOV							
12...	8900	--	--	--	--	--	--
DEC							
16...	760	--	--	--	--	--	--
JAN							
14...	48	--	--	--	--	--	--
FEB							
11...	1400	--	--	--	--	--	--
MAR							
10...	550	--	--	--	--	--	--
APR							
06...	5400	--	--	--	--	--	--
MAY							
05...	3200	.231	.154	.000	.000	--	--
JUN							
29...	8100	--	--	--	--	--	--
JUL							
27...	55000	1.92	1.54	.148	.000	--	--
AUG							
24...	53000	2.23	1.31	.322	.000	--	--
SEP							
22...	20000	.385	.231	.606	.000	--	--

CHEYENNE RIVER BASIN

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06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL ALDRIN (UG/L) (39330)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG) (39333)	TOTAL CHLOR- DANE (UG/L) (39350)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG) (39351)	TOTAL DDD (UG/L) (39360)	DDD IN BOTTOM MA- TERIAL (UG/KG) (39363)	TOTAL DDE (UG/L) (39365)	DDE IN BOTTOM MA- TERIAL (UG/KG) (39366)	TOTAL DDT (UG/L) (39370)	DDT IN BOTTOM MA- TERIAL (UG/KG) (39373)	TOTAL DI- AZINON (UG/L) (39570)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG) (39571)
OCT 15...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DEC 16...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUN 02...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 13...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	TOTAL DI- ELDRIN (UG/L) (39380)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG) (39383)	TOTAL ENDRIN (UG/L) (39390)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG) (39393)	TOTAL ETHION (UG/L) (39398)	ETHION IN BOTTOM MA- TERIAL (UG/KG) (39399)	TOTAL HEPTA- CHLOR (UG/L) (39410)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG) (39413)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L) (39420)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG) (39423)	TOTAL LINDANE (UG/L) (39340)
OCT 15...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DEC 16...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUN 02...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 13...	ND	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	LINDANE IN BOTTOM MA- TERIAL (UG/KG) (39343)	TOTAL MALA- THION (UG/L) (39530)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG) (39531)	TOTAL METHOXY- CHLOR (UG/L) (39480)	METHOXY- CHLOR IN BOT- TOM MA- TERIAL (UG/KG) (39481)	TOTAL METHYL PARA- THION (UG/L) (39600)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG) (39601)	TOTAL METHYL TRI- THION (UG/L) (39790)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG) (39791)	TOTAL PARA- THION (UG/L) (39540)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG) (39541)
OCT 15...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DEC 16...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUN 02...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 13...	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	TOTAL TOX- APHENE (UG/L) (39400)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG) (39403)	TOTAL TRI- THION (UG/L) (39786)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG) (39787)	TOTAL ATRA- ZINE (UG/L) (39630)	TOTAL 2,4-D (UG/L) (39730)	2,4-D IN BOTTOM MA- TERIAL (UG/KG) (39731)	TOTAL 2,4,5-T (UG/L) (39740)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG) (39741)	TOTAL SILVEX (UG/L) (39760)	SILVEX IN BOTTOM MA- TERIAL (UG/KG) (39761)
OCT 15...	ND	ND	ND	ND	--	--	--	--	--	--	--
DEC 16...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUN 02...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 13...	ND	--	ND	--	ND	ND	--	ND	--	ND	--

ND Not detected.

CHEYENNE RIVER BASIN

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV.	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2100	1900	2950	2400	2320	2200	2150	1610	1820	1370	1500	1870
2	2100	2150	2900	2300	2300	2200	2250	1600	1820	1390	1500	1870
3	2100	2150	2750	2450	1900	2200	2250	1600	1850	1480	1610	1910
4	2100	2350	2750	2450	1900	2200	2100	1700	1850	1480	1620	1910
5	2150	2350	2750	2450	1900	2200	2280	2020	1850	1480	1620	1920
6	2100	2350	2850	2600	1900	2200	2280	2220	2150	1470	1620	2000
7	2100	2350	2800	2650	1820	2200	2290	2240	2150	1530	1630	2000
8	2100	2350	2700	2950	1820	2250	2280	2250	2150	1530	1670	1980
9	2150	2350	2600	2950	1900	2350	2300	2260	1800	1730	1550	1980
10	2250	2350	2250	2950	2000	1950	2300	2270	1920	1740	1540	1980
11	2250	2400	2250	3000	2060	1950	1800	2260	1950	1750	1590	1980
12	2350	2400	2250	3000	2050	1950	1650	2250	1920	1750	1570	1970
13	2400	2350	2300	3200	1460	1950	2000	2240	1920	1810	1540	1980
14	2450	2400	2300	3000	1460	1960	2070	2240	1210	1420	1530	1980
15	2450	2400	2350	3000	1460	1950	2060	2260	1210	1610	1560	1980
16	2450	2400	2350	3000	1010	1780	2070	2330	1460	1600	1580	1980
17	2450	2350	2400	3000	1010	1640	2060	2350	1240	1620	1650	1980
18	2450	2400	2500	3000	1000	1730	1020	2490	940	1610	1720	1980
19	2450	2350	2500	2600	1000	1730	1020	2520	930	1630	1720	1940
20	2500	2450	2500	2600	950	1560	1570	2580	880	1640	1720	1860
21	2500	2700	2700	2800	940	2100	1570	2460	1030	1640	1710	1950
22	2500	2800	2900	2800	1210	2100	1790	2410	1020	1640	1730	2010
23	2500	2800	2850	2800	1200	2100	1980	2300	1030	1700	1820	1980
24	2550	2800	2900	2800	1300	2100	2000	2210	1030	1700	1820	1980
25	2550	2950	2750	2800	1630	2100	2080	910	1010	1720	1810	1980
26	2500	3050	2750	2800	1590	2100	2080	980	1010	1750	1820	1950
27	2500	3050	2700	2800	1500	2100	2180	1180	1180	1640	1850	1930
28	2400	3050	2600	2650	1500	2100	800	1370	1180	1620	1850	1920
29	2400	2900	2500	2650	1450	2100	800	1690	1320	1620	1850	2000
30	2050	2900	2500	2550	---	2100	800	1670	1320	1620	1850	2000
31	1900	---	2450	2450	---	2100	---	1740	---	1620	1870	---
MONTH	2320	2520	2600	2760	1570	2040	1860	2010	1470	1610	1680	1960

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.0	5.0	0.0	0.0	0.0	0.0	---	7.0	20.0	27.0	25.0	20.0
2	17.0	9.0	0.0	0.0	0.0	0.0	15.0	12.0	22.0	20.0	26.0	25.0
3	18.0	5.0	0.0	0.0	0.0	0.0	15.0	10.0	20.0	21.0	25.0	20.0
4	13.0	10.0	0.0	0.0	0.0	0.0	---	5.0	21.0	20.0	26.0	24.0
5	15.0	5.0	0.0	0.0	0.0	0.0	---	15.0	18.0	22.0	25.0	21.0
6	16.0	8.0	0.0	0.0	0.0	0.0	16.0	10.0	20.0	28.0	26.0	20.0
7	12.0	5.0	0.0	0.0	0.0	0.0	16.0	20.0	25.0	27.0	25.0	20.0
8	14.0	7.0	0.0	0.0	0.0	0.0	15.0	18.0	25.0	24.0	30.0	21.0
9	8.0	9.0	0.0	0.0	0.0	0.0	20.0	20.0	24.0	26.0	25.0	18.0
10	11.0	3.0	0.0	0.0	0.0	0.0	17.0	16.0	25.0	25.0	24.0	18.0
11	9.0	2.0	0.0	0.0	0.0	0.0	15.0	20.0	24.0	30.0	25.0	24.0
12	13.0	0.0	0.0	0.0	0.0	0.0	12.0	10.0	26.0	25.0	25.0	25.0
13	10.0	2.0	0.0	0.0	0.0	0.0	20.0	15.0	20.0	23.0	25.0	20.0
14	8.0	4.0	0.0	0.0	0.0	0.0	16.0	16.0	18.0	25.0	24.0	20.0
15	7.0	5.0	0.0	0.0	0.0	0.0	15.0	14.0	18.0	20.0	25.0	21.0
16	11.0	5.0	0.0	0.0	0.0	---	18.0	20.0	17.0	18.0	23.0	20.0
17	13.0	2.0	0.0	0.0	0.0	---	10.0	15.0	15.0	25.0	30.0	18.0
18	14.0	2.0	0.0	0.0	0.0	---	15.0	26.0	16.0	25.0	30.0	20.0
19	13.0	0.0	0.0	0.0	0.0	---	10.0	18.0	20.0	20.0	26.0	15.0
20	15.0	0.0	0.0	0.0	0.0	---	15.0	19.0	22.0	20.0	25.0	14.0
21	13.0	0.0	0.0	0.0	0.0	---	10.0	15.0	20.0	25.0	28.0	15.0
22	12.0	0.0	0.0	0.0	0.0	---	10.0	14.0	18.0	30.0	30.0	18.0
23	7.0	0.0	0.0	0.0	0.0	---	15.0	15.0	20.0	26.0	25.0	14.0
24	8.0	0.0	0.0	0.0	0.0	---	8.0	15.0	20.0	30.0	26.0	15.0
25	4.0	0.0	0.0	0.0	0.0	---	10.0	12.0	18.0	30.0	30.0	14.0
26	10.0	0.0	0.0	0.0	0.0	---	6.0	15.0	16.0	29.0	35.0	12.0
27	7.0	0.0	0.0	0.0	0.0	---	8.0	17.0	17.0	25.0	22.0	14.0
28	10.0	0.0	0.0	0.0	0.0	---	10.0	17.0	22.0	28.0	25.0	15.0
29	4.0	0.0	0.0	0.0	0.0	---	10.0	20.0	18.0	29.0	25.0	15.0
30	5.0	0.0	0.0	0.0	---	---	8.0	22.0	22.0	25.0	26.0	20.0
31	5.0	---	0.0	0.0	---	---	---	21.0	---	27.0	22.0	---
MONTH	10.5	3.0	0.0	0.0	0.0	---	13.0	16.0	20.0	25.0	26.0	18.5

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

OCT. 3, 1974
1345 HOURS

IDENTIFICATION OF PHYTOPLANKTON

3,000 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
DCLOSTERIOPSIS		460	15
...VOLVOCALES			
...CHLAMYDOMONADACEAE			
DCHLAMYDOMONAS		460	15
	TOTALS	910	30
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		1,100	36
...MELOSIRA		76	2
..PENNALES	PENNATE		
...ACHNANTHACEAE			
...ACHNANTHES		300	10
...FRAGILARIACEAE			
...SYNEDRA		300	10
...NAVICULACEAE	NAVICULOID		
...NAVICULA		110	4
...NITZSCHACEAE			
...NITZSCHIA		230	7
	TOTALS	2,100	69

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.881
CLASS 0.881
ORDER 1.875
FAMILY 2.473
GENERA 2.607

OCT. 31, 1974
1305 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,200 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
...CYCLOTELLA		120	6
..PENNALES	PENNATE		
...ACHNANTHACEAE			
DACHNANTHES		480	22
...CYMBELLACEAE			
...AMPHORA		30	1
...FRAGILARIACEAE			
DSYNEDRA		900	42
...GOMPHONEMACEAE			
...GOMPHONEMA		30	1
...NAVICULACEAE	NAVICULOID		
...NAVICULA		120	6
...PINNULARIA		180	8
...NITZSCHACEAE			
...NITZSCHIA		300	14
	TOTALS	2,200	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
ORDER 0.310
FAMILY 2.203
GENERA 2.337

CHEYENNE RIVER BASIN

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

JAN. 16, 1975
1320 HOURS

IDENTIFICATION OF PHYTOPLANKTON

570 CELLS/ML

_ORGANISM_NAME_	_COMMON_NAME_	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...SCENEDESMACEAE			
....SCENEDESMUS		50	9
	TOTALS	50	9
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...ACHNANTHACEAE			
DACHNANTHES		270	48
...CYMBELLACEAE			
....CYMBELLA		25	4
...GOMPHONEMACEAE			
....GOMPHONEMA		50	9
...NAVICULACEAE	NAVICULOID		
....NAVICULA		50	9
...NITZSCHACEAE			
....NITZSCHIA		75	13
...SURIPELLACEAE			
....SURIPELLA		50	9
	TOTALS	520	92

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.426
CLASS 0.426
ORDER 0.426
FAMILY 2.314
GENERA 2.314

FEB. 11, 1975
1500 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,400 CELLS/ML

_ORGANISM_NAME_	_COMMON_NAME_	CELLS/ML	PER_CENT
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...ACHNANTHACEAE			
....ACHNANTHES		48	2
...CYMBELLACEAE			
....CYMBELLA		140	6
...FRAGILARIACEAE			
DSYNEDRA		530	22
...GOMPHONEMACEAE			
DGOMPHONEMA		1,200	49
...NAVICULACEAE	NAVICULOID		
....AMPHIPRORA		190	8
....GYROSIGMA		48	2
....NAVICULA		140	6
...NITZSCHACEAE			
....NITZSCHIA		96	4
	TOTALS	2,400	99

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
FAMILY 1.965
GENERA 2.194

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

MAR. 12, 1975
1600 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,200 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...ACHNANTHACEAE		120	10
....ACHNANTHES			
...FRAGILARIACEAE			
DSYNEDRA		240	20
...GOMPHONEMACEAE			
DGOMPHONEMA		540	45
...MERIDIONACEAE			
....MERIDION		60	5
...NAVICULACEAE	NAVICULOID		
DNAVICULA		240	20
TOTALS		1,200	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 FAMILY 1.995
 GENERA 1.995

MAY 1, 1975
1510 HOURS

IDENTIFICATION OF PHYTOPLANKTON

4,300 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
DNAVICULA		1,100	25
DPINNULARIA		1,100	25
...NITZSCHACEAE			
DNANTZSCHIA		2,200	50
TOTALS		4,300	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 FAMILY 1.000
 GENERA 1.500

CHEYENNE RIVER BASIN

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

MAY 22, 1975
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,300 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...SCENEDESMACEAE			
DSCENEDESMUS		530	40
	TOTALS	530	40
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...DIATOMACEAE			
....DIATOMA		67	5
...GOMPHONEMACEAE			
....GOMPHONEMA		67	5
...NAVICULACEAE	NAVICULOID		
DNAVICULA		270	20
...NITZSCHIAEAE			
DNITZSCHIA		270	20
	TOTALS	670	50
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
...EUGLENALES			
...EUGLENACEAE			
....EUGLENA		130	10
	TOTALS	130	10

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.361
CLASS 1.361
ORDER 1.361
FAMILY 2.222
GENERA 2.222

JUNE 12, 1975
1335 HOURS

IDENTIFICATION OF PHYTOPLANKTON

10,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...ACHNANTHACEAE			
...RHOICOSPHENIA		860	8
...GOMPHONEMACEAE			
DGOMPHONEMA		1,700	17
...NAVICULACEAE	NAVICULOID		
DNAVICULA		3,500	33
...NITZSCHIAEAE			
DNITZSCHIA		4,300	42
	TOTALS	10,000	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

FAMILY 1.784
GENERA 1.784

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

JULY 2, 1975
1330 HOURS

IDENTIFICATION OF PHYTOPLANKTON

6,200 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		170	3
...SCENEDESMACEAE			
....CRUCIGENIA		690	11
DSCENEDESMUS		1,700	28
	TOTALS	2,600	42
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		1,000	17
..PENNALES	PENNATE		
...GOMPHONEMACEAE			
....GOMPHONEMA		170	3
...NAVICULACEAE	NAVICULOID		
....NAVICULA		690	11
...NITZSCHACEAE			
DNITZSCHIA		1,600	25
	TOTALS	3,500	56
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
..EUGLENALES			
...EUGLENACEAE			
....TRACHELOMONAS		170	3
	TOTALS	170	3

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.141
 CLASS 1.141
 ORDER 1.631
 FAMILY 2.244
 GENERA 2.579

JULY 21, 1975
1330 HOURS

IDENTIFICATION OF PHYTOPLANKTON

- - - NO ORGANISMS REPORTED - - -

CHEYENNE RIVER BASIN

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

JULY 29, 1975
1105 HOURS

IDENTIFICATION OF PHYTOPLANKTON

70,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		2,100	3
....DICTYOSPHAERIUM		3,700	5
LKIRCHNERIELLA			0
....OOCYSTIS		2,500	3
....SCENEDESMACEAE			
DACTINASTRUM		19,000	28
....SCENEDESMUS		7,100	10
	TOTALS	35,000	49
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		3,100	4
....MELOSIRA		610	1
..PENNALES	PENNATE		
....GOMPHONEMACEAE			
LGOMPHONEMA			0
....NAVICULACEAE	NAVICULOID		
LAMPHIPRORA			0
....NAVICULA		920	1
....NITZSCHIA			
DNITZSCHIA		11,000	16
	TOTALS	16,000	22
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
....ANACYSTIS		1,200	2
..OSCILLATORIALES	FILAMENTOUS		
....NOSTOCACEAE			
DANABAENA		18,000	25
....OSCILLATORIA			
LLYNGBYA			0
LOSCILLATORIA			0
	TOTALS	19,000	27

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.500
 CLASS 1.500
 ORDER 1.772
 FAMILY 2.269
 GENERA 2.827

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

AUG. 27, 1975
0920 HOURS

IDENTIFICATION OF PHYTOPLANKTON

17,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...CHARACIACEAE			
....SCHROEDERIA		310	2
...OCCYSTACEAE			
....ANKISTRODESMUS		310	2
...SCENEDESMACEAE			
DACTINASTRUM		6,100	35
....SCENEDESMUS		610	4
	TOTALS	7,300	43
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		1,700	10
DMELOSIRA		4,000	23
...PENNALES	PENNATE		
...GOMPHONEMACEAE			
....GOMPHONEMA		310	2
...NAVICULACEAE	NAVICULOID		
....NAVICULA		310	2
...NITZSCHACEAE			
....NITZSCHIA		2,400	14
	TOTALS	8,700	51
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
....ANACYSTIS		1,200	7
...OSCILLATORIALES	FILAMENTOUS		
...OSCILLATORIAEAE			
LLYNGBYA			0
	TOTALS	1,200	7

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.293

CLASS 1.292

ORDER 1.765

FAMILY 2.139

GENERA 2.598

CHEYENNE RIVER BASIN

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

SEP. 23, 1975
1300 HOURS

IDENTIFICATION OF PHYTOPLANKTON

19,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
...ANKISTRODESMUS		860	4
...VOLVOCALES			
...CHLAMYDOMONADACEAE			
...CHLAMYDOMONAS		430	2
	TOTALS	1,300	6
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
D ...CYCLOTELLA		4,800	24
...MELOSIRA		1,300	7
..PENNALES	PENNATE		
...ACHNANTHACEAE			
...ACHNANTHES		430	2
...NAVICULACEAE	NAVICULOID		
L ...AMPHIPLEURA			0
...NAVICULA		430	2
...NITZSCHIAEAE			
D ...NITZSCHIA		11,000	58
	TOTALS	18,000	93

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.353

CLASS 0.353

ORDER 1.272

FAMILY 1.547

GENERA 1.780

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

OCT. 15, 1975
1110 HOURS

IDENTIFICATION OF PHYTOPLANKTON

14,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		280	2
...SCENEDESMACEAE			
....SCENEDESMUS		550	4
	TOTALS	830	6
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		690	5
DMELOSIRA		5,200	38
...PENNALES	PENNATE		
...ACHNANTHACEAE			
DACHNANTHES		2,200	16
...NAVICULACEAE	NAVICULOID		
....NAVICULA		410	3
...NITZSCHACEAE			
....NITZSCHIA		1,500	11
	TOTALS	10,000	73
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
DANACYSTIS		2,800	20
	TOTALS	2,800	20

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.035
CLASS 1.035
ORDER 1.756
FAMILY 2.219
GENERA 2.445

NOV. 12, 1975
1245 HOURS

IDENTIFICATION OF PHYTOPLANKTON

9,000 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...SCENEDESMACEAE			
....SCENEDESMUS		570	6
	TOTALS	570	6
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCEAE			
....CYCLOTELLA		430	5
....MELOSIRA		1,300	14
..PENNALES	PENNATE		
...ACHNANTHACEAE			
....ACHNANTHES		850	10
...CYMBELLACEAE			
....CYMBELLA		140	2
...FRAGILARIACEAE			
LSYNEDRA			0
...GOMPHONEMACEAE			
....GOMPHONEMA		280	3
...NAVICULACEAE	NAVICULOID		
....NAVICULA		430	5
....PINNULARIA		140	2
...NITZSCHIACEAE			
DNITZSCHIA		3,700	41
	TOTALS	7,300	82
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...OSCILLATORIALES	FILAMENTOUS		
...OSCILLATORIA			
....OSCILLATORIA		1,100	13
LSPIRULINA			0
	TOTALS	1,100	13

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.877
 CLASS 0.877
 ORDER 1.515
 FAMILY 2.442
 GENERA 2.648

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

DEC. 16, 1975
1430 HOURS

IDENTIFICATION OF PHYTOPLANKTON

760 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE		33	4
....CYCLOTELLA			
..PENNALES	PENNATE		
...ACHNANTHACEAE		99	13
....ACHNANTHES			
...GOMPHONEMACEAE			
LGOMPHONEMA			0
...NITZSCHIACEAE			
DNITZSCHIA		360	48
...SURIRELLACEAE			
DSURIRELLA		260	35
TOTALS		760	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 ORDER 0.258
 FAMILY 1.619
 GENERA 1.619

JAN. 14, 1976
1130 HOURS

IDENTIFICATION OF PHYTOPLANKTON

48 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...FRAGILARIACEAE			
LSYNEDRA			0
...NITZSCHIACEAE			
DNITZSCHIA		36	75
...SURIRELLACEAE			
DSURIRELLA		12	25
TOTALS		48	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 FAMILY 0.811
 GENERA 0.811

CHEYENNE RIVER BASIN

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

FEB. 11, 1976
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,400 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		72	5
	TOTALS	72	5
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...CYMBELLACEAE			
LCYMBELLA			0
...FRAGILARIACEAE		72	5
...FRAGILARIA			
...GOMPHONEMATACEAE			
DGOMPHONEMA		290	20
...NAVICULACEAE	NAVICULOID		
...GYROSIGMA		72	5
...NAVICULA		72	5
...NITZSCHACEAE			
DNITZSCHIA		360	25
...SURIRELLACEAE			
DSURIRELLA		500	35
	TOTALS	1,400	95

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.286
 CLASS 0.286
 ORDER 0.286
 FAMILY 2.259
 GENERA 2.359

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

MAR. 10, 1976
1130 HOURS

IDENTIFICATION OF PHYTOPLANKTON

550 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
.CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		39	7
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		39	7
	TOTALS	79	14
CHRYSOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...CYMBELLACEAE			
....CYMBELLA		39	7
...FRAGILARIACEAE			
....SYNEDRA		39	7
...GOMPHONEMACEAE			
....GOMPHONEMA		39	7
...NAVICULACEAE	NAVICULOID		
LCALONEIS			0
....NAVICULA		39	7
...NITZSCHIACEAE			
DNITZSCHIA		200	36
...SURIPELLACEAE			
DSURIPELLA		120	21
	TOTALS	470	85

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THEN 1% MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.592

CLASS 0.592

ORDER 0.735

FAMILY 2.638

GENERA 2.638

CHEYENNE RIVER BASIN

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

APR. 6, 1976
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

5,400 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		71	1
...VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		140	3
	TOTALS	210	4
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCONODISCACEAE			
D ...CYCLOTELLA		3,400	63
..PENNALES	PENNATE		
...ACHNANTHACEAE		210	4
...ACHNANTHES			
...FRAGILARIACEAE		71	1
...FRAGILARIA			0
L ...SYNEDRA			
...NAVICULACEAE	NAVICULOID		
L ...AMPHIPRORA			0
...DIPLONFIS		71	1
...NAVICULA		140	3
...PINNULARIA		71	1
...NITZSCHACEAE			
...NITZSCHIA		780	14
...SURIPELLACEAE			
...SURIPELLA		350	7
	TOTALS	5,100	94
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
...EUGLENALES			
...EUGLENACEAE			
....EUGLENA		71	1
	TOTALS	71	1

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.340
 CLASS 0.340
 ORDER 1.246
 FAMILY 1.873
 GENERA 1.952

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

MAY 5, 1976
1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

3,200 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
.CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		71	2
	TOTALS	71	2
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCAEAE			
....CYCLOTELLA		47	1
DMELOSIRA		2,000	61
..PENNALES	PENNATE		
...ACHNANTHACEAE			
....COCCONEIS		24	1
...CYMBELLACEAE		24	1
....CYMBELLA			
...FRAGILARIACEAE			
....FRAGILARIA		120	4
....SYNEDRA		120	4
...GOMPHONEMATAEAE			
....GOMPHONEMA		71	2
...NAVICULACEAE	NAVICULOID		
....CALONEIS		24	1
LGYROSIGMA			0
...NAVICULA		190	6
...NITZSCHIAEAE			
....NITZSCHIA		430	13
...SURIPELLACEAE			
....SURIPELLA		95	3
	TOTALS	3,100	97
EUGLENOPHYTA	EUGLENOIDS		
.EUGLENOPHYCEAE			
..EUGLENALES			
...EUGLENACEAE			
....EUGLENA		47	1
	TOTALS	47	1

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.263
 CLASS 0.263
 ORDER 1.164
 FAMILY 1.932
 GENERA 2.140

CHEYENNE RIVER BASIN

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

JUNE 29, 1976
1445 HOURS

IDENTIFICATION OF PHYTOPLANKTON

8,100 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
.CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		290	4
....SCENEDESMACEAE			
DSCENEDESMUS		2,300	29
	TOTALS	2,600	33
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		290	4
..PENNALES	PENNATE		
...FRAGILARIACEAE			
....FRAGILARIA		1,200	14
...NITZSCHIA			
....NITZSCHIA		580	7
	TOTALS	2,000	25
CYANOPHYTA	BLUE-GREEN ALGAE		
.MYXOPHYCEAE			
..OSCILLATORIALES	FILAMENTOUS		
....OSCILLATORIA			
DOSCILLATORIA		3,500	43
	TOTALS	3,500	43

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.550
CLASS 1.550
ORDER 1.698
FAMILY 2.057
GENERA 2.057

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

JULY 27, 1976
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

55,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...SCENEDESMACEAE			
....SCENEDESMUS		2,800	5
	TOTALS	2,800	5
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCEAE			
DCYCLOTELLA		12,000	22
DMELOSIRA		33,000	61
..PENNALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
...NAVICULA		710	1
...NITZSCHACEAE			
....NITZSCHIA		5,700	10
	TOTALS	52,000	94

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.295
 CLASS 0.295
 ORDER 0.805
 FAMILY 0.864
 GENERA 1.558

CHEYENNE RIVER BASIN

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

AUG. 24, 1976
1230 HOURS

IDENTIFICATION OF PHYTOPLANKTON

53,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		1,000	2
...SCENEDESMACEAE			
....ACTINASTRUM		2,100	4
LCRUCIGENIA			0
....SCENEDESMUS		1,400	3
	TOTALS	4,500	9
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		27,000	51
DMELOSIRA		16,000	29
LSTEPHANODISCUS			0
..PENNALES	PENNATE		
...NITZSCHIAEAE			
....NITZSCHIA		5,900	11
	TOTALS	49,000	91
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..OSCILLATORIALES	FILAMENTOUS		
...NOSTOCACEAE			
LANABAENOPSIS			0
...OSCILLATORIAEAE			
LOSCILLATORIA			0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER . 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.419
 CLASS 0.419
 ORDER 0.908
 FAMILY 0.974
 GENERA 1.799

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

SEP. 22, 1976
1115 HOURS

IDENTIFICATION OF PHYTOPLANKTON

20,000 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		650	3
...SCENEDESMACEAE			
....SCENEDESMUS		1,300	7
	TOTALS	2,000	10
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		6,200	32
...PENNALES	PENNATE		
...ACHNANTHACEAE			
...ACHNANTHES		650	3
...FRAGILARIACEAE			
DFRAGILARIA		5,900	30
...NAVICULACEAE	NAVICULOID		
LCALONEIS			0
...NAVICULA		330	2
...NITZSCHACEAE			
DNITZSCHIA		4,600	23
	TOTALS	18,000	90

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.469
 CLASS 0.469
 ORDER 1.311
 FAMILY 2.222
 GENERA 2.222

CHEYENNE RIVER BASIN

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	278	317	238	177	7600	3630	95	228	58
2	286	371	286	166	2900	1300	100	340	92
3	294	369	293	160	1000	432	120	183	59
4	294	365	290	144	659	256	140	165	62
5	294	334	265	138	481	179	160	195	84
6	286	336	259	136	370	136	150	285	115
7	302	384	313	136	394	145	140	271	102
8	267	325	234	138	343	128	140	308	116
9	214	309	179	141	319	121	160	275	119
10	186	321	161	144	346	135	170	557	256
11	166	334	150	136	472	173	160	470	203
12	149	332	134	138	461	172	150	333	135
13	144	275	107	141	357	136	140	317	120
14	138	353	132	146	323	127	140	290	110
15	138	265	99	141	330	126	130	278	98
16	136	355	130	149	318	128	130	299	105
17	138	303	113	149	318	128	120	288	93
18	138	349	130	136	316	116	100	285	77
19	138	393	146	133	318	114	110	251	75
20	141	362	138	130	361	127	130	281	99
21	133	264	95	130	418	147	150	395	160
22	126	398	135	130	308	108	160	325	140
23	126	370	126	120	250	81	150	333	135
24	133	334	120	110	264	78	150	379	153
25	138	466	174	110	310	92	150	272	110
26	144	358	139	100	288	78	160	289	125
27	144	290	113	105	219	62	160	318	137
28	163	364	160	115	256	79	160	233	101
29	234	1000	632	115	218	68	160	238	103
30	241	9300	6050	105	210	60	150	275	111
31	202	11700	6380	---	---	---	150	215	87
TOTAL	5911	---	17921	4019	---	8662	4385	---	3540

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	TEMPER- ATURE (DEG C) (00010)	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	SUS- PENDE SEDIM- ENT (MG/L) (80154)	SUS- PENDE SEDIM- ENT (T/DAY) (80155)	SUS. SED. FALL DIAM. % FINER THAN .002 MM (70337)	SUS. SED. FALL DIAM. % FINER THAN .004 MM (70338)
OCT							
07...	1800	--	161	30700	13300	70	85
09...	1800	--	234	30500	19300	71	87
MAR							
20...	1345	6.0	1320	18600	66300	46	56
21...	1200	0.0	1320	17800	63400	54	62
APR							
14...	1400	2.0	4250	9180	11200	45	57
MAY							
01...	1530	4.0	7040	13100	249000	43	54
10...	1200	10.5	7120	21400	411000	55	66
JUN							
03...	1200	15.0	793	3710	7940	28	54
12...	1310	19.5	951	4370	11200	61	78

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	130	276	97	85	173	40	180	223	108
2	100	272	73	85	195	45	170	291	134
3	60	242	39	85	590	135	160	290	125
4	45	253	31	80	583	126	150	335	136
5	40	281	30	80	666	144	150	223	90
6	35	226	21	75	678	137	160	277	120
7	36	234	23	80	1310	283	180	270	131
8	36	311	30	90	1360	330	200	300	162
9	35	314	30	140	1090	412	220	300	178
10	35	313	30	200	786	424	260	800	562
11	36	327	32	210	516	293	280	1200	907
12	36	354	34	210	582	330	300	1240	1000
13	37	284	28	200	2660	1440	400	1320	1430
14	37	284	28	200	2680	1450	600	1630	2640
15	40	337	36	200	2620	1410	800	1420	3070
16	42	299	34	190	1330	682	885	2160	5160
17	45	331	40	190	1290	662	639	2220	3830
18	45	371	45	180	1300	632	566	1270	1940
19	50	294	40	180	1320	642	577	1280	1990
20	50	237	32	170	1420	652	572	1220	1880
21	50	297	40	160	1410	609	577	2320	3610
22	55	248	37	150	753	305	510	1500	2070
23	55	303	45	150	737	298	422	646	736
24	60	255	41	160	2040	881	379	671	687
25	65	305	54	180	5430	2640	350	250	236
26	65	354	62	210	1160	658	326	392	345
27	70	390	74	210	1290	1240	303	338	277
28	75	306	62	205	2010	1110	288	299	233
29	80	292	63	200	2120	1140	266	332	238
30	90	219	53	---	---	---	241	248	161
31	90	345	84	---	---	---	224	277	168
TOTAL	1725	---	1368	4555	---	19150	11335	---	34354

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	SUS. SED. FALL DIAM. % FINER THAN 0.016 MM (70340)	SUS. SED. FALL DIAM. % FINER THAN 0.062 MM (70342)	SUS. SED. FALL DIAM. % FINER THAN 0.125 MM (70343)	SUS. SED. FALL DIAM. % FINER THAN 0.250 MM (70344)	SUS. SED. FALL DIAM. % FINER THAN 0.500 MM (70345)	SUS. SED. FALL DIAM. % FINER THAN 1.00 MM (70346)
OCT						
07...	97	100	--	--	--	--
09...	98	100	--	--	--	--
MAR						
20...	77	94	98	98	99	100
21...	87	100	--	--	--	--
APR						
14...	76	94	97	99	100	--
MAY						
01...	72	96	99	100	--	--
10...	83	98	100	--	--	--
JUN						
03...	98	100	--	--	--	--
12...	94	99	100	--	--	--

CHEYENNE RIVER BASIN

06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	205	268	148	566	5000	7640	418	597	674
2	189	217	111	418	3560	4020	396	640	684
3	183	215	106	338	3540	3230	400	437	472
4	180	219	106	291	2220	1740	387	458	479
5	177	195	93	255	1700	1170	338	525	479
6	166	181	81	218	467	275	318	500	429
7	164	148	66	192	529	274	295	500	398
8	166	215	96	177	351	168	475	4000	5130
9	172	344	160	161	260	113	532	16000	23000
10	312	2000	1680	148	289	115	427	5000	5760
11	273	17200	12700	134	352	127	375	3710	3760
12	241	19200	12500	120	284	92	338	2010	1830
13	234	6200	3920	118	266	85	383	1440	1490
14	255	2850	1960	111	325	97	400	1400	1510
15	205	2850	1580	114	240	74	4880	8500	113000
16	192	2890	1500	105	216	61	10800	17500	510000
17	192	2850	1480	101	228	62	24000	12200	791000
18	1170	33500	106000	90	157	38	16900	9000	411000
19	952	41800	107000	88	227	54	11100	10200	306000
20	554	14000	20900	85	235	54	11000	7700	229000
21	422	11500	13100	86	212	49	6910	4380	81700
22	371	8000	8010	94	208	53	4570	4440	54800
23	334	2300	2070	161	300	130	3500	4420	41800
24	291	2220	1740	780	1000	2110	2970	4400	35300
25	258	1180	822	2260	66000	403000	3240	4410	38600
26	234	1250	790	1080	56000	163000	2560	4310	29800
27	214	631	365	795	15500	33300	2180	1190	7000
28	208	600	337	1230	9000	29900	1950	1390	7320
29	2030	23000	126000	726	2530	4960	1780	818	3930
30	1040	27000	75800	577	2820	4390	1610	796	3460
31	---	---	---	484	1230	1610	---	---	---
TOTAL	11584	---	501221	12103	---	661991	115432	---	2709805

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	TEMPER- ATURE (DEG C) (00010)	NUMBER OF SAM- PLING POINTS (00063)	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	RED MAT. FALL DIAM. % FINE THAN (00159)	RED MAT. FALL DIAM. % FINE THAN (00160)	RED MAT. FALL DIAM. % FINE THAN (00161)
					0.125 MM	0.250 MM	0.500 MM
MAR							
20...	1345	6.0	2	1320	0	2	28
MAY							
22...	1010	12.0	2	993	0	10	72
JUN							
12...	1310	19.5	2	951	0	8	63
JUL							
02...	1200	30.5	2	1200	0	2	28
SEP							
23...	1230	16.0	2	331	0	9	60

DATE	BED MAT. FALL DIAM. % FINE THAN (00162)	RED MAT. SIEVE DIAM. % FINE THAN (00169)	BED MAT. SIEVE DIAM. % FINE THAN (00170)	BED MAT. SIEVE DIAM. % FINE THAN (00171)	BED MAT. SIEVE DIAM. % FINE THAN (00172)	BED MAT. SIEVE DIAM. % FINE THAN (00173)
	1.00 MM	2.00 MM	4.00 MM	8.00 MM	16.0 MM	32.0 MM

MAR						
20...	64	78	86	92	98	100
MAY						
22...	93	96	98	100	--	--
JUN						
12...	92	96	97	99	100	--
JUL						
02...	72	84	90	95	100	--
SEP						
23...	90	97	99	100	--	--

CHEYENNE RIVER BASIN

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06439300 CHEYENNE RIVER AT CHERRY CREEK, SD--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1390	790	2960	807	6250	13600	436	305	359
2	1280	710	2450	724	5900	11500	440	317	377
3	1300	609	2140	943	2850	7260	422	211	240
4	1260	571	1940	1010	2510	6840	387	206	215
5	1290	601	2090	927	2530	6330	371	239	239
6	1220	750	2470	822	1200	2660	358	193	187
7	1100	988	2930	830	700	1570	346	173	162
8	1030	899	2500	1090	1800	5300	375	289	293
9	846	427	975	838	2750	6220	422	254	289
10	777	478	1000	807	3700	8060	479	259	335
11	692	445	831	784	1300	2750	484	152	199
12	658	522	927	784	2800	5930	440	234	278
13	1750	23000	109000	633	5100	8720	413	191	213
14	799	44500	96000	887	5600	13400	409	219	242
15	1890	26500	135000	943	2800	7130	409	180	199
16	1180	6500	20700	685	3600	6660	392	245	259
17	1090	6000	17700	645	1400	2440	428	1850	2140
18	910	1820	4470	671	338	612	450	5600	6800
19	869	1150	2700	607	399	654	392	1600	1690
20	830	1270	2850	572	357	551	371	370	371
21	830	815	1830	516	483	673	375	350	354
22	814	791	1740	494	408	544	371	340	341
23	846	748	1710	479	288	372	358	332	321
24	747	682	1380	445	224	269	387	291	304
25	706	539	1030	460	263	327	413	317	353
26	706	580	1110	465	224	281	422	411	468
27	747	577	1160	427	284	327	418	406	458
28	770	572	1190	418	273	308	387	218	228
29	762	624	1280	422	249	284	371	170	170
30	762	600	1230	436	223	263	350	370	350
31	1120	2900	8770	436	279	328	---	---	---
TOTAL	30971	---	434063	21007	---	122163	12076	---	18434
YEAR 235103.0			4532672						

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TEMPER- ATURE (DEG C) (00010)	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	SUS- PEN- DED SED- IMENT DIS- CHARGE (MG/L) (80154)	SUS- PEN- DED SED- IMENT DIS- CHARGE (T/DAY) (80155)	SUS. SED. FALL DIAM. % FINER THAN .002 MM (70337)	SUS. SED. FALL DIAM. % FINER THAN .004 MM (70338)	SUS. SED. FALL DIAM. % FINER THAN .016 MM (70340)	SUS. SED. FALL DIAM. % FINER THAN .062 MM (70342)
APR									
11...	1700	15.0	251	25800	17500	66	82	98	100
21...	1500	10.0	514	14000	19400	71	85	98	100

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TEMPER- ATURE (DEG C) (00010)	NUMBER OF SAM- PLING POINTS (00063)	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	RED MAT. FALL DIAM. % FINER THAN .125 MM (80159)	RED MAT. FALL DIAM. % FINER THAN .250 MM (80160)	RED MAT. FALL DIAM. % FINER THAN .500 MM (80161)	RED MAT. FALL DIAM. % FINER THAN 1.00 MM (80162)	RED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	RED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	RED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	RED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)
MAY												
05...	1045	12.0	2	261	0	3	17	49	67	81	91	100
AUG												
24...	0930	25.0	2	463	0	7	54	95	97	100	--	--
SEP												
22...	1040	15.5	2	372	0	11	55	91	94	98	100	--

CHEYENNE RIVER BASIN

06439500 CHEYENNE RIVER NEAR EAGLE BUTTE, SD

LOCATION.--Lat 44°41'44", long 101°13'08", in NE&SE& sec.32, T.9 N., R.24 E., Haakon County, Hydrologic Unit 10120112, at discontinued gaging station on downstream side near center of bridge on State Highway 63, 0.5 mi (0.8 km) upstream from Hermaphrodite Creek and 21 mi (33.8 km) south of Eagle Butte.

DRAINAGE AREA.--24,500 mi² (63,500 km²), approximately.

PERIOD OF RECORD.--Water years 1972 to current year.

REMARKS.--Station is affected by backwater from Oahe Dam; discharge records not available.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	HARD- NESS (CA,MG) (MG/L) (00900)	NON- CAR- BONATE HARD- NESS (MG/L) (00902)	DIS- SOLVED CAL- CIUM (CA) (MG/L) (00915)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) (00925)
OCT.									
15...	1215	--	2500	8.2	9.5	970	840	230	96
NOV.									
12...	1345	--	2300	7.7	1.0	940	780	230	89
DEC.									
16...	1540	--	3120	3.0	.0	980	980	240	93
JAN.									
14...	1300	--	3200	7.9	.0	1300	1000	310	120
FEB.									
11...	1210	--	2100	7.8	.0	700	500	170	66
MAR.									
10...	1230	--	2500	8.0	.0	800	620	200	73
APR.									
06...	1215	--	2450	8.2	14.0	850	700	200	86
MAY									
05...	1300	--	2200	8.3	12.0	620	440	160	53
JUNE									
02...	1230	--	1970	8.4	26.0	700	550	160	73
29...	1600	--	1330	8.3	23.0	580	400	150	49
JULY									
27...	1200	--	1720	8.0	25.0	790	680	200	71
AUG.									
24...	1230	--	1960	8.2	23.0	840	740	210	77
SEP.									
22...	1210	--	2140	8.3	15.5	830	720	200	81

06439500 CHEYENNE RIVER NEAR EAGLE BUTTE, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS-SOLVED SODIUM (NA) (MG/L) (00930)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L) (00935)	BICAR- BONATE (HCO3) (MG/L) (00440)	CAR- BONATE (CO3) (MG/L) (00445)	ALKA- LINITY AS CACO3 (MG/L) (00410)	DIS- SOLVED SULFATE (SO4) (MG/L) (00945)	DIS- SOLVED CHLO- RIDE (CL) (MG/L) (00940)
OCT.									
15...	200	31	2.8	15	156	0	128	1200	53
NOV.									
12...	210	32	3.0	16	194	0	159	1100	80
DEC.									
16...	200	30	2.8	14	0	0	0	1100	290
JAN.									
14...	290	33	3.5	21	325	0	267	1500	80
FEB.									
11...	170	34	2.8	11	239	0	196	790	48
MAR.									
10...	230	38	3.5	12	224	0	184	1000	57
APR.									
06...	220	35	3.3	15	190	0	156	1100	67
MAY									
05...	180	38	3.2	13	211	0	173	740	48
JUNE									
02...	150	31	2.5	18	187	0	153	820	38
29...	75	22	1.4	8.8	214	0	176	530	17
JULY									
27...	100	21	1.5	11	135	0	111	840	19
AUG.									
24...	110	22	1.7	12	122	0	100	900	24
SEP.									
22...	150	28	2.3	14	132	0	108	940	34

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L) (00950)	DIS- SOLVED SILICA (SiO2) (MG/L) (00955)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) (70301)	DIS- SOLVED SOLIDS (TONS PER AC-FT) (70303)	DIS- SOLVED SOLIDS (TONS PER DAY) (70302)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	TOTAL PHOS- PHORUS (P) (MG/L) (00665)	DIS- SOL- VED- PHOS- PHORUS (P) (MG/L) (00666)	DIS- SOLVED BORON (B) (UG/L) (01020)
OCT.									
15...	.5	3.9	1880	2.56	--	.41	.05	.02	310
NOV.									
12...	.5	1.8	1820	2.48	--	.30	.41	.00	330
DEC.									
16...	.4	8.8	1960	2.67	--	2.4	.08	.06	320
JAN.									
14...	.5	8.1	2500	3.40	--	1.9	.07	.03	350
FEB.									
11...	.5	8.1	1390	1.89	--	2.4	.31	.08	230
MAR.									
10...	.5	7.7	1700	2.31	--	2.2	.18	.01	260
APR.									
06...	.5	4.2	1790	2.43	--	.45	.18	.01	290
MAY									
05...	.6	11	1320	1.80	--	1.3	.75	.04	240
JUNE									
02...	.5	11	1360	1.85	--	--	--	--	260
29...	.4	11	947	1.29	--	--	.73	.02	150
JULY									
27...	.5	6.3	1320	1.80	--	.30	.10	.01	270
AUG.									
24...	.5	5.4	1400	1.90	--	.35	.07	.02	280
SEP.									
22...	.5	6.2	1500	2.04	--	.87	.33	.01	290

MISSOURI RIVER MAIN STEM

06439980 LAKE OAHE NEAR PIERRE, SD

LOCATION.--Lat 44°27'30", long 100°23'29", in NE¼ sec.1, T.111 N., R.80 W., 5th principal meridian, Hughes County, Hydrologic Unit 10130105, in Pier A of Control Tower No. 1 of powerhouse intake structure of dam on Missouri River, 6.0 mi (9.7 km) northwest of Pierre, 7.1 mi (11.4 km) upstream from Bad River, and at mile 1,072.5 (1,725.3 km).

DRAINAGE AREA.--243,500 mi² (630,700 km²), approximately.

PERIOD OF RECORD.--August 1958 to current year (monthend contents only). Prior to October 1967, published as Oahe Reservoir near Pierre.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Prior to Jan. 14, 1959, nonrecording gages at various locations upstream from outlet works, Jan. 14, 1959, to Sept. 30, 1962, recorder in Tower No. 1 of outlet works, all at same datum.

REMARKS.--Reservoir is formed by an earthfill dam; storage began in August 1958. Maximum capacity, 23,630,000 acre-ft (29,100 hm³) below elevation 1,620.0 ft (493.78 m), top of spillway gates. Normal maximum, 22,530,000 acre-ft (27,800 hm³) below 1,617.0 ft (492.86 m), of which about 2,390,000 acre-ft (2,950 hm³) is designated for flood control. Inactive storage, 5,538,000 acre-ft (6,830 hm³) below elevation 1,540.0 ft (469.39 m). Dead storage, 2,000 acre-ft (2.47 hm³) below elevation 1,425.0 ft (434.34 m), invert of lowest outlet tunnel. Figures given herein represent elevations at powerhouse intake structure and total contents adjusted for wind effect.

The spillway consists of a gated chute with flat crest at elevation 1,596.5 ft (486.61 m), 8 gates, 50 by 23.5 ft (15.2 X 7.2 m) each; design capacity, 300,000 ft³/s (8,500 m³/s). The outlet works consist of 7 turbines with a generating capacity of 85,000 kilowatts each. Water is used for flood control, navigation, power, and incidental uses.

COOPERATION.--Elevation and contents furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 22,681,000 acre-ft (28,000 hm³) Aug. 22, 1975, elevation, 1,617.9 ft (493.14 m), affected by wind; minimum since initial filling, 16,500,000 acre-ft (20,300 hm³) Dec. 21, 1972, elevation, 1599.2 ft (487.44 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 21,143,000 acre-ft (26,100 hm³) Oct. 1, 4, elevation, 1,613.3 ft (491.73 m), affected by wind; minimum, 18,122,000 acre-ft (22,300 hm³) Oct. 29, 30, minimum elevation, 1,603.9 ft (488.87 m) Jan. 15, Oct. 29, 30.

MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	1613.5	21182000	
Oct. 31	1608.7	19638000	-1544000
Nov. 30	1604.8	18407000	-1231000
Dec. 31	1605.0	18474000	+67000
CAL YR 1975			-25000
Jan. 31	1604.9	18421000	-53000
Feb. 29	1606.5	18940000	+519000
Mar. 31	1606.2	18851000	-89000
Apr. 30	1606.0	19005000	+154000
May 31	1607.5	19273000	+268000
June 30	1609.0	19723000	+450000
July 31	1608.1	19415000	-308000
Aug. 31	1606.7	18993000	-422000
Sept. 30	1603.9	18122000	-871000
WTR YR 1976			-3060000

MISSOURI RIVER BASIN

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06440000 MISSOURI RIVER AT PIERRE, SD
(National stream-quality accounting network station)

LOCATION.--Lat 44°22'25", long 100°22'20", in SE¼ sec.21, T.5 N., R.31 E., Hughes County, Hydrologic Unit 10140102, at discontinued gaging station, near right bank on downstream side of pier of Chicago and North Western Transportation Company bridge, 1.3 mi (2.1 km) upstream from Bad River, 5.8 mi (9.3 km) downstream from Oahe Dam, and at mile 1,006.5 (1,716 km).

DRAINAGE AREA.--243,500 mi² (630,700 km²), approximately.

PERIOD OF RECORD.--Water years 1971 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1971 to current year.

WATER TEMPERATURES: July 1971 to current year.

COOPERATION.--Flow completely regulated by Lake Oahe (station 06439980) 5.8 mi (9.3 km) upstream. Discharge furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 850 micromhos Dec. 2, 1974; minimum daily, 530 micromhos Dec. 24, 1974.

WATER TEMPERATURES: Maximum daily, 23.0°C July 20, Aug. 18, 20, 1976; minimum daily, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 760 micromhos Mar. 27; minimum daily, 670 micromhos on many days during August to September.

WATER TEMPERATURES: Maximum daily, 23.0°C July 20, Aug. 18, 20; minimum daily, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (JTU) (00070)	FECAL COLI- FORM (COL. PER 100 ML) (31616)	STREP- TOCOCCI (COL- ONIES PER 100 ML) (31679)	HARD- NESS (CA,MG) (MG/L) (00900)	NON- CAR- BONATE HARD- NESS (MG/L) (00902)	DIS- SOLVED CAL- CIUM (CA) (MG/L) (00915)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) (00925)
OCT												
16...	1500	56200	730	8.0	14.0	--	--	--	230	71	56	22
30...	0820	57800	730	8.0	11.5	1	81	81	230	71	56	21
NOV												
19...	1340	51300	740	8.3	9.0	--	--	--	230	71	59	21
DEC												
01...	1400	50000	740	8.2	6.5	3	ND	R3	230	71	57	21
17...	1400	46000	760	8.4	3.5	--	--	--	230	67	57	21
29...	1415	18000	740	8.3	3.5	1	ND	--	220	59	56	20
JAN												
15...	1300	24000	750	8.5	.5	--	--	--	230	67	56	21
26...	1400	52400	730	8.4	.5	2	ND	R7	220	63	55	21
FEB												
17...	1100	44400	710	8.3	1.0	--	--	--	230	67	57	21
27...	1430	29100	790	8.0	3.0	2	R4	R20	230	66	56	21
MAR												
16...	1300	47300	760	8.0	2.0	--	--	--	220	63	56	20
25...	1400	46400	720	8.4	4.0	4	<1	R20	220	61	54	21
APR												
15...	0730	42000	650	8.3	7.0	--	--	--	220	58	53	21
26...	1415	46400	750	8.3	6.0	4	<1	R5	220	59	56	20
MAY												
19...	0800	36800	820	8.4	9.0	--	--	--	220	61	53	21
26...	0850	32900	670	8.0	10.5	3	R5	R15	220	61	56	20
JUN												
17...	1530	47800	690	8.5	15.5	--	--	--	200	70	49	18
30...	1330	55800	690	8.4	18.0	1	R4	R10	210	59	50	21
JUL												
19...	1320	49100	670	8.1	20.0	--	--	--	210	55	51	20
27...	1430	55500	700	8.1	20.5	1	R4	R1	220	69	56	20
AUG												
17...	1300	55500	670	8.4	18.0	--	--	--	220	66	53	21
30...	0900	50800	680	8.4	20.5	1	R5	R6	220	57	57	20
SEP												
15...	1300	55600	680	8.3	20.0	--	--	--	220	71	53	21
29...	0850	52200	710	8.4	16.5	1	R2	R2	230	79	57	21

B Non-ideal colony count.

ND Not detected.

< Less than.

MISSOURI RIVER BASIN

06440000 MISSOURI RIVER AT PIERRE, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SODIUM (NA) (MG/L) (00930)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L) (00935)	BICAR- BONATE (HCO3) (MG/L) (00440)	CAR- BONATE (CO3) (MG/L) (00445)	ALKA- LINITY AS CAC03 (MG/L) (00410)	DIS- SOLVED SULFATE (SO4) (MG/L) (00945)	DIS- SOLVED CHLO- RIDE (CL) (MG/L) (00940)	DIS- SOLVED FLUO- RIDE (F) (MG/L) (00950)	DIS- SOLVED SILICA (SiO2) (MG/L) (00955)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L) (70300)
OCT												
16...	65	37	1.9	4.6	194	0	159	190	12	.5	5.9	--
30...	68	39	2.0	4.7	189	0	155	190	9.1	.4	5.6	460
NOV												
19...	66	37	1.9	4.6	199	0	163	210	10	.6	6.0	--
DEC												
01...	75	41	2.2	4.6	193	0	158	200	10	.5	6.3	468
17...	66	38	1.9	4.5	191	3	162	190	8.9	.5	5.9	--
29...	68	39	2.0	4.6	199	0	163	190	11	.5	6.0	455
JAN												
15...	65	38	1.9	4.5	172	11	159	200	9.2	.5	5.6	--
26...	66	38	1.9	4.6	188	4	161	200	9.4	.6	5.6	469
FEB												
17...	64	37	1.8	4.7	197	0	162	200	10	.6	5.4	--
27...	63	37	1.8	4.5	196	0	161	180	14	.5	5.3	467
MAR												
16...	63	38	1.8	4.5	194	0	159	190	14	.5	6.3	--
25...	64	38	1.9	4.5	195	0	160	180	9.0	.5	5.6	471
APR												
15...	63	38	1.9	4.7	196	0	161	180	9.3	.5	4.8	--
26...	67	39	2.0	5.0	199	0	163	200	9.4	.5	4.9	459
MAY												
19...	60	37	1.8	4.4	192	0	157	200	8.8	.5	5.5	--
26...	61	37	1.8	4.3	196	0	161	210	11	.6	5.4	471
JUN												
17...	56	38	1.7	3.8	154	0	126	170	9.5	.4	6.2	--
30...	61	38	1.8	4.0	186	0	153	210	9.2	.5	6.6	475
JUL												
19...	60	38	1.8	4.2	174	7	154	170	9.5	.5	6.2	--
27...	60	36	1.8	4.3	172	7	153	180	9.1	.5	6.4	437
AUG												
17...	59	36	1.7	4.2	180	3	153	180	9.3	.5	6.3	--
30...	64	38	1.9	4.4	188	8	168	180	9.7	.5	6.1	435
SEP												
15...	61	37	1.8	4.4	180	0	148	200	9.1	.5	6.2	--
29...	62	37	1.8	4.6	164	9	150	200	9.6	.5	5.9	454

MISSOURI RIVER BASIN

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06440000 MISSOURI RIVER AT PIERRE, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) (70301)	DIS- SOLVED SOLIDS (TONS PER AC-FT) (70303)	DIS- SOLVED SOLIDS (TONS PER DAY) (70302)	TOTAL NITRITE PLUS NITRATE (MG/L) (00630)	DIS- SOLVED NITRITE PLUS NITRATE (MG/L) (00631)	TOTAL KJEL- DAHL NITRO- GEN (MG/L) (00625)	TOTAL NITRO- GEN (MG/L) (00600)	TOTAL NITRO- GEN (MG/L) (71887)	TOTAL PHOS- PHORUS (MG/L) (00665)	DIS- SOL- VED PHOS- PHORUS (MG/L) (00666)	TOTAL ARSENIC (UG/L) (01002)	SUS- PENDED ARSENIC (UG/L) (01001)
OCT												
16...	452	.61	68600	--	.11	--	--	--	.03	.01	--	--
30...	448	.63	71800	.11	--	.31	.42	1.9	.01	--	3	0
NOV												
19...	476	.65	65900	--	.15	--	--	--	.01	.00	--	--
DEC												
01...	470	.64	63200	.15	--	.20	.35	1.6	.00	--	--	--
17...	452	.61	56100	--	.16	--	--	--	.00	.00	--	--
29...	454	.62	22100	.15	--	.17	.32	1.4	.00	--	--	--
JAN												
15...	459	.62	29700	--	.26	--	--	--	.01	.00	--	--
26...	459	.64	66400	.16	--	.33	.49	2.2	.00	--	2	0
FEB												
17...	461	.63	55300	--	.19	--	--	--	.02	.00	--	--
27...	441	.64	36700	.15	--	.30	.45	2.0	.00	--	--	--
MAR												
16...	451	.61	57600	--	.28	--	--	--	.01	.02	--	--
25...	435	.64	59000	.15	--	.37	.52	2.3	.02	--	--	--
APR												
15...	434	.59	49200	--	.15	--	--	--	.17	.00	--	--
26...	461	.62	57500	.15	--	.26	.41	1.8	.08	--	2	0
MAY												
19...	448	.61	44500	--	--	--	--	--	.02	.03	--	--
26...	465	.64	41800	.11	--	.25	.36	1.6	.02	--	--	--
JUN												
17...	389	.53	50200	--	--	--	--	--	.05	--	--	--
30...	454	.65	71600	.14	--	.28	.42	1.9	.05	--	--	--
JUL												
19...	415	.56	55000	--	.15	--	--	--	.01	.00	--	--
27...	428	.59	65500	.15	--	.22	.37	1.6	.01	--	1	0
AUG												
17...	426	.58	63800	--	.15	--	--	--	.00	.00	--	--
30...	442	.59	59700	.12	--	.00	.12	.53	.01	--	--	--
SEP												
15...	445	.61	66800	--	.16	--	--	--	.00	.00	--	--
29...	450	.62	64000	.15	--	.53	.68	3.0	.01	--	--	--

MISSOURI RIVER BASIN

06440000 MISSOURI RIVER AT PIERRE, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED ARSENIC (AS) (UG/L) (01000)	DIS- SOLVED BORON (B) (UG/L) (01020)	TOTAL CAD- MIUM (CD) (UG/L) (01027)	SUS- PENDED CAD- MIUM (CD) (UG/L) (01026)	DIS- SOLVED CAD- MIUM (CD) (UG/L) (01025)	TOTAL CHRO- MIUM (CR) (UG/L) (01034)	SUS- PENDED CHRO- MIUM (CR) (UG/L) (01031)	DIS- SOLVED CHRO- MIUM (CR) (UG/L) (01030)	TOTAL COBALT (CO) (UG/L) (01037)	SUS- PENDED COBALT (CO) (UG/L) (01036)	DIS- SOLVED COBALT (CO) (UG/L) (01035)
OCT											
16...	--	130	--	--	--	--	--	--	--	--	--
30...	3	--	10	10	0	30	20	10	<50	<50	0
NOV											
19...	--	150	--	--	--	--	--	--	--	--	--
DEC											
01...	--	--	--	--	--	--	--	--	--	--	--
17...	--	120	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
JAN											
15...	--	110	--	--	--	--	--	--	--	--	--
26...	2	--	<10	<10	0	0	0	0	<50	<49	1
FEB											
17...	--	110	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
MAR											
16...	--	130	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
APR											
15...	--	120	--	--	--	--	--	--	--	--	--
26...	2	--	<10	<9	1	0	0	0	<50	<50	0
MAY											
19...	--	130	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
JUN											
17...	--	110	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
JUL											
19...	--	110	--	--	--	--	--	--	--	--	--
27...	2	--	<10	<10	0	0	0	0	<50	<50	0
AUG											
17...	--	110	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
SEP											
15...	--	110	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--

< Less than.

MISSOURI RIVER BASIN

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06440000 MISSOURI RIVER AT PIERRE, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL COPPER (CU) (UG/L) (01042)	SUS- PENDE COPPER (CU) (UG/L) (01041)	DIS- SOLVED COPPER (CU) (UG/L) (01040)	TOTAL IRON (FE) (UG/L) (01045)	DIS- SOLVED IRON (FE) (UG/L) (01046)	TOTAL LEAD (PB) (UG/L) (01051)	SUS- PENDE LEAD (PB) (UG/L) (01050)	DIS- SOLVED LEAD (PB) (UG/L) (01049)	TOTAL MAN- GANESE (MN) (UG/L) (01055)	SUS- PENDE MAN- GANESE (MN) (UG/L) (01054)	DIS- SOLVED MAN- GANESE (MN) (UG/L) (01056)
OCT											
16...	--	--	--	--	--	--	--	--	--	--	--
30...	10	0	14	20	0	<100	<96	4	40	10	30
NOV											
19...	--	--	--	--	--	--	--	--	--	--	--
DEC											
01...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
JAN											
15...	--	--	--	--	--	--	--	--	--	--	--
26...	<10	<9	1	40	20	<100	<98	2	20	20	0
FEB											
17...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
MAR											
16...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
APR											
15...	--	--	--	--	--	--	--	--	--	--	--
26...	10	4	6	290	300	<100	<100	0	20	20	0
MAY											
19...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
JUN											
17...	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
JUL											
19...	--	--	--	--	--	--	--	--	--	--	--
27...	<10	<9	1	70	90	<100	<100	0	10	10	0
AUG											
17...	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
SEP											
15...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--

DATE	TOTAL MERCURY (HG) (UG/L) (71900)	SUS- PENDE MERCURY (HG) (UG/L) (71895)	DIS- SOLVED MERCURY (HG) (UG/L) (71890)	TOTAL SELE- NIUM (SE) (UG/L) (01147)	SUS- PENDE SELE- NIUM (SE) (UG/L) (01146)	DIS- SOLVED SELE- NIUM (SE) (UG/L) (01145)	TOTAL ZINC (ZN) (UG/L) (01092)	SUS- PENDE ZINC (ZN) (UG/L) (01091)	DIS- SOLVED ZINC (ZN) (UG/L) (01090)
OCT									
30...	.0	.0	.0	1	0	1	10	0	10
DEC									
01...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
JAN									
26...	.2	.1	.1	1	0	1	20	20	0
FEB									
27...	--	--	--	--	--	--	--	--	--
MAR									
25...	--	--	--	--	--	--	--	--	--
APR									
26...	.1	.1	.0	1	0	1	10	10	0
MAY									
26...	--	--	--	--	--	--	--	--	--
JUN									
30...	--	--	--	--	--	--	--	--	--
JUL									
19...	--	--	--	--	--	--	--	--	--
27...	.0	.0	.0	1	0	1	0	0	0
AUG									
30...	--	--	--	--	--	--	--	--	--
SEP									
29...	--	--	--	--	--	--	--	--	--

< Less than.

MISSOURI RIVER BASIN

06440000 MISSOURI RIVER AT PIERRE, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL ORGANIC CARBON (C) (MG/L) (00680)	TOTAL PHYTO- PLANK- TON (CELLS PER ML) (60050)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	UNCOR- RECTED PERI- PHYTON CHLORO- PHYLL A MG/SQ M (32228)	UNCOR- RECTED PERI- PHYTON CHLORO- PHYLL B MG/SQ M (32226)	SUS- PENDE SEDIM- ENT CHARGE (MG/L) (80154)	SUS- PENDE SEDIM- ENT DIS- CHARGE (T/DAY) (80155)
OCT 30...	4.8	0	--	--	--	--	55	8580
DEC 01...	--	48	--	--	--	--	13	1760
29...	--	35	--	--	--	--	15	729
JAN 26...	11	3	--	--	--	--	14	1980
FEB 27...	--	84	--	--	--	--	--	--
MAR 25...	--	240	--	--	--	--	29	3630
APR 26...	3.8	17	--	--	--	--	162	20300
MAY 26...	--	21	--	--	--	--	75	6660
JUN 30...	--	390	1.08	.308	.000	.000	--	--
JUL 19...	--	--	--	--	--	--	52	6890
27...	4.9	100	--	--	--	--	--	--
AUG 30...	--	200	--	--	--	--	26	3570
SEP 29...	--	200	.154	.077	.195	.012	24	3380

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	720	720	730	740	720	720	700	720	700	720	670	670
2	720	720	720	740	720	750	710	720	700	700	680	680
3	720	720	720	740	720	755	710	710	700	700	670	680
4	720	720	730	740	720	750	710	710	700	700	680	670
5	720	720	730	740	720	755	710	710	710	700	670	670
6	720	720	720	740	720	750	710	710	700	710	670	680
7	720	720	720	740	720	750	710	710	700	700	670	670
8	720	720	720	730	720	750	700	720	700	700	680	680
9	720	720	720	730	720	750	710	710	690	700	670	680
10	715	720	720	730	720	750	700	710	690	690	670	680
11	720	720	730	740	720	755	710	710	690	690	690	680
12	720	720	720	740	720	750	710	710	690	720	670	680
13	720	720	730	740	730	750	700	710	690	690	670	680
14	720	720	720	730	720	750	710	710	690	690	680	680
15	720	730	720	730	720	750	710	710	690	700	670	680
16	715	720	720	730	720	750	700	710	690	690	670	680
17	720	720	720	730	720	750	710	710	690	690	670	680
18	720	720	730	740	720	750	710	710	690	690	680	680
19	720	720	720	740	720	750	710	720	690	710	670	680
20	720	720	730	740	720	750	700	710	690	700	680	680
21	720	720	730	740	720	750	700	710	680	690	670	670
22	720	720	720	740	720	750	700	710	690	690	670	680
23	720	720	720	730	710	750	710	710	680	690	670	680
24	720	720	720	730	720	750	710	710	680	690	670	680
25	720	720	720	730	720	750	710	700	680	690	670	680
26	730	720	720	740	720	750	700	700	690	690	680	680
27	720	720	720	740	720	760	700	710	690	690	680	680
28	720	720	720	730	720	750	700	700	680	690	670	680
29	720	720	720	730	720	750	710	700	690	690	670	680
30	720	720	720	730	---	750	710	700	690	690	670	680
31	720	---	720	740	---	750	---	700	---	690	670	---
MONTH	720	720	723	736	720	750	706	709	691	696	673	678

06440000 MISSOURI RIVER AT PIERRE, SD--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.0	10.5	2.0	0.0	0.0	0.0	1.5	8.5	12.5	18.5	21.0	19.5
2	16.5	10.5	1.5	0.0	0.0	0.0	1.5	8.0	12.0	18.0	21.5	19.5
3	17.5	10.5	1.5	0.0	0.0	0.0	1.5	9.5	11.5	16.5	22.0	19.5
4	18.0	11.0	1.0	0.0	0.0	0.0	3.5	7.5	11.0	18.5	21.0	18.0
5	17.5	10.5	1.0	0.0	0.0	0.0	2.5	7.5	11.5	18.5	21.5	19.5
6	17.0	10.0	1.0	0.0	0.0	0.0	2.5	7.5	11.0	19.0	21.5	19.5
7	15.5	10.5	1.0	0.0	0.0	0.0	3.0	8.0	12.5	19.0	21.5	17.5
8	14.0	10.0	1.0	0.0	0.0	2.0	2.5	9.0	13.5	19.0	21.5	19.0
9	15.0	10.0	1.5	0.0	0.0	2.0	3.0	9.0	14.5	20.0	20.0	18.5
10	15.5	10.0	1.0	0.0	0.0	2.0	2.5	9.5	14.5	---	21.5	19.5
11	14.0	10.0	0.5	0.0	0.0	2.0	3.0	8.0	15.0	20.0	21.0	19.5
12	13.5	10.0	0.5	0.0	0.0	2.0	3.0	8.0	15.5	20.0	21.5	19.5
13	13.0	8.0	0.0	0.0	0.0	2.5	3.0	8.5	18.0	19.0	20.0	18.5
14	13.0	6.5	0.0	0.0	0.0	2.0	5.0	9.5	15.5	20.0	21.5	19.0
15	13.0	5.0	0.0	0.0	0.0	2.0	7.0	9.0	17.0	21.0	20.0	18.0
16	13.0	5.0	0.0	0.0	0.0	2.5	7.0	9.5	17.0	20.0	18.0	17.5
17	13.0	5.0	0.0	0.0	0.0	2.0	7.5	9.5	16.0	20.5	20.5	17.0
18	13.5	5.0	0.0	0.0	0.0	2.5	6.0	10.0	17.0	20.0	23.0	18.0
19	13.5	4.0	0.0	0.0	0.0	2.5	5.5	10.0	18.0	22.5	22.5	18.0
20	12.5	4.0	0.0	0.0	0.0	2.0	6.0	9.5	17.0	23.0	23.0	17.0
21	12.5	3.5	0.0	0.0	0.0	2.5	7.5	9.5	19.0	21.0	22.5	17.5
22	11.5	3.5	0.0	0.0	0.0	3.0	8.0	9.0	20.0	22.0	19.5	16.5
23	11.0	3.0	0.0	0.0	0.0	3.0	7.0	9.5	18.0	21.5	19.0	16.5
24	11.0	3.0	0.0	0.0	0.0	3.0	6.0	11.5	18.0	22.0	18.5	18.0
25	11.5	2.5	0.0	0.0	0.0	3.0	6.0	11.0	18.5	21.5	19.5	16.5
26	11.5	2.0	0.0	0.0	0.0	3.0	6.5	11.5	19.0	21.5	20.5	15.0
27	11.0	2.0	0.0	0.0	0.0	3.5	6.5	13.5	18.0	21.5	20.0	16.0
28	10.5	2.0	0.0	0.0	0.0	3.0	6.5	12.5	18.0	21.5	20.0	16.5
29	10.0	2.0	0.0	0.0	0.0	2.5	6.5	12.0	18.0	21.5	20.0	16.5
30	11.0	2.0	0.0	0.0	---	2.0	6.5	13.0	19.0	21.0	19.5	16.5
31	10.5	---	0.0	0.0	---	1.5	---	13.0	---	22.0	19.5	---
MONTH	13.5	6.5	0.5	0.0	0.0	2.0	5.0	9.5	16.0	20.5	20.5	18.0

OCT. 4, 1974
1320 HOURS

IDENTIFICATION OF PHYTOPLANKTON

180 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCACEAE			
...CYCLOTELLA		22	12
..PENNALES	PENNATE		
...ACHNANTHACEAE			
DACHNANTHES		100	56
...COCCONEIS		22	12
...RHODOSPHENIA		11	6
TOTALS		160	86
CYANOPHYTA			
..MYXOPHYCEAE	BLUE-GREEN ALGAE		
...CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
....ANACYSTIS		22	12
TOTALS		22	12

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:PHYL/DIV 0.544
CLASS 0.544
ORDER 1.061
FAMILY 1.061
GENERA 1.842

MISSOURI RIVER BASIN

06440000 MISSOURI RIVER AT PIERRE, SD--Continued

NOV. 4, 1974
1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

99 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTILLA		20	20
..PENNALES	PENNATE		
...ACHNANTHACEAE			
DACHNANTHES		20	20
....RHOICOSPHEA		10	10
...CYMBELLACEAE			
....CYMBELLA		10	10
...DIATOMACEAE			
DDIATOMA		30	30
...NAVICULACEAE	NAVICULOID		
....NAVICULA		10	10
TOTALS		99	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 ORDER 0.722
 FAMILY 2.171
 GENERA 2.446

JAN. 22, 1975
1425 HOURS

IDENTIFICATION OF PHYTOPLANKTON

59 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTILLA		8	14
....MELOSIRA		8	14
..PENNALES	PENNATE		
...DIATOMACEAE			
....DIATOMA		8	14
...FRAGILARIACEAE			
DASTERIONELLA		34	57
TOTALS		59	99

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 ORDER 0.863
 FAMILY 1.379
 GENERA 1.664

06440000 MISSOURI RIVER AT PIERRE, SD--Continued

FEB. 26, 1975
0915 HOURS

IDENTIFICATION OF PHYTOPLANKTON

92 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCONODISCACEAE			
...CYCLOTELLA		5	6
..PENNALES	PENNATE		
...DIATOMACEAE			
D ...DIATOMA		22	24
...FRAGILARIACEAE			
D ...ASTERIONELLA		38	41
...SYNEDRA		11	12
...NAVICULACEAE	NAVICULOID		
...NAVICULA		5	6
...NITZSCHACEAE			
...NITZSCHIA		11	12
TOTALS		92	101

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
ORDER 0.323
FAMILY 1.821
GENERA 2.226

MAR. 18, 1975
1410 HOURS

IDENTIFICATION OF PHYTOPLANKTON

180 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...DIATOMACEAE			
...DIATOMA		9	5
...FRAGILARIACEAE			
...ASTERIONELLA		18	10
D ...SYNEDRA		54	30
...GOMPHONEMACEAE			
...GOMPHONEMA		18	10
...NITZSCHACEAE			
...NANTZSCHIA		9	5
D ...NITZSCHIA		72	40
TOTALS		180	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
FAMILY 1.595
GENERA 2.146

MISSOURI RIVER BASIN

06440000 MISSOURI RIVER AT PIERRE, SD--Continued

MAY 5, 1975
0915 HOURS

IDENTIFICATION OF PHYTOPLANKTON

100 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		10	10
....STEPHANODISCUS		5	5
..PENNALES	PENNATE		
...ACHNANTHACEAE			
....RHOICOSPHEINIA		5	5
....DIATOMACEAE			
DDIATOMA		30	30
....FRAGILARIACEAE			
DSYNEDRA		40	40
....NAVICULACEAE	NAVICULOID		
....NAVICULA		5	5
	TOTALS	95	95
PYRRHOPHYTA			
..DINOPHYCEAE	DINOFLAGELLATES		
..PERIDINIALES			
...GLENODINIACEAE			
....GLENODINIUM		5	5
	TOTALS	5	5

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.286
CLASS 0.286
ORDER 0.884
FAMILY 2.109
GENERA 2.246

MAY 28, 1975
0800 HOURS

IDENTIFICATION OF PHYTOPLANKTON

330 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...ACHNANTHACEAE			
....ACHNANTHES		30	9
....COCCONEIS		30	9
DRHOICOSPHEINIA		91	27
....DIATOMACEAE			
DDIATOMA		150	45
....NITZSCHIAEAE			
....NITZSCHIA		30	9
	TOTALS	330	99

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

FAMILY 1.349
GENERA 1.972

MISSOURI RIVER BASIN

199

06440000 MISSOURI RIVER AT PIERRE, SD--Continued

JUNE 23, 1975
1430 HOURS

IDENTIFICATION OF PHYTOPLANKTON

480 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...SCENEDESMACEAE			
DSCENEDESMUS		200	41
	TOTALS	200	41
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...PENNALES	PENNATE		
...ACHNANTHACEAE			
...RHOICOSPHENIA		17	3
...DIATOMACEAE			
DDIATOMA		99	21
...GOMPHONEMACEAE			
...GOMPHONEMA		17	3
...NAVICULACEAE	NAVICULOID		
...NAVICULA		50	10
...NITZSCHACEAE			
DNITZSCHIA		99	21
	TOTALS	280	58

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.978
 CLASS 0.978
 ORDER 0.978
 FAMILY 2.141
 GENERA 2.141

JULY 30, 1975
1130 HOURS

IDENTIFICATION OF PHYTOPLANKTON

73 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...PENNALES	PENNATE		
...ACHNANTHACEAE			
DACHNANTHES		11	15
DCOCCONEIS		11	15
...RHOICOSPHENIA		6	8
...CYMBELLACEAE			
DCYMBELLA		17	23
...FRAGILARIACEAE			
...SYNEDRA		6	8
...GOMPHONEMACEAE			
DGOMPHONEMA		22	31
	TOTALS	73	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 FAMILY 1.826
 GENERA 2.412

AUG. 25, 1975
1415 HOURS

IDENTIFICATION OF PHYTOPLANKTON

100 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...VOLVOCALES			
...PHACOTACEAE			
....PHACOTUS		8	8
	TOTALS	8	8
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...ACHNANTHACEAE			
L ...ACHNANTHES			0
D ...COCCONEIS		16	15
...CYMBELLACEAE			
D ...CYMBELLA		39	38
...FRAGILARIACEAE			
L ...FRAGILARIA			0
...NAVICULACEAE	NAVICULOID		
D ...NAVICULA		16	15
...NITZSCHIACEAE			
D ...NITZSCHIA		16	15
	TOTALS	86	83
EUGLENOPHYTA	EUGLENOIDS		
..CRYPTOPHYCEAE	CRYPTOMONADS		
..CRYPTOMONIDALES			
...CRYPTOMONODACEAE			
....CRYPTOMONAS		8	8
	TOTALS	8	8

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.773
 CLASS 0.773
 ORDER 0.773
 FAMILY 2.346
 GENERA 2.346

06440000 MISSOURI RIVER AT PIERRE, SD--Continued

SEP. 25, 1975
0830 HOURS

IDENTIFICATION OF PHYTOPLANKTON

67 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		5	8
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
DCHLAMYDOMONAS		26	38
	TOTALS	31	46
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....STEPHANODISCUS		5	8
..PENNALES	PENNATE		
...CYMBELLACEAE			
....CYMBELLA		5	8
...NAVICULACEAE	NAVICULOID		
....NAVICULA		5	8
	TOTALS	16	24
EUGLENOPHYTA	EUGLENOIDS		
..CRYPTOPHYCEAE	CRYPTOMONADS		
...CRYPTOMONIDALES			
...CRYPTOMONADACEAE			
DCRYPTOMONAS		21	31
	TOTALS	21	31

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.526

CLASS 1.526

ORDER 2.038

FAMILY 2.192

GENERA 2.192

OCT. 30, 1975
0820 HOURS

IDENTIFICATION OF PHYTOPLANKTON

- - - NO ORGANISMS REPORTED - - -

NOTE: ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

MISSOURI RIVER BASIN

06440000 MISSOURI RIVER AT PIERRE, SD--Continued

DEC. 1, 1975
1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

48 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCONODISCACEAE			
DCYCLOTELLA		12	25
..PENNALES	PENNATE		
...ACHNANTHACEAE			
DACHNANTHES		18	37
...DIATOMACEAE			
LDIATOMA			0
...NAVICULACEAE	NAVICULOID		
DNAVICULA		18	37
...NITZSCHACEAE			
LDENTICULA			0
LNITZSCHIA			0
TOTALS		48	99

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 ORDER 0.811
 FAMILY 1.561
 GENERA 1.561

DEC. 29, 1975
1415 HOURS

IDENTIFICATION OF PHYTOPLANKTON

35 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCONODISCACEAE			
...CYCLOTELLA		5	14
..PENNALES	PENNATE		
...ACHNANTHACEAE			
LRHOICOSPHENIA			0
...CYMBELLACEAE			
...CYMBELLA		5	14
...GOMPHONEMATACEAE			
LGOMPHONEMA			0
...NAVICULACEAE	NAVICULOID		
DNAVICULA		20	57
...NITZSCHACEAE			
...NITZSCHIA		5	14
TOTALS		35	99

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 ORDER 0.592
 FAMILY 1.664
 GENERA 1.664

MISSOURI RIVER BASIN

203

06440000 MISSOURI RIVER AT PIERRE, SD--Continued

JAN. 26, 1976
1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

3 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS .		
..PENNALES	PENNATE		
...ACHNANTHACEAE			
LRHOICOSPHENIA			0
...DIATOMACEAE			
DDIATOMA		3	100
...NITZSCHIAEAE			
LNITZSCHIA			0
	TOTALS	3	100
PYRRHOPHYTA			
.DINOPHYCEAE	DINOFLAGELLATES		
..PERIDINIALES			
...PERIDINIAEAE			
LPERIDINIUM			0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1% MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE

FEB. 27, 1976
1430 HOURS

IDENTIFICATION OF PHYTOPLANKTON

84 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		53	62
..PENNALES	PENNATE		
...ACHNANTHACEAE			
LACHNANTHES			0
LRHOICOSPHENIA			0
...DIATOMACEAE			
...DIATOMA		11	12
...FRAGILARIAEAE			
LASTERIONELLA			0
...GOMPHONEMACEAE			
...GOMPHONEMA		11	12
...NAVICULACEAE	NAVICULOID		
...NAVICULA		11	12
...NITZSCHIAEAE			
LNITZSCHIA			0
	TOTALS	84	98

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1% MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 ORDER 0.954
 FAMILY 1.549
 GENERA 1.549

MISSOURI RIVER BASIN

06440000 MISSOURI RIVER AT PIERRE, SD--Continued

MAR. 25, 1976
1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

240 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE		5	2
...CYCLOTELLA			
..PENNALES	PENNATE		
...ACHNANTHACEAE		5	2
...COCCONEIS			
...DIATOMACEAE			
L ...DIATOMA			0
...FRAGILARIACEAE		100	42
D ...ASTERIONELLA			
...GOMPHONEMACEAE			0
L ...GOMPHONEMA			
...NAVICULACEAE	NAVICULOID	5	2
...NAVICULA			
	TOTALS	110	48
..CHRYSTOPHYCEAE	YELLOW-BROWN ALGAE		
..CHRYSONOMADALES			
...CHROMULINACEAE			
L ...CHROMULINA			0
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..OSCILLATORIALES	FILAMENTOUS		
...OSCILLATORIA		120	50
D ...OSCILLATORIA			
	TOTALS	120	50
PYRRHOPHYTA			
..DINOPHYCEAE	DINOFLAGELLATES		
..PERIDINIALES		5	2
...GLENODINIACEAE			
...GLENODINIUM			
	TOTALS	5	2

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.118
 CLASS 1.118
 ORDER 1.234
 FAMILY 1.464
 GENERA 1.464

APR. 26, 1976
1415 HOURS

IDENTIFICATION OF PHYTOPLANKTON

17 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...ACHNANTHACEAE			0
L ...RHOICOSPHENIA			
...CYMBELLACEAE			0
L ...CYMBELLA			
...DIATOMACEAE		17	100
D ...DIATOMA			
...FRAGILARIACEAE			0
L ...FRAGILARIA			
...NAVICULACEAE	NAVICULOID		0
L ...NAVICULA			
	TOTALS	17	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE

06440000 MISSOURI RIVER AT PIERRE, SD--Continued

MAY 26, 1976
0850 HOURS

IDENTIFICATION OF PHYTOPLANKTON

21 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCEAE			
DCYCLOTELLA		8	40
..PENNALES	PENNATE		
...NITZSCHIAEAE			
DNITZSCHIA		12	60
	TOTALS	21	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
ORDER 0.971
FAMILY 0.971
GENERA 0.971

JUNE 30, 1976
1330 HOURS

IDENTIFICATION OF PHYTOPLANKTON

390 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
.CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		19	5
DOOCYSTIS		74	19
	TOTALS	93	24
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...ACHNANTHACEAE			
...RHOICOSPHEAIA		28	7
...NAVICULACEAE	NAVICULOID		
...NAVICULA		28	7
...NITZSCHIAEAE			
....NITZSCHIA		9	2
	TOTALS	65	16
CYANOPHYTA	BLUE-GREEN ALGAE		
.MYXOPHYCEAE			
..CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
DANACYSTIS		220	57
	TOTALS	220	57
EUGLENOPHYTA	EUGLENIDS		
.CRYPTOPHYCEAE	CRYPTOMONADS		
..CRYPTOMONIDALES			
...CRYPTOMONODACEAE			
....CRYPTOMONAS		9	2
	TOTALS	9	2

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 1.514
CLASS 1.514
ORDER 1.514
FAMILY 1.755
GENERA 1.927

MISSOURI RIVER BASIN

06440000 MISSOURI RIVER AT PIERRE, SD--Continued

JULY 27, 1976
1430 HOURS

IDENTIFICATION OF PHYTOPLANKTON

100 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
DANKISTRODESMUS		26	25
DOOCYSTIS		17	17
	TOTALS	43	42
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...ACHNANTHACEAE			
...ACHNANTHES		9	8
...CYMBELLACEAE			
...CYMBELLA		9	8
...NAVICULACEAE	NAVICULOID		
...PINNULARIA		4	4
...NITZSCHACEAE			
...NITZSCHIA		13	12
	TOTALS	34	32
..CHRYSTOPHYCEAE	YELLOW-BROWN ALGAE		
..CHRYSONOMADALES			
...OCHROMONADACEAE			
...OCHROMONAS		4	4
	TOTALS	4	4
EUGLENOPHYTA	EUGLENOIDS		
..CRYPTOPHYCEAE	CRYPTOMONADS		
...CRYPTOMONIDALES			
...CRYPTOMONODACEAE			
DCRYPTOMONAS		21	21
	TOTALS	21	21

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.528
 CLASS 1.717
 ORDER 1.717
 FAMILY 2.352
 GENERA 2.757

MISSOURI RIVER BASIN

207

06440000 MISSOURI RIVER AT PIERRE, SD--Continued

AUG. 30, 1976
0900 HOURS

IDENTIFICATION OF PHYTOPLANKTON

200 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
.CHLOROPHYCEAE			
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CARTERIA		18	9
...PHACOTACEAE			
....PHACOTUS		18	9
	TOTALS	35	18
CHRYSPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...ACHNANTHACEAE			
LCOCCONEIS			0
...CYMBELLACEAE			
....AMPHORA		9	4
...DIATOMACEAE			
LDIATOMA			0
...FRAGILARIACEAE			
....SYNEDRA		18	9
...NAVICULACEAE	NAVICULOID		
....NAVICULA		26	13
...NITZSCHACEAE			
....NITZSCHIA		9	4
	TOTALS	62	30
.CHRYSPHYCEAE	YELLOW-BROWN ALGAE		
..CHRYSONOMADALES			
...OCHROMONADACEAE			
DOCHROMONAS		97	48
	TOTALS	97	48
EUGLENOPHYTA	EUGLENOIDS		
.CRYPTOPHYCEAE	CRYPTOMONADS		
..CRYPTOMONIDALES			
...CRYPTOMONODACEAE			
....CRYPTOMONAS		9	4
	TOTALS	9	4

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.912
 CLASS 1.667
 ORDER 1.667
 FAMILY 2.401
 GENERA 2.401

MISSOURI RIVER BASIN
06440000 MISSOURI RIVER AT PIERRE, SD-Continued

SEP. 29, 1976
0850 HOURS

IDENTIFICATION OF PHYTOPLANKTON

200 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....TETRAEDRON		4	2
..VOLVOCALES			
...PHACOTACEAE			
....PHACOTUS		16	8
	TOTALS	19	10
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...ACHNANTHACEAE			
....ACHNANTHES		27	14
...RHOICOSPHENIA		4	2
...CYMBELLACEAE			
....CYMBELLA		12	6
...DIATOMACEAE			
....DIATOMA		12	6
...FRAGILARIACEAE			
....FRAGILARIA		16	8
...SYNEDRA		8	4
...GOMPHONEMACEAE			
....GOMPHONEMA		27	14
...NAVICULACEAE	NAVICULOID		
....NAVICULA		16	8
...NITZSCHIACEAE			
DNITZSCHIA		35	18
	TOTALS	160	80
EUGLENOPHYTA	EUGLENOIDS		
..CRYPTOPHYCEAE	CRYPTOMONADS		
...CRYPTOMONIDALES			
...CRYPTOCHRYSIDACEAE			
....CHROOMONAS		19	10
...CRYPTOMONODACEAE			
....CRYPTOMONAS		4	2
	TOTALS	23	12

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.967
CLASS 0.967
ORDER 1.037
FAMILY 3.225
GENERA 3.418

BAD RIVER BASIN

209

06441000 BAD RIVER NEAR MIDLAND, SD

LOCATION.--Lat 44°04'01", long 101°09'36", in NE&NW& sec.7, T.1 N., R.25 E., Haakon County, Hydrologic Unit 10140102, on right bank at downstream side of bridge on State Highway 63, 0.4 mi (0.6 km) southwest of Midland, 2.0 mi (3.2 km) upstream from Mitchell Creek, and 3.7 mi (6.0 km) upstream from Ash Creek.

DRAINAGE AREA.--1,460 mi² (3,780 km²), approximately.

