Water Resources Data for South Dakota

Water Year 1975

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT SD-75-1

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

CALENDAR FOR WATER YEAR 1975

1974

OCTOBER

S	M	T	W	T	F	S
		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		

NOVEMBER

S	M	T	W	T	F	S
					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

DECEMBER

S	M	T	W	T	F	S
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				

1975

JANUARY

S	M	T	W	T	F	S
			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	

FEBRUARY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
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16	17	18	19	20	21	22
23	24	25	26	27	28	

MARCH

S	M	T	W	T	F	S
						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					

APRIL

S	M	T	W	T	F	S
		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			

MAY

S	M	T	W	T	F	S
				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

JUNE

S	M	T	W	T	F	S
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					

JULY

S	M	T	W	T	F	S
		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		

AUGUST

S	M	T	W	T	F	S
					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						

SEPTEMBER

S	M	T	W	T	F	S
	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				

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Water resources data for the 1975 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 in wells and springs. This report contains discharge records for 95 gaging stations; stage for 10 lakes and reservoirs; water quality for 26 gaging stations, 10 partial-record flow stations, one lake, and 105 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 part of the systematic data collection program, and are published as miscellaneous measurements. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in South Dakota.

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THOMAS S. KLEPPE, Secretary

GEOLOGICAL SURVEY

V. E. McKelvey, Director

Prepared in cooperation with

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South Dakota Department of Transportation
East Dakota Conservancy Sub-district
Black Hills Conservancy Sub-district
Corps of Engineers, U.S. Army
Bureau of Reclamation, U.S. Department of the Interior
Fish and Wildlife Service, U.S. Department of the Interior
Bureau of Indian Affairs, U.S. Department of the Interior
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1976

PREFACE

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

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

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ILLUSTRATIONS

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[Letters after station name designate type of data: (c) chemical, (t) water temperature, (s) sediment]

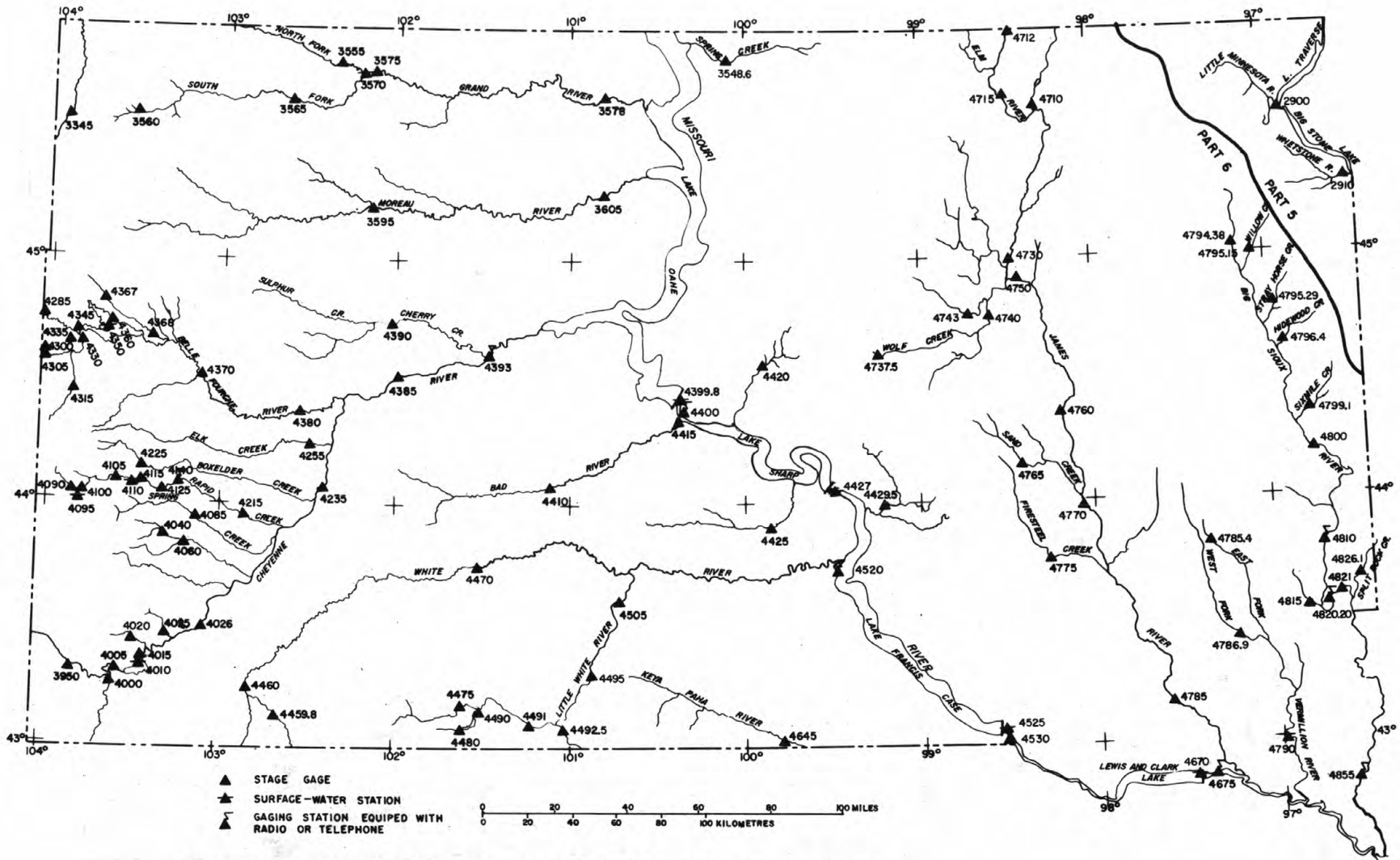


Figure 1.--Map of South Dakota showing location of lake and stream gaging stations

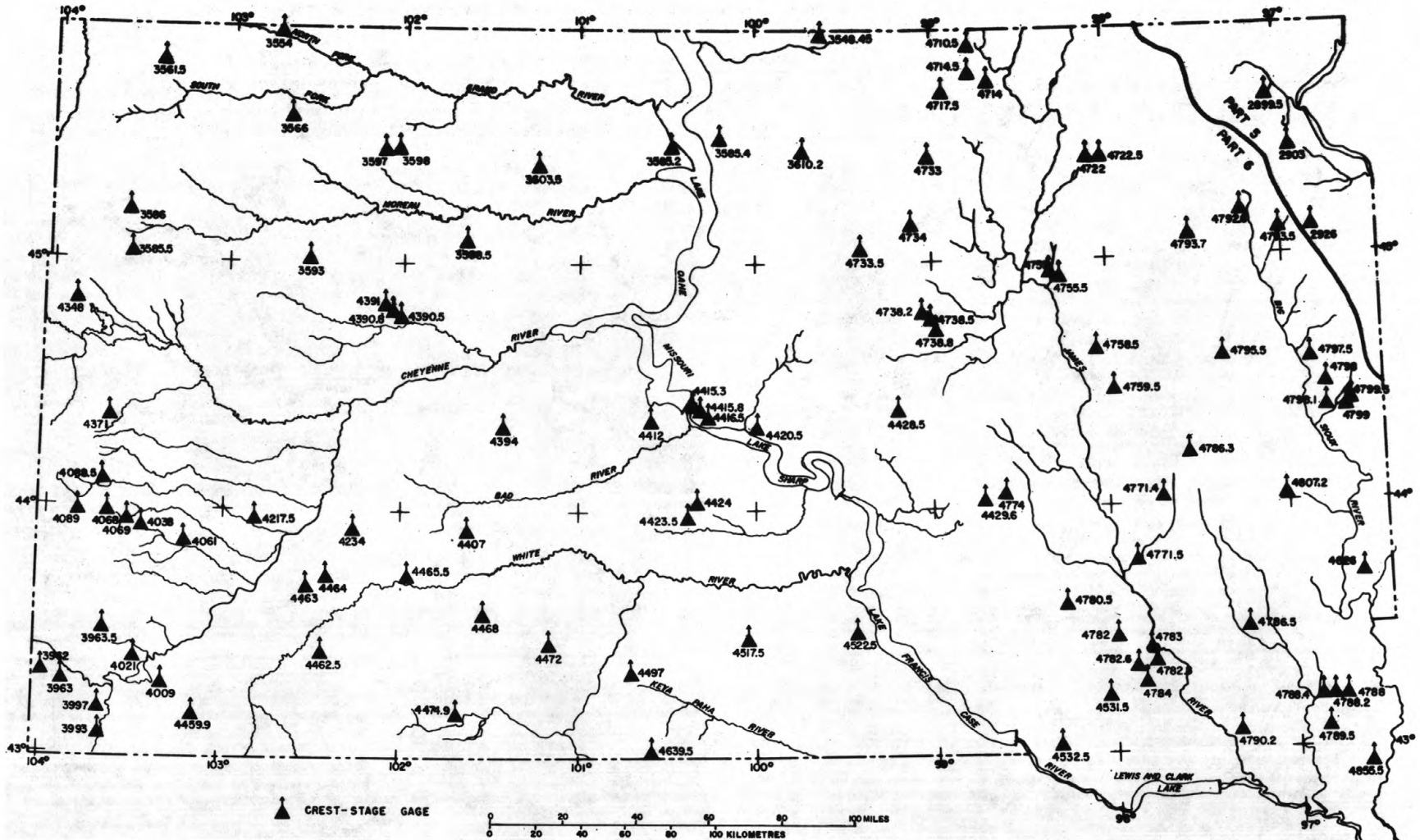
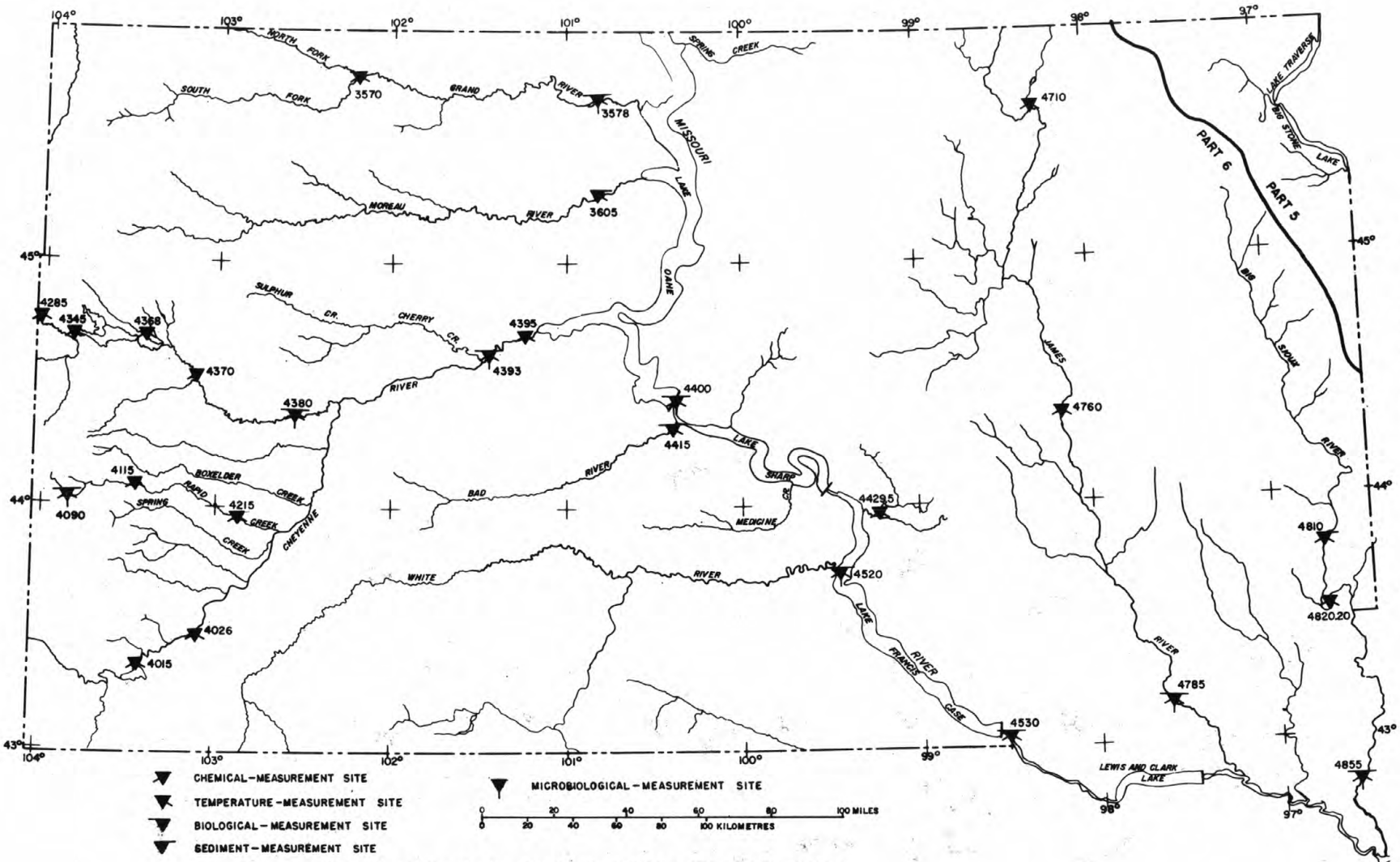


Figure 2.-- Map of South Dakota showing location of crest-stage partial-record stations



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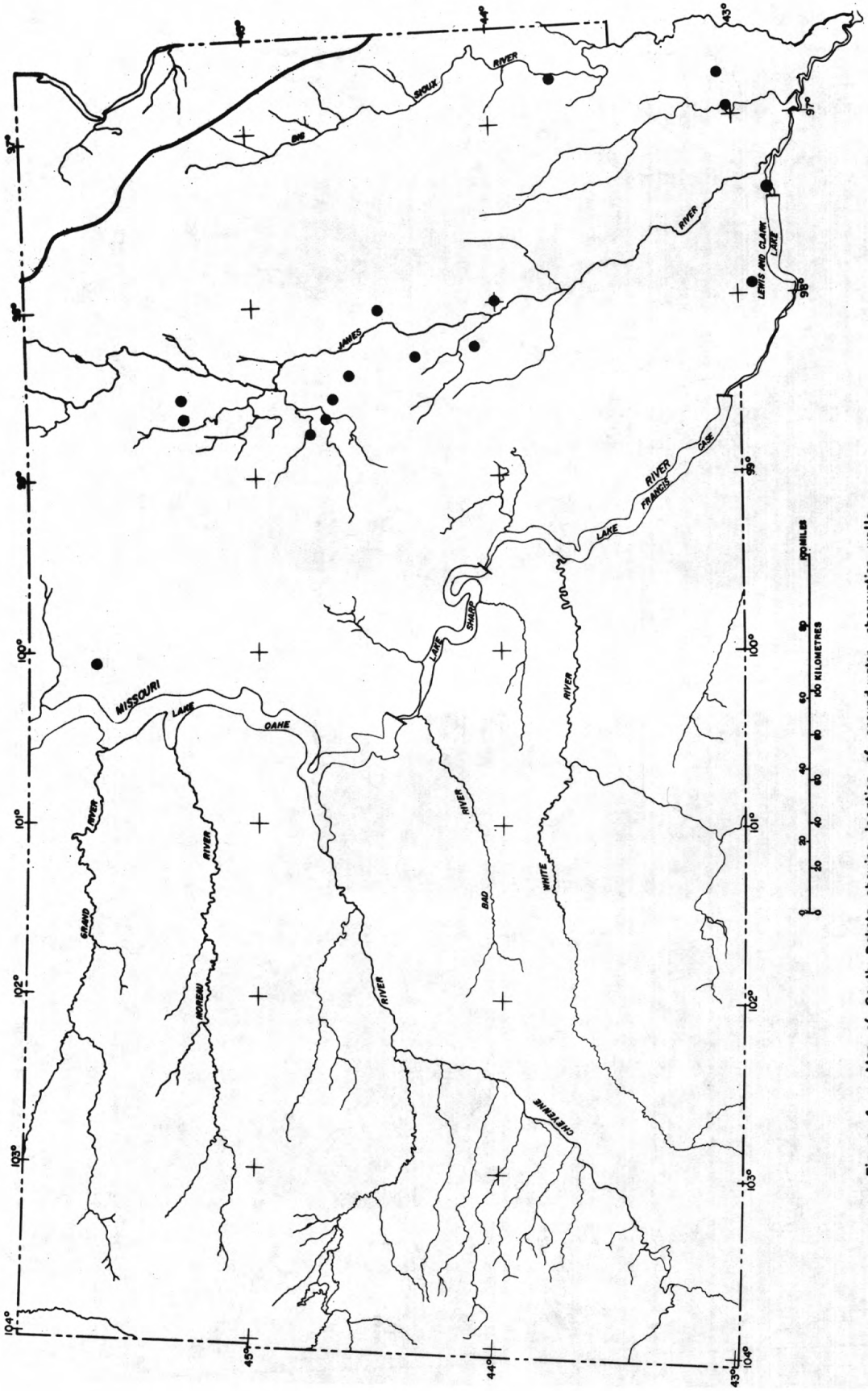

Figure 4.--Map of South Dakota showing location of ground-water observation wells

WATER RESOURCES DATA FOR SOUTH DAKOTA, 1975

Section 1. Surface-Water Records
Section 2. Water-Quality Records
Section 3. Ground-Water Records

INTRODUCTION

Water resources data for the 1975 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 wells and springs. This report contains discharge records for 95 gaging stations; stage and contents for 10 lakes and reservoirs; water quality for 26 gaging stations, 10 partial-record flow stations, one lake, and 105 wells; and water levels for 16 observation wells. Also included are data for 105 crest-stage partial-record stations. Additional water data were collected at various sites, not part of the systematic data collection program, and are published as miscellaneous measurements. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in South Dakota.

Records of discharge (or stage) of streams, and contents (or stage) of lakes and reservoirs were first published in a series of U.S. Geological Survey water-supply papers entitled, "Surface Water Supply of the United States." Through water year 1960, these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply papers entitled, "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of water-supply papers entitled, "Ground-Water Levels in the United States."

Beginning with the 1961 water year and continuing through water year 1974, streamflow data have been released by the Geological Survey in annual reports on a Stage-boundary basis. Water-quality records beginning with the 1964 water year, and ground-water data since the 1971 water year have been similarly released either in separate reports or in conjunction with streamflow records. These reports provided rapid release of preliminary water data shortly after the end of the water year. The final data were then released in the water-supply paper series mentioned above. Beginning with the 1975 water year, water data will be released on a State-boundary basis in final form and will not be republished in

the water-supply paper series. The 1975 and subsequent water year reports will be in a series which will carry an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this report is identified as "U.S. Geological Survey Water-Data Report SD-75-1." These reports are for sale to the public for a nominal fee from the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia, 22151. For more information on publications available, see "PUBLICATIONS" on a subsequent page.

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 supplied data are acknowledged in station descriptions. 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.

DEFINITION OF TERMS

Terms related to streamflow water-quality and other hydrologic data, as used in this report are defined below. See also table for converting English units to International System of units (SI) on page 31.

Acre-foot (AC-FT, ac-ft) is a 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 metres.

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

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

Bacteria are microscopic unicellular organisms, typically spherical, rod-like, 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 all the organisms which produce colonies with a golden-green metallic sheen 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 intestine or feces of warmblooded 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 the intestine of warmblooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C ± 1.0°C on M-enterrococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 ml of sample.

Bed material is the shifting portion of fragmented alluvial material of which the streambed is composed.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per litre, used 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 weight per unit area or volume of habitat.

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

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, or about 646,000 gallons or 2,445 cubic metres. It represents a runoff of approximately 0.0372 inches from 1 square mile or 0.3468 millimitre from 1 square kilometre.

Chemical oxygen demand (COD) indicates the quantity of oxidizable compounds in water and varies with water composition(s), temperature, period of contact, and other factors.

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

Coliform organisms are a group of bacteria used as an indicator of the sanitary quality of the water. The number of coliform colonies per 100 millilitres is determined by the immediate or delayed incubation membrane filter method.

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

Continuing record station is a specified site which meets one or all conditions listed:

1. When chemical samples are collected daily or monthly for 10 or more months during the water year.
2. When water temperature records include observations taken once or more times daily.

3. When sediment discharge records include those periods for which sediment loads are computed and are considered to be representative of the runoff for the water year.

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 artifical structure, or a uniform cross section over a long reach of the channel.

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

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

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

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

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or body of impounded surface water together with all tributary surface stream 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 gage height or discharge are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is computed.

Hardness of water is a physical-chemical characteristic attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ($CaCO_3$).

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 litre (UG/L, ug/l) is a unit expressing the concentration of chemical constituents in solution weight (micrograms) of solute per unit volume (litre) of water. One thousand micrograms per litre is equivalent to one milligram per litre.

Milligrams per litre (MG/L, mg/l) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per litre represents the weight of solute per unit volume of water. Milligrams or micrograms per litre may be converted to milliequivalents (one thousandth of a gram-equivalent weight of a constituent) per litre by multiplying by the factors in table 1, page 7.

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

> 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 multi-celled and are counted according to the number of contained cells per sample volume, usually millilitres (ml) or litres (l).

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

Particle size is the diameter, in millimetres (mm), of suspended sediment or bed material determined either by 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) (Guy, 1969).

Table 1.--Factors for conversion of chemical constituents in milligrams or micrograms per litre to milliequivalents per liter

Ion	Multiply by	Ion	Multiply by
Aluminum (Al^{+3})*...	0.11119	Iodide (I^{-1}).....	0.00788
Ammonia as NH_4^{+1}...	.05544	Iron (Fe^{+3})*.....	.05372
Barium (Ba^{+2}).....	.01456	Lead (Pb^{+2})*.....	.00965
Bicarbonate (HCO_3^{-1})	.01639	Lithium (Li^{+1})*...	.14411
Bromide (Br^{-1}).....	.01251	Magnesium (Mg^{+2})..	.08226
Calcium (Ca^{+2}).....	.04990	Manganese (Mn^{+2})*.	.03640
Carbonate (CO_3^{-2})..	.03333	Nickel (Ni^{+2})*....	.03406
Chloride (Cl^{-1})....	.02821	Nitrate (NO_3^{-1})...	.01613
Chromium (Cr^{+6})*...	.11539	Nitrite (NO_2^{-1})...	.02174
Cobalt (Co^{+2})*.....	.03394	Phosphate (PO_4^{-3}).	.03159
Copper (Cu^{+2})*.....	.03148	Potassium (K^{+1})...	.02557
Cyanide (CN^{-1}).....	.03844	Sodium (Na^{+1}).....	.04350
Fluoride (F^{-1}).....	.05264	Strontium (Sr^{+2})*.	.02283
Hydrogen (H^{+1}).....	.99209	Sulfate (SO_4^{-2})...	.02082
Hydroxide (OH^{-1})...	.05880	Zinc (Zn^{+2})*.....	.03060

*Constituent reported in micrograms per litre; multiply by factor and divide results by 1,000.

Table 2.--Factors for conversion of sediment concentration in milligrams per litre to parts per million*
(All values calculated to three significant figures)

Range of concentration in 1000 mg/l	Divide by	Range of concentration in 1000 mg/l	Divide by	Range of concentration in 1000 mg/l	Divide by	Range of concentration in 100 mg/l	Divide by
0 - 8	1.00	201-217	1.13	411-424	1.26	619-634	1.39
8.05- 24	1.01	218-232	1.14	427-440	1.27	636-650	1.40
24.2 - 40	1.02	234-248	1.15	443-457	1.28	652-666	1.41
40.5 - 56	1.03	250-264	1.16	460-473	1.29	668-682	1.42
56.5 - 72	1.04	266-280	1.17	476-489	1.30	684-698	1.43
72.5 - 88	1.05	282-297	1.18	492-506	1.31	700-715	1.44
88.5 -104	1.06	299-313	1.19	508-522	1.32	717-730	1.45
105 -120	1.07	315-329	1.20	524-538	1.33	732-747	1.46
121 -136	1.08	331-345	1.21	540-554	1.34	749-762	1.47
137 -152	1.09	347-361	1.22	556-570	1.35	765-780	1.48
153 -169	1.10	363-378	1.23	572-585	1.36	782-796	1.49
170 -185	1.11	380-393	1.24	587-602	1.37	798-810	1.50
186 -200	1.12	395-409	1.25	604-617	1.38		

*Based on water density of 1.000 g/ml and a specific gravity of sediment of 2.65.

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 - 2.0	Sedimentation or sieve.
Gravel.....	2.0 - 64.0	Sieve.

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic 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 (Guy, 1969).

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, weight, or volume.

Periphyton is the assemblage of microorganisms attached to and growing upon solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton is a useful indicator of water quality.

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

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

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

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

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 per millilitre (cells/ml).

Sediment is solid material that originates mostly from disintegrated rocks and is transformed 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 discharge 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 by volume, that is discharged in a given time. It is computed by multiplying discharge times mg/l times 0.0027.

Total sediment discharge or total sediment load is the sum of the suspended-sediment discharge and the bedload discharge. It is the total quantity of sediment, as measured by dry weight or volume, that is discharged during a given time (Colby and Hembree, 1955).

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 litre of water-sediment mixture (mg/l).

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

Sodium adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions with soil and is an index of sodium or alkali hazard to the soil. This ratio should be known especially for water used for irrigating farmland.

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 and is expressed in micromhos per centimetre at 25°C. Because the specific conductance is related to the number and specific chemical types of ions in solution, it can be used for approximating the dissolved-solids content in the water. Commonly, the amount of dissolved solids (in milligrams per litre) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream or from well to well, and it may even vary in the same source with changes in the composition of the water.

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

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." Streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

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

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The use of artificial substrates 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.

Thermograph is a thermometer that continuously and automatically records, on a chart, the water temperature of a stream. "Temperature recorder" is the term used to indicate the location of the thermograph or a digital mechanism that automatically records water temperature on paper tape.

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 water year.

Tons per acre-foot indicates the dry weight of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration in milligrams per litre by 0.00136.

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

Total (as used in tables of chemical analyses) refers to the amount of a substance that is present both in solution and in suspension. Analyses are performed on representative samples of water-suspended sediment mixtures.

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. See also table for converting English Units to International Units (SI) on page 31.

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

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

SPECIAL NETWORKS AND PROGRAMS

Some of the stations for which data are published in this report are included in special networks and programs. These stations are identified by their title, set in parentheses, under the station name.

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 is an accounting 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 in the network design. Areal configuration of the network is based on river-basin accounting units 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 water-quality conditions nationwide on a year-to-year basis and (2) to detect and assess long-term changes in stream quality.

Pesticide program is a network of regularly sampled water-quality stations where additional monthly samples are collected to determine the concentration and distribution of pesticides in streams whose waters are used for irrigation or in streams in areas where potential contamination could result from the application of the commonly used insecticides and herbicides.

Pesticides are chemical compounds used to control the growth of undesirable plants and animals. Major categories of pesticides includes insecticides, miticides, fungicides, herbicides, and rodenticides. Since the first application of DDT as an insecticide in the early 1930's, there have been almost 60,000 pesticide formulations registered, each containing at least one of the approximately 800 different basic pesticide compounds (Goerlitz and Brown, 1972, p. 24). The United States annually produces about 1 billion pounds of these compounds. Although efforts are being made to substitute many of the chlorinated hydrocarbon pesticides with more specific, fast-acting, and easily degradable compounds, chlorinated hydrocarbon pesticides are still commonly used in many areas of the country.

Radiochemical program is a network of regularly sampled water-quality stations where additional samples are collected twice a year (at high and low flow) to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Radioisotopes are isotope forms of an element that exhibit radioactivity. Isotopes are varieties of a chemical element that differ in atomic weight, but are very nearly alike in chemical properties. The difference arises because the atoms of the isotopic forms of an element differ in the number of neutrons in the nucleus. For example: Ordinary chlorine is a mixture of isotopes having atomic weights 35 and 37, with the natural mixture having atomic weight about

35.453. Many of the elements similarly exist as mixtures of isotopes, and a great many new isotopes have been produced in the operation of nuclear devices such as the cyclotron (Rose, 1966). There are 275 isotopes of the 81 stable elements in addition to over 800 radioactive isotopes.

Radioisotopes that are determined in this program are those of uranium in micrograms per litre, radium as radium-226 in picocuries per litre, gross beta radiation as strontium/yttrium-90 in picocuries per litre, and gross alpha radiation as micrograms of uranium equivalent per litre.

A 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).

DOWNSTREAM ORDER AND STATION NUMBER

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

As an added means of identification, each gaging station, partial-record station, and water-quality 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 and continuous-record stations; therefore, the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Water-quality stations located at or near gaging stations or partial-record stations have the same number as the gaging or partial-record station. Gaps are left in the numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station, such as 06476000 which appears just to the left of the station name includes the 2-digit part number "06" plus the 6-digit downstream order number "476000." In this report, the records are listed in downstream order by parts. The part number refers to an area whose boundaries coincide with certain natural drainage lines. Records in this report are in

Part 5 (Hudson Bay and Upper Mississippi River basin) and Part 6 (Missouri River basin). All records for a drainage basin encompassing more than one State could be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

Miscellaneous 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 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 is a sequential number for wells within a 1-second grid. In the event that the latitude-longitude coordinates for a well and a miscellaneous site are the same, assign sequential numbers "01," "02," etc. as one would for wells. See figure 5 below.

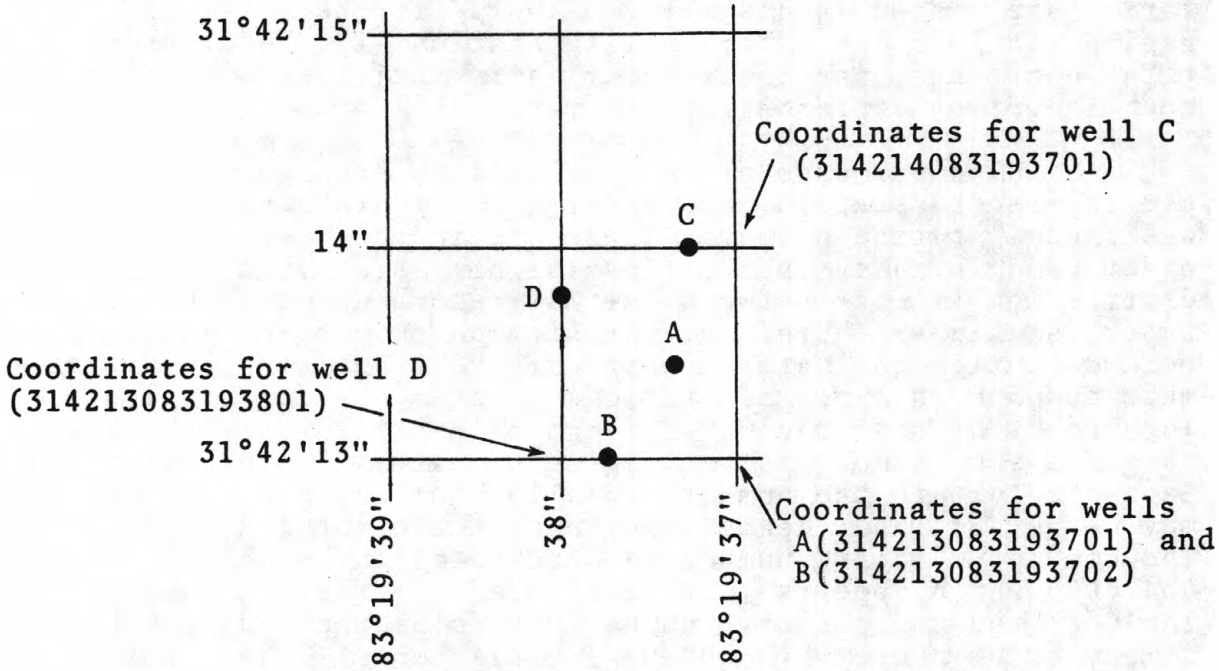

Figure 5. System for numbering wells and miscellaneous sites (latitude and longitude)

EXPLANATION OF SURFACE WATER 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 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 15-, 30- or 60-minute intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in standard textbooks, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6. Surface areas of lakes or reservoirs are determined from instrument surveys using standard methods. The configuration of the reservoir bottom is determined by sounding at many points.

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

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

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

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

The data in this report generally comprise a description of the station and tabulations of 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. A calendar for the current water year is shown on the reverse side of the front cover to facilitate finding the day of the week for any date.

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

it is given separately. Information pertaining to the accuracy of the discharge records, to conditions that affect the natural flow at the gaging station, and availability of Water Quality records, is given under "REMARKS;" for reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir, is also given under "REMARKS."

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

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

Skeleton capacity tables are published for all reservoirs for which records of contents are published on a daily basis.

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

Footnotes to the table of daily discharges 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-discharge 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.

Peak discharges and their times of occurrence and corresponding gage heights for many stations are listed below the yearly summary. All independent peaks above the selected base are given. The base discharge, which is given in parentheses, is selected so that an average of about three peaks a year can be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subjected 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.

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 are given in a table at the end of the surface-water records in this report.

Accuracy of data

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

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

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

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, 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.

Publications

In each water-supply paper entitled, "Surface Water Supply of the United States" there is a list of numbers of preceding water-supply papers containing streamflow information for the area covered by that report. In addition, there is a list of numbers of water-supply papers containing detailed information on major floods in the area. Records for stations in South Dakota for the period October 1960 to September 1970 are in Water-Supply Papers 1913, 1914, 1917, 2113, 2114, and 2117.

Two series of summary reports entitled, "Compilation of Records of Surface Waters of the United States" have been published; the first series covers the entire period of record through September 1950 and the second series covers the period October 1950 to September 1960. These reports contain summaries of monthly and annual discharge and month-end storage for all previously published records, as well as some records not contained in the annual series of water-supply papers. All records were reexamined and revised where warranted. Estimates of discharge were made to fill short gaps whenever practical. The yearly summary table for each gaging station lists the numbers of the water-supply papers in which daily records were published for that station. Records for stations in South Dakota are compiled in Water-Supply Papers 1308 and 1309 through September 1950, and in 1728 and 1729 for October 1950 to September 1960.

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

Other data available

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

EXPLANATION OF WATER QUALITY RECORDS

Collection and examination of data

Water samples for analyses usually are collected at or near gaging stations. The discharge records at these stations are used in conjunction with the computations of the chemical constituents and sediment loads in this report.

Descriptive statements are given for water-quality stations located at or near streamflow stations. Given are location, drainage area, periods of record for the various water-quality data, extremes of pertinent data, and general remarks, in a format similar to that used for streamflow gaging stations. For ground-water stations, 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-quality information is presented for chemical, biological, and microbiological quality, water temperature, and fluvial sediment. Chemical quality includes concentrations of individual dissolved constituents and certain properties or characteristics such as hardness, sodium-adsorption-ratio, specific conductance, and pH. The biological information includes qualitative and quantitative analyses of plankton, bottom organisms, and particulate inorganic and amorphous matter present. Microbiological information includes quantitative identification of certain bacteriological indicator organisms. Water-temperature data represent once-daily observations except for stations where a continuous temperature recorder (thermograph) furnished information from which daily minimums and maximums are obtained. Fluvial-sediment information is given for suspended-sediment discharges and concentrations and for particle-size distribution of suspended sediment and bed material.

Prior to the 1968 water year, data for chemical constituents and concentration of suspended sediment were reported in parts per million (ppm) and water temperatures were reported in degrees Fahrenheit (°F). In October 1967 the U.S. Geological Survey began reporting data for chemical constituents and concentrations of suspended sediment in milligrams per litre (mg/l) and water temperatures in degrees Celsius (°C). In waters with a density of 1.000 g/ml (grams per millilitre), parts per million and milligrams per litre can be considered equal. In waters greater than 1.000 g/ml, values in parts per million should be multiplied by the density to convert to milligrams per litre. Temperatures reported in degrees Celsius may be converted to degrees Fahrenheit by using table 3, p. 24.

In October 1968, the Geological Survey began reporting many of the chemical constituents as well as the minor elements in micrograms per litre instead of milligrams per litre. (See "Definition of Terms," p. 6 and table for converting English Units to SI Units, p. 31.

Solutes

Most methods for collecting and analyzing water samples to determine the kinds and concentrations of solutes are described by Brown, Skougstad, and Fishman. The method for determining elemental constituents by emission spectrographic techniques is described by Barnett and Mallory. Analysis of pesticides, herbicides, and organic substances in water are

described by Goerlitz and Lamar, Lamar, Goerlitz, and Law, and Goerlitz and Brown. The collection and analysis of aquatic, biological and microbiological samples are described by Slack and others.

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 the 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.

Ground-water quality normally does not change significantly during short periods of time; infrequent sampling and analysis of ground water adequately define ground-water quality at a given site. Water samples from wells are analyzed individually.

Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for surface-water stations. For daily stations, the water temperatures are taken about the same time each day when sample is collected. Large streams have a small diurnal temperature change while small, 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 continuously recording thermographs are present, the records consist of maximum and minimum temperatures for each day and the monthly averages.

Table 3.--Degrees Celsius (°C) to degrees Fahrenheit (°F)*
(Temperature reported to nearest 0.5°C)

°C	°F	°C	°F	°C	°F	°C	°F	°C	°F
0.0	32	10.0	50	20.0	68	30.0	86	40.0	104
.5	33	10.5	51	20.5	69	30.5	87	40.5	105
1.0	34	11.0	52	21.0	70	31.0	88	41.0	106
1.5	35	11.5	53	21.5	71	31.5	89	41.5	107
2.0	36	12.0	54	22.0	72	32.0	90	42.0	108
2.5	36	12.5	54	22.5	72	32.5	90	42.5	108
3.0	37	13.0	55	23.0	73	33.0	91	43.0	109
3.5	38	13.5	56	23.5	74	33.5	92	43.5	110
4.0	39	14.0	57	24.0	75	34.0	93	44.0	111
4.5	40	14.5	58	24.5	76	34.5	94	44.5	112
5.0	41	15.0	59	25.0	77	35.0	95	45.0	113
5.5	42	15.5	60	25.5	78	35.5	96	45.5	114
6.0	43	16.0	61	26.0	79	36.0	97	46.0	115
6.5	44	16.5	62	26.5	80	36.5	98	46.5	116
7.0	45	17.0	63	27.0	81	37.0	99	47.0	117
7.5	45	17.5	63	27.5	81	37.5	99	47.5	117
8.0	46	18.0	64	28.0	82	38.0	100	48.0	118
8.5	47	18.5	65	28.5	83	38.5	101	48.5	119
9.0	48	19.0	66	29.0	84	39.0	102	49.0	120
9.5	49	19.5	67	29.5	85	39.5	103	49.5	121

*C = 5/9 (°F - 32) or °F = 9/5 (°C) + 32.

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 sub-divided 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 sub-divided day method. For periods when no samples are collected, daily loads of suspended sediment are 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 are collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observation, 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 periodic measurements of the particle-size distribution of the suspended sediment and bed material are included.

Publications

The annual series of water-supply papers that contain information on quality of surface waters in South Dakota are listed below.

Year	Parts 5-6	Year	Parts 5-6
1947	1102	1968	B2094
1948	1132		C2095
1949	1162	1969	B2144
1950	1187		C2145
1951	1198	1970	B2154
1952	1251		C2155
1953	1291	1971	AB2164
1954	1351		AC2165
1955	1401	1972	D
1956	1451	1973	D
1957	1521	1974	D
1958	1572		
1959	1643		
1960	1743		
1961	1883		
1962	1943		
1963	1949		
1964	1956		
1965	1963		
1966	1993		
1967	2013		

A In press.
B Part 5.
C Part 6.
D Not assigned.

EXPLANATION OF GROUND-WATER LEVEL RECORDS

Collection of the data

Only ground-water level data from a basic national network of observation wells are published herein. These water-level measurements are intended to provide a sampling and historical record of water-level changes in the nation's most important aquifers.

Each well is identified by means of (1) a 15-digit number that is based on the grid system of latitude and longitude as shown in figure 5, and (2) a local number that is provided for continuity with older reports and for other use as dictated by local needs.

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

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. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (eom).

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

Publications

Publication of ground-water level data for the United States in Water-Supply Papers was begun by the Geological Survey in 1935. From 1935 through 1939, a single Water-

Supply Paper for each year covering the entire nation was issued (Water-Supply Papers 777, 817, 840, 845, and 886). From 1940 through 1974, separate Water-Supply Papers were issued for 6 sections of the United States. Water-level data for South Dakota are in the Water-Supply Papers listed below, each report containing one or more calendar years (January-December) of data. Data in this report are for the 12-month water year ending September 30.

Calendar year	WSP No.	Calendar year	WSP No.	Calendar year	WSP No.	Calendar year	WSP No.
1935	777	1942	946	1949	1158	1956	1456
1936	817	1943	988	1950	1167	1957-61	1781
1937	840	1944	1018	1951	1193	1962-66	1976
1938	845	1945	1025	1952	1223	1967-71	2090
1939	886	1946	1073	1953	1267		
1940	908	1947	1098	1954	1323		
1941	938	1948	1128	1955	1406		

Information about reports and other data on ground water in South Dakota may be obtained from the district office, at the address given on the back of the title page.

HYDROLOGIC CONDITIONS

Combined storage in the four Missouri River main-stem reservoirs (Lakes Oahe, Sharpe, Francis Case, and Lewis and Clark) was 26,584,000 acre-feet at the end of the water year, an increase of 3,030,000 acre-feet from the corresponding date a year ago.

Combined storage in the other major reservoirs (Shadehill, Angostura, Deerfield, and Belle Fourche) was 249,100 acre-feet, an increase of 37,400 acre-feet from the same date a year ago.

Streamflow for the period March through June was generally greater than the median for the base period 1936-60 for portions of the State west of the Missouri River but was below median for all of the State east of the River.

A comparison of monthly and yearly mean discharges with the median discharge for the 30-year base period (1931-60) for two key gaging stations is shown in figure 6.

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Table 4.--Factors for converting English units to International System (SI) units

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
	Length	
feet (ft)	.3048	metres (m)
miles (mi)	1.609	kilometres (km)
	Area	
acres	4047	square metres (m^2)
	.4047	*hectares (ha)
	.4047	square hectometre (hm^2)
	.004047	square kilometres (km^2)
square miles (mi^2)	2.590	square kilometres (km^2)
	Volume	
cubic feet (ft^3)	28.32	cubic decimetres (dm^3)
	.02832	cubic metres (m^3)
cfs-day (ft^3/s-day)	2447	cubic metres (m^3)
	.002447	cubic hectometres (hm^3)
acre-feet (acre-ft)	1233	cubic metres (m^3)
	.001233	cubic hectometres (hm^3)
	.000001233	cubic kilometres (km^3)
	Flow	
cubic feet per second (ft^3/s)	28.32	litres per second (l/s)
	28.32	cubic decimetres per second (dm^3/s)
	.02832	cubic metres per second (m^3/s)

*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.

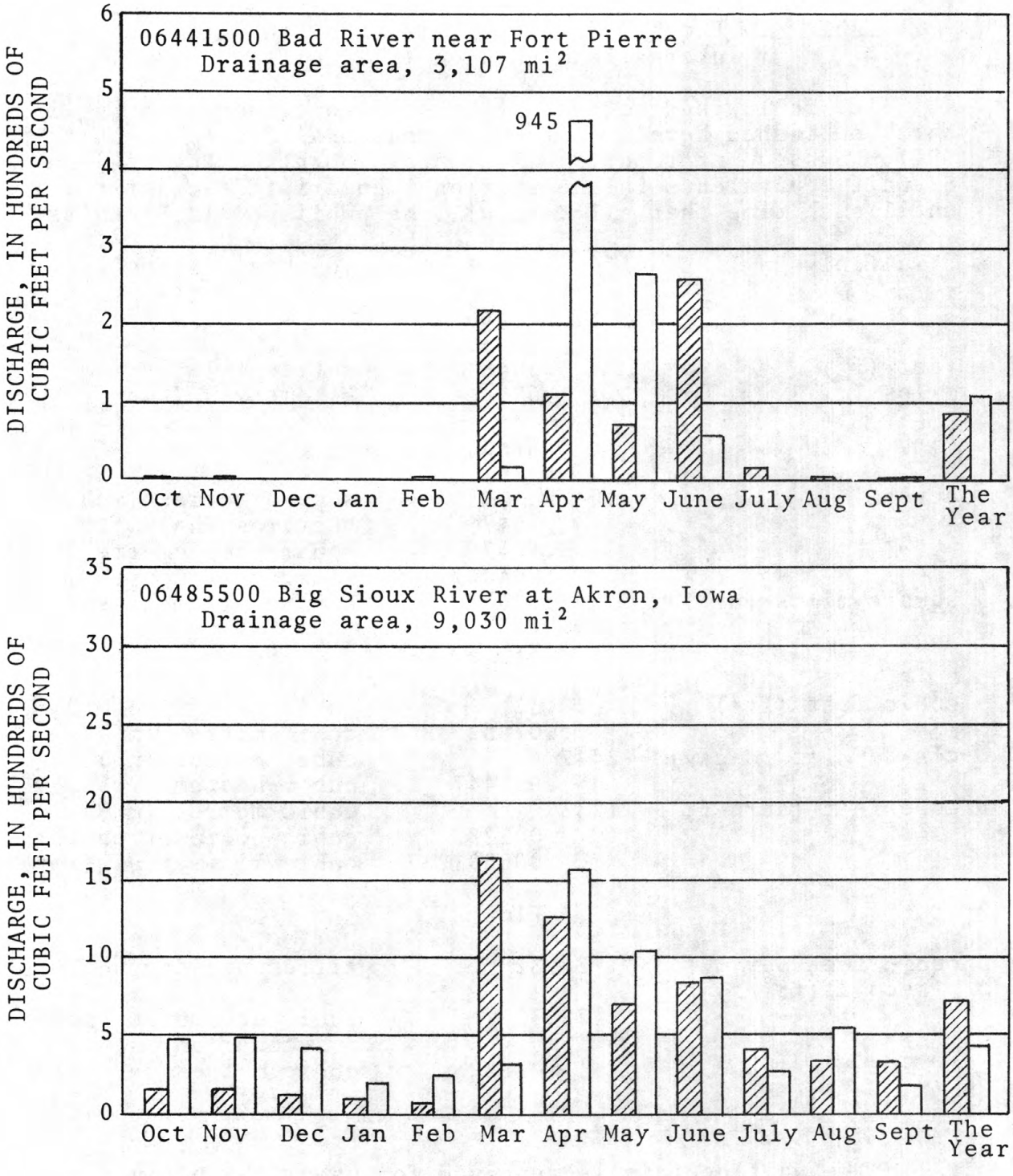

FIGURE 5.--RUNOFF DURING 1975 WATER YEAR COMPARED WITH MEDIAN RUNOFF FOR PERIOD 1931-60 FOR TWO REPRESENTATIVE GAGING STATIONS.

SECTION 1. SURFACE-WATER RECORDS

06334500 LITTLE MISSOURI RIVER AT CAMP CROOK, S. DAK.

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

DRAINAGE AREA.--1,970 mi^2 (5,100 km^2), approximately.

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

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.

AVERAGE DISCHARGE.--22 years, 137 ft^3/s (3.880 m^3/s), 99,260 acre-ft/yr (122 hm^3/yr); median of yearly mean discharges, 120 ft^3/s (3.40 m^3/s), 86,900 acre-ft/yr (110 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 8,460 ft^3/s (240 m^3/s) May 7, gage height, 13.98 ft (4.261 m); maximum gage height, 14.43 ft (4.398 m) Mar. 20 (backwater from ice); minimum daily discharge, 0.25 ft^3/s (0.007 m^3/s) Jan. 11.

Period of record: Maximum discharge, 8,460 ft^3/s (240 m^3/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.

Flood of 1952 reached a stage of about 16 ft (4.9 m), from information by local residents.

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

REVISIONS (WATER YEARS).--WSP 1309: 1904. WSP 1729: Drainage area.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	17	2.0	2.0	1.4	1.8	175	432	194	800	12	4.9
2	1.7	7.1	3.3	1.8	1.4	1.8	200	569	176	750	11	4.7
3	1.7	5.6	3.0	1.9	1.4	1.8	225	659	140	600	9.4	4.8
4	1.7	12	3.0	1.9	1.2	2.0	250	734	120	400	10	4.8
5	1.8	26	3.0	1.9	1.0	2.0	256	747	100	150	9.6	4.7
6	1.8	18	3.3	1.9	1.0	2.0	333	2080	90	80	9.3	4.9
7	1.7	13	3.0	1.9	1.0	1.5	653	7600	85	55	11	4.5
8	1.7	9.3	3.5	1.0	.80	1.0	861	4780	100	60	9.3	4.5
9	1.7	6.7	4.0	.50	.50	1.0	864	2680	150	50	7.3	4.5
10	1.7	6.0	4.0	.30	.60	1.0	1130	2150	200	42	9.0	4.4
11	1.6	4.9	3.5	.25	1.0	1.0	929	2010	150	37	8.1	3.7
12	1.6	4.4	3.0	.30	1.0	1.0	842	1740	100	33	8.0	4.0
13	1.7	4.0	2.5	1.0	1.0	1.2	727	1310	130	34	8.2	4.0
14	1.8	4.0	2.7	1.5	1.0	2.0	655	1050	120	31	6.4	4.1
15	1.7	4.0	2.0	1.3	1.0	5.0	692	836	100	31	7.7	3.8
16	1.7	4.5	2.2	1.0	1.0	20	525	544	90	34	7.6	3.5
17	1.7	4.7	2.3	1.5	1.0	50	458	363	85	30	6.9	3.9
18	1.7	4.3	2.3	1.5	1.2	60	517	280	150	26	6.7	4.5
19	2.3	4.4	2.3	1.3	1.5	100	756	223	130	22	5.7	4.6
20	8.5	3.7	2.0	1.5	1.5	200	688	193	110	20	8.7	4.5
21	2.9	4.2	2.0	1.5	1.5	300	779	189	100	19	8.4	4.4
22	2.3	4.0	2.0	1.7	1.3	250	745	217	90	17	8.3	3.9
23	2.0	3.6	1.8	1.8	1.5	250	509	497	90	16	8.4	4.3
24	2.3	3.6	1.5	2.0	2.5	200	452	1200	80	16	8.3	4.0
25	2.6	3.5	1.7	1.8	2.0	180	454	1130	300	14	7.9	3.9
26	2.3	3.5	2.0	1.6	1.8	150	404	966	500	10	8.2	4.7
27	2.3	3.0	1.8	1.5	2.0	125	367	687	800	11	7.7	4.5
28	2.3	2.5	2.0	1.5	2.0	100	355	391	800	10	7.5	4.6
29	2.3	2.0	2.0	1.5	---	100	334	276	1000	13	6.7	4.5
30	2.9	2.0	2.0	1.4	---	120	307	228	1100	18	6.4	3.7
31	20	---	2.2	1.4	---	140	---	201	---	15	7.0	---
TOTAL	85.6	195.5	77.9	43.95	36.10	2371.1	16442	36962	7380	3444	256.7	129.8
MEAN	2.76	6.52	2.51	1.42	1.29	76.5	548	1192	246	111	8.28	4.33
MAX	20	26	4.0	2.0	2.5	300	1130	7600	1100	800	12	4.9
MIN	1.6	2.0	1.5	.25	.50	1.0	175	189	80	10	5.7	3.5
AC-FT	170	388	155	87	72	4700	32610	73310	14640	6830	509	257

CAL YR 1974 TOTAL 15018.95 MEAN 41.2 MAX 872 MIN .80 AC-FT 29800
WTR YR 1975 TOTAL 67424.65 MEAN 185 MAX 7600 MIN .25 AC-FT 133700

PEAK DISCHARGE (BASE, 1,000 FT^3/S)

DATE	TIME	G.H.	DISCHARGE
4-10	0615	5.16	1,230
5- 7	1200	13.98	8,460
5-24	1600	5.53	1,370
6-30	--	--	1,500

06354860 SPRING CREEK NEAR HERREID, S. DAK.

LOCATION.--Lat 45°48'52", long 100°06'28", in SW¼ sec.13, T.127 N., R.77 W., Campbell County, 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 mi^2 (1,140 km^2), approximately, of which about 220 mi^2 (570 km^2) 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.

AVERAGE DISCHARGE.--13 years, 9.73 ft^3/s (0.276 m^3/s), 7,050 acre-ft/yr (8.69 hm^3/yr); median of yearly mean discharges, 5.2 ft^3/s (0.15 m^3/s), 3,800 acre-ft/yr (4.69 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 216 ft^3/s (6.12 m^3/s) Apr. 19; maximum gage height, 7.27 ft (2.216 m) Apr. 17 (backwater from ice); no flow for many days.

Period of record: Maximum discharge, 1,160 ft^3/s (32.9 m^3/s) Mar. 17, 1966, gage height, 11.60 ft (3.536 m); no flow for long periods each year.

REMARKS.--Records fair.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							0	23	1.1	1.2		
2							0	17	.96	.90		
3							0	14	.90	.96		
4							0	12	.72	.72		
5							0	11	.60	.34		
6							0	11	.60	.19		
7							0	26	.60	.16		
8							0	13	.72	.08		
9							0	10	2.9	.04		
10							0	9.6	4.2	.04		
11							0	13	12	.04		
12							2.0	24	9.0	.04		
13							5.0	15	7.6	.04		
14							30	8.2	6.4	.03		
15							100	5.7	6.0	0		
16							150	4.5	4.4	0		
17							180	3.5	3.4	0		
18							200	3.2	2.5	0		
19							171	3.2	4.0	0		
20							108	3.5	3.8	0		
21							88	3.0	2.6	0		
22							70	2.5	5.2	0		
23							63	2.6	10	0		
24							63	3.6	12	0		
25							57	3.6	11	0		
26							50	2.8	8.2	0		
27							42	2.5	6.0	0		
28							34	2.3	3.7	0		
29					---		29	2.1	2.6	0		
30					---		28	1.7	2.0	0		
31		---			---		---	1.4	---	0		---
TOTAL	0	0	0	0	0	0	1470.0	258.5	135.70	4.78	0	0
MEAN	0	0	0	0	0	0	49.0	8.34	4.52	.15	0	0
MAX	0	0	0	0	0	0	200	26	12	1.2	0	0
MIN	0	0	0	0	0	0	0	1.4	.60	0	0	0
AC-FT	0	0	0	0	0	0	2920	513	269	9.5	0	0

CAL YR 1974 TOTAL 1784.33 MEAN 4.89 MAX 150 MIN 0 AC-FT 3540
WTR YR 1975 TOTAL 1868.98 MEAN 5.12 MAX 200 MIN 0 AC-FT 3710

PEAK DISCHARGE (BASE, 40 FT^3/S).--Apr. 19 (0700) 216 ft^3/s (7.10 ft).

06355500 NORTH FORK GRAND RIVER NEAR WHITE BUTTE, S. DAK.

LOCATION.--Lat 45°48'10", long 102°21'45", in NE¼NE¼ sec.10, T.21 N., R.14 E., Perkins County, on left bank 100 ft (30 m) upstream from highway bridge, 0.2 mi (0.3 km) upstream from nearest tributary and 9.8 mi (15.8 km) south of White Butte.

DRAINAGE AREA.--1,190 mi^2 (3,080 km^2), 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 2,275 ft (693 m), by barometer. See WSP 1917 for changes prior to June 11, 1951.

AVERAGE DISCHARGE.--30 years, 56.8 ft^3/s (1.609 m^3/s), 41,150 acre-ft/yr (50.7 hm^3/yr); median of yearly mean discharges, 35 ft^3/s (0.99 m^3/s), 25,400 acre-ft/yr (31.3 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,310 ft^3/s (37.1 m^3/s) May 11, gage height, 6.14 ft (1.871 m); no flow Oct. 1-23.

Period of record: Maximum discharge, 30,900 ft^3/s (875 m^3/s) Apr. 16, 1950, gage height, 20.0 ft (6.10 m), from floodmarks, from rating curve extended above 19,000 ft^3/s (538 m^3/s) on basis of slope-area measurement of peak flow; no flow at times.

REMARKS.--Records good except those for winter periods, which are poor. Flow regulated by Bowman-Haley reservoir, capacity, 93,000 acre-ft (115 hm^3), 71 mi (114 km) upstream, beginning August 1966.

REVISIONS (WATER YEARS).--WSP 1279: 1947, 1950.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	4.1	3.0	3.5	.50	2.0	5.0	438	98	57	1.1	1.0
2	0	4.6	3.0	3.0	1.0	2.0	6.5	386	91	56	1.3	1.5
3	0	5.3	3.0	2.7	.90	2.0	6.0	354	86	53	1.7	2.0
4	0	5.4	3.5	2.5	.80	2.1	6.0	309	78	54	1.8	2.5
5	0	5.4	4.0	2.3	.70	2.0	6.0	265	68	51	1.8	2.0
6	0	5.7	5.0	2.0	.50	2.0	6.0	244	62	50	1.4	1.0
7	0	5.4	6.0	2.0	.40	1.8	6.5	265	56	47	1.4	.50
8	0	5.4	6.5	1.8	.30	1.6	8.0	832	54	43	1.3	.30
9	0	5.7	7.0	1.3	.20	1.4	10	551	56	38	1.2	.25
10	0	5.4	7.0	1.0	.80	1.0	12	701	62	32	1.0	.21
11	0	5.4	6.0	.30	1.0	1.0	14	1,210	60	27	.78	.21
12	0	5.4	6.0	.30	1.0	1.0	30	1,010	57	23	.86	.21
13	0	5.2	5.0	.40	1.0	1.5	20	970	64	19	.94	.21
14	0	5.0	5.0	.50	1.0	2.0	24	770	58	16	1.0	.21
15	0	5.0	5.0	.50	1.0	2.2	28	596	58	14	1.0	.14
16	0	5.0	5.5	.50	1.0	2.5	29	481	62	13	1.0	.07
17	0	5.5	6.0	.70	1.2	2.7	49	412	62	12	1.0	.07
18	0	5.9	6.0	.70	1.2	3.0	54	334	63	12	1.0	.14
19	0	5.9	6.0	.60	1.5	3.2	143	291	82	9.6	.94	.14
20	0	5.9	5.5	.80	2.0	3.5	196	256	88	8.9	.86	.14
21	0	5.9	5.0	.80	2.0	3.0	209	231	85	8.2	.90	.14
22	0	6.1	5.0	1.0	2.0	3.0	198	215	90	5.7	.90	.14
23	0	5.8	4.5	1.5	2.0	2.5	179	202	91	5.7	.90	.14
24	.21	5.8	4.0	1.5	2.0	2.0	161	198	83	3.8	.90	.14
25	.28	5.5	4.0	1.5	2.0	1.8	148	211	72	4.8	.80	.14
26	.49	5.6	4.5	1.3	1.7	1.8	140	187	72	4.9	.80	.14
27	.56	5.0	5.0	1.0	2.0	1.8	121	165	69	3.1	.80	.42
28	1.1	4.5	5.0	.80	2.0	1.8	175	150	64	2.0	.80	.42
29	1.6	4.0	4.0	.70	------	2.0	648	130	62	2.8	.90	.42
30	2.3	3.5	4.5	.60	------	4.0	793	116	68	1.9	.90	.56
31	3.6	------	3.5	.50	------	4.5	------	106	------	2.0	.90	------
TOTAL	10.14	158.3	153.0	38.60	33.70	68.7	3,431.0	12,586	2,121	680.4	32.88	15.46
MEAN	.33	5.28	4.94	1.25	1.20	2.22	114	406	70.7	21.9	1.06	.52
MAX	3.6	6.1	7.0	3.5	2.0	4.5	793	1,210	98	57	1.8	2.5
MIN	0	3.5	3.0	.30	.20	1.0	5.0	106	54	1.9	.78	.07
AC-FT	20	314	303	77	67	136	6,810	24,960	4,210	1,350	65	31

CAL YR 1974 TOTAL 5,801.88 MEAN 15.9 MAX 100 MIN 0 AC-FT 11,510
WTR YR 1975 TOTAL 19,329.18 MEAN 53.0 MAX 1,210 MIN 0 AC-FT 38,340

06356000 SOUTH FORK GRAND RIVER AT BUFFALO, S. DAK.

LOCATION.--Lat 45°34'34", long 103°32'38", in SW¼ sec.29, T.19 N., R.5 E., Harding County, 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 mi^2 (383 km^2).

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.

AVERAGE DISCHARGE.--20 years, 8.21 ft^3/s (0.233 m^3/s), 5,950 acre-ft/yr (7.34 hm^3/yr); median of yearly mean discharges, 6.7 ft^3/s (0.19 m^3/s), 4,900 acre-ft/yr (6.04 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 994 ft^3/s (28.2 m^3/s) June 26, gage height, 7.14 ft (2.176 m); minimum daily, 0.40 ft^3/s (0.011 m^3/s) Jan. 11, Sept. 28.

Period of record: Maximum discharge, 2,780 ft^3/s (78.7 m^3/s) June 14, 1963, gage height, 9.01 ft (2.746 m), from rating curve extended above 550 ft^3/s (15.6 m^3/s) on basis of slope-area measurement of peak flow; no flow at times in 1956-58, 1960, 1962, 1965, 1972.

Flood in 1908 reached a stage of 15.4 ft (4.69 m), from information by South Dakota Department of Highways.

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

REVISIONS (WATER YEARS).--WSP 1917: 1956-57.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	25	1.6	1.5	1.4	7.0	.50	20	5.9	63	1.9	1.7
2	2.1	6.6	2.0	1.3	1.4	6.5	.50	8.4	7.8	14	1.4	1.5
3	2.0	4.4	2.0	1.4	1.5	6.5	1.0	3.9	5.4	8.1	1.2	1.5
4	2.0	3.2	2.0	1.3	1.3	7.0	2.0	2.5	4.2	5.7	.97	1.5
5	2.2	2.8	2.0	1.3	1.0	7.0	3.0	2.9	3.6	4.8	.71	1.2
6	2.3	2.6	2.3	1.3	1.2	7.0	5.0	399	3.0	4.6	1.4	1.2
7	2.3	2.4	2.1	1.1	1.2	6.0	10	137	2.8	4.8	1.9	1.1
8	2.2	2.4	2.0	.90	1.0	5.0	163	350	5.3	4.2	2.0	1.1
9	2.2	2.6	2.5	.70	1.0	4.0	265	363	10	2.8	2.1	.90
10	2.1	2.1	3.0	.50	1.2	4.0	177	153	5.5	2.2	1.9	.97
11	1.9	2.1	3.0	.40	1.3	4.0	157	43	6.4	2.6	1.9	.97
12	1.8	1.9	2.8	.50	1.2	4.0	138	16	4.2	2.6	1.9	.97
13	1.9	3.8	2.6	.70	1.2	4.5	87	8.8	4.2	2.4	3.6	.88
14	1.6	5.7	2.6	.80	1.2	5.0	96	6.3	3.4	2.2	2.7	.80
15	1.6	2.6	2.3	.70	1.2	6.0	141	5.6	3.4	2.1	3.3	.80
16	1.6	4.6	2.3	.60	1.2	10	59	5.3	3.4	2.1	2.9	.72
17	1.6	4.6	2.4	.80	1.2	15	63	4.7	3.0	2.1	5.4	.76
18	1.5	3.0	2.4	1.0	1.4	20	38	4.2	2.4	2.7	3.7	.83
19	1.5	1.7	2.2	1.0	1.5	30	25	4.0	15	3.2	3.2	.75
20	1.5	1.7	2.0	1.2	1.5	30	29	12	19	2.9	2.9	.64
21	1.7	1.7	1.8	1.0	1.5	18	33	17	5.7	2.2	2.6	.56
22	1.7	1.5	1.8	1.3	1.6	20	30	30	4.8	2.7	2.4	.56
23	1.7	4.6	1.5	1.8	2.0	18	72	50	6.4	2.3	2.2	.48
24	1.7	3.2	1.0	2.0	2.5	15	37	14	9.9	2.1	2.1	.48
25	1.7	3.0	1.2	2.0	4.0	10	18	8.0	8.1	2.1	1.9	.48
26	1.7	2.6	1.2	1.9	5.0	5.0	14	5.7	410	2.2	1.9	.42
27	1.7	2.5	1.1	1.8	5.5	1.0	8.8	5.2	100	1.7	2.2	.43
28	1.7	2.0	1.2	1.7	6.0	.50	9.9	5.7	15	1.6	2.4	.40
29	1.7	1.7	1.2	1.7	---	.50	248	5.2	5.3	1.1	2.1	.44
30	2.1	1.5	1.6	1.6	---	1.0	38	5.0	47	.92	1.9	.42
31	82	---	1.5	1.5	---	1.0	---	5.0	---	1.6	1.7	---
TOTAL	137.3	110.1	61.2	37.30	53.2	278.50	1968.70	1700.4	730.1	159.62	70.38	25.46
MEAN	4.43	3.67	1.97	1.20	1.90	8.98	65.6	54.9	24.3	5.15	2.27	.85
MAX	82	25	3.0	2.0	6.0	30	265	399	410	63	5.4	1.7
MIN	1.5	1.5	1.0	.40	1.0	.50	.50	2.5	2.4	.92	.71	.40
AC-FT	272	218	121	74	106	552	3900	3370	1450	317	140	50

CAL YR 1974 TOTAL 1386.58 MEAN 3.80 MAX 82 MIN .30 AC-FT 2750
WTR YR 1975 TOTAL 5332.26 MEAN 14.6 MAX 410 MIN .40 AC-FT 10580

PEAK DISCHARGE (BASE, 200 FT^3/S)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-31	1730	5.04	228	5- 6	1100	7.02	880
4- 9	--	5.34	280	6-26	1800	7.14	994
4-29	--	6.46	640	6-30	2315	5.25	258

06356500 SOUTH FORK GRAND RIVER NEAR CASH, S. DAK.

LOCATION.--Lat 45°38'56", long 102°38'27", in SW¼SW¼ sec.34, T.20 N., R.12 E., Perkins County, 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 mi^2 (3,500 km^2), 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.

AVERAGE DISCHARGE.--30 years, 55.2 ft^3/s (1.563 m^3/s), 39,990 acre-ft/yr (49.3 hm^3/yr); median of yearly mean discharges, 35 ft^3/s (0.991 m^3/s), 25,400 acre-ft/yr (31.3 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,290 ft^3/s (36.5 m^3/s) May 7, gage height, 4.71 ft (1.436 m); minimum daily, 2.0 ft^3/s (0.057 m^3/s) Jan. 9.

Period of record: Maximum discharge, 27,000 ft^3/s (765 m^3/s) Apr. 15, 1950, gage height, 15.40 ft (4.694 m), from rating curve extended above 14,000 ft^3/s (396 m^3/s) on basis of slope-area measurement of peak flow; no flow at times.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Nov. 13-20, Nov. 24 to Apr. 11)

1.4	5.5	1.7	28	2.2	132	4.0	850
1.5	10	1.9	56	3.0	390	5.0	1,480

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	12	4.0	5.0	2.5	5.0	4.5	354	30	103	9.0	8.5
2	6.5	35	4.0	4.5	3.0	5.0	4.0	226	28	85	10	8.5
3	7.0	51	4.0	5.0	3.0	5.0	4.0	151	28	114	8.0	7.0
4	7.5	26	6.0	4.5	2.6	5.0	5.0	106	28	53	8.5	7.5
5	7.5	20	5.0	5.0	2.4	5.0	10	80	26	38	10	7.5
6	8.0	20	5.0	5.5	2.4	4.0	50	83	24	34	10	6.0
7	8.5	16	4.0	4.5	2.5	4.0	100	790	24	31	8.5	5.5
8	9.0	16	5.0	4.5	2.5	4.0	200	536	22	26	8.0	7.0
9	9.0	14	6.0	4.0	2.0	4.0	300	532	28	24	7.5	7.0
10	9.5	14	6.0	3.0	2.5	4.0	400	502	61	22	6.5	7.5
11	9.5	14	5.0	2.5	3.0	3.5	600	628	116	18	7.0	8.0
12	9.5	10	4.5	2.5	3.0	3.5	850	420	143	18	7.5	8.5
13	9.5	9.0	4.0	3.0	3.0	4.0	888	288	109	18	7.5	8.5
14	10	9.0	4.0	3.5	3.0	5.0	720	216	66	18	7.5	8.5
15	9.5	10	4.0	3.5	3.0	5.0	628	143	48	17	8.0	8.5
16	9.5	11	4.5	3.5	3.0	6.0	628	114	44	16	9.0	8.5
17	8.5	12	5.0	4.0	3.5	6.0	523	98	80	14	10	9.5
18	8.5	13	4.0	4.0	3.5	8.0	312	88	43	18	13	12
19	9.0	13	4.0	3.5	4.0	10	272	73	73	16	13	11
20	8.0	14	3.5	4.0	4.0	10	176	61	156	14	14	11
21	7.5	16	4.0	3.5	4.0	10	159	58	122	15	16	11
22	7.5	18	4.0	4.0	4.0	10	185	88	80	15	14	11
23	7.5	10	3.0	5.0	4.0	9.0	185	151	58	15	13	11
24	7.5	10	2.5	5.0	4.5	7.0	216	188	48	15	12	11
25	7.0	10	3.0	5.0	5.0	5.0	398	135	40	14	9.0	11
26	7.0	12	3.0	4.0	5.0	4.0	174	90	48	12	9.0	11
27	7.0	11	4.5	3.0	5.0	4.0	210	61	130	10	9.0	11
28	7.0	9.0	4.5	2.5	5.0	4.0	222	44	495	9.5	9.0	11
29	7.0	7.0	4.0	2.5	------	4.0	556	36	259	7.5	9.5	10
30	7.0	4.0	4.5	2.5	------	5.0	681	30	132	7.5	9.0	11
31	12	------	4.0	2.5	------	5.0	------	28	------	7.5	9.0	------
TOTAL	255.0	446.0	132.5	119.0	94.9	173.0	9,660.5	6,398	2,589	820.0	301.0	275.0
MEAN	8.23	14.9	4.27	3.84	3.39	5.58	322	206	86.3	26.6	9.71	9.17
MAX	12	51	6.0	5.5	5.0	10	888	790	495	114	16	12
MIN	6.5	4.0	2.5	2.5	2.0	3.5	4.0	28	22	7.5	6.5	5.5
AC-FT	506	885	263	236	188	343	19,160	12,690	5,140	1,640	597	545

CAL YR 1974 TOTAL 8,015.00 MEAN 22.0 MAX 150 MIN .80 AC-FT 15,900
WTR YR 1975 TOTAL 21,268.90 MEAN 58.3 MAX 888 MIN 2.0 AC-FT 42,190

PEAK DISCHARGE (BASE, 500 FT^3/S)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-11	1630	4.18	951	5- 7	1000	4.71	1,290
4-16	1200	3.76	725	5- 9	1200	3.71	700
4-25	0700	3.30	510	6-28	1200	3.74	705
4-29	2100	3.96	829				

06357000 SHADEHILL RESERVOIR AT SHADEHILL, S. DAK.

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

DRAINAGE AREA.--3,120 m^2 (8,080 km^2), approximately.

PERIOD OF RECORD.--June 1950 to current year.

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.

EXTREMES.--Current year: Maximum contents, 88,110 acre-ft (109 hm^3) May 17, 18, elevation, 2,273.35 ft (692.917 m); minimum, 36,712 acre-ft (45.3 hm^3) Feb. 20, elevation, 2,261.78 ft (689.372 m).

Period of record: Maximum usable contents observed, 259,900 acre-ft (320 hm^3) 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 hm^3) Mar. 17, 1962, elevation, 2,258.90 ft (688.51 m).

REMARKS.--Reservoir formed by earthfill dam. Storage began July 1, 1950; dam completed August 1951. Conservation storage, 81,443 acre-ft (100 hm^3) 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 hm^3) below elevation 2,250.8 ft (686.04 m). Flood control, 217,708 acre-ft (268 hm^3) 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 hm^3) at elevation 2,312.0 ft (704.70 m), maximum pool elevation. Total reservoir capacity is 468,585 acre-ft (578 hm^3) 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. Records of chemical analyses for the water year 1975 are published in Section 2 of this report.

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

MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	2,262.77	40,597	-
Oct. 31	2,262.38	39,763	-834
Nov. 30	2,262.34	38,896	-867
Dec. 31	2,262.21	38,386	-510
CAL YR 1974	-	-	-15,734
Jan. 31	2,262.00	37,566	-820
Feb. 28	2,261.83	36,905	-661
Mar. 31	2,262.37	39,014	+2,109
Apr. 30	2,267.01	58,331	+19,317
May 31	2,272.74	85,078	+26,747
June 30	2,271.57	79,355	-5,723
July 31	2,270.80	75,662	-3,693
Aug. 31	2,269.34	68,822	-6,840
Sept.30	2,268.04	62,904	-5,918
WTR YR 1975	-	-	+22,307

06357500 GRAND RIVER AT SHADEHILL, S. DAK.

LOCATION (corrected).--Lat 45°45'25", long 102°11'41", in NW¼NW¼ sec.30, T.21 N., R.16 E., Perkins County, 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.

DRAINAGE AREA.--3,120 mi^2 (8,080 km^2), approximately.

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.--32 years, 119 ft^3/s (3.370 m^3/s), 86,220 acre-ft/yr (106 hm^3/yr); median of yearly mean discharges, 68 ft^3/s (1.93 m^3/s), 49,300 acre-ft/yr (60.8 hm^3/yr).

EXTREMES.--Current year: Maximum daily discharge, 490 ft^3/s (13.9 m^3/s) May 17, maximum gage height, 4.67 ft (1.423 m) May 17; minimum daily discharge, 10 ft^3/s (0.28 m^3/s) Feb. 4, 5.

Period of record: Maximum discharge, 58,000 ft^3/s (1,640 m^3/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.

REMARKS.--Records good. Flow completely regulated by Shadehill Reservoir since July 1, 1950. (See station 06357000.)

REVISIONS (WATER YEARS).--WSP 1279: 1943(M). See also Period of Record.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 23 to June 7; stage-discharge relation affected by ice Dec. 18, 22-25, Jan. 1, 3, 9-14, 27, Feb. 4-10, 12, 13)

2.6	9.2	3.5	117
2.8	20	4.0	270
3.3	76	4.6	490

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	12	13	13	13	13	13	15	419	93	74	79
2	23	12	13	13	13	13	13	16	427	91	76	77
3	23	12	12	13	13	13	13	16	438	93	77	77
4	23	12	13	13	12	12	13	17	427	91	77	77
5	23	12	13	13	11	12	13	18	419	90	77	77
6	23	12	13	13	11	13	13	17	403	90	77	77
7	22	12	13	13	12	13	14	16	411	88	76	76
8	22	12	13	13	12	13	14	15	431	86	76	76
9	21	12	13	13	11	13	13	16	434	83	76	76
10	21	12	13	13	12	13	13	15	388	81	77	76
11	22	12	13	13	13	13	13	15	400	79	77	76
12	22	12	13	13	13	13	13	39	450	76	77	76
13	22	13	13	13	13	13	13	160	450	77	77	76
14	22	12	13	13	13	13	13	310	458	76	77	74
15	19	12	13	13	13	12	13	411	462	74	77	74
16	18	12	13	13	12	12	13	458	225	73	77	74
17	17	12	13	13	12	12	13	490	181	73	77	74
18	13	12	13	13	12	12	13	482	88	73	77	74
19	13	12	13	13	12	12	13	470	91	73	77	61
20	13	12	13	13	12	13	13	446	93	73	77	51
21	13	13	13	13	13	13	13	419	100	74	77	51
22	13	12	13	13	13	14	13	403	103	74	77	51
23	13	13	13	13	13	15	13	396	105	73	77	51
24	13	13	13	13	13	14	14	384	103	73	77	51
25	13	13	13	13	13	13	15	388	105	73	77	51
26	13	13	13	13	13	15	15	369	98	74	77	51
27	13	13	13	13	13	14	15	351	95	74	77	50
28	13	13	13	13	13	15	16	323	95	76	77	50
29	13	13	13	13	---	13	15	359	95	76	77	50
30	13	13	13	13	---	13	15	415	95	76	79	50
31	13	---	13	13	---	13	---	403	---	76	79	---
TOTAL	548	370	402	403	349	405	406	7652	8089	2452	2384	1984
MEAN	17.7	12.3	13.0	13.0	12.5	13.1	13.5	247	270	79.1	76.9	66.1
MAX	23	13	13	13	13	15	16	490	462	93	79	79
MIN	13	12	12	13	11	12	13	15	88	73	74	50
AC-FT	1090	734	797	799	692	803	805	15180	16040	4860	4730	3940

CAL YR 1974 TOTAL 17527 MEAN 48.0 MAX 94 MIN 12 AC-FT 34760
WTR YR 1975 TOTAL 25444 MEAN 69.7 MAX 490 MIN 11 AC-FT 50470

06357800 GRAND RIVER AT LITTLE EAGLE, S. DAK.

LOCATION.--Lat 45°39'28", long 100°49'04", in NE¼NE¼ sec.32, T.20 N., R.27 E., Corson County, 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.

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.

AVERAGE DISCHARGE.--17 years, 239 ft³/s (6.768 m³/s), 173,200 acre-ft/yr (214 hm³/yr); median of yearly mean discharges, 240 ft³/s (6.80 m³/s), 174,000 acre-ft/yr (215 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 7,290 ft³/s (206 m³/s) May 12, gage height, 11.41 ft (3.478 m); no flow Jan. 10, 11, Feb. 5-10.

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.

REMARKS.--Records good except those for winter periods, which are poor. Flow regulated by Shadehill Reservoir 144 mi (232 km) upstream. (See station 06357000.) Records of chemical analyses, water temperatures, and suspended sediment loads for the water year 1975 are published in Section 2 of this report.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 12-19, Apr. 29 to May 1, May 9-13; stage-discharge relation affected by backwater from ice Nov. 17 to Apr. 11)

2.9	2.0	3.5	87	5.0	575	8.0	2,860
3.0	10	4.0	202	6.0	1,140	9.0	3,990
3.2	36	4.5	360	7.0	1,910	11.0	6,500

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	22	13	8.0	1.0	40	40	2760	449	222	83	69
2	10	26	13	8.0	2.0	35	35	1570	415	192	126	62
3	10	26	14	7.0	2.0	35	35	954	432	171	113	62
4	6.8	26	14	7.0	1.0	40	40	620	424	156	83	66
5	9.2	32	14	6.0	0	50	100	449	444	146	73	67
6	10	30	15	6.0	0	45	200	346	415	154	69	66
7	15	28	15	5.0	0	40	270	329	428	244	62	64
8	12	25	17	4.0	0	35	300	830	420	466	66	61
9	16	22	20	1.0	0	35	300	1820	428	522	64	61
10	16	21	19	0	0	40	270	4290	436	312	62	59
11	16	20	15	0	.50	54	300	5490	453	224	59	59
12	22	21	14	.50	1.0	60	1120	6200	449	186	71	59
13	20	26	13	1.0	2.0	60	1450	2630	368	166	71	57
14	18	21	12	1.0	2.0	80	1800	1270	407	154	96	57
15	20	20	12	1.0	2.0	100	2330	774	424	144	115	57
16	18	17	12	2.0	3.0	150	2500	630	440	135	87	59
17	18	17	11	2.0	5.8	200	2230	605	440	113	83	61
18	17	18	11	2.0	10	300	2310	625	420	105	83	91
19	18	18	10	2.0	20	400	2060	709	312	99	93	78
20	15	20	10	2.0	25	370	1420	1160	677	97	115	74
21	15	22	9.0	2.0	26	300	1280	802	835	97	99	69
22	14	23	9.0	2.0	25	200	1290	635	1280	97	87	67
23	15	22	8.0	3.0	24	100	1280	575	2450	91	83	62
24	12	20	8.0	4.0	29	70	1160	605	1220	85	89	50
25	14	19	8.0	3.0	35	45	906	741	479	83	82	47
26	9.2	19	9.0	3.0	36	50	758	542	325	80	76	46
27	10	17	10	2.0	38	50	719	483	273	78	76	42
28	12	13	10	1.0	40	60	900	479	404	74	76	44
29	12	12	10	1.0	---	60	4650	424	353	69	74	46
30	16	12	9.0	1.0	---	60	5550	411	254	66	73	42
31	21	---	9.0	1.0	---	50	---	387	---	69	69	---
TOTAL	448.2	635	373.0	88.50	329.50	3214	37603	40145	16554	4897	2558	1804
MEAN	14.5	21.2	12.0	2.85	11.8	104	1253	1295	552	158	82.5	60.1
MAX	22	32	20	8.0	40	400	5550	6200	2450	522	126	91
MIN	6.8	12	8.0	0	0	35	35	329	254	66	59	42
AC-FT	889	1260	740	176	654	6370	74590	79630	32830	9710	5070	3580

CAL YR 1974 TOTAL 46499.80 MEAN 127 MAX 4620 MIN 4.4 AC-FT 92230
WTR YR 1975 TOTAL 108649.20 MEAN 298 MAX 6200 MIN 0 AC-FT 215500

06359500 MOREAU RIVER NEAR FAITH, S. DAK.

LOCATION.--Lat 45°11'52", long 102°09'22", in NW¼NW¼ sec.10, T.14 N., R.16 E., Perkins County, 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 mi^2 (6,890 km^2), approximately.

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

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.

AVERAGE DISCHARGE.--32 years, 136 ft^3/s (3.852 m^3/s), 98,530 acre-ft/yr (121 hm^3/yr); median of yearly mean discharges, 94 ft^3/s (2.662 m^3/s), 68,100 acre-ft/yr (84.0 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 11,500 ft^3/s (326 m^3/s) May 9, gage height, 15.85 ft (4.831 m); no flow for many days.

Period of record: Maximum discharge, 26,000 ft^3/s (736 m^3/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 ft^3/s (340 m^3/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.

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

REVISIONS (WATER YEARS).--WSP 1176: 1944. WSP 1279: 1946(M).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	3.8	2.0	2.1	0	0	0	2110	73	790	33	6.9
2	0	4.2	2.0	2.0	0	0	0	1200	68	200	17	6.3
3	0	4.5	2.3	2.0	0	0	0	635	63	152	16	5.4
4	0	4.8	3.0	2.0	0	0	10	373	58	128	7.8	5.1
5	.01	4.5	3.5	2.0	0	0	50	241	56	101	6.0	4.8
6	.05	5.4	3.0	2.0	0	0	50	288	70	591	4.5	4.2
7	.04	8.5	2.5	1.5	0	0	80	1820	75	243	4.2	3.6
8	.01	7.5	2.5	1.3	0	0	150	3790	79	92	3.4	3.2
9	.01	6.6	3.0	1.3	0	0	200	4760	64	61	2.7	3.2
10	0	6.0	4.0	1.0	0	0	300	6020	58	46	2.3	2.5
11	0	5.4	3.5	.50	0	0	500	3180	53	37	2.1	2.0
12	0	5.4	3.5	0	0	0	1200	2320	51	32	2.1	1.7
13	0	4.8	3.5	0	0	0	1740	1140	48	29	2.0	2.0
14	0	4.8	3.3	0	0	0	1080	686	62	25	4.2	2.1
15	0	6.3	3.0	0	0	2.0	947	445	59	22	4.5	2.1
16	0	7.2	3.0	0	0	10	979	304	52	19	5.7	2.1
17	1.3	8.5	3.0	1.0	0	50	1030	239	52	16	5.4	2.3
18	2.7	7.2	3.0	1.0	0	100	931	200	49	15	6.0	2.7
19	2.5	6.6	3.0	1.0	1.0	150	1010	171	152	13	5.7	2.7
20	2.1	7.2	2.8	1.0	1.5	250	935	149	436	14	7.0	2.7
21	2.5	6.9	3.0	1.0	1.0	200	669	136	320	13	8.8	2.3
22	2.3	6.6	3.0	1.5	1.5	100	490	128	820	12	7.5	2.0
23	2.3	6.0	2.5	2.0	1.5	40	461	139	331	11	6.9	1.7
24	2.5	6.0	2.5	2.0	2.0	5.0	442	139	266	10	6.9	1.7
25	2.1	6.0	2.8	1.5	1.0	0	515	161	178	9.8	5.7	2.7
26	2.7	5.5	2.8	1.0	0	0	464	279	196	8.5	4.8	3.2
27	2.7	5.0	3.0	0	0	0	379	198	202	8.2	4.5	3.4
28	2.7	3.0	3.0	0	0	0	1610	141	152	8.2	15	3.6
29	3.2	2.0	2.5	0	---	0	4310	111	1500	6.6	13	3.8
30	3.2	2.0	2.0	0	---	0	4020	91	885	62	9.0	3.8
31	3.8	---	2.0	0	---	0	---	82	---	105	8.2	---
TOTAL	38.72	168.2	88.5	30.70	9.5	907.0	24552	31676	6528	2880.3	231.9	95.8
MEAN	1.25	5.61	2.85	.99	.34	29.3	818	1022	218	92.9	7.48	3.19
MAX	3.8	8.5	4.0	2.1	2.0	250	4310	6020	1500	790	33	6.9
MIN	0	2.0	2.0	0	0	0	0	82	48	6.6	2.0	1.7
AC-FT	77	334	176	61	19	1800	48700	62830	12950	5710	460	190

CAL YR 1974 TOTAL 4783.92 MEAN 13.1 MAX 168 MIN 0 AC-FT 9490
WTR YR 1975 TOTAL 67206.62 MEAN 184 MAX 6020 MIN 0 AC-FT 133300

PEAK DISCHARGE (BASE, 1,500 FT^3/S)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-12	1700	11.00	3,500	6-29	1400	7.81	2,060
4-30	0100	11.75	5,730	7- 6	1800	7.47	1,800
5- 9	0100	15.85	11,500				

06360500 MOREAU RIVER NEAR WHITEHORSE, S. DAK.

LOCATION.--Lat 45°15'21", long 100°50'33", in SW¼SE¼ sec.17, T.15 N., R.27 E., Dewey County, 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 mi^2 (12,640 km^2), approximately.

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.

AVERAGE DISCHARGE.--21 years, 192 ft^3/s (5.437 m^3/s), 139,100 acre-ft/yr (172 hm^3/yr); median of yearly mean discharges, 110 ft^3/s (3.12 m^3/s), 79,700 acre-ft/yr (98.3 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 10,900 ft^3/s (309 m^3/s) May 11, gage height, 17.99 ft (5.483 m); no flow for many days.

Period of record: Maximum discharge, 21,000 ft^3/s (595 m^3/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.

Flood in June 1953 reached a stage of about 26.2 ft (7.99 m). Flood in March 1947 was probably higher.

REMARKS.--Records good except those for winter periods, which are poor. Records of water temperatures and suspended sediment loads for the water year 1975 are published in Section 2 of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						0	40	7080	161	934	168	.02
2						0	41	4720	140	1040	442	0
3						0	40	2620	123	605	208	0
4						0	45	1710	107	351	167	0
5						0	50	1120	95	233	148	0
6						0	100	806	88	180	113	0
7						0	200	695	81	167	85	0
8						0	250	951	77	617	80	0
9						0	230	2890	77	1300	65	0
10						0	310	7770	77	700	48	0
11						0	500	9740	112	348	37	0
12						0	1000	7660	104	215	27	0
13						0	2450	4220	89	152	22	0
14						0	4040	2900	80	115	19	0
15						0	3910	1730	74	91	18	0
16						0	3950	1120	65	74	15	0
17						0	3940	819	63	62	15	0
18						0	3650	614	64	55	13	0
19						0	3210	481	573	47	13	0
20						30	2510	385	359	43	12	0
21						40	2520	298	462	39	11	0
22						50	2490	266	808	36	9.9	0
23						45	2200	246	1210	35	8.6	0
24						40	1670	249	1290	35	6.1	0
25						30	1380	228	717	35	3.9	0
26						30	1330	213	458	33	2.5	0
27						35	1300	194	371	28	1.2	0
28						35	2300	208	378	23	.33	0
29					---	35	3210	333	332	19	.24	0
30					---	30	5620	269	283	16	.17	0
31		---			---	30	---	198	---	14	.07	---
TOTAL	0	0	0	0	0	430	54486	62733	8918	7642	1759.01	.02
MEAN	0	0	0	0	0	13.9	1816	2024	297	247	56.7	.001
MAX	0	0	0	0	0	50	5620	9740	1290	1300	442	.02
MIN	0	0	0	0	0	0	40	194	63	14	.07	0
AC-FT	0	0	0	0	0	853	108100	124400	17690	15160	3490	.04

CAL YR 1974 TOTAL 7208.20 MEAN 19.7 MAX 464 MIN 0 AC-FT 14300
WTR YR 1975 TOTAL 135968.03 MEAN 373 MAX 9740 MIN 0 AC-FT 269700

PEAK DISCHARGE (BASE, 1,800 FT^3/S)

DATE	TIME	G.H.	DISCHARGE
4-14	1500	12.15	5,120
5- 1	1800	15.18	7,380
5-11	0200	17.99	10,900

06392900 BEAVER CREEK AT MALLO CAMP, NEAR FOUR CORNERS, WYO.

LOCATION.--Lat 44°05'04", long 104°03'41", in NE¼NE¼ sec.4, T.47 N., R.60 W., Weston County, 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, Wyo.

DRAINAGE AREA.--10.3 mi^2 (26.7 km^2).

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.

EXTREMES.--Current year: Maximum discharge, 21 ft^3/s (0.595 m^3/s) Apr. 26, gage height, 5.40 ft (1.646 m); minimum daily, 1.1 ft^3/s (0.031 m^3/s) Sept. 9.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 13-15; stage-discharge relation affected by backwater from ice Nov. 4, 5, 12-14, Nov. 28 to Dec. 2, Mar. 27-31)

4.1	1.1	4.7	5.6
4.4	2.7	4.9	8.6

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	1.8	1.8	2.0	2.2	2.2	2.1	2.6	2.4	2.0	1.8	1.3
2	1.9	1.8	1.9	2.2	2.2	2.2	2.0	2.5	2.3	2.1	1.9	1.3
3	1.9	1.7	2.0	2.1	2.2	2.1	2.0	2.5	2.4	2.0	1.8	1.3
4	1.9	1.7	2.2	2.1	2.2	2.1	2.1	2.6	2.4	2.0	1.8	1.2
5	1.9	1.8	2.2	2.1	2.0	2.1	2.0	4.1	2.3	2.0	1.8	1.2
6	1.9	1.9	2.4	2.0	2.1	2.1	2.1	4.3	2.3	2.0	1.8	1.2
7	1.9	1.8	2.4	1.8	2.2	2.1	2.2	3.3	2.3	2.0	1.8	1.2
8	1.9	1.8	2.5	1.8	2.2	2.1	2.1	3.0	2.5	2.0	1.8	1.2
9	1.9	1.8	2.5	1.9	2.2	2.1	2.0	2.9	2.4	2.0	1.9	1.1
10	1.9	1.8	2.3	1.7	2.3	2.0	2.0	3.0	2.4	2.0	1.9	1.2
11	1.9	1.9	2.3	1.6	2.2	2.0	2.0	2.9	2.3	1.9	1.9	1.2
12	1.9	1.8	2.3	1.8	2.2	1.8	2.0	2.9	2.3	1.9	1.9	1.2
13	1.9	1.8	2.2	2.0	2.2	2.0	2.0	2.9	2.3	1.9	1.9	1.2
14	1.9	1.8	2.3	2.0	2.0	2.0	2.2	2.8	2.3	1.9	1.9	1.2
15	1.9	1.8	2.2	2.0	2.0	2.0	2.2	2.8	2.3	1.8	1.8	1.2
16	1.9	1.8	2.3	1.9	2.0	2.1	2.2	2.6	2.5	1.8	1.8	1.3
17	1.9	1.8	2.3	2.0	2.0	2.1	2.3	2.6	2.5	1.8	1.7	1.3
18	1.9	1.8	2.2	2.0	2.1	2.0	2.3	2.6	2.4	1.9	1.7	1.3
19	1.9	1.8	2.2	1.9	2.1	2.0	2.2	2.6	2.5	1.8	1.6	1.3
20	1.9	1.8	2.2	1.9	2.2	2.1	2.3	2.6	2.4	1.8	1.6	1.4
21	1.9	1.8	2.2	2.0	2.2	2.0	2.3	2.6	2.3	1.8	1.5	1.3
22	1.9	1.8	2.2	2.0	2.1	2.0	2.4	2.6	2.3	1.8	1.6	1.3
23	1.9	1.8	2.0	2.0	2.3	2.0	2.5	2.5	2.3	1.7	1.5	1.4
24	1.9	1.8	2.0	2.0	2.3	2.0	2.7	2.5	2.3	1.8	1.5	1.4
25	1.9	1.8	2.0	2.0	2.2	2.2	3.0	2.5	2.3	1.8	1.4	1.4
26	1.9	1.8	2.2	2.0	2.1	2.0	6.9	2.5	2.4	1.7	1.5	1.4
27	1.9	1.8	2.2	2.0	2.2	2.0	4.8	2.4	2.3	1.7	1.4	1.4
28	1.9	1.8	2.2	2.0	2.2	1.9	3.3	2.4	2.1	1.7	1.4	1.4
29	1.8	1.8	2.2	1.9	---	1.9	3.7	2.4	2.1	1.7	1.3	1.4
30	1.9	1.8	2.0	1.8	---	1.9	2.7	2.4	2.1	1.8	1.3	1.4
31	1.9	---	2.2	2.0	---	1.9	---	2.4	---	1.8	1.3	---
TOTAL	58.8	54.0	68.1	60.5	60.4	63.0	76.6	85.3	70.0	57.9	51.8	38.6
MEAN	1.90	1.80	2.20	1.95	2.16	2.03	2.55	2.75	2.33	1.87	1.67	1.29
MAX	1.9	1.9	2.5	2.2	2.3	2.2	6.9	4.3	2.5	2.1	1.9	1.4
MIN	1.8	1.7	1.8	1.6	2.0	1.8	2.0	2.4	2.1	1.7	1.3	1.1
AC-FT	117	107	135	120	120	125	152	169	139	115	103	77

WTR YR 1975 TOTAL 745.0 MEAN 2.04 MAX 6.9 MIN 1.1 AC-FT 1480

PEAK DISCHARGE (BASE, 10 FT^3/S).--Apr. 26 (2030) 21 ft^3/s (5.40 ft).

06392950 STOCKADE BEAVER CREEK NEAR NEWCASTLE, WYO.

LOCATION.--Lat 43°51'30", long 104°06'23", in SW¼SE¼ sec.19, T.45 N., R.60 W., Weston County, 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 mi^2 (277 km^2).

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.

EXTREMES.--Maximum discharge, 39 ft^3/s (1.10 m^3/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 ft^3/s (0.25 m^3/s) for many days.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 24 to Dec. 22, Dec. 26 to Jan. 10, Jan. 14-28, Feb. 2-4, Aug. 8-18, Sept. 12-30; stage-discharge relation affected by ice Dec. 23-25, Jan. 11-13, Jan. 29 to Feb. 1, Feb. 5-9, Mar. 27, 28)

5.9	6.9	6.3	18
6.1	12	6.5	27

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	18	12	12	11	13	14	14	9.1	14	9.8	9.6
2	14	15	13	12	11	13	14	14	9.1	14	9.6	10
3	14	14	12	12	11	13	14	14	9.1	14	9.1	11
4	14	14	12	12	11	14	17	14	8.9	14	8.9	11
5	14	14	12	13	11	14	20	13	9.1	14	9.4	11
6	14	13	12	13	11	14	23	17	9.1	14	9.8	10
7	14	13	12	14	11	13	22	16	9.8	14	9.4	11
8	14	13	12	14	11	13	26	14	10	14	8.9	12
9	14	12	13	14	12	13	22	14	11	14	10	11
10	14	12	12	14	15	13	21	14	11	14	12	11
11	14	12	12	14	14	13	18	14	11	14	12	11
12	14	12	12	13	14	14	16	14	11	14	12	12
13	14	12	12	13	14	13	16	14	11	14	12	13
14	14	12	12	13	14	14	15	13	12	14	12	14
15	14	12	13	12	14	14	15	13	12	14	10	14
16	14	12	13	11	14	15	15	11	13	14	9.4	14
17	14	12	13	11	14	16	15	8.9	14	14	9.4	14
18	14	12	13	12	14	16	15	8.9	15	14	9.1	14
19	14	12	13	12	14	15	15	8.9	17	14	9.1	14
20	14	12	13	11	14	15	15	9.8	15	14	10	14
21	14	12	13	11	14	15	15	9.6	14	13	11	13
22	14	12	14	11	15	15	15	10	14	13	9.8	14
23	14	12	13	11	14	14	14	9.6	14	14	9.8	13
24	14	12	13	11	14	14	14	9.1	14	13	9.8	13
25	14	12	13	11	14	14	14	8.9	14	13	9.8	13
26	14	12	13	11	14	14	14	8.9	14	13	9.6	12
27	14	13	12	11	13	14	14	8.9	14	13	9.1	12
28	14	13	13	11	13	14	16	9.1	14	10	8.9	12
29	14	13	13	11	---	15	16	8.9	14	9.1	9.4	13
30	14	13	12	11	---	14	15	8.9	14	8.9	9.4	11
31	16	---	12	10	---	14	---	9.1	---	8.9	9.4	---
TOTAL	436	382	389	372	366	435	495	360.5	367.2	408.9	307.9	367.6
MEAN	14.1	12.7	12.5	12.0	13.1	14.0	16.5	11.6	12.2	13.2	9.93	12.3
MAX	16	18	14	14	15	16	26	17	17	14	12	14
MIN	14	12	12	10	11	13	14	8.9	8.9	8.9	8.9	9.6
AC-FT	865	758	772	738	726	863	982	715	728	811	611	729

WTR YR 1975 TOTAL 4687.1 MEAN 12.8 MAX 26 MIN 8.9 AC-FT 9300

PEAK DISCHARGE (BASE, 50 FT^3/S).--No peaks above base.

06395000 CHEYENNE RIVER AT EDGEMONT, S. DAK.

LOCATION.--Lat 43°18'20", long 103°49'14", in SW¼SE¼SE¼ sec.36, T.8 S., R.2 E., Fall River County, 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.

DRAINAGE AREA.--7,143 mi^2 (18,500 km^2).

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 (corrected). 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.--33 years (1928-32, 1946-75), 101 ft^3/s (2.860 m^3/s), 73,170 acre-ft/yr (90.2 hm^3/yr); median of yearly mean discharges, 80 ft^3/s (2.266 m^3/s), 58,000 acre-ft/yr (71.5 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 799 ft^3/s (22.6 m^3/s) June 29, gage height, 4.27 ft (1.301 m); no flow for many days during October, January, and September.

Period of record: Maximum discharge, 13,800 ft^3/s (391 m^3/s) May 25, 1971, gage height, 10.57 ft (3.222 m), present datum; no flow at times most years.

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.

REMARKS.--Records good except those for winter periods, which are poor. Many small reservoirs above station used for stock and irrigation water, total capacity, about 45,000 acre-ft (55.5 hm^3).

REVISIONS (WATER YEARS).--WSP 1086: Drainage area. WSP 1116: 1947.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Aug. 14 to Sept. 30; stage-discharge relation affected by ice Nov. 28 to Mar. 26)

1.9	0	2.6	52
2.0	2.2	2.9	124
2.1	5.8	3.3	281
2.3	18	4.0	660

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	22	8.0	2.0	5.0	70	41	33	30	95	13	0
2	.09	47	9.0	1.0	6.0	60	77	66	27	62	9.3	0
3	.05	236	10	0	5.0	60	87	87	27	44	11	0
4	0	32	12	0	3.0	70	54	60	22	33	23	.03
5	1.5	19	12	0	3.0	60	48	36	16	27	6.9	.10
6	.66	19	11	0	3.0	60	52	31	89	27	2.2	.06
7	.22	18	10	0	3.0	60	388	35	124	136	2.0	0
8	.14	16	10	0	3.0	60	378	29	75	34	2.9	0
9	.08	16	11	0	4.0	50	388	24	40	40	2.9	0
10	.01	16	10	0	5.0	50	405	66	27	54	2.6	.05
11	0	16	9.0	0	5.0	50	383	45	19	92	2.9	0
12	0	13	9.0	0	5.0	60	405	50	25	44	2.9	0
13	0	12	8.0	0	6.0	75	336	77	30	29	2.9	.05
14	0	13	8.0	.30	5.0	80	258	56	23	18	4.7	.22
15	0	9.9	8.0	0	4.0	90	267	34	16	14	5.1	.22
16	.06	5.8	9.0	0	4.0	100	222	26	20	10	5.8	.09
17	0	6.4	9.0	0	4.0	120	197	14	175	7.5	4.7	.06
18	.06	11	8.9	0	4.0	150	153	17	50	7.0	4.7	0
19	0	12	8.5	0	5.0	200	127	12	45	6.4	3.3	0
20	.08	12	8.5	0	6.0	150	124	18	95	4.4	3.3	.01
21	.03	10	9.0	.30	6.0	150	90	16	249	1.5	4.7	.22
22	.04	19	8.0	1.0	5.0	100	68	27	316	4.0	3.3	.44
23	.06	21	7.0	2.0	10	50	58	27	171	5.1	2.0	.66
24	.12	12	7.0	4.0	15	20	48	48	102	7.0	1.5	1.1
25	1.1	19	7.5	4.0	20	15	48	356	70	4.4	1.3	1.3
26	2.9	22	8.0	4.0	20	10	32	155	56	6.4	1.1	1.1
27	5.8	11	9.0	4.0	40	45	26	82	48	7.0	.88	.88
28	9.3	10	10	4.0	60	50	34	48	251	5.8	.66	1.1
29	11	8.0	8.0	4.0	---	52	31	39	642	5.8	.22	.88
30	16	7.0	5.0	4.0	---	52	32	35	212	8.7	.12	.66
31	19	---	3.0	4.0	---	52	---	34	---	5.8	.06	---
TOTAL	68.30	691.1	270.4	38.60	264.0	2271	4857	1683	3092	845.8	131.94	9.23
MEAN	2.20	23.0	8.72	1.25	9.43	73.3	162	54.3	103	27.3	4.26	.31
MAX	19	236	12	4.0	60	200	405	356	642	136	23	1.3
MIN	0	5.8	3.0	0	3.0	10	26	12	16	1.5	.06	0
AC-FT	135	1370	536	77	524	4500	9630	3340	6130	1680	262	18

CAL YR 1974 TOTAL 8931.40 MEAN 24.5 MAX 311 MIN 0 AC-FT 17720
WTR YR 1975 TOTAL 14222.37 MEAN 39.0 MAX 642 MIN 0 AC-FT 28210

06400000 HAT CREEK NEAR EDGEMONT, S. DAK.

LOCATION.--Lat 43°14'46", long 103°35'16", in SW¼SE¼SE¼ sec.24, T.9 S., R.4 E., Fall River County, on left bank at downstream 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 mi^2 (2,704 km^2).