PERIOD OF RECORD.--October 1945 to current year. Prior to February 1946 monthly discharge only, published in WSP 1309.

REVISED RECORDS.--WSP 2117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,849.14 ft (563.618 m) above mean sea level. Prior to Feb. 21, 1961, nonrecording gage, and Feb. 21, 1961, to June 14, 1967, water-stage recorder at site 4.2 mi (6.8 km) downstream at datum 15.72 ft (4.791 m) lower. June 15 to July 26, 1967, nonrecording gage at site 30 ft (9 m) upstream and July 27, 1967, to June 14, 1971, water-stage recorder at site 60 ft (18 m) upstream, both at present datum.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years, 63.9 ft³/s (1.810 m³/s), 46,300 acre-ft/yr (57.1 hm³/yr); median of yearly mean discharges, 37 ft³/s (1.05 m³/s), 26,800 acre-ft/yr (33 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,400 ft³/s (833 m³/s) June 15, 1967, gage height, 24.44 ft (7.449 m), from floodmarks, 20.10 ft (6.126 m), from floodmarks, at former site and datum, from rating curve extended above 16,000 ft³/s (453 m³/s); no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 134 ft³/s (3.79 m³/s) May 26, gage height, 7.10 ft (2.164 m); no peak above base of 500 ft³/s (14.2 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	.27	.33	.57		0		
2					0	.04	.14	3.5		0		
3					0	.01	.06	3.4		8.8		
4					0	0	.02	1.5		2.0		
5					0	0	.01	.57		1.6		
6					0	.09	0	.27		1.1		
7					0	1.5	0	.11		2.1		
8					0	2.6	0	.03		2.0		
9					0	3.0	0	.01		.99		
10					0	3.0	0	0		.33		
11					0	3.2	0	0		.18		
12					0	2.3	0	0		.18		
13					0	2.0	0	0		.01		
14					0	1.6	0	0		5.1		
15					.20	.88	0	0		5.2		
16					38	.77	0	0		.57		
17					31	1.5	0	0		0		
18					28	5.9	0	0		0		
19					13	5.9	31	0		0		
20					19	2.0	25	0		0		
21					6.3	.40	6.3	0		0		
22					6.3	.08	3.4	0		0		
23					7.0	.27	1.4	0		0		
24					5.3	.57	.88	0		0		
25					2.6	.88	.27	2.6		0		
26					2.8	.77	.48	29		0		
27					1.6	.57	.48	.06		0		
28					1.5	.88	.40	0		0		
29					.88	1.2	.40	0		0		
30					---	.88	.14	0		0		
31		---			---	.57	---	0	---	0		---
TOTAL	0	0	0	0	163.48	43.63	70.71	41.62	0	30.16	0	0
MEAN	0	0	0	0	5.64	1.41	2.36	1.34	0	.97	0	0
MAX	0	0	0	0	38	5.9	31	29	0	8.8	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	324	87	140	83	0	60	0	0
CAL YR 1975	TOTAL	25437.08	MEAN	69.7	MAX	2790	MIN	0	AC-FT	50450		
WTR YR 1976	TOTAL	349.60	MEAN	.96	MAX	38	MIN	0	AC-FT	693		

BAD RIVER BASIN

06441500 BAD RIVER NEAR FORT PIERRE, SD

LOCATION.--Lat 44°19'36", long 100°23'02", in NW¼NW¼ sec.10, T.4 N., R.31 E., Stanley County, Hydrologic Unit 10140102, on right bank at downstream side of highway bridge, 2.1 mi (3.4 km) south of Fort Pierre, 4.3 mi (6.9 km) downstream from Willow Creek, and 6.0 mi (9.7 km) upstream from mouth.

DRAINAGE AREA.--3,107 mi² (8,047 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1928 to current year. Monthly discharge only for July 1932 to February 1934, published in WSP 1309.

REVISED RECORDS.--WSP 786: Drainage area. WSP 856: 1929(M), 1937.

GAGE.--Water-stage recorder. Datum of gage is 1,427.83 ft (435.203 m) above mean sea level. Prior to July 10, 1951, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are poor.

AVERAGE DISCHARGE.--48 years, 149 ft³/s (4.220 m³/s), 108,000 acre-ft/yr (133 hm³/yr); median of yearly mean discharges, 98 ft³/s (2.78 m³/s), 71,000 acre-ft/yr (88 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,800 ft³/s (1,240 m³/s) June 18, 1967, gage height, 29.55 ft (9.007 m); no flow for long periods in each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in April 1927 reached a stage of 30.89 ft (9.415 m), from floodmarks, discharge, about 55,000 ft³/s (1,560 m³/s). Flood in July 1905 reached a stage about 2 ft (0.610 m) higher than that in April 1927.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,560 ft³/s (44.2 m³/s) Feb. 10, gage height, 8.23 ft (2.508 m); no peak above base of 2,000 ft³/s (56.6 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	150	1.1	.13	.05	7.4			
2				0	100	1.1	.10	.05	4.6			
3				0	80	.42	.12	.04	.49			
4				0	20	.57	.12	.04	.27			
5				0	10	.57	.10	.05	.10			
6				0	5.0	.36	.10	.05	.02			
7				0	2.0	.31	.09	.03	0			
8				0	1.0	.36	.09	.03	0			
9				0	10	.76	.08	.02	0			
10				0	500	7.0	.10	.01	0			
11				0	1060	20	.06	0	0			
12				0	764	40	.06	0	0			
13				0	479	35	.06	0	0			
14				0	324	30	.08	0	0			
15				0	218	35	.07	0	0			
16				0	142	40	.12	0	0			
17				0	90	45	.17	0	0			
18				0	49	52	.15	0	0			
19				0	25	45	.13	0	0			
20				0	27	27	.12	0	0			
21				0	10	11	.10	0	0			
22				0	8.3	6.6	.07	0	0			
23				0	6.6	3.0	.06	0	0			
24				0	6.6	1.6	.07	0	0			
25				0	6.6	.99	.06	0	0			
26				0	6.2	.76	.05	0	0			
27				0	5.8	.36	.05	0	0			
28				0	3.8	.31	.05	0	0			
29				0	.99	.23	.06	0	0			
30				15	---	.15	.06	0	0			
31		---		50	---	.15	---	0	---			---
TOTAL	0	0	0	65	4110.89	406.70	2.68	.37	12.88	0	0	0
MEAN	0	0	0	2.10	142	13.1	.089	.012	.43	0	0	0
MAX	0	0	0	50	1060	52	.17	.05	7.4	0	0	0
MIN	0	0	0	0	.99	.15	.05	0	0	0	0	0
AC-FT	0	0	0	129	8150	807	5.3	.7	26	0	0	0
CAL YR 1975	TOTAL	39442.73	MEAN 108	MAX 3010	MIN 0	AC-FT 78230						
WTR YR 1976	TOTAL	4598.52	MEAN 12.6	MAX 1060	MIN 0	AC-FT 9120						

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD. --

REMARKS.--Records fair. Flow affected by ice Jan. 30 to Feb. 10, Mar. 10-16. No flow Oct. 1 to Jan. 29, May 11-31, June 7 to Sept. 30. Sediment discharge records prior to Oct. 1, 1971, on file in the District office, Corps of Engineers, Omaha, Ne.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 97,000 mg/l Apr. 21, 1974; minimum daily mean, 0 mg/l on many days each year.

SEDIMENT LOADS: Maximum daily, 783,000 tons (710,000 tonnes) May 2, 1972; minimum daily, 0 ton (0 tonne) on many days each year.

EXTREMES FOR CURRENT YEAR. - -

SEDIMENT CONCENTRATIONS: Maximum daily mean, 17,000 mg/l Feb. 11; minimum daily mean, 0 mg/l on many days.

SEDIMENT LOADS: Maximum daily, 48,700 tons (44,200 tonnes) Feb. 11; minimum daily, 0 ton (0 tonne) on many days.

[illegible]

BAD RIVER BASIN

06441500 BAD RIVER NEAR FORT PIERRE, SD--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	0	0	150	1550	628	1.1	250	.74
2	0	0	0	100	440	119	1.1	250	.74
3	0	0	0	90	660	143	.42	200	.73
4	0	0	0	20	320	17	.57	200	.31
5	0	0	0	10	360	9.7	.57	200	.31
6	0	0	0	5.0	300	4.1	.36	175	.17
7	0	0	0	2.0	480	2.6	.31	175	.15
8	0	0	0	1.0	280	.76	.36	175	.17
9	0	0	0	10	220	5.9	.76	200	.41
10	0	0	0	500	11500	15500	7.0	900	17
11	0	0	0	1060	17000	48700	20	3900	211
12	0	0	0	764	13700	28300	40	9300	1000
13	0	0	0	479	15500	20000	35	7900	747
14	0	0	0	324	10900	9540	30	6500	526
15	0	0	0	218	13400	7890	35	6100	576
16	0	0	0	142	13600	5210	40	7000	756
17	0	0	0	90	9000	2190	45	9300	1130
18	0	0	0	49	4800	635	52	10700	1500
19	0	0	0	25	2000	135	45	10200	1240
20	0	0	0	27	1000	73	27	5800	423
21	0	0	0	10	600	16	11	1000	30
22	0	0	0	8.3	380	8.5	6.6	500	8.9
23	0	0	0	6.6	400	7.1	3.0	355	2.9
24	0	0	0	6.6	400	7.1	1.6	300	1.3
25	0	0	0	6.6	400	7.1	.99	275	.74
26	0	0	0	6.2	400	6.7	.76	250	.51
27	0	0	0	5.8	350	5.5	.36	225	.22
28	0	0	0	3.8	350	3.6	.31	200	.17
29	0	0	0	.99	300	.80	.23	190	.12
30	15	560	23	---	---	---	.15	180	.07
31	50	750	101	---	---	---	.15	180	.07
TOTAL	65.00	---	124.00	4110.89	---	139165.5	406.70	---	8174.23

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	TEMPER- ATURE (DEG C) (00010)	NUMBER OF SAM- PLING POINTS (00063)	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	RED MAT. FALL DIAM. % FINER THAN .062 MM (R0158)	RED MAT. FALL DIAM. % FINER THAN .125 MM (R0159)	RED MAT. FALL DIAM. % FINER THAN .250 MM (R0160)
MAR							
21...	1415	7.0	2	22	4	6	10
APR							
23...	0945	8.0	2	635	--	0	1
MAY							
02...	1000	10.0	2	2090	--	0	1
21...	1430	11.0	2	56	--	--	0
JUN							
23...	1015	22.0	2	578	0	1	1

06441500 BAD RIVER NEAR FORT PIERRE, SD--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.13	180	.06	.05	140	.02	7.4	610	12
2	.10	170	.05	.05	140	.02	4.6	300	3.7
3	.12	170	.06	.04	120	.01	.49	200	.26
4	.12	180	.06	.04	120	.01	.27	170	.12
5	.10	170	.05	.05	120	.02	.10	120	.03
6	.10	170	.05	.05	120	.02	.02	100	.01
7	.09	160	.04	.03	100	.01	0	0	0
8	.09	160	.04	.03	100	.01	0	0	0
9	.08	160	.03	.02	100	.01	0	0	0
10	.10	150	.04	.01	100	0	0	0	0
11	.06	150	.02	0	0	0	0	0	0
12	.06	150	.02	0	0	0	0	0	0
13	.06	160	.03	0	0	0	0	0	0
14	.08	160	.03	0	0	0	0	0	0
15	.07	180	.03	0	0	0	0	0	0
16	.12	190	.06	0	0	0	0	0	0
17	.17	200	.09	0	0	0	0	0	0
18	.15	190	.08	0	0	0	0	0	0
19	.13	190	.07	0	0	0	0	0	0
20	.12	180	.06	0	0	0	0	0	0
21	.10	180	.05	0	0	0	0	0	0
22	.07	175	.03	0	0	0	0	0	0
23	.06	170	.03	0	0	0	0	0	0
24	.07	170	.03	0	0	0	0	0	0
25	.06	160	.03	0	0	0	0	0	0
26	.05	160	.02	0	0	0	0	0	0
27	.05	160	.02	0	0	0	0	0	0
28	.05	140	.02	0	0	0	0	0	0
29	.06	140	.02	0	0	0	0	0	0
30	.06	140	.02	0	0	0	0	0	0
31	---	---	---	0	0	0	---	---	---
TOTAL	2.68	---	1.24	.37	---	.13	12.88	---	16.12

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	BED MAT. FALL DIAM. % FINER THAN .500 MM (R0161)	BED MAT. FALL DIAM. % FINER THAN 1.00 MM (R0162)	BED MAT. SIFVE DIAM. % FINER THAN 2.00 MM (R0169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (R0170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (R0171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (R0172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (R0173)
MAR							
21...	19	41	49	59	72	79	100
APR							
23...	16	51	63	72	83	93	100
MAY							
02...	9	33	42	52	64	79	100
21...	13	62	73	80	86	100	--
JUN							
23...	4	16	22	35	61	90	100

BAD RIVER BASIN

06441500 BAD RIVER NEAR FORT PIERRE, SD--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
TOTAL	0	0	0	0	0	0	0	0	0
YEAR	4598.52		147481.2						

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	TEMPER- ATURE (DEG C) (00010)	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	SUS- PENDE DISE- MENT (MG/L) (00154)	SUS- PENDE DISE- MENT (T/DAY) (00155)	SUS. SED. FALL DIAM. % FINER THAN (70337)	SUS. SED. FALL DIAM. % FINER THAN (70338)	SUS. SED. FALL DIAM. % FINER THAN (70340)	SUS. SED. FALL DIAM. % FINER THAN (70342)	SUS. SED. FALL DIAM. % FINER THAN (70343)	SUS. SED. FALL DIAM. % FINER THAN (70344)
MAR											
17...	1510	5.0	63	20800	3540	78	97	--	100	--	--
APR											
08...	1000	2.5	1200	22500	72900	61	71	87	97	100	--
09...	0950	2.5	3440	29900	278000	67	77	95	99	100	--
11...	1550	2.0	1210	13100	42800	64	72	91	97	100	--
23...	0945	8.0	635	5720	9810	63	79	95	99	100	--
28...	1715	11.5	312	31000	26100	68	81	94	100	--	--
MAY											
02...	1000	10.0	2090	13300	75100	64	76	92	98	99	100
22...	2040	14.5	754	75400	153000	66	76	88	97	99	100
23...	1210	14.0	372	59600	59900	61	78	94	97	100	--
JUN											
21...	2015	2.0	157	55100	23400	63	77	91	98	100	--
23...	1015	22.0	578	20900	32600	66	76	91	100	--	--
23...	2130	25.0	447	22600	27300	75	84	94	99	100	--
24...	2115	26.0	258	24200	11700	75	87	97	100	--	--
25...	2045	27.0	140	14600	5520	80	91	100	--	--	--
26...	1745	27.0	94	10200	2590	78	90	98	100	--	--
27...	1930	28.0	52	5910	830	86	89	97	100	--	--

MEDICINE KNOLL CREEK BASIN

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06442000 MEDICINE KNOLL CREEK NEAR BLUNT, SD

LOCATION.--Lat 44°33'46", long 99°54'50", in NW¼ sec.31, T.113 N., R.75 W., Sully County, Hydrologic Unit 10140103, on left bank at downstream side of highway bridge, 4.8 mi (7.7 km) northeast of Blunt and 5.5 mi (8.8 km) upstream from South Fork Medicine Knoll Creek.

DRAINAGE AREA (REVISED).--317 m² (821 km²).

PERIOD OF RECORD.--March 1950 to current year. Prior to October 1959, published as Medicine Creek near Blunt.

GAGE.--Water-stage recorder. Datum of gage is 1,611.08 ft (491.057 m) above mean sea level. Prior to Oct. 31, 1950, nonrecording gage at same site and datum.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--26 years, 4.71 ft³/s (0.133 m³/s), 3,410 acre-ft/yr (4.20 hm³/yr); median of yearly mean discharges, 1.0 ft³/s (0.03 m³/s), 720 acre-ft/yr (0.89 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,830 ft³/s (51.8 m³/s) Apr. 5, 1952, gage height, 12.34 ft (3.761 m), from floodmarks; maximum gage height, 13.2 ft (4.02 m) between Mar. 26-29, 1950, from floodmarks (backwater from ice); no flow for long periods in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3.0 ft³/s (0.085 m³/s) Feb. 17, gage height, 7.46 ft (2.274 m); no peak above base of 50 ft³/s (1.42 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	.01						
2					0	.01						
3					0	.01						
4					0	0						
5					0	0						
6					0	0						
7					0	0						
8					0	0						
9					0	0						
10					0	0						
11					0	0						
12					.01	0						
13					.10	0						
14					.52	0						
15					1.0	0						
16					2.4	0						
17					2.6	0						
18					2.0	0						
19					1.5	0						
20					1.7	0						
21					.58	0						
22					.39	0						
23					.34	0						
24					.22	0						
25					.18	0						
26					.13	0						
27					.04	0						
28					.04	0						
29					.01	0						
30					---	0						
31		---			---	0	---		---			---
TOTAL	0	0	0	0	13.76	.03	0	0	0	0	0	0
MEAN	0	0	0	0	.47	.001	0	0	0	0	0	0
MAX	0	0	0	0	2.6	.01	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	27	.06	0	0	0	0	0	0
CAL YR 1975	TOTAL 71.70	MEAN .20	MAX	10	MIN 0	AC-FT 142						
WTR YR 1976	TOTAL 13.79	MEAN .038	MAX	2.6	MIN 0	AC-FT 27						

MEDICINE CREEK BASIN

06442500 MEDICINE CREEK AT KENNEBEC, SD

LOCATION.--Lat 43°54'17", long 99°52'35", in NW¼NE¼ sec.18, T.10S N., R.75 W., Lyman County, Hydrologic Unit 10140104, on right bank 4 ft (1 m) downstream from highway bridge, 0.5 mi (0.8 km) west of Kennebec and 0.5 mi (0.8 km) downstream from small right-bank tributary.

DRAINAGE AREA.--465 mi² (1,200 km²), approximately.

PERIOD OF RECORD.--July 1954 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,659.64 ft (505.858 m) above mean sea level. Prior to Dec. 28, 1954, nonrecording gage at same site and datum.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--22 years, 13.6 ft³/s (0.385 m³/s), 9,850 acre-ft/yr (12.1 hm³/yr); median of yearly mean discharges, 6.4 ft³/s (0.18 m³/s), 4,600 acre-ft/yr (5.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,970 ft³/s (254 m³/s) Mar. 28, 1960, gage height, 16.71 ft (5.093 m); no flow for many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in April 1952 reached a stage of 17.0 ft (5.18 m), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16 ft³/s (0.45 m³/s) July 25, gage height, 1.79 ft (0.546 m); no peak above base of 100 ft³/s (2.83 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0					0		
2					0					0		
3					0					0		
4					0					0		
5					0					0		
6					0					0		
7					0					0		
8					0					0		
9					0					0		
10					0					0		
11					0					0		
12					0					0		
13					0					0		
14					0					0		
15					0					0		
16					0					0		
17					4.6					0		
18					5.6					0		
19					2.7					0		
20					2.9					0		
21					4.6					0		
22					1.8					0		
23					1.6					0		
24					1.3					0		
25					.71					1.3		
26					.50					7.4		
27					.26					2.2		
28					.05					.38		
29					0					0		
30					---					0		
31		---			---		---		---	0		---
TOTAL	0	0	0	0	26.62	0	0	0	0	11.28	0	0
MEAN	0	0	0	0	.92	0	0	0	0	.36	0	0
MAX	0	0	0	0	5.6	0	0	0	0	7.4	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	53	0	0	0	0	22	0	0
CAL YR 1975	TOTAL	1776.03	MEAN .87	MAX	220	MIN 0	AC-FT	3520				
WTR YR 1976	TOTAL	37.90	MEAN .10	MAX	7.4	MIN 0	AC-FT	75				

06442700 LAKE SHARPE NEAR FORT THOMPSON, SD

LOCATION.--Lat 44°02'18", long 99°26'45", in SE¼ sec.27, T.107 N., R.72 W., Lyman County, Hydrologic Unit 10140101, at left approach wall of powerhouse at Big Bend Dam on Missouri River, 2.5 mi (4.0 km) south of Fort Thompson, and at mile 987.4 (1,588.7 km).

DRAINAGE AREA.--249,300 mi² (645,700 km²), approximately.

PERIOD OF RECORD.--July 1963 to current year (monthend contents only).

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

REMARKS.--Reservoir is formed by earth-fill dam; closure made July 1963; intentional storage began November 1963. Maximum capacity, 1,900,000 acre-ft (2,340 hm³) below elevation, 1,423.0 ft (433.73 m), top of spillway gates. Normal maximum, 1,725,000 acre-ft (2,130 hm³) below elevation 1,420.0 ft (432.82 m). Inactive storage, 1,465,000 acre-ft (1,810 hm³) below elevation 1,415.0 ft (431.29 m). Figures given herein represent elevations at powerhouse and total contents adjusted for wind effect.

The spillway consists of a concrete chute with flat crest at elevation 1,385.0 ft (422.15 m) surmounted by 8 taintor gates, each 40 by 38 ft (12.2 X 11.6 m); design capacity, 390,000 ft³/s (11,000 m³/s). Normal releases are through 8 power units (completed in July 1966), with a generating capacity of 58,500 kilowatts each. Maximum release through powerplant about 100,000 ft³/s (2,830 m³/s). Water is used for flood control, navigation, power, and incidental uses.

COOPERATION.--Elevation and contents furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,829,000 acre-ft (2,260 hm³) Apr. 22, 1971, elevation, 1,421.9 ft (433.40 m), affected by wind; minimum since initial filling, 1,448,000 acre-ft (1,790 hm³) Sept. 17, 1967, elevation, 1,414.7 ft (431.20 m), affected by wind.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,808,000 acre-ft (2,230 hm³) May 3, maximum elevation, 1,421.2 ft (433.18 m) Jan. 1, May 3, affected by wind; minimum contents, 1,674,000 acre-ft (2,060 hm³) Oct. 4, elevation, 1,419.2 ft (432.57 m), affected by wind.

MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	1419.7	1721000	
Oct. 31	1420.0	1741000	+20000
Nov. 30	1420.1	1738000	-3000
Dec. 31	1420.3	1758000	+20000
CAL YR 1975			+14000
Jan. 31	1420.9	1788000	+30000
Feb. 29	1420.2	1751000	-37000
Mar. 31	1420.8	1782000	+31000
Apr. 30	1420.2	1750000	-32000
May 31	1420.6	1772000	+22000
June 30	1420.5	1769000	-3000
July 31	1420.5	1765000	-4000
Aug. 31	1420.7	1772000	+7000
Sept. 30	1420.1	1744000	-28000
WTR YR 1976			+23000

06442950 CROW CREEK NEAR GANN VALLEY, SD

LOCATION.--Lat 43°59'29", long 99°13'07", in NE¼NW¼ sec.15, T.106 N., R.70 W., Buffalo County, Hydrologic Unit 10140105, near center of span at downstream side of highway bridge, 6.4 mi (10.3 km) upstream from Smith Creek, 6.9 mi (11.1 km) downstream from Elm Creek, and 12.0 mi (19.3 km) southwest of Gann Valley.

DRAINAGE AREA.--670 mi² (1,740 km²), approximately.

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

GAGE.--Water-stage recorder. Datum of gage is 1,434.73 ft (437.306 m), above mean sea level.

REMARKS.--Records good.

AVERAGE DISCHARGE.--5 years, 22.5 ft³/s (0.637 m³/s), 16,300 acre-ft/yr (20.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,080 ft³/s (58.9 m³/s) Mar. 13, 1972, gage height, 13.17 ft (4.014 m); no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--No flow during year. No peak above base of 150 ft³/s (4.25 m³/s).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31		---			---		---		---			---
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	0	0	0	0	0	0	0	0	0	0	0	0
MAX	0	0	0	0	0	0	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	0	0	0	0
CAL YR 1975	TOTAL	2013.47	MEAN .52	MAX	220	MIN 0	AC-FT	3990				
WTR YR 1976	TOTAL	0.00	MEAN .000	MAX	.00	MIN 0	AC-FT	0				

06445980 WHITE CLAY CREEK NEAR OGLALA, SD

LOCATION.--Lat 43°08'46", long 102°40'58", in SE¼SE¼ sec.30, T.37 N., R.45 W., Shannon County, Hydrologic Unit 10140201, on left bank at downstream side of bridge on U.S. Highway 18, 4.3 mi (6.9 km) southeast of Oglala, 5.5 mi (8.8 km) upstream from Oglala Dam, and 11 mi (18 km) northwest of Pine Ridge.

DRAINAGE AREA.--340 mi² (880 km²), approximately.

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

GAGE.--Water-stage recorder. Datum of gage is 3,001.54 ft (914.869 m) above mean sea level.

REMARKS.--Records good except those for period of no gage-height record, June 19 to July 12, which are fair, and those for winter periods, which are poor. Some storage and possible regulation above station. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--11 years, 11.0 ft³/s (0.312 m³/s), 7,970 acre-ft/yr (9.83 hm³/yr); median of yearly mean discharges, 8.8 ft³/s (0.25 m³/s), 6,400 acre-ft/yr (7.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 659 ft³/s (18.7 m³/s) June 16, 1967, gage height, 14.74 ft (4.493 m); maximum gage height, 15.02 ft (4.578 m) Mar. 11, 1966 (backwater from ice); no flow at times in 1965, 1970, 1973-75.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 136 ft³/s (4.0 m³/s) June 19, gage height, 8.70 ft (2.65 m), no peak above base of 150 ft³/s (4.25 m³/s); minimum daily, 0.11 ft³/s (0.003 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.22	.55	3.0	4.0	7.0	8.0	10	12	12	5.0	3.2	2.0
2	.11	.55	5.0	3.0	6.0	6.0	10	12	12	5.0	4.2	1.8
3	.28	.55	8.0	2.5	5.0	5.0	9.8	11	12	6.0	3.6	1.6
4	.17	.55	10	2.5	3.0	5.0	9.8	11	11	8.0	3.2	1.5
5	.28	.50	9.0	3.0	2.5	5.0	10	10	11	6.0	3.1	1.4
6	.33	.44	9.0	2.5	2.5	6.0	10	9.9	11	5.0	3.4	1.3
7	.17	.50	9.0	2.0	4.0	7.0	10	9.7	10	8.0	3.2	1.6
8	2.4	1.5	9.0	1.5	5.0	8.0	11	9.7	9.0	6.0	3.1	1.5
9	.89	2.7	9.0	2.0	5.0	9.0	11	9.4	8.0	5.0	2.9	2.2
10	.39	3.3	8.0	3.0	6.0	10	11	9.1	7.0	5.0	2.9	2.4
11	.89	3.5	7.0	4.0	8.0	11	10	8.8	6.0	5.0	3.0	2.9
12	2.4	3.0	7.0	4.0	10	10	9.7	8.6	5.0	5.0	2.9	2.6
13	2.2	2.8	5.0	3.5	11	10	9.8	8.6	4.0	4.9	2.9	2.7
14	1.9	3.0	4.0	3.5	13	10	9.8	8.3	4.5	4.2	3.0	2.4
15	1.8	3.5	4.0	4.0	12	11	9.9	8.5	5.0	4.0	3.2	2.4
16	2.0	4.5	3.5	5.0	10	12	11	8.2	4.9	3.5	3.2	2.1
17	1.5	4.6	3.0	6.0	10	12	15	8.2	4.0	3.9	3.4	2.1
18	.81	4.0	3.5	6.0	10	12	17	8.2	3.5	2.9	3.4	1.8
19	1.2	4.0	4.0	6.0	9.0	12	15	8.1	30	3.1	3.2	1.3
20	3.3	3.5	5.0	6.5	8.0	12	14	7.8	9.0	3.5	3.1	.98
21	3.8	3.5	6.0	7.0	10	11	13	8.2	7.0	5.9	3.0	1.2
22	4.0	5.0	6.0	7.0	12	11	12	7.6	6.0	4.3	3.0	1.5
23	4.7	5.0	5.5	7.0	13	11	12	11	8.0	5.0	3.0	1.6
24	5.6	4.0	5.5	5.5	13	11	11	14	6.0	8.3	3.0	1.8
25	5.3	3.0	6.0	5.0	13	11	10	16	5.0	7.8	2.9	1.6
26	5.0	2.5	6.0	5.0	13	11	9.8	15	5.0	5.7	3.1	2.0
27	4.5	2.5	6.0	7.0	14	10	10	14	5.0	4.5	3.4	1.9
28	2.1	2.0	6.0	7.5	12	10	11	11	5.0	3.5	3.2	1.9
29	.98	2.0	6.2	8.0	10	10	12	13	6.0	3.1	2.5	.98
30	.64	2.0	6.0	7.0	---	10	13	13	5.0	3.1	2.5	2.0
31	.44	---	6.0	7.0	---	10	---	13	---	3.0	2.5	---
TOTAL	60.30	79.04	190.2	147.5	257.0	297.0	337.6	322.9	236.9	153.2	96.2	55.06
MEAN	1.95	2.63	6.14	4.76	8.86	9.58	11.3	10.4	7.90	4.94	3.10	1.84
MAX	5.6	5.0	10	8.0	14	12	17	16	30	8.3	4.2	2.9
MIN	.11	.44	3.0	1.5	2.5	5.0	9.7	7.6	3.5	2.9	2.5	.98
AC-FT	120	157	377	293	510	589	670	640	470	304	191	109
CAL YR 1975	TOTAL	2803.30	MEAN	7.68	MAX	269	MIN	0	AC-FT	5560		
WTR YR 1976	TOTAL	2232.90	MEAN	6.10	MAX	30	MIN	.11	AC-FT	4430		

06446000 WHITE RIVER NEAR OGLALA, SD

LOCATION.--Lat 43°15'17", long 102°49'29", in SW¼NE¼ sec.24, T.38 N., R.47 W., Shannon County, Hydrologic Unit 10140201, on right bank at downstream side of bridge, 3.0 mi (4.8 km) downstream from Blacktail Creek and 7.0 mi (11.3 km) northwest of Oglala.

DRAINAGE AREA.--2,200 mi² (5,700 km²), approximately.

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

GAGE.--Water-stage recorder. Datum of gage is 2,853.54 ft (869.759 m) above mean sea level. Prior to May 6, 1947, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are poor. Some diversions for irrigation above station. Several observations of water temperature were made during the period.

AVERAGE DISCHARGE.--33 years, 54.9 ft³/s (1.555 m³/s), 39,780 acre-ft/yr (49.0 hm³/yr); median of yearly mean discharges, 46 ft³/s (1.30 m³/s), 33,300 acre-ft/yr (41 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,200 ft³/s (147 m³/s) June 21, 1947, gage height, 23.50 ft (7.163 m), from rating curve extended above 2,800 ft³/s (79.3 m³/s) on basis of velocity-area studies; maximum gage height, 23.61 ft (7.196 m) June 16, 1967; no flow at times in 1952, 1954, 1957, 1961, 1964, 1965, 1970-76.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 405 ft³/s (11.5 m³/s) May 27, gage height, 10.43 ft (3.179 m); maximum gage height, 12.14 ft (3.700 m), backwater from earthen dam, no peak above base of 800 ft³/s (22.7 m³/s); no flow Oct. 1-16, Aug. 23-26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	13	3.0	5.0	19	70	25	39	31	11	9.5	10
2	0	9.4	4.0	4.0	18	60	25	56	32	9.3	12	8.6
3	0	6.2	5.0	3.0	15	50	26	46	41	10	13	8.1
4	0	3.5	6.0	3.5	12	45	24	38	34	42	12	7.0
5	0	2.2	7.0	4.0	10	37	24	35	25	21	16	5.6
6	0	3.0	8.0	3.5	10	38	25	30	21	19	44	5.2
7	0	3.8	8.5	3.0	11	39	25	28	19	48	28	6.0
8	0	2.8	9.0	2.5	12	40	28	26	17	40	26	6.2
9	0	2.2	10	3.0	15	40	29	26	16	30	19	4.6
10	0	1.8	9.5	4.0	20	40	31	26	15	22	16	2.1
11	0	.86	8.0	4.5	25	45	30	27	12	17	14	2.1
12	0	.68	8.0	4.5	40	50	30	25	9.0	13	13	6.8
13	0	.68	7.0	4.0	60	50	30	21	8.2	9.4	12	7.4
14	0	.60	5.0	4.5	70	43	32	19	6.8	8.1	11	7.4
15	0	.35	5.0	5.0	100	43	31	17	12	7.9	6.6	7.4
16	0	1.5	4.0	5.0	100	44	35	17	12	9.9	2.2	7.0
17	4.0	5.8	3.0	6.0	100	38	47	16	11	7.7	.77	3.8
18	13	4.8	3.5	6.0	100	47	63	17	45	6.1	.22	3.1
19	8.4	4.0	4.0	6.0	70	48	64	16	92	6.0	.16	5.8
20	13	3.6	5.0	6.0	70	47	82	15	31	8.6	.07	6.8
21	14	3.0	5.0	7.0	80	46	116	15	20	9.7	.06	5.4
22	17	3.5	5.0	9.0	90	47	71	16	17	13	.01	3.0
23	18	3.0	4.5	11	90	44	49	29	18	177	0	1.9
24	18	3.0	5.0	9.0	80	36	43	56	18	28	0	1.4
25	14	3.0	5.0	8.0	75	33	36	64	16	20	0	1.3
26	13	3.0	5.5	8.0	70	33	33	218	12	20	0	1.2
27	20	3.0	5.5	10	74	30	35	363	11	28	1.1	1.2
28	22	3.0	5.0	15	76	29	39	107	14	18	5.4	1.1
29	25	3.0	5.5	17	76	28	39	61	16	13	6.6	.92
30	23	2.5	5.5	16	---	27	41	58	13	8.9	9.0	---
31	20	---	5.5	17	---	27	---	41	---	8.5	10	---
TOTAL	242.4	100.77	179.5	214.0	1588	1294	1208	1568	645.0	690.1	287.69	139.19
MEAN	7.82	3.36	5.79	6.90	54.8	41.7	40.3	50.6	21.5	22.3	9.28	4.64
MAX	25	13	10	17	100	70	116	363	92	177	44	10
MIN	0	.35	3.0	2.5	10	27	24	15	6.8	6.0	0	.77
AC-FT	481	200	356	424	3150	2570	2400	3110	1280	1370	571	276

CAL YR 1975 TOTAL 11314.99 MEAN 31.0 MAX 712 MIN 0 AC-FT 22440
WTR YR 1976 TOTAL 8156.65 MEAN 22.3 MAX 363 MIN 0 AC-FT 16180

06447000 WHITE RIVER NEAR KADOKA, SD

LOCATION.--Lat 43°45'09", long 101°31'28", in SE¼SE¼ sec.30, T.3 S., R.22 E., Black Hills meridian, Jackson County, Hydrologic Unit 10140202, near center of span on downstream side of bridge on State Highway 73, 5.0 mi (8.0 km) upstream from Pass Creek, 5.5 mi (8.8 km) downstream from Cottonwood Creek, and 5.8 mi (9.3 km) south of Kadoka.

DRAINAGE AREA.--5,000 mi² (13,000 km²), approximately.

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

REVISED RECORDS.--WSP 1279: 1944(M), 1948.

GAGE.--Water-stage recorder. Datum of gage is 2,122.18 ft (646.840 m) above mean sea level. Prior to June 14, 1949, nonrecording gage, and June 14, 1949, to Mar. 8, 1955, water-stage recorder at site 0.3 mi (0.5 km) downstream at same datum. Mar. 9, 1955, to May 17, 1957, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter periods, which are poor. Some diversions above station for irrigation. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--34 years, 278 ft³/s (7.873 m³/s), 201,400 acre-ft/yr (248 hm³/yr); median of yearly mean discharges, 260 ft³/s (7.36 m³/s), 188,000 acre-ft/yr (230 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,700 ft³/s (615 m³/s) June 7, 1951, gage height, 13.83 ft (4.215 m), site then in use, from rating curve extended above 16,000 ft³/s (453 m³/s); no flow at times in many years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 4, 1942, reached a stage of 16.24 ft (4.950 m) from floodmarks, discharge, about 32,000 ft³/s (906 m³/s), from rating curve extended above 16,000 ft³/s (453 m³/s). Floods of Mar. 8, 1905, and in spring of 1927 were 1 or 2 ft (0.3 or 0.6 m) higher than flood of June 4, 1942, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,150 ft³/s (146 m³/s) May 24, gage height, 9.06 ft (2.762 m); maximum gage height, 10.85 ft (3.307 m) Feb. 11 (backwater from ice); no flow Oct. 1-24, Nov. 24 to Dec. 3, Aug. 25, Aug. 27 to Sept. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	27	0	5.5	25	180	49	445	215	27	140	0
2	0	20	0	5.0	22	160	48	250	188	373	753	0
3	0	14	0	4.0	20	140	44	185	149	246	330	0
4	0	13	5.5	2.5	20	120	41	120	113	487	226	0
5	0	11	6.5	1.6	20	110	38	110	88	212	226	0
6	0	11	7.5	1.5	25	110	41	108	68	118	354	0
7	0	8.4	8.5	1.5	35	120	54	110	48	42	379	0
8	0	4.0	10	2.0	50	130	90	93	62	24	326	0
9	0	4.0	12	4.0	200	150	113	80	41	24	125	0
10	0	4.6	11	5.0	1000	274	185	66	39	15	81	0
11	0	5.5	10	5.0	1700	340	140	49	39	10	86	0
12	0	9.5	10	6.0	1500	262	98	38	25	9.5	74	0
13	0	6.9	9.0	8.0	955	108	115	39	10	64	62	0
14	0	5.5	8.0	8.0	797	90	95	51	6.4	128	73	0
15	0	3.7	6.0	10	850	83	86	39	6.9	42	42	526
16	0	5.5	5.0	13	700	123	140	36	612	18	35	860
17	0	7.9	4.0	15	625	167	2010	34	607	8.4	41	197
18	0	8.9	3.0	15	523	143	1100	25	250	8.2	39	108
19	0	2.4	3.5	18	312	152	487	21	158	7.9	15	60
20	0	4.6	4.0	20	254	146	232	9.5	95	6.9	4.6	20
21	0	3.2	4.5	20	290	120	125	18	68	1.6	2.0	38
22	0	2.0	5.5	23	250	93	78	30	68	104	2.0	44
23	0	1.0	5.0	25	215	90	70	1470	753	1010	1.6	48
24	0	0	5.5	25	239	93	81	3880	744	457	4.0	56
25	93	0	5.5	23	243	78	102	1520	523	218	0	18
26	55	0	6.0	23	215	78	78	664	270	105	4.0	14
27	75	0	6.0	25	218	72	64	571	194	547	0	9.5
28	95	0	5.5	28	206	65	625	565	100	299	0	8.9
29	134	0	6.0	30	200	60	1450	266	50	292	0	6.9
30	76	0	6.0	30	---	54	769	250	30	218	0	5.9
31	42	---	6.0	30	---	53	---	230	---	179	0	---
TOTAL	570	176.40	185.0	432.6	11709	3964	8648	11372.5	5620.3	5301.5	3418.00	2020.2
MEAN	18.4	5.88	5.97	14.0	404	128	288	367	187	171	110	67.3
MAX	134	27	12	30	1700	340	2010	3880	753	1010	753	860
MIN	0	0	0	1.5	20	53	38	9.5	6.4	1.6	0	0
AC-FT	1130	350	367	858	23220	7860	17150	22560	11150	10520	6780	4010
CAL YR 1975 TOTAL	81660.60			MEAN 224	MAX 4920	MIN 0	AC-FT 162000					
WTR YR 1976 TOTAL	53417.50			MEAN 146	MAX 3880	MIN 0	AC-FT 106000					

WHITE RIVER BASIN

06447500 LITTLE WHITE RIVER NEAR MARTIN, SD

LOCATION.--Lat 43°10'00", long 101°37'47", in NW¼ sec.19, T.37 N., R.36 W., Bennett County, Hydrologic Unit 10140203, on right bank 70 ft (21 m) downstream from highway culvert and 5.4 mi (8.7 km) east of Martin.

DRAINAGE AREA.--310 mi² (803 km²), approximately, of which about 230 mi² (596 km²) probably contributes directly to surface runoff.

PERIOD OF RECORD.--February 1938 to September 1940, July 1962 to current year. Prior to October 1965, published as South Fork White River near Martin.

GAGE.--Water-stage recorder. Altitude of gage is 3,045 ft (928 m), by barometer. Prior to Aug. 14, 1938, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--16 years, 19.1 ft³/s (0.541 m³/s), 13,840 acre-ft/yr (17.1 hm³/s); median of yearly mean discharges, 18 ft³/s (0.51 m³/s), 13,000 acre-ft/yr (16 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,190 ft³/s (33.7 m³/s) July 19, 1965, gage height, 12.90 ft (3.932 m), from rating curve extended above 340 ft³/s (9.63 m³/s) on basis of computation of peak flow through culvert and flow-over-road measurement of peak flow; maximum gage height, 13.21 ft (4.026 m) Mar. 11, 1966 (backwater from ice); minimum daily discharge, 0.6 ft³/s (0.017 m³/s) Aug. 14, 16, 18, 1940; no flow for part of each day Oct. 19, 20, 22, 1962, regulation caused by construction work above station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 5, 1932, reached a stage of 13.3 ft (4.05 m), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 118 ft³/s (3.34 m³/s) Sept. 15, gage height, 4.05 ft (1.234 m); minimum daily, 2.0 ft³/s (0.057 m³/s) Jan. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	13	6.0	6.0	11	30	18	42	13	5.8	3.9	3.6
2	5.8	13	7.0	4.0	10	25	18	37	12	5.6	4.4	3.3
3	5.9	13	7.0	4.0	10	22	17	29	11	5.9	4.7	3.2
4	5.9	13	10	3.0	9.0	22	16	23	9.7	6.2	4.8	2.9
5	6.8	13	10	3.0	8.0	23	16	20	8.9	6.8	5.1	2.8
6	7.2	13	10	3.0	8.0	26	16	19	8.3	6.6	5.4	2.7
7	7.1	13	9.0	2.0	10	28	17	18	7.8	6.0	20	2.7
8	6.9	12	9.0	4.0	15	27	20	17	7.4	5.5	8.4	2.7
9	7.1	12	10	5.0	20	27	20	16	7.1	5.1	7.4	2.9
10	6.9	12	9.0	5.0	25	26	21	16	6.6	4.8	6.5	3.1
11	7.5	13	8.0	6.0	30	23	21	15	6.2	4.4	5.9	3.3
12	7.8	13	7.0	7.0	35	20	20	15	5.9	4.0	5.5	3.6
13	8.3	10	7.0	7.0	36	19	18	15	5.6	3.9	7.5	3.6
14	8.4	14	6.0	8.0	38	20	17	15	5.5	3.8	6.2	12
15	8.9	14	6.0	8.0	38	20	17	15	5.8	4.0	5.3	68
16	9.1	14	5.5	9.0	36	21	17	15	6.0	4.0	5.2	79
17	9.4	14	6.0	9.0	36	26	20	15	6.2	4.1	5.2	93
18	9.2	13	8.0	10	34	25	40	14	6.0	4.0	5.1	19
19	9.5	10	10	11	34	25	47	14	5.9	3.9	5.0	11
20	9.5	10	11	11	32	24	52	13	5.9	3.9	5.0	8.7
21	9.2	9.0	11	12	32	26	46	12	5.9	4.0	4.6	8.0
22	9.4	8.0	11	11	32	27	34	12	5.6	4.0	4.2	7.4
23	10	8.0	10	10	35	26	28	16	6.3	4.2	4.0	7.0
24	11	7.0	10	9.0	39	25	23	27	7.4	4.5	3.8	6.9
25	12	7.0	10	8.0	40	23	20	34	8.4	6.0	3.7	7.0
26	12	7.0	9.0	8.0	40	22	20	39	7.8	4.7	3.6	7.2
27	12	6.0	9.0	8.5	35	21	19	34	7.1	4.1	3.5	7.4
28	14	6.0	9.0	10	33	20	22	29	6.6	4.0	3.3	7.4
29	14	6.0	10	11	30	20	37	23	6.3	4.1	3.0	7.4
30	14	5.5	10	12	---	19	44	18	6.2	4.0	3.1	7.4
31	14	---	9.0	11	---	18	---	15	---	3.9	3.3	---
TOTAL	283.9	321.5	269.5	235.5	791.0	726	741	642	218.4	145.8	215.2	404.2
MEAN	9.16	10.7	8.69	7.60	27.3	23.4	24.7	20.7	7.28	4.70	6.94	13.5
MAX	14	14	11	12	40	30	52	42	13	6.8	54	93
MIN	5.1	5.5	5.5	2.0	8.0	18	16	12	5.5	3.8	3.0	2.7
AC-FT	563	638	535	467	1570	1440	1470	1270	433	289	427	802
CAL YR 1975	TOTAL	5572.7	MEAN 15.3	MAX 394	MIN 3.8	AC-FT 11050						
WTR YR 1976	TOTAL	4994.0	MEAN 13.6	MAX 93	MIN 2.0	AC-FT 9910						

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LOCATION.--Lat 43°05'07", long 101°36'04", in NE¼ sec.19, T.36 N., R.36 W., Bennett County, Hydrologic Unit 10140203, on left wingwall at upstream side of culvert, 80 ft (24 m) downstream from west boundary of LaCreek game refuge and 7.5 mi (12.1 km) southwest of Tuthill.

PERIOD OF RECORD.--February 1938 to September 1940, July 1962 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,090 ft (942 m), by barometer. Prior to Aug. 9, 1938, nonrecording gage and Aug. 9, 1938, to Sept. 30, 1940, water-stage recorder at site 110 ft (34 m) upstream at same datum.

REMARKS.--Records good except those for winter periods, which are poor. A few small diversions for irrigation of hay meadows above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--16 years, 19.4 ft³/s (0.549 m³/s), 14,060 acre-ft/yr (17.3 hm³/yr); median of yearly mean discharges, 20 ft³/s (0.57 m³/s), 14,500 acre-ft/yr (18 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 154 ft³/s (4.36 m³/s) Mar. 9, 1966, gage height, 2.83 ft (0.863 m); maximum gage height, 3.75 ft (1.143 m) Feb. 12, 1971 (backwater from ice); no flow for part of June 5, 1939.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 51 ft³/s (1.44 m³/s) May 23, gage height, 1.87 ft (0.570 m); maximum gage height, 2.66 ft (0.811 m) Jan. 29 (backwater from ice); minimum daily discharge, 7.0 ft³/s (0.20 m³/s) Jan. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	16	20	14	18	15	14	21	16	13	14	11
2	14	16	30	13	17	14	14	19	15	14	15	11
3	14	16	34	12	16	14	14	18	14	17	14	10
4	14	16	35	11	15	13	14	18	14	16	13	9.8
5	14	17	34	9.0	14	13	14	18	13	15	17	9.8
6	14	16	32	8.1	13	14	14	18	12	14	20	9.6
7	15	16	29	7.5	14	19	16	17	12	14	16	9.4
8	15	16	27	7.0	16	22	16	16	12	13	14	11
9	14	17	23	7.5	18	21	15	15	12	13	13	11
10	14	17	21	8.0	20	20	16	15	12	12	13	11
11	14	17	20	9.0	21	20	16	15	12	13	13	11
12	14	17	18	10	22	30	15	16	11	12	14	11
13	13	19	16	11	22	26	14	19	11	13	14	12
14	13	18	15	11	24	20	14	16	12	13	15	15
15	13	17	13	12	25	18	13	16	14	13	14	26
16	15	17	13	13	23	18	17	16	13	11	14	28
17	14	16	12	14	21	18	32	15	13	11	14	18
18	15	18	12	15	18	17	24	14	13	11	13	14
19	14	18	13	15	20	18	23	14	13	11	12	14
20	14	18	13	16	18	18	27	14	12	12	12	14
21	14	18	14	16	22	17	19	14	11	12	12	13
22	14	18	14	16	20	17	16	19	11	13	12	13
23	16	17	15	16	19	16	19	42	22	12	12	13
24	19	17	15	16	18	17	18	38	22	12	11	14
25	18	16	15	15	17	17	17	28	16	12	12	14
26	18	16	15	15	17	16	17	23	14	12	12	13
27	20	15	15	15	16	16	19	20	13	12	11	13
28	18	15	15	16	16	15	35	17	13	14	10	14
29	16	14	15	16	15	15	31	17	13	14	11	15
30	16	14	15	17	---	14	25	17	13	13	11	15
31	16	---	15	18	---	14	---	17	---	13	12	---
TOTAL	466	498	593	399.1	535	542	558	582	404	400	410	403.6
MEAN	15.0	16.6	19.1	12.9	18.4	17.5	18.6	18.8	13.5	12.9	13.2	13.5
MAX	20	19	35	18	25	30	35	42	22	17	20	28
MIN	13	14	12	7.0	13	13	13	14	11	11	10	9.4
AC-FT	924	988	1180	792	1060	1080	1110	1150	801	793	813	801
CAL YR 1975	TOTAL	6980.7	MEAN	19.1	MAX 53	MIN 7.3	AC-FT	13850				
WTR YR 1976	TOTAL	5790.7	MEAN	15.8	MAX 42	MIN 7.0	AC-FT	11490				

WHITE RIVER BASIN

06449000 LAKE CREEK BELOW REFUGE, NEAR TUTHILL, SD

LOCATION.--Lat 43°08'46", long 101°30'38", in SW¼ sec.30, T.37 N., R.35 W., Bennett County, Hydrologic Unit 10140203, on left bank 400 ft (122 m) downstream from east boundary of LaCreek game refuge, 1.2 mi (1.9 km) southwest of Tuthill and 5.5 mi (8.8 km) upstream from mouth.

DRAINAGE AREA.--120 mi² (311 km²), approximately, of which about 60 mi² (155 km²) probably contributes directly to surface runoff.

PERIOD OF RECORD.--February 1938 to September 1940, July 1962 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,055 ft (931 m), by barometer. Prior to Aug. 4, 1938, nonrecording gage at same site and datum.

REMARKS.--Records fair. Flow regulated by series of lakes above gage. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--16 years, 14.7 ft³/s (0.416 m³/s), 10,650 acre-ft/yr (13.1 hm³/yr); median of yearly mean discharges, 16 ft³/s (0.45 m³/s), 11,600 acre-ft/yr (14 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 178 ft³/s (5.04 m³/s) June 18, 1967, gage height, 5.17 ft (1.576 m); maximum gage height, 5.67 ft (1.728 m) Mar. 28, 1975 (backwater from ice); no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 45 ft³/s (1.27 m³/s) Feb. 21, maximum gage height, 4.01 ft (1.222 m) Feb. 21 (backwater from ice); minimum daily discharge, 0.01 ft³/s (<0.001 m³/s) Oct. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.76	.20	2.6	1.4	16	17	33	27	16	31	1.9	2.7
2	.72	.37	2.8	1.3	15	19	32	28	16	37	1.1	2.6
3	.83	.59	2.8	1.2	15	10	31	28	15	38	.56	2.0
4	.52	.54	2.9	1.1	14	16	31	28	15	36	1.1	1.8
5	.63	1.0	2.8	1.1	13	16	26	27	15	35	1.0	1.6
6	.71	1.2	2.8	1.0	13	16	22	27	15	34	.17	1.8
7	.30	1.6	2.8	1.2	15	15	22	27	15	34	.07	1.5
8	.03	1.4	2.7	3.0	17	15	22	27	15	34	.05	1.4
9	.02	1.8	2.6	5.0	19	16	21	26	14	34	.77	1.3
10	.55	3.1	2.4	7.0	19	20	20	25	12	33	2.4	1.2
11	1.6	1.9	2.2	7.5	21	21	20	24	12	32	3.5	1.1
12	1.4	1.8	2.2	7.5	23	22	20	22	9.2	30	4.0	1.1
13	1.0	2.6	2.0	7.3	23	12	19	20	7.5	29	3.8	.91
14	.65	2.1	1.8	7.2	25	17	16	19	6.7	28	3.8	.74
15	.58	1.9	1.8	7.3	25	18	15	18	18	26	4.4	1.2
16	1.2	2.2	1.6	8.3	26	19	15	16	32	25	4.1	1.8
17	1.3	2.3	1.5	9.7	26	19	14	8.9	32	23	3.4	1.8
18	.78	2.3	1.6	11	28	20	14	9.0	38	22	2.4	1.6
19	.62	1.9	1.8	12	28	25	14	8.2	39	21	2.2	1.3
20	.81	1.8	1.8	13	29	29	13	8.5	39	19	2.9	1.2
21	.45	3.4	2.0	13	30	24	9.7	8.1	37	18	2.9	.74
22	.32	3.6	2.0	13	30	28	9.1	8.0	36	17	3.0	.59
23	.04	3.6	2.0	13	33	38	8.3	8.1	35	16	2.8	.38
24	.01	3.2	1.8	13	32	34	7.1	7.8	34	15	3.0	.48
25	.12	2.7	1.8	12	31	33	7.3	10	32	14	3.3	.66
26	.45	2.7	1.6	12	29	32	7.5	11	30	9.7	3.5	.56
27	.64	2.6	1.6	12	26	30	20	11	30	7.5	2.6	.31
28	.54	2.6	1.5	12	22	29	28	13	29	7.1	2.4	.21
29	.37	2.6	1.5	12	18	27	28	16	29	6.8	2.6	.20
30	.50	2.5	1.5	12	---	32	28	16	31	5.1	2.7	.13
31	.40	---	1.5	13	---	34	---	16	---	2.5	2.4	---
TOTAL	18.85	62.10	64.3	251.1	661	703	573.0	548.6	704.4	719.7	74.82	34.91
MEAN	.61	2.07	2.07	8.10	22.8	22.7	19.1	17.7	23.5	23.2	2.41	1.16
MAX	1.6	3.6	2.9	13	33	38	33	28	39	38	4.4	2.7
MIN	.01	.20	1.5	1.0	13	10	7.1	7.8	6.7	2.5	.05	.13
AC-FT	37	123	128	498	1310	1390	1140	1090	1400	1430	148	69
CAL YR 1975	TOTAL	3903.92	MEAN	10.7	MAX	83	MIN	.01	AC-FT	7740		
WTR YR 1976	TOTAL	4415.78	MEAN	12.1	MAX	39	MIN	.01	AC-FT	8760		

06449100 LITTLE WHITE RIVER NEAR VETAL, SD

LOCATION.--Lat 43°06'03", long 101°13'49", in NE¼NW¼ sec.17, T.36 N., R.33 W., Bennett County, Hydrologic Unit 10140203, on left bank 120 ft (37 m) downstream from highway bridge, 0.3 mi (0.5 km) downstream from small right-bank tributary, 10.8 mi (17.4 km) southeast of Vetal, and 15.3 mi (24.6 km) upstream from Spring Creek.

DRAINAGE AREA.--590 mi² (1,530 km²), approximately, of which about 415 mi² (1,075 km²) probably contributes directly to surface runoff.

PERIOD OF RECORD.--August 1959 to current year. Prior to October 1965, published as South Fork White River near Vetal.

GAGE.--Water-stage recorder. Datum of gage is 2,780.69 ft (847.554 m) above mean sea level. Prior to Nov. 14, 1959, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are poor. Some small diversions for irrigation and some storage in several small lakes above station. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--17 years, 52.2 ft³/s (1.478 m³/s), 37,820 acre-ft/yr (46.6 hm³/yr); median of yearly mean discharges, 50 ft³/s (1.42 m³/s), 36,200 acre-ft/yr (45 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,330 ft³/s (37.7 m³/s) Mar. 13, 1966, gage height, 7.75 ft (2.362 m); minimum daily, 9.0 ft³/s (0.25 m³/s) Dec. 24, 25, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 152 ft³/s (4.30 m³/s) Sept. 15, gage height, 3.96 ft (1.207 m); maximum gage height, 4.20 ft (1.280 m) Feb. 5 (backwater from ice); minimum daily discharge, 14 ft³/s (0.40 m³/s) Sept. 7, 11-14, 18.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-14, Apr. 30 to May 5; stage-discharge
relation affected by ice Nov. 21 to Jan. 20, Jan. 25-29, Feb. 3-9, Mar. 4-7)

Oct. 1 to May 17				May 18 to Sept. 30			
2.6	12	3.4	76	2.8	11	3.4	60
2.8	23	3.7	116	3.1	29	3.7	107
3.1	46						

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	26	19	21	40	57	71	66	76	42	19	16
2	16	29	20	20	41	57	70	61	76	63	18	16
3	15	30	22	18	41	31	68	68	74	55	17	16
4	15	31	24	17	40	32	68	95	46	60	16	16
5	16	32	25	18	38	40	69	116	42	60	17	15
6	16	33	25	17	38	50	68	115	40	56	36	15
7	16	34	24	17	50	60	59	110	38	54	25	14
8	16	34	24	20	70	67	55	100	38	53	18	15
9	17	35	25	22	70	61	54	100	36	52	17	15
10	17	35	24	23	65	58	56	95	35	54	17	15
11	18	35	22	24	63	55	53	90	33	53	19	14
12	19	35	21	26	62	54	53	80	32	52	19	14
13	19	34	20	28	68	47	52	70	30	49	20	14
14	20	36	20	30	68	32	51	60	28	49	20	14
15	21	35	19	30	72	28	48	55	26	44	20	47
16	21	34	19	30	74	31	49	50	25	40	20	18
17	21	34	18	32	75	31	55	50	38	37	19	15
18	21	34	20	34	72	42	48	47	41	36	20	14
19	23	36	24	35	69	46	47	46	44	35	21	17
20	26	28	25	36	74	60	49	40	48	34	21	26
21	25	27	26	36	63	68	66	38	53	32	21	34
22	24	27	26	37	76	66	68	37	52	31	21	35
23	26	25	26	39	89	67	68	43	58	30	21	34
24	28	23	25	38	86	81	64	42	66	28	21	34
25	27	22	25	35	86	84	63	36	58	25	24	32
26	26	21	25	32	82	81	62	33	54	25	19	20
27	28	21	24	31	77	80	64	45	49	25	17	18
28	27	20	24	34	72	78	66	45	47	21	17	17
29	27	20	25	38	66	73	68	45	45	19	17	16
30	27	19	25	39	---	53	67	55	43	18	16	15
31	26	---	23	39	---	55	---	73	---	18	16	---
TOTAL	660	885	714	896	1887	1725	1799	2006	1371	1250	608	601
MEAN	21.3	29.5	23.0	28.9	65.1	55.6	60.0	64.7	45.7	40.3	19.6	20.0
MAX	28	36	26	39	89	84	71	116	76	63	36	47
MIN	15	19	18	17	38	28	47	33	25	18	16	14
AC-FT	1310	1760	1420	1780	3740	3420	3570	3980	2720	2480	1210	1190

CAL YR 1975 TOTAL 14960 MEAN 41.0 MAX 392 MIN 15 AC-FT 29670
WTR YR 1976 TOTAL 14402 MEAN 39.3 MAX 116 MIN 14 AC-FT 28570

06449500 LITTLE WHITE RIVER NEAR ROSEBUD, SD

LOCATION.--Lat 43°19'32", long 100°53'00", in SW¼NW¼ sec.28, T.39 N., R.30 W., Todd County, Hydrologic Unit 10140203, on left bank at downstream side of bridge on U.S. Highway 18, 0.3 mi (0.5 km) downstream from Scabby Creek, 0.7 mi (1.1 km) downstream from Soldier Creek, and 6.4 mi (10.3 km) north of Rosebud.

DRAINAGE AREA.--1,020 mi² (2,640 km²), approximately, of which about 760 mi² (1,970 km²) probably contributes directly to surface runoff.

PERIOD OF RECORD.--May 1943 to current year. Prior to October 1965, published as South Fork White River near Rosebud.

REVISED RECORDS.--WSP 1056: 1943, drainage area. WSP 1309: 1946(M).

GAGE.--Water-stage recorder. Datum of gage is 2,294.99 ft (699.513 m) above mean sea level. Prior to May 11, 1948, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are poor. Some small diversions for irrigation and some storage in several small lakes above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--33 years, 110 ft³/s (3.115 m³/s), 79,700 acre-ft/yr (98.3 hm³/yr); median of yearly mean discharges, 110 ft³/s (3.12 m³/s), 79,700 acre-ft/yr (98 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,640 ft³/s (131 m³/s) June 11, 1967, gage height, 14.09 ft (4.295 m), from rating curve extended above 1,300 ft³/s (36.8 m³/s); minimum daily, 10 ft³/s (0.28 m³/s) Jan. 4, 1949, Feb. 20, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 330 ft³/s (9.3 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
July 27	1730	*1430 40.5	*7.45 2.271	Sept. 15	0215	379 10.7	4.66 1.420

Minimum daily discharge, 40 ft³/s (1.13 m³/s) Sept. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	73	55	67	63	105	93	106	93	67	54	42
2	60	75	65	62	63	104	106	104	94	91	54	44
3	62	76	74	58	60	103	103	99	90	123	55	40
4	64	78	76	56	58	93	98	107	89	98	53	43
5	62	76	78	53	56	70	102	123	73	94	49	46
6	61	78	77	55	56	87	105	122	64	90	49	48
7	60	77	76	53	65	121	108	123	62	87	49	46
8	59	74	76	53	85	114	103	110	61	83	49	47
9	58	73	75	56	95	117	96	111	59	80	49	46
10	60	69	72	60	120	104	102	109	57	76	46	49
11	59	75	68	60	150	106	100	106	55	77	42	46
12	63	67	64	60	200	90	95	106	52	77	44	50
13	63	69	64	61	210	66	97	107	51	74	48	44
14	62	72	62	61	220	93	97	103	58	80	54	43
15	62	72	62	61	200	89	96	101	59	80	52	111
16	64	74	61	61	169	78	102	91	57	75	50	74
17	64	72	60	62	161	81	97	85	54	70	55	53
18	65	67	60	63	147	82	95	90	62	66	49	57
19	64	71	65	62	130	91	91	84	68	64	43	50
20	63	73	70	63	126	93	95	76	70	62	46	49
21	69	51	73	64	121	97	94	71	73	63	47	55
22	70	50	73	65	114	104	103	70	76	61	43	70
23	73	49	73	65	127	108	121	98	84	57	46	78
24	85	48	72	65	139	105	107	97	91	55	44	67
25	82	46	72	63	142	115	100	81	92	57	50	74
26	78	45	71	60	138	116	97	77	84	74	50	76
27	81	45	70	57	135	106	99	68	80	382	52	68
28	76	45	70	57	123	110	105	72	74	102	47	61
29	75	46	70	60	118	109	105	75	70	65	44	54
30	75	46	71	65	---	100	104	72	68	54	42	50
31	74	---	71	65	---	95	---	78	---	51	44	---
TOTAL	2073	1932	2146	1873	3591	3052	3016	2922	2120	2635	1499	1681
MEAN	66.9	64.4	69.2	60.4	124	98.5	101	94.3	70.7	85.0	48.4	56.0
MAX	85	78	78	67	220	121	121	123	94	382	55	111
MIN	58	45	55	53	56	66	91	68	51	51	42	40
AC-FT	4110	3830	4260	3720	7120	6050	5980	5800	4210	5230	2970	3330

CAL YR 1975	TOTAL	32270	MEAN	88.4	MAX	434	MIN	37	AC-FT	64010
WTR YR 1976	TOTAL	28540	MEAN	78.0	MAX	382	MIN	40	AC-FT	56610

06450500 LITTLE WHITE RIVER BELOW WHITE RIVER, SD

LOCATION.--Lat 43°36'04", long 100°44'52", in SW¼NW¼ sec.23, T.42 N., R.29 W., Mellette County, Hydrologic Unit 10140203, on left bank at downstream side of bridge on U.S. Highway 83, 1.3 mi (2.1 km) downstream from Pine Creek and 2.0 mi (3.2 km) north of town of White River.

DRAINAGE AREA.--1,570 mi² (4,070 km²), approximately, of which about 1,310 mi² (3,390 km²) probably contributes directly to surface runoff.

PERIOD OF RECORD.--October 1949 to current year. Prior to October 1965, published as South Fork White River below White River.

GAGE.--Water-stage recorder. Datum of gage is 1,912.78 ft (583.015 m) above mean sea level. Prior to June 8, 1968, at site 0.8 mi (1.3 km) downstream at datum 4.50 ft (1.372 m) lower.

REMARKS.--Records good except those for winter periods, which are poor. Diurnal fluctuations caused by small power-plant 2.2 mi (3.5 km) upstream. Several small diversions for irrigation and some storage in several small lakes above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--27 years, 126 ft³/s (3.568 m³/s), 91,290 acre-ft/yr (113 hm³/yr); median of yearly mean discharges, 120 ft³/s (3.40 m³/s), 86,900 acre-ft/yr (107 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,700 ft³/s (388 m³/s) June 12, 1967, gage height, 10.02 ft (3.054 m), site and datum then in use; maximum gage height, 11.21 ft (3.417 m) June 7, 1968, site and datum then in use; maximum gage height at present site and datum, 15.46 ft (4.712 m) June 7, 1968, from floodmarks; no flow for parts of several days in 1952, 1954, 1956; minimum daily discharge, 7 ft³/s (0.20 m³/s) July 31, Aug. 31, Sept. 1, 1952.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 942 ft³/s (26.7 m³/s) July 28, gage height, 4.59 ft (1.399 m); maximum gage height, 5.50 ft (1.676 m) Feb. 16 (backwater from ice); minimum daily discharge, 22 ft³/s (0.62 m³/s) Aug. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	81	45	70	67	135	98	84	79	64	53	33
2	52	84	50	66	67	137	99	86	86	71	62	41
3	50	79	54	64	65	97	100	86	89	124	61	32
4	55	84	70	60	62	109	99	74	86	104	47	33
5	40	79	80	55	60	75	95	104	81	76	60	38
6	48	82	80	50	60	100	98	127	62	76	75	48
7	50	83	80	47	58	135	104	131	59	71	50	39
8	42	80	78	48	65	130	103	110	57	74	39	43
9	53	75	78	50	80	152	97	99	62	74	48	61
10	54	74	78	55	100	132	94	99	55	69	37	49
11	58	60	75	60	150	115	102	104	62	69	41	39
12	61	59	70	63	200	105	102	110	51	71	32	47
13	71	45	70	63	250	65	108	120	48	68	30	40
14	65	44	65	63	270	74	111	107	51	75	38	39
15	57	47	65	63	290	79	116	97	69	85	70	83
16	72	44	65	63	270	72	134	110	55	75	45	69
17	68	53	64	64	250	72	129	113	64	71	40	76
18	69	61	62	66	220	73	111	130	59	62	41	52
19	71	63	60	67	200	81	102	84	67	60	38	51
20	74	60	60	68	168	92	84	78	71	59	22	46
21	76	50	65	68	147	105	79	86	67	56	39	46
22	83	48	70	68	136	108	86	91	69	51	31	47
23	113	50	75	68	117	117	102	130	81	50	32	58
24	138	50	75	67	125	123	107	136	81	46	34	73
25	91	48	75	65	140	129	97	107	79	44	44	71
26	65	47	75	55	135	130	94	91	74	85	48	73
27	82	47	73	45	130	126	94	74	67	92	60	74
28	84	47	73	46	146	121	91	71	64	320	43	60
29	80	45	73	47	117	124	89	76	59	76	38	57
30	77	45	73	55	---	122	89	74	67	64	42	52
31	79	---	75	65	---	110	---	74	---	48	45	---
TOTAL	2127	1814	2151	1854	4145	3345	3014	3063	2021	2430	1385	1570
MEAN	68.6	60.5	69.4	59.8	143	108	100	98.8	67.4	78.4	44.7	52.3
MAX	138	84	80	70	290	152	134	136	89	320	75	83
MIN	40	44	45	45	58	65	79	71	48	44	22	32
AC-FT	4220	3600	4270	3680	8220	6630	5980	6080	4010	4820	2750	3110

CAL YR 1975 TOTAL 31653 MEAN 86.7 MAX 372 MIN 21 AC-FT 62780
WTR YR 1976 TOTAL 28919 MEAN 79.0 MAX 320 MIN 22 AC-FT 57360

06452000 WHITE RIVER NEAR OACOMA, SD--Continued
(National stream-quality accounting network station)
(National pesticide water-monitoring network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1946-53, 1969, 1972 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to current year.

WATER TEMPERATURES: October 1974 to current year.

SUSPENDED SEDIMENT DISCHARGE: October 1971 to September 1976 (discontinued).

INSTRUMENTATION: Automatic pumping sediment sampler since October 1974.

REMARKS.--Flow affected by ice Nov. 16 to Mar. 18; no flow Aug. 29 to Sept. 9, Sept. 13. Sediment-discharge records prior to Oct. 1, 1971, on file in District office, Corps of Engineers, Omaha, Ne.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 965 micromhos July 30, 1975; minimum daily, 370 micromhos Mar. 17, 1975.

WATER TEMPERATURES: Maximum daily, 30.0°C July 30, 1975, July 10, 1976; minimum daily, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 72,300 mg/L Apr. 15, 1974; minimum daily mean, 0 mg/L July 17-23, 1974, Aug. 29 to Sept. 9, Sept. 13, 1976.

SEDIMENT LOADS: Maximum daily, 1,220,000 tons (1,110,000 tonnes) May 29, 1973; 0 ton (0 tonne) July 17-23, 1974, Aug. 29 to Sept. 9, Sept. 13, 1976.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,880 micromhos Sept. 2; minimum daily, 380 micromhos Oct. 26-29, Nov. 2.

WATER TEMPERATURES: Maximum daily, 30.0°C July 10; minimum daily, 0.0°C on many days during winter period.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 54,700 mg/L Apr. 19; minimum daily mean, 0 mg/L Aug. 29 to Sept. 9, Sept. 13.

SEDIMENT LOADS: Maximum daily, 354,000 tons (321,000 tonnes) May 26; minimum daily, 0 ton (0 tonne) Aug. 29 to Sept. 9, Sept. 13.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)	PH (UNITS) (00400)	TEMPERATURE (DEG C) (00010)	TURBIDITY (JTU) (00070)	FECAL COLIFORM (COL. PER 100 ML) (31616)	STREPTOCOCCI (COLONIES PER 100 ML) (31679)	HARDNESS (CA, MG) (00900)	NON-CARBONATE HARDNESS (MG/L) (00902)	DISSOLVED CALCIUM (CA) (MG/L) (00915)	DISSOLVED MAGNESIUM (MG) (00925)
OCT												
09...	1200	13	610	7.5	9.0	110	860	8130	150	0	51	6.6
NOV												
03...	1310	119	695	7.9	9.5	0	84800	83300	98	0	34	3.1
07...	1135	82	480	7.9	7.5	--	--	--	--	--	--	--
DEC												
05...	1015	6.6	1000	7.9	.0	9	830	880	280	4	92	13
JAN												
09...	1300	13	630	7.9	.0	10	84	875	190	0	62	8.4
29...	1215	38	450	8.0	.0	20	84	880	140	0	43	6.7
FEB												
27...	1030	409	450	8.1	3.5	1300	83100	8150	61	0	20	2.6
MAR												
25...	1200	213	460	8.3	11.5	900	ND	ND	95	0	32	3.6
APR												
23...	1030	593	560	8.8	13.0	11000	81900	8630	23	0	7.8	.8
MAY												
20...	1220	74	520	8.1	18.0	200	870	8160	110	0	36	4.2
JUN												
17...	1200	16	870	8.7	19.0	530	220	230	76	0	27	2.2
JUL												
15...	1230	31	620	8.5	24.0	2000	2200	2500	20	0	7.5	.4
AUG												
12...	1200	459	530	8.6	21.0	13000	85600	87500	21	0	5.6	1.7
SEP												
10...	1145	.57	2050	8.4	17.0	10	8140	8180	230	0	64	16

B Non-ideal colony count.

ND Not detected.

06452000 WHITE RIVER NEAR OACOMA, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SODIUM (NA) (MG/L) (00930)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L) (00935)	BICAR- BONATE (HCO3) (MG/L) (00440)	CAR- BONATE (CO3) (MG/L) (00445)	ALKA- LITY AS CAC03 (MG/L) (00410)	DIS- SOLVED SULFATE (SO4) (MG/L) (00945)	DIS- SOLVED CHLO- RIDE (CL) (MG/L) (00940)	DIS- SOLVED FLUO- RIDE (F) (MG/L) (00950)	DIS- SOLVED SILICA (SiO2) (MG/L) (00955)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L) (70300)
OCT 09...	65	46	2.3	7.2	218	0	179	110	17	.5	46	402
NOV 03...	130	72	5.7	8.0	202	0	166	190	9.8	.5	25	512
07...	--	--	--	--	--	--	--	--	--	--	--	--
DEC 05...	100	43	2.6	8.6	340	0	279	190	25	.6	56	682
JAN 09...	58	39	1.8	8.7	306	0	251	69	8.0	.8	64	462
29...	45	41	1.7	6.6	207	0	170	61	7.5	.5	47	309
FEB 27...	71	70	4.0	3.3	174	0	143	67	4.8	.4	22	278
MAR 25...	71	61	3.2	4.3	211	0	173	76	4.5	.5	31	350
APR 23...	130	91	12	4.4	249	3	209	86	6.2	.7	23	384
MAY 20...	85	61	3.6	7.2	252	0	207	97	7.7	.7	42	377
JUN 17...	160	80	8.0	8.0	325	0	267	160	14	.8	45	574
JUL 15...	120	91	12	4.1	255	0	209	61	8.8	.8	33	364
AUG 12...	130	92	12	4.0	274	0	225	65	6.7	.9	30	348
SEP 10...	360	76	10	16	305	7	262	520	160	1.6	60	1380

DATE	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) (70301)	DIS- SOLVED SOLIDS (TONS PER AC-FT) (70303)	DIS- SOLVED SOLIDS (TONS PER DAY) (70302)	TOTAL NITRITE PLUS NITRATE (N) (MG/L) (00630)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L) (00625)	TOTAL NITRO- GEN (N) (MG/L) (00600)	TOTAL NITRO- GEN (NO3) (MG/L) (71887)	TOTAL PHOS- PHORUS (P) (MG/L) (00665)	TOTAL ARSENIC (AS) (UG/L) (01002)	SUS- PENDE ARSENIC (AS) (UG/L) (01001)	DIS- SOLVED ARSENIC (AS) (UG/L) (01000)	TOTAL CAD- MIUM (CD) (UG/L) (01027)
OCT 09...	411	.55	14.1	.00	.09	.09	.40	.24	14	2	12	0
NOV 03...	500	.70	165	--	--	--	--	--	--	--	--	--
07...	--	--	--	.83	5.6	6.4	28	6.3	--	--	--	--
DEC 05...	653	.93	12.2	.96	.47	1.4	6.3	.09	--	--	--	--
JAN 09...	430	.63	16.2	1.0	.47	1.5	6.5	.13	6	0	6	10
29...	319	.42	31.7	.86	1.1	2.0	8.7	.13	--	--	--	--
FEB 27...	277	.38	307	.47	2.4	2.9	13	2.6	--	--	--	--
MAR 25...	327	.48	201	.67	2.0	2.7	12	1.5	--	--	--	--
APR 23...	385	.52	615	1.5	4.9	6.4	28	21	--	--	--	--
MAY 20...	404	.51	75.3	--	--	--	--	--	22	2	20	0
JUN 17...	577	.78	24.8	.05	1.7	1.8	7.7	.93	--	--	--	--
JUL 15...	362	.50	30.6	.63	2.2	2.8	13	5.5	--	--	50	<10
AUG 12...	379	.47	431	1.5	--	--	--	23	--	--	--	--
SEP 10...	1360	1.88	2.12	.00	.93	.93	4.1	.13	--	--	--	--

< Less than.

WHITE RIVER BASIN

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06452000 WHITE RIVER NEAR OACOMA, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	SUS- PENDE D MIUM (CD) (UG/L) (01026)	DIS- SOLVED CAD- MIUM (CD) (UG/L) (01025)	TOTAL CHRO- MIUM (CR) (UG/L) (01034)	SUS- PENDE D CHRO- MIUM (CR) (UG/L) (01031)	DIS- SOLVED CHRO- MIUM (CR) (UG/L) (01030)	TOTAL COBALT (CO) (UG/L) (01037)	SUS- PENDE D COBALT (CO) (UG/L) (01036)	DIS- SOLVED COBALT (CO) (UG/L) (01035)	TOTAL COPPER (CU) (UG/L) (01042)	SUS- PENDE D COPPER (CU) (UG/L) (01041)	DIS- SOLVED COPPER (CU) (UG/L) (01040)
OCT											
09...	0	0	10	0	10	<50	<49	1	20	17	3
NOV											
03...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
DEC											
05...	--	--	--	--	--	--	--	--	--	--	--
JAN											
09...	10	0	0	0	0	<50	<50	0	10	8	2
29...	--	--	--	--	--	--	--	--	--	--	--
FEB											
27...	--	--	--	--	--	--	--	--	--	--	--
MAR											
25...	--	--	--	--	--	--	--	--	--	--	--
APR											
23...	--	--	--	--	--	--	--	--	--	--	--
MAY											
20...	0	2	<10	0	<10	3	3	0	10	10	0
JUN											
17...	--	--	--	--	--	--	--	--	--	--	--
JUL											
15...	<10	0	80	80	0	100	100	0	110	100	8
AUG											
12...	--	--	--	--	--	--	--	--	--	--	--
SEP											
10...	--	--	--	--	--	--	--	--	--	--	--

DATE	TOTAL IRON (FE) (UG/L) (01045)	DIS- SOLVED IRON (FE) (UG/L) (01046)	TOTAL LEAD (PB) (UG/L) (01051)	SUS- PENDE D LEAD (PB) (UG/L) (01050)	DIS- SOLVED LEAD (PB) (UG/L) (01049)	TOTAL MANGANESE (MN) (UG/L) (01055)	SUS- PENDE D MANGANESE (MN) (UG/L) (01054)	DIS- SOLVED MANGANESE (MN) (UG/L) (01056)	TOTAL MERCURY (HG) (UG/L) (71900)	SUS- PENDE D MERCURY (HG) (UG/L) (71895)	DIS- SOLVED MERCURY (HG) (UG/L) (71890)
OCT											
09...	5400	10	100	99	1	160	150	10	.0	.0	.0
NOV											
03...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
DEC											
05...	--	--	--	--	--	--	--	--	--	--	--
JAN											
09...	190	30	<100	<98	2	30	30	0	.1	.0	.1
29...	--	--	--	--	--	--	--	--	--	--	--
FEB											
27...	--	--	--	--	--	--	--	--	--	--	--
MAR											
25...	--	--	--	--	--	--	--	--	--	--	--
APR											
23...	--	--	--	--	--	--	--	--	--	--	--
MAY											
20...	6200	30	11	7	4	270	270	0	<.5	.0	<.5
JUN											
17...	--	--	--	--	--	--	--	--	--	--	--
JUL											
15...	99000	180	200	200	0	2300	2300	10	.2	.2	.0
AUG											
12...	--	--	--	--	--	--	--	--	--	--	--
SEP											
10...	--	--	--	--	--	--	--	--	--	--	--

< Less than.

WHITE RIVER BASIN

06452000 WHITE RIVER NEAR OACOMA, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL SELE- NIUM (SE) (UG/L) (01147)	SUS- PENDE SELE- NIUM (SE) (UG/L) (01146)	DIS- SOLVED SELE- NIUM (SE) (UG/L) (01145)	TOTAL ZINC (ZN) (UG/L) (01092)	SUS- PENDE ZINC (ZN) (UG/L) (01091)	DIS- SOLVED ZINC (ZN) (UG/L) (01090)	TOTAL ORGANIC CARBON (C) (MG/L) (00680)
OCT							
09...	2	0	2	80	70	10	3.8
NOV							
07...	--	--	--	--	--	--	--
DEC							
05...	--	--	--	--	--	--	--
JAN							
09...	2	0	2	10	10	0	6.2
29...	--	--	--	--	--	--	--
FEB							
27...	--	--	--	--	--	--	--
MAR							
25...	--	--	--	--	--	--	--
APR							
23...	--	--	--	--	--	--	--
MAY							
20...	1	0	2	40	10	30	--
JUN							
17...	--	--	--	--	--	--	--
JUL							
15...	3	0	3	320	320	0	22
AUG							
12...	--	--	--	--	--	--	--
SEP							
10...	--	--	--	--	--	--	--

DATE	TOTAL PHYTO- PLANK- TON (CELLS PER ML) (60050)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	UNCOR- RECTED PERI- PHYTON CHLORO- PHYLL A MG/SQ M (32228)	UNCOR- RECTED PERI- PHYTON CHLORO- PHYLL B MG/SQ M (32226)	SUS- PENDE SEDI- MENT CHARGE (MG/L) (80154)	SUS- PENDE SEDI- MENT DIS- CHARGE (T/DAY) (80155)
OCT							
09...	40000	.000	.000	.000	.000	--	--
NOV							
07...	39000	--	--	--	--	--	--
DEC							
05...	700	--	--	--	--	--	--
JAN							
09...	670	--	--	--	--	--	--
29...	330	--	--	--	--	--	--
FEB							
27...	2300	--	--	--	--	--	--
MAR							
25...	2900	--	--	--	--	--	--
APR							
23...	1900	--	--	--	--	--	--
MAY							
20...	57000	.538	.231	.000	.000	--	--
JUN							
17...	75000	--	--	--	--	--	--
JUL							
15...	8100	--	--	--	--	--	--
AUG							
12...	1100	--	--	--	--	--	--
SEP							
10...	11000	--	--	--	--	--	--

WHITE RIVER BASIN

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06452000 WHITE RIVER NEAR OACOMA, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	ALDRIN IN BOTTOM		CHLOR- DANE IN BOTTOM		DDD IN BOTTOM		DDE IN BOTTOM		DDT IN BOTTOM		DI- AZINON IN BOTTOM	
	TOTAL ALDRIN (UG/L) (39330)	MA- TERIAL (UG/KG) (39333)	TOTAL CHLOR- DANE (UG/L) (39350)	MA- TERIAL (UG/KG) (39351)	TOTAL DDD (UG/L) (39360)	MA- TERIAL (UG/KG) (39363)	TOTAL DDE (UG/L) (39365)	MA- TERIAL (UG/KG) (39368)	TOTAL DDT (UG/L) (39370)	MA- TERIAL (UG/KG) (39373)	TOTAL DI- AZINON (UG/L) (39570)	MA- TERIAL (UG/KG) (39571)
OCT 09...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JAN 09...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUN 17...	ND	ND	ND	0	ND	ND	ND	.1	ND	ND	ND	ND

DATE	DI- ELDRIN IN BOTTOM		ENDRIN IN BOTTOM		ETHION IN BOTTOM		HEPTA- CHLOR IN BOTTOM		HEPTA- CHLOR EPOXIDE IN BOT- TOM		TOTAL LINDANE	
	TOTAL DI- ELDRIN (UG/L) (39380)	MA- TERIAL (UG/KG) (39383)	TOTAL ENDRIN (UG/L) (39390)	MA- TERIAL (UG/KG) (39393)	TOTAL ETHION (UG/L) (39398)	MA- TERIAL (UG/KG) (39399)	TOTAL HEPTA- CHLOR (UG/L) (39410)	MA- TERIAL (UG/KG) (39413)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L) (39420)	MA- TERIAL (UG/KG) (39423)	TOTAL LINDANE (UG/L) (39340)	MA- TERIAL (UG/KG) (39340)
OCT 09...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JAN 09...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUN 17...	ND	.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

DATE	LINDANE IN BOTTOM		MALA- THION IN BOTTOM		METHOX- YCHLOR IN BOT- TOM		METHYL PARA- THION IN BOT- TOM		METHYL TRI- THION IN BOT- TOM		PARA- THION IN BOTTOM	
	TOTAL LINDANE (UG/L) (39343)	MA- TERIAL (UG/KG) (39343)	TOTAL MALA- THION (UG/L) (39530)	MA- TERIAL (UG/KG) (39531)	TOTAL METHOX- YCHLOR (UG/L) (39480)	MA- TERIAL (UG/KG) (39481)	TOTAL METHYL PARA- THION (UG/L) (39600)	MA- TERIAL (UG/KG) (39601)	TOTAL METHYL TRI- THION (UG/L) (39790)	MA- TERIAL (UG/KG) (39791)	TOTAL PARA- THION (UG/L) (39540)	MA- TERIAL (UG/KG) (39541)
OCT 09...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JAN 09...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUN 17...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

DATE	TOX- APHENE IN BOTTOM		TRI- THION IN BOTTOM		2,4-D IN BOTTOM		2,4,5-T IN BOTTOM		SILVEX IN BOTTOM	
	TOTAL TOX- APHENE (UG/L) (39400)	MA- TERIAL (UG/KG) (39403)	TOTAL TRI- THION (UG/L) (39786)	MA- TERIAL (UG/KG) (39787)	TOTAL 2,4-D ZINE (UG/L) (39630)	MA- TERIAL (UG/KG) (39730)	TOTAL 2,4,5-T (UG/L) (39731)	MA- TERIAL (UG/KG) (39740)	TOTAL SILVEX (UG/L) (39760)	MA- TERIAL (UG/KG) (39761)
OCT 09...	ND	ND	ND	ND	--	--	--	--	--	--
JAN 09...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUN 17...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND Not detected.

WHITE RIVER BASIN

06452000 WHITE RIVER NEAR OACOMA, SD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C) • WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	640	390	1120	470	490	660	530	500	480	550	660	1480
2	580	380	1120	490	490	660	530	500	480	610	580	1880
3	555	730	1100	490	490	660	530	500	480	580	530	---
4	555	530	1100	490	490	660	530	500	550	550	500	---
5	540	515	890	490	490	680	530	450	550	570	510	---
6	590	535	870	740	490	660	530	460	560	530	520	---
7	570	475	860	---	490	660	510	440	590	530	540	---
8	560	480	880	---	490	660	510	440	700	580	530	---
9	---	470	870	740	490	660	500	450	800	550	550	---
10	570	460	870	710	490	550	500	470	830	500	540	---
11	560	470	870	740	490	550	500	470	770	460	520	---
12	560	480	870	740	490	550	500	470	770	480	520	---
13	560	500	870	740	500	550	500	550	770	510	520	---
14	550	510	880	740	520	550	500	550	770	520	520	---
15	560	450	470	520	510	550	500	550	770	520	530	---
16	500	450	480	530	510	550	600	550	780	750	550	---
17	510	450	470	520	520	540	600	550	810	740	530	---
18	470	460	480	530	400	540	600	550	840	740	560	---
19	470	450	460	530	400	530	590	550	870	790	600	---
20	460	545	470	540	400	540	600	560	830	790	640	---
21	440	550	480	460	400	540	600	560	900	750	680	---
22	440	1120	480	460	410	540	470	580	880	810	710	---
23	450	1120	480	450	400	540	460	560	600	850	780	---
24	450	1130	500	500	410	510	470	560	590	930	790	---
25	480	1120	490	500	400	530	460	530	600	980	920	---
26	380	1130	470	500	410	530	470	530	590	970	910	---
27	380	1120	480	500	660	530	460	530	600	1080	990	---
28	380	1120	470	480	660	530	520	540	720	780	1030	---
29	380	1120	490	490	660	530	500	480	570	650	---	---
30	400	1120	490	490	---	530	510	480	540	600	---	---
31	390	---	490	490	---	530	---	480	---	570	---	---
MONTH	498	679	688	554	484	574	520	513	686	672	634	---

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	9.0	0.0	1.0	1.5	2.0	14.0	18.0	19.5	19.0	20.5	15.0
2	22.0	8.0	0.0	0.0	1.0	2.0	14.5	17.0	24.0	19.0	21.0	16.0
3	22.0	6.0	1.5	0.0	0.0	1.0	15.0	14.0	20.0	18.0	21.0	---
4	18.0	9.0	1.0	0.0	0.5	1.0	15.0	16.0	19.0	23.0	23.0	---
5	13.0	12.0	1.0	0.0	0.5	0.5	15.0	10.0	19.0	24.5	21.0	---
6	22.0	16.0	1.0	0.0	1.0	1.0	15.0	9.0	22.0	23.5	19.5	---
7	21.0	7.5	0.0	0.0	1.0	1.0	15.0	16.0	23.5	23.0	24.5	---
8	17.0	7.5	0.0	1.0	1.0	1.0	15.0	18.0	22.0	28.0	26.0	---
9	17.0	7.0	0.0	2.0	2.0	1.0	16.0	15.0	23.5	29.0	24.0	---
10	17.0	4.5	1.5	2.0	2.0	1.0	16.0	15.0	23.0	30.0	23.0	---
11	16.0	4.5	2.0	1.0	2.0	1.0	16.0	17.0	22.0	29.0	23.0	---
12	15.0	3.0	1.0	1.5	3.0	1.0	16.0	14.5	21.0	28.0	24.0	---
13	12.0	2.0	2.0	1.5	2.0	1.0	17.0	15.0	20.0	26.0	23.5	---
14	14.0	1.5	2.0	1.0	2.0	1.0	17.0	15.0	19.5	24.0	23.0	---
15	15.0	1.5	1.0	1.0	2.5	1.0	19.0	17.0	14.0	23.5	22.5	---
16	12.0	1.0	1.0	2.0	2.5	1.0	18.0	18.0	16.0	20.0	23.0	---
17	11.0	2.0	0.0	1.0	3.0	2.0	18.0	16.0	17.0	22.0	24.0	---
18	12.0	1.0	1.0	1.5	3.0	2.0	16.0	16.0	13.0	25.0	26.0	---
19	15.0	1.0	1.0	2.0	2.5	2.0	16.0	15.0	19.5	22.0	25.0	---
20	16.0	0.0	1.0	2.0	2.5	3.5	13.0	17.0	20.0	23.0	20.0	---
21	16.0	0.0	1.0	2.0	2.0	4.5	12.0	17.0	21.5	22.5	20.0	---
22	15.0	0.0	2.0	2.0	2.0	8.0	13.0	15.0	25.0	26.0	25.0	---
23	6.0	0.0	2.0	2.0	2.5	9.0	15.0	14.0	18.0	28.0	25.0	---
24	5.0	0.0	2.0	1.0	3.5	11.0	15.0	13.5	19.5	27.0	20.0	---
25	6.0	0.0	2.0	1.5	4.5	12.0	15.0	14.0	16.0	29.0	21.0	---
26	6.0	0.0	2.5	2.0	6.0	12.5	18.0	24.0	19.0	26.0	22.0	---
27	7.0	0.0	2.5	2.5	5.0	12.5	18.0	23.0	21.0	25.0	23.5	---
28	8.0	0.0	2.0	2.5	5.0	12.0	18.0	22.0	18.0	23.0	18.0	---
29	8.0	0.0	3.0	2.5	4.5	12.0	16.0	22.0	18.0	23.0	---	---
30	8.0	1.0	3.0	---	---	12.0	17.0	23.0	18.0	24.0	---	---
31	7.0	---	1.0	---	---	12.0	---	23.0	---	21.5	---	---
MONTH	13.0	3.5	1.5	1.5	2.5	4.5	16.0	16.5	19.5	24.5	22.5	---

06452000 WHITE RIVER NEAR OACOMA, SD--Continued

OCT. 17, 1974
1445 HOURS

IDENTIFICATION OF PHYTOPLANKTON

3,100 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		620	20
...PENNALES	PENNATE		
...FRAGILARIACEAE			
DSYNEDRA		1,200	40
...NITZSCHACEAE			
DNITZSCHIA		1,200	40
	TOTALS	3,100	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 ORDER 0.722
 FAMILY 1.522
 GENERA 1.522

NOV. 13, 1974
1630 HOURS

IDENTIFICATION OF PHYTOPLANKTON

3,500 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...PENNALES	PENNATE		
...FRAGILARIACEAE			
DSYNEDRA		1,800	50
...GOMPHONEMACEAE			
DGOMPHONEMA		1,200	33
...NITZSCHACEAE			
DNITZSCHIA		580	17
	TOTALS	3,500	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 FAMILY 1.459
 GENERA 1.459

WHITE RIVER BASIN

06452000 WHITE RIVER NEAR OACOMA, SD--Continued

JAN. 9, 1975

1315 HOURS

IDENTIFICATION OF PHYTOPLANKTON

120 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
.CHLOROPHYCEAE			
..CHLOROCOCCALES			
...SCENEDESMACEAE			
DSCENEDESMUS		74	62
	TOTALS	74	62
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...GOMPHONEMACEAE			
DGOMPHONEMA		37	31
...NITZSCHIAEAE			
....NITZSCHIA		9	8
	TOTALS	46	39

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.961

CLASS 0.961

ORDER 0.961

FAMILY 1.239

GENERA 1.239

FEB. 7, 1975

1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

250 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
.CHLOROPHYCEAE			
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		33	13
	TOTALS	33	13
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...GOMPHONEMACEAE			
....GOMPHONEMA		11	4
...NAVICULACEAE	NAVICULOID		
....AMPHIPRORA		11	4
DNAVICULA		160	65
...NITZSCHIAEAE			
....NITZSCHIA		33	13
	TOTALS	220	86

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.559

CLASS 0.559

ORDER 0.559

FAMILY 1.327

GENERA 1.562

06452000 WHITE RIVER NEAR OACOMA, SD--Continued

MAR. 5, 1975

1600 HOURS

IDENTIFICATION OF PHYTOPLANKTON

680 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		34	5
	TOTALS	34	5
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCIINODISCACEAE			
...CYCLOTELLA		17	2
..PENNALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
...GYROSIGMA		17	2
D ...NAVICULA		550	80
...NITZSCHIAEAE			
...NITZSCHIA		34	5
	TOTALS	620	89
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
..EUGLENALES			
...EUGLENAEAE			
....TRACHELOMONAS		34	5
	TOTALS	34	5

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.569
 CLASS 0.569
 ORDER 0.734
 FAMILY 1.010
 GENERA 1.172

APR. 3, 1975

1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

19,000 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCIINODISCACEAE			
D ...MELOSIRA		4,300	23
..PENNALES	PENNATE		
...ACHNANTHACEAE			
...RHOICOSPHEINIA		1,400	8
...GOMPHONEMATACEAE			
...GOMPHONEMA		1,400	8
...NAVICULACEAE	NAVICULOID		
D ...NAVICULA		8,600	46
...NITZSCHIAEAE			
D ...NITZSCHIA		2,900	15
	TOTALS	19,000	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

ORDER 0.779
 FAMILY 1.988
 GENERA 1.988

WHITE RIVER BASIN

06452000 WHITE RIVER NEAR OACOMA, SD--Continued

MAY 22, 1975

1145 HOURS

IDENTIFICATION OF PHYTOPLANKTON

50,000 CELLS/ML

__ORGANISM__NAME_____	__COMMON__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...SCENEDESMACEAE			
DSCENEDESMUS		17,000	35
	TOTALS	17,000	35
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		19,000	39
..PENNALES	PENNATE		
...DIATOMACEAE			
...DIATOMA		4,300	9
...NAVICULACEAE	NAVICULOID		
...NAVICULA		4,300	9
...NITZSCHACEAE			
...NITZSCHIA		4,300	9
	TOTALS	32,000	66

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.932
 CLASS 0.932
 ORDER 1.565
 FAMILY 1.979
 GENERA 1.979

JUNE 20, 1975

1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

78,000 CELLS/ML

__ORGANISM__NAME_____	__COMMON__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...SCENEDESMACEAE			
DCRUCIGENIA		28,000	36
DSCENEDESMUS		35,000	44
	TOTALS	62,000	80
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
...CYCLOTELLA		10,000	13
..PENNALES	PENNATE		
...NITZSCHACEAE			
...NITZSCHIA		5,200	7
	TOTALS	16,000	20

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.722
 CLASS 0.722
 ORDER 0.906
 FAMILY 0.906
 GENERA 1.698

06452000 WHITE RIVER NEAR OACOMA, SD--Continued

JULY 15, 1975
0950 HOURS

IDENTIFICATION OF PHYTOPLANKTON

16,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...MICRACTINIACEAE		2,300	14
...MICRACTINIUM			
...OCCYSTACEAE			
...ANKISTRODESMUS		570	3
...SCENEDESMACEAE			
D ...CRUCIGENIA		3,400	21
D ...SCENEDESMUS		3,400	21
...TETRASPORALES			
...PALMELLACEAE			
D ...SPHAEROCYSTIS		3,400	21
	TOTALS	13,000	80
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
...CYCLOTELLA		570	3
..PENNALES	PENNATE		
...GOMPHONEMACEAE			
...GOMPHONEMA		570	3
...NAVICULACEAE	NAVICULOID		
...NAVICULA		1,100	7
...NITZSCHACEAE			
...NITZSCHIA		570	3
	TOTALS	2,800	16
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
...EUGLENALES			
...EUGLENACEAE			
...TRACHELOMONAS		570	3
	TOTALS	570	3

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.870
 CLASS 0.870
 ORDER 1.651
 FAMILY 2.495
 GENERA 2.909

WHITE RIVER BASIN

06452000 WHITE RIVER NEAR OACOMA, SD--Continued

AUG. 15, 1975
0915 HOURS

IDENTIFICATION OF PHYTOPLANKTON

4,600 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...HYDRODICTYACEAE			
DPEDIASTRUM		3,900	86
	TOTALS	3,900	86
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
LGYROSIGMA		650	0
...NAVICULA			14
...NITZSCHIA			0
LNITZSCHIA			
	TOTALS	650	14
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...OSCILLATORIALES	FILAMENTOUS		
...OSCILLATORIA			
LOSCILLATORIA			0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.592
 CLASS 0.592
 ORDER 0.592
 FAMILY 0.592
 GENERA 0.592

SEP. 12, 1975
1130 HOURS

IDENTIFICATION OF PHYTOPLANKTON

160,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...COELASTRACEAE			
DCOELASTRUM		54,000	34
...SCENEDESMACEAE			
DSCENEDESMUS		97,000	61
	TOTALS	150,000	95
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCACEAE			
...CYCLOTELLA		4,500	3
..PENNALES	PENNATE		
...NITZSCHIA		4,500	3
...NITZSCHIA			
	TOTALS	9,100	6

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.313
 CLASS 0.313
 ORDER 0.369
 FAMILY 1.257
 GENERA 1.257

06452000 WHITE RIVER NEAR OACOMA, SD--Continued

OCT. 9, 1975
1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

41,000 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...COELASTRACEAE			
....COELASTRUM		2,500	6
...HYDRODICTYACEAE			
LPEDIASTRUM			0
...OCCYSTACEAE			
....ANKISTRODESMUS		570	1
....KIRCHNERIELLA		570	1
....TETRAEDRON		280	1
...SCENEDESMACEAE			
....ACTINASTRUM		1,100	3
DSCENEDESMUS		16,000	40
	TOTALS	22,000	52
CHRYSPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		6,800	17
....MELOSIRA		2,000	5
..PENNALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
LGYROSIGMA			0
LNAVICULA			0
...NITZSCHIA			
....NITZSCHIA		4,500	11
	TOTALS	13,000	33
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
....ANACYSTIS		2,300	6
...OSCILLATORIALES	FILAMENTOUS		
...NOSTOCACEAE			
....ANABAENA		3,700	9
	TOTALS	5,900	15

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.419
 CLASS 1.419
 ORDER 1.861
 FAMILY 2.316
 GENERA 2.683

NOV. 7, 1975
1135 HOURS

IDENTIFICATION OF PHYTOPLANKTON

40,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		860	2
....SCENEDESMACEAE			
DCRUCIGENIA		14,000	35
....SCENEDESMUS		3,500	9
	TOTALS	18,000	46
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
..COSCINODISCACEAE			
LMELOSIRA			0
..PENNALES	PENNATE		
....ACHNANTHACEAE			
....COCCONEIS		860	2
....CYMBELLACEAE			
....CYMBELLA		1,700	4
....GOMPHONEMATACEAE			
....GOMPHONEMA		860	2
....NAVICULACEAE	NAVICULOID		
....NAVICULA		2,600	7
....NITZSCHACEAE			
DNITZSCHIA		15,000	37
....SURIPELLACEAE			
....SURIPELLA		860	2
	TOTALS	22,000	54

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.995
 CLASS 0.995
 ORDER 0.995
 FAMILY 1.987
 GENERA 2.301

06452000 WHITE RIVER NEAR OACOMA, SD--Continued

DEC. 5, 1975
1015 HOURS

IDENTIFICATION OF PHYTOPLANKTON

700 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...SCENEDESMACEAE			
DCRUCIGENIA		110	16
	TOTALS	110	16
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		530	76
..PENNALES	PENNATE		
...FRAGILARIACEAE			
...SYNEDRA		56	8
...NITZSCHIAEAE			
LNITZSCHIA			0
	TOTALS	590	84

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.634
 CLASS 0.634
 ORDER 1.015
 FAMILY 1.015
 GENERA 1.015

JAN. 9, 1976
1300 HOURS

IDENTIFICATION OF PHYTOPLANKTON

670 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		46	7
	TOTALS	46	7
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		560	83
..PENNALES	PENNATE		
...GOMPHONEMACEAE			
...GOMPHONEMA		46	7
...NITZSCHIAEAE			
....NITZSCHIA		23	3
	TOTALS	630	93
EUGLENOPHYTA	EUGLENIDS		
..CRYPTOPHYCEAE	CRYPTOMONADS		
...CRYPTOMONIDALES			
...CRYPTOMONODACEAE			
LCRYPTOMONAS			0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.362
 CLASS 0.362
 ORDER 0.831
 FAMILY 0.926
 GENERA 0.926

WHITE RIVER BASIN

06452000 WHITE RIVER NEAR OACOMA, SD--Continued

JAN. 29, 1976

1215 HOURS

IDENTIFICATION OF PHYTOPLANKTON

330 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
....SCENEDESMACEAE			
....SCENEDESMUS		43	13
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		43	13
	TOTALS	86	26
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		43	13
..PENNALES	PENNATE		
...FRAGILIARIACEAE			
....SYNEDRA		14	4
...GOMPHONEMACEAE			
....GOMPHONEMA		14	4
...NAVICULACEAE	NAVICULOID		
....NAVICULA		29	9
...NITZSCHACEAE			
DNITZSCHIA		140	43
	TOTALS	240	73

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.828
 CLASS 0.828
 ORDER 1.586
 FAMILY 2.372
 GENERA 2.372

FEB. 27, 1976
 1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,300 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCACEAE			
LCYCLOTELLA			0
..PENNALES	PENNATE		
...ACHNANTHACEAE			
....ACHNANTHES		290	12
....COCCONEIS		290	12
...DIATOMACEAE			
LDIATOMA			0
...GOMPHONEMACEAE			
DGOMPHONEMA		580	25
...NAVICULACEAE	NAVICULOID		
....NAVICULA		290	12
...NITZSCHACEAE			
....NANTZSCHIA		290	12
DNITZSCHIA		580	25
	TOTALS	2,300	98

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 FAMILY 1.906
 GENERA 2.500

06452000 WHITE RIVER NEAR OACOMA, SD--Continued

MAR. 25, 1976
1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,900 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...CYMBELLACEAE			
....EPITHEMIA		290	10
...NAVICULACEAE	NAVICULOID		
DNAVICULA		1,200	40
....PINNULARIA		290	10
...NITZSCHACEAE			
....NITZSCHIA		290	10
DNITZSCHIA		860	30
TOTALS		2,900	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
FAMILY 1.361
GENERA 2.046

APR. 23, 1976
1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,900 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		940	50
..PENNALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
DNAVICULA		940	50
TOTALS		1,900	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
ORDER 1.000
FAMILY 1.000
GENERA 1.000

MAY 20, 1976
1220 HOURS

IDENTIFICATION OF PHYTOPLANKTON

57,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...COELASTRACEAE			
....COELASTRUM		1,800	3
...HYDRODICTYACEAE			
....PEDIASTRUM		3,600	6
...OCCYSTACEAE			
....ANKISTRODESMUS		2,100	4
....CHLORELLA		680	1
....DICTYOSPHAERIUM		3,600	6
....KIRCHNERIELLA		2,500	4
....TETRAEDRON		460	1
...SCENEDESMACEAE			
....ACTINASTRUM		7,700	14
....CRUCIGENIA		1,800	3
DSCENEDESMUS		10,000	18
....TETRASTRUM		4,600	8
	TOTALS	39,000	68
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		1,400	2
....MELOSIPIA		680	1
..PENNALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
LNAVICULA			0
...NITZSCHIACEAE		910	2
....NITZSCHIA			
	TOTALS	3,200	5
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
DANACYSTIS		15,000	25
	TOTALS	15,000	25

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.105
 CLASS 1.105
 ORDER 1.157
 FAMILY 2.164
 GENERA 3.290

06452000 WHITE RIVER NEAR OACOMA, SD--Continued

JUNE 17, 1976
1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

75,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
.CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
....TETRAEDRON		2,300	3
...SCENEDESMACEAE			
DSCENEDESMUS		57,000	76
....TETRASTRUM		9,100	12
	TOTALS	68,000	91
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		2,300	3
..PENNALES	PENNATE		
...NITZSCHACEAE			
....NITZSCHIA		4,500	6
	TOTALS	6,800	9

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.439
 CLASS 0.439
 ORDER 0.523
 FAMILY 0.715
 GENERA 1.223

JULY 15, 1976
1230 HOURS

IDENTIFICATION OF PHYTOPLANKTON

8.100 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...HYDRODICTYACEAE			
....PEDIASTRUM		500	6
...OCCYSTACEAE			
LANKISTRODESMUS			0
....KIRCHNERIELLA		900	11
....OOCYSTIS		400	5
....SELENASTRUM		100	1
...SCENEDESMACEAE			
DCRUCIGENIA		1,200	15
DSCENEDESMUS		2,100	26
....TETRASTRUM		800	10
..TETRASPORALES			
...COCCOMYXACEAE			
....ELAKATOTHRIX		67	1
	TOTALS	6,200	75
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		67	1
....MELOSIRA		200	2
..PENNALES	PENNATE		
...FRAGILARIACEAE			
....FRAGILARIA		270	3
...NAVICULACEAE	NAVICULOID		
LNAVICULA			0
....NITZSCHIA		100	1
....NITZSCHIA			
	TOTALS	670	7
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
....ANACYSTIS		470	6
....GOMPHOSPHAERIA		670	8
	TOTALS	1,100	14
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
..EUGLENALES			
...EUGLENACEAE			
....TRACHELOMONAS		170	2
	TOTALS	170	2

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.113

CLASS 1.113

ORDER 1.258

FAMILY 2.190

GENERA 3.338

WHITE RIVER BASIN

249

06452000 WHITE RIVER NEAR OACOMA, SD--Continued

AUG. 12, 1976
1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,100 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...FRAGILARIACEAE			
DFRAGILARIA		1,100	100
TOTALS		1,100	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

SEP. 10, 1976
1145 HOURS

IDENTIFICATION OF PHYTOPLANKTON

11,000 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA			
.CHLOROPHYCEAE	GREEN ALGAE		
..CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		90	1
...SCENEDESMACEAE			
....SCENEDESMUS		720	7
TOTALS		810	8
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...FRAGILARIACEAE			
DASTERIONELLA		7,600	69
...NITZSCHACEAE			
....NITZSCHIA		1,200	11
TOTALS		8,800	80
CYANOPHYTA			
.MYXOPHYCEAE	BLUE-GREEN ALGAE		
..OSCILLATORIALES	FILAMENTOUS		
...NOSTOCACEAE			
....APHANIZOMENON		1,400	12
TOTALS		1,400	12

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.908
CLASS 0.908
ORDER 0.908
FAMILY 1.401
GENERA 1.401

06452000 WHITE RIVER NEAR OACOMA, SD--Continued
 SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	13	142	5.0	79	607	129	2.0	194	1.0
2	17	1070	49	102	2400	661	2.5	165	1.1
3	14	2250	85	119	13800	4430	3.0	408	3.3
4	18	846	41	128	11300	3910	4.0	290	3.1
5	16	397	17	113	11700	3570	6.5	153	2.7
6	18	660	32	110	11100	3300	7.0	142	2.7
7	19	1240	64	84	8380	1900	8.0	162	3.5
8	14	231	8.7	84	6650	1510	9.0	136	3.3
9	13	275	9.7	76	6670	1370	10	187	5.0
10	11	89	2.6	71	5600	1070	11	123	3.7
11	16	102	4.4	71	5550	1060	12	141	4.6
12	16	84	3.6	56	6720	1020	11	145	4.3
13	15	113	4.6	48	1160	150	11	111	3.3
14	19	122	6.3	55	1070	159	10	168	4.5
15	21	143	8.1	50	1020	138	8.0	139	3.0
16	21	203	12	50	945	128	7.0	96	1.8
17	25	188	13	45	1250	152	5.0	88	1.2
18	29	317	25	35	1440	136	4.0	87	.94
19	28	937	71	20	1130	61	3.5	89	.84
20	26	359	25	15	305	12	3.0	90	.73
21	28	157	12	10	208	5.6	3.5	87	.82
22	29	493	39	7.0	163	3.1	4.5	71	.86
23	30	1090	88	6.0	202	3.3	6.0	94	1.5
24	45	781	95	4.0	161	1.7	6.5	85	1.5
25	50	1530	207	3.0	173	1.4	7.0	74	1.4
26	54	680	99	2.5	164	1.1	7.0	82	1.5
27	54	462	67	2.0	163	.88	6.5	116	2.0
28	57	554	85	2.0	189	1.0	6.5	105	1.8
29	57	583	90	2.0	156	.84	7.0	101	1.9
30	53	725	104	2.0	168	.91	7.0	143	2.7
31	48	833	108	---	---	---	6.5	144	2.5
TOTAL	874	---	1481.0	1451.5	---	24885.83	205.5	---	73.09
DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	6.5	146	2.6	40	78	8.4	400	376	406
2	6.0	121	2.0	35	93	8.8	370	391	391
3	5.0	154	2.1	30	85	6.9	350	406	384
4	4.0	116	1.3	30	211	17	320	660	570
5	3.5	134	1.3	30	78	6.3	300	582	471
6	3.0	161	1.3	35	95	9.0	300	417	338
7	5.0	165	2.2	40	495	53	320	416	359
8	8.0	170	3.7	50	555	75	350	382	361
9	11	177	5.3	100	471	127	400	376	406
10	12	153	5.0	200	339	183	460	3370	4190
11	14	166	6.3	400	362	391	519	3380	4740
12	16	152	6.6	600	316	512	565	3380	5160
13	18	232	11	1040	1950	5480	532	3350	4810
14	18	204	9.9	2370	12400	79300	488	3330	4390
15	18	156	7.6	2170	12400	72700	506	3290	4490
16	20	153	8.3	1180	12100	38600	488	3260	4300
17	22	159	9.4	1200	12900	41800	482	3970	5170
18	25	160	11	1050	5910	16800	470	4030	5110
19	25	131	8.8	986	5710	15200	239	3930	2540
20	25	154	10	986	5790	15400	212	3970	2270
21	30	90	7.3	813	6580	14400	203	5130	2810
22	30	103	8.3	607	6200	10200	246	4010	2660
23	32	99	8.6	539	12300	17900	243	4030	2640
24	32	139	12	526	4420	6280	229	2810	1740
25	30	77	6.2	506	3660	5000	212	447	256
26	30	119	9.6	482	3780	4920	200	440	238
27	30	114	9.2	417	3870	4360	190	437	224
28	35	90	8.5	394	395	420	173	440	206
29	38	102	10	405	385	421	170	447	205
30	40	94	10	---	---	---	170	446	205
31	40	97	10	---	---	---	164	444	197
TOTAL	632.0	---	215.4	17261	---	350578.4	10271	---	62237

06452000 WHITE RIVER NEAR OACOMA, SD--Continued
 SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	159	447	192	203	32200	17600	494	23200	30900
2	153	449	185	972	32500	85300	311	18600	15600
3	141	475	181	838	32300	73100	261	15700	11100
4	128	453	157	628	32500	55100	324	13900	12200
5	117	447	141	458	21800	27000	226	13700	8360
6	117	443	140	340	21900	20100	170	12200	5600
7	119	401	129	257	13600	9440	143	7620	2940
8	119	423	136	243	13300	8730	121	5370	1750
9	121	646	211	215	11200	6500	104	3740	1050
10	106	645	185	181	5980	2920	88	2650	630
11	102	688	189	167	5870	2650	74	2830	565
12	100	736	199	170	5840	2680	54	2780	405
13	84	622	141	170	1070	491	41	2380	263
14	115	636	197	161	1110	483	28	3910	296
15	151	627	256	151	1040	424	24	2190	142
16	259	48000	33600	141	1000	381	22	2520	150
17	215	54300	31500	119	1080	347	14	1950	74
18	181	54100	26400	93	1010	254	12	551	18
19	223	54700	32900	89	1020	245	18	808	39
20	1780	54600	262000	76	1000	205	16	504	22
21	1000	44700	121000	82	984	219	100	5000	1350
22	758	44000	90100	72	996	194	181	41000	20000
23	565	43000	65600	121	990	323	141	35500	13500
24	423	39000	43400	143	994	384	97	33500	8770
25	329	36000	32000	208	46300	26000	71	31000	5940
26	276	34000	25300	2850	46000	354000	54	26700	3890
27	239	33000	21300	1530	45600	188000	237	26500	17000
28	196	32400	17100	1100	46700	139000	423	41500	47400
29	190	32000	16400	780	25900	54500	334	41300	37200
30	206	33000	18400	572	25800	39800	190	34200	17500
31	---	---	---	500	26100	35200	---	---	---
TOTAL	8672	---	839639	13630	---	1151569	4373	---	264654
DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	151	28800	11700	350	23500	22200	0	0	0
2	106	26500	7580	226	28000	17100	0	0	0
3	95	25400	6520	246	27000	17900	0	0	0
4	99	22300	5960	193	19000	9900	0	0	0
5	81	22400	4900	138	18500	6890	0	0	0
6	67	18000	3260	299	16500	13300	0	0	0
7	361	26000	25300	377	31500	32100	0	0	0
8	470	41700	52900	324	42000	36700	0	0	0
9	293	35500	28100	226	28000	17100	0	0	0
10	200	26000	14000	315	31500	26800	1.6	700	3.0
11	151	13000	5300	284	30500	23400	2.3	950	5.9
12	88	10900	2590	394	32000	34000	.06	200	.03
13	69	6220	1160	269	23900	17400	0	0	0
14	48	6300	816	190	24900	12800	4.0	750	8.1
15	31	6370	533	159	24900	10700	11	1250	37
16	125	18500	6240	133	22200	7970	6.8	900	17
17	31	10000	837	91	21500	5280	.70	600	1.1
18	15	6000	243	62	21200	3550	.08	350	.08
19	10	5000	135	54	19300	2810	8.4	500	11
20	4.7	4000	51	44	18900	2250	99	27000	7220
21	9.1	3000	74	27	15100	1100	76	40000	8210
22	5.1	2500	34	19	10700	549	46	33500	4160
23	2.0	2000	11	16	8290	358	30	25000	2030
24	1.3	1500	5.3	8.5	5750	132	21	16000	907
25	1.3	1300	4.6	7.3	827	16	22	8000	475
26	6.3	1000	17	4.7	465	5.9	32	12000	1040
27	202	5500	3000	2.6	400	2.8	32	18500	1600
28	311	48000	40300	.10	324	.09	24	14500	940
29	196	42000	22200	0	0	0	20	10000	540
30	218	29500	17400	0	0	0	23	6500	404
31	616	31500	52400	0	0	0	---	---	---
TOTAL	4063.8	---	313570.9	4459.20	---	322313.8	459.94	---	27609.21
YEAR	66352.94		3358827						

WHITE RIVER BASIN

06452000 WHITE RIVER NEAR OACOMA, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	TEMPER- ATURE (DEG C) (00010)	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	SUS- PENDFD SEDI- MENT (MG/L) (80154)	SUS- PENDE SEDI- MENT DIS- CHARGE (T/DAY) (80155)	SUS. SED. FALL DIAM. % FINE THAN .002 MM (70337)	SUS. SED. FALL DIAM. % FINE THAN .004 MM (70338)	SUS. SED. FALL DIAM. % FINE THAN .016 MM (70340)	SUS. SED. FALL DIAM. % FINE THAN .062 MM (70342)	SUS. SED. FALL DIAM. % FINE THAN .125 MM (70343)	SUS. SED. FALL DIAM. % FINE THAN .250 MM (70344)
OCT											
17...	1320	9.0	78	20500	4320	95	99	100	--	--	--
17...	1530	9.0	71	20400	3910	94	98	99	100	--	--
24...	1200	11.0	55	5860	870	92	95	98	100	--	--
NOV											
12...	0800	6.0	73	5270	1040	91	100	--	--	--	--
20...	0900	0.0	60	5230	847	88	93	99	100	--	--
27...	0900	2.0	40	5410	584	88	93	100	--	--	--
MAP											
20...	1215	3.5	2430	30300	199000	44	58	84	95	99	100
APP											
02...	0900	--	55	32600	4840	35	39	61	96	99	100
07...	0900	--	800	32700	70600	32	37	65	96	100	--
11...	1230	2.5	3200	27000	233000	36	42	68	97	98	100
MAY											
02...	1800	--	2330	34100	215000	58	67	87	100	--	--
08...	0900	14.0	649	12300	21600	79	86	97	100	--	--
22...	1115	14.5	271	7730	5660	84	90	93	100	--	--
JUN											
13...	2015	24.0	173	12700	5930	88	97	100	--	--	--
20...	0945	22.0	205	8630	4780	84	98	98	100	--	--
22...	1830	25.0	1960	55100	292000	65	69	89	99	100	--
JUL											
01...	1130	26.0	533	13700	19700	75	78	98	100	--	--
12...	1100	19.0	153	6720	849	80	91	99	100	--	--
13...	1000	21.0	778	30800	64700	66	73	94	96	97	100
15...	2100	25.0	153	22400	9260	80	93	--	100	--	--
20...	2130	25.0	28	8730	660	98	99	100	--	--	--
25...	1030	22.0	50	5110	690	83	92	98	100	--	--
31...	1130	23.0	88	6570	1560	64	77	95	100	--	--
AUG											
04...	1030	25.0	2200	43400	258000	59	73	94	100	--	--
08...	2030	27.0	229	14200	8780	84	93	96	100	--	--
13...	1030	24.0	128	11800	4080	81	96	--	100	--	--
18...	1130	19.0	42	10400	1180	85	98	98	10	--	--
22...	1830	26.0	124	13200	4420	80	89	96	100	--	--
25...	1900	23.0	54	9450	1380	82	92	99	100	--	--
30...	1430	27.0	698	20300	38300	51	67	93	100	--	--
SEP											
30...	1100	14.0	18	14900	724	82	93	96	100	--	--

06452000 WHITE RIVER NEAR OACOMA, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	TEMPER- ATURE (DEG C) (00010)	NUMBER OF SAM- PLING POINTS (00063)	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	BED MAT. FALL DIAM. % FINER THAN .062 MM (80158)	BED MAT. FALL DIAM. % FINER THAN .125 MM (80159)	BED MAT. FALL DIAM. % FINER THAN .250 MM (80160)
OCT 17...	1320	9.0	2	78	--	0	8
MAR 20...	1215	3.5	3	2430	1	2	24
APR 11...	1230	2.5	1	3200	7	14	70
30...	0945	7.0	2	413	--	0	5
MAY 22...	1115	14.5	2	271	0	1	2
JUN 20...	0945	22.0	2	205	31	40	42
JUL 15...	1000	21.0	2	225	--	0	7
AUG 15...	0900	17.0	2	88	1	2	12
SEP 12...	1015	13.5	1	271	5	8	14

DATE	BED MAT. FALL DIAM. % FINER THAN .500 MM (80161)	BED MAT. FALL DIAM. % FINER THAN 1.00 MM (80162)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)
OCT 17...	56	92	97	100	--	--	--
MAR 20...	91	98	99	99	100	--	--
APR 11...	79	100	--	--	--	--	--
30...	66	96	98	100	--	--	--
MAY 22...	56	93	96	98	99	100	--
JUN 20...	84	97	99	100	--	--	--
JUL 15...	80	98	100	--	--	--	--
AUG 15...	64	81	84	87	92	96	100
SEP 12...	70	96	99	100	--	--	--

WHITE RIVER BASIN

06452000 WHITE RIVER NEAR OACOMA, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TEMPER- ATURE (DEG C) (00010)	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	SUS- PENDE SEDI- MENT (MG/L) (80154)	SUS- PENDE SEDI- MENT DIS- CHARGE (T/DAY) (80155)	SUS. SED. FALL DIAM. % FINER THAN .002 MM (70337)	SUS. SED. FALL DIAM. % FINER THAN .004 MM (70338)	SUS. SED. FALL DIAM. % FINER THAN .016 MM (70340)	SUS. SED. FALL DIAM. % FINER THAN .062 MM (70342)	SUS. SED. FALL DIAM. % FINER THAN .125 MM (70343)	SUS. SED. FALL DIAM. % FINER THAN .250 MM (70344)
FER											
14...	1600	2.0	2370	15600	99800	61	--	92	99	100	--
MAR											
21...	1400	4.5	203	513	2810	71	--	93	100	--	--
APR											
11...	1230	2.5	3200	27000	233000	36	42	68	97	98	100
16...	0900	18.0	226	73100	44600	56	--	94	100	--	--
MAY											
07...	1600	16.0	250	17600	11900	85	--	99	100	--	--
JUN											
22...	2045	25.0	150	43700	17700	69	--	--	100	--	--
JUL											
05...	1400	24.5	79	27600	5890	90	--	98	100	--	--
27...	1230	25.0	356	60300	58000	50	--	96	100	--	--
AUG											
09...	1030	24.0	298	35100	28200	70	--	99	100	--	--
24...	0930	20.0	12	575	186	96	--	98	100	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	BED MAT. FALL DIAM. % FINER THAN .250 MM (80160)	BED MAT. FALL DIAM. % FINER THAN .500 MM (80161)	BED MAT. FALL DIAM. % FINER THAN 1.00 MM (80162)	BED MAT. FALL DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. FALL DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. FALL DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. FALL DIAM. % FINER THAN 16.0 MM (80172)
FER							
27...	2	35	77	90	97	100	--
MAR							
25...	8	57	88	95	97	100	--
JUN							
17...	2	55	92	98	100	--	--
AUG							
12...	38	93	98	98	99	99	100

06452500 LAKE FRANCIS CASE AT PICKSTOWN, SD

LOCATION.--Lat 43°04'05", long 98°33'15", in SE¼ sec.5, T.9S N., R.6S W., Charles Mix County, Hydrologic Unit 10140101, in tower 6 of outlet works at Fort Randall Dam, on Missouri River at Pickstown, 1.0 mi (1.6 km) upstream from Randall Creek, and at mile 880.0 (1,415.9 km).

DRAINAGE AREA.--263,500 mi² (682,500 km²), approximately.

PERIOD OF RECORD.--December 1952 to current year (monthend contents only). Prior to October 1964, published as Fort Randall Reservoir at Pickstown.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Prior to Mar. 25, 1953, elevations determined from temporary nonrecording gages.

REMARKS.--Reservoir is formed by earthfill dam; storage began in December 1952; initial closure made July 1952. Maximum capacity, 5,816,000 acre-ft (7,170 hm³) below elevation 1,375.0 ft (419.10 m), top of spillway gates. Normal maximum, 4,834,000 acre-ft (5,960 hm³) below elevation 1,365.0 ft (416.05 m). Inactive storage, 1,336,000 acre-ft (1,650 hm³) below elevation 1,310.0 ft (399.29 m). No dead storage; elevation of invert of lowest outlet is 1,227.0 ft (373.99 m). Figures given herein represent elevations at outlet works and total contents adjusted for wind effect.

The spillway consists of 21 taintor gates, each 40 ft (12.2 m) wide by 29 ft (8.8 m) high; spillway capacity, 490,000 ft³/s (13,900 m³/s) at pool elevation 1,375 ft (419.10 m). Crest of spillway is at elevation 1,346 ft (410.26 m). Normal releases are through 12 tunnels 22 ft (6.7 m) in diameter. Installation of power units in 8 of these tunnels was completed in January 1956; maximum release through power tunnels is 46,000 ft³/s (1,300 m³/s); maximum release through 4 other tunnels is 130,000 ft³/s (3,680 m³/s) at pool elevation 1,375 ft (419.10 m). Water is used for flood control, navigation, power, and incidental uses.

COOPERATION.--Elevations and contents furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 5,087,000 acre-ft (6,270 hm³) June 20, 1962, elevation, 1,364.2 ft (415.81 m), affected by wind; minimum since initial filling, 1,450,000 acre-ft (1,790 hm³) Oct. 23, 1956, elevation, 1,311.5 ft (399.75 m), affected by wind.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 3,999,000 acre-ft (4,930 hm³) Mar. 16, 17, elevation, 1,358.0 ft (413.92 m), affected by wind; minimum, 2,432,000 acre-ft (3,000 hm³) Dec. 2, elevation, 1337.1 ft (407.55 m), affected by wind.

MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	1348.8	3223000	
Oct. 31	1345.0	2947000	-276000
Nov. 30	1337.8	2481000	-466000
Dec. 31	1342.0	2758000	+277000
CAL YR 1975			-87000
Jan. 31	1347.5	3145000	+387000
Feb. 29	1354.7	3711000	+566000
Mar. 31	1356.4	3864000	+153000
Apr. 30	1356.3	3857000	-7000
May 31	1354.9	3720000	-137000
June 30	1353.3	3585000	-135000
July 31	1355.9	3796000	+211000
Aug. 31	1354.5	3683000	-113000
Sept. 30	1355.3	3762000	+79000
WTR YR 1976			+539000

MISSOURI RIVER MAIN STEM

06453000 MISSOURI RIVER AT FORT RANDALL DAM, SD

LOCATION.--Lat 43°03'54", long 98°33'11", in NW¼NE¼ sec.8, T.95 N., R.65 W., Charles Mix County, Hydrologic Unit 10170101, in powerhouse of Fort Randall Dam on Missouri River at Pickstown, 0.8 mi (1.3 km) upstream from Randall Creek, and at mile 879.8 (1,415.6 km).

DRAINAGE AREA.--263,500 mi² (682,500 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1947 to current year. Prior to October 1969 published as "below Fort Randall Dam".

GAGE.--Totalizing flowmeters on each turbine in Fort Randall powerhouse. Prior to Nov. 10, 1965, water-stage recorder at site 7.0 mi (11.3 km) downstream at datum 1,230.00 ft (374.904 m) above mean sea level and Nov. 10, 1965, to June 30, 1969, at datum 5.00 ft (1.524 m) lower (Corps of Engineers bench mark).

REMARKS.--Records good. Flow completely regulated by Lake Francis Case. (See station 06452500.) Many diversions for irrigation above station.

COOPERATION.--Daily discharge determined from flow through turbines furnished by Corps of Engineers.

AVERAGE DISCHARGE.--29 years, 25,100 ft³/s (710.8 m³/s), 18,185,000 acre-ft/yr (22.4 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 447,000 ft³/s (12,700 m³/s) Apr. 12, 1952; maximum gage height, 20.82 ft (6.346 m) Apr. 12, 1952 (site and datum then in use); minimum daily discharge, 100 ft³/s (2.83 m³/s) Mar. 29, 1962.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in April 1943 reached a stage of about 16.5 ft (5.03 m). Maximum stage known, in April 1881, was about 5 ft (1.5 m) higher than that of April 1943, both at site 7.0 mi (11.3 km) downstream.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge during year, 60,600 ft³/s (1,720 m³/s) Oct. 6, 14, 16; minimum daily, 9,700 ft³/s (275 m³/s) Jan. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60500	60000	59600	17800	17600	23500	33600	32700	34300	38500	34400	36900
2	60500	60000	50700	17800	22500	24900	32800	31700	37000	36200	39300	37200
3	60500	59900	35300	20200	21200	24400	32700	34400	37100	34300	38700	38900
4	60500	60000	30600	18900	21400	23500	32900	34700	34400	34100	37900	39500
5	60500	60000	20700	21500	21000	23900	32900	34900	34400	37400	39200	34400
6	60600	60000	25700	21500	24400	25200	32800	34800	31700	35400	37900	35900
7	60500	60000	23800	21600	24400	25700	33100	34900	36600	36600	36400	36800
8	60500	60000	21300	23200	20400	27500	33900	33100	37900	38200	32900	36400
9	60500	60000	22800	23600	21700	29200	33700	30500	39000	38900	36200	37900
10	60500	60000	22400	21800	19000	29100	33000	35400	39000	39800	37100	34600
11	60500	60000	22400	19400	19600	25100	33600	35800	37300	34400	38300	33800
12	60500	60000	21800	15200	14900	23100	33600	34900	37900	37700	39100	29300
13	60500	60000	22100	16400	16200	26900	33200	30500	32700	37700	39300	33100
14	60600	60000	18900	9700	19900	21800	33300	30600	38100	39400	39500	38900
15	60500	60000	19100	11600	17800	30000	32500	32800	35000	32300	31800	36200
16	60600	60000	19100	17400	19800	31500	32400	30500	35300	38000	38700	32500
17	60500	59900	21000	17000	20200	27400	33300	34300	38000	37100	37300	32500
18	60500	60000	18900	21700	17800	29500	32800	38200	38000	35300	36800	33900
19	60500	60000	20800	22300	17400	31800	34900	36900	37700	36000	36700	32000
20	60500	59900	20700	24700	17700	32000	35200	36300	34600	39100	36600	33800
21	60500	59900	22000	25000	15800	29600	32900	36000	38500	39300	34300	38500
22	60500	60000	22800	18200	13400	30300	30100	34600	41000	39400	32100	37300
23	60400	60000	22100	17500	17100	31900	29700	35200	41400	39900	37700	33600
24	60500	60000	21300	20700	18800	33200	31600	31700	40700	39300	39000	33000
25	60400	60000	21100	18400	17900	34700	30300	30000	38900	33400	37600	33300
26	60500	60000	20800	22000	18500	35600	31600	31200	39900	37600	37000	32200
27	60500	59900	19900	23700	19800	35600	34700	31000	35900	39600	37800	35000
28	60500	59900	14800	23800	20000	31900	36100	31500	39500	40400	38600	36500
29	60500	60100	19400	21000	20100	35200	32300	34400	37400	40100	34800	36800
30	60500	59800	18400	18700	---	32500	31300	30100	38800	39900	37600	37200
31	60500	---	16900	17500	---	32500	---	31900	---	37400	37700	---
TOTAL	1875600	1799300	737200	609800	556300	899000	986800	1035500	1118000	1162700	1148300	1057900
MEAN	60500	59980	23780	19670	19180	29000	32890	33400	37270	37510	37040	35260
MAX	60600	60100	59600	25000	24400	35600	36100	38200	41400	40400	39500	39500
MIN	60400	59800	14800	9700	13400	21800	29700	30000	31700	32300	31800	29300
AC-FT	3720000	3569000	1462000	1210000	1103000	1783000	1957000	2054000	2218000	2306000	2278000	2098000
CAL YR 1975	TOTAL	13852700	MEAN	37950	MAX	60600	MIN	11000	AC-FT	27480000		
WTR YR 1976	TOTAL	12986400	MEAN	35480	MAX	60600	MIN	9700	AC-FT	25760000		

MISSOURI RIVER MAIN STEM

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06453000 MISSOURI RIVER AT FORT RANDALL DAM, SD--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to current year.

WATER TEMPERATURES: October 1974 to current year.

DISSOLVED OXYGEN: October 1974 to current year.

INSTRUMENTATION.--Water-quality monitor since June 1973.

REMARKS.--Water is supplied to the monitor from the raw water intake located in the penstocks. This location is 121 ft (37 m) below the normal pool surface. Depth of observation is 1,227 ft (374 m) above mean sea level. Records prior to October 1974 are on file in the District office, Corps of Engineers, Omaha, Ne. In addition to the water-quality monitor, samples were collected once a month.

COOPERATION.--Records of specific conductance, water temperature, and dissolved oxygen were furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily mean, 850 micromhos Mar. 10, 1975; minimum daily mean, 620 micromhos Mar. 26, 1976.

WATER TEMPERATURES: Maximum daily mean, 25.5°C Aug. 9, 12-16, 25, 1975; minimum daily mean, 0.0°C Jan. 21-26, 1975.

DISSOLVED OXYGEN: Maximum daily mean, 13.2 mg/L Jan. 2, 3, Feb. 5-11, 14-21, 1975; minimum daily mean, 7.1 mg/L Aug. 11-13, 15-17, 19, 1976.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily mean, 705 micromhos Nov. 13; minimum daily mean, 620 micromhos Mar. 26.

WATER TEMPERATURES: Maximum daily mean, 24.0°C Aug. 18; minimum daily mean, 0.5°C Dec. 18-30, Jan. 10-13, 15, 19-23, 29, 30, Feb. 6-9.

DISSOLVED OXYGEN: Maximum daily mean, 12.4 mg/L Mar. 21; minimum daily mean, 7.1 mg/L Aug. 11-13, 15-17, 19.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS-CHARGE (CFS) (00061)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)	PH (UNITS) (00400)	TEMPERATURE (DEG C) (00010)	TURBIDITY (JTU) (00070)	FECAL COLIFORM (COL. PER 100 ML) (31616)	STREPTOCOCCI (COLONIES PER 100 ML) (31679)	HARDNESS (CA, MG/L) (00900)	NON-CARBONATE HARDNESS (MG/L) (00902)	DISSOLVED CALCIUM (CA) (MG/L) (00915)	DISSOLVED MAGNESIUM (MG/L) (00925)
OCT 09...	1300	60500	670	7.7	15.0	7	--	--	230	71	56	21
NOV 19...	1400	42400	710	8.2	8.0	6	B1	B1	220	60	56	20
DEC 10...	0900	33300	770	7.6	2.5	4	ND	ND	230	68	56	21
JAN 13...	0900	23300	720	6.8	2.0	2	ND	ND	240	77	60	22
FEB 10...	1400	28400	730	8.5	3.0	7	ND	ND	230	75	59	21
MAR 09...	1400	33900	690	8.6	2.5	4	ND	ND	240	80	59	22
APR 20...	0900	35800	600	7.9	7.5	2	B1	ND	230	70	55	22
MAY 14...	0900	35400	680	7.9	11.5	5	ND	ND	230	76	58	21
JUN 18...	0900	40500	710	8.1	17.5	--	B1	B2	--	--	--	--
JUL 21...	1400	41200	700	8.2	22.5	10	ND	ND	210	81	58	16
AUG 27...	0800	38600	670	8.1	21.5	10	1	1	230	70	55	22
SEP 17...	0800	36900	520	8.2	12.0	10	B1	ND	230	90	56	21

B Non-ideal colony count.

ND Not detected.

MISSOURI RIVER MAIN STEM

06453000 MISSOURI RIVER AT FORT RANDALL DAM, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SODIUM (NA) (MG/L) (00930)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L) (00935)	BICAR- BONATE (HCO3) (MG/L) (00440)	CAR- BONATE (CO3) (MG/L) (00445)	ALKA- LINITY AS CAC03 (MG/L) (00410)	DIS- SOLVED SULFATE (SO4) (MG/L) (00945)	DIS- SOLVED CHLO- RIDE (CL) (MG/L) (00940)	DIS- SOLVED FLUO- RIDE (F) (MG/L) (00950)	DIS- SOLVED SILICA (SI02) (MG/L) (00955)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L) (70300)
OCT 09...	68	39	2.0	4.8	189	0	155	210	10	.5	6.1	468
NOV 19...	69	40	2.0	4.8	198	0	162	200	9.7	.4	6.3	465
DEC 10...	70	40	2.0	5.0	193	0	158	200	9.8	.5	5.9	473
JAN 13...	70	38	2.0	5.1	199	0	163	220	10	.5	5.9	485
FEB 10...	69	38	2.0	4.9	194	0	159	200	11	.4	4.0	524
MAR 09...	67	37	1.9	4.8	193	0	158	200	9.6	.5	6.0	487
APR 20...	65	38	1.9	4.6	192	0	157	180	9.3	.5	5.3	453
MAY 14...	67	38	1.9	4.6	189	0	155	190	9.5	.5	4.9	466
JUN 18...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 21...	68	41	2.0	2.7	158	0	130	220	10	.5	4.7	438
AUG 27...	67	38	1.9	4.8	193	0	158	190	10	.5	6.1	438
SEP 17...	65	38	1.9	4.7	166	0	136	220	9.6	.4	5.5	424

DATE	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) (70301)	DIS- SOLVED SOLIDS (TONS PER AC-FT) (70303)	DIS- SOLVED SOLIDS (TONS PER DAY) (70302)	TOTAL NITRITE PLUS NITRATE (N) (MG/L) (00630)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L) (00625)	TOTAL NITRO- GEN (N) (MG/L) (00600)	TOTAL NITRO- GEN (NO3) (MG/L) (71887)	TOTAL PHOS- PHORUS (P) (MG/L) (00665)	TOTAL ARSENIC (AS) (UG/L) (01002)	SUS- PENDE D ARSENIC (AS) (UG/L) (01001)	DIS- SOLVED ARSENIC (AS) (UG/L) (01000)	TOTAL CAD- MIUM (CD) (UG/L) (01027)
OCT 09...	470	.64	76400	.07	.19	.26	1.2	.07	3	1	2	0
NOV 19...	464	.63	53200	.12	.77	.89	3.9	.02	--	--	--	--
DEC 10...	463	.64	42500	.15	14	14	63	.01	--	--	--	--
JAN 13...	492	.66	30500	.14	.38	.52	2.3	.01	2	0	2	<10
FEB 10...	465	.71	40200	.17	.48	.65	2.9	.00	--	--	--	--
MAR 09...	464	.66	44600	.14	1.3	1.4	6.4	.00	--	--	--	--
APR 20...	436	.62	43800	.07	.29	.36	1.6	.02	2	2	0	<10
MAY 14...	449	.63	44500	.07	.25	.32	1.4	.00	--	--	--	--
JUN 18...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 21...	458	.60	48700	.07	.12	.19	.84	.01	1	0	1	<10
AUG 27...	451	.60	45600	.11	.02	.13	.58	.01	--	--	--	--
SEP 17...	464	.58	42200	.11	.39	.50	2.2	.01	--	--	--	--

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MISSOURI RIVER MAIN STEM

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06453000 MISSOURI RIVER AT FORT RANDALL DAM, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	SUS- PENDE CAD- MIUM (CD) (UG/L) (01026)	DIS- SOLVED CAD- MIUM (CD) (UG/L) (01025)	TOTAL CHRO- MIUM (CR) (UG/L) (01034)	SUS- PENDE CHRO- MIUM (CR) (UG/L) (01031)	DIS- SOLVED CHRO- MIUM (CR) (UG/L) (01030)	TOTAL COBALT (CO) (UG/L) (01037)	SUS- PENDE COBALT (CO) (UG/L) (01036)	DIS- SOLVED COBALT (CO) (UG/L) (01035)	TOTAL COPPER (CU) (UG/L) (01042)	SUS- PENDE COPPER (CU) (UG/L) (01041)	DIS- SOLVED COPPER (CU) (UG/L) (01040)
OCT 09...	0	0	10	0	10	<50	<50	0	10	7	3
NOV 19...	--	--	--	--	--	--	--	--	--	--	--
DEC 10...	--	--	--	--	--	--	--	--	--	--	--
JAN 13...	<10	0	10	10	0	<50	<50	0	10	9	1
FEB 10...	--	--	--	--	--	--	--	--	--	--	--
MAR 09...	--	--	--	--	--	--	--	--	--	--	--
APR 20...	<10	0	0	0	0	<50	<50	0	10	8	2
MAY 14...	--	--	--	--	--	--	--	--	--	--	--
JUN 18...	--	--	--	--	--	--	--	--	--	--	--
JUL 21...	<10	0	0	0	0	<50	<50	0	10	8	2
AUG 27...	--	--	--	--	--	--	--	--	--	--	--
SEP 17...	--	--	--	--	--	--	--	--	--	--	--

DATE	TOTAL IRON (FE) (UG/L) (01045)	DIS- SOLVED IRON (FE) (UG/L) (01046)	TOTAL LEAD (PB) (UG/L) (01051)	SUS- PENDE LEAD (PB) (UG/L) (01050)	DIS- SOLVED LEAD (PB) (UG/L) (01049)	TOTAL MAN- GANESE (MN) (UG/L) (01055)	SUS- PENDE MAN- GANESE (MN) (UG/L) (01054)	DIS- SOLVED MAN- GANESE (MN) (UG/L) (01056)	TOTAL MERCURY (HG) (UG/L) (71900)	SUS- PENDE MERCURY (HG) (UG/L) (71895)	DIS- SOLVED MERCURY (HG) (UG/L) (71890)
OCT 09...	230	10	0	0	0	20	10	10	.0	.0	.0
NOV 19...	--	--	--	--	--	--	--	--	--	--	--
DEC 10...	--	--	--	--	--	--	--	--	--	--	--
JAN 13...	70	10	<100	<97	3	30	10	20	.0	.0	.1
FEB 10...	--	--	--	--	--	--	--	--	--	--	--
MAR 09...	--	--	--	--	--	--	--	--	--	--	--
APR 20...	230	30	<100	<99	1	10	0	10	.0	.0	.0
MAY 14...	--	--	--	--	--	--	--	--	--	--	--
JUN 18...	--	--	--	--	--	--	--	--	--	--	--
JUL 21...	110	0	<100	<100	0	10	10	0	.0	.0	.0
AUG 27...	--	--	--	--	--	--	--	--	--	--	--
SEP 17...	--	--	--	--	--	--	--	--	--	--	--

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MISSOURI RIVER MAIN STEM

06453000. MISSOURI RIVER AT FORT RANDALL DAM, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL SELE- NIUM (SE) (UG/L) (01147)	SUS- PENDE SELE- NIUM (SE) (UG/L) (01146)	DIS- SOLVED SELE- NIUM (SE) (UG/L) (01145)	TOTAL ZINC (ZN) (UG/L) (01092)	SUS- PENDE ZINC (ZN) (UG/L) (01091)	DIS- SOLVED ZINC (ZN) (UG/L) (01090)	TOTAL ORGANIC CARBON (C) (MG/L) (00680)
OCT 09...	2	0	2	20	0	20	4.2
NOV 19...	--	--	--	--	--	--	--
DEC 10...	--	--	--	--	--	--	--
JAN 13...	2	0	2	40	30	10	4.9
FEB 10...	--	--	--	--	--	--	--
MAR 09...	--	--	--	--	--	--	--
APR 20...	1	0	1	60	60	0	3.4
MAY 14...	--	--	--	--	--	--	--
JUN 18...	--	--	--	--	--	--	--
JUL 21...	2	0	2	10	10	0	21
AUG 27...	--	--	--	--	--	--	--
SEP 17...	--	--	--	--	--	--	--

DATE	TOTAL PHYTO- PLANK- TON (CELLS PER ML) (60050)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	UNCOR- RECTED PERI- PHYTON CHLORO- PHYLL A MG/SQ M (32228)	UNCOR- RECTED PERI- PHYTON CHLORO- PHYLL B MG/SQ M (32226)	SUS- PENDE SEDIM- ENT (MG/L) (80154)	SUS- PENDE SEDIM- ENT DIS- CHARGE (T/DAY) (80155)
OCT 09...	290	--	--	--	--	88	14400
NOV 19...	260	--	--	--	--	102	11700
DEC 10...	290	--	--	--	--	88	7910
JAN 13...	290	--	--	--	--	76	4780
FEB 10...	360	--	--	--	--	54	4140
MAR 09...	650	--	--	--	--	59	5400
APR 20...	230	--	--	--	--	49	4740
MAY 14...	390	9.46	7.08	1.80	.070	60	5730
JUN 18...	170	--	--	--	--	83	9080
JUL 21...	49	--	--	--	--	65	7230
AUG 27...	540	--	--	--	--	82	8550
SEP 17...	110	--	--	--	--	--	--

06453000 MISSOURI RIVER AT FORT RANDALL DAM, SD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	655	630	685	670	665	660	645	670	655	665	655	655
2	660	630	685	670	660	660	645	670	655	665	665	655
3	645	625	685	670	660	660	645	670	655	670	665	650
4	645	645	685	670	660	660	645	670	660	665	665	655
5	645	655	685	670	665	660	645	670	660	665	660	650
6	645	665	685	665	665	655	645	670	660	660	660	655
7	650	675	680	670	660	660	645	675	660	660	660	660
8	650	685	680	670	665	655	645	670	655	660	665	665
9	650	690	680	670	665	655	650	670	660	660	665	660
10	650	695	680	665	660	655	645	675	655	665	665	660
11	650	695	675	665	660	650	640	675	660	665	665	660
12	650	700	675	665	660	650	645	675	665	665	665	655
13	645	705	675	670	655	645	640	680	660	665	665	655
14	645	700	675	670	655	645	635	675	665	665	665	650
15	645	700	675	660	660	645	645	680	665	665	665	650
16	645	700	675	660	660	645	645	680	665	660	660	655
17	640	700	680	665	660	645	650	680	660	660	660	655
18	640	700	675	655	660	645	655	680	665	660	665	650
19	640	700	680	665	660	645	655	680	665	665	665	650
20	640	700	680	665	660	640	660	680	665	665	660	650
21	640	700	675	660	665	640	665	675	665	665	660	650
22	640	695	675	660	660	635	665	670	670	665	665	650
23	635	695	675	660	660	635	665	670	665	665	665	650
24	635	695	675	660	660	635	665	665	665	665	660	655
25	635	690	670	665	660	630	665	665	665	665	660	650
26	635	695	675	665	660	620	665	660	665	670	660	650
27	635	690	670	665	650	625	670	655	665	660	660	650
28	625	690	675	660	650	630	670	655	660	665	660	650
29	630	690	675	660	660	635	670	655	665	665	660	650
30	630	685	675	660	---	645	670	655	665	665	655	655
31	630	---	675	665	---	645	---	655	---	665	660	---
MONTH	642	684	678	665	660	645	653	670	662	664	662	654

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	12.0	3.0	1.0	1.0	1.0	2.5	10.0	14.5	19.5	23.0	23.5
2	17.5	12.0	3.0	1.0	1.0	1.5	2.5	10.0	14.0	19.5	23.5	23.5
3	17.5	12.0	2.5	1.0	1.0	1.5	3.0	10.5	14.0	18.5	23.0	23.0
4	17.5	11.0	2.5	1.0	1.0	1.5	3.0	10.5	14.0	19.0	22.5	23.5
5	18.0	11.0	2.5	1.0	1.0	1.0	3.0	10.5	14.5	19.5	22.5	23.0
6	18.0	10.5	2.0	1.0	0.5	1.0	3.0	10.5	15.5	19.5	23.5	23.0
7	17.5	10.5	2.0	1.0	0.5	1.0	3.5	11.0	15.5	20.0	22.0	23.0
8	17.0	10.5	2.0	1.0	0.5	1.0	3.5	11.5	16.0	20.0	22.5	23.0
9	16.5	10.0	2.0	1.0	0.5	1.5	3.5	11.5	16.0	20.5	23.0	23.0
10	16.0	10.0	2.0	0.5	1.0	1.0	4.0	11.5	16.5	20.5	23.0	22.5
11	15.5	9.0	1.5	0.5	1.0	1.0	4.5	12.0	17.5	20.0	23.5	22.0
12	15.5	9.0	1.5	0.5	1.0	1.5	4.5	12.5	17.5	20.0	23.5	22.5
13	15.5	8.5	1.5	0.5	1.0	1.0	5.0	12.0	18.0	20.5	23.5	22.0
14	15.5	8.5	1.5	1.0	1.0	1.0	5.0	13.0	19.0	21.0	23.0	22.5
15	15.5	8.0	1.0	0.5	1.0	1.0	5.5	12.5	19.0	21.5	23.0	22.0
16	15.5	8.0	1.0	1.0	1.0	1.5	6.0	13.0	18.5	20.5	23.5	22.5
17	15.0	8.0	1.0	1.0	1.0	1.5	6.0	13.0	19.0	21.5	23.5	22.0
18	15.0	8.0	0.5	1.0	1.0	1.5	7.0	13.0	19.0	21.0	24.0	22.0
19	14.5	7.5	0.5	0.5	1.0	1.5	6.5	13.0	19.0	21.5	23.5	22.0
20	14.5	7.0	0.5	0.5	1.0	1.5	7.0	13.0	19.0	22.0	23.5	21.5
21	14.5	6.5	0.5	0.5	1.0	1.5	7.0	13.0	18.5	22.0	23.5	21.5
22	14.0	6.5	0.5	0.5	1.0	1.0	7.5	13.5	19.0	22.0	23.5	21.0
23	14.0	6.0	0.5	0.5	1.0	1.0	8.0	13.5	19.0	21.5	23.5	21.0
24	14.0	5.5	0.5	1.0	1.0	1.5	8.0	13.5	19.5	22.0	23.5	21.0
25	13.5	5.0	0.5	1.0	1.0	1.5	8.5	13.5	19.5	21.5	23.5	21.5
26	13.5	5.0	0.5	1.0	1.0	2.0	9.0	13.5	19.5	22.0	23.5	21.5
27	13.0	4.5	0.5	1.0	1.0	2.0	9.0	13.5	19.0	22.0	23.5	21.5
28	13.0	4.5	0.5	1.0	1.0	2.0	9.0	14.0	19.5	22.5	23.5	21.5
29	12.5	4.0	0.5	0.5	1.0	2.0	9.5	14.5	19.5	22.5	23.5	21.5
30	12.5	3.0	0.5	0.5	---	2.5	10.0	14.5	19.5	22.5	23.5	21.5
31	12.5	---	1.0	1.0	---	2.0	---	14.5	---	22.5	23.5	---
MONTH	15.0	8.0	1.5	1.0	1.0	1.5	6.0	12.5	17.5	21.0	23.5	22.0

MISSOURI RIVER MAIN STEM

06453000 MISSOURI RIVER AT FORT RANDALL DAM, SD--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.4	9.2	10.6	11.8	12.1	12.2	12.3	11.3	9.9	8.9	7.3	7.2
2	8.6	9.2	10.7	11.8	12.2	12.2	12.3	11.4	9.9	9.1	7.3	7.2
3	8.7	9.2	11.1	11.8	12.2	12.3	12.3	11.4	9.6	9.1	7.3	7.2
4	8.8	8.7	11.3	11.7	12.2	12.3	12.3	11.4	9.6	8.9	7.3	7.2
5	8.8	8.9	11.4	11.8	12.2	12.3	12.4	11.4	9.5	8.8	7.2	7.2
6	8.8	9.1	11.5	11.7	12.2	12.3	12.3	11.4	9.5	8.7	7.2	7.2
7	8.8	9.3	11.5	11.7	12.1	12.3	12.3	11.3	9.4	8.5	7.2	7.2
8	8.8	9.5	11.6	11.7	12.1	12.3	12.4	11.3	9.4	8.3	7.2	7.2
9	8.8	9.7	11.6	11.8	12.1	12.3	12.3	11.2	9.3	8.3	7.3	7.2
10	8.8	9.7	11.7	11.7	12.2	12.3	12.2	11.2	9.3	8.3	7.2	7.2
11	8.9	9.8	11.7	11.8	12.2	12.3	12.1	11.2	9.3	8.2	7.1	7.2
12	8.9	9.7	11.7	11.8	12.1	12.3	12.1	11.2	9.2	8.1	7.1	7.2
13	8.9	9.6	11.8	11.8	12.2	12.3	12.0	11.2	9.2	8.0	7.1	7.2
14	9.0	9.8	11.7	11.9	12.2	12.3	11.9	11.0	9.1	8.0	7.2	7.2
15	8.9	9.9	11.8	11.8	12.2	12.3	11.8	11.1	9.2	8.0	7.1	7.2
16	9.0	10.0	11.8	12.0	12.2	12.3	11.8	11.1	9.1	7.9	7.1	7.3
17	9.0	10.0	11.8	11.8	12.2	12.3	11.8	11.0	9.2	7.8	7.1	7.2
18	9.0	10.0	11.8	11.8	12.2	12.3	11.8	11.0	9.1	7.7	7.2	7.3
19	9.0	10.0	11.9	12.0	12.2	12.3	11.7	11.0	9.2	7.7	7.1	7.3
20	9.0	10.0	11.8	12.1	12.2	12.3	11.7	11.0	9.1	7.5	7.2	7.3
21	9.0	10.0	11.9	12.1	12.2	12.4	11.7	10.9	9.1	7.5	7.2	7.3
22	9.0	10.0	11.9	12.1	12.2	12.3	11.7	10.8	9.2	7.4	7.2	7.4
23	9.0	10.1	11.9	12.1	12.2	12.3	11.6	10.7	9.1	7.4	7.3	7.4
24	9.1	10.1	11.9	12.1	12.2	12.3	11.6	10.6	9.1	7.4	7.2	7.5
25	9.1	10.1	12.0	12.1	12.2	12.3	11.6	10.4	9.0	7.4	7.2	7.4
26	9.1	10.2	12.0	12.0	12.2	12.3	11.6	10.3	9.0	7.3	7.2	7.4
27	9.1	10.2	12.0	12.1	12.2	12.3	11.5	10.3	8.9	7.3	7.3	7.5
28	9.2	10.2	12.0	12.2	12.2	12.3	11.6	10.3	9.0	7.4	7.2	7.5
29	9.2	10.3	12.0	12.1	12.2	12.3	11.5	10.0	9.0	7.3	7.2	7.4
30	9.2	10.4	12.0	12.1	---	12.3	11.4	10.0	8.9	7.3	7.2	7.5
31	9.2	---	12.0	12.1	---	12.3	---	10.1	---	7.2	7.2	---
MONTH	8.9	9.8	11.7	11.9	12.2	12.3	11.9	10.9	9.2	8.0	7.2	7.3

06453000 MISSOURI RIVER AT FORT RANDALL DAM, SD--Continued

OCT. 7, 1974
1340 HOURS

IDENTIFICATION OF PHYTOPLANKTON

350 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
.CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		15	4
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
DCHLAMYDOMONAS		150	42
	TOTALS	160	46
CHRYSOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		44	13
..PENNALES	PENNATE		
...ACHNANTHACEAE		15	4
....ACHNANTHES			
	TOTALS	59	17
CYANOPHYTA	BLUE-GREEN ALGAE		
.MYXOPHYCEAE			
..CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
DANACYSTIS		130	38
	TOTALS	130	38

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:PHYL/DIV 1.477
CLASS 1.477
ORDER 1.814
FAMILY 1.814
GENERA 1.814NOV. 13, 1974
1300 HOURS

IDENTIFICATION OF PHYTOPLANKTON

87 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
.CHLOROPHYCEAE			
..ZYGNEATALES			
...DESMIDIACEAE	PLACODERM DESMIDS		
....CLOSTERIUM		10	11
	TOTALS	10	11
CHRYSOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		49	56
..PENNALES	PENNATE		
...ACHNANTHACEAE		29	33
DCOCCONEIS			
	TOTALS	78	89

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:PHYL/DIV 0.503
CLASS 0.503
ORDER 1.352
FAMILY 1.352
GENERA 1.352

MISSOURI RIVER MAIN STEM

06453000 MISSOURI RIVER AT FORT RANDALL DAM, SD--Continued

DEC. 10, 1974
1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,500 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		34	1
DMELOSIRA		830	33
..PENNALES	PENNATE		
...CYMBELLACEAE			
....CYMBELLA		34	1
...FRAGILARIACEAE			
DASTERIONELLA		1,600	64
TOTALS		2,500	99

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

ORDER 0.932
FAMILY 1.029
GENERA 1.113

JAN. 14, 1975
1300 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,900 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...FRAGILARIACEAE			
DASTERIONELLA		2,900	100
TOTALS		2,900	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

FEB. 11, 1975
1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,600 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
.CHLOROPHYCEAE			
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		24	1
TOTALS		24	1
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...FRAGILARIACEAE			
DASTERIONELLA		2,600	99
TOTALS		2,600	99

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.076
CLASS 0.076
ORDER 0.076
FAMILY 0.076
GENERA 0.076

06453000 MISSOURI RIVER AT FORT RANDALL DAM, SD--Continued

MAR. 13, 1975
1300 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,900 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNIALES	PENNATE		
...FRAGILARIACEAE			
DASTERIONELLA		2,900	100
TOTALS		2,900	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

APR. 10, 1975
1300 HOURS

IDENTIFICATION OF PHYTOPLANKTON

490 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		80	16
..PENNIALES	PENNATE		
...FRAGILARIACEAE			
DASTERIONELLA		410	84
TOTALS		490	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
ORDER 0.641
FAMILY 0.641
GENERA 0.641

MISSOURI RIVER MAIN STEM

06453000 MISSOURI RIVER AT FORT RANDALL DAM, SD--Continued

MAY 13, 1975
1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

700 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
....CHLORELLA		21	3
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		41	6
	TOTALS	62	9
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		21	3
..PENNALES	PENNATE		
...FRAGILARIACEAE			
DASTERIONELLA		600	85
	TOTALS	620	88
PYRRHOPHYTA			
..DINOPHYCEAE	DINOFLAGELLATES		
..PERIDINIALES			
...GLENODINIACEAE			
....GLENODINIUM		21	3
	TOTALS	21	3

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.618
CLASS 0.618
ORDER 0.885
FAMILY 0.885
GENERA 0.885

JUNE 10, 1975
1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

300 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		8	3
..PENNALES	PENNATE		
...FRAGILARIACEAE			
DASTERIONELLA		280	95
...NITZSCHIA			
....NITZSCHIA		8	3
	TOTALS	300	101

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
ORDER 0.179
FAMILY 0.357
GENERA 0.357

06453000 MISSOURI RIVER AT FORT RANDALL DAM, SD--Continued

JULY 8, 1975
1300 HOURS

IDENTIFICATION OF PHYTOPLANKTON

63 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
DOCCYSTIS		23	36
	TOTALS	23	36
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCONODISCACEAE			
...CYCLOTFLLA		6	9
..PENNALES	PENNATE		
...FRAGILARIACEAE			
DASTERIONELLA		12	18
...NITZSCHIA			
DNITZSCHIA		23	36
	TOTALS	40	63

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.946
CLASS 0.946
ORDER 1.322
FAMILY 1.823
GENERA 1.823

AUG. 11, 1975
1300 HOURS

IDENTIFICATION OF PHYTOPLANKTON

9 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
DANKISTRODESMUS		4	50
	TOTALS	4	50
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...NITZSCHIA			
DNITZSCHIA		4	50
	TOTALS	4	50

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.000
CLASS 1.000
ORDER 1.000
FAMILY 1.000
GENERA 1.000

MISSOURI RIVER MAIN STEM

06453000 MISSOURI RIVER AT FORT RANDALL DAM, SD--Continued

SEP. 9, 1975
1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

10 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..VOLVOCALES			
...PHACOTACEAE			
DPHACOTUS		3	33
	TOTALS	3	33
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		3	33
..PENNALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
LNAVICULA			0
...NITZSCHACEAE			
LNITZSCHIA			0
	TOTALS	3	33
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
..EUGLENALES			
...EUGLENACEAE			
DTRACHELOMONAS		3	33
	TOTALS	3	33

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.585
 CLASS 1.585
 ORDER 1.585
 FAMILY 1.585
 GENERA 1.585

06453000 MISSOURI RIVER AT FORT RANDALL DAM, SD--Continued

OCT. 9, 1975
1300 HOURS

IDENTIFICATION OF PHYTOPLANKTON

300 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
DOCCYSTIS		210	70
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		13	4
	TOTALS	220	74
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		13	4
...STEPHANODISCUS		38	13
..PENNALES	PENNATE		
...FRAGILARIACEAE			
LASTERIONELLA			0
...NITZSCHIACEAE		26	9
....NITZSCHIA			
	TOTALS	77	26

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.828
 CLASS 0.828
 ORDER 1.306
 FAMILY 1.306
 GENERA 1.447

NOV. 19, 1975
1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

260 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		60	23
DMELOSIRA		100	40
..PENNALES	PENNATE		
...DIATOMACEAE			
....DIATOMA		15	6
...FRAGILARIACEAE			
DASTERIONELLA		60	23
...NITZSCHIACEAE			
....NITZSCHIA		22	9
	TOTALS	260	101

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 ORDER 0.952
 FAMILY 1.448
 GENERA 2.042

DEC. 10, 1975

0900 HOURS

IDENTIFICATION OF PHYTOPLANKTON

290 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCONODISCACEAE			
DCYCLOTELLA		100	35
..PENNALES	PENNATE		
...CYMBELLACEAE			
LAMPHORA			0
...DIATOMACEAE			
....DIATOMA		15	5
...FRAGILARIACEAE			
DASTERIONELLA		120	40
DFRAGILARIA		59	20
...NITZSCHACEAE			
LNITZSCHIA			0
TOTALS		290	100

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 ORDER 0.934
 FAMILY 1.188
 GENERA 1.739

JAN. 13, 1976

0900 HOURS

IDENTIFICATION OF PHYTOPLANKTON

290 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
.CHLOROPHYCEAE			
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
LCHLAMYDOMONAS			0
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCONODISCACEAE			
LCYCLOTELLA			0
...STEPHANODISCUS		8	3
..PENNALES	PENNATE		
...CYMBELLACEAE			
....CYMBELLA		8	3
...FRAGILARIACEAE			
DASTERIONELLA		190	66
DFRAGILARIA		68	24
...NITZSCHACEAE			
LNITZSCHIA			0
TOTALS		270	96
PYRRHOPHYTA			
.DINOPHYCEAE	DINOFLAGELLATES		
..PERIDINIALES			
...GLENODINIACEAE			
....GLENODINIUM		15	5
TOTALS		15	5

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.297
 CLASS 0.297
 ORDER 0.471
 FAMILY 0.643
 GENERA 1.389

06453000 MISSOURI RIVER AT FORT RANDALL DAM, SD--Continued

FEB. 10, 1976
1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

360 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCEAE			
LCYCLOTELLA			0
..PENNALES	PENNATE		
...FRAGILARIACEAE			
DASTERIONELLA		310	87
....SYNEDRA		47	13
	TOTALS	360	100
PYRRHOPHYTA			
..DINOPHYCEAE	DINOFLAGELLATES		
..GYMNODINIALES			
...GYMNODINIACEAE			
LGYMNODINIUM			0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 GENERA 0.567

MAR. 9, 1976
1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

650 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCEAE			
DCYCLOTELLA		150	23
..PENNALES	PENNATE		
...FRAGILARIACEAE			
DASTERIONELLA		500	77
	TOTALS	650	100
PYRRHOPHYTA			
..DINOPHYCEAE	DINOFLAGELLATES		
..PERIDINIALES			
...GLENODINIACEAE			
LGLENODINIUM			0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 ORDER 0.779
 FAMILY 0.779
 GENERA 0.779

APR. 20, 1976
0900 HOURS

IDENTIFICATION OF PHYTOPLANKTON

230 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		9	4
	TOTALS	9	4
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		18	8
...PENNALES	PENNATE		
...DIATOMACEAE			
L ...DIATOMA			0
...FRAGILARIACEAE			
D ...ASTERIONELLA		37	16
...GOMPHONEMACEAE			
....GOMPHONEMA		9	4
...NAVICULACEAE	NAVICULOID		
L ...NAVICULA			0
...NITZSCHACEAE			
L ...NITZSCHIA			0
	TOTALS	65	28
..CHRYSTOPHYCEAE	YELLOW-BROWN ALGAE		
...CHRYSONOMADALES			
...OCHROMONADACEAE			
DOCHROMONAS		83	36
	TOTALS	83	36
EUGLENOPHYTA	EUGLENIDS		
..CRYPTOPHYCEAE	CRYPTOMONADS		
...CRYPTOMONIDALES			
...CRYPTOMONODACEAE			
....CRYPTOMONAS		28	12
	TOTALS	28	12
PYRRHOPHYTA			
..DINOPHYCEAE	DINOFLLAGELLATES		
...PERIDINIALES			
...GLENODINIACEAE			
DGLENODINIUM		46	20
	TOTALS	46	20

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.429
 CLASS 2.062
 ORDER 2.304
 FAMILY 2.448
 GENERA 2.448

06453000 MISSOURI RIVER AT FORT RANDALL DAM, SD--Continued

MAY 14, 1976
0900 HOURS

IDENTIFICATION OF PHYTOPLANKTON

390 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...DIATOMACEAE			
...DIATOMA		32	8
...FRAGILARIACEAE			
DASTERIONELLA		340	87
...SYNEDRA		6	2
...GOMPHONEMACEAE			
...GOMPHONEMA		6	2
...NITZSCHIACEAE			
...NITZSCHIA		6	2
TOTALS		390	101

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 FAMILY 0.646
 GENERA 0.764

JUNE 18, 1976
0900 HOURS

IDENTIFICATION OF PHYTOPLANKTON

170 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		3	2
....KIRCHNERIELLA		3	2
	TOTALS	6	4
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...CYMBELLACEAE			
...CYMBELLA		12	7
...DIATOMACEAE			
...DIATOMA		3	2
...FRAGILARIACEAE			
...ASTERIONELLA		9	6
D ...FRAGILARIA		59	35
...NAVICULACEAE	NAVICULOID		
...NAVICULA		12	7
...NITZSCHACEAE			
...NITZSCHIA		9	6
	TOTALS	110	63
..CHRYSTOPHYCEAE	YELLOW-BROWN ALGAE		
..CHRYSONOMADALES			
...OCHROMONADACEAE			
....DINOBRYON		6	4
....OCHROMONAS		3	2
	TOTALS	9	6
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...OSCILLATORIALES	FILAMENTOUS		
...OSCILLATORIACEAE			
DLYNGBYA		47	28
	TOTALS	47	28

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.063
CLASS 1.341
ORDER 1.341
FAMILY 2.343
GENERA 2.666

06453000 MISSOURI RIVER AT FORT RANDALL DAM, SD--Continued

JULY 21, 1976
1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

49 CELLS/ML

_ORGANISM_NAME_	_COMMON_NAME_	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...PENNATAES	PENNATE		
...ACHNANTHACEAE		4	9
....ACHNANTHES			
...CYMBELLACEAE			
DCYMBELLA		9	18
...FRAGILARIACEAE			
....ASTERIONELLA		4	9
...GOMPHONEMACEAE			
....GOMPHONEMA		4	9
...NAVICULACEAE	NAVICULOID		
....NAVICULA		4	9
...NITZSCHACEAE			
DNITZSCHIA		22	45
TOTALS		49	99

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 FAMILY 2.222
 GENERA 2.222

AUG. 27, 1976
0800 HOURS

IDENTIFICATION OF PHYTOPLANKTON

540 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		15	3
....KIRCHNERIELLA		35	7
...SCENEDESMACEAE			
....SCENEDESMUS		20	4
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		10	2
...PHACOTACEAE			
....PHACOTUS		5	1
TOTALS		86	17
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCAEAE			
....CYCLOTELLA		15	3
..PENNALES	PENNATE		
...ACHNANTHACEAE		5	1
....ACHNANTHES			
...CYMBELLACEAE		40	7
....CYMBELLA			
...NAVICULACEAE	NAVICULOID	40	7
....NAVICULA			
...NITZSCHIAEAE		15	3
....NITZSCHIA			
...SURIPELLACEAE		5	1
....SURIPELLA			
TOTALS		120	22
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
DAGMENELLUM		140	26
...OSCILLATORIALES	FILAMENTOUS		
...OSCILLATORIAEAE			
DOSCILLATORIA		180	33
TOTALS		320	59
EUGLENOPHYTA	EUGLENOIDS		
..CRYPTOPHYCEAE	CRYPTOMONADS		
...CRYPTOMONIDALES			
...CRYPTOCHRYSIDACEAE			
....CHROOMONAS		5	1
...CRYPTOMONODACEAE			
....CRYPTOMONAS		5	1
TOTALS		10	2
..EUGLENOPHYCEAE			
...EUGLENALES			
...EUGLENACEAE			
....PHACUS		5	1
TOTALS		5	1

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 1.500
CLASS 1.526
ORDER 2.338
FAMILY 2.864
GENERA 2.947

06453000 MISSOURI RIVER AT FORT RANDALL DAM, SD--Continued

SEP. 17. 1976
0800 HOURS

IDENTIFICATION OF PHYTOPLANKTON

110 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..VOLVOCALES			
...PHACOTACEAE			
DPHACOTUS		30	28
	TOTALS	30	28
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		6	6
....MELOSIRA		6	6
..PENNALES	PENNATE		
...ACHNANTHACEAE			
...COCONEIS		6	6
...CYMBELLACEAE			
DCYMBELLA		18	17
...FRAGILARIACEAE			
DSYNEDRA		18	17
...NAVICULACEAE	NAVICULOID		
....NAVICULA		12	11
	TOTALS	66	63
EUGLENOPHYTA	EUGLENOIDS		
..CRYPTOPHYCEAE	CRYPTOMONADS		
...CRYPTOMONIDALES			
...CRYPTOMONODACEAE			
....CRYPTOMONAS		12	11
	TOTALS	12	11

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.300
 CLASS 1.300
 ORDER 1.718
 FAMILY 2.663
 GENERA 2.774

NIOBRARA RIVER BASIN

06464500 KEYA PAHA RIVER AT WEWELA, SD

LOCATION.--Lat 43°01'42", long 99°46'45", in SE¼ sec.24, T.9S N., R.7E W., Tripp County, Hydrologic Unit 10150006, on left bank 13 ft (4 m) downstream from bridge on U.S. Highway 183, 1.0 mi (1.6 km) north of Wewela, 4.5 mi (7.2 km) upstream from Holt Creek, and 11.5 mi (18.5 km) downstream from Lost Creek.

DRAINAGE AREA.--1,070 mi² (2,770 km²), 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 (624.773 m) above mean sea level. Prior to June 21, 1957, nonrecording gage at site 13 ft (4 m) upstream at same datum.

REMARKS.--Records good except those for winter periods, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years (1938-40, 1947-76), 66.7 ft³/s (1.889 m³/s), 48,320 acre-ft/yr (59.6 hm³/yr); median of yearly mean discharges, 56 ft³/s (1.59 m³/s), 40,600 acre-ft/yr (50 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,430 ft³/s (154 m³/s) Mar. 31, 1952, gage height, 13.08 ft (3.987 m); maximum gage height, 13.5 ft (4.11 m) 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.--Maximum discharge, 86 ft³/s (2.41 m³/s) Feb. 25; maximum gage height, 2.92 ft (0.890 m) Feb. 18 (backwater from ice), no peak above base of 250 ft³/s (7.08 m³/s); no flow Aug. 19 to Sept. 14.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 18-29; stage-discharge relation affected
by ice Nov. 20 to Mar. 17)

0.56	0	0.7	2.25	1.1	14	1.5	44
.6	.55	.9	6.6	1.3	26	1.7	69

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	20	3.5	12	20	30	38	27	25	6.1	1.1	0
2	14	19	4.0	12	18	10	36	27	23	5.6	2.1	0
3	16	20	4.5	10	18	15	36	27	21	7.6	1.9	0
4	14	20	4.5	10	16	25	34	26	19	10	1.5	0
5	13	21	6.0	10	16	40	33	25	17	9.8	1.9	0
6	14	21	6.0	9.0	15	50	33	23	16	9.8	2.7	0
7	14	21	7.0	9.0	18	55	32	25	15	9.2	2.2	0
8	13	21	7.0	10	25	50	33	25	14	7.9	1.1	0
9	13	21	8.0	10	40	50	31	26	13	6.1	1.1	0
10	13	21	8.0	10	45	48	28	25	12	4.9	1.0	0
11	12	21	8.0	11	55	48	28	24	12	4.0	.86	0
12	15	22	7.0	12	70	46	28	26	11	3.8	.51	0
13	16	17	7.0	12	75	45	31	27	10	3.2	1.2	0
14	15	20	7.0	13	75	46	32	26	10	3.4	1.0	0
15	15	25	6.0	14	80	50	33	26	10	3.8	1.5	6.5
16	16	25	6.0	14	75	60	33	24	10	3.5	1.9	11
17	16	24	6.0	15	75	65	32	23	9.7	3.6	.95	12
18	16	23	7.0	16	70	62	34	22	9.9	3.2	.14	8.4
19	17	19	8.0	16	65	59	34	20	10	3.2	0	7.7
20	16	10	10	16	65	57	34	22	10	3.1	0	6.8
21	16	5.0	12	17	60	54	34	22	8.8	2.6	0	6.6
22	17	4.0	12	18	65	52	31	21	8.2	1.2	0	5.4
23	18	4.0	13	18	75	49	30	30	7.9	.89	0	5.3
24	22	3.5	13	17	80	47	28	41	11	.70	0	5.5
25	23	3.0	14	16	85	45	27	54	11	.37	0	5.6
26	24	3.0	14	15	80	42	27	57	9.8	3.7	0	6.1
27	24	3.0	15	15	80	40	27	46	9.2	2.2	0	6.0
28	23	3.0	15	17	75	39	27	33	8.5	1.1	0	5.9
29	22	3.5	15	18	65	39	27	33	7.6	.85	0	6.2
30	22	3.5	16	20	---	38	28	30	5.9	.61	0	6.3
31	21	---	15	20	---	37	---	27	---	1.0	0	---
TOTAL	524	446.5	284.5	432.0	1601	1393	939	890	365.5	127.02	24.66	111.3
MEAN	16.9	14.9	9.18	13.9	55.2	44.9	31.3	28.7	12.2	4.10	.80	3.71
MAX	24	25	16	20	85	65	38	57	25	10	2.7	12
MIN	12	3.0	3.5	9.0	15	10	27	20	5.9	.37	0	0
AC-FT	1040	886	564	857	3180	2760	1860	1770	725	252	49	221

CAL YR 1975	TOTAL	8708.50	MEAN 23.9	MAX 294	MIN 1.9	AC-FT 17270
WTR YR 1975	TOTAL	7138.48	MEAN 19.5	MAX 85	MIN 0	AC-FT 14160

06467000 LEWIS AND CLARK LAKE NEAR YANKTON, SD

LOCATION.--Lat 42°50'56", long 97°28'54", in SW¼ 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 (6.0 km) southwest of Yankton, 13.6 mi (21.9 km) upstream from James River, 32.5 mi (52.3 km) downstream from Niobrara River, and at mile 811.0 (1,304.9 km).

DRAINAGE AREA.--279,500 mi² (723,900 km²), 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 at mean sea level. 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, 541,000 acre-ft (667 hm³) below elevation 1,210.0 ft (368.81 m), top of spillway gates. Normal maximum, 477,000 acre-ft (588 hm³) below elevation 1,208.0 ft (368.20 m). Inactive storage, 156,000 acre-ft (192 hm³) below elevation 1,195.0 ft (364.24 m). Dead storage, 18,000 acre-ft (22.2 hm³) below elevation 1,180.0 ft (359.66 m) 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 (12.2 m) wide by 30 ft (9.1 m) high; spillway capacity, 280,000 ft³/s (7,930 m³/s) at pool elevation 1,210.0 ft (368.81 m). Crest of spillway is at elevation 1,180.0 ft (359.66 m). Normal releases are through 3 power units, installation completed in January 1957; maximum release through power units is 35,000 ft³/s (991 m³/s) at pool elevation, 1,210.0 ft (368.81 m). Water is used for flood control, navigation, power, and incidental uses.

COOPERATION.--Elevations and contents furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 565,000 acre-ft (697 hm³) Apr. 1, 1960, elevation, 1,210.7 ft (369.02 m), affected by wind; minimum since initial filling, 61,950 acre-ft (76.4 hm³) Apr. 23, 1956, elevation, 1,188.1 ft (362.13 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 492,000 acre-ft (607 hm³) Dec. 3, elevation, 1,209.1 ft (368.53 m), affected by wind; minimum, 360,000 acre-ft (444 hm³) May 18, June 8, minimum elevation, 1,204.5 ft (367.13 m) Mar. 6, affected by wind.

MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	1208.0	458000	
Oct. 31	1208.2	465000	+7000
Nov. 30	1207.8	451000	-14000
Dec. 31	1208.2	466000	+15000
CAL YR 1975			+11000
Jan. 31	1208.2	462000	+1000
Feb. 29	1205.3	377000	-85000
Mar. 31	1205.3	379000	+2000
Apr. 30	1205.2	376000	-3000
May 31	1205.4	382000	+6000
June 30	1206.6	414000	+32000
July 31	1207.8	449000	+35000
Aug. 31	1207.8	451000	+2000
Sept. 30	1208.2	462000	+11000
WTR YR 1976			+4000

NOTE.--New capacity table placed in use January 1, 1976; contents on Dec. 31, 1975, by new capacity table, 461,000 acre-ft (568 hm³).

MISSOURI RIVER MAIN STEM

06467500 MISSOURI RIVER AT YANKTON, SD

LOCATION.--Lat 42°51'58", long 97°23'37", in SW¼SW¼ 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 (8.4 km) downstream from Gavins Point Dam, 6.0 mi (9.7 km) upstream from James River, and at mile 805.8 (1,296.5 km).

DRAINAGE AREA.--279,500 mi² (723,900 km²), 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 date (except winter months prior to 1932), are contained in reports of the U.S. Weather Bureau.

GAGE.--Water-stage recorder. Datum of gage is 1,139.68 ft (347.374 m) above mean sea level. 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 (6.096 m) higher.

REMARKS.--Records good. Flow completely regulated by Lewis and Clark Lake 5.2 mi (8.4 km) upstream since July 1955. (See station 06467000.) Many diversions for irrigation and water supply above station. Corps of Engineers gage-height telemeter at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--46 years, 26,040 ft³/s (729.8 m³/s), 18,870,000 acre-ft/yr (23.3 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 480,000 ft³/s (13,600 m³/s) Apr. 13, 1952; maximum gage height, 35.5 ft (10.82 m) Apr. 13, 14, 1952 (present datum); minimum daily discharge, 2,700 ft³/s (76.5 m³/s) Nov. 15, 16, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 50.5 ft (15.39 m) Apr. 5, 1881 (ice jam), present datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 63,700 ft³/s (1,800 m³/s) Nov. 5, gage height, 23.07 ft (7.032 m); maximum gage height, 23.17 ft (7.062 m) Oct. 6; minimum daily, 19,900 ft³/s (564 m³/s) Jan. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62200	63200	57300	20000	23900	26400	36300	36300	36600	39100	38700	38500
2	62600	63300	52300	20000	24100	26300	36300	36200	38800	39200	38800	38500
3	62500	63200	47700	20000	24100	26100	36000	36300	39000	38900	39000	38500
4	62400	63300	43100	20000	24400	26200	36300	36300	39000	39000	38700	38600
5	62500	63400	38500	20000	24400	26000	36300	36300	39000	39100	39100	38600
6	62900	63400	34600	20000	24500	26000	36500	36300	39000	39000	38800	38700
7	62900	63100	30600	20000	24500	26200	36500	36400	38700	39300	38900	38700
8	62600	62900	27600	20000	24400	28700	36400	36400	38900	39200	39100	38600
9	62500	62900	25400	20000	24500	29300	36500	36500	39000	39000	39200	38400
10	62600	62700	25200	19900	24300	29100	36500	36400	39000	38800	39200	38400
11	62800	62600	25000	20000	24000	29100	36600	36600	39000	39000	39100	38500
12	62600	61900	24800	20000	24500	31000	36500	36500	39000	38700	39000	38600
13	62800	62600	24600	20000	24700	32100	36600	36500	39000	38600	39000	38500
14	62600	62500	24500	20000	24700	31800	36500	36600	39000	38700	39200	38700
15	62400	62400	23600	20000	24600	29900	36600	36500	38700	38800	38900	38700
16	62600	62100	22100	20100	24500	32200	36900	36400	38800	38800	39300	38400
17	62300	62000	22900	22400	24400	32000	36600	36400	38600	38900	39000	38500
18	62300	62100	22700	22600	24500	32100	36500	36400	38500	38900	39000	38400
19	62400	62100	23300	23000	24300	33100	36600	36500	38600	38500	39000	38400
20	62400	61700	24800	23000	24400	35000	36600	36600	38600	38700	38900	38300
21	62400	61600	23100	23000	24200	35000	36600	36600	38700	38500	38700	38300
22	62500	61600	23000	22700	24100	35000	36600	36800	38900	38700	38700	38400
23	62500	61500	23000	24300	24000	35600	36700	36900	39000	38900	38700	38400
24	62500	61300	23000	24200	24000	35700	36400	36600	38900	38500	38700	38300
25	62400	61300	22900	24100	23800	35900	36400	36700	39000	38800	38500	38400
26	62600	61300	23000	24000	24300	35400	36400	36600	39000	38800	38500	38400
27	62600	61300	22900	23900	24300	35700	36400	36600	39200	38800	38300	38300
28	62600	61100	22800	23800	24400	35800	36400	36600	39100	39000	38400	38300
29	62900	60700	22900	23800	24400	35800	36300	36600	39000	38700	38500	38400
30	62900	60200	23000	23900	---	36000	36300	36600	39100	38700	38600	38400
31	63000	---	23000	23900	---	36100	---	36600	---	38800	38700	---
TOTAL	1939800	1865300	873200	672600	705200	980600	1094100	1131600	1164700	1204400	1204200	1154100
MEAN	62570	62180	28170	21700	24320	31630	36470	36500	38820	38850	38850	38470
MAX	63000	63400	57300	24300	24700	36100	36900	36900	39200	39300	39300	38700
MIN	62200	60200	22100	19900	23800	26000	36000	36200	36600	38500	38300	38300
AC-FT	3848000	3700000	1732000	1334000	1399000	1945000	2170000	2245000	2310000	2389000	2389000	2289000
CAL YR 1975	TOTAL	14854500	MEAN	40700	MAX	63400	MIN	17000	AC-FT	29460000		
WTR YR 1976	TOTAL	13989800	MEAN	38220	MAX	63400	MIN	19900	AC-FT	27750000		

06471000 JAMES RIVER AT COLUMBIA, SD

LOCATION.--Lat 45°37'05", long 98°19'30", in NE¼NW¼ sec.29, T.125 N., R.62 W., Brown County, Hydrologic Unit 10160003, on left bank 10 ft (3 m) downstream from highway bridge, 0.8 mi (1.3 km) northwest of Columbia, 2.4 mi (3.9 km) upstream from Chicago and North Western Transportation Company bridge, 3.6 mi (5.8 km) upstream from Elm River, and 9.4 mi (15.1 km) downstream from Columbia Road Dam.

DRAINAGE AREA.--7,050 mi² (18,300 km²), approximately, of which about 3,000 mi² (7,770 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 1,275.01 ft (388.623 m) above mean sea level. Prior to Oct. 5, 1957, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods or periods of backwater from Elm River, which are poor. Flow regulated by Arrowwood and Jim Lakes, and Jamestown Reservoir, combined capacity, 246,000 acre-ft (303 hm³). Regulation by Jamestown Reservoir, capacity, 229,470 acre-ft (283 hm³), 168 mi (270 km) upstream, since May 1953.

AVERAGE DISCHARGE.--31 years, 108 ft³/s (3.059 m³/s), 78,250 acre-ft/yr (96.5 hm³/yr); median of yearly mean discharges, 59 ft³/s (1.67 m³/s), 42,700 acre-ft/yr (53 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,420 ft³/s (153 m³/s) May 24, 25, 1950, gage height, 16.89 ft (5.148 m), from graph based on gage readings; maximum gage height, 17.09 ft (5.209 m) Apr. 22, 1969; maximum daily reverse flow, 1,860 ft³/s (52.7 m³/s) Apr. 8, 1952, backwater from Elm River.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 340 ft³/s (9.629 m³/s) Mar. 26; maximum gage height, 9.44 ft (2.877 m) Mar. 26 (backwater from ice); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	318	315	210	45	11	35	161	276	180	9.2	25	
2	315	314	190	40	11	35	137	281	174	8.0	23	
3	312	314	170	35	11	34	127	283	166	8.5	7.8	
4	309	313	158	30	11	33	122	285	158	7.3	2.0	
5	306	312	150	27	12	32	117	293	152	8.2	2.0	
6	302	307	150	25	12	35	115	298	149	7.8	2.6	
7	295	304	140	25	13	37	116	310	143	9.2	.11	
8	285	303	130	24	15	40	117	316	139	3.9	.70	
9	279	305	120	23	17	45	117	321	136	4.5	.45	
10	277	306	110	22	20	50	134	325	134	5.6	.31	
11	292	310	100	21	25	60	155	324	129	5.8	0	
12	300	313	90	20	30	65	169	327	126	6.5	0	
13	304	329	85	20	35	70	178	328	120	28	0	
14	309	329	85	19	37	75	187	328	119	34	0	
15	301	327	80	18	40	80	188	333	128	26	0	
16	297	321	75	17	43	85	183	332	127	22	0	
17	297	316	70	17	43	90	188	334	123	21	0	
18	295	315	70	16	43	100	191	331	117	21	0	
19	294	321	65	15	42	120	187	334	113	21	0	
20	292	300	60	15	42	130	193	329	108	22	0	
21	293	280	60	14	40	140	193	318	104	21	0	
22	297	250	60	13	38	150	191	289	101	20	0	
23	303	210	55	12	37	200	192	259	73	26	0	
24	324	200	55	11	37	250	220	238	30	28	0	
25	331	210	55	10	37	300	243	219	20	27	0	
26	325	210	50	10	37	320	253	210	17	26	0	
27	321	220	50	11	36	320	259	204	15	27	0	
28	317	230	50	11	36	312	264	199	14	26	0	
29	318	230	47	11	35	272	268	194	12	26	0	
30	317	230	47	12	---	233	274	189	11	25	0	
31	315	---	47	12	---	196	---	185	---	26	0	---
TOTAL	9440	8544	2884	601	846	3944	5439	8792	3138	557.5	63.97	0
MEAN	305	285	93.0	19.4	29.2	127	181	284	105	18.0	2.06	0
MAX	331	329	210	45	43	320	274	334	180	34	25	0
MIN	277	200	47	10	11	32	115	185	11	3.9	0	0
AC-FT	18720	16950	5720	1190	1680	7820	10790	17440	6220	1110	127	0
CAL YR 1975 TOTAL	124446.00			MEAN 341	MAX 1530	MIN -750	AC-FT 246800					
WTR YR 1976 TOTAL	44249.47			MEAN 121	MAX 334	MIN .00	AC-FT 87770					

06471000 JAMES RIVER AT COLUMBIA, SD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1949-64, 1967 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1966 to current year.

WATER TEMPERATURES: October 1966 to current year.

REMARKS.--Flow affected by ice Nov. 21 to Mar. 26. No flow Aug. 11 to Sept. 30.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,500 micromhos Mar. 1, 1974; minimum daily, 240 micromhos Mar. 17, 1972.

WATER TEMPERATURES: Maximum daily, 32.0°C June 29, July 10, 1970; minimum daily, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,520 micromhos Feb. 9; minimum daily, 500 micromhos May 29, June 4.

WATER TEMPERATURES: Maximum daily, 29.0°C July 23; minimum daily, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS) (00061)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)	PH (UNITS) (00400)	TEMPERATURE (DEG C) (00010)	HARDNESS (CA, MG) (MG/L) (00900)	NON-CARBONATE HARDNESS (MG/L) (00902)	DIS-SOLVED CALCIUM (CA) (MG/L) (00915)	DIS-SOLVED MAGNESIUM (MG) (MG/L) (00925)	
OCT										
10...	1030	275	600	7.9	6.0	250	1	54	27	
NOV										
05...	1330	312	680	8.0	14.0	220	7	49	24	
DEC										
04...	1250	158	760	7.5	.0	270	11	62	28	
31...	0945	46	950	7.8	.0	430	28	99	44	
JAN										
29...	1030	11	1580	7.5	.0	530	26	120	56	
FEB										
25...	1200	37	1080	7.6	.0	360	37	80	40	
APR										
22...	0940	191	565	8.0	10.0	200	29	46	21	
MAY										
19...	1510	336	650	7.9	18.0	250	47	55	27	
JUN										
17...	0945	124	660	8.1	17.0	240	29	56	25	
JUL										
14...	0900	34	975	8.0	22.0	300	21	67	33	
DATE		DIS-SOLVED SODIUM (NA) (MG/L) (00930)	PERCENT SODIUM (00932)	SODIUM ADSORPTION RATIO (00931)	DIS-SOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	CARBONATE (CO3) (MG/L) (00445)	ALKALINITY AS CaCO3 (MG/L) (00410)	DIS-SOLVED SULFATE (SO4) (MG/L) (00945)	DIS-SOLVED CHLORIDE (CL) (MG/L) (00940)
OCT										
10...	49	29	1.4	12	299	0	245	110	17	
NOV										
05...	45	29	1.3	12	261	0	214	96	15	
DEC										
04...	46	26	1.2	13	316	0	259	99	16	
31...	74	26	1.6	18	488	0	400	150	29	
JAN										
29...	98	28	1.9	21	615	0	504	220	40	
FEB										
25...	74	29	1.7	19	399	0	327	170	39	
APR										
22...	41	30	1.3	9.0	210	0	172	90	21	
MAY										
19...	42	26	1.2	11	246	0	202	100	20	
JUN										
17...	49	29	1.4	16	261	0	214	93	22	
JUL										
14...	77	34	1.9	15	344	0	282	150	30	

06471000 JAMES RIVER AT COLUMBIA, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L) (00950)	DIS- SOLVED SILICA (SiO2) (MG/L) (00955)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) (70301)	DIS- SOLVED SOLIDS (TONS PER AC-FT) (70303)	DIS- SOLVED SOLIDS (TONS PER DAY) (70302)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	TOTAL PHOS- PHORUS (P) (MG/L) (00665)	DIS- SOLVED PHOS- PHORUS (P) (MG/L) (00666)	DIS- SOLVED BORON (B) (UG/L) (01020)
OCT 10...	.2	8.3	425	.58	316	.00	.11	.03	150
NOV 05...	.2	2.1	372	.51	313	.01	.04	.01	120
DEC 04...	.3	9.8	431	.59	184	.20	.11	.04	380
31...	.2	16	672	.91	84.7	.12	.11	.02	190
JAN 29...	.3	21	881	1.20	26.2	.27	.12	.06	200
FEB 25...	.2	9.7	631	.86	63.4	.42	.30	.25	220
APR 22...	.2	3.3	335	.46	173	.07	.14	.07	20
MAY 19...	.2	4.8	382	.52	347	.05	.15	.09	110
JUN 17...	.2	6.2	396	.54	133	--	.24	--	150
JUL 14...	.2	21	564	.77	52.2	.00	.48	.20	240

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C). WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	660	670	690	970	1200	1310	700	540	650	950	780	
2	670	680	710	1000	1020	1380	580	560	650	730	780	
3	670	625	710	990	1290	1350	660	560	650	850	770	
4	680	625	690	1020	1340	1280	700	560	500	860	770	
5	675	630	730	800	1230	1300	700	540	690	860	780	
6	680	620	690	1060	1490	1380	660	540	680	860	750	
7	680	610	680	920	1450	1340	700	550	700	840	900	
8	690	600	760	1100	1440	1300	1100	550	660	930	910	
9	680	610	750	1240	1520	1390	1480	560	600	720	830	
10	680	610	690	1320	1460	1360	700	560	710	660	---	
11	675	610	670	1340	1410	1200	1150	540	710	840	---	
12	675	610	810	570	1390	1420	640	560	720	650	---	
13	680	600	720	1280	1390	1130	640	570	720	910	---	
14	670	600	750	1090	1400	1130	640	550	560	910	---	
15	670	600	890	1100	1390	1140	1270	790	720	900	---	
16	665	560	890	580	1420	1160	600	610	600	820	---	
17	680	570	800	1220	1390	1120	600	610	720	820	---	
18	680	560	770	1250	1340	1000	600	600	720	820	---	
19	680	570	760	1300	1320	720	570	550	660	810	---	
20	680	600	630	1220	1400	600	560	560	720	820	---	
21	690	620	1000	1260	1420	1010	550	640	730	810	---	
22	690	640	1030	1180	1350	590	550	640	730	660	---	
23	690	620	1020	1240	1410	760	540	640	730	750	---	
24	690	630	1030	1230	1370	1100	540	610	560	730	---	
25	680	620	1050	660	1210	550	540	690	660	750	---	
26	630	680	1020	1260	1040	580	540	620	730	730	---	
27	620	690	1020	1300	1000	1160	540	610	940	770	---	
28	615	670	1030	1250	1310	740	540	570	940	770	---	
29	610	680	1020	1200	1200	700	550	500	730	760	---	
30	620	670	980	1230	---	1130	560	590	950	770	---	
31	620	---	980	1230	---	700	---	670	---	780	---	
MONTH	667	623	838	1110	1330	1070	690	588	701	801	---	

JAMES RIVER BASIN

06471000 JAMES RIVER AT COLUMBIA, SD--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.0	5.0	0.0	0.0	0.0	0.0	3.0	11.0	22.0	18.0	24.0	
2	11.0	6.0	0.0	0.0	0.0	0.0	3.5	6.0	23.0	19.0	21.0	
3	13.0	8.0	0.0	0.0	0.0	0.0	4.0	7.0	24.0	23.0	26.0	
4	15.0	8.0	0.5	0.0	0.0	0.0	3.0	10.0	22.0	21.0	25.0	
5	14.0	9.0	0.5	0.0	0.0	0.0	4.5	14.0	20.0	22.0	23.0	
6	12.0	10.0	0.0	0.0	0.0	0.0	4.0	12.0	21.0	24.0	23.0	
7	15.0	11.0	0.0	0.0	0.0	0.0	5.0	10.0	22.0	22.0	24.0	
8	14.0	8.0	2.0	0.0	0.0	0.0	5.0	12.0	22.0	25.0	26.0	
9	13.0	6.0	3.0	0.0	0.0	0.0	6.0	15.0	23.0	26.0	27.0	
10	11.0	4.0	2.0	0.0	0.0	0.0	7.0	17.0	24.0	26.0	26.0	
11	12.0	7.0	1.0	0.0	0.0	0.0	5.0	18.0	23.0	23.0	---	
12	14.0	3.0	0.5	0.0	0.0	0.0	6.0	20.0	22.0	24.0	---	
13	13.0	1.0	0.0	0.0	0.0	0.0	8.0	19.0	20.0	25.0	---	
14	12.0	2.0	0.0	0.0	0.0	0.0	9.0	18.0	21.0	24.0	---	
15	11.0	6.0	0.0	0.0	0.0	1.0	10.0	18.0	19.0	23.0	---	
16	13.0	4.0	0.0	0.0	0.0	1.0	11.0	17.0	18.0	24.0	---	
17	11.0	5.0	0.0	0.0	0.0	1.0	10.0	16.0	20.0	23.0	---	
18	12.0	4.0	0.0	0.0	0.0	3.0	8.0	18.0	15.0	24.0	---	
19	10.0	5.0	0.0	0.0	0.0	2.0	7.0	20.0	16.0	25.0	---	
20	11.0	4.0	0.0	0.0	0.0	1.0	10.0	20.0	16.0	24.0	---	
21	10.0	0.5	0.0	0.0	0.0	1.0	9.0	17.0	20.0	23.0	---	
22	11.0	0.0	0.0	0.0	0.0	0.5	9.0	18.0	22.0	24.0	---	
23	10.0	1.0	0.0	0.0	0.0	1.0	11.0	16.0	20.0	29.0	---	
24	9.0	0.0	0.0	0.0	0.0	1.0	8.0	18.0	16.0	25.0	---	
25	8.0	0.0	0.0	0.0	0.0	3.0	9.0	18.0	17.0	28.0	---	
26	5.0	0.0	0.0	0.0	0.0	2.0	8.0	20.0	17.0	24.0	---	
27	6.0	0.5	0.0	0.0	0.0	2.0	11.0	21.0	18.0	25.0	---	
28	5.0	0.0	0.0	0.0	0.0	2.0	12.0	20.0	17.0	24.0	---	
29	4.0	0.5	0.0	0.0	0.0	2.0	12.0	19.0	18.0	25.0	---	
30	5.0	0.5	0.0	0.0	---	3.0	10.0	20.0	16.0	24.0	---	
31	6.0	---	0.0	0.0	---	3.0	---	19.0	---	21.0	---	
MONTH	10.5	4.0	0.5	0.0	0.0	1.0	7.5	16.5	20.0	24.0	---	

06471200 MAPLE RIVER AT NORTH DAKOTA-SOUTH DAKOTA STATE LINE

LOCATION.--Lat 45°56'20", long 98°27'08", in SW¼SE¼ sec.33, T.129 N., R.62 W., Dickey County, ND, Hydrologic Unit 10160004, on left bank 0.4 mi (0.6 km) upstream from State line, 7.8 mi (12.6 km) northeast of Frederick, SD, and 15.7 mi (25.3 km) upstream from mouth.

DRAINAGE AREA.--750 mi² (1,940 km²), approximately, of which about 270 mi² (699 km²) is probably noncontributing.

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

GAGE.--Water-stage recorder. Altitude of gage is 1,365 ft (416 m), from topographic map. Prior to June 14, 1962, nonrecording gage at site 0.4 mi (0.6 km) downstream at datum 0.94 ft (0.287 m) lower.

REMARKS.--Records good except those for winter periods, which are poor. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--20 years, 19.0 ft³/s (0.538 m³/s), 13,770 acre-ft/yr (17.0 hm³/yr); median of yearly mean discharges, 10 ft³/s (0.28 m³/s), 7,240 acre-ft/yr (8.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,930 ft³/s (168 m³/s) Apr. 11, 1969; maximum gage height, 16.05 ft (4.892 m) Apr. 11, 1969 (backwater from ice); no flow for long periods in each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 50 ft³/s (1.4 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 29	--	60 1.70	-- --	Mar. 22	0800	*515 14.6	*7.36 2.243

Minimum discharge, no flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.16	.01			0	48	47	16	.33			
2	.11	0			0	40	42	16	.22			
3	.09	0			0	35	43	15	.09			
4	.07	0			0	30	36	13	.04			
5	.13	0			0	20	34	13	.01			
6	.04	0			0	10	31	12	.02			
7	0	.01			0	10	30	11	.02			
8	0	.02			0	12	28	9.2	.01			
9	0	.02			0	14	32	8.2	0			
10	0	.02			0	12	37	7.2	0			
11	0	.07			0	12	28	6.4	0			
12	0	.03			0	12	23	5.3	0			
13	0	0			0	10	22	6.1	0			
14	0	0			0	12	22	4.8	.01			
15	0	0			0	10	21	5.1	.13			
16	0	0			0	10	19	4.4	.03			
17	0	0			0	12	20	3.5	.13			
18	0	.03			0	15	20	2.0	.05			
19	0	.19			0	20	18	2.0	.02			
20	0	.07			0	25	18	2.0	0			
21	0	0			0	100	18	1.7	0			
22	0	0			0	458	17	1.6	0			
23	0	0			.10	333	17	1.3	0			
24	.07	0			3.8	296	17	1.2	0			
25	.06	0			3.5	225	17	.67	0			
26	.05	0			2.5	166	17	.74	0			
27	.06	0			5.0	125	17	.90	0			
28	.06	0			10	104	17	.74	0			
29	.03	0			50	90	17	.53	0			
30	.02	0			---	73	17	.42	0			
31	.03	---			---	58	---	.42	---			---
TOTAL	.98	.47	0	0	74.90	2397	742	172.42	1.11	0	0	0
MEAN	.032	.016	0	0	2.58	77.3	24.7	5.56	.037	0	0	0
MAX	.16	.19	0	0	50	458	47	16	.33	0	0	0
MIN	0	0	0	0	0	10	17	.42	0	0	0	0
AC-FT	1.9	.9	0	0	149	4750	1470	342	2.2	0	0	0
CAL YR 1975	TOTAL	14849.40	MEAN	40.7	MAX	924	MIN	0	AC-FT	29450		
WTR YR 1976	TOTAL	3388.88	MEAN	9.26	MAX	458	MIN	0	AC-FT	6720		

06471500 ELM RIVER AT WESTPORT, SD

LOCATION.--Lat 45°39'22", long 98°29'48", in SW¼NW¼ sec.12, T.12S N., R.64 W., Brown County, Hydrologic Unit 10160004, on right bank 12 ft (3.7 m) downstream from highway bridge, 0.5 mi (0.8 km) north of Westport, 0.7 mi (1.1 km) upstream from Chicago, Milwaukee, St. Paul and Pacific Railroad bridge, 9.3 mi (15.0 km) downstream from Willow Creek, and 30.4 mi (48.9 km) upstream from mouth.

DRAINAGE AREA.--1,680 mi² (4,350 km²), approximately.

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

GAGE.--Water-stage recorder. Datum of gage is 1,309.3 ft (399.07 m) above mean sea level. Prior to Aug. 6, 1951, and Apr. 8 to Sept. 9, 1952, nonrecording gage 12 ft (3.7 m) upstream at same datum. Aug. 6, 1951, to Apr. 7, 1952, water-stage recorder at present site and datum.

REMARKS.--Records good. Flow regulated for Aberdeen municipal water supply by Elm Lake and other small reservoirs upstream, combined capacity, about 16,000 acre-ft (19.7 hm³). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years, 46.3 ft³/s (1.311 m³/s), 33,540 acre-ft/yr (41.4 hm³/yr); median of yearly mean discharges, 23 ft³/s (0.65 m³/s), 16,700 acre-ft/yr (21 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,600 ft³/s (357 m³/s) Apr. 10, 1969, gage height, 22.11 ft (6.739 m); no flow for many days in most years prior to 1960.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft³/s (2.83 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Mar. 3	1130	117 3.31	5.52 1.682	Mar 23	1430	*472 13.4	*7.04 2.146

Minimum daily discharge, 0.26 ft³/s (0.007 m³/s) Oct. 8.

Rating table (gage height, in feet, and discharge, in feet per second)

4.0	0.10	4.3	3.2	4.6	15	5.5	120
4.1	.70	4.4	5.8	4.8	31	6.0	215
4.2	1.6	4.5	9.7	5.1	62	7.0	451

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.57	12	5.5	3.2	4.6	34	99	25	5.1	7.1	14	12
2	.47	8.4	3.0	2.8	4.6	73	85	24	4.7	9.3	14	12
3	.43	4.8	2.9	4.1	4.1	104	83	24	4.7	9.3	13	11
4	.35	3.1	2.9	3.2	4.6	83	75	22	6.4	9.3	13	11
5	.27	3.2	3.1	3.4	4.3	70	71	19	6.3	9.3	12	12
6	.29	3.4	3.0	3.0	4.1	69	72	20	6.0	9.3	12	11
7	.35	3.0	3.0	4.1	4.1	61	67	16	5.7	8.9	11	12
8	.26	3.2	3.1	3.8	3.8	53	63	15	6.8	9.8	11	11
9	.32	4.1	3.2	4.1	3.8	44	62	13	8.6	11	12	11
10	.36	4.6	3.1	4.9	4.1	41	65	11	14	11	13	11
11	.37	4.9	3.1	4.9	3.6	35	68	9.4	17	11	13	11
12	.38	3.2	3.1	4.6	3.8	31	61	9.4	17	11	12	11
13	.42	4.1	3.3	4.6	3.6	25	58	8.3	16	11	11	11
14	.54	4.1	3.0	4.6	3.4	26	48	6.2	17	11	11	11
15	.45	3.6	3.1	4.6	4.6	23	42	7.2	14	13	12	11
16	.42	3.6	3.3	4.6	13	24	45	5.2	10	13	12	12
17	.42	3.6	3.2	4.6	16	32	42	4.8	9.8	13	12	12
18	.42	5.2	3.3	4.6	15	46	39	5.0	9.2	14	12	12
19	.40	4.1	4.7	4.6	9.7	85	38	4.9	6.7	14	12	11
20	.38	6.5	4.9	4.6	8.1	111	34	4.7	6.6	15	11	12
21	.37	16	4.7	4.9	13	87	28	4.9	6.6	15	11	12
22	.46	7.3	4.6	4.9	11	126	21	4.8	6.6	15	11	12
23	.65	7.3	4.7	4.6	14	441	19	4.7	7.0	16	11	8.2
24	1.4	6.9	4.4	4.6	26	366	20	4.7	7.5	18	11	4.3
25	1.1	6.5	4.3	4.6	31	309	30	4.7	6.6	19	12	4.1
26	.85	6.5	4.3	4.6	43	239	27	5.0	6.7	18	13	3.8
27	2.3	6.5	4.3	4.6	41	195	28	5.0	6.5	18	12	3.7
28	22	6.5	4.3	4.9	32	140	34	5.8	6.4	17	12	3.5
29	17	6.5	4.3	4.9	26	123	26	5.7	6.2	16	12	3.2
30	16	6.2	4.1	4.6	---	117	25	5.4	6.0	15	12	2.9
31	15	---	3.2	4.9	---	113	---	5.2	---	15	12	---
TOTAL	85.00	168.9	115.0	135.0	359.9	3326	1475	310.0	257.7	402.3	372	285.7
MEAN	2.74	5.63	3.71	4.35	12.4	107	49.2	10.0	8.59	13.0	12.0	9.52
MAX	22	16	5.5	4.9	43	441	99	25	17	19	14	12
MIN	.26	3.0	2.9	2.8	3.4	23	19	4.7	4.7	7.1	11	2.9
AC-FT	169	335	228	268	714	6600	2930	615	511	798	738	567
CAL YR 1975	TOTAL	30443.29	MEAN	83.4	MAX	3600	MIN	.26	AC-FT	60380		
WTR YR 1976	TOTAL	7292.50	MEAN	19.9	MAX	441	MIN	.26	AC-FT	14460		

JAMES RIVER BASIN

287

06473000 JAMES RIVER AT ASHTON, SD

LOCATION.--Lat 44°59'54", long 98°28'50", in NW¼NW¼NE¼ sec.36, T.118 N., R.64 W., Spink County, Hydrologic Unit 10160006, on right bank at downstream side of highway bridge, 0.9 mi (1.4 km) east of Ashton, 6.1 mi (9.8 km) upstream from Snake Creek, and 14.2 mi (22.8 km) upstream from Turtle Creek.

DRAINAGE AREA.--11,000 mi² (28,500 km²), approximately, of which about 4,190 mi² (10,900 km²) is probably noncontributing.

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

REVISED RECORDS.--WSP 1209: 1947.

GAGE.--Water-stage recorder. Datum of gage is 1,244.4 ft (379.29 m) above mean sea level. Prior to Nov. 26, 1957, nonrecording gage at present site and Nov. 26, 1957, to Oct. 7, 1974, water-stage recorder at site 900 ft (274 m) upstream all at present datum.

REMARKS.--Records good except those for winter periods, which are poor. Flow regulated by Arrowwood and Jim Lakes, and Jamestown Reservoir, combined capacity, 246,000 acre-ft (303 hm³), the largest of which is Jamestown Reservoir, capacity, 229,470 acre-ft (283 hm³), 285 mi (459 km) upstream. Occasional backwater and reverse flow caused by Snake Creek during most years. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--31 years, 155 ft³/s (4.390 m³/s), 112,300 acre-ft/yr (138 hm³/yr); median of yearly mean discharges, 110 ft³/s (3.12 m³/s), 79,700 acre-ft/yr (98 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,680 ft³/s (161 m³/s) Apr. 24, 1969, gage height, 20.63 ft (6.288 m); maximum gage height, 21.17 ft (6.453 m) Apr. 13, 1969 (backwater from Snake Creek); maximum daily reverse flow, 2,100 ft³/s (59.5 m³/s) Apr. 9, 1969 (backwater from Snake Creek).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 407 ft³/s (11.5 m³/s) Oct. 1, stage falling, peak occurred Aug. 9, 10, 1975; maximum peak discharge, 393 ft³/s (11.1 m³/s) Apr. 7, gage height, 6.87 ft (2.094 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	405	316	240	80	25	40	335	242	230	85	0	.36
2	394	318	230	75	25	38	355	246	214	72	0	.36
3	388	320	230	65	24	38	370	250	200	59	0	.20
4	384	320	220	60	23	37	380	258	187	45	0	.12
5	378	319	210	55	22	35	388	263	176	34	0	.08
6	371	319	200	50	22	35	390	269	166	27	0	.04
7	365	319	190	48	22	36	392	274	159	19	8.8	0
8	361	318	180	46	23	38	383	280	155	12	14	.04
9	355	314	170	44	24	40	373	282	149	7.1	16	.04
10	348	312	160	43	25	45	359	285	151	6.4	16	.04
11	343	312	150	42	27	50	340	286	163	2.5	16	0
12	338	313	140	40	30	55	318	288	153	.16	16	0
13	333	312	130	40	30	60	298	287	140	0	15	0
14	328	312	130	38	33	65	280	289	131	.12	12	0
15	312	310	120	38	36	70	266	288	122	0	9.9	0
16	312	308	120	36	40	75	253	288	117	.12	8.3	0
17	307	307	120	35	43	80	245	286	115	.16	6.7	0
18	306	306	110	35	45	85	241	292	114	.18	4.8	0
19	300	306	110	33	46	95	238	296	113	.20	3.3	0
20	294	305	100	32	46	110	239	295	111	.20	2.4	0
21	292	305	100	31	45	120	240	295	110	.16	2.2	0
22	289	290	100	30	43	140	243	296	109	.20	2.0	0
23	288	250	95	28	42	150	244	294	108	.12	1.8	0
24	301	220	95	27	42	160	247	292	112	.08	1.5	0
25	306	220	90	25	42	180	248	290	112	.08	1.3	0
26	309	220	90	25	42	200	249	287	111	.08	1.2	0
27	312	230	90	23	40	226	246	284	109	.04	.82	0
28	316	240	87	23	40	252	245	277	107	.04	.54	0
29	316	250	85	23	40	275	243	269	103	0	.43	0
30	316	250	87	24	---	293	243	258	96	0	.32	0
31	316	---	85	24	---	313	---	244	---	0	.36	---
TOTAL	10283	8741	4264	1218	987	3436	8891	8630	4143	370.94	161.67	1.28
MEAN	332	291	138	39.3	34.0	111	296	278	138	12.0	5.22	.043
MAX	405	320	240	80	46	313	392	296	230	85	16	.36
MIN	288	220	85	23	22	35	238	242	96	0	0	0
AC-FT	20400	17340	8460	2420	1960	6820	17640	17120	8220	736	321	2.5
CAL YR 1975	TOTAL	135342.50	MEAN	371	MAX	1130	MIN	0	AC-FT	268500		
WTR YR 1976	TOTAL	51126.89	MEAN	140	MAX	405	MIN	0	AC-FT	101400		

JAMES RIVER BASIN

06473750 WOLF CREEK NEAR REE HEIGHTS, SD

LOCATION.--Lat 44°36'25", long 99°13'54", in SW¼SW¼ sec.11, T.113 N., R.70 W., Hand County, Hydrologic Unit 10160009, near right bank on downstream side of highway bridge, 0.3 mi (0.5 km) downstream from small left-bank tributary, 6.5 mi (10.5 km) north of Ree Heights, and 13.8 mi (22.2 km) upstream from Lake Louise dam.

DRAINAGE AREA.--265 mi² (686 km²), approximately.

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

GAGE.--Water-stage recorder. Datum of gage is 1,614.16 ft (491.996 m) above mean sea level.

REMARKS.--Records good. Flow regulated by small reservoir 0.5 mi (0.8 km) upstream, capacity, about 1,100 acre-ft (1.36 hm³).

AVERAGE DISCHARGE.--17 years, 4.13 ft³/s (0.117 m³/s), 2,990 acre-ft/yr (3.69 hm³/yr); median of yearly mean discharges, 0.15 ft³/s (0.004 m³/s), 109 acre-ft/yr (0.13 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 990 ft³/s (28.0 m³/s) Apr. 5, 1969, gage height, 9.33 ft (2.844 m); maximum gage height, 9.57 ft (2.917 m) Mar. 14, 1966 (backwater from ice); no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--No flow during year. No peak above base of 40 ft³/s (1.13 m³/s).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31		---			---		---		---			---
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	0	0	0	0	0	0	0	0	0	0	0	0
MAX	0	0	0	0	0	0	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	0	0	0	0
CAL YR 1975	TOTAL	40.88	MEAN .11	MAX	14	MIN 0	AC-FT 81					
WTR YR 1976	TOTAL	0.00	MEAN .000	MAX	.00	MIN 0	AC-FT .0					

06474000 TURTLE CREEK NEAR TULARE, SD

LOCATION.--Lat 44°44'06", long 98°35'09", in SE¼SE¼ sec.25, T.115 N., R.65 W., Spink County, Hydrologic Unit 10160009, on left bank at downstream side of highway bridge, 3.9 mi (6.3 km) west of Tulare and 8.9 mi (14.3 km) downstream from Wolf Creek.

DRAINAGE AREA.--1,120 mi² (2,900 km²), approximately.

PERIOD OF RECORD.--August 1953 to September 1956, September 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,300 ft (396 m), by barometer. Prior to Oct. 6, 1965, nonrecording gage at same site and datum.

REMARKS.--Records fair. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--14 years, 13.7 ft³/s (0.388 m³/s), 9,930 acre-ft/yr (12.2 hm³/yr); median of yearly mean discharges, 2.5 ft³/s (0.07 m³/s), 1,800 acre-ft/yr (2.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 6,000 ft³/s (170 m³/s) Apr. 5, 1969; maximum gage height, 18.51 ft (5.642 m) Apr. 5, 1969 (backwater from ice); no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 0.34 ft³/s (0.01 m³/s) Feb. 22, gage height, 3.58 ft (1.091 m); maximum gage height, 4.17 ft (1.271 m) Feb. 21 (backwater from ice), no peak above base of 50 ft³/s (1.42 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	.22	.06					
2					0	.22	.05					
3					0	.20	.05					
4					0	.20	.04					
5					0	.20	.03					
6					0	.22	.03					
7					.01	.22	.02					
8					.03	.22	.02					
9					.05	.22	.01					
10					.04	.22	.01					
11					.04	.22	0					
12					.05	.24	0					
13					.08	.24	0					
14					.10	.24	0					
15					.15	.26	0					
16					.20	.26	0					
17					.25	.26	0					
18					.26	.28	0					
19					.26	.30	0					
20					.30	.28	0					
21					.30	.28	0					
22					.33	.28	0					
23					.32	.26	0					
24					.32	.23	0					
25					.30	.18	0					
26					.30	.16	0					
27					.28	.14	0					
28					.26	.12	0					
29					.24	.10	0					
30					---	.09	0					
31		---			---	.08	---		---			---
TOTAL	0	0	0	0	4.47	6.64	.32	0	0	0	0	0
MEAN	0	0	0	0	.15	.21	.011	0	0	0	0	0
MAX	0	0	0	0	.33	.30	.06	0	0	0	0	0
MIN	0	0	0	0	0	.08	0	0	0	0	0	0
AC-FT	0	0	0	0	8.9	13	.6	0	0	0	0	0
CAL YR 1975	TOTAL	147.26	MEAN	.40	MAX	18	MIN	0	AC-FT	292		
WTR YR 1976	TOTAL	11.43	MEAN	.031	MAX	.33	MIN	0	AC-FT	23		

06474300 MEDICINE CREEK NEAR ZELL, SD

LOCATION.--Lat 44°45'52", long 98°42'13", in NW¼NW¼ sec.19, T.115 N., R.65 W., Spink County, Hydrologic Unit 10160009, on downstream side at center of bridge on State Highway 26, 3.8 mi (6.1 km) upstream from Cottonwood Lake and 9.2 mi (14.8 km) south of Zell.

DRAINAGE AREA.--210 mi² (540 km²), approximately.

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

GAGE.--Water-stage recorder. Altitude of gage is 1,320 ft (402 m), from topographic map.

REMARKS.--Records fair. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--17 years, 5.92 ft³/s (0.168 m³/s), 4,290 acre-ft/yr (5.29 hm³/yr); median of yearly mean discharges, 2.0 ft³/s (0.06 m³/s), 1,500 acre-ft/yr (1.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,210 ft³/s (62.6 m³/s) Apr. 5, 1969, gage height, 12.41 ft (3.783 m); no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7.0 ft³/s (0.20 m³/s) Feb. 18; maximum gage height, 5.12 ft (1.561 m) Feb. 18 (backwater from ice), no peak above base of 40 ft³/s (1.13 m³/s); no flow for many days.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Feb. 1 to Mar. 9, Mar. 12)

2.32	0	2.5	.10
2.4	.04	2.6	.30

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.01			0	.30	.06	.05	0			
2	.02	.01			0	.15	.05	.04	0			
3	.02	.01			0	.15	.05	.05	0			
4	.01	.01			0	.15	.05	.05	0			
5	0	.01			0	.10	.05	.04	0			
6	0	.01			0	.10	.05	.04	0			
7	0	.01			.05	.15	.05	.04	0			
8	0	.01			.10	.15	.04	.03	0			
9	0	.01			.15	.12	.04	.02	0			
10	0	.01			.10	.12	.04	.02	0			
11	0	.01			.05	.10	.02	.01	0			
12	0	0			.10	.15	.03	.01	.05			
13	0	.01			.10	.20	.03	.01	.02			
14	0	.01			.15	.16	.04	.01	0			
15	0	0			.20	.10	.03	.01	0			
16	0	0			.15	.09	.03	0	0			
17	0	0			.50	.20	.03	0	0			
18	0	0			6.0	.22	.04	0	0			
19	0	0			6.5	.18	.04	0	0			
20	0	0			5.0	.14	.05	0	0			
21	.01	0			4.0	.08	.05	0	0			
22	.01	0			4.0	.09	.05	0	0			
23	.02	0			4.2	.09	.05	0	0			
24	.04	0			4.0	.08	.06	0	0			
25	.02	0			3.5	.08	.06	0	0			
26	.02	0			2.0	.08	.06	0	0			
27	.02	0			.70	.07	.06	0	0			
28	.02	0			.60	.07	.05	0	0			
29	.02	0			.50	.06	.05	0	0			
30	.02	0			---	.06	.05	0	0			
31	.02	---			---	.06	---	0	---			---
TOTAL	.29	.13	0	0	42.65	3.85	1.36	.43	.07	0	0	0
MEAN	.009	.004	0	0	1.47	.12	.045	.014	.002	0	0	0
MAX	.04	.01	0	0	6.5	.30	.06	.05	.05	0	0	0
MIN	0	0	0	0	0	.06	.02	0	0	0	0	0
AC-FT	.6	.3	0	0	85	7.6	2.7	.9	.1	0	0	0
CAL YR 1975	TOTAL	341.02	MEAN .93	MAX	35	MIN 0	AC-FT 676					
WTR YR 1976	TOTAL	48.78	MEAN .13	MAX	6.5	MIN 0	AC-FT 97					

06475000 JAMES RIVER NEAR REDFIELD, SD

LOCATION.--Lat 44°55'13", long 98°25'52" in SW¼NW¼ sec.28, T.117 N., R.63 W., Spink County, Hydrologic Unit 10160006, on right bank at downstream side of highway bridge, 5.2 mi (8.4 km) northeast of Redfield and 5.2 mi (8.4 km) downstream from Turtle Creek.

DRAINAGE AREA.--14,800 mi² (38,300 km²), approximately, of which about 4,600 mi² (11,900 km²) is probably noncontributing.

PERIOD OF RECORD.--March 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,236.3 ft (376.82 m) above mean sea level. Prior to July 26, 1951, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are poor. Flow regulated by Arrowwood and Jim Lakes, and Jamestown Reservoir, combined capacity, 246,000 acre-ft (303 hm³), the largest of which is Jamestown Reservoir, capacity, 229,470 acre-ft (283 hm³), 303 mi (488 km) upstream. Low flow affected by wind at times. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--26 years, 184 ft³/s (5.211 m³/s), 133,300 acre-ft/yr (164 hm³/yr); median of yearly mean discharges, 120 ft³/s (3.40 m³/s), 86,900 acre-ft/yr (107 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,310 ft³/s (207 m³/s) Apr. 13, 1969, gage height, 24.93 ft (7.599 m); no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 450 ft³/s (12.7 m³/s) Apr. 9, gage height, 7.49 ft (2.283 m); maximum gage height, 7.59 ft (2.313 m) Oct. 6; no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	379	306	250	90	26	43	309	226	295	97		
2	377	311	230	85	26	43	330	212	295	87		
3	364	314	240	80	26	42	326	230	291	66		
4	363	315	230	75	25	42	359	257	283	57		
5	341	320	220	70	24	40	372	241	266	53		
6	346	351	210	65	24	40	377	249	249	37		
7	357	331	200	60	23	38	387	259	234	31		
8	361	319	190	55	23	37	384	271	215	35		
9	310	316	180	50	23	37	406	287	220	23		
10	297	316	170	48	23	40	402	284	219	15		
11	301	317	160	46	24	45	352	304	228	14		
12	293	265	150	45	25	50	355	311	222	16		
13	281	298	150	44	27	54	348	298	202	7.8		
14	278	314	140	43	30	57	315	306	194	4.4		
15	268	307	130	42	32	60	290	297	152	2.6		
16	272	308	130	41	35	65	320	281	162	2.1		
17	269	304	130	40	40	70	303	289	137	1.6		
18	282	301	120	38	45	80	241	314	123	.74		
19	274	282	120	36	50	85	236	323	127	.17		
20	260	234	120	35	52	95	222	310	137	0		
21	257	292	110	34	54	110	217	316	142	0		
22	257	300	110	33	54	120	217	312	144	0		
23	245	284	100	31	53	130	242	321	154	0		
24	255	223	100	30	52	140	233	321	144	0		
25	270	215	95	25	50	160	234	334	141	0		
26	286	215	95	22	47	187	244	338	126	0		
27	286	230	90	21	45	204	241	329	140	0		
28	287	240	80	21	45	244	242	317	124	0		
29	296	250	77	22	45	230	240	317	106	0		
30	308	260	80	23	---	238	228	310	100	0		
31	304	---	85	25	---	265	---	300	---	0		---
TOTAL	9324	8638	4492	1375	1048	3091	8972	9064	5572	550.41	0	0
MEAN	301	288	145	44.4	36.1	99.7	299	292	186	17.8	0	0
MAX	379	351	250	90	54	265	406	338	295	97	0	0
MIN	245	215	77	21	23	37	217	212	100	0	0	0
AC-FT	18490	17130	8910	2730	2080	6130	17800	17980	11050	1090	0	0
CAL YR 1975	TOTAL	128020.00	MEAN	351	MAX	1020	MIN	0	AC-FT	253900		
WTR YR 1976	TOTAL	52126.41	MEAN	142	MAX	406	MIN	0	AC-FT	103400		

06476000 JAMES RIVER AT HURON, SD

LOCATION.--Lat 44°21'49", long 98°11'56", in SW¼SE¼NE¼ sec.6, T.110 N., R.61 W., Beadle County, Hydrologic Unit 10160006, on right bank 15 ft (5 m) upstream from city dam at Huron, 135 ft (41 m) downstream from Chicago and North Western Transportation Co. bridge and 165 ft (50 m) upstream from bridge on business loop U.S. Highway 14.

DRAINAGE AREA.--16,800 mi² (43,500 km), approximately, of which about 12,010 mi² (31,100 km²) probably contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1928 to September 1932, August 1943 to current year. Monthly discharge only for some periods, published in WSP 1309. Gage-height records collected at site about 100 ft (30 m) downstream for period of open water each year July 1902 to June 1914 and for period March to June 1915-23 are in reports of U.S. Weather Bureau.

GAGE.--Water-stage recorder and concrete dam. Datum of gage is 1,223.44 ft (372.905 m) above mean sea level. Aug. 29, 1928, to Mar. 15, 1929, nonrecording gage at site 100 ft (30 m) downstream at about same datum. Mar. 16, 1929, to June 30, 1932, nonrecording gage 165 ft (50 m) downstream at present datum. Aug. 3, 1943, to Oct. 17, 1951, nonrecording gage at site 15 ft (5 m) downstream at present datum.

REMARKS.--Records good above 100 ft³/s (2.83 m³/s) and fair below. Flow regulated by Arrowwood and Jim Lakes, and Jamestown Reservoir, combined capacity, 246,000 acre-ft (303 hm³). Regulation by Jamestown Reservoir, capacity, 229,470 acre-ft (283 hm³), 365 mi (587 km) upstream, since May 1953.

AVERAGE DISCHARGE.--37 years, 230 ft³/s (6.514 m³/s), 166,600 acre-ft/yr (205 hm³/yr); median of yearly mean discharges, 130 ft³/s (3.68 m³/s), 94,200 acre-ft/yr (116 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,000 ft³/s (255 m³/s) Apr. 13, 1969, gage height, 16.70 ft (5.090 m); no flow for long periods in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood between Apr. 11 and 13, 1881, reached a stage of 19.8 ft (6.04 m), from U.S. Weather Bureau publication. Flood of Mar. 22, 1922, reached a stage of 16.5 ft (5.03 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 450 ft³/s (12.7 m³/s) Nov. 12, gage height, 8.63 ft (2.630 m); maximum gage height, 9.07 ft (2.765 m) Nov. 21 (backwater from ice); no flow June 22, July 13 to Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	398	292	293	114	63	101	196	227	206	35		
2	366	299	277	111	65	93	223	240	177	30		
3	380	277	259	108	63	91	286	209	163	25		
4	340	234	238	103	64	92	256	188	154	19		
5	386	254	225	98	65	90	284	234	152	20		
6	329	248	220	93	65	90	294	215	146	30		
7	288	297	215	88	66	89	298	215	135	24		
8	287	305	211	85	58	89	305	212	130	12		
9	382	315	204	83	57	90	246	209	120	4.0		
10	352	303	202	80	59	92	331	243	123	7.0		
11	310	303	194	82	61	98	323	205	104	1.1		
12	322	389	193	85	65	107	275	235	110	.08		
13	321	280	186	91	68	111	257	259	122	0		
14	317	264	192	87	72	113	302	230	112	0		
15	315	278	180	90	77	112	273	277	124	0		
16	296	287	170	88	83	113	188	259	112	0		
17	292	291	160	81	90	114	261	236	121	0		
18	269	300	150	78	97	119	277	206	101	0		
19	286	300	155	75	103	120	250	224	95	0		
20	292	270	160	78	107	133	246	250	85	0		
21	290	240	162	72	110	125	225	246	31	0		
22	282	225	160	70	110	123	213	257	0	0		
23	308	231	156	67	106	132	192	242	.01	0		
24	311	227	156	67	104	137	223	239	33	0		
25	289	232	156	66	100	136	219	222	52	0		
26	271	243	155	65	99	152	206	235	54	0		
27	294	255	145	65	99	151	209	257	49	0		
28	289	263	123	63	99	150	204	255	54	0		
29	283	268	119	62	96	192	212	234	51	0		
30	271	285	116	61	---	206	227	226	43	0		
31	302	---	115	62	---	206	---	223	---	0		---
TOTAL	9718	8255	5647	2518	2371	3767	7501	7209	2959.01	207.18	0	0
MEAN	313	275	182	81.2	81.8	122	250	233	98.6	6.68	0	0
MAX	398	389	293	114	110	206	331	277	206	35	0	0
MIN	269	225	115	61	57	89	188	188	0	0	0	0
AC-FT	19280	16370	11200	4990	4700	7470	14880	14300	5870	411	0	0

CAL YR 1975 TOTAL 126127.38 MEAN 346 MAX 1140 MIN 0 AC-FT 250200
WTR YR 1976 TOTAL 50152.19 MEAN 137 MAX 398 MIN 0 AC-FT 99480

06476000 JAMES RIVER AT HURON, SD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1949-52, 1956 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: September 1956 to October 1970, September 1971 to current year.

WATER TEMPERATURES: September 1956 to October 1970, September 1971 to current year.

REMARKS.--No flow June 22, July 13 to Sept. 30.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,170 micromhos Mar. 14, 1965; minimum daily, 175 micromhos Mar. 30, Apr. 2, 1960.

WATER TEMPERATURES: Maximum daily, 31.0°C June 2, 1968; minimum daily, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,160 micromhos Mar. 17; minimum daily, 600 micromhos Apr. 24, 27, 28.

WATER TEMPERATURES: Maximum daily, 27.0°C July 13-15, 27; minimum daily, 0.0°C on many days during winter period.

WATER QUALITY DATA. WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)	PH (UNITS) (00400)	TEMPERATURE (DEG C) (00010)	HARDNESS (CA+MG) (MG/L) (00900)	NON-CARBONATE HARDNESS (MG/L) (00902)	DIS-SOLVED CALCIUM (CA) (MG/L) (00915)	DIS-SOLVED MAGNESIUM (MG) (MG/L) (00925)
OCT 16...	0900	303	730	8.3	10.5	260	14	56	29
JAN 13...	1500	87	1080	7.7	.0	380	26	87	40
MAY 03...	1000	215	670	8.2	13.0	240	50	52	26
JUN 16...	1200	104	710	8.0	20.0	250	31	57	26
JUL 23...	1345	.00	800	9.1	28.5	310	63	68	34
AUG 27...	1330	.00	910	8.6	23.5	320	51	67	38
SEP 15...	1400	.00	950	8.2	20.0	320	89	59	42
DATE	DIS-SOLVED SODIUM (NA) (MG/L) (00930)	PERCENT SODIUM (00932)	SODIUM ADSORPTION RATIO (00931)	DIS-SOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	CARBONATE (CO3) (MG/L) (00445)	ALKALINITY AS CaCO3 (MG/L) (00410)	DIS-SOLVED SULFATE (SO4) (MG/L) (00945)	DIS-SOLVED CHLORIDE (CL) (MG/L) (00940)
OCT 16...	54	30	1.5	14	299	0	245	100	22
JAN 13...	70	27	1.6	16	434	0	356	160	29
MAY 03...	57	33	1.6	11	228	0	187	140	31
JUN 16...	52	30	1.4	14	266	--	218	120	27
JUL 23...	64	30	1.6	15	275	13	247	170	33
AUG 27...	82	34	2.0	18	310	11	273	190	40
SEP 15...	87	35	2.1	19	282	0	231	220	44
DATE	DIS-SOLVED FLUORIDE (F) (MG/L) (00950)	DIS-SOLVED SILICA (SiO2) (MG/L) (00955)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) (70301)	DIS-SOLVED SOLIDS (TONS PER AC-FT) (70303)	DIS-SOLVED SOLIDS (TONS PER DAY) (70302)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	TOTAL PHOSPHORUS (P) (MG/L) (00665)	DIS-SOLVED PHOSPHORUS (P) (MG/L) (00666)	DIS-SOLVED BORON (B) (UG/L) (01020)
OCT 16...	.3	12	435	.59	356	.01	.21	.09	200
JAN 13...	.3	13	631	.86	149	.27	.15	.11	190
MAY 03...	.2	1.7	432	.59	251	.01	.22	.04	170
JUN 16...	.2	4.8	435	.59	122	.59	.19	.06	170
JUL 23...	.3	3.5	537	.73	.00	.06	.24	.19	240
AUG 27...	.3	10	610	.83	.00	.06	--	.05	270
SEP 15...	.3	5.1	616	.84	.00	.00	.27	.08	320

JAMES RIVER BASIN

06476000 JAMES RIVER AT HURON, SD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	710	750	720	810	1000	920	980	640	630	730	820	950
2	720	740	700	840	1000	910	990	670	630	720	820	950
3	720	740	700	830	1020	930	1000	680	630	730	820	960
4	720	750	700	840	1020	950	1000	690	650	730	820	970
5	720	740	700	850	1020	980	1000	710	640	730	840	970
6	730	730	710	850	1030	990	1020	720	650	740	830	960
7	730	730	710	870	1040	1020	920	740	650	740	840	950
8	730	720	710	890	1040	1020	920	740	630	740	830	980
9	730	720	710	910	1040	1040	930	760	650	740	840	960
10	730	720	690	940	1040	1040	920	770	670	760	840	960
11	730	720	680	940	1040	1060	880	760	630	760	840	960
12	730	720	690	940	1040	1100	880	760	680	760	840	950
13	720	730	700	960	1040	1140	850	740	680	760	850	950
14	720	710	700	970	1050	1140	850	740	700	760	850	950
15	730	720	710	980	1060	1140	850	740	650	760	850	970
16	730	710	720	980	1060	1140	850	740	690	770	850	960
17	720	710	720	980	1050	1160	790	730	690	780	870	960
18	730	710	740	980	1000	1120	790	720	700	800	870	970
19	730	690	740	980	970	1020	790	710	700	790	880	960
20	730	660	770	960	970	1000	790	700	710	790	880	960
21	720	680	770	970	950	900	800	690	710	790	890	980
22	720	670	770	970	960	900	800	680	710	810	900	980
23	730	680	770	970	960	860	790	670	710	800	900	980
24	730	670	770	970	960	860	600	670	710	800	910	990
25	730	670	770	970	970	820	610	670	720	820	910	1000
26	730	690	780	970	960	820	610	650	710	810	910	1000
27	730	690	790	980	960	850	600	660	710	810	910	1000
28	730	690	790	980	950	900	600	660	700	820	920	1020
29	730	700	790	990	960	900	640	650	710	810	930	1020
30	730	700	800	990	---	920	650	650	710	830	930	1020
31	730	---	830	1000	---	920	---	640	---	820	940	---
MONTH	726	709	737	937	1010	983	823	702	679	775	869	973

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.0	10.0	1.0	0.0	0.0	1.0	6.0	13.0	20.0	21.0	25.0	20.0
2	10.0	10.0	1.0	0.0	0.0	1.0	6.0	12.0	20.0	20.0	24.0	20.0
3	11.0	10.0	1.0	0.0	0.0	1.0	6.0	9.0	20.0	20.0	25.0	21.0
4	12.0	10.0	0.5	0.0	0.0	1.0	6.0	10.0	21.0	22.0	25.0	19.0
5	14.0	10.0	0.0	0.0	0.0	1.0	7.0	11.0	20.0	22.0	24.0	19.0
6	12.0	10.0	0.0	0.0	0.0	1.0	9.0	11.0	22.0	22.0	25.0	20.0
7	13.0	9.0	0.0	0.0	0.0	1.0	9.0	11.0	22.0	22.0	23.0	21.0
8	13.0	9.0	0.0	0.0	0.0	1.0	10.0	11.0	22.0	22.0	25.0	18.0
9	12.0	9.0	0.0	0.0	0.0	1.0	11.0	14.0	22.0	23.0	25.0	18.0
10	10.0	8.0	0.0	0.0	0.0	1.0	12.0	15.0	23.0	23.0	25.0	17.0
11	10.0	8.0	0.0	0.0	0.0	1.0	12.0	15.0	23.0	25.0	25.0	17.0
12	10.0	8.0	0.0	0.0	0.0	1.0	10.0	15.0	25.0	26.0	24.0	17.0
13	11.0	3.0	0.0	0.0	0.0	1.0	11.0	14.0	23.0	27.0	24.0	17.0
14	11.0	3.0	0.0	0.0	0.0	1.0	11.0	15.0	24.0	27.0	25.0	16.0
15	10.0	3.0	0.0	0.0	0.0	1.0	13.0	15.0	24.0	27.0	24.0	16.0
16	10.0	3.0	0.0	0.0	0.0	1.0	13.0	14.0	24.0	25.0	24.0	16.0
17	9.0	4.0	0.0	0.0	0.0	1.0	15.0	15.0	24.0	25.0	24.0	17.0
18	9.0	4.0	0.0	0.0	0.5	1.0	14.0	15.0	22.0	25.0	24.0	17.0
19	10.0	3.0	0.0	0.0	0.5	1.0	11.0	16.0	21.0	25.0	25.0	16.0
20	10.0	2.0	0.0	0.0	1.0	1.0	12.0	16.0	20.0	26.0	25.0	15.0
21	10.0	2.0	0.0	0.0	1.0	1.0	12.0	16.0	20.0	26.0	23.0	15.0
22	10.0	2.0	0.0	0.0	1.0	1.0	13.0	17.0	20.0	26.0	24.0	15.0
23	10.0	4.0	0.0	0.0	0.5	1.0	12.0	16.0	20.0	26.0	24.0	14.0
24	10.0	2.0	0.0	0.0	0.5	1.0	15.0	15.0	20.0	26.0	24.0	14.0
25	10.0	1.0	0.0	0.0	1.0	2.0	13.0	16.0	20.0	26.0	24.0	14.0
26	10.0	1.0	0.0	0.0	0.5	3.0	10.0	16.0	20.0	26.0	25.0	14.0
27	10.0	1.0	0.0	0.0	0.5	3.0	11.0	16.0	21.0	27.0	25.0	13.0
28	10.0	1.0	0.0	0.0	0.5	5.0	12.0	17.0	20.0	26.0	23.0	13.0
29	10.0	1.0	0.0	0.0	0.5	6.0	12.0	17.0	21.0	26.0	20.0	13.0
30	10.0	1.0	0.0	0.0	---	5.5	12.0	20.0	20.0	25.0	21.0	12.0
31	10.0	---	0.0	0.0	---	5.0	---	20.0	---	25.0	22.0	---
MONTH	10.5	5.0	0.0	0.0	0.5	1.5	11.0	14.5	21.5	24.5	24.0	16.5

06476500 SAND CREEK NEAR ALPENA, SD

LOCATION.--Lat 44°09'15", long 98°26'06", in NE¼NE¼ sec.19, T.108 N., R.63 W., Jerauld County, Hydrologic Unit 10160006, on left bank 5 ft (2 m) downstream from highway bridge, 4.0 mi (6.4 km) southwest of Alpena, 7.0 mi (11.3 km) upstream from Chicago, Milwaukee, St. Paul and Pacific Railroad bridge, and 10.5 mi (16.9 km) upstream from interlink with Cain Creek.

DRAINAGE AREA.--240 mi² (622 km²), approximately.

PERIOD OF RECORD.--March 1950 to current year.

REVISED RECORDS.--WSP 1309: 1950(M).

GAGE.--Water-stage recorder. Altitude of gage is 1,315 ft (401 m), by barometer. Prior to Sept. 17, 1951, non-recording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are poor. Two observations of water temperature were made during the year.

AVERAGE DISCHARGE.--26 years, 9.64 ft³/s (0.273 m³/s), 6,980 acre-ft/yr (8.61 hm³/yr); median of yearly mean discharges, 6.5 ft³/s (0.18 m³/s), 4,600 acre-ft/yr (5.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,240 ft³/s (63.4 m³/s) Mar. 28, 1960, gage height, 13.35 ft (4.069 m); maximum gage height, 14.1 ft (4.30 m) Mar. 28, 1950 (backwater from ice); no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3.1 ft³/s (0.088 m³/s) Mar. 20, gage height, 7.87 ft (2.399 m), no peak above base of 50 ft³/s (1.416 m³/s); no flow for many days.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Feb. 18 to Mar. 17)

7.4	0	7.6	0.40	7.8	1.7
7.5	.12	7.7	.88	7.9	3.1

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	.95	.66	.03				
2					0	.88	.61	.01				
3					0	.80	.40	0				
4					0	.75	.40	0				
5					0	.70	.40	0				
6					0	.60	.36	0				
7					0	.55	.33	0				
8					0	.50	.27	0				
9					0	.45	.18	0				
10					0	.50	.18	0				
11					0	.53	.24	0				
12					0	.55	.18	0				
13					0	.60	.16	0				
14					0	.80	.21	0				
15					0	1.0	.18	0				
16					0	1.1	.21	0				
17					0	1.3	.21	0				
18					0	1.9	.18	0				
19					.01	2.4	.18	0				
20					.02	2.4	.18	0				
21					.02	1.9	.14	0				
22					.03	2.0	.12	0				
23					.05	1.9	.10	0				
24					.10	1.7	.12	0				
25					.20	1.6	.14	0				
26					.35	1.4	.12	0				
27					.50	1.2	.10	0				
28					.80	1.3	.07	0				
29					1.0	1.1	.06	0				
30					---	.88	.05	0				
31		---			---	.76	---	0	---			---
TOTAL	0	0	0	0	3.08	35.00	6.74	.04	0	0	0	0
MEAN	0	0	0	0	.11	1.13	.22	.001	0	0	0	0
MAX	0	0	0	0	1.0	2.4	.66	.03	0	0	0	0
MIN	0	0	0	0	0	.45	.05	0	0	0	0	0
AC-FT	0	0	0	0	6.1	69	13	.08	0	0	0	0
CAL YR 1975	TOTAL	514.47	MEAN	1.41	MAX	35	MIN	0	AC-FT	1020		
WTR YR 1976	TOTAL	44.86	MEAN	.12	MAX	2.4	MIN	0	AC-FT	89		

06477000 JAMES RIVER NEAR FORESTBURG, SD

LOCATION.--Lat 43°58'26", long 98°04'14", in SW¼SW¼NW¼ sec.20, T.106 N., R.60 W., Sanborn County, Hydrologic Unit 10160011, on right bank 5.0 ft (2 m) downstream from highway bridge, 3.8 mi (6.1 km) southeast of Forestburg, 5.4 mi (8.7 km) downstream from Chicago, Milwaukee, St. Paul and Pacific Railroad bridge, and 6.1 mi (9.8 km) downstream from Sand Creek.

DRAINAGE AREA.--18,600 mi² (48,200 km²), approximately, of which about 13,810 mi² (35,800 km²) contributes directly to surface runoff.

PERIOD OF RECORD.--March 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,208.34 ft (368.302 m) above mean sea level (Bureau of Reclamation bench mark). Prior to Sept. 5, 1951, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are poor. Flow regulated by Arrowwood and Jim Lakes, and Jamestown Reservoir, combined capacity, 246,000 acre-ft (303 hm³), the largest of which is Jamestown Reservoir, capacity, 229,470 acre-ft (283 hm³), 408 mi (656 km) upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--26 years, 278 ft³/s (7.873 m³/s), 201,400 acre-ft/yr (248 hm³/yr); median of yearly mean discharges, 140 ft³/s (3.96 m³/s), 101,000 acre-ft/yr (125 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,500 ft³/s (354 m³/s) Apr. 9, 1969, gage height, 17.16 ft (5.230 m); no flow at times in 1950, 1955, 1959, 1961, 1970, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in March 1920 and March 1922 reached a stage of about 18 ft (5.49 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 420 ft³/s (11.9 m³/s) Oct. 1, gage height, 5.27 ft (1.606 m) occurred on recession following peak of Sept. 19, 1975; maximum independent peak discharge, 308 ft³/s (8.72 m³/s) Apr. 12, gage height, 4.88 ft (1.487 m); maximum gage height, 5.82 ft (1.774 m) Nov. 21 (backwater from ice); no flow Aug. 4 to Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	417	293	290	125	66	135	192	208	226	55	.06	
2	406	311	290	120	65	125	194	220	215	47	.05	
3	386	316	280	115	63	120	207	224	193	41	.02	
4	373	313	270	110	62	115	239	207	171	36	0	
5	367	283	260	105	60	110	256	195	159	29	0	
6	364	265	250	100	58	110	262	207	160	24	0	
7	354	276	240	92	57	115	276	209	165	25	0	
8	322	296	230	88	56	118	286	205	160	33	0	
9	312	310	220	84	55	120	282	202	148	30	0	
10	336	326	215	86	54	125	272	205	137	21	0	
11	359	325	210	87	55	130	288	216	129	16	0	
12	342	341	205	88	56	135	302	218	116	12	0	
13	327	356	200	88	57	140	288	219	108	9.0	0	
14	326	335	190	90	60	143	270	239	103	7.8	0	
15	323	301	185	90	62	153	276	243	107	6.8	0	
16	320	292	180	88	65	160	272	254	113	6.3	0	
17	310	297	170	86	68	160	243	259	103	5.7	0	
18	298	303	160	85	71	160	245	239	103	4.8	0	
19	288	316	160	84	90	162	266	218	93	4.0	0	
20	285	300	165	83	110	172	266	216	74	3.6	0	
21	292	250	165	81	135	150	248	232	62	2.8	0	
22	294	190	170	80	150	142	231	250	52	2.2	0	
23	296	170	170	79	165	128	218	256	46	1.6	0	
24	307	190	165	78	180	134	209	253	61	.64	0	
25	316	210	165	77	190	137	214	239	43	.25	0	
26	307	220	160	76	180	135	218	231	36	.18	0	
27	292	240	155	75	170	139	212	232	49	.11	0	
28	291	260	150	73	165	134	203	245	54	.11	0	
29	294	280	140	72	155	146	199	255	58	.10	0	
30	289	300	135	70	---	167	201	246	62	.09	0	
31	284	---	130	68	---	183	---	233	---	.08	0	---
TOTAL	10077	8465	6075	2723	2780	4303	7335	7075	3306	425.16	.13	0
MEAN	325	282	196	87.8	95.9	139	245	228	110	13.7	.004	0
MAX	417	356	290	125	190	183	302	259	226	55	.06	0
MIN	284	170	130	68	54	110	192	195	36	.08	0	0
AC-FT	19990	16790	12050	5400	5510	8530	14550	14030	6560	843	.3	0
CAL YR 1975	TOTAL	125125.30	MEAN 343	MAX 1030	MIN 1.0	AC-FT 248200						
WTR YR 1976	TOTAL	52564.29	MEAN 144	MAX 417	MIN 0	AC-FT 104300						

06477500 FIRESTEEL CREEK NEAR MOUNT VERNON, SD

LOCATION.--Lat 43°46'30", long 98°14'33", in SW¼SW¼ sec.26, T.104 N., R.62 W., Davison County, Hydrologic Unit 10161011, near center of span on downstream side of highway bridge, 4.5 mi (7.2 km) north of Mount Vernon, 5.2 mi (8.4 km) downstream from West Firesteel Creek, and 12 mi (19 km) northwest of Mitchell.

DRAINAGE AREA.--540 mi² (1,400 km²), approximately.

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

GAGE.--Water-stage recorder. Datum of gage is 1,297.22 ft (395.393 m) above mean sea level. Prior to Nov. 28, 1972, nonrecording gage and crest-stage gage.

REMARKS.--Records fair except those for winter periods, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--21 years, 23.1 ft³/s (0.654 m³/s), 16,740 acre-ft/yr (20.6 hm³/yr); median of yearly mean discharges, 8.9 ft³/s (0.25 m³/s), 6,400 acre-ft/yr (7.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,610 ft³/s (187 m³/s) Apr. 4, 1969, gage height, 15.34 ft (4.676 m); maximum gage height, 17.12 ft (5.218 m) Apr. 3, 1969 (backwater from ice); no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2.1 ft³/s (0.059 m³/s) May 23, gage height, 2.78 ft (0.847 m), no peak above base of 100 ft³/s (2.83 m³/s); no flow for many days.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Nov. 20 to Mar. 21)

2.43	0	2.7	0.89
2.5	.04	2.8	1.6
2.6	.35		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	.05	.06	.02	.60	.02	.20	.05			
2		0	.05	.04	.03	.55	.01	.13	.01			
3		0	.05	.02	.05	.50	.03	.04	.02			
4		0	.06	.01	.07	.42	.01	.10	0			
5		0	.07	0	.06	.35	.05	.20	0			
6		0	.07	0	.06	.30	.10	.16	0			
7		0	.08	0	.05	.27	.05	.25	0			
8		0	.08	0	.05	.25	.05	.35	0			
9		.02	.09	0	.08	.24	.05	.08	0			
10		.03	.09	0	.15	.24	.05	.02	0			
11		.06	.09	0	.20	.23	.08	.01	0			
12		.05	.09	0	.25	.22	.10	.08	0			
13		.06	.09	0	.30	.21	.08	.10	0			
14		.05	.09	0	.35	.20	.30	.04	0			
15		.06	.08	0	.40	.16	.30	.04	0			
16		.08	.07	0	.40	.12	.10	.03	0			
17		.05	.06	0	.45	.10	.20	.04	0			
18		.05	.05	0	.50	.08	.30	.02	0			
19		.03	.04	0	.55	.06	.16	.03	0			
20		.03	.04	0	.50	.10	.20	.02	0			
21		.03	.04	0	.45	.08	.25	.03	0			
22		.03	.05	0	.35	.05	.16	.65	0			
23		.03	.05	0	.35	.30	.08	1.3	0			
24		.03	.05	0	.36	.35	.02	.35	0			
25		.02	.05	0	.38	.08	.04	.45	0			
26		.02	.05	0	.40	.05	.16	.16	0			
27		.03	.06	0	.45	.13	.20	.25	0			
28		.03	.06	0	.60	.08	.35	.35	0			
29		.04	.06	.01	.50	.06	.35	.16	0			
30		.04	.06	.01	---	.02	.25	.25	0			
31		---	.06	.01	---	.04	---	.05	---			---
TOTAL	0	.87	1.98	.16	8.36	6.44	4.10	5.94	.08	0	0	0
MEAN	0	.029	.064	.005	.29	.21	.14	.19	.003	0	0	0
MAX	0	.08	.09	.06	.60	.60	.35	1.3	.05	0	0	0
MIN	0	0	.04	0	.02	.02	.01	.01	0	0	0	0
AC-FT	0	1.7	3.9	.3	17	13	8.1	12	.2	0	0	0
CAL YR 1975	TOTAL	54.20	MEAN .15	MAX 2.5	MIN 0	AC-FT 108						
WTR YR 1976	TOTAL	27.93	MEAN .076	MAX 1.3	MIN 0	AC-FT 55						

06478390 WOLF CREEK NEAR CLAYTON, SD

LOCATION.--Lat 43°22'18", long 97°36'12", in SE½SE½SW¼ sec.20, T.99 N., R.57 W., Hutchinson County, Hydrologic Unit 10160011, on left bank 5 ft (2 m) upstream from highway bridge, 4.1 mi (6.6 km) upstream from mouth and 5.6 mi (9.0 km) southeast of Clayton.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--October 1975 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,210 ft (369 m), from topographic map.

REMARKS.--Records good except those for winter periods, which are poor. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 90 ft³/s (2.55 m³/s) Feb. 25, 1976; maximum gage height, 7.14 ft (2.176 m) Feb. 20, 1976 (backwater from ice); no flow for many days.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 90 ft³/s (2.55 m³/s) Feb. 25; maximum gage height, 7.14 ft (2.176 m) Feb. 20 (backwater from ice); no flow for many days.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 10-22; stage discharge relation affected
by ice Nov. 19 to Mar. 21)

2.55	0	2.8	0.76	3.2	5.8
2.6	.05	2.9	1.4	3.4	12
2.7	.28	3.0	2.4	3.6	20

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.74	.44	1.4	1.3	1.5	30	5.6	3.6	1.0	.52		
2	.63	.53	1.5	1.2	1.6	25	5.0	3.1	.88	.31		
3	.51	.53	1.6	1.1	1.6	20	4.9	2.9	.75	.34		
4	.45	.52	1.7	1.0	1.5	17	4.5	3.0	.72	.24		
5	.28	.52	1.8	.90	1.4	15	4.2	2.5	.64	.19		
6	.25	.53	1.9	.85	1.3	13	3.8	2.4	.44	.12		
7	.25	.53	2.0	.80	1.2	12	3.7	2.5	.47	.05		
8	.25	.52	2.1	.76	1.2	10	3.7	2.8	.48	.01		
9	.25	.80	2.2	.73	1.3	11	3.2	2.8	.44	0		
10	.22	1.3	2.3	.70	1.5	13	3.1	2.3	.40	0		
11	.25	1.3	2.3	.72	2.0	15	4.7	2.0	.36	0		
12	.27	1.2	2.4	.75	3.0	16	4.0	3.1	.41	0		
13	.21	1.2	2.4	.80	4.0	18	3.8	2.7	.32	0		
14	.31	1.3	2.5	.85	6.0	20	4.3	2.7	.33	0		
15	.36	1.3	2.2	.90	10	23	5.1	2.2	.30	.31		
16	.35	1.2	1.8	.93	15	27	10	1.8	.40	0		
17	.36	1.2	1.6	.96	20	30	8.9	1.4	.38	0		
18	.37	1.2	1.4	1.0	30	33	8.4	1.6	.31	0		
19	.33	1.1	1.2	1.1	35	36	7.6	1.5	.35	0		
20	.42	1.0	1.0	1.1	50	40	7.5	1.3	.35	0		
21	.42	1.0	.90	1.2	47	30	6.6	1.3	.25	0		
22	.40	.93	.95	1.2	43	18	6.1	3.0	.22	0		
23	.42	.96	1.0	1.3	40	16	5.5	6.8	.16	0		
24	.69	.96	1.1	1.4	50	14	7.6	5.2	1.6	0		
25	.70	.98	1.1	1.5	70	13	9.7	3.3	2.0	0		
26	.64	1.0	1.2	1.3	60	11	7.3	2.5	2.0	0		
27	.64	1.1	1.2	1.2	50	9.0	6.5	2.1	1.6	0		
28	.70	1.1	1.2	1.1	45	7.6	5.0	1.8	1.3	0		
29	.70	1.2	1.3	1.2	38	7.3	4.1	1.4	1.0	0		
30	.64	1.3	1.4	1.3	---	7.2	4.1	1.2	.61	0		
31	.64	---	1.5	1.4	---	6.6	---	1.2	---	0		
TOTAL	13.70	28.95	50.15	32.55	632.1	563.7	168.5	78.0	20.47	2.09	0	0
MEAN	.44	.97	1.62	1.05	21.8	18.2	5.62	2.52	.68	.067	0	0
MAX	.74	1.3	2.5	1.5	70	40	10	6.8	2.0	.52	0	0
MIN	.21	.44	.90	.70	1.2	6.6	3.1	1.2	.16	0	0	0
AC-FT	27	57	99	65	1250	1120	334	155	41	4.1	0	0
WTR YR 1976	TOTAL	1590.21	MEAN	4.34	MAX	70	MIN	0	AC-FT	3150		

JAMES RIVER BASIN

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06478500 JAMES RIVER NEAR SCOTLAND, SD

LOCATION.--Lat 43°11'09", long 97°38'07", in SW¼SW¼ sec.30, T.97 N., R.57 W., Hutchinson County, Hydrologic Unit 10160011, on right bank 5.0 ft (2 m) downstream from highway bridge, 0.3 mi (0.5 km) upstream from Dawson Creek and 5.2 mi (8.4 km) northeast of Scotland.

DRAINAGE AREA.--21,550 mi² (55,810 km²), approximately, of which about 16,760 mi² (43,400 km²) contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 786: Drainage area. WSP 956: 1937-38. WSP 1279: 1932, 1948.

GAGE.--Water-stage recorder and rock and earth control. Datum of gage is 1,168.51 ft (356.162 m) above mean sea level. Prior to Nov. 28, 1972, at site 0.25 mi (0.4 km) downstream at present datum.

REMARKS.--Records good. Flow regulated by Arrowwood and Jim Lakes, and Jamestown Reservoir, combined capacity, 246,000 acre-ft (303 hm³), the largest of which is Jamestown Reservoir, capacity, 229,470 acre-ft (283 hm³), 527 mi (848 km) upstream. Occasional backwater caused by Dawson Creek; reverse flow occurred for part of May 15, 1961, from information by local residents.

AVERAGE DISCHARGE.--48 years, 373 ft³/s (10.56 m³/s), 270,200 acre-ft/yr (333 hm³/yr); median of yearly mean discharges, 190 ft³/s (5.38 m³/s), 138,000 acre-ft/yr (170 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,200 ft³/s (430 m³/s) Apr. 3, 1962, gage height, 18.74 ft (5.712 m); no flow for many days in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 464 ft³/s (13.1 m³/s) Feb. 28, gage height, 6.39 ft (1.948 m); maximum gage height, 7.90 ft (2.408 m) Nov. 21 (backwater from ice); minimum daily discharge, 1.4 ft³/s (0.040 m³/s) Sept. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	415	322	354	155	83	319	144	256	256	52	6.9	1.9
2	408	328	322	151	84	252	131	243	250	43	6.7	1.7
3	422	315	296	141	82	241	147	253	250	37	6.3	1.8
4	422	315	276	140	83	226	161	229	238	36	5.4	1.6
5	415	315	270	137	83	183	162	218	226	36	5.2	1.5
6	408	315	260	132	82	183	173	249	220	34	4.5	1.5
7	374	315	260	128	81	189	188	248	190	30	4.5	1.4
8	341	328	260	124	82	170	202	241	182	33	4.5	2.3
9	348	334	260	122	82	160	178	232	162	33	4.2	2.7
10	348	322	260	120	79	158	185	223	146	26	3.9	3.1
11	348	315	253	117	79	154	233	230	129	24	3.7	3.2
12	328	348	250	113	84	187	277	193	143	24	3.6	3.4
13	322	360	238	104	93	167	284	190	136	21	3.9	3.6
14	328	348	235	97	98	206	305	182	136	20	4.0	3.6
15	341	348	230	100	110	232	326	182	132	23	4.0	3.6
16	334	360	220	98	163	253	353	182	126	24	4.3	3.6
17	341	374	215	98	229	300	333	202	109	19	4.3	3.5
18	328	374	210	96	286	383	352	196	101	20	5.2	3.4
19	322	380	205	95	328	411	329	197	101	18	5.0	4.8
20	322	380	202	96	381	401	306	203	95	15	4.5	5.0
21	322	340	200	94	336	370	308	223	83	14	4.0	4.9
22	313	250	195	93	247	309	294	246	74	14	3.9	4.7
23	306	196	193	93	239	270	289	297	68	14	3.4	4.4
24	311	256	188	89	243	250	304	313	98	12	3.2	4.1
25	313	270	183	88	267	240	326	295	93	11	2.9	3.9
26	308	263	188	85	362	215	322	289	90	12	2.5	4.5
27	306	282	188	86	437	189	308	296	81	11	2.6	4.3
28	316	322	179	86	450	154	284	295	76	10	2.3	4.3
29	322	360	173	84	421	145	262	290	66	9.1	2.3	4.4
30	322	374	162	86	---	153	259	258	63	8.2	2.2	4.6
31	322	---	159	84	---	151	---	278	---	7.3	2.0	---
TOTAL	10676	9709	7084	3332	5674	7221	7725	7429	4120	690.6	125.9	101.3
MEAN	344	324	229	107	196	233	258	240	137	22.3	4.06	3.38
MAX	422	380	354	155	450	411	353	313	256	52	6.9	5.0
MIN	306	196	159	84	79	145	131	182	63	7.3	2.0	1.4
AC-FT	21180	19260	14050	6610	11250	14320	15320	14740	8170	1370	250	201
CAL YR 1975	TOTAL	125202.0	MEAN	343	MAX	1320	MIN	14	AC-FT	248300		
WTR YR 1976	TOTAL	63887.8	MEAN	175	MAX	450	MIN	1.4	AC-FT	126700		

JAMES RIVER BASIN

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued
(National stream-quality accounting network station)
(National pesticide water-monitoring network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1956-64, 1967-73, 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to current year.

WATER TEMPERATURES: January 1953 to September 1969, October 1974 to current year.

REMARKS.--Prior to October 1969, continuous temperature thermograph at station.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,200 micromhos Dec. 24, 26, 1974; minimum daily, 315 micromhos Oct. 28, 1975.

WATER TEMPERATURES: Maximum, 32.0°C Aug. 1, 2, 1957; minimum daily, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,730 micromhos Sept. 26; minimum daily, 315 micromhos Oct. 28.

WATER TEMPERATURES: Maximum daily, 27.0°C July 11-14; minimum daily, 0.0°C on many days during winter period.

WATER QUALITY DATA. WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (JTU) (00070)	FECAL COLI- FORM (COL. PER 100 ML) (31616)	STREP- TOCOCCI (COL- ONIES PER 100 ML) (31679)	HARD- NESS (CA, MG) (MG/L) (00900)	NON- CAR- BONATE HARD- NESS (MG/L) (00902)	DIS- SOLVED CAL- CIUM (CA) (MG/L) (00915)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) (00925)
OCT												
10...	1015	346	690	7.5	14.0	15	150	300	300	12	67	31
DEC												
09...	1230	261	730	7.1	.0	9	815	815	330	61	74	35
JAN												
12...	1330	113	920	6.5	.0	9	810	820	410	110	100	40
FEB												
11...	1030	78	1350	7.3	.0	6	860	81000	540	200	130	52
MAR												
09...	1215	163	1210	8.0	1.0	4	810	830	500	250	120	49
APR												
19...	1220	320	1060	8.0	14.5	28	830	890	410	150	88	45
MAY												
13...	1245	210	840	7.4	18.5	22	850	100	310	120	72	31
JUN												
17...	1215	113	910	8.1	21.5	--	180	200	--	--	--	--
JUL												
21...	1145	14	1130	8.4	27.5	15	120	140	420	220	93	45
AUG												
26...	1315	2.6	1270	7.7	25.0	15	540	81900	390	180	88	42
SEP												
16...	1330	3.5	1090	8.3	19.0	10	8170	8300	550	340	120	60

B Non-ideal colony count.