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

GAGE.--Water-stage recorder. Datum of gage is 3,295.71 ft (1,004.532 m) above mean sea level. Nonrecording gage Apr. 8, 1905, to May 2, 1906, at site 1,000 ft (305 m) downstream and May 3 to July 7, 1906, at site 0.8 mi (1.3 km) upstream at different datum. Nov. 6, 1950, to May 1, 1951, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--26 years, 21.9 ft^3/s (0.620 m^3/s), 15,870 acre-ft/yr (19.6 hm^3/yr); median of yearly mean discharges, 14 ft^3/s (0.396 m^3/s), 10,100 acre-ft/yr (12.5 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, about 200 ft^3/s (5.66 m^3/s) July 11, gage height, unknown; no flow for many days.

Period of record: Maximum discharge, 13,300 ft^3/s (377 m^3/s) June 16, 1967, gage height, 13.35 ft (4.069 m), from rating curve extended above 2,600 ft^3/s (73.6 m^3/s) on basis of slope-area measurement at 11.98 ft (3.652 m). No flow for many days each year.

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 0.8 mi (1.3 km) upstream from gaging station for irrigating hay meadows downstream from station. Results of discharge measurements, in cubic feet per second, of Lander ditch during water year 1974-75 are given herewith:

Oct. 23	0	Mar. 15	2.31	July 18	0
Nov. 21	0	Apr. 8	3.89	July 31	0
Dec. 18	0	May 7	2.20	Aug. 26	0
Jan. 14	0	June 2	.40	Sept.16	0
Feb. 12	0	July 2	0		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						0	0	23	.24	1.6		
2						0	0	14	.18	.45		
3						0	0	4.8	.12	0		
4						0	0	2.9	.12	0		
5						0	0	.52	0	0		
6						0	0	.45	0	0		
7						0	0	.30	.20	0		
8						0	.37	.30	.18	0		
9						0	22	.24	.12	0		
10						0	45	.45	.06	0		
11						0	19	.45	0	104		
12						0	16	.60	0	16		
13						0	14	1.1	0	1.2		
14						0	12	3.6	0	.82		
15						0	11	6.5	0	.24		
16						0	10	.52	.18	.06		
17						0	10	.24	.12	.05		
18						0	8.9	.12	.75	.01		
19						0	7.0	.12	12	0		
20						2.4	5.7	.12	5.8	0		
21						1.4	4.2	.18	4.7	0		
22						.12	3.1	.45	4.1	0		
23						0	1.7	.45	4.1	.09		
24						0	.67	.30	4.0	0		
25						0	.45	.60	3.8	0		
26						0	.24	6.1	3.9	0		
27						0	.37	3.4	3.2	0		
28						0	.45	1.4	2.2	0		
29					---	0	.45	.60	14	0		
30					---	0	.45	.37	3.0	0		
31		---			---	0	---	.30	---	0		---
TOTAL	0	0	0	0	0	3.92	193.05	74.48	67.07	124.52	0	0
MEAN	0	0	0	0	0	.13	6.44	2.40	2.24	4.02	0	0
MAX	0	0	0	0	0	2.4	45	23	14	104	0	0
MIN	0	0	0	0	0	0	0	.12	0	0	0	0
AC-FT	0	0	0	0	0	7.8	383	148	133	247	0	0

CAL YR 1974 TOTAL 4354.29 MEAN 11.9 MAX 711 MIN 0 AC-FT 8640
WTR YR 1975 TOTAL 463.04 MEAN 1.27 MAX 104 MIN 0 AC-FT 918

PEAK DISCHARGE (BASE, 1,000 FT^3/S).--No peaks above base.

06401000 ANGOSTURA RESERVOIR NEAR HOT SPRINGS, S. DAK.

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

DRAINAGE AREA.--9,100 mi^2 (23,570 km^2), approximately.

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

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

EXTREMES.--Current year: Maximum contents, 113,831 acre-ft (140 hm^3) July 2, elevation, 3,184.20 ft (970.544 m); minimum, 76,166 acre-ft (93.9 hm^3) Sept. 29, elevation, 3,174.61 ft (967.621 m).

Period of record: Maximum contents observed, 145,200 acre-ft (179 hm^3) June 18, 1962, elevation, 3,189.00 ft (972.007 m); minimum observed since normal operating level reached, 45,350 acre-ft (55.9 hm^3) Sept. 28, 1960, elevation, 3,162.90 ft (964.052 m).

REMARKS.--Reservoir formed by concrete gravity dam with earth embankment with gated concrete gravity spillway section. Storage began October 3, 1949; dam completed December 1949. Conservation capacity, 127,558 acre-ft (157 hm^3) 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 hm^3). Surcharge capacity, 196,221 acre-ft (242 hm^3), 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.

MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	†Diversions (acre-feet)
Sept.30	3,174.86	77,030	-	-
Oct. 31	3,175.07	77,765	+735	-
Nov. 30	3,175.74	80,164	+2,399	-
Dec. 31	3,176.14	81,610	+1,446	-
CAL YR 1974	-	-	-34,206	48,020
Jan. 31	3,176.55	83,117	+1,507	-
Feb. 28	3,176.93	84,514	+1,397	-
Mar. 31	3,179.82	95,638	+11,124	-
Apr. 30	3,183.28	109,852	+14,214	-
May 31	3,183.22	109,594	-258	3,824
June 30	3,184.04	113,125	+3,531	7,438
July 31	3,180.97	100,233	-12,892	16,273
Aug. 31	3,176.54	83,080	-17,153	14,416
Sept.30	3,174.63	76,235	-6,845	2,995
WTR YR 1975	-	-	-795	44,946

(†) Diversions from Angostura irrigation project.

06401500 CHEYENNE RIVER BELOW ANGOSTURA DAM, S. DAK.

LOCATION.--Lat 43°20'42", long 103°26'12", in NE¼NW¼NW¼ sec.20, T.8 S., R.6 E., Fall River County, 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 mi^2 (23,600 km^2), approximately.

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 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.

AVERAGE DISCHARGE.--30 years, 78.9 ft^3/s (2.234 m^3/s), 57,160 acre-ft/yr (70.5 hm^3/yr); median of yearly mean discharges, 59 ft^3/s (1.67 m^3/s), 42,700 acre-ft/yr (52.6 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 7.8 ft^3/s (0.22 m^3/s) June 18; gage height, 3.08 ft (0.939 m); minimum daily, 0.84 ft^3/s (0.024 m^3/s) Sept. 25.

Period of record: Maximum discharge, 24,300 ft^3/s (688 m^3/s) June 18, 1962, gage height, 13.81 ft (4.209 m), from rating curve extended above 6,000 ft^3/s (170 m^3/s); no flow Oct. 9, 1949, to Feb. 5, 1950, Apr. 28, Aug. 26, 30, 1951.

REMARKS.--Records good except those below 5 ft^3/s (0.14 m^3/s), which are fair. Flow completely regulated by Angostura Reservoir 800 ft (244 m) upstream since October 1949. (See station 06401000.) Records of chemical analyses and water temperatures for the water year 1975 are published in Section 2 of this report.

REVISIONS (WATER YEARS).--WSP 1309: 1946(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Nov. 28-30, Jan. 10-17, Jan. 26 to Feb. 23, Mar. 24-30)

2.7	0.58
2.8	1.4
2.9	3.1

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	1.5	1.5	1.3	1.0	1.6	1.6	1.3	1.1	1.5	1.6	1.0
2	1.5	1.5	1.4	1.4	1.1	1.6	1.5	1.3	1.1	1.5	1.5	1.0
3	1.4	1.5	1.4	1.4	1.2	1.6	1.4	1.3	1.1	1.5	1.4	1.1
4	1.4	1.5	1.4	1.4	1.0	1.6	1.4	1.2	1.1	1.5	1.4	1.1
5	1.8	1.5	1.4	1.4	1.0	1.6	1.4	1.2	1.1	1.5	1.5	1.1
6	1.6	1.5	1.4	1.4	1.0	1.8	1.5	1.3	1.1	1.7	1.4	1.1
7	1.5	1.4	1.4	1.5	1.0	1.6	1.4	1.3	1.2	1.7	1.4	1.1
8	1.4	1.4	1.4	1.6	1.0	1.6	1.4	1.2	1.2	1.6	1.5	1.1
9	1.4	1.4	1.3	1.5	1.0	1.6	1.5	1.2	1.2	1.7	1.5	1.1
10	1.5	1.4	1.4	1.3	1.3	1.6	1.5	1.1	1.2	1.6	1.4	.97
11	1.5	1.4	1.4	1.0	1.3	1.6	1.5	1.2	1.3	1.6	1.4	1.1
12	1.6	1.4	1.4	1.0	1.2	1.6	1.5	1.3	1.2	1.6	1.3	1.0
13	1.5	1.4	1.5	1.1	1.3	1.6	1.5	1.2	1.2	1.6	1.3	1.0
14	1.5	1.4	1.4	1.1	1.3	1.6	1.5	1.2	1.2	1.5	1.3	1.0
15	1.5	1.4	1.4	1.1	1.1	1.6	1.5	1.2	1.3	1.5	1.3	.96
16	1.5	1.4	1.3	1.0	1.0	1.6	1.6	1.2	1.8	1.3	1.2	.96
17	1.4	1.4	1.4	1.4	1.0	1.6	1.6	1.1	1.7	1.3	1.3	.94
18	1.5	1.4	1.3	1.5	1.0	1.6	1.6	.89	1.9	1.3	1.2	1.0
19	1.5	1.4	1.4	1.5	1.1	1.6	1.6	.88	1.7	1.4	1.1	1.0
20	1.5	1.4	1.3	1.7	1.2	1.6	1.6	.96	1.6	1.3	1.1	1.0
21	1.4	1.3	1.4	1.7	1.2	1.7	1.6	.96	1.6	1.3	1.2	1.0
22	1.5	1.3	1.7	1.8	1.1	1.8	1.4	1.2	1.5	1.3	1.2	.98
23	1.5	1.5	1.6	1.7	1.4	1.8	1.4	1.1	1.4	1.3	1.1	.88
24	1.6	1.4	1.5	1.7	1.6	1.6	1.4	1.0	1.4	1.3	1.1	.89
25	1.6	1.4	1.5	1.7	1.6	1.5	1.5	1.0	1.7	1.3	1.3	.84
26	1.5	1.4	1.3	1.5	1.5	1.5	1.3	1.0	1.6	1.3	1.3	1.2
27	1.5	1.5	1.2	1.3	1.5	1.3	1.3	1.1	1.5	1.3	1.2	1.0
28	1.5	1.5	1.3	1.0	1.5	1.2	1.3	1.1	1.5	1.3	1.1	1.0
29	1.5	1.5	1.3	1.0	---	1.2	1.3	1.1	1.5	1.4	1.1	1.0
30	1.5	1.5	1.3	1.0	---	1.4	1.3	1.2	1.4	1.4	1.1	1.0
31	1.5	---	1.3	1.0	---	1.5	---	1.1	---	1.4	1.0	---
TOTAL	46.7	42.9	43.2	42.0	33.5	48.7	43.9	35.39	41.4	44.8	39.8	30.42
MEAN	1.51	1.43	1.39	1.35	1.20	1.57	1.46	1.14	1.38	1.45	1.28	1.01
MAX	1.8	1.5	1.7	1.8	1.6	1.8	1.6	1.3	1.9	1.7	1.6	1.2
MIN	1.4	1.3	1.2	1.0	1.0	1.2	1.3	.88	1.1	1.3	1.0	.84
AC-FT	93	85	86	83	66	97	87	70	82	89	79	60

CAL YR 1974	TOTAL	14344.40	MEAN	39.3	MAX	694	MIN	1.1	AC-FT	28450
WTR YR 1975	TOTAL	492.71	MEAN	1.35	MAX	1.9	MIN	.84	AC-FT	977

06402000 FALL RIVER AT HOT SPRINGS, S. DAK.

LOCATION.--Lat 43°25'50", long 103°28'33", in NW¼NW¼ sec.24, T.7 S., R.5 E., Fall River County, 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 mi^2 (355 km^2).

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

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.

AVERAGE DISCHARGE.--38 years, 25.7 ft^3/s (0.728 m^3/s), 18,620 acre-ft/yr (23.0 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 408 ft^3/s (11.6 m^3/s) June 18, gage height, 3.18 ft (0.969 m); minimum daily, 17 ft^3/s (0.48 m^3/s) June 9, 10.

Period of record: Maximum discharge, 13,100 ft^3/s (371 m^3/s) Sept. 4, 1938, gage height, 18.4 ft (5.61 m), site and datum then in use, from rating curve extended above 51 ft^3/s (1.44 m^3/s) on basis of weir formula and slope-area measurement of peak flow; minimum, 4 ft^3/s (0.11 m^3/s) Sept. 23, 1940.

REMARKS.--Records good. Flow regulated by Coldbrook Reservoir, capacity, 7,200 acre-ft (8.88 hm^3), beginning September 1952, and Cottonwood Springs Lake, capacity, 8,385 acre-ft (10.3 hm^3), since June 1969. Some diversion above station for municipal supply of Hot Springs.

REVISIONS (WATER YEARS).--WSP 1279: 1938, 1941(M), 1947(M). WSP 1729: 1959(M).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	21	22	22	23	23	22	18	21	21	21	22
2	20	21	22	22	22	23	22	18	20	20	21	22
3	20	22	22	22	22	23	22	18	20	20	21	22
4	20	22	22	22	22	23	21	18	19	19	20	22
5	22	22	22	22	22	24	21	18	19	20	20	22
6	21	22	22	22	22	24	22	20	19	21	20	22
7	22	22	22	22	22	24	22	20	21	22	20	22
8	22	23	22	22	22	24	22	20	22	21	20	21
9	22	23	22	22	22	24	20	20	17	22	20	21
10	22	23	22	22	22	23	20	20	17	22	22	20
11	22	23	22	22	22	23	20	21	18	22	22	20
12	22	23	22	22	22	23	20	23	19	22	22	20
13	22	24	22	22	22	24	20	22	19	22	22	20
14	22	22	22	22	22	24	20	21	20	21	22	20
15	22	23	22	22	22	23	19	21	20	21	22	20
16	22	23	22	22	22	23	19	22	23	21	23	20
17	22	23	22	22	22	22	19	22	19	22	23	20
18	22	23	22	22	22	22	19	23	35	22	23	19
19	22	23	22	22	22	22	19	23	24	22	22	19
20	22	22	22	23	22	22	19	24	24	22	22	18
21	22	22	22	22	22	22	19	24	21	21	22	19
22	22	22	22	22	22	22	19	25	21	22	21	19
23	22	22	22	22	23	23	19	23	21	21	20	19
24	22	22	22	23	24	22	19	22	20	21	21	20
25	22	22	22	22	23	22	19	22	23	21	21	20
26	22	22	21	23	23	22	19	22	21	21	21	21
27	22	22	21	23	23	22	21	20	21	21	21	21
28	23	22	21	23	23	22	19	20	21	21	21	22
29	22	22	21	23	---	22	18	21	21	21	22	22
30	29	22	21	23	---	22	18	21	21	20	22	22
31	22	---	21	23	---	22	---	21	---	20	22	---
TOTAL	680	670	676	690	624	706	598	653	627	655	662	617
MEAN	21.9	22.3	21.8	22.3	22.3	22.8	19.9	21.1	20.9	21.1	21.4	20.6
MAX	29	24	22	23	24	24	22	25	35	22	23	22
MIN	19	21	21	22	22	22	18	18	17	19	20	18
AC-FT	1350	1330	1340	1370	1240	1400	1190	1300	1240	1300	1310	1220

CAL YR 1974 TOTAL 7739 MEAN 21.2 MAX 37 MIN 17 AC-FT 15350
WTR YR 1975 TOTAL 7858 MEAN 21.5 MAX 35 MIN 17 AC-FT 15590

06402500 BEAVER CREEK NEAR BUFFALO GAP, S. DAK.

LOCATION.--Lat 43°27'56", long 103°18'22", in SE¼SE¼ sec.5, T.7 S., R.7 E., Fall River County, 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 mi^2 (340 km^2), approximately.

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

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.

AVERAGE DISCHARGE.--38 years, 7.06 ft^3/s (0.200 m^3/s), 5,110 acre-ft/yr (6.30 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 861 ft^3/s (24.4 m^3/s) July 24, gage height, 7.27 ft (2.216 m); minimum daily, 0.43 ft^3/s (0.012 m^3/s) June 14.

Period of record: Maximum discharge, 11,700 ft^3/s (331 m^3/s) Sept. 4, 1938, gage height, 16.46 ft (5.017 m), site and datum then in use, from rating curve extended above 11 ft^3/s (0.31 m^3/s) on basis of slope-area measurement of peak flow; no flow at times in some years.

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

REMARKS.--Records good except those above 50 ft^3/s (1.42 m^3/s) and those for winter periods, which are poor. Nearly all flow is diverted above station during irrigation season.

REVISIONS (WATER YEARS).--WSP 956: 1941. WSP 1309: 1939-40(M), 1947(M).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.65	8.9	6.5	10	8.5	10	9.8	7.6	6.7	10	1.4	4.8
2	.65	7.9	6.5	10	9.6	10	9.4	7.5	6.1	9.8	1.3	5.1
3	.64	8.2	6.5	10	9.6	10	9.4	7.6	6.0	8.4	1.2	4.9
4	.64	8.3	6.5	10	9.0	10	9.4	7.5	6.3	8.6	1.2	2.4
5	1.2	8.2	6.8	10	8.5	10	9.4	8.0	5.9	7.8	1.2	2.0
6	.80	8.0	7.0	10	9.0	11	8.2	4.8	5.7	7.7	1.2	1.8
7	.71	10	7.1	11	9.0	10	8.3	.62	5.9	8.3	1.2	1.7
8	.69	13	7.2	11	8.0	10	9.2	.62	6.5	7.9	1.1	1.8
9	.69	11	7.0	8.8	8.0	10	9.0	.62	6.8	8.3	1.1	2.6
10	.66	11	7.5	8.0	9.0	9.9	8.5	.62	6.1	8.7	1.1	4.7
11	.67	10	11	7.5	9.5	10	5.2	.62	.51	8.5	1.0	7.0
12	.65	7.8	11	7.5	9.8	9.6	1.0	.74	.45	8.5	1.6	7.6
13	.66	7.9	11	8.5	9.8	9.6	5.4	.64	.44	8.7	2.3	7.8
14	.81	8.8	11	8.8	9.9	9.8	5.2	.60	.43	6.0	1.9	7.5
15	.71	9.3	11	9.0	10	10	6.3	.60	1.7	5.7	2.4	7.5
16	.68	11	11	9.4	9.0	11	4.4	.58	2.0	5.8	2.5	7.3
17	.68	6.8	10	9.4	9.5	11	2.2	.56	.93	7.5	2.7	7.0
18	.69	6.9	10	9.7	9.7	10	3.3	.56	.78	8.2	5.0	7.1
19	.70	7.1	10	9.5	9.7	10	5.5	.56	17	8.7	11	7.4
20	.70	6.6	10	9.6	9.8	9.2	1.2	.58	7.0	9.1	7.2	7.5
21	.70	6.6	10	9.4	10	9.1	1.8	.54	8.6	8.3	4.6	7.7
22	.75	7.2	10	9.4	9.8	9.4	6.4	1.2	9.3	7.3	5.3	7.6
23	1.5	7.0	10	9.4	10	9.4	6.8	.66	9.3	7.1	4.8	7.6
24	5.3	7.0	10	9.5	11	9.1	6.8	.98	9.9	170	4.8	7.8
25	8.2	5.2	10	9.4	10	9.1	7.1	1.8	9.8	16	4.9	7.8
26	8.4	.46	10	9.6	9.8	9.2	7.3	2.1	10	8.5	5.0	7.1
27	8.2	2.1	10	9.5	10	10	7.6	2.8	10	8.3	4.9	6.4
28	8.1	3.8	10	9.5	10	9.8	8.5	5.4	9.9	7.1	5.1	8.3
29	8.4	5.5	10	9.0	---	8.0	8.2	6.4	11	.72	4.9	6.0
30	10	6.5	11	8.0	---	8.5	8.0	5.8	11	1.7	4.9	.58
31	12	---	10	8.0	---	9.0	---	6.9	---	.98	4.8	---
TOTAL	85.83	228.06	285.6	288.4	265.5	301.7	198.8	86.10	191.04	398.20	103.6	172.38
MEAN	2.77	7.60	9.21	9.30	9.48	9.73	6.63	2.78	6.37	12.8	3.34	5.75
MAX	12	13	11	11	11	11	9.8	8.0	17	170	11	8.3
MIN	.64	.46	6.5	7.5	8.0	8.0	1.0	.54	.43	.72	1.0	.58
AC-FT	170	452	566	572	527	598	394	171	379	790	205	342

CAL YR 1974 TOTAL 1857.07 MEAN 5.09 MAX 13 MIN .18 AC-FT 3680
WTR YR 1975 TOTAL 2605.21 MEAN 7.14 MAX 170 MIN .43 AC-FT 5170

PEAK DISCHARGE (BASE, 24 FT^3/S)

DATE	TIME	G.H.	DISCHARGE
6-19	0500	5.05	66
7-24	0100	7.27	861

06402600 CHEYENNE RIVER NEAR BUFFALO GAP, S. DAK.

LOCATION.--Lat 43°30'05", long 103°04'23", in SW¼NE¼ sec.29, T.6 S., R.9 E., Custer County, 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 mi^2 (25,410 km^2), approximately.

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.

AVERAGE DISCHARGE.--7 years, 108 ft^3/s (3.059 m^3/s), 78,250 acre-ft/yr (96.5 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 386 ft^3/s (10.9 m^3/s) June 19, gage height, 4.12 ft (1.256 m); minimum daily, 36 ft^3/s (1.02 m^3/s) July 31.

Period of record: Maximum discharge, 17,600 ft^3/s (498 m^3/s) May 25, 1971, gage height, 11.44 ft (3.487 m); minimum daily, 15 ft^3/s (0.42 m^3/s) Dec. 19, 1973.

REMARKS.--Records good except those for winter periods, which are poor. Flow regulated by Angostura Reservoir 34 mi (55 km) upstream, see station 06401000. Records of chemical analyses and water temperatures for the water year 1975 are published in Section 2 of this report.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 8-11, 14-22, July 3 to Aug. 22; stage-discharge relation affected by ice Nov. 28 to Mar. 7, Mar. 12, 13, Mar. 23 to Apr. 2)

2.3	30	3.1	109
2.5	39	3.5	209
2.8	64		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	79	55	58	57	80	65	51	45	52	37	52
2	59	74	57	58	60	85	65	50	45	52	37	52
3	60	72	60	58	58	85	64	50	48	55	38	54
4	59	71	62	59	54	90	64	49	49	49	39	54
5	69	71	62	59	50	90	63	49	48	48	40	52
6	76	70	62	60	52	85	63	65	48	47	40	52
7	66	69	60	58	54	85	63	64	48	52	40	52
8	63	70	58	56	48	85	69	59	49	52	39	53
9	57	70	60	56	52	74	65	60	56	51	40	54
10	59	70	60	54	65	72	62	57	49	52	40	53
11	60	70	60	50	68	70	62	57	48	52	41	53
12	60	71	60	55	68	65	60	58	47	45	43	54
13	62	71	58	67	70	65	56	63	45	42	41	53
14	64	69	58	68	68	63	56	61	45	43	43	53
15	61	69	58	68	60	66	56	55	43	39	45	53
16	62	69	60	65	58	68	55	54	45	39	47	51
17	62	65	60	67	55	71	55	53	56	39	45	52
18	63	69	60	68	56	66	53	52	47	38	49	53
19	64	72	59	68	58	66	52	51	196	39	52	56
20	64	70	58	68	60	68	51	58	90	39	52	57
21	64	72	60	68	60	69	51	52	75	39	50	58
22	64	72	60	69	58	66	50	65	71	39	48	59
23	64	70	57	70	60	66	52	66	61	40	48	58
24	64	70	55	70	65	63	51	54	60	51	49	58
25	62	70	56	68	70	62	51	49	55	46	52	58
26	63	68	58	65	65	62	49	45	55	40	49	59
27	65	65	60	60	70	60	51	45	52	39	49	59
28	66	62	62	55	75	58	55	45	51	38	50	60
29	68	60	62	55	---	55	54	46	55	37	50	65
30	72	55	59	55	---	60	52	47	52	40	51	64
31	105	---	58	55	---	65	---	45	---	36	51	---
TOTAL	2006	2075	1834	1910	1694	2185	1715	1675	1734	1370	1395	1661
MEAN	64.7	69.2	59.2	61.6	60.5	70.5	57.2	54.0	57.8	44.2	45.0	55.4
MAX	105	79	62	70	75	90	69	66	196	55	52	65
MIN	57	55	55	50	48	55	49	45	43	36	37	51
AC-FT	3980	4120	3640	3790	3360	4330	3400	3320	3440	2720	2770	3290

CAL YR 1974 TOTAL 32849 MEAN 90.0 MAX 747 MIN 18 AC-FT 65160
WTR YR 1975 TOTAL 21254 MEAN 58.2 MAX 196 MIN 36 AC-FT 42160

06404000 BATTLE CREEK NEAR KEYSTONE, S. DAK.

LOCATION (revised).--Lat 43°52'21", long 103°20'10", in SW¼SW¼ sec.18, T.2 S., R.7 E., Pennington County, 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 mi^2 (171 km^2).

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

GAGE (revised).--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.

AVERAGE DISCHARGE.--15 years (1945-46, 1961-75), 10.6 ft^3/s (0.300 m^3/s), 7,680 acre-ft/yr (9.47 hm^3/yr); median of yearly mean discharges, 8.6 ft^3/s (0.24 m^3/s), 6,200 acre-ft/yr (7.64 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 239 ft^3/s (6.77 m^3/s) July 19, gage height, 4.43 ft (1.350 m); no flow for many days.

Period of record: Maximum discharge, 26,200 ft^3/s (742 m^3/s) June 9, 1972, gage height, 14.5 ft (4.42 m), from floodmarks, site then in use, from rating curve extended above 550 ft^3/s (15.6 m^3/s) on basis of slope-area measurement of peak flow; no flow for many days in 1961, 1962, 1970, 1974.

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

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	5.0	0		0	2.5	1.1	15	7.4	14	2.7	
2	0	1.0	0		0	2.0	1.3	13	7.4	12	2.9	
3	0	.50	0		0	1.5	1.5	12	7.4	11	2.7	
4	0	.50	0		0	1.1	1.6	10	7.4	10	2.3	
5	0	.50	0		0	1.1	1.6	9.0	7.4	8.6	2.1	
6	0	.50	.15		0	1.0	3.0	15	7.4	8.7	2.0	
7	0	.60	.40		0	1.0	8.0	15	8.0	9.4	1.7	
8	0	.60	.40		0	1.0	45	17	9.0	7.9	1.5	
9	0	.60	.29		.10	1.0	30	19	7.5	7.1	1.5	
10	0	.50	.30		.10	1.0	20	15	7.0	6.8	1.4	
11	0	.60	.30		.10	1.0	14	13	7.0	6.3	2.0	
12	0	.80	.30		.10	1.0	10	11	7.6	5.5	2.5	
13	0	1.0	.30		.10	1.0	9.0	10	7.5	5.2	3.0	
14	0	1.0	.15		.10	1.5	10	10	7.0	4.7	4.0	
15	0	1.0	.12		.10	3.0	12	9.5	7.0	4.5	6.0	
16	0	1.0	.09		.20	4.0	15	9.0	10	4.0	7.0	
17	0	.90	.20		.20	3.0	20	8.0	20	2.7	5.0	
18	0	.90	.20		.20	2.5	17	8.0	50	2.0	4.0	
19	0	.90	.20		.20	2.0	13	8.0	93	2.0	4.5	
20	0	.98	.25		.20	1.5	10	8.0	61	2.5	3.0	
21	0	.98	.20		.30	1.2	9.0	8.5	52	2.5	2.2	
22	0	.98	.20		.40	1.0	9.0	11	39	2.5	1.0	
23	0	.81	0		.50	1.0	11	11	33	3.2	.50	
24	0	.81	0		.60	.90	13	10	26	2.5	.30	
25	0	.90	0		.80	.90	13	9.0	23	2.0	.30	
26	.10	.81	0		1.0	.50	13	8.0	34	2.5	.20	
27	.20	.65	0		2.0	.30	14	7.0	24	2.5	.13	
28	.20	.39	0		3.0	.60	18	7.0	20	2.3	0	
29	.10	.06	0		---	1.0	28	7.0	18	2.0	0	
30	.30	0	0		---	1.5	20	7.0	17	2.0	0	
31	9.0	---	0		---	2.0	---	7.0	---	2.5	0	---
TOTAL	9.90	25.77	4.05	0	10.30	44.60	391.1	327.0	632.0	161.4	66.43	0
MEAN	.32	.86	.13	0	.37	1.44	13.0	10.5	21.1	5.21	2.14	0
MAX	9.0	5.0	.40	0	3.0	4.0	45	19	93	14	7.0	0
MIN	0	0	0	0	0	.30	1.1	7.0	7.0	2.0	0	0
AC-FT	20	51	8.0	0	20	88	776	649	1250	320	132	0

CAL YR 1974 TOTAL 476.42 MEAN 1.31 MAX 9.0 MIN 0 AC-FT 945
WTR YR 1975 TOTAL 1672.55 MEAN 4.58 MAX 93 MIN 0 AC-FT 3320

PEAK DISCHARGE (BASE, 100 FT^3/S).--June 19 (time unknown) 239 ft^3/s (4.43 ft).

06405000 GRACE COOLIDGE CREEK NEAR CUSTER, S. DAK.

LOCATION.--Lat 43°45'40", long 103°21'42", in SE¼NE¼ sec.26, T.3 S., R.6 E., Custer County, 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 mi^2 (65.5 km^2).

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.

AVERAGE DISCHARGE.--9 years (1945-46, 1967-75), 3.08 ft^3/s (0.087 m^3/s), 2,230 acre-ft/yr (2.75 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 83 ft^3/s (2.35 m^3/s) June 19, gage height, 2.28 ft (0.695 m); no flow for many days.

Period of record: Maximum discharge, 709 ft^3/s (20.1 m^3/s) June 10, 1972, gage height, 4.64 ft (1.414 m), present datum, from rating curve extended above 80 ft^3/s (2.27 m^3/s) on basis of slope-area measurement of peak flow; no flow for many days most years.

Flood of June 12, 1967, reached a stage of 2.45 ft (0.747 m), present datum, from floodmarks, discharge, 151 ft^3/s (4.28 m^3/s).

REMARKS.--Records fair except those for winter periods, which are poor. Considerable losses in sinkholes in vicinity of gage.

REVISIONS (WATER YEAR).--WRD S.Dak. 1971: 1970(M).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0					0	.10	1.3	.34	9.3	1.1	
2	0					0	.20	.63	.57	6.9	.88	
3	0					0	.50	.10	.88	6.4	.57	
4	0					0	1.0	.10	2.4	6.0	.57	
5	0					0	1.2	.63	1.8	4.9	.45	
6	0					0	1.3	1.3	1.3	5.6	.45	
7	0					0	1.5	1.5	2.4	6.0	.34	
8	0					0	1.2	1.3	9.8	4.9	.16	
9	0					0	1.1	1.1	11	4.9	.10	
10	0					0	.51	1.3	7.8	5.3	.03	
11	0					0	.10	1.3	6.4	4.9	.02	
12	0					0	.06	1.5	6.4	3.7	0	
13	0					0	.63	1.8	5.3	3.7	0	
14	0					0	.23	.88	4.9	3.0	.01	
15	0					0	1.3	.51	3.7	2.6	.26	
16	0					.50	1.8	.28	4.5	2.6	.51	
17	0					1.0	1.8	.08	7.8	2.0	.28	
18	0					2.0	1.5	.16	10	1.6	.28	
19	0					3.0	.69	.02	57	1.3	.28	
20	0					3.0	.63	.16	30	1.5	.34	
21	0					2.0	.57	.22	25	1.1	.16	
22	1.2					2.0	.31	1.5	19	.88	.05	
23	.05					1.0	.51	1.8	17	1.1	0	
24	0					.50	.88	1.1	14	1.5	0	
25	0					.10	.69	.57	13	1.1	0	
26	0					.10	.57	.51	17	.63	0	
27	0					.10	.57	.34	14	.63	0	
28	0					.10	3.7	.28	11	.57	0	
29	0				---	.10	3.0	.22	11	.51	0	
30	.02				---	.30	2.0	.10	9.3	.57	0	
31	.01	---			---	.20	---	.34	---	.51	0	---
TOTAL	1.28	0	0	0	0	16.00	30.15	22.93	324.59	96.20	6.84	0
MEAN	.041	0	0	0	0	.52	1.01	.74	10.8	3.10	.22	0
MAX	1.2	0	0	0	0	3.0	3.7	1.8	57	9.3	1.1	0
MIN	0	0	0	0	0	0	.06	.02	.34	.51	0	0
AC-FT	2.5	0	0	0	0	32	60	45	644	191	14	0

CAL YR 1974 TOTAL 17.33 MEAN .05 MAX 1.3 MIN 0 AC-FT 34
WTR YR 1975 TOTAL 497.99 MEAN 1.36 MAX 57 MIN 0 AC-FT 988

PEAK DISCHARGE (BASE, 25 FT^3/S).--June 19 (0800) 83 ft^3/s (2.28 ft).

06406000 BATTLE CREEK AT HERMOSA, S. DAK.

LOCATION.--Lat 43°49'41", long 103°11'44", in NE¼SW¼SW¼ sec.32, T.2 S., R.8 E., Custer County, on right bank 50 ft (15 m) downstream from Chicago and North Western Transportation Co. 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 mi^2 (461 km^2).

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, nonrecording gage at site 80 ft (24 m) downstream at present datum.

AVERAGE DISCHARGE.--26 years, 9.23 ft^3/s (0.261 m^3/s), 6,690 acre-ft/yr (8.25 hm^3/yr); median of yearly mean discharges, 5.6 ft^3/s (0.16 m^3/s), 4,100 acre-ft/yr (5.06 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 317 ft^3/s (8.98 m^3/s) June 19, gage height, 5.32 ft (1.622 m); minimum daily, 0.42 ft^3/s (0.012 m^3/s) Oct. 12, 13.

Period of record: Maximum discharge, 21,400 ft^3/s (606 m^3/s) June 10, 1972, gage height, 17.72 ft (5.401 m), from floodmarks, from rating curve extended above 2,800 ft^3/s (79.3 m^3/s) on basis of contracted-opening and flow-over-railroad embankment measurement of peak flow; no flow at times in 1954-57, 1959.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 21 to Nov. 6, Apr. 29 to June 19, July 27 to Sept. 23; stage-discharge relation affected by ice Dec. 23 to Jan. 22, Jan. 26 to Mar. 1)

1.9	0.20	2.3	6.7	3.5	65
2.0	1.3	2.6	15	4.0	115
2.1	2.8	3.0	32	4.5	180

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	4.1	1.6	2.0	1.6	6.0	2.3	13	4.5	6.9	3.0	.94
2	.97	3.7	2.0	2.0	1.8	5.1	2.2	11	4.5	6.0	2.4	.91
3	1.2	3.9	1.9	2.0	1.8	4.1	3.2	9.7	4.6	4.4	2.1	.57
4	1.1	3.9	2.0	2.0	1.5	4.8	3.4	7.7	5.7	2.7	1.8	.99
5	1.9	3.9	2.2	2.0	1.3	4.5	2.6	6.3	4.2	2.6	1.9	1.2
6	2.4	3.9	2.4	2.1	1.3	3.9	2.4	11	3.9	4.2	1.9	1.4
7	2.2	4.1	2.4	2.0	1.4	3.7	2.6	11	4.0	4.8	1.2	1.4
8	1.9	4.1	1.9	1.8	1.7	3.3	36	8.2	4.4	4.3	1.1	1.5
9	1.9	3.5	2.5	1.6	2.0	3.5	26	8.4	4.0	4.5	1.1	1.6
10	2.3	2.6	2.6	1.4	2.8	3.4	16	8.0	3.5	3.9	.94	1.4
11	1.8	3.2	2.5	1.4	2.9	3.7	7.7	7.4	3.9	2.1	1.1	1.5
12	.42	4.1	2.6	1.4	2.5	2.7	5.1	6.3	4.6	2.1	1.8	2.2
13	.42	4.6	2.5	1.8	2.5	2.9	4.4	5.6	4.3	2.8	1.8	2.2
14	.53	4.8	2.6	2.2	2.4	3.6	6.6	5.4	4.1	3.0	2.9	2.1
15	1.2	4.6	2.4	2.6	2.3	5.5	7.5	5.2	3.9	3.3	4.4	1.7
16	2.3	4.6	2.8	2.8	2.4	7.3	9.6	5.0	4.1	2.4	4.9	1.4
17	.84	4.1	2.8	2.8	2.4	5.3	13	4.4	4.8	.87	3.2	1.4
18	.48	4.1	2.5	2.6	2.4	4.3	12	4.8	4.7	1.0	3.2	1.7
19	.75	4.1	2.2	2.5	2.5	3.8	8.5	4.8	152	.89	3.5	2.7
20	.75	3.9	2.1	2.5	2.6	3.4	6.2	4.4	80	.93	2.1	3.0
21	1.3	4.1	2.1	2.5	2.5	3.5	5.4	4.6	56	2.6	1.9	2.9
22	1.3	3.9	2.1	2.6	2.4	3.0	5.1	7.5	43	2.5	1.6	2.7
23	1.9	4.1	1.4	2.8	2.4	3.2	6.4	6.7	31	1.6	1.3	2.4
24	2.0	4.1	1.3	2.8	3.0	2.7	7.5	6.4	23	1.3	1.5	2.2
25	2.0	3.5	1.2	2.5	5.0	2.3	6.8	5.2	18	1.0	1.7	2.1
26	3.5	1.9	1.5	2.2	4.0	2.4	6.9	4.6	25	1.5	2.0	2.2
27	3.7	1.8	1.8	2.0	5.0	1.1	6.9	4.2	22	2.0	1.5	1.9
28	3.2	1.8	2.0	1.8	6.0	1.2	11	4.1	13	1.4	1.3	2.1
29	2.8	1.8	2.0	1.6	------	1.6	20	4.2	10	1.2	1.0	.81
30	3.3	1.4	1.9	1.6	------	2.5	16	4.0	8.0	1.4	1.1	.73
31	5.6	------	1.9	1.6	------	3.0	------	4.2	------	1.8	1.1	------
TOTAL	57.56	108.2	65.7	65.5	72.4	111.3	269.3	203.3	558.7	81.99	62.34	51.85
MEAN	1.86	3.61	2.12	2.11	2.59	3.59	8.98	6.56	18.6	2.64	2.01	1.73
MAX	5.6	4.8	2.8	2.8	6.0	7.3	36	13	152	6.9	4.9	3.0
MIN	.42	1.4	1.2	1.4	1.3	1.1	2.2	4.0	3.5	.87	.94	.57
AC-FT	114	215	130	130	144	221	534	403	1,110	163	124	103

CAL YR 1974 TOTAL 1,314.31 MEAN 3.60 MAX 9.5 MIN .42 AC-FT 2,610
WTR YR 1975 TOTAL 1,708.14 MEAN 4.68 MAX 152 MIN .42 AC-FT 3,390

PEAK DISCHARGE (BASE, 150 FT^3/S).--June 19 (1030) 317 ft^3/s (5.32 ft).

06408500 SPRING CREEK NEAR HERMOSA, S. DAK.

LOCATION.--Lat 43°56'31", long 103°09'32", in SE¼SE¼SE¼ sec.21, T.1 S., R.8 E., Pennington County, 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 mi^2 (515 km^2).

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

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 at datum 2.00 ft (0.610 m) higher. Mar. 31, 1973, to Sept. 30, 1973, water-stage recorder at present site at datum 2.00 ft (0.610 m) higher.

AVERAGE DISCHARGE.--26 years, 5.76 ft^3/s (0.163 m^3/s), 4,470 acre-ft/yr (5.14 hm^3/yr); median of yearly mean discharges, 1.7 ft^3/s (0.048 m^3/s), 1,200 acre-ft/yr (1.48 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 14 ft^3/s (0.396 m^3/s) June 19, gage height, 2.41 ft (0.735 m); maximum gage height, 3.22 ft (0.981 m) Apr. 1 (backwater from ice); no flow for many days.

Period of record: Maximum discharge, 13,400 ft^3/s (379 m^3/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 ft^3/s (9.91 m^3/s) on basis of contracted-opening measurement of peak flow; no flow for many days most years.

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 hm^3), 24 mi (39 km) above station.

REVISIONS (WATER YEARS).--WSP 1729: 1950.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.45	.20	.20	0	.70	2.0	.20	.51			
2	.01	.01	.27	.20	.20	.30	1.0	.40	.57			
3	.06	0	.56	.20	.20	.20	2.0	.42	.49			
4	.11	0	.56	.20	.10	.50	4.0	.45	.72			
5	.57	.11	.64	.20	.10	.40	2.0	.45	.43			
6	1.1	.20	.40	.30	.10	.20	1.0	.53	.37			
7	.36	.20	.40	.30	.10	.20	1.0	.43	.74			
8	.48	.20	.40	.20	.10	.10	1.0	.41	.99			
9	.51	.20	.38	.15	.10	.30	.99	.64	.40			
10	.69	.15	.37	.10	.30	.30	.79	.35	.06			
11	1.1	.36	.42	.10	.40	.30	.38	.38	.05			
12	.68	.20	.20	.10	.30	.30	.29	.20	.05			
13	1.0	.38	.20	.20	.20	.30	.57	.26	0			
14	1.1	.42	.20	.20	.20	.30	.46	.35	0			
15	.99	.40	.20	.20	.20	.40	.60	.16	0			
16	.80	.40	.20	.40	.20	1.0	.36	.04	.13			
17	.90	.40	.20	.50	.20	1.0	.74	0	.82			
18	.80	.52	.20	.40	.30	1.0	.30	0	.47			
19	.67	.40	.20	.40	.40	.80	0	0	5.8			
20	.30	.26	.20	.30	.50	.60	0	0	1.2			
21	.30	.30	.20	.20	.50	.10	0	.19	.97			
22	.16	.60	.20	.20	.40	0	.02	1.3	.78			
23	.11	.60	.20	.20	.50	0	.20	.89	.32			
24	.24	.60	.20	.10	2.0	0	.15	.42	.33			
25	0	.60	.20	0	1.5	0	0	.22	.39			
26	0	.56	.20	0	.50	0	.06	.12	.99			
27	0	.40	.30	0	.60	0	.11	.15	.87			
28	0	.40	.30	0	.70	0	.69	.16	.20			
29	0	.40	.20	0	---	.50	.23	.24	.14			
30	.54	.20	.20	0	---	1.5	.22	.17	0			
31	1.4	---	.20	0	---	3.0	---	.30	---			---
TOTAL	14.98	9.92	8.80	5.55	10.90	14.30	21.16	9.83	18.79	0	0	0
MEAN	.48	.33	.28	.18	.39	.46	.71	.32	.63	0	0	0
MAX	1.4	.60	.64	.50	2.0	3.0	4.0	1.3	5.8	0	0	0
MIN	0	0	.20	0	0	0	0	0	0	0	0	0
AC-FT	30	20	17	11	22	28	42	19	37	0	0	0

CAL YR 1974 TOTAL 273.26 MEAN .75 MAX 3.2 MIN 0 AC-FT 542
WTR YR 1975 TOTAL 114.23 MEAN .31 MAX 5.8 MIN 0 AC-FT 227

06409000 CASTLE CREEK ABOVE DEERFIELD RESERVOIR, NEAR HILL CITY, S. DAK.
(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, 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 mi^2 (215 km^2), approximately.

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

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.

AVERAGE DISCHARGE.--27 years, 10.1 ft^3/s (0.286 m^3/s), 7,320 acre-ft/yr (9.03 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 102 ft^3/s (2.89 m^3/s) Apr. 23; maximum gage height, 3.48 ft (1.061 m) Dec. 14 (backwater from ice); minimum daily discharge, 7.0 ft^3/s (0.198 m^3/s) for many days.

Period of record: Maximum discharge, 1,120 ft^3/s (31.7 m^3/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 ft^3/s (0.034 m^3/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.

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. Records of chemical analyses and instantaneous sediment loads for the water year 1975 are published in Section 2 of this report.

REVISIONS (WATER YEARS).--WSP 1917: 1952(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 6, 10-30; stage-discharge relation affected by ice Nov. 4-7, 12-21, 24, 25, Nov. 27 to Dec. 29, Jan. 10-18, Feb. 6, 7, 18, 19, 21, 22, Mar. 12, 13, Mar. 24 to Apr. 4, Apr. 7-9)

1.6	6.6	2.5	38
1.9	14	3.0	70

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.4	12	8.0	9.3	9.1	7.9	8.0	24	14	11	9.6	8.1
2	8.4	11	9.0	9.6	9.3	7.7	9.0	24	13	11	8.8	8.6
3	8.4	10	9.0	9.6	9.1	7.7	10	24	14	11	8.6	8.8
4	8.6	10	10	10	7.9	7.7	12	24	15	10	8.6	9.1
5	9.1	10	12	11	7.7	7.7	14	24	13	11	8.8	9.3
6	9.1	10	14	9.6	8.0	8.0	16	26	12	11	8.6	9.1
7	8.8	11	12	8.4	8.0	8.0	22	24	13	10	8.1	9.1
8	8.8	11	13	8.1	8.4	7.9	16	23	14	11	8.1	9.3
9	8.8	11	15	8.6	8.4	7.7	15	23	14	11	8.4	9.1
10	9.1	11	14	8.0	8.6	7.7	12	24	13	10	8.6	9.3
11	8.8	10	13	7.0	8.6	7.7	12	22	12	10	8.4	9.1
12	8.6	10	12	7.0	7.7	7.0	12	22	12	9.8	8.6	9.1
13	7.7	8.0	11	8.0	7.7	7.0	13	21	12	10	8.4	8.8
14	8.1	10	10	8.0	7.7	7.7	16	20	12	9.8	8.4	8.8
15	8.4	11	10	8.0	7.5	7.5	16	19	12	9.6	8.8	8.8
16	8.8	11	11	8.0	7.5	7.9	26	20	15	9.8	9.1	8.6
17	8.6	12	12	8.0	7.5	7.9	23	19	16	9.8	8.6	9.1
18	8.6	12	11	8.0	7.5	7.9	16	18	18	9.6	8.4	9.3
19	8.8	10	11	8.4	8.0	8.4	15	18	19	9.6	8.4	9.6
20	8.8	10	10	8.4	7.2	10	18	19	15	9.3	8.6	9.3
21	8.8	10	11	8.6	7.0	9.8	27	18	16	9.8	8.6	9.1
22	8.8	9.8	9.0	8.8	8.0	9.6	35	20	14	9.6	8.1	8.8
23	8.8	9.8	9.0	8.4	8.1	7.2	43	18	13	9.6	8.1	8.8
24	8.8	10	8.0	8.1	8.6	8.0	40	17	13	9.1	8.1	8.8
25	8.8	10	9.0	8.4	9.1	8.0	37	17	14	9.1	8.1	9.1
26	8.8	10	11	8.1	8.1	7.5	31	16	16	8.8	8.1	8.8
27	9.1	10	11	8.1	8.4	7.5	27	15	13	8.8	8.1	9.1
28	9.1	9.0	11	8.6	8.6	7.0	22	15	12	8.8	8.1	9.1
29	9.1	8.0	10	8.4	---	7.0	12	14	12	8.6	8.1	9.3
30	12	8.0	8.6	8.6	---	8.0	20	14	11	8.6	8.1	9.3
31	15	---	9.1	8.1	---	8.0	---	15	---	8.8	8.1	---
TOTAL	279.8	305.6	333.7	263.2	227.3	244.6	595.0	617	412	303.9	261.5	270.5
MEAN	9.03	10.2	10.8	8.49	8.12	7.89	19.8	19.9	13.7	9.80	8.44	9.02
MAX	15	12	15	11	9.3	10	43	26	19	11	9.6	9.6
MIN	7.7	8.0	8.0	7.0	7.0	7.0	8.0	14	11	8.6	8.1	8.1
AC-FT	555	606	662	522	451	485	1180	1220	817	603	519	537

CAL YR 1974 TOTAL 3673.3 MEAN 10.1 MAX 20 MIN 5.6 AC-FT 7290
WTR YR 1975 TOTAL 4114.1 MEAN 11.3 MAX 43 MIN 7.0 AC-FT 8160

PEAK DISCHARGE (BASE, 100 FT^3/S).--Apr. 23 (2100) 102 ft^3/s (3.24 ft).

06409500 DEERFIELD RESERVOIR NEAR HILL CITY, S. DAK.

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

DRAINAGE AREA.--95 mi^2 (246 km^2), approximately.

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

EXTREMES.--Current year: Maximum contents, 15,198 acre-ft (18.7 hm^3) Apr. 17, elevation, 5,908.11 ft (1,800.792 m); minimum, 13,356 acre-ft (16.5 hm^3) Oct. 25, elevation, 5,903.51 ft (1,799.390 m).

Period of record: Maximum contents observed, 15,340 acre-ft (18.9 hm^3) 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 m^3) Oct. 2, 1959, elevation, 5,839.10 ft (1,779.758 m).

REMARKS.--Reservoir is formed by earthfill dam. Storage began Dec. 3, 1945; dam completed in 1947. Usable capacity, 15,153 acre-ft (18.7 hm^3) 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 hm^3). 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.

MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	5,904.34	13,679	-
Oct. 31	5,903.70	13,430	-249
Nov. 30	5,904.44	13,718	+288
Dec. 31	5,905.42	14,105	+387
CAL YR 1974	-	-	+753
Jan. 31	5,906.53	14,550	+445
Feb. 28	5,907.30	14,864	+314
Mar. 31	5,908.03	15,165	+301
Apr. 30	5,907.68	15,020	-145
May 31	5,906.97	14,729	-291
June 30	5,907.21	14,827	+98
July 31	5,906.48	14,530	-297
Aug. 31	5,905.95	14,316	-214
Sept.30	5,904.43	13,714	-602
WTR YR 1975	-	-	+35

06410000 CASTLE CREEK BELOW DEERFIELD DAM, S. DAK.

LOCATION.--Lat 44°01'45", long 103°46'53", in NW¼SE¼ sec.20, T.1 N., R.3 E., Pennington County, 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 mi^2 (249 km^2), 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.

AVERAGE DISCHARGE.--29 years, 10.3 ft^3/s (0.292 m^3/s), 7,460 acre-ft/yr (9.20 hm^3/yr).

EXTREMES.--Current year: Maximum daily discharge, 46 ft^3/s (1.30 m^3/s) Apr. 25; minimum daily, 2.2 ft^3/s (0.062 m^3/s) Dec. 19-27.

Period of record: Maximum daily discharge, 200 ft^3/s (5.66 m^3/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.

REMARKS.--Records good. Flow completely regulated by Deerfield Reservoir 1,100 ft (335 m) upstream. (See station 06409500.)

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	5.7	2.6	2.4	2.7	2.5	8.1	42	13	18	9.1	8.9
2	11	5.4	2.6	2.4	2.7	2.5	8.6	37	13	18	8.9	8.9
3	11	5.3	2.5	2.5	2.7	2.6	8.4	32	13	18	8.9	8.9
4	12	5.1	2.5	2.5	2.7	2.5	8.6	32	13	18	8.9	8.9
5	12	3.8	2.5	2.5	2.7	2.5	9.7	32	13	19	8.7	8.7
6	12	2.5	2.5	2.5	2.7	2.5	13	33	13	19	8.5	8.7
7	12	2.5	2.5	2.5	2.7	2.6	21	33	13	18	8.6	8.7
8	12	2.5	2.5	2.6	2.7	2.6	30	33	12	18	8.7	8.7
9	12	2.5	2.5	2.6	2.7	2.7	18	31	12	15	8.7	8.7
10	12	2.5	2.5	2.7	2.6	2.7	15	29	12	11	8.5	8.7
11	12	2.5	2.5	2.5	2.6	2.8	13	30	12	11	8.5	11
12	12	2.6	2.5	2.5	2.6	2.8	11	30	12	11	8.5	17
13	12	2.6	2.5	2.7	2.6	2.8	11	30	12	11	8.5	17
14	12	2.6	2.5	2.6	2.6	2.8	14	30	12	11	8.5	17
15	12	2.6	2.4	2.5	2.6	2.8	18	30	12	11	8.6	17
16	13	2.6	2.4	2.6	2.5	2.8	23	28	12	11	8.4	17
17	15	2.6	2.4	2.7	2.5	3.3	32	26	12	11	8.7	17
18	14	2.6	2.3	2.8	2.4	4.0	30	25	12	9.3	8.7	17
19	14	2.6	2.2	2.9	2.5	4.9	29	25	16	9.3	8.7	17
20	14	2.6	2.2	2.9	2.4	6.5	27	25	19	9.3	8.7	17
21	13	2.7	2.2	2.9	2.5	9.4	27	25	18	9.3	8.7	17
22	13	2.7	2.2	2.9	2.5	9.8	29	25	18	9.2	8.9	18
23	12	2.7	2.2	2.8	2.5	8.9	35	25	18	9.1	9.1	18
24	12	2.7	2.2	2.8	2.5	6.8	42	25	18	9.1	8.9	18
25	8.7	2.7	2.2	2.8	2.6	6.6	46	24	18	9.1	8.9	18
26	5.7	2.7	2.2	2.8	2.6	6.8	45	24	18	8.9	8.7	18
27	5.7	2.7	2.2	2.8	2.6	9.1	41	24	18	8.9	8.7	19
28	5.6	2.7	2.3	2.8	2.5	7.9	41	24	18	9.1	8.9	19
29	5.4	2.7	2.3	2.7	---	7.0	41	18	18	9.1	8.9	19
30	5.6	2.7	2.3	2.7	---	7.0	43	13	18	9.1	8.9	19
31	5.9	---	2.4	2.7	---	7.1	---	12	---	9.1	8.9	---
TOTAL	339.6	90.7	73.8	82.6	72.5	147.6	738.4	852	438	376.9	270.8	434.8
MEAN	11.0	3.02	2.38	2.66	2.59	4.76	24.6	27.5	14.6	12.2	8.74	14.5
MAX	15	5.7	2.6	2.9	2.7	9.8	46	42	19	19	9.1	19
MIN	5.4	2.5	2.2	2.4	2.4	2.5	8.1	12	12	8.9	8.4	8.7
AC-FT	674	180	146	164	144	293	1460	1690	869	748	537	862

CAL YR 1974 TOTAL 2985.2 MEAN 8.18 MAX 21 MIN 2.2 AC-FT 5920
WTR YR 1975 TOTAL 3917.7 MEAN 10.7 MAX 46 MIN 2.2 AC-FT 7770

06410500 RAPID CREEK ABOVE PACTOLA RESERVOIR, AT SILVER CITY, S. DAK.

LOCATION.--Lat 44°05'05", long 103°34'48", in SW¼SE¼ sec.36, T.2 N., R.4 E., Pennington County, 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 mi^2 (756 km^2).

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).

AVERAGE DISCHARGE.--22 years, 40.4 ft^3/s (1.144 m^3/s), 29,270 acre-ft/yr (36.1 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 219 ft^3/s (6.20 m^3/s) Apr. 26, gage height, 5.63 ft (1.716 m); maximum gage height, 5.71 ft (1.740 m) Mar. 14 (backwater from ice); minimum daily discharge, 6.0 ft^3/s (0.170 m^3/s) Jan. 11, 12.

Period of record: Maximum discharge, 2,060 ft^3/s (58.3 m^3/s) May 15, 1965, gage height, 10.44 ft (3.182 m); from rating curve extended above 1,000 ft^3/s (28.3 m^3/s) on basis of slope-area measurement of peak flow; minimum daily, 4.0 ft^3/s (0.11 m^3/s) Jan. 20, 1962.

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).

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 27 to Apr. 4)

4.2	10
4.4	20
4.7	48
5.0	88
5.5	182

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	25	13	8.0	9.0	10	20	132	66	68	33	19
2	21	20	15	8.0	10	9.0	25	136	61	65	31	19
3	21	18	20	9.0	9.0	9.0	30	123	61	62	30	19
4	21	16	30	9.0	8.0	11	40	126	65	61	28	19
5	23	16	25	9.0	7.5	10	44	132	57	62	29	19
6	23	16	20	9.0	8.0	9.0	48	151	54	61	27	18
7	22	16	20	8.0	8.0	9.0	59	149	59	63	26	18
8	22	16	25	8.0	7.0	9.0	71	158	74	58	24	18
9	22	16	25	8.0	7.0	8.5	71	180	74	60	24	19
10	21	16	20	7.0	8.0	8.5	61	172	70	53	24	19
11	21	15	18	6.0	9.0	8.0	56	171	63	48	23	20
12	21	12	16	6.0	8.0	8.0	54	166	61	45	23	22
13	22	18	12	7.0	8.0	11	57	155	58	44	23	28
14	21	18	11	8.0	8.0	14	61	137	60	42	24	29
15	21	14	10	8.0	8.0	16	72	125	60	40	27	29
16	22	18	10	8.0	8.0	18	79	114	63	39	32	29
17	21	18	11	9.0	8.0	18	141	105	72	38	27	29
18	21	15	10	10	9.0	20	103	100	86	36	26	29
19	22	15	9.0	12	10	20	92	97	113	35	25	30
20	22	15	9.0	15	10	22	88	98	107	34	24	30
21	22	15	9.0	14	9.0	22	98	95	114	39	24	30
22	22	15	9.0	14	9.0	22	115	110	104	38	23	30
23	20	15	8.0	16	10	20	131	106	95	38	22	30
24	21	15	8.0	15	12	17	149	94	88	34	21	31
25	21	15	8.0	15	11	15	152	88	85	31	21	30
26	19	15	8.5	12	10	15	176	84	112	29	21	30
27	16	15	9.0	10	10	16	156	80	90	29	20	31
28	16	14	9.0	9.0	11	17	171	78	81	29	20	31
29	16	13	8.0	9.0	---	18	127	76	75	29	19	31
30	19	12	8.0	9.0	---	20	135	67	71	28	19	31
31	35	---	8.0	9.0	---	20	---	69	---	29	19	---
TOTAL	658	477	421.5	304.0	249.5	450.0	2682	3674	2299	1367	759	767
MEAN	21.2	15.9	13.6	9.81	8.91	14.5	89.4	119	76.6	44.1	24.5	25.6
MAX	35	25	30	16	12	22	176	180	114	68	33	31
MIN	16	12	8.0	6.0	7.0	8.0	20	67	54	28	19	18
AC-FT	1310	946	836	603	495	893	5320	7290	4560	2710	1510	1520

CAL YR 1974 TOTAL 7926.5 MEAN 21.7 MAX 51 MIN 7.0 AC-FT 15720
WTR YR 1975 TOTAL 14108.0 MEAN 38.7 MAX 180 MIN 6.0 AC-FT 27980

06411000 PACTOLA RESERVOIR NEAR SILVER CITY, S. DAK.

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

DRAINAGE AREA.--319 mi^2 (826 km^2).

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

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.

EXTREMES.--Current year: Maximum contents, 54,131 acre-ft (66.7 hm^3) July 2, 3, elevation, 4,579.23 ft (1,395.749 m); minimum, 42,356 acre-ft (52.2 hm^3) Feb. 24 to Mar. 3, elevation, 4,564.05 ft (1,391.122 m).

Period of record: Maximum contents observed, 60,970 acre-ft (75.2 hm^3) May 19, 1964, elevation, 4,585.87 ft (1,397.773 m); minimum observed since initial filling, 42,122 acre-ft (51.9 hm^3) Sept. 30, 1974, elevation, 4,563.72 ft (1,391.022 m).

REMARKS.--Reservoir formed by an earthfill dam completed August 1956. Storage began August 22, 1956. Conservation capacity, 54,960 acre-ft (67.8 hm^3) 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 hm^3). Flood storage capacity, 43,050 acre-ft (53.1 hm^3) between elevations 4,580.2 ft (1,396.04 m) and 4,621.5 ft (1,408.63 m), crest of spillway. Surcharge capacity, 15,780 acre-ft (19.5 hm^3) 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.

MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	4,563.72	42,122	-
Oct. 31	4,564.48	42,664	+542
Nov. 30	4,564.60	42,749	+85
Dec. 31	4,564.19	42,456	-293
CAL YR 1974	-	-	-8,047
Jan. 31	4,564.08	42,378	-78
Feb. 28	4,564.05	42,356	-22
Mar. 31	4,564.53	42,699	+343
Apr. 30	4,570.98	47,464	+4,765
May 31	4,577.48	52,658	+5,194
June 30	4,579.22	54,123	+1,465
July 31	4,577.34	52,541	-1,582
Aug. 31	4,574.32	50,078	-2,463
Sept.30	4,571.67	47,996	-2,082
WTR YR 1975	-	-	+5,874

06411500 RAPID CREEK BELOW PACTOLA DAM, S. DAK.

LOCATION.--Lat 44°04'36", long 103°28'54", in SW¼NE¼ sec.2, T.1 N., R.5 E., Pennington County, 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 mi^2 (829 km^2), approximately.

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.

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 km) 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.

AVERAGE DISCHARGE.--33 years, 44.6 ft^3/s (1.263 m^3/s), 32,310 acre-ft/yr (39.8 hm^3/yr).

EXTREMES.--Current year: Maximum daily discharge, 85 ft^3/s (2.41 m^3/s) June 7-11; minimum daily, 8.8 ft^3/s (0.25 m^3/s) Nov. 7.

Period of record: Maximum discharge, 2,170 ft^3/s (61.5 m^3/s) May 22, 1952, gage height, 6.74 ft (2.054 m), site and datum then in use; no flow Oct. 11-17, 1962.

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). Records of chemical analyses and water temperatures for the water year 1975 are published in Section 2 of this report.

REVISIONS (WATER YEARS).--WSP 1309: 1931(M).

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

6.9	6.8	7.5	38
7.0	9.4	7.7	62
7.1	12	7.9	96
7.3	22		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	13	15	16	16	16	16	15	68	73	68	57
2	17	13	15	16	16	16	16	15	68	73	68	61
3	17	13	15	16	16	16	16	15	68	73	68	65
4	17	13	15	16	16	16	16	15	68	73	68	65
5	17	11	15	16	16	16	16	15	76	73	56	65
6	17	9.4	15	16	15	16	16	16	83	73	46	65
7	17	8.8	15	16	15	16	17	16	85	73	46	65
8	17	9.1	15	16	15	16	17	16	85	73	49	67
9	17	11	15	16	15	16	16	16	85	73	58	68
10	17	11	15	16	15	16	16	16	85	73	57	68
11	16	11	15	16	15	16	16	16	85	73	57	68
12	15	11	15	15	15	16	16	16	81	73	58	68
13	14	11	15	15	15	16	16	16	73	71	58	67
14	14	11	15	16	16	16	16	16	73	71	58	65
15	14	11	15	16	16	16	16	16	73	64	62	56
16	14	11	16	16	16	16	16	16	73	58	65	48
17	14	11	16	16	16	16	16	16	61	65	65	48
18	14	11	16	16	16	16	16	16	52	70	62	48
19	14	11	16	16	16	16	16	33	40	70	59	47
20	14	11	16	16	16	16	16	46	34	70	53	46
21	14	11	16	16	16	16	16	46	34	70	49	46
22	13	11	16	16	16	16	16	53	34	70	49	39
23	13	11	15	16	16	16	16	79	35	71	49	34
24	13	11	15	16	16	16	16	79	36	71	50	36
25	13	12	15	16	16	16	16	79	36	68	50	35
26	13	15	16	16	16	16	16	79	34	68	50	34
27	13	15	16	16	16	16	16	79	52	68	50	34
28	13	15	16	16	16	16	16	79	73	68	52	34
29	13	15	16	16	---	16	15	73	73	68	56	34
30	13	15	16	16	---	16	15	67	73	68	56	34
31	13	---	16	16	---	16	---	68	---	68	56	---
TOTAL	463	353.3	478	494	440	496	480	1143	1896	2173	1748	1567
MEAN	14.9	11.8	15.4	15.9	15.7	16.0	16.0	36.9	63.2	70.1	56.4	52.2
MAX	23	15	16	16	16	16	17	79	85	73	68	68
MIN	13	8.8	15	15	15	16	15	15	34	58	46	34
AC-FT	918	701	948	980	873	984	952	2270	3760	4310	3470	3110

CAL YR 1974 TOTAL 12131.3 MEAN 33.2 MAX 113 MIN 8.8 AC-FT 24060
WTR YR 1975 TOTAL 11731.3 MEAN 32.1 MAX 85 MIN 8.8 AC-FT 23270

06412500 RAPID CREEK ABOVE CANYON LAKE, NEAR RAPID CITY, S. DAK.

LOCATION.--Lat 44°03'04", long 103°18'47", in NE¼NE¼ sec.18, T.1 N., R.7 E., Pennington County, 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 mi^2 (961 km^2).

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, nonrecording gage, and Oct. 6, 1947, to Nov. 2, 1967 (corrected), water-stage recorder at present site and datum. Nov. 3, 1967 (corrected), to Sept. 28, 1968, nonrecording gage at site 0.2 mi (0.3 km) downstream at datum 3.12 ft (0.951 m) lower.

AVERAGE DISCHARGE.--29 years, 39.4 ft^3/s (1.116 m^3/s), 28,550 acre-ft/yr (35.2 hm^3/yr); median of yearly mean discharges, 30 ft^3/s (0.85 m^3/s), 21,700 acre-ft/yr (26.8 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 92 ft^3/s (2.61 m^3/s) June 7, gage height, 2.07 ft (0.631 m); minimum daily, 0.10 ft^3/s (0.003 m^3/s) Dec. 24.

Period of record: Maximum discharge, 31,200 ft^3/s (884 m^3/s) June 9, 1972, gage height, 15.77 ft (4.807 m), from floodmarks, from rating curve extended above 1,300 ft^3/s (36.8 m^3/s) on basis of slope-area measurement of peak flow; no flow at times in 1950-51, 1957-60, 1962-63.

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).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	7.4	5.0	7.5	6.0	11	8.0	16	54	65	64	49
2	14	6.5	6.0	7.5	7.0	10	9.0	15	54	64	64	50
3	9.7	6.5	7.0	7.5	7.0	9.7	10	15	56	64	64	53
4	9.2	6.0	10	7.5	6.0	10	11	15	59	62	64	55
5	9.2	6.0	11	7.5	5.0	10	13	15	57	62	61	54
6	9.2	5.6	10	8.0	5.0	10	11	18	67	64	49	55
7	8.8	4.3	10	7.0	5.0	9.5	14	18	73	64	48	55
8	7.8	3.5	10	7.0	5.0	9.0	31	18	72	62	47	56
9	7.8	2.2	11	6.5	5.0	8.0	20	18	71	62	54	55
10	7.8	3.9	10	5.0	6.0	7.5	16	18	71	62	56	55
11	7.8	4.3	10	5.0	7.0	7.0	14	18	72	63	55	53
12	7.8	4.3	10	5.0	7.0	7.0	14	18	70	63	55	53
13	6.9	4.7	10	5.5	7.0	9.0	15	18	66	62	56	51
14	6.5	3.5	10	5.5	7.0	10	14	18	65	61	57	51
15	6.5	4.7	10	5.5	7.0	10	15	17	64	60	58	50
16	6.5	4.3	11	6.0	7.0	12	15	17	65	54	63	41
17	5.6	5.2	11	8.0	8.0	13	18	17	65	54	62	39
18	5.6	4.3	11	9.0	9.0	12	17	17	54	61	62	39
19	5.6	4.3	11	10	11	12	16	19	72	61	59	39
20	5.6	4.3	10	8.3	12	12	15	34	56	62	57	36
21	5.6	4.3	11	8.3	11	11	16	37	52	62	51	36
22	5.2	4.3	10	10	10	11	20	42	48	62	51	36
23	5.6	4.3	7.0	7.8	10	11	18	53	46	62	50	29
24	5.6	4.3	.10	8.8	11	11	16	59	45	63	49	28
25	5.6	4.3	2.0	8.3	11	8.0	15	58	45	63	49	29
26	5.6	4.7	6.5	8.0	10	7.0	15	60	46	62	49	27
27	5.6	4.0	8.0	7.0	11	5.5	15	60	45	62	49	27
28	5.6	4.0	8.0	6.0	11	.50	18	59	64	62	47	27
29	4.7	4.0	8.0	6.0	---	7.0	17	60	65	61	50	27
30	6.9	4.0	8.0	6.0	---	8.0	16	53	66	63	50	27
31	13	---	7.5	6.0	---	8.0	---	54	---	64	50	---
TOTAL	235.9	138.0	270.10	221.0	224.0	286.70	462.0	954	1805	1918	1700	1282
MEAN	7.61	4.60	8.71	7.13	8.00	9.25	15.4	30.8	60.2	61.9	54.8	42.7
MAX	19	7.4	11	10	12	13	31	60	73	65	64	56
MIN	4.7	2.2	.10	5.0	5.0	.50	8.0	15	45	54	47	27
AC-FT	468	274	536	438	444	569	916	1890	3580	3800	3370	2540

CAL YR 1974 TOTAL 9624.20 MEAN 26.4 MAX 113 MIN .10 AC-FT 19090
WTR YR 1975 TOTAL 9496.70 MEAN 26.0 MAX 73 MIN .10 AC-FT 18840

06414000 RAPID CREEK AT RAPID CITY, S. DAK.

LOCATION.--Lat 44°05'09", long 103°14'31", in SW¼SE¼ sec.35, T.2 N., R.7 E., Pennington County, 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 (destroyed).

DRAINAGE AREA.--410 mi^2 (1,060 km^2), approximately.

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).

AVERAGE DISCHARGE.--36 years, 62.6 ft^3/s (1.773 m^3/s), 45,350 acre-ft/yr (55.9 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,500 ft^3/s (42.5 m^3/s) June 7, gage height, 7.08 ft (2.158 m); minimum daily, 15 ft^3/s (0.42 m^3/s) Feb. 8, 9.

Period of record: Maximum discharge, 50,000 ft^3/s (1,420 m^3/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 ft^3/s (0.045 m^3/s) Apr. 20, 1962.

Flood of May 12, 13, 1920, reached a stage of 13.6 ft (4.15 m), from floodmarks.

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 hm^2). Flow regulated by Pactola Reservoir 25.4 mi (40.9 km) upstream (see station 06411000).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	28	19	22	18	25	27	30	72	74	65	52
2	30	26	21	21	19	25	26	29	68	69	69	50
3	21	24	23	21	18	25	28	31	68	72	65	59
4	21	23	26	21	17	25	30	29	79	72	100	59
5	25	23	26	22	16	26	31	28	74	74	94	57
6	26	22	26	23	16	26	28	30	81	92	69	56
7	25	21	26	22	16	24	33	31	215	83	54	50
8	23	21	23	22	15	24	68	33	109	80	50	52
9	22	19	26	23	15	23	44	34	101	80	54	54
10	22	19	25	21	16	22	37	34	101	80	59	63
11	23	21	23	20	18	21	33	32	101	80	54	72
12	24	19	23	19	17	20	31	32	94	83	56	74
13	23	21	22	20	17	20	32	31	83	78	57	72
14	23	21	22	21	17	22	31	28	78	80	61	67
15	24	21	23	22	17	28	33	26	78	78	69	61
16	22	21	24	22	18	32	34	27	85	46	80	50
17	21	22	24	23	19	32	39	26	83	45	76	45
18	21	23	23	23	21	29	32	26	78	56	78	50
19	23	21	24	24	23	30	33	21	170	62	67	46
20	21	21	23	24	24	31	30	41	83	64	61	45
21	23	26	23	23	26	26	31	53	72	66	54	59
22	21	27	26	23	24	27	37	68	65	68	52	52
23	23	25	22	23	40	26	33	75	63	70	45	43
24	23	24	21	24	52	23	30	86	59	72	45	31
25	23	23	21	23	28	20	29	87	63	67	48	33
26	24	22	21	22	23	20	30	88	61	69	46	36
27	25	21	23	21	26	20	31	86	61	67	45	36
28	23	23	25	19	25	20	38	84	83	67	46	36
29	20	21	24	18	---	22	34	81	85	67	48	37
30	39	20	23	18	---	27	31	74	83	67	54	39
31	43	---	21	18	---	27	---	74	---	76	48	---
TOTAL	764	669	722	668	601	768	1004	1455	2596	2204	1869	1536
MEAN	24.6	22.3	23.3	21.5	21.5	24.8	33.5	46.9	86.5	71.1	60.3	51.2
MAX	43	28	26	24	52	32	68	88	215	92	100	74
MIN	20	19	19	18	15	20	26	21	59	45	45	31
AC-FT	1520	1330	1430	1320	1190	1520	1990	2890	5150	4370	3710	3050

CAL YR 1974 TOTAL 14748.2 MEAN 40.4 MAX 163 MIN 9.2 AC-FT 29250
WTR YR 1975 TOTAL 14856.0 MEAN 40.7 MAX 215 MIN 15 AC-FT 29470

06421500 RAPID CREEK NEAR FARMINGDALE, S. DAK.

LOCATION.--Lat 43°56'31", long 102°51'12", in SW¼SW¼SW¼ sec.19, T.1 S., R.11 E., Pennington County, 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 mi^2 (1,559 km^2).

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.

AVERAGE DISCHARGE.--29 years, 54.8 ft^3/s (1.552 m^3/s), 39,700 acre-ft/yr (49.0 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 881 ft^3/s (24.9 m^3/s) June 8, gage height, 9.41 ft (2.868 m); minimum daily, 1.5 ft^3/s (0.042 m^3/s) Aug. 12, 31.

Period of record: Maximum discharge, 7,320 ft^3/s (207 m^3/s) June 10, 1972, gage height, 11.85 ft (3.612 m), from floodmarks, from rating curve extended above 400 ft^3/s (11.3 m^3/s) on basis of contracted-opening and flow-over-road embankment of peak flow; no flow at times in 1949, 1952-56, 1958-63, 1969-71.

REMARKS (corrected).--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 hm^3) above station. Records of chemical analyses and water temperatures for the water year 1975 are published in Section 2 of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	50	28	35	35	50	20	49	14	82	16	2.7
2	25	37	36	35	35	50	30	45	15	75	20	3.5
3	18	34	40	35	33	50	40	42	22	65	18	2.2
4	18	31	40	40	30	45	60	37	18	59	18	5.0
5	22	33	43	45	25	47	80	38	34	58	44	4.6
6	23	33	44	43	30	45	85	45	27	53	45	4.0
7	22	33	44	46	30	43	98	42	45	124	23	11
8	20	32	36	44	30	40	186	37	435	63	11	14
9	18	30	40	40	33	38	205	47	193	52	6.7	15
10	19	29	40	35	35	35	140	49	144	49	5.1	19
11	18	29	43	30	38	35	105	45	131	46	3.4	17
12	18	31	39	28	35	34	83	34	115	45	1.5	22
13	20	29	35	28	33	33	83	37	107	43	3.9	28
14	20	32	35	35	32	40	71	32	100	40	3.0	27
15	20	34	35	35	30	50	76	29	98	32	8.2	30
16	23	33	44	40	32	75	68	23	100	18	18	29
17	25	33	41	55	35	85	82	13	139	16	27	21
18	23	33	42	50	38	90	71	7.0	116	9.9	28	14
19	21	35	40	50	40	90	59	6.1	408	9.0	29	11
20	22	35	42	52	40	85	55	7.7	218	14	28	12
21	18	35	41	50	42	74	52	7.2	123	27	17	13
22	23	35	40	50	40	63	53	14	104	30	10	15
23	25	34	32	40	32	60	51	73	87	30	6.2	13
24	28	34	25	43	45	40	49	57	80	38	3.2	11
25	29	35	30	40	70	35	44	60	72	26	2.6	11
26	29	35	36	38	100	30	42	62	88	27	1.8	11
27	25	34	39	35	80	15	44	65	81	26	1.5	13
28	26	34	40	28	50	10	101	63	67	22	2.3	14
29	24	25	43	32	---	15	80	66	77	22	2.1	13
30	30	25	37	35	---	15	54	64	82	18	1.7	14
31	41	---	40	35	---	10	---	65	---	12	1.5	---
TOTAL	723	992	1190	1227	1128	1427	2267	1261.0	3340	1230.9	406.7	420.0
MEAN	23.3	33.1	38.4	39.6	40.3	46.0	75.6	40.7	111	39.7	13.1	14.0
MAX	41	50	44	55	100	90	205	73	435	124	45	30
MIN	18	25	25	28	25	10	20	6.1	14	9.0	1.5	2.2
AC-FT	1430	1970	2360	2430	2240	2830	4500	2500	6620	2440	807	833

CAL YR 1974 TOTAL 12006.2 MEAN 32.9 MAX 118 MIN 3.0 AC-FT 23810
WTR YR 1975 TOTAL 15612.6 MEAN 42.8 MAX 435 MIN 1.5 AC-FT 30970

06422500 BOXELDER CREEK NEAR NEMO, S. DAK.

LOCATION.--Lat 44°08'38", long 103°27'16", in SE¼SE¼ sec.12, T.2 N., R.5 E., Lawrence County, 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 mi^2 (249 km^2), 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.

AVERAGE DISCHARGE.--10 years (1946, 1967-75), 22.5 ft^3/s (0.634 m^3/s), 16,230 acre-ft/yr (20.0 hm^3/yr); median of yearly mean discharges, 20 ft^3/s (0.57 m^3/s), 14,500 acre-ft/yr (18 hm^3/yr).

EXTREMES.--Maximum discharge, 427 ft^3/s (12.1 m^3/s) July 30, gage height, 4.55 ft (1.387 m); minimum daily, 1.3 ft^3/s (0.037 m^3/s) Feb. 9.

Period of record (corrected): Maximum discharge, 30,100 ft^3/s (852 m^3/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 ft^3/s (17.0 m^3/s) on basis of slope-area measurement of peak flow; minimum daily, 0.70 ft^3/s (0.020 m^3/s) Dec. 30, 1968.

Flood of 1911 reached a stage of about 16 ft (4.9 m), present datum.

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

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	9.3	2.9	2.8	1.5	3.2	7.7	49	34	34	20	5.8
2	2.6	5.7	2.6	2.8	1.8	3.0	6.9	52	30	32	18	5.6
3	2.5	4.7	2.6	2.8	1.6	2.8	8.0	55	28	31	18	5.4
4	2.5	3.9	2.6	2.8	1.4	3.0	10	59	29	30	15	5.4
5	2.6	3.5	2.8	2.8	1.4	3.0	9.6	58	25	29	14	5.4
6	2.8	3.4	3.0	3.0	1.4	2.8	11	69	24	27	13	5.2
7	2.9	3.4	2.8	2.7	1.5	2.7	32	64	25	28	12	5.2
8	3.0	3.7	3.0	2.5	1.4	2.6	41	68	49	30	11	5.0
9	2.9	3.5	2.8	2.5	1.3	2.5	28	80	42	35	11	4.8
10	2.8	3.4	2.8	2.0	1.5	2.4	24	74	36	30	11	4.8
11	2.8	3.3	2.9	2.0	1.8	2.3	20	72	31	28	10	4.6
12	2.8	3.0	2.9	2.0	1.6	2.2	20	65	29	25	10	4.6
13	2.6	3.9	2.6	2.5	1.6	3.0	24	60	27	21	9.6	4.8
14	2.6	3.2	2.5	2.5	1.6	4.0	32	55	28	19	10	4.8
15	2.6	3.4	2.5	2.4	1.6	4.5	36	51	28	18	13	4.8
16	2.6	3.5	2.6	2.4	2.0	5.0	43	49	30	18	15	4.6
17	2.7	3.6	2.6	2.6	2.4	8.0	53	47	37	16	13	4.4
18	2.6	3.7	2.6	2.8	2.6	8.5	36	44	49	16	12	4.6
19	2.6	3.8	2.6	2.8	3.0	9.1	30	41	70	16	11	4.8
20	2.6	3.4	2.6	2.7	3.0	11	32	41	54	16	11	5.0
21	2.6	3.8	2.6	2.6	2.8	15	39	41	57	16	11	5.0
22	2.6	4.2	2.6	2.6	2.8	9.3	44	49	51	15	10	5.0
23	2.6	4.3	2.8	2.8	2.9	10	44	47	55	15	9.1	4.8
24	2.6	3.4	2.5	2.8	3.2	6.7	45	42	50	17	8.3	4.8
25	2.6	3.8	2.5	2.8	3.0	6.0	49	36	45	16	7.7	4.8
26	2.7	4.3	2.6	2.5	2.9	5.0	51	35	50	15	7.4	4.8
27	2.7	3.6	2.8	2.0	3.0	5.0	45	32	46	14	7.2	4.6
28	2.7	3.4	3.0	1.8	3.2	5.0	58	31	43	14	7.2	4.8
29	2.7	3.2	2.8	1.6	---	5.0	37	31	35	14	6.9	5.0
30	5.0	3.2	2.8	1.6	---	6.0	46	29	35	92	6.5	5.0
31	15	---	2.8	1.6	---	6.0	---	30	---	31	6.0	---
TOTAL	97.4	116.5	84.1	76.1	59.8	164.6	962.2	1556	1172	758	344.9	148.2
MEAN	3.14	3.88	2.71	2.45	2.14	5.31	32.1	50.2	39.1	24.5	11.1	4.94
MAX	15	9.3	3.0	3.0	3.2	15	58	80	70	92	20	5.8
MIN	2.5	3.0	2.5	1.6	1.3	2.2	6.9	29	24	14	6.0	4.4
AC-FT	193	231	167	151	119	326	1910	3090	2320	1500	684	294

CAL YR 1974 TOTAL 1814.8 MEAN 4.97 MAX 18 MIN 2.1 AC-FT 3600
WTR YR 1975 TOTAL 5539.8 MEAN 15.2 MAX 92 MIN 1.3 AC-FT 10990

PEAK DISCHARGE (BASE, 100 FT^3/S)

DATE	TIME	G.H.	DISCHARGE
5- 9	0800	2.78	102
6-19	1015	2.74	110
7-30	1700	4.55	427

06423500 CHEYENNE RIVER NEAR WASTA, S. DAK.

LOCATION.--Lat 44°04'52", long 102°24'03", in NE¼NE¼NW¼ sec.2, T.1 N., R.14 E., Pennington County, 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 mi^2 (33,200 km^2), 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.

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 same datum 2.00 ft (0.610 m) higher. Oct. 1, 1968, to Sept. 30, 1972, at datum 1.00 ft (0.305 m) higher.

AVERAGE DISCHARGE.--44 years (1928-31, 1934-75), 362 ft^3/s (10.25 m^3/s), 262,300 acre-ft/yr (323 hm^3/yr); median of yearly mean discharges, 310 ft^3/s (8.78 m^3/s), 225,000 acre-ft/yr (277 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 5,140 ft^3/s (146 m^3/s) June 19, gage height, 5.99 ft (1.826 m); maximum gage height, 6.50 ft (1.981 m) Mar. 17 (backwater from ice); minimum daily discharge, 21 ft^3/s (0.595 m^3/s) Aug. 13.

Period of record: Maximum discharge observed, 46,300 ft^3/s (1,310 m^3/s) May 6, 1932, gage height, 13.28 ft (4.048 m), present datum, from rating curve extended above 11,000 ft^3/s (312 m^3/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 ft^3/s (0.017 m^3/s) July 27, 1961.

Flood in May 1920 reached a stage of 18 ft (5.5 m), present datum, from information by local residents.

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.

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

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	335	50	80	50	250	200	270	96	176	57	28
2	59	219	50	75	55	200	200	230	90	161	71	32
3	60	158	50	70	55	200	190	200	91	144	57	33
4	63	139	55	70	45	200	1250	180	498	131	46	34
5	71	131	70	65	35	175	1770	170	293	121	43	35
6	250	127	80	60	40	175	828	160	123	112	69	37
7	199	126	90	60	40	185	715	250	713	212	65	38
8	128	123	100	55	45	200	1630	450	749	244	41	37
9	102	123	130	50	50	200	1170	400	781	164	32	39
10	88	123	150	50	60	200	918	300	357	139	27	45
11	76	123	150	40	70	210	642	250	284	121	25	48
12	74	123	140	45	80	250	486	200	243	112	22	52
13	74	126	130	50	80	300	620	150	214	106	21	51
14	72	119	120	55	75	350	412	130	200	98	24	59
15	71	119	100	50	70	600	480	112	193	79	25	58
16	74	121	95	45	70	1000	417	109	186	72	28	61
17	75	123	95	60	75	600	607	101	856	54	74	64
18	75	123	100	65	85	794	481	92	524	43	48	58
19	78	119	105	70	95	634	309	81	2470	36	47	49
20	77	119	100	75	95	459	253	79	1700	31	49	47
21	77	123	100	85	110	288	251	80	1710	30	48	54
22	78	121	100	85	110	209	256	92	674	38	46	56
23	73	119	90	90	110	179	255	121	392	45	36	62
24	73	116	85	100	115	170	208	598	298	57	32	65
25	77	119	80	100	120	150	185	207	242	61	29	61
26	79	126	80	90	120	120	186	144	223	67	28	57
27	85	112	75	80	125	100	165	123	235	64	28	55
28	86	100	75	70	130	120	581	119	205	48	31	55
29	89	65	75	60	---	150	500	108	167	37	32	51
30	95	50	77	50	---	150	400	98	173	102	31	50
31	222	---	80	50	---	180	---	94	---	91	29	---
TOTAL	2858	3870	2877	2050	2210	8998	16565	5698	14980	2996	1241	1471
MEAN	92.2	129	92.8	66.1	78.9	290	552	184	499	96.6	40.0	49.0
MAX	250	335	150	100	130	1000	1770	598	2470	244	74	65
MIN	58	50	50	40	35	100	165	79	90	30	21	28
AC-FT	5670	7680	5710	4070	4380	17850	32860	11300	29710	5940	2460	2920

CAL YR 1974 TOTAL 76668 MEAN 210 MAX 2290 MIN 25 AC-FT 152100
WTR YR 1975 TOTAL 65814 MEAN 180 MAX 2470 MIN 21 AC-FT 130500

06425500 ELK CREEK NEAR ELM SPRINGS, S. DAK.

LOCATION.--Lat 44°14'54", long 102°30'10", in SW¼NW¼ sec.1, T.3 N., R.13 E., Meade County, 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 mi^2 (1,400 km^2), 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.

AVERAGE DISCHARGE.--26 years, 24.2 ft^3/s (0.685 m^3/s), 17,530 acre-ft/yr (21.6 hm^3/yr); median of yearly mean discharges, 20 ft^3/s (0.566 m^3/s), 14,500 acre-ft/yr (17.8 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,210 ft (34.3 m^3/s) Apr. 27, gage height, 8.16 ft (2.487 m); no flow for many days.

Period of record: Maximum discharge, 8,540 ft^3/s (242 m^3/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 ft^3/s (144 m^3/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.

Maximum stage known, about 17 ft (5.2 m), at former site, in May 1920, from information by local residents.

REMARKS.--Records poor.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						0	0	133	6.8	.97		
2						0	0	90	6.8	.59		
3						0	0	61	4.7	.52		
4						0	0	50	4.4	.52		
5						.20	0	41	4.4	.45		
6						.26	10	29	4.7	81		
7						.20	30	20	4.3	31		
8						.10	60	19	4.0	11		
9						0	200	17	4.0	6.8		
10						0	435	14	2.4	3.4		
11						0	336	21	2.2	2.1		
12						0	223	28	2.4	.97		
13						0	216	24	2.6	.73		
14						0	197	27	2.7	.59		
15						0	216	26	2.6	.26		
16						0	223	22	2.7	.20		
17						11	264	18	3.8	.15		
18						12	236	19	5.5	0		
19						10	156	12	20	0		
20						8.2	103	13	17	0		
21						6.1	114	12	16	0		
22						3.8	112	10	14	0		
23						3.8	101	10	12	0		
24						1.0	86	7.8	8.6	0		
25						0	88	7.1	6.8	0		
26						0	116	5.5	5.8	0		
27						0	765	5.5	4.7	0		
28						0	767	5.8	3.6	0		
29					------	0	275	6.4	2.9	0		
30					------	0	197	6.1	2.1	0		
31		------			------	0	------	6.4	------	0		------
TOTAL	0	0	0	0	0	56.66	5,526	766.6	184.5	141.25	0	0
MEAN	0	0	0	0	0	1.83	184	24.7	6.15	4.56	0	0
MAX	0	0	0	0	0	12	767	133	20	81	0	0
MIN	0	0	0	0	0	0	0	5.5	2.1	0	0	0
AC-FT	0	0	0	0	0	112	10,960	1,520	366	280	0	0

CAL YR 1974 TOTAL 1,245.03 MEAN 3.41 MAX 54 MIN 0 AC-FT 2,470
WTR YR 1975 TOTAL 6,675.01 MEAN 18.3 MAX 767 MIN 0 AC-FT 13,240

PEAK DISCHARGE (BASE, 400 FT^3/S)

DATE	TIME	G.H.	DISCHARGE
4-10	--	--	about 500
4-27	2300	8.16	1,210
7- 6	2200	7.39	830

06427000 KEYHOLE RESERVOIR NEAR MOORCROFT, WYO.

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

DRAINAGE AREA.--2,000 mi^2 (5,180 km^2), approximately.

PERIOD OF RECORD.--March 1952 to current year.

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.

EXTREMES.--Current year: Maximum contents, 148,900 acre-ft (184 hm^3) June 27-30, elevation, 4,094.46 ft (1,247.991 m); minimum, 126,619 acre-ft (156 hm^3) Sept. 30, elevation, 4,091.42 ft (1,247.065 m).

Period of record: Maximum contents, 195,800 acre-ft (241 hm^3) 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 hm^3) Mar. 8, 9, 1955, elevation, 4,046.35 ft (1,233.327 m).

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 hm^3). 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 hm^3). Total capacity below elevation 4,099.3 ft (1,249.47 m), crest of spillway, 199,900 acre-ft (246 hm^3). 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 Bureau of Reclamation.

MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	4,091.89	129,900	-
Oct. 31	4,091.77	129,036	-864
Nov. 30	4,091.69	128,483	-553
Dec. 31	4,091.67	128,345	-138
CAL YR 1974	-	-	-18,755
Jan. 31	4,091.68	128,414	+69
Feb. 28	4,091.68	128,414	0
Mar. 31	4,092.57	134,725	+6,311
Apr. 30	4,093.57	142,090	+7,365
May 31	4,094.28	147,496	+5,406
June 30	4,094.46	148,900	+1,404
July 31	4,093.54	141,866	-7,034
Aug. 31	4,092.13	131,559	-10,307
Sept.30	4,091.42	126,619	-4,940
WTR YR 1975	-	-	-3,281

06428500 BELLE FOURCHE RIVER AT WYOMING-SOUTH DAKOTA STATE LINE

LOCATION.--Lat 44°44'59", long 104°02'49", in NE¼NW¼NW¼ sec.18, T.9 N., R.1 E., Butte County, on left bank 0.3 mi (0.5 km) downstream from State line, 3.7 mi (6.0 km) downstream from Oak Creek and 11 mi (18 km) northwest of Belle Fourche, S. Dak.

DRAINAGE AREA.--3,280 mi^2 (8,500 km^2), approximately.

PERIOD OF RECORD.--December 1946 to current year. Records for water year 1947 incomplete, yearly estimate published in WSP 1729.

GAGE.--Water-stage recorder. Datum of gage is 3,095.7 ft (943.57 m) above mean sea level.

AVERAGE DISCHARGE.--29 years, 88.3 ft^3/s (2.501 m^3/s), 63,970 acre-ft/yr (78.9 hm^3/yr); median of yearly mean discharges, 94 ft^3/s (2.66 m^3/s), 68,100 acre-ft/yr (84.0 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,480 ft^3/s (41.9 m^3/s) May 11, gage height, 9.31 ft (2.838 m); minimum daily, 7.0 ft^3/s (0.20 m^3/s) Jan. 10-12.

Period of record: Maximum discharge, 4,400 ft^3/s (125 m^3/s) June 18, 1962, gage height, 15.59 ft (4.752 m); no flow at times most years.

REMARKS.--Records good except those for winter periods, which are poor. Diversions above station for irrigation of about 5,400 acres (2,200 hm^2). Flow regulated by Keyhole Reservoir, usable capacity, 191,600 acre-ft (236 hm^3), 143 mi (230 km) upstream, since Oct. 25, 1952. Records of chemical analyses for the water year 1975 are published in Section 2 of this report.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 22 to Nov. 29, Apr. 29 to May 13; stage-discharge relation affected by ice Nov. 30 to Apr. 8)

2.4	12	5.0	335
2.5	18	7.0	765
3.0	61	9.0	1,400
4.0	175		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	39	15	10	14	60	40	299	184	177	100	80
2	18	36	16	10	14	70	40	340	181	145	103	77
3	18	38	15	10	14	70	60	354	172	118	104	75
4	18	65	16	10	14	80	80	332	144	108	102	76
5	19	51	16	10	14	90	150	313	149	97	86	74
6	20	41	16	9.0	15	80	200	638	144	98	84	75
7	20	25	15	9.0	15	70	200	452	136	204	90	76
8	19	15	15	8.5	14	60	400	633	132	149	91	75
9	19	28	16	8.0	14	60	350	721	131	104	91	74
10	18	27	16	7.0	15	55	291	897	135	89	89	72
11	17	26	15	7.0	16	50	240	1250	162	84	92	72
12	16	25	15	7.0	15	50	213	676	186	82	92	72
13	17	27	14	8.0	15	55	213	524	167	77	88	63
14	20	26	13	8.0	15	60	185	430	144	69	92	49
15	22	28	11	8.0	15	60	204	385	140	63	98	39
16	24	26	11	8.0	15	70	311	320	137	60	105	34
17	26	28	12	9.0	17	90	370	284	129	55	109	32
18	28	28	13	10	20	120	383	237	129	53	114	31
19	30	28	13	10	22	200	347	251	145	48	117	29
20	29	25	12	11	25	300	370	222	141	64	121	27
21	30	26	13	12	25	400	321	249	141	98	112	26
22	30	26	13	15	27	250	241	402	181	129	108	25
23	30	26	10	18	30	200	200	493	158	133	103	24
24	30	25	10	18	35	150	200	552	113	119	100	23
25	30	26	11	18	40	100	227	489	111	107	97	22
26	29	27	11	16	40	80	259	372	226	94	96	22
27	29	22	12	15	45	40	256	302	213	91	96	22
28	28	20	11	15	50	30	251	256	216	106	96	22
29	27	14	11	15	---	30	294	208	208	95	96	21
30	31	15	10	14	---	40	344	215	213	102	97	22
31	42	---	10	14	---	45	---	189	---	102	88	---
TOTAL	752	859	407	347.5	610	3115	7240	13285	4768	3120	3057	1431
MEAN	24.3	28.6	13.1	11.2	21.8	100	241	429	159	101	98.6	47.7
MAX	42	65	16	18	50	400	400	1250	226	204	121	80
MIN	16	14	10	7.0	14	30	40	189	111	48	84	21
AC-FT	1490	1700	807	689	1210	6180	14360	26350	9460	6190	6060	2840

CAL YR 1974 TOTAL 28907.0 MEAN 79.2 MAX 688 MIN 8.0 AC-FT 57340
WTR YR 1975 TOTAL 38991.5 MEAN 107 MAX 1250 MIN 7.0 AC-FT 77340

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, on right bank 15 ft (5 m) downstream from State line and 12 mi (19 km) southwest of Belle Fourche.

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.

EXTREMES.--Period of record: Maximum daily discharge, 37 ft^3/s (1.05 m^3/s) July 17, 1973; no flow for long periods in each year.

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 hm^2). Flow maintained during irrigation season only.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13									0	13	16
2	13									4.1	12	17
3	13									8.3	12	18
4	15									8.1	11	22
5	23									9.2	11	19
6	16									13	12	13
7	9.5									13	12	13
8	12									12	12	9.5
9	16									12	12	8.1
10	18									11	13	3.2
11	15									11	12	3.1
12	14									11	12	2.9
13	16									12	12	2.1
14	23									16	13	0
15	15									20	13	2.2
16	5.2									24	13	5.8
17	.70									22	14	5.3
18	.60									24	16	4.8
19	.30									24	24	5.1
20	.70									27	20	6.6
21	.45									26	9.8	10
22	.06									25	11	17
23	0									25	14	18
24	.17									11	14	16
25	.30									26	16	5.1
26	.12									33	17	5.1
27	.06									33	17	4.6
28	.03									34	16	3.6
29	0				---					27	16	3.9
30	0				---					20	16	3.7
31	0	---			---		---		---	13	16	---
TOTAL	240.19	0	0	0	0	0	0	0	0	554.7	431.8	263.7
MEAN	7.75	0	0	0	0	0	0	0	0	17.9	13.9	8.79
MAX	23	0	0	0	0	0	0	0	0	34	24	22
MIN	0	0	0	0	0	0	0	0	0	0	9.8	0
AC-FT	476	0	0	0	0	0	0	0	0	1100	856	523

CAL YR 1974 TOTAL 1408.19 MEAN 3.86 MAX 23 MIN 0 AC-FT 2790
WTR YR 1975 TOTAL 1490.39 MEAN 4.08 MAX 34 MIN 0 AC-FT 2960

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, 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, S. Dak.

DRAINAGE AREA.--471 mi^2 (1,220 km^2).

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

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.

AVERAGE DISCHARGE.--23 years (1929-31, 1954-75), 36.3 ft^3/s (1.028 m^3/s), 26,300 acre-ft/yr (32.4 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 127 ft^3/s (3.60 m^3/s) May 7, gage height, 3.36 ft (1.024 m); minimum daily, 7.6 ft^3/s (0.215 m^3/s) July 21.

Period of record: Maximum discharge, 2,440 ft^3/s (69.1 m^3/s) Aug. 22, 1973, gage height, 12.19 ft (3.716 m); no flow Aug. 13-15, 1929.

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.)

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Aug. 15 to Sept. 10; stage-discharge relation affected by ice Jan. 11-14, Feb. 5-9)

1.9	5.0	3.0	85
2.1	13	3.5	150
2.5	39		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	43	40	38	41	41	41	50	49	50	23	19
2	26	41	40	39	41	41	40	44	50	43	22	18
3	26	39	40	39	41	41	40	53	49	38	22	15
4	25	40	41	39	41	40	42	72	49	38	22	15
5	27	40	41	39	40	41	44	93	48	36	23	20
6	27	39	41	39	40	42	44	87	47	31	23	24
7	26	39	40	40	40	40	42	105	47	31	23	23
8	26	39	40	39	38	39	44	77	48	28	24	26
9	25	39	40	40	35	41	42	71	49	25	26	26
10	26	39	41	39	41	40	41	72	60	27	26	32
11	27	38	41	35	41	40	41	69	54	27	23	31
12	29	39	41	37	40	39	40	67	52	27	23	37
13	32	41	41	40	41	39	40	60	51	27	23	37
14	32	39	41	42	41	40	41	54	51	20	24	35
15	32	41	41	42	41	41	41	53	52	13	26	32
16	35	40	40	41	41	41	42	53	54	12	28	28
17	41	41	41	42	40	43	44	49	55	12	27	29
18	41	40	41	44	40	42	48	47	55	11	27	29
19	41	40	41	41	40	42	43	46	56	9.7	24	27
20	41	39	41	53	41	43	41	50	57	11	23	28
21	41	40	41	47	40	44	41	52	53	7.6	15	25
22	43	41	41	42	38	42	44	57	53	7.8	18	23
23	42	41	39	43	41	42	49	77	53	8.8	24	26
24	42	40	38	43	60	40	49	60	52	9.7	24	25
25	41	41	39	42	53	39	57	53	53	11	23	22
26	41	41	39	43	41	40	58	49	65	9.7	20	22
27	41	41	39	42	40	40	57	49	71	12	21	23
28	42	41	39	41	41	46	56	48	55	14	22	27
29	41	40	38	41	------	38	62	48	52	21	18	32
30	41	40	39	41	------	39	54	48	52	23	15	34
31	44	------	38	41	------	41	------	48	------	23	16	------
TOTAL	1,074	1,202	1,243	1,274	1,158	1,267	1,368	1,861	1,592	664.3	698	790
MEAN	34.6	40.1	40.1	41.1	41.4	40.9	45.6	60.0	53.1	21.4	22.5	26.3
MAX	44	43	41	53	60	46	62	105	71	50	28	37
MIN	25	38	38	35	35	38	40	44	47	7.6	15	15
AC-FT	2,130	2,380	2,470	2,530	2,300	2,510	2,710	3,690	3,160	1,320	1,380	1,570

CAL YR 1974 TOTAL 15,108.0 MEAN 41.4 MAX 93 MIN 13 AC-FT 29,970
WTR YR 1975 TOTAL 14,191.3 MEAN 38.9 MAX 105 MIN 7.6 AC-FT 28,150

PEAK DISCHARGE (BASE, 150 FT^3/S).--No peaks above base.

06431500 SPEARFISH CREEK AT SPEARFISH, S. DAK.

LOCATION.--Lat 44°28'57", long 103°51'40", in SE¼NW¼ sec.15, T.6 N., R.2 E., Lawrence County, 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 mi^2 (435 km^2).

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

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.

AVERAGE DISCHARGE.--29 years, 50.7 ft^3/s (1.436 m^3/s), 36,730 acre-ft/yr (45.3 hm^3/yr), unadjusted.

EXTREMES.--Current year: Maximum daily discharge, 143 ft^3/s (4.05 m^3/s) May 7; maximum gage height, 7.34 ft (2.237 m) Jan. 12 (backwater from ice); minimum daily discharge, 26 ft^3/s (0.74 m^3/s) Nov. 30.

Period of record: Maximum discharge, 4,240 ft^3/s (120 m^3/s) May 15, 1965, gage height, 10.53 ft (3.210 m), from rating curve extended above 520 ft^3/s (14.7 m^3/s) on basis of slope-area measurement of peak flow; no flow for part of Oct. 18, 1970.

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 mi^2 (407 km^2); discharge about 5,000 ft^3/s (142 m^3/s).

REMARKS.--Records good except those for winter periods, which are fair. Regulation by fish hatchery and by hydroelectric 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 ft^3/s (0.20 m^3/s). Figures of daily discharge do not include diversion by Homestake Mining Co.

REVISIONS.--WSP 1116: Drainage area.

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

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	58	32	43	34	47	52	78	78	63	43	34
2	47	57	48	52	34	48	46	74	75	63	43	43
3	47	58	49	49	34	50	49	75	75	60	41	45
4	47	57	45	50	34	47	52	80	73	59	43	45
5	50	53	46	50	35	47	55	100	60	58	43	44
6	52	54	45	50	35	47	56	120	70	58	43	45
7	50	55	44	49	35	44	60	143	72	59	47	46
8	50	54	41	47	33	46	65	135	76	55	49	42
9	49	54	46	49	30	47	58	131	86	50	49	42
10	48	55	43	30	32	46	55	133	83	47	49	40
11	48	55	43	28	35	46	50	140	82	50	49	36
12	48	50	44	28	33	37	48	138	81	49	48	38
13	49	52	41	50	32	42	50	128	78	49	52	41
14	50	50	47	56	32	47	52	123	80	49	54	44
15	50	50	43	50	32	46	54	120	80	48	54	44
16	47	52	50	38	32	49	54	117	80	46	52	42
17	48	51	47	49	30	49	61	115	83	45	51	44
18	48	52	47	47	33	48	59	110	83	45	46	45
19	48	50	47	47	35	47	54	107	90	43	47	46
20	51	49	47	49	35	53	52	104	93	43	47	46
21	51	49	47	43	35	53	56	101	93	47	42	47
22	52	49	48	40	32	52	62	102	89	42	44	48
23	53	50	35	42	35	54	69	99	84	40	41	48
24	53	50	30	41	45	51	78	100	79	43	43	46
25	52	48	34	42	45	44	86	98	78	42	43	43
26	53	49	50	40	39	52	99	94	84	38	41	43
27	54	46	49	38	46	36	103	91	76	36	40	48
28	53	47	53	35	44	53	102	87	72	38	38	50
29	49	36	48	33	------	31	98	75	70	39	33	49
30	54	26	38	30	------	48	82	75	69	39	34	48
31	63	------	54	33	------	59	------	76	------	41	35	------
TOTAL	1,562	1,516	1,381	1,328	986	1,466	1,917	3,269	2,372	1,484	1,384	1,322
MEAN	50.4	50.5	44.5	42.8	35.2	47.3	63.9	105	79.1	47.9	44.6	44.1
MAX	63	58	54	56	46	59	103	143	93	63	54	50
MIN	47	26	30	28	30	31	46	74	60	36	33	34
AC-FT	3,100	3,010	2,740	2,630	1,960	2,910	3,800	6,480	4,700	2,940	2,750	2,620
MEAN‡	59.4	59.0	53.8	51.8	44.8	56.3	72.6	112	87.9	56.3	52.7	54.2
(†)	555	504	569	556	536	555	516	408	525	515	496	601
AC-FT‡	3,660	3,510	3,310	3,190	2,500	3,460	4,320	6,890	5,220	3,460	3,250	3,220

CAL YR 1974 TOTAL 20,565 MEAN 56.3 MAX 102 MIN 26 AC-FT 40,790
WTR YR 1975 TOTAL 19,987 MEAN 54.8 MAX 143 MIN 26 AC-FT 39,640

† Diversion, in acre-ft, by Homestake Mining Company
‡ Adjusted for diversion

06433000 REDWATER RIVER ABOVE BELLE FOURCHE, S. DAK.

LOCATION.--Lat 44°40'02", long 103°50'20", in NW¼SE¼ sec.11, T.8 N., R.2 E., Butte County, 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 mi^2 (2,383 km^2).

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.

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.

AVERAGE DISCHARGE.--30 years (1945-75), 133 ft^3/s (3.767 m^3/s), 96,360 acre-ft/yr (119 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 560 ft^3/s (15.9 m^3/s) May 6, gage height, 4.29 ft (1.308 m); maximum gage height, 4.78 ft (1.457 m) Mar. 30 (backwater from ice); minimum daily discharge, 2.0 ft^3/s (0.057 m^3/s) July 27.

Period of record: Maximum discharge, 16,400 ft^3/s (464 m^3/s) June 16, 1962, gage height, 11.69 ft (3.563 m), from rating curve extended above 6,000 ft^3/s (170 m^3/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.

REMARKS.--Records good except those for winter periods, which are poor. Diversions for irrigation of about 13,000 acres (5,260 hm^2) above station.

REVISIONS (WATER YEARS).--WSP 1389: 1954 (maximum gage height only).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	101	177	150	170	130	170	350	269	208	114	12	35
2	101	176	150	160	125	160	160	247	198	124	14	40
3	100	174	150	160	120	160	174	230	183	121	16	45
4	99	175	150	160	115	165	186	243	186	101	16	42
5	99	175	151	160	110	174	195	287	162	97	25	42
6	109	174	153	164	120	168	202	465	154	80	26	45
7	111	174	153	165	120	159	198	455	165	79	18	52
8	104	172	149	162	110	156	247	394	183	82	12	60
9	103	170	155	167	100	154	217	372	189	58	5.1	69
10	105	171	156	150	130	156	202	335	192	34	3.7	73
11	107	172	156	140	140	156	183	343	189	32	3.7	73
12	103	171	161	130	150	121	177	339	177	36	3.4	75
13	108	176	159	140	150	134	183	323	165	35	2.8	79
14	119	174	164	150	150	154	189	295	159	26	2.5	80
15	130	168	160	140	150	159	186	280	154	20	3.4	82
16	130	169	164	140	150	171	186	269	154	15	5.1	82
17	130	169	161	150	160	189	208	257	156	18	11	84
18	135	170	164	160	170	180	205	247	154	12	15	89
19	132	173	165	150	180	192	192	234	174	11	16	97
20	128	163	165	150	180	192	186	243	180	8.4	21	103
21	128	162	169	150	170	177	189	247	180	10	23	101
22	138	165	172	158	160	156	195	254	171	9.7	16	99
23	149	167	160	155	170	154	205	261	162	8.8	15	97
24	139	169	140	170	180	144	211	257	162	7.2	19	95
25	131	169	150	157	160	120	220	237	159	5.5	18	95
26	133	166	150	150	160	110	237	224	205	2.5	25	97
27	138	165	160	140	160	90	257	217	205	2.0	22	97
28	142	164	160	140	170	100	276	208	149	2.5	14	105
29	147	150	160	140	------	150	303	208	136	3.1	16	109
30	154	145	167	130	------	300	295	202	121	4.2	19	117
31	191	------	164	130	------	350	------	202	------	9.2	25	------
TOTAL	3,844	5,065	4,888	4,688	4,090	5,126	6,414	8,644	5,132	1,168.1	443.7	2,359
MEAN	124	169	158	151	146	165	214	279	171	37.7	14.3	78.6
MAX	191	177	172	170	180	350	350	465	208	124	26	117
MIN	99	145	140	130	100	90	160	202	121	2.0	2.5	35
AC-FT	7,620	10,050	9,700	9,300	8,110	10,170	12,720	17,150	10,180	2,320	880	4,680

CAL YR 1974 TOTAL 50,856.9 MEAN 139 MAX 316 MIN 7.4 AC-FT 100,900
WTR YR 1975 TOTAL 51,861.8 MEAN 142 MAX 465 MIN 2.0 AC-FT 102,900

PEAK DISCHARGE (BASE, 500 FT^3/S).--May 6 (1200) 560 ft^3/s (4.29 ft).

06433500 HAY CREEK AT BELLE FOURCHE, S. DAK.

LOCATION.--Lat 44°40'01", long 103°50'46", in NW¼SW¼ sec.11, T.8 N., R.2 E., Butte County, 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 mi^2 (313 km^2).

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.

AVERAGE DISCHARGE.--22 years, 1.33 ft^3/s (0.0377 m^3/s), 964 acre-ft/yr (1.19 hm^3/yr); median of yearly mean discharges, 0.80 ft^3/s (0.023 m^3/s), 580 acre-ft/yr (715,000 m^3/yr).

EXTREMES.--Current year: Maximum discharge, 23 ft^3/s (0.65 m^3/s) Apr. 8, gage height, 4.49 ft (1.369 m); no flow for many days.

Period of record: Maximum discharge, 930 ft^3/s (26.3 m^3/s) June 19, 1972, gage height, 9.15 ft (2.789 m); no flow for many days each year.

REMARKS.--Records fair except those for winter periods, which are poor. Minor diversion to the stream at times from city reservoir overflow, which enters stream above gage.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Dec. 5 to Mar. 31, Apr. 9-13)

3.2	0	3.7	3.6
3.3	.35	4.0	9.6
3.4	.85	4.5	25
3.5	1.5		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0			0	0	5.0	.85	12	2.3	1.6		
2	0			0	0	4.0	1.2	6.5	2.4	1.2		
3	0			0	0	5.0	1.7	5.7	2.4	.65		
4	0			0	0	7.0	2.0	5.0	2.1	.35		
5	0			0	0	5.0	1.7	6.5	1.4	.21		
6	0			0	0	4.0	3.8	11	1.1	.16		
7	0			0	0	3.0	7.3	10	1.1	.04		
8	0			0	0	2.0	16	13	1.9	.15		
9	0			0	0	1.0	9.0	13	1.5	0		
10	0			0	0	.50	6.0	7.0	.98	0		
11	0			0	0	.20	6.0	6.7	1.1	0		
12	0			0	0	.20	5.0	6.9	2.0	0		
13	0			0	0	.20	6.5	6.3	2.1	0		
14	0			0	0	.30	3.8	5.8	1.9	0		
15	0			0	0	.50	3.6	5.1	2.0	0		
16	0			0	0	1.0	3.2	4.6	2.1	0		
17	0			0	0	3.0	5.7	4.3	1.9	0		
18	0			.10	.20	5.0	4.5	3.9	1.5	0		
19	0			.10	.50	7.0	3.4	3.4	3.2	0		
20	0			.10	1.0	7.0	3.8	4.1	1.6	0		
21	0			.10	1.0	4.0	3.2	3.0	1.8	0		
22	0			.20	.70	3.0	2.8	4.8	1.6	0		
23	0			.50	2.0	2.0	2.4	5.0	1.5	0		
24	0			1.0	5.0	1.0	2.3	4.8	1.2	0		
25	0			.50	4.0	.30	2.3	7.5	1.5	0		
26	0			.10	4.0	.50	2.3	6.0	7.0	0		
27	0			0	5.0	.30	2.3	5.1	3.5	0		
28	0			0	6.0	.30	3.5	4.3	2.6	0		
29	0			0	---	.30	4.8	3.4	2.3	0		
30	.08			0	---	.50	6.5	2.8	2.2	0		
31	.08	---		0	---	.70	---	2.4	---	0		---
TOTAL	.16	0	0	2.70	29.40	73.80	127.45	189.9	61.78	4.36	0	0
MEAN	.005	0	0	.087	1.05	2.38	4.25	6.13	2.06	.14	0	0
MAX	.08	0	0	1.0	6.0	7.0	16	13	7.0	1.6	0	0
MIN	0	0	0	0	0	.20	.85	2.4	.98	0	0	0
AC-FT	.3	0	0	5.4	58	146	253	377	123	8.6	0	0

CAL YR 1974 TOTAL 652.16 MEAN 1.79 MAX 65 MIN 0 AC-FT 1290
WTR YR 1975 TOTAL 489.55 MEAN 1.34 MAX 16 MIN 0 AC-FT 971

06434500 INLET CANAL NEAR BELLE FOURCHE, S. DAK.

LOCATION.--Lat 44°42'14", long 103°49'23", in NE¼NW¼ sec.36, T.9 N., R.2 E., Butte County, 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.

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.

AVERAGE DISCHARGE.--30 years, 158 ft^3/s (4.475 m^3/s), 114,500 acre-ft/yr (141 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 1,340 ft^3/s (37.9 m^3/s) May 30, 1962; no flow for many days in 1946-49, 1963, 1966, 1971-75.

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 3,688 acre-ft (4.55 hm^3) which was diverted for irrigation from the canal between the station and reservoir. Records of chemical analyses and water temperatures for the water year 1975 are published in Section 2 of this report.

COOPERATION.--Records of diversion from the canal furnished by Bureau of Reclamation.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	112	199	172	170	140	220	400	725	82	69	88	118
2	114	198	170	170	130	210	375	668	78	64	86	112
3	111	192	170	180	130	220	350	690	66	121	90	119
4	111	202	160	180	130	244	304	703	59	219	96	106
5	115	230	173	180	130	260	270	701	83	201	98	106
6	125	215	177	180	140	252	330	988	246	172	93	114
7	122	201	179	167	140	220	508	892	237	190	85	131
8	115	186	182	158	130	213	725	186	135	234	87	135
9	113	169	179	159	120	208	694	455	138	169	72	140
10	112	186	179	147	150	211	600	352	287	118	75	143
11	113	187	178	120	170	199	544	227	289	101	75	138
12	111	188	177	130	170	187	499	179	329	98	72	146
13	118	194	179	140	170	191	467	120	379	96	80	152
14	127	191	183	150	170	200	445	30	364	84	69	143
15	137	185	186	150	170	214	421	23	347	65	73	133
16	135	187	181	140	170	251	476	10	346	54	86	125
17	134	190	178	160	180	345	608	0	348	46	103	124
18	137	190	176	160	190	351	673	0	345	30	121	122
19	135	190	178	160	200	452	633	0	364	29	108	130
20	133	187	181	160	200	488	595	0	368	26	117	138
21	133	182	179	170	200	600	619	38	369	56	119	131
22	142	185	181	180	190	450	562	168	375	84	100	125
23	152	190	174	200	200	400	508	194	372	118	93	124
24	146	191	159	190	210	350	481	136	361	102	89	125
25	135	194	164	195	210	250	503	91	318	99	100	130
26	138	192	160	195	200	200	541	86	255	82	108	128
27	142	186	155	160	220	150	580	82	100	65	104	130
28	145	178	160	150	220	140	600	80	62	63	102	138
29	150	177	170	150	---	230	650	73	48	72	103	141
30	158	178	170	150	---	400	718	61	67	67	110	147
31	202	---	170	140	---	400	---	75	---	80	113	---
TOTAL	4073	5720	5380	5041	4780	8706	15679	8033	7217	3074	2915	3894
MEAN	131	191	174	163	171	281	523	259	241	99.2	94.0	130
MAX	202	230	186	200	220	600	725	988	379	234	121	152
MIN	111	169	155	120	120	140	270	0	48	26	69	106
AC-FT	8080	11350	10670	10000	9480	17270	31100	15930	14310	6100	5780	7720

CAL YR 1974 TOTAL 57905.00 MEAN 159 MAX 859 MIN 0 AC-FT 114900
WTR YR 1975 TOTAL 74512.00 MEAN 204 MAX 988 MIN 0 AC-FT 147800

06435000 BELLE FOURCHE RESERVOIR NEAR BELLE FOURCHE, S. DAK.

LOCATION.--Lat 44°44'12", long 103°40'27", in SW¼SE¼ sec.18, T.9 N., R.4 E., Butte County, at dam on Owl Creek, 9.8 mi (15.8 km) northeast of Belle Fourche.

PERIOD OF RECORD.--January 1912 to current year.

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.

EXTREMES.--Current year: Maximum contents, 171,710 acre-ft (212 hm^3) June 30, elevation, 2,973.3 ft (906.26 m); minimum, 38,590 acre-ft (47.6 hm^3) Oct. 1, elevation, 2,949.2 ft (898.92 m).

Period of record: Maximum contents observed, 197,400 acre-ft (243 hm^3) Apr. 30, 1919, May 20, 1920, elevation, 2,974.9 ft (906.75 m); minimum observed, -3,000 acre-ft (-3.70 hm^3) Sept. 30, 1936, water was lowered below dead storage level of 2,927.0 ft (892.15 m) by opening holes in crib walls.

REMARKS.--Offstream reservoir formed by earthfill dam. Storage began in May 1910; dam completed in April 1911. Conservation capacity, 185,170 acre-ft (228 hm^3) 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 hm^3). 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.

MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	2,949.1	38,245	-
Oct. 31	2,951.8	47,200	+8,955
Nov. 30	2,954.5	58,192	+10,992
Dec. 31	2,957.2	69,320	+11,128
CAL YR 1974	-	-	-49,742
Jan. 31	2,959.5	81,390	+12,070
Feb. 28	2,961.6	93,680	+12,290
Mar. 31	2,966.9	125,640	+31,960
Apr. 30	2,970.6	151,377	+25,737
May 31	2,972.9	168,640	+17,263
June 30	2,973.3	171,710	+3,070
July 31	2,966.9	125,640	-46,070
Aug. 31	2,957.4	70,240	-55,400
Sept.30	2,952.1	48,300	-21,940
WTR YR 1975	-	-	+10,055

06436000 BELLE FOURCHE RIVER NEAR FRUITDALE, S. DAK.

LOCATION.--Lat 44°41'27", long 103°44'14", in NW¼NE¼ sec.3, T.8 N., R.3 E., Butte County, 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 mi^2 (11,760 km^2), 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.

AVERAGE DISCHARGE.--30 years, 91.0 ft^3/s (2.577 m^3/s), 65,930 acre-ft/yr (81.3 hm^3/yr); median of yearly mean discharges, 59 ft^3/s (1.67 m^3/s), 42,700 acre-ft/yr (52.6 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 2,190 ft^3/s (62.0 m^3/s) May 12, gage height, 6.39 ft (1.948 m); minimum daily, 2.5 ft^3/s (0.071 m^3/s) Jan. 11.

Period of record: Maximum discharge, 8,100 ft^3/s (229 m^3/s) May 15, 1965, gage height, 10.53 ft (3.210 m); maximum gage height, 11.25 ft (3.429 m) June 16, 1962; no flow at times in 1945, 1948, 1959-62.

REMARKS.--Records good except those for winter periods, which are poor. Flow regulated by Keyhole Reservoir, usable capacity, 191,600 acre-ft (236 hm^3), 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 km^2) above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Nov. 28 to Dec. 8, Dec. 14 to Mar. 21, Mar. 24 to Apr. 2)

1.8	1.0	3.2	140
2.2	18	4.0	450
2.6	43	5.0	1,030
2.9	77	6.1	1,910

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	10	4.0	3.5	3.8	4.5	4.2	5.9	338	334	6.8	10
2	10	9.5	4.0	3.3	3.7	4.0	6.0	4.6	325	252	6.8	9.1
3	10	9.5	4.0	3.3	3.7	4.0	7.3	4.2	298	143	6.8	8.2
4	9.5	9.5	4.3	3.3	3.7	4.0	7.3	3.8	294	11	7.3	8.6
5	10	9.5	4.3	3.3	3.7	4.0	8.2	4.2	248	6.8	9.1	9.1
6	12	9.1	4.3	3.3	3.8	4.0	7.7	24	33	5.0	8.6	8.6
7	12	9.1	4.2	3.3	3.6	3.8	8.2	118	53	6.4	6.4	9.1
8	11	8.6	4.0	3.2	3.2	3.6	11	1210	135	13	7.3	10
9	11	8.6	3.8	3.0	3.0	3.6	8.6	863	240	7.3	7.3	7.7
10	11	8.6	3.8	2.7	3.2	3.6	6.8	1440	45	7.3	9.5	7.3
11	11	8.2	3.8	2.5	3.5	3.6	5.9	1880	46	8.2	9.5	8.6
12	10	8.2	3.8	2.7	3.3	3.5	5.5	1640	45	6.4	9.5	9.1
13	9.5	8.6	3.8	3.0	3.3	3.7	6.4	1140	17	6.8	8.6	8.2
14	10	8.6	3.5	3.5	3.3	4.0	6.8	1070	12	6.8	9.5	8.2
15	10	8.6	3.5	3.2	3.2	4.5	7.3	953	10	7.7	9.5	9.5
16	10	8.6	3.8	2.8	3.0	5.0	7.3	842	10	6.4	11	8.2
17	10	8.2	4.0	3.0	3.2	6.0	10	764	9.5	5.0	13	7.7
18	10	8.6	4.0	3.5	3.2	6.0	9.1	662	10	4.2	13	7.3
19	10	8.2	3.8	4.0	4.0	6.0	6.4	630	13	4.6	12	6.4
20	10	8.6	3.8	4.0	4.0	6.0	5.9	630	16	4.6	12	7.3
21	10	8.2	4.0	4.0	4.5	6.0	6.4	600	15	6.8	14	6.8
22	9.5	6.8	4.0	4.2	4.5	16	6.4	437	22	7.7	14	7.3
23	9.5	6.8	3.8	4.5	5.0	7.7	6.8	714	19	6.8	11	7.3
24	9.5	6.8	3.5	5.0	5.5	6.0	6.4	758	16	6.4	12	6.8
25	9.5	6.4	3.5	4.5	5.0	4.0	6.4	897	9.5	5.5	14	7.7
26	9.5	6.4	3.6	4.0	4.5	4.0	5.9	704	337	6.4	12	5.5
27	9.5	4.6	3.6	3.8	4.5	4.0	5.0	580	704	6.4	12	6.8
28	9.5	4.5	3.6	3.8	4.5	4.0	5.0	490	470	6.4	9.5	8.2
29	9.5	4.0	3.5	4.0	---	4.0	7.3	446	424	5.9	9.5	7.7
30	10	3.5	3.4	3.8	---	4.0	6.8	397	363	6.4	9.5	7.7
31	13	---	3.5	3.8	---	4.0	---	380	---	5.5	10	---
TOTAL	315.5	234.4	118.5	109.8	107.4	151.1	208.3	20291.7	4577.0	916.7	311.0	240.0
MEAN	10.2	7.81	3.82	3.54	3.84	4.87	6.94	655	153	29.6	10.0	8.00
MAX	13	10	4.3	5.0	5.5	16	11	1880	704	334	14	10
MIN	9.5	3.5	3.4	2.5	3.0	3.5	4.2	3.8	9.5	4.2	6.4	5.5
AC-FT	626	465	235	218	213	300	413	40250	9080	1820	617	476

CAL YR 1974 TOTAL 30184.8 MEAN 82.7 MAX 1110 MIN 2.8 AC-FT 59870
WTR YR 1975 TOTAL 27581.4 MEAN 75.6 MAX 1880 MIN 2.5 AC-FT 54710

06436700 INDIAN CREEK NEAR ARPAN, S. DAK.

LOCATION.--Lat 44°48'51", long 103°41'22", in SE¼NE¼ sec.24, T.10 N., R.3 E., Butte County, 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 mi^2 (815 km^2), approximately.

PERIOD OF RECORD.--August 1961 to current year.

GAGE (revised).--Water-stage recorder. Altitude of gage is 2,900 ft (880 m), from topographic map.

AVERAGE DISCHARGE.--14 years, 18.9 ft^3/s (0.535 m^3/s), 13,690 acre-ft/yr (16.9 hm^3/yr); median of yearly mean discharges, 14 ft^3/s (0.396 m^3/s), 10,100 acre-ft/yr (12.5 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,940 ft^3/s (54.9 m^3/s) June 27, gage height, 13.51 ft (4.118 m); no flow for many days.

Period of record: Maximum discharge, 2,690 ft^3/s (76.2 m^3/s) May 8, 1967, gage height, 14.58 ft (4.444 m), from floodmarks; maximum gage height, 15.11 ft (4.606 m) May 26, 1962, from floodmarks; no flow for many days in most years.

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

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						0	.40	63	2.9	24	0	
2						0	.40	48	2.7	18	0	
3						11	1.0	40	2.5	15	0	
4						13	1.5	27	2.3	12	0	
5						13	1.5	34	2.0	10	0	
6						11	1.5	403	1.7	7.5	0	
7						8.0	5.0	1300	1.7	5.9	0	
8						5.0	20	889	1.7	5.0	0	
9						3.0	80	512	3.2	20	0	
10						2.0	100	481	11	9.6	0	
11						2.0	130	341	3.2	4.4	0	
12						2.0	170	99	3.5	2.5	0	
13						3.0	200	58	2.8	2.0	0	
14						4.0	235	32	2.2	1.6	0	
15						5.0	191	20	1.8	1.5	0	
16						8.0	179	16	1.5	1.2	0	
17						10	177	13	1.5	1.1	0	
18						13	282	11	1.5	1.0	0	
19						15	298	13	2.2	.87	2.5	
20						20	161	11	2.2	1.5	1.4	
21						20	112	10	2.0	2.0	0	
22						17	91	9.6	2.0	6.5	0	
23						10	90	14	1.9	13	0	
24						5.0	87	11	1.6	44	0	
25						1.0	76	9.9	1.7	12	0	
26						.50	63	11	37	3.2	0	
27						.50	50	8.4	291	2.3	0	
28						.50	43	6.2	830	0	0	
29					---	.50	46	4.7	140	0	0	
30					---	.60	58	3.2	46	0	0	
31		---			---	.50	---	2.9	---	0	0	---
TOTAL	0	0	0	0	0	204.10	2950.30	4501.9	1407.3	227.67	3.9	0
MEAN	0	0	0	0	0	6.58	98.3	145	46.9	7.34	.13	0
MAX	0	0	0	0	0	20	298	1300	830	44	2.5	0
MIN	0	0	0	0	0	0	.40	2.9	1.5	0	0	0
AC-FT	0	0	0	0	0	405	5850	8930	2790	452	7.7	0

CAL YR 1974 TOTAL 660.54 MEAN 1.81 MAX 74 MIN 0 AC-FT 1310
WTR YR 1975 TOTAL 9295.17 MEAN 25.5 MAX 1300 MIN 0 AC-FT 18440

PEAK DISCHARGE (BASE, 350 FT^3/S)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-19	0300	9.07	352	5-10	2000	10.79	747
5- 7	1000	13.22	1,640	6-27	2200	13.51	1,940

06436800 HORSE CREEK NEAR VALE, S. DAK.

LOCATION.--Lat 44°39'30", long 103°20'17", in SE¼NW¼ sec.13, T.8 N., R.6 E., Butte County, 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 mi^2 (1,370 km^2), approximately.

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.

AVERAGE DISCHARGE.--13 years, 55.5 ft^3/s (1.572 m^3/s), 40,210 acre-ft/yr (49.6 hm^3/yr); median of yearly mean discharges, 51 ft^3/s (1.444 m^3/s), 36,900 acre-ft/yr (45.5 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,420 ft^3/s (40.2 m^3/s) May 8, gage height, 8.96 ft (2.731 m); minimum daily, 1.0 ft^3/s (0.028 m^3/s) Jan. 10-12.

Period of record: Maximum discharge, 2,380 ft^3/s (67.4 m^3/s) May 26, 1965, gage height, 10.84 ft (3.304 m); minimum daily, 0.20 ft^3/s (0.006 m^3/s) May 7-9, 1962, Jan. 17, 18, 1970.

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. Records of chemical analyses and water temperatures for the water year 1975 are published in Section 2 of this report.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 26 to May 6, May 26 to June 27, Sept. 15-30;
stage-discharge relation affected by ice Nov. 27 to Apr. 11)

3.1	2.6	3.7	30	6.5	494
3.2	4.9	4.0	57	8.0	991
3.3	7.7	5.0	185	9.0	1,440
3.5	16				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	7.4	1.5	2.0	2.2	9.0	15	101	10	108	137	104
2	5.5	6.9	2.5	2.2	2.5	8.0	20	91	9.6	67	135	114
3	5.5	5.5	3.1	2.2	2.8	8.0	30	60	8.1	48	131	114
4	5.5	4.7	3.5	2.4	2.2	10	40	44	11	43	131	108
5	6.0	4.5	3.5	2.5	2.0	10	50	37	11	44	129	98
6	6.9	4.5	3.0	2.4	2.0	9.0	50	69	10	40	116	98
7	6.9	4.5	2.5	2.4	2.0	7.0	60	457	15	43	120	100
8	6.6	4.7	2.5	1.5	2.0	5.0	100	1180	19	48	118	99
9	6.3	4.7	3.5	1.2	1.5	5.0	300	941	20	65	116	103
10	6.0	4.7	3.0	1.0	2.0	5.0	350	575	20	72	113	96
11	5.2	4.7	3.0	1.0	2.0	5.0	400	430	22	81	126	84
12	4.7	4.5	2.5	1.0	1.8	5.0	405	318	25	80	126	80
13	4.7	4.5	2.5	2.0	2.0	6.0	374	150	20	76	127	77
14	4.2	4.7	2.5	2.0	2.0	7.0	304	100	20	67	130	79
15	4.2	4.7	2.0	2.0	2.0	9.0	286	61	24	67	144	75
16	4.5	4.7	2.1	1.5	2.2	15	230	44	23	103	156	66
17	4.2	4.7	2.2	2.0	2.2	20	219	35	20	69	162	64
18	4.2	4.7	2.2	2.5	2.5	30	250	29	18	66	166	63
19	3.8	4.5	2.2	2.5	4.0	60	262	24	30	76	178	64
20	4.2	4.5	2.1	2.5	5.0	150	274	22	33	108	169	69
21	5.5	4.7	2.1	3.0	4.0	110	173	24	21	121	153	63
22	5.2	4.7	2.2	3.5	3.0	50	162	21	24	124	151	58
23	4.2	4.5	1.5	4.0	5.0	30	147	51	22	113	134	54
24	4.0	4.5	1.5	4.0	7.0	15	127	94	17	133	112	57
25	4.0	4.5	2.0	3.5	9.0	10	105	59	16	135	105	54
26	3.8	4.5	2.0	2.5	8.0	10	79	46	39	144	103	53
27	3.8	4.0	2.1	2.0	9.0	12	72	43	130	131	105	49
28	3.8	3.0	2.1	2.0	10	12	76	24	203	152	103	50
29	3.8	2.0	2.0	2.0	---	20	118	14	618	147	95	53
30	4.2	1.5	2.0	2.0	---	25	127	25	215	140	98	51
31	7.1	---	2.0	2.0	---	20	---	18	---	142	104	---
TOTAL	154.0	136.2	73.4	69.3	101.9	697.0	5205	5187	1673.7	2853	3993	2297
MEAN	4.97	4.54	2.37	2.24	3.64	22.5	174	167	55.8	92.0	129	76.6
MAX	7.1	7.4	3.5	4.0	10	150	405	1180	618	152	178	114
MIN	3.8	1.5	1.5	1.0	1.5	5.0	15	14	8.1	40	95	49
AC-FT	305	270	146	137	202	1380	10320	10290	3320	5660	7920	4560

CAL YR 1974 TOTAL 12770.80 MEAN 35.0 MAX 176 MIN .30 AC-FT 25330
WTR YR 1975 TOTAL 22440.50 MEAN 61.5 MAX 1180 MIN 1.0 AC-FT 44510

PEAK DISCHARGE (BASE, 400 FT^3/S)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-10	--	--	about 500	5-11	1930	6.58	510
5- 8	2100	8.96	1,420	6-29	0700	7.64	827

06437000 BELLE FOURCHE RIVER NEAR STURGIS, S. DAK.

LOCATION.--Lat 44°30'47", long 103°08'11", in SE¼NW¼ sec.3, T.6 N., R.8 E., Meade County, 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 mi^2 (15,200 km^2), approximately.

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.

AVERAGE DISCHARGE.--30 years, 269 ft^3/s (7.618 m^3/s), 194,900 acre-ft/yr (240 hm^3/yr); median of yearly mean discharges, 230 ft^3/s (6.51 m^3/s), 167,000 acre-ft/yr (210 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 5,640 ft^3/s (160 m^3/s) May 7, gage height, 9.85 ft (3.002 m); minimum daily, 12 ft^3/s (0.340 m^3/s) Feb. 9.

Period of record: Maximum discharge, 17,900 ft^3/s (507 m^3/s) May 24, 1946, gage height, 13.86 ft (4.225 m), from rating curve extended above 11,000 ft^3/s (312 m^3/s); maximum gage height, 14.32 ft (4.365 m) June 16, 1962; no flow for many days in 1945, 1950, and Aug. 9, 1961.

REMARKS.--Records good except those for winter periods, which are poor. Flow regulated by Keyhole Reservoir, usable capacity, 191,600 acre-ft (236 hm^3), 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 km^2) above station. Records of chemical analyses and water temperatures for the water year 1975 are published in Section 2 of this report.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Nov. 14, Nov. 27 to Apr. 7)

3.0	25	4.0	285	6.0	1,390
3.2	58	4.5	484	7.0	2,200
3.4	100	5.0	745	8.5	3,700

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	82	25	20	25	100	40	480	535	668	394	307
2	59	71	30	20	25	100	40	354	502	550	406	314
3	58	63	31	20	28	110	50	282	471	449	411	310
4	58	59	35	20	20	120	100	243	440	347	419	354
5	59	49	40	22	15	120	200	271	419	257	402	340
6	65	49	35	22	17	110	300	2730	386	227	366	328
7	63	47	30	22	17	80	800	3060	275	310	347	340
8	61	52	30	20	15	60	1240	3380	354	303	332	347
9	63	32	50	17	12	50	1220	3570	527	275	347	347
10	61	30	50	15	15	40	1180	2330	574	261	374	336
11	59	30	45	17	17	40	1230	1930	354	278	402	303
12	61	30	40	20	15	40	956	2100	328	289	402	307
13	59	40	35	23	15	50	878	1420	278	289	362	314
14	58	60	30	25	15	60	859	1170	264	296	351	336
15	59	56	25	25	15	70	769	1050	257	268	419	343
16	59	52	25	23	15	100	668	995	243	271	471	321
17	59	50	25	25	16	200	674	930	240	264	516	292
18	58	52	25	28	18	300	718	878	261	230	530	278
19	59	50	25	30	20	400	525	805	332	230	565	307
20	59	50	23	30	20	800	502	763	411	278	575	292
21	58	45	23	30	20	600	453	740	307	317	521	299
22	56	45	25	30	20	400	432	740	303	328	475	325
23	56	56	20	33	25	200	411	712	317	310	475	307
24	56	50	17	30	30	150	362	1040	271	336	370	282
25	54	45	18	30	25	100	354	950	271	374	332	257
26	54	50	18	27	25	50	351	917	416	411	328	237
27	54	45	18	23	50	40	351	763	1180	402	321	234
28	56	35	20	21	110	35	503	674	1070	444	325	240
29	54	30	18	21	---	35	1150	597	1170	402	310	250
30	59	25	20	20	---	40	729	555	859	366	303	243
31	71	---	20	18	---	50	---	540	---	378	321	---
TOTAL	1824	1430	871	727	660	4650	18045	36969	13615	10408	12472	9090
MEAN	58.8	47.7	28.1	23.5	23.6	150	602	1193	454	336	402	303
MAX	71	82	50	33	110	800	1240	3570	1180	668	575	354
MIN	54	25	17	15	12	35	40	243	240	227	303	234
AC-FT	3620	2840	1730	1440	1310	9220	35790	73330	27010	20640	24740	18030

CAL YR 1974 TOTAL 76280.0 MEAN 209 MAX 1030 MIN 3.0 AC-FT 151300
WTR YR 1975 TOTAL 110761.0 MEAN 303 MAX 3570 MIN 12 AC-FT 219700

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, S. DAK.

LOCATION.--Lat 44°22'11", long 102°33'56", in NE¼NE¼ sec.29, T.5 N., R.13 E., Meade County, 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 mi^2 (18,670 km^2), approximately.

PERIOD OF RECORD.--August 1928 to June 1932, March 1934 to current year. Monthly discharge only for some periods, published in WSP 1309.

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.

AVERAGE DISCHARGE.--44 years (1928-31, 1934-75), 365 ft^3/s (10.34 m^3/s), 264,400 acre-ft/yr (326 hm^3/yr); median of yearly mean discharges, 360 ft^3/s (10.2 m^3/s), 261,000 acre-ft (322 hm^3).

EXTREMES.--Current year: Maximum discharge, 9,220 ft^3/s (261 m^3/s) May 8, gage height, 8.43 ft (2.569 m); minimum daily, 4.0 ft^3/s (0.113 m^3/s) Feb. 5, 8, 9.

Period of record: Maximum discharge, 45,100 ft^3/s (1,280 m^3/s) June 8, 1964, gage height, 15.90 ft (4.846 m), from rating curve extended above 23,000 ft^3/s (651 m^3/s); no flow for many days in 1936-37, 1939-40, 1961-62.

Flood in 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.

REMARKS.--Records good except those for winter periods, which are poor. Flow regulated by Keyhole Reservoir, usable capacity, 191,600 acre-ft (236 hm^3), 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 km^2) above station. Records of chemical analyses and water temperatures for the 1975 water year are published in Section 2 of this report.

REVISIONS (WATER YEARS).--WSP 786: Drainage area. WSP 926: 1929, 1931(M), 1935, 1937.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	68	20	22	5.0	15	240	1510	537	750	358	284
2	58	79	21	20	5.0	14	325	946	524	621	369	289
3	58	83	21	18	5.0	20	369	663	488	518	375	284
4	58	70	22	17	4.5	25	544	506	464	434	381	284
5	61	63	22	16	4.0	25	544	410	452	347	404	284
6	66	58	22	15	4.5	23	476	849	410	261	375	298
7	68	52	21	14	4.5	20	488	5940	375	240	341	309
8	70	51	22	11	4.0	15	1600	6840	280	561	330	320
9	66	49	28	11	4.0	15	4180	5710	483	393	325	341
10	64	51	30	10	4.5	15	4410	4590	902	298	336	330
11	66	51	28	10	5.0	15	3240	2900	600	266	352	289
12	61	52	25	11	4.5	15	2160	2700	381	280	375	270
13	59	63	24	13	4.5	20	1980	2250	347	284	387	284
14	61	61	23	15	4.5	40	1800	1610	293	284	358	309
15	58	54	22	15	4.5	60	1660	1380	266	293	347	336
16	58	72	24	14	4.5	100	1570	1190	252	266	404	341
17	58	66	26	16	5.0	200	1670	1070	252	257	440	325
18	58	61	26	16	5.0	200	1490	937	236	261	488	280
19	56	63	28	15	6.0	300	1130	854	1050	216	518	261
20	52	59	30	15	6.0	500	946	750	710	204	558	280
21	51	59	32	14	6.0	1150	946	742	551	240	565	280
22	48	61	33	14	6.0	838	878	742	375	284	512	289
23	52	66	32	15	7.0	782	854	742	336	303	458	293
24	52	64	27	14	8.0	434	742	838	352	284	452	261
25	54	61	30	14	7.0	140	649	982	275	303	364	266
26	54	68	30	12	7.0	193	649	982	320	330	330	252
27	52	59	28	10	7.0	66	593	862	903	358	320	228
28	52	28	28	8.0	10	140	2150	742	1380	358	309	224
29	52	20	25	8.0	---	160	6180	663	982	393	309	232
30	52	20	25	7.0	---	216	3050	600	1160	364	284	240
31	61	---	23	6.0	---	252	---	551	---	358	280	---
TOTAL	1794	1732	798	416.0	152.5	6008	47513	52051	15936	10609	12004	8563
MEAN	57.9	57.7	25.7	13.4	5.45	194	1584	1679	531	342	387	285
MAX	70	83	33	22	10	1150	6180	6840	1380	750	565	341
MIN	48	20	20	6.0	4.0	14	240	410	236	204	280	224
AC-FT	3560	3440	1580	825	302	11920	94240	103200	31610	21040	23810	16980

CAL YR 1974 TOTAL 79785.0 MEAN 219 MAX 1240 MIN 3.0 AC-FT 158300
WTR YR 1975 TOTAL 157576.5 MEAN 432 MAX 6840 MIN 4.0 AC-FT 312600

06438500 CHEYENNE RIVER NEAR PLAINVIEW, S. DAK.

LOCATION.--Lat 44°31'16", long 101°59'34", in NE¼SW¼ sec.31, T.7 N., R.18 E., Ziebach County, 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 mi^2 (55,900 km^2), 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.

AVERAGE DISCHARGE.--25 years, 628 ft^3/s (17.78 m^3/s), 455,000 acre-ft/yr (561 hm^3/yr); median of yearly mean discharges, 650 ft^3/s (18.4 m^3/s), 471,000 acre-ft/yr (581 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 11,900 ft^3/s (337 m^3/s) Apr. 29, gage height, 8.41 ft (2.563 m); maximum gage height, 10.09 ft (3.075 m) Mar. 18 (backwater from ice); minimum daily discharge, 35 ft^3/s (0.99 m^3/s) Feb. 8.

Period of record: Maximum discharge, 41,700 ft^3/s (1,180 m^3/s) May 26, 1957, from rating curve extended above 18,000 ft^3/s (510 m^3/s); maximum gage height, 11.68 ft (3.560 m) May 26, 1965; no flow Dec. 14, 19-21, 1961.

Flood late in May 1920, reached a stage of about 17.5 ft (5.33 m), from information by local residents. Flood in May 1927 reached a stage of about 14 ft (4.3 m), from information by local residents.

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 km^2) and return flow from irrigated areas.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Nov. 27 to Mar. 18, Mar. 24 to Apr. 6; shifting-control method used May 13 to June 13, Sept. 27-30)

3.3	99	4.5	687	6.0	2,970
3.5	151	5.0	1,180	7.0	5,740
3.7	216	5.5	1,970	8.0	9,830
4.0	351				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99	205	60	85	45	150	95	3370	762	1080	466	300
2	118	310	60	80	45	250	120	2230	762	860	402	310
3	121	179	55	75	50	220	140	1730	729	806	408	291
4	118	163	55	75	55	220	120	1460	679	770	414	310
5	131	163	60	70	55	200	200	1270	788	679	414	310
6	154	157	70	65	45	200	2000	1190	729	499	421	346
7	256	157	80	65	40	190	1250	3790	641	459	397	331
8	273	157	90	60	35	180	1970	6670	910	520	397	320
9	216	170	100	60	40	180	5540	8330	797	840	368	331
10	182	167	120	50	50	180	5440	5580	1110	590	351	346
11	163	167	140	45	75	180	4500	3940	1000	492	351	346
12	148	163	160	40	75	190	3590	2840	806	427	357	346
13	143	167	160	45	80	250	3110	2710	712	427	362	331
14	137	173	140	45	85	300	2900	2010	672	427	362	336
15	137	170	120	45	80	350	2750	1650	626	408	357	357
16	137	163	110	43	70	500	2670	1460	604	397	357	368
17	134	176	110	50	65	1000	2790	1290	611	341	397	368
18	134	176	120	55	70	2000	2340	1140	915	300	521	357
19	134	173	125	60	80	1500	1830	1030	1300	296	520	326
20	137	167	120	65	90	1280	1660	948	3130	239	533	300
21	137	167	120	70	100	1500	1500	833	2010	216	561	336
22	134	170	120	80	100	1570	1400	833	2180	269	554	331
23	134	167	110	85	100	1230	1280	860	1020	305	499	336
24	134	167	110	90	110	500	1250	833	842	300	466	351
25	134	167	100	95	110	300	1840	1150	797	291	453	351
26	134	163	95	100	110	150	1070	1000	762	336	368	331
27	134	150	90	90	110	120	1100	979	712	362	351	305
28	140	120	85	80	120	110	1440	899	1430	408	341	305
29	140	100	90	70	---	110	9410	860	1380	391	331	305
30	143	80	90	60	---	100	6980	815	1140	402	331	310
31	157	---	85	50	---	95	---	788	---	385	315	---
TOTAL	4593	4974	3150	2048	2090	15305	72285	64488	30556	14522	12725	9891
MEAN	148	166	102	66.1	74.6	494	2410	2080	1019	468	410	330
MAX	273	310	160	100	120	2000	9410	8330	3130	1080	561	368
MIN	99	80	55	40	35	95	95	788	604	216	315	291
AC-FT	9110	9870	6250	4060	4150	30360	143400	127900	60610	28800	25240	19620

CAL YR 1974 TOTAL 149800 MEAN 410 MAX 1990 MIN 30 AC-FT 297100
WTR YR 1975 TOTAL 236627 MEAN 648 MAX 9410 MIN 35 AC-FT 469300

06439000 CHERRY CREEK NEAR PLAINVIEW, S. DAK.

LOCATION.--Lat 44°44'38", long 102°03'11", in SW¼NE¼ sec.16, T.9 N., R.17 E., Meade County, 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 mi^2 (3,080 km^2), 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.

AVERAGE DISCHARGE.--30 years, 47.4 ft^3/s (1.342 m^3/s), 34,340 acre-ft/yr (42.3 hm^3/yr); median of yearly mean discharges, 29 ft^3/s (0.82 m^3/s), 21,000 acre-ft/yr (25.9 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 5,300 ft^3/s (150 m^3/s) Apr. 29, gage height, 16.27 ft (4.959 m); no flow for most of year.

Period of record: Maximum discharge, 17,500 ft^3/s (496 m^3/s) Apr. 1, 1952, gage height, 22.63 ft (6.898 m); no flow for long periods in each year.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Mar. 23 to Apr. 13)

3.5	0	4.0	14	5.0	96	10.0	1,350
3.6	1.5	4.2	25	6.0	240	13.0	2,820
3.7	3.6	4.5	46	8.0	686	16.0	5,060
3.8	6.4						

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						0	0	2800	21	86	26	
2						0	0	2150	23	60	27	
3						0	0	704	23	50	12	
4						0	0	308	22	40	5.8	
5						0	0	204	20	33	2.8	
6						0	0	156	18	31	.90	
7						0	0	127	16	77	0	
8						0	0	172	15	73	0	
9						0	0	1390	14	35	0	
10						0	0	3250	13	22	0	
11						0	0	2970	13	15	0	
12						0	80	1190	12	10	0	
13						0	600	694	11	7.8	0	
14						0	813	438	10	6.1	0	
15						0	711	247	9.6	5.6	0	
16						0	731	171	8.9	5.0	0	
17						0	717	130	8.2	4.7	0	
18						0	708	106	7.5	4.2	0	
19						0	544	89	7.8	3.6	0	
20						18	427	72	8.2	3.2	0	
21						16	387	55	91	2.3	0	
22						44	359	41	142	1.7	0	
23						20	328	48	84	1.4	0	
24						5.0	516	50	335	.90	0	
25						3.0	376	30	258	.75	0	
26						1.0	272	25	120	.45	0	
27						0	267	24	204	.75	0	
28						0	613	25	62	.45	0	
29					---	0	4320	25	154	0	0	
30					---	0	2480	26	152	0	0	
31		---			---	0	---	23	---	27	0	---
TOTAL	0	0	0	0	0	107.0	15249	17740	1883.2	607.90	74.50	0
MEAN	0	0	0	0	0	3.45	508	572	62.8	19.6	2.40	0
MAX	0	0	0	0	0	44	4320	3250	335	86	27	0
MIN	0	0	0	0	0	0	0	23	7.5	0	0	0
AC-FT	0	0	0	0	0	212	30250	35190	3740	1210	148	0

CAL YR 1974 TOTAL 39.29 MEAN .11 MAX 5 MIN 0 AC-FT 78
WTR YR 1975 TOTAL 35661.60 MEAN 97.7 MAX 4320 MIN 0 AC-FT 70730

PEAK DISCHARGE (BASE, 1,000 FT^3/S)

DATE	TIME	G.H.	DISCHARGE
4-29	0400	16.27	5,300
5-10	1800	14.82	4,080

06439300 CHEYENNE RIVER AT CHERRY CREEK, S. DAK.

LOCATION.--Lat 44°36'10", long 101°29'24", in NE¼NW¼ sec.5, T.7 N., R.22 E., Ziebach County, 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 mi^2 (61,900 km^2), approximately.

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.

AVERAGE DISCHARGE.--15 years, 858 ft^3/s (24.30 m^3/s), 621,600 acre-ft/yr (766 hm^3/yr); median of yearly mean discharges, 740 ft^3/s (21.0 m^3/s), 536,000 acre-ft/yr (661 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 12,600 ft^3/s (357 m^3/s) Apr. 29, gage height, 8.92 ft (2.719 m); minimum daily, 35 ft^3/s (0.99 m^3/s) Feb. 9.

Period of record: Maximum discharge, 43,800 ft^3/s (1,240 m^3/s) June 16, 1967, gage height, 14.75 ft (4.496 m); no flow Jan. 6 to Feb. 2, 1962.

REMARKS.--Records fair 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 km^2) and return flow from irrigated areas. Records of chemical analyses, water temperatures, and suspended sediment loads for the water year 1975 are published in Section 2 of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	120	114	90	90	55	120	170	6980	726	1040	372	315
2	120	146	70	90	50	150	180	2260	830	1190	499	319
3	125	237	70	85	45	200	170	1840	793	994	459	345
4	127	358	60	80	45	260	160	1830	778	962	416	323
5	131	234	55	80	50	230	150	2800	755	890	401	315
6	153	199	55	75	55	210	500	3510	961	838	392	323
7	161	186	65	70	45	210	1170	4530	614	930	377	327
8	248	180	75	70	40	200	1320	5120	523	875	359	341
9	241	172	90	65	35	190	4340	5430	1160	922	336	332
10	218	170	100	60	40	190	5760	6750	893	1030	315	323
11	183	170	120	55	45	200	4900	7120	1260	1200	290	332
12	158	170	140	50	60	215	4040	7260	946	1270	298	354
13	148	175	150	40	70	220	3370	4690	698	1240	311	387
14	148	180	160	45	80	250	4130	4330	614	1680	327	377
15	151	180	150	45	90	300	3990	4110	561	1120	323	350
16	148	175	130	48	85	350	3920	3600	542	800	311	315
17	146	180	120	48	75	800	3930	3000	548	500	323	315
18	146	180	110	50	70	1500	4170	2000	548	400	397	332
19	146	180	120	55	65	2000	3560	1500	1570	350	529	332
20	148	175	130	60	75	1380	2490	1200	3350	315	517	302
21	148	180	130	65	85	1320	2010	1100	2870	282	548	307
22	141	180	130	70	95	1770	1950	1030	2460	267	574	323
23	139	180	120	75	95	1320	1870	994	1920	298	535	336
24	141	180	120	80	100	900	1710	1060	1410	336	453	341
25	141	175	110	85	110	500	1570	1220	1770	336	437	350
26	134	170	110	95	115	200	1360	1360	898	323	406	336
27	134	142	100	100	115	150	1160	1160	930	368	363	311
28	139	130	100	90	115	130	1770	1090	946	387	345	298
29	143	120	95	80	---	120	8330	954	946	406	332	286
30	141	100	100	70	---	130	7100	868	930	485	319	278
31	136	---	100	60	---	150	---	785	---	912	307	---
TOTAL	4703	5318	3275	2131	2005	15865	81250	91481	33750	22946	12171	9825
MEAN	152	177	106	68.7	71.6	512	2708	2951	1125	740	393	328
MAX	248	358	160	100	115	2000	8330	7260	3350	1680	574	387
MIN	120	100	55	40	35	120	150	785	523	267	290	278
AC-FT	9330	10550	6500	4230	3980	31470	161200	181500	66940	45510	24140	19490

CAL YR 1974 TOTAL 152072 MEAN 417 MAX 2390 MIN 30 AC-FT 301600
WTR YR 1975 TOTAL 284720 MEAN 780 MAX 8330 MIN 35 AC-FT 564700

06439980 LAKE OAHE NEAR PIERRE, S. DAK.

LOCATION.--Lat 44°27'30", long 100°23'29", in NE¼ sec.1, T.111 N., R.80 W., 5th principal meridian, Hughes County, 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 1,072.3 (1,725.3 km).

DRAINAGE AREA.--243,500 mi^2 (630,700 km^2), approximately.

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

EXTREMES.--Current year: Maximum contents, 22,681,000 acre-ft (28,000 hm^3) Aug. 22, elevation, 1,617.9 ft (493.14 m), affected by wind; minimum, 17,586,000 acre-ft (21,700 hm^3) Oct. 2, elevation, 1,602.1 ft (488.32 m).

Period of record: Maximum contents, 22,681,000 acre-ft (28,000 hm^3) 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 hm^3) Dec. 21, 1972, elevation, 1,599.2 ft (487.44 m).

REMARKS.--Reservoir is formed by an earthfill dam; storage began in August 1958. Maximum capacity, 23,630,000 acre-ft (29,100 hm^3) below elevation 1,620.0 ft (493.78 m), top of spillway gates. Normal maximum, 22,530,000 acre-ft (27,800 hm^3) below 1,617.0 ft (492.86 m), of which about 2,390,000 acre-ft (2,950 hm^3) is designated for flood control. Inactive storage, 5,538,000 acre-ft (6,830 hm^3) below elevation 1,540.0 ft (469.39 m). Dead storage, 2,000 acre-ft (2.47 hm^3) 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 ft^3/s (8,500 m^3/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.

MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	1,602.6	17,740,000	-
Oct. 31	1,603.1	17,879,000	+139,000
Nov. 30	1,603.7	18,090,000	+211,000
Dec. 31	1,505.1	18,499,000	+409,000
CAL YR 1974	-	-	+193,000
Jan. 31	1,604.7	18,313,000	-186,000
Feb. 28	1,606.7	18,976,000	+663,000
Mar. 31	1,607.8	19,320,000	+344,000
Apr. 30	1,609.8	19,926,000	+606,000
May 31	1,612.9	20,987,000	+1,061,000
June 30	1,614.6	21,560,000	+573,000
July 31	1,616.6	22,256,000	+696,000
Aug. 31	1,617.1	22,375,000	+119,000
Sept.30	1,613.5	21,182,000	-1,193,000
WTR YR 1975	-	-	+3,442,000

06441000 BAD RIVER NEAR MIDLAND, S. DAK.

LOCATION.--Lat 44°04'01", long 101°09'36", in NE¼NW¼ sec.7, T.1 N., R.25 E., Haakon County, 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 mi^2 (3,780 km^2), approximately.

PERIOD OF RECORD.--October 1945 to current year. Prior to February 1946 monthly discharge only, published in WSP 1309.

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.

AVERAGE DISCHARGE.--30 years, 66.0 ft^3/s (1.869 m^3/s), 47,820 acre-ft/yr (59.0 hm^3/yr); median of yearly mean discharges, 38 ft^3/s (1.08 m^3/s), 27,500 acre-ft/yr (33.9 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 3,140 ft^3/s (88.9 m^3/s) May 1, gage height, 14.23 ft (4.337 m); no flow for many days.

Period of record: Maximum discharge, 29,400 ft^3/s (833 m^3/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 ft^3/s (453 m^3/s); no flow for many days in each year.

REMARKS.--Records fair.

REVISIONS.--WSP 2117: Drainage area.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						0	1.0	2790	2.8	7.3		
2						0	3.0	1620	2.3	4.8		
3						0	13	1000	1.5	2.6		
4						0	18	530	1.5	1.2		
5						0	11	333	2.6	.57		
6						0	10	239	2.3	.08		
7						0	12	158	3.2	.02		
8						0	71	110	3.4	0		
9						0	540	521	12	6.4		
10						0	518	254	8.3	30		
11						0	755	216	5.6	15		
12						0	896	254	5.1	7.3		
13						0	932	195	3.2	4.3		
14						0	833	110	2.3	2.4		
15						0	776	64	1.6	1.4		
16						0	731	38	2.0	.48		
17						0	824	23	7.6	.03		
18						0	908	12	5.9	0		
19						1.7	755	8.7	16	0		
20						318	449	16	158	0		
21						181	306	10	816	0		
22						110	256	8.3	688	0		
23						25	245	19	376	0		
24						10	185	14	160	0		
25						8.0	131	12	94	0		
26						8.0	88	9.4	54	0		
27						9.0	127	6.6	36	0		
28						8.0	167	4.3	23	0		
29					---	6.0	837	4.6	16	0		
30					---	2.0	2160	5.3	9.2	0		
31		---			---	.10	---	3.8	---	0		---
TOTAL	0	0	0	0	0	686.80	13558.0	8589.0	2519.4	83.88	0	0
MEAN	0	0	0	0	0	22.2	452	277	84.0	2.71	0	0
MAX	0	0	0	0	0	318	2160	2790	816	30	0	0
MIN	0	0	0	0	0	0	1.0	3.8	1.5	0	0	0
AC-FT	0	0	0	0	0	1360	26890	17040	5000	166	0	0

CAL YR 1974 TOTAL 616.26 MEAN 1.69 MAX 256 MIN 0 AC-FT 1220
WTR YR 1975 TOTAL 25437.08 MEAN 69.7 MAX 2790 MIN 0 AC-FT 50450

PEAK DISCHARGE (BASE, 500 FT^3/S)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4- 9	1300	8.40	722	5- 9	0700	8.29	767
4-11	1900	9.66	1,100	6-21	1700	10.02	1,410
5- 1	1400	14.23	3,140				

06441500 BAD RIVER NEAR FORT PIERRE, S. DAK.

LOCATION.--Lat 44°19'36", long 100°23'02", in NW¼NW¼ sec.10, T.4 N., R.31 E., Stanley County, 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 mi^2 (8,047 km^2).

PERIOD OF RECORD.--August 1928 to current year. Monthly discharge only for July 1932 to February 1934, published in WSP 1309.

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.

AVERAGE DISCHARGE.--47 years, 151 ft^3/s (4.276 m^3/s), 109,400 acre-ft/yr (135 hm^3/yr); median of yearly mean discharges, 99 ft^3/s (2.80 m^3/s), 71,700 acre-ft/yr (88.4 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 3,770 ft^3/s (107 m^3/s) Apr. 9, gage height, 12.20 ft (3.719 m); no flow for many days.

Period of record: Maximum discharge, 43,800 ft^3/s (1,240 m^3/s) June 18, 1967, gage height, 29.55 ft (9.007 m); no flow for long periods in each year.

Flood in April 1927 reached a stage of 30.89 ft (9.415 m), from floodmarks, discharge, about 55,000 ft^3/s (1,560 m^3/s). Flood in July 1905 reached a stage about 2 ft (0.610 m) higher than that in April 1927.

REMARKS.--Records good except those for winter periods, which are poor. Records of water temperatures and suspended sediment loads for the water year 1975 are published in Section 2 of this report.

REVISIONS (WATER YEARS).--WSP 786: Drainage area. WSP 856: 1929(M), 1937.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						0	15	1430	5.3	8.8	0	3.6
2						0	25	2230	4.4	5.8	0	.87
3						0	31	1470	3.8	3.6	0	.20
4						0	24	703	3.0	2.0	0	.10
5						0	30	392	2.5	.99	0	.07
6						0	72	271	1.6	.66	0	.01
7						0	284	269	1.3	.57	0	0
8						0	1670	145	1.3	.42	0	0
9						0	3010	99	5.6	.23	0	0
10						0	1570	97	2.7	.13	0	0
11						0	1350	254	1.4	.09	0	0
12						0	1240	131	.87	.07	0	0
13						0	2270	95	.66	.07	0	0
14						0	1750	101	.49	.05	0	0
15						0	1800	86	.36	.01	0	0
16						24	1740	56	.31	0	0	0
17						86	2160	38	7.6	0	0	36
18						81	1670	27	4.4	0	0	11
19						62	1390	20	14	0	0	1.3
20						44	1150	51	18	0	0	.13
21						23	879	63	47	0	0	.05
22						12	694	174	47	0	0	.02
23						10	595	436	383	0	0	0
24						10	447	203	286	0	0	0
25						9.0	372	58	184	0	0	0
26						9.0	307	31	99	0	0	0
27						10	250	21	57	0	51	0
28						11	240	14	33	0	394	0
29					---	11	346	9.8	21	0	241	0
30					---	10	575	7.9	14	0	48	0
31		---			---	10	---	6.6	---	0	14	---
TOTAL	0	0	0	0	0	422.0	27956	8989.3	1250.59	23.49	748	53.35
MEAN	0	0	0	0	0	13.6	932	290	41.7	.76	24.1	1.78
MAX	0	0	0	0	0	86	3010	2230	383	8.8	394	36
MIN	0	0	0	0	0	0	15	6.6	.31	0	0	0
AC-FT	0	0	0	0	0	837	55450	17830	2480	47	1480	106

CAL YR 1974 TOTAL 5310.13 MEAN 14.5 MAX 1360 MIN 0 AC-FT 10530
WTR YR 1975 TOTAL 39442.73 MEAN 108 MAX 3010 MIN 0 AC-FT 78230

PEAK DISCHARGE (BASE, 2,000 FT^3/S)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4- 9	0200	12.20	3,770	4-17	0800	9.76	2,310
4-13	1230	9.94	2,410	5- 2	2300	10.11	2,520

06442000 MEDICINE KNOLL CREEK NEAR BLUNT, S. DAK.

LOCATION.--Lat 44°33'46", long 99°54'50", in NW¼ sec.31, T.113 N., R.75 W., Sully County, 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.--455 mi^2 (1,180 km^2), approximately.

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.

AVERAGE DISCHARGE.--25 years, 4.89 ft^3/s (0.138 m^3/s), 3,540 acre-ft/yr (4.36 hm^3/yr); median of yearly mean discharges, 1.2 ft^3/s (0.03 m^3/s), 870 acre-ft/yr (1.07 hm^3/yr).

EXTREMES.--Current year: Maximum daily discharge, 10 ft^3/s (0.28 m^3/s) Apr. 14; maximum gage height, 9.21 ft (2.807 m) Apr. 9 (backwater from ice); no flow for many days.

Period of record: Maximum discharge, 1,830 ft^3/s (51.8 m^3/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.

REMARKS.--Records fair.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							0	1.2				
2							0	1.1				
3							0	.93				
4							0	.65				
5							0	.06				
6							0	.02				
7							0	.04				
8							.50	.03				
9							1.0	.02				
10							1.5	.02				
11							2.0	.03				
12							4.0	.03				
13							7.0	.03				
14							9.5	.01				
15							10	.01				
16							5.1	.01				
17							5.1	0				
18							4.5	0				
19							3.4	0				
20							2.4	0				
21							1.8	0				
22							1.7	0				
23							1.2	0				
24							1.2	0				
25							.85	0				
26							.65	0				
27							.93	0				
28							.78	0				
29					---		1.2	0				
30					---		1.2	0				
31		---			---		---	0	---			---
TOTAL	0	0	0	0	0	0	67.51	4.19	0	0	0	0
MEAN	0	0	0	0	0	0	2.25	.14	0	0	0	0
MAX	0	0	0	0	0	0	10	1.2	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	134	8.3	0	0	0	0

CAL YR 1974 TOTAL 0 MEAN 0 MAX 0 MIN 0 AC-FT 0
WTR YR 1975 TOTAL 71.70 MEAN .20 MAX 10 MIN 0 AC-FT 142

PEAK DISCHARGE (BASE, 50 FT^3/S).--No peaks above base.

06442500 MEDICINE CREEK AT KENNEBEC, S. DAK.

LOCATION.--Lat 43°54'17", long 99°52'35", in NW¼NE¼ sec.18, T.105 N., R.75 W., Lyman County, 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 mi^2 (1,200 km^2), 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.

AVERAGE DISCHARGE.--21 years, 14.3 ft^3/s (0.405 m^3/s), 10,360 acre-ft/yr (12.8 hm^3/yr); median of yearly mean discharges, 6.5 ft^3/s (0.18 m^3/s), 4,700 acre-ft/yr (5.80 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 278 ft^3/s (7.87 m^3/s) Apr. 18, gage height, 4.39 ft (1.338 m); no flow for many days.

Period of record: Maximum discharge, 8,970 ft^3/s (254 m^3/s) Mar. 28, 1960, gage height, 16.71 ft (5.093 m); no flow for many days each year.

Flood in April 1952 reached a stage of 17.0 ft (5.18 m), from floodmarks.

REMARKS.--Records fair.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							0	74			1.1	
2							0	34			3.3	
3							0	25			5.1	
4							0	18			3.7	
5							0	11			1.6	
6							.50	7.1			.71	
7							1.0	5.1			.20	
8							10	6.2			0	
9							24	2.0			0	
10							50	1.4			0	
11							30	1.4			0	
12							121	.90			0	
13							109	.80			0	
14							114	.56			0	
15							206	.38			0	
16							138	.14			0	
17							168	.01			0	
18							220	0			0	
19							157	0			0	
20							54	0			0	
21							32	0			0	
22							25	0			0	
23							21	0			0	
24							20	0			0	
25							17	0			0	
26							18	0			0	
27							12	0			.04	
28							8.2	0			2.5	
29					---		5.9	0			2.1	
30					---		5.7	0			.38	
31		---			---		---	0	---		.01	---
TOTAL	0	0	0	0	0	0	1567.30	187.99	0	0	20.74	0
MEAN	0	0	0	0	0	0	52.2	6.06	0	0	.67	0
MAX	0	0	0	0	0	0	220	74	0	0	5.1	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	3110	373	0	0	41	0

CAL YR 1974 TOTAL 59.83 MEAN .16 MAX 16 MIN 0 AC-FT 119
WTR YR 1975 TOTAL 1776.03 MEAN 4.87 MAX 220 MIN 0 AC-FT 3520

PEAK DISCHARGE (BASE, 100 FT^3/S)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-12	1400	3.46	178	4-18	1700	4.39	278
4-15	0600	3.93	225	5- 1	0300	3.13	145

06442700 LAKE SHARPE NEAR FORT THOMPSON, S. DAK.

LOCATION.--Lat 44°02'18", long 99°26'45", in SE¼ sec.27, T.107 N., R.72 W., Lyman County, 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 mi^2 (645,700 km^2), approximately.

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

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

EXTREMES.--Current year: Maximum contents, 1,803,000 acre-ft (2,220 hm^3) June 8, elevation, 1,421.1 ft (433.15 m), affected by wind; minimum, 1,684,000 acre-ft (2,080 hm^3) June 20, elevation, 1,419.0 ft (432.51 m).

Period of record: Maximum contents, 1,829,000 acre-ft (2,260 hm^3) 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 hm^3) Sept. 17, 1967, elevation, 1,414.7 ft (431.20 m), affected by wind.

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 hm^3) below elevation, 1,423.0 ft (433.73 m), top of spillway gates. Normal maximum, 1,725,000 acre-ft (2,130 hm^3) below elevation 1,420.0 ft (432.82 m). Inactive storage, 1,465,000 acre-ft (1,810 hm^3) 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 ft^3/s (11,000 m^3/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 ft^3/s (2,830 m^3/s). Water is used for flood control, navigation, power, and incidental uses.

COOPERATION.--Elevation and contents furnished by Corps of Engineers.

MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	1,420.6	1,771,000	-
Oct. 31	1,420.5	1,766,000	-5,000
Nov. 30	1,420.3	1,750,000	-16,000
Dec. 31	1,420.3	1,744,000	-6,000
CAL YR 1974	-	-	-11,000
Jan. 31	1,420.2	1,750,000	+6,000
Feb. 28	1,420.3	1,755,000	+5,000
Mar. 31	1,420.0	1,744,000	-11,000
Apr. 30	1,419.9	1,734,000	-10,000
May 31	1,419.7	1,718,000	-16,000
June 30	1,420.1	1,750,000	+32,000
July 31	1,419.8	1,734,000	-16,000
Aug. 31	1,419.6	1,712,000	-22,000
Sept.30	1,419.7	1,721,000	+9,000
WTR YR 1975	-	-	-50,000

06442950 CROW CREEK NEAR GANN VALLEY, S. DAK.

LOCATION.--Lat 43°59'29", long 99°13'07", in NE¼NW¼ sec.15, T.106 N., R.70 W., Buffalo County, 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 mi^2 (1,740 km^2), 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.

EXTREMES.--Current year: Maximum discharge, 296 ft^3/s (8.38 m^3/s) June 21, gage height, 5.75 ft (1.753 m); no flow for many days.

Period of record: Maximum discharge, 2,080 ft^3/s (58.9 m^3/s) Mar. 13, 1972, gage height, 13.17 ft (4.014 m); no flow for many days each year.

REMARKS.--Records fair. Records of monthly specific conductance for the water year 1975 are published in Section 2 of this report.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 12-21, May 19-26; stage-discharge relation affected by ice Apr. 7-10)

2.5	0	3.0	7.2	4.0	75
2.6	.57	3.2	15	5.0	197
2.7	1.6	3.5	33	6.0	344
2.8	3.1				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							0	8.6	0			
2							0	7.4	0			
3							0	6.4	0			
4							0	6.2	0			
5							0	5.8	0			
6							0	4.4	0			
7							10	3.0	0			
8							30	2.2	0			
9							40	1.4	0			
10							25	14	5.1			
11							12	14	3.6			
12							69	9.3	4.9			
13							125	9.7	2.8			
14							121	8.6	.93			
15							124	6.9	0			
16							88	5.8	0			
17							131	5.2	0			
18							120	4.2	6.6			
19							220	3.1	7.7			
20							124	2.2	6.4			
21							66	1.3	80			
22							47	3.2	124			
23							28	13	44			
24							22	8.3	29			
25							18	5.4	22			
26							16	2.5	16			
27							14	.24	9.0			
28							12	0	5.0			
29					---		11	0	2.0			
30					---		9.0	0	.10			
31		---			---		---	0	---			---
TOTAL	0	0	0	0	0	0	1482.0	162.34	369.13	0	0	0
MEAN	0	0	0	0	0	0	49.4	5.24	12.3	0	0	0
MAX	0	0	0	0	0	0	220	14	124	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	2940	322	732	0	0	0

CAL YR 1974 TOTAL 5458.72 MEAN 15.0 MAX 600 MIN 0 AC-FT 10830
WTR YR 1975 TOTAL 2013.47 MEAN 5.52 MAX 220 MIN 0 AC-FT 3990

PEAK DISCHARGE (BASE, 150 FT^3/S)

DATE	TIME	G.H.	DISCHARGE
4-19	--	--	250
6-21	2100	5.75	296

06445980 WHITE CLAY CREEK NEAR OGLALA, S. DAK.

LOCATION.--Lat 43°08'46", long 102°40'58", in SE¼SE¼ sec.30, T.37 N., R.45 W., Shannon County, 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 mi^2 (880 km^2), 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.

AVERAGE DISCHARGE.--10 years, 11.5 ft^3/s (0.326 m^3/s), 8,330 acre-ft/yr (10.3 hm^3/yr); median of yearly mean discharges, 9.2 ft^3/s (0.261 m^3/s), 6,700 acre-ft/yr (8.26 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 392 ft^3/s (11.1 m^3/s) Aug. 2, gage height, 11.87 ft (3.618 m); no flow for many days.

Period of record: Maximum discharge, 659 ft^3/s (18.7 m^3/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.

REMARKS.--Records good except those for winter periods, which are poor. Some storage and possible regulation above station. Records of monthly specific conductance for the water year 1975 are published in Section 2 of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	1.8	2.5	1.7	1.7	7.0	10	17	8.5	9.4	21	.81
2	0	1.8	2.5	1.7	2.0	6.0	8.0	11	8.9	8.3	269	.64
3	0	1.2	3.0	1.7	2.0	6.0	10	11	9.2	7.5	69	.33
4	0	1.3	3.5	2.0	1.5	7.0	15	9.8	9.1	6.6	26	.33
5	0	1.2	3.5	2.5	1.3	8.0	20	10	8.1	5.6	18	.22
6	.14	1.3	3.5	3.0	1.5	9.0	20	11	7.5	4.9	15	.39
7	0	1.3	3.0	2.5	1.5	8.0	20	11	7.5	5.6	16	.64
8	0	1.3	2.5	2.0	1.0	8.0	16	11	7.3	6.0	12	1.1
9	0	1.4	2.8	1.5	4.0	8.0	18	11	7.2	7.0	9.5	1.2
10	.04	1.3	2.5	1.2	6.5	8.0	17	11	7.2	6.8	7.5	6.6
11	.11	1.3	2.5	1.0	6.5	8.0	16	11	7.8	5.6	5.4	3.7
12	0	1.3	2.5	1.5	6.0	7.5	15	11	7.0	4.7	4.7	8.3
13	.54	1.5	2.0	3.0	7.0	7.0	13	11	6.5	3.8	3.9	10
14	0	1.3	1.5	4.0	7.0	8.0	12	12	5.7	3.0	3.6	3.7
15	0	1.6	1.0	3.9	5.0	10	12	12	5.4	2.4	4.5	8.8
16	.08	1.8	1.3	3.5	3.0	15	12	9.2	6.9	1.8	4.2	2.0
17	.28	2.0	1.6	3.7	3.0	17	12	7.2	19	1.5	13	.98
18	.39	2.0	1.6	4.0	3.5	17	11	7.8	27	1.1	17	.55
19	.39	2.2	1.6	4.0	4.0	20	11	7.6	43	.98	13	.22
20	.44	2.2	1.5	4.0	5.0	25	14	8.2	49	.81	10	0
21	.50	2.5	1.7	3.5	4.5	25	15	8.1	91	.64	8.6	0
22	.44	2.4	1.8	3.7	4.0	20	15	7.8	26	.89	7.5	.12
23	.39	2.5	1.5	4.0	4.5	18	12	9.5	18	.89	6.3	.22
24	.50	3.0	1.0	4.0	5.0	15	5.0	10	15	.89	4.6	.28
25	.55	3.2	1.2	3.5	5.0	15	3.9	10	13	.55	3.5	.28
26	.81	3.5	1.5	3.0	5.0	15	4.9	9.9	13	.64	2.9	.80
27	.72	3.0	1.7	2.0	6.0	12	5.6	9.2	13	.39	2.1	.16
28	.81	2.5	2.0	1.5	6.0	10	12	8.9	12	.22	1.3	.16
29	.89	2.0	1.7	1.5	---	7.0	15	8.3	12	.06	.89	.16
30	1.2	2.0	1.5	1.5	---	10	17	8.2	10	0	.89	0
31	1.8	---	1.5	1.5	---	12	---	8.1	---	.31	.72	---
TOTAL	11.02	57.7	63.5	82.1	113.0	368.5	387.4	308.8	480.8	98.87	581.60	52.69
MEAN	.36	1.92	2.05	2.65	4.04	11.9	12.9	9.96	16.0	3.19	18.8	1.76
MAX	1.8	3.5	3.5	4.0	7.0	25	20	17	91	9.4	269	10
MIN	0	1.2	1.0	1.0	1.0	6.0	3.9	7.2	5.4	0	.72	0
AC-FT	22	114	126	163	224	731	768	613	954	196	1150	105

CAL YR 1974 TOTAL 1796.69 MEAN 4.92 MAX 16 MIN 0 AC-FT 3560
WTR YR 1975 TOTAL 2605.98 MEAN 7.14 MAX 269 MIN 0 AC-FT 5170

PEAK DISCHARGE (BASE, 150 FT^3/S)

DATE	TIME	G.H.	DISCHARGE
6-19	0100	9.37	183
6-21	0930	9.83	216
8- 2	1000	11.87	392

06446000 WHITE RIVER NEAR OGLALA, S. DAK.

LOCATION.--Lat 43°15'17", long 102°49'29", in SW¼NE¼ sec.24, T.38 N., R.47 W., Shannon County, 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 mi^2 (5,700 km^2), 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.

AVERAGE DISCHARGE.--32 years, 55.9 ft^3/s (1.583 m^3/s), 40,500 acre-ft/yr (49.9 hm^3/yr); median of yearly mean discharges, 48 ft^3/s (1.359 m^3/s), 34,800 acre-ft/yr (42.9 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 776 ft^3/s (22.0 m^3/s) June 22, gage height, 13.64 ft (4.157 m); no flow Sept. 15-30.

Period of record: Maximum discharge, 5,200 ft^3/s (147 m^3/s) June 21, 1947, gage height, 23.50 ft (7.163 m), from rating curve extended above 2,800 ft^3/s (79.3 m^3/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, 1970-75.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 5 to Nov. 26, May 1-8; stage-discharge relation affected by ice Nov. 27 to Apr. 7)

3.0	0	3.4	1.4	5.0	39
3.1	.11	3.5	2.4	6.0	75
3.2	.38	4.0	12	8.0	196
3.3	.81	4.5	24	14.0	810

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	13	4.0	3.5	8.0	11	10	140	22	49	14	5.6
2	.06	11	4.0	4.0	11	10	10	91	22	37	301	4.2
3	.03	9.8	4.0	4.5	12	10	12	55	21	30	91	3.5
4	.01	11	5.0	5.0	11	10	15	42	20	25	35	3.3
5	.01	12	7.0	5.0	10	11	20	38	21	24	28	3.5
6	.71	13	15	5.0	9.0	11	25	34	21	24	27	2.2
7	1.8	13	10	4.5	9.0	12	35	32	21	22	20	1.0
8	1.2	13	8.0	4.0	8.0	15	167	32	21	25	19	.33
9	.64	10	8.5	3.5	8.0	20	529	32	23	22	14	.16
10	.11	8.4	8.0	3.0	8.0	30	475	30	23	21	10	.10
11	.11	7.4	7.5	3.0	8.0	35	442	27	22	20	8.0	.08
12	.09	6.7	8.0	3.0	7.5	40	372	28	31	18	5.0	.06
13	10	7.9	8.0	3.5	7.0	45	260	27	51	16	2.3	.03
14	12	8.4	7.0	3.6	7.0	47	122	28	32	15	1.4	.01
15	10	7.8	7.0	3.6	6.5	50	92	31	23	14	.72	0
16	7.0	8.2	7.5	3.6	7.0	53	88	61	20	12	.33	0
17	5.6	7.6	7.5	3.6	7.0	55	80	66	22	10	59	0
18	15	8.0	7.5	3.8	7.5	58	68	39	24	9.0	32	0
19	11	9.4	7.5	4.0	8.0	60	65	31	27	7.5	25	0
20	7.4	8.2	7.5	4.0	8.0	70	59	27	90	5.0	20	0
21	4.6	8.2	8.0	4.0	8.0	95	54	24	540	3.0	22	0
22	2.3	11	8.0	4.5	7.5	75	46	24	712	4.2	19	0
23	1.4	9.8	7.0	5.0	7.5	60	45	25	484	6.6	17	0
24	5.2	9.1	7.0	6.0	8.0	40	51	27	333	5.0	14	0
25	5.4	8.2	6.5	6.0	8.0	35	46	30	214	10	9.6	0
26	4.4	6.8	6.5	5.5	8.0	35	42	51	110	5.4	6.6	0
27	3.0	5.0	5.5	5.5	9.0	25	40	56	84	3.1	5.2	0
28	2.3	4.5	4.5	5.0	10	22	38	43	59	3.6	4.2	0
29	5.4	3.8	4.0	5.0	---	20	66	33	71	2.3	4.4	0
30	9.2	3.5	4.0	5.0	---	15	144	26	98	2.3	4.2	0
31	10	---	3.5	6.0	---	10	---	24	---	4.0	6.6	---
TOTAL	136.05	263.7	213.0	135.2	233.5	1085	3518	1254	3262	455.0	825.55	24.07
MEAN	4.39	8.79	6.87	4.36	8.34	35.0	117	40.5	109	14.7	26.6	.80
MAX	15	13	15	6.0	12	95	529	140	712	49	301	5.6
MIN	.01	3.5	3.5	3.0	6.5	10	10	24	20	2.3	.33	0
AC-FT	270	523	422	268	463	2150	6980	2490	6470	902	1640	48

CAL YR 1974 TOTAL 11142.35 MEAN 30.5 MAX 460 MIN 0 AC-FT 22100
WTR YR 1975 TOTAL 11405.07 MEAN 31.2 MAX 712 MIN 0 AC-FT 22620

PEAK DISCHARGE (BASE, 800 FT^3/S).--No peaks above base.

06447000 WHITE RIVER NEAR KADOKA, S. DAK.

LOCATION.--Lat 43°45'09", long 101°31'28", in SE¼SE¼ sec.30, T.3 S., R.22 E., Black Hills meridian, Jackson County, 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 mi^2 (13,000 km^2), approximately.

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

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.

AVERAGE DISCHARGE.--33 years, 282 ft^3/s (7.986 m^3/s), 204,300 acre-ft/yr (252 hm^3/yr); median of yearly mean discharges, 270 ft^3/s (7.65 m^3/s), 196,000 acre-ft/yr (242 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 7,150 ft^3/s (202 m^3/s) Apr. 29, gage height, 10.02 ft (3.054 m); maximum gage height, 10.17 ft (3.100 m) Mar. 17 (backwater from ice); no flow Oct. 1-5, Oct. 21 to Nov. 1, July 25-30, Sept. 2-30.

Period of record: Maximum discharge, 21,700 ft^3/s (615 m^3/s) June 7, 1951, gage height, 13.83 ft (4.215 m), site then in use, from rating curve extended above 16,000 ft^3/s (453 m^3/s); no flow at times in many years.

Flood of June 4, 1942, reached a stage of 16.24 ft (4.950 m) from floodmarks, discharge, about 32,000 ft^3/s (906 m^3/s), from rating curve extended above 16,000 ft^3/s (453 m^3/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.

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

REVISIONS (WATER YEARS).--WSP 1279: 1944(M), 1948.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	4.0	2.0	6.0	100	10	1340	81	155	489	5.0
2	0	74	3.0	2.0	6.0	150	15	684	72	110	140	0
3	0	75	3.0	2.0	10	650	30	475	66	86	140	0
4	0	49	4.0	2.0	17	800	100	430	95	88	149	0
5	0	40	5.0	2.0	16	850	400	390	200	90	88	0
6	15	30	10	2.0	16	800	1000	295	317	60	452	0
7	146	20	8.0	2.0	16	700	2500	212	108	146	215	0
8	125	10	4.0	2.0	14	600	4920	173	85	320	134	0
9	64	5.0	2.0	1.5	14	600	3190	143	204	1080	78	0
10	26	4.5	2.0	1.0	14	600	1700	134	164	236	40	0
11	16	4.1	2.0	1.0	14	650	1210	120	152	103	21	0
12	16	6.9	2.0	1.5	14	650	1150	113	128	48	15	0
13	14	13	2.0	2.0	16	700	1100	100	93	30	94	0
14	10	12	2.0	2.0	20	700	1020	95	100	12	53	0
15	5.9	8.9	2.0	2.0	25	800	978	83	70	13	19	0
16	4.0	6.9	2.0	2.0	30	1000	874	72	49	9.5	15	0
17	3.0	5.0	2.0	2.0	30	2500	839	64	504	6.4	15	0
18	2.0	3.7	2.0	3.0	40	1930	607	56	1110	2.8	94	0
19	1.0	6.4	2.0	3.0	50	888	429	51	2210	5.0	81	0
20	.50	6.4	2.0	3.0	65	723	340	49	2720	4.0	38	0
21	0	6.9	2.0	3.0	70	607	282	88	1620	3.7	18	0
22	0	7.4	1.8	3.0	70	418	258	74	1340	3.7	11	0
23	0	8.4	1.5	4.0	75	200	243	141	1240	4.1	22	0
24	0	10	1.5	4.0	80	100	222	182	903	4.1	20	0
25	0	9.5	1.5	5.0	85	70	197	231	839	0	11	0
26	0	5.9	1.5	6.0	85	50	158	226	645	0	6.9	0
27	0	6.0	1.6	6.0	90	35	140	123	475	0	14	0
28	0	6.0	1.7	6.0	90	25	2030	93	469	0	235	0
29	0	5.0	1.7	5.0	---	15	4830	74	300	0	62	0
30	0	5.0	1.8	5.0	---	10	2300	72	191	0	25	0
31	0	---	1.9	5.0	---	10	---	62	---	127	14	---
TOTAL	448.40	450.9	83.5	92.0	1078.0	17931	33072	6445	16550	2747.3	2808.9	5.0
MEAN	14.5	15.0	2.69	2.97	38.5	578	1102	208	552	88.6	90.6	.17
MAX	146	75	10	6.0	90	2500	4920	1340	2720	1080	489	5.0
MIN	0	0	1.5	1.0	6.0	10	10	49	49	0	6.9	0
AC-FT	889	894	166	182	2140	35570	65600	12780	32830	5450	5570	9.9

CAL YR 1974 TOTAL 39746.20 MEAN 109 MAX 4000 MIN 0 AC-FT 78840
WTR YR 1975 TOTAL 81712.00 MEAN 224 MAX 4920 MIN 0 AC-FT 162100

PEAK DISCHARGE (BASE, 3,600 FT^3/S)

DATE	TIME	G.H.	DISCHARGE
4- 8	0100	9.03	5,100
4-29	0300	10.02	7,150
6-19	2400	9.24	5,390

06447500 LITTLE WHITE RIVER NEAR MARTIN, S. DAK.

LOCATION.--Lat 43°10'00", long 101°37'47", in NW¼ sec.19, T.37 N., R.36 W., Bennett County, on right bank 70 ft (21 m) downstream from highway culvert and 5.4 mi (8.7 km) east of Martin.

DRAINAGE AREA.--310 mi^2 (803 km^2), approximately, of which about 230 mi^2 (596 km^2) 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.

AVERAGE DISCHARGE.--15 years, 19.5 ft^3/s (0.552 m^3/s), 14,130 acre-ft/yr (17.4 hm^3/s); median of yearly mean discharges, 18 ft^3/s (0.51 m^3/s), 13,000 acre-ft/yr (16.0 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 452 ft^3/s (12.8 m^3/s) Apr. 10, gage height, 8.47 ft (2.582 m); minimum daily, 3.8 ft^3/s (0.108 m^3/s) Sept. 16.

Period of record: Maximum discharge, 1,190 ft^3/s (33.7 m^3/s) July 19, 1965, gage height, 12.90 ft (3.932 m), from rating curve extended above 340 ft^3/s (9.63 m^3/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 ft^3/s (0.017 m^3/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.

Flood of May 5, 1932, reached a stage of 13.3 ft (4.05 m), from floodmarks.

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

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.3	14	9.5	9.0	7.5	16	10	113	15	12	5.8	5.8
2	8.6	14	11	8.5	8.0	16	10	103	15	11	6.0	5.1
3	8.4	15	12	8.5	7.5	17	11	58	15	10	5.8	5.0
4	8.7	14	12	8.0	7.5	17	12	43	14	9.2	5.9	5.0
5	9.1	14	12	7.5	7.0	18	12	35	14	8.4	5.8	4.6
6	9.4	14	12	7.5	7.0	17	13	30	13	8.4	9.5	4.6
7	9.9	14	13	8.0	6.5	16	13	26	14	8.3	15	4.4
8	10	14	11	7.5	6.5	16	15	24	13	8.4	10	4.4
9	10	14	13	7.5	7.5	17	30	22	21	8.4	15	4.2
10	11	14	11	7.0	8.5	17	100	22	18	8.4	15	4.6
11	10	14	10	6.5	9.5	17	394	22	16	8.6	11	5.3
12	9.4	14	9.5	7.0	9.5	18	229	21	15	8.0	8.7	6.0
13	9.1	14	9.5	7.0	9.5	20	100	21	14	7.5	7.7	6.6
14	9.2	13	9.0	7.0	10	21	69	20	13	7.2	7.4	6.6
15	9.4	12	9.0	7.5	10	22	54	19	13	7.1	7.2	5.5
16	9.5	13	9.0	7.5	10	22	49	19	13	6.9	7.2	3.8
17	9.9	13	8.5	7.5	10	22	47	17	15	6.6	7.1	4.0
18	10	14	8.5	8.0	11	21	44	16	20	6.3	7.2	4.0
19	10	14	8.5	8.0	12	21	43	16	22	5.9	7.4	4.1
20	10	13	8.0	8.0	13	20	40	15	21	5.8	7.2	4.1
21	11	13	8.0	8.0	13	17	36	15	23	5.8	7.2	4.2
22	12	13	8.0	8.0	14	13	33	15	21	5.8	7.1	4.5
23	11	13	7.5	7.5	14	10	31	17	24	5.8	6.8	4.7
24	11	11	7.5	7.5	15	9.0	30	21	33	5.5	6.3	4.7
25	11	11	7.0	7.5	15	9.0	30	23	30	5.5	5.6	5.2
26	12	10	7.5	7.0	15	9.0	28	22	24	5.3	5.6	5.9
27	12	10	8.5	7.0	16	9.5	27	20	21	5.2	5.5	6.0
28	12	9.5	10	6.5	16	9.5	30	17	19	5.1	5.8	5.5
29	12	9.0	10	6.5	---	9.5	59	16	16	4.8	5.9	5.0
30	12	9.0	9.5	7.0	---	9.5	78	16	14	4.8	5.5	5.0
31	13	---	9.5	7.0	---	10	---	15	---	5.2	5.5	---
TOTAL	318.9	383.5	299.0	232.5	296.0	486.0	1677	859	539	221.2	238.7	148.4
MEAN	10.3	12.8	9.65	7.50	10.6	15.7	55.9	27.7	18.0	7.14	7.70	4.95
MAX	13	15	13	9.0	16	22	394	113	33	12	15	6.6
MIN	8.3	9.0	7.0	6.5	6.5	9.0	10	15	13	4.8	5.5	3.8
AC-FT	633	761	593	461	587	964	3330	1700	1070	439	473	294

CAL YR 1974 TOTAL 5144.9 MEAN 14.1 MAX 101 MIN 3.9 AC-FT 10200
WTR YR 1975 TOTAL 5699.2 MEAN 15.6 MAX 394 MIN 3.8 AC-FT 11300

PEAK DISCHARGE (BASE, 100 FT^3/S)

DATE	TIME	G.H.	DISCHARGE
4-10	2400	8.47	452
5- 1	2400	4.26	130

06448000 LAKE CREEK ABOVE REFUGE, NEAR TUTHILL, S. DAK.

LOCATION.--Lat 43°05'07", long 101°36'04", in NE¼ sec.19, T.36 N., R.36 W., Bennett County, 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.

DRAINAGE AREA.--58 mi^2 (150 km^2), approximately, of which about 23 mi^2 (60 km^2) 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 3,090 ft (942 m), by barometer. Prior to Aug. 9, 1938, nonrecording gage and Aug. 10, 1938, to Sept. 30, 1940, water-stage recorder at site 110 ft (34 m) upstream at same datum.

AVERAGE DISCHARGE.--15 years, 19.6 ft^3/s (0.555 m^3/s), 14,200 acre-ft/yr (17.5 hm^3/yr); median of yearly mean discharges, 20 ft^3/s (0.57 m^3/s), 14,500 acre-ft/yr (17.9 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 70 ft^3/s (1.98 m^3/s) Apr. 28, gage height, 2.21 ft (0.674 m); maximum gage height observed, 3.28 ft (1.000 m) Apr. 7 (backwater from ice); minimum daily discharge, 7.3 ft^3/s (0.21 m^3/s) Aug. 29.

Period of record: Maximum discharge, 154 ft^3/s (4.36 m^3/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.

REMARKS.--Records good except those for winter periods, which are poor. A few small diversions for irrigation of hay meadows above station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	19	18	19	19	22	28	26	20	17	14	8.3
2	14	19	20	20	19	23	28	25	19	17	14	8.8
3	14	19	25	20	18	24	29	22	18	16	13	8.8
4	14	18	27	20	18	25	30	21	17	16	13	9.4
5	14	18	25	20	17	25	30	20	17	17	16	11
6	17	18	19	21	16	24	32	18	17	17	14	11
7	17	18	19	21	16	23	35	18	22	19	13	10
8	16	17	23	21	15	22	37	18	26	20	12	11
9	16	17	24	20	15	23	35	19	22	19	12	11
10	16	17	20	19	16	23	34	20	20	18	12	10
11	15	17	18	18	17	24	33	19	20	17	12	11
12	16	17	17	18	18	30	32	18	20	16	12	11
13	17	18	17	19	18	35	31	18	19	16	12	11
14	17	18	17	20	18	40	30	17	20	15	13	11
15	17	18	17	20	18	45	30	16	20	14	13	11
16	18	18	17	21	18	44	30	16	23	14	13	11
17	17	18	18	21	18	42	29	15	40	13	13	11
18	16	18	17	21	19	39	27	15	32	13	13	12
19	17	18	17	21	19	39	25	14	47	13	12	13
20	17	18	16	21	19	38	24	14	29	13	12	13
21	17	17	16	21	19	35	24	16	28	13	12	13
22	17	17	16	21	19	35	24	17	36	13	13	13
23	17	17	16	21	20	34	25	30	26	13	12	13
24	18	18	15	21	20	30	24	24	22	13	11	13
25	18	18	15	20	20	28	22	18	21	13	9.8	13
26	18	19	17	19	21	28	22	18	25	12	10	13
27	18	19	18	18	21	28	22	17	22	12	11	13
28	17	18	19	18	22	27	41	17	21	12	8.3	13
29	18	17	19	18	---	27	53	18	20	11	7.3	14
30	18	17	19	18	---	27	33	18	18	13	7.7	14
31	19	---	19	18	---	28	---	18	---	14	8.3	---
TOTAL	515	535	580	614	513	937	899	580	707	459	368.4	346.3
MEAN	16.6	17.8	18.7	19.8	18.3	30.2	30.0	18.7	23.6	14.8	11.9	11.5
MAX	19	19	27	21	22	45	53	30	47	20	16	14
MIN	14	17	15	18	15	22	22	14	17	11	7.3	8.3
AC-FT	1020	1060	1150	1220	1020	1860	1780	1150	1400	910	731	687

PEAK DISCHARGE (BASE, 50 FT^3/S)

DATE	TIME	G.H.	DISCHARGE
4-28	2400	2.21	70
6-19	1200	1.97	56

06449000 LAKE CREEK BELOW REFUGE, NEAR TUTHILL, S. DAK.

LOCATION.--Lat 43°08'46", long 101°30'38", in SW¼ sec.30, T.37 N., R.35 W., Bennett County, 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 mi^2 (311 km^2), approximately, of which about 60 mi^2 (155 km^2) 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.

AVERAGE DISCHARGE.--15 years, 14.9 ft^3/s (0.422 m^3/s), 10,800 acre-ft/yr (13.3 hm^3/yr); median of yearly mean discharges, 16 ft^3/s (0.45 m^3/s), 11,600 acre-ft/yr (14.3 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 96 ft^3/s (2.72 m^3/s) Apr. 28, gage height, 4.34 ft (1.323 m); maximum gage height, 5.67 ft (1.728 m) Mar. 28 (backwater from ice); minimum daily discharge, 0.28 ft^3/s (0.008 m^3/s) Aug. 31.

Period of record: Maximum discharge, 178 ft^3/s (5.04 m^3/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.

REMARKS.--Records fair. Flow regulated by series of lakes above gage.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.66	1.7	.95	1.6	7.4	14	32	54	5.3	4.8	3.0	.61
2	.66	1.7	.95	1.6	7.7	14	34	54	5.2	3.7	2.7	2.5
3	.70	1.6	.95	1.5	8.1	14	36	56	5.2	3.1	2.5	2.1
4	.62	1.5	.95	1.6	8.3	14	37	53	5.0	3.8	2.1	1.3
5	.60	1.5	1.0	1.9	9.0	14	39	49	4.8	4.4	3.2	1.4
6	.71	1.5	.95	2.2	11	14	42	51	4.0	6.0	3.1	1.0
7	1.3	1.7	.95	2.3	11	14	44	47	3.7	8.7	2.8	1.9
8	1.1	1.5	.88	2.4	11	14	48	43	3.5	9.0	2.4	2.0
9	1.0	1.2	.86	2.5	12	14	41	42	4.2	8.9	.87	2.1
10	1.0	1.3	.81	2.8	13	14	41	43	2.9	8.2	.61	3.0
11	.90	1.4	.76	2.9	14	14	44	46	2.6	7.1	.81	3.4
12	1.2	1.5	.84	3.0	15	14	48	41	2.8	6.3	.82	1.6
13	1.2	1.2	.79	3.1	15	13	49	36	2.8	6.3	.91	1.1
14	.88	1.2	.68	3.1	15	13	53	28	3.1	6.2	1.1	1.9
15	.65	1.2	.90	3.1	15	13	57	24	2.8	4.7	1.2	1.8
16	.50	1.2	1.3	3.2	15	13	63	20	2.9	3.4	1.2	2.1
17	.59	1.3	1.3	3.4	15	13	66	16	2.6	3.7	1.5	2.1
18	.54	1.2	1.3	3.9	16	12	67	13	2.8	3.0	1.7	1.3
19	.54	1.2	1.3	4.1	15	12	71	11	3.6	2.0	1.6	1.6
20	.69	1.2	1.3	4.1	16	12	68	7.8	2.9	2.4	1.4	1.8
21	.59	.96	1.4	3.7	16	11	70	6.2	3.8	2.8	1.4	2.2
22	.50	1.0	1.5	3.9	16	11	74	7.0	4.5	2.3	1.3	2.5
23	.59	1.1	1.5	3.8	16	10	78	11	3.7	2.3	1.2	1.9
24	.50	.96	1.5	3.8	16	9.0	83	10	3.8	1.8	1.4	1.7
25	.64	1.1	1.5	4.9	13	9.0	75	7.5	4.7	2.0	1.3	1.3
26	.78	.89	1.5	5.8	14	9.0	73	6.6	6.2	1.8	1.2	.70
27	.88	1.0	1.5	6.1	14	9.0	66	5.0	5.4	1.3	1.1	.39
28	1.2	1.0	1.5	6.4	14	9.0	83	4.2	5.4	2.5	1.0	1.7
29	1.2	1.0	1.5	6.8	---	12	72	4.9	5.9	2.1	.65	1.3
30	1.3	1.0	1.5	6.7	---	22	57	4.4	5.2	2.0	.55	.87
31	1.2	---	1.6	7.0	---	30	---	5.3	---	3.1	.28	---
TOTAL	25.42	37.81	36.22	113.2	368.5	410.0	1711	806.9	121.3	129.7	46.90	51.17
MEAN	.82	1.26	1.17	3.65	13.2	13.2	57.0	26.0	4.04	4.18	1.51	1.71
MAX	1.3	1.7	1.6	7.0	16	30	83	56	6.2	9.0	3.2	3.4
MIN	.50	.89	.68	1.5	7.4	9.0	32	4.2	2.6	1.3	.28	.39
AC-FT	50	75	72	225	731	813	3390	1600	241	257	93	101

CAL YR 1974 TOTAL 3716.98 MEAN 10.2 MAX 49 MIN .15 AC-FT 7370
WTR YR 1975 TOTAL 3858.12 MEAN 10.6 MAX 83 MIN .28 AC-FT 7650

06449100 LITTLE WHITE RIVER NEAR VETAL, S. DAK.

LOCATION.--Lat 43°06'03", long 101°13'49", in NE¼NW¼ sec.17, T.36 N., R.33 W., Bennett County, 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 mi^2 (1,530 km^2), approximately, of which about 415 mi^2 (1,075 km^2) 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.

AVERAGE DISCHARGE.--16 years, 53.0 ft^3/s (1.501 m^3/s), 38,400 acre-ft/yr (47.3 hm^3/yr); median of yearly mean discharges, 51 ft^3/s (1.44 m^3/s), 36,900 acre-ft/yr (45.5 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 438 ft^3/s (12.4 m^3/s) Apr. 14, gage height, 5.27 ft (1.606 m); minimum daily, 9.0 ft^3/s (0.25 m^3/s) Dec. 24, 25.

Period of record: Maximum discharge, 1,330 ft^3/s (37.7 m^3/s) Mar. 13, 1966, gage height, 7.75 ft (2.362 m); minimum daily, 9.0 ft^3/s (0.25 m^3/s) Dec. 24, 25, 1974.

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. Records of monthly specific conductance for the water year 1975 are published in Section 2 of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	28	12	20	20	43	17	142	44	46	22	16
2	20	28	13	20	21	42	18	134	33	46	20	16
3	20	28	13	20	20	41	18	147	27	45	20	17
4	20	28	13	21	19	42	30	187	25	44	19	18
5	20	29	14	21	19	47	74	206	24	44	22	18
6	21	26	14	22	18	52	95	202	30	47	20	17
7	21	23	14	22	19	47	153	193	32	49	20	17
8	21	22	13	21	20	41	198	145	36	52	18	17
9	21	23	13	21	22	46	151	89	36	41	18	17
10	21	22	12	20	24	47	146	86	35	37	18	16
11	23	23	12	19	26	46	106	83	38	32	18	16
12	23	23	12	20	26	46	83	89	46	29	19	17
13	23	24	11	21	27	47	160	88	45	26	20	17
14	23	23	11	21	27	53	392	84	45	24	21	17
15	27	23	11	21	27	48	261	80	36	23	21	17
16	28	23	11	22	28	47	187	72	38	22	23	16
17	28	23	10	22	28	49	193	65	44	21	23	16
18	28	24	10	22	30	47	172	59	36	20	23	15
19	29	25	10	23	32	47	139	53	41	20	23	16
20	29	26	10	23	32	50	139	50	36	20	23	17
21	27	26	10	23	34	50	132	45	36	20	23	16
22	29	30	9.5	22	34	48	110	41	33	21	23	16
23	30	32	9.5	22	38	30	144	51	32	20	21	16
24	29	32	9.0	22	40	15	154	50	31	18	20	16
25	28	31	9.0	21	40	15	156	47	34	18	20	16
26	29	29	11	21	42	16	156	48	38	18	20	15
27	28	25	15	20	44	16	146	47	40	17	19	16
28	26	20	20	20	41	16	137	47	44	16	19	17
29	26	11	19	19	---	16	144	46	46	16	19	18
30	26	11	18	19	---	17	167	45	46	18	18	17
31	27	---	19	19	---	17	---	44	---	24	16	---
TOTAL	769	741	388.0	650	798	1184	4178	2765	1107	894	629	496
MEAN	24.8	24.7	12.5	21.0	28.5	38.2	139	89.2	36.9	28.8	20.3	16.5
MAX	30	32	20	23	44	53	392	206	46	52	23	18
MIN	18	11	9.0	19	18	15	17	41	24	16	16	15
AC-FT	1530	1470	770	1290	1580	2350	8290	5480	2200	1770	1250	984

CAL YR 1974 TOTAL 13223.0 MEAN 36.2 MAX 132 MIN 9.0 AC-FT 26230
WTR YR 1975 TOTAL 14599.0 MEAN 40.0 MAX 392 MIN 9.0 AC-FT 28960

PEAK DISCHARGE (BASE, 150 FT^3/S)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4- 9	2400	4.42	220	4-30	0430	4.20	178
4-14	0300	5.27	438	5- 5	0400	4.33	212

06449500 LITTLE WHITE RIVER NEAR ROSEBUD, S. DAK.

LOCATION.--Lat 43°19'32", long 100°53'00", in SW¼NW¼ sec.28, T.39 N., R.30 W., Todd County, 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 mi^2 (2,640 km^2), approximately, of which about 760 mi^2 (1,970 km^2) probabably 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.

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.

AVERAGE DISCHARGE.--32 years, 111 ft^3/s (3.144 m^3/s), 80,420 acre-ft/yr (99.2 hm^3/yr); median of yearly mean discharges, 110 ft^3/s (3.12 m^3/s), 79,700 acre-ft/yr (98.3 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 469 ft^3/s (13.3 m^3/s) Apr. 14, gage height, 4.83 ft (1.472 m); maximum gage height, 6.41 ft (1.954 m) Apr. 4 (backwater from ice); minimum daily discharge, 37 ft^3/s (1.05 m^3/s) Aug. 11, Sept. 2.

Period of record: Maximum discharge, 4,640 ft^3/s (131 m^3/s) June 11, 1967, gage height, 14.09 ft (4.295 m), from rating curve extended above 1,300 ft^3/s (36.8 m^3/s); minimum daily, 10 ft^3/s (0.28 m^3/s) Jan. 4, 1949, Feb. 20, 1955.

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.