JAMES RIVER BASIN

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06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SODIUM (NA) (00930)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	DIS- SOLVED PO- TAS- SIUM (K) (00935)	RICAR- BONATE (HCO3) (MG/L) (00440)	CAR- BONATE (CO3) (MG/L) (00445)	ALKA- LINITY AS CACO3 (MG/L) (00410)	DIS- SOLVED SULFATE (SO4) (MG/L) (00945)	DIS- SOLVED CHLO- RIDE (CL) (MG/L) (00940)	DIS- SOLVED FLUO- RIDE (F) (MG/L) (00950)	DIS- SOLVED SILICA (SiO2) (MG/L) (00955)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L) (70300)
OCT 10...	57	28	1.4	15	345	0	283	120	25	.3	16	510
DEC 09...	63	29	1.5	.4	326	0	267	170	24	.3	9.2	614
JAN 12...	72	26	1.5	17	377	0	309	230	28	.4	12	704
FEB 11...	87	25	1.6	16	402	5	338	350	38	.3	11	993
MAR 09...	78	25	1.5	12	311	0	255	360	41	.3	10	878
APR 19...	91	32	2.0	14	311	0	255	280	48	.3	.3	763
MAY 13...	67	31	1.7	12	227	0	186	210	34	.3	1.4	571
JUN 17...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 21...	95	32	2.0	17	247	0	203	330	59	.3	9.4	813
AUG 26...	85	31	1.9	14	263	0	216	410	78	.4	18	948
SEP 16...	120	31	2.2	20	250	0	205	470	72	.3	11	1080

DATE	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) (70301)	DIS- SOLVED SOLIDS (TONS PER AC-FT) (70303)	DIS- SOLVED SOLIDS (TONS PER DAY) (70302)	TOTAL NITRITE PLUS NITRATE (N) (MG/L) (00630)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L) (00625)	TOTAL NITRO- GEN (N) (MG/L) (00600)	TOTAL NITRO- GEN (NO3) (MG/L) (71887)	TOTAL PHOS- PHORUS (P) (MG/L) (00665)	TOTAL ARSENIC (AS) (UG/L) (01002)	SUS- PENDEED ARSENIC (AS) (UG/L) (01001)	DIS- SOLVED ARSENIC (AS) (UG/L) (01000)	TOTAL CAD- MIUM (CD) (UG/L) (01027)
OCT 10...	502	.69	476	.02	2.2	2.2	9.8	.26	7	2	5	0
DEC 09...	537	.84	433	.22	1.7	1.9	8.5	.21	--	--	--	--
JAN 12...	686	.96	215	.29	2.4	2.7	12	.32	3	1	2	<10
FEB 11...	887	1.35	209	.56	2.4	3.0	13	.48	--	--	--	--
MAR 09...	824	1.19	387	.46	1.4	1.9	8.2	.33	--	--	--	--
APR 19...	720	1.04	659	.01	2.3	2.3	10	.33	3	2	1	<10
MAY 13...	540	.78	324	.04	2.5	2.5	11	.27	--	--	--	--
JUN 17...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 21...	773	1.11	30.7	.03	2.1	2.1	9.4	.36	6	2	4	<10
AUG 26...	865	1.29	6.66	.03	1.0	1.0	4.6	.33	--	--	--	--
SEP 16...	997	1.47	10.2	.03	1.6	1.6	7.2	.26	--	--	--	--

< Less than.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	SUS- PENDE D CAD- MIUM (CD) (UG/L) (01026)	DIS- SOLVED CAD- MIUM (CD) (UG/L) (01025)	TOTAL CHRO- MIUM (CR) (UG/L) (01034)	SUS- PENDE D CHRO- MIUM (CR) (UG/L) (01031)	DIS- SOLVED CHRO- MIUM (CR) (UG/L) (01030)	TOTAL COBALT (CO) (UG/L) (01037)	SUS- PENDE D COBALT (CO) (UG/L) (01036)	DIS- SOLVED COBALT (CO) (UG/L) (01035)	TOTAL COPPER (CU) (UG/L) (01042)	SUS- PENDE D COPPER (CU) (UG/L) (01041)	DIS- SOLVED COPPER (CU) (UG/L) (01040)
OCT											
10...	0	0	10	0	10	0	0	0	20	18	2
DEC											
09...	--	--	--	--	--	--	--	--	--	--	--
JAN											
12...	<10	0	10	10	0	<50	<50	0	10	7	3
FEB											
11...	--	--	--	--	--	--	--	--	--	--	--
MAR											
09...	--	--	--	--	--	--	--	--	--	--	--
APR											
19...	<9	1	0	0	0	<50	<50	0	10	8	2
MAY											
13...	--	--	--	--	--	--	--	--	--	--	--
JUN											
17...	--	--	--	--	--	--	--	--	--	--	--
JUL											
21...	<10	0	0	0	0	<50	<50	0	<10	<9	1
AUG											
26...	--	--	--	--	--	--	--	--	--	--	--
SEP											
16...	--	--	--	--	--	--	--	--	--	--	--

DATE	TOTAL IRON (FE) (UG/L) (01045)	DIS- SOLVED IRON (FE) (UG/L) (01046)	TOTAL LEAD (PB) (UG/L) (01051)	SUS- PENDE D LEAD (PB) (UG/L) (01050)	DIS- SOLVED LEAD (PB) (UG/L) (01049)	TOTAL MAN- GANESE (MN) (UG/L) (01055)	SUS- PENDE D MAN- GANESE (MN) (UG/L) (01054)	DIS- SOLVED MAN- GANESE (MN) (UG/L) (01056)	TOTAL MERCURY (HG) (UG/L) (71900)	SUS- PENDE D MERCURY (HG) (UG/L) (71895)	DIS- SOLVED MERCURY (HG) (UG/L) (71890)
OCT											
10...	1400	30	0	0	0	830	800	30	.0	.0	.0
DEC											
09...	--	--	--	--	--	--	--	--	--	--	--
JAN											
12...	350	20	<100	<96	4	410	70	340	.0	.0	.1
FEB											
11...	--	--	--	--	--	--	--	--	--	--	--
MAR											
09...	--	--	--	--	--	--	--	--	--	--	--
APR											
19...	2600	20	<100	<99	1	940	700	140	.0	.0	.0
MAY											
13...	--	--	--	--	--	--	--	--	--	--	--
JUN											
17...	--	--	--	--	--	--	--	--	--	--	--
JUL											
21...	1100	20	<100	<100	0	2000	0	2300	.0	.0	.0
AUG											
26...	--	--	--	--	--	--	--	--	--	--	--
SEP											
16...	--	--	--	--	--	--	--	--	--	--	--

< Less than.

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL SELE- NIUM (SE) (01147)	SUS- PENDE SELE- NIUM (SE) (01146)	DIS- SOLVED SELE- NIUM (SE) (01145)	TOTAL ZINC (ZN) (01092)	SUS- PENDE ZINC (ZN) (01091)	DIS- SOLVED ZINC (ZN) (01090)	TOTAL ORGANIC CARRON (C) (00680)
OCT 10...	0	0	0	50	0	60	1.8
DEC 09...	--	--	--	--	--	--	--
JAN 12...	0	0	0	40	0	60	15
FEB 11...	--	--	--	--	--	--	--
MAR 09...	--	--	--	--	--	--	--
APR 19...	0	0	0	60	60	0	17
MAY 13...	--	--	--	--	--	--	--
JUN 17...	--	--	--	--	--	--	--
JUL 21...	0	0	0	40	20	20	45
AUG 26...	--	--	--	--	--	--	--
SEP 16...	--	--	--	--	--	--	--

DATE	TOTAL PHYTO- PLANK- TON (CELLS PER ML) (60050)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	UNCOR- RECTED PERI- PHYTON CHLORO- PHYLL A MG/SQ M (32228)	UNCOR- RECTED PERI- PHYTON CHLORO- PHYLL B MG/SQ M (32226)	SUS- PENDE SEDIM- ENT CHARGE (MG/L) (80154)	SUS- PENDE SEDIM- ENT CHARGE (T/DAY) (80155)
OCT 10...	140000	--	--	--	--	134	125
DEC 09...	27000	--	--	--	--	110	78
JAN 12...	14000	--	--	--	--	113	34
FEB 11...	13000	--	--	--	--	95	20
MAR 09...	5500	--	--	--	--	100	440
APR 19...	180000	--	--	--	--	171	148
MAY 13...	72000	52.5	23.8	8.53	.542	169	96
JUN 17...	130000	--	--	--	--	173	53
JUL 21...	24000	4.31	2.15	18.9	3.94	143	5.4
AUG 26...	71000	--	--	--	--	138	.97
SEP 16...	20000	--	--	--	--	--	--

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL ALDRIN (UG/L) (39330)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG) (39333)	TOTAL CHLOR- DANE (UG/L) (39350)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG) (39351)	TOTAL DDD (UG/L) (39360)	DDD IN BOTTOM MA- TERIAL (UG/KG) (39363)	TOTAL DDE (UG/L) (39365)	DDE IN BOTTOM MA- TERIAL (UG/KG) (39368)	TOTAL DDT (UG/L) (39370)	DDT IN BOTTOM MA- TERIAL (UG/KG) (39373)	TOTAL DI- AZINON (UG/L) (39570)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG) (39571)
FEB 11...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
JUL 07...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 26...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	TOTAL DI- ELDRIN (UG/L) (39380)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG) (39383)	TOTAL ENDRIN (UG/L) (39390)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG) (39393)	TOTAL ETHION (UG/L) (39398)	ETHION IN BOTTOM MA- TERIAL (UG/KG) (39399)	TOTAL HEPTA- CHLOR (UG/L) (39410)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG) (39413)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L) (39420)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG) (39423)	TOTAL LINDANE (UG/L) (39340)
FEB 11...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
JUL 07...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 26...	ND	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	TOTAL LINDANE IN BOTTOM MA- TERIAL (UG/KG) (39343)	TOTAL MALA- THION (UG/L) (39530)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG) (39531)	TOTAL METH- OXY- CHLOR (UG/L) (39480)	METHOX- YCHLOR IN BOT- TOM MA- TERIAL (UG/KG) (39481)	TOTAL METHYL PARA- THION (UG/L) (39600)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG) (39601)	TOTAL METHYL TRI- THION (UG/L) (39790)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG) (39791)	TOTAL PARA- THION (UG/L) (39540)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG) (39541)
FEB 11...	--	ND	--	ND	--	ND	--	ND	--	ND	--
JUL 07...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 26...	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	TOTAL TOX- APHENE (UG/L) (39400)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG) (39403)	TOTAL TRI- THION (UG/L) (39786)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG) (39787)	TOTAL ATRA- ZINE (UG/L) (39630)	TOTAL 2,4-D (UG/L) (39730)	2,4-D IN BOTTOM MA- TERIAL (UG/KG) (39731)	TOTAL 2,4,5-T (UG/L) (39740)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG) (39741)	TOTAL SILVEX (UG/L) (39760)	SILVEX IN BOTTOM MA- TERIAL (UG/KG) (39761)
FEB 11...	ND	--	ND	--	ND	ND	--	ND	--	ND	--
JUL 07...	ND	ND	ND	ND	--	--	ND	--	ND	--	ND
AUG 26...	ND	--	ND	--	ND	ND	--	ND	--	ND	--

ND Not detected.

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	775	810	---	1010	1000	1070	1230	1060	960	930	1220	1500
2	390	800	---	1070	1220	1090	1250	1070	945	900	1260	1550
3	435	800	---	1030	1240	1100	1250	1080	935	900	1260	1550
4	785	815	---	1050	1250	1140	1260	1040	935	920	1280	1600
5	735	800	---	1040	1260	1160	1270	990	935	930	1280	1600
6	800	790	---	1040	1280	1180	1240	995	930	940	1290	1600
7	805	795	---	1060	1270	1190	1260	990	915	950	1300	1570
8	345	805	---	1070	1280	1230	1260	905	910	950	1310	1600
9	810	800	---	1100	1170	1230	1270	900	900	990	1310	1570
10	825	795	---	1120	930	1250	1140	890	900	970	1300	1570
11	360	800	---	1140	650	1260	1140	900	900	1020	1320	1570
12	820	810	---	1120	660	1250	1060	890	895	1030	1320	1600
13	455	815	---	1140	720	1020	1060	830	850	1050	1320	1570
14	820	825	---	1140	750	920	1080	870	885	1060	1320	1600
15	830	840	---	1120	1100	1060	1090	880	895	1060	1320	1600
16	460	915	---	1150	650	960	1100	890	850	1070	1300	1600
17	410	---	---	1150	730	1160	1120	890	920	1100	1300	1620
18	840	---	---	1180	1110	1070	1120	900	925	1100	1280	1650
19	525	---	970	1180	1040	1050	1120	910	900	1120	1310	1650
20	840	---	965	1180	920	1030	1100	920	915	1140	1300	1650
21	460	---	945	1240	940	1060	1100	910	920	1150	1320	1650
22	450	---	955	1200	940	1080	1070	930	900	1150	1320	1700
23	505	---	980	1230	1050	935	1060	950	920	1140	1340	1700
24	395	---	960	1230	1140	1100	1060	930	900	1160	1360	1700
25	485	---	970	1260	1140	1120	1060	930	900	1160	1360	1700
26	480	---	960	1280	1170	1170	1070	980	930	1140	1380	1730
27	455	---	955	1320	1080	1070	1080	980	910	1140	1390	1700
28	315	---	965	1320	1000	1060	1060	1020	945	1150	1400	1710
29	350	---	960	1200	1040	1210	1070	1000	965	1150	1380	1720
30	485	---	980	1020	---	1240	1060	1000	950	1160	1400	1720
31	850	---	990	1330	---	1230	---	1000	---	1170	1400	---
MONTH	590	---	---	1150	1030	1120	1140	949	915	1060	1320	1630
YEAR	MAX	1730	MIN	315	MEAN	1070						

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.0	7.0	---	1.0	1.0	0.0	7.0	13.0	20.0	22.0	25.0	22.0
2	11.0	8.0	---	0.0	1.0	1.0	8.0	12.0	21.0	23.0	22.0	22.0
3	13.0	8.0	---	0.0	0.0	1.0	8.0	10.0	21.0	23.0	23.0	22.0
4	12.0	8.0	---	0.0	0.0	0.0	7.0	12.0	21.0	23.0	23.0	22.0
5	14.0	8.0	---	0.0	0.0	0.0	9.0	11.0	22.0	22.0	23.0	21.0
6	13.0	10.0	---	0.0	0.0	1.0	9.0	12.0	22.0	22.0	22.0	21.0
7	15.0	10.0	---	0.0	0.0	1.0	10.0	12.0	23.0	24.0	22.0	22.0
8	14.0	9.0	---	0.0	1.0	1.0	11.0	13.0	23.0	25.0	22.0	20.0
9	13.0	9.0	---	0.0	2.0	2.0	10.0	15.0	24.0	25.0	22.0	17.0
10	12.0	7.0	---	0.0	1.0	2.0	11.0	16.0	24.0	26.0	23.0	17.0
11	11.0	7.0	---	1.0	1.0	1.0	12.0	15.0	24.0	27.0	23.0	20.0
12	13.0	5.0	---	2.0	2.0	0.0	13.0	16.0	25.0	27.0	23.0	20.0
13	13.0	4.0	---	1.0	0.0	1.0	13.0	15.0	24.0	27.0	23.0	21.0
14	13.0	3.0	---	0.0	2.0	1.0	16.0	16.0	24.0	27.0	23.0	18.0
15	11.0	4.0	---	1.0	3.0	2.0	16.0	16.0	22.0	25.0	22.0	19.0
16	11.0	4.0	---	0.0	2.0	2.0	16.0	15.0	18.0	25.0	21.0	18.0
17	10.0	---	---	0.0	2.0	2.0	15.0	15.0	21.0	24.0	21.0	18.0
18	10.0	---	---	0.0	2.0	3.0	14.0	15.0	17.0	25.0	22.0	18.0
19	10.0	---	1.0	0.0	3.0	3.0	13.0	17.0	17.0	26.0	23.0	18.0
20	10.0	---	0.0	0.0	2.0	5.0	13.0	19.0	21.0	25.0	23.0	15.0
21	9.0	---	1.0	1.0	2.0	4.0	13.0	20.0	21.0	23.0	24.0	15.0
22	10.0	---	0.0	1.0	2.0	7.0	13.0	18.0	22.0	25.0	24.0	15.0
23	10.0	---	0.0	0.0	2.0	7.0	14.0	17.0	21.0	26.0	25.0	15.0
24	9.0	---	1.0	1.0	3.0	5.0	12.0	15.0	20.0	25.0	25.0	15.0
25	9.0	---	0.0	1.0	2.0	9.0	10.0	16.0	20.0	25.0	25.0	17.0
26	9.0	---	0.0	0.0	2.0	9.0	11.0	17.0	21.0	25.0	24.0	17.0
27	7.0	---	1.0	0.0	2.0	9.0	12.0	17.0	19.0	25.0	23.0	13.0
28	6.0	---	1.0	1.0	1.0	10.0	14.0	18.0	20.0	25.0	20.0	11.0
29	5.0	---	1.0	0.0	0.0	9.0	13.0	19.0	21.0	25.0	20.0	11.0
30	7.0	---	1.0	1.0	---	7.0	13.0	19.0	21.0	26.0	22.0	---
31	8.0	---	2.0	2.0	---	7.0	---	19.0	---	22.0	23.0	---
MONTH	10.5	---	---	0.5	1.5	3.5	12.0	15.5	21.5	24.5	23.0	18.0

JAMES RIVER BASIN

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

OCT. 8, 1974
1045 HOURS

IDENTIFICATION OF PHYTOPLANKTON

46,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
....OCYSTACEAE			
....ANKISTRODESMUS		260	1
....OCYSTIS		2,300	5
...SCENEDESMACEAE			
....SCENEDESMUS		1,900	4
	TOTALS	4,400	10
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCAEAE			
....CYCLOTELLA		1,600	3
....MELOSIRA		1,300	3
	TOTALS	2,900	6
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..OSCILLATORIALES	FILAMENTOUS		
...OSCILLATORIAEAE			
DLYNGBYA		12,000	27
DOSCILLATORIA		26,000	56
	TOTALS	38,000	83
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
..EUGLENALES			
...EUGLENACEAE			
LEUGLENA			0
LTRACHELOMONAS			0
	TOTALS	350	0

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%

L - LESS THEN 1%: MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.854

CLASS 0.854

ORDER 0.854

FAMILY 0.950

GENERA 1.801

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

NOV. 14, 1974
1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

100,000 CELLS/ML

ORGANISM__NAME_____	COMMON__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
DANKISTRODESMUS		5,700	6
....CHLORELLA		30,000	30
....CHODATELLA		680	1
....DICTYOSPHAERIUM		3,400	3
....SELENASTRUM		4,200	4
....TETRAEDRON		1,900	2
...SCENEDESMACEAE			
....ACTINASTRUM		1,400	1
....CRUCIGENIA		4,600	5
....SCENEDESMUS		8,100	8
....TETRASTRUM		680	1
	TOTALS	60,000	61
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		1,000	1
LMELOSIRA			0
..PENNALES	PENNATE		
...FRAGILARIACEAE			
LSYNEDRA			0
	TOTALS	1,500	1
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
....ANACYSTIS		14,000	14
...OSCILLATORIALES	FILAMENTOUS		
...OSCILLATORIACEAE			
DLYNGBYA		23,000	23
LSPIRULINA			0
	TOTALS	37,000	37
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
...EUGLENALES			
...EUGLENACEAE			
....TRACHELOMONAS		1,000	1
	TOTALS	1,000	1

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.130
 CLASS 1.130
 ORDER 1.489
 FAMILY 1.973
 GENERA 2.989

JAMES RIVER BASIN

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

DEC. 11, 1974
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

14,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
DANKISTRODESMUS		3,200	24
DCHLORELLA		2,700	20
....KIRCHNERIELLA		370	3
...SCENEDESMACEAE			
....CRUCIGENIA		370	3
....SCENEDESMUS		740	5
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		1,700	12
	TOTALS	9,100	67
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
DANACYSTIS		4,400	32
	TOTALS	4,400	32
PYRRHOPHYTA	DINOFLAGELLATES		
..DINOPHYCEAE			
...PERIDINIALES			
....PERIDINIACEAE			
....PERIDINIUM		190	1
	TOTALS	190	1

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.000
CLASS 1.000
ORDER 1.459
FAMILY 1.791
GENERA 2.448

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

JAN. 15, 1975
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,300 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		220	9
....KIRCHNERIELLA		31	1
....QUADRIGULA		120	5
...SCENEDESMACEAE			
...SCENEDESMUS		62	3
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		250	11
	TOTALS	680	29
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...NITZSCHIACEAE			
....NITZSCHIA		120	5
	TOTALS	120	5
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
DANACYSTIS		1,500	65
	TOTALS	1,500	65

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.146
CLASS 1.146
ORDER 1.423
FAMILY 1.534
GENERA 1.739

FEB. 12, 1975
1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

990 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
DANKISTRODESMUS		160	16
..VOLVOCALES			
...CHLAMYDOMONADACEAE		42	4
....CHLAMYDOMONAS			
	TOTALS	200	20
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...GOMPHONEMATACEAE			
....GOMPHONEMA		14	1
...NAVICULACEAE	NAVICULOID		
....NAVICULA		14	1
	TOTALS	28	2
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
DANACYSTIS		340	34
	TOTALS	340	34
EUGLENOPHYTA	EUGLENOIDS		
..CRYPTOPHYCEAE	CRYPTOMONADS		
...CRYPTOMONIDALES			
...CRYPTOMONODACEAE			
....CRYPTOMONAS		56	6
	TOTALS	56	6
PYRRHOPHYTA			
..DINOPHYCEAE	DINOFLAGELLATES		
..PERIDINIALES			
...GLENODINIACEAE			
DGLENODINIUM		370	37
	TOTALS	370	37

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.907
CLASS 1.907
ORDER 2.057

FAMILY 2.086
GENERA 2.086

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

MAR. 14, 1975
1130 HOURS

IDENTIFICATION OF PHYTOPLANKTON

8,800 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...SCENEDESMACEAE			
....SCENEDESMUS		360	4
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		270	3
	TOTALS	640	7
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCAEAE			
DCYCLOTELLA		3,300	37
..PENNALES	PENNATE		
...SURIPELLACEAE		91	1
....SURIPELLA			
	TOTALS	3,400	38
EUGLENOPHYTA	EUGLENIDS		
..CRYPTOPHYCEAE	CRYPTOMONADS		
...CRYPTOMONIDALES			
...CRYPTOMONODACEAE		180	2
....CRYPTOMONAS			
	TOTALS	180	2
PYRRHOPHYTA			
..DINOPHYCEAE	DINOFLAGELLATES		
..PERIDINIALES			
...GLENODINIACEAE			
DGLENODINIUM		4,600	53
	TOTALS	4,600	53

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.407
CLASS 1.407
ORDER 1.547
FAMILY 1.547
GENERA 1.547

JAMES RIVER BASIN

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

APR. 11, 1975
1130 HOURS

IDENTIFICATION OF PHYTOPLANKTON

77,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		3,900	5
....CHLORELLA		9,900	13
....OCCYSTIS		6,900	9
...VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		3,000	4
	TOTALS	24,000	31
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CFNTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTILLA		31,000	41
..PENNALES	PENNATE		
...FRAGILARIACEAE			
....SYNEDRA		430	1
...NAVICULACEAE	NAVICULOID		
....GYROSIGMA		430	1
....NAVICULA		3,000	4
...NITZSCHIACEAE			
....NITZSCHIA		3,000	4
...SURIRELLACEAE			
....CYMATOPLEURA		430	1
	TOTALS	38,000	52
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...CHROOCOCCALES	COCCOID		
D ...CHROOCOCCACEAE			
....AGMENELLUM		14,000	18
	TOTALS	14,000	18
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
...EUGLENALES			
...EUGLENACEAE			
....TRACHELOMONAS		430	1
	TOTALS	430	1

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.511
CLASS 1.511
ORDER 2.036
FAMILY 2.182
GENERA 2.610

JAMES RIVER BASIN

313

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

MAY 14, 1975
1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

120,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		4,300	4
LCHODATELLA			0
....KIRCHNERIELLA		1,100	1
....OOCYSTIS		2,200	2
LTETRAEDRON			0
...SCENEDESMACEAE			
DSCENEDESMUS		21,000	18
....TETRASTRUM		6,500	6
..ZYGNEMATALES			
...DESMIDIACEAE	PLACODERM DESMIDS		
LCLOSTERIUM			0
	TOTALS	36,000	31
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCAEAE			
....CYCLOTELLA		8,900	8
....MELOSIRA		2,700	2
..PENNALES	PENNATE		
...ACHNANTHACEAE			
LCOCCONEIS			0
...CYMBELLACEAE			
LAMPHORA			0
...NAVICULACEAE	NAVICULOID		
LNAVICULA			0
...NITZSCHIAEAE			
....NITZSCHIA		6,500	6
	TOTALS	19,000	16
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...CHROOCOCCALE	COCCOID		
....CHROOCOCCACEAE			
DAGMENELLUM		26,000	22
....ANACYSTIS		2,200	2
...OSCILLATORIALES	FILAMENTOUS		
...NOSTOCACEAE			
...APHANIZOMENON		6,500	6
...OSCILLATORIAEAE			
DOSCILLATORIA		26,000	23
	TOTALS	61,000	53
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
...EUGLENALES			
...EUGLENACEAE			
LEUGLENA			0
	TOTALS	270	0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.461
 CLASS 1.461
 ORDER 2.179
 FAMILY 2.670
 GENERA 3.148

JAMES RIVER BASIN

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

JUNE 11, 1975

1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

64,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		860	1
...SCENEDESMACEAE			
....CRUCIGENIA		3,500	5
....SCENEDESMUS		8,600	14
DTETRASTRUM		10,000	16
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		860	1
TOTALS		24,000	37
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		5,200	8
DMELOSIRA		26,000	41
..PENNALES	PENNATE		
...CYMBELLACEAE			
....CYMBELLA		1,700	3
...NAVICULACEAE	NAVICULOID		
....GYROSIGMA		860	1
....NAVICULA		860	1
TOTALS		35,000	54
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
....ANACYSTIS		5,200	8
TOTALS		5,200	8

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.304
 CLASS 1.304
 ORDER 1.642
 FAMILY 1.779
 GENERA 2.636

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

AUG. 12, 1975

1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

30,000 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...COELASTRACEAE			
...COELASTRUM		2,000	7
...MICRACTINIACEAE			
L ...MICRACTINIUM			0
...OCCYSTACEAE			
...OCCYSTIS		660	2
L ...QUADRIGULA			0
...TETRAEDRON		160	1
...SCENEDESMACEAE			
L ...ACTINASTRUM			0
...CPUCIGENIA		1,300	4
...SCENEDESMUS		330	1
..ULOTRICHALES			
...ULOTRICHACEAE			
...GEMINELLA		1,500	5
..ZYGNEMATALES			
...DESMIDIACEAE	PLACODERM DESMIDS		
L ...COSMARIUM			0
	TOTALS	5,900	20
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCAEAE			
D ...CYCLOTELLA		6,900	23
...MELOSIRA		3,100	10
..PENNALES	PENNATE		
...GOMPHONEMATAEAE			
...GOMPHONEMA		160	1
...NAVICULACEAE	NAVICULOID		
L ...GYROSIGMA			0
...NAVICULA		160	1
...NITZSCHIAEAE			
...NITZSCHIA		1,200	4
	TOTALS	12,000	39
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
D ...ANACYSTIS		8,700	29
...GOMPHOSPHAERIA		3,600	12
	TOTALS	12,000	41
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
...EUGLENALES			
...EUGLENACEAE			
...EUGLENA		160	1
L ...TRACHELOMONAS			0
	TOTALS	160	1
PYRRHOPHYTA			
..DINOPHYCEAE	DINOFLAGELLATES		
...PERIDINIALES			
...GLENODINIACEAE			
L ...GLENODINIUM			0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.561
 CLASS 1.561
 ORDER 1.934
 FAMILY 2.206
 GENERA 2.925

SEP. 10, 1975
1130 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2.600 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...COELASTRACEAE			
L ...COELASTRUM			0
...MIRACTINIACEAE			
...MIRACTINIUM		98	4
...OCCYSTACEAE			
...ANKISTRODESMUS		20	1
...OOCYSTIS		59	2
...SCENEDESMACEAE			
...CRUCIGENIA		78	3
L ...SCENEDESMUS			0
..VOLVOCALES			
...PHACOTACEAE			
...PTEROMONAS		20	1
TOTALS		270	11
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCAEAE			
D ...CYCLOTELLA		370	15
...MELOSIRA		290	11
..PENNALES	PENNATE		
...ACHNANTHACEAE			
...COCCONEIS		20	1
...NAVICULACEAE	NAVICULOID		
...NAVICULA		39	2
L ...TROPIDONEIS			0
...NITZSCHIAEAE			
...NITZSCHIA		39	2
TOTALS		760	31
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
D ...AGMENELLUM		470	18
D ...ANACYSTIS		530	21
..OSCILLATORIALES	FILAMENTOUS		
...OSCILLATORIAEAE			
D ...OSCILLATORIA		450	18
TOTALS		1,400	57
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
..EUGLENALES			
...EUGLENACEAE			
...EUGLENA		20	1
...TRACHELOMONAS		39	2
TOTALS		59	3
PYRRHOPHYTA			
..DINOPHYCEAE	DINOFLAGELLATES		
..PERIDINIALES			
...GLENODINIACEAE			
...GLENODINIUM		20	1
TOTALS		20	1

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.509
 CLASS 1.509
 ORDER 2.218
 FAMILY 2.433
 GENERA 3.124

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

OCT. 10, 1975
1015 HOURS

IDENTIFICATION OF PHYTOPLANKTON

140,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...HYDRODICTYACEAE			
...PEDIASTRUM		1,700	1
...MICRACTINIACEAE			
L ...GOLENKINIA			0
...MICRACTINIUM		4,500	3
...OCCYSTACEAE			
...ANKISTRODESMUS		12,000	9
...CHODATELLA		1,100	1
...KIRCHNERIELLA		10,000	7
L ...SELENASTRUM			0
...SCENEDESMACEAE			
L ...ACTINASTRUM			0
D ...CRUCIGENIA		36,000	25
...SCENEDESMUS		5,700	4
...TETRASTRUM		8,500	6
..TETRASPORALES			
...PALMELLACEAE			
...GLOEOCYSTIS		2,300	2
..VOLVOCALES			
...VOLVOCAEAE			
...PANDORINA		4,500	3
	TOTALS	87,000	61
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
...CYCLOTELLA		2,300	2
...MELOSIRA		5,700	4
..PENNALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
L ...NAVICULA			0
...NITZSCHACEAE			
...NITZSCHIA		2,800	2
...SURIRELLACEAE			
L ...SURIRELLA			0
	TOTALS	11,000	8
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
L ...AGMENELLUM			0
...ANACYSTIS		11,000	8
...GOMPHOSPHAERIA		7,900	5
...OSCILLATORIALES	FILAMENTOUS		
...OSCILLATORIAEAE			
L ...OSCILLATORIA			0
D ...PHORMIDIUM		26,000	18
	TOTALS	45,000	31
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
...EUGLENALES			
...EUGLENACEAE			
L ...EUGLENA			0
...TRACHELOMONAS		1,100	1
	TOTALS	1,700	1

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1% MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.321
 CLASS 1.321
 ORDER 1.973
 FAMILY 2.691
 GENERA 3.473

JAMES RIVER BASIN

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

DEC. 9, 1975
1230 HOURS

IDENTIFICATION OF PHYTOPLANKTON

27,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...COELASTRACEAE			
LCOELASTRUM			0
...HYDRODICTYACEAE			
LPEDIASTRUM			0
...OCCYSTACEAE			
....ANKISTRODESMUS		3,500	13
....KIRCHNERIELLA		2,000	7
....OOCYSTIS		1,500	5
LTREUBARIA			0
...SCENEDESMACEAE			
....ACTINASTRUM		890	3
DCRUCIGENTIA		8,800	32
...SCENEDESMUS		1,800	7
LTETRASTRUM			0
...VOLVOCALES			
...CHLAMYDOMONADACEAE			
LCARTERIA			0
...ZYGNEATALES			
...DESMIDIACEAE	PLACODERM DESMIDS		
LSTAURASTRUM			0
	TOTALS	19,000	67
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
LCYCLOTELLA			0
LMELOSIRA			0
...PENNALES	PENNATE		
...GOMPHONEMACEAE			
LGOMPHONEMA			0
...NAVICULACEAE	NAVICULOID		
LNAVICULA			0
...NITZSCHACEAE			
LNITZSCHIA			0
...SURIRELLACEAE			
LSURIRELLA			0
	TOTALS	340	0

JAMES RIVER BASIN

319

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

DEC. 9, 1975--Continued
1230 HOURS

CYANOPHYTA		BLUE-GREEN ALGAE	
.MYXOPHYCEAE			
..CHROOCOCCALES		COCCOID	
...CHROOCOCCACEAE			
D	ANACYSTIS	8,300	30
		TOTALS	30
		8,300	
EUGLENOPHYTA		EUGLENIDS	
.CRYPTOPHYCEAE		CRYPTOMONADS	
..CRYPTOMONIDALES			
...CRYPTOMONODACEAE			
....CRYPTOMONAS		220	1
		TOTALS	1
		220	
.EUGLENOPHYCEAE			
..EUGLENALES			
...EUGLENACEAE			
L	EUGLENA		0
L	PHACUS		0
L	TRACHELOMONAS		0
		TOTALS	0
		110	
PYRRHOPHYTA		DINOFLAGELLATES	
.DINOPHYCEAE			
..PERIDINIALES			
...GLENODINIACEAE			
L	GLENODINIUM		0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.059
 CLASS 1.071
 ORDER 1.071
 FAMILY 1.736
 GENERA 2.559

JAN. 12, 1976
1330 HOURS

IDENTIFICATION OF PHYTOPLANKTON

14,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		700	5
LDICTYOSPHAERIUM			0
....SELENASTRUM		700	5
....SCENEDESMACEAE			
....SCENEDESMUS		930	7
DTETRASTRUM		2,800	20
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
DCHLAMYDOMONAS		2,100	15
	TOTALS	7,200	52
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISACEAE			
LCYCLOTELLA			0
....MELOSIRA		460	3
..PENNALES	PENNATE		
...GOMPHONEMACEAE			
LGOMPHONEMA			0
...NITZSCHIACEAE		460	3
....NITZSCHIA			
	TOTALS	930	6
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
DANACYSTIS		4,900	36
..OSCILLATORIALES	FILAMENTOUS		
...OSCILLATORIAEAE			
LOSCILLATORIA			0
	TOTALS	4,900	36
EUGLENOPHYTA	EUGLENOIDS		
..CRYPTOPHYCEAE	CRYPTOMONADS		
..CRYPTOMONIDALES			
...CRYPTOMONODACEAE			
....CRYPTOMONAS		700	5
	TOTALS	700	5
PYRRHOPHYTA			
..DINOPHYCEAE	DINOFLAGELLATES		
..PERIDINIALES			
...PERIDINIACEAE			
LPERIDINIUM			0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.500
CLASS 1.500
ORDER 2.025
FAMILY 2.340
GENERA 2.661

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

FEB. 11, 1976
1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

13,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
..OCCYSTACEAE			
....ANKISTRODESMUS		640	5
DDICTYOSPHAERIUM		1,900	15
....OOCYSTIS		1,300	10
....SELENASTRUM		640	5
....SCENEDESMACEAE			
....SCENEDESMUS		320	2
DTETRASTRUM		1,900	15
..VOLVOCALES			
..CHLAMYDOMONADACEAE			
LCHLAMYDOMONAS			0
..CHLOROCOCCALES			
..OCCYSTACEAE			
DGLOEOACTINIUM		1,900	15
	TOTALS	8,600	67
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
..COSCINODISCACEAE			
LMELOSIRA			0
..PENNALES	PENNATE		
..NAVICULACEAE	NAVICULOID		
LNAVICULA			0
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..CHROOCOCCALES	COCCOID		
..CHROOCOCCACEAE			
DANACYSTIS		2,200	17
	TOTALS	2,200	17
EUGLENOPHYTA	EUGLENOIDS		
..CRYPTOPHYCEAE	CRYPTOMONADS		
..CRYPTOMONIDAE			
..CRYPTOMONADACEAE			
LCRYPTOMONAS			0
..EUGLENOPHYCEAE			
..EUGLENALES			
..EUGLENACEAE			
DTRACHELONAS		1,900	15
	TOTALS	1,900	15

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.233
 CLASS 1.233
 ORDER 1.749
 FAMILY 2.231
 GENERA 2.980

MAR. 9, 1976
1215 HOURS

IDENTIFICATION OF PHYTOPLANKTON

5,500 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
.CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		100	2
...OOCYSTIS		500	9
...SCENEDESMACEAE			
LCRUCIGENIA			0
..VOLVOCELES			
...CHLAMYDOMONADACEAE			
DCHLAMYDOMONAS		4,500	83
	TOTALS	5,100	94
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTILLA		100	2
..PENNALES	PENNATE		
...NITZSCHIAEAE			
LNITZSCHIA			0
	TOTALS	100	2
.CHRYSTOPHYCEAE	YELLOW-BROWN ALGAE		
..CHRYSOMONADALES			
...OCHROMONADACEAE			
LDINOBRYON			0
...SYNURACEAE			
LSYNURA			0
EUGLENOPHYTA	EUGLENOIDS		
.EUGLENOPHYCEAE			
..EUGLENALES			
...EUGLENACEAE			
....TRACHELOMONAS		200	4
	TOTALS	200	4
PYRRHOPHYTA			
.DINOPHYCEAE	DINOFLAGELLATES		
..PERIDINIALES			
...GLENODINIACEAE			
LGLENODINIUM			0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.361
 CLASS 0.361
 ORDER 0.854
 FAMILY 0.854
 GENERA 0.926

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

APR. 19, 1976
1220 HOURS

IDENTIFICATION OF PHYTOPLANKTON

180,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...MICRACTINIACEAE			
D ...MICRACTINIUM		26,000	15
...OCCYSTACEAE			
...ANKISTRODESMUS		2,200	1
...DICTYOSPHAERIUM		4,300	2
...OOCYSTIS		4,300	2
...SCENEDESMACEAE			
...SCENEDESMUS		19,000	11
...TETRASTRUM		8,600	5
	TOTALS	65,000	36
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
D ...CYCLOTELLA		69,000	40
...MELOSIRA		6,500	4
..PENNALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
L ...GYROSIGMA			0
...NITZSCHACEAE			
...NITZSCHIA		2,200	1
...SURIRELLACEAE			
L ...SURIRELLA			0
	TOTALS	78,000	45
..CHRYSTOPHYCEAE	YELLOW-BROWN ALGAE		
..CHRYSOMONADALES			
...OCHROMONADACEAE			
...OCHROMONAS		3,200	2
	TOTALS	3,200	2
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
D ...ANACYSTIS		28,000	16
	TOTALS	28,000	16
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
...EUGLENALES			
...EUGLENACEAE			
...TRACHELOMONAS		1,100	1
	TOTALS	1,100	1

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.514
 CLASS 1.626
 ORDER 1.708
 FAMILY 2.257
 GENERA 2.676

JAMES RIVER BASIN

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

MAY 13, 1976

1245 HOURS

IDENTIFICATION OF PHYTOPLANKTON

72,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...COELASTRACEAE			
....COELASTRUM		4,100	6
...HYDRODICTYACEAE			
....PEDIASTRUM		1,500	2
...OCCYSTACEAE			
....ANKISTRODESMUS		3,100	4
....CHODATFLLA		510	1
....OOCYSTIS		4,100	6
...SELENASTRUM		1,500	2
...SCENEDESMACEAE			
....ACTINASTRUM		6,100	8
....CRUCIGENIA		8,100	11
DSCENEDESMUS		15,000	21
	TOTALS	44,000	61
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CFNTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		5,600	8
....MELOSIRA		6,100	8
..PENNALES	PENNATE		
...NITZSCHIAEAE			
....NITZSCHIA		2,500	4
...SURIRELLACEAE			
LSURIRELLA			0
	TOTALS	14,000	20
..CHRYSTOPHYCEAE	YELLOW-BROWN ALGAE		
..CHRYSOMONADALES			
...CHROMULINACEAE			
....CHRYSOCOCCLUS		510	1
	TOTALS	510	1
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
....ANACYSTIS		7,100	10
..OSCILLATORIALES	FILAMENTOUS		
...OSCILLATORIAEAE			
....OSCILLATORIA		4,100	6
	TOTALS	11,000	16
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
...EUGLENALES			
...EUGLENACEAE			
....EUGLENA		1,500	2
....PHACUS		510	1
LTRACHELOMONAS			0
	TOTALS	2,000	3

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.463

CLASS 1.507

ORDER 1.787

FAMILY 2.611

GENERA 3.615

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

JUNE 17, 1976
1215 HOURS

IDENTIFICATION OF PHYTOPLANKTON

130,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...BOTRYOCOCCACEAE			
....BOTRYOCOCCUS		10,000	8
...HYDRODICTYACEAE			
LPEDIASTRUM			0
...MICRACTINIACEAE			
....MICRACTINIUM		14,000	10
...OCCYSTACEAE			
...ANKISTRODESMUS		1,700	1
LDICTYOSPHAERIUM			0
...TETRAEDRON		1,700	1
...SCENEDESMACEAE			
...ACTINASTRUM		17,000	13
...SCENEDESMUS		17,000	13
...ZYGNEMATALES			
...DESMIDIACEAE	PLACODERM DESMIDS		
...STAUSTRUM		860	1
..CHLOROCOCCALES			
...OCCYSTACEAE			
....GLOEOACTINIUM		6,900	5
	TOTALS	70,000	52
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		53,000	40
....MELOSIRA		6,100	5
..PENNALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
...NAVICULA		860	1
...NITZSCHIA			
....NITZSCHIA		860	1
	TOTALS	61,000	47
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
..EUGLENALES			
...EUGLENACEAE			
....EUGLENA		860	1
....TRACHELOMONAS		860	1
	TOTALS	1,700	2
PYRRHOPHYTA			
..DINOPHYCEAE	DINOFLAGELLATES		
...GYMNODINIALES			
...GYMNODINIACEAE			
....GYMNODINIUM		860	1
	TOTALS	860	1

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
 L - LESS THAN 1%: MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.133
 CLASS 1.133
 ORDER 1.512
 FAMILY 2.281
 GENERA 2.791

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

JULY 21, 1976
1145 HOURS

IDENTIFICATION OF PHYTOPLANKTON

24,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		720	3
LCHLORELLA			0
....OOCYSTIS		790	3
....SELENASTRUM		220	1
LTETRAEDRON			0
....SCENEDESMACEAE			
....ACTINASTRUM		2,400	10
....CRUCIGENIA		2,200	9
....SCENEDESMUS		1,700	7
....TETRASTRUM		290	1
..VOLVOCALES			
...PHACOTACEAE			
....PHACOTUS		140	1
	TOTALS	8,600	35
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		650	3
....MELOSIRA		430	2
..PENNALES	PENNATE		
...NITZSCHIA			
....NITZSCHIA		720	3
	TOTALS	1,800	8
..CHRYSTOPHYCEAE	YELLOW-BROWN ALGAE		
...CHRYSONOMONADALES			
...CHROMULINACEAE			
....CHRYSOCOCCUS		140	1
	TOTALS	140	1
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
DANACYSTIS		4,700	20
...OSCILLATORIALES	FILAMENTOUS		
...OSCILLATORIA			
DOSCILLATORIA		5,400	23
	TOTALS	10,000	43

JAMES RIVER BASIN

327

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

JULY 21, 1976--Continued
1145 HOURS

EUGLENOPHYTA		EUGLENOIDS	
.CRYPTOPHYCEAE		CRYPTOMONADS	
..CRYPTOMONIDALES			
...CRYPTOMONODACEAE			
....CRYPTOMONAS		500	2
		TOTALS	500
			2
.EUGLENOPHYCEAE			
..EUGLENALES			
...EUGLENACEAE			
....EUGLENA		1,200	5
....PHACUS		290	1
....TRACHELOMONAS		860	4
		TOTALS	2,400
			10
PYRRHOPHYTA		DINOFLAGELLATES	
.DINOPHYCEAE			
..PERIDINIALES			
...GLENODINIACEAE			
LGLENODINIUM			0
		TOTALS	72
			0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.748
 CLASS 1.861
 ORDER 2.407
 FAMILY 2.680
 GENERA 3.498

JAMES RIVER BASIN

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

AUG. 26, 1976

1315 HOURS

IDENTIFICATION OF PHYTOPLANKTON

71,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...HYDRODICTYACEAE			
....PEDIASTRUM		1,900	3
...MICRACTINIACEAE			
....MICRACTINIUM		2,600	4
...OCCYSTACEAE			
....ANKISTRODESMUS		1,300	2
LKIRCHNERIELLA			0
....OOCYSTIS		2,200	3
....TETRAEDRON		2,600	4
...SCENEDESMACEAE			
....ACTINASTRUM		1,300	2
...SCENEDESMUS		9,000	13
..VOLVOCALES			
...PHACOTACEAE			
LPHACOTUS			0
	TOTALS	21,000	31
CHRYSTOPHYTA	DIATOMS		
..BACILLARIOPHYCEAE	CENTRIC		
...CENTRALES			
...COSCINODISCACEAE			
DCYCLOTELLA		13,000	19
....MELOSIRA		3,200	5
..PENNALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
LNAVICULA			0
...NITZSCHIACEAE			
....NITZSCHIA		640	1
	TOTALS	17,000	25
..CHRYSTOPHYCEAE	YELLOW-BROWN ALGAE		
..CHRYSOMONADALES			
...OCHROMONADACEAE			
LOCHROMONAS			0
	TOTALS	320	0
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
....ANACYSTIS		2,600	4
...OSCILLATORIALES	FILAMENTOUS		
...OSCILLATORIA			
DOSCILLATORIA		29,000	41
	TOTALS	31,000	45

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.542
 CLASS 1.575
 ORDER 1.867
 FAMILY 2.393
 GENERA 2.795

06478500 JAMES RIVER NEAR SCOTLAND, SD--Continued

SEP. 16, 1976
1330 HOURS

IDENTIFICATION OF PHYTOPLANKTON

20,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		2,700	13
....OOCYSTIS		1,300	6
....TETRAEDRON		130	1
...SCENEDESMACEAE			
DSCENEDESMUS		5,600	28
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CARTERIA		510	3
...VOLVOCAEAE			
....PANDORINA		2,000	10
	TOTALS	12,000	61
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		2,300	11
....MELOSIRA		250	1
...PENNALES	PENNATE		
...FRAGILARIACEAE			
LSYNDRA			0
...NAVICULACEAE	NAVICULOID		
LGYROSIGMA			0
...NAVICULA		250	1
...NITZSCHACEAE			
....NITZSCHIA		1,000	5
	TOTALS	3,800	18
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...OSCILLATORIALES	FILAMENTOUS		
...OSCILLATORIAEAE			
LOSCILLATORIA			0
EUGLENOPHYTA	EUGLENOIDS		
..CRYPTOPHYCEAE	CRYPTOMONADS		
...CRYPTOMONIDALES			
...CRYPTOCHRYSIDACEAE			
....CHROOMONAS		250	1
...CRYPTOMONODACEAE			
....CRYPTOMONAS		630	3
	TOTALS	880	4
..EUGLENOPHYCEAE			
...EUGLENALES			
...EUGLENACEAE			
....EUGLENA		2,100	11
....PHACUS		380	2
....TRACHELOMONAS		630	3
	TOTALS	3,200	16
PYRRHOPHYTA			
..DINOPHYCEAE	DINOFLAGELLATES		
...PERIDINIALES			
...GLENODINIACEAE			
....GLENODINIUM		130	1
	TOTALS	130	1

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.405
 CLASS 1.557
 ORDER 2.176
 FAMILY 2.820
 GENERA 3.287

VERMILLION RIVER BASIN

06478540 LITTLE VERMILLION RIVER NEAR SALEM, SD
(Hydrologic bench-mark station)

LOCATION.--Lat 43°47'39", long 97°22'02", in SW¼ sec.19, T.104 N., R.54 W., McCook County, Hydrologic Unit 10170102, on right wingwall at downstream end of culvert on county highway, 2.0 mi (3.2 km) upstream from small left-bank tributary and 5.2 mi (8.4 km) northeast of Salem.

DRAINAGE AREA.--51.0 mi² (132 km²), approximately.

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder and concrete dam.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--10 years, 1.64 ft³/s (0.046 m³/s), 1,190 acre-ft/yr (1.47 hm³/yr); median of yearly mean discharges, 0.74 ft³/s (0.02 m³/s), 540 acre-ft/yr (0.67 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 596 ft³/s (16.9 m³/s) Apr. 7, 1969, gage height, 7.58 ft (2.310 m); maximum gage height, 8.53 ft (2.600 m) Apr. 5, 1969 (backwater from ice); no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7.7 ft³/s (0.218 m³/s) Mar. 19; maximum gage height, 4.39 ft (1.338 m) Feb. 25 (backwater from ice); no peak above base of 10 ft³/s (0.28 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	.16						
2					0	.11						
3					0	.08						
4					0	.07						
5					0	.06						
6					0	.05						
7					0	.06						
8					0	.07						
9					0	.09						
10					0	.11						
11					0	.13						
12					0	.15						
13					0	.18						
14					0	.30						
15					0	.60						
16					0	1.1						
17					.01	1.5						
18					.14	1.9						
19					.18	3.0						
20					.10	1.8						
21					.08	.75						
22					.08	.46						
23					.12	.31						
24					.30	.40						
25					.40	.21						
26					.30	.14						
27					.28	.06						
28					.26	.01						
29					.24	0						
30					---	0						
31		---			---	0	---		---			---
TOTAL	0	0	0	0	2.49	13.86	0	0	0	0	0	0
MEAN	0	0	0	0	.086	.45	0	0	0	0	0	0
MAX	0	0	0	0	.40	3.0	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	4.9	27	0	0	0	0	0	0
CAL YR 1975	TOTAL	0.00	MEAN .0000	MAX .00	MIN 0	AC-FT .0						
WTR YR 1976	TOTAL	16.35	MEAN .045	MAX 3.0	MIN 0	AC-FT 32						

06478690 WEST FORK VERMILLION RIVER NEAR PARKER, SD

LOCATION.--Lat 43°24'55", long 97°12'18", in NE¼NE¼ sec.10, T.99 N., R.54 W., Turner County, Hydrologic Unit 10170102, on left downstream wingwall of bridge, 3.7 mi (6.0 km) northwest of Parker and 13.9 mi (22.4 km) upstream from confluence with East Fork Vermillion River.

DRAINAGE AREA.--370 mi² (958 km²), approximately.

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

GAGE.--Water-stage recorder. Altitude of gage is 1,340 ft (408 m), from topographic map. Prior to Oct. 11, 1973, nonrecording gage and crest-stage gage at same site and datum.

REMARKS.--Records fair except those for winter periods, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--15 years, 19.2 ft³/s (0.544 m³/s), 13,910 acre-ft/yr (17.2 hm³/yr); median of yearly mean discharges, 8.6 ft³/s (0.24 m³/s), 6,200 acre-ft/yr (7.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,340 ft³/s (123 m³/s) Mar. 28, 1962, gage height, 12.33 ft (3.758 m); no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 130 ft³/s (3.682 m³/s) Feb. 26, gage height, 5.43 ft (1.655 m), no peak above base of 150 ft³/s (4.25 m³/s); minimum daily, 0.01 ft³/s (<0.001 m³/s) Aug. 24 to Sept. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.26	.40	.16	.65	.86	70	13	4.0	.80	.17	.02	.01
2	.26	.39	.17	.60	.95	50	12	3.8	.68	.17	.02	.01
3	.26	.38	.20	.55	.92	37	12	3.6	.68	.17	.02	.01
4	.26	.36	.24	.50	.88	30	11	3.8	.63	.15	.02	.01
5	.26	.35	.29	.47	.84	25	9.7	3.6	.63	.13	.02	.01
6	.26	.33	.33	.43	.78	24	9.2	3.3	.58	.13	.02	.02
7	.26	.32	.38	.39	.73	22	8.5	3.3	.58	.13	.02	.02
8	.29	.31	.47	.36	.70	21	8.0	2.9	.53	.13	.02	.02
9	.29	.29	.56	.35	.65	20	6.8	3.1	.53	.13	.04	.02
10	.29	.27	.60	.37	.80	22	6.8	2.9	.53	.11	.04	.02
11	.26	.26	.63	.40	1.5	25	6.1	2.9	.49	.11	.04	.02
12	.29	.25	.65	.45	2.5	28	5.2	2.2	.45	.11	.04	.04
13	.29	.24	.67	.40	6.0	32	3.8	1.8	.45	.11	.02	.04
14	.29	.23	.69	.54	8.0	35	4.2	1.6	.45	.11	.02	.05
15	.33	.22	.58	.55	11	43	4.2	1.4	.45	.10	.02	.04
16	.33	.21	.45	.56	16	47	4.2	1.2	.45	.10	.02	.04
17	.37	.20	.35	.58	20	56	4.2	1.0	.45	.10	.02	.04
18	.37	.19	.25	.60	31	69	4.2	.80	.41	.08	.02	.04
19	.37	.19	.20	.62	40	78	5.4	.80	.41	.06	.02	.04
20	.41	.15	.22	.65	80	81	5.6	.80	.37	.06	.02	.04
21	.41	.14	.24	.66	65	56	5.9	.80	.33	.06	.02	.02
22	.45	.14	.26	.67	60	39	6.1	1.6	.33	.06	.02	.02
23	.45	.14	.30	.68	55	33	6.6	1.9	.33	.05	.02	.02
24	.49	.13	.33	.70	80	28	6.8	1.8	.29	.05	.01	.02
25	.49	.13	.37	.65	120	23	6.6	1.4	.26	.05	.01	.02
26	.49	.13	.40	.57	125	18	5.6	1.2	.23	.05	.01	.02
27	.49	.14	.45	.53	115	17	4.7	1.1	.23	.05	.01	.02
28	.49	.14	.50	.60	100	16	4.7	.80	.20	.04	.01	.02
29	.41	.14	.55	.66	95	14	4.5	.80	.20	.04	.01	.02
30	.41	.15	.60	.73	---	13	4.5	.80	.17	.04	.01	.02
31	.41	---	.65	.80	---	13	---	.80	---	.04	.01	---
TOTAL	10.99	6.92	12.74	17.37	1039.11	1085	200.1	61.80	13.12	2.89	.62	.74
MEAN	.35	.23	.41	.56	35.8	35.0	6.67	1.99	.44	.093	.020	.025
MAX	.49	.40	.69	.80	125	81	13	4.0	.80	.17	.04	.05
MIN	.26	.13	.16	.35	.65	13	3.8	.80	.17	.04	.01	.01
AC-FT	22	14	25	34	2060	2150	397	123	26	5.7	1.2	1.5

CAL YR 1975 TOTAL 697.01 MEAN 1.91 MAX 48 MIN 0 AC-FT 1380
WTR YR 1976 TOTAL 2451.40 MEAN 6.70 MAX 125 MIN .01 AC-FT 4860

06479000 VERMILLION RIVER NEAR WAKONDA, SD

LOCATION.--Lat 42°59'27", long 96°57'49", in SW¼NW¼ sec.2, T.94 N., R.52 W., Clay County, Hydrologic Unit 10170102, on left bank 40 ft (12 m) downstream from bridge on State Highway 19, 4.3 mi (6.9 km) downstream from Frog Creek, 7.4 mi (11.9 km) southeast of Wakonda, and 29.6 mi (47.6 km) upstream from mouth.

DRAINAGE AREA.--1,680 mi² (4,351 km²), approximately.

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

GAGE.--Water-stage recorder. Datum of gage is 1,150.9 ft (350.79 m) above mean sea level, levels by Corps of Engineers. Prior to Sept. 2, 1954, nonrecording gage and crest-stage gage at site 40 ft (12 m) upstream at same datum. Since Dec. 27, 1951, supplementary nonrecording gage on relief bridge.

REMARKS.--Records poor. At times during periods of high stage, part of flow leaves main channel through levee breaks and bypasses gage through overflow channel on left bank. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years, 110 ft³/s (3.115 m³/s), 79,700 acre-ft/yr (98.3 hm³/yr); median of yearly mean discharges, 79 ft³/s (2.24 m³/s), 57,200 acre-ft/yr (70 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,880 ft³/s (280 m³/s) Apr. 8, 1969; maximum gage height, 17.17 ft (5.233 m) Apr. 6, 1969; no flow at times in 1951, 1956-59, 1975, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 469 ft³/s (13.3 m³/s) Mar. 16, gage height, 8.60 ft (2.621 m); maximum gage height, 8.87 ft (2.704 m) Feb. 18 (backwater from ice); no flow July 25, Aug. 27 to Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	8.1	2.0	1.2	1.5	210	100	46	22	9.7	.63	
2	5.0	7.7	2.0	1.2	1.4	200	91	44	19	11	.55	
3	4.2	8.1	1.8	.97	1.3	192	84	42	10	19	.52	
4	4.2	7.1	1.8	.96	1.2	188	78	41	8.1	19	.50	
5	4.2	7.4	1.8	.92	1.1	160	73	39	6.3	8.1	.48	
6	3.7	7.4	1.8	1.0	1.0	149	70	38	4.9	7.4	.49	
7	4.7	8.1	1.7	1.0	1.0	140	66	35	4.9	6.8	.47	
8	4.5	7.4	1.7	.81	.98	132	62	32	6.8	3.4	.45	
9	2.2	7.4	1.8	.94	1.1	128	58	32	8.4	4.9	.44	
10	1.5	9.0	2.0	1.4	1.5	122	57	30	9.8	3.9	.44	
11	1.9	10	2.1	1.7	2.0	117	56	30	11	4.9	.44	
12	2.4	9.0	2.2	1.8	3.0	127	51	27	19	3.0	.43	
13	3.1	8.4	2.2	1.9	3.7	150	49	28	18	8.1	.43	
14	2.2	9.0	1.9	1.9	5.0	220	49	26	21	.65	.43	
15	.89	8.7	1.6	1.6	16	360	48	25	19	.65	.45	
16	1.3	8.1	1.3	1.6	75	452	47	24	19	.60	.51	
17	1.8	8.1	.99	1.6	110	413	47	23	21	.45	.66	
18	2.8	9.7	.76	1.7	150	321	48	20	18	.60	.93	
19	3.6	11	.96	.39	175	301	48	19	18	.70	1.3	
20	4.1	11	1.2	.46	165	313	48	18	11	.80	1.5	
21	4.3	9.2	1.2	.46	160	312	47	16	11	.65	1.5	
22	5.4	7.0	1.3	.59	150	265	46	21	10	.35	1.3	
23	5.4	5.3	1.3	.66	142	225	46	27	18	.27	.76	
24	4.9	4.4	1.3	.68	135	192	48	34	23	.15	.44	
25	4.9	3.9	1.2	.70	155	177	52	32	21	0	.19	
26	6.3	3.0	1.3	.66	170	157	52	44	23	.18	.03	
27	7.4	2.3	1.3	.65	200	142	54	44	16	.18	0	
28	6.8	2.0	1.4	.73	210	128	55	38	10	.50	0	
29	8.4	2.1	1.4	.92	215	122	53	32	10	.65	0	
30	8.4	2.0	1.3	1.2	---	119	50	28	9.7	.65	0	
31	8.7	---	1.3	1.4	---	109	---	24	---	.65	0	---
TOTAL	134.99	211.9	47.91	33.70	2253.78	6343	1733	959	426.9	117.88	16.27	0
MEAN	4.35	7.06	1.55	1.09	77.7	205	57.8	30.9	14.2	3.80	.52	0
MAX	8.7	11	2.2	1.9	215	452	100	46	23	19	1.5	0
MIN	.89	2.0	.76	.39	.98	109	46	16	4.9	0	0	0
AC-FT	268	420	95	67	4470	12580	3440	1900	847	234	32	0

CAL YR 1975 TOTAL 4387.10 MEAN 12.0 MAX 120 MIN 0 AC-FT 8700

WTR YR 1976 TOTAL 12278.33 MEAN 33.5 MAX 452 MIN 0 AC-FT 24350

BIG SIOUX RIVER BASIN

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06479438 BIG SIOUX RIVER NEAR WATERTOWN, SD

LOCATION.--Lat 45°00'22", long 97°09'53", in NE&NE&NE& sec.16, T.118 N., R.52 W., Codington County, Hydrologic Unit 10170202, on left bank at downstream side of county highway bridge, 4.9 mi (7.9 km) downstream from Mahoney Creek, 6.5 mi (10.5 km) upstream from inlet-outlet to Lake Kampeska, and 7.5 mi (12.1 km) northwest of Watertown.

DRAINAGE AREA.--241 mi² (624 km²), approximately.

PERIOD OF RECORD.--October 1972 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,725.81 ft (526.027 m) above mean sea level (South Dakota Department of Transportation bench mark).

REMARKS.--Records good except those for winter periods, which are poor. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 414 ft³/s (11.7 m³/s) Mar. 15, 1973, gage height, 8.11 ft (2.472 m); maximum gage height, 8.40 ft (2.560 m) Mar. 20, 1976 (backwater from ice); no flow at times in 1974-76.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 260 ft³/s (7.36 m³/s) Mar. 24; gage height, 7.07 ft (2.155 m); maximum gage height, 8.40 ft (2.560 m) Mar. 20 (backwater from ice); no flow for many days.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-21; stage-discharge relation affected by
by ice Nov. 20 to Mar. 23)

3.38	0	3.7	4.0	5.0	61
3.4	.03	4.0	11	6.0	137
3.5	.39	4.5	31	7.0	246
3.6	1.8				

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.1	.12	.03	.02	0	0	30	5.6	.23	.01	.03	.05
2	.1	.13	.03	.02	0	0	26	5.6	.12	.04	.08	.06
3	0	.18	.04	.01	0	0	25	5.6	.09	.08	.01	.01
4	0	.15	.05	0	0	0	20	5.2	.06	.04	0	0
5	0	.18	.05	0	0	0	20	5.3	.06	.01	.04	.02
6	0	.26	.04	0	0	0	18	5.2	.03	.02	.07	.03
7	0	.22	.03	0	0	0	16	4.7	.03	.01	.08	.06
8	.01	.15	.02	0	0	0	13	4.3	.01	0	.03	.20
9	.01	.15	.01	0	0	.01	11	4.1	.01	0	.01	.10
10	.01	.15	.01	0	.01	.01	10	2.0	.01	0	0	.10
11	.03	.18	.01	0	.01	.02	9.8	1.1	0	0	0	.11
12	.04	.06	.01	0	.01	.04	8.8	.95	0	0	0	.12
13	.03	.31	.01	0	.01	.08	7.9	.95	0	0	0	.12
14	.10	.29	0	0	.01	.20	7.4	1.1	0	0	.04	.11
15	.03	.23	0	0	.01	.70	7.2	1.1	0	.02	.10	.14
16	.07	.16	0	0	.01	2.5	11	.80	0	.02	.25	.15
17	.12	.15	0	0	.01	6.0	7.4	.69	0	.02	.11	.10
18	.19	.15	0	0	.01	10	6.8	.58	0	.04	.05	.09
19	.19	.11	.01	0	.01	25	6.1	.35	0	.03	.06	.09
20	.19	.10	.01	0	.01	120	7.0	.31	0	.05	.04	.06
21	.19	.08	.02	0	.01	140	7.0	.31	.01	.05	.01	.06
22	.23	.07	.02	0	.01	160	6.5	.27	.01	.05	0	.06
23	.26	.06	.02	0	.02	180	6.5	.19	0	.07	0	.04
24	.22	.05	.02	0	.02	229	7.0	.12	.12	.27	.01	.08
25	.13	.04	.02	0	.02	197	7.0	.12	.12	.28	.01	.09
26	.21	.04	.02	0	.02	139	6.8	.15	.06	.22	.02	.12
27	.21	.03	.02	0	.01	122	6.5	.23	.03	.08	.01	.12
28	.13	.04	.02	0	.01	80	6.3	.27	.03	.04	0	.14
29	.11	.05	.03	0	.01	58	6.3	.27	.01	.03	.01	.17
30	.22	.04	.03	0	---	47	5.6	.27	.01	.07	0	.17
31	.20	---	.03	0	---	38	---	.23	---	.03	.03	---
TOTAL	3.13	3.93	.61	.05	.24	1554.56	333.9	57.96	1.05	1.58	1.10	2.77
MEAN	.10	.13	.020	.002	.008	50.1	11.1	1.87	.035	.051	.036	.092
MAX	.26	.31	.05	.02	.02	229	30	5.6	.23	.28	.25	.20
MIN	0	.03	0	0	0	0	5.6	.12	0	0	0	0
AC-FT	6.2	7.8	1.2	.10	.5	3080	662	115	2.1	3.1	2.2	5.5

CAL YR 1975 TOTAL 2809.33 MEAN 7.70 MAX 250 MIN 0 AC-FT 5570
WTR YR 1976 TOTAL 1960.88 MEAN 5.36 MAX 229 MIN 0 AC-FT 3890

06479515 WILLOW CREEK NEAR WATERTOWN, SD

LOCATION.--Lat 44°54'17", long 97°03'31", in NE&NW¼ sec.34, T.117 N., R.52 W., Codington County, Hydrologic Unit 10170202, on right bank 5 ft (2 m) downstream from bridge, 4.7 mi (7.6 km) upstream from mouth, and 2.8 mi (4.5 km) east of Watertown.

DRAINAGE AREA.--125 mi² (324 km²), approximately.

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

GAGE.--Water-stage recorder. Datum of gage is 1,721.24 ft (524.634 m) above mean sea level (South Dakota Department of Transportation bench mark).

REMARKS.--Records fair except those for winter periods, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--5 years, 12.2 ft³/s (0.346 m³/s), 8,840 acre-ft/yr (10.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,220 ft³/s (34.6 m³/s) May 29, 1972, gage height, 6.23 ft (1.899 m); maximum gage height, 9.86 ft (3.005 m) Mar. 15, 1972 (backwater from ice); no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 347 ft³/s (9.83 m³/s) Mar. 24; maximum gage height, 5.83 ft (1.777 m) Mar. 18 (backwater from ice); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.13	.02	.19	.07	4.0	14	4.0	.22			
2	.11	.13	.01	.18	.06	3.3	11	2.1	.17			
3	.11	.13	.01	.17	.05	2.7	7.7	4.5	.14			
4	.11	.13	.02	.15	.04	2.5	9.5	4.7	.10			
5	.07	.12	.03	.14	.04	2.2	8.9	1.7	.08			
6	.06	.14	.02	.12	.03	2.0	8.3	2.8	.07			
7	.06	.14	.01	.11	.03	2.3	7.6	2.2	.06			
8	.07	.14	.01	.10	.04	2.6	6.7	2.3	.04			
9	.06	.12	.01	.10	.05	3.5	6.8	1.7	.02			
10	.04	.12	.01	.11	.06	5.0	5.6	1.0	.03			
11	.07	.12	.01	.12	.07	8.0	6.2	.45	.03			
12	.09	.11	.02	.13	.08	13	5.2	.67	.02			
13	.10	.14	.02	.14	.10	20	5.8	.55	0			
14	.11	.14	.01	.15	.12	35	4.4	.40	0			
15	.07	.25	0	.15	.15	60	4.8	.28	0			
16	.08	.25	0	.16	.20	100	6.6	.16	.01			
17	.11	.25	0	.17	.30	150	4.9	.14	0			
18	.12	.25	0	.17	.50	200	5.2	.17	0			
19	.11	.19	.01	.18	.70	250	5.4	.17	0			
20	.10	.15	.02	.18	.90	300	5.9	.15	0			
21	.10	.12	.03	.19	1.1	250	5.4	.15	0			
22	.12	.09	.03	.19	1.3	211	4.3	.15	0			
23	.35	.06	.04	.20	1.5	215	4.8	.15	0			
24	1.4	.04	.05	.15	1.8	235	5.1	.17	0			
25	.42	.03	.06	.11	2.5	78	6.3	.14	0			
26	.28	.04	.07	.08	3.5	62	5.3	.19	0			
27	.20	.04	.08	.05	6.0	40	6.0	.34	0			
28	.15	.05	.10	.04	7.0	26	6.3	.30	0			
29	.15	.04	.12	.05	5.5	22	5.8	.26	0			
30	.16	.03	.14	.06	---	20	4.4	.23	0			
31	.15	---	.16	.06	---	15	---	.19	---			
TOTAL	5.23	3.73	1.12	4.10	33.79	2340.1	194.2	32.41	.99	0	0	0
MEAN	.17	.12	.036	.13	1.17	75.5	6.47	1.05	.033	0	0	0
MAX	1.4	.25	.16	.20	7.0	300	14	4.7	.22	0	0	0
MIN	.04	.03	0	.04	.03	2.0	4.3	.14	0	0	0	0
AC-FT	10	7.4	2.2	8.1	67	4640	385	64	2.0	0	0	0

CAL YR 1975 TOTAL 2039.73 MEAN 5.59 MAX 200 MIN 0 AC-FT 4050
WTR YR 1976 TOTAL 2615.67 MEAN 7.15 MAX 300 MIN 0 AC-FT 5190

06479529 STRAY HORSE CREEK NEAR CASTLEWOOD, SD

LOCATION.--Lat 44°43'52", long 96°57'23", in NE¼NE¼NW¼ sec.33, T.115 N., R.51 W., Hamlin County, Hydrologic Unit 10170202, on right bank at downstream side of bridge on State Highway 22, 3.5 mi (5.6 km) east of Castlewood, 6.4 mi (10.3 km) upstream from mouth, and 7.0 mi (11.3 km) north of Dempster.

DRAINAGE AREA.--73.7 mi² (191 km²), approximately.

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

GAGE.--Water-stage recorder. Datum of gage is 1,703.88 ft (519.343 m) above mean sea level (South Dakota Department of Transportation bench mark).

REMARKS.--Records good except those for winter periods, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--8 years, 10.2 ft³/s (0.289 m³/s), 7,390 acre-ft/yr (9.11 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,000 ft³/s (396 m³/s) Apr. 7, 1969, gage height, 14.65 ft (4.465 m), from rating curve extended above 3,500 ft³/s (99.1 m³/s) on basis of contracted-opening measurement of peak flow; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 902 ft³/s (25.5 m³/s) Mar. 19; maximum gage height, 10.33 ft (3.149 m) Mar. 19 (backwater from ice); no flow for many days.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 28 to Nov. 18, Apr. 20 to May 25; stage-discharge relation affected by ice Nov. 19 to Mar. 19)

4.3	0	4.7	2.8	5.5	27	7.0	185
4.4	.35	4.9	6.4	6.0	61	7.5	293
4.5	.85	5.2	15	6.5	113	8.0	445
4.6	1.6						

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.21	.08	.16	.06	0	12	7.6	1.2	.14			
2	.17	.07	.15	.05	0	14	6.9	1.1	.09			
3	.14	.05	.14	.03	0	12	6.2	1.1	.04			
4	.09	.05	.14	.01	0	11	5.8	1.1	.02			
5	.09	.03	.15	0	0	10	5.4	.96	0			
6	.08	.03	.13	0	0	9.0	5.0	.84	0			
7	.02	.03	.12	0	0	9.5	4.5	.70	0			
8	0	.03	.11	0	.01	10	4.1	.65	0			
9	0	.01	.10	0	.01	11	3.8	.70	0			
10	0	.01	.09	0	.02	12	3.5	.63	0			
11	0	.01	.08	0	.04	25	3.0	.60	0			
12	0	.14	.07	0	.06	250	2.7	.61	0			
13	.02	.14	.06	0	.09	180	2.6	.57	0			
14	.02	.10	.05	0	.13	160	2.6	.53	0			
15	.05	.18	.05	0	.18	130	2.5	.51	0			
16	.07	.24	.04	0	.25	125	3.1	.33	0			
17	.07	.24	.04	0	.35	140	2.9	.26	0			
18	.06	.24	.03	0	.45	350	2.5	.24	0			
19	.02	.23	.04	0	.60	700	2.3	.22	0			
20	.05	.20	.05	0	.80	368	2.2	.24	0			
21	.03	.18	.06	0	1.0	131	2.1	.21	0			
22	.06	.15	.06	0	1.4	83	1.8	.14	0			
23	.11	.13	.04	0	2.1	66	1.7	.12	0			
24	.31	.11	.06	0	2.7	83	1.7	.08	0			
25	.24	.10	.06	0	3.7	48	1.8	.07	0			
26	.13	.09	.06	0	5.0	34	1.8	.10	0			
27	.10	.09	.06	0	7.0	24	1.6	.11	0			
28	.08	.10	.07	0	8.0	16	1.4	.10	0			
29	.10	.13	.07	0	9.0	12	1.3	.08	0			
30	.12	.17	.07	0	---	11	1.3	.07	0			
31	.15	---	.07	0	---	8.8	---	.09	---			---
TOTAL	2.59	3.36	2.50	.15	42.89	3055.3	95.7	14.26	.29	0	0	0
MEAN	.084	.11	.081	.005	1.48	98.6	3.19	.46	.010	0	0	0
MAX	.31	.24	.16	.06	9.0	700	7.6	1.2	.14	0	0	0
MIN	0	.01	.03	0	0	8.8	1.3	.07	0	0	0	0
AC-FT	5.1	6.7	5.0	.3	85	6060	190	28	.6	0	0	0

CAL YR 1975 TOTAL 1087.86 MEAN 2.98 MAX 115 MIN 0 AC-FT 2160
WTR YR 1976 TOTAL 3217.04 MEAN 8.79 MAX 700 MIN 0 AC-FT 6380

BIG SIOUX RIVER BASIN

06479640 HIDEWOOD CREEK NEAR ESTELLINE, SD

LOCATION.--Lat 44°36'42", long 96°54'17", in SW¼NW¼ sec.12, T.113 N., R.51 W., Hamlin County, Hydrologic Unit 10170202, on left bank at upstream side of highway bridge, 2.7 mi (4.3 km) north of Estelline, 2.8 mi (4.5 km) southeast of Dempster, and 4.7 mi (7.6 km) upstream from mouth.

DRAINAGE AREA.--164 mi² (425 km²), approximately.

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

GAGE.--Water-stage recorder. Altitude of gage is 1,665 ft (507 m), from topographic map.

REMARKS.--Records good except those for winter periods, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--8 years, 22.9 ft³/s (0.649 m³/s), 16,590 acre-ft/yr (20.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,630 ft³/s (103 m³/s) Apr. 7, 1969, gage height, 11.36 ft (3.463 m); maximum gage height, 11.55 ft (3.520 m) Apr. 8, 1969 (backwater from collapsed bridge), no flow at times in 1969, 1971, 1974-76.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 700 ft³/s (19.8 m³/s) Mar. 20; maximum gage height, 8.43 ft (2.569 m) Mar. 20 (backwater from ice); no flow for many days.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Nov. 17 to Mar. 20)

2.08	0	2.4	4.1	4.2	130
2.1	.04	2.6	9.5	5.0	238
2.2	.69	2.9	22	6.0	454
2.3	2.2	3.4	55		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	.20			0	3.0	22	7.2	2.8	1.5		0
2	1.1	.24			0	6.5	20	7.5	2.3	1.4		0
3	.92	.58			0	6.3	19	7.1	1.5	.93		0
4	.32	.53			0	6.0	17	6.3	1.1	1.1		0
5	.34	.50			0	5.5	17	6.7	.98	1.2		0
6	.24	.51			0	5.0	17	6.1	1.0	1.0		0
7	.22	.61			0	5.5	16	5.5	.82	.81		0
8	.24	.59			0	7.0	13	5.4	1.3	.22		0
9	.39	.59			0	9.0	12	5.4	1.6	.04		0
10	.34	.53			0	20	11	5.5	1.8	.05		0
11	.32	.64			0	100	10	4.5	2.3	0		0
12	.37	.77			0	300	9.5	4.7	2.0	0		0
13	.30	.85			0	260	9.2	5.0	1.8	0		0
14	.31	.70			0	230	9.0	4.5	2.3	0		0
15	.33	.77			.02	200	8.8	4.8	2.1	0		0
16	.29	1.2			.08	180	9.1	4.7	1.8	0		0
17	.31	1.3			.16	220	9.3	4.4	1.9	0		0
18	.25	1.2			.18	300	8.3	4.8	1.4	0		0
19	.27	1.1			.20	600	8.1	4.8	1.3	0		0
20	.27	.80			.22	550	8.0	4.0	1.2	0		0
21	.27	.50			.24	407	7.6	4.3	.85	0		0
22	.27	.35			.27	182	7.0	3.8	.93	0		0
23	.40	.10			.30	129	6.7	2.9	1.1	0		0
24	.76	.02			.40	148	8.3	2.0	2.2	0		0
25	.56	0			.45	97	8.2	1.7	2.5	0		0
26	.35	0			.60	77	7.7	1.5	2.1	0		0
27	.31	0			1.0	47	4.9	1.5	2.7	0		.13
28	.22	0			1.3	37	4.9	2.0	1.9	0		.10
29	.22	0			1.7	35	13	5.4	1.0	0		.12
30	.22	0			---	29	7.9	3.1	.94	0		.12
31	.24	---			---	25	---	3.8	---	0		---
TOTAL	11.95	15.18	0	0	7.12	4226.8	329.5	140.9	49.52	8.25	0	.47
MEAN	.39	.51	0	0	.25	136	11.0	4.55	1.65	.27	0	.016
MAX	1.1	1.3	0	0	1.7	600	22	7.5	2.8	1.5	0	.13
MIN	.22	0	0	0	0	3.0	4.9	1.5	.82	0	0	0
AC-FT	24	30	0	0	14	8380	654	279	98	16	0	.9
CAL YR 1975 TOTAL	2136.61				MEAN 5.85	MAX 190	MIN 0	AC-FT 4240				
WTR YR 1976 TOTAL	4789.69				MEAN 13.1	MAX 600	MIN 0	AC-FT 9500				

06479910 SIXMILE CREEK NEAR BROOKINGS, SD

LOCATION.--Lat 44°20'46", long 96°44'51", in NE¼SE¼ sec.7, T.110 N., R.49 W., Brookings County, Hydrologic Unit 10170202, on left bank 8 ft (2 m) downstream from bridge, 0.7 mi (1.1 km) upstream from Interstate Highway 29 and 2.7 mi (4.3 km) northeast of Brookings.

DRAINAGE AREA.--54.0 mi² (140 km²), approximately.

PERIOD OF RECORD.--September 1970 to current year. February 1951 to August 1970 (gage heights and discharge measurements only in files of Corps of Engineers).

GAGE (revised).--Water-stage recorder. Datum of gage is 1,618.57 ft (493.340 m) above mean sea level (levels by Corps of Engineers). Prior to Sept. 1, 1970, at datum 3.00 ft (0.914 m) higher, and Sept. 1, 1970, to Nov. 2, 1975, at datum 2.00 ft (0.610 m) higher.

REMARKS.--Records good except those for winter periods, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--6 years, 4.74 ft³/s (0.134 m³/s), 3,430 acre-ft/yr (4.23 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 405 ft³/s (11.5 m³/s) May 29, 1972, gage height, 6.71 ft (2.045 m); maximum gage height, 7.26 ft (2.213 m) Mar. 12, 1972 (backwater from ice); no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 300 ft³/s (8.50 m³/s) Mar. 20; maximum gage height, 9.17 ft (2.795 m) Mar. 20 (backwater from ice); no flow for many days.

REVISIONS.--The maximum discharge for water year 1975 has been revised to 85 ft³/s (2.41 m³/s) Apr. 24, gage height, 2.91 ft (0.887 m); revised daily discharges, in cubic feet per second, for the month of September 1975, are given below. These figures supersede those published in the report for 1975.

Sept. 6...	0.12	Sept. 11...	0.22	Sept. 15...	0.22	Sept. 19...	0.44	Sept. 23...	0.34	Sept. 27...	0.34
7...	.12	12...	.34	16...	.22	20...	.50	24...	.30	28...	.57
8...	.09	13...	.25	17...	.20	21...	.39	25...	.27	29...	.64
9...	.07	14...	.20	18...	.39	22...	.30	26...	.27	30...	.57
10...	.09										

Month	Total	Mean	Max	Min	Ac-ft
September 1975	7.98	0.27	0.64	0.07	16
Wtr Yr 1975	761.53	2.09	71	0	1510

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.50	.70	.01	.14	.06	3.1	11	2.9	.41			
2	.44	.67	0	.10	.05	2.7	10	3.3	.44			
3	.44	.64	0	.07	.05	2.4	8.8	2.9	.40			
4	.44	.58	0	.06	.04	2.2	8.2	2.6	.37			
5	.39	.63	.01	.05	.03	2.1	8.2	2.4	.32			
6	.34	.68	.02	.05	.02	2.4	7.4	2.0	.28			
7	.34	.74	.02	.04	.02	2.7	6.5	1.8	.24			
8	.34	.69	.02	.04	.02	3.3	5.9	1.7	.20			
9	.34	.64	.03	.05	.03	4.0	5.3	1.8	.17			
10	.34	.64	.03	.06	.04	4.8	4.8	1.8	.14			
11	.39	.66	.03	.07	.05	6.0	3.9	1.7	.11			
12	.57	.74	.03	.08	.06	9.0	3.5	1.4	.09			
13	.64	.74	.02	.08	.06	13	3.4	1.4	.07			
14	.71	.53	.02	.07	.07	18	3.5	1.4	.05			
15	.71	.24	.02	.07	.07	25	3.7	1.1	.04			
16	.64	.25	.02	.07	.09	35	5.2	.94	.04			
17	.80	.23	.01	.07	.12	45	6.7	.67	.03			
18	.71	.20	.01	.06	.16	60	5.6	.64	.03			
19	.80	.10	.01	.06	.20	100	4.6	.57	.02			
20	.80	.05	.02	.06	.29	200	4.6	.57	.02			
21	.71	.03	.02	.07	.40	114	4.2	.54	.01			
22	.71	.02	.02	.07	.60	83	3.9	.57	.01			
23	.71	.01	.03	.07	1.0	56	4.4	.57	0			
24	.98	.01	.03	.06	1.6	58	5.5	.53	0			
25	.98	.01	.04	.05	2.5	69	6.4	.50	0			
26	.89	.01	.05	.04	3.0	52	4.7	.42	0			
27	.89	.02	.06	.03	3.4	44	4.0	.39	0			
28	.80	.02	.08	.04	3.5	27	3.2	.40	0			
29	.71	.02	.09	.05	3.4	18	3.1	.44	0			
30	.64	.02	.12	.05	---	15	3.1	.44	0			
31	.71	---	.13	.06	---	13	---	.41	---			---
TOTAL	19.41	10.52	1.00	1.94	20.93	1089.7	163.3	38.80	3.49	0	0	0
MEAN	.63	.35	.032	.063	.72	35.2	5.44	1.25	.12	0	0	0
MAX	.98	.74	.13	.14	3.5	200	11	3.3	.44	0	0	0
MIN	.34	.01	0	.03	.02	2.1	3.1	.39	0	0	0	0
AC-FT	38	21	2.0	3.8	42	2160	324	77	6.9	0	0	0

CAL YR 1975	TOTAL	777.43	MEAN	2.13	MAX	71	MIN	0	AC-FT	1540
WTR YR 1976	TOTAL	1349.09	MEAN	3.69	MAX	200	MIN	0	AC-FT	2680

06480000 BIG SIOUX RIVER NEAR BROOKINGS, SD

LOCATION.--Lat 44°10'48", long 96°44'55", in NW¼NW¼ sec.8, T.108 N., R.49 W., Moody County, Hydrologic Unit 10170203, on right bank 3 ft (1 m) downstream from highway bridge, 2.2 mi (3.5 km) downstream from Medary Creek and 9.5 mi (15.3 km) southeast of Brookings.

DRAINAGE AREA.--4,420 mi² (11,450 km²), approximately, of which about 1,970 mi² (5,100 km²) is probably noncontributing.

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

GAGE.--Water-stage recorder. Datum of gage is 1,551.91 ft (473.022 m) above mean sea level. Prior to May 30, 1959, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter periods, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--23 years, 153 ft³/s (4.333 m³/s), 110,800 acre-ft/yr (137 hm³/yr); median of yearly mean discharges, 110 ft³/s (3.12 m³/s), 79,700 acre-ft/yr (100 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,900 ft³/s (960 m³/s) Apr. 9, 1969, gage height, 14.77 ft (4.502 m); no flow at times in 1956, 1959, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,080 ft³/s (30.6 m³/s) Mar. 24, gage height, 7.61 ft (2.320 m); no flow Sept. 7, 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	13	3.1	2.9	2.6	37	276	83	25	5.0	.02	.01
2	11	12	3.3	3.0	2.5	33	247	86	25	4.5	.02	.01
3	10	12	3.4	3.0	2.4	27	221	82	23	3.8	.02	.01
4	9.2	12	3.6	2.9	2.3	23	199	77	22	3.7	.02	.01
5	8.3	11	3.7	2.8	2.2	18	184	78	19	2.5	.02	.01
6	6.9	10	3.5	2.7	2.1	20	171	73	18	2.0	.02	.01
7	7.1	11	3.0	2.5	2.0	22	160	69	17	1.9	.02	0
8	7.2	11	3.2	2.3	2.3	24	146	66	15	1.6	.02	.02
9	6.3	12	3.4	2.0	2.6	26	134	64	15	1.0	.02	.01
10	6.5	12	3.6	2.1	2.8	30	135	61	19	.70	.02	.01
11	7.9	12	3.7	2.2	3.2	37	128	60	25	.61	.02	.01
12	9.2	14	3.5	2.3	3.6	55	113	58	19	.45	.02	.01
13	9.1	16	3.2	2.3	4.0	80	105	59	16	.32	.02	.01
14	7.8	9.8	2.8	2.4	4.5	120	107	58	13	.20	.02	.01
15	9.2	14	2.5	2.5	5.0	190	107	53	11	.20	.02	.01
16	10	20	2.2	2.6	6.0	240	112	52	11	.15	.02	.01
17	10	20	1.9	2.7	6.5	280	127	51	9.7	.15	.02	.01
18	12	19	1.7	2.9	7.5	320	108	47	8.8	.10	.01	0
19	12	16	1.8	3.0	8.5	500	101	43	8.0	.07	.01	.02
20	18	14	1.9	3.1	9.5	650	96	41	8.0	.05	.01	.01
21	13	12	2.0	3.2	10	900	92	40	7.2	.04	.01	.02
22	10	10	2.0	3.2	11	945	88	37	6.5	.04	.01	.01
23	10	7.0	2.1	3.3	13	1010	89	36	5.0	.03	.01	.01
24	12	5.0	2.2	3.1	15	1080	94	33	9.4	.03	.01	.01
25	15	4.0	2.3	2.9	17	965	109	32	10	.02	.01	.01
26	18	3.0	2.4	2.7	22	751	110	30	12	.02	.01	.02
27	16	2.8	2.5	2.5	28	629	106	28	10	.02	.01	.01
28	18	2.8	2.6	2.6	31	546	98	27	7.1	.02	.01	.01
29	14	2.9	2.7	2.7	34	463	90	27	6.1	.02	.01	.01
30	14	3.0	2.7	2.8	---	372	86	27	5.4	.02	.01	.01
31	13	---	2.8	2.7	---	314	---	26	---	.02	.01	---
TOTAL	342.7	323.3	85.3	83.9	263.1	10707	3939	1604	406.2	29.28	.48	.32
MEAN	11.1	10.8	2.75	2.71	9.07	345	131	51.7	13.5	.94	.016	.011
MAX	18	20	3.7	3.3	34	1080	276	86	25	5.0	.02	.02
MIN	6.3	2.8	1.7	2.0	2.0	18	86	26	5.0	.02	.01	0
AC-FT	680	641	169	166	522	21240	7810	3180	806	58	1.0	.6
CAL YR 1975	TOTAL	14973.89	MEAN	41.0	MAX	656	MIN	.35	AC-FT	29700		
WTR YR 1976	TOTAL	17784.58	MEAN	48.6	MAX	1080	MIN	0	AC-FT	35280		

LOCATION.--Lat 43°47'25", long 96°44'42", in NW¼NW¼ sec.29, T.104 N., R.49 W., Minnehaha County, Hydrologic Unit 10170203, on left bank at downstream side of highway bridge, 0.2 mi (0.3 km) downstream from confluence of divided channels and 3.0 mi (4.8 km) southwest of Dell Rapids.

WATER-DISCHARGE RECORDS

GAGE.--Water-stage recorder. Datum of gage is 1,455.99 ft (443.786 m) above mean sea level. Prior to Nov. 11, 1949, nonrecording gage and Nov. 11, 1949, to Sept. 30, 1951, water-stage recorder, at present site at datum 0.04 ft (0.012 m) lower.