REVISIONS (WATER YEARS).--WSP 1056: 1943, drainage area. WSP 1309: 1946(M).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	80	45	70	60	96	87	214	97	78	73	49
2	52	79	50	70	62	95	95	194	95	75	67	37
3	54	78	50	68	62	95	100	184	91	76	142	43
4	54	78	55	68	63	97	150	186	79	74	60	47
5	54	80	60	68	63	97	173	208	76	74	67	46
6	56	79	60	68	62	100	171	216	71	76	70	49
7	58	80	58	75	60	98	210	218	73	96	73	46
8	58	77	56	70	60	96	278	204	82	101	53	48
9	56	74	55	67	62	96	269	171	89	97	52	44
10	56	72	74	65	65	96	225	159	81	87	60	47
11	56	73	73	65	65	95	199	155	81	78	37	48
12	57	71	70	63	68	95	174	142	81	73	60	50
13	58	78	60	64	68	95	158	141	87	68	52	47
14	57	71	60	68	70	100	296	140	94	62	61	49
15	57	74	59	70	70	100	434	134	94	57	57	55
16	63	71	58	73	72	120	276	129	85	55	62	52
17	70	70	58	77	72	140	243	125	99	52	61	49
18	71	67	60	78	74	138	246	122	100	52	58	55
19	72	73	59	78	75	135	216	120	102	48	58	41
20	72	73	59	78	80	132	192	109	96	60	55	49
21	71	67	60	79	85	134	194	100	98	62	61	57
22	73	67	60	79	90	131	190	102	103	58	61	50
23	71	71	57	80	93	120	184	115	89	54	58	55
24	74	70	55	80	93	90	193	112	79	55	54	57
25	75	74	58	75	94	75	196	109	74	58	53	54
26	73	71	60	70	94	80	198	102	80	50	50	53
27	75	67	70	70	95	82	197	103	78	47	49	55
28	78	65	80	68	96	85	231	102	78	44	53	58
29	82	55	80	65	---	88	244	99	81	71	54	55
30	83	45	75	62	---	88	221	97	81	52	55	60
31	82	---	70	60	---	87	---	96	---	68	48	---
TOTAL	2019	2150	1904	2191	2073	3176	6240	4408	2594	2058	1874	1505
MEAN	65.1	71.7	61.4	70.7	74.0	102	208	142	86.5	66.4	60.5	50.2
MAX	83	80	80	80	96	140	434	218	103	101	142	60
MIN	51	45	45	60	60	75	87	96	71	44	37	37
AC-FT	4000	4260	3780	4350	4110	6300	12380	8740	5150	4080	3720	2990

CAL YR 1974 TOTAL 32006 MEAN 87.7 MAX 200 MIN 37 AC-FT 63480
WTR YR 1975 TOTAL 32192 MEAN 88.2 MAX 434 MIN 37 AC-FT 63850

PEAK DISCHARGE (BASE, 330 FT^3/S).--Apr. 14 (2130) 469 ft^3/s (4.83 ft).

06450500 LITTLE WHITE RIVER BELOW WHITE RIVER, S. DAK.

LOCATION.--Lat 43°36'04", long 100°44'52", in SW¼NW¼ sec.23, T.42 N., R.29 W., Mellette County, 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 mi^2 (4,070 km^2), approximately, of which about 1,310 mi^2 (3,390 km^2) 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.

AVERAGE DISCHARGE.--26 years, 128 ft^3/s (3.625 m^3/s), 92,740 acre-ft/yr (114 hm^3/yr); median of yearly mean discharges, 120 ft^3/s (3.40 m^3/s), 86,900 acre-ft/yr (107 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 905 ft^3/s (25.6 m^3/s) May 18, gage height, 4.72 ft (1.439 m); maximum gage height, 5.37 ft (1.637 m) Mar. 13 (backwater from ice); minimum daily discharge, 21 ft^3/s (0.59 m^3/s) July 28.

Period of record: Maximum discharge, 13,700 ft^3/s (388 m^3/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 ft^3/s (0.20 m^3/s) July 31, Aug. 31, Sept. 1, 1952.

REMARKS.--Records fair except those for winter periods, which are poor. Diurnal fluctuations caused by small powerplant 2.2 mi (3.5 km) upstream. Several small diversions for irrigation and some storage in several small lakes above station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	80	45	74	64	97	86	235	107	70	59	57
2	49	83	45	73	64	96	85	208	107	66	54	42
3	39	80	50	73	66	95	90	184	104	60	45	44
4	43	75	50	72	66	95	100	175	105	59	42	39
5	43	63	55	72	70	95	300	188	102	57	38	40
6	53	81	60	71	68	96	348	199	107	62	43	43
7	52	62	62	70	65	100	276	189	110	74	36	47
8	51	61	60	67	62	100	304	188	122	87	32	50
9	53	65	53	67	60	100	310	173	119	74	37	45
10	56	68	68	67	60	100	257	144	104	65	35	38
11	49	69	75	66	63	98	235	144	102	60	40	41
12	45	67	75	65	64	98	212	125	110	46	37	43
13	51	69	70	66	66	98	194	111	110	43	44	38
14	51	76	65	66	70	94	185	108	119	45	45	44
15	51	69	63	68	73	94	372	108	122	33	47	45
16	58	71	62	70	74	100	305	106	124	29	56	49
17	55	64	62	72	76	120	233	98	126	25	51	38
18	67	66	62	74	77	150	235	152	104	24	50	31
19	62	73	63	74	76	170	229	118	110	25	43	38
20	67	69	62	76	76	182	204	96	108	26	53	42
21	65	71	62	80	80	149	207	97	105	34	56	48
22	60	73	62	82	85	161	203	97	113	41	57	49
23	71	66	62	84	90	159	191	103	108	49	47	53
24	69	73	60	85	96	145	201	71	82	30	41	55
25	68	89	60	84	96	80	213	79	76	24	32	45
26	72	78	64	80	96	75	186	81	68	31	36	47
27	63	76	68	75	97	80	196	94	77	28	32	42
28	65	70	72	73	97	82	201	102	66	21	45	46
29	68	60	75	70	---	85	260	81	71	25	45	54
30	70	50	75	68	---	90	230	94	70	27	52	54
31	77	---	74	64	---	90	---	102	---	30	39	---
TOTAL	1785	2117	1941	2248	2097	3374	6648	4050	3058	1370	1369	1347
MEAN	57.6	70.6	62.6	72.5	74.9	109	222	131	102	44.2	44.2	44.9
MAX	77	89	75	85	97	182	372	235	126	87	59	57
MIN	39	50	45	64	60	75	85	71	66	21	32	31
AC-FT	3540	4200	3850	4460	4160	6690	13190	8030	6070	2720	2720	2670

CAL YR 1974 TOTAL 29833 MEAN 81.7 MAX 200 MIN 20 AC-FT 59170
WTR YR 1975 TOTAL 31404 MEAN 86.0 MAX 372 MIN 21 AC-FT 62290

06452000 WHITE RIVER NEAR OACOMA, S. DAK.

LOCATION.--Lat 43°44'54", long 99°33'22", in SE¼SW¼ sec.3, T.103 N., R.73 W., Lyman County, on left bank at downstream side of bridge on State Highway 47, 1.5 mi (2.4 km) downstream from Wagner Draw, 1.8 mi (2.9 km) upstream from high-water line of Lake Francis Case, and 8.8 mi (14.2 km) southwest of Oacoma.

DRAINAGE AREA.--10,200 mi^2 (26,400 km^2), approximately.

PERIOD OF RECORD.--August 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,377.29 ft (419.798 m) above mean sea level. See WSP 1709, 1729, or 1917 for history of changes prior to Feb. 27, 1960.

AVERAGE DISCHARGE.--47 years, 527 ft^3/s (14.925 m^3/s), 381,800 acre-ft/yr (471 hm^3/yr); median of yearly mean discharges, 450 ft^3/s (12.7 m^3/s), 326,000 acre-ft/yr (402 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 10,200 ft^3/s (289 m^3/s) June 21, gage height, 8.72 ft (2.658 m); minimum daily, 2.3 ft^3/s (0.065 m^3/s) July 29.

Period of record: Maximum discharge, 51,900 ft^3/s (1,470 m^3/s) Mar. 30, 1952, gage height, 15.40 ft (4.694 m), site and datum then in use; maximum gage height, 17.6 ft (5.36 m) Mar. 31, 1950, site and datum then in use, from floodmarks, ice jam; no flow Aug. 14-28, 1971, July 16-23, 1974.

REMARKS.--Records good except those for winter periods, which are poor. Some diversions for irrigation above station. Records of chemical analyses, water temperatures, and suspended sediment loads for the water year 1975 are published in Section 2 of this report.

REVISIONS (WATER YEARS).--WSP 786: Drainage area. WSP 1309: 1929-30(M).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	47	26	30	34	100	55	2850	236	533	79	349
2	4.9	46	24	30	34	100	55	2290	203	434	129	206
3	4.9	50	22	30	36	110	53	2400	178	382	1070	131
4	7.6	52	22	30	36	120	55	1730	170	261	2160	106
5	9.8	52	23	30	38	140	100	1150	164	193	995	117
6	16	50	24	28	38	600	300	813	164	156	713	79
7	18	46	24	28	39	750	800	642	161	133	552	56
8	15	50	30	28	40	700	2000	614	173	102	265	37
9	19	92	35	27	40	650	5460	526	184	81	200	36
10	17	119	35	26	38	550	5300	507	252	66	128	32
11	13	86	32	26	35	550	3440	552	325	82	232	31
12	14	73	32	26	35	600	2720	482	222	141	164	27
13	169	71	32	28	35	600	2280	428	190	623	128	22
14	152	64	32	28	35	650	1860	377	250	361	100	20
15	116	67	32	28	40	650	1910	394	236	215	82	16
16	90	55	32	30	40	700	1890	356	239	141	60	16
17	75	58	30	30	40	800	1900	269	236	89	50	14
18	64	62	30	30	45	1000	1790	236	215	60	43	13
19	53	53	30	30	45	2590	1600	229	206	43	37	12
20	46	60	28	30	45	2070	1480	206	212	33	36	14
21	46	52	28	30	50	1510	1460	293	2220	26	64	13
22	37	57	26	32	70	1110	1310	293	2360	25	97	14
23	50	58	26	32	85	920	1110	246	1660	28	91	12
24	47	55	26	32	90	800	863	200	1690	17	63	12
25	37	48	25	32	90	600	705	187	1410	44	53	14
26	41	44	25	32	95	400	572	181	1220	20	52	13
27	44	40	26	32	95	300	526	209	1190	15	49	8.5
28	40	36	28	32	100	200	470	446	924	7.9	126	8.5
29	41	32	30	32	---	100	411	307	780	2.3	208	12
30	41	28	31	34	---	75	2830	334	628	3.5	720	12
31	41	---	31	34	---	60	---	298	---	62	382	---
TOTAL	1376.1	1703	877	927	1443	20105	45305	20045	18298	4379.7	9128	1453.0
MEAN	44.4	56.8	28.3	29.9	51.5	649	1510	647	610	141	294	48.4
MAX	169	119	35	34	100	2590	5460	2850	2360	623	2160	349
MIN	4.9	28	22	26	34	60	53	181	161	2.3	36	8.5
AC-FT	2730	3380	1740	1840	2860	39880	89860	39760	36290	8690	18110	2880

CAL YR 1974 TOTAL 60118.40 MEAN 165 MAX 2680 MIN 0 AC-FT 119200
WTR YR 1975 TOTAL 125039.80 MEAN 343 MAX 5460 MIN 2.3 AC-FT 248000

PEAK DISCHARGE (BASE, 5,500 FT^3/S)

DATE	TIME	G.H.	DISCHARGE
4- 9	1600	7.75	6,750
4-30	1600	7.70	6,600
6-21	2100	8.72	10,200

06452500 LAKE FRANCIS CASE AT PICKSTOWN, S. DAK.

LOCATION.--Lat 43°04'05", long 98°33'15", in SE¼ sec.5, T.95 N., R.65 W., Charles Mix County, 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 mi^2 (682,500 km^2), approximately.

PERIOD OF RECORD.--December 1952 to current year. 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.

EXTREMES.--Current year: Maximum contents, 4,405,000 acre-ft (5,430 hm^3) July 7, elevation, 1,362.8 ft (415.38 m); minimum, 2,533,000 acre-ft (3,120 hm^3) Nov. 25, elevation, 1,337.1 ft (407.55 m).

Period of record: Maximum contents, 5,087,000 acre-ft (6,270 hm^3) 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 hm^3) Oct. 23, 1956, elevation, 1,311.5 ft (399.75 m).

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 hm^3) below elevation 1,375.0 ft (419.10 m), top of spillway gates. Normal maximum, 4,834,000 acre-ft (5,960 hm^3) below elevation 1,365.0 ft (416.05 m). Inactive storage, 1,336,000 acre-ft (1,650 hm^3) 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 ft^3/s (13,900 m^3/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 ft^3/s (1,300 m^3/s); maximum release through 4 other tunnels is 130,000 ft^3/s (3,680 m^3/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.

MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	1,351.6	3,581,000	-
Oct. 31	1,344.5	3,028,000	-553,000
Nov. 30	1,338.3	2,595,000	-433,000
Dec. 31	1,342.2	2,845,000	+250,000
CAL YR 1974	-	-	-18,000
Jan. 31	1,348.1	3,182,000	+337,000
Feb. 28	1,351.7	3,470,000	+288,000
Mar. 31	1,357.8	3,985,000	+515,000
Apr. 30	1,360.8	4,240,000	+255,000
May 31	1,361.5	4,314,000	+74,000
June 30	1,362.3	4,365,000	+51,000
July 31	1,359.3	4,118,000	-247,000
Aug. 31	1,354.3	3,662,000	-456,000
Sept.30	1,348.8	3,223,000	-439,000
WTR YR 1975	-	-	-358,000

06453000 MISSOURI RIVER AT FORT RANDALL DAM, S. DAK.

LOCATION.--Lat 43°03'54", long 98°33'11", in NW¼NE¼ sec.8, T.95 N., R.65 W., Charles Mix County, 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 mi^2 (682,500 km^2), approximately.

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).

AVERAGE DISCHARGE.--28 years, 24,700 ft^3/s (699.5 m^3/s), 17,896,000 acre-ft/yr (22.1 km^3/yr).

EXTREMES.--Current year: Maximum daily discharge during year, 60,600 ft^3/s (1,720 m^3/s) Sept. 13, 20, 22; minimum daily, 11,000 ft^3/s (312 m^3/s) Jan. 26.

Period of record: Maximum discharge, 447,000 ft^3/s (12,700 m^3/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 ft^3/s (2.83 m^3/s) Mar. 29, 1962.

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.

REMARKS --Records good. Flow completely regulated by Lake Francis Case. (See station 06452500.) Many diversions for irrigation above station. Records of chemical analyses, dissolved oxygen, and water temperatures for the 1975 water year are published in Section 2 of this report.

COOPERATION.--Daily discharge determined from flow through turbines furnished by Corps of Engineers.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34600	27400	15800	12200	15000	15100	24900	25500	33800	47100	60000	60000
2	36400	27600	19100	20100	11700	15100	24900	27600	31800	46900	60000	60000
3	27600	28700	16600	19600	14700	15000	25700	24000	32600	47000	60000	60000
4	32100	29500	16900	15200	16200	14900	25800	20200	33100	47000	60000	60000
5	35600	33100	14500	12800	16300	14800	25600	27500	32400	47000	60100	60000
6	32600	32300	15100	15200	17100	13700	25900	26100	32700	47000	60000	60000
7	34600	29500	13600	14900	16200	13200	26100	26000	35000	47000	60000	60000
8	33700	28600	13600	15600	16700	12800	26100	29100	34300	47000	60100	60000
9	34400	30700	14800	15100	14600	11100	26900	28100	37300	47000	60000	60000
10	34600	29600	15300	15100	16600	12400	23000	23700	39100	47000	60100	60000
11	34100	30700	15000	16500	12900	12900	21000	19400	38700	47000	60000	60000
12	38000	32500	15400	16300	12900	13500	21400	29200	37200	47000	60000	60000
13	34600	32800	15100	18700	12800	14400	20000	28800	37200	47000	60000	60600
14	32500	32100	14600	19400	11700	15500	24300	27600	37400	48000	60000	60400
15	31900	30600	14200	18200	11100	15700	25200	33300	33100	50500	60000	60500
16	32300	33200	16200	17800	11400	14800	26100	33500	37500	53200	60000	60500
17	32300	32300	14400	18100	11100	15600	26500	32000	37600	55300	60000	60500
18	32200	32000	14500	18200	11900	15000	20500	30500	35200	56300	60100	60500
19	35100	30400	14600	17500	13100	13500	21500	32900	33000	57300	60000	60500
20	33100	29400	15900	18200	13600	12400	21100	31500	32800	58200	59900	60600
21	35000	27700	17400	18100	12200	12100	27100	28300	33300	59200	60000	60500
22	30100	27800	13700	18100	14100	12200	27600	31800	32800	60100	60000	60600
23	30400	26700	17500	18100	12000	15100	27400	32300	33400	60000	60000	60500
24	32300	22500	15500	15500	11900	18300	27400	33500	33800	60000	60000	60500
25	31400	21700	13100	15300	11300	17900	27400	33100	33800	60100	60000	60500
26	32300	20900	14800	11000	11500	24600	25200	32200	32800	60000	60000	60500
27	29800	16700	17700	12900	14100	28300	21800	32300	40100	60000	60000	60500
28	33400	13600	16200	13200	14000	28500	28200	32300	38800	60000	60000	60500
29	33200	15900	14200	12500	---	24800	25700	33600	42700	60000	60000	60400
30	30500	18000	14700	14900	---	24600	25400	34800	45100	60000	60000	60500
31	29500	---	15600	16300	---	25100	---	35000	---	60000	60000	---
TOTAL	1020200	824500	475600	500600	378700	512900	745700	915700	1068400	1649200	1860300	1809100
MEAN	32910	27480	15340	16150	13530	16550	24860	29540	35610	53200	60010	60300
MAX	38000	33200	19100	20100	17100	28500	28200	35000	45100	60100	60100	60600
MIN	27600	13600	13100	11000	11100	11100	20000	19400	31800	46900	59900	60000
AC-FT	2024000	1635000	943400	992900	751200	1017000	1479000	1816000	2119000	3271000	3690000	3588000

CAL YR 1974 TOTAL 9431800 MEAN 25840 MAX 42100 MIN 4500 AC-FT 18710000
WTR YR 1975 TOTAL 11760900 MEAN 32220 MAX 60600 MIN 11000 AC-FT 23330000

06464500 KEYA PAHA RIVER AT WEWELA, S. DAK.

LOCATION.--Lat 43°01'42", long 99°46'45", in SE¼ sec.24, T.95 N., R.76 W., Tripp County, 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 mi^2 (2,770 km^2), 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.

AVERAGE DISCHARGE.--30 years (1938-40, 1947-75), 68.3 ft^3/s (1.934 m^3/s), 49,480 acre-ft/yr (61.0 hm^3/yr); median of yearly mean discharges, 57 ft^3/s (1.61 m^3/s), 41,300 acre-ft/yr (50.9 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 328 ft^3/s (9.29 m^3/s) Apr. 9, gage height, 2.97 ft (0.905 m); minimum daily, 1.9 ft^3/s (0.05 m^3/s) July 19.

Period of record: Maximum discharge, 5,430 ft^3/s (154 m^3/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.

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

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	24	12	19	14	32	11	51	26	7.9	3.4	3.7
2	16	24	12	19	14	32	11	58	25	7.1	4.6	3.1
3	17	23	14	19	14	31	11	55	24	6.6	4.5	3.0
4	18	23	16	19	13	33	15	57	23	5.5	4.3	2.7
5	18	22	20	19	12	35	20	56	21	5.0	4.0	3.1
6	18	22	22	20	12	35	30	51	19	4.2	4.2	3.2
7	19	22	21	20	12	34	50	39	18	5.1	3.9	2.8
8	19	23	20	19	11	33	100	36	22	5.9	3.5	2.9
9	19	23	21	18	11	33	250	31	26	7.2	3.0	3.0
10	19	23	21	17	11	34	294	39	26	7.5	3.1	3.5
11	18	22	22	14	11	35	245	52	25	6.2	3.5	7.4
12	17	23	21	14	12	34	210	58	21	5.7	3.8	8.5
13	18	22	20	16	12	33	167	60	18	4.7	4.5	9.9
14	17	24	19	18	12	35	138	57	20	4.3	4.7	11
15	17	23	18	18	12	40	120	48	21	4.2	5.7	12
16	17	25	17	18	12	45	106	41	20	4.4	5.2	12
17	18	26	17	18	13	60	100	39	23	3.2	6.2	12
18	17	26	18	18	13	65	92	37	26	2.0	6.8	10
19	18	26	18	19	13	70	84	35	37	1.9	7.4	10
20	18	26	18	19	13	65	77	29	29	6.8	6.7	11
21	18	26	18	19	13	45	74	30	35	5.6	12	12
22	19	26	18	19	13	35	68	36	43	44	13	13
23	19	26	17	19	14	30	65	38	55	74	11	13
24	19	25	16	20	14	25	62	35	63	15	9.1	13
25	19	20	15	19	16	20	55	31	39	6.8	7.8	13
26	20	22	15	18	20	15	48	28	25	5.1	7.0	14
27	20	20	16	17	24	13	48	26	19	4.2	6.0	14
28	21	18	18	16	28	11	48	29	15	3.5	5.9	14
29	22	14	20	15	---	10	45	34	12	2.8	5.6	16
30	22	12	20	15	---	10	50	29	9.8	2.2	4.8	16
31	23	---	20	14	---	10	---	27	---	2.0	4.1	---
TOTAL	575	681	560	552	389	1038	2694	1272	785.8	270.6	179.3	272.8
MEAN	18.5	22.7	18.1	17.8	13.9	33.5	89.8	41.0	26.2	8.73	5.78	9.09
MAX	23	26	22	20	28	70	294	60	63	74	13	16
MIN	15	12	12	14	11	10	11	26	9.8	1.9	3.0	2.7
AC-FT	1140	1350	1110	1090	772	2060	5340	2520	1560	537	356	541

CAL YR 1974 TOTAL 11491.4 MEAN 31.5 MAX 160 MIN 4.9 AC-FT 22790
WTR YR 1975 TOTAL 9269.5 MEAN 25.4 MAX 294 MIN 1.9 AC-FT 18390

PEAK DISCHARGE (BASE, 250 FT^3/S)

DATE	TIME	G.H.	DISCHARGE
4- 9	2000	2.97	328
7-23	0030	2.74	264

06467000 LEWIS AND CLARK LAKE NEAR YANKTON, S. DAK.

LOCATION.--Lat 42°50'56", long 97°28'54", in SW¼ sec.7, T.33 N., R.1 W., Cedar County, Nebraska, 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 mi^2 (723,900 km^2), approximately.

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

EXTREMES.--Current year: Maximum contents, 474,000 acre-ft (584 hm^3) Jan. 26, elevation, 1,208.4 ft (368.32 m) Sept. 14; minimum, 339,000 acre-ft (418 hm^3) Mar. 26, elevation, 1,203.7 ft (366.89 m).

Period of record: Maximum contents, 565,000 acre-ft (697 hm^3) Apr. 1, 1960, elevation, 1,210.7 ft (369.02 m), affected by wind; minimum since initial filling, 61,950 acre-ft (76.4 hm^3) Apr. 23, 1956, elevation, 1,188.1 ft (362.13 m).

REMARKS.--Reservoir is formed by earthfill dam; storage began in July 1955. Maximum capacity, 541,000 acre-ft (667 hm^3) below elevation 1,210.0 ft (368.81 m), top of spillway gates. Normal maximum, 477,000 acre-ft (588 hm^3) below elevation 1,208.0 ft (368.20 m). Inactive storage, 156,000 acre-ft (192 hm^3) below elevation 1,195.0 ft (364.24 m). Dead storage, 18,000 acre-ft (22.2 hm^3) 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 ft^3/s (7,930 m^3/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 ft^3/s (991 m^3/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.

MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	1,208.1	462,000	-
Oct. 31	1,208.3	469,000	+7,000
Nov. 30	1,207.7	452,000	-17,000
Dec. 31	1,207.8	455,000	+3,000
CAL YR 1974	-	-	-4,000
Jan. 31	1,207.9	457,000	+2,000
Feb. 28	1,204.8	370,000	-87,000
Mar. 31	1,205.2	382,000	+12,000
Apr. 30	1,205.4	385,000	+3,000
May 31	1,205.1	378,000	-7,000
June 30	1,205.4	385,000	+7,000
July 31	1,207.5	447,000	+62,000
Aug. 31	1,207.7	451,000	+4,000
Sept.30	1,208.0	458,000	+7,000
WTR YR 1975	-	-	-4,000

06467500 MISSOURI RIVER AT YANKTON, S. DAK.

LOCATION.--Lat 42°51'58", long 97°23'37", in SW¼SW¼ sec.18, T.93 N., R.55 W., Yankton County, 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 20.00 ft (6.096 m) higher.

AVERAGE DISCHARGE.--45 years, 25,770 ft³/s (729.8 m³/s), 18,670,000 acre-ft/yr (23.0 km³/yr).

EXTREMES.--Current year: Maximum discharge, 64,300 ft³/s (1,820 m³/s) Sept. 11, gage height, 23.24 ft (7.084 m); minimum daily, 17,000 ft³/s (481 m³/s) Dec. 8, 9, Jan. 25, Mar. 17.

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.

Maximum stage known, 50.5 ft Apr. 5, 1881 (ice jam), present datum.

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.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35700	32100	17400	17700	17400	17800	28000	28700	35700	42900	63000	63000
2	35500	31900	17500	17800	17200	17500	28300	28700	35600	44100	63000	63000
3	35600	32200	17400	17600	17300	17500	28900	28700	35600	45600	62900	63200
4	35400	32900	17400	17600	17300	17400	29400	28800	35400	48500	63000	63200
5	36500	33500	17400	17500	17100	17600	29500	28700	35500	49100	63000	63200
6	36400	32600	17400	17500	17200	17600	29600	29400	35600	49300	63100	63100
7	36400	32600	17200	17600	17300	17400	30000	29700	35600	49200	62700	63200
8	36400	32600	17000	17600	17200	17500	29800	29800	35900	49100	62800	63200
9	36400	32600	17000	17600	17200	17500	28400	29700	38100	49000	63300	63400
10	37000	32500	17700	17600	17200	17600	27900	29700	40500	49100	63400	63400
11	37000	32500	17900	17700	17100	17800	27900	29600	40600	48900	63400	63400
12	37000	32600	17600	17700	17100	17200	28400	29600	40900	49000	63100	63000
13	36200	32700	17700	17700	17200	17400	29000	30300	41000	49000	62900	62800
14	34300	32400	17400	17700	17200	17400	29000	30300	41200	49100	62900	62600
15	34500	32500	17100	17700	17200	17500	29000	33000	41100	49200	63200	62600
16	34500	32500	17300	17700	17200	17600	29100	33600	41400	52900	63100	62600
17	34500	32400	17500	17500	17200	17000	29500	33800	41600	54300	62900	62500
18	34400	32400	17400	17600	17100	18000	29400	33800	39600	55400	62900	62300
19	34300	32300	17600	17300	17200	17600	29400	33900	37100	56300	62900	62300
20	34400	32300	17700	17300	17200	17600	29600	33900	37000	57100	62900	62200
21	34400	32500	17700	17100	17200	17600	29400	33900	36800	58200	62900	62200
22	34400	32500	17700	17300	17200	20300	29600	35000	36700	59300	62800	62100
23	34400	31400	17600	17300	17200	22000	29500	36400	36800	60300	62500	62100
24	34400	28900	17700	17100	17200	20100	29300	36200	36700	61200	62500	62300
25	34000	26300	17700	17000	17300	22500	29900	36100	36600	61400	62800	62300
26	33600	23700	17700	17200	17600	25300	30200	36000	37500	61600	63000	62300
27	33800	21000	17900	17100	17800	26900	29500	36000	42000	61900	63000	62300
28	33700	18100	17800	17300	18000	26000	28400	36100	43300	61900	63100	62100
29	33700	17600	17800	17300	---	27000	27600	35900	43300	62400	63200	61800
30	33800	17500	17800	17300	---	27500	28100	35800	42900	62600	63200	62000
31	33500	---	17700	17400	---	27200	---	35700	---	62200	63100	---
TOTAL	1086100	899600	543700	541400	483600	612900	871600	1006800	1157600	1670100	1952500	1879700
MEAN	35040	29990	17540	17460	17270	19770	29050	32480	38590	53870	62980	62660
MAX	37000	33500	17900	17800	18000	27500	30200	36400	43300	62600	63400	63400
MIN	33500	17500	17000	17000	17100	17000	27600	28700	35400	42900	62500	61800
AC-FT	2154000	1784000	1078000	1074000	959200	1216000	1729000	1997000	2296000	3313000	3873000	3728000

CAL YR 1974 TOTAL 10261500 MEAN 28110 MAX 37400 MIN 16800 AC-FT 20350000
WTR YR 1975 TOTAL 12705600 MEAN 34810 MAX 63400 MIN 17000 AC-FT 25200000

06471000 JAMES RIVER AT COLUMBIA, S. DAK.

LOCATION.--Lat 45°37'05", long 98°19'30", in NE¼NW¼ sec.29, T.125 N., R.62 W., Brown County, 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 Co. 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 mi^2 (18,300 km^2), approximately, of which about 3,000 mi^2 (7,770 km^2) is probably noncontributing.

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.

AVERAGE DISCHARGE.--30 years, 107 ft^3/s (3.030 m^3/s), 77,520 acre-ft/yr (95.6 hm^3/yr); median of yearly mean discharges, 57 ft^3/s (1.61 m^3/s), 41,300 acre-ft/yr (50.9 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,540 ft^3/s (43.6 m^3/s) July 13, gage height, 15.30 ft (4.663 m); maximum daily reverse flow, 750 ft^3/s (21.2 m^3/s) June 23, backwater from Elm River.

Period of record: Maximum discharge, 5,420 ft^3/s (153 m^3/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 ft^3/s (52.7 m^3/s) Apr. 8, 1952, backwater from Elm River.

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 hm^3). Regulation by Jamestown Reservoir, capacity, 229,470 acre-ft (283 hm^3), 168 mi (270 km) upstream, since May 1953. Records of chemical analyses and water temperatures for the water year 1975 are published in Section 2 of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	2.5	7.8	5.0	4.5	3.0	0	180	670	758	913	459
2	0	2.6	7.8	5.0	5.0	3.0	1.0	240	657	761	893	450
3	0	3.0	7.6	4.5	5.5	2.0	5.0	310	646	816	874	442
4	0	3.2	7.1	4.5	5.5	2.0	7.0	380	640	895	852	436
5	0	3.4	6.9	4.0	5.0	2.0	8.0	440	636	962	835	437
6	0	3.6	6.9	4.5	4.5	2.0	10	510	627	1010	811	430
7	0	3.7	6.7	5.0	4.5	1.0	25	565	619	1080	780	427
8	0	3.9	6.3	5.0	4.0	1.0	40	619	610	1130	761	421
9	0	3.9	6.5	5.0	4.0	1.0	60	654	615	1200	742	415
10	0	3.7	6.5	3.0	4.5	1.0	100	678	615	1300	728	410
11	0	3.9	6.1	3.0	5.0	0	120	702	612	1410	712	406
12	0	4.1	5.6	4.0	5.0	0	125	720	609	1490	700	405
13	0	4.5	5.6	6.0	5.0	0	115	728	601	1530	680	396
14	0	4.6	5.6	6.5	5.0	0	108	742	600	1530	667	384
15	0	5.2	5.6	6.5	5.0	0	85	750	609	1500	651	373
16	0	5.6	5.4	7.0	5.0	0	69	734	604	1480	639	364
17	0	3.9	5.4	7.0	5.0	0	67	729	601	1390	631	357
18	0	3.7	5.0	7.0	4.0	0	64	732	589	1390	621	361
19	0	8.0	4.5	7.5	4.0	0	63	750	633	1350	610	354
20	0	11	4.5	8.0	4.0	0	63	765	648	1320	603	347
21	0	9.7	4.5	8.0	4.0	0	64	773	550	1260	594	351
22	0	9.7	5.0	8.0	4.0	0	64	778	-40	1230	582	351
23	.04	9.7	5.0	8.0	4.0	0	65	780	-750	1210	570	348
24	.14	9.7	5.0	9.0	4.0	0	20	768	-450	1170	555	346
25	.38	9.7	5.0	8.0	4.0	0	-10	758	-90	1130	535	343
26	.60	9.4	5.5	7.0	3.0	0	-15	747	100	1090	514	336
27	.77	9.4	6.0	6.0	3.0	0	-8.0	724	240	1070	500	331
28	1.1	8.5	6.0	6.0	3.0	0	4.0	716	360	1030	493	328
29	1.4	7.8	6.0	5.0	---	0	45	704	480	989	483	326
30	1.6	7.8	5.5	4.0	---	0	110	692	610	949	475	323
31	2.1	---	5.5	4.0	---	0	---	681	---	924	467	---
TOTAL	8.13	179.4	182.4	181.0	123.0	18.0	1474.0	20049	13451	36354	20471	11457
MEAN	.26	5.98	5.88	5.84	4.39	.58	49.1	647	448	1173	660	382
MAX	2.1	11	7.8	9.0	5.5	3.0	125	780	670	1530	913	459
MIN	0	2.5	4.5	3.0	3.0	0	-15	180	-750	758	467	323
AC-FT	16	356	362	359	244	36	2920	39770	26680	72110	40600	22720

CAL YR 1974 TOTAL 14998.47 MEAN 41.1 MAX 127 MIN 0 AC-FT 29750
WTR YR 1975 TOTAL 103947.93 MEAN 285 MAX 1530 MIN -750 AC-FT 206200

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, N. Dak., on left bank 0.4 mi (0.6 km) upstream from State line, 7.8 mi (12.6 km) northeast of Frederick, S. Dak. and 15.7 mi (25.3 km) upstream from mouth.

DRAINAGE AREA.--750 mi^2 (1,940 km^2), approximately, of which about 270 mi^2 (699 km^2) 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.

AVERAGE DISCHARGE.--19 years, 19.5 ft^3/s (0.552 m^3/s), 14,130 acre-ft/yr (17.4 hm^3/yr); median of yearly mean discharges, 11 ft^3/s (0.31 m^3/s), 8,000 acre-ft/yr (9.86 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 944 ft^3/s (26.7 m^3/s) July 2, gage height, 8.71 ft (2.655 m); no flow for many days.

Period of record: Maximum discharge, 5,930 ft^3/s (168 m^3/s) Apr. 11, 1969, gage height, 15.22 ft (4.639 m); maximum gage height, 16.05 ft (4.892 m) Apr. 11, 1969 (backwater from ice); no flow for long periods in each year.

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

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							0	474	11	573	9.6	4.1
2							0	498	11	924	8.5	3.1
3							0	363	10	748	7.5	3.1
4							0	246	9.9	445	7.0	2.7
5							0	170	9.6	311	6.1	2.4
6							0	121	9.2	246	4.8	2.2
7							0	104	7.8	193	3.5	2.0
8							0	90	7.2	156	4.1	1.5
9							0	76	7.0	130	3.9	1.3
10							0	67	7.0	108	3.3	1.3
11							0	65	6.7	90	3.1	.99
12							0	65	6.1	75	2.9	.74
13							0	58	5.3	67	2.4	.53
14							0	57	4.8	62	2.1	.37
15							0	48	4.8	57	2.0	.37
16							0	35	4.6	50	1.7	.37
17							0	33	4.6	41	1.5	.25
18							.05	31	4.1	37	1.2	.29
19							.05	28	13	32	1.4	.37
20							1.0	26	24	28	1.1	.53
21							5.0	23	583	24	.90	.33
22							300	20	638	23	10	.29
23							500	19	461	23	42	.25
24							642	17	321	22	37	.16
25							504	17	283	22	22	.09
26							388	17	309	20	17	.09
27							311	14	179	19	12	.11
28							321	14	138	16	10	.11
29					---		397	13	120	13	7.2	.16
30					---		367	12	227	11	5.6	.25
31		---			---		---	11	---	11	4.4	---
TOTAL	0	0	0	0	0	0	3736.10	2832	3426.7	4577	245.80	30.35
MEAN	0	0	0	0	0	0	125	91.4	114	148	7.93	1.01
MAX	0	0	0	0	0	0	642	498	638	924	42	4.1
MIN	0	0	0	0	0	0	0	11	4.1	11	.90	.09
AC-FT	0	0	0	0	0	0	7410	5620	6800	9080	488	60

CAL YR 1974 TOTAL 3388.94 MEAN 9.28 MAX 169 MIN 0 AC-FT 6720
WTR YR 1975 TOTAL 14847.95 MEAN 40.7 MAX 924 MIN 0 AC-FT 29450

PEAK DISCHARGE (BASE, 50 FT^3/S)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-22	2200	8.28	550	6-21	1700	7.98	661
5- 1	2030	7.55	540	7- 2	1130	8.71	944

06471500 ELM RIVER AT WESTPORT, S. DAK.

LOCATION.--Lat 45°39'22", long 98°29'48", in SW¼NW¼ sec.12, T.125 N., R.64 W., Brown County, 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 mi^2 (4,350 km^2), 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.

AVERAGE DISCHARGE.--30 years, 47.2 ft^3/s (1.337 m^3/s), 34,200 acre-ft/yr (42.2 hm^3/yr); median of yearly mean discharges, 25 ft^3/s (0.71 m^3/s), 18,100 acre-ft/yr (22.3 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 3,950 ft^3/s (112 m^3/s) June 23, gage height, 14.79 ft (4.508 m); minimum daily, 0.77 ft^3/s (0.022 m^3/s) Sept. 30.

Period of record: Maximum discharge, 12,600 ft^3/s (357 m^3/s) Apr. 10, 1969, gage height, 22.11 ft (6.739 m); no flow for many days in most years prior to 1960.

REMARKS.--Records good except those for winter periods, which are poor. Flow regulated for Aberdeen municipal water supply by Elm Lake and other small reservoirs upstream, combined capacity, about 16,000 acre-ft (19.7 hm^3).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	6.1	1.7	5.2	4.0	4.0	4.5	403	21	338	21	7.7
2	4.0	6.1	1.4	5.5	4.1	3.9	4.5	507	21	716	18	5.8
3	4.3	6.5	1.4	5.5	4.2	3.9	4.6	485	19	1010	15	5.2
4	4.6	6.5	1.4	5.8	4.1	4.0	4.6	385	19	844	12	5.2
5	4.3	6.5	1.3	5.8	4.0	3.9	4.7	299	18	562	9.7	5.2
6	4.6	5.2	1.4	6.1	3.9	3.7	4.7	241	17	418	8.9	4.1
7	4.3	4.9	3.8	6.5	3.9	3.6	4.8	200	16	344	7.7	3.6
8	4.3	5.2	4.6	6.8	3.8	3.5	4.7	165	15	286	8.9	3.2
9	4.3	5.8	4.6	6.1	3.8	3.5	4.6	141	16	244	6.2	3.0
10	4.9	7.6	4.3	4.6	3.8	3.5	4.6	125	16	205	4.9	3.0
11	5.5	9.6	4.3	3.8	3.9	3.5	4.7	114	15	172	4.3	2.8
12	8.0	6.5	3.8	3.8	3.9	3.5	5.0	107	13	146	4.6	3.0
13	11	4.9	3.8	4.0	4.0	3.6	5.0	107	12	120	4.1	2.8
14	12	5.2	3.8	4.3	4.1	3.6	5.0	107	12	109	3.6	2.7
15	10	5.5	3.5	4.3	4.1	3.9	5.5	95	12	95	3.6	2.7
16	12	4.9	3.3	4.4	4.2	4.2	5.5	83	12	86	3.6	2.7
17	12	4.9	3.5	4.4	4.2	4.4	5.5	71	11	76	4.6	2.7
18	12	4.9	3.5	4.5	4.2	4.4	5.0	66	9.7	66	4.1	3.2
19	12	4.9	3.3	4.5	4.3	4.5	5.0	61	124	57	5.2	2.7
20	12	4.9	3.3	4.6	4.3	4.4	6.0	54	82	49	5.8	2.5
21	11	2.6	3.3	4.6	4.3	4.0	10	48	540	44	5.5	2.5
22	8.8	2.0	3.5	4.6	4.4	4.0	39	43	3130	39	4.3	2.5
23	8.4	1.7	3.3	4.6	4.4	5.0	571	48	3600	38	4.3	2.3
24	8.4	1.7	3.5	4.7	4.4	10	776	42	2240	38	4.3	2.5
25	8.4	2.0	3.3	4.6	4.3	25	714	36	1470	31	7.7	1.7
26	8.4	2.0	3.3	4.4	4.2	30	600	30	968	27	25	1.3
27	8.4	1.7	3.5	4.3	4.1	15	424	27	662	26	23	1.2
28	8.4	1.9	4.3	4.3	4.0	9.0	375	25	488	24	19	1.0
29	8.4	1.9	4.6	4.2	---	7.0	383	27	420	21	16	.92
30	8.4	1.7	5.2	4.1	---	5.0	428	25	363	18	12	.77
31	8.8	---	5.5	4.0	---	4.5	---	23	---	18	10	---
TOTAL	245.9	135.8	105.3	148.9	114.9	196.0	4418.5	4190	14361.7	6267	286.9	90.49
MEAN	7.93	4.53	3.40	4.80	4.10	6.32	147	135	479	202	9.25	3.02
MAX	12	9.6	5.5	6.8	4.4	30	776	507	3600	1010	25	7.7
MIN	4.0	1.7	1.3	3.8	3.8	3.5	4.5	23	9.7	18	3.6	.77
AC-FT	488	269	209	295	228	389	8760	8310	28490	12430	569	179

CAL YR 1974 TOTAL 5178.70 MEAN 14.2 MAX 123 MIN 1.2 AC-FT 10270
WTR YR 1975 TOTAL 30561.39 MEAN 83.7 MAX 3600 MIN .77 AC-FT 60620

PEAK DISCHARGE (BASE, 100 FT^3/S)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-23	1700	7.92	848	6-23	0400	14.79	3,950
4-27	2230	7.64	691	7- 3	1200	8.70	1,020

06473000 JAMES RIVER AT ASHTON, S. DAK.

LOCATION (revised).--Lat 44°59'54", long 98°28'50", in NW¼NW¼NE¼ sec.36, T.118 N., R.64 W., Spink County, 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. Prior to Oct. 8, 1974, at site 900 ft (274 m) upstream.

DRAINAGE AREA.--11,000 mi^2 (28,500 km^2), approximately, of which about 4,190 mi^2 (10,900 km^2) is probably noncontributing.

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

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.

AVERAGE DISCHARGE.--30 years, 155 ft^3/s (4.390 m^3/s), 112,300 acre-ft/yr (138 hm^3/yr); median of yearly mean discharges, 101 ft^3/s (2.86 m^3/s), 73,200 acre-ft/yr (90.3 hm^3/yr).

EXTREMES.--Current year: Maximum daily discharge, 1,130 ft^3/s (32.0 m^3/s) Aug. 9, 10; no flow for many days.

Period of record: Maximum discharge, 5,680 ft^3/s (161 m^3/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 ft^3/s (59.5 m^3/s) Apr. 9, 1969 (backwater from Snake Creek).

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 hm^3), the largest of which is Jamestown Reservoir, capacity, 229,470 acre-ft (283 hm^3), 285 mi (459 km) upstream. Occasional backwater and reverse flow caused by Snake Creek during most years. Records of monthly specific conductance for the water year 1975 are published in Section 2 of this report.

REVISIONS (WATER YEARS).--WSP 1209: 1947.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04					0	0	199	658	637	1050	790
2	0					0	0	220	659	649	1060	766
3	0					0	0	240	661	668	1070	744
4	0					0	0	257	668	686	1090	719
5	0					0	.50	279	670	710	1100	705
6	0					0	1.0	298	670	735	1110	687
7	.04					0	1.5	324	668	754	1120	668
8	.08					0	2.0	338	671	769	1120	649
9	.04					0	3.0	352	681	788	1130	632
10	.04					0	4.0	371	684	800	1130	628
11	.08					0	7.0	385	689	809	1120	626
12	.12					0	10	406	690	818	1120	611
13	.16					0	30	428	690	832	1110	590
14	.20					0	65	451	690	850	1090	571
15	.24					0	74	482	690	860	1080	550
16	.28					.50	70	510	689	869	1060	531
17	.32					1.0	81	523	684	875	1050	514
18	.40					1.0	87	548	679	877	1040	498
19	.36					1.5	102	560	671	879	1030	489
20	.32					1.0	110	566	674	890	1010	478
21	.28					1.0	119	583	674	902	1000	468
22	.16					.50	133	605	671	915	986	460
23	.08					0	154	629	664	926	972	453
24	.04					0	160	644	656	940	956	442
25	.04					0	166	652	652	952	930	439
26	.04					0	168	656	646	968	909	437
27	.04					0	167	653	637	986	886	432
28	.04					0	167	649	634	1010	886	424
29	.04				---	0	176	652	631	1020	865	418
30	0				---	0	187	652	631	1030	838	411
31	.04	---			---	0	---	653	---	1040	814	---
TOTAL	3.52	0	0	0	0	6.50	2245.00	14765	20032	26444	31732	16830
MEAN	.11	0	0	0	0	.21	74.8	476	668	853	1024	561
MAX	.40	0	0	0	0	1.5	187	656	690	1040	1130	790
MIN	0	0	0	0	0	0	0	199	631	637	814	411
AC-FT	7.0	0	0	0	0	13	4450	29290	39730	52450	62940	33380

CAL YR 1974 TOTAL 14856.12 MEAN 40.7 MAX 130 MIN 0 AC-FT 29470
WTR YR 1975 TOTAL 112058.02 MEAN 307 MAX 1130 MIN 0 AC-FT 222300

06473750 WOLF CREEK NEAR REE HEIGHTS, S. DAK.

LOCATION.--Lat 44°36'25", long 99°13'54", in SW¼SW¼ sec.11, T.113 N., R.70 W., Hand County, 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 mi^2 (686 km^2), 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.

AVERAGE DISCHARGE.--16 years, 4.39 ft^3/s (0.124 m^3/s), 3,180 acre-ft/yr (3.92 hm^3/yr); median of yearly mean discharges, 0.22 ft^3/s (0.01 m^3/s), 160 acre-ft/yr (0.199 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 18 ft^3/s (0.510 m^3/s) May 14, gage height, 5.89 ft (1.795 m); maximum gage height, 6.86 ft (2.091 m) Apr. 14 (backwater from ice); no flow for many days.

Period of record: Maximum discharge, 990 ft^3/s (28.0 m^3/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.

REMARKS.--Records fair. Flow regulated by small reservoir 0.5 mi (0.8 km) upstream, capacity, about 1,100 acre-ft (1.36 hm^3). Records of monthly specific conductance for the water year 1975 are published in Section 2 of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							0	.06				
2							0	.04				
3							0	.04				
4							0	.03				
5							0	.02				
6							0	.04				
7							0	.05				
8							0	.06				
9							0	.06				
10							0	.07				
11							0	.23				
12							0	.14				
13							.50	2.0				
14							1.5	14				
15							1.2	3.8				
16							1.2	1.7				
17							1.0	1.3				
18							1.0	1.2				
19							.91	.81				
20							.43	.81				
21							.35	.63				
22							.26	.55				
23							.23	.67				
24							.23	.63				
25							.35	.43				
26							.29	.23				
27							.43	.17				
28							.29	.23				
29					---		.35	.11				
30					---		.17	.05				
31		---			---		---	.03	---			---
TOTAL	0	0	0	0	0	0	10.69	30.19	0	0	0	0
MEAN	0	0	0	0	0	0	.36	.97	0	0	0	0
MAX	0	0	0	0	0	0	1.5	14	0	0	0	0
MIN	0	0	0	0	0	0	0	.02	0	0	0	0
AC-FT	0	0	0	0	0	0	21	60	0	0	0	0

CAL YR 1974 TOTAL 0 MEAN 0 MAX 0 MIN 0 AC-FT 0
WTR YR 1975 TOTAL 40.88 MEAN .11 MAX 14 MIN 0 AC-FT 81

PEAK DISCHARGE (BASE, 40 FT^3/S).--No peaks above base.

06474000 TURTLE CREEK NEAR TULARE, S. DAK.

LOCATION.--Lat 44°44'06", long 98°35'09", in SE¼SE¼ sec.25, T.115 N., R.65 W., Spink County, 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.

AVERAGE DISCHARGE.--13 years, 14.7 ft³/s (0.416 m³/s), 10,650 acre-ft/yr (13.1 hm³/yr); median of yearly mean discharges, 3.9 ft³/s (0.11 m³/s), 2,800 acre-ft/yr (3.45 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 23 ft³/s (0.65 m³/s) Apr. 18, gage height, 4.41 ft (1.344 m); maximum daily gage height, 5.11 ft (1.558 m) Apr. 10 (backwater from ice); no flow for many days.

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.

REMARKS.--Records fair. Records of monthly specific conductance for the water year 1975 are published in Section 2 of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							0	1.1	.20	.11		
2							0	1.0	.20	.10		
3							0	.82	.19	.09		
4							0	.71	.20	.08		
5							0	.61	.19	.07		
6							.05	.48	.18	.06		
7							.10	.51	.16	.05		
8							.13	.51	.17	.04		
9							.50	.48	.21	.03		
10							2.0	.42	.22	.02		
11							5.0	.51	.22	.02		
12							15	.48	.22	.01		
13							14	.43	.22	.01		
14							7.0	.42	.24	0		
15							5.0	.36	.25	0		
16							3.6	.32	.26	0		
17							13	.32	.27	0		
18							18	.30	.26	0		
19							16	.30	.25	0		
20							7.6	.30	.27	0		
21							5.5	.26	.28	0		
22							3.0	.26	.28	0		
23							2.0	.28	.26	0		
24							1.7	.26	.25	0		
25							1.4	.26	.22	0		
26							1.2	.24	.22	0		
27							1.2	.23	.20	0		
28							1.2	.23	.18	0		
29					---		1.6	.22	.15	0		
30					---		1.2	.21	.13	0		
31		---			---		---	.21	---	0		---
TOTAL	0	0	0	0	0	0	126.98	13.04	6.55	.69	0	0
MEAN	0	0	0	0	0	0	4.23	.42	.22	.022	0	0
MAX	0	0	0	0	0	0	18	1.1	.28	.11	0	0
MIN	0	0	0	0	0	0	0	.21	.13	0	0	0
AC-FT	0	0	0	0	0	0	252	26	13	1.4	0	0

CAL YR 1974 TOTAL 53.50 MEAN .15 MAX 1.0 MIN 0 AC-FT 106
WTR YR 1975 TOTAL 147.26 MEAN .40 MAX 18 MIN 0 AC-FT 292

06474300 MEDICINE CREEK NEAR ZELL, S. DAK.

LOCATION.--Lat 44°45'52", long 98°42'13", in NW¼NW¼ sec.19, T.115 N., R.65 W., Spink County, 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 mi^2 (540 km^2), 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.

AVERAGE DISCHARGE.--16 years, 6.29 ft^3/s (0.178 m^3/s), 4,560 acre-ft/yr (5.62 hm^3/yr); median of yearly mean discharges, 2.0 ft^3/s (0.06 m^3/s), 1,500 acre-ft/yr (1.85 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 50 ft^3/s (1.42 m^3/s) Apr. 13, gage height, 5.40 ft (1.646 m); maximum gage height, 6.40 ft (1.951 m) Apr. 12 (backwater from ice); no flow for many days.

Period of record: Maximum discharge, 2,210 ft^3/s (62.6 m^3/s) Apr. 5, 1969, gage height, 12.41 ft (3.783 m); no flow for many days in most years.

REMARKS.--Records fair. Records of monthly specific conductance for the water year 1975 are published in Section 2 of this report.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 18 to Dec. 3, Apr. 14-20, May 9 to July 3; stage-discharge relation affected by ice Apr. 8-13)

2.32	0	2.7	.70	3.5	9.5
2.4	.04	2.8	1.2	4.0	18
2.5	.10	3.1	4.1	5.0	46
2.6	.30				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	.02				0	4.7	.16	2.2	0	.01
2	0	0	.02				0	4.1	.12	1.7	0	0
3	0	0	.02				0	3.3	.12	1.2	0	0
4	0	0	0				0	2.8	.12	.75	0	0
5	0	0	0				0	2.0	.10	.62	.01	.01
6	0	.01	0				0	1.5	.09	.42	0	.02
7	0	.01	0				0	1.5	.08	.24	0	.01
8	0	.01	0				0	1.5	.09	.14	0	0
9	0	0	0				0	1.8	.28	.08	0	0
10	0	.01	0				0	1.8	.28	.06	0	.02
11	0	.01	0				0	2.4	.24	.05	.02	.02
12	0	.01	0				5.0	2.1	.18	.03	.01	0
13	0	.02	0				35	1.5	.14	.02	.01	0
14	0	.02	0				27	1.2	.18	.02	.01	0
15	0	.02	0				11	.85	.28	.01	.01	0
16	0	.02	0				7.0	.66	.38	.01	0	0
17	0	.02	0				15	.50	.58	0	0	0
18	.01	.02	0				16	.38	.54	0	.01	.02
19	0	.02	0				12	.34	1.0	0	.01	.02
20	0	.02	0				9.7	.28	3.4	0	0	.02
21	0	.01	0				7.7	.24	9.7	0	0	.02
22	0	.01	0				6.7	.30	17	0	0	.02
23	0	.01	0				5.7	.75	16	0	0	.02
24	.01	.02	0				5.2	.62	12	0	0	.02
25	.01	.02	0				5.3	.55	8.8	0	0	.02
26	.01	.02	0				8.4	.50	6.7	0	0	.02
27	.01	.02	0				6.3	.30	5.3	0	0	.02
28	.01	.02	0				4.8	.42	4.5	0	.02	.02
29	.01	.02	0		---		5.1	.34	3.9	0	.02	.02
30	.01	.02	0		---		4.7	.26	3.0	0	.01	.02
31	.01	---	0		---		---	.20	---	0	.01	---
TOTAL	.09	.39	.06	0	0	0	197.6	39.69	95.26	7.55	.15	.35
MEAN	.003	.013	.002	0	0	0	6.59	1.28	3.18	.24	.005	.012
MAX	.01	.02	.02	0	0	0	35	4.7	17	2.2	.02	.02
MIN	0	0	0	0	0	0	0	.20	.08	0	0	0
AC-FT	.2	.8	.1	0	0	0	392	79	189	15	.3	.7

CAL YR 1974 TOTAL 36.95 MEAN .10 MAX 4.7 MIN 0 AC-FT 73
WTR YR 1975 TOTAL 341.14 MEAN .93 MAX 35 MIN 0 AC-FT 677

PEAK DISCHARGE (BASE, 40 FT^3/S).--Apr. 13 (1900) 50 ft^3/s (5.40 ft).

06475000 JAMES RIVER NEAR REDFIELD, S. DAK.

LOCATION.--Lat 44°55'13", long 98°25'52" in SW¼NW¼ sec.28, T.117 N., R.63 W., Spink County, 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 mi^2 (38,300 km^2), approximately, of which about 4,600 mi^2 (11,900 km^2) 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.

AVERAGE DISCHARGE.--25 years, 185 ft^3/s (5.239 m^3/s), 134,000 acre-ft/yr (165 hm^3/yr); median of yearly mean discharges, 120 ft^3/s (3.40 m^3/s), 86,900 acre-ft/yr (107 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,030 ft^3/s (29.2 m^3/s) Aug. 6, gage height, 10.48 ft (3.197 m); no flow for many days.

Period of record: Maximum discharge, 7,310 ft^3/s (207 m^3/s) Apr. 13, 1969, gage height, 24.93 ft (7.599 m); no flow for many days in most years.

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 hm^3), the largest of which is Jamestown Reservoir, capacity, 229,470 acre-ft (283 hm^3), 303 mi (488 km) upstream. Low flow affected by wind at times. Records of monthly specific conductance for the water year 1975 are published in Section 2 of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02						0	159	596	618	975	783
2	0						0	160	604	624	975	760
3	0						0	166	612	630	980	737
4	0						0	178	652	642	988	719
5	0						1.0	193	616	658	998	701
6	0						2.0	259	624	676	1020	685
7	0						5.0	262	622	700	1020	666
8	0						12	274	634	714	1000	652
9	0						12	258	656	724	1000	636
10	0						10	270	648	736	1000	620
11	0						10	280	642	754	1020	605
12	0						15	293	638	770	1010	593
13	0						20	319	630	792	1010	596
14	0						30	334	640	812	1010	621
15	0						40	363	644	832	999	617
16	0						60	418	642	844	995	604
17	0						85	436	650	857	985	594
18	0						95	450	652	848	981	558
19	0						90	466	656	844	977	524
20	0						95	472	658	842	978	504
21	0						131	484	652	850	967	495
22	0						178	514	636	854	957	486
23	0						160	572	628	858	947	472
24	0						180	576	628	862	932	462
25	0						210	580	624	874	908	460
26	0						265	590	620	888	885	461
27	0						250	594	604	902	865	443
28	0						220	590	608	924	862	425
29	0				---		178	588	618	945	847	414
30	0				---		162	588	616	960	829	392
31	0	---			---		---	592	---	970	813	---
TOTAL	.02	0	0	0	0	0	2516.0	12278	18950	24804	29733	17285
MEAN	.001	0	0	0	0	0	83.9	396	632	800	959	576
MAX	.02	0	0	0	0	0	265	594	658	970	1020	783
MIN	0	0	0	0	0	0	0	159	596	618	813	392
AC-FT	.04	0	0	0	0	0	4990	24350	37590	49200	58980	34280

CAL YR 1974 TOTAL 14058.88 MEAN 38.5 MAX 200 MIN 0 AC-FT 27890
WTR YR 1975 TOTAL 105566.02 MEAN 289 MAX 1020 MIN 0 AC-FT 209400

06476000 JAMES RIVER AT HURON, S. DAK.

LOCATION.--Lat 44°21'49", long 98°11'56", in SW¼SE¼NE¼ sec.6, T.110 N., R.61 W., Beadle County, 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 mi^2 (43,500 km^2), approximately, of which about 12,010 mi^2 (31,100 km^2) probably contributes directly to surface runoff.

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 site and datum.

AVERAGE DISCHARGE.--36 years, 233 ft^3/s (6.599 m^3/s), 168,800 acre-ft/yr (208 hm^3/yr); median of yearly mean discharges, 130 ft^3/s (3.68 m^3/s), 94,200 acre-ft/yr (116 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,190 ft^3/s (33.7 m^3/s) Aug. 8, gage height, 9.31 ft (2.838 m); no flow for many days.

Period of record: Maximum discharge, 9,000 ft^3/s (255 m^3/s) Apr. 13, 1969, gage height, 16.70 ft (5.090 m); no flow for long periods in most years.

A 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).

REMARKS.--Records good above 100 ft^3/s (2.83 m^3/s) and fair below. Flow regulated by Arrowwood and Jim Lakes, and Jamestown Reservoir, combined capacity, 246,000 acre-ft (303 hm^3). Regulation by Jamestown Reservoir, capacity, 229,470 acre-ft (283 hm^3), 365 mi (587 km) upstream, since May 1953. Stage and discharge affected by wind at times. Records of chemical analyses and water temperatures for the water year 1975 are published in Section 2 of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	0	.13			0	24	215	564	537	956	892
2	.21	0	.11			0	24	214	564	551	939	818
3	0	0	.10			0	21	202	531	576	936	817
4	0	0	.04			0	18	202	586	567	958	785
5	0	0	0			0	21	190	597	584	957	780
6	1.1	0	0			0	24	175	586	576	951	740
7	0	0	0			0	32	213	575	584	1,130	734
8	0	0	0			0	49	221	586	609	1,140	692
9	0	0	0			0	52	268	630	629	979	680
10	0	0	0			0	65	303	652	638	986	688
11	.04	0	0			0	65	347	641	665	1,010	689
12	.17	0	0			0	78	331	630	666	1,050	605
13	0	0	0			0	108	309	641	685	1,040	315
14	0	0	0			0	100	352	641	685	1,030	301
15	0	0	0			0	95	337	641	704	1,020	432
16	0	0	0			0	91	300	663	695	1,020	493
17	0	0	0			.03	117	367	685	709	1,010	496
18	0	0	0			.25	127	422	641	797	1,000	580
19	0	0	0			4.1	145	438	556	792	960	551
20	0	0	0			14	162	503	607	783	994	519
21	0	9.7	0			24	139	446	633	777	1,030	474
22	0	22	0			27	133	413	623	794	983	455
23	0	20	0			36	145	450	602	827	971	459
24	0	.86	0			43	133	480	574	819	952	430
25	0	1.6	0			30	162	531	561	801	938	410
26	0	.44	0			32	133	542	588	828	1,030	390
27	0	.19	0			36	133	510	586	844	966	435
28	0	.16	0			30	139	542	542	821	977	438
29	0	.16	0		------	30	187	575	557	826	928	424
30	0	.16	0		------	30	215	564	549	841	907	431
31	0	------	0		------	27	------	553	------	894	855	------
TOTAL	6.42	55.27	.38	0	0	363.38	2,937	11,515	18,032	22,104	30,603	16,953
MEAN	.21	1.84	.012	0	0	11.7	97.9	371	601	713	987	565
MAX	4.9	22	.13	0	0	43	215	575	685	894	1,140	892
MIN	0	0	0	0	0	0	18	175	531	537	855	301
AC-FT	13	110	.8	0	0	721	5,830	22,840	35,770	43,840	60,700	33,630

CAL YR 1974 TOTAL 11,464.07 MEAN 31.4 MAX 124 MIN 0 AC-FT 22,740
WTR YR 1975 TOTAL 102,569.45 MEAN 281 MAX 1,140 MIN 0 AC-FT 203,400

06476500 SAND CREEK NEAR ALPENA, S. DAK.

LOCATION.--Lat 44°09'15", long 98°26'06", in NE¼NE¼ sec.19, T.108 N., R.63 W., Jerauld County, 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 mi^2 (622 km^2), approximately.

PERIOD OF RECORD.--March 1950 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,315 ft (401 m), by barometer. Prior to Sept. 17, 1951, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--25 years, 10.0 ft^3/s (0.283 m^3/s), 7,240 acre-ft/yr (8.93 hm^3/yr); median of yearly mean discharges, 6.7 ft^3/s (0.19 m^3/s), 4,900 acre-ft/yr (6.04 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 36 ft^3/s (1.02 m^3/s) Apr. 12, gage height, 8.89 ft (2.710 m); no flow for many days.

Period of record: Maximum discharge, 2,240 ft^3/s (63.4 m^3/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.

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

REVISIONS (WATER YEARS).--WSP 1309: 1950(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 10 to July 8; stage-discharge relation affected by ice Mar. 24 to Apr. 12)

7.4	0	7.8	1.7
7.5	.12	7.9	3.1
7.6	.40	8.5	22
7.7	.88	9.0	40

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							0	7.0	.02	.52		
2							0	6.1	0	.40		
3							0	4.6	0	.30		
4							0	4.0	.04	.18		
5							.01	3.4	.02	.10		
6							.07	3.1	0	.05		
7							.30	3.1	0	.01		
8							6.0	2.4	6.5	0		
9							6.5	2.2	17	0		
10							9.5	2.0	13	0		
11							23	2.0	9.7	0		
12							30	1.6	7.0	0		
13							35	1.5	4.6	0		
14							30	1.3	3.4	0		
15							24	1.2	3.1	0		
16							19	1.0	2.9	0		
17							20	1.0	2.7	0		
18							20	.82	2.0	0		
19							19	.76	1.8	0		
20							18	.56	1.6	0		
21							16	.44	1.6	0		
22							14	.48	1.5	0		
23							13	.52	1.3	0		
24							12	.44	1.1	0		
25							11	.33	1.1	0		
26							12	.21	1.0	0		
27							11	.16	.82	0		
28							10	.16	.72	0		
29					------		7.9	.12	.61	0		
30					------		7.3	.08	.56	0		
31		------			------		------	.06	------	0		------
TOTAL	0	0	0	0	0	0	374.58	52.64	85.69	1.56	0	0
MEAN	0	0	0	0	0	0	12.5	1.70	2.86	.050	0	0
MAX	0	0	0	0	0	0	35	7.0	17	.52	0	0
MIN	0	0	0	0	0	0	0	.06	0	0	0	0
AC-FT	0	0	0	0	0	0	743	104	170	3.1	0	0

CAL YR 1974 TOTAL 905.41 MEAN 2.48 MAX 42 MIN 0 AC-FT 1,800
WTR YR 1975 TOTAL 514.47 MEAN 1.41 MAX 35 MIN 0 AC-FT 1,020

PEAK DISCHARGE (BASE, 50 FT^3/S).--No peaks above base.

06477000 JAMES RIVER NEAR FORESTBURG, S. DAK.

LOCATION.--Lat 43°58'26", long 98°04'14", in SW¼SW¼NW¼ sec.20, T.106 N., R.60 W., Sanborn County, 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 mi^2 (48,200 km^2), approximately, of which about 13,810 m^2 (35,800 km^2) 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.

AVERAGE DISCHARGE.--25 years, 284 ft^3/s (8.043 m^3/s), 205,800 acre-ft/yr (254 hm^3/yr); median of yearly mean discharges, 130 ft^3/s (3.68 m^3/s), 94,200 acre-ft/yr (116 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,040 ft^3/s (29.5 m^3/s) Aug. 9, gage height, 8.12 ft (2.475 m); minimum daily, 1.0 ft^3/s (0.305 m^3/s) Jan. 23.

Period of record: Maximum discharge, 12,500 ft^3/s (354 m^3/s) Apr. 9, 1969, gage height, 17.16 ft (5.230 m); no flow at times in 1950, 1955, 1959, 1961, 1970.

Floods in March 1920 and March 1922 reached a stage of about 18 ft (5.49 m), from information by local residents.

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 hm^3), the largest of which is Jamestown Reservoir, capacity, 229,470 acre-ft (283 hm^3), 408 mi (656 km) upstream.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	7.6	2.8	2.6	1.3	4.8	49	273	584	500	841	872
2	21	7.4	3.0	2.8	1.2	4.8	51	267	586	494	885	852
3	17	7.1	3.3	3.2	1.4	5.1	50	262	575	494	891	822
4	16	6.8	3.5	3.4	1.7	5.4	47	256	573	507	886	805
5	15	6.5	3.7	3.4	1.8	5.7	44	250	569	511	890	797
6	15	6.2	3.6	3.4	2.4	6.0	46	248	562	520	891	771
7	15	5.9	3.9	3.5	3.3	6.1	59	246	562	527	886	739
8	15	5.3	3.3	3.8	4.0	6.5	75	257	564	533	952	719
9	13	5.1	2.9	4.0	4.5	6.7	78	268	619	540	1030	695
10	11	5.1	2.9	4.2	4.3	6.7	85	289	641	553	1010	674
11	11	4.8	2.9	3.9	4.5	7.2	89	322	648	560	980	673
12	11	4.8	3.1	3.5	4.4	7.4	92	358	643	573	964	669
13	11	4.9	3.0	2.7	4.6	7.6	113	366	637	588	968	630
14	10	5.1	3.3	2.2	4.8	7.6	140	360	624	599	975	482
15	11	4.9	3.6	1.9	4.7	7.6	158	358	619	608	972	363
16	9.7	4.7	3.6	1.8	4.3	8.0	150	359	628	635	966	378
17	9.5	4.3	3.0	1.7	4.2	8.8	139	349	637	652	963	440
18	9.1	3.9	3.0	1.6	4.0	8.9	150	361	635	666	962	493
19	8.8	4.3	3.0	1.6	4.0	10	177	398	620	679	963	528
20	8.8	4.0	3.0	1.5	4.3	15	183	423	596	693	939	541
21	7.8	3.7	3.0	1.4	4.3	23	191	454	591	707	946	522
22	7.3	3.3	3.0	1.2	4.1	22	198	468	606	718	965	485
23	7.2	2.6	3.0	1.0	4.3	26	190	481	608	728	959	460
24	7.1	2.6	2.8	1.2	4.3	23	184	492	595	739	941	449
25	7.4	2.3	2.6	1.6	4.5	13	180	520	571	742	917	436
26	7.6	2.8	2.6	1.6	4.5	8.6	196	531	544	738	906	420
27	7.7	2.7	2.6	2.0	4.5	8.2	215	565	531	742	929	406
28	7.8	2.7	2.6	2.1	4.8	7.8	236	562	533	755	960	411
29	7.8	2.6	2.6	2.0	---	12	249	577	520	751	961	424
30	7.8	2.8	2.6	1.6	---	28	255	580	507	753	937	422
31	7.7	---	2.6	1.4	---	43	---	580	---	768	906	---
TOTAL	346.1	136.8	94.4	73.8	105.0	360.5	4069	12080	17728	19573	29141	17378
MEAN	11.2	4.56	3.05	2.38	3.75	11.6	136	390	591	631	940	579
MAX	25	7.6	3.9	4.2	4.8	43	255	580	648	768	1030	872
MIN	7.1	2.3	2.6	1.0	1.2	4.8	44	246	507	494	841	363
AC-FT	686	271	187	146	208	715	8070	23960	35160	38820	57800	34470

CAL YR 1974 TOTAL 17054.7 MEAN 46.7 MAX 260 MIN 1.6 AC-FT 33830
WTR YR 1975 TOTAL 101085.6 MEAN 277 MAX 1030 MIN 1.0 AC-FT 200500

06477500 FIRESTEEL CREEK NEAR MOUNT VERNON, S. DAK.

LOCATION.--Lat 43°46'30", long 98°14'33", in SW¼SW¼ sec.26, T.104 N., R.62 W., Davison County, 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 mi^2 (1,400 km^2), 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.

AVERAGE DISCHARGE.--20 years, 24.3 ft^3/s (0.688 m^3/s), 17,610 acre-ft/yr (21.7 hm^3/yr); median of yearly mean discharges, 9.3 ft^3/s (0.26 m^3/s), 6,700 acre-ft/yr (8.3 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 2.5 ft^3/s (0.071 m^3/s) Apr. 8, gage height, 2.86 ft (0.872 m); no flow for many days.

Period of record: Maximum discharge, 6,610 ft^3/s (187 m^3/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.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Nov. 30 to Dec. 7, Dec. 19 to Apr. 6)

2.43	0	2.7	0.89
2.5	.04	2.8	1.6
2.6	.35	2.9	3.0

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.03	.07	.15	.05	.12	.74	.10	0			
2	0	.04	.06	.14	.06	.08	.70	.06	0			
3	0	.05	.06	.13	.07	.08	.78	.10	0			
4	0	.06	.05	.12	.05	.10	.90	.08	.01			
5	0	.04	.08	.11	.04	.12	1.1	.13	.01			
6	.01	.05	.07	.10	.03	.12	1.8	.08	.01			
7	.02	.05	.05	.09	.02	.12	2.4	.10	.01			
8	.03	.03	.03	.10	.03	.11	2.5	.13	.01			
9	.02	.04	.04	.11	.03	.10	2.2	.10	.03			
10	.02	.05	.35	.12	.04	.10	2.4	.16	.04			
11	.01	.04	.35	.10	.04	.09	1.7	.16	.05			
12	.02	.02	.20	.08	.05	.08	1.3	.13	.04			
13	0	.03	.13	.07	.05	.07	.95	.06	.02			
14	.01	.05	.08	.07	.06	.10	1.1	.16	.03			
15	.02	.06	.08	.08	.06	.12	.95	.06	.02			
16	.02	.05	.10	.08	.06	.15	.77	.06	.02			
17	.02	.04	.08	.09	.07	.21	1.1	.04	.03			
18	.02	.03	.06	.09	.07	.22	1.2	.05	.08			
19	.03	.06	.06	.10	.08	.25	.95	.05	.05			
20	.02	.06	.07	.10	.09	.30	.83	.03	.08			
21	.03	.05	.07	.11	.09	.40	.65	.03	.06			
22	.02	.04	.07	.12	.09	.50	.65	.02	.06			
23	.03	.06	.06	.12	.10	.70	.77	.01	.05			
24	.04	.03	.05	.13	.10	1.0	.89	.01	.04			
25	.06	.04	.04	.14	.12	.95	.83	.01	.02			
26	.04	.04	.06	.15	.12	.92	.50	0	.03			
27	.06	.08	.07	.13	.15	.89	.50	0	.01			
28	.04	.10	.09	.10	.15	.85	.40	.01	0			
29	.03	.08	.11	.08	---	.81	.35	.02	0			
30	.05	.08	.13	.06	---	.78	.30	0	0			
31	.04	---	.15	.04	---	.76	---	0	---			---
TOTAL	.71	1.48	2.97	3.21	1.97	11.20	32.21	1.95	.81	0	0	0
MEAN	.023	.049	.096	.10	.070	.36	1.07	.063	.027	0	0	0
MAX	.06	.10	.35	.15	.15	1.0	2.5	.16	.08	0	0	0
MIN	0	.02	.03	.04	.02	.07	.30	0	0	0	0	0
AC-FT	1.4	2.9	5.9	6.4	3.9	22	64	3.9	1.6	0	0	0

CAL YR 1974 TOTAL 2207.15 MEAN 6.05 MAX 184 MIN 0 AC-FT 4380
WTR YR 1975 TOTAL 56.51 MEAN .15 MAX 2.5 MIN 0 AC-FT 112

PEAK DISCHARGE (BASE, 100 FT^3/S).--No peaks above base.

06478500 JAMES RIVER NEAR SCOTLAND, S. DAK.

LOCATION.--Lat 43°11'09", long 97°38'07", in SW¼SW¼ sec.30, T.97 N., R.57 W., Hutchinson County, 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 mi^2 (55,810 km^2), approximately, of which about 16,760 mi^2 (43,400 km^2) contributes directly to surface runoff.

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

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.

AVERAGE DISCHARGE.--47 years, 377 ft^3/s (10.68 m^3/s), 273,100 acre-ft/yr (337 hm^3/yr); median of yearly mean discharges, 200 ft^3/s (5.66 m^3/s), 145,000 acre-ft/yr (180 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,390 ft^3/s (39.36 m^3/s) Aug. 22, gage height, 8.42 ft (2.566 m); minimum daily, 14 ft^3/s (0.396 m^3/s) Jan. 12-18, Feb. 15-20.

Period of record: Maximum discharge, 15,200 ft^3/s (430 m^3/s) Apr. 3, 1962, gage height, 18.74 ft (5.712 m); no flow for many days in some years.

REMARKS.--Records good. Flow regulated by Arrowwood and Jim Lakes, and Jamestown Reservoir, combined capacity, 246,000 acre-ft (303 hm^3), the largest of which is Jamestown Reservoir, capacity, 229,470 acre-ft (283 hm^3), 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. Records of chemical anlyses and water temperatures for the water year 1975 are published in Section 2 of this report.

REVISIONS (WATER YEARS).--WSP 786: Drainage area. WSP 956: 1937-38. WSP 1279: 1932, 1948.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	23	16	15	18	20	61	209	507	541	696	877
2	20	23	16	16	18	21	60	221	527	531	702	883
3	20	23	16	16	17	21	60	246	519	525	707	860
4	20	23	16	16	18	21	61	268	539	513	716	852
5	19	22	16	16	18	23	64	269	529	506	745	880
6	20	22	16	15	17	26	68	266	522	513	763	901
7	22	22	16	15	17	28	81	367	515	522	772	870
8	24	21	15	15	16	29	93	295	521	521	756	829
9	23	21	15	16	16	28	107	291	563	520	784	762
10	22	21	15	16	15	29	118	288	582	518	773	719
11	23	21	16	15	15	29	125	285	595	522	800	681
12	23	23	16	14	15	31	132	285	590	513	835	666
13	23	26	16	14	15	31	130	274	590	522	867	638
14	26	26	16	14	15	30	125	261	603	518	876	623
15	24	25	17	14	14	29	127	287	636	521	883	603
16	24	23	16	14	14	33	145	311	637	514	889	591
17	23	21	16	14	14	39	167	326	634	519	881	535
18	21	20	16	14	14	42	180	347	674	537	895	437
19	20	19	16	15	14	45	193	347	672	560	915	380
20	19	19	16	15	14	50	194	347	678	571	907	359
21	19	18	16	16	15	56	181	350	708	570	905	387
22	19	18	16	16	15	58	183	350	768	586	1140	415
23	18	19	16	16	16	56	204	364	738	628	1320	464
24	18	19	16	16	16	54	210	386	688	648	1100	469
25	19	19	15	17	17	61	220	423	650	636	974	478
26	19	20	15	18	17	64	207	458	614	630	918	457
27	19	19	15	18	18	66	187	458	598	631	903	436
28	20	18	15	19	18	64	185	453	586	637	878	450
29	20	17	15	19	---	61	194	472	561	646	869	436
30	20	17	15	19	---	61	200	484	543	648	870	429
31	22	---	15	18	---	66	---	497	---	640	877	---
TOTAL	650	628	487	491	446	1272	4262	10485	18087	17407	26916	18367
MEAN	21.0	20.9	15.7	15.8	15.9	41.0	142	338	603	562	868	612
MAX	26	26	17	19	18	66	220	497	768	648	1320	901
MIN	18	17	15	14	14	20	60	209	507	506	696	359
AC-FT	1290	1250	966	974	885	2520	8450	20800	35880	34530	53390	36430

CAL YR 1974 TOTAL 28462 MEAN 78.0 MAX 601 MIN 15 AC-FT 56450
WTR YR 1975 TOTAL 99498 MEAN 273 MAX 1320 MIN 14 AC-FT 197400

06478540 LITTLE VERMILLION RIVER NEAR SALEM, S. DAK.
(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, 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 mi^2 (132 km^2), approximately.

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder and concrete dam.

AVERAGE DISCHARGE.--9 years, 1.82 ft^3/s (0.052 m^3/s), 1,320 acre-ft/yr (1.63 hm^3/yr).

EXTREMES.--Current year: No flow during year.

Period of record: Maximum discharge, 596 ft^3/s (16.9 m^3/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.

REMARKS.--Records good.

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

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												
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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 1974 TOTAL 1.75 MEAN .0050 MAX .96 MIN 0 AC-FT 3.5
WTR YR 1975 TOTAL 0.00 MEAN .0000 MAX .00 MIN 0 AC-FT .0

PEAK DISCHARGE (BASE, 10 FT^3/S).--No peaks above base.

06478690 WEST FORK VERMILLION RIVER NEAR PARKER, S. DAK.

LOCATION.--Lat 43°24'55", long 97°12'18", in NE¼NE¼ sec.10, T.99 N., R.54 W., Turner County, 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 mi^2 (958 km^2), 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.

AVERAGE DISCHARGE.--14 years, 20.0 ft^3/s (0.566 m^3/s), 14,490 acre-ft/yr (17.9 hm^3/yr); median of yearly mean discharges, 9.0 ft^3/s (0.255 m^3/s), 6,500 acre-ft/yr (8.0 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 85 ft^3/s (2.41 m^3/s) Aug. 22; maximum gage height, 3.81 ft (1.161 m) Aug. 22 (backwater from beaver dam); no flow for many days.

Period of record: Maximum discharge, 4,340 ft^3/s (123 m^3/s) Mar. 28, 1962, gage height, 12.33 ft (3.758 m); no flow for many days in most years.

REMARKS.--Records poor.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0				0	2.0	1.0	.05	.07	2.0	10
2		0				0	1.9	.86	.05	.07	9.0	9.2
3		0				0	1.8	.74	.05	.07	1.0	8.5
4		0				0	3.5	.68	.05	.06	.20	7.1
5		0				0	5.0	.68	.05	.06	.05	48
6		0				0	10	.58	.05	.06	.04	44
7		0				0	18	.53	.05	.06	.03	24
8		0				0	20	.53	.05	.06	.02	11
9		0				0	22	.49	.06	.05	.02	8.5
10		.01				0	18	.45	.06	.05	.02	6.4
11		.01				0	17	.41	.06	.05	.02	4.7
12		.01				0	17	.37	.06	.05	.02	3.8
13		.01				0	16	.33	.06	.04	.02	2.7
14		.01				0	14	.29	.07	.04	.02	2.3
15		.01				.01	10	.29	.08	.04	.01	1.5
16		.01				.02	9.5	.23	.09	.04	.01	.93
17		.01				.03	8.0	.20	.09	.03	.01	.80
18		.01				.05	7.6	.17	.10	.03	.01	.74
19		.01				.10	7.6	.13	.10	.03	.01	.74
20		.01				.50	6.8	.10	.10	.03	.01	.58
21		.01				1.0	5.6	.05	.10	.02	.01	.49
22		.01				2.0	5.2	.05	.10	.02	36	.49
23		.01				3.0	4.7	.05	.09	.02	22	.45
24		.01				4.0	3.6	.04	.09	.01	17	.37
25		0				3.5	2.9	.04	.09	.01	14	.33
26		0				3.0	2.7	.04	.08	.01	13	.29
27		0				2.5	2.3	.04	.08	.01	13	.26
28		0				2.4	1.9	.04	.08	.01	13	.26
29		0			---	2.3	1.5	.04	.08	.01	13	.26
30		0			---	2.2	1.2	.05	.07	.01	13	.26
31		---			---	2.1	---	.05	---	.01	12	---
TOTAL	0	.15	0	0	0	28.71	247.3	9.55	2.19	1.13	178.53	198.95
MEAN	0	.005	0	0	0	.93	8.24	.31	.073	.037	5.76	6.63
MAX	0	.01	0	0	0	4.0	22	1.0	.10	.07	36	48
MIN	0	0	0	0	0	0	1.2	.04	.05	.01	.01	.26
AC-FT	0	.3	0	0	0	57	491	19	4.3	2.2	354	395

CAL YR 1974 TOTAL 529.79 MEAN 1.45 MAX 55 MIN 0 AC-FT 1050
WTR YR 1975 TOTAL 666.51 MEAN 1.83 MAX 48 MIN 0 AC-FT 1320

PEAK DISCHARGE (BASE, 150 FT^3/S).--No peaks above base.

06479000 VERMILLION RIVER NEAR WAKONDA, S. DAK.

LOCATION.--Lat 42°59'27", long 96°57'49", in SW¼NW¼ sec.2, T.94 N., R.52 W., Clay County, 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 mi^2 (4,351 km^2), 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.

AVERAGE DISCHARGE.--30 years, 113 ft^3/s (3.200 m^3/s), 81,870 acre-ft/yr (101 hm^3/yr); median of yearly mean discharges, 80 ft^3/s (2.27 m^3/s), 58,000 acre-ft/yr (71.5 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 129 ft^3/s (3.65 m^3/s) Aug. 25, gage height, 5.53 ft (1.686 m); maximum gage height, 5.78 ft (1.762 m) Mar. 25 (backwater from beaver dam); no flow July 1-15.

Period of record: Maximum discharge, 9,880 ft^3/s (280 m^3/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.

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.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	2.5	4.6	4.1	3.2	2.1	25	57	13	0	1.8	13
2	1.7	3.6	4.6	3.9	4.3	1.8	30	49	13	0	18	4.6
3	1.8	3.6	4.6	4.1	4.9	1.4	33	44	13	0	51	2.8
4	2.0	3.6	4.6	4.1	4.3	1.4	35	40	13	0	29	2.1
5	2.0	3.9	4.7	4.1	3.4	1.4	40	35	13	0	18	6.0
6	2.0	3.9	4.9	4.1	3.4	1.4	45	31	14	0	7.4	27
7	2.0	4.1	4.8	4.1	3.4	1.4	46	29	13	0	2.1	34
8	2.1	4.1	3.9	4.1	3.2	1.7	30	27	14	0	1.1	40
9	2.1	4.3	4.3	4.1	2.0	1.7	31	26	13	0	.75	57
10	2.3	4.3	4.3	3.9	2.0	1.7	38	25	14	0	.93	46
11	2.5	4.6	4.6	3.0	2.0	1.8	38	24	14	0	1.3	37
12	2.5	4.6	4.6	2.5	1.7	1.8	48	24	14	0	1.7	29
13	2.3	4.9	4.3	3.4	1.7	1.8	55	23	14	0	1.7	22
14	2.3	4.6	4.3	4.3	1.7	2.0	70	23	14	0	1.7	19
15	2.5	4.9	4.8	4.3	1.6	2.0	65	21	14	0	2.1	15
16	2.5	4.9	4.8	4.6	1.4	2.0	63	19	14	.02	2.5	13
17	3.0	4.6	4.9	4.9	1.4	1.7	64	18	14	.06	2.8	14
18	2.5	4.6	4.6	3.6	1.4	1.7	70	17	14	.03	4.2	8.3
19	2.8	4.8	4.3	2.0	1.3	4.6	68	16	14	.06	3.7	5.8
20	3.0	5.0	4.3	2.0	1.7	6.5	61	15	17	.15	3.4	5.8
21	3.6	5.1	4.3	2.0	1.8	7.2	55	13	16	.18	3.2	4.6
22	4.3	4.9	4.3	2.0	1.8	10	49	13	19	.24	5.1	3.3
23	2.8	4.9	4.3	2.8	2.1	24	46	13	11	.35	10	2.5
24	2.8	4.9	4.3	2.8	2.5	18	44	13	2.1	.40	49	2.7
25	3.4	4.9	4.1	2.8	2.1	43	47	13	3.0	.50	120	3.5
26	3.6	4.9	4.1	2.1	2.1	29	52	13	2.8	.55	91	1.6
27	4.6	4.3	4.3	2.5	3.0	21	48	13	1.3	.55	63	1.5
28	5.4	4.3	4.3	2.8	2.5	17	54	13	.60	.56	42	2.2
29	1.8	4.6	4.3	2.8	---	15	57	13	.30	.60	25	2.6
30	1.5	4.6	4.1	3.0	---	17	60	13	.12	.70	25	4.0
31	3.0	---	4.1	3.2	---	25	---	13	---	.75	23	---
TOTAL	82.3	132.8	137.3	104.0	67.9	268.1	1467	706	332.22	5.70	611.48	429.9
MEAN	2.65	4.43	4.43	3.35	2.43	8.65	48.9	22.8	11.1	.18	19.7	14.3
MAX	5.4	5.1	4.9	4.9	4.9	43	70	57	19	.75	120	57
MIN	1.5	2.5	3.9	2.0	1.3	1.4	25	13	.12	0	.75	1.5
AC-FT	163	263	272	206	135	532	2910	1400	659	11	1210	853

CAL YR 1974 TOTAL 7581.50 MEAN 20.8 MAX 444 MIN 1.1 AC-FT 15040
WTR YR 1975 TOTAL 4344.70 MEAN 11.9 MAX 120 MIN 0 AC-FT 8620

PEAK DISCHARGE (BASE, 1,000 FT^3/S).--No peaks above base.

06479438 BIG SIOUX RIVER NEAR WATERTOWN, S. DAK.

LOCATION.--Lat 45°00'22", long 97°09'53", in NE¼NE¼NE¼ sec.16, T.118 N., R.52 W., Codington County, 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 mi^2 (624 km^2), 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 Highways bench mark).

EXTREMES.--Current year: Maximum discharge, 301 ft^3/s (8.52 m^3/s) Apr. 17, gage height, 7.75 ft (2.362 m); no flow for many days.

Period of record: Maximum discharge, 414 ft^3/s (11.7 m^3/s) Mar. 15, 1973, gage height, 8.11 ft (2.472 m); no flow at times in 1974, 1975.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 19 to May 15, Sept. 29, 30; stage-discharge relation affected by ice Dec. 13 to Apr. 18)

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 1974 TO SEPTEMBER 1975

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	.36	.37	.20	0	.03	.37	65	4.2	5.1	.45	.33
2	.09	.16	.35	.19	0	.03	.36	53	4.0	4.0	.30	.27
3	.13	.12	.35	.18	0	.03	.35	44	3.1	3.2	.27	.26
4	.12	.12	.36	.17	0	.03	.45	37	2.9	2.6	.26	.25
5	.08	.12	.35	.16	0	.04	.70	33	3.3	2.8	.23	.25
6	.10	.14	.37	.15	0	.03	1.0	29	3.6	2.2	.23	.23
7	.09	.14	.43	.14	0	.02	1.5	25	3.2	1.4	.26	.18
8	.12	.15	.38	.14	0	.02	2.0	22	3.2	1.0	.26	.15
9	.11	.14	.22	.13	0	.02	3.5	21	4.8	.66	.23	.20
10	.13	.12	.30	.10	0	.02	6.0	20	5.0	.58	.23	.24
11	.12	.12	.38	.07	0	.02	12	14	5.6	.47	.26	.19
12	.09	.14	.44	.03	0	.02	25	13	5.4	.43	.31	.09
13	.16	.17	.45	.02	.01	.02	40	11	4.4	.45	.27	.12
14	.13	.13	.43	.01	.01	.03	70	11	4.2	.50	.27	.12
15	.16	.14	.40	0	.01	.03	140	8.6	5.8	.46	.29	.12
16	.20	.15	.36	0	.02	.06	120	8.8	6.6	.45	.31	.12
17	.21	.15	.33	0	.02	.10	250	7.7	8.1	.44	.35	.10
18	.18	.16	.30	0	.03	.30	250	7.7	8.4	.35	.35	.11
19	.12	.15	.27	0	.03	.50	198	7.9	8.5	.26	.39	.03
20	.13	.13	.25	0	.04	.80	126	7.4	8.4	.23	.37	.01
21	.18	.16	.22	0	.04	1.0	93	6.8	9.0	.27	.35	.01
22	.14	.17	.19	0	.04	.80	77	6.8	8.8	.30	.31	.01
23	.11	.15	.17	0	.04	.60	76	6.1	8.4	.23	.31	.01
24	.12	.21	.16	.01	.04	.45	75	8.6	7.4	.19	.30	.01
25	.12	.31	.16	.01	.04	.35	76	8.6	7.0	.21	.27	.01
26	.12	.38	.17	.01	.04	.40	77	8.4	6.8	.23	.32	.01
27	.14	.39	.19	0	.04	.45	83	7.9	7.3	.23	.39	.01
28	.15	.36	.21	0	.03	.50	89	6.5	6.8	.29	.59	0
29	.15	.38	.22	0	---	.46	82	6.8	5.8	.26	.44	0
30	.15	.40	.23	0	---	.42	74	5.4	5.1	.26	.40	0
31	.16	---	.21	0	---	.39	---	5.4	---	.30	.40	---
TOTAL	4.10	5.92	9.22	1.72	.48	7.97	2049.23	523.4	175.1	30.35	9.97	3.44
MEAN	.13	.20	.30	.056	.017	.26	68.3	16.9	5.84	.98	.32	.11
MAX	.21	.40	.45	.20	.04	1.0	250	65	9.0	5.1	.59	.33
MIN	.08	.12	.16	0	0	.02	.35	5.4	2.9	.19	.23	0
AC-FT	8.1	12	18	3.4	1.0	16	4060	1040	347	60	20	6.8

CAL YR 1974 TOTAL 2230.34 MEAN 6.11 MAX 180 MIN 0 AC-FT 4420
WTR YR 1975 TOTAL 2820.90 MEAN 7.73 MAX 250 MIN 0 AC-FT 5600

PEAK DISCHARGE (BASE, 300 FT^3/S).--Apr. 17 (1030) 301 ft^3/s (7.75 ft).

06479515 WILLOW CREEK NEAR WATERTOWN, S. DAK.

LOCATION.--Lat 44°54'17", long 97°03'31", in NE¼NW¼ sec.34, T.117 N., R.52 W., Codington County, 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 mi^2 (324 km^2), 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 Highways bench mark).

EXTREMES.--Current year: Maximum discharge, about 250 ft^3/s (7.08 m^3/s) Apr. 18; maximum gage height, 7.20 ft (2.195 m) Apr. 18 (backwater from ice); no flow for many days.

Period of record: Maximum discharge, 1,220 ft^3/s (34.6 m^3/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.

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

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	3.6	.17	.13		0	0	28	.48	.63	.70	.06
2	0	.93	.17	.13		0	0	22	.46	.33	1.0	.04
3	0	.19	.15	.12		0	0	20	.60	.21	.25	.02
4	0	.13	.14	.12		0	0	16	.67	.12	.08	.02
5	0	.12	.18	.11		0	.01	14	.41	.10	.06	.01
6	0	.10	.18	.11		0	.02	11	.41	.10	.04	.01
7	0	.10	.18	.10		0	.03	9.0	.31	.06	.03	.01
8	0	.12	.06	.10		0	.05	7.7	.35	.04	.01	.01
9	0	.15	.05	.09		0	.07	7.5	7.5	.01	0	.01
10	0	.18	.06	.07		0	.10	7.0	7.4	0	0	.97
11	0	.13	.10	.05		0	.15	6.6	6.1	0	0	4.7
12	0	.10	.11	.02		0	1.0	8.4	4.5	0	0	.24
13	0	.11	.14	.01		0	2.5	7.6	2.5	0	.02	.13
14	0	.13	.18	.01		0	10	6.8	3.5	.01	.03	.11
15	0	.10	.18	0		0	35	7.0	10	.01	.05	.09
16	.01	.12	.18	0		.01	140	7.1	9.7	0	.05	.08
17	.02	.15	.11	0		.01	190	5.4	18	0	.08	.08
18	.02	.18	.10	0		.02	200	5.8	2.1	0	.14	.14
19	.02	.26	.10	0		.03	125	5.7	33	0	.11	.11
20	.03	.29	.08	0		.05	92	4.5	31	0	.12	.13
21	.04	.28	.06	0		.06	70	3.5	29	0	.11	.13
22	.04	.28	.05	0		.04	72	4.5	25	0	.10	.11
23	.02	.25	.06	0		.02	88	6.7	22	0	.08	.09
24	.02	.23	.05	.01		.01	85	5.3	17	.05	.06	.08
25	.02	.23	.04	.01		0	82	4.2	13	.06	.02	.08
26	.03	.16	.06	0		0	78	3.3	11	.05	.01	.09
27	.04	.14	.09	0		0	72	3.6	8.6	.03	.03	.22
28	.07	.13	.11	0		0	62	3.5	5.6	.02	.18	.39
29	.08	.11	.12	0	---	0	48	1.5	3.7	0	.14	.22
30	.10	.13	.13	0	---	0	42	.47	1.1	0	.11	.14
31	.13	---	.14	0	---	0	---	.56	---	0	.10	---
TOTAL	.69	9.13	3.53	1.19	0	.25	1494.93	244.23	274.99	1.83	3.71	8.52
MEAN	.022	.30	.11	.038	0	.008	49.8	7.88	9.17	.059	.12	.28
MAX	.13	3.6	.18	.13	0	.06	200	28	33	.63	1.0	4.7
MIN	0	.10	.04	0	0	0	0	.47	.31	0	0	.01
AC-FT	1.4	18	7.0	2.4	0	.5	2970	484	545	3.6	7.4	17

CAL YR 1974 TOTAL 609.55 MEAN 1.67 MAX 75 MIN 0 AC-FT 1210
WTR YR 1975 TOTAL 2043.00 MEAN 5.60 MAX 200 MIN 0 AC-FT 4050

PEAK DISCHARGE (BASE, 200 FT^3/S).--Apr. 18 (time and stage unknown) about 250 ft^3/s.

06479529 STRAY HORSE CREEK NEAR CASTLEWOOD, S. DAK.

LOCATION.--Lat 44°43'52", long 96°57'23", in NE¼NE¼NW¼ sec.33, T.115 N., R.51 W., Hamlin County, 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 mi^2 (191 km^2), approximately.

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

GAGE (revised).--Water-stage recorder. Datum of gage is 1,703.88 ft (519.343 m) above mean sea level (South Dakota Department of Highways bench mark).

AVERAGE DISCHARGE.--7 years, 10.4 ft^3/s (0.295 m^3/s), 7,530 acre-ft/yr (9.28 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 140 ft^3/s (3.96 m^3/s) Apr. 17; maximum gage height, 7.71 ft (2.350 m) Apr. 17 (backwater from ice); no flow for many days.

Period of record: Maximum discharge, 14,000 ft^3/s (396 m^3/s) Apr. 7, 1969, gage height, 14.65 ft (4.465 m), from rating curve extended above 3,500 ft^3/s (99.1 m^3/s) on basis of contracted-opening measurement of peak flow; no flow for many days each year.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Nov. 19 to Apr. 18)

4.3	0	4.6	1.6	5.2	15
4.4	.35	4.7	2.8	5.5	27
4.5	.85	4.9	6.4	6.1	70

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.03				0	0	35	.44	.30	.24	.10
2	0	.03				0	0	34	.37	.21	.41	.10
3	0	.03				0	0	31	.35	.13	.25	.04
4	0	.03				0	0	28	.40	.09	.15	0
5	0	.03				0	0	17	.33	.08	.02	.01
6	0	.03				0	0	6.2	.29	.10	0	0
7	0	.03				0	.01	5.8	.24	.04	0	0
8	0	.03				0	.02	5.3	.26	.02	0	0
9	0	.03				0	.03	4.6	.65	0	0	0
10	0	.06				0	.04	4.1	.69	0	0	0
11	0	.07				0	.07	4.3	.72	0	0	0
12	0	.07				0	.20	4.0	.86	0	0	0
13	0	.07				0	1.5	3.3	.70	0	0	0
14	0	.07				0	5.0	3.0	.68	0	0	0
15	0	.07				0	20	2.5	.85	0	0	0
16	0	.07				0	80	2.1	.87	0	0	0
17	0	.09				.01	100	1.9	1.1	0	0	0
18	0	.10				.02	115	1.8	1.2	0	.01	.13
19	0	.09				.03	63	1.6	1.4	0	.18	.19
20	0	.08				.04	35	1.5	1.5	0	.30	.23
21	0	.07				.05	32	1.2	1.4	0	.25	.14
22	0	.06				.06	35	1.2	1.4	0	.24	.10
23	0	.05				.03	44	1.8	1.1	1.1	.19	.07
24	0	.04				.01	47	1.7	.85	1.3	.14	.03
25	0	.03				0	45	1.4	.65	.66	.04	.03
26	0	.02				0	42	1.1	.53	.45	0	.03
27	0	.02				0	47	.88	.37	.26	.01	.19
28	0	.01				0	45	.77	.33	.18	.41	.40
29	0	0			---	0	44	.67	.35	.03	.41	.37
30	0	0			---	0	37	.58	.32	.01	.30	.32
31	.03	---			---	0	---	.54	---	0	.26	---
TOTAL	.03	1.41	0	0	0	.25	837.87	208.84	21.20	4.96	3.81	2.48
MEAN	.001	.047	0	0	0	.008	27.9	6.74	.71	.16	.12	.083
MAX	.03	.10	0	0	0	.06	115	35	1.5	1.3	.41	.40
MIN	0	0	0	0	0	0	0	.54	.24	0	0	0
AC-FT	.06	2.8	0	0	0	.5	1660	414	42	9.8	7.6	4.9

CAL YR 1974 TOTAL 400.64 MEAN 1.10 MAX 40 MIN 0 AC-FT 795
WTR YR 1975 TOTAL 1080.85 MEAN 2.96 MAX 115 MIN 0 AC-FT 2140

PEAK DISCHARGE (BASE, 175 FT^3/S).--No peaks above base.

06479640 HIDEWOOD CREEK NEAR ESTELLINE, S. DAK.

LOCATION.--Lat 44°36'42", long 96°54'17", in SW¼NW¼ sec.12, T.113 N., R.51 W., Hamlin County, 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 mi^2 (425 km^2), 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.

AVERAGE DISCHARGE.--7 years, 24.3 ft^3/s (0.688 m^3/s), 17,610 acre-ft/yr (21.7 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 250 ft^3/s (7.08 m^3/s) Apr. 18; maximum gage height, 6.39 ft (1.948 m) Apr. 17 (backwater from ice); no flow for many days.

Period of record: Maximum discharge, 3,630 ft^3/s (103 m^3/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.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Nov. 25 to Apr. 19)

2.08	0	2.4	4.1	3.4	55
2.1	.04	2.6	9.5	4.0	110
2.2	.69	2.9	22	4.7	192
2.3	2.2				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.34	.07	.05		0	0	37	.69	5.3	1.9	.51
2	0	.22	.06	.04		0	0	34	2.4	3.5	1.4	.18
3	0	.22	.07	.04		0	0	30	3.1	2.2	.64	.26
4	0	.27	.08	.04		0	0	26	5.1	1.9	.49	.25
5	.01	.22	.08	.03		0	.01	25	3.7	2.4	.92	.26
6	.13	.27	.09	.03		0	.02	22	3.3	2.6	.83	.19
7	.03	.34	.09	.03		0	.03	21	3.3	2.8	.56	.21
8	.05	.27	.10	.03		0	.05	18	4.0	2.2	.43	.16
9	.02	.41	.10	.02		0	.10	19	6.0	1.5	.38	.17
10	.02	.41	.11	.01		0	.30	17	4.8	.92	.45	.21
11	.05	.34	.12	0		0	.80	16	4.4	.80	.44	.40
12	.05	.34	.12	0		0	1.7	16	11	.80	.64	.38
13	.03	.34	.11	0		0	4.0	13	9.9	.80	.40	.30
14	.22	.34	.10	0		0	9.0	12	6.3	.59	.42	.13
15	.22	.34	.09	0		0	20	10	6.0	.41	.38	.12
16	.34	.41	.08	0		0	60	8.3	5.1	.22	.33	.15
17	.41	.49	.07	0		.01	140	7.1	4.4	.17	.37	.20
18	.32	.41	.06	0		.02	190	6.3	13	.17	.45	.45
19	.08	.49	.05	0		.03	120	5.3	11	.06	1.0	.70
20	.07	.34	.05	0		.04	90	4.2	9.2	0	.88	.90
21	.05	.27	.04	0		.06	79	4.0	8.6	.09	.81	.66
22	.30	.41	.04	0		.10	73	4.2	14	.01	.93	.47
23	.27	.34	.04	0		.06	188	4.6	8.6	4.4	.79	.58
24	.34	.22	.03	0		.02	124	4.0	6.3	3.1	.80	.65
25	.12	.19	.03	0		.01	88	3.5	5.1	.80	.39	.62
26	.08	.16	.03	0		0	71	2.9	4.2	.69	.27	.91
27	.22	.12	.04	0		0	66	2.0	3.5	.59	.33	1.8
28	.41	.10	.04	0		0	58	1.9	3.1	.41	.77	2.3
29	1.0	.09	.04	0	---	0	52	1.1	2.9	.13	.88	2.1
30	1.2	.08	.05	0	---	0	44	.05	2.4	.18	.73	1.7
31	.59	---	.05	0	---	0	---	.17	---	.41	.71	---
TOTAL	6.63	8.79	2.13	.32	0	.35	1479.01	375.62	175.39	40.15	20.72	17.92
MEAN	.21	.29	.069	.010	0	.011	49.3	12.1	5.85	1.30	.67	.60
MAX	1.2	.49	.12	.05	0	.10	190	37	14	5.3	1.9	2.3
MIN	0	.08	.03	0	0	0	0	.05	.69	0	.27	.12
AC-FT	13	17	4.2	.6	0	.7	2930	745	348	80	41	36

CAL YR 1974 TOTAL 1109.07 MEAN 3.04 MAX 100 MIN 0 AC-FT 2200
WTR YR 1975 TOTAL 2127.03 MEAN 5.83 MAX 190 MIN 0 AC-FT 4220

PEAK DISCHARGE (BASE, 300 FT^3/S).--No peaks above base.

06479910 SIXMILE CREEK NEAR BROOKINGS, S. DAK.

LOCATION.--Lat 44°20'46", long 96°44'51", in NE¼SE¼ sec.7, T.110 N., R.49 W., Brookings County, 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 mi^2 (140 km^2), 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.--Water-stage recorder. Datum of gage is 1,620.57 ft (493.950 m) above mean sea level (levels by Corps of Engineers). Prior to Sept. 1, 1970, at datum 1.00 ft (0.305 m) higher.

AVERAGE DISCHARGE.--5 years, 4.95 ft^3/s (0.140 m^3/s), 3,590 acre-ft/yr (4.43 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 70 ft^3/s (1.98 m^3/s) Apr. 18; maximum gage height, 4.33 ft (1.320 m) Apr. 18 (backwater from ice); no flow for many days.

Period of record: Maximum discharge, 405 ft^3/s (11.5 m^3/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.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Nov. 24 to Apr. 19)

0.68	0	0.90	0.98	1.4	16
.70	.04	1.0	2.2	2.0	38
.80	.30	1.1	5.0	3.0	90

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.22	.17	.17		0	0	16	1.2	.89	.26	.11
2	0	.20	.18	.16		0	0	14	1.1	.80	.47	.12
3	0	.22	.19	.16		0	0	12	.87	.50	.27	.09
4	0	.22	.21	.15		0	0	10	.90	.34	.29	.08
5	0	.22	.22	.15		0	.01	8.8	.79	.25	.23	.12
6	0	.22	.24	.15		0	.02	7.6	.71	.20	.12	.09
7	0	.22	.25	.14		0	.04	7.0	.57	.17	.06	.09
8	0	.24	.26	.12		0	.07	6.7	.64	.14	.01	.07
9	0	.26	.27	.10		0	.13	7.0	2.1	.09	0	.05
10	0	.27	.28	.07		0	.25	6.7	2.7	.08	0	.04
11	0	.27	.28	.04		0	.50	6.2	2.4	.10	0	.18
12	0	.29	.27	.02		0	1.0	5.6	2.4	.09	0	.25
13	0	.28	.26	.01		0	2.0	5.6	2.1	.10	0	.18
14	0	.35	.25	0		0	3.5	5.1	2.1	.11	0	.10
15	0	.35	.24	0		0	6.5	4.9	2.4	.08	0	.12
16	0	.29	.23	0		0	13	4.5	2.7	.06	0	.11
17	0	.31	.21	0		.01	25	4.0	3.7	0	0	.09
18	0	.42	.20	0		.01	50	4.0	3.7	0	.04	.23
19	0	.27	.18	0		.02	40	3.7	3.7	0	.20	.25
20	0	.47	.17	0		.03	31	3.3	5.0	0	.24	.25
21	0	.38	.16	0		.04	20	3.4	5.7	0	.27	.20
22	0	.27	.15	0		.05	21	3.1	6.0	0	.27	.13
23	0	.28	.14	0		.04	45	2.9	4.6	0	.26	.13
24	.01	.26	.13	0		.03	71	2.7	2.9	0	.21	.12
25	.02	.24	.12	0		.02	50	2.5	2.7	0	.15	.09
26	.07	.22	.13	0		.01	30	1.9	1.9	0	.09	.07
27	.09	.21	.14	0		0	24	1.4	1.4	0	.06	.12
28	.12	.20	.15	0		0	21	1.3	1.3	0	.13	.20
29	.14	.19	.15	0	---	0	20	1.2	1.2	0	.14	.22
30	.20	.18	.16	0	---	0	18	1.1	.98	0	.14	.17
31	.20	---	.17	0	---	0	---	1.1	---	0	.13	---
TOTAL	.85	8.02	6.16	1.44	0	.26	493.02	165.3	70.46	4.00	4.04	4.07
MEAN	.027	.27	.20	.047	0	.008	16.4	5.33	2.35	.13	.13	.14
MAX	.20	.47	.28	.17	0	.05	71	16	6.0	.89	.47	.25
MIN	0	.18	.12	0	0	0	0	1.1	.57	0	0	.04
AC-FT	1.7	16	12	2.9	0	.5	978	328	140	7.9	8.0	8.1

CAL YR 1974 TOTAL 562.09 MEAN 1.54 MAX 30 MIN 0 AC-FT 1110
WTR YR 1975 TOTAL 757.62 MEAN 2.08 MAX 71 MIN 0 AC-FT 1500

PEAK DISCHARGE (BASE, 100 FT^3/S).--No peaks above base.

06480000 BIG SIOUX RIVER NEAR BROOKINGS, S. DAK.

LOCATION.--Lat 44°10'48", long 96°44'55", in NW¼NW¼ sec.8, T.108 N., R.49 W., Moody County, 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 mi^2 (11,450 km^2), approximately, of which about 1,970 mi^2 (5,100 km^2) 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.

AVERAGE DISCHARGE.--22 years, 157 ft^3/s (4.446 m^3/s), 113,700 acre-ft/yr (140 hm^3/yr); median of yearly mean discharges, 110 ft^3/s (3.12 m^3/s), 79,700 acre-ft/yr (100 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 696 ft^3/s (19.7 m^3/s) Apr. 22, gage height, 6.04 ft (1.841 m); minimum daily, 0.35 ft^3/s (0.010 m^3/s) Feb. 10.

Period of record: Maximum discharge, 33,900 ft^3/s (960 m^3/s) Apr. 9, 1969, gage height, 14.77 ft (4.502 m); no flow at times in 1956, 1959.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Nov. 24 to Apr. 19; shifting-control method used Apr. 20 to May 16)

1.4	0.15	2.0	38	4.0	327
1.5	1.4	2.5	97	5.0	512
1.6	5.8	3.0	167	6.0	722
1.8	19				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.98	8.8	6.5	5.7	.64	.59	3.0	332	46	32	13	7.4
2	1.0	8.7	6.2	5.5	.68	.56	3.1	294	45	30	20	6.4
3	1.5	8.2	6.0	5.2	.71	.54	3.2	262	45	28	16	6.3
4	2.5	8.5	5.8	5.0	.75	.57	3.7	234	45	26	12	5.2
5	2.5	8.8	5.8	4.7	.74	.60	6.0	210	44	27	9.7	5.8
6	3.2	8.1	5.9	4.3	.68	.60	11	189	43	26	8.7	6.4
7	4.5	8.7	6.0	4.1	.56	.59	18	179	41	25	7.4	6.7
8	4.6	10	5.5	4.0	.47	.58	30	170	42	24	5.2	5.9
9	4.7	15.	4.8	4.2	.40	.57	50	153	52	21	5.7	4.3
10	5.5	12	5.0	4.4	.35	.56	90	144	57	20	6.4	4.3
11	6.6	11	5.3	4.1	.36	.54	150	147	53	18	4.8	8.7
12	7.3	11	5.6	3.5	.38	.52	220	140	53	18	6.3	22
13	7.6	11	6.0	2.8	.40	.48	200	128	50	18	5.7	14
14	6.8	11	6.2	1.7	.42	.45	190	121	49	17	5.1	10
15	6.2	9.0	6.4	1.4	.45	.49	170	111	56	16	4.6	6.8
16	6.8	8.3	6.2	1.3	.47	.58	190	100	56	14	3.7	5.2
17	5.7	10	5.9	1.3	.49	.70	200	96	55	12	3.7	6.0
18	5.8	11	5.6	1.4	.52	.90	260	87	56	11	4.3	14
19	5.2	12	5.3	1.4	.50	1.2	370	80	52	10	12	16
20	6.2	13	5.0	1.5	.48	1.8	503	75	56	10	14	16
21	5.3	12	4.8	1.5	.45	2.7	637	70	63	10	14	14
22	4.8	11	4.5	1.6	.44	4.0	656	67	63	9.8	14	12
23	4.8	12	4.2	1.7	.44	3.2	513	67	58	10	16	11
24	5.2	11	4.3	1.7	.45	2.7	450	67	52	11	14	9.3
25	5.3	10	4.5	1.6	.47	2.5	476	64	50	11	10	9.5
26	5.4	9.0	4.8	1.4	.50	2.5	525	60	48	9.1	8.7	10
27	6.3	8.5	5.1	1.2	.55	2.6	485	57	44	9.2	7.7	9.4
28	6.9	7.8	5.4	1.0	.60	2.7	436	54	40	9.6	7.7	11
29	7.9	7.2	5.6	.80	---	2.8	393	53	36	8.4	9.6	14
30	9.0	6.8	5.8	.62	---	2.9	365	50	35	7.0	9.9	12
31	9.4	---	5.8	.60	---	3.0	---	47	---	5.9	8.5	---
TOTAL	165.48	299.4	169.8	81.22	14.35	45.02	7607.0	3908	1485	504.0	288.4	289.6
MEAN	5.34	9.98	5.48	2.62	.51	1.45	254	126	49.5	16.3	9.30	9.65
MAX	9.4	15	6.5	5.7	.75	4.0	656	332	63	32	20	22
MIN	.98	6.8	4.2	.60	.35	.45	3.0	47	35	5.9	3.7	4.3
AC-FT	328	594	337	161	28	89	15090	7750	2950	1000	572	574

CAL YR 1974 TOTAL 15484.28 MEAN 42.4 MAX 900 MIN .20 AC-FT 30710
WTR YR 1975 TOTAL 14857.27 MEAN 40.7 MAX 656 MIN .35 AC-FT 29470

PEAK DISCHARGE (BASE, 1,000 FT^3/S).--No peaks above base.

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, S. DAK.

LOCATION.--Lat 43°47'25", long 96°44'42", in NW¼NW¼ sec.29, T.104 N., R.49 W., Minnehaha County, 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.

DRAINAGE AREA.--5,060 mi^2 (13,100 km^2), approximately, of which about 1,970 mi^2 (5,100 km^2) is probably noncontributing.

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

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.--27 years, 260 ft^3/s (7.363 m^3/s), 188,400 acre-ft/yr (232 hm^3/yr); median of yearly mean discharges, 200 ft^3/s (5.66 m^3/s), 144,900 acre-ft/yr (179 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 732 ft^3/s (20.7 m^3/s) Apr. 23, gage height, 5.64 ft (1.719 m); minimum daily, 4.2 ft^3/s (0.119 m^3/s) Feb. 10.

Period of record: Maximum discharge, 41,300 ft^3/s (1,170 m^3/s) Apr. 9, 1969, gage height, 16.47 ft (5.020 m); minimum daily, 0.20 ft^3/s (0.006 m^3/s) Jan. 31, Feb. 1, 1965.

REMARKS.--Records good except those for winter periods, which are poor. Records of chemical analyses, water temperatures, and suspended-sediment loads for the water year 1975 are published in Section 2 of this report.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Dec. 12, Aug. 17-23, Sept. 20-30;
stage-discharge relation affected by ice Dec. 13 to Apr. 16)

2.3	5.3	3.3	66
2.7	18	4.0	230
3.0	32	6.0	875

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	15	16	12	5.3	6.8	20	488	73	60	13	19
2	6.3	14	16	12	5.7	6.7	20	452	71	55	19	17
3	7.4	14	15	12	6.0	6.6	20	407	71	50	20	14
4	9.1	14	15	11	5.8	6.4	20	368	72	48	19	12
5	9.6	14	16	11	5.6	6.4	21	333	66	45	18	12
6	9.6	14	16	11	5.6	6.7	23	303	64	43	18	11
7	11	14	15	11	5.2	7.1	35	284	63	39	18	11
8	11	15	14	11	4.8	7.4	90	256	63	37	18	9.6
9	11	15	13	11	4.5	7.6	390	241	70	35	16	8.9
10	10	15	13	10	4.2	7.3	400	235	67	35	14	7.8
11	9.9	14	14	9.3	4.4	7.8	380	226	67	32	12	8.6
12	13	14	14	8.3	4.5	8.8	340	225	69	31	12	10
13	14	14	14	7.6	4.7	8.0	400	222	70	31	13	11
14	14	14	13	6.8	4.9	8.5	450	207	77	31	14	12
15	15	15	12	6.2	5.2	8.9	480	194	82	30	12	11
16	15	14	12	6.0	5.4	9.3	490	182	78	28	9.3	11
17	15	15	11	6.1	5.6	9.6	536	165	76	25	7.6	11
18	15	16	10	6.2	5.8	10	578	153	80	24	12	12
19	15	16	9.0	6.4	5.4	11	532	144	82	20	11	13
20	15	15	8.5	6.5	5.1	12	494	139	88	18	9.4	14
21	16	16	8.1	6.6	5.2	13	532	125	85	17	7.7	14
22	15	16	7.9	6.7	5.4	14	626	125	86	15	9.0	14
23	15	15	7.7	6.9	5.7	13	714	120	83	13	11	14
24	14	16	7.5	7.1	6.0	12	693	120	82	13	13	14
25	13	16	7.9	6.9	6.2	12	612	111	82	18	14	15
26	13	16	8.8	6.6	6.4	13	598	100	79	22	17	15
27	14	16	10	6.2	6.6	14	609	100	73	24	20	16
28	14	16	12	5.8	6.9	16	630	100	71	24	22	16
29	14	15	13	5.5	------	18	581	89	67	19	22	16
30	15	16	13	5.3	------	20	532	69	62	14	21	14
31	15	------	13	5.0	------	21	------	73	------	10	21	------
TOTAL	390.1	449	375.4	250.0	152.1	328.9	11,846	6,356	2,219	906	463.0	383.9
MEAN	12.6	15.0	12.1	8.06	5.43	10.6	395	205	74.0	29.2	14.9	12.8
MAX	16	16	16	12	6.9	21	714	488	88	60	22	19
MIN	6.2	14	7.5	5.0	4.2	6.4	20	69	62	10	7.6	7.8
AC-FT	774	891	745	496	302	652	23,500	12,610	4,400	1,800	918	761

CAL YR 1974 TOTAL 25,350.6 MEAN 69.5 MAX 1,370 MIN 2.2 AC-FT 50,280
WTR YR 1975 TOTAL 24,119.4 MEAN 66.1 MAX 714 MIN 4.2 AC-FT 47,840

PEAK DISCHARGE (BASE, 1,000 FT^3/S).--No peaks above base.

06481500 SKUNK CREEK AT SIOUX FALLS, S. DAK.

LOCATION.--Lat 43°32'01", long 96°47'26", in NW¼SW¼ sec.24, T.101 N., R.50 W., Minnehaha County, 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 mi^2 (1,480 km^2), 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.

AVERAGE DISCHARGE.--27 years, 47.4 ft^3/s (1.342 m^3/s), 34,340 acre-ft/yr (42.3 hm^3/yr); median of yearly mean discharges, 25 ft^3/s (0.708 m^3/s), 18,100 acre-ft/yr (22.3 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 131 ft^3/s (3.710 m^3/s) Aug. 21, gage height, 3.53 ft (1.076 m); minimum daily, 0.14 ft^3/s (0.004 m^3/s) July 30, 31.

Period of record: Maximum discharge, 29,400 ft^3/s (833 m^3/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 ft^3/s (229 m^3/s) on basis of slope-area measurement of peak flow; no flow at times in many years.

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

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.58	1.6	1.6	1.3	1.1	2.2	3.9	33	2.2	.56	32	2.2
2	.60	1.5	1.6	1.3	1.1	2.2	3.5	32	2.0	.49	56	2.5
3	.64	1.5	1.6	1.3	1.1	2.2	3.6	33	2.0	.53	68	2.0
4	.81	1.5	1.6	1.4	1.3	2.1	4.6	32	2.2	.58	74	1.8
5	.95	1.3	1.6	1.4	1.3	2.0	6.0	29	3.0	.63	38	2.6
6	.99	1.3	1.6	1.3	1.3	1.8	9.9	27	3.5	.70	18	2.4
7	1.0	1.5	1.5	1.1	1.2	1.8	14	27	3.0	.73	12	2.3
8	.80	1.6	1.2	1.1	1.1	1.7	25	34	1.7	.78	8.7	1.7
9	.71	1.8	1.3	1.3	1.0	1.7	27	31	1.7	.82	6.5	1.8
10	.72	1.8	1.5	1.6	.91	1.8	40	31	1.8	.84	5.4	1.8
11	.78	1.8	1.6	1.6	.89	2.0	48	28	1.9	.69	4.7	1.7
12	.72	1.6	1.7	.70	.94	2.0	55	25	1.8	.62	4.3	1.7
13	.74	1.6	1.9	.67	1.0	2.2	54	22	1.0	.71	2.3	1.7
14	.71	1.6	1.8	.64	1.1	2.4	48	21	1.3	.64	1.8	1.7
15	.70	1.8	1.6	.61	1.2	2.2	65	20	1.7	.52	1.7	1.6
16	.78	1.6	1.6	.60	1.2	3.0	70	18	2.4	.38	1.5	1.7
17	.75	1.6	1.6	.59	1.3	2.8	62	17	1.9	.28	1.9	1.8
18	.81	1.6	1.6	.64	1.4	4.0	57	16	1.2	.22	2.7	2.1
19	1.1	1.6	1.6	.63	1.3	7.1	52	15	.98	.22	2.2	2.0
20	1.2	1.6	1.6	.74	1.2	11	47	14	1.6	.22	1.8	1.9
21	1.2	1.6	1.2	.68	1.3	17	45	13	1.5	.22	9.0	2.2
22	1.5	1.6	1.1	.68	1.4	14	47	11	1.6	.20	50	2.3
23	1.5	1.6	1.0	.74	1.6	16	45	10	1.3	.22	40	2.4
24	1.7	1.6	1.1	.94	1.7	5.2	43	8.7	1.2	.30	24	2.2
25	1.9	1.6	1.2	.79	1.8	3.7	41	7.0	1.6	.28	14	1.9
26	2.0	1.6	1.3	.80	1.9	3.9	38	5.3	1.4	.26	7.8	.67
27	2.0	1.6	1.3	.80	2.1	5.5	37	4.3	.80	.22	5.3	.78
28	1.8	1.6	1.3	1.1	2.2	5.2	36	3.6	1.2	.20	4.2	.91
29	1.7	1.6	1.3	1.1	---	6.0	35	3.4	.88	.16	4.0	.96
30	1.6	1.6	1.3	1.1	---	5.5	34	2.6	.70	.14	2.9	.91
31	1.6	---	1.3	1.1	---	4.9	---	2.2	---	.14	2.7	---
TOTAL	34.59	47.8	45.1	30.35	36.94	145.1	1096.5	576.1	51.06	13.50	507.4	54.23
MEAN	1.12	1.59	1.45	.98	1.32	4.68	36.6	18.6	1.70	.44	16.4	1.81
MAX	2.0	1.8	1.9	1.6	2.2	17	70	34	3.5	.84	74	2.6
MIN	.58	1.3	1.0	.59	.89	1.7	3.5	2.2	.70	.14	1.5	.67
AC-FT	69	95	89	60	73	288	2170	1140	101	27	1010	108

CAL YR 1974 TOTAL 4293.16 MEAN 11.8 MAX 110 MIN .26 AC-FT 8520
WTR YR 1975 TOTAL 2638.67 MEAN 7.23 MAX 74 MIN .14 AC-FT 5230

PEAK DISCHARGE (BASE, 500 FT^3/S).--No peaks above base.

06482020 BIG SIOUX RIVER AT NORTH CLIFF AVENUE, AT SIOUX FALLS, S. DAK.

LOCATION.--Lat 43°34'01", long 96°42'39", in SW¼NW¼ sec.10, T.101 N., R.49 W., Minnehaha County, 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 mi^2 (14,940 km^2), approximately, of which about 1,970 mi^2 (5,100 km^2) is probably noncontributing.

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.

EXTREMES.--Current year: Maximum discharge, 1,200 ft^3/s (34.0 m^3/s) Aug. 1, gage height, 9.05 ft (2.758 m); minimum daily, 18 ft^3/s (0.51 m^3/s) Oct. 13, Jan. 12.

Period of record: Maximum discharge, 5,880 ft^3/s (167 m^3/s) Mar. 13, 1973, gage height, 16.38 ft (4.993 m); minimum daily, 2.1 ft^3/s (0.059 m^3/s) Jan. 14, 1972.

Flood of Apr. 10, 1969, reached a stage of 27.45 ft (8.367 m), discharge, 40,700 ft^3/s (1,150 m^3/s).

REMARKS.--Records good. Records of chemical analyses for the water year 1975 are published in Section 2 of this report.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 31 to Mar. 8, Apr. 26 to July 1, July 29 to Aug. 14)

4.7	14	6.0	215
4.9	28	7.0	480
5.2	56	8.0	790
5.5	110		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	25	30	20	19	21	37	527	85	67	432	38
2	22	24	32	23	20	20	36	512	86	60	120	40
3	23	20	32	22	23	22	37	465	93	53	88	39
4	23	23	32	21	22	23	41	414	120	48	104	39
5	21	25	32	19	21	24	46	381	91	46	85	46
6	19	25	31	22	21	24	50	354	84	44	61	36
7	23	24	29	22	22	25	55	328	80	43	54	33
8	23	25	23	23	21	24	78	299	80	44	47	34
9	21	25	25	24	19	23	91	286	119	43	42	34
10	21	23	27	25	22	26	272	278	93	42	38	33
11	24	27	29	20	22	27	325	274	98	39	42	37
12	21	27	29	18	22	27	311	263	111	34	40	33
13	18	27	29	21	22	27	377	255	101	34	39	31
14	21	25	27	22	21	28	434	252	127	37	37	29
15	22	25	27	23	20	29	363	235	123	35	34	32
16	21	26	27	22	19	32	571	217	118	34	32	32
17	22	27	27	23	21	36	564	197	116	34	49	31
18	23	31	26	21	22	36	626	186	125	34	66	31
19	23	31	27	19	22	37	616	178	113	31	42	31
20	20	30	27	20	22	41	545	175	127	29	38	28
21	25	31	26	22	23	40	551	161	125	32	80	26
22	23	31	24	20	21	38	617	150	123	32	400	29
23	22	31	26	21	20	42	710	156	85	34	98	29
24	23	25	25	22	22	39	746	137	76	33	66	28
25	24	29	21	21	23	35	673	123	91	33	57	27
26	24	33	24	19	23	36	616	114	94	30	53	28
27	21	33	24	22	23	42	617	112	99	29	47	28
28	22	30	22	22	24	42	643	110	79	33	45	28
29	25	31	21	22	------	41	616	108	72	34	46	29
30	24	31	25	22	------	38	576	90	69	34	41	30
31	26	------	24	22	------	39	------	86	------	34	38	------
TOTAL	692	820	830	665	602	984	12,040	7,423	3,003	1,189	2,461	969
MEAN	22.3	27.3	26.8	21.5	21.5	31.7	401	239	100	38.4	79.4	32.3
MAX	26	33	32	25	24	42	746	527	127	67	432	46
MIN	18	20	21	18	19	20	36	86	69	29	32	26
AC-FT	1,370	1,630	1,650	1,320	1,190	1,950	23,880	14,720	5,960	2,360	4,880	1,920

CAL YR 1974 TOTAL 33,737 MEAN 92.4 MAX 961 MIN 18 AC-FT 66,920
WTR YR 1975 TOTAL 31,678 MEAN 86.8 MAX 746 MIN 18 AC-FT 62,830

PEAK DISCHARGE (BASE, 1,000 FT^3/S).--Aug. 1 (1000) 1,200 ft^3/s (9.05 ft).

06482610 SPLIT ROCK CREEK AT CORSON, S. DAK.

LOCATION.--Lat 43°36'59", long 96°33'54", in NE¼NW¼ sec.26, T.102 N., R.48 W., Minnehaha County, 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 mi^2 (1,230 km^2), 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.

AVERAGE DISCHARGE.--10 years, 57.3 ft^3/s (1.623 m^3/s), 41,510 acre-ft/yr (51.2 hm^3/yr); median of yearly mean discharges, 46 ft^3/s (1.303 m^3/s), 33,300 acre-ft/yr (41.1 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 446 ft^3/s (12.6 m^3/s) Apr. 12; maximum gage height, 4.71 ft (1.436 m) Apr. 8 (backwater from ice); minimum daily discharge, 2.7 ft^3/s (0.076 m^3/s) Jan. 16, 17.

Period of record: Maximum discharge, 17,800 ft^3/s (504 m^3/s) Apr. 8, 1969, gage height, 15.00 ft (4.572 m); no flow at times most years.

Maximum stage since 1951, 15.41 ft (4.697 m) June 17, 1957 (discharge, 19,300 ft^3/s, 547 m^3/s).

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Dec. 7 to Apr. 10)

1.62	1.8	2.1	22	3.0	155
1.7	3.4	2.3	41	4.0	395
1.8	7.2	2.6	84	5.0	750
2.0	17				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	7.1	8.7	5.8	3.4	4.9	17	195	15	5.6	23	5.2
2	3.9	6.8	8.2	5.8	3.5	5.0	16	177	14	4.8	24	5.2
3	4.0	6.6	8.0	5.9	3.7	5.0	15	138	14	5.0	15	4.8
4	3.5	6.4	7.8	5.9	4.1	4.9	16	111	19	5.6	13	4.0
5	3.8	6.4	7.6	5.8	4.2	4.7	20	92	60	5.9	11	4.1
6	4.3	6.4	7.6	5.6	4.2	4.5	30	78	26	6.4	9.0	3.8
7	4.4	6.4	6.0	5.3	4.1	4.2	48	78	17	6.8	7.6	4.1
8	3.6	6.4	6.2	5.1	3.8	4.0	120	70	15	7.1	6.5	3.8
9	3.2	6.7	6.5	5.0	3.2	3.9	170	63	17	7.0	6.3	4.2
10	3.3	7.0	6.8	4.9	3.3	4.1	270	59	18	7.6	5.6	4.8
11	3.4	7.8	7.2	4.2	3.4	4.4	389	56	19	7.9	5.6	5.8
12	3.3	7.6	7.4	3.5	3.5	4.8	401	54	16	7.8	5.6	5.2
13	3.3	7.7	7.4	3.0	3.7	5.1	386	51	6.8	6.3	5.6	5.1
14	3.2	8.5	7.3	2.9	3.9	5.5	339	49	10	6.9	6.0	6.5
15	3.3	7.8	7.2	2.8	4.2	5.9	298	49	19	6.4	8.2	6.8
16	3.5	7.5	7.2	2.7	4.5	6.2	262	44	25	5.8	6.8	6.0
17	3.4	8.0	7.2	2.7	4.9	7.3	267	40	13	5.7	6.4	5.2
18	4.0	8.7	7.3	2.8	5.1	8.5	258	36	9.1	4.6	11	5.5
19	5.0	9.5	7.3	3.0	4.5	10	235	34	16	3.4	9.9	5.3
20	5.4	9.9	6.6	3.3	4.1	14	211	32	15	3.7	8.0	6.0
21	6.0	9.9	5.6	3.1	3.6	24	194	30	15	3.8	8.9	6.0
22	6.8	9.9	5.0	3.1	3.7	31	172	27	16	3.5	13	6.0
23	7.1	9.9	4.1	3.5	3.9	25	150	25	12	5.9	11	5.9
24	8.0	10	5.0	4.1	4.1	20	136	23	12	10	8.9	5.6
25	8.7	9.4	5.5	3.6	4.3	18	127	22	16	8.4	7.6	5.6
26	9.0	8.7	5.8	3.5	4.4	17	133	20	14	8.0	8.0	4.9
27	8.7	9.2	5.8	3.5	4.6	17	150	19	7.6	7.1	7.2	4.9
28	8.2	8.4	5.8	3.4	4.8	19	165	18	12	5.3	6.5	5.6
29	7.6	8.4	5.8	3.3	---	21	184	17	8.9	4.3	5.6	6.0
30	7.2	8.5	5.8	3.2	---	19	184	16	6.8	3.4	5.2	8.0
31	7.2	---	5.8	3.3	---	17	---	15	---	3.0	5.2	---
TOTAL	159.8	241.5	205.5	123.6	112.7	344.9	5363	1738	484.2	183.0	281.2	159.9
MEAN	5.15	8.05	6.63	3.99	4.03	11.1	179	56.1	16.1	5.90	9.07	5.33
MAX	9.0	10	8.7	5.9	5.1	31	401	195	60	10	24	8.0
MIN	3.2	6.4	4.1	2.7	3.2	3.9	15	15	6.8	3.0	5.2	3.8
AC-FT	317	479	408	245	224	684	10640	3450	960	363	558	317

CAL YR 1974 TOTAL 10376.0 MEAN 28.4 MAX 250 MIN 3.0 AC-FT 20580
WTR YR 1975 TOTAL 9397.3 MEAN 25.7 MAX 401 MIN 2.7 AC-FT 18640

PEAK DISCHARGE (BASE, 500 FT^3/S).--No peaks above base.

06483500 ROCK RIVER NEAR ROCK VALLEY, IOWA

LOCATION.--Lat 43°11'58", long 96°20'22", in NW¼NE¼ sec.25, T.97 N., R.47 W., Sioux County, on downstream side of bridge on U.S. Highway 18, 1.8 mi (2.9 km) west of Rock Valley, and at mile 15.9 (25.6 km).

DRAINAGE AREA.--1,600 mi^2 (4,144 km^2).

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

GAGE.--Water-stage recorder. Datum of gage is 1,211.81 ft (369.36 m) above mean sea level. Prior to Aug. 13, 1952, nonrecording gage, June 4, 1949, to Aug. 12, 1952, supplementary water-stage recorder operating above 6.2 ft (1.9 m) gage height, at same site and datum.

AVERAGE DISCHARGE.--27 years, 300 ft^3/s (8.50 m^3/s), 2.55 in/yr (65 mm/yr), 217,400 acre-ft/yr (268 hm^3/yr); median of yearly mean discharges, 250 ft^3/s (7.08 m^3/s), 2.1 in/yr (53 mm/yr), 181,000 acre-ft/yr (223 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 2,370 ft^3/s (67.1 m^3/s) Apr. 30, gage height, 8.71 ft (2.655 m); minimum daily, 6.2 ft^3/s (0.18 m^3/s) Feb. 10-20.

Period of record: Maximum discharge, 40,400 ft^3/s (1,140 m^3/s) Apr. 7, 1969, gage height, 17.32 ft (5.279 m); no flow Feb. 20-23, Feb. 27 to Mar. 8, 1959.

Flood in 1897 reached a stage of 17.0 ft (5.18 m), discharge not determined, from information by State Highway Commission.

REMARKS.--Records fair except those for winter period, which are poor.

REVISIONS.--WSP 1439: Drainage area.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	37	28	15	7.2	7.0	309	1270	180	363	52	190
2	23	37	24	15	7.3	7.0	318	1000	166	324	51	170
3	22	35	22	14	7.3	7.0	327	902	160	292	50	160
4	22	36	22	14	7.3	7.0	309	826	357	265	49	150
5	22	35	23	14	7.3	7.0	309	758	1350	242	48	141
6	22	35	24	14	7.3	7.0	499	690	889	222	47	135
7	22	37	23	14	7.2	7.0	1080	634	492	200	46	130
8	22	36	21	14	7.0	7.0	1690	576	399	184	46	125
9	22	37	21	14	6.5	7.0	2120	530	369	174	45	120
10	22	37	21	14	6.2	7.0	2000	502	357	156	45	115
11	22	38	22	12	6.2	7.0	1770	485	342	152	44	111
12	22	40	24	10	6.2	7.0	1670	488	414	147	43	111
13	21	41	25	9.5	6.2	7.0	1670	510	482	141	42	103
14	32	35	25	9.0	6.2	7.2	1560	516	426	136	42	98
15	46	35	24	8.5	6.2	7.4	1370	471	444	128	41	94
16	44	35	22	8.0	6.2	9.0	1370	435	516	125	40	88
17	41	35	20	7.6	6.2	15	1320	399	610	119	40	83
18	36	37	18	7.4	6.2	35	1350	372	778	112	39	79
19	34	39	17	7.2	6.2	60	1220	345	848	108	39	76
20	33	38	17	7.0	6.2	100	1050	318	835	106	123	74
21	33	37	17	7.0	6.3	250	880	292	862	102	196	73
22	32	37	16	7.0	6.4	700	774	275	1100	97	516	72
23	32	36	16	7.0	6.4	1240	742	260	1430	97	1640	71
24	32	37	16	7.0	6.6	1520	844	252	1190	103	2030	71
25	32	35	15	7.0	6.6	804	844	242	866	90	876	70
26	31	35	15	7.2	6.8	583	826	240	682	80	530	70
27	32	35	15	7.2	6.8	435	943	232	576	70	402	69
28	32	35	15	7.2	7.0	306	1120	222	510	62	321	68
29	34	33	15	7.2	---	309	1860	212	447	59	262	68
30	35	31	15	7.2	---	327	1960	202	399	56	230	67
31	37	---	15	7.2	---	330	---	192	---	54	210	---
TOTAL	915	1086	613	306.4	185.5	7128.6	34104	14648	18476	4566	8185	3052
MEAN	29.5	36.2	19.8	9.88	6.63	230	1137	473	616	147	264	102
MAX	46	41	28	15	7.3	1520	2120	1270	1430	363	2030	190
MIN	21	31	15	7.0	6.2	7.0	309	192	160	54	39	67
AC-FT	1810	2150	1220	608	368	14140	67650	29050	36650	9060	16230	6050

CAL YR 1974 TOTAL 42089.0 MEAN 115 MAX 948 MIN 15 AC-FT 83480
WTR YR 1975 TOTAL 93265.5 MEAN 256 MAX 2120 MIN 6.2 AC-FT 185000

PEAK DISCHARGE (BASE), 3,000 FT^3/S).--No peaks above base.

06485500 BIG SIOUX RIVER AT AKRON, IOWA

LOCATION.--Lat 42°49'42", long 96°33'45", in NW¼SW¼ sec.31, T.93 N., R.48 W., Plymouth County, Iowa, 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 mi^2 (23,390 km^2), approximately, of which about 1,970 mi^2 (5,100 km^2) is probably noncontributing.

PERIOD OF RECORD.--October 1928 to current year.

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.

AVERAGE DISCHARGE.--47 years, 842 ft^3/s (23.85 m^3/s), 610,000 acre-ft/yr (752 hm^3/yr); median of yearly mean discharges, 730 ft^3/s (20.7 m^3/s), 529,000 acre-ft/yr (652 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 2,920 ft^3/s (82.7 m^3/s) May 1, gage height, 9.76 ft (2.975 m); minimum daily discharge, 26 ft^3/s (0.74 m^3/s) Jan. 14.

Period of record: Maximum discharge, 80,800 ft^3/s (2,290 m^3/s) Apr. 9, 1969, gage height, 22.99 ft (7.007 m); minimum daily, 7 ft^3/s (0.20 m^3/s) Feb. 26-28, 1936.

REMARKS.--Records good except those for the winter months, which are poor. Records of chemical analyses and water temperatures for the water year 1975 are published in Section 2 of this report.

REVISIONS (WATER YEARS).--WSP 1309: 1929(M), 1931-33(M), 1936(M), 1938(M), 1940(M). WSP 1389: Drainage area.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 9-10; stage-discharge relation affected by ice Nov. 13-15, Nov. 28 to Apr. 5)

2.2	63	6.0	1,140
2.6	116	8.0	2,040
3.3	260	10.0	3,050
4.5	615		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	106	72	68	43	62	330	2,660	415	593	138	359
2	76	104	69	66	50	58	280	2,110	388	536	205	319
3	78	105	68	64	56	59	330	1,860	368	488	216	291
4	80	103	74	63	55	60	400	1,720	489	449	368	264
5	82	103	80	61	54	61	480	1,590	1,030	410	300	283
6	85	101	80	60	53	63	536	1,440	1,410	378	234	271
7	83	99	86	59	52	64	657	1,310	1,090	349	205	240
8	85	98	83	57	50	65	1,150	1,220	752	325	193	227
9	87	100	84	53	50	66	1,860	1,130	633	299	173	218
10	86	104	86	47	51	67	2,510	1,050	577	283	158	207
11	85	102	90	37	52	66	2,430	1,010	554	267	153	192
12	85	101	93	32	54	66	2,310	986	566	254	145	189
13	87	94	86	28	55	65	2,340	974	577	246	142	193
14	90	86	86	26	56	63	2,410	969	640	238	133	183
15	87	74	84	27	57	60	2,350	962	658	223	128	176
16	104	98	82	27	56	63	2,220	913	648	208	131	172
17	116	101	78	27	56	67	2,260	861	706	198	124	170
18	113	105	77	28	55	75	2,280	804	837	189	115	172
19	109	111	76	28	53	90	2,220	762	978	183	115	174
20	105	112	77	29	50	120	2,090	707	1,060	174	116	166
21	98	108	79	30	52	180	1,930	668	1,080	166	154	166
22	99	111	80	31	55	250	1,720	637	1,340	162	245	166
23	99	114	79	32	57	350	1,590	608	1,450	168	494	159
24	96	109	78	36	59	500	1,590	578	1,610	176	1,540	151
25	94	92	76	45	60	650	1,780	555	1,430	162	2,060	147
26	94	91	75	45	62	780	1,780	542	1,110	161	1,230	140
27	94	86	74	44	63	500	1,780	518	923	149	772	140
28	94	84	73	43	64	390	1,850	499	821	142	587	138
29	99	80	71	41	------	330	2,060	484	738	134	777	138
30	103	75	70	40	------	350	2,610	458	670	135	490	138
31	112	------	69	38	------	390	------	437	------	131	418	------
TOTAL	2,881	2,957	2,435	1,312	1,530	6,030	50,133	31,022	25,548	7,976	12,259	5,949
MEAN	92.9	98.6	78.5	42.3	54.6	195	1,671	1,001	852	257	395	198
MAX	116	114	93	68	64	780	2,610	2,660	1,610	593	2,060	359
MIN	76	74	68	26	43	58	280	437	368	131	115	138
AC-FT	5,710	5,870	4,830	2,600	3,030	11,960	99,440	61,530	50,670	15,820	24,320	11,800

CAL YR 1974 TOTAL 107,517 MEAN 295 MAX 1,830 MIN 68 AC-FT 213,300
WTR YR 1975 TOTAL 150,032 MEAN 411 MAX 2,660 MIN 26 AC-FT 297,600

PEAK DISCHARGE (BASE, 3,500 FT^3/S).--No peaks above base.

06486000 MISSOURI RIVER AT SIOUX CITY, IOWA

LOCATION.--Lat 42°29'10", long 96°24'47", in NW¼SE¼ sec.16, T.29 N., R.9 E., sixth principal meridian, Dakota County, Nebraska, on right bank on upstream side of bridge on U.S. Highway 77 at South Sioux City, Nebraska, 2.0 mi (3.2 km) downstream from Big Sioux River, and at mile 732.3 (1,178.3 km).

DRAINAGE AREA.--314,600 mi^2 (814,800 km^2), approximately.

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

GAGE.--Water-stage recorder. Datum of gage is 1,056.98 ft (322.17 m) above mean sea level. Sept. 2, 1878, to Dec. 31, 1905, nonrecording gages at various locations within 1.7 mi (2.7 km) of present site and at various datums. Jan. 1, 1906, to Feb. 14, 1935, nonrecording gage, and Feb. 15, 1935, to Sept. 30, 1969, water-stage recorder at present site at datum 19.98 ft (6.09 m) higher, and Oct. 1, 1969, to Sept. 30, 1970, at datum 20.00 ft (6.10 m) higher.

AVERAGE DISCHARGE.--78 years, 31,910 ft^3/s (904 m^3/s), 23,120,000 acre-ft/yr (28,500 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 64,900 ft^3/s (1,840 m^3/s) Sept. 6, gage height, 26.41 ft (8.050 m); maximum gage height, 26.66 ft (8.126 m) Aug. 26; minimum daily discharge, 8,000 ft^3/s (227 m^3/s) Jan. 12; minimum gage height not determined, occurred during period of no gage-height record Jan. 12.

Period of record: Maximum discharge, 441,000 ft^3/s (12,500 m^3/s) Apr. 14, 1952, gage height, 24.28 ft (7.401 m), datum then in use; minimum, 2,500 ft^3/s (70.8 m^3/s) Dec. 29, 1941; minimum gage height, -6.60 ft (-2.012 m), datum then in use, Dec. 14, 1968, result of freezeup.

REMARKS.--Records good except those for winter period, which are poor. Flow partly regulated by upstream main-stem reservoirs.

REVISIONS (WATER YEARS).--WSP 716: 1929-30. WSP 876: Drainage area.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35400	34000	19500	18500	17800	18000	27600	30300	36200	43600	62600	63600
2	35900	32800	19200	18500	17800	17900	26800	31600	36700	43300	63600	63900
3	36200	32300	19000	18800	18500	17800	29000	31600	37300	43600	62900	63900
4	36200	32300	18700	18400	18500	17800	28800	29800	37000	45800	62600	63600
5	35900	33000	18700	18500	16500	17900	29800	30000	37300	48600	62900	64200
6	36400	33600	18800	18200	14000	18700	30000	29800	37300	49800	62600	63900
7	36400	33600	18700	17900	15000	18400	30300	30800	36700	49800	62600	63900
8	36200	33300	17800	18500	17500	17900	31000	30600	36400	49800	62600	63200
9	36200	33300	17500	18200	17500	17900	31300	30000	37300	50100	62300	63200
10	36400	33300	19000	18300	17500	17900	30600	30000	38900	49800	63600	63600
11	37300	32800	18700	11600	18000	18000	29800	30600	42500	50100	63200	63900
12	37600	33000	19200	8000	19000	18200	29000	30300	42000	49800	63600	63200
13	37300	33000	18900	11500	18500	18300	29300	30000	41100	49200	63200	62900
14	37600	33800	18900	17000	18000	17200	30800	31000	41700	49200	62900	62900
15	35400	33000	19000	19000	18000	18000	30300	31300	42800	49200	62900	62900
16	35400	33000	18800	20000	18500	18700	30000	33600	42200	49800	63600	63200
17	34800	33300	18000	20000	18500	19500	30000	35100	42800	52200	63200	63200
18	34600	33600	18900	20000	18500	19900	31000	35100	44200	54900	63200	63900
19	34800	33600	19300	20000	18500	18900	31000	34800	42500	56400	62900	63600
20	34600	33600	19400	19500	18500	18700	30800	34300	40300	57000	62600	63200
21	34800	33300	19200	19000	18500	18500	31000	34600	39500	57600	62600	62600
22	35100	33300	19200	18500	18500	18900	31300	34600	39200	58800	63200	62600
23	34600	33600	19400	18500	18500	21000	31000	35400	38600	60300	63900	62900
24	34600	32600	18500	18500	18500	23400	29800	37800	38600	60600	62900	62900
25	34300	29800	18200	19000	18000	20500	28800	37300	38400	61000	63200	62900
26	33800	27800	19000	19000	18000	21600	30000	37300	38100	62000	63600	63200
27	33600	25400	19700	18500	17900	25000	30600	37000	39200	62300	63200	63200
28	33800	23200	19000	18500	18000	27100	30600	37600	43000	62300	63200	63200
29	34600	21100	18900	18000	---	25700	30000	36700	45000	63200	63600	62600
30	34600	19900	18700	18000	---	25700	28600	35600	44400	62600	63600	62600
31	34300	---	18700	18000	---	27800	---	35900	---	62600	63200	---
TOTAL	1098700	944200	584500	553900	500500	620800	898900	1030400	1197200	1665300	1955800	1898600
MEAN	35440	31470	18850	17870	17880	20030	29960	33240	39910	53720	63090	63290
MAX	37600	34000	19700	20000	19000	27800	31300	37800	45000	63200	63900	64200
MIN	33600	19900	17500	8000	14000	17200	26800	29800	36200	43300	62300	62600
AC-FT	2179000	1873000	1159000	1099000	992700	1231000	1783000	2044000	2375000	3303000	3879000	3766000

CAL YR 1974 TOTAL 10564500 MEAN 28940 MAX 40000 MIN 13000 AC-FT 20950000
WTR YR 1975 TOTAL 12948800 MEAN 35480 MAX 64200 MIN 8000 AC-FT 25680000

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 discharge 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, and discharge measurements may have been made for purposes of establishing the stage-discharge relation, but these are not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water year 1975

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
Minnesota River basin							
05289950	Little Minnesota River tributary at Sisseton, S. Dak.	Lat 45°39'38", long 97°04'21", in NW¼ sec.32, T.126 N., R.51 W., Roberts County, at culvert on State Highway 10, 0.6 mile (1.0 km) west of Sisseton.	4.21	1970-75	6-21-75	5.10	44
05290300	North Fork Whetstone River tributary near Wilmot, S. Dak.	Lat 45°26'02", long 96°57'33", in SE¼ sec.18, T.123 N., R.50 W., Roberts County, at culvert on county highway, 6.0 miles (9.7 km) northwest of Wilmot.	.96	1970-75	5- 7-75	[a]3.56	[b]15
05292600	North Fork Yellow Bank River tributary near Stockholm, S. Dak.	Lat 45°06'28", long 96°49'19", in SE¼ SE¼SE¼ sec.16, T.119 N., R.50 W., Grant County, at culvert on State Highway 20, 1.0 mile (1.6 km) northwest of Stockholm (revised).	8.15	1970-75	4-15-75	[a]4.33	[b]20
Spring Creek basin							
06354845	Spring Creek tributary near Greenway, S. Dak.	Lat 45°54'45", long 99°36'48", in SW¼ sec.12, T.128 N., R.73 W., McPherson County, at culvert on State Highway 47, 4.8 miles (7.7 km) east of Greenway.	[c]3.0	1970-75	4-29-75	2.87	2.2
Grand River basin							
06355400	North Fork Grand River tributary near Lodgepole, S. Dak.	Lat 45°55'45", long 102°39'04", in NW¼ sec.28, T.23 N., R.12 E., Perkins County, at culvert on county highway, 9.0 miles (14.5 km) north of Lodgepole.	[c]3.0	1970-75	4-28-75	5.00	(†)
06356150	North Jack Creek near Ludlow, S. Dak.	Lat 45°47'15", long 103°23'43", in SW¼NW¼NW¼ sec.16, T.21 N., R.6 E., Harding County, at culvert on U.S. Highway 85, 3.4 miles (5.5 km) southwest of Ludlow.	1.69	1970-75	4-28-75	3.82	19
06356600	South Fork Grand River tributary near Bison, S. Dak.	Lat 45°35'54", long 102°39'28", in NE¼ sec.21, T.19 N., R.12 E., Perkins County, at culvert on county highway, 10 miles (16 km) northwest of Bison.	[c]1.0	1970-75	4-28-75 8-23-74	4.10 3.55	[d]30 [d]14
Deadman Creek basin							
06358520	Deadman Creek tributary near Mobridge, S. Dak.	Lat 45°28'12", long 100°29'46", in NW¼ sec.1, T.17 N., R.29 E., Dewey County, at culvert on county highway, 5.5 miles (8.8 km) southwest of Mobridge.	.28	1956-75	5- 6-75	7.62	77
Blue Blanket Creek basin							
06358540	Blue Blanket Creek tributary near Glenham, S. Dak.	Lat 45°32'12", long 100°12'01", in NW¼NW¼NW¼ sec.30, T.124 N., R.77 W., Walworth County, at culvert on U.S. Highway 12, 3.5 miles (5.6 km) east of Glenham.	.62	1970-75	6-21-75	3.55	10

Annual maximum discharge at crest-stage partial-record stations during water year 1975.--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Moreau River basin					
06358550	Battle Creek tributary near Castle Rock, S. Dak.	Lat 45°02'57", long 103°32'56", in NE¼ sec.31, T.13 N., R.5 E., Butte County, at culvert on U.S. Highway 85, 8.7 miles (14.0 km) northwest of Castle Rock.	[c]1.0	1969-75	5- 9-75	13.70	580
06358600	South Fork Moreau River tributary near Redig, S. Dak.	Lat 45°11'45", long 103°34'09", in SE¼ sec.1, T.14 N., R.4 E., Butte County, at culvert on former U.S. Highway 85, 5 miles (8 km) south of Redig, 26.2 miles (42.2 km) south of Buffalo.	11.3	1956, 1958-75	4-28-75	2.34	60
06359300	Deep Creek tributary near Maurine, S. Dak.	Lat 45°01'34", long 102°32'29", in SW¼SE¼ sec.4, T.12 N., R.13 E., Meade County, at culvert on U.S. Highway 212, 2.6 miles (4.2 km) east of Maurine.	1.26	1970-75	4-28-75	4.46	(†)
06359700	Thunder Butte Creek tributary near Meadow, S. Dak.	Lat 45°26'39", long 102°05'21", in SE¼ sec.12, T.17 N., R.16 E., Perkins County, 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.	[c]3.0	1970-75	4-28-75	5.90	78
06359800	Thunder Butte Creek tributary near Glad Valley, S. Dak.	Lat 45°26'39", long 102°01'01", in SW¼ sec.10, T.17 N., R.17 E., Perkins County, at culvert on State Highway 20, 12.2 miles (19.6 km) west of Glad Valley.	[c]8.0	1970-75	4-28-75	8.20	(†)
06359850	Elm Creek tributary near Dupree, S. Dak.	Lat 45°03'12", long 101°38'39", in SW¼ sec.26, T.13 N., R.20 E., Ziebach County, at culvert on U.S. Highway 212, 1.8 miles (2.9 km) west of Dupree.	[c]5.0	1970-75	4-28-75	6.89	494
06360350	Little Moreau River tributary near Firesteel, S. Dak.	Lat 45°24'16", long 101°13'30", in NE¼SE¼ sec.25, T.17 N., R.23 E., Dewey County, at culvert on State Highway 63, 3.5 miles (5.6 km) southeast of Firesteel.	[c]2.75	1970-75	4-28-75	[a]5.45	[b]75
		Swan Creek basin					
06361020	Swan Lake Creek tributary near Bowdle, S. Dak.	Lat 45°26'57", long 99°44'34", in SW¼ sec.23, T.123 N., R.74 W., Walworth County, at culvert on U.S. Highway 12, 3.7 miles (6.0 km) west of Bowdle.	[c]10.0	1970-75	5-19-75	3.33	12
		Cheyenne River basin					
06396200	Fiddle Creek near Edgemont, S. Dak.	Lat 43°18'16", long 103°59'46", in SE¼ sec.33, T.8 S., R.1 E., Fall River County, at culvert on U.S. Highway 18 and 85A, 9 miles (14 km) west of Edgemont.	1.97	1956-75	3-27-75	[a]2.95	[b]20
06396300	Cottonwood Creek tributary near Edgemont, S. Dak.	Lat 43°17'35", long 103°52'20", in SW¼ sec.3, T.9 S., R.2 E., Fall River County, at culvert on U.S. Highway 18 and 85A, 2.5 miles (4.0 km) west of Edgemont.	.20	1956-75	7- 9-75	3.36	(†)
06396350	Red Canyon Creek tributary near Pringle, S. Dak.	Lat 43°32'22", long 103°39'20", in SW¼ sec.9, T.6 S., R.4 E., Custer County, 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	1970-75	4- 8-75	[a]3.96	[b]7.0
06399300	Hat Creek tributary near Ardmore, S. Dak.	Lat 43°05'42", long 103°40'25", in NW¼ sec.16, T.11 S., R.4 E., Fall River County, at culvert on State Highway 71, 5.0 miles (8.0 km) north of Ardmore.	3.74	1956-75	4-28-75	4.02	[e]5.0

Annual maximum discharge at crest-stage partial-record stations during water year 1975.--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Cheyenne River basin - Continued					
06399700	Pine Creek near Ardmore, S. Dak.	Lat 43°11'14", long 103°38'24", in NW¼ sec.15, T.10 S., R.4 E., Fall River County, at bridge on State Highway 71, 11.5 miles (18.5 km) north of Ardmore.	5.47	1956-75	6-18-75	5.12	235
06400900	Horsehead Creek tributary near Smithwick, S. Dak.	Lat 43°17'16", long 103°19'08", in NW¼ sec.8, T.9 S., R.7 E., Fall River County, 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	1969-75	1975	(f)	[e]6.7
06402100	Fall River tributary at Hot Springs, S. Dak.	Lat 43°24'58", long 103°29'18", in NW¼NE¼ sec.26, T.7 S., R.5 E., Fall River County, at culvert on State Highway 71, 0.5 mile (0.8 km) south of Hot Springs.	3.81	1970-75	6-19-75	3.48	19
06403800	Battle Creek tributary near Keystone, S. Dak.	Lat 43°55'28", long 103°27'44", in NW¼ NE¼NE¼ sec.36, T.1 S., R.5 E., Pennington County, at culvert on U.S. Highway 16, 2.8 miles (4.5 km) northwest of Keystone.	.88	1956-75	4- 8-75	4.25	2.2
06406100	Battle Creek tributary near Hermosa, S. Dak.	Lat 43°50'10", long 103°09'43", in SE¼NE¼ sec.33, T.2 S., R.8 E., Custer County, at culvert on county highway, 1.3 miles (2.1 km) east of Hermosa.	3.49	1970-75	1975	(f)	[e]10
06406800	Newton Fork near Hill City, S. Dak.	Lat 43°58'03", long 103°38'24", in NE¼NE¼ sec.16, T.1 S., R.4 E., Pennington County, at culvert on Forest Service Road 17, 3.9 miles (6.3 km) northwest of Hill City.	8.17	1969-75	4-28-75	3.51	11
06406900	Palmer Creek near Hill City, S. Dak.	Lat 43°56'12", long 103°30'36", in NE¼SE¼NW¼ sec.27, T.1 S., R.5 E., Pennington County, at culvert on U.S. Highway 16, 3.0 miles (4.8 km) east of Hill City.	8.24	1956-75	4- 8-75	[a]7.02	[b]100
06408850	Silver Creek near Rochford, S. Dak.	Lat 44°07'24", long 103°41'53", in NE¼NE¼ sec.24, T.2 N., R.3 E., Pennington County, 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	1969-75	4-28-75	3.60	5.9
06408900	Heeley Creek near Hill City, S. Dak.	Lat 43°58'57", long 103°50'02", in NW¼NW¼ sec.12, T.1 S., R.2 E., Pennington County, 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	1969-75	4- 8-75	[a]5.88	[b]20
06421750	Rapid Creek tributary near Farmingdale, S. Dak.	Lat 43°56'30", long 102°48'43", in SE¼SW¼ sec.21, T.1 S., R.11 E., Pennington County, at culvert on State Highway 40, 3.8 miles (6.1 km) southeast of Farmingdale.	1.50	1970-75	4-28-75	[a]5.99	[b]10
06423400	Bull Creek tributary near Wall, S. Dak.	Lat 43°53'55", long 102°14'18", in NW¼SW¼ sec.5, T.2 S., R.16 E., Pennington County, at culvert on U.S. Highway 16A, 6.2 miles (10.0 km) south of Wall.	.39	1970-75	4-28-75	[a]4.64	[b]20
06434800	Owl Creek tributary near Belle Fourche, S. Dak.	Lat 44°49'32", long 103°51'06", in NE¼SE¼ sec.15 (corrected), T.10 N., R.2 E., Butte County, at culvert on U.S. Highway 85, 10.2 miles (16.4 km) north of Belle Fourche.	3.06	1970-75	6-26-75	2.91	47
06437100	Boulder Creek near Deadwood, S. Dak.	Lat 44°23'28", long 103°39'38", in NE¼SW¼ sec.17, T.5 N., R.4 E., Lawrence County, at culvert on U.S. Highway 14A, 3.5 miles (5.6 km) east of Deadwood.	1.69	1956-75	5- 8-75	4.85	32

Annual maximum discharge at crest-stage partial-record stations during water year 1975.--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Cheyenne River basin - Continued					
06439050	Cherry Creek tributary near Avance, S. Dak.	Lat 44°48'33", long 102°03'18", in SW¼ sec.21, T.10 N., R.17 E., Meade County, at culvert on State Highway 73, 12.5 miles (20.1 km) southeast of Avance.	0.60	1956-75	4-28-75	7.19	215
06439080	Cherry Creek tributary No. 3 near Avance, S. Dak.	Lat 44°51'03", long 102°03'36", in SW¼ sec.3, T.10 N., R.17 E., Meade County, at bridge on State Highway 73, 11 miles (17.7 km) southeast of Avance.	4.58	1956-75	4-12-74 5- 9-75	3.58 5.19	[d]140 780
06439100	Beaver Creek near Faith, S. Dak.	Lat 44°56'21", long 102°02'37", in SW¼ sec.3, T.11 N., R.17 E., Meade County, at bridge on State Highway 73, 6 miles (10 km) south of Faith.	37.1	1956-75	5- 9-75	8.22	400
06439400	Plum Creek tributary near Milesville, S. Dak.	Lat 44°21'34", long 101°25'42", in S½ sec.26, T.5 N., R.22 E., Haakon County, at culvert on State Highway 34, 14.5 miles (23.3 km) southeast of Milesville.	[c].5	1970-75	1975	(g)	(†)
		Bad River basin					
06440700	Brady Creek tributary near Philip, S. Dak.	Lat 43°55'14", long 101°39'40", in NE¼NE¼ sec.36, T.1 S., R.20 E., Jackson County, at culvert on State Highway 73, 8.1 miles (13.0 km) south of Philip.	4.84	1970-75	4- 8-75	[a]6.71	[b]100
06441200	Powell Creek tributary near Fort Pierre, S. Dak.	Lat 44°22'39", long 100°35'16", in NW¼SW¼ sec.23, T.5 N., R.29 E., Stanley County, at culvert on U.S. Highway 14, 10.2 miles (16.4 km) west of Fort Pierre.	.40	1970-75	5-22-75	3.47	13
		Hilgers Gulch basin					
06441530	Hilgers Gulch tributary near Pierre, S. Dak.	Lat 44°23'52", long 100°18'57", in SE¼SW¼SE¼ sec.22, T.111 N., R.79 W., Hughes County, 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	1968-75	9-16-75	6.09	145
06441580	Hilgers Gulch at Pierre, S. Dak.	Lat 44°22'10", long 100°20'30", in SE¼SW¼ sec.33, T.111 N., R.79 W., Hughes County, on right bank at culvert on Church Street, 0.7 mile (1.1 km) upstream from mouth, in city of Pierre.	6.49	1967-75	9-16-75	10.11	596
		Mush Creek basin					
06441650	Mush Creek near Pierre, S. Dak.	Lat 44°20'13", long 100°12'42", in NE¼ sec.16, T.110 N., R.78 W., Hughes County, at bridge on State Highway 34, 7.5 miles (12.1 km) east of Pierre.	14.6	1956-75	8-28-75	4.66	920
		Unnamed Missouri River tributary					
06442050	Missouri River tributary near DeGrey, S. Dak.	Lat 44°17'45", long 99°58'58", in SW¼ sec.28, T.110 N., R.76 W., Hughes County, at culvert on State Highway 34, 3.2 miles (5.1 km) northwest of DeGrey.	1.64	1956-75	4-28-75	2.70	170
		Medicine Creek basin					
06442350	North Fork Medicine Creek near Vivian, S. Dak.	Lat 43°57'06", long 100°19'25", in SW¼ sec.28, T.106 N., R.79 W., Lyman County, at bridge on U.S. Highway 83, 2.5 miles (4.0 km) northwest of Vivian.	45.9	1956-75	4-29-75	3.41	42

Annual maximum discharge at crest-stage partial-record stations during water year 1975.--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Medicine Creek basin - Continued					
06442400	Medicine Creek tributary No. 2 near Vivian, S. Dak.	Lat 44°02'03", long 100°19'28", in NE¼ sec.32, T.107 N., R.79 W., Lyman County, at culvert on U.S. Highway 83, 8 miles (13 km) northwest of Vivian.	8.62	1956-75	7-29-75	3.60	55
		Crow Creek basin					
06442850	Elm Creek tributary near Ree Heights, S. Dak.	Lat 44°25'05", long 99°12'17", in NW¼SW¼ sec.13, T.111 N., R.70 W., Hand County, at culvert on county highway, 6.5 miles (10.5 km) south of Ree Heights.	.70	1969-75	6-20-75	2.68	5.7
06442960	Smith Creek tributary near Gann Valley, S. Dak.	Lat 44°01'34", long 98°43'41", in NE¼SE¼ sec.34, T.107 N., R.66 W., Jerauld County, at culvert on county highway, 8.7 miles (14.0 km) southwest of Wessington Springs and 13.0 miles (20.9 km) east of Gann Valley.	5.85	1972-75	1975	(f)	[e]8.0
		White River basin					
06445990	South Fork Blacktail Creek tributary near Oelrichs, S. Dak.	Lat 43°11'18", long 103°08'20", in NW¼ sec.14, T.10 S., R.8 E., Fall River County, at culvert on U.S. Highway 18, 4.2 miles (6.8 km) east of Oelrichs.	[c]3.60	1969-75	1975	(f)	(†)
06446250	Porcupine Creek tributary near Rockyford, S. Dak.	Lat 43°26'05", long 102°25'45", in SE¼SE¼ sec.17, T.40 N., R.43 W., Shannon County, at culvert on county road, 5 miles (8 km) southeast of village of Rockyford.	1.65	1968, 1970-75	6-16-75	7.00	268
06446300	Big Hollow Creek tributary near Scenic, S. Dak.	Lat 43°42'25", long 102°31'15", in SE¼SE¼ sec.11, T.4 S., R.13 E., Pennington County, at culvert on county road, 4.9 miles (7.9 km) south of Scenic.	2.71	1968, 1970-75	6-18-75	11.92	696
06446400	Cain Creek tributary at Imlay, S. Dak.	Lat 43°42'59", long 102°23'23", in SE¼NW¼ sec.12, T.4 S., R.14 E., Pennington County, at bridge on State Highway 40, 0.5 mile (0.8 km) east of Imlay.	14.0	1956-75	6-18-75	6.13	710
06446550	White River tributary near Interior, S. Dak.	Lat 43°44'51", long 101°56'50", in SE¼ sec.27, T.3 S., R.18 E., Jackson County, in Badlands National Monument, at culvert on U.S. Highway 16A, 2.3 miles (3.7 km) northeast of Interior.	.14	1956-75	7-31-75	6.05	250
06446800	Cottonwood Creek near Wanblee, S. Dak.	Lat 43°34'35", long 101°32'15", in NW¼NW¼ sec.31, T.42 N., R.35 W., Washabaugh County, at culvert on State Highway 40, 6.2 miles (10.0 km) east of Wanblee.	[c]1.7	1971-75	7-31-75	4.87	61
06447200	Black Pipe Creek tributary near Norris, S. Dak.	Lat 43°27'42", long 101°08'05", in NW¼NW¼ sec.8, T.40 N., R.32 W., Mellette County, at culvert on State Highway 63, 3.2 miles (5.1 km) east of Norris.	4.19	1971-75	4-28-75	4.95	54
06447490	Little White River tributary near Martin, S. Dak.	Lat 43°10'20", long 101°41'02", in SE¼SW¼ sec.15, T.37 N., R.37 W., Bennett County, at culvert on U.S. Highway 18, 2.3 miles (3.7 km) east of Martin.	[c]8.9	1971-75	1975	(f)	[e]20
06449700	Little Oak Creek near Mission, S. Dak.	Lat 43°19'45", long 100°42'33", in NW¼ sec.25, T.39 N., R.29 W., Todd County, at culvert on U.S. Highway 83, 3.2 miles (5.1 km) northwest of Mission.	2.62	1956-75	1975	(f)	(†)

Annual maximum discharge at crest-stage partial-record stations during water year 1975.--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		White River basin - Continued					
06451750	Cottonwood Creek tributary near Winner, S. Dak.	Lat 43°23'11", long 100°01'13", in NW¼ sec.24, T.99 N., R.78 W., Tripp County, at culvert on U.S. Highway 18, 7.5 miles (12.1 km) west of Winner.	[c]4.0	1971-75	6-21-75	4.22	127
		Fivemile Creek basin					
06452250	Fivemile Creek tributary near Iona, S. Dak.	Lat 43°29'23", long 99°26'08", in SE¼ sec.11, T.99 N., R.73 W., Gregory County, at culvert on State Highway 47, 3.8 miles (6.1 km) south of Iona.	2.35	1970-75	4- -75	(f)	[be]10
		Choteau Creek basin					
06453150	Choteau Creek tributary near Tripp, S. Dak.	Lat 43°14'20", long 98°02'35", in NE¼NW¼ sec.10, T.97 N., R.61 W., Hutchinson County, at culvert on U.S. Highway 18, 3.7 miles (6.0 km) west of Tripp.	[c].3	1970-75	8-22-75	5.37	103
06453250	Choteau Creek tributary near Wagner, S. Dak.	Lat 43°04'54", long 98°19'04", in NE¼NW¼ sec.5, T.95 N., R.63 W., Charles Mix County, at culvert on State Highway 46, 1.1 miles (1.8 km) west of Wagner.	15.6	1970-75	8-22-75	4.08	56
		Niobrara River basin					
06463950	Rock Creek tributary near Olsonville, S. Dak.	Lat 43°01'22", long 100°35'21", in NE¼SE¼ sec.3, T.35 N., R.28 W., Todd County, at culvert on U.S. Highway 83, 7.5 miles (12.1 km) south of Olsonville.	[c]8.1	1970-75	4- -75	[a]4.39	(†)
		James River basin					
06471050	Elm River tributary near Leola, S. Dak.	Lat 45°50'40", long 98°46'03", in NE¼SE¼ sec.3, T.127 N., R.66 W., McPherson County, at culvert on county highway, 12.2 miles (19.6 km) northeast of Leola.	14.7	1956-75	6-21-75	7.78	330
06471400	Willow Creek tributary near Leola, S. Dak.	Lat 45°44'10", long 98°45'45", in SW¼ sec.11, T.126 N., R.66 W., McPherson County, at culvert on former State Highway 10, 8.5 miles (13.7 km) northeast of Leola.	3.74	1956-75	6-21-75	2.91	70
06471450	Willow Creek tributary near Barnard, S. Dak.	Lat 45°44'12", long 98°37'42", in SW¼ sec.11, T.126 N., R.65 W., Brown County, at culvert on former State Highway 10, 6.5 miles (10.5 km) west of Barnard.	.18	1956-75	4- 8-75	[a]6.49	[b]25
06471750	Foot Creek tributary near Leola, S. Dak.	Lat 45°41'01", long 98°55'55", in SE¼ sec.32, T.126 N., R.67 W., McPherson County, at culvert on State Highway 45, 2.5 miles (4.0 km) south of Leola.	[c]4.5	1971-75	6-21-75	4.76	88
06472200	Mud Creek tributary near Groton, S. Dak.	Lat 45°26'37", long 98°02'22", in SW¼ sec.22, T.123 N., R.60 W., Brown County, at culvert on U.S. Highway 12, 3.2 miles (5.1 km) east of Groton.	41.0	1960-69, 1974-75	6-21-75	1.73	[e]5.0
06472250	Mud Creek tributary No. 2 near Groton, S. Dak.	Lat 45°26'36", long 98°02'52", in SE¼ sec.21, T.123 N., R.60 W., Brown County, at culvert on U.S. Highway 12, 2.7 miles (4.3 km) east of Groton.	60.0	1960-75	6-21-75	2.29	8.1
06473300	Preachers Run tributary at Ipswich, S. Dak.	Lat 45°27'08", long 99°01'45", in SE¼ sec.21, T.123 N., R.68 W., Edmunds County, at culvert on county highway, 0.3 mile (0.5 km) north of U.S. Highway 12, at Ipswich.	[c]5.0	1971-75	6-19-75	2.91	10

Annual maximum discharge at crest-stage partial-record stations during water year 1975.--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		James River basin - Continued					
06473350	South Fork Snake Creek tributary near Seneca, S. Dak.	Lat 45°03'00", long 99°23'36", in SE¼NE¼ sec.9, T.118 N., R.71 W., Faulk County, at culvert on U.S. Highway 212, 5.3 miles (8.5 km) east of Seneca.	[c]7.0	1971-75	6-19-75	2.84	12
06473400	North Fork Snake Creek tributary near Wecota, S. Dak.	Lat 45°09'26", long 99°07'26", in NE¼NE¼ sec.3, T.119 N., R.69 W., Faulk County, at culvert on county highway, 1.1 miles (1.8 km) south of Wecota.	2.69	1971-75	6-20-75	4.70	(†)
06473820	Shaefer Creek near Orient, S. Dak.	Lat 44°46'46", long 99°02'39", in NW¼NW¼ sec.17, T.115 N., R.68 W., Hand County, on downstream side of bridge on county highway, 8.5 miles (13.7 km) southeast of Orient.	45.1	1956-75	4-17-75	[a]2.60	[b]50
06473850	Shaefer Creek tributary near Orient, S. Dak.	Lat 44°43'49", long 98°59'17", in SE¼NE¼ sec.34, T.115 N., R.68 W., Hand County, at culvert on State Highway 45, 13 miles (21 km) southeast of Orient.	6.08	1956-75	6-21-75	3.32	12
06473880	Shaefer Creek tributary near Miller, S. Dak.	Lat 44°42'20", long 98°59'17", in NE¼ sec.10, T.114 N., R.68 W., Hand County, at culvert on State Highway 45, 13 miles (21 km) north of Miller.	5.75	1956-75	4-17-75	[a]3.44	[b]20
06475500	Dry Run near Frankfort, S. Dak.	Lat 44°56'17", long 98°19'43", in NW¼NW¼ sec.20, T.117 N., R.62 W., Spink County, 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‡, 1970-75	1975	--	0
06475550	Dry Run tributary near Frankfort, S. Dak.	Lat 44°55'45", long 98°18'31", in W½NW¼SW¼ sec.21, T.117 N., R.62 W., Spink County, 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	1967-75	5-22-75	3.14	10
06475850	Foster Creek tributary near Carpenter, S. Dak.	Lat 44°37'59", long 98°03'42", in SE¼SE¼ sec.32, T.114 N., R.60 W., Spink County, at culvert on State Highway 28, 7.3 miles (11.7 km) west of Carpenter.	4.93	1972-75	4-17-75	[a]3.84	[b]10
06475950	Shue Creek tributary near Yale, S. Dak.	Lat 44°27'48", long 97°59'18", in NW¼SW¼ sec.36, T.112 N., R.60 W., Beadle County, at culvert on county highway, 2 miles (3 km) north of Yale.	[c]8.0	1968-75	4-17-75	[a]3.78	[b]20
06477140	Rock Creek tributary near Roswell, S. Dak.	Lat 44°02'24", long 97°42'34", in SW¼SW¼ sec.29, T.107 N., R.57 W., Miner County, at culvert on county highway, 2.2 miles (3.5 km) north of Roswell.	[c]6.0	1970-75	6- 9-75	2.69	(†)
06477150	Rock Creek near Fulton, S. Dak.	Lat 43°45'39", long 97°54'25", in NW¼NW¼ sec.3, T.103 N., R.59 W., Hanson County, 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‡, 1973-75	4-10-75	[a]4.25	[b]25
06477400	Firesteel Creek tributary near Wessington Springs, S. Dak.	Lat 44°04'26", long 98°34'52", in NW¼ sec.13, T.107 N., R.65 W., Jerauld County, at culvert on State Highway 34, 0.8 mile (1.3 km) west of Wessington Springs.	.22	1968-75	4-10-75	[a]3.69	[b]10

Annual maximum discharge at crest-stage partial-record stations during water year 1975.--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		James River basin - Continued					
06478050	Enemy Creek tributary near Mount Vernon, S. Dak.	Lat 43°36'19", long 98°15'55", in NE¼SE¼ sec.28, T.102 N., R.62 W., Davison County, at culvert on county highway, 7.3 miles (11.7 km) south of Mount Vernon.	[c]2.5	1969-75	1975	(f)	[e]5.0
06478200	Coffee Creek tributary near Parkston, S. Dak.	Lat 43°27'26", long 97°59'42", in SE¼SE¼ sec.24, T.100 N., R.61 W., Hutchinson County, at culvert on State Highway 37, 4.2 miles (6.8 km) north of Parkston.	[c].5	1968-75	6-19-75	2.70	14
06478260	North Branch Dry Creek near Parkston, S. Dak.	Lat 43°22'13", long 97°50'42", in NE¼ sec.29, T.99 N., R.59 W., Hutchinson County, at bridge on county highway, 7.5 miles (12.1 km) southeast of Parkston.	37.0	1956-75	6-19-75	2.48	26
06478280	South Branch Dry Creek near Parkston, S. Dak.	Lat 43°21'22", long 97°49'35", in NW¼ sec.33, T.99 N., R.59 W., Hutchinson County, at bridge on county highway, 8.3 miles (13.4 km) southeast of Parkston.	17.1	1956-75	4-16-75	(f)	[e]10
06478300	Dry Creek near Parkston, S. Dak.	Lat 43°22'18", long 97°49'23", in SE¼ sec.21, T.99 N., R.59 W., Hutchinson County, at bridge on county highway, 8.5 miles (13.7 km) southeast of Parkston.	76.8	1956-75	6-19-75	3.24	23
06478400	Lonetree Creek tributary near Kaylor, S. Dak.	Lat 43°17'18", long 97°50'10", in NE¼SE¼ sec.20, T.98 N., R.59 W., Hutchinson County, at culvert on county highway, 7.2 miles (11.6 km) north of Kaylor.	[c]1.5	1970-75	8-22-75	4.89	104
		Vermillion River basin					
06478630	West Fork Vermillion River near DeSmet, S. Dak.	Lat 44°12'54", long 97°33'04", in NW¼SW¼ sec.27, T.109 N., R.56 W., Kingsbury County, at culvert on State Highway 25, 11.5 miles (18.5 km) south of DeSmet.	5.34	1970-75	4-17-75	3.80	(†)
06478650	West Fork Vermillion River tributary near Monroe, S. Dak.	Lat 43°28'35", long 97°15'39", in SW¼SW¼ sec.17, T.100 N., R.54 W., Turner County, 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	1969-75	8-22-75	4.80	42
06478800	Saddlerock Creek near Canton, S. Dak.	Lat 43°12'20", long 96°43'37", in NW¼SW¼ sec.23, T.97 N., R.50 W., Lincoln County, at bridge on county highway, 9.6 miles (15.4 km) southwest of Canton.	14.8	1956-75	6-18-75	4.32	67
06478820	Saddlerock Creek tributary near Beresford, S. Dak.	Lat 43°12'21", long 96°45'51", in NE¼ NW¼NW¼ sec.21, T.97 N., R.50 W., Lincoln County, at culvert on county highway, 9 miles (14 km) north of Beresford.	2.22	1956-75[h]	8-22-75	3.18	(†)
06478840	Saddlerock Creek near Beresford, S. Dak.	Lat 43°12'55", long 96°49'33", in SE¼SE¼ sec.14, T.97 N., R.51 W., Lincoln County, at bridge on county highway 9.5 miles (15.3 km) northwest of Beresford.	26.3	1956-70, 1972-75	4-16-75	(f)	[e]10
06478950	Ash Creek near Beresford, S. Dak.	Lat 43°05'01", long 96°50'08", in NE¼NW¼ sec.2, T.95 N., R.51 W., Clay County, at culvert on State Highway 46, 2.1 miles (3.4 km) west of Beresford.	5.00	1969-75	6-21-75	4.47	242

Annual maximum discharge at crest-stage partial-record stations during water year 1975.--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Vermillion River basin - Continued					
06479020	Smoky Run near Irene, S. Dak.	Lat 43°04'56", long 97°19'12", in SE¼SE¼SE¼ sec.34, T.96 N., R.55 W., Yankton County, 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	1969-75	4- -75	[a]3.85	[e]5.0
		Big Sioux River basin					
06479260	Big Sioux River tributary No. 3 near Summit, S. Dak.	Lat 45°13'30", long 97°06'27", in SE¼ sec.25, T.121 N., R.52 W., Grant County, at culvert on county highway, 6.5 miles (10.5 km) southwest of Summit, 11.5 miles (18.5 km) southeast of Waubay.	6.60	1956-75	4- -75	[a]6.14	[b]30
06479350	Soo Creek tributary near South Shore, S. Dak.	Lat 45°06'22", long 97°01'12", in NW¼NE¼ sec.24, T.119 N., R.52 W., Codington County, at culvert on State Highway 20, 3.8 miles (6.1 km) west of South Shore.	1.56	1970-75	4- -75	[a]7.87	[b]15
06479550	Dolph Creek tributary near Lake Norden, S. Dak.	Lat 44°35'15", long 97°19'37", in SW¼SW¼ sec.16, T.113 N., R.54 W., Hamlin County, at culvert on State Highway 28, 5.4 miles (8.7 km) west of Lake Norden.	[c]7.0	1970-75	4-24-75	2.84	(†)
06479750	Peg Munky Run near Estelline, S. Dak.	Lat 44°34'22", long 96°51'15", in N½ sec.29, T.113 N., R.50 W., Deuel County, at bridge on State Highway 28, 2.5 miles (4.0 km) east of Estelline.	25.4	1956-75	5-10-75	3.16	13
06479800	North Deer Creek near Estelline, S. Dak.	Lat 44°27'44", long 96°47'13", in SE¼ sec.35, T.112 N., R.50 W., Brookings County, at bridge on U.S. Highway 77, 9.8 miles (15.8 km) southeast of Estelline.	48.3	1956-75	6- 9-75	4.00	16
06479810	North Deer Creek tributary near Brookings, S. Dak.	Lat 44°22'44", long 96°47'14", in NW¼SW¼NW¼ sec.36, T.111 N., R.50 W., Brookings County, at culvert on U.S. Highway 77, 4.5 miles (7.2 km) north of Brookings.	.33	1969-75	4-22-75	3.43	.30

Annual maximum discharge at crest-stage partial-record stations during water year 1975.--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Big Sioux River basin - Continued					
06479900	Sixmile Creek tributary near Brookings, S. Dak.	Lat 44°22'57", long 96°40'48", in NE¼NW¼ sec.35, T.111 N., R.49 W., Brookings County, at bridge on county highway, 7.3 miles (11.7 km) northeast of Brookings.	9.42	1956-75	1975	(g)	be10
06479950	Deer Creek near Brookings, S. Dak.	Lat 44°23'03", long 96°37'19", in SW¼ sec.29, T.111 N., R.48 W., Brookings County, at bridge on county highway, 9.8 miles (15.8 km) northeast of Brookings.	4.21	1956-75	1975	a1.81	b2.0
06480720	Bachelor Creek tributary near Wentworth, S. Dak.	Lat 44°00'28", long 97°00'02", in NE¼NE¼NW¼ sec.7, T.106 N., R.51 W., Lake County, at culvert on State Highway 34, 1.8 miles (2.9 km) northwest of Wentworth.	1.03	1969-75	5-11-75	3.99	6.7
06482600	West Pipestone Creek tributary near Garretson, S. Dak.	Lat 43°42'12", long 96°36'43", in SE¼SE¼ sec.20, T.103 N., R.48 W., Minnehaha County, at culvert on county highway, 5.3 miles (8.5 km) west of Garretson.	2.16	1969-75	6- 3-75	5.29	66
06485550	West Union Creek near Alcester, S. Dak.	Lat 42°56'18", long 96°38'00", in SW¼SE¼ sec.21, T.94 N., R.49 W., Union County, at culvert on county highway, 5.7 miles (9.2 km) south of Alcester.	3.48	1969-75	4-16-75	3.14	128

(†) Discharge not determined.
(‡) Operated as a continuous-record gaging station.
a Backwater from ice.
b Estimated.
c Approximate.
d Not previously published.
e Less than.
f Peak stage did not reach bottom of gage.
g Peak stage not determined.
h Prior to Aug. 7, 1968, at different site and datum.

SECTION 2. QUALITY-WATER RECORDS

06357800 GRAND RIVER AT LITTLE EAGLE, S. DAK.
(National Stream Quality Accounting Network)
(National Pesticide Water Monitoring Network)

LOCATION.--Lat 45°39'28", long 100°49'04", in NE¼NE¼ sec.32, T.20 N., R.37 E., Corson County, at gaging station, 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.

PERIOD OF RECORD.--Chemical analyses: June 1972, October 1974 to September 1975.
Water temperatures: October 1971 to September 1975.
Sediment records: October 1971 to September 1975.

EXTREMES.--1974-75:
Sediment concentrations: Maximum daily, 10,900 mg/l Mar. 19; no flow Jan. 10, 11, Feb. 5-10.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED SILICA (SIO2) (MG/L) (00955)	DISSOLVED CALCIUM (CA) (MG/L) (00915)	DISSOLVED MAGNESIUM (MG) (MG/L) (00925)	DISSOLVED SODIUM (NA) (MG/L) (00930)	DISSOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	ALKALINITY AS CACO3 (MG/L) (00410)	DISSOLVED SULFATE (SO4) (MG/L) (00945)	DISSOLVED CHLORIDE (CL) (MG/L) (00940)	DISSOLVED FLUORIDE (F) (MG/L) (00950)
OCT.												
02...	1030	12	3.7	52	32	380	9.9	430	373	700	17	.4
30...	1015	17	2.1	2.0	16	410	8.6	419	360	590	18	.3
DEC.												
18...	0915	11	6.2	7.2	51	700	13	795	652	1000	25	.5
JAN.												
13...	1710	1.0	9.9	150	73	670	15	767	629	1100	330	.5
MAR.												
10...	1105	54	7.2	15	8.4	350	11	356	292	360	200	.3
APR.												
29...	1400	5330	18	62	16	200	5.8	136	112	85	680	.4
MAY												
20...	1400	1230	7.8	49	22	300	8.3	284	233	410	150	.3
JUNE												
11...	1030	447	4.7	6.6	28	350	7.5	352	369	520	6.6	.3
JULY												
08...	1020	252	9.3	42	19	210	7.6	304	249	390	11	.4
AUG.												
05...	0900	73	9.4	39	18	220	9.1	255	227	410	26	.4
SEP.												
03...	0830	62	5.9	44	37	350	10	391	346	660	13	.4

NOTE.--Carbonate (CO_3) analysis for all samples, 0.0 mg/l.

TRACE ELEMENTS

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED ARSENIC (AS) (UG/L) (01000)	SUSPENDED ARSENIC (AS) (UG/L) (01001)	TOTAL ARSENIC (AS) (UG/L) (01002)	DISSOLVED CADMIUM (CD) (UG/L) (01025)	SUSPENDED CADMIUM (CD) (UG/L) (01026)	TOTAL CADMIUM (CD) (UG/L) (01027)	DISSOLVED CHROMIUM (CR) (UG/L) (01030)	SUSPENDED CHROMIUM (CR) (UG/L) (01031)	TOTAL CHROMIUM (CR) (UG/L) (01034)	DISSOLVED COBALT (CO) (UG/L) (01035)
OCT.												
02...	1030	12	1	0	1	<1	<9	<10	0	0	0	0
JAN.												
13...	1710	1.0	1	0	1	0	20	20	0	10	10	1
MAY												
20...	1400	1230	1	14	15	1	<9	<10	0	30	30	1
AUG.												
05...	0900	73	6	6	12	0	20	20	4	30	34	1

< Less than

06357800 GRAND RIVER AT LITTLE EAGLE, S. DAK.--Continued

EXTREMES.--1974-75:--Continued
Sediment discharge: Maximum daily, 109,000 tons Apr. 29; no flow Jan. 10, 11, Feb. 5-10.

Period of record:
Sediment concentrations: Maximum daily, 19,000 mg/l May 2, 1972; no flow Jan. 10, 11, Feb. 5-10, 1975.
Sediment discharge: Maximum daily, 259,000 tons Mar. 12, 1972; no flow Jan. 10, 11, Feb. 5-10, 1975.

REMARKS.--Maximum observed during water year: Specific conductance, 3,400 micromhos Jan. 12, 13; water temperatures, 34.0°C Aug. 8. Minimum observed during water year: Specific conductance, 250 micromhos Mar. 16; water temperatures, freezing point on many days during December to March. Sediment records fair. Flow affected by ice Nov. 17 to Apr. 11. Sediment-discharge records prior to Oct. 1, 1971, on file in the District office, Corps of Engineers, Omaha, Nebr. Miscellaneous samples for chemical data published for water years 1956, 1969.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	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)	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 DAY) (70302)	DIS-SOLVED SOLIDS (TONS PER AC-FT) (70303)	HARD-NESS (CA,MG) (MG/L) (00900)	NON-CAR-BONATE HARD-NESS (MG/L) (00902)	SODIUM AD-SORP-TION RATIO (00931)
OCT.												
02...	.09	.74	.83	3.7	.05	1470	1420	50.4	2.00	260	0	10
30...	--	--	--	--	--	1410	1260	65.5	1.92	71	0	21
DEC.												
18...	.00	.68	.68	3.0	.02	2220	2190	65.9	3.02	230	0	20
JAN.												
13...	.01	1.0	1.0	4.5	.00	2610	2730	7.05	3.55	680	46	11
MAR.												
10...	.00	1.7	1.7	7.5	.10	986	1130	144	1.34	72	0	18
APR.												
29...	.55	7.2	7.8	34	1.1	545	1130	7840	.74	220	110	5.9
MAY												
20...	.19	3.1	3.3	15	.71	936	1090	3110	1.27	210	0	8.9
JUNE												
11...	.11	.99	1.1	4.9	.15	1050	1150	1270	1.43	130	0	13
JULY												
08...	.02	2.2	2.2	9.8	.37	852	839	580	1.16	180	0	6.8
AUG.												
05...	.08	2.2	2.3	10	.37	869	869	172	1.18	170	0	7.3
SEP.												
03...	.00	.81	.81	3.6	.15	1340	1330	224	1.82	260	0	9.4

TRACE ELEMENTS

DATE	SUS-PENDED COBALT (CO) (UG/L) (01036)	TOTAL COBALT (CO) (UG/L) (01037)	DIS-SOLVED COPPER (CU) (UG/L) (01040)	SUS-PENDED COPPER (CU) (UG/L) (01041)	TOTAL COPPER (CU) (UG/L) (01042)	DIS-SOLVED IRON (FE) (UG/L) (01046)	TOTAL IRON (FE) (UG/L) (01045)	DIS-SOLVED LEAD (PB) (UG/L) (01049)	SUS-PENDED LEAD (PB) (UG/L) (01050)	TOTAL LEAD (PB) (UG/L) (01051)	DIS-SOLVED MAN-GANESE (MN) (UG/L) (01056)
OCT.											
02...	<50	<50	11	0	10	10	1800	3	<97	<100	30
JAN.											
13...	49	50	4	6	10	10	480	2	<98	<100	0
MAY											
20...	<49	<50	5	55	60	20	43000	6	<94	<100	5
AUG.											
05...	29	30	6	44	50	70	28000	1	<99	<100	0

< Less than

06357800 GRAND RIVER AT LITTLE EAGLE, S. DAK.--Continued

DATE	PH (UNITS) (00400)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)	TEMPERATURE (DEG C) (00010)	TURBIDITY (JTU) (00070)	TOTAL ORGANIC CARBON (C) (MG/L) (00680)	FECAL COLIFORM (COL. PER 100 ML) (31616)	STREPTOCOCCI (COLONIES PER 100 ML) (31679)	TOTAL PHYTOPLANKTON (CELLS PER ML) (60050)	PERIPHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	UNCORRECTED PERIPHYTON CHLOROPHYLL A MG/SQ M (32228)	UNCORRECTED PERIPHYTON CHLOROPHYLL B MG/SQ M (32226)
OCT.												
02...	--	2130	2.5	30	19	150	B260	1200	--	--	--	--
30...	8.8	2200	11.0	20	--	--	--	2600	--	--	--	--
DEC.												
18...	9.0	2950	.0	6	--	3	4	--	--	--	--	--
JAN.												
13...	8.4	3300	.0	4	8.9	B10	B30	220	--	--	--	--
MAR.												
10...	8.1	1390	.0	80	--	--	--	1400	--	--	--	--
APR.												
29...	9.2	430	4.0	1700	--	--	--	710	--	--	--	--
MAY												
20...	9.2	1170	14.5	440	18	2100	1100	2700	--	--	--	--
JUNE												
11...	9.5	1530	17.0	140	--	--	--	1400	--	--	--	--
JULY												
08...	8.1	1260	30.0	1100	--	4000	4100	5000	.50	.30	.2	.2
AUG.												
05...	8.4	1350	22.0	360	25	2100	B1400	1000	46	44	.2	.1
SEP.												
03...	8.6	1750	14.0	140	--	120	100	13000	3.6	2.4	.3	.1

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	2900	2800	2850	---	---	---	1550	1150	---	1950
2	2130	---	2900	2850	2700	---	---	---	1600	1750	1900	1880
3	---	---	---	2900	2700	---	---	1040	1600	1520	1260	1750
4	---	---	---	2900	2700	---	---	1040	---	---	1300	1920
5	---	---	---	3100	---	---	---	1040	---	---	1340	---
6	---	---	2900	2650	---	---	---	1200	---	1390	---	1920
7	---	---	2900	3000	---	---	---	1270	1580	1390	1860	1930
8	---	---	2900	3000	---	---	---	585	1580	1260	1840	1940
9	---	1800	2600	2900	---	650	700	585	1540	---	1850	1940
10	---	---	3200	---	---	700	630	490	1560	610	---	1950
11	---	---	3250	---	2800	---	640	560	1660	1420	1880	1950
12	---	---	---	3400	2800	---	---	480	1670	690	---	1950
13	---	---	---	3400	2800	315	320	675	---	1330	1880	1960
14	---	1850	---	3000	---	450	300	835	1680	1330	1920	1950
15	---	---	---	3000	---	750	290	1120	1670	1650	1580	1960
16	---	1950	---	3100	2800	250	260	1120	1680	1650	1780	1960
17	---	---	---	3100	2850	260	280	1360	---	1750	1720	---
18	---	1750	3200	3100	2900	440	270	1360	1580	---	1290	1780
19	---	---	2700	3020	4900	---	270	1420	1580	1780	1450	1790
20	---	1750	2050	3000	5000	415	320	1170	1580	1800	1730	1830
21	---	---	---	2900	2800	630	345	1300	---	1800	1730	1830
22	---	---	---	2800	2850	340	395	1300	440	1900	1730	1870
23	---	---	---	2950	2950	---	410	1350	435	1900	1470	1870
24	---	2100	2700	2520	2750	---	430	1420	570	1680	1480	1880
25	---	2050	2900	2500	2500	---	---	1350	625	1850	1480	1920
26	---	2250	2900	2550	---	---	---	---	690	1930	1780	1920
27	---	---	2800	3000	---	---	---	1500	895	1900	1850	1920
28	---	2450	2550	3050	---	---	450	1510	1160	1290	1840	1860
29	---	---	2700	3250	---	---	470	1530	1150	1290	1870	1870
30	2200	---	2700	3100	---	---	395	1560	1140	1800	1870	1880
31	---	---	2750	2950	---	---	---	1580	---	1900	1950	---
MONTH	---	---	---	2960	---	---	---	1130	1300	1540	1690	1900

B Non-ideal colony count

06357800 GRAND RIVER AT LITTLE EAGLE, S. DAK.--Continued

TRACE ELEMENTS

DATE	SUS-PENDED MAN-GANESE (MN) (UG/L) (01054)	TOTAL MAN-GANESE (MN) (UG/L) (01055)	DIS-SOLVED MERCURY (HG) (UG/L) (71890)	SUS-PENDED MERCURY (HG) (UG/L) (71895)	TOTAL MERCURY (HG) (UG/L) (71900)	DIS-SOLVED SELE-NIUM (SE) (UG/L) (01145)	SUS-PENDED SELE-NIUM (SE) (UG/L) (01146)	TOTAL SELE-NIUM (SE) (UG/L) (01147)	DIS-SOLVED ZINC (ZN) (UG/L) (01090)	SUS-PENDED ZINC (ZN) (UG/L) (01091)	TOTAL ZINC (ZN) (UG/L) (01092)
OCT.											
02...	80	110	.0	.2	.2	0	0	0	0	30	30
JAN.											
13...	630	630	.0	.0	.0	0	0	0	0	50	50
MAY											
20...	1200	1200	.0	.2	.2	1	0	1	6	250	260
AUG.											
05...	540	540	.0	.1	.1	1	1	2	0	210	210

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	0.0	0.0	0.0		---	16.0	29.0	---	---
2	4.0	6.0	4.0	0.0	0.0	0.0		---	18.0	30.0	---	---
3	---	---	---	0.0	0.0	0.0		---	17.0	---	---	---
4	6.0	4.0	1.0	0.0	0.0	0.0		---	---	---	32.0	---
5	12.0	---	---	0.0	---	0.0		---	---	---	---	---
6	8.0	4.0	---	0.0	---	0.0		---	---	---	---	24.0
7	---	---	0.0	0.0	---	0.0		---	---	28.0	---	23.0
8	11.0	---	0.0	0.0	---	0.0		---	13.0	---	34.0	---
9	---	---	0.0	0.0	---	0.0		10.0	---	---	---	25.0
10	12.0	---	0.0	---	---	0.0		9.0	10.0	26.0	25.0	24.0
11	---	---	0.0	---	0.0	0.0		10.0	18.0	30.0	24.0	25.0
12	11.0	3.0	1.0	0.0	0.0	0.0		---	---	---	25.0	25.0
13	---	---	---	0.0	0.0	0.0		20.0	---	32.0	26.0	25.0
14	5.0	4.0	---	0.0	0.0	0.0		21.0	20.0	---	21.0	21.0
15	---	---	---	0.0	0.0	0.0		22.0	---	---	22.0	22.0
16	14.0	---	---	0.0	0.0	0.0		---	21.0	---	23.0	22.0
17	---	---	---	0.0	0.0	0.0		---	---	---	19.0	---
18	12.0	3.0	0.0	0.0	0.0	0.0		---	19.0	---	---	18.0
19	---	---	0.0	0.0	0.0	0.0		20.0	21.0	---	---	10.0
20	---	3.0	0.0	0.0	0.0	0.0		---	22.0	---	---	12.0
21	10.0	---	---	0.0	0.0	0.0		20.0	---	---	---	11.0
22	8.0	---	---	0.0	0.0	0.0		---	23.0	---	---	---
23	---	---	---	0.0	0.0	0.0		---	28.0	---	---	11.0
24	10.0	3.0	0.0	0.0	0.0	0.0		19.0	25.0	---	---	16.0
25	---	---	0.0	0.0	0.0	0.0		13.0	24.0	30.0	---	19.0
26	12.0	4.0	0.0	0.0	0.0	0.0		---	25.0	---	---	18.0
27	---	---	0.0	0.0	0.0	0.0		21.0	20.0	---	---	18.0
28	11.0	3.0	0.0	0.0	0.0	0.0		19.0	24.0	---	---	16.0
29	---	---	0.0	0.0	---	0.0		16.0	26.0	---	---	17.0
30	8.0	---	0.0	0.0	---	0.0		17.0	20.0	---	---	17.0
31	6.0	---	0.0	0.0	---	0.0		12.0	---	---	---	---
MONTH	---	---	---	0.0	0.0	0.0		---	---	---	---	---

06357800 GRAND RIVER AT LITTLE EAGLE, S. DAK.--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	11	250	7.4	22	310	18	13	425	15
2	10	300	8.1	26	339	24	13	444	16
3	10	350	9.5	26	320	22	14	525	20
4	6.8	398	7.3	26	304	21	14	603	23
5	9.2	334	8.3	32	350	30	14	540	20
6	10	327	8.8	30	384	31	15	487	20
7	15	330	13	28	370	28	15	459	19
8	12	335	11	25	359	24	17	493	23
9	16	310	13	22	340	20	20	483	26
10	16	292	13	21	327	19	19	554	28
11	16	295	13	20	375	20	15	547	22
12	22	298	18	21	423	24	14	137	5.2
13	20	290	16	26	375	26	13	160	5.6
14	18	280	14	21	325	18	12	185	6.0
15	20	310	17	20	300	16	12	210	6.8
16	18	345	17	17	278	13	12	250	8.1
17	18	320	16	17	250	11	11	275	8.2
18	17	301	14	18	237	12	11	302	9.0
19	18	348	17	18	230	11	10	187	5.0
20	15	300	12	20	228	12	10	124	3.3
21	15	252	10	22	275	16	9.0	165	4.0
22	14	403	15	23	350	22	9.0	200	4.9
23	15	380	15	22	400	24	8.0	240	5.2
24	12	361	12	20	448	24	8.0	280	6.0
25	14	320	12	19	273	14	8.0	161	3.5
26	9.2	284	7.1	19	418	21	9.0	189	4.6
27	10	320	8.6	17	400	18	10	221	6.0
28	12	352	11	13	386	14	10	266	7.2
29	12	315	10	12	400	13	10	230	6.2
30	16	282	12	12	410	13	9.0	179	4.4
31	21	280	16	---	---	---	9.0	263	6.4
MONTH	448.2	---	382.1	635	---	579	373.0	---	347.6

	JANUARY			FEBRUARY			MARCH		
1	8.0	300	6.5	1.0	504	1.4	40	400	43
2	8.0	337	7.3	2.0	452	2.4	35	300	28
3	7.0	307	5.8	2.0	524	2.8	35	225	21
4	7.0	367	6.9	1.0	466	1.3	40	216	23
5	6.0	308	5.0	.00	475	.00	50	349	47
6	6.0	308	5.0	.00	403	.00	45	360	44
7	5.0	450	6.1	.00	382	.00	40	375	40
8	4.0	316	3.4	.00	275	.00	35	390	37
9	1.0	361	.97	.00	177	.00	35	410	39
10	.00	270	.00	.00	362	.00	40	420	45
11	.00	292	.00	.50	344	.46	54	429	63
12	.50	369	.50	1.0	366	.99	60	415	67
13	1.0	338	.91	2.0	433	2.3	60	405	66
14	1.0	439	1.2	2.0	400	2.2	80	404	87
15	1.0	393	1.1	2.0	375	2.0	100	413	112
16	2.0	434	2.3	3.0	332	2.7	150	409	166
17	2.0	584	3.2	5.0	263	3.6	200	2600	1400
18	2.0	436	2.4	10	239	6.5	300	3100	2510
19	2.0	480	2.6	20	975	53	400	10900	11800
20	2.0	535	2.9	25	860	58	370	2900	2900
21	2.0	529	2.9	26	253	18	300	1850	1500
22	2.0	628	3.4	25	478	32	200	1700	918
23	3.0	499	4.0	24	507	33	100	1400	378
24	4.0	487	5.3	29	234	18	70	1000	189
25	3.0	445	3.6	35	228	22	45	800	97
26	3.0	383	3.1	36	587	57	50	700	94
27	2.0	473	2.6	38	226	23	50	600	81
28	1.0	621	1.7	40	616	67	60	500	81
29	1.0	707	1.9	---	---	---	60	400	65
30	1.0	636	1.7	---	---	---	60	350	57
31	1.0	588	1.6	---	---	---	50	300	40
MONTH	88.50	---	95.88	329.50	---	409.65	3214	---	23038

06357800 GRAND RIVER AT LITTLE EAGLE, S. DAK.--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	40	230	25	2760	3370	25100	449	382	463
2	35	218	21	1570	1200	5090	415	372	417
3	35	330	31	954	659	1700	432	394	460
4	40	450	49	620	800	1340	424	392	449
5	100	660	178	449	692	839	444	390	468
6	200	434	234	346	1810	1690	415	388	435
7	270	375	273	329	2550	2270	428	386	446
8	300	324	262	830	3650	8180	420	384	435
9	300	249	202	1820	4700	23100	428	380	439
10	270	438	319	4290	4700	54400	436	378	445
11	300	680	551	5490	5600	83000	453	376	460
12	1120	3050	9220	6200	3800	63600	449	385	467
13	1450	3090	12100	2630	1600	11400	368	350	348
14	1800	2950	14300	1270	1500	5140	407	327	359
15	2330	2950	18600	774	856	1790	424	307	351
16	2500	2680	18100	630	607	1030	440	297	353
17	2230	2300	13800	605	599	978	440	350	416
18	2310	2430	15200	625	280	472	420	433	491
19	2060	1770	9840	709	1100	2110	312	908	765
20	1420	1410	5410	1160	2300	7200	677	4900	8960
21	1280	1220	4220	802	2000	4330	835	5100	11500
22	1290	1220	4250	635	550	943	1280	4100	14200
23	1280	1160	4010	575	144	224	2450	3650	24100
24	1160	966	3030	605	480	784	1220	2640	8700
25	906	850	2080	741	1200	2400	479	2000	2590
26	758	700	1430	542	600	878	325	2040	1790
27	719	550	1070	483	441	575	273	1680	1240
28	900	4400	10700	479	482	623	404	1550	1690
29	4650	8700	109000	424	476	545	353	2900	2760
30	5550	4600	68900	411	417	463	254	5700	3910
31	---	---	---	387	141	147	---	---	---
MONTH	37603	---	327405	40145	---	312341	16554	---	89907
	JULY			AUGUST			SEPTEMBER		
1	222	3500	2100	83	1000	224	69	384	72
2	192	2100	1090	126	2000	680	62	416	70
3	171	1500	693	113	4150	1270	62	407	68
4	156	1100	463	83	3240	726	66	357	64
5	146	900	355	73	1120	221	67	335	61
6	154	750	312	69	600	112	66	314	56
7	244	750	494	62	404	68	64	273	47
8	466	3850	4840	66	374	67	61	289	48
9	522	5500	7750	64	331	57	61	300	49
10	312	4400	3710	62	340	57	59	309	49
11	224	4200	2540	59	347	55	59	330	53
12	186	2800	1410	71	348	67	59	357	57
13	166	800	359	71	378	72	57	470	72
14	154	394	164	96	292	76	57	377	58
15	144	469	182	115	984	306	57	260	40
16	135	281	102	87	935	220	59	300	48
17	113	401	122	83	1000	224	61	350	58
18	105	330	94	83	1020	229	91	984	242
19	99	274	73	93	850	213	78	880	185
20	97	336	88	115	782	243	74	349	70
21	97	289	76	99	799	214	69	365	68
22	97	335	88	87	781	183	67	282	51
23	91	358	88	83	800	179	62	361	60
24	85	353	81	89	900	216	50	394	53
25	83	380	85	82	1060	235	47	192	24
26	80	415	90	76	834	171	46	216	27
27	78	380	80	76	532	109	42	292	33
28	74	360	72	76	492	101	44	239	28
29	69	344	64	74	480	96	46	150	19
30	66	330	59	73	470	93	42	225	26
31	69	709	132	69	458	85	---	---	---
MONTH	4897	---	27856	2558	---	6869	1804	---	1856

TOTAL DISCHARGE FOR YEAR (FT^3/S-DAYS) 108649.2 TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 791086.2

06360500 MOREAU RIVER NEAR WHITEHORSE, S. DAK.

LOCATION.--Lat 45°15'21", long 100°50'33", in SW¼SE¼ sec.17, T.15 N., R.27 E., Dewey County, at gaging station, 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 mi^2 (12,640 km^2), approximately.