AVERAGE DISCHARGE.--28 years, 253 ft³/s (7.165 m³/s), 183,300 acre-ft/yr (226 hm³/yr); median of yearly mean discharges, 200 ft³/s (5.66 m³/s), 145,000 acre-ft/yr (179 hm³/yr).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,510 ft³/s (42.8 m³/s) Mar. 24, gage height, 7.77 ft (2.368 m), no peak above base of 1,000 ft³/s (28.3 m³/s); no flow Aug. 25 to Sept. 30.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Nov. 21, Mar. 23-28, Apr. 30 to May 18,
June 8-21, July 6; stage-discharge relation affected by ice Nov. 22 to Mar. 22)

1.96	0	2.3	5.3	2.9	26	3.5	109	6.0	875
2.1	1.0	2.7	18	3.2	51	4.0	230	8.0	1,250

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	20	12	11	8.5	220	442	132	36	11	.32	
2	13	20	13	11	8.7	150	383	120	35	11	.35	
3	13	21	13	10	8.6	75	336	127	32	9.9	.30	
4	13	22	14	10	8.3	60	311	130	30	9.5	.31	
5	12	23	14	9.7	8.0	50	281	118	28	8.8	.31	
6	11	23	13	9.2	7.7	54	260	111	27	7.9	.20	
7	10	21	11	8.5	7.3	58	240	106	26	6.4	.12	
8	9.1	21	12	8.0	7.0	62	225	104	24	4.5	.02	
9	8.6	21	12	7.5	7.3	65	212	100	24	3.1	.02	
10	8.6	22	13	7.0	8.0	70	198	92	23	2.1	.03	
11	9.2	22	13	6.7	9.0	80	180	87	24	1.4	.10	
12	9.8	18	13	7.0	9.5	130	178	83	23	1.1	.11	
13	9.8	21	12	7.2	10	140	172	79	22	.96	.10	
14	9.1	21	11	7.5	12	160	160	75	20	.91	.04	
15	8.5	21	9.5	7.8	13	260	158	72	17	.94	.05	
16	9.3	21	8.5	8.0	15	280	172	66	16	.51	.20	
17	10	22	7.5	8.2	17	310	155	63	18	.57	.44	
18	10	22	7.0	8.2	18	340	146	63	16	.42	.58	
19	11	22	7.5	8.2	20	400	155	59	16	.36	.47	
20	13	22	7.6	8.5	21	630	148	58	15	.54	.38	
21	12	18	7.8	8.5	22	1000	139	55	14	.33	.31	
22	11	16	8.0	8.5	23	1130	135	52	12	.30	.27	
23	11	15	8.3	8.2	25	1140	140	53	11	.29	.11	
24	12	13	8.6	7.6	28	1420	144	48	9.9	.24	.02	
25	13	12	8.8	7.2	32	1270	147	48	10	.15	0	
26	16	11	9.0	7.3	35	1170	141	50	10	.26	0	
27	16	11	9.3	7.4	60	1030	142	45	11	.30	0	
28	16	11	9.6	7.6	100	855	149	40	11	.56	0	
29	16	12	9.8	7.8	230	724	144	38	11	.49	0	
30	18	12	10	8.0	---	626	139	37	11	.60	0	
31	19	---	10	8.3	---	528	---	36	---	.39	0	---
TOTAL	371.0	557	322.8	255.6	778.9	14487	5932	2347	582.9	85.82	5.16	0
MEAN	12.0	18.6	10.4	8.25	26.9	467	198	75.7	19.4	2.77	.17	0
MAX	19	23	14	11	230	1420	442	132	36	11	.58	0
MIN	8.5	11	7.0	6.7	7.0	50	135	36	9.9	.15	0	0
AC-FT	736	1100	640	507	1540	28730	11770	4660	1160	170	10	0
CAL YR 1975	TOTAL	24155.70	MEAN	66.2	MAX	714	MIN	4.2	AC-FT	47910		
WTR YR 1976	TOTAL	25725.18	MEAN	70.3	MAX	1420	MIN	0	AC-FT	51030		

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-62, 1968 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1967 to September 1970, October 1973 to current year.

WATER TEMPERATURES: October 1967 to September 1971, October 1974 to September 1975.

SUSPENDED SEDIMENT DISCHARGE: October 1967 to current year.

REMARKS.--Sediment records good. No flow Aug. 25 to Sept. 30. Flow affected by ice Nov. 22 to Mar. 22.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,400 micromhos Jan. 24, 1975; minimum daily, 140 micromhos Apr. 9, 1969.

WATER TEMPERATURES: Maximum daily, 33.5°C July 7, 12, 16, 20, 1974; minimum daily, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 619 mg/L Apr. 19, 1974; minimum daily mean, 0 mg/L Aug. 25 to Sept. 30, 1976.

SEDIMENT LOADS: Maximum daily, 40,600 tons (36,800 tonnes) Apr. 9, 1969; minimum daily, 0 ton (0 tonne) Aug. 8, 9, 14, Aug. 24 to Sept. 30, 1976.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,220 micromhos Jan. 9; minimum daily, 360 micromhos Mar. 22.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 274 mg/L Mar. 24; minimum daily mean, 0 mg/L Aug. 25 to Sept. 30.

SEDIMENT LOADS: Maximum daily, 1,050 tons (953 tonnes) Mar. 24; minimum daily, 0 ton (0 tonne) Aug. 8, 9, 14, Aug. 24 to Sept. 30.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)	PH (UNITS) (00400)	TEMPERATURE (DEG C) (00010)	TURBIDITY (JTU) (00070)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L) (00340)	IMMEDIATE COLIFORM PER (100 ML) (31501)	FECAL COLIFORM (COL. PER 100 ML) (31616)	HARDNESS (CA, MG) (00900)	NON-CARBONATE HARDNESS (MG/L) (00902)	DISSOLVED CALCIUM (CA) (MG/L) (00915)
OCT												
08...	1115	9.4	950	8.0	13.5	15	48	3800	860	370	180	76
23...	1200	11	970	7.9	9.0	20	41	390	230	--	--	--
NOV												
04...	1315	22	830	7.3	9.0	8	30	150	890	420	180	98
DEC												
02...	1300	13	900	7.5	.0	3	14	260	170	500	220	120
19...	1200	7.5	1100	7.7	.0	4	11	810	810	--	--	--
JAN												
05...	1215	9.7	1010	7.7	.0	3	10	--	--	560	230	140
FEB												
05...	1230	8.0	1150	7.3	.0	3	7	850	840	560	240	130
19...	1440	20	750	7.2	.0	10	33	420	77	--	--	--
MAR												
01...	1215	238	515	7.9	1.0	20	36	500	85	230	86	56
25...	1330	1230	375	7.3	5.0	24	46	85	83	--	--	--
APR												
06...	1230	270	700	8.8	11.5	15	32	820	830	370	150	91
MAY												
06...	1215	114	935	7.7	13.0	--	26	60	820	440	210	100
26...	1345	52	850	7.8	19.0	25	26	90	120	--	--	--
JUN												
08...	1415	24	850	8.1	26.0	--	31	80	90	420	210	84
21...	1400	14	860	8.1	22.0	20	52	370	280	--	--	--
JUL												
06...	1300	8.3	835	7.8	25.0	20	49	--	--	380	210	74
AUG												
17...	1130	.50	960	8.1	22.0	30	91	80	60	--	--	--

B Non-ideal colony count.

BIG SIOUX RIVER BASIN

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06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS-SOLVED MAG- NE- SIUM (MG/L) (00925)	DIS-SOLVED SODIUM (NA) (MG/L) (00930)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	DIS-SOLVED PO- TAS- SIUM (K) (MG/L) (00935)	BICAR- BONATE (HCO3) (MG/L) (00440)	CAR- BONATE (CO3) (MG/L) (00445)	ALKA- LINITY AS CAC03 (MG/L) (00410)	DIS-SOLVED SULFATE (SO4) (MG/L) (00945)	DIS-SOLVED CHLO- RIDE (CL) (MG/L) (00940)	DIS-SOLVED FLUO- RIDE (F) (MG/L) (00950)	DIS-SOLVED SILICA (SI02) (MG/L) (00955)
OCT												
08...	43	46	21	1.0	7.1	228	0	187	230	41	.4	.5
23...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
04...	42	38	16	.8	7.2	288	0	236	220	37	.3	8.8
DEC												
02...	48	45	16	.9	7.0	336	0	276	240	35	.3	11
19...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
05...	50	49	16	.9	7.2	392	0	322	270	32	.3	19
FEB												
05...	57	45	15	.8	7.3	392	0	322	300	30	.4	22
19...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
01...	21	13	11	.4	8.2	171	0	140	100	12	.2	13
25...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
06...	34	18	9	.4	5.9	246	7	213	170	16	.3	15
MAY												
06...	46	31	13	.6	5.4	281	0	230	220	26	.4	8.2
26...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
08...	50	38	16	.8	8.2	248	0	203	230	30	.3	5.4
21...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
06...	48	40	18	.9	6.4	209	0	171	250	29	.4	7.3
AUG												
17...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	DIS-SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L) (70300)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) (70301)	DIS-SOLVED SOLIDS (TONS PER AC-FT) (70303)	DIS-SOLVED SOLIDS (TONS PER DAY) (70302)	SUS- PENDE D SOLIDS (MG/L) (70299)	TOTAL NITRITE PLUS NITRATE (N) (MG/L) (00630)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	TOTAL AMMONIA NITRO- GEN (N) (MG/L) (00610)	TOTAL ORGANIC NITRO- GEN (N) (MG/L) (00605)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L) (00625)	TOTAL NITRO- GEN (N) (MG/L) (00600)	TOTAL NITRO- GEN (N03) (MG/L) (71887)
OCT												
08...	581	557	.79	14.7	96	.05	.06	.08	2.8	2.9	3.0	13
23...	666	--	.91	19.8	128	.00	--	.25	3.3	3.5	3.5	16
NOV												
04...	638	594	.87	37.9	44	.19	.19	.17	1.9	2.1	2.3	10
DEC												
02...	711	677	.97	25.0	1	1.1	1.1	3.0	.00	2.5	3.6	16
19...	767	--	1.04	15.5	9	1.7	--	.62	1.6	2.2	3.9	17
JAN												
05...	801	768	1.09	21.0	4	1.6	1.6	1.0	1.7	2.7	4.3	19
FEB												
05...	839	795	1.14	18.1	1	2.0	2.0	.93	1.2	2.1	4.1	18
19...	523	--	.71	28.2	11	1.7	--	1.3	2.8	4.1	5.8	26
MAR												
01...	345	313	.47	222	13	1.0	.99	.41	1.9	2.3	3.3	15
25...	260	--	.35	863	185	.75	--	.45	2.5	2.9	3.7	16
APR												
06...	513	479	.70	374	39	.15	.11	.19	1.8	2.0	2.2	9.5
MAY												
06...	623	576	.85	192	50	.01	.01	.05	1.1	1.1	1.1	4.9
26...	--	635	.86	89.2	52	.02	--	.05	1.2	1.2	1.2	5.4
JUN												
08...	673	569	.92	43.6	46	.06	.06	.25	1.3	1.5	1.6	6.9
21...	--	644	.88	24.3	84	.04	--	.28	1.9	2.2	2.2	9.9
JUL												
06...	607	558	.83	13.6	43	.01	--	.26	1.6	1.9	1.9	8.5
AUG												
17...	694	--	.94	.94	102	.19	--	.03	3.4	3.4	3.6	16

BIG SIOUX RIVER BASIN

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL PHOS- PHORUS (P) (MG/L) (00665)	DIS- SOL- VED- PHOS- PHORUS (P) (MG/L) (00666)	TOTAL ARSENIC (AS) (UG/L) (01002)	DIS- SOLVED BORON (B) (UG/L) (01020)	TOTAL COPPER (CU) (UG/L) (01042)	TOTAL IRON (FE) (UG/L) (01045)	TOTAL LEAD (PB) (UG/L) (01051)	TOTAL MAN- GANESE (MN) (UG/L) (01055)	TOTAL MERCURY (HG) (UG/L) (71900)	TOTAL SELF- NIUM (SE) (UG/L) (01147)	TOTAL ZINC (ZN) (UG/L) (01092)	TOTAL ORGANIC CARBON (C) (MG/L) (00680)
OCT												
08...	.37	.03	--	160	--	--	--	--	--	--	--	1.6
23...	.35	--	4	--	0	1200	<100	700	.0	--	20	15
NOV												
04...	.13	.02	--	150	--	--	--	--	--	--	--	8.5
DEC												
02...	.09	.06	--	150	--	--	--	--	--	--	--	5.7
19...	.13	--	1	--	10	120	<100	150	--	--	50	6.3
JAN												
05...	.19	.17	--	140	--	--	--	--	--	--	--	5.6
FEB												
05...	.18	.16	--	200	--	--	--	--	--	--	--	9.7
19...	.59	--	2	--	10	230	<100	160	.0	2	20	31
MAR												
01...	.40	.35	--	70	--	--	--	--	--	--	--	14
25...	.29	--	4	--	20	4800	<100	600	--	1	20	2.6
APR												
06...	.20	.03	--	60	--	--	--	--	--	--	--	11
MAY												
06...	.16	.03	--	110	--	--	--	--	--	--	--	25
26...	.19	--	0	--	0	720	4	380	<.5	1	20	11
JUN												
08...	.20	--	--	150	--	--	--	--	--	--	--	--
21...	.85	--	--	--	0	1900	5	550	--	--	20	14
JUL												
06...	.03	.06	--	170	--	--	--	--	--	--	--	13
AUG												
17...	.45	--	9	--	10	2500	<100	680	.0	1	20	24

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	770	895	990	1190	1200	500	640	740	860	890	880	
2	790	890	1000	1190	1200	800	660	780	870	880	890	
3	790	910	1000	1190	1200	1000	690	840	810	860	910	
4	790	910	1000	1190	1200	1000	720	860	860	850	920	
5	790	915	1020	1200	1200	1000	750	880	860	850	930	
6	805	930	1040	1200	1200	1000	760	840	880	850	940	
7	840	915	1040	1200	1200	1000	760	820	870	890	950	
8	840	890	1050	1200	1210	1000	770	870	880	850	---	
9	840	880	1060	1220	1210	1000	780	870	880	860	---	
10	850	860	1060	1200	1200	1000	790	880	880	870	960	
11	860	870	1020	1200	1200	1000	800	880	880	860	960	
12	860	890	1070	1200	1200	900	800	880	880	870	960	
13	880	900	1070	1200	1180	900	820	890	870	870	950	
14	880	900	1070	1200	1170	850	820	880	870	870	960	
15	900	900	1090	1200	1150	820	830	850	870	890	980	
16	900	900	1100	1200	1150	800	840	840	860	840	970	
17	905	910	1100	1190	1140	750	860	830	860	840	970	
18	930	910	1110	1190	1140	720	850	880	860	850	985	
19	930	910	1120	1190	1130	700	850	870	860	870	1000	
20	920	910	1100	1200	1130	400	840	900	870	860	1010	
21	910	910	1100	1200	1130	380	860	920	890	860	1020	
22	890	920	1130	1200	1130	360	860	920	880	860	1020	
23	900	920	1160	1200	1120	410	860	920	900	860	1020	
24	910	930	1150	1200	1120	415	860	900	865	870	1030	
25	920	940	1160	1200	1120	400	860	900	880	850	---	
26	915	950	1170	1200	1120	400	850	890	890	830	---	
27	910	960	1200	1200	1100	400	850	900	900	850	---	
28	910	970	1200	1200	540	500	860	890	860	840	---	
29	900	980	1200	1200	500	520	860	880	910	840	---	
30	900	980	1190	1200	---	540	860	870	880	860	---	
31	900	---	---	1200	---	560	---	900	---	870	---	
MONTH	872	915	1090	1200	1120	710	807	870	873	860	---	

< Less than.

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.0	14.0	0.0	0.0	0.0	---	12.0	17.0	27.0	27.0	27.0	---
2	17.0	13.0	0.0	0.0	0.0	---	14.0	---	27.0	27.0	---	---
3	19.0	15.0	0.0	0.0	0.0	---	7.0	14.0	27.0	26.0	28.0	---
4	---	14.0	0.0	0.0	0.0	---	13.0	---	27.0	---	30.0	---
5	---	14.0	0.0	0.0	0.0	---	14.0	14.0	28.0	28.0	27.0	---
6	18.0	10.0	0.0	0.0	0.0	---	16.0	16.0	28.0	29.0	28.0	---
7	18.0	12.0	0.0	0.0	0.0	---	14.0	18.0	29.0	32.0	---	---
8	---	12.0	0.0	0.0	2.0	---	16.0	19.0	30.0	33.0	---	---
9	---	---	0.0	0.0	4.0	---	---	---	---	28.0	---	---
10	14.0	8.0	0.0	0.0	4.0	---	17.0	19.0	31.0	28.0	30.0	---
11	15.0	8.0	0.0	0.0	3.0	---	---	23.0	---	35.0	---	---
12	13.0	4.0	0.0	1.0	3.0	---	---	19.0	---	29.0	---	---
13	18.0	3.0	0.0	0.0	1.0	---	18.0	21.0	---	29.0	---	---
14	16.0	8.0	0.0	0.0	2.0	---	19.0	18.0	---	30.0	---	---
15	13.0	8.0	0.0	0.0	---	---	---	---	---	27.0	---	---
16	13.0	---	0.0	0.0	---	---	---	---	25.0	22.0	---	---
17	10.0	7.0	0.0	1.0	---	---	18.0	18.0	25.0	24.0	---	---
18	10.0	8.0	0.0	0.0	---	---	---	20.0	22.0	25.0	---	---
19	---	---	0.0	0.0	---	---	17.0	22.0	25.0	27.0	---	---
20	16.0	---	0.0	0.0	---	---	17.0	23.0	---	25.0	---	---
21	17.0	---	0.0	2.0	---	---	18.0	25.0	22.0	29.0	24.5	---
22	16.0	---	0.0	0.0	---	5.0	19.0	---	25.0	26.0	25.0	---
23	12.0	---	0.0	1.0	---	5.0	---	20.0	27.0	32.0	27.0	---
24	---	---	0.0	2.0	---	5.0	---	23.0	22.0	31.0	29.0	---
25	9.0	---	0.0	0.0	---	7.0	15.0	22.0	22.0	---	---	---
26	11.0	---	0.0	0.0	---	6.0	14.0	19.0	---	32.0	---	---
27	9.0	---	0.0	0.0	4.0	8.0	14.0	20.0	27.0	29.0	---	---
28	9.0	---	0.0	0.0	3.0	---	16.0	25.0	28.0	27.0	---	---
29	8.0	---	0.0	0.0	---	---	---	---	23.0	29.0	---	---
30	13.0	---	0.0	0.0	---	10.0	14.0	21.0	29.0	30.0	---	---
31	11.0	---	0.0	0.0	---	10.0	---	22.0	---	28.0	---	---
MONTH	13.5	---	0.0	0.0	---	---	---	---	---	28.5	---	---

BIG SIOUX RIVER BASIN

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	13	114	4.0	20	124	6.7	12	75	2.4
2	13	160	5.6	20	105	5.7	13	71	2.5
3	13	159	5.6	21	105	6.0	13	74	2.6
4	13	160	5.6	22	116	6.9	14	74	2.8
5	12	165	5.3	23	125	7.8	14	76	2.9
6	11	168	5.0	23	120	7.5	13	78	2.7
7	10	147	4.0	21	148	8.4	11	90	2.7
8	9.1	140	3.4	21	108	6.1	12	100	3.2
9	8.6	135	3.1	21	107	6.1	12	120	3.9
10	8.6	131	3.0	22	106	6.3	13	122	4.3
11	9.2	156	3.9	22	106	6.3	13	122	4.3
12	9.8	150	4.0	18	113	5.5	13	123	4.3
13	9.8	146	3.9	21	111	6.3	12	120	3.9
14	9.1	178	4.4	21	111	6.3	11	115	3.4
15	8.5	156	3.6	21	104	5.9	9.5	110	2.8
16	9.3	126	3.2	21	95	5.4	8.5	105	2.4
17	10	123	3.3	22	85	5.0	7.5	100	2.0
18	10	167	4.5	22	111	6.6	7.0	95	1.8
19	11	165	4.9	22	110	6.5	7.5	94	1.9
20	13	163	5.7	22	105	6.2	7.6	96	2.0
21	12	121	3.9	18	105	5.1	7.8	98	2.1
22	11	128	3.8	16	102	4.4	8.0	100	2.2
23	11	167	5.0	15	100	4.1	8.3	103	2.3
24	12	155	5.0	13	95	3.3	8.6	110	2.6
25	13	140	4.9	12	95	3.1	8.8	120	2.9
26	16	124	5.4	11	90	2.7	9.0	133	3.2
27	16	133	5.7	11	90	2.7	9.3	120	3.0
28	16	139	6.0	11	90	2.7	9.6	110	2.9
29	16	116	5.0	12	85	2.8	9.8	88	2.3
30	18	158	7.7	12	80	2.6	10	88	2.4
31	19	141	7.2	---	---	---	10	86	2.3
TOTAL	371.0	---	145.6	557	---	161.0	322.8	---	87.0
DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	11	84	2.5	8.5	142	3.3	220	80	48
2	11	82	2.4	8.7	142	3.3	150	90	36
3	10	80	2.2	8.6	142	3.3	75	85	17
4	10	78	2.1	8.3	140	3.1	60	85	14
5	9.7	76	2.0	8.0	142	3.1	50	80	11
6	9.2	80	2.0	7.7	140	2.9	54	80	12
7	8.5	85	2.0	7.3	130	2.6	58	75	12
8	8.0	90	1.9	7.0	120	2.3	62	75	13
9	7.5	100	2.0	7.3	110	2.2	65	75	13
10	7.0	117	2.2	8.0	100	2.2	70	75	14
11	6.7	120	2.2	9.0	86	2.1	80	80	17
12	7.0	130	2.5	9.5	100	2.6	130	80	28
13	7.2	132	2.6	10	110	3.0	140	80	30
14	7.5	130	2.6	12	121	3.9	160	85	37
15	7.8	132	2.8	13	120	4.2	260	85	60
16	8.0	130	2.8	15	115	4.7	280	85	64
17	8.2	131	2.9	17	115	5.3	310	85	71
18	8.2	135	3.0	18	110	5.3	340	90	83
19	8.2	140	3.1	20	105	5.7	400	90	97
20	8.5	145	3.3	21	100	5.7	630	100	170
21	8.5	148	3.4	22	95	5.6	1000	110	297
22	8.5	150	3.4	23	95	5.9	1130	125	381
23	8.2	150	3.3	25	90	6.1	1140	185	569
24	7.6	148	3.0	28	85	6.4	1420	274	1050
25	7.2	148	2.9	32	85	7.3	1270	200	686
26	7.3	148	2.9	35	80	7.6	1170	170	537
27	7.4	146	2.9	60	75	12	1030	156	434
28	7.6	146	3.0	100	75	20	855	140	323
29	7.8	146	3.1	230	75	47	724	120	235
30	8.0	144	3.1	---	---	---	626	107	181
31	8.3	144	3.2	---	---	---	528	85	121
TOTAL	255.6	---	83.3	778.9	---	188.7	14487	---	5661

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD--Continued
 SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	442	92	110	132	90	32	36	139	14
2	383	112	116	120	95	31	35	125	12
3	336	124	112	127	99	34	32	100	8.6
4	311	93	78	130	103	36	30	98	7.9
5	281	169	128	118	106	34	28	109	8.2
6	260	149	105	111	114	34	27	111	8.1
7	240	185	120	106	107	31	26	94	6.6
8	225	146	89	104	93	26	24	110	7.1
9	212	150	86	100	90	24	24	110	7.1
10	198	149	80	92	92	23	23	112	7.0
11	180	145	70	87	105	25	24	110	7.1
12	178	144	69	83	97	22	23	105	6.5
13	172	113	52	79	129	28	22	105	6.2
14	160	107	46	75	139	28	20	100	5.4
15	158	110	47	72	125	24	17	100	4.6
16	172	90	42	66	115	20	16	95	4.1
17	155	70	29	63	108	18	18	90	4.4
18	146	90	35	63	141	24	16	110	4.8
19	155	97	41	59	131	21	16	113	4.9
20	148	95	38	58	115	18	15	140	5.7
21	139	127	48	55	118	18	14	166	6.3
22	135	100	36	52	140	20	12	174	5.6
23	140	100	38	53	160	23	11	196	5.8
24	144	100	39	48	132	17	9.9	198	5.3
25	147	99	39	48	125	16	10	171	4.6
26	141	88	34	50	116	16	10	180	4.9
27	142	102	39	45	120	15	11	185	5.5
28	149	141	57	40	101	11	11	152	4.5
29	144	125	49	38	100	10	11	204	6.1
30	139	118	44	37	92	9.2	11	199	5.9
31	---	---	---	36	128	12	---	---	---
TOTAL	5932	---	1916	2347	---	700.2	582.9	---	194.8
DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	11	126	3.7	.32	80	.07			
2	11	130	3.9	.35	80	.08			
3	9.9	135	3.6	.30	83	.07			
4	9.5	125	3.2	.31	48	.04			
5	8.8	122	2.9	.31	59	.05			
6	7.9	126	2.7	.20	43	.02			
7	6.4	121	2.1	.12	109	.04			
8	4.5	125	1.5	.02	90	0			
9	3.1	131	1.1	.02	80	0			
10	2.1	133	.75	.03	77	.01			
11	1.4	137	.52	.10	111	.03			
12	1.1	110	.33	.11	68	.02			
13	.96	110	.29	.10	38	.01			
14	.91	86	.21	.04	38	0			
15	.94	100	.25	.05	76	.01			
16	.51	110	.15	.20	60	.03			
17	.57	120	.18	.44	46	.05			
18	.42	112	.13	.58	71	.11			
19	.36	98	.10	.47	78	.10			
20	.54	106	.15	.38	80	.08			
21	.33	69	.06	.31	70	.06			
22	.30	49	.04	.27	33	.02			
23	.29	86	.07	.11	37	.01			
24	.24	62	.04	.02	91	0			
25	.15	70	.03	0	0	0			
26	.26	86	.06	0	0	0			
27	.30	128	.10	0	0	0			
28	.56	100	.15	0	0	0			
29	.49	90	.12	0	0	0			
30	.60	63	.10	0	0	0			
31	.39	72	.08	0	0	0			
TOTAL	85.82	---	28.61	5.16	---	.91	0	0	0
YEAR	25725.18		9167.12						

06481500 SKUNK CREEK AT SIOUX FALLS, SD

LOCATION.--Lat 43°32'01", long 96°47'26", in NW¼SW¼ sec.24, T.101 N., R.50 W., Minnehaha County, Hydrologic Unit 10170203, on right bank 5 ft (2 m) downstream from bridge on Marion Road, 1.3 mi (2.1 km) upstream from mouth, 1.8 mi (2.9 km) downstream from small right-bank tributary, and 4.0 mi (6.4 km) southwest of Sioux Falls.

DRAINAGE AREA.--570 mi² (1,480 km²), approximately.

PERIOD OF RECORD.--May 1948 to September 1971 (published as "near Sioux Falls"). October 1971 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,405.10 ft (428.274 m) above mean sea level (Corps of Engineers bench mark). Prior to Oct. 24, 1949, nonrecording gage, and Oct. 24, 1949, to Apr. 28, 1972, water-stage recorder, both at site 1.9 mi (3.1 km) upstream at datum 10.19 ft (3.106 m) higher.

REMARKS.--Records good except those for period of no gage-height record, Jan. 7 to Mar. 2, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--28 years, 46.1 ft³/s (1.306 m³/s), 33,400 acre-ft/yr (41.2 hm³/yr); median of yearly mean discharges, 23 ft³/s (0.65 m³/s), 16,700 acre-ft/yr (21 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,400 ft³/s (833 m³/s) June 17, 1957, gage height, 17.78 ft (5.419 m), site and datum then in use, from rating curve extended above 8,100 ft³/s (229 m³/s) on basis of slope-area measurement of peak flow; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 302 ft³/s (8.553 m³/s) Mar. 18, gage height, 4.26 ft (1.298 m), no peak above base of 500 ft³/s (14.2 m³/s); minimum daily, 0.01 ft³/s (<0.001 m³/s) Sept. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	1.2	.90	2.2	2.5	60	23	17	1.8	.36	.14	.05
2	.95	1.6	.90	3.0	2.6	55	21	16	1.6	.36	.16	.06
3	1.0	1.5	1.2	2.7	2.4	41	19	13	1.5	.36	.16	.06
4	1.1	1.4	2.7	2.7	2.3	35	18	12	1.6	.33	.15	.12
5	1.1	1.5	3.9	2.8	2.2	27	17	11	1.6	.27	.12	.12
6	1.1	1.7	3.0	2.8	1.9	26	16	10	1.5	.24	.12	.09
7	1.1	1.7	2.8	2.6	2.0	26	13	8.0	1.3	.21	.11	.01
8	1.1	1.7	2.8	2.5	2.1	25	12	7.3	.09	.12	.10	.09
9	1.0	1.9	2.8	2.4	2.2	25	11	7.0	1.3	.15	.10	.09
10	1.1	2.2	2.8	2.5	2.4	25	11	6.6	1.2	.15	.11	.06
11	1.1	2.2	2.7	2.5	2.5	26	11	6.1	1.1	.12	.12	.06
12	1.1	2.4	2.5	2.6	2.6	100	8.7	5.6	.95	.12	.13	.09
13	1.1	2.5	2.7	2.6	2.7	156	8.4	6.2	.86	.09	.12	.08
14	1.3	1.8	2.8	2.7	2.8	190	8.4	6.1	.86	.15	.15	.08
15	1.1	1.8	2.7	2.7	2.9	192	8.0	5.5	.86	.15	.16	.08
16	1.1	1.8	2.7	2.8	3.1	144	9.4	5.3	.86	.09	.15	.08
17	.95	1.9	2.8	2.8	3.2	122	11	5.0	.90	.09	.16	.08
18	1.0	2.1	2.8	2.9	3.3	162	17	4.7	.86	.12	.16	.08
19	1.1	2.0	2.7	3.0	3.5	152	15	4.5	.90	.15	.19	.08
20	1.1	1.8	2.5	3.1	3.7	110	15	4.2	.86	.12	.18	.09
21	1.0	1.6	2.2	3.2	4.0	99	14	4.0	.86	.12	.16	.09
22	1.4	1.4	2.2	3.2	4.5	70	13	3.8	.86	.09	.13	.09
23	1.5	1.3	2.2	3.2	5.5	60	13	5.0	.86	.15	.10	.09
24	1.4	1.1	2.1	3.3	13	53	14	4.7	1.0	.15	.06	.09
25	1.3	1.0	2.0	3.2	23	49	17	4.3	.48	.18	.03	.09
26	1.3	.95	2.2	2.9	33	43	22	3.9	.48	.18	.03	.10
27	1.3	.95	2.2	2.3	40	37	25	3.3	.42	.18	.04	.10
28	1.3	.95	2.2	1.9	47	34	25	2.9	.39	.21	.04	.10
29	1.2	1.0	2.4	2.1	53	31	21	2.5	.33	.21	.04	.10
30	1.2	1.0	2.4	2.3	---	28	18	2.2	.33	.15	.05	.10
31	1.2	---	2.2	2.4	---	25	---	2.0	---	.15	.05	---
TOTAL	35.60	47.95	75.00	83.9	275.9	2228	454.9	199.7	28.51	5.52	3.52	2.50
MEAN	1.15	1.60	2.42	2.71	9.51	71.9	15.2	6.44	.95	.18	.11	.083
MAX	1.5	2.5	3.9	3.3	53	192	25	17	1.8	.36	.19	.12
MIN	.95	.95	.90	1.9	1.9	25	8.0	2.0	.09	.09	.03	.01
AC-FT	71	95	149	166	547	4420	902	396	57	11	7.0	5.0

CAL YR 1975 TOTAL 2669.73 MEAN 7.31 MAX 74 MIN .14 AC-FT 5300
WTR YR 1976 TOTAL 3441.00 MEAN 9.40 MAX 192 MIN .01 AC-FT 6830

06482020 BIG SIOUX RIVER AT NORTH CLIFF AVENUE, AT SIOUX FALLS, SD

LOCATION.--Lat 43°34'01", long 96°42'39", in SW¼NW¼ sec.10, T.101 N., R.49 W., Minnehaha County, Hydrologic Unit 10170203, on right bank 20 ft (6 m) downstream from bridge on North Cliff Avenue and 4.1 mi (6.6 km) upstream from Slip Up Creek.

DRAINAGE AREA.--5,770 mi² (14,940 km²), approximately, of which about 1,970 mi² (5,100 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1962 to September 1971 (gage heights and discharge measurements only in files of Corps of Engineers). October 1971 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,294.18 ft (394.466 m) above mean sea level (levels by Corps of Engineers). Prior to Dec. 15, 1971, nonrecording gage 20 ft (6 m) upstream at same datum.

REMARKS.--Records good. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--5 years, 255 ft³/s (7.222 m³/s), 184,700 acre-ft/yr (228 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,880 ft³/s (167 m³/s) Mar. 13, 1973, gage height, 16.38 ft (4.993 m); minimum daily, 2.1 ft³/s (0.059 m³/s) Jan. 14, 1972.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 10, 1969, reached a stage of 27.45 ft (8.367 m), discharge, 40,700 ft³/s (1,150 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,480 ft³/s (41.9 m³/s) Mar. 25, gage height, 10.06 ft (3.066 m); minimum daily, 12 ft³/s (0.34 m³/s) Sept. 5, 6.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 23 to Mar. 29, Apr. 6 to June 9; stage-discharge relation affected by ice Nov. 19, 20, Mar. 12)

4.6	8.2	4.9	28	5.5	110	7.0	480
4.7	14	5.2	56	6.0	215	10.0	1,540

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	30	26	23	27	235	500	172	63	19	13	16
2	27	28	26	24	27	235	443	163	58	20	16	15
3	26	32	26	23	29	166	397	155	54	18	17	14
4	24	34	27	21	26	134	361	151	52	17	17	13
5	23	34	29	22	26	102	347	149	49	17	18	12
6	25	36	26	24	26	132	326	139	44	21	18	12
7	25	34	25	22	24	132	299	135	45	22	16	17
8	23	33	27	23	24	124	274	123	44	23	17	17
9	22	37	28	21	30	120	254	114	37	23	19	17
10	21	39	28	20	31	112	243	117	34	24	21	18
11	18	36	28	20	31	122	225	109	33	23	26	17
12	17	39	28	22	34	160	216	110	33	23	22	14
13	22	34	27	25	34	182	209	106	29	22	23	18
14	23	32	25	24	33	205	214	100	28	22	22	19
15	21	30	23	25	38	245	212	98	27	25	18	19
16	23	27	25	24	57	255	213	86	26	24	30	19
17	27	30	25	22	54	260	185	87	25	22	26	19
18	22	30	24	22	47	298	173	80	24	20	26	18
19	19	29	25	22	49	368	177	57	23	19	25	15
20	22	28	24	24	55	513	185	59	22	18	24	18
21	22	27	23	26	51	621	148	77	21	17	21	18
22	22	30	25	26	51	937	166	94	19	16	19	18
23	25	26	25	27	53	954	182	85	18	15	22	17
24	29	28	25	26	55	1300	214	77	31	15	22	18
25	23	28	21	23	70	1390	192	75	23	14	22	16
26	20	27	25	25	96	1200	183	71	17	18	20	14
27	23	26	25	26	193	1110	184	68	14	18	20	18
28	25	27	22	26	215	919	222	66	18	18	17	18
29	27	28	25	28	220	796	221	58	18	16	15	18
30	29	24	26	28	---	695	190	54	19	17	18	18
31	31	---	25	28	---	605	---	53	---	15	18	---
TOTAL	733	923	789	742	1706	14627	7355	3088	948	601	628	500
MEAN	23.6	30.8	25.5	23.9	58.8	472	245	99.6	31.6	19.4	20.3	16.7
MAX	31	39	29	28	220	1390	500	172	63	25	30	19
MIN	17	24	21	20	24	102	148	53	14	14	13	12
AC-FT	1450	1830	1560	1470	3380	29010	14590	6130	1880	1190	1250	992
CAL YR 1975	TOTAL	31781	MEAN 87.1	MAX 746	MIN 17	AC-FT 63040						
WTR YR 1976	TOTAL	32640	MEAN 89.2	MAX 1390	MIN 12	AC-FT 64740						

06482020 BIG SIOUX RIVER AT NORTH CLIFF AVENUE, AT SIOUX FALLS, SD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1973 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (JTU) (00070)	CHEM- ICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L) (00340)	IMME- DIATE COLI- FORM (COL. PER 100 ML) (31501)	FECAL COLI- FORM (COL. PER 100 ML) (31616)	HARD- NESS (CA.MG) (MG/L) (00900)	NON- CAR- BONATE HARD- NESS (MG/L) (00902)
OCT											
08...	1300	25	2300	7.1	21.0	6	52	ND	ND	370	160
23...	1015	22	2240	7.5	15.5	6	51	ND	ND	--	--
NOV											
04...	1500	36	1620	6.9	16.5	--	42	--	--	--	--
DEC											
02...	1030	25	2260	6.6	8.0	10	120	ND	ND	--	--
19...	1315	26	2520	7.3	9.0	10	79	ND	ND	--	--
JAN											
05...	1345	26	1750	7.5	6.5	10	88	--	--	410	160
FEB											
05...	1430	28	2040	7.7	7.5	10	65	ND	ND	--	--
19...	1200	50	1800	7.4	7.0	15	53	ND	ND	--	--
MAR											
01...	1130	222	710	7.7	2.0	9	36	120	ND	--	--
25...	1115	1450	400	7.8	3.0	42	46	87	ND	--	--
APR											
06...	1415	330	860	8.8	12.5	14	42	830	825	350	140
MAY											
06...	1415	145	1220	7.8	14.0	--	21	130	ND	--	--
26...	1145	77	1270	7.5	20.5	10	51	820	ND	--	--
JUN											
21...	1145	20	1620	7.4	22.0	4	43	840	ND	--	--
JUL											
06...	1500	24	1550	7.3	27.0	5	35	--	--	330	260
AUG											
17...	1300	29	1700	7.3	26.5	8	79	2000	8800	--	--
SEP											
07...	1045	20	1640	7.4	22.5	7	--	950	100	--	--
15...	1030	18	2540	7.5	21.5	6	49	670	810	--	--

DATE	DIS- SOLVED CAL- CIUM (CA) (MG/L) (00915)	DIS- SOLVED MAG- NE- SIUM (MG) (00925)	DIS- SOLVED SODIUM (NA) (MG/L) (00930)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L) (00935)	BICAR- BONATE (HCO3) (MG/L) (00440)	CAR- BONATE (CO3) (MG/L) (00445)	ALKA- LITY AS CACO3 (MG/L) (00410)	DIS- SOLVED SULFATE (SO4) (MG/L) (00945)	DIS- SOLVED CHLO- RIDE (CL) (MG/L) (00940)
OCT											
08...	79	41	330	65	7.5	22	252	0	207	270	460
23...	--	--	--	--	--	--	--	--	--	--	--
NOV											
04...	--	--	--	--	--	--	--	--	--	--	--
DEC											
02...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
JAN											
05...	100	38	190	49	4.1	15	297	0	244	260	230
FEB											
05...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
MAR											
01...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
APR											
06...	85	33	48	23	1.1	7.7	244	2	203	170	56
MAY											
06...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
JUN											
21...	--	--	--	--	--	--	--	--	--	--	--
JUL											
06...	76	35	200	55	4.8	17	90	0	74	280	240
AUG											
17...	--	--	--	--	--	--	--	--	--	--	--
SEP											
07...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--

B Non-ideal colony count.
ND Not detected.

06482020 BIG SIOUX RIVER AT NORTH CLIFF AVENUE, AT SIOUX FALLS, SD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SILICA (SIO ₂) (MG/L) (00955)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L) (70300)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) (70301)	DIS- SOLVED SOLIDS (TONS PER AC-FT) (70303)	DIS- SOLVED SOLIDS (TONS PER DAY) (70302)	SUS- PENDE SOLIDS (MG/L) (70299)	TOTAL NITRITE PLUS NITRATE (N) (MG/L) (00630)	TOTAL AMMONIA NITRO- GEN (N) (MG/L) (00610)	TOTAL ORGANIC NITRO- GEN (N) (MG/L) (00605)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L) (00625)	TOTAL NITRO- GEN (N) (MG/L) (00600)
OCT											
08...	19	1370	1350	1.86	92.5	36	3.2	16	3.0	19	22
23...	--	1350	--	1.84	80.2	48	3.1	13	7.0	20	23
NOV											
04...	--	1120	--	1.52	109	28	2.1	10	--	--	--
DEC											
02...	--	1330	--	1.81	89.8	23	3.0	.03	24	24	27
19...	--	1520	--	2.07	107	12	.90	24	16	40	41
JAN											
05...	20	1060	999	1.44	74.4	23	4.2	22	2.0	24	28
FEB											
05...	--	1200	--	1.63	90.7	1	.76	--	--	19	20
19...	--	1170	--	1.59	158	30	1.4	8.5	9.5	18	19
MAR											
01...	--	454	--	.62	272	19	1.7	2.8	2.1	4.9	6.6
25...	--	305	--	.41	1190	318	.75	.25	3.1	3.3	4.1
APR											
06...	13	579	535	.79	516	62	2.5	1.1	1.1	2.2	4.7
MAY											
06...	--	802	--	1.09	314	24	.18	2.1	1.4	3.5	3.7
26...	--	--	852	1.16	177	26	.42	2.3	1.7	4.0	4.4
JUN											
21...	--	--	1090	1.48	58.9	15	1.9	15	3.0	18	20
JUL											
06...	18	974	910	1.32	63.1	6	3.6	10	.00	8.8	12
AUG											
17...	--	1090	--	1.48	85.3	8	4.0	5.3	1.5	6.8	11
SEP											
07...	--	1040	--	1.41	56.2	0	.04	.00	6.8	6.8	6.8
15...	--	1410	--	1.92	68.5	14	2.7	11	1.0	12	15

DATE	TOTAL NITRO- GEN (NO ₃) (MG/L) (71887)	TOTAL PHOS- PHORUS (P) (MG/L) (00665)	TOTAL ARSENIC (AS) (UG/L) (01002)	TOTAL COPPER (CU) (UG/L) (01042)	TOTAL IRON (FE) (UG/L) (01045)	TOTAL LEAD (PB) (UG/L) (01051)	TOTAL MAN- GANESE (MN) (UG/L) (01055)	TOTAL MERCURY (HG) (UG/L) (71900)	TOTAL SELE- NIUM (SE) (UG/L) (01147)	TOTAL ZINC (ZN) (UG/L) (01092)	TOTAL ORGANIC CARBON (C) (MG/L) (00680)
OCT											
08...	98	10	--	--	--	--	--	--	--	--	19
23...	100	11	5	0	220	100	250	.0	--	40	16
NOV											
04...	--	6.8	--	--	--	--	--	--	--	--	21
DEC											
02...	120	10	--	--	--	--	--	--	--	--	37
19...	180	13	1	20	350	<100	800	--	--	40	32
JAN											
05...	120	6.9	--	--	--	--	--	--	--	--	35
FEB											
05...	87	9.5	--	--	--	--	--	--	--	--	46
19...	86	6.6	2	20	730	<100	580	.0	0	50	56
MAR											
01...	29	1.3	--	--	--	--	--	--	--	--	14
25...	18	.33	4	20	7900	<100	890	--	2	30	18
APR											
06...	21	1.4	--	--	--	--	--	--	--	--	12
MAY											
06...	16	2.2	--	--	--	--	--	--	--	--	13
26...	20	3.2	3	0	750	10	430	1.2	0	30	12
JUN											
21...	88	9.7	2	0	300	4	200	.5	0	30	13
JUL											
06...	55	8.8	--	--	--	--	--	--	--	--	12
AUG											
17...	48	8.1	3	10	530	<100	360	.0	1	30	25
SEP											
07...	30	10	--	--	--	--	--	--	--	--	15
15...	65	14	3	<10	300	<100	170	--	1	40	19

< Less than.

06482610 SPLIT ROCK CREEK AT CORSON, SD

LOCATION.--Lat 43°36'59", long 96°33'54", in NE¼NW¼ sec.26, T.102 N., R.48 W., Minnehaha County, Hydrologic Unit 10170203, on left bank 6 ft (2 m) downstream from highway bridge, 0.3 mi (0.5 km) east of Corson and 3.4 mi (5.5 km) upstream from mouth.

DRAINAGE AREA.--475 mi² (1,230 km²), approximately.

PERIOD OF RECORD.--October 1965 to current year. February 1951 to September 1965 (gage heights and discharge measurements only in files of Corps of Engineers).

GAGE.--Water-stage recorder. Datum of gage is 1,304.22 ft (397.526 m) above mean sea level (levels by Corps of Engineers). Prior to Aug. 15, 1964, nonrecording gage at datum 0.15 ft (0.046 m) higher and Aug. 15, 1964, to Sept. 3, 1970, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter periods, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--11 years, 54.3 ft³/s (1.538 m³/s), 39,340 acre-ft/yr (48.5 hm³/yr); median of yearly mean discharges, 40 ft³/s (1.13 m³/s), 29,000 acre-ft/yr (36 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,800 ft³/s (504 m³/s) Apr. 8, 1969, gage height, 15.00 ft (4.572 m); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1951, 15.41 ft (4.697 m) June 17, 1957, discharge, 19,300 ft³/s (547 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 900 ft³/s (25.5 m³/s) Mar. 12; maximum gage height, 9.06 ft (2.761 m) Mar. 12 (backwater from ice); minimum daily discharge, 0.02 ft³/s (<0.001 m³/s) Aug. 9.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 17 to Apr. 22; stage-discharge relation
affected by ice Nov. 19 to Dec. 2, Dec. 9 to Mar. 16)

1.46	0.02	1.8	7.2	2.6	84
1.5	.26	2.0	17	3.0	155
1.6	1.5	2.1	22	4.0	395
1.7	3.4	2.3	41		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	5.7	5.0	8.0	8.6	80	74	28	9.0	2.6	1.6	.77
2	6.5	5.6	5.1	8.1	8.4	74	68	27	8.2	2.4	1.6	.89
3	6.7	5.8	5.2	7.5	8.2	68	60	25	6.9	1.6	1.3	.66
4	6.1	6.0	5.5	6.8	7.6	63	53	25	5.1	1.8	.89	.55
5	5.3	6.0	5.8	6.3	7.3	57	48	24	4.7	1.8	.26	.55
6	4.4	6.1	5.8	6.0	6.8	54	45	24	4.4	1.6	.27	.66
7	4.0	5.6	6.4	5.8	6.6	50	41	22	4.3	1.5	.13	.77
8	4.3	5.6	7.0	5.5	6.7	52	36	22	3.7	1.2	.45	1.2
9	4.1	5.6	7.5	5.7	6.9	54	35	21	3.6	1.8	.02	1.5
10	3.5	6.3	7.9	5.8	7.3	56	32	20	3.7	1.6	.10	1.3
11	3.5	6.6	8.0	6.0	7.6	60	31	19	3.7	.55	1.2	1.3
12	3.7	6.1	7.9	6.2	8.0	700	29	18	3.5	.45	.66	1.6
13	3.9	6.8	7.8	6.4	8.4	500	29	19	3.3	1.2	1.0	1.8
14	4.5	6.1	7.4	6.5	8.7	400	32	18	3.1	2.5	1.5	1.8
15	4.5	4.5	6.9	6.6	9.0	350	32	16	2.8	5.6	1.3	1.8
16	4.4	5.1	6.4	6.7	9.5	320	36	16	2.2	4.3	1.5	2.0
17	4.3	5.2	5.8	6.9	10	290	32	15	2.3	5.1	1.5	2.2
18	4.1	4.8	5.3	7.1	11	243	32	13	2.5	4.8	1.3	2.2
19	4.1	4.5	5.0	7.3	11	322	29	13	2.2	4.0	1.8	2.6
20	4.1	4.2	5.2	7.5	12	332	28	13	2.3	4.4	1.5	2.5
21	4.2	3.7	5.4	7.6	13	299	28	12	1.6	3.6	1.2	2.2
22	4.4	3.3	5.7	7.7	14	334	26	13	1.3	4.0	.89	2.4
23	4.9	3.0	6.0	7.8	15	277	27	14	1.3	3.8	.18	2.4
24	7.2	2.7	6.2	8.0	17	207	32	12	2.8	2.7	.10	2.4
25	8.0	2.5	6.4	7.6	20	165	39	12	3.2	1.7	.26	2.4
26	7.7	3.0	6.7	6.7	27	135	39	12	3.5	1.7	.18	2.8
27	9.2	3.5	7.0	6.2	35	119	35	11	3.3	1.8	.35	2.8
28	8.0	4.5	7.2	6.8	45	108	32	9.7	3.1	1.9	.55	2.4
29	7.4	5.4	7.5	7.3	60	103	32	9.4	2.9	1.5	.35	2.9
30	6.5	5.3	7.7	8.0	---	93	30	9.4	2.6	.77	.66	3.1
31	6.0	---	7.8	8.8	---	81	---	9.2	---	1.0	.77	---
TOTAL	165.8	149.1	200.5	215.2	415.6	6046	1122	521.7	107.1	75.27	25.37	54.45
MEAN	5.35	4.97	6.47	6.94	14.3	195	37.4	16.8	3.57	2.43	.82	1.82
MAX	9.2	6.8	8.0	8.8	60	700	74	28	9.0	5.6	1.8	3.1
MIN	3.5	2.5	5.0	5.5	6.6	50	26	9.2	1.3	.45	.02	.55
AC-FT	329	296	398	427	824	11990	2230	1030	212	149	50	108
CAL YR 1975 TOTAL	9305.90			MEAN 25.5	MAX 401	MIN 2.5	AC-FT 18460					
WTR YR 1976 TOTAL	9098.09			MEAN 24.9	MAX 700	MIN .02	AC-FT 18050					

06485500 BIG SIOUX RIVER AT AKRON, IA

LOCATION.--Lat 42°49'42", long 96°33'45", in NW¼SW¼ sec.31, T.93 N., R.48 W., Plymouth County, Hydrologic Unit 10170203, on left bank at west edge of Akron, 0.6 mi (1.0 km) downstream from bridge on State Highway 48, and 2.3 mi (3.7 km) upstream from Union Creek.

DRAINAGE AREA.--9,030 mi² (23,390 km²), approximately, of which about 1,970 mi² (5,100 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1928 to current year.

REVISED RECORDS.--WSP 1309: 1929(M), 1931-33(M), 1936(M), 1938(M), 1940(M). WSP 1389: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,118.90 ft (341.041 m) above mean sea level. Prior to Dec. 3, 1934, nonrecording gage at bridge 300 ft (91 m) upstream at same datum.

REMARKS.--Records good except those for the winter months, which are poor.

AVERAGE DISCHARGE.--48 years, 832 ft³/s (23.56 m³/s), 602,800 acre-ft/yr (743 hm³/yr); median of yearly mean discharges, 720 ft³/s (20.4 m³/s), 522,000 acre-ft/yr (644 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 80,800 ft³/s (2,290 m³/s) Apr. 9, 1969, gage height, 22.99 ft (7.007 m); minimum daily, 7 ft³/s (0.20 m³/s) Feb. 26-28, 1936.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,250 ft³/s (92.0 m³/s) Mar. 15, gage height, 10.31 ft (3.142 m); maximum gage height, 12.26 ft (3.737 m) Feb. 18, no peak above base of 3,500 ft³/s (99.1 m³/s); minimum daily, 31 ft³/s (0.88 m³/s) Sept. 7, 12.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Nov. 19 to Mar. 14)

1.8	26	2.6	116	4.5	615	8.0	2,040
2.2	63	3.3	260	6.0	1,140	11.0	3,610

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	135	112	115	110	74	1000	1750	604	244	98	59	34
2	133	112	118	110	75	800	1610	589	233	89	55	33
3	131	113	120	100	75	700	1440	546	221	85	52	33
4	130	112	125	95	70	650	1290	516	211	82	49	33
5	128	113	130	90	65	600	1190	503	208	78	50	32
6	121	112	125	80	63	650	1100	477	193	75	50	32
7	116	112	120	75	62	700	1040	458	183	75	47	31
8	113	113	115	70	60	800	991	441	175	71	45	34
9	110	124	120	65	63	950	938	423	163	67	45	34
10	108	135	125	65	66	1000	888	407	155	63	44	34
11	108	140	128	67	80	1100	846	386	149	63	45	33
12	111	151	130	67	100	1400	803	376	153	59	45	31
13	108	141	125	69	150	2000	763	368	153	57	45	37
14	108	141	120	69	150	3100	733	358	138	60	46	38
15	106	130	110	70	800	3230	712	351	132	62	44	37
16	105	116	100	70	1300	3220	707	336	125	65	54	36
17	103	155	95	72	1850	3060	710	316	120	64	57	35
18	105	139	90	72	2000	2640	707	300	120	61	53	34
19	110	130	92	73	1500	2440	686	285	113	61	50	35
20	110	120	93	73	1200	2310	656	279	107	62	47	38
21	110	110	95	75	1050	2350	635	265	101	63	45	38
22	113	105	95	76	900	2530	615	267	97	60	45	38
23	111	108	97	77	800	2360	606	285	93	57	44	37
24	112	110	100	78	750	2310	599	326	97	54	41	46
25	113	112	100	76	800	2190	607	341	98	53	38	43
26	117	115	102	72	900	2240	649	336	99	63	37	41
27	120	118	105	68	920	2300	683	309	100	59	36	41
28	122	120	105	70	940	2120	636	299	89	59	34	41
29	119	125	107	71	960	2020	607	279	92	57	33	41
30	112	120	107	72	---	1910	589	264	98	67	33	41
31	112	---	110	73	---	1800	---	254	---	70	33	---
TOTAL	3560	3664	3419	2370	17823	56480	25786	11544	4260	2059	1401	1091
MEAN	115	122	110	76.5	615	1822	860	372	142	66.4	45.2	36.4
MAX	135	155	130	110	2000	3230	1750	604	244	98	59	46
MIN	103	105	90	65	60	600	589	254	89	53	33	31
AC-FT	7060	7270	6780	4700	35350	112000	51150	22900	8450	4080	2780	2160
CAL YR 1975 TOTAL	152402			MEAN 418	MAX 2660	MIN 26	AC-FT 302300					
WTR YR 1976 TOTAL	133457			MEAN 365	MAX 3230	MIN 31	AC-FT 264700					

BIG SIOUX RIVER BASIN

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued
(National stream-quality accounting network station)
(National pesticide water-monitoring network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to current year.

WATER TEMPERATURES: October 1974 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,580 micromhos Jan. 30, 1975; minimum daily, 300 micromhos Feb. 17, 1976.

WATER TEMPERATURES: Maximum daily, 31.0°C Feb. 19, 1975, July 23, 1976; minimum daily, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,570 micromhos Sept. 11, 19; minimum daily, 300 micromhos Feb. 17.

WATER TEMPERATURES: Maximum daily, 31.0°C July 23; minimum daily, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (JTU) (00070)	FECAL COLI- FORM (COL. PER 100 ML) (31616)	STREP- TOCOCCI (COL- ONIES PER 100 ML) (31679)	HARD- NESS (CA,MG) (MG/L) (00900)	NON- CAR- BONATE HARD- NESS (MG/L) (00902)	DIS- SOLVED CAL- CIUM (CA) (MG/L) (00915)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) (00925)
OCT												
22...	1000	113	1130	8.4	10.5	4	850	860	420	180	98	42
NOV												
24...	1215	116	1140	8.0	.0	4	160	420	450	200	110	42
DEC												
22...	1115	95	1260	7.6	.0	4	860	8130	580	240	150	51
JAN												
26...	1130	73	1380	7.3	.0	5	170	70	500	220	130	43
FEB												
24...	1030	804	580	7.6	.5	20	840	8730	240	83	60	21
MAR												
26...	1145	2210	520	7.3	9.0	65	340	190	240	87	60	22
APR												
26...	1000	657	880	8.5	11.0	21	520	660	410	170	99	39
MAY												
24...	1000	322	850	8.0	14.0	20	81180	81380	400	190	97	39
JUN												
24...	1115	100	945	8.1	20.5	25	890	500	290	97	65	32
JUL												
26...	1225	65	990	8.3	25.5	20	--	--	410	240	97	40
AUG												
25...	0930	39	1230	7.9	24.5	20	60	60	400	220	90	42
SEP												
27...	1015	41	970	8.2	12.0	20	210	220	390	260	95	38

B Non-ideal colony count.

BIG SIOUX RIVER BASIN

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06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SODIUM (NA) (MG/L) (00930)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L) (00935)	BICAR- BONATE (HCO3) (MG/L) (00440)	CAR- BONATE (CO3) (MG/L) (00445)	ALKA- LINITY AS CACO3 (MG/L) (00410)	DIS- SOLVED SULFATE (SO4) (MG/L) (00945)	DIS- SOLVED CHLO- RIDE (CL) (MG/L) (00940)	DIS- SOLVED FLUO- RIDE (F) (MG/L) (00950)	DIS- SOLVED SILICA (SiO2) (MG/L) (00955)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L) (70300)
OCT 22...	82	29	1.7	7.5	273	10	241	220	100	.4	.8	740
NOV 24...	72	26	1.5	8.1	304	0	249	250	83	.4	11	732
DEC 22...	83	23	1.5	8.5	425	0	349	270	97	.5	19	952
JAN 26...	89	27	1.7	8.1	339	0	278	260	120	.6	18	913
FEB 24...	17	13	.5	9.8	187	0	153	100	23	.3	10	398
MAR 26...	15	12	.4	6.5	187	0	153	94	16	.3	12	363
APR 26...	35	16	.8	5.7	287	0	235	190	37	.4	4.8	591
MAY 24...	40	18	.9	5.5	258	0	212	200	39	.3	4.3	583
JUN 24...	43	24	1.1	5.0	240	0	197	230	78	.4	9.5	696
JUL 26...	81	30	1.7	7.6	202	0	166	230	120	.4	7.4	657
AUG 25...	140	43	3.1	11	213	0	175	250	190	.5	5.3	835
SEP 27...	92	33	2.0	9.7	163	0	134	280	120	.3	3.8	778

DATE	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) (70301)	DIS- SOLVED SOLIDS (TONS PER DAY) (70303)	DIS- SOLVED SOLIDS (TONS PER DAY) (70302)	TOTAL NITRITE PLUS NITRATE (N) (MG/L) (00630)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L) (00625)	TOTAL NITRO- GEN (N) (MG/L) (00600)	TOTAL NITRO- GEN (N03) (MG/L) (71887)	TOTAL PHOS- PHORUS (P) (MG/L) (00665)	TOTAL ARSENIC (AS) (UG/L) (01002)	SUS- PENDEO ARSENIC (AS) (UG/L) (01001)	DIS- SOLVED ARSENIC (AS) (UG/L) (01000)	TOTAL CAD- MIUM (CD) (UG/L) (01027)
OCT 22...	695	1.01	226	.01	2.0	2.0	8.9	.82	6	0	6	10
NOV 24...	726	1.00	229	2.3	4.1	6.4	28	1.2	--	--	--	--
DEC 22...	889	1.29	244	3.7	4.0	7.7	34	1.8	--	--	--	--
JAN 26...	837	1.24	180	2.1	4.8	6.9	31	2.3	2	0	2	<10
FEB 24...	333	.54	864	1.9	4.0	5.9	26	.76	--	--	--	--
MAR 26...	318	.49	2170	2.1	2.6	4.7	21	.69	--	--	--	--
APR 26...	552	.80	1050	.91	1.5	2.4	11	.45	4	2	2	<10
MAY 24...	552	.79	507	.15	1.4	1.6	6.9	.43	--	--	--	--
JUN 24...	581	.95	188	.02	2.1	2.1	9.4	.49	--	--	--	--
JUL 26...	683	.89	116	.00	1.5	1.5	6.6	.52	15	7	8	<10
AUG 25...	834	1.14	87.9	.01	2.0	2.0	8.9	.50	--	--	--	--
SEP 27...	719	1.06	86.1	.09	1.7	1.8	7.9	.57	--	--	--	--

< Less than.

BIG SIOUX RIVER BASIN

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	SUS- PENDE D CAD- MIUM (CD) (UG/L) (01026)	DIS- SOLVED CAD- MIUM (CD) (UG/L) (01025)	TOTAL CHRO- MIUM (CR) (UG/L) (01034)	SUS- PENDE D CHRO- MIUM (CR) (UG/L) (01031)	DIS- SOLVED CHRO- MIUM (CR) (UG/L) (01030)	TOTAL COBALT (CO) (UG/L) (01037)	SUS- PENDE D COBALT (CO) (UG/L) (01036)	DIS- SOLVED COBALT (CO) (UG/L) (01035)	TOTAL COPPER (CU) (UG/L) (01042)	SUS- PENDE D COPPER (CU) (UG/L) (01041)	DIS- SOLVED COPPER (CU) (UG/L) (01040)
OCT 22...	10	0	0	0	10	<50	<50	0	10	10	0
NOV 24...	--	--	--	--	--	--	--	--	--	--	--
DEC 22...	--	--	--	--	--	--	--	--	--	--	--
JAN 26...	<8	2	0	0	0	<50	<50	0	10	6	4
FEB 24...	--	--	--	--	--	--	--	--	--	--	--
MAR 26...	--	--	--	--	--	--	--	--	--	--	--
APR 26...	<10	0	0	0	0	<50	<50	0	10	9	1
MAY 24...	--	--	--	--	--	--	--	--	--	--	--
JUN 24...	--	--	--	--	--	--	--	--	--	--	--
JUL 26...	<10	0	10	10	0	<50	<50	0	10	9	1
AUG 25...	--	--	--	--	--	--	--	--	--	--	--
SEP 27...	--	--	--	--	--	--	--	--	--	--	--

DATE	TOTAL IRON (FE) (UG/L) (01045)	DIS- SOLVED IRON (FE) (UG/L) (01046)	TOTAL LEAD (PB) (UG/L) (01051)	SUS- PENDE D LEAD (PB) (UG/L) (01050)	DIS- SOLVED LEAD (PB) (UG/L) (01049)	TOTAL MAN- GANESE (MN) (UG/L) (01055)	SUS- PENDE D MAN- GANESE (MN) (UG/L) (01054)	DIS- SOLVED MAN- GANESE (MN) (UG/L) (01056)	TOTAL MERCURY (HG) (UG/L) (71900)	SUS- PENDE D MERCURY (HG) (UG/L) (71895)	DIS- SOLVED MERCURY (HG) (UG/L) (71890)
OCT 22...	490	20	<100	<97	3	210	140	70	.0	.0	.0
NOV 24...	--	--	--	--	--	--	--	--	--	--	--
DEC 22...	--	--	--	--	--	--	--	--	--	--	--
JAN 26...	260	50	<100	<97	3	920	0	950	.0	.0	.0
FEB 24...	--	--	--	--	--	--	--	--	--	--	--
MAR 26...	--	--	--	--	--	--	--	--	--	--	--
APR 26...	1600	0	<100	<99	1	310	310	0	.0	.0	.1
MAY 24...	--	--	--	--	--	--	--	--	--	--	--
JUN 24...	--	--	--	--	--	--	--	--	--	--	--
JUL 26...	1400	20	<100	<98	2	560	520	40	.1	.1	.0
AUG 25...	--	--	--	--	--	--	--	--	--	--	--
SEP 27...	--	--	--	--	--	--	--	--	--	--	--

< Less than.

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL SELE- NIUM (SE) (UG/L) (01147)	SUS- PENDE SELE- NIUM (SE) (UG/L) (01146)	DIS- SOLVED SELE- NIUM (SE) (UG/L) (01145)	TOTAL ZINC (ZN) (UG/L) (01092)	SUS- PENDE ZINC (ZN) (UG/L) (01091)	DIS- SOLVED ZINC (ZN) (UG/L) (01090)	TOTAL ORGANIC CARBON (C) (MG/L) (00680)
OCT							
22...	2	0	2	30	20	10	18
NOV							
24...	--	--	--	--	--	--	--
DEC							
22...	--	--	--	--	--	--	--
JAN							
26...	4	1	3	40	10	30	26
FEB							
24...	--	--	--	--	--	--	--
MAR							
26...	--	--	--	--	--	--	--
APR							
26...	2	0	2	40	40	0	12
MAY							
24...	--	--	--	--	--	--	--
JUN							
24...	--	--	--	--	--	--	--
JUL							
26...	1	0	1	130	130	0	31
AUG							
25...	--	--	--	--	--	--	--
SEP							
27...	--	--	--	--	--	--	--

DATE	TOTAL PHYTO- PLANK- TON (CELLS PER ML) (60050)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	UNCOR- RECTED PERI- PHYTON CHLORO- PHYLL A MG/SQ M (32228)	UNCOR- RECTED PERI- PHYTON CHLORO- PHYLL B MG/SQ M (32226)	SUS- PENDE SEDI- MENT (MG/L) (80154)	SUS- PENDE SEDI- MENT DIS- CHARGE (T/DAY) (80155)
OCT							
22...	130000	--	--	--	--	150	46
NOV							
24...	6300	--	--	--	--	105	33
DEC							
22...	680	--	--	--	--	140	36
JAN							
26...	310	--	--	--	--	104	20
FEB							
24...	1900	--	--	--	--	91	198
MAR							
26...	8900	--	--	--	--	428	2550
APR							
26...	45000	--	--	--	--	140	248
MAY							
24...	73000	55.1	49.8	8.06	0.000	88	77
JUN							
24...	320000	--	--	--	--	169	46
JUL							
26...	430000	--	--	--	--	166	29
AUG							
25...	230000	--	--	--	--	146	15
SEP							
27...	140000	--	--	--	--	108	12

BIG SIOUX RIVER BASIN

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	ALDRIN IN BOTTOM		CHLOR- DANE IN BOTTOM		DDD IN BOTTOM		DDE IN BOTTOM		DDT IN BOTTOM		DI- AZINON IN BOTTOM	
	TOTAL ALDRIN (UG/L) (39330)	MA- TERIAL (UG/KG) (39333)	TOTAL CHLOR- DANE (UG/L) (39350)	MA- TERIAL (UG/KG) (39351)	TOTAL DDD (UG/L) (39360)	MA- TERIAL (UG/KG) (39363)	TOTAL DDE (UG/L) (39365)	MA- TERIAL (UG/KG) (39366)	TOTAL DDT (UG/L) (39370)	MA- TERIAL (UG/KG) (39373)	TOTAL DI- AZINON (UG/L) (39570)	MA- TERIAL (UG/KG) (39571)
JAN 26...	ND	--	ND	--	ND	--	ND	--	ND	--	--	--
APR 26...	ND	--	ND	0	ND	.6	ND	ND	ND	ND	ND	ND
JUL 26...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 25...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	DI- ELDRIN IN BOTTOM		ENDRIN IN BOTTOM		ETHION IN BOTTOM		HEPTA- CHLOR IN BOTTOM		HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL		TOTAL LINDANE	
	TOTAL DI- ELDRIN (UG/L) (39380)	MA- TERIAL (UG/KG) (39383)	TOTAL ENDRIN (UG/L) (39390)	MA- TERIAL (UG/KG) (39393)	TOTAL ETHION (UG/L) (39398)	MA- TERIAL (UG/KG) (39399)	TOTAL HEPTA- CHLOR (UG/L) (39410)	MA- TERIAL (UG/KG) (39413)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L) (39420)	MA- TERIAL (UG/KG) (39423)	TOTAL LINDANE (UG/L) (39340)	MA- TERIAL (UG/KG) (39340)
JAN 26...	ND	--	ND	--	--	--	ND	--	ND	--	ND	ND
APR 26...	ND	2.9	ND	ND	ND	ND	ND	ND	ND	.3	ND	ND
JUL 26...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 25...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	ND

DATE	LINDANE IN BOTTOM		MALA- THION IN BOTTOM		METHOX- YCHLOR IN BOT- TOM MA- TERIAL		METHYL PARA- THION IN BOT- TOM MA- TERIAL		METHYL TRI- THION IN BOT- TOM MA- TERIAL		PARA- THION IN BOTTOM	
	TOTAL LINDANE (UG/L) (39343)	MA- TERIAL (UG/KG) (39530)	TOTAL MALA- THION (UG/L) (39531)	MA- TERIAL (UG/KG) (39531)	TOTAL METHOX- YCHLOR (UG/L) (39480)	MA- TERIAL (UG/KG) (39481)	TOTAL METHYL PARA- THION (UG/L) (39600)	MA- TERIAL (UG/KG) (39601)	TOTAL METHYL TRI- THION (UG/L) (39790)	MA- TERIAL (UG/KG) (39791)	TOTAL PARA- THION (UG/L) (39540)	MA- TERIAL (UG/KG) (39541)
JAN 26...	--	--	--	--	ND	--	--	--	--	--	--	--
APR 26...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUL 26...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 25...	--	ND	--	--	ND	--	ND	--	ND	--	ND	--

DATE	TOX- APHENE IN		TRI- THION IN		2,4-D IN		2,4,5-T IN		SILVEX IN		
	TOTAL TOX- APHENE (UG/L) (39400)	BOTTOM MA- TERIAL (UG/KG) (39403)	TOTAL TRI- THION (UG/L) (39786)	BOTTOM MA- TERIAL (UG/KG) (39787)	TOTAL 2,4-D (UG/L) (39630)	TOTAL 2,4-D (UG/L) (39730)	TOTAL BOTTOM MA- TERIAL (UG/KG) (39731)	TOTAL 2,4,5-T (UG/L) (39740)	TOTAL BOTTOM MA- TERIAL (UG/KG) (39741)	TOTAL SILVEX (UG/L) (39760)	TOTAL BOTTOM MA- TERIAL (UG/KG) (39761)
JAN 26...	ND	--	--	--	ND	ND	--	ND	--	ND	--
APR 26...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUL 26...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 25...	ND	--	ND	--	ND	ND	--	ND	--	ND	--

ND Not detected.

BIG SIOUX RIVER BASIN

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06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	900	580	1240	1250	1160	640	715	910	840	1000	1080	1420
2	900	1140	1150	1250	1190	655	750	930	865	1000	1080	1400
3	920	1150	1080	1310	1250	740	775	910	870	1020	1070	1400
4	980	1100	1020	1350	1260	710	795	920	895	1000	1080	1380
5	1060	1100	950	1260	1290	760	820	925	790	1000	1070	1370
6	530	1070	1100	1320	1320	795	840	925	795	1000	1070	1350
7	735	900	1180	1320	1350	800	840	915	850	1020	1030	1380
8	895	1070	1210	1320	1360	790	835	900	830	1030	1030	1390
9	920	1100	1180	1420	1350	780	840	970	845	1030	1060	1460
10	900	1110	1170	1430	1320	760	850	900	870	995	1090	1550
11	945	1060	1160	1450	1180	820	850	900	890	990	1110	1570
12	970	1120	1140	1420	900	730	870	910	940	900	1160	1570
13	1000	1100	1140	1420	610	700	870	950	900	990	1170	1380
14	1000	860	1200	1350	660	515	875	910	920	980	1190	1460
15	1010	1100	1260	1450	425	420	875	850	920	990	1190	1480
16	1020	1120	1300	1430	420	430	860	870	920	1010	1190	1530
17	1000	1080	1320	1360	300	450	860	910	915	1020	1160	1530
18	1010	1120	1340	1320	370	465	890	900	910	1000	1140	1540
19	1040	980	1390	1340	370	510	910	905	880	1010	1290	1570
20	900	945	1360	1490	445	540	910	900	910	1020	1340	1530
21	1200	990	1380	1490	450	550	915	910	940	1030	1360	1540
22	1170	1020	1380	1440	520	530	900	900	980	1040	1380	1500
23	1060	1040	1400	1430	510	510	900	870	995	1050	1370	1500
24	1010	1100	1360	1400	560	525	890	875	980	1060	1400	1510
25	1090	1240	1390	1450	625	540	890	940	965	1060	1440	1500
26	1030	1200	1360	1400	680	540	920	1070	960	1030	1420	1340
27	990	1240	1320	1440	700	540	980	970	965	1060	1390	1320
28	675	1220	1340	1440	670	550	970	890	940	1100	1350	1370
29	1180	1060	1370	1420	655	545	930	825	950	1100	1350	1490
30	555	1250	1360	1330	---	550	920	820	975	1100	1350	1530
31	1100	---	1320	1280	---	600	---	835	---	1100	1320	---
MONTH	958	1070	1250	1380	824	613	868	907	907	1020	1220	1460

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.0	9.0	0.0	1.0	1.0	3.0	9.0	11.0	25.0	21.0	23.0	19.0
2	10.0	10.0	0.0	1.0	1.0	2.0	9.0	9.0	21.0	21.0	21.0	20.0
3	12.0	10.0	0.0	1.0	1.0	2.0	10.0	7.0	23.0	20.0	23.0	21.0
4	15.0	8.0	0.0	0.0	0.0	2.0	8.0	10.0	20.0	22.0	25.0	19.0
5	17.0	9.0	1.0	1.0	0.0	1.0	9.0	15.0	---	22.0	26.0	20.0
6	12.0	11.0	0.0	0.0	1.0	1.0	10.0	12.0	---	22.0	21.0	21.0
7	15.0	13.0	0.0	0.0	1.0	1.0	12.0	12.0	---	23.0	22.0	23.0
8	15.0	9.0	0.0	0.0	1.0	1.0	11.0	14.0	---	24.0	26.0	21.0
9	12.0	9.0	0.0	0.0	1.0	1.0	12.0	16.0	---	24.0	21.0	16.0
10	10.0	5.0	1.0	0.0	1.0	1.0	11.0	17.0	---	25.0	24.0	15.0
11	11.0	6.0	0.0	1.0	2.0	1.0	10.0	17.0	---	26.0	24.0	17.0
12	16.0	3.0	1.0	1.0	2.0	1.0	11.0	18.0	---	26.0	22.0	18.0
13	17.0	0.0	1.0	1.0	3.0	1.0	12.0	15.0	---	27.0	23.0	21.0
14	16.0	4.0	0.0	0.0	3.0	2.0	16.0	15.0	---	26.0	23.0	17.0
15	11.0	2.0	0.0	0.0	3.0	2.0	17.0	18.0	---	25.0	20.0	19.0
16	9.0	4.0	0.0	1.0	2.0	1.0	19.0	17.0	---	21.0	20.0	17.0
17	9.0	4.0	0.0	1.0	2.0	---	16.0	15.0	---	21.0	21.0	18.0
18	9.0	9.0	0.0	1.0	2.0	---	14.0	15.0	---	24.0	25.0	19.0
19	10.0	8.0	0.0	1.0	2.0	---	12.0	17.0	---	25.0	26.0	21.0
20	10.0	0.0	0.0	0.0	2.0	---	14.0	20.0	---	26.0	23.0	14.0
21	10.0	0.0	0.0	1.0	2.0	---	16.0	20.0	---	25.0	23.0	14.0
22	11.0	0.0	0.0	1.0	2.0	---	14.0	20.0	---	26.0	24.0	14.0
23	11.0	0.0	1.0	2.0	2.0	---	15.0	14.0	---	31.0	25.0	14.0
24	9.0	0.0	1.0	2.0	2.0	---	14.0	13.0	21.0	30.0	25.0	14.0
25	5.0	0.0	0.0	1.0	2.0	8.0	9.0	16.0	22.0	25.0	24.0	17.0
26	5.0	0.0	0.0	0.0	2.0	7.0	11.0	22.0	23.0	24.0	23.0	16.0
27	8.0	0.0	1.0	0.0	5.0	6.0	13.0	21.0	19.0	26.0	23.0	13.0
28	8.0	0.0	0.0	1.0	3.0	9.0	14.0	25.0	21.0	25.0	18.0	10.0
29	5.0	0.0	1.0	3.0	3.0	9.0	14.0	24.0	22.0	27.0	18.0	11.0
30	11.0	0.0	1.0	4.0	---	8.0	15.0	21.0	19.0	28.0	20.0	12.0
31	10.0	---	1.0	2.0	---	7.0	---	19.0	---	24.0	22.0	---
MONTH	11.0	4.5	0.5	1.0	2.0	---	12.5	16.5	---	24.5	22.5	17.0

OCT. 10, 1974
1000 HOURS

IDENTIFICATION OF PHYTOPLANKTON

140,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
.CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		1,800	1
...SCENEDESMACEAE			
....CRUCIGENIA		1,100	1
DSCENEDESMUS		32,000	23
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		5,500	4
	TOTALS	40,000	29
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		93,000	67
...MELOSIRA		3,200	2
..PENNALES	PENNATE		
...ACHNANTHACEAE			
....ACHNANTHES		2,100	2
...CYMBELLACEAE			
LAMPHORA			0
...FRAGILARIACEAE			
LSYNEDRA			0
	TOTALS	99,000	71

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.866
 CLASS 0.866
 ORDER 1.159
 FAMILY 1.251
 GENERA 1.444

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

NOV. 15, 1974
1040 HOURS

IDENTIFICATION OF PHYTOPLANKTON

15,000 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...COELASTRACEAE			
...COELASTRUM		650	4
...OCCYSTACEAE			
....ANKISTRODESMUS		400	3
....CHLORELLA		240	2
....CHODATELLA		400	3
....OOCYSTIS		320	2
....TETRAEDRON		320	2
...SCENEDESMACEAE			
....ACTINASTRUM		650	4
DSCENEDESMUS		3,600	23
	TOTALS	6,600	43
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		8,100	53
..PENNALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
...NAVICULA		240	2
...NITZSCHIA			
....NITZSCHIA		490	3
	TOTALS	8,800	58

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.984
 CLASS 0.984
 ORDER 1.220
 FAMILY 1.795
 GENERA 2.218

BIG SIOUX RIVER BASIN

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

DEC. 13, 1974
1050 HOURS

IDENTIFICATION OF PHYTOPLANKTON

10,000 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....KIRCHNERIELLA		170	2
...SCENEDESMACEAE			
....SCENEDESMUS		170	2
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		86	1
	TOTALS	430	5
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		8,500	84
....MELOSIRA		170	2
..PENNALES	PENNATE		
...FRAGILARIACEAE			
....SYNEDRA		86	1
...NITZSCHIACEAE			
....NITZSCHIA		770	8
...SURIPELLACEAE			
....CYMATOPLEURA		170	2
	TOTALS	9,700	97

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.253
CLASS 0.253
ORDER 0.751
FAMILY 0.891
GENERA 1.011

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

JAN. 16, 1975

1145 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,600 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...SCENEDESMACEAE			
DSCENEDESMUS		600	37
...VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		220	13
	TOTALS	820	50
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		690	42
...PENNALES	PENNATE		
...FRAGILARIACEAE			
....SYNEDRA		130	8
	TOTALS	820	50

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.000
 CLASS 1.000
 ORDER 1.730
 FAMILY 1.730
 GENERA 1.730

FEB. 21, 1975
1045 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,300 CELLS/ML

__ORGANISM__NAME__	__COMMON__NAME__	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		26	2
....OOCYSTIS		110	8
...SCENEDESMACEAE			
....SCENEDESMUS		160	12
	TOTALS	290	22
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCAEAE			
DCYCLOTELLA		260	20
...PENNACEAE	PENNATE		
...FRAGILARIACEAE			
....SYNEDRA		110	8
...GOMPHONEMACEAE			
....GOMPHONEMA		26	2
...NITZSCHACEAE			
DNITZSCHIA		500	38
...SURIPELLACEAE			
....CYMATOPLEURA		26	2
....SURIPELLA		53	4
	TOTALS	970	74
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
....ANACYSTIS		53	4
	TOTALS	53	4

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.988
CLASS 0.988
ORDER 1.611
FAMILY 2.528
GENERA 2.655

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

MAR. 26, 1975
1130 HOURS

IDENTIFICATION OF PHYTOPLANKTON

3,500 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...CHARACIACEAE			
....SCHROEDERIA		36	1
...MICRACTINIACEAE			
....GOLENKINIA		36	1
....MICRACTINIUM		150	4
...SCENEDESMACEAE			
....ACTINASTRUM		150	4
DSCENEDESMUS		1,100	31
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		36	1
	TOTALS	1,500	42
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		400	12
DMELOSIRA		620	18
..PENNALES	PENNATE		
...CYMBELLACEAE			
....RHOPALODIA		36	1
...FRAGILARIACEAE			
....SYNEDRA		150	4
...GOMPHONEMACEAE			
....GOMPHONEMA		36	1
...NAVICULACEAE	NAVICULOID		
....CALONEIS		36	1
....NAVICULA		110	3
...PINNULARIA		36	1
...NITZSCHIACEAE			
DNITZSCHIA		580	17
	TOTALS	2,000	58

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.982
 CLASS 0.982
 ORDER 1.632
 FAMILY 2.398
 GENERA 2.979

BIG SIOUX RIVER BASIN

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

APR. 24, 1975
1150 HOURS

IDENTIFICATION OF PHYTOPLANKTON

7.100 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		200	3
	TOTALS	200	3
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		3,900	56
....MELOSIRA		390	6
..PENNALES	PENNATE		
...ACHNANTHACEAE			
...COCCONEIS		200	3
...NAVICULACEAE	NAVICULOID		
....NAVICULA		200	3
...NITZSCHACEAE			
DNITZSCHIA		1,600	22
...SURIRELLACEAE			
....SURIRELLA		200	3
	TOTALS	6,500	93
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
....ANACYSTIS		390	6
	TOTALS	390	6

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER . 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.490
CLASS 0.490
ORDER 1.332
FAMILY 1.722
GENERA 1.991

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

MAY 23, 1975
1045 HOURS

IDENTIFICATION OF PHYTOPLANKTON

180,000 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
.CHLOROPHYCEAE			
..CHLOROCOCCALES			
...HYDRODICTYACEAE			
....PEDIASTRUM		7,200	4
...MICRACTINIACEAE			
DMICRACTINIUM		61,000	34
...OCCYSTACEAE			
LANKISTRODESMUS			0
LKIRCHNERIELLA			0
...OOCYSTIS		1,800	1
LTETRAEDRON			0
...SCENEDESMACEAE			
...ACTINASTRUM		22,000	12
DSCENEDESMUS		30,000	16
....TETRASTRUM		5,400	3
	TOTALS	130,000	70
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		28,000	15
...MELOSIRA		1,400	1
..PENNALES	PENNATE		
...FRAGILARIACEAE			
...SYNEDRA		3,200	2
...NAVICULACEAE	NAVICULOID		
LGYROSIGMA			0
LNAVICULA			0
...NITZSCHACEAE			
....NITZSCHIA		18,000	10
	TOTALS	51,000	28
EUGLENOPHYTA	EUGLENIDS		
.EUGLENOPHYCEAE			
..EUGLENALES			
...EUGLENACEAE			
LEUGLENA			0
	TOTALS	450	0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.885
 CLASS 0.885
 ORDER 1.165
 FAMILY 2.261
 GENERA 2.764

BIG SIOUX RIVER BASIN

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

JUNE 25, 1975
0945 HOURS

IDENTIFICATION OF PHYTOPLANKTON

36,000 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		280	1
....CHODATELLA		280	1
....KIRCHNERIELLA		1,100	3
...SCENEDESMACEAE			
....ACTINASTRUM		1,100	3
....SCENEDESMUS		2,300	6
....TETRASTRUM		2,000	6
..TETRASPORALES			
...PALMELLACEAE			
....SPHAEROCYSTIS		1,700	5
	TOTALS	8,800	25
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		9,300	26
DMELOSIRA		5,900	17
....STEPHANODISCUS		280	1
..PENNALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
....NAVICULA		280	1
....STAURONEIS		280	1
...NITZSCHACEAE			
....NITZSCHIA		3,700	10
	TOTALS	20,000	56
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
....ANACYSTIS		1,100	3
...OSCILLATORIALES	FILAMENTOUS		
...OSCILLATORIAACEAE			
DLYNGBYA		5,700	16
	TOTALS	6,800	19
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
...EUGLENALES			
...EUGLENACEAE			
....PHACUS		570	2
	TOTALS	570	2

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.519
 CLASS 1.519
 ORDER 2.228
 FAMILY 2.451
 GENERA 3.222

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

AUG. 13, 1975
0845 HOURS

IDENTIFICATION OF PHYTOPLANKTON

300,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
..HYDRODICTYACEAE			
LPEDIASTRUM			0
..OCCYSTACEAE			
..DICTYOSPHAERIUM		10,000	3
..SCENEDESMACEAE			
..SCENEDESMUS		15,000	5
..VOLVOCALES			
..VOLVOCAEAE			
LPANDORINA			0
..ZYGNEMATALES			
..DESMIDIACEAE	PLACODERM DESMIDS		
LSTAUSTRUM			0
	TOTALS	26,000	8
CHRYSPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
..COSCINODISCACEAE			
..CYCLOTILLA		42,000	14
..PENNALES	PENNATE		
..NAVICULACEAE	NAVICULOID		
LNAVICULA			0
..NITZSCHACEAE			
..NITZSCHIA		3,400	1
..SURIPELLACEAE			
LCYMATOPLEURA			0
LSURIPELLA			0
	TOTALS	46,000	15
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..CHROOCOCCALES	COCCOID		
..CHROOCOCCACEAE			
DAGMENELLUM		60,000	20
DANACYSTIS		160,000	53
..OSCILLATORIALES	FILAMENTOUS		
..NOSTOCACEAE			
..ANABAENA		9,400	3
	TOTALS	230,000	76
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
..EUGLENALES			
..EUGLENAEAE			
LEUGLENA			0
	TOTALS	370	0
PYRRHOPHYTA			
..DINOPHYCEAE	DINOFLAGELLATES		
..PERIDINIALES			
..GLENODINIACEAE			
LGLENODINIUM			0
	TOTALS	370	0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1% MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.037
 CLASS 1.037
 ORDER 1.301
 FAMILY 1.398
 GENERA 2.014

SEP. 11, 1975
1000 HOURS

IDENTIFICATION OF PHYTOPLANKTON

150,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		1,100	1
....DICTYOSPHAERIUM		8,700	6
....KIRCHNERIELLA		1,100	1
....OOCYSTIS		4,400	3
LSELENASTRUM			0
LTETRAEDRON			0
...SCENEDESMACEAE			
....ACTINASTRUM		20,000	13
DSCENEDESMUS		22,000	15
...VOLVOCALES			
...VOLVOCAEAE			
LPANDORINA			0
	TOTALS	57,000	39
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		81,000	54
...MELOSTIRA		2,700	2
...PENNALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
LNAVICULA			0
...NITZSCHACEAE			
....NITZSCHIA		8,200	5
	TOTALS	92,000	61
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
...EUGLENALES			
...EUGLENACEAE			
LEUGLENA			0
LPHACUS			0
	TOTALS	550	0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.991
 CLASS 0.991
 ORDER 1.257
 FAMILY 1.582
 GENERA 2.151

BIG SIOUX RIVER BASIN

369

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

OCT. 22, 1975
1000 HOURS

IDENTIFICATION OF PHYTOPLANKTON

130,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...HYDRODICTYACEAE			
LPEDIASTRUM			0
...OCCYSTACEAE			
LANKISTRODESMUS			0
...DICTYOSPHAERIUM		2,600	2
...OOCYSTIS		860	1
LSELENASTRUM			0
LTETRAEDRON			0
...SCENEDESMACEAE			
...ACTINASTRUM		860	1
...SCENEDESMUS		6,500	5
...TETRASTRUM		860	1
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
LCHLAMYDOMONAS			0
	TOTALS	12,000	10
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		120,000	89
...MELOSIRA		1,100	1
..PENNALES	PENNATE		
...FRAGILARIACEAE			
LSYNEDRA			0
...NAVICULACEAE	NAVICULOID		
LANOMOEONEIS			0
LGYROSIGMA			0
LNAVICULA			0
...NITZSCHACEAE			
...NITZSCHIA		1,500	1
	TOTALS	120,000	91
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...OSCILLATORIALES	FILAMENTOUS		
...OSCILLATORACEAE			
LLYNGBYA			0
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
..EUGLENALES			
...EUGLENACEAE			
LEUGLENA			0
LTRACHELONAS			0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 15% MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.444

CLASS 0.444

ORDER 0.542

FAMILY 0.634

GENERA 0.799

NOV. 24, 1975

1215 HOURS

IDENTIFICATION OF PHYTOPLANKTON

6,300 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		470	7
....RADIOCOCCUS		470	7
...SCENEDESMACEAE			
....SCENEDESMUS		590	9
....TETRASTRUM		240	4
	TOTALS	1,800	27
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		3,100	5
....MELOSIRA		360	6
..PENNALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
....AMPHIPRORA		59	1
...NITZSCHIAEAE			
....NITZSCHIA		710	11
	TOTALS	4,300	68
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...CHROOCOCCALES	COCCOID		
....CHROOCOCCACEAE			
LAGMENELLUM			0
....ANACYSTIS		240	4
	TOTALS	240	4
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
..EUGLENALES			
...EUGLENACEAE			
....TRACHELOMONAS		59	1
	TOTALS	59	1

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 15%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.139

CLASS 1.139

ORDER 1.139

FAMILY 1.925

GENERA 2.449

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

DEC. 22, 1975
1115 HOURS

IDENTIFICATION OF PHYTOPLANKTON

680 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
..OCCYSTACEAE			
LANKISTRODESMUS			0
..SCENEDESMACEAE			
LSCENEDESMUS			0
..VOLVOCALES			
..CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		62	9
	TOTALS	62	9
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
..COSCINODISCACEAE			
DCYCLOTELLA		220	32
LMELOSIRA			0
..PENNALES	PENNATE		
..FRAGILARIACEAE			
LSYNEDRA			0
..GOMPHONEMACEAE			
....GOMPHONEMA		31	5
..NAVICULACEAE	NAVICULOID		
....NAVICULA		62	9
..NITZSCHIACEAE			
DNITZSCHIA		310	45
	TOTALS	620	91
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
..EUGLENALES			
..EUGLENACEAE			
LEUGLENA			0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.439
 CLASS 0.439
 ORDER 1.289
 FAMILY 1.874
 GENERA 1.874