PERIOD OF RECORD.--Chemical analyses: June 1972.
Sediment records: October 1971 to September 1975.
Water temperatures: October 1971 to September 1975.

EXTREMES.--1974-75:
Sediment concentrations: Maximum daily, 20,300 mg/l May 9; minimum daily, no flow for many days.

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.00	0	.00	.00	0	.00	.00	0	.00
2	.00	0	.00	.00	0	.00	.00	0	.00
3	.00	0	.00	.00	0	.00	.00	0	.00
4	.00	0	.00	.00	0	.00	.00	0	.00
5	.00	0	.00	.00	0	.00	.00	0	.00
6	.00	0	.00	.00	0	.00	.00	0	.00
7	.00	0	.00	.00	0	.00	.00	0	.00
8	.00	0	.00	.00	0	.00	.00	0	.00
9	.00	0	.00	.00	0	.00	.00	0	.00
10	.00	0	.00	.00	0	.00	.00	0	.00
11	.00	0	.00	.00	0	.00	.00	0	.00
12	.00	0	.00	.00	0	.00	.00	0	.00
13	.00	0	.00	.00	0	.00	.00	0	.00
14	.00	0	.00	.00	0	.00	.00	0	.00
15	.00	0	.00	.00	0	.00	.00	0	.00
16	.00	0	.00	.00	0	.00	.00	0	.00
17	.00	0	.00	.00	0	.00	.00	0	.00
18	.00	0	.00	.00	0	.00	.00	0	.00
19	.00	0	.00	.00	0	.00	.00	0	.00
20	.00	0	.00	.00	0	.00	.00	0	.00
21	.00	0	.00	.00	0	.00	.00	0	.00
22	.00	0	.00	.00	0	.00	.00	0	.00
23	.00	0	.00	.00	0	.00	.00	0	.00
24	.00	0	.00	.00	0	.00	.00	0	.00
25	.00	0	.00	.00	0	.00	.00	0	.00
26	.00	0	.00	.00	0	.00	.00	0	.00
27	.00	0	.00	.00	0	.00	.00	0	.00
28	.00	0	.00	.00	0	.00	.00	0	.00
29	.00	0	.00	.00	0	.00	.00	0	.00
30	.00	0	.00	.00	0	.00	.00	0	.00
31	.00	0	.00	---	---	---	.00	0	.00
MONTH	.00	---	.00	.00	---	.00	.00	---	.00

06360500 MOREAU RIVER NEAR WHITEHORSE, S. DAK.--Continued

EXTREMES.--1974-75:--Continued
Sediment discharge: Maximum daily, 420,000 tons May 10; minimum daily, 0 tons for many days.

Period of record:
Sediment concentrations: Maximum daily, 20,300 mg/l May 9, 1972; minimum daily, no flow on several days each year.
Sediment discharge: Maximum daily, 420,000 tons May 10, 1975; minimum daily, 0 tons on several days each year.

REMARKS.--Records fair. Flow affected by ice Mar. 20 to Apr. 12; no flow Oct. 1 to Mar. 19, Sept. 2-30. Sediment-discharge records prior to Oct. 1, 1971, on file in the District office, Corps of Engineers, Omaha, Nebr. Miscellaneous samples for chemical data published for water year 1969.

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.00	0	.00	.00	0	.00	.00	0	.00
2	.00	0	.00	.00	0	.00	.00	0	.00
3	.00	0	.00	.00	0	.00	.00	0	.00
4	.00	0	.00	.00	0	.00	.00	0	.00
5	.00	0	.00	.00	0	.00	.00	0	.00
6	.00	0	.00	.00	0	.00	.00	0	.00
7	.00	0	.00	.00	0	.00	.00	0	.00
8	.00	0	.00	.00	0	.00	.00	0	.00
9	.00	0	.00	.00	0	.00	.00	0	.00
10	.00	0	.00	.00	0	.00	.00	0	.00
11	.00	0	.00	.00	0	.00	.00	0	.00
12	.00	0	.00	.00	0	.00	.00	0	.00
13	.00	0	.00	.00	0	.00	.00	0	.00
14	.00	0	.00	.00	0	.00	.00	0	.00
15	.00	0	.00	.00	0	.00	.00	0	.00
16	.00	0	.00	.00	0	.00	.00	0	.00
17	.00	0	.00	.00	0	.00	.00	0	.00
18	.00	0	.00	.00	0	.00	.00	0	.00
19	.00	0	.00	.00	0	.00	.00	0	.00
20	.00	0	.00	.00	0	.00	30	5100	413
21	.00	0	.00	.00	0	.00	40	4000	432
22	.00	0	.00	.00	0	.00	50	2100	283
23	.00	0	.00	.00	0	.00	45	1100	134
24	.00	0	.00	.00	0	.00	40	600	65
25	.00	0	.00	.00	0	.00	30	300	24
26	.00	0	.00	.00	0	.00	30	900	73
27	.00	0	.00	.00	0	.00	35	3000	283
28	.00	0	.00	.00	0	.00	35	3300	312
29	.00	0	.00	---	---	---	35	1700	161
30	.00	0	.00	---	---	---	30	1100	89
31	.00	0	.00	---	---	---	30	900	73
MONTH	.00	---	.00	.00	---	.00	430.00	---	2342.00

06360500 MOREAU RIVER NEAR WHITEHORSE, S. DAK.--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	40	800	86	7080	12600	241000	161	1300	565
2	41	730	81	4720	10600	135000	140	900	340
3	40	640	69	2620	8280	58600	123	600	199
4	45	550	67	1710	6340	29300	107	450	130
5	50	460	62	1120	4510	13600	95	320	82
6	100	370	100	806	4000	8700	88	300	71
7	200	300	162	695	3500	6570	81	280	61
8	250	200	135	951	3600	9240	77	260	54
9	230	800	497	2890	20300	158000	77	255	53
10	310	4200	3520	7770	20000	420000	77	250	52
11	500	2000	2700	9740	11000	289000	112	249	75
12	1000	3200	8640	7660	8530	176000	104	324	91
13	2450	15000	99200	4220	9860	112000	89	396	95
14	4040	13500	147000	2900	8820	69100	80	560	121
15	3910	9500	100000	1730	6400	29900	74	574	115
16	3950	8000	85300	1120	5040	15200	65	330	58
17	3940	7600	80800	819	4500	9950	63	298	51
18	3650	7500	73900	614	4370	7240	64	306	53
19	3210	6500	56300	481	3030	3940	573	18300	28300
20	2510	5500	37300	385	2500	2600	359	10000	9690
21	2520	4500	30600	298	1820	1460	462	2000	2490
22	2490	3500	23500	266	1550	1110	808	6300	13700
23	2200	3000	17800	246	1300	863	1210	11000	35900
24	1670	2500	11300	249	1100	740	1290	12000	41800
25	1380	2000	7450	228	942	580	717	8800	17000
26	1330	1500	5390	213	719	413	458	5000	6180
27	1300	1000	3510	194	670	351	371	2200	2200
28	2300	18000	112000	208	600	337	378	1680	1710
29	3210	16200	140000	333	6300	5660	332	3500	3140
30	5620	12600	191000	269	4300	3120	283	4890	3740
31	---	---	---	198	2200	1180	---	---	---
MONTH	54486	---	1238469	62733	---	1810754	8918	---	168116

	JULY			AUGUST			SEPTEMBER	
1	934	14500	36600	168	2800	1270	.02	150	.01
2	1040	19500	54800	442	7500	8950	.00	0	.00
3	605	5000	8170	208	2600	1460	.00	0	.00
4	351	3180	3010	167	4100	1850	.00	0	.00
5	233	1970	1240	148	4000	1600	.00	0	.00
6	180	1430	695	113	2200	671	.00	0	.00
7	167	1300	586	85	978	224	.00	0	.00
8	617	4600	7660	80	401	87	.00	0	.00
9	1300	11400	40000	65	119	21	.00	0	.00
10	700	3900	7370	48	208	27	.00	0	.00
11	348	2050	1930	37	163	16	.00	0	.00
12	215	1150	668	27	144	10	.00	0	.00
13	152	1750	718	22	160	9.5	.00	0	.00
14	115	273	85	19	220	11	.00	0	.00
15	91	184	45	18	272	13	.00	0	.00
16	74	158	32	15	183	7.4	.00	0	.00
17	62	321	54	15	100	4.1	.00	0	.00
18	55	276	41	13	109	3.8	.00	0	.00
19	47	400	51	13	182	6.4	.00	0	.00
20	43	538	62	12	420	14	.00	0	.00
21	39	357	38	11	635	19	.00	0	.00
22	36	450	44	9.9	149	4.0	.00	0	.00
23	35	567	54	8.6	169	3.9	.00	0	.00
24	35	420	40	6.1	221	3.6	.00	0	.00
25	35	284	27	3.9	200	2.1	.00	0	.00
26	33	200	18	2.5	117	.79	.00	0	.00
27	28	355	27	1.2	462	1.5	.00	0	.00
28	23	208	13	.33	309	.28	.00	0	.00
29	19	179	9.2	.24	250	.16	.00	0	.00
30	16	530	23	.17	179	.08	.00	0	.00
31	14	904	34	.07	161	.03	---	---	---
MONTH	7642	---	164144.2	1759.01	---	16290.64	.02	---	.01

TOTAL DISCHARGE FOR YEAR (FT^3/S-DAYS) 135968.0 TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 3400116

06360500 MOREAU RIVER NEAR WHITEHORSE, S. DAK.--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							---	6.5	---	28.0	27.0	17.0
2							0.0	7.0	---	29.0	26.0	---
3							---	8.5	---	28.0	24.0	---
4							---	10.5	---	31.0	25.0	---
5							---	12.0	---	29.0	25.0	---
6							---	---	---	29.0	27.0	---
7							---	12.5	---	30.0	28.0	---
8							---	---	---	27.0	22.0	---
9							---	---	---	24.0	20.0	---
10							0.5	---	---	23.0	19.0	---
11							---	---	19.5	22.0	21.0	---
12							---	12.5	22.0	26.0	27.0	---
13							---	13.5	24.0	24.0	22.0	---
14							---	14.0	18.0	25.0	19.0	---
15							---	15.5	20.0	30.0	25.0	---
16							---	15.5	25.0	26.0	26.0	---
17							---	20.0	24.0	27.0	27.0	---
18							4.5	18.5	20.0	26.0	28.0	---
19							3.5	19.0	20.0	24.0	19.0	---
20							3.5	---	24.0	25.0	20.0	---
21							4.0	12.5	24.0	25.0	20.0	---
22							4.5	---	23.0	23.0	16.0	---
23							4.5	---	25.0	31.0	17.0	---
24							4.5	---	26.0	30.0	25.0	---
25							4.0	15.0	26.0	32.0	24.0	---
26							5.0	14.0	25.0	31.0	19.0	---
27							5.5	---	24.0	30.0	18.0	---
28							10.0	---	23.0	28.0	19.0	---
29							8.0	---	26.0	29.0	18.0	---
30							6.5	---	27.0	26.0	18.0	---
31							---	---	---	27.0	17.0	---
MONTH							---	---	---	27.5	22.0	---

06386500 CHEYENNE RIVER NEAR SPENCER, WYO.

LOCATION.--Lat 43°25', long 104°08', in N½ sec.25, T.40 N., R.61 W., Niobrara County, Wyoming, at gaging station, at old highway bridge, 1.8 mi (2.9 km) downstream from Robbers Roost Creek, 7.5 mi (12.1 km) northeast of Spencer, and 30 mi (48 km) south of Newcastle.

DRAINAGE AREA.--5,270 mi² (13,650 km²), approximately.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)
JULY												
01...	0930	20	10	110	51	250	11	244	0	740	31	.7
AUG.												
05...	0930	1.2	9.8	140	50	310	12	263	0	930	34	.6
SEP.												
03...	0900	.00	--	--	--	--	--	--	--	--	--	--

DATE	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	DISSOLVED OXYGEN (MG/L)	TURBIDITY (JTU)	PH (UNITS)	TEMPERATURE (DEG C)	FECAL COLIFORM (COL. PER 100 ML)
JULY												
01...	1320	1.80	71.3	480	280	4.9	1850	7.1	400	8.2	23.0	B1700
AUG.												
05...	1620	2.20	5.25	560	340	5.7	2400	8.2	80	8.2	20.0	480
SEP.												
03...	--	--	--	--	--	--	--	--	--	--	--	--

B Non-ideal counting conditions

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TOTAL ORGANIC CARBON (C) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL KJELDAHL NITROGEN (N) (MG/L)	TOTAL NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)
JULY									
01...	0930	20	38	.41	.15	4.1	4.2	4.6	.38
AUG.									
05...	0930	1.2	--	.14	--	--	--	--	.06

06386500 CHEYENNE RIVER NEAR SPENCER, WYO.--Continued

PERIOD OF RECORD.--Chemical analyses: May 1969 to June 1970.
Sediment records: June 1951 to August 1954, November 1971 to September 1973.
Prior to October 1951, published as South Fork Cheyenne River near Spencer.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TOTAL ALUMINUM (AL) (UG/L)	SUSPENDED ALUMINUM (AL) (UG/L)	DISSOLVED ALUMINUM (AL) (UG/L)	TOTAL IRON (FE) (UG/L)	DISSOLVED IRON (FE) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	SUSPENDED MANGANESE (MN) (UG/L)	DISSOLVED MANGANESE (MN) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	SUSPENDED ARSENIC (AS) (UG/L)
JULY 01...	0930	20	64000	64000	20	49000	40	710	690	20	45	45
AUG. 05...	0930	1.2	--	--	--	--	20	--	--	--	--	--

DATE	DISSOLVED ARSENIC (AS) (UG/L)	TOTAL BERYLLIUM (BE) (UG/L)	SUSPENDED BERYLLIUM (BE) (UG/L)	DISSOLVED BERYLLIUM (BE) (UG/L)	DISSOLVED BORON (B) (UG/L)	TOTAL CADMIUM (CD) (UG/L)	SUSPENDED CADMIUM (CD) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	SUSPENDED CHROMIUM (CR) (UG/L)	DISSOLVED CHROMIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)
JULY 01...	0	0	0	0	140	<10	<10	0	100	100	0	100
AUG. 05...	--	--	--	--	180	--	--	--	--	--	--	--

DATE	SUSPENDED COPPER (CU) (UG/L)	DISSOLVED COPPER (CU) (UG/L)	TOTAL LEAD (PB) (UG/L)	SUSPENDED LEAD (PB) (UG/L)	DISSOLVED LEAD (PB) (UG/L)	TOTAL LITHIUM (LI) (UG/L)	SUSPENDED LITHIUM (LI) (UG/L)	DISSOLVED LITHIUM (LI) (UG/L)	TOTAL MERCURY (HG) (UG/L)	SUSPENDED MERCURY (HG) (UG/L)	DISSOLVED MERCURY (HG) (UG/L)	TOTAL MOLYBDENUM (MO) (UG/L)
JULY 01...	90	10	100	98	2	60	30	30	.7	.6	.1	0
AUG. 05...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	SUSPENDED MOLYBDENUM (MO) (UG/L)	DISSOLVED MOLYBDENUM (MO) (UG/L)	TOTAL NICKEL (NI) (UG/L)	SUSPENDED NICKEL (NI) (UG/L)	DISSOLVED NICKEL (NI) (UG/L)	TOTAL SELENIUM (SE) (UG/L)	SUSPENDED SELENIUM (SE) (UG/L)	DISSOLVED SELENIUM (SE) (UG/L)	DISSOLVED VANADIUM (V) (UG/L)	TOTAL ZINC (ZN) (UG/L)	SUSPENDED ZINC (ZN) (UG/L)	DISSOLVED ZINC (ZN) (UG/L)
JULY 01...	0	3	50	43	7	1	0	1	1.0	400	400	0
AUG. 05...	--	--	--	--	--	--	--	--	--	--	--	--

< Less than

06401500 CHEYENNE RIVER BELOW ANGOSTURA DAM, S. DAK.

LOCATION.--Lat 43°20'42", long 103°26'12", in NE¼NW¼NW¼ sec.20, T.8 S., R.6 E., Fall River County, at gaging station, 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.

PERIOD OF RECORD.--Chemical analyses: September 1968 (miscellaneous station), October 1968 to September 1973 (daily), October 1973 to September 1975 (monthly).
Water temperatures: October 1968 to September 1975.
Sediment records: Water years 1958, 1960-63 (partial-record station).

EXTREMES.--1974-75:
Specific conductance: Maximum daily, 2,750 micromhos Jan. 13; minimum, 1,300 micromhos Nov. 20, Dec. 26.
Water temperatures: Maximum, 26.0°C June 1-30, July 8; minimum, 3.0°C Mar. 25.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED SILICA (SIO2) (MG/L) (00955)	DISSOLVED CALCIUM (CA) (MG/L) (00915)	DISSOLVED MAGNESIUM (MG) (MG/L) (00925)	DISSOLVED SODIUM (NA) (MG/L) (00930)	DISSOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	ALKALINITY AS CACO3 (MG/L) (00410)	DISSOLVED SULFATE (SO4) (MG/L) (00945)	DISSOLVED CHLORIDE (CL) (MG/L) (00940)	DISSOLVED FLUORIDE (F) (MG/L) (00950)
OCT.												
22...	1500	1.5	7.7	230	66	170	10	172	141	900	95	.6
NOV.												
19...	1630	1.2	7.3	230	64	170	10	177	145	890	100	.6
DEC.												
17...	1430	1.1	10	230	74	170	9.8	188	154	900	110	.6
JAN.												
14...	1520	1.0	8.1	240	78	170	12	190	156	930	110	.8
MAR.												
11...	1500	1.6	6.6	250	74	180	.4	177	145	960	100	.7
APR.												
09...	0930	1.5	6.6	240	70	180	10	161	132	970	100	.6
MAY												
07...	0930	1.3	6.1	230	72	160	9.5	176	144	920	98	.6
JUNE												
04...	0930	1.1	5.8	230	78	170	9.6	173	142	970	110	.6
JULY												
01...	1530	1.4	5.2	230	71	180	10	139	114	960	110	.6
29...	1515	1.4	6.2	240	70	190	11	153	126	1000	130	.7
AUG.												
25...	1530	1.2	7.3	230	85	200	10	163	134	990	110	.6
SEP.												
15...	1445	.92	6.8	250	52	200	10	155	127	1000	110	.6

NOTE.--Carbonate (CO_3) analysis for all samples, 0.0 mg/l.

06401500 CHEYENNE RIVER BELOW ANGOSTURA DAM, S. DAK.--Continued

EXTREMES.--Continued
Period of record:
Dissolved solids (1968-69, 1971-73): Maximum, 1,770 mg/l Mar. 1 to Apr. 30, 1969; minimum, 1,450 mg/l Feb. 1-29, 1972.
Hardness (1968-69, 1971-73): Maximum, 900 mg/l Jan. 1-31, 1972; minimum, 750 mg/l Feb. 1-29, 1972.
Specific conductance (1968-70, 1971-75): Maximum daily, 2,750 micromhos Jan. 13, 1975; minimum daily, 1,300 micromhos Nov. 20, Dec. 26, 1975.
Water temperatures (1968-70, 1971-73, 1975): Maximum, 30.0°C on several days during June to July 1970, July 8, Aug. 21, 1973; minimum, freezing point on several days in 1968, 1971-73.

REMARKS.--Maximum observed during water year: Dissolved solids, 1,720 mg/l July 29; hardness, 930 mg/l Mar. 11.
Minimum observed during water year: Dissolved solids, 1,560 mg/l Oct. 22, Nov. 19; hardness, 840 mg/l Nov. 19, Sept. 15.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	DIS-SOL-VED-PHOS-PHORUS (P) (MG/L) (00666)	TOTAL PHOS-PHORUS (P) (MG/L) (00665)	DIS-SOLVED BORON (B) (UG/L) (01020)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L) (70301)	DIS-SOLVED SOLIDS (TONS PER DAY) (70302)	DIS-SOLVED SOLIDS (TONS PER AC-FT) (70303)	HARD-NESS (CA+MG) (MG/L) (00900)	NON-CAR-BONATE HARD-NESS (MG/L) (00902)	SODIUM AD-SORP-TION RATIO (00931)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS) (00095)	PH (UNITS) (00400)
OCT.												
22...	.07	.01	.01	160	1560	6.49	2.12	850	710	2.5	2290	7.8
NOV.												
19...	.08	.01	.01	170	1560	5.14	2.12	840	690	2.6	2350	7.8
DEC.												
17...	.20	.01	.00	170	1600	5.05	2.18	880	720	2.5	2080	8.2
JAN.												
14...	.11	.00	.00	150	1640	4.78	2.23	920	760	2.4	2400	7.8
MAR.												
11...	.11	.01	.00	180	1660	7.17	2.26	930	780	2.6	2800	8.0
APR.												
09...	.12	.01	.01	170	1660	6.72	2.26	890	760	2.6	2100	8.3
MAY												
07...	.08	.00	.00	160	1580	5.55	2.15	870	730	2.4	690	--
JUNE												
04...	.07	.02	.02	160	1660	4.93	2.26	900	750	2.5	2080	8.5
JULY												
01...	.05	.01	.01	170	1640	6.20	2.23	870	750	2.7	2220	--
29...	.06	.01	.03	170	1720	6.50	2.34	890	760	2.8	2160	8.2
AUG.												
25...	.16	.00	.00	170	1710	5.54	2.33	920	790	2.9	2280	7.9
SEP.												
15...	.06	.00	.02	180	1710	4.25	2.33	840	710	3.0	2450	8.2

06401500 CHEYENNE RIVER BELOW ANGOSTURA DAM, S. DAK.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1750	1550	2070	2450	2100	2100	2000	2070	2150	2200	2200	2150
2	2050	1750	1410	2500	2100	2150	2030	2120	2180	2120	2200	2200
3	2050	2050	2100	2500	2120	2100	2050	2100	2180	2160	2150	2200
4	2050	2000	1900	2450	2120	2100	2050	2100	2180	2150	2100	2150
5	2050	1770	1460	2350	2100	2050	2050	2100	2180	2160	2150	2150
6	2080	1350	2100	2320	2100	2150	2050	2050	2150	2160	2100	2150
7	2080	2100	2100	2300	2100	2100	2050	2100	2180	2160	2100	2200
8	2080	1700	2100	1900	2080	2100	2050	2100	2180	2160	2150	2200
9	2080	1550	2020	2220	2120	2150	2000	2100	2170	2160	2300	2200
10	2000	1650	2000	2250	2120	2130	2050	2100	2200	2180	2200	2200
11	2100	1620	2120	2500	2120	2100	2030	2100	2170	2140	2300	2180
12	2080	1440	2150	2400	2120	2100	2020	2100	2170	2170	2300	2190
13	2080	2080	2100	2750	2110	2100	2030	2100	2170	2150	2000	2170
14	2070	1700	2120	2500	2100	2150	2050	2100	2180	2150	2150	2200
15	2070	1570	1500	2350	2100	2160	2020	2100	2180	2200	2150	2150
16	2070	2120	2050	2350	2100	2080	2050	2100	2180	2110	2350	2190
17	2050	2100	2080	2300	2100	2150	2020	2100	2180	2190	2200	2200
18	2100	1500	2100	2250	2100	2100	2020	2100	2170	2150	2250	2200
19	2080	1700	2220	2220	2100	2080	2020	2100	2170	2120	2200	2150
20	2050	1300	2100	2220	2100	2100	2040	2100	2170	2150	2200	2150
21	2070	2070	2200	2270	2120	2050	2050	2100	2180	2160	2150	2170
22	2070	1620	2300	2250	2120	2100	2020	2100	2180	2160	2100	2170
23	2070	1450	2300	2250	2100	2120	2050	2100	2180	2160	2150	2200
24	2070	1800	2200	2250	2100	2150	2050	2100	2180	2180	2100	2200
25	2060	1680	2070	2200	2100	2120	2020	2100	2200	2150	2150	2200
26	2050	1500	1300	2250	2080	2100	2020	2100	2150	2110	2100	2200
27	2070	1420	1680	2270	2050	2150	2020	2100	2150	2120	2100	2200
28	2080	1520	1370	2450	2080	2100	2020	2100	2150	2120	2150	2190
29	2000	1650	1900	2300	---	2120	2050	2100	2150	2150	2150	2190
30	2030	1500	2000	2350	---	2150	2070	2100	2150	2190	2100	2200
31	2050	---	2020	2400	---	2100	---	2100	---	2150	2100	---
MONTH	2050	1690	1970	2330	2100	2110	2040	2100	2170	2150	2160	2180

06401500 CHEYENNE RIVER BELOW ANGOSTURA DAM, S. DAK.--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.0	7.0	6.0	4.0	4.0	6.0	4.0		26.0	25.0	24.0	
2	24.0	6.0	---	4.0	4.0	6.0	4.0		26.0	25.0	25.0	
3	23.0	6.0	6.0	4.0	4.0	6.0	4.0		26.0	25.0	24.0	
4	23.0	6.0	7.0	4.0	4.0	6.0	4.0		26.0	24.0	25.0	
5	14.0	7.0	6.0	4.0	4.0	6.0	4.0		26.0	25.0	24.0	
6	14.0	6.0	6.0	4.0	4.0	6.0	5.0		26.0	25.0	25.0	
7	13.0	7.0	6.0	4.0	5.0	6.0	5.0		26.0	25.0	25.0	
8	11.0	7.0	6.0	4.0	5.0	6.0	4.0		26.0	26.0	24.0	
9	12.0	7.0	6.0	4.0	4.0	6.0	5.0		26.0	24.0	25.0	
10	12.0	6.0	6.0	4.0	4.0	6.0	5.0		26.0	24.0	24.0	
11	12.0	8.0	6.0	4.0	5.0	4.0	4.0		26.0	24.0	24.0	
12	12.0	6.0	6.0	4.0	5.0	4.0	4.0		26.0	24.0	25.5	
13	12.0	5.0	6.0	4.0	4.0	4.0	4.0		26.0	24.0	23.0	
14	12.0	6.0	6.0	4.0	4.0	4.0	4.0		26.0	24.0	22.0	
15	12.0	6.0	6.0	4.0	4.0	4.0	4.0		26.0	24.0	23.0	
16	12.0	7.0	6.0	4.0	4.0	4.0	4.0		26.0	24.0	23.0	
17	12.0	6.0	6.0	4.0	4.0	5.0	4.0		26.0	25.0	24.0	
18	12.0	6.0	6.0	4.0	5.0	4.0	4.0		26.0	25.0	24.0	
19	12.0	---	6.0	4.0	4.0	4.0	4.0		26.0	25.0	25.0	
20	12.0	7.0	6.0	4.0	5.0	4.0	5.0		26.0	20.0	24.0	
21	12.0	9.0	6.0	4.0	5.0	4.0	5.0		26.0	20.0	23.0	
22	12.0	8.0	6.0	4.0	6.0	4.0	5.0		26.0	20.0	24.0	
23	12.0	6.0	6.0	4.0	7.0	4.0	5.0		26.0	20.0	24.0	
24	12.0	6.0	5.0	4.0	6.0	4.0	4.0		26.0	20.0	23.0	
25	12.0	6.0	5.0	4.0	7.0	3.0	4.0		26.0	20.0	24.0	
26	12.0	6.0	4.0	4.0	7.0	4.0	4.0		26.0	20.0	25.0	
27	12.0	6.0	4.0	4.0	7.0	4.0	5.0		26.0	20.0	25.0	
28	12.0	6.0	4.0	4.0	7.0	4.0	5.0		26.0	20.0	24.0	
29	12.0	7.0	4.0	4.0	---	4.0	5.0		26.0	20.0	24.0	
30	12.0	6.0	4.0	4.0	---	5.0	5.0		26.0	20.0	23.0	
31	12.0	---	4.0	4.0	---	5.0	---		---	20.0	23.5	
MONTH	13.5	6.5	5.5	4.0	5.0	4.5	4.5		26.0	23.0	24.0	

06402600 CHEYENNE RIVER NEAR BUFFALO GAP, S. DAK.

LOCATION.--Lat 43°30'05", long 103°04'23", in SW¼NE¼ sec.29, T.6 S., R.9 E., Custer County, 6.0 mi (9.6 km) downstream from gaging station, 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.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1973 (daily), October 1973 to September 1975 (monthly).
Water temperatures: October 1968 to September 1975.

EXTREMES.--1974-75:
Specific conductance: Maximum daily, 2,950 micromhos Dec. 1; minimum daily, 1,980 micromhos June 19, 20.
Water temperatures: Maximum, 30.0°C Aug. 6; minimum, freezing point on many days during November to April.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED SILICA (SIO2) (MG/L) (00955)	DISSOLVED CALCIUM (CA) (MG/L) (00915)	DISSOLVED MAGNESIUM (MG) (MG/L) (00925)	DISSOLVED SODIUM (NA) (MG/L) (00930)	DISSOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	ALKALINITY AS CACO3 (MG/L) (00410)	DISSOLVED SULFATE (SO4) (MG/L) (00945)	DISSOLVED CHLORIDE (CL) (MG/L) (00940)	DISSOLVED FLUORIDE (F) (MG/L) (00950)
OCT.												
21...	1315	65	12	240	76	210	17	238	195	1000	120	.5
NOV.												
19...	0950	74	12	260	70	210	16	232	190	980	120	.5
DEC.												
17...	1130	60	13	280	81	180	15	258	212	980	120	.6
JAN.												
13...	1030	67	16	300	93	230	18	315	258	1200	140	.6
MAR.												
11...	0945	71	8.9	250	76	170	12	236	194	920	110	.6
APR.												
09...	1300	66	8.5	230	75	180	14	207	170	970	110	.5
MAY												
05...	0900	49	4.3	240	73	190	15	194	159	960	120	.7
JUNE												
04...	1430	50	6.3	240	73	180	13	186	153	950	110	.6
JULY												
01...	0930	50	9.6	300	74	170	15	191	157	1100	91	.7
29...	1100	36	7.3	260	75	200	15	166	136	1000	130	.7
AUG.												
25...	1000	52	8.0	250	92	220	17	182	149	1100	120	.6
SEP.												
15...	0945	52	8.8	250	84	210	15	117	96	1100	120	.6

NOTE.--Carbonate (CO_3) analysis for all samples, 0.0 mg/l.

06402600 CHEYENNE RIVER NEAR BUFFALO GAP, S. DAK.--Continued

EXTREMES.--Continued
Period of record:
Dissolved solids (1968-69, 1970-73): Maximum, 1,930 mg/l May 1-23, Dec. 1-31, 1971; minimum, 1,120 mg/l June 1-8, 1971.
Hardness (1968-69, 1970-73): Maximum, 1,000 mg/l Dec. 1-31, 1970; minimum, 550 mg/l June 1-8, 1971.
Specific conductance: Maximum daily, 3,140 micromhos Jan. 13, 1971; minimum daily, 1,440 micromhos July 25, 1975.
Water temperatures: Maximum, 32.0°C on several days during July to August 1969; minimum, freezing point on many days during winter period.

REMARKS.--Maximum observed during water year: Dissolved solids, 2,160 mg/l Jan. 13; hardness, 1,100 mg/l Jan. 13, July 1. Minimum observed during water year: Dissolved solids, 1,670 mg/l Mar. 11, June 4; hardness, 880 mg/l Apr. 9.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	DIS-SOL-VED-PHOS-PHORUS (P) (MG/L) (00666)	TOTAL PHOS-PHORUS (P) (MG/L) (00665)	DIS-SOLVED BORON (B) (UG/L) (01020)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L) (70301)	DIS-SOLVED SOLIDS (TONS PER DAY) (70302)	DIS-SOLVED SOLIDS (TONS PER AC-FT) (70303)	HARD-NESS (CA+MG) (MG/L) (00900)	NON-CAR-BONATE HARD-NESS (MG/L) (00902)	SODIUM AD-SORP-TION RATIO (00931)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS) (00095)	PH (UNITS) (00400)
OCT.												
21...	1.0	.01	.05	380	1800	315	2.45	910	720	3.0	2870	7.6
NOV.												
19...	1.4	.00	.01	330	1790	359	2.43	940	750	3.0	2650	7.3
DEC.												
17...	1.6	.02	.04	310	1800	294	2.45	1000	820	2.4	2800	8.0
JAN.												
13...	1.6	.00	.01	310	2160	391	2.94	1100	870	3.0	2900	7.6
MAR.												
11...	1.2	.01	.00	260	1670	320	2.27	940	740	2.4	2550	8.1
APR.												
09...	.78	.02	.02	270	1690	301	2.30	880	710	2.6	2300	8.3
MAY												
05...	.31	--	.02	320	1700	225	2.31	900	740	2.8	2180	--
JUNE												
04...	.18	.01	.04	310	1670	225	2.27	900	750	2.6	2100	8.6
JULY												
01...	.82	.01	.05	330	1860	251	2.53	1100	900	2.3	2240	--
29...	.06	.01	.09	310	1770	172	2.41	960	820	2.8	2270	8.2
AUG.												
25...	.43	.00	.04	320	1900	267	2.58	1000	850	3.0	2600	8.0
SEP.												
15...	.50	.01	.05	270	1850	260	2.52	970	870	2.9	2500	8.2

06402600 CHEYENNE RIVER NEAR BUFFALO GAP, S. DAK.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2350	2250	2950	2080	2300	2050	2250	2350	2350	2300	2400	2400
2	2400	2350	2850	2100	2300	2150	2250	2400	2350	2200	2400	2350
3	2400	2320	2700	2110	2280	2150	2300	2420	2420	2250	2400	2350
4	2400	2350	2600	2120	2300	2200	2300	2400	2350	2200	2400	2300
5	2250	2320	2500	2120	2420	2100	2350	2420	2350	2250	2400	2350
6	2400	2380	2400	2100	2520	2050	2300	2380	2350	2200	2400	2350
7	2380	2350	2550	2120	2500	2150	2250	2320	2400	2150	2450	2350
8	2380	2320	2600	2100	2350	2150	2250	2300	2350	2150	2450	2350
9	2400	2350	2600	2100	2350	2180	2300	2300	2350	2200	2450	2400
10	2450	2300	2550	2050	2380	2220	2300	2300	2250	2200	2400	2300
11	2400	2320	2600	2020	2320	2200	2300	2300	2450	2150	2400	2350
12	2400	2300	2550	2100	2250	2220	2300	2300	2350	2200	2400	2350
13	2400	2350	2600	2080	2250	2200	2300	2300	2380	2250	2400	2400
14	2400	2400	2600	2100	2280	2120	2300	2300	2350	2300	2450	2350
15	2420	2300	2600	2080	2250	2100	2350	2320	2350	2300	2450	2350
16	2400	2300	2550	2100	2300	2050	2300	2350	2350	2300	2450	2350
17	2350	2300	2500	2080	2320	2080	2350	2400	2250	2300	2500	2350
18	2420	2300	2500	2100	2350	2200	2350	2400	1980	2350	2500	2400
19	2400	2300	2500	2100	2300	2200	2300	2350	1980	2350	2450	2350
20	2400	2300	2450	2050	2250	2200	2300	2400	1980	2350	2450	2350
21	2400	2300	2500	2080	2250	2200	2300	2400	2020	2350	2450	2350
22	2400	2300	2500	2100	2280	2220	2300	2200	2150	2350	2450	2350
23	2380	2300	2450	2080	2250	2200	2300	2200	2150	2300	2500	2350
24	2400	2300	2650	2080	2280	2250	2350	2400	2220	2250	2500	2350
25	2400	2300	2750	2080	2200	2300	2300	2400	2300	2200	2500	2350
26	2400	2250	2850	2080	2150	2220	2350	2400	2300	2200	2450	2400
27	2400	2300	2700	2100	2200	2400	2300	2420	2300	2200	2450	2400
28	2400	2300	2600	2120	2200	2420	2300	2350	2380	2250	2450	2400
29	2380	2350	2500	2100	---	2450	2300	2350	2300	2300	2450	2350
30	2360	2600	2450	2120	---	2200	2250	2350	2300	2150	2450	2350
31	2350	---	2300	2120	---	2150	---	2350	---	2200	2450	---
MONTH	2390	2330	2580	2090	2300	2190	2300	2350	2280	2250	2440	2360

06402600 CHEYENNE RIVER NEAR BUFFALO GAP, S. DAK.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	8.0	0.5	0.0	0.0	0.0	0.0	10.0	13.5	24.0	20.0	16.0
2	6.0	6.0	0.5	0.0	0.0	0.0	0.0	10.0	12.5	23.5	19.0	18.0
3	9.5	3.5	0.5	0.0	0.0	0.0	1.0	10.5	16.0	23.5	22.0	14.5
4	10.5	3.0	1.0	0.0	0.0	0.0	7.0	13.0	16.5	23.0	27.5	16.5
5	8.0	4.0	0.5	0.0	0.0	0.0	6.0	15.0	16.5	25.0	29.5	14.5
6	5.0	7.0	1.0	0.0	0.0	0.0	5.0	13.5	---	24.0	30.0	15.0
7	6.0	4.0	0.0	0.0	0.0	0.0	6.0	12.0	19.5	23.0	24.0	21.5
8	8.5	4.0	0.0	0.0	0.0	0.0	5.0	11.0	19.0	22.0	17.5	16.0
9	9.0	4.5	0.0	0.0	0.0	0.0	5.5	11.0	16.0	22.0	25.5	16.5
10	11.0	3.5	0.0	0.0	0.0	0.0	5.5	11.5	11.5	21.0	18.0	19.0
11	10.0	3.5	0.0	0.0	0.0	0.0	5.0	12.0	13.5	19.0	20.0	13.0
12	8.0	2.0	0.0	0.0	0.0	0.0	5.0	12.5	24.0	18.0	20.0	10.5
13	7.0	4.0	0.0	0.0	0.0	0.0	5.0	13.0	18.0	18.0	17.5	12.0
14	6.5	0.0	0.0	0.0	0.0	0.0	6.0	14.0	18.5	22.5	17.5	15.0
15	5.5	1.0	0.0	0.0	0.0	0.0	8.0	16.0	17.0	22.0	17.0	15.0
16	7.5	1.0	0.5	0.0	0.0	0.0	8.0	17.0	17.0	25.0	22.0	15.0
17	8.5	---	0.0	0.0	0.0	0.0	10.0	17.0	13.5	21.5	20.5	16.0
18	8.5	3.0	1.0	0.0	0.0	3.0	5.5	20.0	15.0	21.0	18.0	13.0
19	8.0	---	1.0	0.0	0.0	5.0	15.0	17.5	15.0	21.0	19.5	11.0
20	8.0	1.0	0.0	0.0	0.0	8.0	9.5	9.5	16.5	20.0	20.0	10.0
21	10.0	4.0	0.5	0.0	0.0	7.0	11.0	9.5	20.5	21.5	22.0	9.0
22	8.5	4.5	0.5	0.0	0.0	5.0	11.0	12.0	17.0	23.0	23.0	10.0
23	8.0	2.5	0.0	0.0	0.0	3.0	12.0	12.0	23.0	26.0	20.0	10.5
24	8.0	2.0	0.0	0.0	0.0	2.5	12.0	15.0	23.0	21.5	19.5	10.0
25	6.0	2.0	0.0	0.0	0.0	2.0	12.0	12.0	22.0	21.0	15.0	10.0
26	6.0	3.0	0.0	0.0	0.0	2.0	14.0	10.5	21.0	23.0	15.0	10.5
27	9.0	0.5	0.0	0.0	0.0	---	11.0	12.5	19.0	28.0	15.0	11.5
28	7.5	0.5	0.0	0.0	0.0	0.0	9.5	12.5	21.0	21.5	19.0	12.5
29	---	0.0	0.0	0.0	---	0.0	9.5	---	20.5	22.0	18.5	10.5
30	---	1.0	0.0	0.0	---	0.5	10.0	14.0	23.0	29.5	17.0	9.5
31	7.0	---	0.0	0.0	---	0.0	---	14.0	---	23.0	17.0	---
MONTH	8.0	3.0	0.0	0.0	0.0	1.5	7.5	13.0	18.0	22.5	20.0	13.5

06409000 CASTLE CREEK ABOVE DEERFIELD RESERVOIR, NEAR HILL CITY, S. DAK.
(Hydrologic benchmark and radiochemical station)

LOCATION.--Lat 44°00'49", long 103°49'48", in SW¼ sec.25, T.1 N., R.2 E., Pennington County, at gaging station, 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 mi^2 (215 km^2), approximately.

PERIOD OF RECORD.--Chemical analyses: October 1967 to September 1975 (monthly).
Water temperatures: May 1964 to September 1975.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED SILICA (SIO2) (MG/L) (00955)	DISSOLVED CALCIUM (CA) (MG/L) (00915)	DISSOLVED MAGNESIUM (MG) (MG/L) (00925)	DISSOLVED SODIUM (NA) (MG/L) (00930)	DISSOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	ALKALINITY AS CACO3 (MG/L) (00410)	DISSOLVED SULFATE (SO4) (MG/L) (00945)
OCT.										
15...	1300	7.8	9.6	57	32	1.9	2.2	329	270	7.8
NOV.										
06...	1030	11	21	58	31	1.5	1.2	327	268	7.9
25...	1330	10	8.8	57	28	2.0	.8	315	258	6.3
FEB.										
18...	1325	7.6	8.9	59	32	2.7	1.5	321	263	6.3
MAR.										
18...	1030	6.5	8.8	53	29	2.6	2.4	314	258	8.6
APR.										
14...	1545	16	7.5	48	23	2.1	2.0	261	214	6.5
MAY										
13...	1130	22	8.3	56	30	2.3	1.4	306	251	9.5
JUNE										
10...	1145	13	7.8	55	31	2.0	1.2	309	255	6.7
JULY										
08...	1030	11	8.2	53	28	2.6	1.0	279	229	7.0
AUG.										
12...	1100	8.6	8.3	53	30	2.3	1.2	298	263	6.4
SEP.										
10...	1230	9.7	7.9	52	29	2.5	1.2	280	230	7.8

DATE	NONCARBONATE HARDNESS (MG/L) (00902)	SODIUM ADSORPTION RATIO (00931)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)	PH (UNITS) (00400)	TEMPERATURE (DEG C) (00010)	DISSOLVED OXYGEN (MG/L) (00300)	IMMEDIATE COLIFORM (COL. PER 100 ML) (31501)	FECAL COLIFORM (COL. PER 100 ML) (31616)	STREPTOCOCCI (COLONIES PER 100 ML) (31679)
OCT.									
15...	4	.1	550	8.1	3.0	10.9	520	8	50
NOV.									
06...	4	.0	545	8.5	.5	12.2	730	8	30
25...	0	.1	480	8.0	1.5	11.4	50	5	8
FEB.									
18...	16	.1	472	7.7	.0	11.9	870	<2	85
MAR.									
18...	0	.1	395	8.6	1.0	--	500	20	40
APR.									
14...	0	.1	450	8.5	3.5	--	<2	<2	70
MAY									
13...	12	.1	470	8.8	--	9.9	<0	<5	86
JUNE									
10...	10	.1	535	8.9	9.0	9.4	--	--	--
JULY									
08...	19	.1	510	9.0	18.5	--	240	220	180
AUG.									
12...	0	.1	525	8.6	12.0	--	1600	150	130
SEP.									
10...	20	.1	610	8.6	12.0	--	90	70	90

NOTE.--Carbonate (CO_3) analysis for all samples, 0.0 mg/l.

B Non-ideal colony county
< Less than

06409000 CASTLE CREEK ABOVE DEERFIELD RESERVOIR, NEAR HILL CITY, S. DAK.--Continued

EXTREMES.--1974-75:
Water temperatures: Maximum, 20.5°C July 1, 3, 16; minimum, freezing point on many days during January to March.

Period of record:
Water temperatures: Maximum, 22.0°C July 17, 1969, June 25, 1971; minimum, freezing point on many days during winter period.

REMARKS.--Maximum observed during year: Dissolved solids, 476 mg/l Sept. 10; hardness, 280 mg/l Feb. 18; specific conductance, 610 micromhos, Sept. 10. Minimum observed during year: Dissolved solids, 227 mg/l Apr. 14; hardness, 210 mg/l Apr. 14; specific conductance, 395 micromhos Mar. 18. Periodic samples obtained for analysis of suspended-sediment concentration most years.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	DIS-SOLVED CHLO-RIDE (CL) (MG/L) (00940)	DIS-SOLVED FLUO-RIDE (F) (MG/L) (00950)	TOTAL NITRITE PLUS NITRATE (N) (MG/L) (00630)	TOTAL PHOS-PHORUS (P) (MG/L) (00665)	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 DAY) (70302)	DIS-SOLVED SOLIDS (TONS PER AC-FT) (70303)	HARD-NESS (CA,MG) (MG/L) (00900)
OCT.									
15...	1.7	.2	.04	.08	268	275	5.61	.36	270
NOV.									
06...	.6	.6	.11	.01	262	283	7.57	.36	270
25...	1.1	.1	.15	.02	251	259	6.78	.34	260
FEB.									
18...	1.5	.2	.19	.00	259	270	5.34	.35	280
MAR.									
18...	3.4	.5	.17	.02	260	263	4.56	.35	250
APR.									
14...	1.1	.1	.14	.11	227	219	9.81	.31	210
MAY									
13...	.7	.1	.17	.02	256	259	15.2	.35	260
JUNE									
10...	.9	.1	.07	.02	239	258	8.39	.33	270
JULY									
08...	1.8	.2	.06	.02	229	239	6.80	.31	250
AUG.									
12...	1.3	.2	.02	.01	230	261	5.34	.31	260
SEP.									
10...	.6	.1	.05	.02	476	239	12.6	.65	250

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	TEMPER-ATURE (DEG C) (00010)	INSTAN-TANEOUS DIS-CHARGE (CFS) (00061)	SUS-PENDED SEDI-MENT (MG/L) (80154)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY) (80155)
OCT.					
15...	1300	3.0	7.8	33	.69
NOV.					
06...	1030	.5	11	50	1.5
JAN.					
20...	1300	.0	8.4	65	1.5
FEB.					
18...	1325	.0	7.6	46	.94
MAR.					
18...	1030	1.0	6.5	62	1.1
APR.					
14...	1545	3.5	16	101	4.4
MAY					
13...	1130	5.5	22	66	3.9
JUNE					
10...	1145	9.0	13	59	2.1
JULY					
08...	1030	18.5	11	39	1.2
AUG.					
12...	1100	12.0	8.6	43	1.0
SEP.					
10...	1230	12.0	9.7	43	1.1

06409000 CASTLE CREEK ABOVE DEERFIELD RESERVOIR, NEAR HILL CITY, S. DAK.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

TRACE METALS

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	TOTAL ARSENIC (AS) (UG/L) (01002)	TOTAL BARIUM (BA) (UG/L) (01007)	TOTAL CADMIUM (CD) (UG/L) (01027)	TOTAL CHROMIUM (CR) (UG/L) (01034)	TOTAL COPPER (CU) (UG/L) (01042)	CYANIDE (CN) (MG/L) (00720)
OCT. 15...	1300	7.8	0	<100	<10	0	<10	.00
JULY 08...	1030	11	0	100	<10	10	10	.00

DATE	TOTAL IRON (FE) (UG/L) (01045)	TOTAL LEAD (PB) (UG/L) (01051)	TOTAL MERCURY (HG) (UG/L) (71900)	TOTAL MANGANESE (MN) (UG/L) (01055)	TOTAL SELENIUM (SE) (UG/L) (01147)	TOTAL SILVER (AG) (UG/L) (01077)	TOTAL ZINC (ZN) (UG/L) (01092)
OCT. 15...	80	<100	.7	10	0	<10	170
JULY 08...	310	<100	.0	20	1	<10	40

RADIOCHEMICAL ANALYSES

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	TEMPERATURE (DEG C) (00010)	DISSOLVED GROSS ALPHA AS U-NAT. (UG/L) (80030)	SUSPENDED GROSS ALPHA AS U-NAT. (UG/L) (80040)	DISSOLVED GROSS BETA AS SR90 /Y90 (PC/L) (80050)	SUSPENDED GROSS BETA AS SR90 /Y90 (PC/L) (80060)	DISSOLVED GROSS BETA AS CS-137 (PC/L) (03515)	SUSPENDED GROSS BETA AS CS-137 (PC/L) (03516)	DISSOLVED RA-226 (RADON METHOD) (PC/L) (09511)	TOTAL FILTRABLE RESIDUE (MG/L) (00515)	TOTAL NONFILTRABLE RESIDUE (MG/L) (00530)
OCT. 15...	1300	7.8	3.0	3.8	<.4	2.4	.4	3.0	.5	.06	300	3

PESTICIDES

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	TEMPERATURE (DEG C) (00010)	TOTAL ALDRIN (UG/L) (39330)	TOTAL DDD (UG/L) (39360)	TOTAL DDE (UG/L) (39365)	TOTAL DDT (UG/L) (39370)	TOTAL DIELDRIN (UG/L) (39380)	TOTAL ENDRIN (UG/L) (39390)	TOTAL HEPTACHLOR (UG/L) (39410)	TOTAL HEPTACHLOR EPOXIDE (UG/L) (39420)
OCT. 15...	1300	7.8	3.0	.00	.00	.00	.00	.00	.00	.00	.00

DATE	TIME	TOTAL LINDANE (UG/L) (39340)	TOTAL CHLORDANE (UG/L) (39350)	TOTAL PCB (UG/L) (39516)	TOTAL DIAZINON (UG/L) (39570)	TOTAL MALATHION (UG/L) (39530)	TOTAL METHYL PARATHION (UG/L) (39600)	TOTAL PARATHION (UG/L) (39540)	TOTAL 2,4-D (UG/L) (39730)	TOTAL SILVEX (UG/L) (39760)	TOTAL 2,4,5-T (UG/L) (39740)
OCT. 15...	1300	.00	.0	.0	.00	.00	.00	.00	.00	.00	.00

< Less than

06409000 CASTLE CREEK ABOVE DEERFIELD RESERVOIR, NEAR HILL CITY, S. DAK.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(RECORDER WITH TEMPERATURE ATTACHMENT, CONTINUOUS ETHYL ALCOHOL-ACTUATED THERMOGRAPH)

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.0	5.0	4.5	4.5	1.5	1.5	0.5	0.5	0.0	0.0	0.0	0.0
2	8.5	5.0	4.5	4.0	1.5	1.5	0.5	0.5	0.0	0.0	0.0	0.0
3	8.5	5.5	4.0	1.0	1.5	1.5	0.5	0.5	0.0	0.0	0.0	0.0
4	7.0	6.0	1.0	1.0	1.5	1.5	0.5	0.5	0.0	0.0	0.0	0.0
5	6.5	5.5	1.0	1.0	1.5	1.5	0.5	0.5	0.0	0.0	0.5	0.5
6	5.5	3.0	1.5	1.0	1.5	1.5	0.5	0.5	0.0	0.0	1.0	1.0
7	6.5	3.5	2.0	1.5	1.5	1.5	0.5	0.5	0.0	0.0	1.0	1.0
8	8.0	5.5	3.5	2.0	1.5	1.5	0.0	0.0	0.0	0.0	1.0	1.0
9	8.0	5.5	3.5	3.0	1.5	1.5	0.0	0.0	0.0	0.0	1.0	1.0
10	8.5	6.0	3.5	2.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0
11	8.0	5.5	2.0	2.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0
12	8.0	5.5	2.0	2.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0
13	7.0	5.5	1.5	1.5	1.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0
14	5.5	3.5	1.5	1.5	1.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0
15	4.5	3.0	1.5	1.5	0.5	0.5	0.0	0.0	0.0	0.0	1.0	1.0
16	6.0	3.0	1.5	1.5	0.5	0.5	0.0	0.0	0.0	0.0	1.0	1.0
17	6.5	5.0	1.5	1.5	0.5	0.5	0.0	0.0	0.0	0.0	1.0	1.0
18	6.0	4.5	1.5	1.5	0.5	0.5	0.0	0.0	0.0	0.0	1.0	1.0
19	6.0	4.5	1.5	1.5	0.5	0.5	0.0	0.0	0.0	0.0	1.0	1.0
20	7.0	5.0	1.5	1.5	0.5	0.5	0.0	0.0	0.0	0.0	1.0	1.0
21	8.0	6.0	1.5	1.5	0.5	0.5	0.0	0.0	0.0	0.0	1.0	1.0
22	8.0	5.5	1.5	1.5	0.5	0.5	0.0	0.0	0.0	0.0	1.0	1.0
23	6.0	5.0	1.5	1.5	0.5	0.5	0.0	0.0	0.0	0.0	1.0	1.0
24	5.5	5.0	1.5	1.5	0.5	0.5	0.0	0.0	0.0	0.0	1.0	1.0
25	5.0	2.0	1.5	1.5	0.5	0.5	0.0	0.0	0.0	0.0	1.0	1.0
26	4.5	2.0	1.5	1.5	0.5	0.5	0.0	0.0	0.0	0.0	1.0	1.0
27	5.0	4.5	1.5	1.5	0.5	0.5	0.0	0.0	0.0	0.0	1.0	1.0
28	4.5	2.0	1.5	1.5	0.5	0.5	0.0	0.0	0.0	0.0	1.0	1.0
29	4.0	1.5	1.5	1.5	0.5	0.5	0.0	0.0	---	---	1.0	1.0
30	4.5	4.0	1.5	1.5	0.5	0.5	0.0	0.0	---	---	1.0	1.0
31	4.5	4.5	---	---	0.5	0.5	0.0	0.0	---	---	1.0	1.0
MONTH	8.5	1.5	4.5	1.0	1.5	0.5	0.5	0.0	0.0	0.0	1.0	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	1.0	1.0	1.5	1.5	10.0	6.0	20.5	13.0	16.5	13.5	14.5	10.0
2	1.0	1.0	6.0	1.5	15.0	6.0	20.0	13.0	16.0	10.0	14.5	11.5
3	1.0	1.0	8.5	1.5	16.5	9.5	20.5	13.5	16.5	10.5	13.0	8.5
4	1.0	1.0	10.5	3.0	15.5	9.5	19.0	13.5	17.0	11.0	14.0	10.0
5	1.0	1.0	10.5	5.0	16.0	9.0	19.0	14.0	18.0	11.5	12.0	8.5
6	1.0	1.0	8.5	5.5	17.0	9.5	19.5	13.5	19.5	14.0	13.0	8.0
7	1.0	1.0	7.0	3.5	14.5	11.0	19.5	13.0	18.0	13.5	13.5	8.5
8	0.5	0.5	9.0	5.5	12.0	10.5	17.0	14.5	17.0	11.5	14.0	9.5
9	0.5	0.5	11.0	5.5	11.0	9.0	18.0	14.0	17.0	11.0	13.0	9.5
10	1.0	0.5	10.0	5.5	11.0	7.0	16.5	12.0	16.5	10.5	11.5	10.0
11	1.5	1.0	8.0	6.0	10.5	6.5	16.5	10.5	15.0	11.0	11.0	6.5
12	3.5	1.5	7.0	5.5	14.5	6.5	16.5	10.0	15.0	11.0	9.0	5.0
13	3.0	1.5	12.0	5.0	13.5	9.0	18.0	10.5	14.0	10.0	10.0	5.5
14	3.5	1.5	13.0	5.5	11.0	9.0	18.0	12.0	14.0	11.0	11.0	6.5
15	2.0	1.5	14.5	5.5	14.5	8.0	18.0	12.0	13.0	9.5	10.5	6.5
16	3.0	1.0	15.5	8.0	12.0	9.0	20.5	13.5	13.0	9.0	11.0	8.0
17	1.5	1.0	13.5	8.5	11.0	6.5	20.0	14.5	14.5	10.0	10.5	8.0
18	1.5	1.0	15.5	8.0	9.0	8.5	19.0	13.5	16.0	11.5	9.0	6.0
19	1.5	1.0	13.5	8.0	15.0	8.5	16.5	12.0	16.5	11.5	5.5	4.5
20	3.5	1.0	11.0	7.0	15.5	8.0	18.0	11.5	15.0	12.0	6.5	4.5
21	3.5	1.0	8.0	6.5	14.0	9.0	17.0	14.0	14.0	11.5	6.5	2.0
22	4.5	2.0	10.5	6.0	15.5	8.0	16.0	13.5	16.0	11.0	8.0	4.0
23	5.5	1.5	9.5	7.0	16.5	9.0	17.0	13.0	15.5	10.0	8.5	4.5
24	6.0	1.5	14.0	6.0	18.0	10.0	19.0	13.0	14.5	11.0	9.0	5.0
25	8.5	2.0	11.5	6.5	19.5	13.0	19.0	12.0	12.0	9.0	9.0	5.0
26	9.0	4.5	13.0	5.5	17.0	10.5	16.0	12.0	13.5	9.0	8.5	5.0
27	6.0	5.0	10.5	6.0	18.0	10.5	15.5	12.0	14.5	10.0	7.0	5.0
28	5.0	1.5	9.5	6.0	19.5	12.0	19.0	12.0	15.5	12.0	8.5	5.0
29	1.5	1.5	11.5	6.0	20.0	12.0	19.5	13.0	15.0	10.0	7.0	5.0
30	1.5	1.5	10.0	6.0	19.0	13.0	18.5	15.0	14.5	9.5	6.5	4.5
31	---	---	10.5	7.0	---	---	18.5	13.0	14.5	10.0	---	---
MONTH	9.0	0.5	15.5	1.5	20.0	6.0	20.5	10.0	19.5	9.0	14.5	2.0

06411500 RAPID CREEK BELOW PACTOLA DAM, S. DAK.

LOCATION.--Lat 44°04'36", long 103°28'54", in SW¼NE¼ sec.2, T.1 N., R.5 E., Pennington County, at gaging station, 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 mi^2 (829 km^2), approximately.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1973 (daily), October 1973 to October 1975 (monthly).
Water temperatures: October 1968 to September 1975.

EXTREMES.--1974-75:
Specific conductance: Maximum daily, 410 micromhos on several days during February and March; minimum daily, 220 micromhos Nov. 29.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED SILICA (SIO2) (MG/L) (00955)	DISSOLVED CALCIUM (CA) (MG/L) (00915)	DISSOLVED MAGNESIUM (MG) (MG/L) (00925)	DISSOLVED SODIUM (NA) (MG/L) (00930)	DISSOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	ALKALINITY AS CACO3 (MG/L) (00410)	DISSOLVED SULFATE (SO4) (MG/L) (00945)	DISSOLVED CHLORIDE (CL) (MG/L) (00940)	DISSOLVED FLUORIDE (F) (MG/L) (00950)
OCT.												
10...	1030	17	9.6	42	21	3.3	2.6	185	152	40	.9	.2
NOV.												
25...	1425	10	7.5	42	20	4.1	2.4	188	164	41	1.3	.2
JAN.												
21...	1115	14	8.1	44	22	3.7	2.9	193	158	44	.9	.2
MAR.												
17...	1415	15	8.4	45	25	4.6	3.8	205	168	55	2.0	.1
APR.												
15...	1615	16	7.5	47	24	4.3	3.1	197	162	54	1.8	.2
MAY												
12...	1545	16	7.0	43	23	5.4	2.7	189	155	46	.8	.2
JUNE												
10...	1345	85	7.2	42	21	4.2	3.5	188	154	50	1.9	.2
JULY												
07...	1600	74	7.7	43	20	3.0	2.5	185	152	44	1.0	.3
AUG.												
11...	1530	57	7.7	37	21	3.4	2.8	183	150	44	1.6	.2
SEP.												
08...	1450	68	7.4	43	21	3.3	2.8	188	154	42	1.6	.2

NOTE.--Carbonate (CO_3) analysis for all samples, 0.0 mg/l.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	360	350	380	410	400	400	390	370	360	350	360	360
2	360	350	390	375	400	400	380	370	360	360	360	360
3	360	350	320	375	410	410	380	365	360	360	360	360
4	360	350	370	380	390	410	380	365	360	360	360	360
5	360	350	380	380	390	400	370	360	360	360	360	360
6	350	360	380	375	390	400	370	360	360	360	360	360
7	350	350	370	370	390	410	370	360	360	360	360	360
8	350	350	380	365	390	400	370	360	365	360	360	360
9	360	350	390	375	390	400	380	360	360	350	360	360
10	350	350	370	365	390	400	380	360	360	350	360	360
11	360	350	380	360	390	410	380	360	360	350	360	360
12	360	350	370	365	400	400	380	360	365	350	360	360
13	360	350	370	370	390	410	380	370	360	350	360	360
14	350	350	370	370	390	400	380	370	360	360	360	360
15	360	350	370	370	390	410	380	370	360	360	360	360
16	340	340	370	370	390	410	380	370	360	360	360	360
17	360	340	370	370	390	410	380	370	360	360	350	360
18	360	340	370	375	390	410	380	370	360	360	350	350
19	360	350	370	380	390	410	380	370	360	360	360	360
20	360	350	380	385	390	410	385	360	360	360	360	360
21	360	360	390	380	390	380	380	360	360	360	360	360
22	350	350	370	380	390	390	375	360	360	360	360	360
23	360	350	380	380	390	400	380	360	360	360	360	360
24	360	300	370	385	390	410	380	360	360	360	360	360
25	360	280	370	385	400	400	380	360	360	360	360	360
26	360	350	370	390	390	400	380	360	360	360	360	360
27	350	290	370	390	390	400	375	360	360	360	360	360
28	350	270	370	395	390	400	380	360	360	350	360	360
29	360	220	380	400	---	400	370	360	360	360	360	360
30	360	340	370	395	---	400	370	360	360	360	360	360
31	360	---	370	390	---	410	---	360	---	360	360	---
MONTH	357	336	373	379	392	403	378	363	360	358	359	360

06411500 RAPID CREEK BELOW PACTOLA DAM, S. DAK.--Continued

EXTREMES.--Continued
Period of record:
Dissolved solids (1968-69, 1970-73): Maximum, 260 mg/l July 1 to Sept. 30, 1969; minimum, 200 mg/l Nov. 1-30, 1971, Nov. 1-30, 1973.
Hardness (1968-69, 1970-73): Maximum, 206 mg/l Jan. 1 to Mar. 31, 1969; minimum, 170 mg/l June 1-30, Aug. 1 to Sept. 30, Dec. 1-31, 1971, May 1-31, 1972, Nov. 1-30, May 1 to Sept. 30, 1973.
Specific conductance: Maximum daily, 435 micromhos Feb. 8, 17, 22, 1971; minimum daily, 238 micromhos Mar. 28-30, 1971.
Water temperatures (1968-72, 1974): Maximum, 9.5°C Aug. 27, Sept. 23, 25, 1974; minimum, freezing point on several days during December 1968.

REMARKS.--Maximum observed during water year: Dissolved solids, 245 mg/l Mar. 17; hardness, 220 mg/l Mar. 17, Apr. 15; water temperatures, 10.0°C Oct. 7. Minimum observed during water year: Dissolved solids, 208 mg/l Aug. 11; hardness, 180 mg/l Aug. 11; water temperatures, 1.0°C on several days during January.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	DIS-SOL-VED-PHOS-PHORUS (P) (MG/L) (00666)	TOTAL PHOS-PHORUS (P) (MG/L) (00665)	DIS-SOLVED BORON (B) (UG/L) (01020)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L) (70301)	DIS-SOLVED SOLIDS (TONS PER DAY) (70302)	DIS-SOLVED SOLIDS (TONS PER AC-FT) (70303)	HARD-NESS (CA,MG) (MG/L) (00900)	NON-CAR-BONATE HARD-NESS (MG/L) (00902)	SODIUM AD-SORP-TION RATIO (00931)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS) (00095)	PH (UNITS) (00400)
OCT.												
10...	.08	.04	.04	20	211	9.74	.29	190	40	.1	367	--
NOV.												
25...	.00	.01	.01	20	217	6.27	.30	190	23	.1	350	--
JAN.												
21...	.05	.03	.02	20	221	8.83	.30	200	42	.1	400	--
MAR.												
17...	.08	.00	.05	10	245	9.92	.33	220	47	.1	295	8.5
APR.												
15...	.06	.01	.03	20	239	10.3	.33	220	55	.1	390	8.7
MAY												
12...	.08	.03	.00	20	222	9.59	.30	200	47	.2	390	8.8
JUNE												
10...	.04	.00	.00	10	223	51.2	.30	190	37	.1	395	8.7
JULY												
07...	.05	.00	.01	0	213	42.6	.29	190	38	.1	480	8.6
AUG.												
11...	.05	.00	.00	10	208	32.0	.28	180	29	.1	370	8.2
SEP.												
08...	.08	.01	.01	30	214	39.3	.29	190	40	.1	425	8.6

TEMPERATURE (DEG. C) OF WATER , WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	8.5	5.5	2.0	---	---	2.0	5.0	---	7.5	---	---
2	8.0	---	4.0	1.5	---	---	5.0	4.5	5.5	6.5	---	6.5
3	8.0	---	4.5	---	1.5	3.0	5.0	---	5.0	5.5	---	6.0
4	7.5	8.0	5.0	---	2.0	3.0	5.0	---	5.5	---	6.0	6.5
5	---	8.0	5.0	---	1.5	2.5	5.0	7.0	6.0	---	7.0	---
6	---	8.0	---	2.0	2.0	2.5	---	6.0	6.5	---	6.0	---
7	10.0	8.0	---	---	---	2.5	2.5	---	---	6.5	7.0	---
8	9.5	8.5	---	1.0	1.5	---	---	5.0	---	5.0	7.0	---
9	7.0	---	4.5	1.0	3.0	---	2.5	6.5	5.0	---	6.5	---
10	9.5	---	4.0	1.0	1.5	2.5	3.0	---	5.0	6.0	6.0	---
11	9.5	7.0	3.0	---	2.0	2.5	3.5	---	5.0	6.0	5.5	---
12	---	6.5	---	---	2.0	3.0	---	5.5	---	---	---	6.0
13	---	6.0	2.5	---	2.5	3.5	---	6.0	5.5	---	6.0	---
14	---	6.5	---	---	1.5	4.0	5.0	8.0	---	6.5	6.0	---
15	8.5	6.0	---	1.5	1.5	---	5.0	---	---	7.0	5.5	6.5
16	9.5	---	3.0	1.5	2.0	4.0	6.0	---	5.0	6.0	---	6.0
17	9.5	---	2.5	1.5	2.5	4.0	3.5	---	6.0	7.0	---	6.0
18	8.5	7.0	2.5	---	2.5	---	3.5	---	4.5	6.0	6.5	5.5
19	---	5.5	2.5	---	2.5	5.0	---	5.5	7.0	---	6.5	5.0
20	9.5	6.5	---	2.0	2.0	5.0	---	4.0	---	---	5.5	---
21	9.5	6.0	1.5	2.0	1.5	3.0	6.0	4.0	---	6.0	5.5	5.0
22	8.5	6.0	1.5	2.0	---	---	---	4.5	---	6.0	5.5	7.5
23	9.0	6.0	4.0	2.5	---	---	4.0	4.0	---	6.0	---	7.5
24	8.5	---	4.5	2.5	2.0	3.5	---	---	7.5	---	---	7.5
25	8.5	5.0	1.5	---	2.5	3.0	5.5	---	6.5	6.0	6.5	6.0
26	---	5.0	3.0	---	2.5	2.0	---	---	---	---	6.5	5.5
27	---	4.0	2.0	---	3.0	---	---	---	6.5	6.5	5.5	---
28	8.5	4.0	1.5	1.5	3.0	---	4.0	---	---	6.5	5.5	---
29	8.0	4.0	1.5	1.0	---	---	4.0	5.0	---	6.5	---	6.0
30	7.5	5.0	1.5	---	---	---	5.0	4.5	---	5.0	---	7.0
31	8.5	---	2.0	2.0	---	3.0	---	4.5	---	6.0	---	---
MONTH	---	---	---	---	2.0	---	---	---	---	---	---	---

06421500 RAPID CREEK NEAR FARMINGDALE, S. DAK.

LOCATION.--Lat 43°56'31", long 102°51'12", in SW¼SW¼SW¼ sec.19, T.1 S., R.11 E., Pennington County, at gaging station, on right bank at downstream side of bridge, 2.0 mi (3.2 km) southeast of Farmingdale and 4.8 mi (7.7 km) downstream from Antelope Creek.

DRAINAGE AREA.--602 mi^2 (1,559 km^2).

PERIOD OF RECORD.--Chemical analyses: February to September 1953, October 1955 to September 1958, October 1968 to September 1973 (daily), October 1973 to September 1975 (monthly).
Water temperatures: October 1955 to September 1958, October 1968 to September 1975.

EXTREMES.--1974-75:
Specific conductance: Maximum daily, 1,600 micromhos Oct. 23; minimum daily, 600 micromhos June 8.
Water temperatures: Maximum, 30.0°C July 2, 16; minimum, freezing point on many days during November to April.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED SILICA (SIO2) (MG/L) (00955)	DISSOLVED CALCIUM (CA) (MG/L) (00915)	DISSOLVED MAGNESIUM (MG) (MG/L) (00925)	DISSOLVED SODIUM (NA) (MG/L) (00930)	DISSOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	ALKALINITY AS CACO3 (MG/L) (00410)	DISSOLVED SULFATE (SO4) (MG/L) (00945)	DISSOLVED CHLORIDE (CL) (MG/L) (00940)	DISSOLVED FLUORIDE (F) (MG/L) (00950)
OCT.												
09...	1515	18	4.5	110	42	60	8.1	276	226	270	48	.6
NOV.												
08...	1300	33	10	110	38	48	8.1	269	221	230	50	.6
25...	1115	33	4.7	110	38	54	6.0	261	214	250	47	.5
JAN.												
21...	0900	49	9.3	96	37	45	5.9	253	208	210	52	.4
MAR.												
17...	1200	81	6.0	76	31	63	6.3	199	163	180	67	.5
APR.												
14...	0900	71	7.9	90	36	59	7.2	212	174	280	32	.6
MAY												
12...	1215	33	4.7	97	42	46	6.3	250	205	240	29	.4
JUNE												
11...	1045	135	9.8	88	36	32	8.2	236	194	210	22	.4
JULY												
07...	1345	271	8.2	79	32	29	5.7	201	165	190	18	.5
AUG.												
11...	1315	2.9	5.0	90	42	54	9.3	253	208	270	28	.5
SEP.												
09...	1145	13	.3	110	54	63	8.1	262	223	330	45	.6

NOTE.--Carbonate (CO_3) analysis for all samples, 0.0 mg/l.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1140	1040	1160	940	1050	940	1180	1100	1050	700	1000	1250
2	1200	940	1100	920	1040	860	1100	1130	1080	770	1000	1420
3	1310	810	1180	1020	1040	930	930	1090	1160	750	1060	1500
4	1320	890	1120	1000	1060	940	870	1030	1100	780	1000	1500
5	1290	1030	1020	1040	1000	860	850	1020	1260	840	950	1400
6	1220	980	1020	1040	940	840	990	1030	1160	800	950	1300
7	1200	960	1020	1040	1030	900	800	1030	1170	780	900	1250
8	1210	1000	920	980	1020	910	710	1050	600	750	850	1170
9	1070	1040	1010	1040	1020	950	800	1040	790	700	890	1140
10	1130	1070	980	930	1010	980	720	1000	770	830	960	1140
11	1100	1020	950	1070	690	980	800	970	760	830	980	1120
12	1080	1050	960	1090	780	850	850	1000	750	870	1050	1140
13	1200	1040	1050	1020	970	960	880	1030	790	870	1140	1100
14	1290	1020	1000	1160	970	980	920	1080	780	860	1140	1010
15	1300	990	960	1240	970	910	880	1150	750	880	1170	970
16	1330	1000	890	1090	990	910	870	1150	720	880	1200	950
17	1380	1050	970	1020	970	880	830	1150	690	900	1020	950
18	1420	1080	970	1010	980	790	850	1150	910	980	1200	900
19	1420	1080	970	1030	950	820	890	1150	760	990	1170	900
20	1420	1070	960	980	1000	820	920	1250	760	1060	1000	900
21	1550	1000	1020	940	1000	940	950	1580	860	1000	1060	900
22	1500	1010	920	990	1010	1030	920	1480	920	990	1050	1010
23	1600	1100	980	990	990	1030	920	1350	930	990	1060	1050
24	1440	1060	1030	1040	1040	1040	1020	1260	710	950	1060	1070
25	1330	1060	1000	1090	1040	940	910	1100	860	950	1060	1030
26	1240	1080	1130	1010	910	920	980	920	880	960	1070	1000
27	1220	1040	1090	1040	1000	950	1020	860	940	970	1280	1050
28	1180	1010	1060	970	880	1100	1060	870	780	950	1220	1150
29	1210	1040	1020	960	---	1150	980	940	840	950	1140	1140
30	1330	1060	1000	970	---	1180	900	1120	880	1000	1220	1120
31	1370	---	960	980	---	1200	---	1000	---	1010	1200	---
MONTH	1290	1020	1010	1020	977	951	910	1100	880	888	1070	1120

06421500 RAPID CREEK NEAR FARMINGDALE, S. DAK.--Continued

EXTREMES.--Continued
Period of record:
Dissolved solids (1955-58, 1968-69, 1970-73): Maximum, 1,220 mg/l Sept. 12, 1969; minimum, 320 mg/l Nov. 5-7, 1956.
Hardness (1955-58, 1968-69, 1970-73): Maximum, 690 mg/l Oct. 1-7, 9-26, 1956; minimum, 250 mg/l May 1-31, 1971.
Specific conductance (1955-58, 1968-70, 1970-75): Maximum daily, 1,650 micromhos Oct. 16, 1956; minimum daily, 422 micromhos Jan. 8, 1958.
Water temperatures (1955-58, 1968-69, 1971-73, 1974-75): Maximum, 34.0°C June 12, 1956; minimum, freezing point on many days during winter period.

REMARKS.--Maximum observed during water year: Dissolved solids, 747 mg/l Sept. 9; hardness, 500 mg/l Sept. 9.
Minimum observed during water year: Dissolved solids, 469 mg/l July 7; hardness, 320 mg/l Mar. 17.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	DIS-SOL-VED-PHOS-PHORUS (P) (MG/L) (00666)	TOTAL PHOS-PHORUS (P) (MG/L) (00665)	DIS-SOLVED BORON (B) (UG/L) (01020)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L) (70301)	DIS-SOLVED SOLIDS (TONS PER DAY) (70302)	DIS-SOLVED SOLIDS (TONS PER AC-FT) (70303)	HARD-NESS (CA,MG) (MG/L) (00900)	NON-CAR-BONATE HARD-NESS (MG/L) (00902)	SODIUM AD-SORP-TION RATIO (00931)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS) (00095)	PH (UNITS) (00400)
OCT.												
09...	1.3	.84	.84	230	687	33.8	.93	450	220	1.2	1080	--
NOV.												
08...	3.0	1.3	1.4	210	645	58.0	.88	430	210	1.0	1340	8.3
25...	2.9	1.3	1.3	160	655	59.1	.89	430	220	1.1	930	--
JAN.												
21...	1.6	1.3	1.3	120	591	79.1	.80	390	180	1.0	1220	--
MAR.												
17...	.73	.70	.74	100	533	117	.72	320	150	1.5	735	8.3
APR.												
14...	1.2	.57	.79	150	624	120	.85	370	200	1.3	820	8.4
MAY												
12...	.98	.50	.73	160	594	52.9	.81	420	210	1.0	1040	8.6
JUNE												
11...	.84	.27	.72	130	527	192	.72	370	170	.7	805	8.6
JULY												
07...	1.4	.32	1.5	110	469	343	.64	330	160	.7	840	8.2
AUG.												
11...	.01	.16	.28	190	624	4.89	.85	400	190	1.2	950	8.5
SEP.												
09...	.33	.15	.32	280	747	26.2	1.02	500	270	1.2	1090	8.9

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	8.5	0.0	0.0	0.0	0.0	0.0	10.0	20.0	24.5	22.5	22.0
2	11.0	7.0	0.0	0.0	0.0	0.0	0.0	12.0	---	30.0	---	16.5
3	13.5	6.0	0.0	0.0	0.0	0.0	0.0	---	18.0	25.5	22.0	20.0
4	12.0	5.0	0.0	0.0	0.0	0.0	0.0	16.0	20.0	29.0	---	20.0
5	8.0	5.5	0.0	0.0	0.0	0.0	0.0	19.0	17.0	26.5	---	---
6	4.0	3.5	0.0	0.0	0.0	0.0	0.0	17.5	18.5	26.0	---	---
7	9.0	2.5	0.0	0.0	0.0	0.0	1.5	14.0	22.0	28.0	24.0	20.5
8	11.0	4.0	0.0	0.0	0.0	0.0	2.0	14.5	14.0	---	20.0	20.0
9	12.0	---	0.0	0.0	0.0	0.0	3.0	19.0	13.0	26.0	21.0	17.0
10	10.0	6.0	0.0	0.0	0.0	0.0	3.5	14.5	19.0	26.0	20.5	21.5
11	---	2.0	0.0	0.0	0.0	0.0	3.5	15.0	---	24.0	26.5	16.0
12	9.0	3.5	0.0	0.0	0.0	0.0	1.0	15.5	18.0	20.5	---	15.5
13	---	3.5	0.0	0.0	0.0	0.0	---	18.5	21.0	20.5	21.0	---
14	9.5	2.0	0.0	0.0	0.0	0.0	9.0	20.0	20.5	25.5	23.5	16.0
15	8.5	0.5	0.0	0.0	0.0	0.0	8.5	15.0	---	---	19.0	18.5
16	10.0	0.5	0.0	0.0	0.0	0.0	11.0	23.0	---	30.0	20.0	19.0
17	12.5	3.0	0.0	0.0	0.0	0.0	9.0	22.0	18.0	24.5	22.0	19.5
18	12.0	4.0	0.0	0.0	0.0	0.0	9.0	---	20.0	29.0	22.0	14.5
19	---	---	0.0	0.0	0.0	0.0	10.0	24.0	15.0	24.0	21.0	12.0
20	8.5	3.5	0.0	0.0	0.0	0.0	---	12.5	22.0	22.0	20.0	---
21	12.0	1.0	0.0	0.0	0.0	2.5	13.0	12.0	21.0	26.0	22.0	12.5
22	10.5	5.0	0.0	0.0	0.0	2.5	14.0	12.5	23.0	---	22.5	13.0
23	9.5	3.5	0.0	0.0	0.0	---	14.0	12.0	22.5	---	23.0	14.5
24	9.0	2.0	0.0	0.0	0.0	0.0	14.5	13.0	24.0	26.5	22.0	14.5
25	6.5	3.0	0.0	0.0	0.0	0.0	13.0	---	27.0	29.0	21.5	15.5
26	10.0	3.0	0.0	0.0	0.0	0.0	11.0	17.5	24.0	---	22.0	16.0
27	11.0	0.5	0.0	0.0	0.0	---	---	14.0	23.5	23.0	22.5	---
28	8.0	0.0	0.0	0.0	0.0	---	7.0	14.5	24.0	---	23.0	14.0
29	8.0	0.0	0.0	0.0	---	---	7.0	17.5	29.0	24.0	20.0	12.5
30	9.5	0.0	0.0	0.0	---	---	9.0	18.0	28.0	27.5	17.5	12.0
31	10.0	---	0.0	0.0	---	0.0	---	17.0	---	23.0	23.0	---
MONTH	9.5	3.0	0.0	0.0	0.0	0.0	6.5	16.0	21.0	25.5	21.5	16.5

06428500 BELLE FOURCHE RIVER AT WYOMING-SOUTH DAKOTA STATE LINE

LOCATION.--Lat 44°44'59", long 104°02'49", in NE¼NW¼NW¼ sec.18, T.9 N., R.1 E., Butte County, S. Dak., at county bridge, 4.0 mi (6.4 km) northwest of Belle Fourche, S. Dak., and 8.0 mi (12.9 km) downstream from gaging station.

DRAINAGE AREA.--3,280 mi^2 (8,500 km^2), approximately (at gaging station).

PERIOD OF RECORD.--Chemical analyses: October 1965 to September 1975.
Water temperatures: October 1965 to September 1975.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
OCT.											
24...	1030	29	3.7	270	97	130	8.8	200	0	1200	7.3
NOV.											
22...	0900	26	7.0	240	83	88	7.9	210	0	930	8.0
DEC.											
11...	1515	A15	9.9	320	110	110	9.1	260	0	1200	11
JAN.											
09...	1630	A8.0	9.5	350	110	130	9.1	330	0	130	8.9
FEB.											
06...	0900	A15	11	420	38	95	9.3	330	0	1100	7.1
MAR.											
12...	1315	A50	7.3	230	54	75	8.8	210	0	750	9.1
APR.											
11...	1300	232	6.7	140	38	59	6.5	130	0	540	5.5
MAY											
02...	1320	360	7.3	160	43	58	7.2	180	0	550	3.6
JUNE											
04...	1530	152	10	200	61	58	7.2	214	0	680	3.6
JULY											
01...	1515	169	11	190	49	49	7.2	170	0	630	5.5
AUG.											
21...	0915	113	5.6	120	39	95	8.1	210	0	490	10

A Daily mean discharge

06428500 BELLE FOURCHE RIVER AT WYOMING-SOUTH DAKOTA STATE LINE--Continued

EXTREMES.--1974-75:
Specific conductance: Maximum daily observed, 3,250 micromhos Feb. 7; minimum daily, 632 micromhos Mar. 21.
Water temperatures: Maximum, 30.0°C July 16; minimum, freezing point on many days during November to March.

Period of record:
Specific conductance: Maximum daily, 3,250 micromhos Feb. 7, 1975; minimum daily, 461 micromhos Apr. 12, 1971.
Water temperatures: Maximum, 31.0°C June 19, 1974; minimum, freezing point on many days during winter period.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS_SOLVED NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA.MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SODIUM AD-SORP-TION RATIO	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE (DEG C)
OCT.											
24...	.8	.10	.00	1780	2.42	139	1100	940	1.7	2040	6.0
NOV.											
22...	.7	.00	.03	1470	2.00	103	950	780	1.2	1710	5.5
DEC.											
11...	.8	.00	.00	1930	2.62	78.2	1300	1100	1.4	2100	1.0
JAN.											
09...	.8	.00	.01	2070	2.82	44.7	1300	1000	1.6	2210	.0
FEB.											
06...	.7	6.3	.03	1860	2.53	75.3	1200	930	1.2	2050	.5
MAR.											
12...	.7	.70	.01	1240	1.69	167	790	620	1.2	1490	.5
APR.											
11...	.6	1.0	.09	863	1.17	541	520	410	1.1	1500	3.0
MAY											
02...	.5	.80	.04	916	1.25	890	580	430	1.1	1200	--
JUNE											
04...	.6	.40	.10	1130	1.54	464	750	570	.9	1420	21.0
JULY											
01...	.6	.10	.06	1030	1.40	470	680	540	.8	1350	29.0
AUG.											
21...	.6	.30	.05	878	1.19	268	460	290	1.9	1210	23.0

DATE	TIME	INSTAN-TANEOUS DIS-CHARGE (CFS)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	FECAL COLI-FORM (COL. PER 100 ML)
OCT.					
24...	1030	29	1	8.7	86
JAN.					
09...	1630	8.0	1	11.8	43
APR.					
11...	1300	232	--	11.6	90
JULY					
01...	1515	169	100	6.4	330

06428500 BELLE FOURCHE RIVER AT WYOMING-SOUTH DAKOTA STATE LINE--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2110	1930	2320	2400	2030	1200	1410	1180	1400	1260	1290	1350
2	2130	1880	2340	2400	2100	1320	1560	1210	1430	1390	1260	1320
3	2130	1760	2330	2440	2160	1090	1360	1190	1530	1320	1310	1320
4	2130	1790	2360	2400	2210	1140	1420	1030	1440	1360	1290	1360
5	2080	1770	2290	2360	2640	1180	1400	994	1450	1400	1300	1300
6	2080	1710	2300	2390	2270	1170	1390	960	1510	1550	1300	1290
7	2100	1910	2280	2420	3250	1300	1340	850	1480	802	1300	1320
8	2090	1990	2300	2430	2280	1430	1140	1210	1460	1300	1310	1300
9	2120	1960	2220	2470	2220	1560	985	943	1490	1320	1280	1320
10	2130	1940	2220	2520	2200	1550	941	802	1510	1620	1290	1280
11	2160	1800	2260	2620	2140	1540	1160	835	1510	1650	1270	1320
12	2130	1790	2240	2730	2100	1640	1220	753	1460	1680	1210	1260
13	2170	1820	2230	2780	2110	1580	1250	785	1340	1610	1250	1390
14	2170	1860	2210	2760	2110	1600	1300	908	1290	1700	1270	1380
15	2150	1810	2190	2760	2140	1620	1270	969	1310	1670	1290	1460
16	2170	1740	2170	2710	2120	1550	1280	1080	1340	1780	1330	1510
17	2160	1760	2150	2760	2090	711	1140	1100	1410	1770	1300	1550
18	2180	1770	2180	2760	2080	1080	964	1160	1460	1870	1270	1620
19	2150	1800	2150	2640	2070	1090	1080	1160	1430	1840	1290	1660
20	2160	1800	2210	2280	2050	1020	1040	1220	1460	1870	1290	1680
21	2130	1880	2180	2350	1990	632	1020	1370	1410	1770	1290	1750
22	2180	1800	2160	2280	2090	700	1110	1250	1430	1820	1250	1730
23	2120	1340	2200	2210	1980	765	1140	1240	1340	1400	1210	1820
24	2150	1390	2380	1880	2020	829	1160	1080	1500	1150	1170	1840
25	2180	1350	2310	1450	1850	881	1170	1090	1490	1210	1240	1900
26	2160	1900	2280	1640	1700	950	1150	905	1480	1180	1280	1920
27	2140	1880	2320	1550	1550	1050	1160	1040	1380	1240	1300	1970
28	2130	2030	2320	1470	1370	2000	1160	1170	1210	1230	1290	1960
29	2100	2180	2380	1630	---	2650	1090	1290	1590	1330	1290	1970
30	2090	2010	2380	1840	---	2750	1130	1230	1140	1300	1290	1990
31	1990	---	2380	1870	---	1250	---	1370	---	1320	1300	---
MONTH	2130	1860	2270	2300	2100	1320	1200	1080	1420	1470	1280	1560

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.0	9.0	0.0	0.0	0.0	0.0	0.5	9.5	17.0	28.0	24.0	20.0
2	15.0	6.0	3.0	0.0	0.0	0.0	0.5	11.5	19.0	29.5	24.5	19.0
3	15.0	6.0	3.0	0.0	0.0	0.0	0.5	15.0	20.0	28.0	24.0	20.0
4	11.0	6.0	0.0	0.0	0.0	0.0	0.5	16.5	20.0	27.5	26.0	20.0
5	6.0	6.0	0.0	0.0	0.0	0.0	0.5	12.0	21.0	27.0	25.0	20.0
6	11.0	6.0	0.0	0.0	0.0	0.0	0.5	10.0	21.5	27.5	27.0	22.0
7	15.0	6.0	0.0	0.0	0.0	0.0	2.0	12.5	21.0	27.5	28.0	19.0
8	14.0	6.0	0.0	0.0	0.0	0.0	2.0	13.0	19.0	28.0	27.0	22.0
9	12.0	6.0	0.0	0.0	0.0	0.0	2.0	9.0	17.0	29.0	26.0	22.0
10	13.0	5.5	0.0	0.0	0.0	0.0	4.0	10.0	19.0	28.0	26.0	20.0
11	11.0	5.0	0.0	0.0	0.0	0.0	3.0	14.0	20.0	28.0	25.0	16.0
12	16.0	5.0	0.0	0.0	0.0	0.0	4.0	14.0	21.0	28.5	23.0	19.0
13	11.0	2.0	0.0	0.0	0.0	0.0	3.0	14.0	21.0	27.0	23.0	19.0
14	14.0	3.0	0.0	0.0	0.0	0.0	5.0	17.0	18.0	28.0	22.0	20.0
15	12.0	2.0	0.0	0.0	0.0	0.0	6.0	19.0	19.0	28.5	22.0	20.0
16	12.0	3.0	0.0	0.0	0.0	0.0	5.0	21.0	17.0	30.0	23.0	20.0
17	15.0	4.0	0.0	0.0	0.0	1.0	6.0	21.5	18.0	29.0	22.0	18.0
18	11.0	3.0	0.0	0.0	0.0	1.0	6.0	21.0	17.0	28.0	21.0	15.0
19	13.0	3.0	0.0	0.0	0.0	1.5	5.0	19.0	20.0	26.0	22.0	9.0
20	14.0	4.0	0.0	0.0	0.0	2.0	5.0	14.0	22.5	29.0	23.0	9.0
21	14.0	6.0	0.0	0.0	0.0	2.0	5.0	13.0	22.0	27.0	24.0	15.0
22	11.0	5.0	0.0	0.0	0.0	2.0	10.0	14.0	23.0	27.0	23.0	15.0
23	10.0	5.0	0.0	0.0	0.0	2.0	10.0	12.0	25.0	26.0	22.0	16.0
24	14.0	5.0	0.0	0.0	0.0	2.0	10.5	15.0	26.0	28.0	22.0	20.0
25	9.0	4.0	0.0	0.0	0.0	2.0	10.5	15.0	25.0	27.0	19.5	20.0
26	10.0	3.0	0.0	0.0	0.0	2.0	19.0	15.0	24.5	28.0	21.0	12.0
27	10.5	4.0	0.0	0.0	0.0	1.5	16.0	17.0	24.0	27.0	23.5	12.0
28	11.0	2.0	0.0	0.0	0.0	1.5	10.5	17.0	27.5	27.0	23.5	9.0
29	9.0	0.0	0.0	0.0	---	1.0	6.5	17.5	27.0	29.0	23.0	12.0
30	10.0	0.0	0.0	0.0	---	1.0	6.5	16.5	27.0	26.0	22.5	13.5
31	11.0	---	0.0	0.0	---	0.5	---	16.0	---	26.0	22.0	---
MONTH	12.0	4.5	0.0	0.0	0.0	0.5	5.5	15.0	21.5	27.5	23.5	17.0

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, S. Dak., at gaging station, 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, S. Dak.

DRAINAGE AREA.--471 mi^2 (1,219 km^2).

PERIOD OF RECORD.--Chemical analyses: May 1969 to June 1970.
Sediment records: October 1971 to September 1975.

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS AND
PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM
OCT.								
24...	1330	10.0	42	22	2.5	--	--	--
NOV.								
22...	1015	7.0	41	25	2.8	--	--	--
DEC.								
12...	0910	4.5	41	24	2.7	--	--	--
JAN.								
10...	0930	1.0	39	20	2.1	--	--	--
FEB.								
05...	1630	1.0	40	86	9.3	--	--	--
MAR.								
05...	1020	6.5	42	24	2.7	--	--	--
12...	1130	2.0	39	64	6.7	--	--	--
31...	1420	7.5	41	12	1.3	--	--	--
APR.								
11...	1015	6.0	40	58	6.3	--	--	--
MAY								
07...	1420	10.5	113	1700	519	50	76	100
JUNE								
05...	1330	17.0	48	122	16	--	--	--
JULY								
17...	0900	--	12	64	2.1	--	--	--
AUG.								
20...	1735	18.5	21	48	2.7	--	--	--

06434500 INLET CANAL NEAR BELLE FOURCHE, S. DAK.

LOCATION.--Lat 44°42'14", long 103°49'23", in NE¼NW¼ sec.36, T.9 N., R.2 E., Butte County, at gaging station, 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.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1973 (daily), October 1973 to September 1975 (monthly).
Water temperatures: October 1968 to September 1975.

EXTREMES.--1974-75:
Specific conductance: Maximum daily, 1,850 micromhos Jan. 17; minimum daily, 780 micromhos Mar. 24.
Water temperatures: Maximum, 25.0°C July 2; minimum, freezing point on many days during December to April.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED SILICA (SIO2) (MG/L) (00955)	DISSOLVED CALCIUM (CA) (MG/L) (00915)	DISSOLVED MAGNESIUM (MG) (MG/L) (00925)	DISSOLVED SODIUM (NA) (MG/L) (00930)	DISSOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	ALKALINITY AS CACO3 (MG/L) (00410)	DISSOLVED SULFATE (SO4) (MG/L) (00945)	DISSOLVED CHLORIDE (CL) (MG/L) (00940)	DISSOLVED FLUORIDE (F) (MG/L) (00950)
OCT.												
01...	1500	112	2.0	200	55	28	3.9	216	177	560	3.6	.2
NOV.												
05...	1300	223	8.5	200	50	34	4.4	230	189	550	4.1	.3
DEC.												
04...	1000	190	10	200	54	24	3.4	297	244	520	3.5	.3
JAN.												
06...	1620	181	11	180	44	18	3.0	216	177	490	2.7	.3
FEB.												
04...	0830	250	12	210	51	23	3.3	291	239	540	6.9	.3
APR.												
07...	1500	523	7.9	170	48	54	7.1	182	149	540	4.9	.5
MAY												
06...	1700	1160	9.3	110	32	46	6.2	153	126	350	5.0	.3
JUNE												
04...	1300	62	8.6	180	48	35	5.2	231	189	510	4.1	.4
JULY												
01...	1640	66	10	150	42	46	5.9	192	157	500	4.0	.4
AUG.												
05...	1700	100	9.4	140	60	76	8.0	191	157	590	7.8	.6
SEP.												
04...	1400	106	8.8	180	50	71	6.8	221	181	620	6.9	.4

NOTE.--Carbonate (CO_3) analysis for all samples, 0.0 mg/l.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1300	1260	1250	1050	1170	1120	1190	1120	1200	1040	1290	1240
2	1330	1230	1060	1180	1190	1130	1190	1120	1180	1190	1290	1260
3	1330	1180	1240	1070	1320	1190	1190	1110	1170	1170	1290	1260
4	1350	1190	1220	980	1320	1130	1190	1120	1190	1220	1290	1280
5	1350	1220	1250	1360	1340	1130	1200	1010	1250	1220	1290	1280
6	1330	1240	1260	1070	1390	1120	1190	970	1250	1240	1290	1280
7	1330	1200	1260	1260	1400	1180	1190	990	1250	1260	1280	1290
8	1330	1180	1210	1220	1420	1140	1110	890	1250	1170	1280	1260
9	850	1200	1250	1280	1400	1130	1040	870	1240	1170	1280	1250
10	1360	1210	1230	1260	1420	1190	1020	800	1230	1170	1280	1220
11	1370	1150	1220	1260	1420	1200	1100	810	1250	1440	1290	1240
12	1370	1130	1220	1460	1420	1130	1200	830	1250	1470	1290	1230
13	1350	1070	1320	1400	1410	1180	1210	790	1240	1470	1280	1230
14	1360	1180	1270	1200	1420	1210	1200	1000	1200	1470	1320	1200
15	1350	1180	1250	1680	1420	1240	1200	1050	1200	1550	1320	1210
16	1310	1190	1220	1680	1260	1280	1200	1050	1190	1550	1330	1240
17	1330	1180	1160	1850	1260	1160	1160	1050	1190	1650	1320	1220
18	1340	1150	1290	1120	1260	1140	1100	1050	1200	1650	1320	1250
19	1360	1170	1310	1000	1270	1080	1080	1050	1200	1720	1280	1210
20	1380	1160	1310	1300	1260	1040	1060	1100	1190	1630	1320	1220
21	1370	1180	1260	1480	1240	1060	1070	1100	1190	1630	1300	1200
22	1370	1190	1240	1120	1250	850	1070	1160	1160	1650	1280	1210
23	1300	1160	1320	1070	1250	840	1140	1160	1180	1700	1290	1250
24	1330	1160	1380	1320	1240	780	1100	1160	1170	1680	1340	1250
25	1330	1180	1380	1130	1270	1160	1120	1060	1170	1300	1340	1240
26	1330	1160	1300	1000	1240	1040	1120	1060	970	1270	1340	1280
27	1300	1140	1320	1200	1270	1180	1080	950	970	1260	1330	1220
28	1270	1030	1320	1180	1250	1200	1070	1120	970	1270	1320	1220
29	1360	1240	1250	1340	---	1250	1100	1100	1150	1290	1330	1210
30	1360	1130	1240	1420	---	1260	1100	1200	1040	1280	1340	1220
31	1280	---	1240	1620	---	1270	---	1200	---	1280	1320	---
MONTH	1320	1170	1260	1280	1310	1130	1130	1030	1180	1390	1310	1240

06434500 INLET CANAL NEAR BELLE FOURCHE, S. DAK.--Continued

EXTREMES.--Continued
Period of record:
Dissolved solids (1968-69, 1970-73): Maximum, 1,180 mg/l Feb. 1-29, 1972; minimum, 536 mg/l Feb. 1-28, 1971.
Hardness (1968-69, 1971-73): Maximum, 900 mg/l Feb. 1-29, 1972; minimum, 360 mg/l Feb. 1-28, 1971, Mar. 1-9, 21-23, June 7-30, 1972.
Specific conductance: Maximum daily, 3,100 micromhos Feb. 13, 1969; minimum daily, 335 micromhos Feb. 12, 1971.
Water temperatures: Maximum, 29.0°C July 1, 1971; minimum, freezing point on many days during winter period.

REMARKS.--Maximum observed during water year: Dissolved solids, 1,050 mg/l Sept. 4; hardness, 730 mg/l Oct. 1, Feb. 4. Minimum observed during water year: Dissolved solids, 635 mg/l May 6; hardness, 410 mg/l May 6; no flow May 17-20.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	DIS-SOL-VED-PHOS-PHORUS (P) (MG/L) (00666)	TOTAL PHOS-PHORUS (P) (MG/L) (00665)	DIS-SOLVED BORON (B) (UG/L) (01020)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L) (70301)	DIS-SOLVED SOLIDS (TONS PER DAY) (70302)	DIS-SOLVED SOLIDS (TONS PER AC-FT) (70303)	HARD-NESS (CA+MG) (MG/L) (00900)	NON-CAR-BONATE HARD-NESS (MG/L) (00902)	SODIUM AD-SORP-TION RATIO (00931)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS) (00095)	PH (UNITS) (00400)
OCT.												
01...	.20	.03	.03	80	960	290	1.31	730	550	.5	1330	--
NOV.												
05...	.26	.01	.08	120	966	582	1.31	710	520	.6	1400	--
DEC.												
04...	.44	.01	.00	130	964	495	1.31	720	480	.4	1560	--
JAN.												
06...	.42	.02	.09	100	858	419	1.17	630	450	.3	1340	8.1
FEB.												
04...	.48	.02	.07	70	992	670	1.35	730	500	.4	1380	8.1
APR.												
07...	.34	.03	.52	110	924	1300	1.26	620	470	.9	980	8.4
MAY												
06...	.23	.02	.81	110	635	1990	.86	410	280	1.0	1080	--
JUNE												
04...	.02	.03	.03	100	905	152	1.23	650	460	.6	1370	--
JULY												
01...	.07	.03	.12	150	853	152	1.16	550	390	.9	1160	8.5
AUG.												
05...	.03	.05	.16	130	986	266	1.34	600	440	1.4	1240	8.3
SEP.												
04...	.05	.01	.06	130	1050	301	1.43	660	470	1.2	1460	8.3

TEMPERATURE (DEG. C) OF WATER , WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.0	9.0	0.0	0.0	0.0	0.0	0.0	12.0	13.0	24.0	22.0	20.0
2	12.0	8.0	0.0	0.0	0.0	0.0	0.0	8.0	13.0	25.0	23.0	17.0
3	13.0	6.0	0.0	2.0	0.0	2.0	0.0	10.0	15.0	23.0	24.0	18.0
4	13.0	6.0	0.0	0.0	0.0	1.0	0.0	10.0	15.0	24.0	23.0	19.0
5	12.0	6.0	2.0	0.0	0.0	1.0	3.0	14.0	16.0	22.0	22.0	15.0
6	11.0	5.0	1.0	1.0	0.0	2.0	4.0	13.0	15.0	23.0	22.0	16.0
7	8.0	6.0	2.0	1.0	0.0	0.0	3.0	10.0	18.0	22.0	23.0	16.0
8	10.0	7.0	4.0	0.0	0.0	0.0	1.0	10.0	17.0	21.0	22.0	15.0
9	9.0	7.0	2.0	0.0	0.0	0.0	2.0	11.0	---	22.0	22.0	16.0
10	12.0	6.0	2.0	0.0	0.0	0.0	5.0	13.0	14.0	23.0	21.0	17.0
11	11.0	7.0	2.0	0.0	0.0	0.0	4.0	13.0	13.0	22.0	20.0	15.0
12	11.0	5.0	4.0	0.0	0.0	0.0	5.0	13.0	15.0	21.0	22.0	15.0
13	12.0	6.0	2.0	0.0	0.0	0.0	4.0	12.0	18.0	20.0	19.0	13.0
14	9.0	6.0	2.0	0.0	0.0	3.0	2.0	12.0	17.0	21.0	21.0	14.0
15	9.0	5.0	0.0	0.0	0.0	3.0	6.0	13.0	17.0	23.0	17.0	10.0
16	9.0	4.0	3.0	0.0	0.0	5.0	7.0	14.0	16.0	24.0	17.0	12.0
17	10.0	4.0	0.0	0.0	0.0	5.0	9.0	13.0	16.0	24.0	18.0	11.0
18	9.0	5.0	3.0	0.0	0.0	8.0	6.0	---	17.0	23.0	19.0	12.0
19	8.0	5.0	0.0	0.0	0.0	7.0	6.0	---	15.0	22.0	20.0	10.0
20	9.0	5.0	0.0	0.0	0.0	5.0	7.0	---	18.0	23.0	19.0	8.0
21	11.0	6.0	2.0	0.0	0.0	5.0	8.0	---	17.0	23.0	20.0	10.0
22	11.0	6.0	2.0	0.0	0.0	4.0	9.0	14.0	17.0	23.0	21.0	11.0
23	7.0	4.0	0.0	0.0	0.0	3.0	10.0	15.0	18.0	23.0	20.0	10.0
24	8.0	5.0	0.0	0.0	0.0	0.0	9.0	12.0	20.0	22.0	20.0	11.0
25	6.0	4.0	0.0	2.0	0.0	0.0	8.0	11.0	20.0	23.0	19.0	10.0
26	6.0	5.0	0.0	1.0	0.0	0.0	12.0	12.0	18.0	23.0	17.0	11.0
27	7.0	3.0	0.0	0.0	0.0	0.0	13.0	13.0	---	24.0	18.0	11.0
28	8.0	4.0	0.0	0.0	0.0	0.0	12.0	13.0	18.0	23.0	18.0	10.0
29	7.0	2.0	0.0	0.0	---	0.0	10.0	12.0	17.0	23.0	18.0	11.0
30	9.0	1.0	0.0	0.0	---	0.0	9.0	14.0	23.0	24.0	20.0	10.0
31	11.0	---	0.0	0.0	---	0.0	---	15.0	---	23.0	20.0	---
MONTH	9.5	5.5	1.0	0.0	0.0	1.5	6.0	12.5	16.5	23.0	20.0	13.0

06436800 HORSE CREEK NEAR VALE, S. DAK.

LOCATION.--Lat 44°39'30", long 103°20'17", in SE¼NW¼ sec.13, T.8 N., R.6 E., Butte County, at gaging station, 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 mi^2 (1,370 km^2), approximately.

PERIOD OF RECORD.--Chemical analyses: August 1964 to September 1968 (monthly), October 1968 to September 1973 (daily), October 1973 to September 1975 (monthly).
Water temperatures: October 1968 to September 1975.

EXTREMES.--1974-75:
Specific conductance: Maximum daily, 7,250 micromhos Oct. 23; minimum daily, 1,020 micromhos Apr. 7.
Water temperatures: Maximum, 32.0°C July 6; minimum, freezing point on several days during November to April.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED SILICA (SIO2) (MG/L) (00955)	DISSOLVED CALCIUM (CA) (MG/L) (00915)	DISSOLVED MAGNESIUM (MG) (MG/L) (00925)	DISSOLVED SODIUM (NA) (MG/L) (00930)	DISSOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	ALKALINITY AS CACO3 (MG/L) (00410)	DISSOLVED SULFATE (SO4) (MG/L) (00945)	DISSOLVED CHLORIDE (CL) (MG/L) (00940)	DISSOLVED FLUORIDE (F) (MG/L) (00950)
OCT.												
01...	1300	5.4	2.2	310	230	390	11	321	263	2100	58	.2
NOV.												
04...	1400	4.4	2.2	340	300	720	13	381	313	2900	120	.3
DEC.												
03...	1315	3.0	3.5	350	380	770	13	581	477	3400	130	.4
JAN.												
06...	1340	2.4	4.5	330	350	760	12	438	359	3300	120	.4
FEB.												
03...	1445	2.7	6.0	370	310	660	13	375	308	3100	120	.3
APR.												
11...	1200	327	5.3	56	34	88	4.7	94	77	340	15	.2
MAY												
05...	1330	36	7.1	140	98	250	7.7	188	154	980	46	.3
JUNE												
03...	1130	7.9	2.8	240	160	400	10	288	236	1800	68	.4
JULY												
01...	1310	107	7.8	110	51	150	8.9	131	107	700	3.5	.4
AUG.												
05...	1345	128	8.9	210	93	110	9.7	211	173	920	16	.5
SEP.												
08...	1100	125	6.6	220	91	110	9.4	196	161	920	17	.5

NOTE.--Carbonate (CO_3) analysis for all samples, 0.0 mg/l.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4000	5400	6100	4400	4300	4300	3550	1950	2800	1520	1750	1800
2	4000	5600	5800	5200	5000	4500	3750	1920	3100	1520	1750	1800
3	4100	5600	5900	4000	3500	4600	3500	2100	3400	1630	1750	1700
4	4200	5200	5900	2150	4500	4300	3300	2350	5600	1670	1750	1700
5	4100	5200	5800	4100	3600	4700	3200	2430	3550	1770	1750	1800
6	4300	5200	5800	5000	2900	4300	3300	3200	2550	1840	1800	1800
7	4450	5400	6000	2250	3800	4000	1020	1480	3750	1950	1850	1750
8	7250	5800	6250	4900	5300	4000	2750	1150	2750	2000	1800	1800
9	4800	5800	6250	3650	3600	4200	3200	1170	3000	2150	1800	1800
10	4600	5700	6200	4300	4900	4200	1340	1080	2700	2020	1800	1800
11	4700	5800	6100	3750	4500	3150	2100	1040	3300	1750	1800	1900
12	4800	5700	6000	4700	5000	3400	1160	1100	3150	1800	1750	1900
13	4700	5600	6000	2900	5000	3600	1180	1420	3150	1750	1850	1900
14	5100	5700	6250	4050	5100	3750	1150	2380	2650	1750	1800	1800
15	5000	5800	6200	5400	3500	3750	1230	1680	2280	1820	1800	1800
16	5100	5700	6200	3900	5100	3400	1280	1900	2650	1770	1750	1900
17	5100	6000	6400	5500	5200	3200	1460	2050	2300	1650	1750	1850
18	4500	5900	6200	5000	2450	2600	1360	1450	2280	1760	1800	1900
19	5200	5800	6400	5000	5000	3200	1460	2150	2350	1900	1750	1800
20	5300	5700	6200	5900	5300	2300	1180	1720	2900	1800	1900	2000
21	6250	5800	6300	5900	5500	1450	1190	2700	2250	1720	1850	1900
22	5900	6000	6500	5700	5300	1600	1390	3650	2950	1770	1750	1900
23	7250	6100	6400	5850	5300	1480	1850	3650	2800	1720	1900	1800
24	6500	6000	6500	5100	5000	2400	1700	2380	2800	1750	1800	1800
25	5200	6000	6500	6250	4800	2900	1550	2150	4200	1720	1850	1800
26	5700	5800	6000	5800	4800	2450	1750	2150	3150	1700	1900	1850
27	5400	6100	6300	5000	4600	4100	1650	2500	2600	1730	1900	1900
28	5300	6350	6500	5500	4200	4150	2130	2180	1400	1670	1950	1900
29	5500	6250	6400	5200	---	4100	2750	2750	1260	1750	1900	1900
30	5400	6250	6300	3600	---	4150	2150	2350	1300	1720	1950	1900
31	5400	---	6200	6000	---	4200	---	2800	---	1750	1950	---
MONTH	5130	5780	6190	4710	4540	3500	2020	2100	2830	1770	1820	1840

06436800 HORSE CREEK NEAR VALE, S. DAK.--Continued

EXTREMES.--Continued
Period of record:
Dissolved solids (1968-69, 1970-73): Maximum, 8,350 mg/l Jan. 1 to Feb. 28, 1969; minimum, 290 mg/l Feb. 1-28, 1971.
Hardness (1968-69, 1970-73): Maximum, 3,360 mg/l Jan. 1 to Feb. 28, 1969; minimum, 190 mg/l Feb. 1-28, 1971.
Specific conductance (1968-69, 1971-75): Maximum daily, 8,080 micromhos Feb. 1-3, 1969; minimum daily, 626 micromhos Oct. 5, 1972.
Water temperatures (1968-69, 1971-75): Maximum, 33.0°C June 29, 1974; minimum, freezing point on many days during winter period.

REMARKS.--Maximum observed during water year: Dissolved solids, 5,360 mg/l Dec. 3; hardness, 2,400 mg/l Dec. 3.
Minimum observed during water year: Dissolved solids, 594 mg/l Apr. 11; hardness, 280 mg/l Apr. 11.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	DIS-SOL-VED-PHOS-PHORUS (P) (MG/L) (00666)	TOTAL PHOS-PHORUS (P) (MG/L) (00665)	DIS-SOLVED BORON (B) (UG/L) (01020)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L) (70301)	DIS-SOLVED SOLIDS (TONS PER DAY) (70302)	DIS-SOLVED SOLIDS (TONS PER AC-FT) (70303)	HARD-NESS (CA,MG) (MG/L) (00900)	NON-CAR-BONATE HARD-NESS (MG/L) (00902)	SODIUM AD-SORP-TION RATIO (00931)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS) (00095)	PH (UNITS) (00400)
OCT.												
01...	.16	.03	.05	770	3260	47.8	4.43	1700	1500	4.1	4070	--
NOV.												
04...	6.1	.02	.10	1400	4610	55.0	6.27	2100	1800	6.9	5700	--
DEC.												
03...	6.1	.02	.01	1300	5360	44.3	7.29	2400	2000	6.8	7000	--
JAN.												
06...	5.4	.01	.01	1200	5120	33.0	6.96	2300	1900	7.0	6400	7.6
FEB.												
03...	13	.03	.06	980	4820	36.2	6.56	2200	1900	6.1	5900	7.6
APR.												
11...	.98	.02	1.3	140	594	524	.81	280	200	2.3	735	8.4
MAY												
05...	2.8	.01	.25	330	1630	158	2.22	750	600	4.0	2200	--
JUNE												
03...	2.5	.01	.01	660	2840	60.6	3.86	1300	1000	4.9	3547	8.8
JULY												
01...	.10	.01	.47	320	1100	318	1.50	480	380	3.0	1550	7.6
AUG.												
05...	.04	.03	.11	280	1470	508	2.00	910	730	1.6	1800	8.3
SEP.												
08...	.58	.04	.10	270	1470	496	2.00	920	760	1.6	2230	8.2

TEMPERATURE (DEG. C) OF WATER , WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.0	6.0	0.0	0.0	0.0	0.0	0.0		18.0	28.0	25.0	21.0
2	13.0	3.0	0.0	0.0	0.0	0.0	0.0		23.0	28.0	25.0	19.0
3	15.0	2.0	0.0	0.0	0.0	0.0	0.0		19.0	29.0	25.0	20.0
4	13.0	6.0	0.0	0.0	0.0	1.0	0.0		19.0	31.0	25.0	20.0
5	6.0	6.0	0.0	0.0	0.0	1.0	0.0		21.0	30.0	25.0	20.0
6	10.0	6.0	0.0	0.0	0.0	0.0	0.0		19.0	32.0	26.0	19.0
7	14.0	7.0	0.0	0.0	0.0	1.0	0.0		20.0	31.0	26.0	20.0
8	15.0	7.0	0.0	0.0	0.0	1.0	0.0		20.0	28.0	26.0	19.0
9	14.0	6.0	0.0	0.0	0.0	1.0	0.0		21.0	27.0	26.0	20.0
10	16.0	6.0	0.0	0.0	0.0	1.0	4.0		20.0	25.0	26.0	20.0
11	13.0	4.0	0.0	0.0	0.0	1.0	3.0		20.0	25.0	26.0	20.0
12	11.0	4.0	0.0	0.0	0.0	0.0	4.0		21.0	26.0	26.0	19.0
13	10.0	3.0	0.0	0.0	0.0	1.0	2.5		21.0	23.0	26.0	17.0
14	9.0	2.0	0.0	0.0	0.0	1.0	3.0		20.0	26.0	25.0	19.0
15	9.0	4.0	0.0	0.0	0.0	2.0	3.5		20.0	27.0	25.0	20.0
16	13.0	2.0	0.0	0.0	0.0	1.0	8.0		22.0	30.0	25.0	16.0
17	12.0	4.0	0.0	0.0	0.0	1.0	3.5		21.0	29.0	25.0	18.0
18	16.0	3.0	0.0	0.0	0.0	0.0	4.0		22.0	28.0	25.0	13.0
19	18.0	2.0	0.0	0.0	0.0	1.0	7.0		23.0	24.0	25.0	20.0
20	13.0	2.0	0.0	0.0	0.0	4.0	8.0		22.0	25.0	25.0	10.0
21	12.0	10.0	0.0	0.0	0.0	4.0	10.0		24.0	25.0	25.0	10.0
22	10.0	3.0	0.0	0.0	0.0	2.0	12.0		24.0	26.0	25.0	14.0
23	6.0	5.0	0.0	0.0	0.0	0.0	7.0		23.0	26.0	25.0	15.0
24	11.0	5.0	0.0	0.0	0.0	0.0	12.0		24.0	26.0	25.0	15.0
25	13.0	5.0	0.0	0.0	0.0	1.0	13.0		22.0	27.0	25.0	17.0
26	13.0	3.0	0.0	0.0	0.0	0.0	16.0		24.0	28.0	25.0	14.0
27	10.0	0.0	0.0	0.0	0.0	0.0	13.0		24.0	29.0	22.0	13.0
28	10.0	0.0	0.0	0.0	0.0	0.0	10.0		24.0	27.0	23.0	15.0
29	10.0	0.0	0.0	0.0	---	0.0	5.0		24.0	26.0	19.0	13.0
30	7.0	0.0	0.0	0.0	---	0.0	7.0		24.0	25.0	22.0	13.0
31	6.0	---	0.0	0.0	---	0.0	---		---	25.0	22.0	---
MONTH	11.5	4.0	0.0	0.0	0.0	1.0	5.0		21.5	27.0	24.5	17.0

06437000 BELLE FOURCHE RIVER NEAR STURGIS, S. DAK.

LOCATION.--Lat 44°30'47", long 103°08'11", in SE¼NW¼ sec.3, T.6 N., R.8 E., Meade County, at gaging station, near right bank on downstream side of bridge on State Highway 34, 0.5 mi (0.8 km) upstream from Bear Creek, and 20 mi (32 km) northeast of Sturgis.

DRAINAGE AREA.--5,870 mi^2 (15,200 km^2), approximately.

PERIOD OF RECORD.--Chemical analyses: August 1954 to September 1958, October 1968 to September 1973 (daily), October 1973 to September 1975 (monthly).
Water temperatures: August 1954 to September 1958, October 1968 to September 1973, October 1974 to September 1975.
Sediment records: October 1955 to September 1958.

EXTREMES.--1974-75:
Specific conductance: Maximum daily, 3,150 micromhos Jan. 12, Feb. 9; minimum daily, 960 micromhos May 13-15.
Water temperatures: Maximum, 29.5°C July 1; minimum, freezing point on many days during November to March.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED SILICA (SIO2) (MG/L) (00955)	DISSOLVED CALCIUM (CA) (MG/L) (00915)	DISSOLVED MAGNESIUM (MG) (MG/L) (00925)	DISSOLVED SODIUM (NA) (MG/L) (00930)	DISSOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	ALKALINITY AS CACO3 (MG/L) (00410)	DISSOLVED SULFATE (SO4) (MG/L) (00945)	DISSOLVED CHLORIDE (CL) (MG/L) (00940)	DISSOLVED FLUORIDE (F) (MG/L) (00950)
OCT.												
01...	0945	58	2.4	230	130	140	20	244	200	1100	18	.2
NOV.												
04...	1015	58	6.7	250	120	200	17	273	224	1200	27	.5
DEC.												
03...	1045	30	9.5	380	230	360	27	506	415	2100	50	.7
JAN.												
06...	1040	22	11	350	170	240	19	434	356	1600	33	.6
FEB.												
03...	1200	28	10	320	180	280	20	411	337	1700	41	.5
APR.												
09...	1400	1230	5.3	89	56	160	12	114	94	640	24	.3
MAY												
05...	1045	240	8.3	110	57	110	14	168	138	580	21	.4
JUNE												
03...	1430	460	7.7	180	54	67	12	223	183	610	9.1	.4
JULY												
01...	1030	664	8.5	150	54	49	12	161	132	560	8.6	.5
AUG.												
05...	1030	396	8.4	210	83	88	12	199	163	850	13	.6
SEP.												
08...	1400	355	6.2	210	83	95	11	192	157	870	12	.5

NOTE.--Carbonate (CO_3) analysis for all samples, 0.0 mg/l.

06437000 BELLE FOURCHE RIVER NEAR STURGIS, S. DAK.--Continued

EXTREMES.--Continued
Period of record:
Dissolved solids (1954-58, 1968-69, 1970-73): Maximum, 5,230 mg/l May 25, 1958; minimum, 761 mg/l Mar. 1-31, 1972.
Hardness (1954-58, 1968-69, 1970-73): Maximum, 1,960 mg/l Nov. 16-17, 1955; minimum, 390 mg/l Mar. 1-31, 1972.
Specific conductance (1954-58, 1968-71, 1973-75): Maximum daily, 5,770 micromhos May 25, 1958; minimum daily, 650 micromhos Feb. 15, 1971.
Water temperatures (1954-58, 1968-71, 1974-75): Maximum, 30.0°C June 28, July 4, 7, 9, Aug. 7-8, 1970; minimum, freezing point on many days during winter period.

REMARKS.--Maximum observed during water year: Dissolved solids, 3,450 mg/l Dec. 3; hardness, 1,900 mg/l Dec. 3; specific conductance, 5,200 micromhos Dec. 3. Minimum observed during water year: Dissolved solids, 924 mg/l July 1; hardness, 360 mg/l Apr. 9.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	DIS-SOL-VED-PHOS-PHORUS (P) (MG/L) (00666)	TOTAL PHOS-PHORUS (P) (MG/L) (00665)	DIS-SOLVED BORON (B) (UG/L) (01020)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L) (70301)	DIS-SOLVED SOLIDS (TONS PER DAY) (70302)	DIS-SOLVED SOLIDS (TONS PER AC-FT) (70303)	HARD-NESS (CA,MG) (MG/L) (00900)	NON-CAR-BONATE HARD-NESS (MG/L) (00902)	SODIUM AD-SORP-TION RATIO (00931)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS) (00095)	PH (UNITS) (00400)
OCT.												
01...	.18	.05	.04	450	1760	278	2.39	1100	910	1.8	2330	--
NOV.												
04...	4.4	.02	.02	430	1980	312	2.69	1100	890	2.6	2700	--
DEC.												
03...	9.9	.06	.01	840	3450	285	4.69	1900	1500	3.6	5200	--
JAN.												
06...	4.5	.01	.01	530	2660	156	3.62	1600	1200	2.6	3400	7.1
FEB.												
03...	12	.02	.08	500	2810	215	3.82	1500	1200	3.1	3950	7.9
APR.												
09...	5.8	.07	1.9	150	1070	3550	1.46	450	360	3.3	1380	8.3
MAY												
05...	1.6	.02	.86	180	991	642	1.35	510	370	2.1	1430	--
JUNE												
03...	.87	.02	.02	160	1050	1300	1.43	670	490	1.1	1437	8.7
JULY												
01...	.45	.03	.39	200	924	1660	1.26	600	460	.9	1290	7.9
AUG.												
05...	.82	.04	.36	240	1370	1460	1.86	870	700	1.3	1670	8.2
SEP.												
08...	.82	.03	.05	260	1390	1330	1.89	870	710	1.4	2000	8.4

06437000 BELLE FOURCHE RIVER NEAR STURGIS, S. DAK.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2250	2400	2650	2950	3000	2050	2700	1570	1430	1320	1700	1900
2	2280	2300	2700	2900	2950	2050	2700	1570	1410	1290	1700	1850
3	2250	2400	2700	2950	3000	2020	2750	1570	1420	1260	1650	1850
4	2250	2400	2750	2950	3050	2080	2350	1550	1420	1330	1700	1850
5	2200	2450	2700	3000	3100	2100	2050	1450	1440	1480	1700	1800
6	2200	2400	2700	3000	3050	2080	1900	1070	1520	1500	1700	1800
7	2200	2450	2780	3000	3050	2020	1800	990	1520	1800	1750	1800
8	2250	2420	2750	3050	3100	2220	1850	1110	1550	1550	1750	1800
9	2250	2420	2800	3050	3150	2300	1720	1040	1520	1620	1750	1800
10	2250	2450	2750	3050	3000	2400	1400	1050	1600	1680	1750	1750
11	2250	2500	2700	3100	3000	2600	1340	1060	1600	1700	1750	1750
12	2250	2500	2800	3150	3000	2720	1210	990	1650	1650	1700	1800
13	2250	2500	2800	3000	3000	2500	1370	960	1750	1670	1750	1800
14	2250	2500	2700	2950	3000	2420	1360	960	1700	1680	1800	1800
15	2250	2500	2750	2950	3000	2400	1360	960	1620	1630	1750	1750
16	2250	2500	2800	2950	3000	2100	1320	1020	1650	1660	1750	1700
17	2250	2550	2850	3050	3000	1950	1340	1050	1620	1760	1750	1750
18	2200	2600	2800	3000	3000	2020	1390	1050	1680	1700	1700	1800
19	2200	2600	2850	3050	2950	2050	1420	1140	1580	1730	1700	1850
20	2300	2650	2850	3050	2950	1980	1400	1160	1680	1770	1700	1850
21	2300	2600	2850	3000	2950	1900	1400	1170	1750	1710	1700	1850
22	2300	2680	2850	3050	2950	1800	1520	1200	1820	1670	1750	1800
23	2300	2600	2800	3000	2900	1800	1540	1360	1680	1670	1700	1750
24	2300	2600	2800	2950	2900	1820	1600	1360	1700	1700	1750	1800
25	2350	2650	2850	2900	2900	2000	1640	1360	1680	1650	1750	1800
26	2300	2600	2850	2950	2950	2250	1650	1250	1580	1660	1750	1850
27	2350	2600	2900	2950	2600	2350	1520	1170	1700	1610	1800	1900
28	2350	2650	2900	3000	2000	2700	1370	1250	1420	1640	1800	1900
29	2350	2600	2900	3000	---	2750	1260	1220	1280	1640	1800	1900
30	2350	2600	2900	3000	---	2700	1420	1270	1320	1640	1800	1900
31	2350	---	2900	---	---	2700	---	1300	---	1650	1800	---
MONTH	2270	2520	2800	3000	2950	2220	1660	1200	1580	1610	1740	1820

06437000 BELLE FOURCHE RIVER NEAR STURGIS, S. DAK.--Continued

TEMPERATURE (DEG. C) OF WATER , WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	5.5	0.0	0.0	0.0	---	---	6.5	19.5	29.5	21.0	21.5
2	2.0	5.5	0.0	0.0	0.0	---	---	9.0	20.0	27.0	19.0	16.5
3	6.0	4.5	0.0	0.0	0.0	0.0	1.5	10.0	17.0	26.0	20.0	19.5
4	8.0	0.0	0.0	0.0	0.0	0.0	0.5	12.5	17.5	25.0	23.0	16.0
5	4.5	0.0	0.0	0.0	0.0	0.0	1.5	13.5	16.5	27.0	19.0	15.5
6	---	0.0	0.0	0.0	0.0	0.0	1.0	11.0	18.0	---	25.0	20.0
7	2.0	0.0	0.0	0.0	0.0	0.0	1.0	10.0	18.0	---	24.5	15.0
8	4.5	0.5	0.0	0.0	0.0	0.0	1.0	9.5	19.5	---	24.5	---
9	6.5	4.5	0.0	0.0	0.0	0.0	0.5	10.5	14.5	28.0	24.0	---
10	---	---	0.0	0.0	0.0	0.0	0.5	---	12.5	22.5	24.5	22.5
11	---	---	0.0	0.0	0.0	0.0	1.0	15.5	15.0	19.5	24.0	---
12	---	---	0.0	0.0	0.0	0.0	6.0	14.5	16.0	22.5	23.0	11.5
13	---	---	0.0	0.0	0.0	0.0	2.5	13.5	18.5	26.0	21.0	18.0
14	---	0.0	0.0	0.0	0.0	0.5	2.5	14.0	18.0	27.5	20.5	20.5
15	---	0.0	0.0	0.0	0.0	0.0	4.5	14.5	20.0	23.0	21.5	15.0
16	11.0	0.0	0.0	0.0	0.0	0.0	4.5	17.0	17.0	24.0	22.0	15.0
17	5.0	---	0.0	0.0	0.0	0.0	7.5	17.0	15.0	25.5	22.0	19.0
18	11.5	0.0	0.0	0.0	0.0	1.0	4.5	---	18.0	24.0	22.0	16.0
19	12.0	0.0	0.0	0.0	0.0	1.5	9.0	---	16.5	22.0	---	11.0
20	---	0.0	0.0	0.0	0.0	1.0	9.0	14.0	19.0	24.5	21.0	10.5
21	7.0	0.0	0.0	0.0	0.0	1.0	7.0	13.5	21.0	---	23.0	13.0
22	5.5	0.0	0.0	0.0	0.0	2.0	9.0	12.0	18.5	---	23.0	15.0
23	3.0	0.0	0.0	0.0	0.0	1.0	11.0	11.5	21.5	---	20.0	16.0
24	4.5	---	0.0	0.0	0.0	0.5	9.0	18.0	23.0	---	20.0	16.5
25	2.0	0.0	0.0	0.0	0.0	---	9.5	12.5	21.5	---	19.5	17.0
26	8.5	0.0	0.0	0.0	0.0	0.5	17.5	13.5	22.5	---	16.0	15.0
27	---	0.0	0.0	0.0	0.0	---	17.0	14.5	19.0	28.0	22.0	12.5
28	3.5	0.0	0.0	0.0	0.0	---	9.5	15.0	24.5	26.5	18.5	14.5
29	3.0	---	0.0	0.0	---	---	5.0	18.0	26.0	23.0	---	13.0
30	8.5	---	0.0	0.0	---	---	5.0	16.5	23.0	23.0	17.5	13.5
31	5.5	---	0.0	0.0	---	---	---	17.5	---	22.0	23.0	---
MONTH	---	---	0.0	0.0	0.0	---	5.5	13.5	19.0	---	21.5	16.0

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, S. DAK.
(National Stream Quality Accounting Network)

LOCATION.--Lat 44°22'11", long 102°33'56", in NE¼NE¼ sec.29, T.5 N., R.13 E., Meade County, at gaging station, 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 mi^2 (18,670 km^2), approximately.

PERIOD OF RECORD.--Chemical analyses: July 1969 to September 1973 (monthly), October 1974 to September 1975 (monthly).
Water temperatures: October 1974 to September 1975.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED SILICA (SIO2) (MG/L) (00955)	DISSOLVED CALCIUM (CA) (MG/L) (00915)	DISSOLVED MAGNESIUM (MG) (MG/L) (00925)	DISSOLVED SODIUM (NA) (MG/L) (00930)	DISSOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	ALKALINITY AS CACO3 (MG/L) (00410)	DISSOLVED SULFATE (SO4) (MG/L) (00945)	DISSOLVED CHLORIDE (CL) (MG/L) (00940)	DISSOLVED FLUORIDE (F) (MG/L) (00950)
OCT.												
16...	1130	56	6.4	250	130	180	20	209	171	1300	22	.6
NOV.												
05...	1100	60	5.1	250	120	180	16	226	185	1200	23	.5
DEC.												
02...	1130	22	7.1	380	210	310	25	376	308	1900	48	.7
JAN.												
21...	1245	13	10	370	230	330	24	499	409	2100	48	.6
FEB.												
19...	1245	6.2	8.4	330	170	240	18	328	269	1600	35	.5
MAR.												
17...	1200	242	4.7	160	92	180	12	186	153	920	26	.5
APR.												
16...	1200	1600	5.3	83	36	100	7.5	96	79	440	14	.2
MAY												
21...	1230	737	8.8	150	53	64	9.7	205	168	510	8.9	.5
JUNE												
09...	1130	375	7.1	190	71	93	13	186	154	790	12	.4
JULY												
07...	1045	251	8.0	160	61	95	13	144	118	760	12	.5
AUG.												
11...	1200	349	7.2	200	73	100	12	180	148	870	13	.5
SEP.												
09...	1200	331	6.1	210	80	98	13	174	143	870	12	.5

NOTE.--Carbonate (CO_3) analysis for all samples, 0.0 mg/l.

DATE	TOTAL NITRITE PLUS NITRATE (N) (MG/L) (00630)	TOTAL KJELDAHL NITROGEN (N) (MG/L) (00625)	TOTAL NITROGEN (N) (MG/L) (00600)	TOTAL NITROGEN (NO3) (MG/L) (71887)	TOTAL PHOSPHORUS (P) (MG/L) (00665)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L) (70300)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) (70301)	DISSOLVED SOLIDS (TONS PER DAY) (70302)	DISSOLVED SOLIDS (TONS PER AC-FT) (70303)	HARDNESS (CA,MG) (MG/L) (00900)	NONCARBONATE HARDNESS (MG/L) (00902)	SODIUM ADSORPTION RATIO (00931)
OCT.												
16...	2.2	.77	3.0	13	.02	2260	2010	344	3.07	1200	990	2.3
NOV.												
05...	2.8	.56	3.4	15	.05	2160	1910	348	2.94	1100	930	2.3
DEC.												
02...	5.9	1.1	7.0	31	.15	3530	3070	211	4.80	1800	1500	3.2
JAN.												
21...	4.4	.90	5.3	23	.08	3720	3360	136	5.06	1900	1500	3.3
FEB.												
19...	2.4	1.5	3.9	17	.02	2900	2560	48.5	3.94	1500	1300	2.7
MAR.												
17...	3.6	3.1	6.7	30	.01	1640	1490	1070	2.23	780	630	2.8
APR.												
16...	1.4	4.1	5.5	24	1.4	780	734	3370	1.06	360	280	2.3
MAY												
21...	.41	.96	1.4	6.1	.53	997	906	1980	1.36	590	420	1.1
JUNE												
09...	.56	4.2	4.8	21	.39	1360	1270	1380	1.85	770	610	1.5
JULY												
07...	.45	.93	1.4	6.1	.26	1290	1180	874	1.75	650	530	1.6
AUG.												
11...	.51	.12	.63	2.8	.12	1520	1360	1430	2.07	800	650	1.5
SEP.												
09...	.98	.57	1.6	6.9	.25	1530	1380	1370	2.08	850	710	1.5

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, S. DAK.--Continued

EXTREMES.--1974-75:
Specific conductance: Maximum daily, 4,400 micromhos Dec. 8; minimum daily, 900 micromhos May 7.
Water temperatures: Maximum, 30.0°C July 1, 2, 6, Aug. 1, 2, 6; minimum, freezing poing on many days during November to April.

Period of record:
Specific conductance: Maximum daily, 4,400 micromhos Dec. 8, 1974; minimum daily, 900 micromhos May 7, 1975.
Water temperatures: Maximum, 30.0°C July 1, 2, 6, Aug. 1, 2, 6, 1975; freezing point on many days during winter months.

REMARKS.--Maximum observed during water year: Dissolved solids, 3,720 mg/l Jan. 21; hardness, 1,900 mg/l Jan. 21. Minimum observed during year: Dissolved solids, 734 mg/l Apr. 16; hardness, 360 mg/l Apr. 16.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	PH (UNITS) (00400)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)	TEMPERATURE (DEG C) (00010)	TURBIDITY (JTU) (00070)	TOTAL ORGANIC CARBON (C) (MG/L) (00680)	FECAL COLIFORM (COL. PER 100 ML) (31616)	STREPTOCOCCI (COLONIES PER 100 ML) (31679)	TOTAL PHYTOPLANKTON (CELLS PER ML) (60050)	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	UNCORRECTED PERIPHYTON CHLOROPHYLL A MG/SQ M (32228)	UNCORRECTED PERIPHYTON CHLOROPHYLL B MG/SQ M (32226)
OCT.											
16...	7.7	2930	9.0	5	3.9	<10	B10	3000	--	--	--
NOV.											
05...	7.9	2840	5.5	2	--	20	20	1800	.80	.1	.0
DEC.											
02...	--	3620	.5	3	--	B7	B10	700	--	--	--
JAN.											
21...	7.6	4000	--	4	--	B500	60	--	--	--	--
FEB.											
19...	6.9	3400	.0	2	--	<3	B6	290	--	--	--
MAR.											
17...	8.4	2010	.5	900	--	B90	B340	7600	--	--	--
APR.											
16...	8.4	1620	9.5	120	27	B2600	B2400	180	--	--	--
MAY											
21...	8.6	1280	12.5	26	--	450	560	0	--	--	--
JUNE											
09...	8.7	1680	15.0	3500	--	B300	B300	21000	--	--	--
JULY											
07...	8.5	1600	25.5	90	6.8	240	70	28000	--	--	--
AUG.											
11...	8.2	1920	25.5	56	--	100	50	21000	--	--	--
SEP.											
09...	8.3	1710	20.5	9	--	610	220	5900	--	--	--

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, 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)
NOV.					
05...	1100	5.5	60	385	62
DEC.					
02...	1130	.5	22	297	18
JAN.					
21...	1245	.5	13	359	13
FEB.					
19...	1245	.0	6.2	512	8.6
MAR.					
17...	1200	.5	242	3390	2220
APR.					
16...	1200	9.5	1600	4480	19400
MAY					
21...	1230	12.5	737	930	1850
JUNE					
09...	1130	15.0	375	820	830
JULY					
07...	1045	25.5	251	432	293
AUG.					
11...	1200	25.5	349	294	277
SEP.					
09...	1200	20.5	331	312	279

B Non-ideal colony county
< Less than

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, S. DAK.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

TRACE METALS

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED ARSENIC (AS) (UG/L) (01000)	SUSPENDED ARSENIC (AS) (UG/L) (01001)	TOTAL ARSENIC (AS) (UG/L) (01002)	DISSOLVED CADMIUM (CD) (UG/L) (01025)	SUSPENDED CADMIUM (CD) (UG/L) (01026)	TOTAL CADMIUM (CD) (UG/L) (01027)	DISSOLVED CHROMIUM (CR) (UG/L) (01030)	SUSPENDED CHROMIUM (CR) (UG/L) (01031)	TOTAL CHROMIUM (CR) (UG/L) (01034)	DISSOLVED COBALT (CO) (UG/L) (01035)
OCT.												
16...	1130	56	65	10	75	0	<10	<10	0	0	0	0
APR.												
16...	1200	1600	13	2300	2300	1	<9	<10	0	120	120	0
JULY												
07...	1045	251	48	100	150	0	<10	<10	0	17	17	0

DATE	SUSPENDED MANGANESE (MN) (UG/L) (01054)	TOTAL MANGANESE (MN) (UG/L) (01055)	DISSOLVED MERCURY (HG) (UG/L) (71890)	SUSPENDED MERCURY (HG) (UG/L) (71895)	TOTAL MERCURY (HG) (UG/L) (71900)	DISSOLVED SELENIUM (SE) (UG/L) (01145)	SUSPENDED SELENIUM (SE) (UG/L) (01146)	TOTAL SELENIUM (SE) (UG/L) (01147)	DISSOLVED ZINC (ZN) (UG/L) (01090)	SUSPENDED ZINC (ZN) (UG/L) (01091)	TOTAL ZINC (ZN) (UG/L) (01092)
OCT.											
16...	30	170	.1	.0	.1	4	0	2	20	60	80
APR.											
16...	2000	2100	1.0	.7	1.7	5	0	5	30	460	490
JULY											
07...	480	490	.1	.3	.4	4	0	4	0	50	50

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		2500	3600	4200	3250	2250	2450	1440	1420	1320	1700	1800
2		2500	---	4100	3300	2250	2350	1290	1420	1380	1650	1800
3		2500	4180	4100	3200	2300	2650	1520	1500	1400	1700	1800
4		2500	4250	4100	3300	2250	2300	1600	1480	1320	1700	1750
5		2500	4200	4200	3100	2000	2100	1680	1600	1360	1700	1750
6		2350	4220	3850	3400	2050	2150	1720	1680	1520	1700	1900
7		2550	4000	3700	3800	2100	1950	900	1550	1540	1750	1850
8		2700	4400	4000	3400	2080	1500	1300	1620	1480	1750	1900
9		2600	3750	3450	3750	1980	1100	1140	1600	1480	1700	1850
10		2600	3650	3350	3620	2100	970	1030	1580	1600	1750	1750
11		2600	3500	4200	3800	2120	1040	1050	1580	1570	1750	1750
12		2600	3200	3500	3280	2200	1040	1050	1550	1750	1750	1800
13		2550	3220	3950	3100	2320	950	1010	1820	1760	1800	1800
14		2650	3280	4200	3400	2350	1100	1020	1700	1760	1750	1800
15		2600	3280	4000	2950	2470	1130	1020	1820	1800	1750	1750
16		2600	3220	4100	2850	2500	1120	1410	1750	1800	1750	1800
17		2700	3200	3300	3480	2070	1010	1420	1720	1700	1750	1750
18		2600	3400	3200	3750	1620	1080	---	1800	1700	1750	1750
19		2650	3100	3900	3450	1550	1200	1120	1420	1700	1750	1750
20		2650	3350	3900	3700	1550	1240	1240	1320	1690	1700	1800
21		2700	3100	4000	2750	1680	1270	1240	1520	1740	1700	1850
22		2650	3550	3700	2750	1550	1240	1140	1700	1760	1700	1850
23		2700	3250	3900	2950	1620	1280	1090	1980	1720	1750	1800
24		2650	4000	3350	3020	1680	1400	1270	1980	1720	1700	1800
25		2700	3850	3450	3000	1580	1400	1270	1850	1700	1750	1800
26		2700	3750	3150	3050	1800	1460	1400	1620	1680	1750	1800
27		2850	4000	4100	2700	2450	1110	1290	1470	1700	1800	1850
28		2800	3850	3150	2520	2500	1080	1380	1700	1650	1800	1850
29		3100	3800	2800	---	2400	1130	1400	1620	1670	1850	1900
30		3200	3800	2850	---	2500	1130	1380	1380	1690	1850	1800
31		---	3800	2900	---	2500	---	1370	---	1680	1850	---
MONTH		2650	3660	3700	3240	2080	1430	1270	1630	1620	1750	1810

< Less than

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, S. DAK.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

TRACE METALS

DATE	SUS-PENDED COBALT (CO) (UG/L) (01036)	TOTAL COBALT (CO) (UG/L) (01037)	DIS-SOLVED COPPER (CU) (UG/L) (01040)	SUS-PENDED COPPER (CU) (UG/L) (01041)	TOTAL COPPER (CU) (UG/L) (01042)	DIS-SOLVED IRON (FE) (UG/L) (01046)	TOTAL IRON (FE) (UG/L) (01045)	DIS-SOLVED LEAD (PB) (UG/L) (01049)	SUS-PENDED LEAD (PB) (UG/L) (01050)	TOTAL LEAD (PB) (UG/L) (01051)	DIS-SOLVED MAN-GANESE (MN) (UG/L) (01056)
OCT. 16...	<50	<50	9	11	20	220	300	2	<98	<100	140
APR. 16...	50	50	5	180	180	10	200000	0	100	100	100
JULY 07...	<50	<50	3	7	10	10	16000	2	<98	<100	10

TEMPERATURE (DEG. C) OF WATER , WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.0	5.5	1.0	0.5	0.5	0.5	0.0	---	16.0	30.0	30.0	19.5
2	6.5	6.0	1.0	0.0	0.0	1.0	0.0	---	18.0	30.0	30.0	18.0
3	10.5	6.0	1.0	1.0	0.0	0.5	0.0	---	18.0	26.0	26.0	16.5
4	10.0	5.0	0.0	2.0	0.0	0.5	1.0	---	18.0	25.0	25.0	17.0
5	5.5	4.0	0.0	0.0	0.0	2.0	0.5	---	18.0	29.0	29.0	17.5
6	4.0	3.0	0.0	0.5	0.0	0.5	2.0	---	18.0	30.0	30.0	19.0
7	5.0	7.0	0.0	0.0	0.0	0.5	1.0	---	18.0	26.0	26.0	20.0
8	10.0	4.5	4.0	0.5	0.0	0.5	1.0	---	18.0	25.0	25.0	19.0
9	10.0	8.5	1.0	0.0	0.0	0.5	1.0	---	15.0	29.0	29.0	17.0
10	11.5	4.0	0.5	0.0	0.0	0.5	2.0	---	15.0	21.0	25.0	19.5
11	11.0	4.5	0.0	0.0	0.0	0.5	2.0	---	16.0	22.0	22.0	17.0
12	10.0	4.0	0.0	0.0	0.0	0.5	4.0	---	17.0	24.0	24.0	18.5
13	11.0	1.5	0.5	0.0	0.0	0.5	3.0	---	20.0	21.0	21.0	17.0
14	5.0	2.5	0.0	0.0	0.0	0.5	4.0	---	16.0	19.0	19.0	16.0
15	5.0	4.0	0.0	0.0	0.0	1.0	4.0	---	17.0	18.5	18.5	17.0
16	6.5	1.5	0.5	0.0	0.0	1.5	6.0	---	20.0	18.0	18.0	16.5
17	10.0	3.0	0.5	0.0	0.0	0.5	6.5	---	24.0	17.5	17.5	18.0
18	8.0	3.0	1.0	0.0	0.0	1.0	5.0	---	20.0	19.0	19.0	11.0
19	8.0	3.5	0.0	0.0	0.0	1.5	4.0	---	20.0	20.0	20.0	9.0
20	8.5	4.5	0.0	0.5	0.0	1.0	8.0	---	16.0	21.5	21.5	8.5
21	16.5	3.0	0.5	0.5	0.5	3.0	9.0	---	24.0	22.0	22.0	8.0
22	12.0	4.0	0.0	0.5	0.0	2.0	12.0	---	23.0	22.5	18.0	14.5
23	7.5	3.0	0.5	1.0	0.0	1.0	12.5	---	20.0	23.0	20.0	12.5
24	7.0	3.0	0.0	1.5	0.5	1.0	12.0	---	21.0	19.5	17.5	17.0
25	7.0	0.0	0.0	1.5	0.5	1.0	12.0	---	19.0	15.5	15.5	13.0
26	8.0	2.5	1.0	1.0	1.0	1.0	15.0	---	23.0	17.0	16.0	13.5
27	12.0	1.0	1.0	1.0	0.5	0.0	13.0	---	18.0	18.0	18.0	14.5
28	15.0	1.0	0.0	1.0	0.5	0.5	10.0	---	17.5	19.5	19.5	16.5
29	12.0	1.0	0.0	0.5	---	0.0	5.0	---	18.0	18.0	18.0	12.0
30	10.0	1.0	3.0	0.5	---	0.5	5.5	---	21.0	20.5	20.5	10.5
31	5.0	---	0.0	0.0	---	1.0	---	---	---	21.0	21.0	---
MONTH	9.0	3.5	0.5	0.5	0.0	1.0	5.5	---	19.0	22.0	22.0	15.5

< Less than

06439300 CHEYENNE RIVER AT CHERRY CREEK, S. DAK.
(National Stream Quality Accounting Network)
(National Pesticide Water Monitoring Network)

LOCATION.--Lat 44°36'10", long 101°29'24", in NE¼NW¼ sec.5, T.7 N., R.22 E., Ziebach County, at gaging station, 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.

PERIOD OF RECORD.--Chemical analyses: June 1972 to September 1975.
Water temperatures: October 1971 to September 1975.
Sediment records: October 1971 to September 1975.

EXTREMES.--1974-75:
Sediment concentrations: Maximum daily, 30,600 mg/l Oct. 9; minimum daily, 100 mg/l Nov. 30.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED SILICA (SIO2) (MG/L) (00955)	DISSOLVED CALCIUM (CA) (MG/L) (00915)	DISSOLVED MAGNESIUM (MG) (MG/L) (00925)	DISSOLVED SODIUM (NA) (MG/L) (00930)	DISSOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	ALKALINITY AS CACO3 (MG/L) (00410)	DISSOLVED SULFATE (SO4) (MG/L) (00945)	DISSOLVED CHLORIDE (CL) (MG/L) (00940)	DISSOLVED FLUORIDE (F) (MG/L) (00950)
OCT.												
03...	1345	126	7.1	230	80	330	17	168	138	1200	58	.5
31...	1305	144	3.8	110	70	360	14	178	146	1100	89	.5
DEC.												
19...	1235	252	6.4	90	99	340	14	264	217	1200	80	.5
JAN.												
16...	1320	48	8.1	280	42	360	16	316	259	1200	110	.6
FEB.												
11...	1500	42	13	300	110	240	15	361	296	1200	240	.6
MAR.												
12...	1600	214	8.7	24	44	250	9.5	206	169	570	34	.4
MAY												
01...	1510	7040	4.7	18	.3	200	4.6	96	79	190	3.1	.2
22...	1100	993	8.4	100	41	120	9.5	192	157	500	19	.3
JUNE												
12...	1335	951	6.8	47	46	210	8.7	158	130	610	20	.5
JULY												
02...	1330	1200	7.1	68	25	130	8.4	166	136	400	14	.4
29...	1105	410	5.8	200	80	140	19	124	102	920	31	.6
AUG.												
27...	0920	363	8.7	210	85	120	13	156	128	970	21	.5
SEP.												
23...	1300	331	5.7	220	81	130	12	160	131	930	30	.5

NOTE.--Carbonate (CO_3) analysis for all samples, 0.0 mg/l.

TRACE METALS

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED ARSENIC (AS) (UG/L) (01000)	SUSPENDED ARSENIC (AS) (UG/L) (01001)	TOTAL ARSENIC (AS) (UG/L) (01002)	DISSOLVED CADMIUM (CD) (UG/L) (01025)	SUSPENDED CADMIUM (CD) (UG/L) (01026)	TOTAL CADMIUM (CD) (UG/L) (01027)	DISSOLVED CHROMIUM (CR) (UG/L) (01030)	SUSPENDED CHROMIUM (CR) (UG/L) (01031)	TOTAL CHROMIUM (CR) (UG/L) (01034)	DISSOLVED COBALT (CO) (UG/L) (01035)
OCT.												
03...	1345	126	3	25	28	1	<9	<10	0	0	0	0
JAN.												
16...	1320	48	20	0	19	0	20	20	0	10	10	0
MAY												
22...	1100	993	18	67	85	1	<9	<10	0	20	20	0
JULY												
29...	1105	410	13	42	55	1	<9	<10	0	0	0	0

< Less than

06439300 CHEYENNE RIVER AT CHERRY CREEK, S. DAK.--Continued

EXTREMES.--1974-75:--Continued
Sediment discharge: Maximum daily, 341,000 tons May 9; minimum daily, 24 tons Feb. 9.

Period of record:
Sediment concentrations: Maximum daily, 65,000 mg/l June 12, 1972; minimum daily, 80 mg/l Nov. 15-17, 1972.
Sediment discharge: Maximum daily, 2,530,000 tons June 12, 1972; minimum daily, 15 tons Dec. 14, 1973.

REMARKS.--Maximum observed during water year: Dissolved solids, 2,300 mg/l Feb. 11; hardness, 1,200 mg/l Feb. 11; specific conductance, 3,200 micromhos Jan. 27, 28; water temperatures, 35.5°C July 30. Minimum observed during year: Dissolved solids, 396 mg/l May 1; hardness, 46 mg/l May 1; specific conductance, 610 micromhos May 1; water temperatures, freezing point on many days during December to March. Sediment records fair. Flow affected by ice Nov. 27 to Mar. 19, Mar. 24 to Apr. 6. Sediment-discharge records prior to Oct. 1, 1971, are on file in the District office, Corps of Engineers, Omaha, Nebr.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	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)	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 DAY) (70302)	DIS-SOLVED SOLIDS (TONS PER AC-FT) (70303)	HARD-NESS (CA,MG) (MG/L) (00900)	NON-CAR-BONATE HARD-NESS (MG/L) (00902)	SODIUM AD-SORP-TION RATIO (00931)
OCT.												
03...	.75	.47	1.2	5.4	.02	2220	2010	755	3.02	900	770	4.8
31...	--	--	--	--	--	2080	1840	809	2.83	560	420	6.6
DEC.												
19...	2.0	.41	2.4	11	.04	2180	1960	1480	2.96	630	420	5.9
JAN.												
16...	1.7	.27	2.0	8.7	.13	2320	2170	301	3.16	870	610	5.3
FER.												
11...	2.6	1.6	4.2	19	.23	2300	2300	261	3.13	1200	910	3.0
MAR.												
12...	.34	.99	1.3	5.9	.35	1150	1040	664	1.56	240	72	7.0
MAY												
01...	.30	7.4	7.7	34	2.0	396	468	7530	.54	46	0	13
22...	.23	1.4	1.6	7.2	.34	980	893	2630	1.33	420	260	2.6
JUNE												
12...	.93	4.4	5.3	24	.85	1110	1030	2850	1.51	310	180	5.2
JULY												
02...	.01	1.4	1.4	6.2	.35	757	735	2450	1.03	270	140	3.4
29...	.02	1.2	1.2	5.4	.15	1620	1460	1790	2.20	830	730	2.1
AUG.												
27...	.53	.72	1.3	5.5	.33	1650	1510	1620	2.24	870	750	1.8
SEP.												
23...	.64	.76	1.4	6.2	.08	1660	1490	1480	2.26	880	750	1.9

TRACE METALS

DATE	SUS-PENDED COBALT (CO) (UG/L) (01036)	TOTAL COBALT (CO) (UG/L) (01037)	DIS-SOLVED COPPER (CU) (UG/L) (01040)	SUS-PENDED COPPER (CU) (UG/L) (01041)	TOTAL COPPER (CU) (UG/L) (01042)	DIS-SOLVED IRON (FE) (UG/L) (01046)	TOTAL IRON (FE) (UG/L) (01045)	DIS-SOLVED LEAD (PB) (UG/L) (01049)	SUS-PENDED LEAD (PB) (UG/L) (01050)	TOTAL LEAD (PB) (UG/L) (01051)	DIS-SOLVED MAN-GANESE (MN) (UG/L) (01056)
OCT.											
03...	<50	<50	3	<7	<10	10	1100	10	<90	<100	0
JAN.											
16...	<50	<50	4	6	10	60	230	4	<96	<100	20
MAY											
22...	<50	<50	4	26	30	10	17000	6	<94	<100	10
JULY											
29...	<50	<50	2	8	10	10	5200	9	<91	<100	20

< Less than

06439300 CHEYENNE RIVER AT CHERRY CREEK, S. DAK.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	PH (UNITS) (00400)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)	TEMPERATURE (DEG C) (00010)	TURBIDITY (JTU) (00070)	TOTAL ORGANIC CARBON (C) (MG/L) (00680)	FECAL COLIFORM (COL. PER 100 ML) (31616)	STREPTOCOCCI (COLONIES PER 100 ML) (31679)	TOTAL PHYTOPLANKTON (CELLS PER ML) (60050)	PERIPHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	UNCORRECTED PERIPHYTON CHLOROPHYLL A MG/SQ M (32228)	UNCORRECTED PERIPHYTON CHLOROPHYLL B MG/SQ M (32226)
OCT.												
03...	7.6	2570	12.0	10	4.1	<1	30	3000	--	--	--	--
31...	8.5	2700	10.0	20	--	--	--	2200	--	--	--	--
DEC.												
19...	8.9	2540	.0	3	--	--	--	--	--	--	--	--
JAN.												
16...	8.1	2610	.0	2	4.6	--	--	570	--	--	--	--
FEB.												
11...	7.4	3200	.0	7	--	B10	B5	2400	--	--	--	--
MAR.												
12...	8.2	1390	.0	100	--	B10	B70	1200	--	--	--	--
MAY												
01...	8.8	610	4.0	33	--	2300	4300	4300	--	--	--	--
22...	9.0	1270	12.0	200	8.4	B130	B430	1300	--	--	--	--
JUNE												
12...	9.2	1400	19.5	1400	--	B11600	B12600	10000	--	--	--	--
JULY												
02...	8.0	1120	30.5	240	--	B5500	B1200	6200	.50	.50	.0	.0
29...	7.9	1950	24.0	64	9.2	220	80	70000	--	--	--	--
AUG.												
27...	8.3	1920	19.5	2	--	180	70	17000	78	29	.6	.0
SEP.												
23...	7.9	1510	16.0	35	--	B20	B10	19000	130	120	51	1.2

TRACE METALS

DATE	SUSPENDED MANGANESE (MN) (UG/L) (01054)	TOTAL MANGANESE (MN) (UG/L) (01055)	DISSOLVED MERCURY (HG) (UG/L) (71890)	SUSPENDED MERCURY (HG) (UG/L) (71895)	TOTAL MERCURY (HG) (UG/L) (71900)	DISSOLVED SELENIUM (SE) (UG/L) (01145)	SUSPENDED SELENIUM (SE) (UG/L) (01146)	TOTAL SELENIUM (SE) (UG/L) (01147)	DISSOLVED ZINC (ZN) (UG/L) (01090)	SUSPENDED ZINC (ZN) (UG/L) (01091)	TOTAL ZINC (ZN) (UG/L) (01092)
OCT.											
03...	60	60	.0	.0	.0	4	0	4	0	30	30
JAN.											
16...	160	180	.3	.0	.1	3	0	3	30	10	40
MAY											
22...	530	540	.0	.0	.0	3	0	3	0	120	120
JULY											
29...	--	--	.0	.0	.0	1	2	3	8	40	50

B Non-ideal colony count
< Less than

06439300 CHEYENNE RIVER AT CHERRY CREEK, S. DAK.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	3000	2900	2250	2210	680	---	1140	---	2060
2	---	---	---	3000	2900	2250	2210	---	1650	1140	---	2100
3	2570	---	---	2950	2900	2250	2180	---	1650	1920	---	2120
4	---	---	---	2950	2900	2250	2210	---	1650	1920	---	2140
5	---	---	---	2800	2900	2200	2210	985	1650	1920	---	2130
6	---	---	---	2850	2900	2250	960	935	1660	---	---	2120
7	---	---	---	2850	2900	2250	940	650	1640	2050	---	2050
8	---	---	---	2850	2900	1580	955	690	---	2050	---	2050
9	---	---	---	2800	2650	1550	955	690	1650	2050	---	1990
10	---	---	---	2800	2650	1550	950	1020	1620	2050	1910	2000
11	---	---	---	3000	2650	1550	970	930	1650	2050	1980	2030
12	---	---	---	3000	2650	1680	955	1030	1860	2050	---	2000
13	---	---	---	2850	2600	---	945	865	1890	2050	---	2010
14	---	---	---	2800	2650	1650	985	855	1880	2050	---	2050
15	---	---	---	2850	2650	1660	985	770	1890	2050	---	2040
16	---	---	---	2800	2650	1200	985	700	1900	2050	---	2080
17	---	---	---	2800	2600	1200	990	685	1900	2050	---	2060
18	---	---	---	2800	2650	1220	980	1640	1900	2050	---	2040
19	---	---	2400	2800	2600	1230	635	1650	1900	2050	---	2030
20	---	---	2700	2850	2600	1200	630	1640	1140	2040	---	2010
21	---	---	2650	2850	2500	1200	635	1650	1140	1920	---	1960
22	---	---	2450	3000	2500	2220	630	1640	1140	2050	---	2050
23	---	---	2550	2850	2500	2220	640	1630	1140	1980	---	2040
24	---	---	2600	2850	2600	2210	650	1640	1140	1980	---	2050
25	---	---	2750	2850	2600	2210	620	1640	1140	2000	---	2080
26	---	---	2700	2850	2250	2210	685	1640	1140	1920	---	2050
27	---	2350	2800	3400	2200	2210	715	1640	1140	1920	1920	2010
28	---	---	2850	3400	2250	2210	685	1640	1140	1920	1900	2010
29	---	---	2900	2600	---	2210	665	1640	1140	1950	2000	2040
30	---	---	3250	2600	---	2210	675	1640	1140	---	2030	2090
31	2700	---	3200	2600	---	2210	---	1640	---	---	2060	---
MONTH	---	---	---	2880	2650	1880	1050	1230	1520	1940	---	2050

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	0.0	0.0	0.0	---	16.5	11.0	13.5	30.0	22.0
2	---	---	---	0.0	0.0	0.0	---	15.0	14.5	14.0	27.0	19.0
3	---	---	---	0.0	0.0	0.0	---	11.5	15.0	12.5	28.0	16.0
4	---	---	---	0.0	0.0	0.0	---	10.0	15.5	12.5	26.0	17.0
5	---	---	---	0.0	0.0	0.0	---	14.5	14.0	12.5	25.0	15.0
6	---	---	---	0.0	0.0	0.0	---	13.5	13.0	22.5	26.0	16.0
7	---	---	---	0.0	0.0	0.0	---	12.5	11.0	20.0	27.0	14.0
8	---	---	---	0.0	0.0	0.0	---	12.0	12.5	20.0	22.0	16.0
9	---	---	---	0.0	0.0	0.0	---	12.0	13.5	20.0	24.0	24.0
10	---	---	---	0.0	0.0	0.0	---	11.5	14.5	25.5	26.0	25.0
11	---	---	---	0.0	0.0	0.0	---	12.0	14.0	25.5	27.0	15.0
12	---	---	---	0.0	0.0	0.0	---	10.0	13.0	25.5	26.0	14.0
13	---	---	---	0.0	0.0	0.0	20.0	14.5	15.0	25.0	25.0	19.0
14	---	---	---	0.0	0.0	0.0	15.0	13.5	14.5	20.5	20.0	21.0
15	---	---	---	0.0	0.0	0.0	10.0	12.5	13.5	20.0	23.0	20.0
16	---	---	---	0.0	0.0	0.0	15.0	11.0	13.0	20.0	21.0	19.0
17	---	---	---	0.0	0.0	0.0	15.0	14.5	11.5	20.5	20.0	20.0
18	---	---	---	0.0	0.0	0.0	15.0	13.5	12.0	20.5	25.0	15.0
19	---	---	0.0	0.0	0.0	0.0	15.0	12.5	13.5	25.5	25.0	16.0
20	---	---	0.0	0.0	0.0	0.0	20.0	12.0	14.5	25.5	26.0	10.0
21	---	---	0.0	0.0	0.0	0.0	15.0	12.5	14.5	25.5	28.0	15.0
22	---	---	0.0	0.0	0.0	0.0	10.0	13.5	16.5	25.5	28.0	14.0
23	---	---	0.0	0.0	0.0	0.0	12.0	14.5	16.0	25.0	26.0	17.0
24	---	---	0.0	0.0	0.0	0.0	13.0	11.0	14.5	25.0	20.0	14.0
25	---	---	0.0	0.0	0.0	0.0	14.0	18.5	14.0	29.5	18.0	12.0
26	---	---	0.0	0.0	0.0	0.0	12.0	17.0	13.0	29.0	20.0	14.0
27	---	1.0	0.0	0.0	0.0	0.0	14.0	15.0	12.5	26.0	20.0	13.0
28	---	---	0.0	0.0	0.0	0.0	14.0	15.0	12.0	27.5	25.0	15.0
29	---	---	0.0	0.0	---	0.0	14.0	13.0	10.0	29.5	21.0	11.0
30	10.0	---	0.0	0.0	---	0.0	14.0	13.5	10.5	35.5	18.0	10.0
31	---	---	0.0	0.0	---	0.0	---	14.5	---	35.0	28.0	---
MONTH	---	---	---	0.0	0.0	0.0	---	13.5	13.5	23.0	24.0	16.5

06439300 CHEYENNE RIVER AT CHERRY CREEK, S. DAK.--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	120	298	97	114	290	89	90	295	72
2	120	290	94	146	295	116	70	290	55
3	125	258	87	237	295	189	70	285	54
4	127	210	72	358	295	285	60	280	45
5	131	255	90	234	300	190	55	275	41
6	153	340	140	199	300	161	55	270	40
7	161	19000	8260	186	300	151	65	265	47
8	248	29500	19800	180	305	148	75	260	53
9	241	30600	19900	172	305	142	90	255	62
10	218	5200	3060	170	305	140	100	250	67
11	183	383	189	170	310	142	120	240	78
12	158	458	195	170	310	142	140	235	89
13	148	518	207	175	310	146	150	230	93
14	148	544	217	180	315	153	160	225	97
15	151	615	251	180	315	153	150	220	89
16	148	421	168	175	315	149	130	215	75
17	146	522	206	180	315	153	120	210	68
18	146	578	228	180	320	156	110	205	61
19	146	520	205	180	320	156	120	194	63
20	148	591	236	175	320	151	130	138	48
21	148	560	224	180	320	156	130	157	55
22	141	530	202	180	325	158	130	123	43
23	139	500	188	180	325	158	120	195	63
24	141	480	183	180	325	158	120	129	42
25	141	450	171	175	325	154	110	194	58
26	134	420	152	170	330	151	110	187	56
27	134	400	145	142	332	127	100	189	51
28	139	370	139	130	330	116	100	226	61
29	143	340	131	120	320	104	95	257	66
30	141	320	122	100	300	81	100	191	52
31	136	290	106	---	---	---	100	288	78
MONTH	4703	---	55465	5318	---	4475	3275	---	1922

	JANUARY			FEBRUARY			MARCH		
1	90	210	51	55	568	84	120	245	79
2	90	183	44	50	552	75	150	280	113
3	85	189	43	45	552	67	200	314	170
4	80	186	40	45	600	73	260	311	218
5	80	185	40	50	664	90	230	294	183
6	75	152	31	55	528	78	210	289	164
7	70	193	36	45	533	65	210	297	168
8	70	675	128	40	542	59	200	697	376
9	65	538	94	35	256	24	190	798	409
10	60	422	68	40	242	26	190	936	480
11	55	531	79	45	370	45	200	581	314
12	50	581	78	60	259	42	215	511	297
13	40	289	31	70	297	56	220	530	315
14	45	226	27	80	265	57	250	549	371
15	45	239	29	90	227	55	300	525	425
16	48	284	37	85	261	60	350	840	794
17	48	302	39	75	236	48	800	1300	2810
18	50	266	36	70	373	70	1500	15800	64000
19	55	346	51	65	323	57	2000	26000	140000
20	60	252	41	75	262	53	1380	15000	55900
21	65	273	48	85	279	64	1320	17000	60600
22	70	220	42	95	286	73	1770	14000	66900
23	75	206	42	95	333	85	1320	13900	49500
24	80	350	76	100	295	80	900	1800	4370
25	85	334	77	110	312	93	500	689	930
26	95	234	60	115	217	67	200	712	384
27	100	852	230	115	327	102	150	648	262
28	90	796	193	115	350	109	130	703	247
29	80	427	92	---	---	---	120	1060	343
30	70	576	109	---	---	---	130	734	258
31	60	364	59	---	---	---	150	976	395
MONTH	2131	---	2051	2005	---	1857	15865	---	451775

06439300 CHEYENNE RIVER AT CHERRY CREEK, S. DAK.--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	170	855	392	6980	8200	155000	726	600	1180
2	180	1060	515	2260	15100	92100	830	550	1230
3	170	461	212	1840	12900	64100	793	525	1120
4	160	800	346	1830	15000	74100	778	500	1050
5	150	5500	2230	2800	19000	144000	755	450	917
6	500	7000	9450	3510	14600	138000	961	2200	5710
7	1170	7600	24000	4530	20200	247000	614	1630	2700
8	1320	7400	26400	5120	20200	279000	523	1100	1550
9	4340	7400	86700	5430	10700	157000	1160	3600	11300
10	5760	7300	114000	6750	18700	341000	893	3900	9400
11	4900	7300	96600	7120	11000	211000	1260	5500	18700
12	4040	7100	77400	7260	9600	188000	946	4200	10700
13	3370	7200	65500	4690	9200	116000	698	3350	6310
14	4130	9900	110000	4330	6860	80200	614	2720	4510
15	3990	6700	72200	4110	9180	102000	561	2150	3260
16	3920	4000	42300	3600	727	7070	542	1750	2560
17	3930	4000	42400	3000	710	5750	548	1200	1780
18	4170	2700	30400	2000	716	3870	548	700	1040
19	3560	1780	17100	1500	761	3080	1570	3400	14400
20	2490	1840	12400	1200	780	2530	3350	5350	48400
21	2010	1110	6020	1100	748	2220	2870	5650	43800
22	1950	660	3470	1030	671	1870	2460	4250	28200
23	1870	702	3540	994	696	1870	1920	3050	15800
24	1710	549	2530	1060	708	2030	1410	1700	6470
25	1570	297	1260	1220	2000	6590	1770	1200	5730
26	1360	336	1230	1360	2950	10800	898	900	2180
27	1160	262	821	1160	1600	5010	930	750	1880
28	1770	800	3820	1090	1100	3240	946	700	1790
29	8330	13000	292000	954	800	2060	946	650	1660
30	7100	11500	220000	868	700	1640	930	550	1380
31	---	---	---	785	650	1380	---	---	---
MONTH	81250	---	1365236	91481	---	2449510	33750	---	256707

	JULY			AUGUST			SEPTEMBER		
1	1040	500	1400	372	1000	1000	315	392	333
2	1190	438	1410	499	821	1110	319	415	357
3	994	380	1020	459	789	978	345	487	454
4	962	352	914	416	768	863	323	372	324
5	890	415	997	401	2830	3060	315	400	340
6	838	357	808	392	1630	1730	323	471	411
7	930	292	733	377	1630	1660	327	472	417
8	875	303	716	359	852	826	341	366	337
9	922	301	749	336	1220	1110	332	348	312
10	1030	260	723	315	950	808	323	339	296
11	1200	309	1000	290	500	391	332	389	349
12	1270	284	974	298	423	340	354	391	374
13	1240	316	1060	311	397	333	387	330	345
14	1680	281	1270	327	410	362	377	341	347
15	1120	296	895	323	541	472	350	351	332
16	800	309	667	311	766	643	315	369	314
17	500	305	412	323	400	349	315	448	381
18	400	324	350	397	580	622	332	499	447
19	350	442	418	529	1140	1630	332	383	343
20	315	356	303	517	2800	3910	302	499	407
21	282	467	356	548	4400	6510	307	373	309
22	267	314	226	574	2300	3560	323	401	350
23	298	318	256	535	1100	1590	336	372	337
24	336	263	239	453	1100	1350	341	404	372
25	336	314	285	437	800	944	350	363	343
26	323	373	325	406	660	723	336	372	337
27	368	358	356	363	462	453	311	328	275
28	387	374	391	345	393	366	298	356	286
29	406	442	485	332	428	384	286	276	213
30	485	630	825	319	417	359	278	389	292
31	912	2100	5170	307	404	335	---	---	---
MONTH	22946	---	25733	12171	---	38771	9825	---	10334

TOTAL DISCHARGE FOR YEAR (FT^3/S-DAYS) 284720.0 TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 4663836

06439500 CHEYENNE RIVER NEAR EAGLE BUTTE, S. DAK.

LOCATION.--Lat 44°41'44", long 101°13'08", in NE¼SE¼ sec.32, T.9 N., R.24 E., Haakon County, 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 mi^2 (63,500 km^2), approximately.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED SILICA (SIO2) (MG/L) (00955)	DISSOLVED CALCIUM (CA) (MG/L) (00915)	DISSOLVED MAGNESIUM (MG) (MG/L) (00925)	DISSOLVED SODIUM (NA) (MG/L) (00930)	DISSOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	ALKALINITY AS CACO3 (MG/L) (00410)	DISSOLVED SULFATE (SO4) (MG/L) (00945)	DISSOLVED CHLORIDE (CL) (MG/L) (00940)	DISSOLVED FLUORIDE (F) (MG/L) (00950)
OCT.												
03...	1345	--	7.4	140	87	330	14	165	135	1200	56	.5
31...	1500	--	4.2	120	60	330	14	153	126	1100	70	.5
DEC.												
19...	1330	--	6.6	90	100	330	13	207	170	1200	86	.6
JAN.												
16...	1430	--	8.1	130	110	370	16	284	233	1300	110	.6
FEB.												
11...	1600	--	12	85	100	370	15	354	290	1200	94	.6
MAR.												
12...	1755	--	8.3	25	38	230	8.9	137	112	580	32	.4
MAY												
01...	1600	--	5.9	56	16	88	6.6	99	81	300	6.9	.3
JUNE												
12...	1530	--	6.8	60	38	260	9.5	146	120	700	29	.5
JULY												
02...	1500	--	8.3	120	51	110	13	142	116	580	29	.5
29...	1245	--	6.0	190	75	140	14	117	96	920	28	.6
AUG.												
27...	1035	--	8.2	210	81	120	13	142	116	960	23	.5
SEP.												
23...	1330	--	5.1	210	85	130	12	135	111	1000	28	.5

NOTE.--Carbonate (CO_3) analysis for all samples, 0.0 mg/l.

06439500 CHEYENNE RIVER NEAR EAGLE BUTTE, S. DAK.--Continued

PERIOD OF RECORD.--Chemical analyses: November 1972 to September 1975 (monthly).

REMARKS.--Station is affected by backwater from Oahe Dam; discharge records not available. Miscellaneous samples of chemical data published for June 1972.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	DIS-SOL-VED-PHOS-PHORUS (P) (MG/L) (00666)	TOTAL PHOS-PHORUS (P) (MG/L) (00665)	DIS-SOLVED BORON (B) (UG/L) (01020)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L) (70301)	DIS-SOLVED SOLIDS (TONS PER DAY) (70302)	DIS-SOLVED SOLIDS (TONS PER AC-FT) (70303)	HARD-NESS (CA,MG) (MG/L) (00900)	NON-CAR-BONATE HARD-NESS (MG/L) (00902)	SODIUM AD-SORP-TION RATIO (00931)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS) (00095)	PH (UNITS) (00400)
OCT.												
03...	.68	.02	.04	330	1920	--	2.61	710	570	5.4	2560	--
31...	--	--	--	--	1770	--	2.79	550	420	6.1	2600	--
DEC.												
19...	1.8	.04	.06	370	1940	--	2.64	640	470	5.7	2570	--
JAN.												
16...	1.8	.08	.07	370	2190	--	2.98	780	540	5.8	272	8.3
FEB.												
11...	2.8	.19	.19	330	2060	--	2.80	620	330	6.4	2850	8.6
MAR.												
12...	1.5	.06	.29	190	997	--	1.36	220	110	6.8	1380	8.4
MAY												
01...	.65	.00	.15	110	532	--	.72	210	120	2.7	850	--
JUNE												
12...	1.3	.03	1.0	260	1180	--	1.60	310	190	6.5	1780	9.2
JULY												
02...	.48	.02	.36	190	984	--	1.34	510	390	2.1	1400	7.5
29...	.00	.01	.10	320	1430	--	1.94	780	690	2.2	1960	8.1
AUG.												
27...	.45	.05	.11	290	1490	--	2.03	860	740	1.8	1890	7.8
SEP.												
23...	.40	.01	.20	260	1540	--	2.09	870	760	1.9	1510	7.9

06440000 MISSOURI RIVER AT PIERRE, S. DAK.
(National Stream Quality Accounting Network)

LOCATION.--Lat 44°22'25", long 100°22'20", in SE¼ sec.21, T.5 N., R.31 E., Hughes County, at gaging station, near right bank on downstream side of pier of Chicago and North Western Transportation Co. Bridge, 1.3 mi (2.1 km) upstream from Bad River, 5.8 mi (9.3 km) downstream from Oahe Dam, and at mile 1066.5 (1,716 km).

DRAINAGE AREA.--243,500 mi² (630,700 km²), approximately.

PERIOD OF RECORD.--Chemical analyses: July 1971 to September 1973 (daily), October 1973 to September 1975 (monthly).
Water temperatures: July 1971 to September 1975.

EXTREMES.--1974-75:
Specific conductance: Maximum daily, 820 micromhos Mar. 30, 31; minimum daily, 530 micromhos Dec. 24.
Water temperatures: Maximum, 21.0°C on several days during July to September; minimum, freezing point on several days January and February.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED SILICA (SIO2) (MG/L) (00955)	DISSOLVED CALCIUM (CA) (MG/L) (00915)	DISSOLVED MAGNESIUM (MG) (MG/L) (00925)	DISSOLVED SODIUM (NA) (MG/L) (00930)	DISSOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	ALKALINITY AS CACO3 (MG/L) (00410)	DISSOLVED SULFATE (SO4) (MG/L) (00945)
OCT.										
04...	1320	42800	6.7	58	21	69	4.5	187	165	200
NOV.										
04...	1030	54600	6.4	1.7	2.1	180	3.9	196	166	200
DEC.										
23...	1000	51500	8.0	6.9	18	150	4.1	198	162	210
JAN.										
22...	1425	23000	6.4	4.2	16	150	4.8	201	165	210
FEB.										
26...	0915	43000	6.2	2.0	9.8	180	4.6	211	173	230
MAR.										
18...	1410	11100	6.2	3.0	14	160	5.9	204	167	210
APR.										
16...	0845	20000	5.8	1.1	.5	240	4.6	205	168	210
MAY										
05...	0915	45300	6.7	65	23	71	4.1	203	167	210
28...	0800	48200	5.4	3.1	15	160	4.8	207	170	210
JUNE										
23...	1430	50900	5.8	58	21	70	4.8	187	153	210
JULY										
16...	1350	53100	6.3	58	22	72	4.9	188	154	200
30...	1130	51300	6.3	57	21	65	4.8	189	155	190
AUG.										
11...	1300	52400	6.6	56	21	69	4.5	181	148	200
25...	1415	52500	7.7	57	21	67	4.6	184	151	210
SEP.										
17...	1015	54000	6.8	58	21	65	4.9	188	154	190
25...	0830	54600	7.0	53	20	67	4.5	181	148	200

NOTE.--Carbonate (CO_3) analysis for all samples, 0.0 mg/l.

TRACE METALS

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED ARSENIC (AS) (UG/L) (01000)	SUSPENDED ARSENIC (AS) (UG/L) (01001)	TOTAL ARSENIC (AS) (UG/L) (01002)	DISSOLVED CADMIUM (CD) (UG/L) (01025)	SUSPENDED CADMIUM (CD) (UG/L) (01026)	TOTAL CADMIUM (CD) (UG/L) (01027)	DISSOLVED CHROMIUM (CR) (UG/L) (01030)	SUSPENDED CHROMIUM (CR) (UG/L) (01031)	TOTAL CHROMIUM (CR) (UG/L) (01034)	DISSOLVED COBALT (CO) (UG/L) (01035)
OCT.												
04...	1320	42800	3	0	2	1	<9	<10	0	0	0	0
JAN.												
22...	1425	23000	2	0	1	0	10	10	0	0	0	1
MAY												
05...	0915	45300	1	1	2	0	<10	<10	20	0	0	0
28...	0800	48200	1	2	3	1	<9	<10	0	0	0	0
JULY												
30...	1130	51300	1	0	1	1	9	10	10	0	0	0

< Less than

06440000 MISSOURI RIVER AT PIERRE, S. DAK.--Continued

EXTREMES.--Continued
Period of record:
Dissolved solids: Maximum, 494 mg/l Sept. 1-30, 1971, Jan. 1-31, 1972; minimum, 436 mg/l Sept. 16-30, 1972.
Hardness: Maximum, 250 mg/l Nov. 1-30, 1971; minimum, 210 mg/l Sept. 16-30, 1972.
Specific conductance (1972-75): Maximum daily, 830 micromhos Dec. 2, 1974; minimum daily, 530 micromhos Dec. 24, 1974.
Water temperatures (1972-75): Maximum, 22.0°C on several days July to September 1973, July 20, 1974; minimum, freezing point on several days during winter period 1972, 1973, 1975.

REMARKS.--Maximum observed during water year: Dissolved solids, 576 mg/l Apr. 16; hardness, 260 mg/l May 5; specific conductance, 870 micromhos May 5. Minimum observed during water year: Dissolved solids, 448 mg/l July 30; hardness, 5 mg/l Apr. 16. Discharge furnished by District Office, U.S. Army Corps of Engineers, Omaha, Nebraska.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	DIS-SOLVED CHLO-RIDE (CL) (MG/L) (00940)	DIS-SOLVED FLUO-RIDE (F) (MG/L) (00950)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	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)	DIS-SOL-VED PHOS-PHORUS (P) (MG/L) (00666)	TOTAL PHOS-PHORUS (P) (MG/L) (00665)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L) (70300)
OCT.										
04...	9.9	.5	--	.07	.32	.39	1.7	--	.03	481
NOV.										
04...	10	.4	--	--	--	--	--	--	--	517
DEC.										
23...	11	.5	.12	.15	.24	.39	1.7	.03	.06	490
JAN.										
22...	9.3	.5	.20	.18	.36	.54	2.4	.02	.02	--
FEB.										
26...	12	.5	.09	.09	.18	.27	1.2	.01	.01	530
MAR.										
18...	12	.6	.08	.08	.13	.21	.93	.01	.02	508
APR.										
16...	12	.4	.10	--	--	--	--	.01	.02	--
MAY										
05...	11	.5	--	.10	.34	.44	1.9	--	.05	505
28...	11	.5	.12	.07	.45	.52	2.3	.01	.01	--
JUNE										
23...	11	.4	--	.05	.57	.62	2.7	--	.04	485
JULY										
16...	12	.5	.07	--	--	--	--	.05	.05	--
30...	10	.5	--	.08	.38	.46	2.0	--	.02	462
AUG.										
11...	9.7	.5	.19	--	--	--	--	.01	.01	--
25...	14	.5	--	.12	.23	.35	1.6	--	.03	471
SEP.										
17...	9.2	.6	.13	--	--	--	--	.03	.06	--
25...	9.4	.4	--	.13	.28	.41	1.8	--	.03	455

TRACE METALS

DATE	SUS-PENDED COBALT (CO) (UG/L) (01036)	TOTAL COBALT (CO) (UG/L) (01037)	DIS-SOLVED COPPER (CU) (UG/L) (01040)	SUS-PENDED COPPER (CU) (UG/L) (01041)	TOTAL COPPER (CU) (UG/L) (01042)	DIS-SOLVED IRON (FE) (UG/L) (01046)	TOTAL IRON (FE) (UG/L) (01045)	DIS-SOLVED LEAD (PB) (UG/L) (01049)	SUS-PENDED LEAD (PB) (UG/L) (01050)	TOTAL LEAD (PB) (UG/L) (01051)	DIS-SOLVED MAN-GANESE (MN) (UG/L) (01056)
OCT.											
04...	<50	<50	6	<4	<10	20	220	7	<93	<100	10
JAN.											
22...	49	50	2	470	470	0	290	6	<94	<100	0
MAY											
05...	50	50	3	<7	<10	10	0	1	<99	<100	0
28...	<50	<50	5	5	10	10	310	5	<95	<100	20
JULY											
30...	50	50	2	<8	<10	10	160	2	<98	<100	10

< Less than

06440000 MISSOURI RIVER AT PIERRE, S. DAK.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L) (70301)	DIS-SOLVED SOLIDS (TONS PER DAY) (70302)	DIS-SOLVED SOLIDS (TONS PER AC-FT) (70303)	HARD-NESS (CA,MG) (MG/L) (00900)	NON-CAR-BONATE HARD-NESS (MG/L) (00902)	SODIUM AD-SORP-TION RATIO (00931)	PH (UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS) (00095)	TEMPER-ATURE (DEG C) (00010)
OCT.									
04...	469	55600	.65	230	66	2.0	8.3	700	12.5
NOV.									
04...	504	76200	.70	13	0	22	8.8	770	10.5
DEC.									
23...	507	68100	.67	91	0	6.8	9.1	820	2.5
JAN.									
22...	501	31100	.68	76	0	7.5	9.1	840	2.5
FEB.									
26...	550	61500	.72	45	0	12	9.3	840	.0
MAR.									
18...	513	15200	.69	65	0	8.6	8.6	780	4.0
APR.									
16...	576	31100	.78	5	0	48	8.4	870	1.5
MAY									
05...	491	61800	.69	260	91	1.9	9.2	780	5.0
28...	513	66800	.70	70	0	8.4	9.2	730	16.0
JUNE									
23...	473	66700	.66	230	78	2.0	7.4	735	17.0
JULY									
16...	469	67200	.64	240	81	2.0	8.1	710	17.0
30...	448	64000	.63	230	74	1.9	8.0	655	16.0
AUG.									
11...	457	64700	.62	230	78	2.0	8.0	750	22.0
25...	473	66800	.64	230	78	1.9	8.0	650	21.5
SEP.									
17...	449	65500	.61	230	77	1.9	8.0	720	17.5
25...	451	67100	.62	210	66	2.0	8.1	700	15.5

TRACE METALS

DATE	SUS-PENDED MAN-GANESE (MN) (UG/L) (01054)	TOTAL MAN-GANESE (MN) (UG/L) (01055)	DIS-SOLVED MERCURY (HG) (UG/L) (71890)	SUS-PENDED MERCURY (HG) (UG/L) (71895)	TOTAL MERCURY (HG) (UG/L) (71900)	DIS-SOLVED SELE-NIUM (SE) (UG/L) (01145)	SUS-PENDED SELE-NIUM (SE) (UG/L) (01146)	TOTAL SELE-NIUM (SE) (UG/L) (01147)	DIS-SOLVED ZINC (ZN) (UG/L) (01090)	SUS-PENDED ZINC (ZN) (UG/L) (01091)	TOTAL ZINC (ZN) (UG/L) (01092)
OCT.											
04...	0	0	.0	.0	.0	2	0	2	0	30	30
JAN.											
22...	50	50	.0	.1	.1	1	0	1	7	20	30
MAY											
05...	40	40	.0	.1	.1	1	1	2	0	0	0
28...	40	60	.0	.0	.0	1	0	1	0	70	70
JULY											
30...	--	--	.0	.0	.0	1	1	2	0	30	30

06440000 MISSOURI RIVER AT PIERRE, S. DAK.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TURBIDITY (JTU) (00070)	TOTAL ORGANIC CARBON (C) (MG/L) (00680)	FECAL COLIFORM (COL. PER 100 ML) (31616)	STREPTOCOCCI (COLONIES PER 100 ML) (31679)	TOTAL PHYTOPLANKTON (CELLS PER ML) (60050)	PERIPHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	UNCORRECTED PERIPHYTON CHLOROPHYLL A MG/SQ M (32228)	UNCORRECTED PERIPHYTON CHLOROPHYLL B MG/SQ M (32226)
OCT.									
04...	2	3.7	20	50	180	--	--	--	--
NOV.									
04...	2	--	--	--	99	--	.80	.1	.1
DEC.									
23...	5	--	--	--	--	--	--	--	--
JAN.									
22...	--	3.9	<0	<0	59	--	--	--	--
FEB.									
26...	2	--	<0	B1	92	--	--	--	--
MAR.									
18...	3	--	<0	B2	180	--	--	--	--
APR.									
16...	--	--	--	--	--	--	--	--	--
MAY									
05...	2	2.5	10	B5	100	--	--	--	--
28...	--	2.2	--	--	330	--	--	--	--
JUNE									
23...	7	--	E40	E30	480	--	--	--	--
JULY									
16...	--	--	--	--	--	--	--	--	--
30...	3	3.2	B2	B10	72	--	--	--	--
AUG.									
11...	--	--	--	--	--	--	--	--	--
25...	6	--	10	20	100	2.2	1.1	1.9	.3
SEP.									
17...	--	--	--	--	--	--	--	--	--
25...	2	--	B10	10	67	.20	.10	.1	.0

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, 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)
NOV.					
04...	1030	10.5	54600	28	4130
DEC.					
23...	1000	2.5	51500	29	4030
JAN.					
22...	1425	2.5	23000	80	4970
FEB.					
26...	0915	.0	43000	89	10300
MAR.					
18...	1410	4.0	11100	630	1890
MAY					
05...	0915	5.0	45300	86	10500
JUNE					
23...	1430	17.0	50900	60	8250
JULY					
30...	1130	16.0	51300	58	8030
AUG.					
25...	1415	21.5	52500	55	7800
SEP.					
25...	0830	15.5	54600	45	6630

B Non-ideal colony count
E Estimated
< Less than

06440000 MISSOURI RIVER AT PIERRE, S. DAK.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	760	770	770	750	770	775	780	770	755	755	730	710
2	770	760	770	750	770	800	780	770	755	750	730	710
3	760	770	770	750	770	770	785	770	765	750	725	715
4	770	770	770	760	770	810	780	765	760	730	725	710
5	760	760	770	750	770	800	780	765	760	755	725	710
6	770	770	770	760	770	770	780	770	755	740	730	730
7	770	760	770	750	780	810	780	775	755	745	735	710
8	760	760	770	760	770	800	800	770	765	750	730	715
9	760	760	770	750	800	800	790	770	760	750	725	720
10	760	760	770	760	770	810	790	770	765	750	725	720
11	760	770	770	760	770	775	790	770	750	750	725	710
12	760	770	760	760	770	810	790	770	760	750	730	720
13	770	770	770	760	770	770	790	770	760	745	725	710
14	770	770	770	750	780	775	790	770	765	740	720	710
15	770	760	770	750	790	800	790	770	760	745	730	715
16	770	770	770	750	810	780	790	770	750	740	730	700
17	770	770	770	760	780	770	790	770	760	740	720	710
18	770	760	770	760	770	800	785	770	760	735	725	700
19	760	770	770	760	770	770	790	770	760	740	725	710
20	770	770	770	750	770	770	785	765	760	740	720	710
21	760	760	670	760	780	800	785	765	755	735	720	710
22	760	770	660	760	770	775	785	765	760	740	740	710
23	770	770	600	760	780	770	785	765	760	740	725	710
24	760	770	530	770	770	810	785	760	760	735	715	710
25	770	770	770	760	780	775	780	760	760	735	720	715
26	770	770	770	760	780	780	780	760	760	735	720	720
27	770	770	780	760	780	810	785	760	760	735	715	715
28	770	770	770	760	780	775	780	760	760	730	725	710
29	760	770	770	760	---	790	785	760	760	735	725	715
30	770	770	770	760	---	820	780	755	745	730	710	715
31	770	---	770	760	---	820	---	760	---	750	710	---
MONTH	766	767	750	757	776	790	786	766	759	742	724	713

06440000 MISSOURI RIVER AT PIERRE, S. DAK.--Continued

TEMPERATURE (DEG. C) OF WATER , WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.0	12.0	7.5	4.0	1.0	2.0	2.0	4.5	12.0	17.0	18.0	20.5
2	15.5	12.5	7.5	4.0	0.5	1.5	2.0	4.0	12.0	17.0	19.5	20.5
3	15.5	12.0	7.5	4.0	1.0	1.5	2.0	5.0	12.0	17.0	20.5	21.0
4	15.0	13.0	7.0	4.0	0.5	1.5	2.5	7.0	13.5	17.0	20.0	19.5
5	15.0	12.5	7.5	3.5	0.0	2.0	2.5	6.0	13.5	16.5	19.5	20.0
6	14.0	12.0	8.5	4.0	0.0	1.0	2.5	5.0	12.5	16.0	20.0	20.0
7	15.0	12.0	6.5	4.0	0.5	1.5	2.0	5.0	12.0	17.5	17.0	20.0
8	15.5	12.0	5.5	3.5	0.5	1.0	3.0	5.0	11.0	17.5	19.0	18.5
9	15.5	11.5	6.5	3.5	0.0	1.5	2.0	5.5	12.5	19.0	19.5	18.5
10	15.5	11.5	7.0	2.0	0.0	1.0	2.5	5.5	13.0	19.0	20.0	18.5
11	16.0	11.0	7.5	0.0	0.5	1.5	2.5	7.0	13.5	20.5	20.0	19.0
12	15.0	10.5	7.0	1.5	0.0	1.5	4.0	5.5	14.0	21.0	20.0	19.5
13	14.0	9.0	7.0	2.0	0.0	2.0	4.0	7.0	13.5	20.0	20.5	19.5
14	14.0	10.0	6.0	2.0	0.5	2.0	3.5	7.5	13.5	19.0	20.5	20.0
15	15.0	10.0	5.5	2.0	0.0	3.0	4.5	7.5	14.0	18.0	21.0	19.5
16	15.5	9.5	7.5	2.0	0.0	5.0	3.5	7.5	14.0	18.0	20.5	19.0
17	15.0	9.5	7.0	2.5	0.5	4.0	3.0	7.5	15.0	18.0	20.0	19.0
18	14.0	10.0	6.0	2.0	0.5	5.0	3.0	8.0	13.5	19.0	19.5	19.0
19	13.5	10.0	6.0	1.0	1.5	3.5	4.0	8.0	13.5	20.0	19.5	17.0
20	13.0	10.0	5.0	2.5	1.5	3.0	4.0	8.0	13.5	21.0	21.0	17.0
21	14.0	9.5	5.0	1.5	1.5	3.0	4.0	8.0	13.5	19.0	21.0	17.5
22	14.0	10.0	5.0	2.0	1.0	2.5	4.5	8.0	13.5	19.0	21.0	18.0
23	13.0	9.0	2.0	2.0	1.5	1.5	4.0	9.0	15.5	19.5	21.0	17.0
24	13.5	8.0	1.0	2.5	1.5	1.5	3.0	9.0	14.0	20.0	20.5	17.0
25	13.5	8.5	3.0	2.0	1.5	2.0	4.5	10.0	14.0	20.0	20.5	17.0
26	13.5	9.0	4.5	1.0	1.5	1.0	6.5	10.5	14.5	19.0	20.0	17.0
27	13.5	8.5	4.5	1.5	1.5	1.0	7.0	10.5	13.0	19.0	20.0	16.5
28	13.0	7.0	4.5	1.5	2.0	1.5	4.0	10.5	13.5	19.5	20.0	16.5
29	13.5	8.0	4.0	0.5	---	1.5	4.0	10.0	13.5	18.5	21.0	16.5
30	13.0	8.0	4.5	0.5	---	2.0	4.0	10.5	14.5	18.0	20.5	15.5
31	13.0	---	4.5	0.0	---	2.0	---	11.0	---	18.5	20.0	---
MONTH	14.5	10.0	5.5	2.0	1.0	2.0	3.5	7.5	13.5	18.5	20.0	18.5

06441500 BAD RIVER NEAR FORT PIERRE, S. DAK.

LOCATION.--Lat 44°19'36", long 100°23'02", in NW¼NW¼ sec.10, T.4 N., R.31 E., Stanley County, at gaging station, 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 mi^2 (8,047 km^2).

PERIOD OF RECORD.--Water temperatures: October 1971 to September 1975.
Sediment records: October 1971 to September 1975.
Water temperatures: October 1971 to September 1975.

EXTREMES.--1974-75:
Sediment concentrations: Maximum daily, 63,500 mg/l May 23, minimum daily, no flow for many days.

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
31	0	0	0	---	---	---	0	0	0
MONTH	0	---	0	0	---	0	0	---	0

06441500 BAD RIVER NEAR FORT PIERRE, S. DAK.--Continued

EXTREMES.--1974-75:--Continued
Sediment discharge: Maximum daily, 231,000 tons Apr. 9; minimum daily, 0 tons on many days.

Period of record:
Sediment concentrations: Maximum daily, 97,000 mg/l Apr. 21, 1974; minimum daily, no flow for many days each year.
Sediment discharge: Maximum daily, 783,000 tons May 2, 1972; minimum daily, 0 tons on many days each year.

REMARKS.--Records fair. Flow affected by ice Mar. 23 to Apr. 2. No flow Oct. 1 to Mar. 15, July 16 to Aug. 26, Sept. 7-16, 23-30. Sediment-discharge records prior to Oct. 1, 1971, on file in the District office, Corps of Engineers, Omaha, Nebr. Miscellaneous samples for chemical data published for water years 1946-53.

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	24	5100	330
17	0	0	0	0	0	0	86	23500	5460
18	0	0	0	0	0	0	81	17900	3910
19	0	0	0	0	0	0	62	10300	1720
20	0	0	0	0	0	0	44	5700	677
21	0	0	0	0	0	0	23	3200	199
22	0	0	0	0	0	0	12	2400	78
23	0	0	0	0	0	0	10	2300	62
24	0	0	0	0	0	0	10	3400	92
25	0	0	0	0	0	0	9.0	5200	126
26	0	0	0	0	0	0	9.0	6500	158
27	0	0	0	0	0	0	10	6100	165
28	0	0	0	0	0	0	11	4700	140
29	0	0	0	---	---	---	11	5000	148
30	0	0	0	---	---	---	10	5500	148
31	0	0	0	---	---	---	10	4600	124
MONTH	0	---	0	0	---	0	422.00	---	13537.00

06441500 BAD RIVER NEAR FORT PIERRE, S. DAK.--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	15	3200	130	1430	13500	52100	5.3	380	5.4
2	25	2100	142	2230	13600	81900	4.4	360	4.3
3	31	1400	117	1470	8880	35200	3.8	340	3.5
4	24	900	58	703	8680	16500	3.0	300	2.4
5	30	500	40	392	6090	6450	2.5	280	1.9
6	72	900	175	271	7400	5410	1.6	250	1.1
7	284	17000	13000	269	19500	14200	1.3	200	.70
8	1670	24000	108000	145	4800	1880	1.3	500	1.8
9	3010	28400	231000	99	1210	323	5.6	1500	23
10	1570	19100	81000	97	1700	445	2.7	1000	7.3
11	1350	14200	51800	254	13000	8920	1.4	800	3.0
12	1240	12700	42500	131	1800	637	.87	600	1.4
13	2270	23000	141000	95	676	173	.66	400	.71
14	1750	14500	68500	101	719	196	.49	300	.40
15	1600	12700	61700	86	524	122	.36	250	.24
16	1740	13000	61100	56	464	70	.31	200	.17
17	2160	19000	111000	38	240	25	7.6	5000	103
18	1670	11100	50000	27	220	16	4.4	3000	36
19	1390	7500	28100	20	200	11	14	4000	151
20	1150	6470	20100	51	2100	289	18	4000	194
21	879	6460	15300	63	3000	510	47	23000	2920
22	694	6600	12400	174	13000	6110	47	12000	1520
23	595	5930	9530	436	63500	74800	383	15800	16300
24	447	5650	6820	203	59800	32800	286	27000	20800
25	372	3280	3290	58	10500	1640	184	17600	8740
26	307	3100	2570	31	6500	544	99	11100	2970
27	250	2370	1600	21	1500	85	57	7000	1080
28	240	10000	6480	14	1000	38	33	2200	196
29	346	9600	8970	9.8	700	19	21	329	19
30	575	8800	13700	7.9	500	11	14	249	9.4
31	---	---	---	6.6	423	7.5	---	---	---
MONTH	27956	---	1150122	8989.3	---	341431.5	1250.59	---	55095.72

06441500 BAD RIVER NEAR FORT PIERRE, S. DAK.--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	8.8	230	5.5	0	0	0	3.6	350	3.4
2	5.8	210	3.3	0	0	0	.87	300	.70
3	3.6	200	1.9	0	0	0	.20	250	.14
4	2.0	195	1.1	0	0	0	.10	200	.05
5	.99	187	.50	0	0	0	.07	150	.03
6	.66	180	.32	0	0	0	.01	0	0
7	.57	175	.27	0	0	0	0	0	0
8	.42	170	.19	0	0	0	0	0	0
9	.23	165	.10	0	0	0	0	0	0
10	.13	160	.06	0	0	0	0	0	0
11	.09	150	.04	0	0	0	0	0	0
12	.07	140	.03	0	0	0	0	0	0
13	.07	130	.02	0	0	0	0	0	0
14	.05	120	.02	0	0	0	0	0	0
15	.01	100	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	36	8250	802
18	0	0	0	0	0	0	11	7600	226
19	0	0	0	0	0	0	1.3	3300	12
20	0	0	0	0	0	0	.13	1200	.42
21	0	0	0	0	0	0	.05	500	.07
22	0	0	0	0	0	0	.02	150	.01
23	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0
27	0	0	0	51	6600	909	0	0	0
28	0	0	0	394	96000	102000.0	0	0	0
29	0	0	0	241	40000	26000	0	0	0
30	0	0	0	48	3000	389	0	0	0
31	0	0	0	14	438	17	---	---	---
MONTH	23.49	---	13.35	748.00	---	129315.0	53.35	---	1044.82

TOTAL DISCHARGE FOR YEAR (FT^3/S-DAYS) 39442.73 TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 1690559

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	---	9.5	---	---	---	
2						---	---	11.5	---	---	---	
3						---	---	12.5	---	---	---	
4						---	---	16.5	---	---	---	
5						---	---	18.0	---	32.5	---	
6						---	2.0	19.5	---	---	---	
7						---	2.5	18.5	---	---	---	
8						---	2.5	16.0	---	---	---	
9						---	2.0	18.0	---	---	---	
10						---	3.0	18.0	---	---	---	
11						---	4.0	19.0	---	---	---	
12						---	4.5	21.5	---	---	---	
13						---	4.5	21.5	---	---	---	
14						---	7.0	22.0	---	---	---	
15						---	7.5	21.0	---	---	---	
16						14.5	8.0	26.0	---	---	---	
17						15.0	8.0	25.0	---	---	---	
18						8.5	8.5	---	---	---	---	
19						11.5	8.0	---	24.0	---	---	
20						10.5	7.0	15.0	---	---	---	
21						7.0	9.0	15.0	20.0	---	---	
22						---	11.0	14.5	25.5	---	---	
23						---	12.5	14.0	25.0	---	---	
24						---	12.0	17.5	26.0	---	---	
25						2.0	12.0	17.5	27.0	---	---	
26						---	18.0	---	27.0	---	---	
27						---	18.0	18.5	28.0	---	---	
28						---	11.5	---	29.0	---	21.0	
29						---	9.0	---	28.5	---	21.5	
30						---	8.5	---	33.0	---	24.0	
31						---	---	22.0	---	---	29.5	
MONTH						---	8.0	18.0	---	---	---	

06452000 WHITE RIVER NEAR OACOMA, S. DAK.
(National Stream Quality Accounting Network)
(National Pesticide Water Monitoring Network)

LOCATION.--Lat 43°44'54", long 99°33'22", in SE¼SW¼ sec.3, T.103 N., R.73 W., Lyman County, at gaging station, on left bank at downstream side of bridge on State Highway 47, 1.5 mi (2.4 km) downstream from Wagner Draw, 1.8 mi (2.9 km) upstream from high-water line of Lake Francis Case, and 8.8 mi (14.2 km) southwest of Oacoma.

DRAINAGE AREA.--10,200 mi^2 (26,400 km^2), approximately.

PERIOD OF RECORD.--Chemical analyses: March 1974 to September 1975 (monthly).
Water temperatures: October 1971 to September 1975.
Sediment records: October 1971 to September 1975.

EXTREMES.--1974-75:
Specific conductance: Maximum daily, 965 micromhos July 30; minimum daily, 370 micromhos Mar. 17.
Water temperatures: Maximum, 30.0°C July 30; minimum, freezing point on many days during November to April.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED SILICA (SIO2) (MG/L) (00955)	DISSOLVED CALCIUM (CA) (MG/L) (00915)	DISSOLVED MAGNESIUM (MG) (MG/L) (00925)	DISSOLVED SODIUM (NA) (MG/L) (00930)	DISSOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	ALKALINITY AS CACO3 (MG/L) (00410)	DISSOLVED SULFATE (SO4) (MG/L) (00945)	DISSOLVED CHLORIDE (CL) (MG/L) (00940)	DISSOLVED FLUORIDE (F) (MG/L) (00950)
OCT.												
17...	1445	78	34	1.2	.5	290	4.3	663	544	45	7.0	.8
NOV.												
13...	1630	71	53	210	9.7	220	8.7	232	194	59	990	1.7
DEC.												
12...	1350	31	63	67	8.8	76	8.9	--	--	91	9.3	.5
JAN.												
09...	1315	27	70	3.2	8.9	130	8.1	286	235	76	10	.6
FEB.												
07...	1030	39	70	57	9.3	41	7.6	257	211	49	14	.4
MAR.												
05...	1600	139	29	32	4.6	43	5.7	4	3	61	94	.3
APR.												
03...	1400	53	22	16	1.6	96	4.5	211	173	82	9.3	.4
MAY												
22...	1145	271	24	39	1.5	88	5.1	192	157	150	10	.6
JUNE												
20...	1200	202	32	12	1.8	82	5.0	183	150	57	5.8	.5
JULY												
15...	0950	225	31	9.0	1.0	120	4.7	206	169	98	7.5	.8
AUG.												
15...	0915	88	29	13	1.7	120	5.3	236	194	110	7.7	.6
SEP.												
12...	1130	27	29	33	1.9	110	5.9	178	146	140	26	.6

NOTE.--Carbonate (CO_3) analysis for all samples, 0.0 mg/l.

TRACE METALS

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED ARSENIC (AS) (UG/L) (01000)	SUSPENDED ARSENIC (AS) (UG/L) (01001)	TOTAL ARSENIC (AS) (UG/L) (01002)	DISSOLVED CADMIUM (CD) (UG/L) (01025)	SUSPENDED CADMIUM (CD) (UG/L) (01026)	TOTAL CADMIUM (CD) (UG/L) (01027)	DISSOLVED CHROMIUM (CR) (UG/L) (01030)	SUSPENDED CHROMIUM (CR) (UG/L) (01031)	TOTAL CHROMIUM (CR) (UG/L) (01034)	DISSOLVED COBALT (CO) (UG/L) (01035)
OCT.												
17...	1445	78	38	180	220	<1	<9	<10	0	80	80	0
JAN.												
09...	1315	27	8	0	7	0	0	0	0	20	20	2
APR.												
03...	1400	53	10	24	34	0	10	10	0	20	20	1
MAY												
22...	1145	271	7	73	80	0	--	--	0	--	--	0
JULY												
15...	0950	225	27	180	210	0	20	20	0	170	170	0

< Less than

06452000 WHITE RIVER NEAR OACOMA, S. DAK.--Continued

EXTREMES.--1974-75:--Continued
Sediment concentrations: Maximum daily, 64,500 mg/l May 1; minimum daily, 46 mg/l Mar. 2.
Sediment discharge: Maximum daily, 496,000 tons May 1; minimum daily, 2.2 tons Jan. 11.

Period of record:
Specific conductance (1974-75): Maximum daily, 965 micromhos July 30, 1975; minimum daily, 370 micromhos Mar. 17, 1975.
Water temperatures (1974-75): Maximum, 30.0°C July 30, 1975; minimum, freezing point on many days during winter months.
Sediment concentrations: Maximum daily, 72,300 mg/l Apr. 15, 1974; no flow July 17-23, 1974.
Sediment discharge: Maximum daily, 1,220,000 tons May 29, 1973; minimum daily, 0 tons July 17-23, 1974.