BIG SIOUX RIVER BASIN

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

JAN. 26, 1976

1130 HOURS

IDENTIFICATION OF PHYTOPLANKTON

310 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
....CHARACIACEAE		7	2
....SCHROEDERIA			
....OCCYSTACEAE		27	9
....ANKISTRODESMUS			
....SCENEDESMACEAE		27	9
....SCENEDESMUS			
	TOTALS	61	20
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
D ...CYCLOTILLA		100	33
..PENNALES	PENNATE		
...FRAGILARIACEAE		27	9
....SYNEDRA			
...GOMPHONEMACEAE		7	2
....GOMPHONEMA			
...NAVICULACEAE	NAVICULOID		
....NAVICULA		41	13
...NITZSCHACEAE			
....NITZSCHIA		41	13
...SURIRELLACEAE			
....SURIRELLA		27	9
	TOTALS	240	79
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...CHROOCOCCALES	COCCOID		
....CHROOCOCCACEAE			
LANACYSTIS			0
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
...EUGLENALES			
....EUGLENACEAE			
LEUGLENA			0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.722

CLASS 0.722

ORDER 1.506

FAMILY 2.789

GENERA 2.789

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

FEB. 24, 1976

1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,900 CELLS/ML

ORGANISM__NAME_____	COMMON__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
..OCCYSTACEAE			
....ANKISTRODESMUS		65	4
....SCENEDESMACEAE			
DSCENEDESMUS		360	19
..VOLVOCALES			
..PHACOTACEAE			
....PHACOTUS		33	2
	TOTALS	460	25
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
..COSCINODISCEACEAE			
....CYCLOTELLA		230	12
....MELOSIRA		65	4
..PENNACEAE	PENNATE		
....FRAGILARIACEAE			
....SYNEDRA		65	4
....GOMPHONEMACEAE			
....GOMPHONEMA		33	2
....NAVICULACEAE	NAVICULOID		
DNAVICULA		390	21
LPINNULARIA			0
....NITZSCHACEAE			
DNITZSCHIA		590	32
....SURIPELLACEAE			
....SURIPELLA		33	2
	TOTALS	1,400	77

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.804

CLASS 0.804

ORDER 1.454

FAMILY 2.523

GENERA 2.644

BIG SIOUX RIVER BASIN

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

MAR. 26, 1976
1145 HOURS

IDENTIFICATION OF PHYTOPLANKTON

8,900 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OCCYSTACEAE			
....ANKISTRODESMUS		270	3
...SCENEDESMACEAE			
....SCENEDESMUS		680	8
	TOTALS	950	11
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		4,600	52
....MELOSIRA		410	5
..PENNALES	PENNATE		
...ACHNANTHACEAE			
LCOCCONEIS			0
LRHOICOSPHENIA			0
...FRAGILARIACEAE			
....SYNEDRA		540	6
...GOMPHONEMACEAE			
....GOMPHONEMA		140	2
...NAVICULACEAE	NAVICULOID		
LGYROSIGMA			0
....NAVICULA		1,100	12
...NITZSCHIACEAE			
....NITZSCHIA		1,100	12
...SURIRELLACEAE			
....SURIRELLA		140	2
	TOTALS	8,000	91

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER • 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.488
 CLASS 0.488
 ORDER 1.340
 FAMILY 2.069
 GENERA 2.297

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

APR. 26, 1976
1000 HOURS

IDENTIFICATION OF PHYTOPLANKTON

45,000 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...MICRACTINIACEAE			
....MICRACTINIUM		400	1
...OCCYSTACEAE			
....ANKISTRODESMUS		1,300	3
....DICTYOSPHAERIUM		1,100	2
....FRANCEIA		710	2
....KIRCHNERIELLA		400	1
LSELENASTRUM			0
...SCENEDESMACEAE			
....ACTINASTRUM		400	1
....SCENEDESMUS		4,000	9
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS		610	1
	TOTALS	9,200	20
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
DCYCLOTELLA		28,000	62
....MELOSIRA		810	2
..PENNALES	PENNATE		
...FRAGILARIACEAE			
....SYNEDRA		300	1
...NITZSCHIA			
....NITZSCHIA		6,100	13
	TOTALS	35,000	78
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
..EUGLENALES			
...EUGLENACEAE			
....EUGLENA		300	1
....TRACHELOMONAS		300	1
	TOTALS	610	2

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.829
 CLASS 0.829
 ORDER 1.435
 FAMILY 1.707
 GENERA 2.055

BIG SIOUX RIVER BASIN

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

MAY 24, 1976
1000 HOURS

IDENTIFICATION OF PHYTOPLANKTON

73,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...MICRACTINIACEAE			
D ...MICRACTINIUM		16,000	22
...OCCYSTACEAE			
...ANKISTRODESMUS		1,600	2
...DICTYOSPHAERIUM		4,200	6
L ...KIRCHNERIELLA			0
...SCENEDESMACEAE			
...ACTINASTRUM		4,400	6
D ...SCENEDESMUS		24,000	33
...TETRASPORALES			
...PALMELLACEAE			
...GLOEOCYSTIS		1,000	1
...VOLVOCALES			
...CHLAMYDOMONADACEAE			
L ...CHLAMYDOMONAS			0
	TOTALS	52,000	70
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
...CYCLOTELLA		9,300	13
...MELOSIRA		6,000	8
..PENNALES	PENNATE		
...NITZSCHACEAE			
...NITZSCHIA		5,700	8
	TOTALS	21,000	29

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.865
 CLASS 0.865
 ORDER 1.240
 FAMILY 2.180
 GENERA 2.712

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

JUNE 24, 1976
1115 HOURS

IDENTIFICATION OF PHYTOPLANKTON

320,000 CELLS/ML

_ORGANISM_NAME_____		_COMMON_NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA		GREEN ALGAE		
.CHLOROPHYCEAE				
..CHLOROCOCCALES				
...COELASTRACEAE				
....COELASTRUM			15,000	5
...HYDRODICTYACEAE				
....PEDIASTRUM			22,000	7
...MICRACTINIACEAE				
....GOLENKINIA			2,700	1
...MICRACTINIUM			15,000	5
...OCCYSTACEAE				
....ANKISTRODESMUS			4,500	1
L	CHODATELLA			0
D	DICTYOSPHAERIUM		47,000	15
	TETRAEDRON		2,700	1
...SCENEDESMACEAE				
....ACTINASTRUM			44,000	14
....CRUCIGENIA			7,300	2
D	SCENEDESMUS		94,000	29
	TETRASTRUM		3,600	1
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
L	CHLAMYDOMONAS			0
	...CHLOROCOCCALES			
	...OCCYSTACEAE			
	GLOEOACTINIUM		33,000	10
TOTALS			290,000	91
CHRYSTOPHYTA				
.BACILLARIOPHYCEAE		DIATOMS		
..CENTRALES		CENTRIC		
...COSCINODISCACEAE				
....CYCLOTELLA			16,000	5
L	MELOSIRA			0
	..PENNALES	PENNATE		
	...NAVICULACEAE	NAVICULOID		
L	GYROSIGMA			0
	...NITZSCHIACEAE			
	NITZSCHIA		14,000	4
TOTALS			30,000	9
EUGLENOPHYTA		EUGLENIDS		
.CRYPTOPHYCEAE		CRYPTOMONADS		
..CRYPTOMONIDALES				
...CRYPTOMONODACEAE				
L	CRYPTOMONAS			0
TOTALS			910	0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.474
 CLASS 0.474
 ORDER 1.024
 FAMILY 2.410
 GENERA 3.178

BIG SIOUX RIVER BASIN

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

JULY 26, 1976
1225 HOURS

IDENTIFICATION OF PHYTOPLANKTON

430,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
..MICRACTINIACEAE			
LGOLINKINIA			0
....MICRACTINIUM		9,800	2
....OCCYSTACEAE			
....DICTYOSPHAERIUM		7,900	2
LKIRCHNERIELLA			0
....OCCYSTIS		3,900	1
LTETRAEDRON			0
....SCENEDESMACEAE			
DSCENEDESMUS		84,000	19
....OCCYSTACEAE			
....GLOEOACTINIUM		18,000	4
	TOTALS	130,000	28
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
....COSCINODISCACEAE			
DCYCLOTELLA		110,000	25
LMELOSIRA			0
..PENNALES	PENNATE		
....NAVICULACEAE	NAVICULOID		
LGYROSIGMA			0
LNAVICULA			0
....NITZSCHIAEAE			
....NITZSCHIA		6,900	2
	TOTALS	120,000	27
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..CHROOCOCCALES	COCCOID		
....CHROOCOCCACEAE			
DAGMENELLUM		160,000	36
....ANACYSTIS			
....ANACYSTIS INCERTA		29,000	7
	TOTALS	190,000	43
EUGLENOPHYTA	EUGLENOIDS		
..CRYPTOPHYCEAE	CRYPTOMONADS		
....CRYPTOMONIDALES			
....CRYPTOMONODACEAE			
LCRYPTOMONAS			0
	TOTALS	980	0
..EUGLENOPHYCEAE			
..EUGLENALES			
....EUGLENACEAE			
LEUGLENA			0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 15% MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER • 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.574
 CLASS 1.574
 ORDER 1.670
 FAMILY 2.106
 GENERA 2.477

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

AUG. 25, 1976
0930 HOURS

IDENTIFICATION OF PHYTOPLANKTON

230,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
..HYDRODICTYACEAE			
LPEDIASTRUM			0
..MICRACTINIACEAE			
....GOLINKINIA		2,200	1
..OCCYSTACEAE			
....ANKISTRODESMUS		1,900	1
LCHODATELLA			0
LDICTYOSPHAERIUM			0
LKIRCHNERIELLA			0
....OOCYSTIS		2,500	1
LPOLYDRIOPSIS			0
....TETRAEDRON		1,600	1
....WESTELLA		6,300	3
..SCENEDESMACEAE			
....ACTINASTRUM		6,900	3
....CRUCIGENIA		3,800	2
DSCENEDESMUS		38,000	17
LTETRASTRUM			0
..VOLVOCALES			
..VOLVOCAEEAE			
LEUDORINA			0
..ZYGNEMATALES			
..DESMIDIACEAE	PLACODERM DESMIDS		
LSTAUASTRUM			0
..CHLOROCOCCALES			
..OCCYSTACEAE			
....GLOEOACTINIUM		7,500	3
	TOTALS	73,000	32
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
..COSCINODISCAEEAE			
DCYCLOTELLA		53,000	23
LMELOSIRA			0
..PENNALES	PENNATE		
..DIATOMACEAE			
LDIATOMA			0
..NAVICULACEAE	NAVICULOID		
LDIPLONEIS			0
LGYROSIGMA			0
LNAVICULA			0
..NITZSCHIAEEAE			
....NITZSCHIA		7,900	3
..SURIRELLACEAE			
LCYMATOPLEURA			0
LSURIRELLA			0
	TOTALS	63,000	26
..CHRYSTOPHYCEAE	YELLOW-BROWN ALGAE		
..CHRYSONOMADALES			
..MALLOMONADACEAE			
LMALLOMONAS			0
	TOTALS	310	0

BIG SIOUX RIVER BASIN

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

AUG. 25, 1976--Continued
0930 HOURS

CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
DAGMENELLUM		69,000	30
....ANACYSTIS		16,000	7
..OSCILLATORIALES	FILAMENTOUS		
...OSCILLATORIAACEAE			
....OSCILLATORIA		6,300	3
	TOTALS	<u>91,000</u>	<u>40</u>
EUGLENOPHYTA	EUGLENIDS		
..CRYPTOPHYCEAE	CRYPTOMONADS		
...CRYPTOMONIDALES			
...CRYPTOMONODACEAE			
LCRYPTOMONAS			0
	TOTALS	<u>630</u>	<u>0</u>
..EUGLENOPHYCEAE			
..EUGLENALES			
...EUGLENACEAE			
LEUGLENA			0
LTRACHELOMONAS			0
	TOTALS	<u>310</u>	<u>0</u>

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.601
 CLASS 1.617
 ORDER 2.082
 FAMILY 2.384
 GENERA 3.033

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

SEP. 27, 1976
1015 HOURS

IDENTIFICATION OF PHYTOPLANKTON

140,000 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...HYDRODICTYACEAE			
...PEDIASTRUM		7,200	5
...MICRACTINIACEAE			
....GOLENKINIA		1,600	1
....MICRACTINIUM		2,500	2
...OCCYSTACEAE			
...ANKISTRODESMUS		1,700	1
L ...CHODATELLA			0
L ...DICTYOSPHAERIUM			0
L ...ECHINOSPHAERELLA			0
L ...OOCYSTIS			0
L ...SELENASTRUM			0
L ...TETRAEDRON			0
...SCENEDESMACEAE			
...ACTINASTRUM		10,000	7
D ...SCENEDESMUS		64,000	47
...TETRASTRUM		3,700	3
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
L ...CHLAMYDOMONAS			0
...VOLVOCAEAE			
L ...EUDORINA			0
L ...PANDORINA			0
	TOTALS	93,000	66
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
...CYCLOTELLA		10,000	7
...MELOSIRA		2,000	1
..PENNALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
L ...NAVICULA			0
...NITZSCHACEAE			
...NITZSCHIA		9,000	7
...SURIPELLACEAE			
L ...CYMATOPLEURA			0
	TOTALS	22,000	15

BIG SIOUX RIVER BASIN

06485500 BIG SIOUX RIVER AT AKRON, IA--Continued

SEP. 27, 1976--Continued
1015 HOURSCYANOPHYTA
..MYXOPHYCEAE
..CHROOCOCCALES
...CHROOCOCCACEAEBLUE-GREEN ALGAE
COCCOID....ANACYSTIS
..OSCILLATORIALES
...OSCILLATORIAEAE
....OSCILLATORIA

FILAMENTOUS

14.000

10

5.100

4

TOTALS

19.000

14

EUGLENOPHYTA
..CRYPTOPHYCEAE
..CRYPTOMONIDALES
...CRYPTOMONODACEAE
....CRYPTOMONASEUGLENOIDS
CRYPTOMONADS

1.700

1

TOTALS

1.700

1

..EUGLENOPHYCEAE
..EUGLENALES
...EUGLENACEAE
LEUGLENA
LTRACHELOMONAS

0

0

TOTALS

310

0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1% MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.286
 CLASS 1.296
 ORDER 1.595
 FAMILY 2.230
 GENERA 2.853

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in floodflow analyses.

Crest-stage partial-record stations

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

Station No.	Station name	Location	Drainage area (m ²)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (ft ³ /s)
Minnesota River basin							
05289950	Little Minnesota River tributary at Sisseton, SD	Lat 45°39'38", long 97°04'21", in NW¼ sec.32, T.126 N., R.51 W., Roberts County, Hydrologic Unit 07020001, at culvert on State Highway 10, 0.6 mile (1.0 km) west of Sisseton.	4.21	1970-76	3-20-76	a9.85	b30
05290300	North Fork Whetstone River tributary near Wilmot, SD	Lat 45°26'02", long 96°57'33", in SE¼ sec.18, T.123 N., R.50 W., Roberts County, Hydrologic Unit 07020001, at culvert on county highway, 6.0 miles (9.7 km) northwest of Wilmot.	.96	1970-76	3-20-76	a7.09	b8.5
05292600	North Fork Yellow Bank River tributary near Stockholm, SD	Lat 45°06'28", long 96°49'19", in SE¼SE¼SE¼ sec.16, T.119 N., R.50 W., Grant County, Hydrologic Unit 07020001, at culvert on State Highway 20, 1.0 mile (1.6 km) northwest of Stockholm.	8.15	1970-76	3-20-76	a5.69	b13
Spring Creek basin							
06354845	Spring Creek tributary near Greenway, SD	Lat 45°54'45", long 99°36'48", in SW¼ sec.12, T.128 N., R.73 W., McPherson County, Hydrologic Unit 10130102, at culvert on State Highway 47, 4.8 miles (7.7 km) east of Greenway.	.99	1970-76	1976	<2.64	<0.5
Grand River basin							
06355400	North Fork Grand River tributary near Lodgepole, SD	Lat 45°55'45", long 102°39'04", in NW¼ sec.28, T.23 N., R.12 E., Perkins County, Hydrologic Unit 10130301, at culvert on county highway, 9.0 miles (14.5 km) north of Lodgepole.	3.07	1970-76	6-15-76	3.14	-
06356150	North Jack Creek near Ludlow, SD	Lat 45°47'15", long 103°23'43", in SW¼NW¼NW¼ sec.16, T.21 N., R.6 E., Harding County, Hydrologic Unit 10130302, at culvert on U.S. Highway 85, 3.4 miles (5.5 km) southwest of Ludlow.	1.69	1970-76	6-14-76	3.64	15
06356600	South Fork Grand River tributary near Bison, SD	Lat 45°35'54", long 102°39'28", in NE¼ sec.21, T.19 N., R.12 E., Perkins County, Hydrologic Unit 10130302, at culvert on county highway, 10 miles (16 km) northwest of Bison.	c1.0	1970-76	7- 3-76	4.18	32
Deadman Creek basin							
06358520	Deadman Creek tributary near Mobridge, SD	Lat 45°28'12", long 100°29'46", in NW¼ sec.1, T.17 N., R.29 E., Dewey County, Hydrologic Unit 10130102, at culvert on county highway, 5.5 miles (8.8 km) southwest of Mobridge.	d.30	1956-76	6-15-76	4.46	4.3

See footnotes at end of the table.

Annual maximum discharge at crest-stage partial-record stations--Continued

					Annual maximum		
Station No.	Station name	Location	Drainage area (m ²)	Period of record	Date	Gage height (feet)	Dis-charge (ft ³ /s)
Blue Blanket Creek basin							
06358540	Blue Blanket Creek tributary near Glenham, SD	Lat 45°32'12", long 100°12'01", in NW¼NW¼NW¼ sec.30, T.124 N., R.77 W., Walworth County, Hydrologic Unit 10130102, at culvert on U.S. Highway 12, 3.5 miles (5.6 km) east of Glenham.	0.62	1970-76	6-15-76	3.19	5.3
Moreau River basin							
06358550	Battle Creek tributary near Castle Rock, SD	Lat 45°02'57", long 103°32'56", in NE¼ sec.31, T.13 N., R. 5 E., Butte County, Hydrologic Unit 10130304, at culvert on U.S. Highway 85, 8.7 miles (14.0 km) northwest of Castle Rock.	1.57	1969-76	6-17-76	6.26	135
06358600	South Fork Moreau River tributary near Redig, SD	Lat 45°11'55", long 103°34'05" (corrected), in SE¼SE¼ sec.1, T.14 N., R.4 E., Butte County, Hydrologic Unit 10130304, at culvert on former U.S. Highway 85, 5 miles (8 km) south of Redig, 26.2 miles (42.2 km) south of Buffalo.	d2.33	1956, 1958-76	6-23-76	3.17	80
06359300	Deep Creek tributary near Maurine, SD	Lat 45°01'34", long 102°32'29", in SW¼SE¼ sec.4, T.12 N., R.13 E., Meade County, Hydrologic Unit 10130305, at culvert on U.S. Highway 212, 2.6 miles (4.2 km) east of Maurine.	1.26	1970-76	5-30-70 5-30-71 5-11-72 1973 1974 4-28-75 1976	3.27 8.13 2.99 <3.63 <3.63 4.46 -	5.6 188 2.7 b0.5 b0.5 29 (e)
06359700	Thunder Butte Creek tributary near Meadow, SD	Lat 45°26'39", long 102°05'21", in SE¼ sec.12, T.17 N., R.16 E., Perkins County, Hydrologic Unit 10130306, at culvert on State Highway 20, 8.5 miles (13.7 km) southeast of Meadow, 15.7 miles (25.3 km) west of Glad Valley.	c3.0	1970-76	1976	<2.65	<3.0
06359800	Thunder Butte Creek tributary near Glad Valley, SD	Lat 45°26'39", long 102°01'01", in SW¼ sec.10, T.17 N., R.17 E., Perkins County, Hydrologic Unit 10130306, at culvert on State Highway 20, 12.2 miles (19.6 km) west of Glad Valley.	c8.0	1970-76	6- 8-70 7-11-71 5-22-72 4-28-75 6-23-76	8.43 6.05 5.19 8.20 4.21	1,130 561 363 1,070 122
06359850	Elm Creek tributary near Dupree, SD	Lat 45°03'12", long 101°38'39", in SW¼ sec.26, T.13 N., R.20 E., Ziebach County, Hydrologic Unit 10130306, at culvert on U.S. Highway 212, 1.8 miles (2.9 km) west of Dupree.	c5.0	1970-76	6-23-76	3.71	115
06360350	Little Moreau River tributary near Firesteel, SD	Lat 45°24'16", long 101°13'30", in NE¼SE¼ sec.25, T.17 N., R.23 E., Dewey County, Hydrologic Unit 10130306, at culvert on State Highway 63, 3.5 miles (5.6 km) southeast of Firesteel.	c2.75	1970-76	1976	<2.63	<1.0
Swan Creek basin							
06361020	Swan Lake Creek tributary near Bowdle, SD	Lat 45°26'57", long 99°44'34", in SW¼ sec.23, T.123 N., R.74 W., Walworth County, Hydrologic Unit 10130105, at culvert on U.S. Highway 12, 3.7 miles (6.0 km) west of Bowdle.	27.1	1970-76	4-28-70 4- 8-71 10-12-73 5-19-75 6-16-76	4.6 4.80 4.07 3.33 3.06	65 75 d43 d11 4.6
Cheyenne River basin							
06396200	Fiddle Creek near Edgemont, SD	Lat 43°18'16", long 103°59'46", in SE¼ sec.33, T.8 S., R. 1 E., Fall River County, Hydrologic Unit 10120106, at culvert on U.S. Highway 18 and 85A, 9 miles (14 km) west of Edgemont.	d.64	1956-76	7- 6-76	2.72	37

See footnotes at end of the table.

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (m ²)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis- charge (ft ³ /s)
Cheyenne River basin - Continued							
06396300	Cottonwood Creek tributary near Edgemont, SD	Lat 43°17'48", long 103°52'02" (corrected), in SW¼ sec.3, T.9 S., R.2 E., Fall River County, Hydro- logic Unit 10120106, at culvert on U.S. Highway 18 and 85A, 2.5 miles (4.0 km) west of Edgemont.	d0.09	1956-76	7- 9-75 7-20-76	d3.04 3.04	- -
06396350	Red Canyon Creek tributary near Pringle, SD	Lat 43°32'22", long 103°39'20", in SW¼ sec.9, T.6 S., R.4 E., Custer County, Hydrologic Unit 10120109, at culvert on State Highway 89, 0.5 mile (0.8 km) northwest of Argyle, and 5.5 miles (8.8 km) southwest of Pringle.	.20	1970-76	1976	-	(e)
06399300	Hat Creek tribu- tary near Ardmore, SD	Lat 43°05'42", long 103°40'25", in NW¼ sec.16, T.11 S., R.4 E., Fall River County, Hydrologic Unit 10120108, at culvert on State Highway 71, 5.0 miles (8.0 km) north of Ardmore.	3.74	1956-76	7-20-76	6.33	338
06399700	Pine Creek near Ardmore, SD	Lat 43°11'14", long 103°38'24", in NW¼ sec.15, T.10 S., R.4 E., Fall River County, Hydrologic Unit 10120108, at bridge on State Highway 71, 11.5 miles (18.5 km) north of Ardmore.	d7.36	1956-76 ^f	6-18-75	(g)	-
06400900	Horsehead Creek tributary near Smithwick, SD	Lat 43°17'16", long 103°19'08", in NW¼ sec.8, T.9 S., R.7 E., Fall River County, Hydrologic Unit 10120106, at culvert on U.S. Highway 18 and 385, 12 miles (19 km) southeast of Hot Springs, and 5.3 miles (8.5 km) west of Smithwick.	1.52	1969-76	2-10-76	a4.24	<3.0
06402100	Fall River tribu- tary at Hot Springs, SD	Lat 43°24'58", long 103°29'18", in NW¼NE¼ sec.26, T.7 S., R.5 E., Fall River County, Hydrologic Unit 10120109, at culvert on State Highway 71, 0.5 mile (0.8 km) south of Hot Springs.	3.81	1970-76	7-31-76	3.48	19
06403800	Battle Creek tributary near Keystone, SD	Lat 43°55'28", long 103°27'44", in NW¼NE¼NE¼ sec.36, T.1 S., R.5 E., Pennington County, Hydrologic Unit 10120109, at culvert on U.S. Highway 16, 2.8 miles (4.5 km) northwest of Keystone.	.88	1956-76	6-15-76	4.28	2.5
06406100	Battle Creek trib- utary near Hermosa, SD	Lat 43°50'10", long 103°09'43", in SE¼NE¼ sec.33, T.2 S., R.8 E., Custer County, Hydrologic Unit 10120109, at culvert on county highway, 1.3 miles (2.1 km) east of Hermosa.	3.49	1970-76	6-15-76	2.81	20
06406800	Newton Fork near Hill City, SD	Lat 43°58'03", long 103°38'24", in NE¼NE¼ sec.16, T.1 S., R.4 E., Pennington County, Hydrologic Unit 10120109, at culvert on Forest Service Road 17, 3.9 miles (6.3 km) northwest of Hill City.	8.17	1969-76	6-15-76	4.04	45
06406900	Palmer Creek near Hill City, SD	Lat 43°56'12", long 103°30'36", in NE¼SE¼NW¼ sec.27, T.1 S., R.5 E., Pennington County, Hydrologic Unit 10120109, at culvert on U.S. Highway 16, 3.0 miles (4.8 km) east of Hill City.	8.24	1956-76	6-15-76	4.88	103

See footnotes at end of the table.

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (m ²)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (ft ³ /s)
Cheyenne River basin - Continued							
06408850	Silver Creek near Rochford, SD	Lat 44°07'24", long 103°41'53", in NE¼NE¼ sec.24, T.2 N., R.3 E., Pennington County, Hydrologic Unit 10120110, at culvert on Forest Service Road 291, 0.3 mile (0.5 km) upstream from mouth, and 1.1 miles (1.8 km) east of Rochford.	6.23	1969-76	6-15-76	4.23	14
06408900	Heeley Creek near Hill City, SD	Lat 43°58'57", long 103°50'02", in NW¼NW¼ sec.12, T.1 S., R.2 E., Pennington County, Hydrologic Unit 10120110, at culvert on Forest Service Road 291, 2.8 miles (4.5 km) south of Deerfield, and 13.5 miles (21.7 km) northwest of Hill City.	4.88	1969-76	6-15-76	3.14	5.5
06421750	Rapid Creek tributary near Farmingdale, SD	Lat 43°56'30", long 102°48'43", in SE¼SW¼ sec.21, T.1 S., R.11 E., Pennington County, Hydrologic Unit 10120110, at culvert on State Highway 40, 3.8 miles (6.1 km) southeast of Farmingdale.	1.50	1970-76	6-15-76	3.22	18
06423400	Bull Creek tributary near Wall, SD	Lat 43°53'55", long 102°14'18", in NW¼SW¼ sec.5, T.2 S., R.16 E., Pennington County, Hydrologic Unit 10120111, at culvert on U.S. Highway 16A, 6.2 miles (10.0 km) south of Wall.	.39	1970-76	7-11-76	3.20	5.0
06434800	Owl Creek tributary near Belle Fourche, SD	Lat 44°49'32", long 103°51'06", in NE¼SE¼ sec.15, T.10 N., R.2 E., Butte County, Hydrologic Unit 10120202, at culvert on U.S. Highway 85, 10.2 miles (16.4 km) north of Belle Fourche.	3.06	1970-76	6-15-76	4.73	267
06437100	Boulder Creek near Deadwood, SD	Lat 44°23'28", long 103°39'38", in NE¼SW¼ sec.17, T.5 N., R.4 E., Lawrence County, Hydrologic Unit 10120202, at culvert on U.S. Highway 14A, 3.5 miles (5.6 km) east of Deadwood.	d1.32	1956-76	6-14-76	11.45	323
06439050	Cherry Creek tributary near Avance, SD	Lat 44°48'33", long 102°03'18", in SW¼ sec.21, T.10 N., R.17 E., Meade County, Hydrologic Unit 10120113, at culvert on State Highway 73, 12.5 miles (20.1 km) southeast of Avance.	.60	1956-76	4-16-76	a2.98	12
06439080	Cherry Creek tributary No. 3 near Avance, SD	Lat 44°51'03", long 102°03'36", in SW¼ sec.3, T.10 N., R.17 E., Meade County, Hydrologic Unit 10120113, at bridge on State Highway 73, 11 miles (17.7 km) southeast of Avance.	4.58	1956-76	6-15-76	2.84	26
06439100	Beaver Creek near Faith, SD	Lat 44°56'21", long 102°02'37", in SW¼ sec.3, T.11 N., R.17 E., Meade County, Hydrologic Unit 10120113, at bridge on State Highway 73, 6 miles (10 km) south of Faith.	37.1	1956-76	6-15-76	8.52	500
06439400	Plum Creek tributary near Milesville, SD	Lat 44°21'34", long 101°25'42", in S¼ sec.26, T.5 N., R.22 E., Haakon County, Hydrologic Unit 10120112, at culvert on State Highway 34, 14.5 miles (23.3 km) southeast of Milesville.	c.5	1970-76	1976	-	(e)

See footnotes at end of the table.

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (m ²)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (ft ³ /s)
Bad River basin							
06440700	Brady Creek tributary near Philip, SD	Lat 43°55'14", long 101°39'40", in NE¼NE¼ sec.36, T.1 S., R.20 E., Jackson County, Hydrologic Unit 10140102, at culvert on State Highway 73, 8.1 miles (13.0 km) south of Philip.	4.84	1970-76	7- 2-76	4.61	432
06441200	Powell Creek tributary near Fort Pierre, SD	Lat 44°22'39", long 100°35'16", in NW¼SW¼ sec.23, T.5 N., R.29 E., Stanley County, Hydrologic Unit 10140102, at culvert on U.S. Highway 14, 10.2 miles (16.4 km) west of Fort Pierre.	.40	1970-76	3- 9-76	^a 4.80	^b 3.0
Hilgers Gulch basin							
06441530	Hilgers Gulch tributary near Pierre, SD	Lat 44°23'52", long 100°18'57", in SE¼SW¼SE¼ sec.22, T.111 N., R.79 W., Hughes County, Hydrologic Unit 10140101, at culvert on U.S. Highway 14 and 83, 1 mile (2 km) upstream from mouth, and 3 miles (5 km) northeast of Pierre.	1.33	1968-76	1976	-	(e)
06441580	Hilgers Gulch at Pierre, SD	Lat 44°22'10", long 100°20'30", in SE¼SW¼ sec.33, T.111 N., R.79 W., Hughes County, Hydrologic Unit 10140101, on right bank at culvert on Church Street, 0.7 mile (1.1 km) upstream from mouth, in city of Pierre.	6.49	1967-76	1976	<5.73	^b <3.0
Mush Creek basin							
06441650	Mush Creek near Pierre, SD	Lat 44°20'13", long 100°12'42", in NE¼ sec.16, T.110 N., R.78 W., Hughes County, Hydrologic Unit 10140101, at bridge on State Highway 34, 7.5 miles (12.1 km) east of Pierre.	^d 14.2	1956-76	3-20-76	^a 4.02	^b 30
Unnamed Missouri River tributary							
06442050	Missouri River tributary near DeGrey, SD	Lat 44°17'45", long 99°58'58", in SW¼ sec.28, T.110 N., R.76 W., Hughes County, Hydrologic Unit 10140101, at culvert on State Highway 34, 3.2 miles (5.1 km) northwest of DeGrey.	^d 1.73	1956-76	3-20-76	<1.68	^b <20
Medicine Creek basin							
06442350	North Fork Medicine Creek near Vivian, SD	Lat 43°57'06", long 100°19'25", in SW¼ sec.28, T.106 N., R.79 W., Lyman County, Hydrologic Unit 10140104, at bridge on U.S. Highway 83, 2.5 miles (4.0 km) northwest of Vivian.	45.9	1956-76	3-20-76	<3.47	^b 15
06442400	Medicine Creek tributary No. 2 near Vivian, SD	Lat 44°02'03", long 100°19'28", in NE¼ sec.32, T.107 N., R.79 W., Lyman County, Hydrologic Unit 10140104, at culvert on U.S. Highway 83, 8 miles (13 km) northwest of Vivian.	^d 9.21	1956-76	1976	<2.63	<3.0
Crow Creek basin							
06442850	Elm Creek tributary near Ree Heights, SD	Lat 44°25'05", long 99°12'17", in NW¼SW¼ sec.13, T.111 N., R.70 W., Hand County, Hydrologic Unit 10140105, at culvert on county highway, 6.5 miles (10.5 km) south of Ree Heights.	.70	1969-76	3-20-76	^a 3.79	^b <3.0

See footnotes at end of the table.

Annual maximum discharge at crest-stage partial-record stations--Continued

					Annual maximum		
Station No.	Station name	Location	Drainage area (m ²)	Period of record	Date	Gage height (feet)	Dis-charge (ft ³ /s)
Crow Creek basin - Continued							
06442960	Smith Creek tributary near Gann Valley, SD	Lat 44°01'34", long 98°43'41", in NE¼SE¼ sec.34, T.107 N., R.66 W., Jerauld County, Hydrologic Unit 10140105, at culvert on county highway, 8.7 miles (14.0 km) southwest of Wessington Springs and 13.9 miles (20.9 km) east of Gann Valley.	5.85	1972-76	3-20-76	^a 4.02	^b <5.0
White River basin							
06445990	South Fork Black-tail Creek tributary near Oelrichs, SD	Lat 43°11'18", long 103°08'20", in NW¼ sec.14, T.10 S., R.8 E., Fall River County, Hydrologic Unit 10140201, at culvert on U.S. Highway 18, 4.2 miles (6.8 km) east of Oelrichs.	^c 3.60	1969-76	6-14-76	2.84	-
06446250	Porcupine Creek tributary near Rockyford, SD	Lat 43°26'05", long 102°25'45", in SE¼SE¼ sec.17, T.40 N., R.43 W., Shannon County, Hydrologic Unit 10140201, at culvert on county road, 5 miles (8 km) southeast of village of Rockyford.	1.65	1968, 1970-76	7-21-76	8.59	363
06446300	Big Hollow Creek tributary near Scenic, SD	Lat 43°42'25", long 102°31'15", in SE¼SE¼ sec.11, T.4 S., R.13 E., Pennington County, Hydrologic Unit 10140201, at culvert on county road, 4.9 miles (7.9 km) south of Scenic.	2.71	1968, 1970-76 ^h	4-16-76	10.12	512
06446400	Cain Creek tributary at Imlay, SD	Lat 43°42'59", long 102°23'23", in SE¼NW¼ sec.12, T.4 S., R.14 E., Pennington County, Hydrologic Unit 10140201, at bridge on State Highway 40, 0.5 mile (0.8 km) east of Imlay.	14.0	1956-76	5-23-76	5.62	540
06446550	White River tributary near Interior, SD	Lat 43°44'51", long 101°56'50", in SE¼ sec.27, T.3 S., R.18 E., Jackson County, Hydrologic Unit 10140202, in Badlands National Monument, at culvert on U.S. Highway 16A, 2.3 miles (3.7 km) northeast of Interior.	^d 3.32	1956-76	7-27-76	6.05	250
06446800	Cottonwood Creek near Wanblee, SD	Lat 43°34'35", long 101°32'15", in NW¼NW¼ sec.31, T.42 N., R.35 W., Washabaugh County, Hydrologic Unit 10140202, at culvert on State Highway 40, 6.2 miles (10.0 km) east of Wanblee.	^c 1.7	1971-76	1976	<2.64	<5.0
06447200	Black Pipe Creek tributary near Norris, SD	Lat 43°27'42", long 101°08'05", in NW¼NW¼ sec.8, T.40 N., R.32 W., Mellette County, Hydrologic Unit 10140202, at culvert on State Highway 63, 3.2 miles (5.1 km) east of Norris.	4.19	1971-76	7- 3-76	4.36	36
06447490	Little White River tributary near Martin, SD	Lat 43°10'20", long 101°41'02", in SE¼SW¼ sec.15, T.37 N., R.37 W., Bennett County, Hydrologic Unit 10140203, at culvert on U.S. Highway 18, 2.3 miles (3.7 km) east of Martin.	^c 8.9	1971-76	8- 5-76	4.03	46
06449700	Little Oak Creek near Mission, SD	Lat 43°19'45", long 100°42'33", in NW¼ sec.25, T.39 N., R.29 W., Todd County, Hydrologic Unit 10140203, at culvert on U.S. Highway 83, 3.2 miles (5.1 km) northwest of Mission.	^d 2.58	1956-76	7- 3-76	1.87	-

See footnotes at end of the table.

Annual maximum discharge at crest-stage partial-record stations--Continued

					Annual maximum		
Station No.	Station name	Location	Drainage area (m ²)	Period of record	Date	Gage height (feet)	Dis-charge (ft ³ /s)
White River basin - Continued							
06451750	Cottonwood Creek tributary near Winner, SD	Lat 43°23'11", long 100°01'13", in NW¼ sec.24, T.99 N., R.78 W., Tripp County, Hydrologic Unit 10140204, at culvert on U.S. Highway 18, 7.5 miles (12.1 km) west of Winner.	c4.0	1971-76	1976	-	(e)
Fivemile Creek basin							
06452250	Fivemile Creek tributary near Iona, SD	Lat 43°29'23", long 99°26'08", in SE¼ sec.11, T.99 N., R.73 W., Gregory County, Hydrologic Unit 10140101, at culvert on State Highway 47, 3.8 miles (6.1 km) south of Iona.	2.35	1970-76	1976	<1.64	<1.0
Choteau Creek basin							
06453150	Choteau Creek tributary near Tripp, SD	Lat 43°14'20", long 98°02'35", in NE¼NW¼ sec.10, T.97 N., R.61 W., Hutchinson County, Hydrologic Unit 10170101, at culvert on U.S. Highway 18, 3.7 miles (6.0 km) west of Tripp.	.54	1970-76	2-15-76	a4.68	b5.0
06453250	Choteau Creek tributary near Wagner, SD	Lat 43°04'54", long 98°19'04", in NE¼NW¼ sec.5, T.95 N., R.63 W., Charles Mix County, Hydrologic Unit 10170101, at culvert on State Highway 46, 1.1 miles (1.8 km) west of Wagner.	15.6	1970-76	2-23-76	a3.00	b7.5
Niobrara River basin							
06463950	Rock Creek tributary near Olsonville, SD	Lat 43°01'22", long 100°35'21", in NE¼SE¼ sec.3, T.35 N., R.28 W., Todd County, Hydrologic Unit 10150006, at culvert on U.S. Highway 83, 7.5 miles (12.1 km) south of Olsonville.	c8.1	1970-76 ^h	1976	-	(e)
James River basin							
06471050	Elm River tributary near Leola, SD	Lat 45°50'40", long 98°46'03", in NE¼SE¼ sec.3, T.127 N., R.66 W., McPherson County, Hydrologic Unit 10160004, at culvert on county highway, 12.2 miles (19.6 km) northeast of Leola.	d18.0	1956-76	3-12-76	a4.90	b20
06471400	Willow Creek tributary near Leola, SD	Lat 45°44'10", long 98°45'45", in SW¼ sec.11, T.126 N., R.66 W., McPherson County, Hydrologic Unit 10160004, at culvert on former State Highway 10, 8.5 miles (13.7 km) northeast of Leola.	d6.69	1956-76	3-12-76	a2.07	b5.0
06471450	Willow Creek tributary near Barnard, SD	Lat 45°44'12", long 98°37'42", in SW¼ sec.11, T.126 N., R.65 W., Brown County, Hydrologic Unit 10160004, at culvert on former State Highway 10, 6.5 miles (10.5 km) west of Barnard.	d.26	1956-76 ^h	4- 3-76	a4.28	b1.0
06471750	Foot Creek tributary near Leola, SD	Lat 45°41'01", long 98°55'55", in SE¼ sec.32, T.126 N., R.67 W., McPherson County, Hydrologic Unit 10160003, at culvert on State Highway 45, 2.5 miles (4.0 km) south of Leola.	4.49	1971-76	7- 6-76	2.72	13
06472200	Mud Creek tributary near Groton, SD	Lat 45°26'37", long 98°02'22", in SW¼ sec.22, T.123 N., R.60 W., Brown County, Hydrologic Unit 10160005, at culvert on U.S. Highway 12, 3.2 miles (5.1 km) east of Groton.	41.0	1960-69, 1974-76	3-12-76	a3.01	<10

See footnotes at end of the table.

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (m ²)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (ft ³ /s)
James River basin - Continued							
06472250	Mud Creek tributary No. 2 near Groton, SD	Lat 45°26'36", long 98°02'52", in SE¼ sec.21, T.123 N., R.60 W., Brown County, Hydrologic Unit 10160005, at culvert on U.S. Highway 12, 2.7 miles (4.3 km) east of Groton.	60.0	1960-76	3-12-76	a2.72	b7.0
06473300	Preachers Run tributary at Ipswich, SD	Lat 45°27'08", long 99°01'45", in SE¼ sec.21, T.123 N., R.68 W., Edmunds County, Hydrologic Unit 10160008, at culvert on county highway, 0.3 mile (0.5 km) north of U.S. Highway 12, at Ipswich.	7.88	1971-76	1976	<2.63	<5.0
06473350	South Fork Snake Creek tributary near Seneca, SD	Lat 45°03'00", long 99°23'36", in SE¼NE¼ sec.9, T.118 N., R.71 W., Faulk County, Hydrologic Unit 10160008, at culvert on U.S. Highway 212, 5.3 miles (8.5 km) east of Seneca.	4.54	1971-76	4-16-76	a4.26	b10
06473400	North Fork Snake Creek tributary near Wecota, SD	Lat 45°09'26", long 99°07'26", in NE¼NE¼ sec.3, T.119 N., R.69 W., Faulk County, Hydrologic Unit 10160008, at culvert on county highway, 1.1 miles (1.8 km) south of Wecota.	2.69	1971-76	4-16-76	a3.62	b<1.0
06473820	Shaefer Creek near Orient, SD	Lat 44°46'46", long 99°02'39", in NW¼NW¼ sec.17, T.115 N., R.68 W., Hand County, Hydrologic Unit 10160009, on downstream side of bridge on county highway, 8.5 miles (13.7 km) southeast of Orient.	45.1	1956-76	3-20-76	a2.40	b35
06473850	Shaefer Creek tributary near Orient, SD	Lat 44°43'49", long 98°59'17", in SE¼NE¼ sec.34, T.115 N., R.68 W., Hand County, Hydrologic Unit 10160009, at culvert on State Highway 45, 13 miles (21 km) southeast of Orient.	d5.17	1956-76	3-20-76	a3.64	b5.0
06473880	Shaefer Creek tributary near Miller, SD	Lat 44°42'20", long 98°59'17", in NE¼ sec.10, T.114 N., R.68 W., Hand County, Hydrologic Unit 10160009, at culvert on State Highway 45, 13 miles (21 km) north of Miller.	5.75	1956-76	3-20-76	a3.15	b5.0
06475500	Dry Run near Frankfort, SD	Lat 44°56'17", long 98°19'43", in NW¼NW¼ sec.20, T.117 N., R.62 W., Spink County, Hydrologic Unit 10160006, at highway bridge, 400 ft (120 m) downstream from small right-bank tributary, 4.4 miles (7.1 km) north of Frankfort, and 8.1 miles (13.0 km) upstream from mouth.	225	1955-69†, 1976 1970-76		-	(e)
06475550	Dry Run tributary near Frankfort, SD	Lat 44°55'45", long 98°18'31", in W¼NW¼SW¼ sec.21, T.117 N., R.62 W., Spink County, Hydrologic Unit 10160006, on left bank at culvert on county highway, 0.6 mile (1.0 km) upstream from mouth, and 3.5 miles (5.6 km) north of Frankfort.	4.19	1967-76	3-20-76	a3.53	b3.0
06475850	Foster Creek tributary near Carpenter, SD	Lat 44°37'59", long 98°03'42", in SE¼SE¼ sec.32, T.114 N., R.60 W., Spink County, Hydrologic Unit 10160006, at culvert on State Highway 28, 7.3 miles (11.7 km) west of Carpenter.	4.93	1972-76	3-20-76	a3.52	b3.0

See footnotes at end of the table.

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (m ²)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (ft ³ /s)
James River basin - Continued							
06475950	Shue Creek tributary near Yale, SD	Lat 44°27'48", long 97°59'18", in NW¼SW¼ sec.36, T.112 N., R.60 W., Beadle County, Hydrologic Unit 10160006, at culvert on county highway, 2 miles (3 km) north of Yale.	6.90	1968-76	3-19-76	a2.86	b2.0
06477140	Rock Creek tributary near Roswell, SD	Lat 44°02'24", long 97°42'34", in SW¼SW¼ sec.29, T.107 N., R.57 W., Miner County, Hydrologic Unit 10160011, at culvert on county highway, 2.2 miles (3.5 km) north of Roswell.	5.67	1970-76	4-15-70 3-13-71 6-19-72 3- -73 2- -74 6- 9-75 3-19-76	a4.89 a6.86 4.07 a5.60 a4.17 2.69 a4.34	b50 bd150 59 b40 b20 <1.0 <10
06477150	Rock Creek near Fulton, SD	Lat 43°45'39", long 97°54'25", in NW¼NW¼ sec.3, T.103 N., R.59 W., Hanson County, Hydrologic Unit 10160011, near right bank on downstream wingwall of highway bridge, 4.9 miles (7.9 km) northwest of Fulton and 9.5 miles (15.3 km) upstream from mouth.	270	1966-72†, 1973-76	3-12-76	<2.95	b5.0
06477400	Firesteel Creek tributary near Wessington Springs, SD	Lat 44°04'26", long 98°34'52", in NW¼ sec.13, T.107 N., R.65 W., Jerauld County, Hydrologic Unit 10160011, at culvert on State Highway 34, 0.8 mile (1.3 km) west of Wessington Springs.	.22	1968-76	3-19-76	a3.31	b3.0
06478050	Enemy Creek tributary near Mount Vernon, SD	Lat 43°36'19", long 98°15'55", in NE¼SE¼ sec.28, T.102 N., R.62 W., Davison County, Hydrologic Unit 10160011, at culvert on county highway, 7.3 miles (11.7 km) south of Mount Vernon.	c2.5	1969-76	3-19-76	(g)	b20
06478200	Coffee Creek tributary near Parkston, SD	Lat 43°27'26", long 97°59'42", in SE¼SE¼ sec.24, T.100 N., R.61 W., Hutchinson County, Hydrologic Unit 10160011, at culvert on State Highway 37, 4.2 miles (6.8 km) north of Parkston.	c.5	1968-76	3-12-76	(g)	b20
06478260	North Branch Dry Creek near Parkston, SD	Lat 43°22'13", long 97°50'42", in NE¼ sec.29, T.99 N., R.59 W., Hutchinson County, Hydrologic Unit 10160011, at bridge on county highway, 7.5 miles (12.1 km) southeast of Parkston.	37.0	1956-76	3-12-76	a4.75	b50
06478280	South Branch Dry Creek near Parkston, SD	Lat 43°21'22", long 97°49'35", in NW¼ sec.33, T.99 N., R.59 W., Hutchinson County, Hydrologic Unit 10160011, at bridge on county highway, 8.3 miles (13.4 km) southeast of Parkston.	17.1	1956-76	3-12-76	a4.18	b30
06478300	Dry Creek near Parkston, SD	Lat 43°22'18", long 97°49'23", in SE¼ sec.21, T.99 N., R.59 W., Hutchinson County, Hydrologic Unit 10160011, at bridge on county highway, 8.5 miles (13.7 km) southeast of Parkston.	76.8	1956-76	3-12-76	a4.73	b40
06478400	Lonetree Creek tributary near Kaylor, SD	Lat 43°17'18", long 97°50'10", in NE¼SE¼ sec.20, T.98 N., R.59 W., Hutchinson County, Hydrologic Unit 10160011, at culvert on county highway, 7.2 miles (11.6 km) north of Kaylor.	c1.5	1970-76	3-19-76	a4.90	b50

See footnotes at end of the table.

Annual maximum discharge at crest-stage partial-record stations--Continued

					Annual maximum		
Station No.	Station name	Location	Drainage area (m ²)	Period of record	Date	Gage height (feet)	Dis-charge (ft ³ /s)
Vermillion River basin							
06478630	West Fork Vermillion River near DeSmet, SD	Lat 44°12'54", long 97°33'04", in NW¼SW¼ sec.27, T.109 N., R.56 W., Kingsbury County, Hydrologic Unit 10170102, at culvert on State Highway 25, 11.5 miles (18.5 km) south of DeSmet.	5.34	1970-76	3-19-76	a3.92	-
06478650	West Fork Vermillion River tributary near Monroe, SD	Lat 43°28'35", long 97°15'39", in SW¼SW¼ sec.17, T.100 N., R.54 W., Turner County, Hydrologic Unit 10170102, at culvert on county highway, 3.2 miles (5.1 km) north of Marion, and 2.2 miles (3.5 km) west of Monroe.	2.74	1969-76	3-20-76	a7.52	b40
06478800	Saddlerock Creek near Canton, SD	Lat 43°12'20", long 96°43'37", in NW¼SW¼ sec.23, T.97 N., R.50 W., Lincoln County, Hydrologic Unit 10170102, at bridge on county highway, 9.6 miles (15.4 km) southwest of Canton.	d13.0	1956-76	3-12-76	a4.31	b50
06478820	Saddlerock Creek tributary near Beresford, SD	Lat 43°12'21", long 96°45'51", in NE¼NW¼NW¼ sec.21, T.97 N., R.50 W., Lincoln County, Hydrologic Unit 10170102, at culvert on county highway, 9 miles (14 km) north of Beresford.	2.22	1956-76 ¹	6- 6-71 5-13-72 3-14-73 8-22-75 3-12-76	4.82 3.23 a4.27 3.18 a3.90	104 5.8 b15 4.3 b25
06478840	Saddlerock Creek near Beresford, SD	Lat 43°12'55", long 96°49'33", in SE¼SE¼NW¼ sec.14, T.97 N., R.51 W., Lincoln County, Hydrologic Unit 10170102, at bridge on county highway 9.5 miles (15.3 km) northwest of Beresford.	26.3	1956-70, 1972-76	3-12-76	a4.63	b70
06478950	Ash Creek near Beresford, SD	Lat 43°05'01", long 96°50'08", in NE¼NW¼ sec.2, T.95 N., R.51 W., Clay County, Hydrologic Unit 10170102, at culvert on State Highway 46, 2.1 miles (3.4 km) west of Beresford.	5.00	1969-76	3-19-76	a4.51	b50
06479020	Smoky Run near Irene, SD	Lat 43°04'56", long 97°19'12", in SE¼SE¼SE¼ sec.34, T.96 N., R.55 W., Yankton County, Hydrologic Unit 10170102, at culvert on State Highway 46, 0.1 mile (0.2 km) west of Mayfield, and 8.0 miles (12.9 km) west of Irene.	4.96	1969-76	3-19-76	a3.90	<10
Big Sioux River basin							
06479260	Big Sioux River tributary No. 3 near Summit, SD	Lat 45°13'30", long 97°06'27", in SE¼ sec.25, T.121 N., R.52 W., Grant County, Hydrologic Unit 10170202, at culvert on county highway, 6.5 miles (10.5 km) southwest of Summit, 11.5 miles (18.5 km) southeast of Waubay.	d6.61	1956-76	3-12-76	a5.53	b15
06479350	Soo Creek tributary near South Shore, SD	Lat 45°06'22", long 97°01'12", in NW¼NE¼ sec.24, T.119 N., R.52 W., Codington County, Hydrologic Unit 10170202, at culvert on State Highway 20, 3.8 miles (6.1 km) west of South Shore.	1.56	1970-76	3-12-76	a5.14	b5.0
06479550	Dolph Creek tributary near Lake Norden, SD	Lat 44°35'15", long 97°19'37", in SW¼SW¼ sec.16, T.113 N., R.54 W., Hamlin County, Hydrologic Unit 10170202, at culvert on State Highway 28, 5.4 miles (8.7 km) west of Lake Norden.	5.91	1970-76	6-16-70 7-21-72 3- -73 3- -74 4- -75 3-12-76	3.78 4.46 a4.90 a3.68 2.84 a4.23	24 64 b20 b5.0 <1.0 b10

See footnotes at end of the table.

DISCHARGE AT PARTIAL-RECORD STATIONS

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Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (m ²)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (ft ³ /s)
Big Sioux River basin - Continued							
06479750	Peg Munky Run near Estelline, SD	Lat 44°34'22", long 96°51'15", in N½ sec.29, T.113 N., R.50 W., Deuel County, Hydrologic Unit 10170202, at bridge on State Highway 28, 2.5 miles (4.0 km) east of Estelline.	d25.2	1956-76	3-12-76	a6.50	b ₁₅
06479800	North Deer Creek near Estelline, SD	Lat 44°27'44", long 96°47'13", in SE¼ sec.35, T.112 N., R.50 W., Brookings County, Hydrologic Unit 10170202, at bridge on U.S. Highway 77, 9.8 miles (15.8 km) southeast of Estelline.	48.3	1956-76	3-12-76	a6.48	b ₁₀₀
06479810	North Deer Creek tributary near Brookings, SD	Lat 44°22'44", long 96°47'14", in NW¼SW¼NW¼ sec.36, T.111 N., R.50 W., Brookings County, Hydrologic Unit 10170202, at culvert on U.S. Highway 77, 4.5 miles (7.2 km) north of Brookings.	.33	1969-76	3-12-76	a5.95	b ₁₁
06479900	Sixmile Creek tributary near Brookings, SD	Lat 44°22'57", long 96°40'48", in NE¼NW¼ sec.35, T.111 N., R.49 W., Brookings County, Hydrologic Unit 10170202, at bridge on county highway, 7.3 miles (11.7 km) northeast of Brookings.	d9.78	1956-76 ^h	1976	(g)	b< ₁₀
06479950	Deer Creek near Brookings, SD	Lat 44°23'03", long 96°37'19", in SW¼ sec.29, T.111 N., R.48 W., Brookings County, Hydrologic Unit 10170202, at bridge on county highway, 9.8 miles (15.8 km) northeast of Brookings.	d4.04	1956-76	3-12-76	a5.57	b _{5.5}
06480720	Bachelor Creek tributary near Wentworth, SD	Lat 44°00'28", long 97°00'02", in NE¼NE¼NW¼ sec.7, T.106 N., R.51 W., Lake County, Hydrologic Unit 10170203, at culvert on State Highway 34, 1.8 miles (2.9 km) northwest of Wentworth.	1.03	1969-76	3-12-76	a7.20	b ₁₀
06482600	West Pipestone Creek tributary near Garretson, SD	Lat 43°42'12", long 96°36'43", in SE¼SE¼ sec.20, T.103 N. R.48 W., Minnehaha County, Hydrologic Unit 10170203, at culvert on county highway, 5.3 miles (8.5 km) west of Garretson.	2.16	1969-76	3-11-76	a7.56	b ₁₀
06485550	West Union Creek near Alcester, SD	Lat 42°56'18", long 96°38'00", in SW¼SE¼ sec.21, T.94 N., R.49 W., Union County, Hydrologic Unit 10170203, at culvert on county highway, 5.7 miles (9.2 km) south of Alcester.	3.48	1969-76	3-12-76	a5.28	b ₅₀

‡ Operated as a continuous-record gaging station.

< Less than.

a Backwater from ice.

b Estimated.

c Approximate.

d Revised.

e No evidence of any flow during the water year.

f Discontinued October 1975.

g Peak stage not determined.

h Discontinued October 1976.

i Prior to Aug. 7, 1968, at different site and datum.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY MISCELLANEOUS STATIONS

Water-quality partial-record stations are particular sites where chemical-quality, biological and or sediment data are collected systematically over a period of years for use in hydrologic analyses. The data are collected usually less than quarterly.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	HARD- NESS (CA, MG) (00900)	NON- CAR- BONATE HARD- NESS (MG/L) (00902)	DIS- SOLVED CAL- CIUM (CA) (MG/L) (00915)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) (00925)
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GRAND RIVER BASIN

06357000 SHADEHILL RESERVOIR AT SHADEHILL, SD (LAT 45 45 12 LONG 102 12 12)

OCT 06...	1700	--	1790	--	13.5	240	0	43	32
APR 28...	1100	--	1730	--	9.0	240	0	42	33
JUL 26...	1730	--	1700	--	25.5	230	0	43	30

DATE	DIS- SOLVED SODIUM (NA) (MG/L) (00930)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L) (00935)	RICAR- BONATE (HCO3) (MG/L) (00440)	CAR- BONATE (CO3) (MG/L) (00445)	ALKA- LITY AS CAC03 (MG/L) (00410)	DIS- SOLVED SULFATE (SO4) (MG/L) (00945)	DIS- SOLVED CHLO- RIDE (CL) (MG/L) (00940)
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OCT 06...	310	73	8.7	9.3	390	--	320	600	5.0
APR 28...	310	73	8.7	9.4	402	--	330	600	5.6
JUL 26...	310	74	8.9	9.4	369	17	331	530	6.6

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L) (00950)	DIS- SOLVED SILICA (SI02) (MG/L) (00955)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) (70301)	DIS- SOLVED SOLIDS (TONS PER AC-FT) (70303)	DIS- SOLVED SOLIDS (TONS PER DAY) (70302)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	TOTAL PHOS- PHORUS (P) (MG/L) (00665)	DIS- SOLVED PHOS- PHORUS (P) (MG/L) (00666)	DIS- SOLVED BORON (R) (UG/L) (01020)
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OCT 06...	.3	4.2	1200	1.63	--	.11	.02	.01	460
APR 28...	.4	3.4	1200	1.63	--	.13	.03	.02	440
JUL 26...	.4	3.6	1130	1.54	--	.11	.03	.01	430

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS
WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)
WHITE RIVER BASIN											
06445980 - WHITE CLAY C NR OGLALA, S. DAK. (LAT 43 08 46 LONG 102 40 58)											
OCT , 1975						APR , 1976					
16...	1045	1.5	6.5	11.0	660	20...	0945	14	9.5	16.5	510
NOV						MAY					
11...	1430	3.4	3.0	8.0	730	18...	1000	8.1	14.5	24.0	560
DEC						JUN					
10...	0845	8.0	.5	3.0	--	16...	1000	4.9	14.5	30.0	550
29...	1130	6.2	.0	7.5	450	JUL					
JAN , 1976						13...	1045	5.0	21.0	17.0	400
28...	1045	7.4	.0	5.0	640	AUG					
FEB						11...	0915	3.2	17.0	34.5	500
26...	1000	13	.5	5.5	500	SEP					
MAR						07...	1200	1.3	18.5	15.5	650
24...	0845	11	6.0	20.0	520						
06449100 - LITTLE WHITE RIVER NEAR VETAL, S. DAK. (LAT 43 06 03 LONG 101 13 49)											
OCT , 1975						APR , 1976					
07...	1000	16	12.0	21.5	300	20...	1050	49	8.0	10.0	330
NOV						MAY					
06...	0730	33	6.0	9.0	300	18...	1200	45	18.0	24.0	370
DEC						JUN					
03...	0950	22	1.0	10.0	290	15...	1100	26	12.0	14.5	370
JAN , 1976						JUL					
06...	1230	17	.0	-20.0	210	13...	1100	50	24.0	29.0	470
27...	1045	31	1.0	5.0	460	AUG					
FEB						10...	0850	17	20.0	25.0	290
25...	0800	87	2.0	1.0	285	SEP					
MAR						08...	1030	15	12.5	17.0	290
23...	1045	70	7.5	21.0	330						
06449400 - ROSEBUD CREEK AT ROSEBUD S.DAK. (LAT 43 14 09 LONG 100 51 12)											
OCT , 1975						APR , 1976					
07...	1330	5.0	15.0	30.0	360	20...	1530	6.3	10.0	20.0	340
NOV						MAY					
06...	1040	5.5	8.0	17.5	360	18...	1530	4.6	20.5	30.0	350
DEC						JUN					
03...	1300	6.6	2.0	20.0	370	15...	1515	5.9	13.0	17.0	330
JAN , 1976						JUL					
07...	1145	5.4	.0	-20.0	115	13...	1445	2.2	25.0	26.0	310
27...	1545	6.9	1.0	7.0	360	AUG					
FEB						10...	1350	3.3	29.0	33.0	360
25...	1030	6.9	5.0	8.0	115	SEP					
MAR						08...	1440	4.5	17.0	17.0	360
23...	1330	6.6	8.5	25.0	360						
JAMES RIVER BASIN											
06473000 - JAMES RIVER AT ASHTON, S. DAK. (LAT 45 00 02 LONG 098 28 57)											
OCT , 1975						APR , 1976					
08...	1650	368	14.5	21.0	715	20...	1130	240	12.5	13.0	730
NOV						MAY					
04...	1215	319	14.0	26.0	645	18...	1230	295	18.0	24.0	600
DEC						JUN					
03...	1220	227	.0	-1.5	710	15...	1350	122	19.0	15.0	760
30...	1030	87	.0	-2.0	1020	JUL					
JAN , 1976						13...	0800	.02	23.0	23.0	950
28...	1000	23	.0	2.0	1320	AUG					
FEB						10...	0900	16	20.5	19.5	1290
24...	1110	42	.0	7.0	1040	SEP					
MAR						08...	1510	.01	21.0	19.0	1230
23...	0945	151	1.5	5.0	1020						
06474000 - TURTLE CREEK NEAR TULARE, S. DAK. (LAT 44 44 06 LONG 098 35 09)											
FEB , 1976						MAR , 1976					
23...	1455	.33	2.0	16.5	1320	22...	1350	.28	2.0	15.0	900

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)
JAMES RIVER BASIN--Continued											
06474300 - MEDICINE CREEK NEAR ZELL, S. DAK. (LAT 44 45 52 LONG 098 42 13)											
NOV , 1975						MAR , 1976					
03...	1230	.01	10.0	18.0	1970	22...	1215	.10	4.0	14.0	950
FEB , 1976						APR					
23...	1245	4.2	.0	18.0	290	19...	1415	.04	10.5	13.5	1730
06475000 - JAMES RIVER NEAR REDFIELD, S. DAK. (LAT 44 55 13 LONG 098 25 52)											
OCT , 1975						APR , 1976					
08...	1500	369	14.0	25.5	720	20...	0930	231	11.0	7.0	725
NOV						MAY					
03...	1550	313	9.0	13.0	680	18...	0940	302	17.0	22.5	600
DEC						JUN					
02...	1645	231	.0	-6.0	690	15...	1145	142	18.0	12.0	730
29...	1630	77	.0	.0	1030	JUL					
JAN , 1976						12...	1700	19	29.0	36.0	850
27...	1545	21	.0	-10.0	1300						
FEB											
23...	1800	53	.0	11.0	1070						
06478052 - ENEMY C NR MITCHELL, SD (LAT 43 38 33 LONG 097 59 09)											
JAN , 1976						MAR , 1976					
14...	1015	.03	.0	.0	2000	22...	1300	.22	6.0	10.0	950
FEB						APR					
19...	0845	.37	.0	1.0	965	13...	1700	.07	19.0	25.0	114
06478390 - WOLF C NR CLAYTON, SD (LAT 43 22 18 LONG 097 36 12)											
OCT , 1975						MAR					
01...	1200	.86	11.0	11.0	--	22...	1130	18	5.5	8.0	1240
15...	1050	.33	7.0	10.5	2090	APR					
NOV						15...	1415	4.9	21.5	28.0	2000
18...	1420	1.2	8.0	9.0	2200	MAY					
DEC						17...	1100	1.5	14.0	16.0	2180
11...	1100	2.4	.0	-1.0	1460	JUN					
JAN , 1976						17...	1330	.38	17.0	20.0	2100
15...	1010	1.0	.0	3.0	2300						
FEB											
19...	1000	39	.0	3.0	970						

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)
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BIG SIOUX RIVER BASIN

06479529 - STRAY HORSE CREEK NEAR CASTLEWOOD, S. DAK. (LAT 44 43 52 LONG 096 57 23)

OCT , 1975					
07...	1230	.01	17.0	21.0	1170
NOV					
03...	1515	.08	13.0	16.5	1220
DEC					
03...	1215	.14	.0	-5.0	1500
MAR , 1976					
02...	1400	12	.0	-8.0	730
APR					
07...	1330	4.5	12.5	13.0	690
MAY					
06...	1015	.84	8.0	7.0	895
JUN					
03...	0930	.05	20.0	20.0	1020

06479640 - HIWOOD CREEK NEAR ESTELLINE, S. DAK. (LAT 44 36 42 LONG 096 54 17)

OCT , 1975					
07...	1110	.24	15.0	21.0	1120
NOV					
03...	1420	.52	11.0	16.5	1120
MAR , 1976					
02...	1210	6.3	.0	-5.0	500
APR					
07...	1150	16	12.0	15.5	880
MAY					
04...	1800	6.4	17.5	22.0	1010
JUN					
01...	1730	2.5	25.0	25.0	1120
JUL					
08...	1040	.16	24.0	29.0	1050

MISCELLANEOUS TEMPERATURE MEASUREMENTS

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WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)	DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)
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LITTLE MISSOURI RIVER BASIN

06334500 - L MISSOURI R AT CAMP CROOK, S. DAK. (LAT 45 32 49 LONG 103 58 23)

OCT , 1975				APR , 1976			
08...	4.1	9.5	12.0	07...	11	13.5	14.0
NOV				MAY			
05...	6.7	6.0	15.0	05...	42	11.0	4.0
DEC				JUN			
03...	7.8	.5	4.5	02...	17	28.5	34.0
JAN , 1976				JUL			
05...	7.0	.0	3.0	08...	363	24.0	24.0
FEB				AUG			
03...	15	.0	-5.0	02...	23	22.0	26.0

SPRING CREEK BASIN

06354860 - SPRING CREEK NEAR HERREID, S. DAK. (LAT 45 48 52 LONG 100 06 28)

MAR , 1976				MAY , 1976			
17...	.69	2.5	3.5	11...	.06	16.0	21.5
APR							
12...	.55	10.0	16.0				

GRAND RIVER BASIN

06355500 - N.FK.GRAND R.NR WHITE BUTTE,S.DAK. (LAT 45 48 10 LONG 102 21 45)

OCT , 1975				APR , 1976			
06...	.76	14.0	23.5	06...	14	13.5	21.0
NOV				MAY			
05...	5.2	9.0	10.5	04...	13	14.0	21.0
DEC				JUN			
02...	3.6	.5	-4.5	03...	2.5	22.5	24.5
JAN , 1976				JUL			
06...	3.5	.0	-15.0	07...	94	24.0	21.0
FEB				AUG			
02...	13	.0	5.0	03...	.27	25.5	25.0
MAR							
02...	16	.0	-10.0				
23...	33	4.5	10.0				

06356000 - S FK GRAND R AT BUFFALO, S. DAK. (LAT 45 34 34 LONG 103 32 38)

OCT , 1975				APR , 1976			
09...	3.4	4.5	4.0	07...	2.7	7.5	7.0
NOV				MAY			
05...	2.4	8.0	13.0	05...	7.0	10.0	4.0
DEC				JUN			
03...	2.9	.5	4.5	02...	2.5	23.5	34.0
JAN , 1976				JUL			
05...	2.4	.5	5.0	07...	2.3	24.0	21.0
FEB				AUG			
03...	7.2	.0	-5.0	02...	1.8	24.5	30.5
MAR							
01...	4.9	.0	-5.0				

06356500 - S F GRAND R NR CASH, S.D. (LAT 45 38 56 LONG 102 38 27)

OCT , 1975				APR , 1976			
08...	12	11.5	13.0	06...	17	9.5	18.0
NOV				MAY			
05...	15	9.0	15.0	04...	15	19.5	24.0
DEC				JUN			
02...	8.2	.0	-3.5	03...	13	19.0	23.0
JAN , 1976				JUL			
05...	8.1	.0	5.0	07...	72	24.0	23.0
FEB				AUG			
02...	69	.0	5.0	03...	9.1	24.0	21.0
MAR							
01...	19	.0	-8.0				

MISCELLANEOUS TEMPERATURE MEASUREMENTS

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)	DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)
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GRAND RIVER BASIN--Continued

06357500 - GRAND R AT SHADEHILL S DAK (LAT 45 45 25 LONG 102 11 41)

OCT . 1975				APR . 1976			
08...	48	13.0	12.0	06...	21	9.5	21.0
NOV				MAY			
06...	35	10.0	11.0	04...	21	10.0	9.0
DEC				JUN			
01...	24	1.0	-1.5	03...	31	21.0	29.5
JAN . 1976				JUL			
06...	20	.0	-15.0	06...	106	21.0	25.0
FEB				AUG			
02...	22	3.5	6.0	03...	65	24.0	29.5
MAR							
02...	22	2.0	-10.0				

MOREAU RIVER BASIN

06359500 - MOREAU R NR FAITH, S. DAK. (LAT 45 11 52 LONG 102 09 22)

OCT . 1975				APR . 1976			
07...	4.0	14.0	27.0	05...	16	18.0	27.5
NOV				MAY			
06...	8.7	9.0	17.0	03...	13	17.5	17.5
DEC				JUN			
01...	4.0	.5	1.5	04...	6.7	22.0	26.0
JAN . 1976				JUL			
06...	6.1	.0	-5.0	06...	167	26.0	25.0
MAR				AUG			
23...	52	4.5	12.0	05...	12	21.0	21.0

CHEYENNE RIVER BASIN

06392900 - BEAVER CR AT MALLO CAMP.NR FOUR CORNERS WY (LAT 44 05 04 LONG 104 03 41)

OCT . 1975				APR . 1976			
07...	1.6	8.5	21.0	12...	2.0	6.0	12.0
NOV				MAY			
05...	1.5	4.5	25.5	10...	1.4	11.0	21.5
11...	--	.0	--	JUN			
DEC				17...	2.2	8.0	15.0
02...	2.6	.5	7.0	JUL			
23...	.87	.0	-5.0	12...	1.5	15.5	33.0
JAN . 1976				AUG			
22...	1.2	.0	12.0	17...	.63	15.0	18.0
FEB				SEP			
17...	1.2	.0	5.0	15...	.69	12.5	24.0
MAR							
15...	1.5	.0	-5.0				

06392950 - STOCKADE BEAVER CR NR NEWCASTLE.WY (LAT 43 51 30 LONG 104 06 23)

OCT . 1975				APR . 1976			
07...	11	12.5	23.0	12...	15	15.0	21.0
NOV				MAY			
05...	15	8.0	5.5	10...	11	12.5	25.0
DEC				JUN			
01...	15	1.5	12.0	17...	14	14.0	14.0
23...	13	.0	-5.0	JUL			
JAN . 1976				12...	12	23.0	34.5
23...	14	2.5	2.0	AUG			
FEB				17...	9.9	20.0	26.0
18...	14	4.0	-3.0	SEP			
MAR				15...	10	12.0	21.5
15...	15	6.5	6.0				

MISCELLANEOUS TEMPERATURE MEASUREMENTS

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WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)	DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)
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CHEYENNE RIVER BASIN--Continued

06395000 - CHEYENNE RIVER AT EDMONT, S.D. (LAT 43 18 20 LONG 103 49 14)

OCT , 1975				APR , 1976			
16...	2.4	14.0	13.0	21...	25	18.0	16.5
NOV				MAY			
12...	1.7	.0	.5	17...	3.0	25.0	24.0
DEC				JUN			
09...	20	.5	35.0	15...	81	18.0	21.0
30...	9.0	.0	8.0	JUL			
JAN , 1976				14...	8.2	25.5	29.0
27...	2.0	.0	-3.0	AUG			
FEB				10...	11	28.0	29.5
27...	53	.5	10.0	SEP			
MAR				08...	.26	16.0	14.0
23...	111	5.0	27.0				

06400000 - MAT CR NR EDMONT S DAK (LAT 43 14 46 LONG 103 35 16)

FEB , 1976				APR , 1976			
27...	.29	3.5	2.0	21...	.32	12.0	22.5
MAR				JUN			
23...	.42	12.5	21.5	15...	23	10.0	13.0

06402000 - FALL R AT HOT SPRINGS, S.D. (LAT 43 25 50 LONG 103 28 33)

OCT , 1975				APR , 1976			
17...	21	24.0	19.0	22...	20	24.0	17.0
NOV				MAY			
11...	20	21.5	2.0	19...	20	24.0	22.0
DEC				JUN			
09...	22	21.0	12.0	14...	36	19.5	8.0
31...	20	21.0	1.0	JUL			
JAN , 1976				14...	16	24.5	19.0
27...	21	22.0	9.0	AUG			
FEB				10...	21	29.0	31.5
26...	20	23.5	17.0	SEP			
MAR				09...	20	23.5	19.0
23...	21	22.5	19.5				

06402500 - BEAVER CR NR BUFFALO GAP S DAK (LAT 43 27 56 LONG 103 18 22)

OCT , 1975				APR , 1976			
17...	1.3	9.0	15.0	22...	6.3	10.0	14.0
NOV				MAY			
12...	1.7	3.5	7.5	20...	3.1	15.0	17.0
DEC				JUN			
10...	7.4	7.0	.0	15...	2.4	17.5	24.0
30...	6.8	5.0	4.5	JUL			
JAN , 1976				13...	.69	24.0	27.5
27...	11	3.0	8.5	AUG			
FEB				11...	10	21.0	36.5
26...	11	9.0	14.0	SEP			
MAR				09...	1.9	13.0	17.0
24...	10	10.0	13.5				

06404000 - BATTLE C NR KEYSTONE, S. DAK. (LAT 43 52 18 LONG 103 20 09)

OCT , 1975				MAY , 1976			
16...	.06	14.0	12.0	19...	9.2	16.5	23.5
NOV				JUN			
13...	.62	2.0	17.5	09...	87	19.5	25.5
DEC				15...	533	16.0	21.0
12...	2.0	1.0	-1.0	16...	210	15.0	20.0
JAN , 1976				22...	47	18.0	22.5
05...	.97	.5	2.0	JUL			
29...	1.1	.5	15.0	15...	18	22.0	19.0
FEB				AUG			
25...	2.8	.5	10.5	13...	10	19.0	31.0
MAR				SEP			
25...	2.2	6.5	11.0	17...	1.4	16.0	21.0
APR							
22...	3.7	9.5	12.5				

MISCELLANEOUS TEMPERATURE MEASUREMENTS
WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)	DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)
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CHEYENNE RIVER BASIN--Continued

06405000 - GRACE COOLIDGE C NR CUSTER, S.D. (LAT 43 45 40 LONG 103 21 42)

MAY , 1976				OCT , 1975			
19...	4.9	17.0	24.5	16...	2.9	10.5	15.5
JUN							
09...	37	16.5	23.0				
17...	73	13.0	13.0				

06406000 - BATTLE CREEK AT HERMOSA, S. DAK. (LAT 43 49 41 LONG 103 11 44)

OCT , 1975				MAY , 1976			
16...	2.9	10.5	15.5	19...	5.3	17.0	24.0
NOV				JUN			
13...	2.7	4.0	21.5	09...	85	9.5	36.0
DEC				15...	910	14.5	23.0
12...	3.4	3.5	.0	16...	428	15.0	17.0
JAN , 1976				22...	78	17.5	22.0
05...	2.8	1.0	5.5	JUL			
29...	4.9	2.5	15.0	15...	19	19.0	31.5
FEB				AUG			
25...	3.1	4.0	13.5	13...	12	19.0	30.0
MAR				SEP			
25...	2.9	10.0	12.0	13...	6.0	16.5	22.0
APP							
22...	3.5	11.5	14.0				

06408500 - SPRING C NR HERMOSA, S. DAK. (LAT 43 56 30 LONG 103 09 33)

DEC , 1975				JUN , 1976			
12...	.12	1.5	.0	15...	220	16.0	23.0
JAN , 1976				17...	267	15.0	17.0
05...	.06	.5	6.5	22...	90	18.0	29.0
29...	.76	.5	14.0	30...	30	19.0	23.0
FEB				JUL			
25...	.61	2.0	14.5	15...	2.6	20.0	29.5
MAR				AUG			
25...	.77	6.5	11.0	13...	1.8	24.0	37.0
APP				SEP			
22...	.65	10.5	12.0	13...	1.2	17.0	19.0
MAY							
19...	.68	15.5	20.0				

06410000 - CASTLE CREEK BELOW DEERFIELD DAM, S. DAK. (LAT 44 01 45 LONG 103 46 53)

OCT , 1975				APR , 1976			
08...	21	11.0	5.0	21...	15	5.0	14.5
NOV				MAY			
05...	2.5	6.5	11.5	20...	16	8.0	19.5
DEC				JUN			
08...	2.3	3.0	4.5	25...	20	8.0	16.0
30...	2.3	3.5	3.0	JUL			
JAN , 1976				23...	9.6	10.0	31.5
22...	2.3	4.0	12.0	SEP			
FEB				14...	18	9.5	19.0
17...	2.4	4.0	4.0	14...	9.0	12.5	--
MAR							
16...	8.3	3.0	4.5				

06410500 - RAPID CREEK ABOVE PACTOLA RESERVOIR, AT SILVER C (LAT 44 05 05 LONG 103 34 48)

OCT , 1975				APR , 1976			
08...	30	9.0	6.0	21...	44	6.0	10.0
NOV				MAY			
17...	19	2.5	2.5	18...	39	11.0	27.0
DEC				JUN			
10...	16	1.0	7.5	23...	176	12.0	14.0
30...	17	.0	2.0	JUL			
JAN , 1976				21...	66	18.0	30.5
30...	18	.0	-3.0	AUG			
FEB				17...	31	17.0	24.0
24...	15	.5	2.5	SEP			
MAR				16...	38	14.0	25.0
25...	42	3.0	12.0				

MISCELLANEOUS TEMPERATURE MEASUREMENTS

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WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)	DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)
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CHEYENNE RIVER BASIN--Continued

06412500 - RAPID CREEK ABOVE CANYON LAKE, S.D. (LAT 44 03 04 LONG 103 18 47)

OCT , 1975				APR , 1976			
10...	7.8	12.5	18.0	14...	15	7.0	19.0
NOV				MAY			
04...	5.9	4.0	4.5	15...	17	17.0	32.5
26...	3.9	3.0	5.0	JUN			
DEC				13...	65	10.0	30.5
26...	6.4	1.0	.0	JUL			
JAN , 1976				11...	62	16.5	28.5
22...	9.5	.0	4.0	AUG			
FEB				13...	56	15.5	22.5
20...	12	.0	1.0	SEP			
MAR				10...	56	12.5	32.5
17...	12	3.0	8.5				

06414000 - RAPID CREEK AT RAPID CITY, SOUTH DAKOTA (LAT 44 05 09 LONG 103 14 31)

OCT , 1975				APR , 1976			
15...	26	11.5	24.5	20...	30	10.0	10.0
NOV				MAY			
13...	26	9.0	22.5	17...	28	18.0	22.0
DEC				JUN			
11...	29	4.0	.0	14...	164	10.0	10.5
29...	26	2.0	-4.0	17...	298	12.0	17.0
JAN , 1976				JUL			
27...	25	5.5	14.0	19...	73	19.0	39.0
FEB				AUG			
26...	27	5.0	11.5	18...	49	20.0	27.0
MAR				SEP			
25...	29	9.0	10.0	16...	51	20.0	31.0

06422500 - BOXELDER CREEK NEAR NEMO, S. DAK. (LAT 44 08 38 LONG 103 27 16)

OCT , 1975				MAY , 1976			
15...	4.9	5.5	11.5	18...	12	11.5	19.0
NOV				JUN			
17...	4.6	3.0	4.5	15...	958	10.0	11.0
DEC				16...	353	11.0	13.0
10...	6.2	.5	6.0	23...	104	13.5	20.0
29...	6.6	.0	7.0	JUL			
JAN , 1976				21...	61	16.0	27.5
30...	5.7	.5	-2.0	AUG			
FEB				17...	14	19.0	27.0
24...	7.1	2.0	12.0	SEP			
MAR				16...	11	11.5	20.0
22...	3.6	4.5	8.0				
APR							
21...	13	9.0	11.0				

06423500 - CHEYENNE RIVER NEAR WASTA, S. DAK. (LAT 44 04 52 LONG 102 24 03)

OCT , 1975				APR , 1976			
10...	51	7.0	13.0	15...	97	7.5	28.5
NOV				MAY			
14...	109	4.0	15.0	19...	58	21.0	27.5
DEC				JUN			
10...	144	.5	1.0	28...	471	22.0	23.0
29...	106	.0	3.0	JUL			
JAN , 1976				22...	68	24.5	34.0
29...	75	.0	12.0	AUG			
FEB				17...	108	26.5	32.0
25...	158	.5	11.5	SEP			
MAR				17...	102	17.0	24.0
24...	121	--	15.5				

MISCELLANEOUS TEMPERATURE MEASUREMENTS
WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)	DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)
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CHEYENNE RIVER BASIN--Continued

06425500 - ELK C NR ELM SPRINGS, S. DAK. (LAT 44 14 54 LONG 102 30 10)

FER , 1976				JUN , 1976			
25...	8.1	.5	5.0	18...	398	19.0	24.0
MAR				28...	37	20.0	21.0
24...	4.3	6.0	12.0	JUL			
15...	.45	16.5	20.5	19...	1.5	26.0	39.5
MAY				AUG			
19...	.15	18.5	20.5	17...	.78	31.5	37.5

06428500 - BELLE FOURCHE R AT WYO S DAK STATE LINE (LAT 44 44 59 LONG 104 02 49)

OCT , 1975				APR , 1976			
01...	23	13.0	19.0	07...	--	12.0	--
01...	--	12.0	--	MAY			
NOV				04...	79	14.0	31.0
05...	28	5.0	--	18...	61	24.0	--
07...	26	4.0	3.5	JUN			
DEC				03...	149	23.0	28.0
02...	19	.5	1.5	22...	399	22.0	23.0
03...	16	.0	--	JUL			
JAN , 1976				08...	97	23.0	29.0
06...	18	.0	-14.0	09...	--	24.5	--
07...	--	.0	--	AUG			
FEB				03...	116	25.0	40.5
02...	33	.0	5.0	04...	--	25.5	--
11...	32	.0	--	SEP			
MAR				01...	82	18.0	27.0
02...	22	.0	-10.0	01...	59	22.5	--
04...	40	.0	--	26...	--	12.5	--
APR				29...	--	12.5	--
05...	67	14.0	18.0				

06429500 - COLD SPRINGS CR NR BUCKHORN, WY (LAT 44 09 14 LONG 104 04 39)

OCT , 1975				APR , 1976			
07...	5.6	9.5	21.0	12...	6.5	9.0	15.0
NOV				MAY			
05...	4.7	7.0	20.5	10...	5.9	14.5	22.5
DEC				JUN			
01...	4.9	.5	4.5	17...	5.9	9.0	15.0
23...	6.8	.0	-1.0	JUL			
JAN , 1976				12...	5.8	16.5	35.0
22...	5.6	.5	12.0	AUG			
FEB				17...	5.0	14.0	21.0
17...	5.5	2.0	.5	SEP			
MAR				15...	5.0	10.0	23.0
15...	5.1	1.0	-5.0				

06429900 - SAND CR AT RANCH A NR BEULAH, WY (LAT 44 29 42 LONG 104 06 34)

OCT , 1975				MAY , 1976			
07...	25	12.5	21.0	03...	22	15.0	18.5
NOV				11...	22	12.0	20.0
06...	24	10.5	17.5	26...	23	12.5	17.0
DEC				JUN			
01...	23	9.5	7.0	23...	53	15.0	18.0
JAN , 1976				JUL			
05...	22	9.5	8.0	06...	35	26.0	31.5
23...	19	11.0	7.0	AUG			
MAR				03...	36	13.0	21.5
01...	19	10.5	-3.5	30...	28	17.0	38.0
APR							
05...	21	15.0	20.0				

MISCELLANEOUS TEMPERATURE MEASUREMENTS

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WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)	DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)
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CHEYENNE RIVER BASIN--Continued

06430000 - MURRAY DITCH AT STATE LINE, S. DAK. (LAT 44 34 35 LONG 104 02 58)

OCT , 1975				AUG , 1976			
02...	5.1	9.5	11.0	03...	12	18.0	22.5
NOV				SEP			
07...	1.7	8.0	13.0	01...	14	16.0	24.5
JUN , 1976							
02...	4.4	25.0	27.0				

06430500 - REDWATER CREEK AT WYO-SD STATE LINE (LAT 44 34 26 LONG 104 02 54)

OCT , 1975				APR , 1976			
02...	34	10.0	22.5	05...	37	14.0	20.0
09...	33	9.0	--	06...	35	12.0	--
NOV				MAY			
04...	31	11.5	18.0	04...	42	11.0	21.5
04...	32	11.5	--	18...	30	19.5	--
07...	36	8.5	13.0	JUN			
DEC				02...	39	19.0	25.0
02...	39	6.0	--	23...	99	15.0	14.5
03...	40	7.0	9.5	JUL			
JAN , 1976				08...	60	18.5	34.5
05...	39	3.5	7.5	AUG			
14...	36	.5	--	03...	36	16.5	22.0
FEB				04...	35	20.5	--
02...	38	5.5	2.0	SEP			
11...	38	6.0	--	01...	30	17.0	24.5
MAR				01...	28	16.5	--
01...	38	4.5	-1.0				
03...	36	1.0	--				

06431500 - SPEARFISH CREEK AT SPEARFISH, S. DAK. (LAT 44 28 57 LONG 103 51 40)

OCT , 1975				APR , 1976			
02...	48	7.0	19.0	05...	50	6.0	20.0
NOV				MAY			
06...	45	5.5	19.5	03...	68	4.5	17.5
DEC				JUN			
03...	48	4.0	12.0	02...	66	12.0	28.0
JAN , 1976				23...	175	11.0	16.0
05...	50	1.5	9.5	JUL			
FEB				08...	72	12.0	26.5
02...	39	2.0	3.0	AUG			
MAR				03...	57	14.0	24.5
01...	43	2.0	-3.0	30...	49	11.5	30.0

06433500 - HAY C AT BELLE FOURCHE, S. D. (LAT 44 40 01 LONG 103 50 46)

MAY , 1976				JUL , 1976			
04...	.22	21.0	31.0	07...	2.5	23.0	29.5
JUN							
03...	.04	18.0	20.5				
22...	15	21.5	23.0				

06436000 - BELLE FOURCHE R NR FRUITDALE, S. DAK. (LAT 44 41 27 LONG 103 44 14)

OCT , 1975				APR , 1976			
02...	4.1	17.5	19.0	07...	3.1	11.0	10.0
NOV				MAY			
06...	4.8	9.0	17.0	05...	4.5	11.0	8.5
DEC				JUN			
02...	4.6	.5	-1.0	03...	6.1	25.0	27.5
JAN , 1976				22...	217	19.0	18.0
07...	6.8	.0	-23.5	JUL			
FEB				07...	309	24.0	37.0
03...	5.6	.5	-2.0	AUG			
MAR				31...	12	22.0	28.5
03...	4.3	.0	-20.0				

MISCELLANEOUS TEMPERATURE MEASUREMENTS
WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)	DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)
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CHEYENNE RIVER BASIN--Continued

06436700 - INDIAN C NR ARPAN, S. DAK. (LAT 44 48 51 LONG 103 41 22)

FEB , 1976	JUL , 1976
03... .38 .5 .0	07... 8.9 27.5 30.5
JUN	
21... 81 23.0 24.0	

06438500 - CHEYENNE R NR PLAINVIEW, S.D. (LAT 44 31 16 LONG 101 59 34)

OCT , 1975	MAY , 1976
14... 138 9.0 11.0	04... 262 12.0 39.0
NOV	JUN
12... 139 .0 -.5	01... 391 26.0 30.5
DEC	28... 1770 21.0 29.0
16... 119 .0 -9.0	JUL
JAN , 1976	26... 745 28.0 33.0
13... 38 .0 -6.0	AUG
FEB	23... 478 29.0 37.0
10... 181 .0 1.5	SEP
MAR	21... 357 16.0 23.5
09... 236 .0 9.0	
APR	
05... 171 14.0 17.0	

06439000 - CHERRY CR NR PLAINVIEW, S. DAK. (LAT 44 44 38 LONG 102 03 11)

FEB , 1976	MAY , 1976
10... .37 .0 1.0	04... .01 12.0 38.0
MAR	JUN
09... 6.1 2.0 11.0	28... 30 23.0 28.0
APR	
05... 2.1 15.0 22.5	

BAD RIVER BASIN

06441000 - BAD RIVER NEAR MIDLAND, S. DAK. (LAT 44 04 01 LONG 101 09 36)

FEB , 1976	JUL , 1976
24... 4.1 .5 2.0	12... .17 27.5 31.0
MAR	
22... .11 6.0 9.5	

MEDICINE KNOLL CREEK BASIN

06442000 - MEDICINE KNOLL CREEK NEAR BLUNT, S. DAK. (LAT 44 33 46 LONG 099 54 50)

FEB , 1976	
23... .32 3.0 8.0	

MEDICINE CREEK BASIN

06442500 - MEDICINE CREEK AT KENNEBEC, S. DAK. (LAT 43 54 17 LONG 099 52 35)

FEB , 1976	
27... .27 4.0 9.0	

WHITE RIVER BASIN

06446000 - WHITE RIVER NEAR OGLALA, S. DAKOTA (LAT 43 15 17 LONG 102 49 29)

NOV , 1975	MAY , 1976
11... .95 3.0 13.0	18... 16 17.0 27.0
DEC	JUN
10... 9.3 .5 9.0	16... 12 16.5 30.0
29... 5.5 .5 10.0	JUL
JAN , 1976	13... 9.3 22.0 20.5
28... 15 1.0 12.0	AUG
FEB	11... 14 21.0 35.5
26... 67 .5 10.0	SEP
MAR	07... 6.1 19.5 17.0
24... 36 7.0 18.5	
APR	
20... 58 11.5 15.5	

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)	DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)
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WHITE RIVER BASIN--Continued

06447000 - WHITE RIVER NEAR KADOKA, S. DAK. (LAT 43 45 09 LONG 101 31 28)

NOV , 1975				MAY , 1976			
05...	11	8.0	15.0	17...	34	18.5	21.0
JAN , 1976				JUN			
05...	1.6	.0	.5	14...	6.3	12.0	28.5
26...	23	.0	11.0	JUL			
FEB				12...	8.9	28.5	35.5
24...	250	4.0	8.0	AUG			
MAR				09...	122	28.0	31.0
22...	93	12.0	12.0				
APR							
19...	480	10.0	13.0				

06447500 - LITTLE WHITE RIVER NEAR MARTIN, S. DAK. (LAT 43 10 00 LONG 101 37 47)

OCT , 1975				APR , 1976			
07...	7.0	12.0	12.0	20...	51	8.0	8.0
NOV				MAY			
05...	13	8.5	24.0	17...	15	16.5	21.5
DEC				JUN			
03...	7.1	.0	6.0	15...	5.9	12.0	10.5
JAN , 1976				JUL			
05...	3.0	.0	1.0	13...	3.5	21.5	20.0
27...	8.5	.0	-1.0	AUG			
FEB				09...	7.2	36.0	38.0
24...	39	.0	14.0	SEP			
MAR				08...	2.8	13.0	10.0
23...	27	5.0	14.0				

06448000 - LAKE CREEK ABOVE REFUGE, NEAR TUTHILL, S. DAK. (LAT 43 05 07 LONG 101 36 04)

OCT , 1975				APR , 1976			
06...	13	14.5	31.5	19...	25	10.0	11.0
NOV				MAY			
05...	17	10.5	24.0	18...	14	8.0	13.5
DEC				JUN			
02...	30	1.0	10.0	14...	12	12.0	20.0
JAN , 1976				JUL			
06...	8.1	.0	-2.0	13...	12	20.0	24.0
26...	14	.0	12.0	AUG			
FEB				09...	13	36.0	38.0
24...	20	6.5	6.0	SEP			
MAR				07...	9.9	16.0	13.5
22...	17	12.0	14.0				

06449000 - LAKE CREEK BELOW REFUGE NEAR TUTHILL, S. DAK. (LAT 43 08 46 LONG 101 30 38)

OCT , 1975				APR , 1976			
06...	.76	16.5	32.0	19...	14	10.0	12.0
NOV				MAY			
05...	1.1	12.0	25.0	18...	9.3	12.5	18.0
DEC				JUN			
02...	2.8	.0	9.0	14...	6.5	14.0	9.0
JAN , 1976				JUL			
05...	1.1	.0	2.5	12...	30	27.0	35.0
26...	12	2.0	11.0	AUG			
FEB				09...	.86	33.0	37.0
24...	34	2.5	5.0	SEP			
MAR				07...	1.6	15.5	13.5
22...	26	6.5	14.5				

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (000061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)	DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (000061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)
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WHITE RIVER BASIN--Continued

06449500 - LITTLE WHITE RIVER NEAR ROSEBUD, S. DAK. (LAT 43 19 32 LONG 100 53 00)

OCT , 1975				APR , 1976			
07... 60	16.0	29.0		20... 93	8.0	14.0	
NOV				MAY			
06... 79	8.0	14.0		18... 90	20.5	29.0	
DEC				JUN			
03... 74	.0	18.0		15... 64	13.0	16.0	
JAN , 1976				JUL			
07... 53	.0	-30.0		13... 74	26.5	26.0	
27... 57	.0	7.0		AUG			
FEB				10... 46	28.0	32.0	
25... 140	3.0	7.0		SEP			
MAR				08... 46	28.0	32.0	
23... 116	9.5	23.5					

06450500 - LITTLE WHITE RIVER BELOW WHITE RIVER, S. DAK. (LAT 43 36 04 LONG 100 44 52)

OCT , 1975				APR , 1976			
07... 100	19.0	33.5		21... 77	9.0	19.0	
NOV				MAY			
06... 67	12.5	22.5		19... 85	19.0	22.0	
DEC				JUN			
03... 54	1.0	22.0		16... 52	13.0	19.5	
JAN , 1976				JUL			
07... 47	.0	-20.0		14... 79	23.0	26.0	
28... 46	.0	8.0		AUG			
FEB				11... 43	25.0	28.0	
25... 138	6.5	10.0		SEP			
MAR				09... 61	14.5	20.5	
23... 114	12.0	22.0					

NIOBRARA RIVER BASIN

06464500 - KEA PAMA RIVER AT WEWELA, S. DAK. (LAT 43 01 42 LONG 099 46 45)

OCT , 1975				MAR , 1976			
08... 12	14.0	22.0		24... 47	6.5	6.5	
NOV				APR			
06... 21	12.5	20.5		21... 33	10.0	20.0	
DEC				MAY			
04... 4.5	.0	12.0		19... 19	25.0	28.5	
JAN , 1976				JUN			
08... 9.8	.0	-20.0		16... 10	22.5	29.0	
28... 17	.0	13.0		JUL			
FEB				14... 3.4	34.5	33.0	
26... 81	.0	2.0					

MISSOURI RIVER BASIN

06467500 - MISSOURI RIVER AT YANKTON, SOUTH DAKOTA (LAT 42 51 58 LONG 097 23 37)

OCT , 1975				APR , 1976			
07... 62800	17.0	22.5		29... 36400	11.0	11.5	
22... 62500	11.0	19.0		MAY			
NOV				19... 37600	16.0	25.5	
04... 63300	12.0	19.0		JUN			
DEC				02... 39500	19.0	24.5	
04... 42100	1.0	4.5		15... 38600	20.0	17.0	
19... 23600	1.0	6.5		29... 39000	20.5	21.5	
JAN , 1976				JUL			
28... 23900	1.0	6.0		15... 39000	25.0	28.0	
FEB				28... 39000	25.0	31.0	
11... 24100	1.0	9.0		AUG			
26... 23800	3.0	17.0		11... 38900	22.0	20.5	
MAR				27... 39400	23.5	23.0	
16... 31200	2.0	6.0		SEP			
25... 36600	6.0	25.0		09... 39700	21.0	21.0	
APR				22... 38300	20.0	20.0	
08... 36700	7.0	17.0					

MISCELLANEOUS TEMPERATURE MEASUREMENTS

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WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)	DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)
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JAMES RIVER BASIN

06471200 - MAPLE RIVER AT N.DAK.-S.DAK. STATE LINE (LAT 45 56 20 LONG 098 27 09)

FEB , 1976				MAY , 1976			
24...	3.8	.0	14.0	19...	2.2	16.0	20.0
MAR				JUN			
23...	329	2.0	20.0	16...	.01	17.0	22.0
APR							
21...	18	10.0	7.0				

06471500 - ELM RIVER AT WESTPORT, S. DAK. (LAT 45 39 22 LONG 098 29 48)

OCT , 1975				APR , 1976			
09...	.30	9.5	8.0	21...	28	9.5	4.5
NOV				MAY			
05...	3.1	14.0	12.0	18...	5.0	19.0	24.5
DEC				JUN			
03...	2.9	.0	-1.0	16...	9.7	18.0	18.0
30...	4.0	.0	-1.0	JUL			
JAN , 1976				13...	9.8	27.0	27.0
28...	5.0	.0	3.0	AUG			
FEB				10...	13	22.5	26.5
24...	26	.0	9.5	SEP			
MAR				09...	10	16.0	18.5
23...	461	2.0	22.0				

06476500 - SAND C NR ALPENA S.DAK. (LAT 44 09 15 LONG 098 26 06)

MAR , 1976				APR , 1976			
23...	1.9	10.5	18.0	14...	.18	15.5	21.0

06477000 - JAMES RIVER NEAR FORESTBURG, S. DAK. (LAT 43 58 26 LONG 098 04 14)

OCT , 1975				MAR , 1976			
16...	321	11.5	15.0	22...	136	5.0	13.0
NOV				APR			
18...	301	4.0	5.0	14...	269	15.0	20.5
DEC				MAY			
12...	207	.0	-4.0	18...	247	16.0	15.5
JAN , 1976				JUN			
14...	88	.0	-6.0	16...	115	17.0	19.0
FEB				JUL			
18...	71	.0	5.0	20...	3.2	27.0	33.0

06477500 - FIRESTEEL C NR MT VERNON S DAK (LAT 43 46 30 LONG 098 14 33)

NOV , 1975				MAR , 1976			
17...	.03	7.0	6.0	23...	.35	7.5	20.0
DEC				APR			
11...	.09	.0	-2.0	14...	.28	17.0	21.5
FEB , 1976				MAY			
17...	.45	.0	5.0	17...	.04	14.5	20.5

VERMILLION RIVER BASIN

06478540 - L VERMILLION R NR SALEM,S.D. (LAT 43 47 39 LONG 097 22 02)

FEB , 1976				MAR , 1976			
18...	.16	.0	5.0	24...	.45	6.0	6.0
25...	.54	.0	5.0				

06478690 - W F VERMILLION R NR PARKER,S.D. (LAT 43 24 55 LONG 097 12 18)

OCT , 1975				APR , 1976			
17...	.33	8.0	9.0	13...	3.2	15.5	24.5
NOV				MAY			
18...	.19	10.0	11.0	19...	.72	15.5	21.0
DEC				JUN			
12...	.65	1.5	-2.0	15...	.45	15.0	16.0
JAN , 1976				JUL			
14...	.54	.0	-5.0	19...	.06	25.0	34.0
FEB				AUG			
18...	34	.0	3.0	17...	.04	26.0	33.5
25...	114	.0	.0	SEP			
MAR				14...	.06	21.0	15.0
24...	28	7.5	9.5				

MISCELLANEOUS TEMPERATURE MEASUREMENTS

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)	DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)
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VERMILLION RIVER BASIN--Continued

06479000 - VERMILLION RIVER NR. WAKONDA, S. DAK. (LAT 42 59 27 LONG 096 57 49)

OCT , 1975				APR , 1976			
17...	2.0	12.0	16.0	20...	46	13.0	15.5
NOV				MAY			
25...	4.0	.0	-12.0	19...	19	20.5	24.5
DEC				JUN			
12...	2.2	1.0	-1.0	11...	11	25.0	28.0
JAN , 1976				JUL			
15...	1.5	.0	2.0	29...	.70	27.0	28.0
FEB				AUG			
19...	173	.0	5.0	17...	.70	22.0	30.0
MAR							
18...	319	2.0	16.0				

BIG SIOUX RIVER BASIN

06479438 - BIG SIOUX RIVER NEAR WATERTOWN, S. DAK. (LAT 45 00 22 LONG 097 09 53)

NOV , 1975				JUN , 1976			
04...	.16	10.0	12.0	02...	.13	24.0	28.0
DEC				JUL			
03...	.04	.0	-3.0	07...	.01	29.0	28.0
APR , 1976				AUG			
07...	16	14.0	17.5	03...	.01	25.0	29.0
MAY				31...	.02	20.5	22.5
05...	5.4	10.0	9.0				

06479515 - WILLOW CREEK NEAR WATERTOWN, S. DAK. (LAT 44 54 17 LONG 097 03 31)

OCT , 1975				MAR , 1976			
07...	.06	25.0	26.5	02...	3.3	.0	-4.0
NOV				APR			
03...	.12	11.5	17.0	07...	7.8	14.0	19.0
DEC				MAY			
03...	.01	.0	-4.0	05...	1.8	11.0	9.0
JAN , 1976				JUN			
13...	.14	.0	-17.0	02...	.16	18.0	21.0
FEB							
03...	.05	.0	-8.0				

06479910 - SIXMILE CREEK NEAR BROOKINGS, S. DAK. (LAT 44 20 46 LONG 096 44 51)

OCT , 1975				MAR , 1976			
06...	.34	18.0	22.0	02...	2.7	.0	-5.0
NOV				APR			
03...	.65	10.5	16.5	07...	6.7	10.5	13.0
JAN , 1976				MAY			
12...	.08	.0	-1.0	04...	2.5	17.0	22.5
FEB				JUN			
02...	.05	.0	-9.0	01...	.40	25.0	27.0

06480000 - BIG SIOUX RIVER NEAR BROOKINGS, S. DAK. (LAT 44 10 48 LONG 096 44 55)

OCT , 1975				APR , 1976			
06...	7.2	22.0	16.0	07...	161	10.5	11.0
NOV				MAY			
03...	11	10.0	12.0	04...	77	12.0	19.0
DEC				JUN			
02...	3.3	.0	-8.0	01...	25	20.0	26.0
JAN , 1976				JUL			
12...	2.3	.0	.0	08...	1.6	27.5	28.0
FEB				AUG			
02...	2.5	.0	-10.0	02...	.02	25.0	25.5
MAR				31...	.02	21.0	22.0
01...	34	.0	-5.0				

MISCELLANEOUS TEMPERATURE MEASUREMENTS

411

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)	DATE	INSTAN- TANEOUS DIS- CHARGE (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	AIR TEMPER- ATURE (DEG C) (00020)	DATE
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BIG SIOUX RIVER BASIN--Continued

06481500 - SKUNK CREEK AT SIOUX FALLS SD (LAT 43 32 01 LONG 096 47 26)

OCT , 1975				APR , 1976			
06...	1.0	12.0	15.0	09...	10	11.0	14.0
NOV				MAY			
03...	1.6	9.0	14.0	07...	9.1	12.0	8.5
DEC				JUN			
04...	2.3	.0	7.0	04...	1.5	20.0	23.0
JAN , 1976				JUL			
06...	2.8	.0	-18.0	09...	.15	31.0	39.0
FEB				AUG			
04...	2.4	.0	-18.0	05...	.14	23.0	25.0
MAR				SEP			
03...	50	.0	-7.0	02...	.09	23.5	29.5

06482610 - SPLITROCK CREEK AT CORSON, S. DAK. (LAT 43 36 59 LONG 096 33 54)

OCT , 1975				APR , 1976			
06...	4.3	20.0	14.0	09...	34	10.5	11.5
NOV				MAY			
05...	6.1	7.5	13.0	06...	22	15.5	13.5
DEC				JUN			
04...	5.8	.0	4.0	04...	5.4	18.0	21.0
JAN , 1976				JUL			
05...	6.4	.0	-3.0	09...	1.7	26.0	38.0
FEB				AUG			
03...	8.2	.0	-8.0	04...	1.1	30.0	34.0
MAR				SEP			
03...	68	.0	-7.0	02...	.89	18.0	23.0

GROUND-WATER LEVELS

BEADLE COUNTY

442112098174001. Local number, 110N62W 9BCCC.

LOCATION.--Lat 44°21'12", long 98°17'40", Hydrologic Unit 10160006, at southwest corner of city well field, 3.5 mi (5.6 km) west of Huron.

Owner: City of Huron.

AQUIFER.--Glacial Outwash.

WELL CHARACTERISTICS.--Drilled unused public supply artesian well, diameter 12 in (0.305 m), depth 74 ft (22.6 m), perforated 38 to 74 ft (11.6 to 22.6 m).

DATUM.--Land-surface datum is 1,306.93 ft (398.352 m) above mean sea level. Measuring point: Top of platform 2.00 ft (0.610 m) above land-surface datum.

PERIOD OF RECORD.--February 1954 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 10.81 ft (3.295 m) below land-surface datum, Feb. 5, 1954, lowest, 43.60 ft (13.289 m) below land-surface datum, Aug. 27, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	22.55	21.50	20.55	^h 20.00	^h 20.14	^h 19.70	19.80	21.44	28.50	37.75	42.50	
10	22.17	21.41	20.43	20.08	20.05	19.68	19.86	23.15	29.65	^h 38.10	42.85	40.6
15	21.93	21.31	20.40	20.00	20.02	19.65	19.89	22.61	30.85	^h 38.26	42.95	39.55
20	21.83	21.11	20.35	20.06	19.84	19.60	19.98	24.00	36.00	39.60	43.20	38.88
25	21.64	20.96	20.25	20.05	19.81	19.68	20.01	26.75	37.45	40.80	43.52	38.70
EOM	21.54	20.74	20.10	20.08	19.75	19.76	20.32		36.85	41.82	42.85	38.16

WTR YEAR 1976 MAX 43.60 AUG 27, 1976 MIN 19.60 MAR 20, 1976

443000098005001. Local number, 112N60W22AAAA.

LOCATION.--Lat 44°30'00", long 98°00'50", Hydrologic Unit 10160006, 5 mi (8 km) north of Yale.

Owner: South Dakota Department of Natural Resource Development.

AQUIFER.--Tulare.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 1.25 in (0.0318 m), depth 99 ft (30.2 m), cased to 99 ft (30.2 m).

DATUM.--Altitude of land-surface datum is 1,332 ft (406 m). Measuring point: Top of casing 1.20 ft (0.366 m) above land-surface datum.

PERIOD OF RECORD.--June 1960, March 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.90 ft (6.675 m) below land-surface datum, July 1963; lowest measured, 27.23 ft (8.300 m) below land-surface datum, July 6, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	26.84	DEC 12	26.85	FEB 26	26.82	APR 23	26.92	JUL 6	27.23

443758098225701. Local number, 113N63W 2BBBB.

LOCATION.--Lat 44°37'58", long 98°22'57", Hydrologic Unit 10160006, 1.0 mi (1.6 km) east of Hitchcock.

Owner: U.S. Bureau of Reclamation.

AQUIFER.--Tulare.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 4 in (0.102 m), depth 71 ft (21.6 m), perforated 19 to 71 ft (5.8 to 21.6 m).

DATUM.--Land-surface datum is 1,307.81 ft (398.620 m) above mean sea level. Measuring point: Top of casing 2.20 ft (0.671 m) above land-surface datum (since August 1973).

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 25.09 ft (7.647 m) below land-surface datum, Oct. 11, 1973; lowest measured, 28.03 ft (8.544 m) below land-surface datum, Feb. 16, 1953.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 3	25.90	JAN 12	25.97	MAR 9	26.05	APR 28	26.14	JUL 2	26.21	SEP 9	26.27
NOV 3	25.96	FEB 10	26.03	APR 7	26.12	JUN 1	26.18	AUG 3	26.21	SEP 28	26.31
DEC 3	25.94										

h Tape measurement.

GROUND-WATER LEVELS

413

BON HOMME COUNTY

425643097571001. Local number, 94N60W21BCCC.

LOCATION.--Lat 42°56'43", long 97°57'10", Hydrologic Unit 10170101, 7 mi (11 km) southwest of Tyndall.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial Outwash.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 3 in (0.08 m), depth 64 ft (19.5 m), sandpoint 56 to 64 ft (17.1 to 19.5 m).

DATUM.--Land-surface datum is 1,334.52 ft (406.762 m) above mean sea level. Measuring point: Top of recorder platform 2.50 ft (0.762 m) above land-surface datum.

PERIOD OF RECORD.--1966-68, 1970 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 18.66 ft (5.688 m) below land-surface datum, June 10, 1972; lowest, 25.86 ft (7.882 m) below land-surface datum, Feb. 5, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	25.40	25.54	25.65	25.73	25.86	25.11	23.29	23.43	23.80	24.27	24.83	25.29
10	25.44	25.52	25.66	25.73	25.79	25.22		23.55	23.85	24.32	24.91	25.37
15	25.46	25.58		25.77	25.65	25.30	23.48	23.55	23.89	24.47	24.99	25.42
20	25.43	25.56	25.73		25.73	24.70	23.11	23.60	23.98	24.56	25.07	25.45
25	25.47	25.63	25.72	25.84	25.81	23.00	23.35	23.67	24.05	24.65	25.12	25.47
EOM	25.44	25.58	25.72	25.82	25.78	23.02	23.02	23.70	24.18	24.75	25.23	25.51

WTR YEAR 1976 MAX 25.86 FEB 5, 1976 MIN 22.68 MAR 28, 1976

BROWN COUNTY

451947098355201. Local number, 121N65W 1AAAA (Three Wells No. 1, West).

LOCATION.--Lat 45°19'47", long 98°35'52", Hydrologic Unit 10160003, 5 mi (8 km) west of Warner.

Owner: U.S. Bureau of Reclamation.

AQUIFER.--Middle James.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 1 in (0.025 m), depth 144 ft (43.9 m), perforated 60 to 144 ft (18.3 to 43.9 m).

DATUM.--Land-surface datum is 1,336.73 ft (407.435 m) above mean sea level. Measuring point: Top of casing 2.20 ft (0.671 m) above land-surface datum.

PERIOD OF RECORD.--February 1952 to March 1958, September 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 25.96 ft (7.913 m) below land-surface datum, Sept. 13, 1967; lowest measured, 31.40 ft (9.571 m) below land-surface datum.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	30.07	JAN 12	30.18	MAR 10	30.20	APR 28	30.19	JUL 2	30.19	SEP 9	30.34
NOV 4	30.11	FEB 10	30.19	APR 6	30.19	JUN 1	30.18	AUG 2	30.25	SEP 30	30.39
DEC 2	30.15										

451946098292201. Local number, 122N64W36CCDD (Warner Pt 12).

LOCATION.--Lat 45°19'46", long 98°29'22", Hydrologic Unit 10160003, at Warner.

Owner: U.S. Bureau of Reclamation.

AQUIFER.--Lake Sediments.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 4 in (0.102 m), depth 48 ft (14.6 m), perforated 6 to 48 ft (1.8 to 14.6 m).

DATUM.--Land-surface datum is 1,298.70 ft (395.844 m) above mean sea level. Measuring point: Top of casing 2.00 ft (0.610 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.01 ft (4.270 m) below land-surface datum, July 1, 1953; lowest measured, 24.44 ft (7.449 m) below land-surface datum, Apr. 1, 1968.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	20.84	JAN 13	21.86	MAR 10	22.09	APR 28	22.10	JUL 2	22.26	SEP 9	22.95
NOV 4	21.31	FEB 10	21.98	APR 6	22.10	JUN 1	22.14	AUG 2	22.54	SEP 30	23.11
DEC 3	21.62										

h Tape measurement.

GROUND-WATER LEVELS

CAMPBELL COUNTY

454327100013601. Local number, 126N76W15CCCC (R-83).

LOCATION.--Lat 45°43'27", long 100°01'36", Hydrologic Unit 10130106, 2 mi (3 km) east of Mound City.

Owner: U.S. Geological Survey.

AQUIFER.--Grand.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 1.25 in (0.0318 m), depth 237 ft (72.2 m), screened 234 to 237 ft (71.3 to 72.2 m).

DATUM.--Altitude of land-surface datum is 1,688 ft (515 m). Measuring point: Top of casing 4.60 ft (1.402 m) above land-surface datum.

PERIOD OF RECORD.--May 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.27 ft (4.654 m) below land-surface datum, Jan. 17, 1973; lowest measured, 21.67 ft (6.605 m) below land-surface datum, May 23, 1967.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	18.09	DEC 23	19.03	MAR 17	16.53	MAY 11	16.53	JUL 8	17.37	SEP 1	19.45
OCT 28	17.75	JAN 20	16.67	APR 12	16.48	JUN 8	16.84	AUG 3	18.24	SEP 30	19.89
NOV 25	17.40	FEB 17	16.56								

CLAY COUNTY

430223096590001. Local number, 95N52W21AAAA (CU-66A).

LOCATION.--Lat 43°02'23", long 96°59'00", Hydrologic Unit 10170102, 5 mi (8 km) south of Centerville.

Owner: South Dakota Department of Natural Resource Development.

AQUIFER.--Lower Vermillion-Missouri.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2 in (0.051 m), depth 84 ft (25.6 m), cased to 84 ft (25.6 m), open end.

DATUM.--Altitude of land-surface datum is 1,231 ft (375 m). Measuring point: Top of casing 2.20 ft (0.671 m) above land-surface datum.

PERIOD OF RECORD.--July 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 52.40 ft (15.972 m) below land-surface datum, Apr. 25, 1969; lowest measured, 60.43 ft (18.419 m) below land-surface datum, Sept. 7, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16	59.90	DEC 16	60.14	FEB 12	59.74	APR 13	58.76	JUN 11	58.92	AUG 17	60.40
NOV 13	60.32	JAN 22	59.94	MAR 9	59.09	MAY 13	58.84	JUL 13	59.79	SEP 7	60.43

HAND COUNTY

444828098433901. Local number, 115N66W 2AAAA (Cottonwood Deep).

LOCATION.--Lat 44°48'28", long 98°43'39", Hydrologic Unit 10160009, 2 mi (3 km) west of Cottonwood Lake.

Owner: U.S. Bureau of Reclamation.

AQUIFER.--Glacial Outwash.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 4 in (0.101 m), depth 62 ft (18.9 m), perforated 40 to 62 ft (12.2 to 18.9 m).

DATUM.--Land-surface datum is 1,359.65 ft (414.421 m) above mean sea level. Measuring point: Top of casing 3.30 ft (1.006 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.20 ft (6.157 m) below land-surface datum, July 31, 1953; lowest measured, 27.36 ft (8.339 m) below land-surface datum, Sept. 8, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	26.83	DEC 2	26.99	FEB 10	27.12	APR 6	27.15	JUN 1	27.17	AUG 2	27.27
NOV 3	26.90	JAN 12	27.02	MAR 9	27.13	APR 27	27.22	JUL 1	27.19	SEP 8	27.36

MINNEHAHA COUNTY

434540096461501. Local number, 104N69W31CCCC (S-24).

LOCATION.--Lat 43°45'40", long 96°46'15", Hydrologic Unit 10170203, 1.0 mi (1.6 km) west of Baltic.

Owner: South Dakota Department of Natural Resource Development.

AQUIFER.--Big Sioux.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1.25 in (0.0318 m), depth 26 ft (7.9 m).

DATUM.--Altitude of land-surface datum is 1,465.09 ft (446.559 m) above mean sea level. Measuring point: Top of casing 1.70 ft (0.518 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.63 ft (1.411 m) below land-surface datum, May 23, 1969; lowest measured, 15.06 ft (4.590 m) below land-surface datum, Sept. 16 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	14.19	DEC 9	14.55	FEB 10	14.60	MAY 12	12.19	JUL 16	13.82	SEP 16	15.06
NOV 3	14.46	JAN 20	14.65	MAR 22	12.13	JUN 9	12.71	AUG 10	14.44		

SANBORN COUNTY

440040097555001. Local number, 106N59W 5DDDD (SM 66J).

LOCATION.--Lat 44°00'40", long 97°55'50", Hydrologic Unit 10160011, at Artesian, at west edge of city limits.

Owner: South Dakota Department of Natural Resource Development.

AQUIFER.--Floyd.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 2 in (0.051 m) depth 147 ft (44.8 m), cased to 147 ft (44.8 m), open end.

DATUM.--Land-surface datum is 1,313.62 ft (400.391 m) above mean sea level. Measuring point: Top of casing 2.20 ft (0.671 m) above land-surface datum.

REMARKS.--Prior to 1976, described as "near" Artesian.

PERIOD OF RECORD.--June 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.50 ft (2.286 m) below land-surface datum, June 27, 1968; lowest measured, 11.84 ft (3.609 m) below land-surface datum, Aug. 2, 1971.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	11.17	DEC 1	11.00	FEB 26	10.95	APR 23	10.91	JUL 6	11.14	AUG 20	11.64

440600098151001. Local number, 107N62W10AAAA (S67D).

LOCATION.--Lat 44°06'00", long 98°15'10", Hydrologic Unit 10160011, 4 mi (6 km) north of Woonsocket.

Owner: South Dakota Department of Natural Resource Development.

AQUIFER.--Warren.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2 in (0.051 m), depth 13 ft (4.0 m), cased to 13 ft (4.0 m), open end.

DATUM.--Land-surface datum is 1,298.98 ft (395.929 m) above mean sea level. Measuring point: Top of casing 1.80 ft (0.549 m) above land-surface datum.

PERIOD OF RECORD.--August 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.22 ft (0.677 m) below land-surface datum, Apr. 3, 1973; lowest measured, 8.27 ft (2.521 m) below land-surface datum, Aug. 20, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	7.68	DEC 1	7.72	FEB 26	7.66	APR 23	7.82	JUL 6	8.06	AUG 20	8.27

GROUND-WATER LEVELS

SPINK COUNTY

444219098300801. Local number, 114N64W11BBBB.

LOCATION.--Lat 44°42'19", long 98°30'08", Hydrologic Unit 10160006, 2 mi (3 km) south of Tulare.

Owner: U.S. Bureau of Reclamation.

AQUIFER.--Glacial Outwash.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 4 in (0.101 m), depth 60 ft (18.3 m), perforated 20 to 60 ft (6.1 to 18.3 m).

DATUM.--Land-surface datum is 1,310.8 ft (399.5 m) above mean sea level. Measuring point: Top of casing 3.22 ft (0.98 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.19 ft (0.972 m) below land-surface datum, Aug. 20, 1959; lowest, 19.26 ft (5.871 m) below land-surface datum, Oct. 22, 1975.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	12.20	11.56	11.19		10.91	10.66	10.45	10.41	11.41	13.12	18.84	
10	12.11	11.47	11.10		^h 10.81	10.61	10.39	10.47	11.88	16.30	19.05	16.24
15	11.95	11.39	11.10	10.86	10.77	10.61	10.35	10.45	11.80	17.84	18.80	16.07
20	11.82	11.33	11.12	10.94	10.76	10.49	10.45	10.94	12.61	18.40	18.86	15.64
25	11.68	11.31	11.01	10.90	10.73	10.48	10.59	11.09	12.70	18.05	18.30	15.31
EOM	11.53	11.22	10.98	10.83	10.71	10.52	10.56	^e 11.4	12.22		17.30	15.08

WTR YEAR 1976 MAX 19.26 OCT 22, 1975 MIN 10.28 APR 17, 1976

444458098385501. Local number, 115N65W28AAAA (PT 9).

LOCATION.--Lat 44°44'58", long 98°38'55", Hydrologic Unit 10160009, 7 mi (11 km) west of Tulare.

Owner: U.S. Bureau of Reclamation.

AQUIFER.--Glacial Outwash.

WELL CHARACTERISTICS.--Drilled unused irrigation water-table well, diameter 8 in (0.203 m), depth 105 ft (32.0 m), perforated 58 to 105 ft (17.7 to 32.0 m).

DATUM.--Land-surface datum is 1,340.43 ft (408.563 m) above mean sea level. Measuring point: Top of recorder platform 3.20 ft (0.975 m) above land-surface datum.

PERIOD OF RECORD.--July 1952 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 22.06 ft (6.724 m) below land-surface datum, June 20, 1953; lowest, 36.46 ft (11.113 m) below land-surface datum, Aug. 20, 1964.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	28.67	28.22	27.91		27.65	27.30	27.17	27.25	30.37	29.58	33.64	
10	28.62	28.15	27.90		^h 27.62	27.28	27.14	27.31	29.00	30.81	33.97	33.83
15	28.55	28.12	27.87	27.72	27.58	27.25	27.10	27.33	28.45	31.79	34.14	33.55
20	28.48	28.06	27.82	27.72	27.49	27.20	27.08	27.58	28.35	32.44	34.27	33.32
25	28.34	28.04	27.78	27.69	27.41	27.20	27.08	28.25	28.78	32.94	34.45	33.03
EOM	28.25	27.96		27.68	27.36	27.18	27.15	^e 30.8	28.81	33.41	34.40	32.80

WTR YEAR 1976 MAX 34.49 AUG 27, 1976 MIN 27.07 APR 17, 1976

UNION COUNTY

430405096463201. Local number, 95N50W 8ABBD.

LOCATION.--Lat 43°04'05", long 96°46'32", Hydrologic Unit 10170102, at Beresford.

Owner: J. J. Dolan.

AQUIFER.--Glacial Outwash.

WELL CHARACTERISTICS.--Dug unused water-table well, diameter 24 in (0.610 m), depth 42 ft (12.8 m).

DATUM.--Altitude of land-surface datum is 1,515 ft (462 m). Measuring point: Top of casing 2.50 ft (0.762 m) above land-surface datum.

PERIOD OF RECORD.--August 1936 to 1944, 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.51 ft (0.155 m) below land-surface datum, Apr. 11, 1947; lowest measured, 14.77 ft (4.502 m) below land-surface datum, May 2, 1957.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	8.44	DEC 9	9.75	FEB 10	6.60	MAY 12	4.09	JUL 16	7.64	SEP 2	9.45
NOV 3	8.77	JAN 20	6.69	MAR 22	3.47	JUN 4	4.69	AUG 10	8.52		

^e Estimated.^h Tape measurement.

YANKTON COUNTY

425240097252001. Local number, 93N56W14AA.

LOCATION.--Lat 42°52'40", long 97°25'20", Hydrologic Unit 10170101, at Yankton.

Owner: John Kayser.

AQUIFER.--Niobrara Formation.

WELL CHARACTERISTICS.--Bored stock artesian well, diameter 18 in (0.457 m), depth 80 ft (24.4 m).

DATUM.--Altitude of land-surface datum is 1,200 ft (366 m). Measuring point: Base of pump 4.50 ft (1.372 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 36.40 ft (11.095 m) below land-surface datum, June 16, 1961; lowest measured, 51.16 ft (15.594 m) below land-surface datum, Nov. 17, 1960.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	43.85	DEC 17	43.97	FEB 12	42.99	APR 14	44.29	JUN 11	44.42	AUG 13	42.92
NOV 14	43.86	JAN 23	44.10	MAR 9	42.47	MAY 14	42.60	JUL 14	42.83	SEP 15	43.14

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

STATION	NUMBER	LOCAL IDENT- I- FIER	GEO- LOGIC UNIT	TOTAL DEPTH OF WELL (FT) (72008)	DATE OF SAMPLE	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	HARD- NESS (CA, MG) (MG/L) (00900)	NON- CAR- BONATE HARD- NESS (MG/L) (00902)
BROWN COUNTY										
451431098061001	121N61W360000		112PLSC	--	75-10-10	4400	7.3	10.0	2000	1300
			112PLSC	--	76-04-16	8400	7.2	8.0	1900	970
451759098333501	121N63W15AAA8		112PLSC	--	75-10-10	2000	7.4	8.0	280	0
			112PLSC	--	76-04-15	2570	7.4	9.0	260	0
451436098233201	121N63W340000		112PLSC	--	75-10-10	1340	7.5	8.5	460	150
			112PLSC	--	76-04-15	1850	7.5	9.0	470	160
451947098355504	121N65W 1AAAA4		112PLSC	--	75-10-09	2560	7.4	8.5	1700	1400
			112PLSC	--	76-04-15	2220	7.2	9.0	1300	980
451436098393501	121N65W34CCCC		--	--	75-10-09	1460	7.6	8.0	530	230
			--	--	76-04-15	1570	7.3	6.0	500	200
452312098210401	122N63W12000		112PLSC	--	75-10-10	2700	7.4	8.5	240	0
			112PLSC	--	76-04-15	3500	7.3	10.5	240	0
452312098283002	122N64W13AAAA2		112PLSC	--	75-10-09	3550	7.7	8.0	330	0
			112PLSC	--	76-04-16	4200	7.5	8.5	310	0
452915098271501	123N63W 88888		112PLSC	--	75-10-10	3750	7.4	8.5	1500	1000
			112PLSC	--	76-04-16	4200	7.1	9.0	1500	960
452456098233101	123N63W34000		112PLSC	--	75-10-09	2010	8.0	8.0	710	330
			112PLSC	--	76-04-15	2220	7.2	9.5	690	320
453428098194202	124N62W 888882		112PLSC	--	75-10-10	380	7.7	8.0	220	0
			112PLSC	--	76-04-16	465	7.7	8.0	220	0
454431098271301	124N63W 5CCCC		112PLSC	--	75-10-10	640	7.5	8.5	320	34
			112PLSC	--	76-04-16	750	7.4	8.0	310	23
453800098222002	125N63W13CCCC2		112PLSC	34	75-10-10	5400	7.5	7.0	2300	1900
			112PLSC	34	76-04-16	8000	7.2	9.0	2300	1900
CLARK COUNTY										
444303097523301	114N59W 18888		112PLSC	90	75-11-04	2470	7.6	9.0	1000	760
444505097353001	115N56W20CC00		112PLSC	300	76-08-17	2500	7.5	13.0	1100	820
444611097370001	115N57W13DADD		112PLSC	400	76-08-17	3000	7.7	13.0	1000	710
444613097402401	115N57W15RC8C		112PLSC	322	75-10-30	2820	7.2	11.5	1000	730
444658097501801	115N58W 7DDAA		112PLSC	139	76-07-16	2900	7.5	8.8	1400	1000
444408097465801	115N58W3488AA		112PLSC	450	76-08-17	2700	8.0	13.0	1100	800
444648097574601	115N59W 70CAA		112PLSC	97	76-07-22	2500	7.8	9.5	380	0
444445097521901	115N59W2588AA		112PLSC	144	75-11-03	2850	8.0	9.0	360	79
444423097540501	115N59W27DAAA		112PLSC	84	76-07-15	2550	7.4	8.5	990	700
445036097491001	116N58W20DAAC		112PLSC	341	76-08-12	2400	7.6	10.0	1000	740
445154097450501	116N58W228ABC		112PLSC	384	76-08-10	2800	7.4	9.5	1200	920
444957097464001	116N58W27ADAD		112PLSC	150	76-08-10	2700	7.5	9.5	750	390
444849097544501	116N59W34CACC		112PLSC	115	76-07-15	2000	7.4	8.5	700	370
445604097293401	117N56W24AAAA		112PLSC	496	76-07-28	3000	8.2	10.0	640	300
445647097421301	117N57W15RACD		112PLSC	170	76-07-22	1750	7.8	9.5	670	400
445654097422301	117N57W17ABCA		112PLSC	140	76-07-28	3400	7.9	10.0	730	420
445646097463701	117N58W148CRA		112PLSC	420	76-07-28	2400	7.6	9.0	1000	710
450354097310001	118N56W 2AAAA		112PLSC	400	76-08-11	2000	7.4	9.5	1100	710
450259097393002	118N57W10AAAD2		112PLSC	358	76-07-16	1860	7.2	9.5	960	560
450032097414201	118N57W21CCDC		112PLSC	300	76-07-16	2650	7.5	8.5	1200	910
450046097392901	118N57W22DADD2		112PLSC	470	76-07-16	2260	7.8	9.0	1100	690
450225097545101	118N59W10CDRA		112PLSC	180	76-08-12	2500	7.8	11.0	470	96
450600097574401	119N59W20CBRC		112PLSC	96	75-11-06	940	7.7	10.0	430	140
450542097580701	119N59W30AAB8		112PLSC	89	76-07-15	1180	7.4	9.0	510	200
450440097565901	119N59W32ABDA		112PLSC	108	76-07-15	780	7.7	9.0	360	110
HAND COUNTY										
442535098432001	111N66W14A	--	--	80	76-06-09	1080	7.3	--	640	310
442715099134901	111N70W 3AACR	--	--	82	76-04-06	1700	7.6	12.0	600	190
443805099135401	114N70W35CCCC	--	--	236	76-04-06	3150	7.6	14.0	210	0

QUALITY OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

STATION NUMBER	DATE OF SAMPLE	DIS-SOLVED CALCIUM (CA) (MG/L) (00915)	DIS-SOLVED MAGNESIUM (MG) (MG/L) (00925)	DIS-SOLVED SODIUM (NA) (MG/L) (00930)	PERCENT SODIUM (00932)	SODIUM AD-SORPTION RATIO (00931)	DIS-SOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	CARBONATE (CO3) (MG/L) (00445)	ALKALINITY AS CaCO3 (MG/L) (00410)	DIS-SOLVED SULFATE (SO4) (MG/L) (00945)
BROWN COUNTY											
451431098061001	75-10-10	310	290	1800	66	18	20	819	0	672	4600
	76-04-16	290	280	1700	66	17	21	1110	0	910	4400
451759098333501	75-10-10	76	21	420	76	11	11	582	0	477	390
	76-04-15	71	20	470	79	13	12	591	0	485	400
451436098233201	75-10-10	130	33	200	47	4.1	19	378	0	310	330
	76-04-15	130	35	200	47	4.0	18	382	0	313	300
451947098355504	75-10-09	460	140	35	4	.4	15	365	0	299	1300
	76-04-15	330	110	31	5	.4	12	368	0	302	860
451436098393501	75-10-09	160	31	130	34	2.5	15	368	0	302	270
	76-04-15	150	30	120	34	2.3	14	361	0	296	250
452312098210401	75-10-10	68	16	680	86	19	11	907	0	744	300
	76-04-15	66	18	720	86	20	12	925	0	759	290
452312098283002	75-10-09	89	25	730	82	18	17	625	0	513	77
	76-04-16	82	26	700	82	17	17	584	0	479	75
452915098271501	75-10-10	340	160	510	42	5.7	17	602	0	494	1800
	76-04-16	320	160	530	44	6.0	17	608	0	499	1600
452456098233101	75-10-09	200	50	230	41	3.8	15	452	0	371	720
	76-04-15	190	53	230	41	3.8	14	451	0	370	690
453428098194202	75-10-10	56	19	4.3	4	.1	6.9	280	0	230	11
	76-04-16	57	20	2.4	2	.1	6.7	288	0	236	6.9
454431098271301	75-10-10	85	27	28	16	.7	4.3	353	0	290	84
	76-04-16	80	27	26	15	.6	4.2	351	0	288	67
453800098222002	75-10-10	350	350	1200	53	11	26	453	0	372	3700
	76-04-16	320	370	1100	50	9.9	27	468	0	384	3500
CLARK COUNTY											
444303097523301	75-11-04	280	84	200	29	2.7	11	350	0	287	1100
444505097353001	76-09-17	270	98	180	26	2.4	13	319	0	262	1100
444611097370001	76-08-17	240	97	300	39	4.1	14	353	0	290	1200
444613097402401	75-10-30	200	120	210	31	2.9	20	330	0	271	1100
444658097501801	76-07-16	330	130	210	25	2.5	21	386	0	317	1400
4444408097465801	76-08-17	280	87	240	33	3.2	14	316	0	259	1200
444648097574601	76-07-22	89	37	360	67	8.1	13	503	0	413	650
444445097521901	75-11-03	89	32	530	76	12	11	337	0	276	1100
444423097540501	76-07-15	230	100	230	33	3.2	15	350	0	287	1000
445036097491001	76-08-12	240	100	160	25	2.2	14	335	0	275	990
445154097450501	76-08-10	290	120	120	18	1.5	11	367	0	301	1100
444957097464001	76-08-10	200	60	260	43	4.1	15	437	0	358	890
444849097544501	76-07-15	180	61	170	34	2.8	10	411	0	337	710
445604097293401	76-07-28	140	71	510	63	8.8	11	422	0	346	1300
445647097421301	76-07-22	200	41	110	26	1.9	9.4	325	0	267	600
445654097422301	76-07-28	160	80	420	55	6.8	12	377	0	309	1200
445646097463701	76-07-28	250	93	120	20	1.6	9.5	360	0	295	920
450354097310001	76-08-11	300	84	27	5	.4	9.4	469	0	385	700
450259097393002	76-07-16	260	74	52	10	.7	10	487	0	399	560
450032097414201	76-07-16	260	140	180	24	2.2	9.8	394	0	323	1200
450046097392901	76-07-16	210	140	120	19	1.6	11	508	0	417	900
450225097545101	76-08-12	110	46	290	57	5.9	9.4	450	0	369	630
450600097574401	75-11-06	110	38	31	13	.7	4.7	356	0	292	700
450542097580701	76-07-15	120	50	70	23	1.4	8.2	380	0	312	330
450440097565901	76-07-15	93	31	17	9	.4	4.3	304	0	249	140
HAND COUNTY											
442535098432001	76-06-09	180	45	36	11	.6	8.0	395	--	324	300
442715099134901	76-04-06	160	49	170	37	3.0	18	499	0	409	550
443805099135401	76-04-06	52	19	710	87	21	12	1090	0	894	210

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

STATION	NUMBER	DATE OF SAMPLE	DIS- SOLVED CHLO- RIDE (CL) (MG/L) (00940)	DIS- SOLVED FLUO- RIDE (F) (MG/L) (00950)	BROMIDE (BR) (MG/L) (71870)	IODIDE (I) (MG/L) (71865)	DIS- SOLVED SILICA (SI02) (MG/L) (00955)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L) (70300)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) (70301)	DIS- SOLVED SOLIDS (TONS PER AC-FT) (70303)	TOTAL NITRATE (N) (MG/L) (00620)	DIS- SOLVED NITRATE (N) (MG/L) (00618)
BROWN COUNTY												
451431098061001		75-10-10	150	.4	--	--	25	--	7610	10.4	--	--
		76-04-16	160	.4	--	--	25	--	7450	10.1	--	--
451759098333501		75-10-10	250	.3	--	--	26	--	1480	2.01	--	--
		76-04-15	260	.3	--	--	26	--	1550	2.11	--	--
451436098233201		75-10-10	210	.3	--	--	28	--	1140	1.55	--	--
		76-04-15	210	.3	--	--	28	--	1110	1.51	--	--
451947098355504		75-10-09	100	.2	--	--	22	--	2250	3.06	--	--
		76-04-15	80	.2	--	--	23	--	1630	2.22	--	--
451436098393501		75-10-09	180	.2	--	--	28	--	1000	1.36	--	--
		76-04-15	170	.2	--	--	30	--	945	1.29	--	--
452312098210401		75-10-10	500	.2	--	--	27	--	2050	2.79	--	--
		76-04-15	530	.2	--	--	29	--	2130	2.90	--	--
452312098283002		75-10-09	950	.3	--	--	24	--	2220	3.02	--	--
		76-04-16	960	.3	--	--	25	--	2180	2.96	--	--
452915098271501		75-10-10	250	.4	--	--	26	--	3410	4.64	--	--
		76-04-16	260	.4	--	--	27	--	3220	4.38	--	--
452456098233101		75-10-09	92	.2	--	--	25	--	1560	2.12	--	--
		76-04-15	98	.2	--	--	27	--	1530	2.08	--	--
453428098194202		75-10-10	1.8	.3	--	--	24	--	263	.36	--	--
		76-04-16	1.9	.3	--	--	25	--	264	.36	--	--
454431098271301		75-10-10	21	.2	--	--	25	--	451	.61	--	--
		76-04-16	19	.2	--	--	26	--	425	.58	--	--
453800098222002		75-10-10	550	.3	--	--	23	--	6430	8.74	--	--
		76-04-16	510	.3	--	--	24	--	6090	8.28	--	--
CLARK COUNTY												
444303097523301		75-11-04	60	.2	--	--	25	--	1940	2.64	--	--
444505097353001		76-08-17	27	.3	--	--	28	--	1880	2.56	--	--
444611097370001		76-08-17	86	.3	--	--	26	--	2150	2.92	--	--
444613097402401		75-10-30	40	.2	--	--	26	--	1890	2.57	--	--
444658097501801		76-07-16	31	.3	--	--	28	--	2350	3.20	--	--
444408097465801		76-08-17	49	.2	--	--	27	--	2070	2.82	--	--
444648097574601		76-07-22	100	.3	--	--	25	--	1530	2.08	--	--
444445097521901		75-11-03	76	.2	--	--	28	--	2040	2.77	--	--
444423097540501		76-07-15	50	.3	--	--	27	--	1830	2.49	--	--
445036097491001		76-08-12	13	.2	--	--	24	--	1720	2.34	--	--
445154097450501		76-08-10	13	.4	--	--	29	--	1870	2.54	--	--
444957097464001		76-08-10	9.3	.3	--	--	30	--	1690	2.30	--	--
444849097544501		76-07-15	26	.3	--	--	27	--	1390	1.89	--	--
445604097293401		76-07-28	36	.2	--	--	28	--	2310	3.14	--	--
445647097421301		76-07-22	8.0	.4	--	--	27	--	1160	1.58	--	--
445654097422301		76-07-28	110	.2	--	--	29	--	2220	3.02	--	--
445646097463701		76-07-28	12	.3	--	--	27	--	1630	2.22	--	--
450354097310001		76-08-11	5.2	.3	--	--	26	--	1400	1.90	--	--
450259097393002		76-07-16	4.3	.3	--	--	23	--	1260	1.71	--	--
450032097414201		76-07-16	6.5	.4	--	--	28	--	2040	2.77	--	--
450046097392901		76-07-16	4.8	.2	--	--	33	--	1680	2.28	--	--
450225097545101		76-08-12	26	.2	--	--	28	--	1370	1.86	--	--
450600097574401		75-11-06	5.6	.2	--	--	26	--	595	.81	--	--
450542097580701		76-07-15	10	--	--	--	--	--	--	--	--	--
450440097565901		76-07-15	2.7	.2	--	--	28	--	469	.64	--	--
HAND COUNTY												
442535098432001		76-06-09	14	--	--	--	--	--	--	--	--	--
442715099134901		76-04-06	23	.3	--	--	24	--	1250	1.70	--	--
443805099135401		76-04-06	470	.5	--	--	28	--	2040	2.77	--	--

QUALITY OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

STATION	NUMBER	DATE OF SAMPLE	TOTAL NITRITE (N) (MG/L) (00615)	TOTAL NITRITE PLUS NITRATE (N) (MG/L) (00630)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	TOTAL AMMONIA NITRO- GEN (N) (MG/L) (00610)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L) (00625)	DIS- SOL- VED- PHOS- PHORUS (P) (MG/L) (00666)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L) (00671)	TOTAL ALUM- INUM (AL) (UG/L) (01105)	DIS- SOLVED ALUM- INUM (AL) (UG/L) (01106)	DIS- SOLVED ARSENIC (AS) (UG/L) (01000)
BROWN COUNTY												
451431098061001		75-10-10	--	--	2.7	--	--	.05	.03	--	--	--
		76-04-16	--	--	4.1	--	--	.16	.07	--	--	--
451759098333501		75-10-10	--	--	.02	--	--	.05	.03	--	--	--
		76-04-15	--	--	.01	--	--	.01	.03	--	--	--
451436098233201		75-10-10	--	--	.02	--	--	.01	.01	--	--	--
		76-04-15	--	--	.17	--	--	.01	.02	--	--	--
451947098355504		75-10-09	--	--	.02	--	--	.01	.00	--	--	--
		76-04-15	--	--	.02	--	--	.07	.02	--	--	--
451436098393501		75-10-09	--	--	.00	--	--	.02	.01	--	--	--
		76-04-15	--	--	.27	--	--	.01	.03	--	--	--
452312098210401		75-10-10	--	--	.00	--	--	.10	.06	--	--	--
		76-04-15	--	--	.07	--	--	.06	.08	--	--	--
452312098283002		75-10-09	--	--	.03	--	--	.04	.01	--	--	--
		76-04-16	--	--	.29	--	--	.02	.04	--	--	--
452915098271501		75-10-10	--	--	.00	--	--	.05	.02	--	--	--
		76-04-16	--	--	.01	--	--	.02	.02	--	--	--
452456098233101		75-10-09	--	--	.00	--	--	.02	.03	--	--	--
		76-04-15	--	--	.00	--	--	.04	.01	--	--	--
453428098194202		75-10-10	--	--	.18	--	--	.17	.15	--	--	--
		76-04-16	--	--	.25	--	--	.14	.15	--	--	--
454431098271301		75-10-10	--	--	.00	--	--	.03	.01	--	--	--
		76-04-16	--	--	.00	--	--	.01	.03	--	--	--
453800098222002		75-10-10	--	--	.01	--	--	.02	.01	--	--	--
		76-04-16	--	--	.71	--	--	.02	.04	--	--	--
CLARK COUNTY												
444303097523301		75-11-04	--	--	.01	--	--	.19	--	--	--	--
444505097353001		76-08-17	--	--	.13	--	--	.00	--	--	--	--
444611097370001		76-08-17	--	--	1.3	--	--	.00	--	--	--	--
444613097402401		75-10-30	--	--	1.4	--	--	.00	--	--	--	--
444658097501801		76-07-16	--	--	.63	--	--	.03	--	--	--	--
444408097465801		76-08-17	--	--	.09	--	--	.00	--	--	--	--
444648097574601		76-07-22	--	--	.09	--	--	.04	--	--	--	--
444445097521901		75-11-03	--	--	.01	--	--	.03	--	--	--	--
444423097540501		76-07-15	--	--	.05	--	--	.01	--	--	--	--
445036097491001		76-08-12	--	--	.03	--	--	.02	--	--	--	--
445154097450501		76-08-10	--	--	.00	--	--	.01	--	--	--	--
444957097464001		76-08-10	--	--	.00	--	--	.20	--	--	--	--
444849097544501		76-07-15	--	--	.08	--	--	.06	--	--	--	--
445604097293401		76-07-28	--	--	.17	--	--	.08	.08	--	--	--
445647097421301		76-07-22	--	--	.01	--	--	.01	--	--	--	--
445654097422301		76-07-28	--	--	.89	--	--	.15	.04	--	--	--
445646097463701		76-07-28	--	--	.21	--	--	.06	.06	--	--	--
450354097310001		76-08-11	--	--	.14	--	--	.00	--	--	--	--
450259097393002		76-07-16	--	--	4.6	--	--	.07	--	--	--	--
450032097414201		76-07-16	--	--	1.8	--	--	.02	--	--	--	--
450046097392901		76-07-16	--	--	.25	--	--	.05	--	--	--	--
450225097545101		76-08-12	--	--	.83	--	--	.17	--	--	--	--
450600097574401		75-11-06	--	--	.10	--	--	.02	.04	--	--	--
450542097580701		76-07-15	--	--	--	--	--	--	--	--	--	--
450440097565901		76-07-15	--	--	.13	--	--	.04	--	--	--	--
HAND COUNTY												
442535098432001		76-06-09	--	--	--	--	--	--	--	--	--	--
442715099134901		76-04-06	--	--	.00	--	--	.16	.00	--	--	--
443805099135401		76-04-06	--	--	.00	--	--	.01	.02	--	--	--

QUALITY OF GROUND WATER
WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

STATION	NUMBER	DATE OF SAMPLE	TOTAL BARIUM (BA) (UG/L) (01007)	DIS- SOLVED BARIUM (BA) (UG/L) (01005)	TOTAL BERYL- LIUM (BE) (UG/L) (01012)	DIS- SOLVED BERYL- LIUM (BE) (UG/L) (01010)	TOTAL BISMUTH (BI) (UG/L) (01017)	DIS- SOLVED BISMUTH (BI) (UG/L) (01015)	TOTAL BORON (B) (UG/L) (01022)	DIS- SOLVED BORON (B) (UG/L) (01020)	TOTAL CAD- MIUM (CD) (UG/L) (01027)	DIS- SOLVED CAD- MIUM (CD) (UG/L) (01025)
BROWN COUNTY												
451431098061001		75-10-10	--	--	--	--	--	--	--	1100	--	--
		76-04-16	--	--	--	--	--	--	--	1100	--	--
451759098333501		75-10-10	--	--	--	--	--	--	--	940	--	--
		76-04-15	--	--	--	--	--	--	--	960	--	--
451436098233201		75-10-10	--	--	--	--	--	--	--	980	--	--
		76-04-15	--	--	--	--	--	--	--	950	--	--
451947098355504		75-10-09	--	--	--	--	--	--	--	100	--	--
		76-04-15	--	--	--	--	--	--	--	130	--	--
451436098393501		75-10-09	--	--	--	--	--	--	--	840	--	--
		76-04-15	--	--	--	--	--	--	--	790	--	--
452312098210401		75-10-10	--	--	--	--	--	--	--	2200	--	--
		76-04-15	--	--	--	--	--	--	--	2200	--	--
452312098283002		75-10-09	--	--	--	--	--	--	--	1800	--	--
		76-04-16	--	--	--	--	--	--	--	1900	--	--
452915098271501		75-10-10	--	--	--	--	--	--	--	330	--	--
		76-04-16	--	--	--	--	--	--	--	320	--	--
452456098233101		75-10-09	--	--	--	--	--	--	--	860	--	--
		76-04-15	--	--	--	--	--	--	--	800	--	--
453428098194202		75-10-10	--	--	--	--	--	--	--	40	--	--
		76-04-16	--	--	--	--	--	--	--	40	--	--
454431098271301		75-10-10	--	--	--	--	--	--	--	90	--	--
		76-04-16	--	--	--	--	--	--	--	80	--	--
453800098222002		75-10-10	--	--	--	--	--	--	--	810	--	--
		76-04-16	--	--	--	--	--	--	--	750	--	--
CLARK COUNTY												
444303097523301		75-11-04	--	--	--	--	--	--	--	530	--	--
444505097353001		76-08-17	--	--	--	--	--	--	--	800	--	--
444611097370001		76-08-17	--	--	--	--	--	--	--	890	--	--
444613097402401		75-10-30	--	--	--	--	--	--	--	800	--	--
444658097501801		76-07-16	--	--	--	--	--	--	--	870	--	--
444408097465801		76-08-17	--	--	--	--	--	--	--	600	--	--
444648097574601		76-07-22	--	--	--	--	--	--	--	750	--	--
444445097521901		75-11-03	--	--	--	--	--	--	--	900	--	--
444423097540501		76-07-15	--	--	--	--	--	--	--	630	--	--
445036097491001		76-08-12	--	--	--	--	--	--	--	830	--	--
445154097450501		76-08-10	--	--	--	--	--	--	--	710	--	--
444957097464001		76-08-10	--	--	--	--	--	--	--	1100	--	--
444849097544501		76-07-15	--	--	--	--	--	--	--	700	--	--
445604097293401		76-07-28	--	--	--	--	--	--	--	2000	--	--
445647097421301		76-07-22	--	--	--	--	--	--	--	1100	--	--
445654097422301		76-07-28	--	--	--	--	--	--	--	8900	--	--
445646097463701		76-07-28	--	--	--	--	--	--	--	1600	--	--
450354097310001		76-08-11	--	--	--	--	--	--	--	220	--	--
450259097393002		76-07-16	--	--	--	--	--	--	--	400	--	--
450032097414201		76-07-16	--	--	--	--	--	--	--	1100	--	--
450046097392901		76-07-16	--	--	--	--	--	--	--	660	--	--
450225097545101		76-08-12	--	--	--	--	--	--	--	710	--	--
450600097574401		75-11-06	--	--	--	--	--	--	--	120	--	--
450542097580701		76-07-15	--	--	--	--	--	--	--	--	--	--
450440097565901		76-07-15	--	--	--	--	--	--	--	120	--	--
HAND COUNTY												
442535098432001		76-06-09	--	--	--	--	--	--	--	--	--	--
442715099134901		76-04-06	--	--	--	--	--	--	--	570	--	--
443805099135401		76-04-06	--	--	--	--	--	--	--	710	--	--

QUALITY OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

STATION	NUMBER	DATE OF SAMPLE	TOTAL CHRO- MIUM (CR) (UG/L) (01034)	DIS- SOLVED CHRO- MIUM (CR) (UG/L) (01030)	TOTAL COBALT (CO) (UG/L) (01037)	DIS- SOLVED COBALT (CO) (UG/L) (01035)	TOTAL COPPER (CU) (UG/L) (01042)	DIS- SOLVED COPPER (CU) (UG/L) (01040)
BROWN COUNTY								
451431098061001		75-10-10	--	--	--	--	--	--
		76-04-16	--	--	--	--	--	--
451759098333501		75-10-10	--	--	--	--	--	--
		76-04-15	--	--	--	--	--	--
451436098233201		75-10-10	--	--	--	--	--	--
		76-04-15	--	--	--	--	--	--
451947098355504		75-10-09	--	--	--	--	--	--
		76-04-15	--	--	--	--	--	--
451436098393501		75-10-09	--	--	--	--	--	--
		76-04-15	--	--	--	--	--	--
452312098210401		75-10-10	--	--	--	--	--	--
		76-04-15	--	--	--	--	--	--
452312098283002		75-10-09	--	--	--	--	--	--
		76-04-16	--	--	--	--	--	--
452915098271501		75-10-10	--	--	--	--	--	--
		76-04-16	--	--	--	--	--	--
452456098233101		75-10-09	--	--	--	--	--	--
		76-04-15	--	--	--	--	--	--
453428098194202		75-10-10	--	--	--	--	--	--
		76-04-16	--	--	--	--	--	--
454431098271301		75-10-10	--	--	--	--	--	--
		76-04-16	--	--	--	--	--	--
453800098222002		75-10-10	--	--	--	--	--	--
		76-04-16	--	--	--	--	--	--
CLARK COUNTY								
444303097523301		75-11-04	--	--	--	--	--	--
444505097353001		76-08-17	--	--	--	--	--	--
444611097370001		76-08-17	--	--	--	--	--	--
444613097402401		75-10-30	--	--	--	--	--	--
444658097501801		76-07-16	--	--	--	--	--	--
444408097465801		76-08-17	--	--	--	--	--	--
444648097574601		76-07-22	--	--	--	--	--	--
444445097521901		75-11-03	--	--	--	--	--	--
444423097540501		76-07-15	--	--	--	--	--	--
445036097491001		76-08-12	--	--	--	--	--	--
445154097450501		76-08-10	--	--	--	--	--	--
444957097464001		76-08-10	--	--	--	--	--	--
444849097544501		76-07-15	--	--	--	--	--	--
445604097293401		76-07-28	--	--	--	--	--	--
445647097421301		76-07-22	--	--	--	--	--	--
445654097422301		76-07-28	--	--	--	--	--	--
445646097463701		76-07-28	--	--	--	--	--	--
450354097310001		76-08-11	--	--	--	--	--	--
450259097393002		76-07-16	--	--	--	--	--	--
450032097414201		76-07-16	--	--	--	--	--	--
450046097392901		76-07-16	--	--	--	--	--	--
450225097545101		76-08-12	--	--	--	--	--	--
450600097574401		75-11-06	--	--	--	--	--	--
450542097580701		76-07-15	--	--	--	--	--	--
450440097565901		76-07-15	--	--	--	--	--	--
HAND COUNTY								
442535098432001		76-06-09	--	--	--	--	--	--
442715099134901		76-04-06	--	--	--	--	--	--
443805099135401		76-04-06	--	--	--	--	--	--

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

STATION NUMBER	LOCAL IDENT- I- FIER	GEO- LOGIC UNIT	TOTAL DEPTH OF WELL (FT) (72008)	DATE OF SAMPLE	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	HARD- NESS (CA,MG) (MG/L) (00900)	NON- CAR- BONATE HARD- NESS (MG/L) (00902)
HYDE COUNTY									
444233099210801	114N71W 2CCBC	--	151	76-04-29	1340	7.9	9.0	110	0
LYMAN COUNTY									
435400100090001	105N78W14AD	211DKOT	1623	76-06-30	1890	7.7	--	187	0
MINNEHAHA COUNTY									
434508096372701	103N48W 5CACA	400SOUX	--	75-10-15	840	7.3	--	410	93
		400SOUX	--	76-04-12	895	7.3	--	440	130
		400SOUX	--	76-04-12	895	7.3	--	--	--
434414096380301	103N48W 7DAC	112PLSC	--	75-10-15	875	7.3	--	460	50
		112PLSC	--	76-04-12	940	7.4	--	470	64
434432096364201	103N48W 8ADA	112PLSC	--	75-10-15	1100	7.0	--	610	42
		112PLSC	--	76-04-13	1330	6.9	6.5	660	85
434435096374802	103N48W 8BCCR2	400SOUX	--	75-10-16	1200	7.2	--	870	570
		400SOUX	--	76-04-12	1460	7.3	--	820	540
434357096364201	103N48W 8DDDD	400SOUX	--	75-10-15	700	7.2	--	400	37
434357096364201	103N48W 8DDDD	400SOUX	--	76-04-13	790	7.2	--	410	37
434429096361801	103N48W 9RDCR	400SOUX	--	75-10-15	760	7.4	--	390	53
		400SOUX	--	76-04-13	810	7.4	--	400	59
434400096362201	103N48W 9CCDA	400SOUX	--	75-10-16	1820	7.0	--	860	400
		400SOUX	--	76-04-13	2300	7.0	--	1000	590
434332096371501	103N48W17ACCC	400SOUX	--	75-10-16	780	7.2	--	470	140
		400SOUX	--	76-04-13	910	7.2	--	440	120
434339096381101	103N48W18ACA	400SOUX	--	75-10-16	1740	7.3	--	1100	820
		400SOUX	--	76-04-12	1940	7.5	--	1100	800
PENNINGTON COUNTY									
440807102365701	2N12E13ACRA	--	3645	76-04-28	1030	7.9	--	95	0
SPINK COUNTY									
443731098203001	115N63W 1DDDD	112PLSC	--	75-10-09	760	7.6	8.5	130	0
		112PLSC	--	76-04-14	780	7.7	9.5	130	0
445344098221601	116N63W 2BAAA	112PLSC	--	75-10-09	2350	7.1	9.0	1500	1200
		112PLSC	--	76-04-14	2800	7.0	9.0	1700	1400
445000098225501	116N63W27AADA	112PLSC	--	75-10-09	2200	7.4	9.5	1300	960
		112PLSC	--	76-04-14	1930	7.2	10.5	1000	700
445535098304501	117N64W2688BR	112PLSC	--	75-10-09	10000	7.1	9.0	2500	1800
		112PLSC	--	76-04-15	11000	6.9	9.5	2700	2000
445900098135001	118N61W31CCCC	112PLSC	--	75-10-10	2260	7.2	8.0	1200	670
		112PLSC	--	76-04-14	3400	7.1	9.5	1100	610
450315098194502	118N62W 8888R2	112PLSC	--	75-10-10	3600	7.2	8.0	2400	2000
		112PLSC	--	76-04-16	4700	7.0	8.0	2300	1900
450920098122501	119N61W 6AAAA	112PLSC	--	75-10-10	1240	7.9	8.5	200	0
		112PLSC	--	76-04-16	1880	7.4	9.5	180	0
451023098381001	120N65W3588BR	112PLSC	--	75-10-09	750	7.5	9.5	300	0
		112PLSC	--	76-04-15	800	7.5	10.0	300	0
ZIEBACH COUNTY									
450251101355701	13N21E31BDDA	337LDGP	--	76-07-17	--	--	--	1400	1200

QUALITY OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

STATION NUMBER	DATE OF SAMPLE	DIS-SOLVED CALCIUM (CA) (MG/L) (00915)	DIS-SOLVED MAGNE- SIUM (MG) (00925)	DIS-SOLVED SODIUM (NA) (MG/L) (00930)	PERCENT SODIUM (00932)	SODIUM AD-SORP- TION RATIO (00931)	DIS-SOLVED PO- TAS- SIUM (K) (MG/L) (00935)	BICAR- BONATE (HCO3) (MG/L) (00440)	CAR- BONATE (CO3) (MG/L) (00445)	ALKA- LINITY AS CAC03 (MG/L) (00410)	DIS-SOLVED SULFATE (SO4) (MG/L) (00945)
HYDE COUNTY											
444233099210801	76-04-29	31	7.6	270	83	11	7.9	549	0	450	180
LYMAN COUNTY											
435400100090001	76-06-30	52	14	358	79	11	20	240	--	197	438
MINNEHAHA COUNTY											
434508096372701	75-10-15	110	32	16	8	.3	3.9	383	0	314	190
	76-04-12	130	29	15	7	.3	3.7	378	0	310	160
	76-04-12	--	--	--	--	--	--	--	--	--	--
434414096380301	75-10-15	88	59	21	9	.4	1.2	503	0	413	64
	76-04-12	93	58	23	10	.5	2.2	497	0	408	73
434432096364201	75-10-15	140	63	18	6	.3	5.8	692	0	568	25
	76-04-13	150	68	17	5	.3	7.6	696	0	571	42
434435096374802	75-10-16	230	72	23	5	.3	3.9	365	0	299	570
	76-04-12	220	66	22	5	.3	4.1	348	0	285	540
434357096364201	75-10-15	100	37	21	10	.5	4.3	445	0	365	91
434357096364201	76-04-13	100	38	20	10	.4	4.4	451	0	370	75
434429096361801	75-10-15	100	35	21	10	.5	3.2	416	0	341	95
	76-04-13	100	36	20	10	.4	3.2	414	0	340	99
434400096362201	75-10-16	180	100	32	7	.5	7.2	560	0	459	87
	76-04-13	220	120	39	7	.5	7.8	551	0	452	120
434332096371501	75-10-16	140	28	17	7	.3	3.9	392	0	322	180
	76-04-13	130	28	17	8	.4	3.9	394	0	323	160
434339096381101	75-10-16	300	95	32	6	.4	5.5	387	0	317	860
	76-04-12	300	89	33	6	.4	5.8	392	0	322	870
PENNINGTON COUNTY											
440807102365701	76-04-28	27	6.5	222	83	9.9	3.8	261	--	214	307
SPINK COUNTY											
443731098203001	75-10-09	34	12	130	66	4.9	8.7	446	0	366	56
	76-04-14	31	13	130	67	4.9	8.7	450	0	369	52
445344098221601	75-10-09	450	100	44	6	.5	9.4	369	0	303	1200
	76-04-14	490	120	45	5	.5	10	346	0	284	1400
445000098225501	75-10-09	320	120	58	9	.7	12	409	0	335	1000
	76-04-14	260	91	43	8	.6	11	395	0	324	710
445535098304501	75-10-09	460	330	1900	62	17	36	880	0	722	4800
	76-04-15	450	380	1700	57	14	39	857	0	703	4800
445900098135001	75-10-10	320	89	360	40	4.6	19	609	0	500	1300
	76-04-14	300	87	380	42	5.0	19	607	0	498	1300
450315098194502	75-10-10	600	210	320	22	2.9	30	475	0	390	2500
	76-04-16	590	200	340	24	3.1	32	473	0	388	2500
450920098122501	75-10-10	53	16	350	78	11	8.3	673	0	552	130
	76-04-16	46	15	340	80	11	8.4	664	0	545	130
451023098381001	75-10-09	77	25	51	27	1.3	8.2	370	0	303	80
	76-04-15	76	27	50	26	1.3	8.3	375	0	308	75
ZIEBACH COUNTY											
450251101355701	76-07-17	390	94	110	14	1.3	49	163	--	134	1400

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

STATION NUMBER	DATE OF SAMPLE	DIS-SOLVED CHLORIDE (CL) (MG/L) (00940)	DIS-SOLVED FLUORIDE (F) (MG/L) (00950)	BROMIDE (BR) (MG/L) (71870)	IODIDE (I) (MG/L) (71865)	DIS-SOLVED SILICA (SI02) (MG/L) (00955)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L) (70300)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) (70301)	DIS-SOLVED SOLIDS (TONS PER AC-FT) (70303)	TOTAL NITRATE (N) (MG/L) (00620)	DIS-SOLVED NITRATE (N) (MG/L) (00618)
HYDE COUNTY											
444233099210801	76-04-29	52	.5	--	--	25	--	854	1.16	--	--
LYMAN COUNTY											
435400100090001	76-06-30	252	1.6	--	--	--	--	1261	--	--	--
MINNEHAHA COUNTY											
434508096372701	75-10-15	1.6	.8	.0	.01	23	--	567	.77	.26	--
	76-04-12	1.1	.7	.0	.00	24	--	550	.75	.10	--
	76-04-12	--	--	--	--	--	--	--	--	--	--
434414096380301	75-10-15	19	1.0	.2	.00	24	--	531	.72	1.3	--
	76-04-12	30	1.0	.4	.00	20	--	553	.75	1.4	--
434432096364201	75-10-15	6.7	.5	.1	.00	25	--	683	.93	14	--
	76-04-13	21	.4	.2	.01	22	--	739	1.00	15	--
434435096374802	75-10-16	3.5	.6	.1	.02	16	--	1100	1.50	.21	--
	76-04-12	2.9	.7	.0	.02	17	--	1050	1.41	.06	--
434357096364201	75-10-15	5.7	1.2	.1	.01	24	--	507	.69	.06	--
434357096364201	76-04-13	5.8	1.3	.1	.01	26	--	497	.67	.15	--
434429096361801	75-10-15	2.6	.8	.1	.00	25	--	497	.68	1.7	--
	76-04-13	2.8	.7	.0	.00	27	--	505	.69	2.5	--
434400096362201	75-10-16	100	.5	.8	.05	23	--	1140	1.55	75	--
	76-04-13	160	.5	1.0	.05	25	--	1400	1.90	100	--
434332096371501	75-10-16	1.3	.5	.0	.00	22	--	588	.80	.03	--
	76-04-13	1.1	.4	.1	.00	23	--	560	.76	.11	--
434339096381101	75-10-16	8.2	.4	.1	.01	20	--	1520	2.05	.29	--
	76-04-12	6.8	.4	.2	.01	24	--	1530	2.07	.10	--
PENNINGTON COUNTY											
440807102365701	76-04-28	29	.7	--	--	--	--	706	--	--	<1.0
SPINK COUNTY											
443731098203001	75-10-09	7.6	.4	--	--	26	--	496	.67	--	--
	76-04-14	8.0	.4	--	--	26	--	492	.67	--	--
445344098221601	75-10-09	47	.6	--	--	26	--	2070	2.82	--	--
	76-04-14	48	.6	--	--	27	--	2320	3.16	--	--
445000098225501	75-10-09	46	.4	--	--	26	--	1790	2.43	--	--
	76-04-14	36	.4	--	--	25	--	1370	1.86	--	--
445535098304501	75-10-09	710	.3	--	--	24	--	8700	11.8	--	--
	76-04-15	680	.3	--	--	26	--	8510	11.6	--	--
445900098135001	75-10-10	110	.2	--	--	24	--	2530	3.44	--	--
	76-04-14	110	.2	--	--	25	--	2520	3.43	--	--
450315098194502	75-10-10	84	.2	--	--	26	--	4030	5.48	--	--
	76-04-16	97	.2	--	--	26	--	4050	5.51	--	--
450920098122501	75-10-10	190	.4	--	--	26	--	1110	1.51	--	--
	76-04-16	180	.4	--	--	28	--	1080	1.47	--	--
451023098381001	75-10-09	22	.4	--	--	26	--	478	.65	--	--
	76-04-15	20	.4	--	--	27	--	476	.65	--	--
ZIEBACH COUNTY											
450251101355701	76-07-17	120	3.6	.4	.01	34	2330	2290	3.17	--	--

< Less than.

QUALITY OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

STATION	NUMBER	DATE OF SAMPLE	TOTAL NITRITE (N) (MG/L) (00615)	TOTAL NITRITE PLUS NITRATE (N) (MG/L) (00630)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	TOTAL AMMONIA NITRO- GEN (N) (MG/L) (00610)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L) (00625)	DIS- SOL- VED- PHOS- PHORUS (P) (MG/L) (00666)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L) (00671)	TOTAL ALUM- INUM (AL) (UG/L) (01105)	DIS- SOLVED ALUM- INUM (AL) (UG/L) (01106)	DIS- SOLVED ARSENIC (AS) (UG/L) (01000)
HYDE COUNTY												
444233099210801		76-04-29	--	--	1.5	--	--	.14	.08	--	--	--
LYMAN COUNTY												
435400100090001		76-06-30	--	--	--	--	--	--	--	--	--	--
MINNEHAHA COUNTY												
434508096372701		75-10-15	.00	.26	.05	.03	--	--	--	--	20	--
		76-04-12	.00	.10	.09	.04	--	--	--	--	--	--
		76-04-12	--	--	--	--	--	--	--	--	10	--
434414096380301		75-10-15	.00	1.3	1.3	.01	--	--	--	7	--	--
		76-04-12	.00	1.4	1.4	.00	--	--	--	--	20	--
434432096364201		75-10-15	.01	14	13	.01	--	--	--	--	<10	--
		76-04-13	.01	15	15	.03	--	--	--	--	10	--
434435096374802		75-10-16	.00	.21	.19	.01	--	--	--	--	30	--
		76-04-12	.00	.06	.04	.02	--	--	--	--	30	--
434357096364201		75-10-15	.01	.07	.06	.02	--	--	--	--	70	--
434357096364201		76-04-13	.00	.15	.14	.00	--	--	--	--	10	--
434429096361801		75-10-15	.00	1.7	2.0	.01	--	--	--	--	<10	--
		76-04-13	.00	2.5	2.5	.00	--	--	--	--	10	--
434400096362201		75-10-16	.01	75	76	.03	--	--	--	--	<10	--
		76-04-13	.00	100	98	.00	--	--	--	--	20	--
434332096371501		75-10-16	.01	.04	.02	.40	--	--	--	--	20	--
		76-04-13	.00	.11	.11	.22	--	--	--	--	20	--
434339096381101		75-10-16	.00	.29	.23	.45	--	--	--	--	40	--
		76-04-12	.01	.11	.10	.41	--	--	--	--	30	--
PENNINGTON COUNTY												
440807102365701		76-04-28	--	--	--	--	--	--	--	--	--	--
SPINK COUNTY												
443731098203001		75-10-09	--	--	.00	--	--	.08	.08	--	--	--
		76-04-14	--	--	.01	--	--	.07	.09	--	--	--
445344098221601		75-10-09	--	--	2.4	--	--	.02	.00	--	--	--
		76-04-14	--	--	2.8	--	--	.01	.04	--	--	--
445000098225501		75-10-09	--	--	.02	--	--	.46	.12	--	--	--
		76-04-14	--	--	.09	--	--	.01	.04	--	--	--
445535098304501		75-10-09	--	--	.40	--	--	.02	.02	--	--	--
		76-04-15	--	--	.99	--	--	.06	.03	--	--	--
445900098135001		75-10-10	--	--	.00	--	--	.02	.01	--	--	--
		76-04-14	--	--	.02	--	--	.01	.03	--	--	--
450315098194502		75-10-10	--	--	.00	--	--	.04	.01	--	--	--
		76-04-16	--	--	.04	--	--	.00	.01	--	--	--
450920098122501		75-10-10	--	--	.00	--	--	.11	.09	--	--	--
		76-04-16	--	--	.12	--	--	.09	.11	--	--	--
451023098381001		75-10-09	--	--	1.2	--	--	.02	.00	--	--	--
		76-04-15	--	--	1.6	--	--	.01	.02	--	--	--
ZIEBACH COUNTY												
450251101355701		76-07-17	--	--	--	--	.90	.00	--	--	20	0

< Less than.

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

STATION	NUMBER	DATE OF SAMPLE	TOTAL BARIUM (BA) (UG/L) (01007)	DIS- SOLVED BARIUM (BA) (UG/L) (01005)	TOTAL BERYL- LIUM (BE) (UG/L) (01012)	DIS- SOLVED BERYL- LIUM (BE) (UG/L) (01010)	TOTAL BISMUTH (BI) (UG/L) (01017)	DIS- SOLVED BISMUTH (BI) (UG/L) (01015)	TOTAL BORON (B) (UG/L) (01022)	DIS- SOLVED BORON (B) (UG/L) (01020)	TOTAL CAD- MIUM (CD) (UG/L) (01027)	DIS- SOLVED CAD- MIUM (CD) (UG/L) (01025)
HYDE COUNTY												
444233099210801	76-04-29	--	--	--	--	--	--	--	770	--	--	--
LYMAN COUNTY												
435400100090001	76-06-30	--	--	--	--	--	--	--	--	--	--	--
MINNEHAHA COUNTY												
434508096372701	75-10-15	--	30	--	<1	--	<4	--	190	--	--	0
	76-04-12	--	--	--	--	--	--	--	170	--	--	--
	76-04-12	--	30	--	<3	--	<15	--	180	--	--	1
434414096380301	75-10-15	300	--	<1	--	<4	--	80	80	1	--	--
	76-04-12	--	300	--	<3	--	<20	--	60	--	--	1
434432096364201	75-10-15	--	200	--	<2	--	<5	--	90	--	--	0
	76-04-13	--	300	--	<4	--	<20	--	60	--	--	1
434435096374802	75-10-16	--	10	--	<2	--	<6	--	310	--	--	1
	76-04-12	--	10	--	<4	--	<25	--	300	--	--	1
434357096364201	75-10-15	--	50	--	<1	--	<4	--	200	--	--	0
434357096364201	76-04-13	--	40	--	<3	--	<15	--	200	--	--	1
434429096361801	75-10-15	--	100	--	<1	--	<4	--	120	--	--	0
	76-04-13	--	100	--	<3	--	<15	--	120	--	--	1
434400096362201	75-10-16	--	300	--	<2	--	<8	--	60	--	--	0
	76-04-13	--	300	--	<6	--	<40	--	50	--	--	0
434332096371501	75-10-16	--	100	--	<1	--	<4	--	250	--	--	0
	76-04-13	--	100	--	<3	--	<15	--	300	--	--	1
434339096381101	75-10-16	--	10	--	<2	--	<9	--	440	--	--	1
	76-04-12	--	10	--	<6	--	<35	--	500	--	--	1
PENNINGTON COUNTY												
440807102365701	76-04-28	--	--	--	--	--	--	--	--	--	--	--
SPINK COUNTY												
443731098203001	75-10-09	--	--	--	--	--	--	--	610	--	--	--
	76-04-14	--	--	--	--	--	--	--	580	--	--	--
445344098221601	75-10-09	--	--	--	--	--	--	--	230	--	--	--
	76-04-14	--	--	--	--	--	--	--	230	--	--	--
445000098225501	75-10-09	--	--	--	--	--	--	--	210	--	--	--
	76-04-14	--	--	--	--	--	--	--	210	--	--	--
445535098304501	75-10-09	--	--	--	--	--	--	--	1100	--	--	--
	76-04-15	--	--	--	--	--	--	--	900	--	--	--
445900098135001	75-10-10	--	--	--	--	--	--	--	500	--	--	--
	76-04-14	--	--	--	--	--	--	--	490	--	--	--
450315098194502	75-10-10	--	--	--	--	--	--	--	1300	--	--	--
	76-04-16	--	--	--	--	--	--	--	1300	--	--	--
450920098122501	75-10-10	--	--	--	--	--	--	--	1000	--	--	--
	76-04-16	--	--	--	--	--	--	--	970	--	--	--
451023098381001	75-10-09	--	--	--	--	--	--	--	190	--	--	--
	76-04-15	--	--	--	--	--	--	--	170	--	--	--
ZIEBACH COUNTY												
450251101355701	76-07-17	--	0	--	--	--	--	--	490	--	--	0

< Less than.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

STATION	NUMBER	DATE OF SAMPLE	TOTAL CHRO- MIUM (CR) (UG/L) (01034)	DIS- SOLVED CHRO- MIUM (CR) (UG/L) (01030)	TOTAL COBALT (CO) (UG/L) (01037)	DIS- SOLVED COBALT (CO) (UG/L) (01035)	TOTAL COPPER (CU) (UG/L) (01042)	DIS- SOLVED COPPER (CU) (UG/L) (01040)
HYDE COUNTY								
444233099210801		76-04-29	--	--	--	--	--	--
LYMAN COUNTY								
435400100090001		76-06-30	--	--	--	--	--	--
MINNEHAHA COUNTY								
434508096372701		75-10-15	--	<4	--	<4	--	<1
		76-04-12	--	--	--	--	--	--
		76-04-12	--	<10	--	<10	--	<3
434414096380301		75-10-15	<4	--	<4	--	3	--
		76-04-12	--	<13	--	<13	--	<3
434432096364201		75-10-15	--	<5	--	<5	--	5
		76-04-13	--	<20	--	<20	--	<4
434435096374802		75-10-16	--	<6	--	<6	--	<2
		76-04-12	--	<20	--	<20	--	<5
434357096364201		75-10-15	--	<4	--	<4	--	<1
434357096364201		76-04-13	--	<10	--	<10	--	<3
434429096361801		75-10-15	--	<4	--	<4	--	10
		76-04-13	--	<10	--	<10	--	10
434400096362201		75-10-16	--	<8	--	<8	--	5
		76-04-13	--	<30	--	<30	--	8
434332096371501		75-10-16	--	<4	--	<4	--	2
		76-04-13	--	<10	--	<10	--	<3
434339096381101		75-10-16	--	<9	--	<9	--	2
		76-04-12	--	<25	--	<25	--	<6
PENNINGTON COUNTY								
440807102365701		76-04-28	--	--	--	--	--	--
SPINK COUNTY								
443731098203001		75-10-09	--	--	--	--	--	--
		76-04-14	--	--	--	--	--	--
445344098221601		75-10-09	--	--	--	--	--	--
		76-04-14	--	--	--	--	--	--
445000098225501		75-10-09	--	--	--	--	--	--
		76-04-14	--	--	--	--	--	--
445535098304501		75-10-09	--	--	--	--	--	--
		76-04-15	--	--	--	--	--	--
445900098135001		75-10-10	--	--	--	--	--	--
		76-04-14	--	--	--	--	--	--
450315098194502		75-10-10	--	--	--	--	--	--
		76-04-16	--	--	--	--	--	--
450920098122501		75-10-10	--	--	--	--	--	--
		76-04-16	--	--	--	--	--	--
451023098381001		75-10-09	--	--	--	--	--	--
		76-04-15	--	--	--	--	--	--
ZIEBACH COUNTY								
450251101355701		76-07-17	--	20	--	--	--	0

< Less than.

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FACTORS FOR CONVERTING ENGLISH UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the English units published herein to the International System of Units (SI). Subsequent reports will contain both the English and SI unit equivalents in the station manuscript descriptions until such time that all data will be published in SI units.

Multiply English 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}	*hectares (ha)
	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 (10 ⁶ gal)	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 [(ft ³ /s) · d]	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 (mgal/d)	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}	tonnes (t)

*The unit hectare is approved for use with the International System (SI) for a limited time. See NBS Special Bulletin 330, p.15, 1972 edition.

**The unit liter is accepted for use with the International System (SI). See NBS Special Bulletin 330, p. 13, 1972 edition.

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