REMARKS.--Maximum observed during water year: Dissolved solids, 1,240 mg/l Oct. 17; hardness, 560 mg/l Nov. 13. Minimum observed during water year: Dissolved solids, 307 mg/l Mar. 5; hardness, 5 mg/l. Sediment records fair. Flow affected by ice Nov. 24 to Mar. 18, Mar. 24 to Apr. 8. Sediment-discharge records prior to Oct. 1, 1971, on file in District office, Corps of Engineers, Omaha, Nebr. Miscellaneous samples for chemical data published for water years 1946-53, 1969.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	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)	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 DAY) (70302)	DIS-SOLVED SOLIDS (TONS PER AC-FT) (70303)	HARD-NESS (CA,MG) (MG/L) (00900)	NON-CAR-BONATE HARD-NESS (MG/L) (00902)	SODIUM AD-SORP-TION RATIO (00931)
OCT.												
17...	.95	1.2	2.2	9.5	17	--	710	767	4.95	5	0	56
NOV.												
13...	.41	1.3	1.7	7.6	9.0	1240	1670	241	1.69	560	370	4.0
DEC.												
12...	1.9	.57	2.5	11	.21	--	--	--	--	200	--	2.3
JAN.												
09...	1.0	.43	1.4	6.3	.16	438	448	32.2	.60	45	0	8.5
FEB.												
07...	1.0	.27	1.3	5.6	.14	376	375	39.6	.51	180	0	1.3
MAR.												
05...	.14	.28	.42	1.9	.12	307	272	115	.42	99	96	1.9
APR.												
03...	.76	.99	1.8	7.7	1.8	357	336	51.1	.49	47	0	6.1
MAY												
22...	.27	8.0	8.3	37	2.6	449	413	329	.61	100	0	3.8
JUNE												
20...	.49	3.4	3.9	17	5.8	313	286	171	.43	37	0	5.8
JULY												
15...	1.1	2.3	3.4	15	18	403	374	245	.55	27	0	10
AUG.												
15...	1.4	2.1	3.5	16	16	436	404	104	.59	39	0	8.3
SEP.												
12...	.02	2.2	2.2	9.8	1.7	463	434	33.8	.63	90	0	5.0

TRACE METALS

DATE	SUS-PENDED COBALT (CO) (UG/L) (01036)	TOTAL COBALT (CO) (UG/L) (01037)	DIS-SOLVED COPPER (CU) (UG/L) (01040)	SUS-PENDED COPPER (CU) (UG/L) (01041)	TOTAL COPPER (CU) (UG/L) (01042)	DIS-SOLVED IRON (FE) (UG/L) (01046)	TOTAL IRON (FE) (UG/L) (01045)	DIS-SOLVED LEAD (PB) (UG/L) (01049)	SUS-PENDED LEAD (PB) (UG/L) (01050)	TOTAL LEAD (PB) (UG/L) (01051)	DIS-SOLVED MAN-GANESE (MN) (UG/L) (01056)
OCT.											
17...	100	100	35	150	180	360	87000	1	<99	<100	0
JAN.											
09...	48	50	3	7	10	10	1100	5	<95	<100	0
APR.											
03...	<49	<50	5	45	50	30	22000	2	<98	<100	0
MAY											
22...	--	--	3	--	--	20	--	0	--	--	5
JULY											
15...	150	150	14	360	370	90	180000	2	600	600	10

< Less than

06452000 WHITE RIVER NEAR OACOMA, S. DAK.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	PH (UNITS) (00400)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)	TEMPERATURE (DEG C) (00010)	TURBIDITY (JTU) (00070)	TOTAL ORGANIC CARBON (C) (MG/L) (00680)	FECAL COLIFORM (COL. PER 100 ML) (31616)	STREPTOCOCCI (COLONIES PER 100 ML) (31679)	TOTAL PHYTOPLANKTON (CELLS PER ML) (60050)	PERIPHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	UNCORRECTED PERIPHYTON CHLOROPHYLL A MG/SQ M (32228)	UNCORRECTED PERIPHYTON CHLOROPHYLL B MG/SQ M (32226)
OCT.												
17...	8.2	540	9.0	9000	14	--	--	3100	--	--	--	--
NOV.												
13...	10.0	570	1.0	6500	--	--	--	3500	--	1.5	.2	.2
DEC.												
12...	8.5	610	.0	30	--	--	--	--	--	--	--	--
JAN.												
09...	9.1	660	.0	10	5.6	58	20	120	--	--	--	--
FEB.												
07...	8.3	480	.0	10	--	B2	30	250	--	--	--	--
MAR.												
05...	8.4	485	1.0	30	--	--	--	680	--	--	--	--
APR.												
03...	8.0	500	.0	700	7.4	<0	B2200	19000	--	--	--	--
MAY												
22...	9.1	650	14.5	1700	--	6600	3700	50000	--	--	--	--
JUNE												
20...	8.3	480	22.0	2300	--	2100	B1500	78000	--	--	--	--
JULY												
15...	7.9	520	14.5	7000	46	2900	B120000	16000	1.5	1.4	.3	.1
AUG.												
15...	8.2	640	17.0	13000	--	40	B10	4500	--	--	--	--
SEP.												
12...	7.2	730	13.5	1200	--	B100	B200	160000	30	13	13	3.9

TRACE METALS

DATE	SUSPENDED MANGANESE (MN) (UG/L) (01054)	TOTAL MANGANESE (MN) (UG/L) (01055)	DISSOLVED MERCURY (HG) (UG/L) (71890)	SUSPENDED MERCURY (HG) (UG/L) (71895)	TOTAL MERCURY (HG) (UG/L) (71900)	DISSOLVED SELENIUM (SE) (UG/L) (01145)	SUSPENDED SELENIUM (SE) (UG/L) (01146)	TOTAL SELENIUM (SE) (UG/L) (01147)	DISSOLVED ZINC (ZN) (UG/L) (01090)	SUSPENDED ZINC (ZN) (UG/L) (01091)	TOTAL ZINC (ZN) (UG/L) (01092)
OCT.											
17...	4600	4600	.0	.2	.2	2	2	4	20	360	380
JAN.											
09...	30	30	.0	.0	.0	2	0	2	0	40	40
APR.											
03...	660	660	.0	.0	.0	2	0	2	7	110	120
MAY											
22...	--	--	--	--	--	2	0	2	2	--	--
JULY											
15...	8000	8000	.0	.3	.3	3	0	3	0	550	550

B Non-ideal colony count
< Less than

06452000 WHITE RIVER NEAR OACOMA, S. DAK.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	390	680	640	540	510	530	555	585	670	760	870
2	---	390	680	640	530	510	630	505	585	655	830	860
3	530	390	680	640	540	510	630	500	625	820	825	870
4	---	390	680	660	530	410	630	485	635	830	730	650
5	510	400	800	650	530	510	620	---	620	835	730	655
6	470	400	810	660	530	490	620	---	600	795	640	610
7	470	400	800	630	450	410	620	480	610	795	500	610
8	440	400	800	---	415	520	620	485	575	830	490	630
9	440	650	810	660	410	410	620	480	570	840	485	670
10	430	650	810	650	410	470	430	480	570	830	470	670
11	430	650	610	630	410	630	430	480	735	810	465	720
12	430	490	720	640	415	500	430	530	735	680	460	680
13	440	690	610	640	510	520	430	590	620	710	920	800
14	730	480	610	650	520	455	430	590	550	710	920	680
15	670	490	550	650	415	420	430	595	520	605	915	680
16	630	490	650	640	510	400	---	550	550	585	910	690
17	550	490	650	640	510	370	560	555	495	585	950	700
18	520	490	550	670	520	470	510	550	490	590	950	720
19	510	490	550	650	520	490	510	550	505	600	800	720
20	520	500	550	650	525	610	510	560	500	635	760	705
21	520	480	550	640	530	610	510	535	595	705	640	660
22	---	490	550	650	530	500	510	575	715	710	580	670
23	470	490	550	---	525	500	510	645	665	730	530	665
24	470	490	550	650	510	---	510	585	580	730	520	675
25	420	490	550	640	515	510	510	580	580	750	670	650
26	420	490	550	650	515	510	510	585	545	815	740	660
27	430	490	550	640	530	495	510	635	525	830	730	670
28	410	680	550	650	515	540	510	625	505	825	710	670
29	410	680	550	650	---	540	515	685	580	850	710	640
30	410	680	550	640	---	530	730	620	660	965	725	640
31	410	---	550	530	---	530	---	585	---	930	860	---
MONTH	485	506	634	642	497	496	535	558	588	750	707	693

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	10.0	0.0	0.0	0.0	4.0	1.5	11.0	16.0	26.0	23.0	22.0
2	---	8.0	0.0	0.0	0.0	5.0	1.5	11.0	17.0	23.0	24.0	21.0
3	---	7.0	0.0	0.0	0.0	0.0	0.0	11.0	16.0	25.0	26.0	17.0
4	---	1.0	0.0	0.0	0.0	4.0	0.0	10.0	21.0	26.0	25.0	19.0
5	---	6.0	0.0	0.0	0.0	3.0	1.0	14.5	18.0	27.0	25.0	25.0
6	---	6.0	0.0	0.0	0.0	2.0	1.5	15.5	17.0	28.0	23.0	22.0
7	---	8.0	0.0	0.0	0.0	1.0	1.5	17.0	19.0	25.0	26.0	21.0
8	---	9.0	0.0	0.0	0.0	1.0	1.5	14.0	17.0	24.0	27.0	22.0
9	---	9.0	0.0	0.0	2.0	1.0	2.0	16.0	15.0	18.0	27.0	25.0
10	---	10.0	0.0	0.0	2.0	1.0	3.5	14.0	14.0	21.0	26.0	27.0
11	---	6.0	0.0	0.0	2.0	1.0	3.5	17.0	15.0	19.0	25.0	18.0
12	---	6.0	0.0	0.0	2.0	1.0	3.5	18.0	15.0	19.0	25.0	20.0
13	---	4.0	0.0	0.0	2.0	1.0	3.5	17.0	24.0	21.0	24.0	14.0
14	---	4.0	0.0	0.0	2.0	1.0	4.0	15.0	19.0	23.0	22.0	25.0
15	---	1.0	0.0	0.0	2.0	1.0	5.0	20.0	20.0	25.0	25.0	27.0
16	---	0.0	0.0	0.0	2.0	1.0	6.0	20.0	18.0	23.0	23.0	25.0
17	16.0	0.0	0.0	0.0	2.0	1.0	7.0	20.0	18.0	29.0	22.0	29.0
18	14.0	0.0	0.0	0.0	2.0	2.0	7.0	19.0	19.0	30.0	19.0	27.0
19	13.0	0.0	0.0	0.0	2.0	2.0	8.0	19.0	20.0	28.0	28.0	11.0
20	12.0	0.0	0.0	0.0	2.0	3.5	7.5	15.0	23.0	25.0	29.0	9.0
21	12.0	0.0	0.0	0.0	2.0	7.5	6.5	13.0	20.0	27.0	26.0	19.0
22	11.0	0.0	0.0	0.0	2.0	4.5	6.5	21.0	25.0	29.0	26.0	20.0
23	12.0	1.0	0.0	0.0	2.0	2.0	7.0	16.0	22.0	20.0	28.0	21.0
24	11.0	1.0	0.0	0.0	2.0	2.0	7.0	17.0	24.0	18.0	25.0	22.0
25	13.0	2.0	0.0	0.0	2.0	2.0	9.0	15.0	23.0	22.0	23.0	20.0
26	12.0	0.0	0.0	0.0	2.0	2.0	10.0	20.0	24.0	23.0	23.0	21.0
27	14.0	2.0	0.0	0.0	2.0	2.0	13.0	18.0	25.0	26.0	23.0	19.0
28	14.0	0.0	0.0	0.0	4.0	2.0	14.0	14.0	24.0	27.0	22.0	14.0
29	14.0	0.0	0.0	0.0	---	2.0	14.0	19.0	29.0	27.0	25.0	18.0
30	13.0	0.0	0.0	0.0	---	2.0	9.0	13.0	25.0	30.0	27.0	14.0
31	13.0	---	0.0	0.0	---	2.0	---	14.0	---	23.0	26.0	---
MONTH	---	3.5	0.0	0.0	1.5	2.0	5.5	16.0	20.0	24.5	25.0	20.5

06452000 WHITE RIVER NEAR OACOMA, S. DAK.--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	6.9	280	5.2	47	410	52	26	333	23
2	4.9	275	3.6	46	411	51	24	346	22
3	4.9	274	3.6	50	423	57	22	339	20
4	7.6	330	6.8	52	425	60	22	389	23
5	9.8	375	9.9	52	460	65	23	205	13
6	16	392	17	50	453	61	24	190	12
7	18	351	17	46	461	57	24	202	13
8	15	348	14	50	463	63	30	229	19
9	19	348	18	92	5000	1240	35	182	17
10	17	266	12	119	9500	3050	35	182	17
11	13	253	8.9	86	10000	2320	32	128	11
12	14	260	9.8	73	5300	1040	32	151	13
13	169	18000	8210	71	5290	1010	32	108	9.3
14	152	37500	15400	64	5370	928	32	158	14
15	116	30300	9490	67	5290	957	32	116	10
16	90	25200	6120	55	5010	744	32	104	9.0
17	75	20800	4210	58	5270	825	30	98	7.9
18	64	17700	3060	62	5300	887	30	96	7.8
19	53	13200	1890	53	5030	720	30	94	7.6
20	46	12000	1490	60	5230	847	28	102	7.7
21	46	11800	1470	52	5200	730	28	94	7.1
22	37	12800	1280	57	5060	779	26	102	7.2
23	50	13800	1860	58	5150	806	26	90	6.3
24	47	5860	744	55	5290	786	26	86	6.0
25	37	1650	165	48	5280	684	25	96	6.5
26	41	1640	182	44	5310	631	25	108	7.3
27	44	1650	196	40	5320	575	26	85	6.0
28	40	1280	138	36	343	33	28	93	7.0
29	41	1250	138	32	345	30	30	80	6.5
30	41	771	85	28	346	26	31	70	5.9
31	41	737	82	---	---	---	31	88	7.4
MONTH	1376.1	---	56335.8	1703	---	20114	877	---	349.5
	JANUARY			FEBRUARY			MARCH		
1	30	71	5.8	34	72	6.6	100	62	17
2	30	91	7.4	34	85	7.8	100	46	12
3	30	84	6.8	36	75	7.3	110	47	14
4	30	70	5.7	36	92	8.9	120	61	20
5	30	77	6.2	38	65	6.7	140	75	28
6	28	67	5.1	38	67	6.9	600	58	94
7	28	76	5.7	39	63	6.6	750	54	109
8	28	74	5.6	40	62	6.7	700	51	96
9	27	70	5.1	40	58	6.3	650	60	105
10	26	73	5.1	38	57	5.8	550	1650	2450
11	26	31	2.2	35	61	5.8	550	4700	6980
12	26	101	7.1	35	60	5.7	600	2700	4370
13	28	228	17	35	55	5.2	600	3500	5670
14	28	70	5.3	35	54	5.1	650	3150	5530
15	28	69	5.2	40	53	5.7	650	2350	4120
16	30	56	4.5	40	67	7.2	700	2350	4440
17	30	75	6.1	40	63	6.8	800	950	2050
18	30	73	5.9	45	53	6.4	1000	11500	31100
19	30	112	9.1	45	50	6.1	2590	22800	159000
20	30	124	10	45	62	7.5	2070	28500	159000
21	30	74	6.0	50	70	9.5	1510	27500	112000
22	32	74	6.4	70	63	12	1110	9300	27900
23	32	72	6.2	85	63	14	920	7510	18700
24	32	68	5.9	90	63	15	800	6600	14300
25	32	86	7.4	90	52	13	600	5690	9220
26	32	61	5.3	95	53	14	400	6970	7530
27	32	71	6.1	95	62	16	300	8020	6500
28	32	71	6.1	100	49	13	200	3390	1830
29	32	72	6.2	---	---	---	100	3360	907
30	34	71	6.5	---	---	---	75	3340	676
31	34	83	7.6	---	---	---	60	3430	556
MONTH	927	---	200.6	1443	---	237.6	20105	---	585324

06452000 WHITE RIVER NEAR OACOMA, S. DAK.--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	55	3440	511	2850	64500	496000	236	9200	5860
2	55	32600	4840	2290	38500	238000	203	8140	4460
3	53	30900	4420	2400	34500	224000	178	5930	2850
4	55	32200	4780	1730	18000	84100	170	7810	3580
5	100	32600	8800	1150	9000	27900	164	8620	3820
6	300	32400	26200	813	7760	17000	164	10200	4520
7	800	32700	70600	642	13700	23700	161	9560	4160
8	2000	32400	175000	614	11700	19400	173	5960	2780
9	5460	32000	472000	526	6600	9370	184	6040	3000
10	5300	10600	152000	507	5260	7200	252	4010	2730
11	3440	9500	88200	552	5130	7650	325	7400	6490
12	2720	9950	73100	482	3360	4370	222	7340	4400
13	2280	9740	60000	428	2290	2650	190	12700	6520
14	1860	10500	52700	377	2330	2370	250	11400	7690
15	1910	10500	54100	394	3210	3410	236	15100	9620
16	1890	10300	52600	356	3360	3230	239	14700	9490
17	1900	9710	49800	269	3570	2590	236	11600	7390
18	1790	1870	9040	236	3560	2270	215	12100	7020
19	1600	1930	8340	229	3470	2150	206	9550	5310
20	1480	1910	7630	206	3200	1780	212	8750	5010
21	1460	1900	7490	293	4300	3400	2220	13000	77900
22	1310	1860	6580	293	6100	4830	2360	49500	315000
23	1110	1890	5660	246	2200	1460	1660	45000	202000
24	863	1890	4400	200	965	521	1690	42800	195000
25	705	1940	3690	187	955	482	1410	38100	145000
26	572	1960	3030	181	1030	503	1220	41900	138000
27	526	1890	2680	209	2300	1300	1190	26200	84200
28	470	1930	2450	446	5500	6620	924	25600	63900
29	411	1660	1840	307	12600	10400	780	22500	47400
30	2830	19000	145000	334	14600	13200	628	21100	35800
31	---	---	---	298	8300	6680	---	---	---
MONTH	45305	---	1557481	20045	---	1228536	18298	---	1410900

	JULY			AUGUST			SEPTEMBER		
1	533	13700	19700	79	3000	640	349	9610	9060
2	434	13900	16300	129	4500	1570	206	9700	5400
3	382	7390	7620	1070	26000	75100	131	21500	7600
4	261	5640	3970	2160	43500	254000	106	19600	5610
5	193	5670	2950	995	43300	116000	117	19500	6160
6	156	5060	2130	713	36000	69300	79	18900	4030
7	133	3590	1290	552	22300	33200	56	20800	3140
8	102	3190	879	265	14200	10200	37	14900	1490
9	81	3070	671	200	12100	6530	36	10400	1010
10	66	2840	506	128	10200	3530	32	10000	864
11	82	3440	762	232	10100	6330	31	6320	529
12	141	7800	2970	164	9530	4220	27	2530	184
13	623	29300	49300	128	11800	4080	22	1500	89
14	361	31800	31000	100	14600	3940	20	315	17
15	215	24600	14300	82	14700	3250	16	432	19
16	141	25500	9710	60	14400	2330	16	630	27
17	89	17000	4090	50	10600	1430	14	311	12
18	60	14100	2280	43	10400	1210	13	1690	59
19	43	11900	1380	37	10100	1010	12	453	15
20	33	8730	778	36	9700	943	14	437	17
21	26	5580	392	64	11200	1940	13	205	7.2
22	25	3270	221	97	13200	3460	14	193	7.3
23	28	618	47	91	6750	1660	12	259	8.4
24	17	650	30	63	6600	1120	12	229	7.4
25	44	3650	434	53	9450	1350	14	334	13
26	20	900	49	52	19300	2710	13	710	25
27	15	2000	81	49	20200	2670	8.5	204	4.7
28	7.9	1350	29	126	20200	6870	8.5	319	7.3
29	2.3	700	4.3	208	20600	11600	12	141	4.6
30	3.5	800	7.6	720	20300	39500	12	152	4.9
31	62	6000	1000	382	9630	9930	---	---	---
MONTH	4379.7	---	174880.9	9128	---	681623	1453.0	---	45421.8

TOTAL DISCHARGE FOR YEAR (FT^3/S-DAYS) 125039.8 TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 5761404

06453000 MISSOURI RIVER AT FORT RANDALL DAM, S. DAK.
(National Stream Quality Accounting Network)

LOCATION.--Lat 43°03'54", long 98°33'11", in NW¼NE¼ sec.8, T.95 N., R.65 W., Charles Mix County, 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 mi^2 (682,500 km^2), approximately.

PERIOD OF RECORD.--Chemical analyses: October 1974 to September 1975.
Water temperatures: October 1974 to September 1975.

EXTREMES.--1974-75:
Specific conductance: Maximum daily, 850 micromhos, Mar. 10; minimum daily, 625 micromhos Sept. 29.
Water temperatures: Maximum, 25.5°C Aug. 9, 12-16, 25; minimum, freezing point on Jan. 21-26.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED SILICA (SIO2) (MG/L) (00955)	DISSOLVED CALCIUM (CA) (MG/L) (00915)	DISSOLVED MAGNESIUM (MG) (MG/L) (00925)	DISSOLVED SODIUM (NA) (MG/L) (00930)	DISSOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	ALKALINITY AS CACO3 (MG/L) (00410)	DISSOLVED SULFATE (SO4) (MG/L) (00945)	DISSOLVED CHLORIDE (CL) (MG/L) (00940)	DISSOLVED FLUORIDE (F) (MG/L) (00950)
OCT.												
07...	1340	41300	7.7	52	23	70	5.2	191	157	200	11	.6
NOV.												
13...	1300	40800	6.8	600	22	70	2.5	179	153	200	11	.4
DEC.												
10...	1200	23600	6.2	58	23	69	4.9	202	166	200	10	.4
JAN.												
14...	1300	25600	12	63	23	67	4.6	188	154	210	11	.1
FEB.												
11...	1400	13000	5.5	52	23	67	4.5	110	90	210	18	.5
MAR.												
13...	1300	24500	5.4	60	23	72	6.6	205	168	210	12	.6
APR.												
10...	1300	30700	5.3	59	24	70	4.6	202	167	210	11	.6
MAY												
13...	1400	34600	5.5	59	22	69	4.6	199	163	190	11	.5
JUNE												
10...	1400	41100	5.1	57	22	70	5.1	195	160	200	10	.5
JULY												
08...	1300	47800	4.7	60	21	73	4.9	189	155	220	11	.5
AUG.												
11...	1300	59900	6.3	61	22	72	5.2	198	162	210	13	.5
SEP.												
09...	1200	60000	6.6	55	22	70	4.7	189	155	190	11	.5

NOTE.--Carbonate (CO_3) analysis for all samples, 0.0 mg/l.

TRACE METALS

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED ARSENIC (AS) (UG/L) (01000)	SUSPENDED ARSENIC (AS) (UG/L) (01001)	TOTAL ARSENIC (AS) (UG/L) (01002)	DISSOLVED CADMIUM (CD) (UG/L) (01025)	SUSPENDED CADMIUM (CD) (UG/L) (01026)	TOTAL CADMIUM (CD) (UG/L) (01027)	DISSOLVED CHROMIUM (CR) (UG/L) (01030)	SUSPENDED CHROMIUM (CR) (UG/L) (01031)	TOTAL CHROMIUM (CR) (UG/L) (01034)	DISSOLVED COBALT (CO) (UG/L) (01035)
OCT.												
07...	1340	41300	2	0	3	0	<10	<10	0	0	0	0
JAN.												
14...	1300	25600	2	0	1	2	8	10	0	0	0	1
APR.												
10...	1300	30700	2	0	2	0	<10	<10	0	0	0	0
JULY												
08...	1300	47800	2	1	3	1	<9	<10	0	10	10	1

< Less than

06453000 MISSOURI RIVER AT FORT RANDALL DAM, S. DAK.--Continued

EXTREMES.--Continued
Period of record:
Specific conductance: Maximum daily, 850 micromhos, Mar. 10, 1975; minimum daily, 625 micromhos Sept. 29, 1975.
Water temperatures: Maximum, 25.5°C Aug. 9, 12-16, 25, 1975; minimum, freezing point Jan. 21-26, 1975.

REMARKS.--Maximum observed during water year: Dissolved solids, 520 mg/l Apr. 10; hardness, 250 mg/l June 14, Apr. 10; dissolved oxygen, 13.3 mg/l Feb. 12. Minimum observed during water year: Dissolved solids, 435 mg/l Feb. 11; hardness, 220 mg/l Oct. 7, Feb. 11; dissolved oxygen, 7.2 mg/l July 23-30, Aug. 1-10. Records compiled and furnished by the U.S. Army, Corps of Engineers. 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) mean sea level. Records prior to October 1974 are on file in the District office, U.S. Army Corps of Engineers, Omaha, Nebr.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	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)	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 DAY) (70302)	DIS-SOLVED SOLIDS (TONS PER AC-FT) (70303)	HARD-NESS (CA+MG) (MG/L) (00900)	NON-CAR-BONATE HARD-NESS (MG/L) (00902)	SODIUM AD-SORP-TION RATIO (00931)
OCT.												
07...	.06	.36	.42	1.9	.01	488	469	54400	.66	220	60	2.0
NOV.												
13...	.01	.04	.05	.22	.01	508	465	56000	.69	240	87	2.0
DEC.												
10...	.03	.27	.30	1.3	.00	503	471	32100	.68	240	74	1.9
JAN.												
14...	1.1	.32	1.4	6.3	.01	497	483	34400	.68	250	98	1.8
FEB.												
11...	.01	.28	.29	1.3	.01	510	435	17900	.69	220	130	1.9
MAR.												
13...	.02	.26	.28	1.2	.01	511	491	33800	.70	240	76	2.0
APR.												
10...	.05	.25	.30	1.3	.01	520	485	43100	.71	250	79	1.9
MAY												
13...	.05	.17	.22	.97	.00	485	460	45300	.66	240	75	1.9
JUNE												
10...	.02	.16	.18	.80	.01	488	466	54200	.66	230	73	2.0
JULY												
08...	.04	.38	.42	1.9	.02	494	488	63800	.67	240	81	2.1
AUG.												
11...	.06	.22	.28	1.2	.01	504	488	81500	.69	240	81	2.0
SEP.												
09...	.10	.52	.62	2.7	.02	499	453	80800	.68	230	73	2.0

TRACE METALS

DATE	SUS-PENDED COBALT (CO) (UG/L) (01036)	TOTAL COBALT (CO) (UG/L) (01037)	DIS-SOLVED COPPER (CU) (UG/L) (01040)	SUS-PENDED COPPER (CU) (UG/L) (01041)	TOTAL COPPER (CU) (UG/L) (01042)	DIS-SOLVED IRON (FE) (UG/L) (01046)	TOTAL IRON (FE) (UG/L) (01045)	DIS-SOLVED LEAD (PB) (UG/L) (01049)	SUS-PENDED LEAD (PB) (UG/L) (01050)	TOTAL LEAD (PB) (UG/L) (01051)	DIS-SOLVED MAN-GANESE (MN) (UG/L) (01056)
OCT.											
07...	<50	<50	2	<8	<10	80	180	0	<100	<100	0
JAN.											
14...	<49	<50	3	0	0	30	290	16	<84	<100	0
APR.											
10...	<50	<50	1	29	30	10	30	5	<95	<100	0
JULY											
08...	<49	<50	2	28	30	10	40	4	<96	<100	0

< Less than

06453000 MISSOURI RIVER AT FORT RANDALL DAM, S. DAK.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	PH (UNITS) (00400)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)	TEMPERATURE (DEG C) (00010)	TURBIDITY (JTU) (00070)	TOTAL ORGANIC CARBON (C) (MG/L) (00680)	FECAL COLIFORM (COL. PER 100 ML) (31616)	STREPTOCOCCI (COLONIES PER 100 ML) (31679)	TOTAL PHYTOPLANKTON (CELLS PER ML) (60050)	PERIPHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	UNCORRECTED PERIPHYTON CHLOROPHYLL A MG/SQ M (32228)	UNCORRECTED PERIPHYTON CHLOROPHYLL B MG/SQ M (32226)
OCT.												
07...	8.6	770	15.0	5	7.5	--	--	350	--	--	--	--
NOV.												
13...	8.5	710	9.5	6	--	--	--	87	--	--	--	--
DEC.												
10...	8.5	640	4.0	7	--	1	5	--	--	--	--	--
JAN.												
14...	8.4	530	3.0	8	4.9	<0	1	2900	--	.80	.0	.0
FEB.												
11...	8.5	660	.5	6	--	<0	<0	2600	--	--	--	--
MAR.												
13...	8.5	670	.5	2	--	<0	<0	2900	.50	.20	.2	.1
APR.												
10...	8.5	700	.5	2	4.4	<0	B5	490	--	--	--	--
MAY												
13...	8.4	640	7.5	1	--	<0	<0	700	--	--	--	--
JUNE												
10...	7.7	750	14.0	5	--	--	--	300	--	--	--	--
JULY												
08...	8.1	660	19.5	4	2.3	B1	<0	63	--	--	--	--
AUG.												
11...	8.0	660	23.0	2	--	<0	<0	8	--	--	--	--
SEP.												
09...	7.8	560	22.0	2	--	--	--	9	--	--	--	--

TRACE METALS

DATE	SUSPENDED MANGANESE (MN) (UG/L) (01054)	TOTAL MANGANESE (MN) (UG/L) (01055)	DISSOLVED MERCURY (HG) (UG/L) (71890)	SUSPENDED MERCURY (HG) (UG/L) (71895)	TOTAL MERCURY (HG) (UG/L) (71900)	DISSOLVED SELENIUM (SE) (UG/L) (01145)	SUSPENDED SELENIUM (SE) (UG/L) (01146)	TOTAL SELENIUM (SE) (UG/L) (01147)	DISSOLVED ZINC (ZN) (UG/L) (01090)	SUSPENDED ZINC (ZN) (UG/L) (01091)	TOTAL ZINC (ZN) (UG/L) (01092)
OCT.											
07...	10	10	.0	.0	.0	1	1	2	10	0	10
JAN.											
14...	40	40	.3	.0	.1	2	0	2	10	30	40
APR.											
10...	10	10	.3	.0	.3	2	0	2	6	30	40
JULY											
08...	30	30	.0	.0	.0	0	0	0	20	10	30

B Non-ideal colony count
< Less than

06453000 MISSOURI RIVER AT FORT RANDALL DAM, S. DAK.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C) , WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	724	754	788	777	802	825	827	822	767	710	717	700
2	723	758	788	779	807	832	827	825	765	712	717	700
3	722	759	788	780	807	837	832	822	762	712	717	700
4	722	762	785	780	807	835	825	822	755	715	717	700
5	722	764	785	781	812	845	825	822	755	715	717	700
6	722	765	783	781	815	845	832	822	755	715	717	700
7	720	768	785	783	817	847	832	825	752	715	717	700
8	718	768	784	785	817	845	827	825	745	715	717	697
9	718	772	786	785	817	845	825	827	737	712	720	692
10	717	775	786	786	815	850	825	830	735	712	717	692
11	717	777	784	786	817	847	825	830	732	717	717	692
12	721	780	787	787	815	847	822	830	727	717	717	692
13	721	783	788	787	822	842	822	830	725	715	715	687
14	722	787	789	788	822	840	822	772	725	715	717	681
15	722	792	789	788	825	835	822	767	722	717	715	685
16	725	795	792	789	822	837	825	762	720	717	715	686
17	727	797	795	790	822	832	822	765	712	715	715	677
18	729	799	795	788	822	832	822	767	707	445	712	675
19	731	797	790	791	827	830	827	775	707	715	712	685
20	727	795	788	792	825	830	827	780	702	717	710	684
21	727	797	786	794	830	832	827	775	702	717	710	682
22	736	794	783	795	825	837	830	780	702	717	710	686
23	736	793	780	797	827	832	827	772	700	717	710	684
24	738	794	782	792	827	822	827	777	697	717	710	682
25	739	793	781	792	830	825	825	772	705	717	710	645
26	740	792	781	797	830	826	827	770	705	717	710	645
27	743	791	781	795	832	828	822	775	707	717	707	645
28	746	790	780	797	830	825	822	775	710	717	705	650
29	747	790	779	797	---	828	822	777	710	720	705	625
30	749	789	779	802	---	833	820	775	710	720	702	645
31	752	---	780	802	---	827	---	775	---	720	700	---
MONTH	729	782	785	789	820	835	825	795	725	707	713	680

06453000 MISSOURI RIVER AT FORT RANDALL DAM, S. DAK.--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.5	11.5	6.0	1.0	0.5	1.0	1.0	5.5	12.0	18.0	24.5	24.5
2	16.5	11.5	6.0	1.0	1.0	1.0	1.0	5.5	12.0	18.0	24.5	24.5
3	16.0	11.0	5.5	1.0	1.0	1.0	1.5	5.5	12.0	18.5	25.0	24.5
4	16.0	11.0	5.5	1.0	1.0	1.5	1.0	5.5	13.5	19.0	25.0	24.5
5	15.5	11.0	5.5	1.0	1.0	1.5	1.0	5.5	14.5	19.5	24.5	24.0
6	15.5	10.5	5.5	1.0	1.0	1.5	1.5	6.0	14.0	20.0	24.5	24.0
7	15.0	10.5	5.0	1.0	1.0	1.5	1.0	6.5	14.5	20.0	24.5	24.0
8	15.0	10.5	5.0	1.0	1.0	1.0	1.0	6.5	13.5	20.5	24.5	23.5
9	14.5	10.0	5.0	0.5	1.0	1.0	1.0	6.5	14.5	20.5	25.5	23.5
10	14.5	10.0	4.5	0.5	1.0	1.5	1.0	7.0	14.5	21.0	25.0	23.5
11	14.5	10.0	4.5	0.5	1.0	1.0	1.0	8.0	14.5	22.0	25.0	23.5
12	14.5	9.5	4.5	0.5	1.0	1.5	1.0	8.0	14.5	23.0	25.5	23.0
13	14.0	9.5	4.0	0.5	1.0	1.0	1.0	9.0	14.0	22.0	25.5	22.0
14	14.0	9.5	4.0	0.5	1.0	1.0	1.5	9.0	15.5	23.0	25.5	22.0
15	14.0	9.5	4.0	0.5	1.0	1.0	1.5	9.5	14.5	22.0	25.5	22.0
16	14.0	9.0	4.0	0.5	1.0	1.0	2.0	8.5	15.0	23.0	25.5	21.5
17	14.0	9.0	3.5	0.5	1.0	1.0	2.0	8.5	15.5	22.0	25.0	21.0
18	13.5	9.0	3.5	0.5	1.0	1.0	2.0	8.5	15.0	23.5	25.0	20.5
19	13.5	9.0	3.0	0.5	1.0	1.0	2.0	9.0	15.5	23.5	25.0	20.5
20	13.5	9.0	2.0	0.5	1.5	1.5	2.0	9.0	16.0	23.5	25.0	20.5
21	13.5	8.5	2.0	0.0	1.0	1.5	3.0	9.5	16.0	23.5	25.0	20.0
22	13.5	8.5	1.5	0.0	1.5	1.5	3.5	9.5	16.0	23.5	25.0	20.0
23	13.5	8.5	1.5	0.0	1.0	1.5	3.5	10.0	15.5	24.5	25.0	19.0
24	13.0	8.0	1.5	0.0	1.0	1.0	3.5	10.0	15.5	24.5	25.0	18.5
25	13.0	8.0	1.0	0.0	1.5	1.0	3.5	10.0	15.5	24.5	25.5	18.0
26	13.0	7.0	1.0	0.0	1.5	1.0	3.5	11.0	16.0	24.5	25.0	18.0
27	12.0	7.0	1.0	0.5	1.5	1.5	4.5	11.0	16.5	24.5	25.0	18.0
28	12.0	7.0	1.0	0.5	1.0	1.5	4.5	10.0	16.5	24.5	24.5	18.0
29	11.5	6.5	1.0	0.5	---	1.0	5.0	11.0	16.5	24.5	24.5	17.0
30	11.5	6.0	1.0	0.5	---	1.5	5.0	12.0	17.0	24.5	24.5	18.0
31	---	---	1.0	0.5	---	1.5	---	12.0	---	24.5	24.5	---
MONTH	14.0	9.0	3.5	0.5	1.0	1.5	2.5	8.5	15.0	22.0	25.0	21.5

06453000 MISSOURI RIVER AT FORT RANDALL DAM, S. DAK.--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	10.0	11.2	12.6	13.1	13.0	12.5	12.1	10.9	8.8	7.2	7.8
2	9.4	10.0	11.2	12.6	13.1	13.0	12.6	12.1	10.7	8.7	7.2	7.9
3	9.3	10.1	11.3	12.6	13.1	13.0	12.4	12.1	10.9	8.6	7.2	7.9
4	9.1	10.1	11.4	12.6	13.1	13.0	12.4	12.0	10.6	8.5	7.2	7.9
5	9.2	10.1	11.4	12.6	13.2	13.0	12.4	12.0	10.5	8.4	7.2	7.9
6	9.3	10.1	11.4	12.6	13.2	13.0	12.6	12.0	10.3	8.3	7.2	7.9
7	9.3	10.1	11.5	12.7	13.2	13.0	12.4	12.0	10.3	8.2	7.2	8.0
8	9.3	10.2	11.6	12.7	13.2	13.0	12.3	11.9	10.2	8.0	7.2	8.0
9	9.4	10.2	11.6	12.7	13.2	13.0	12.5	11.9	10.1	7.8	7.2	8.0
10	9.4	10.2	11.6	12.7	13.2	12.9	12.5	11.9	9.9	7.7	7.2	8.1
11	9.5	10.2	11.7	12.7	13.2	12.9	12.5	11.8	9.9	7.7	7.3	8.1
12	9.5	10.3	11.8	12.8	13.3	12.9	12.5	11.8	9.8	7.7	7.3	8.1
13	9.5	10.3	11.8	12.8	13.2	13.0	12.5	11.7	9.7	7.7	7.4	8.0
14	9.5	10.3	11.9	12.9	13.2	12.9	12.5	11.5	9.7	7.6	7.3	8.0
15	9.6	10.3	12.0	12.9	13.2	13.0	12.5	11.5	9.6	7.5	7.3	8.1
16	9.6	10.3	12.0	13.0	13.2	12.9	12.5	11.7	9.4	7.5	7.3	7.9
17	9.6	10.4	12.1	13.0	13.2	13.0	12.5	11.7	9.3	7.4	7.3	8.0
18	9.7	10.4	12.2	13.1	13.2	12.9	12.5	11.7	9.3	7.4	7.4	7.9
19	9.7	10.4	12.4	13.1	13.2	12.9	12.5	11.5	9.2	7.3	7.4	8.0
20	9.7	10.5	12.4	13.2	13.2	12.9	12.5	11.4	9.2	7.2	7.4	7.9
21	9.8	10.5	12.5	13.2	13.2	12.9	12.5	11.4	9.2	7.3	7.4	7.9
22	9.8	10.6	12.6	13.1	13.1	12.9	12.4	11.3	9.3	7.3	7.4	7.9
23	9.8	10.6	12.6	13.0	13.0	12.9	12.4	11.3	9.2	7.2	7.5	8.2
24	9.8	10.7	12.6	13.1	13.0	13.0	12.4	11.3	9.4	7.2	7.5	8.5
25	9.9	10.8	12.6	13.1	12.9	13.0	12.3	11.3	9.2	7.2	7.5	8.8
26	9.9	10.8	12.7	13.1	12.9	12.8	12.3	11.2	9.2	7.2	7.6	8.9
27	9.9	10.9	12.6	13.1	12.9	12.9	12.2	11.2	9.1	7.2	7.7	8.7
28	9.9	11.0	12.6	13.1	13.0	12.9	12.2	11.3	9.1	7.2	7.7	8.5
29	10.0	11.0	12.6	13.1	---	12.9	12.1	11.2	9.0	7.2	7.8	8.5
30	10.0	11.1	12.6	13.1	---	12.9	12.1	11.3	8.9	7.2	7.8	8.4
31	10.0	---	12.6	13.1	---	12.7	---	11.1	---	7.3	7.8	---
MONTH	9.6	10.4	12.0	12.9	13.1	12.9	12.4	11.6	9.7	7.7	7.4	8.1

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, 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)
OCT.					
07...	1340	15.0	41300	46	5130
NOV.					
13...	1300	9.5	40800	60	6610
FEB.					
11...	1400	.5	13000	51	1790
MAR.					
13...	1300	.5	24500	49	3240
APR.					
10...	1300	.5	30700	35	2900
MAY					
13...	1400	7.5	34600	98	9160
JULY					
08...	1300	19.5	47800	72	9290
AUG.					
11...	1300	23.0	59900	62	10000
SEP.					
09...	1200	22.0	60000	70	11300

06471000 JAMES RIVER AT COLUMBIA, S. DAK.

LOCATION.--Lat 45°37'05", long 98°19'30", in NE¼NW¼ sec.29, T.125 N., R.62 W., Brown County, at gaging station, 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 Co. bridge, 3.6 mi (5.8 km) upstream from Elm River, and 9.4 mi (15.1 km) downstream from Sand Lake.

DRAINAGE AREA.--7,050 mi^2 (18,300 km^2), approximately.

PERIOD OF RECORD.--Chemical analyses: June 1949 to September 1953 (miscellaneous), October 1966 to September 1973 (daily), October 1954 to August 1964 and October 1973 to September 1975 (monthly).
Water temperatures: October 1966 to September 1975.
Prior to October 1957, published as "near Columbia."

EXTREMES.--1974-75:
Specific conductance: Maximum daily, 1,850 micromhos Feb. 2; minimum daily, 470 micromhos Aug. 1-4, 7.
Water temperatures: Maximum, 30.0°C July 4, 5; minimum, freezing point on many days during December to March.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED SILICA (SIO2) (MG/L) (00955)	DISSOLVED CALCIUM (CA) (MG/L) (00915)	DISSOLVED MAGNESIUM (MG) (MG/L) (00925)	DISSOLVED SODIUM (NA) (MG/L) (00930)	DISSOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	ALKALINITY AS CACO3 (MG/L) (00410)	DISSOLVED SULFATE (SO4) (MG/L) (00945)	DISSOLVED CHLORIDE (CL) (MG/L) (00940)	DISSOLVED FLUORIDE (F) (MG/L) (00950)
OCT.												
30...	1035	1.9	13	5.0	34	220	15	465	381	170	51	.3
DEC.												
17...	1600	5.6	21	86	59	150	20	554	454	260	76	.3
JAN.												
14...	1200	6.4	23	8.9	75	310	26	718	589	330	88	.5
FEB.												
11...	1730	4.9	25	12	74	300	12	695	570	320	79	.4
APR.												
24...	1115	14	7.5	53	39	81	10	297	244	170	37	.2
MAY												
07...	1335	565	8.5	5.7	31	160	12	295	242	170	41	.2
JUNE												
19...	0955	638	12	47	30	47	11	265	217	89	19	.1
JULY												
16...	1040	1490	15	46	21	37	11	242	198	68	14	.2
AUG.												
15...	0945	653	23	46	21	33	11	266	218	46	15	.2
SEP.												
12...	0930	405	14	52	24	48	13	288	236	86	19	.3

NOTE.--Carbonate (CO_3) analysis for all samples, 0.0 mg/l.

06471000 JAMES RIVER AT COLUMBIA, S. DAK.--Continued

EXTREMES.--Continued
Period of record:
Dissolved solids (1966-69, 1970-72): Maximum, 1,190 mg/l Dec. 19-21, 1967; minimum, 282 mg/l Apr. 1-30, 1972.
Hardness (1966-69, 1970-72): Maximum, 503 mg/l Dec. 19-21, 1967; minimum, 160 mg/l Apr. 1-30, 1972.
Specific conductance (1966-75): Maximum daily, 2,500 micromhos Mar. 1, 1974; minimum daily, 240 micromhos Mar. 17, 1972.
Water temperatures (1966-75): Maximum, 32.0°C June 29, July 10, 1970; minimum, freezing point on many days during winter period.

REMARKS.--Maximum observed during water year: Dissolved solids, 1,220 mg/l Jan. 14; hardness, 460 mg/l Dec. 17; specific conductance, 1,900 micromhos Jan. 14. Minimum observed during water year: Dissolved solids, 327 mg/l Aug. 15; hardness, 140 mg/l May 7. No flow Oct. 1-22, Mar. 11 to Apr. 1.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	DIS-SOL-VED-PHOS-PHORUS (P) (MG/L) (00666)	TOTAL PHOS-PHORUS (P) (MG/L) (00665)	DIS-SOLVED BORON (B) (UG/L) (01020)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L) (70301)	DIS-SOLVED SOLIDS (TONS PER DAY) (70302)	DIS-SOLVED SOLIDS (TONS PER AC-FT) (70303)	HARD-NESS (CA,MG) (MG/L) (00900)	NON-CAR-BONATE HARD-NESS (MG/L) (00902)	SODIUM AD-SORP-TION RATIO (00931)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS) (00095)	PH (UNITS) (00400)
OCT.												
30...	.00	.15	.37	250	738	3.79	1.00	150	0	7.8	1040	--
DEC.												
17...	.03	.13	.13	420	946	14.4	1.29	460	3	3.1	1600	--
JAN.												
14...	.00	.10	.20	440	1220	21.1	1.66	330	0	7.4	1900	8.5
FEB.												
11...	.04	.18	.22	420	1170	15.5	1.59	330	0	7.1	1875	--
APR.												
24...	.05	.02	.20	170	545	20.6	.74	290	49	2.1	920	--
MAY												
07...	.00	.06	.09	230	574	876	.78	140	0	5.8	910	--
JUNE												
19...	.04	.20	.25	170	387	667	.53	240	24	1.3	660	--
JULY												
16...	.08	.23	.33	120	332	1340	.45	200	3	1.1	550	7.4
AUG.												
15...	.00	.21	.38	160	327	577	.44	200	0	1.0	550	--
SEP.												
12...	.02	.10	.14	180	399	436	.54	230	0	1.4	680	--

06471000 JAMES RIVER AT COLUMBIA, S. DAK.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	1070	1280	1500	1680	1800	---	1580	640	720	470	670
2	---	1060	1240	1520	1850	1800	---	1020	635	670	470	670
3	---	1100	1310	1550	1750	1820	1550	1020	630	705	470	520
4	---	1110	1290	1500	1720	1700	1640	1020	640	690	470	670
5	---	1090	1120	1500	1700	1680	1640	1010	650	685	475	660
6	---	1080	1350	1520	1700	1700	1650	1010	650	680	480	660
7	---	1110	1190	1520	1720	1750	1590	1010	660	690	470	640
8	---	1100	1350	1520	1690	1780	1510	890	680	665	500	660
9	---	1060	1310	1550	1710	1800	1480	895	680	660	500	680
10	---	1070	1490	1550	1710	1800	1680	890	670	670	500	660
11	---	1090	1430	1550	1800	---	1530	930	685	690	500	670
12	---	1100	1350	1520	1620	---	1400	890	675	635	525	665
13	---	1080	1340	1460	1750	---	1320	730	650	640	520	665
14	---	1040	1340	1780	1650	---	1320	735	670	635	530	670
15	---	1080	1340	1520	1750	---	1500	735	670	580	520	580
16	---	1110	1350	1800	1750	---	1220	695	670	580	520	675
17	---	1080	1430	1720	1710	---	1670	690	680	600	535	660
18	---	1130	1430	1720	1700	---	1210	690	670	525	575	640
19	---	1090	1420	1550	1720	---	1060	635	660	530	580	650
20	---	1060	1420	1700	1800	---	1320	640	630	525	580	650
21	---	1080	1500	1550	1720	---	1670	640	630	550	570	645
22	---	1120	1500	1650	1750	---	1040	635	620	600	600	640
23	1150	1160	1470	1650	1750	---	940	980	615	640	600	650
24	980	1080	1480	1680	1720	---	935	980	635	640	600	650
25	1170	1150	1470	1520	1720	---	1620	600	670	480	600	655
26	1130	1180	1310	1550	1720	---	800	600	720	480	640	640
27	1150	1070	1500	1700	1700	---	675	600	715	485	635	655
28	1160	1030	1550	1680	1750	---	980	600	700	480	650	670
29	1140	1240	1490	1700	---	---	980	780	700	480	650	650
30	1130	1170	1480	1700	---	---	1210	600	700	655	640	665
31	1110	---	1520	1700	---	---	---	720	---	635	640	---
MONTH	---	1100	1390	1600	1730	---	1330	821	663	610	549	651

06471000 JAMES RIVER AT COLUMBIA, S. DAK.--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	9.0	0.0	1.0	0.0	1.0	---	9.0	17.0	26.0	27.0	21.0
2	---	7.0	0.5	0.5	0.5	0.5	---	8.0	16.0	27.0	24.0	20.0
3	---	6.0	1.0	0.5	1.0	1.0	0.0	9.0	15.0	27.0	24.0	18.0
4	---	5.0	1.0	0.5	0.0	2.0	3.0	9.0	17.0	30.0	25.0	19.0
5	---	6.0	1.0	0.0	0.0	1.0	2.5	14.0	16.0	30.0	23.0	16.0
6	---	7.0	1.0	0.0	0.0	0.5	3.0	15.0	16.0	29.0	23.0	14.0
7	---	8.0	1.0	0.5	0.0	0.0	1.0	13.0	18.0	28.0	25.0	15.0
8	---	9.0	0.0	0.5	0.0	0.0	1.0	10.0	19.0	25.0	23.0	14.0
9	---	8.0	0.5	1.0	0.0	0.5	2.0	15.0	18.0	24.0	22.0	16.0
10	---	7.0	2.0	1.0	0.0	0.0	1.0	18.0	17.0	23.0	21.0	16.0
11	---	6.0	2.5	0.0	0.0	---	2.0	18.0	16.0	22.0	23.0	14.0
12	---	3.0	2.0	0.0	0.0	---	2.0	13.0	17.0	21.0	24.0	12.0
13	---	2.0	0.0	0.0	0.0	---	3.0	15.0	19.0	22.0	22.0	11.5
14	---	1.0	1.0	0.5	0.0	---	3.0	16.0	20.0	24.0	22.0	13.0
15	---	1.5	0.0	1.0	0.0	---	4.0	14.0	17.0	24.0	23.0	14.0
16	---	2.0	0.5	0.5	0.0	---	5.0	17.0	18.0	26.0	23.0	17.0
17	---	1.0	1.0	0.5	0.0	---	5.0	18.0	17.0	28.0	23.0	18.0
18	---	3.0	1.0	1.0	1.0	---	4.0	16.0	18.0	24.0	20.0	16.0
19	---	4.0	0.0	0.0	1.0	---	3.5	20.0	17.0	23.0	21.0	14.0
20	---	3.0	0.5	2.0	1.0	---	3.0	17.0	20.0	23.0	21.0	10.0
21	---	2.0	0.0	0.5	2.0	---	4.0	15.0	19.0	24.0	22.0	11.0
22	---	2.0	1.0	2.0	1.0	---	4.5	15.0	20.0	25.0	22.0	14.0
23	12.0	3.0	0.0	1.0	1.0	---	8.0	16.0	19.0	24.0	23.0	14.0
24	13.0	2.0	0.0	1.0	1.5	---	7.0	16.0	22.0	23.0	25.0	12.0
25	9.0	1.0	0.0	1.0	2.0	---	8.0	18.0	24.0	22.0	22.0	13.0
26	10.0	3.0	2.0	0.5	1.0	---	9.0	16.0	24.0	24.0	18.0	14.0
27	9.0	1.0	1.0	0.5	1.5	---	9.0	17.0	23.0	25.0	20.0	17.0
28	10.0	1.0	1.5	0.5	2.0	---	10.5	15.0	24.0	26.0	20.0	12.0
29	9.0	0.5	1.0	0.5	---	---	9.0	18.0	25.0	27.0	21.0	13.0
30	12.5	1.0	0.5	0.0	---	---	8.0	16.0	25.0	27.0	22.0	14.0
31	13.0	---	1.0	0.0	---	---	---	17.0	---	28.0	23.0	---
MONTH	---	4.0	1.0	0.5	0.5	---	4.5	15.0	19.0	25.0	22.5	15.0

06476000 JAMES RIVER AT HURON, S. DAK.

LOCATION.--Lat 44°21'49", long 98°11'56", in SW¼SE¼NE¼ sec.6, T.110 N., R.61 W., Beadle County, at gaging station, 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 km²), approximately.

PERIOD OF RECORD.--Chemical analyses: April 1950 to September 1951, August 1956 to September 1973 (daily), October 1973 to September 1975 (monthly).
Water temperatures: August 1956 to September 1975.

EXTREMES.--1974-75:
Specific conductance: Maximum daily, 2,450 micromhos Mar. 23, 24; minimum daily, 560 micromhos Aug. 21-23, 25, 28, 29.
Water temperatures: Maximum, 28.0°C July 5; minimum, freezing point on many days during November to December.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED SILICA (SIO2) (MG/L) (00955)	DISSOLVED CALCIUM (CA) (MG/L) (00915)	DISSOLVED MAGNESIUM (MG) (MG/L) (00925)	DISSOLVED SODIUM (NA) (MG/L) (00930)	DISSOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	ALKALINITY AS CACO3 (MG/L) (00410)	DISSOLVED SULFATE (SO4) (MG/L) (00945)	DISSOLVED CHLORIDE (CL) (MG/L) (00940)	DISSOLVED FLUORIDE (F) (MG/L) (00950)
OCT.												
31...	1345	.00	16	73	47	120	18	420	344	250	63	.3
APR.												
30...	1600	215	14	82	45	100	12	306	273	250	45	.3
JUNE												
02...	1115	564	11	52	32	71	14	274	225	150	33	.2
20...	1430	628	5.9	51	26	53	12	258	212	85	21	.3
JULY												
23...	1445	816	25	51	27	55	16	261	214	100	29	.2
AUG.												
13...	1530	1040	31	51	24	44	14	306	251	49	20	.2
20...	1345	936	31	48	25	37	14	292	240	49	16	.2
SEP.												
11...	1400	667	23	52	26	44	14	308	253	69	20	.3

NOTE.--Carbonate (CO_3) analysis for all samples, 0.0 mg/l.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1340	1400	1520	1550	1550	1820	1980	1070	810	660	700	600
2	1300	1350	1430	1580	1550	1850	1980	1090	790	670	700	600
3	1300	1340	1380	1550	1550	1900	1980	1080	770	670	700	610
4	1290	1340	1420	1580	1550	1900	2000	1090	750	680	690	610
5	1280	1340	1400	1550	1570	1850	1980	1000	730	680	690	610
6	1290	1340	1360	1550	1550	1900	1950	1160	720	680	680	620
7	1280	1340	1390	1600	1600	1920	1900	1240	720	670	680	630
8	1280	1350	1400	1600	1600	1920	1550	1250	710	670	670	630
9	1280	1340	1430	1600	1600	1950	1330	1280	690	680	660	640
10	1270	1340	1420	1620	1600	1950	1520	1060	680	680	650	650
11	1290	1350	1450	1650	1620	1900	1440	1040	670	680	640	640
12	1300	1350	1440	1620	1650	2020	1330	1140	660	690	640	650
13	1280	1340	1470	1620	1620	2080	1120	1150	670	700	630	660
14	1290	1340	1480	1650	1650	2050	1300	1180	670	690	620	680
15	1280	1370	1470	1650	1670	2050	1050	1200	660	670	610	680
16	1280	1390	1480	1650	1700	2150	1040	1200	650	650	600	680
17	1300	1380	1470	1650	1700	2150	940	1160	640	630	590	690
18	1290	1380	1470	1650	1700	2150	980	1060	650	620	580	690
19	1280	1330	1490	1650	1700	2200	990	1200	650	640	570	700
20	1280	1340	1480	1650	1680	2280	1030	1180	680	640	570	690
21	1310	1360	1500	1650	1720	2350	960	760	660	650	560	700
22	1310	1360	1460	1650	1750	2350	960	620	670	670	560	700
23	1290	1350	1490	1650	1750	2450	920	660	670	680	560	710
24	1310	1350	1490	1650	1680	2450	1060	670	660	680	570	710
25	1310	1360	1520	1650	1720	2400	1060	660	670	690	560	720
26	1310	1350	1520	1680	1720	2300	1220	740	670	690	570	720
27	1310	1360	1550	1650	1700	2350	1180	750	680	670	570	730
28	1310	1380	1550	1650	1730	2400	1180	760	660	680	560	730
29	1300	1360	1550	1650	---	2350	1050	740	680	680	560	730
30	1290	1390	1500	1650	---	2250	1050	760	680	690	570	730
31	1300	---	1520	1650	---	2280	---	830	---	700	580	---
MONTH	1290	1360	1470	1630	1650	2130	1330	993	689	672	616	671

06476000 JAMES RIVER AT HURON, S. DAK.--Continued

EXTREMES.--Continued
Period of record:
Dissolved solids (1956-58, 1959-68, 1970-73): Maximum, 2,180 mg/1 Mar. 1-20, 1965; minimum, 147 mg/1 Apr. 5-7, 1960.
Hardness (1956-58, 1959-68, 1970-73): Maximum, 963 mg/1 Mar. 1-20, 1965; minimum, 63 mg/1 Apr. 1-4, 1960.
Specific conductance (1956-70, 1971-75): Maximum daily, 3,170 micromhos Mar. 14, 1965; minimum daily, 176 micromhos Mar. 30, Apr. 2, 1960.
Water temperatures (1956-70, 1971-75): Maximum, 31.0°C June 2, 1968; minimum, freezing point on many days during winter period.

REMARKS.--Flow regulated by Arrowwood and Jim Lakes, and by Jamestown reservoir, combined capacity, 246,000 acre-ft (303 hm^3). Regulation by Jamestown reservoir, capacity, 229,470 acre-ft (283 hm^3), 365 mi (587 km) upstream since May 1953. The city of Huron and Armour and Company divert water from the river immediately upstream from the gage. Average daily pumpage was about 5.0 ft^3 (0.142 m^3). No flow Oct. 3-5, 7-10, Oct. 13 to Nov. 20, Dec. 5 to Mar. 16. Maximum observed during water year: Dissolved solids, 796 mg/1 Oct. 31; hardness, 390 mg/1 Apr. 30. Minimum observed during water year: Dissolved solids, 365 mg/1 Aug. 20; hardness, 220 mg/1 Aug. 20. Records of specific conductance of daily samples prior to Oct. 1, 1964, on file in District office. Miscellaneous samples for chemical data published for water years 1949, 1952.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	DIS-SOL-VED-PHOS-PHORUS (P) (MG/L) (00666)	TOTAL PHOS-PHORUS (P) (MG/L) (00665)	DIS-SOLVED BORON (B) (UG/L) (01020)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L) (70301)	DIS-SOLVED SOLIDS (TONS PER DAY) (70302)	DIS-SOLVED SOLIDS (TONS PER AC-FT) (70303)	HARD-NESS (CA,MG) (MG/L) (00900)	NON-CAR-BONATE HARD-NESS (MG/L) (00902)	SODIUM AD-SORP-TION RATIO (00931)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS) (00095)	PH (UNITS) (00400)
OCT.												
31...	.08	.24	.36	380	796	.00	1.08	380	31	2.7	1280	8.0
APR.												
30...	.02	.12	.51	330	713	414	.97	390	120	2.2	1180	8.6
JUNE												
02...	.02	.05	.23	220	499	760	.68	260	37	1.9	810	8.2
20...	.16	.12	.18	150	382	648	.52	230	23	1.5	700	8.4
JULY												
23...	.01	.25	.42	170	433	954	.59	240	24	1.6	670	8.2
AUG.												
13...	.02	.35	.53	180	385	1080	.52	230	0	1.3	618	8.5
20...	.05	.31	.49	170	365	922	.50	220	0	1.1	560	8.5
SEP.												
11...	.02	.15	.32	200	401	722	.55	240	0	1.2	600	8.3

TEMPERATURE (DEG. C) OF WATER , WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.0	12.0	1.0	2.0	1.0	1.0	1.0	10.0	17.0	25.0	25.0	23.0
2	12.0	9.0	1.0	2.0	1.0	1.0	2.0	11.0	19.0	25.0	23.0	21.0
3	11.0	8.0	1.0	2.0	1.0	1.0	2.0	12.0	18.0	26.0	23.0	21.0
4	11.0	7.0	1.0	2.0	1.0	1.0	4.0	13.0	18.0	27.0	23.0	20.0
5	10.0	6.0	1.0	2.0	1.0	1.0	4.0	15.0	19.0	28.0	24.0	20.0
6	9.0	4.0	1.0	2.0	1.0	1.0	4.0	16.0	18.0	27.0	22.0	19.0
7	9.0	5.0	1.0	1.0	1.0	1.0	4.0	15.0	18.0	27.0	22.0	18.0
8	9.0	5.0	0.0	1.0	1.0	1.0	4.0	14.0	18.0	26.0	22.0	17.0
9	10.0	7.0	0.0	1.0	1.0	1.0	4.0	14.0	16.0	25.0	23.0	18.0
10	10.0	5.0	1.0	1.0	1.0	1.0	4.0	13.0	16.0	25.0	23.0	18.0
11	10.0	5.0	1.0	1.0	1.0	1.0	4.0	11.0	17.0	25.0	22.0	17.0
12	10.0	4.0	1.0	1.0	1.0	1.0	4.0	11.0	17.0	22.0	23.0	15.0
13	10.0	3.0	1.0	1.0	1.0	1.0	2.0	14.0	19.0	22.0	21.0	15.0
14	10.0	1.0	1.0	1.0	1.0	1.0	4.0	16.0	20.0	22.0	22.0	15.0
15	8.0	0.0	0.0	1.0	1.0	1.0	4.0	16.0	18.0	23.0	23.0	15.0
16	9.0	0.0	0.0	1.0	1.0	1.0	4.0	16.0	19.0	24.0	22.0	15.0
17	10.0	1.0	0.0	2.0	1.0	1.0	4.0	18.0	19.0	24.0	22.0	17.0
18	9.0	2.0	0.0	2.0	1.0	1.0	4.0	19.0	19.0	25.0	20.0	16.0
19	10.0	3.0	0.0	2.0	1.0	1.0	3.0	18.0	21.0	25.0	20.0	14.0
20	10.0	3.0	0.0	2.0	1.0	1.0	4.0	18.0	22.0	24.0	23.0	12.0
21	9.0	3.0	0.0	2.0	1.0	1.0	4.0	18.0	23.0	24.0	22.0	10.0
22	10.0	3.0	0.0	1.0	1.0	1.0	4.0	20.0	22.0	25.0	22.0	11.0
23	9.0	4.0	0.0	1.0	1.0	1.0	4.0	20.0	22.0	25.0	23.0	13.0
24	9.0	3.0	0.0	1.0	1.0	1.0	6.0	18.0	24.0	24.0	23.0	12.0
25	9.0	1.0	2.0	1.0	1.0	1.0	8.0	18.0	23.0	23.0	21.0	12.0
26	8.0	1.0	2.0	1.0	1.0	1.0	11.0	18.0	24.0	24.0	19.0	12.0
27	10.0	1.0	2.0	1.0	1.0	1.0	12.0	18.0	24.0	24.0	20.0	14.0
28	10.0	1.0	2.0	1.0	1.0	1.0	12.0	19.0	24.0	24.0	20.0	13.0
29	12.0	1.0	2.0	1.0	---	1.0	12.0	20.0	25.0	25.0	22.0	12.0
30	13.0	1.0	2.0	1.0	---	1.0	13.0	20.0	25.0	25.0	23.0	12.0
31	13.0	---	2.0	1.0	---	1.0	---	17.0	---	25.0	22.0	---
MONTH	10.0	3.5	1.0	1.5	1.0	1.0	5.0	16.0	20.0	24.5	22.0	15.5

06478500 JAMES RIVER NEAR SCOTLAND, S. DAK.
(National Stream Quality Accounting Network)
(National Pesticide Water Monitoring Network)

LOCATION.--Lat 43°11'09", long 97°38'07", in SW¼SW¼ sec.30, T.97 N., R.57 W., Hutchinson County, at gaging station, 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.

PERIOD OF RECORD.--Chemical analyses: August 1956 to September 1964, July 1967 to September 1973 (monthly), October 1974 to September 1975 (monthly).
Water temperatures: January 1953 to September 1969, October 1974 to September 1975.
Prior to Nov. 28, 1972, at site 0.25 mile downstream.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED SILICA (SIO2) (MG/L) (00955)	DISSOLVED CALCIUM (CA) (MG/L) (00915)	DISSOLVED MAGNESIUM (MG) (MG/L) (00925)	DISSOLVED SODIUM (NA) (MG/L) (00930)	DISSOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	ALKALINITY AS CACO3 (MG/L) (00410)	DISSOLVED SULFATE (SO4) (MG/L) (00945)	DISSOLVED CHLORIDE (CL) (MG/L) (00940)	DISSOLVED FLUORIDE (F) (MG/L) (00950)
OCT.												
08...	1045	25	15	150	66	200	23	346	284	640	130	.7
NOV.												
14...	1030	26	13	140	75	170	11	363	298	600	89	.5
DEC.												
11...	1100	16	6.1	180	80	170	22	362	297	730	92	.4
JAN.												
15...	1100	14	11	220	100	180	23	374	307	850	91	.6
FEB.												
12...	1030	15	17	240	110	180	20	455	373	950	88	.8
MAR.												
14...	1130	30	13	230	92	160	22	405	332	820	87	.8
APR.												
11...	1130	121	6.8	170	75	130	14	253	209	650	82	.6
MAY												
14...	1030	270	2.6	94	52	130	21	277	227	370	79	.4
JUNE												
11...	1030	606	7.3	61	36	80	16	284	233	180	40	.2
JULY												
09...	1030	519	.5	57	30	63	14	269	221	150	27	.3
AUG.												
12...	1100	833	23	60	28	59	17	326	267	97	28	.2
SEP.												
10...	1130	736	22	55	24	40	13	280	230	70	18	.3

NOTE.--Carbonate (CO_3) analysis for all samples, 0.0 mg/l.

TRACE METALS

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED ARSENIC (AS) (UG/L) (01000)	SUSPENDED ARSENIC (AS) (UG/L) (01001)	TOTAL ARSENIC (AS) (UG/L) (01002)	DISSOLVED CADMIUM (CD) (UG/L) (01025)	SUSPENDED CADMIUM (CD) (UG/L) (01026)	TOTAL CADMIUM (CD) (UG/L) (01027)	DISSOLVED CHROMIUM (CR) (UG/L) (01030)	SUSPENDED CHROMIUM (CR) (UG/L) (01031)	TOTAL CHROMIUM (CR) (UG/L) (01034)	DISSOLVED COBALT (CO) (UG/L) (01035)
OCT.												
08...	1045	25	3	1	4	<1	<9	<10	0	0	0	0
JAN.												
15...	1100	14	2	0	2	2	28	30	0	10	10	2
APR.												
11...	1130	121	2	2	4	0	<10	<10	0	0	0	0
JULY												
09...	1030	519	6	0	4	0	10	10	0	10	10	2

< Less than

06478500 JAMES RIVER NEAR SCOTLAND, S. DAK.--Continued

EXTREMES.--1974-75:
Specific conductance: Maximum daily, 2,200 micromhos Dec. 24, 26; minimum daily, 565 micromhos Sept. 5.
Water temperatures: Maximum, 27.0°C July 2-8, July 18; minimum, freezing point on many days during November to April.

Period of record:
Specific conductance (1974-75): Maximum daily, 2,200 micromhos Dec. 24, 26; minimum daily, 565 micromhos Sept. 5.
Water temperatures (1974-75): Maximum, 27.0°C July 2-8, July 18; minimum, freezing point on many days during November to April.

REMARKS.--Maximum observed during water year: Dissolved solids, 1,970 mg/l Feb. 12; hardness, 1,100 mg/l Feb. 12. Minimum observed during water year: Dissolved solids, 412 mg/l Sept. 10; hardness, 240 mg/l Sept. 10.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	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)	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 DAY) (70302)	DIS-SOLVED SOLIDS (TONS PER AC-FT) (70303)	HARD-NESS (CA,MG) (MG/L) (00900)	NON-CAR-BONATE HARD-NESS (MG/L) (00902)	SODIUM AD-SORP-TION RATIO (00931)
OCT.												
08...	.03	1.7	1.7	7.7	.14	1470	1400	99.2	2.00	650	360	3.4
NOV.												
14...	.00	1.1	1.1	4.9	.14	1390	1280	97.6	1.89	660	360	2.9
DEC.												
11...	.01	1.3	1.3	5.8	.13	1590	1460	68.7	2.16	780	480	2.7
JAN.												
15...	1.7	.25	2.0	8.6	.15	1810	1660	68.4	2.46	960	650	2.5
FEB.												
12...	.75	2.1	2.9	13	.70	1970	1830	79.8	2.68	1100	680	2.4
MAR.												
14...	1.0	2.9	3.9	17	1.2	1750	1620	142	2.38	950	620	2.3
APR.												
11...	.21	2.0	2.2	9.8	.66	1350	1250	441	1.84	730	520	2.1
MAY												
14...	.00	2.2	2.2	9.7	.25	948	886	691	1.29	450	220	2.7
JUNE												
11...	.02	2.0	2.0	8.9	.14	585	561	957	.80	300	68	2.0
JULY												
09...	.02	2.1	2.1	9.4	.22	483	474	677	.66	270	45	1.7
AUG.												
12...	.01	2.0	2.0	8.9	.30	488	473	1100	.66	270	0	1.6
SEP.												
10...	.08	1.8	1.9	8.3	.39	412	380	819	.56	240	6	1.1

TRACE METALS

DATE	SUS-PENDED COBALT (CO) (UG/L) (01036)	TOTAL COBALT (CO) (UG/L) (01037)	DIS-SOLVED COPPER (CU) (UG/L) (01040)	SUS-PENDED COPPER (CU) (UG/L) (01041)	TOTAL COPPER (CU) (UG/L) (01042)	DIS-SOLVED IRON (FE) (UG/L) (01046)	TOTAL IRON (FE) (UG/L) (01045)	DIS-SOLVED LEAD (PB) (UG/L) (01049)	SUS-PENDED LEAD (PB) (UG/L) (01050)	TOTAL LEAD (PB) (UG/L) (01051)	DIS-SOLVED MAN-GANESE (MN) (UG/L) (01056)
OCT.											
08...	<50	<50	2	<8	<10	50	570	4	<96	<100	150
JAN.											
15...	<48	<50	3	7	10	40	150	6	<94	<100	610
APR.											
11...	<50	<50	2	33	35	20	340	3	97	100	360
JULY											
09...	48	50	1	39	40	0	1200	3	<97	<100	20

< Less than

06478500 JAMES RIVER NEAR SCOTLAND, S. DAK.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	PH (UNITS) (00400)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)	TEMPERATURE (DEG C) (00010)	TURBIDITY (JTU) (00070)	TOTAL ORGANIC CARBON (C) (MG/L) (00680)	FECAL COLIFORM (COL. PER 100 ML) (31616)	STREPTOCOCCI (COLONIES PER 100 ML) (31679)	TOTAL PHYTOPLANKTON (CELLS PER ML) (60050)	PERIPHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	UNCORRECTED PERIPHYTON CHLOROPHYLL A MG/SQ M (32228)	UNCORRECTED PERIPHYTON CHLOROPHYLL B MG/SQ M (32226)
OCT.												
08...	8.3	1900	10.0	7	20	B50	B160	46000	--	--	--	--
NOV.												
14...	8.5	1850	2.0	6	--	B30	B50	--	--	--	--	--
DEC.												
11...	8.4	1860	1.0	7	--	5	5	--	--	--	--	--
JAN.												
15...	7.7	1780	.0	1	12	<0	<10	2300	--	--	--	--
FEB.												
12...	7.6	2080	.0	2	--	<5	--	990	--	--	--	--
MAR.												
14...	7.8	1850	.0	3	--	<10	B15	8800	.80	.40	.3	.0
APR.												
11...	8.9	1520	2.0	13	25	B30	B140	77000	--	--	--	--
MAY												
14...	8.8	1180	17.0	17	--	B50	160	120000	--	--	--	--
JUNE												
11...	7.5	850	17.0	27	--	110	290	64000	--	--	--	--
JULY												
09...	8.0	640	28.0	19	15	70	140	--	--	--	--	--
AUG.												
12...	7.7	640	25.5	28	--	150	470	29000	9.4	6.1	1.0	.1
SEP.												
10...	7.2	580	21.0	35	--	200	280	2500	20	10	6.2	.6

B Non-ideal colony count
< Less than

TRACE METALS

DATE	SUSPENDED MANGANESE (MN) (UG/L) (01054)	TOTAL MANGANESE (MN) (UG/L) (01055)	DISSOLVED MERCURY (HG) (UG/L) (71890)	SUSPENDED MERCURY (HG) (UG/L) (71895)	TOTAL MERCURY (HG) (UG/L) (71900)	DISSOLVED SELENIUM (SE) (UG/L) (01145)	SUSPENDED SELENIUM (SE) (UG/L) (01146)	TOTAL SELENIUM (SE) (UG/L) (01147)	DISSOLVED ZINC (ZN) (UG/L) (01090)	SUSPENDED ZINC (ZN) (UG/L) (01091)	TOTAL ZINC (ZN) (UG/L) (01092)
OCT.											
08...	570	720	.2	.0	.2	1	0	0	20	0	10
JAN.											
15...	20	630	.0	.1	.1	1	0	0	20	10	30
APR.											
11...	230	590	.3	.0	.3	1	1	2	30	10	40
JULY											
09...	380	400	.0	.0	.0	0	0	0	20	0	20

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, 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)
OCT.					
08...	1045	10.0	25	124	8.4
NOV.					
14...	1030	2.0	26	140	9.8
DEC.					
11...	1100	1.0	16	175	7.6
FEB.					
12...	1030	.0	15	166	6.7
MAR.					
14...	1130	.0	30	267	22
APR.					
11...	1130	2.0	121	213	70
MAY					
14...	1030	17.0	270	264	192
JULY					
09...	1030	28.0	519	133	186
AUG.					
12...	1100	25.5	833	136	306
SEP.					
10...	1130	21.0	736	132	262

06478500 JAMES RIVER NEAR SCOTLAND, S. DAK.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1920	1950	2020	1520	1510	---	1570	1190	805	765	730	580
2	1900	1980	2000	1620	1480	1180	1700	1280	730	770	730	570
3	1940	1980	2020	1620	1520	1410	1740	1200	740	770	750	570
4	1980	1950	2000	1650	1410	1460	1640	1180	755	780	760	580
5	1950	1980	2020	1500	1440	950	1480	1170	760	770	740	565
6	1990	1980	2020	1720	1440	1160	1590	1090	790	770	750	590
7	1950	1980	1980	1520	1460	1210	1620	1060	830	770	710	570
8	2020	1950	2080	1700	1580	1420	1640	870	865	765	730	570
9	2000	1950	1980	1520	1950	1360	1520	1090	865	765	740	590
10	2050	1920	2000	1520	1650	1330	1560	1090	860	775	740	590
11	2050	1980	2100	1450	1500	1360	1700	1180	850	775	750	600
12	2050	1950	1700	1500	1660	1400	1600	1190	825	780	750	605
13	2020	1950	1820	1500	1650	1740	1730	1240	805	770	740	600
14	2080	1950	1820	1480	1530	1460	1760	1180	800	760	730	610
15	2050	1920	2050	1550	1450	1500	1720	1120	760	760	730	615
16	2020	1950	1850	1550	1470	1240	1680	1100	750	760	720	630
17	2080	1950	2100	1440	1390	1770	1850	1090	740	770	710	630
18	2050	1950	2100	1240	1420	1590	1730	1090	730	760	700	640
19	2050	1950	2050	1240	1450	1440	1670	1100	740	750	690	650
20	2020	1920	1880	1240	1420	1570	1670	1110	750	755	690	660
21	2050	1950	1920	1400	1340	1720	1630	1160	745	760	670	670
22	2040	1950	2120	1440	1330	1720	1620	1200	740	760	630	680
23	2020	1950	2100	1340	1450	1680	1520	1180	750	755	590	675
24	2020	1950	2200	1400	1460	1550	1440	1080	765	765	640	720
25	2000	1950	2150	1260	1370	1600	1460	1090	750	725	640	725
26	2050	1950	2200	1500	1280	1530	1540	1110	730	730	630	710
27	2050	1950	2020	1400	1330	1540	1630	1120	720	710	630	700
28	2050	1980	2100	1420	1140	1570	1570	1140	720	705	630	710
29	2050	1980	2050	1400	---	1580	1560	1140	730	700	630	730
30	2020	1950	2000	1480	---	1660	1500	1060	730	710	610	740
31	1980	---	2050	1440	---	1160	---	990	---	720	610	---
MONTH	2020	1960	2020	1470	1470	1460	1620	1130	771	754	694	636

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.0	11.0	0.0	0.0	0.0	0.0	0.0	10.0	17.0	26.0	25.0	23.0
2	9.0	9.0	0.0	0.0	0.0	1.0	0.0	12.0	17.0	27.0	22.0	23.0
3	10.0	7.0	0.0	0.0	0.0	0.0	0.0	12.0	18.0	27.0	23.0	21.0
4	12.0	6.0	0.0	0.0	0.0	1.0	1.0	14.0	20.0	27.0	24.0	21.0
5	10.0	6.0	0.0	0.0	0.0	1.0	1.0	16.0	19.0	27.0	24.0	19.0
6	9.0	4.0	2.0	0.0	0.0	1.0	3.0	18.0	19.0	790.0	24.0	20.0
7	9.0	5.0	0.0	0.0	0.0	1.0	2.0	17.0	19.0	27.0	23.0	19.0
8	9.0	5.0	1.0	0.0	0.0	1.0	4.0	15.0	19.0	27.0	24.0	19.0
9	9.0	7.0	3.0	0.0	0.0	1.0	4.0	15.0	18.0	26.0	23.0	18.0
10	11.0	6.0	5.0	0.0	0.0	1.0	3.0	16.0	16.0	24.0	24.0	21.0
11	13.0	5.0	2.0	0.0	0.0	1.0	3.0	16.0	17.0	24.0	23.0	18.0
12	11.0	4.0	1.0	0.0	0.0	1.0	5.0	15.0	17.0	21.0	25.0	16.0
13	11.0	4.0	2.0	0.0	0.0	0.0	4.0	17.0	19.0	21.0	22.0	15.0
14	10.0	2.0	2.0	0.0	0.0	0.0	6.0	17.0	20.0	21.0	23.0	16.0
15	9.0	1.0	0.0	0.0	0.0	1.0	6.0	16.0	17.0	23.0	22.0	17.0
16	9.0	2.0	0.0	0.0	0.0	2.0	9.0	17.0	19.0	25.0	22.0	16.0
17	9.0	2.0	0.0	0.0	0.0	3.0	10.0	19.0	20.0	25.0	22.0	16.0
18	9.0	2.0	0.0	0.0	0.0	3.0	8.0	20.0	20.0	27.0	20.0	17.0
19	9.0	4.0	0.0	0.0	0.0	4.0	7.0	20.0	22.0	25.0	21.0	15.0
20	9.0	2.0	0.0	0.0	0.0	3.0	8.0	21.0	21.0	25.0	22.0	13.0
21	10.0	2.0	0.0	0.0	0.0	3.0	8.0	20.0	22.0	25.0	24.0	13.0
22	11.0	4.0	2.0	0.0	0.0	1.0	8.0	21.0	21.0	25.0	24.0	12.0
23	10.0	4.0	0.0	0.0	0.0	2.0	10.0	21.0	22.0	25.0	24.0	13.0
24	10.0	3.0	0.0	0.0	0.0	1.0	11.0	20.0	22.0	24.0	25.0	13.0
25	9.0	2.0	0.0	0.0	0.0	0.0	12.0	20.0	22.0	24.0	20.0	12.0
26	9.0	4.0	0.0	0.0	0.0	0.0	11.0	20.0	24.0	24.0	21.0	12.0
27	10.0	2.0	0.0	0.0	0.0	1.0	15.0	19.0	24.0	25.0	21.0	12.0
28	9.0	0.0	1.0	0.0	0.0	0.0	13.0	19.0	25.0	25.0	22.0	13.0
29	13.0	0.0	0.0	0.0	---	0.0	11.0	17.0	26.0	25.0	22.0	12.0
30	11.0	0.0	0.0	0.0	---	0.0	10.0	16.0	26.0	25.0	23.0	13.0
31	12.0	---	0.0	0.0	---	2.0	---	17.0	---	26.0	23.0	---
MONTH	10.0	4.0	0.5	0.0	0.0	1.0	6.5	17.0	20.5	114.0	23.0	16.5

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, S. DAK.

LOCATION.--Lat 43°47'25", long 96°44'42", in NW¼NW¼ sec.29, T.104 N., R.49 W., Minnehaha County, at gaging station, 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.

DRAINAGE AREA.--5,060 mi² (13,100 km²), approximately, of which about 1,970 mi² (5,100 km²) is probably noncontributing.

PERIOD OF RECORD.--Chemical analyses: October 1967 to September 1973 (daily), October 1973 to September 1975 (monthly).
Water temperatures: October 1967 to September 1975.
Sediment records: October 1967 to September 1975.

EXTREMES.--1974-75:
Specific conductance: Maximum daily, 1,400 micromhos Jan. 24; minimum daily, 330 micromhos Apr. 10.
Water temperatures: Maximum, 32.0°C on several days during July and August; minimum, freezing point on many days during November to April.
Sediment concentrations: Maximum daily, 313 mg/l July 6; minimum daily, 49 mg/l Mar. 21.
Sediment discharge: Maximum daily, 509 tons Apr. 24; minimum daily, 1.7 tons Mar. 21.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED SILICA (SIO2) (MG/L) (00955)	DISSOLVED CALCIUM (CA) (MG/L) (00915)	DISSOLVED MAGNESIUM (MG) (MG/L) (00925)	DISSOLVED SODIUM (NA) (MG/L) (00930)	DISSOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	ALKALINITY AS CACO3 (MG/L) (00410)	DISSOLVED SULFATE (SO4) (MG/L) (00945)
OCT.										
02...	1000	6.3	5.3	85	50	52	7.4	221	181	300
NOV.										
04...	1055	14	2.5	84	42	57	5.9	232	190	250
19...	1030	16	12	100	47	43	5.0	290	238	230
DEC.										
03...	1200	15	15	120	55	40	6.1	343	281	260
17...	1030	11	--	--	--	--	--	--	--	--
JAN.										
05...	1215	9.7	19	140	50	49	7.2	392	322	270
09...	1055	11	13	140	63	54	6.7	402	330	310
FEB.										
06...	1100	5.6	18	150	59	60	8.3	376	308	350
MAR.										
03...	1345	6.6	21	140	56	64	7.4	394	323	280
20...	1215	12	--	--	--	--	--	--	--	--
APR.										
02...	1430	20	12	71	28	22	7.7	206	169	140
15...	1245	481	--	--	--	--	--	--	--	--
MAY										
05...	1230	333	14	100	43	20	6.0	220	180	240
15...	1000	195	--	--	--	--	--	--	--	--
JUNE										
02...	1400	73	2.7	98	49	36	6.4	283	232	240
16...	1145	80	--	--	--	--	--	--	--	--
JULY										
01...	1200	59	13	95	31	40	6.0	259	212	210
11...	0945	32	--	--	--	--	--	--	--	--
AUG.										
06...	1100	18	.3	60	41	37	7.8	154	126	230
19...	1110	12	--	--	--	--	--	--	--	--
SEP.										
04...	1200	12	.6	68	43	44	7.0	194	159	240
15...	1645	11	--	--	--	--	--	--	--	--

NOTE.--Carbonate (CO_3) analysis for all samples, 0.0 mg/l.

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, S. DAK.--Continued

EXTREMES.--Continued
Period of record:
Dissolved solids (1967-68, 1970-73): Maximum, 876 mg/1 Feb. 1-29, 1972; minimum, 172 mg/1 Mar. 12-23, 1972.
Hardness (1967-68, 1970-73): Maximum, 650 mg/1 Feb. 1-29, 1972; minimum, 120 mg/1 Mar. 12-23, 1972.
Specific conductance (1967-70, 1973-75): Maximum daily, 1,400 micromhos Jan. 24, 1975; minimum daily, 138 micromhos Apr. 9, 1969.
Water temperatures (1967-71, 1974-75): Maximum, 33.5°C July 7, 12, 16, 20, 1974; minimum, freezing point on many days during winter period.
Sediment concentrations (1968-75): Maximum daily, 619 mg/1 Apr. 19, 1974; minimum daily, 2 mg/1 Feb. 5, 1970.
Sediment discharge (1968-75): Maximum daily, 40,600 tons Apr. 9, 1969; minimum daily, 0.12 tons Mar. 5, 1969, Feb. 5, 1970.

REMARKS.--Maximum observed during water year: Dissolved solids, 916 mg/1 Mar. 3; hardness, 620 mg/1 Feb. 6.
Minimum observed during water year: Dissolved solids, 298 mg/1 Apr. 15; hardness, 290 mg/1 Apr. 2.
Sediment records good. Flow affected by ice Dec. 13 to Apr. 16. Miscellaneous samples of chemical data published for water years 1960-62, 1967.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	DIS-SOLVED CHLO-RIDE (CL) (MG/L) (00940)	DIS-SOLVED FLUO-RIDE (F) (MG/L) (00950)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	TOTAL NITRITE PLUS NITRATE (N) (MG/L) (00630)	AMMONIA NITRO-GEN (N) (MG/L) (00610)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L) (00625)	TOTAL ORGANIC NITRO-GEN (N) (MG/L) (00605)	TOTAL NITRO-GEN (N) (MG/L) (00600)	TOTAL NITRO-GEN (NO3) (MG/L) (71887)	DIS-SOL-VED-PHOS-PHORUS (P) (MG/L) (00666)
OCT.										
02...	42	.4	.01	.04	.08	1.7	1.6	1.7	7.7	.24
NOV.										
04...	54	.3	.03	.03	.10	1.7	1.6	1.7	7.7	.04
19...	32	.3	.71	.88	.10	2.0	1.9	2.9	13	.05
DEC.										
03...	39	.3	1.4	1.4	.28	1.1	.82	2.5	11	.36
17...	--	--	--	.00	.41	.98	.57	.98	4.3	--
JAN.										
05...	32	.3	1.6	1.6	1.0	2.7	1.7	4.3	19	.17
09...	54	.4	1.1	2.2	.35	1.4	1.1	3.6	16	.34
FEB.										
06...	49	.3	1.4	1.8	1.6	2.0	.40	3.8	17	.36
MAR.										
03...	52	.4	1.6	1.6	1.9	2.6	.70	4.2	19	.49
20...	--	--	--	.00	1.8	1.9	.10	1.9	8.4	--
APR.										
02...	18	1.5	1.3	1.3	1.0	2.1	1.1	3.4	15	.44
15...	--	--	--	.91	.52	1.3	.78	2.2	9.8	--
MAY										
05...	19	.2	.25	.23	.14	1.3	1.2	1.5	6.8	.04
15...	--	--	--	.02	.01	1.4	1.4	1.4	6.3	--
JUNE										
02...	34	.2	.00	.01	.13	3.2	3.1	3.2	14	.01
16...	--	--	--	.01	.03	1.6	1.6	1.6	7.1	--
JULY										
01...	33	.4	.11	.11	.38	1.8	1.4	1.9	8.5	.18
11...	--	--	--	.04	.10	2.5	2.4	2.5	11	--
AUG.										
06...	29	.3	.02	.02	.03	2.5	2.5	2.5	11	.13
19...	--	--	--	.26	.07	1.6	1.5	1.9	8.2	--
SEP.										
04...	40	.3	.10	.10	.07	1.5	1.4	1.6	7.1	.14
15...	--	--	--	.08	.00	3.3	3.3	3.4	15	--

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, S. DAK.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TOTAL PHOSPHORUS (P) (MG/L) (00665)	DISSOLVED BORON (B) (UG/L) (01020)	TOTAL ORGANIC CARBON (C) (MG/L) (00680)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L) (00340)	DISSOLVED OXYGEN (MG/L) (00300)	TURBIDITY (JTU) (00070)	SUSPENDED SOLIDS (MG/L) (70299)	IMMEDIATE COLIFORM (COL. PER 100 ML) (31501)	FECAL COLIFORM (COL. PER 100 ML) (31616)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L) (70300)
OCT.										
02...	.41	360	13	22	15.7	20	33	250	270	714
NOV.										
04...	.37	170	9.5	39	9.4	10	38	700	280	646
19...	.32	160	11	27	--	6	22	3800	420	634
DEC.										
03...	.30	150	9.2	23	14.0	5	10	4700	480	757
17...	.32	--	4.4	13	14.8	2	1	2500	390	822
JAN.										
05...	.19	140	5.6	10	--	3	4	--	--	801
09...	.38	180	7.9	15	10.4	3	0	6400	800	914
FEB.										
06...	.54	270	4.4	12	9.3	5	26	530	--	882
MAR.										
03...	.51	200	17	9	6.2	3	21	B2500	1000	916
20...	.48	--	6.7	65	10.0	20	0	1600	730	757
APR.										
02...	.51	90	13	30	8.9	3	18	--	--	413
15...	.38	--	9.9	24	12.6	18	36	B180	300	298
MAY										
05...	.27	100	20	38	13.1	45	84	250	B110	550
15...	.24	--	12	31	9.8	31	124	1600	1160	621
JUNE										
02...	.20	150	14	41	10.7	28	96	1800	830	712
16...	.32	--	9.9	32	9.6	18	48	1800	B26000	537
JULY										
01...	.34	140	12	38	9.7	19	68	890	650	616
11...	.34	--	15	36	9.5	33	92	16000	320	590
AUG.										
06...	.39	180	18	50	7.0	24	72	1600	840	521
19...	.37	--	11	36	6.5	25	68	4700	3000	530
SEP.										
04...	.34	210	11	39	5.7	1	28	1400	800	547
15...	.44	--	20	45	8.0	20	80	440	360	576

B Non-ideal colony count

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, S. DAK.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L) (70301)	DIS-SOLVED SOLIDS (TONS PER DAY) (70302)	DIS-SOLVED SOLIDS (TONS PER AC-FT) (70303)	HARD-NESS (CA,MG) (MG/L) (00900)	NON-CAR-BONATE HARD-NESS (MG/L) (00902)	SODIUM AD-SORP-TION RATIO (00931)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS) (00095)	PH (UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)
OCT.									
02...	652	12.1	.97	420	240	1.1	1020	--	5.0
NOV.									
04...	610	24.4	.88	380	190	1.3	875	8.5	4.0
19...	616	27.4	.86	440	210	.9	1000	8.4	3.0
DEC.									
03...	712	30.7	1.03	530	240	.8	940	8.2	.0
17...	--	24.4	1.12	--	--	--	1180	7.9	.0
JAN.									
05...	768	21.0	1.09	560	230	.9	1010	7.7	.0
09...	845	27.1	1.24	610	280	1.0	1290	8.0	.0
FEB.									
06...	887	13.3	1.20	620	310	1.1	980	7.7	.0
MAR.									
03...	824	16.3	1.25	580	260	1.2	1100	7.7	.0
20...	--	24.5	1.03	--	--	--	910	7.6	1.0
APR.									
02...	409	22.3	.56	290	120	.6	570	7.6	.0
15...	--	387	.41	--	--	--	445	7.7	1.0
MAY									
05...	552	495	.75	430	250	.4	840	8.6	16.5
15...	--	327	.84	--	--	--	820	8.7	16.5
JUNE									
02...	606	140	.97	450	210	.7	910	7.9	20.5
16...	--	116	.73	--	--	--	800	7.8	19.5
JULY									
01...	557	98.1	.84	360	150	.9	770	7.8	28.0
11...	--	51.0	.80	--	--	--	740	8.2	20.0
AUG.									
06...	482	25.3	.71	320	190	.9	675	8.0	23.0
19...	--	17.2	.72	--	--	--	680	8.1	22.0
SEP.									
04...	539	17.7	.74	350	190	1.0	780	7.1	20.5
15...	--	17.1	.78	--	--	--	850	7.7	14.5

TRACE METALS

DATE	TIME	INSTAN-TANEOUS DIS-CHARGE (CFS) (00061)	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)
NOV.										
19...	1030	16	0	10	250	100	190	--	2	170
DEC.										
17...	1030	11	2	<10	170	<100	100	--	4	80
FEB.										
06...	1100	5.6	2	2600	160	<100	300	.1	5	40
MAR.										
03...	1345	6.6	1	20	440	<100	480	.0	7	40
20...	1215	12	2	<10	180	<100	410	--	3	30
APR.										
15...	1245	481	6	<10	990	<100	100	--	3	20
MAY										
15...	1000	195	6	<10	780	<100	410	.0	1	6
JUNE										
16...	1145	80	4	<10	860	<100	470	--	1	20
JULY										
11...	0945	32	7	20	1500	<100	450	.0	2	20
AUG.										
19...	1110	12	3	10	2000	<100	500	.0	2	20
SEP.										
15...	1045	11	2	10	1300	<100	500	--	--	10

< Less than

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, S. DAK.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1020	970	950	1200	1330	1260	700	720	840	860	760	820
2	1000	980	970	1200	1370	1250	750	830	850	860	860	840
3	1000	980	980	1180	1350	1250	700	830	880	880	770	850
4	1000	980	1000	1160	1340	1240	700	840	850	870	765	860
5	1000	980	1000	1120	1400	1230	650	800	850	880	720	850
6	1020	970	1050	1260	1350	1230	600	800	840	870	780	850
7	1040	950	1080	1270	1340	1200	520	810	860	870	800	860
8	1030	950	1120	1250	1340	1110	520	845	850	850	800	870
9	1000	940	1150	1200	1330	1220	380	865	850	870	810	870
10	1020	940	1180	1250	1320	1160	330	880	860	860	810	870
11	1020	920	1060	1300	1320	1190	355	850	850	860	820	860
12	1020	920	950	1300	1340	1220	360	880	850	870	820	880
13	1030	930	1000	1300	1300	1120	380	845	820	850	850	900
14	1030	970	1000	1320	1320	1210	390	910	800	860	850	870
15	1050	980	1020	1320	1320	1190	450	900	760	870	860	880
16	1050	940	1050	1300	1330	900	480	905	760	880	870	880
17	1030	950	1100	1280	1340	820	420	920	740	880	850	900
18	1030	950	1150	1300	1320	680	530	920	750	880	820	890
19	1020	940	1150	1300	1320	810	500	930	730	880	850	890
20	1010	980	1120	1320	1360	880	510	920	740	880	850	400
21	1000	1000	1130	1300	1350	900	520	925	740	890	820	890
22	990	980	1140	1330	1330	900	500	930	760	900	750	880
23	970	960	1160	1360	1330	900	500	900	790	880	810	880
24	970	970	1180	1400	1330	850	520	930	790	890	840	870
25	960	970	1200	1350	1330	850	570	940	810	910	840	870
26	950	930	1210	1350	1220	900	500	940	820	880	820	860
27	950	970	1190	1370	1340	950	500	935	830	890	840	840
28	940	960	1200	1370	1320	850	550	925	840	870	820	850
29	930	950	1220	1380	---	900	600	915	835	850	790	840
30	920	950	1250	1350	---	800	600	900	840	850	790	850
31	950	---	1250	1330	---	750	---	890	---	860	800	---
MONTH	998	959	1100	1290	1330	1020	520	882	813	873	814	851

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, S. DAK.--Continued

TEMPERATURE (DEG. C) OF WATER , WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.0	11.0	---	0.0	0.0	0.0	0.0	12.0	21.0	30.0	25.0	---
2	11.0	10.0	---	0.0	0.0	---	1.0	11.0	22.0	31.0	29.0	23.0
3	15.5	---	---	0.0	0.0	---	1.0	16.5	20.0	32.0	30.0	25.0
4	15.5	5.5	---	0.0	0.0	0.0	2.0	17.0	21.0	32.0	30.0	22.0
5	---	8.0	---	0.0	0.0	0.0	3.5	---	---	28.0	28.0	23.0
6	10.0	8.0	---	0.0	0.0	0.0	---	---	22.0	30.0	26.0	---
7	15.5	9.0	---	0.0	0.0	0.0	4.5	18.5	25.5	32.0	28.0	22.0
8	15.0	---	---	0.0	0.0	0.0	2.0	15.5	---	28.0	29.0	22.0
9	15.5	9.0	---	0.0	0.0	0.0	1.0	19.0	18.0	28.0	32.0	25.0
10	14.5	---	1.0	0.0	0.0	0.0	3.5	19.0	19.0	26.5	---	29.0
11	15.5	3.5	1.0	0.0	0.0	0.0	2.0	---	16.5	25.5	29.0	17.0
12	---	3.5	1.0	0.0	0.0	0.0	4.5	20.0	22.0	24.0	30.0	15.0
13	11.0	1.0	---	0.0	0.0	0.0	---	20.0	22.0	26.0	26.0	13.0
14	10.0	1.0	---	0.0	0.0	0.0	4.5	20.0	21.0	26.5	---	18.0
15	12.0	4.5	---	0.0	0.0	0.0	---	22.0	22.0	29.0	27.0	19.0
16	15.5	5.5	---	0.0	0.0	---	3.5	22.0	21.0	30.0	28.0	20.0
17	16.5	9.0	0.0	0.0	0.0	1.0	5.0	23.5	24.0	---	---	18.0
18	14.5	4.5	1.0	0.0	0.0	2.5	3.5	25.5	---	26.0	23.0	17.0
19	14.5	8.0	1.0	0.0	0.0	3.5	---	25.5	26.0	29.0	28.0	---
20	12.0	5.5	1.0	0.0	0.0	3.5	---	26.5	26.5	30.0	28.0	---
21	15.5	5.5	0.0	0.0	0.0	4.5	---	25.5	26.5	27.0	26.0	15.0
22	14.5	4.5	1.0	0.0	0.0	4.5	---	25.5	26.5	30.0	26.0	19.0
23	15.5	3.5	---	0.0	0.0	2.5	---	---	28.0	27.0	29.0	18.0
24	15.5	3.5	---	0.0	0.0	---	10.0	21.0	26.5	28.0	29.0	18.0
25	15.0	0.0	---	0.0	0.0	---	10.5	24.5	29.0	29.0	25.0	17.0
26	14.5	2.5	0.0	0.0	0.0	---	---	21.0	28.0	29.0	24.0	20.0
27	13.5	3.5	1.0	0.0	0.0	---	---	21.0	---	32.0	27.0	15.0
28	15.5	---	1.0	0.0	0.0	---	---	21.0	29.0	30.0	24.0	---
29	---	---	1.0	0.0	---	---	---	22.0	29.0	32.0	26.0	18.0
30	13.5	---	1.0	0.0	---	---	10.0	21.0	27.0	30.0	24.0	12.0
31	---	---	0.0	0.0	---	---	---	20.0	---	29.0	27.0	---
MONTH	14.0	5.5	---	0.0	0.0	---	---	20.5	24.0	29.0	27.5	19.0

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, S. DAK.--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DAY	OCTOBER MEAN DISCHARGE (CFS)	OCTOBER MEAN CONCENTRATION (MG/L)	OCTOBER SEDIMENT DISCHARGE (TONS/DAY)	NOVEMBER MEAN DISCHARGE (CFS)	NOVEMBER MEAN CONCENTRATION (MG/L)	NOVEMBER SEDIMENT DISCHARGE (TONS/DAY)	DECEMBER MEAN DISCHARGE (CFS)	DECEMBER MEAN CONCENTRATION (MG/L)	DECEMBER SEDIMENT DISCHARGE (TONS/DAY)
1	6.2	148	2.5	15	124	5.0	16	116	5.0
2	6.3	169	2.9	14	143	5.4	16	115	5.0
3	7.4	171	3.4	14	117	4.4	15	114	4.6
4	9.1	191	4.7	14	120	4.5	15	112	4.5
5	9.6	170	4.4	14	124	4.7	16	111	4.8
6	9.6	151	3.9	14	135	5.1	16	110	4.8
7	11	160	4.8	14	133	5.0	15	108	4.4
8	11	166	4.9	15	120	4.9	14	107	4.0
9	11	154	4.6	15	111	4.5	13	106	3.7
10	10	160	4.3	15	115	4.7	13	104	3.7
11	9.9	179	4.8	14	121	4.6	14	115	4.3
12	13	180	6.3	14	100	3.8	14	126	4.8
13	14	178	6.7	14	114	4.3	14	126	4.8
14	14	223	8.4	14	100	3.8	13	128	4.5
15	15	136	5.5	15	92	3.7	12	128	4.1
16	15	158	6.4	14	96	3.6	12	130	4.2
17	15	136	5.5	15	96	3.9	11	132	3.9
18	15	161	6.5	16	88	3.8	10	140	3.8
19	15	129	5.2	16	102	4.4	9.0	145	3.5
20	15	172	7.0	15	96	3.9	8.5	165	3.8
21	16	153	6.6	16	101	4.4	8.1	183	4.0
22	15	175	7.1	16	92	4.0	7.9	178	3.8
23	15	136	5.5	15	103	4.2	7.7	172	3.6
24	14	153	5.8	16	81	3.5	7.5	166	3.4
25	13	114	4.0	16	92	4.0	7.9	160	3.4
26	13	141	5.0	16	111	4.8	8.8	152	3.6
27	14	145	5.5	16	120	5.2	10	150	4.1
28	14	146	5.5	16	120	5.2	12	148	4.8
29	14	140	5.3	15	118	4.8	13	146	5.1
30	15	135	5.5	16	117	5.1	13	144	5.1
31	15	130	5.3	---	---	---	13	142	5.0
MONTH	390.1	---	163.8	449	---	133.2	375.4	---	132.1

DAY	JANUARY MEAN DISCHARGE (CFS)	JANUARY MEAN CONCENTRATION (MG/L)	JANUARY SEDIMENT DISCHARGE (TONS/DAY)	FEBRUARY MEAN DISCHARGE (CFS)	FEBRUARY MEAN CONCENTRATION (MG/L)	FEBRUARY SEDIMENT DISCHARGE (TONS/DAY)	MARCH MEAN DISCHARGE (CFS)	MARCH MEAN CONCENTRATION (MG/L)	MARCH SEDIMENT DISCHARGE (TONS/DAY)
1	12	140	4.5	5.3	160	2.3	6.8	127	2.3
2	12	138	4.5	5.7	164	2.5	6.7	126	2.3
3	12	136	4.4	6.0	168	2.7	6.6	126	2.2
4	11	134	4.0	5.8	173	2.7	6.4	183	3.2
5	11	132	3.9	5.6	100	1.5	6.4	180	3.1
6	11	131	3.9	5.6	82	1.2	6.7	170	3.1
7	11	122	3.6	5.2	90	1.3	7.1	165	3.2
8	11	145	4.3	4.8	100	1.3	7.4	160	3.2
9	11	145	4.3	4.5	110	1.3	7.6	155	3.2
10	10	143	3.9	4.2	120	1.4	7.3	147	2.9
11	9.3	143	3.6	4.4	136	1.6	7.8	140	2.9
12	8.3	140	3.1	4.5	136	1.7	8.8	130	3.1
13	7.6	140	2.9	4.7	138	1.8	8.0	115	2.5
14	6.8	138	2.5	4.9	138	1.8	8.5	100	2.3
15	6.2	135	2.3	5.2	140	2.0	8.9	90	2.2
16	6.0	135	2.2	5.4	150	2.2	9.3	85	2.1
17	6.1	132	2.2	5.6	154	2.3	9.6	80	2.1
18	6.2	130	2.2	5.8	140	2.2	10	68	1.8
19	6.4	130	2.2	5.4	140	2.0	11	60	1.8
20	6.5	129	2.3	5.1	134	1.8	12	55	1.8
21	6.6	130	2.3	5.2	128	1.8	13	49	1.7
22	6.7	133	2.4	5.4	125	1.8	14	80	3.0
23	6.9	136	2.5	5.7	120	1.8	13	100	3.5
24	7.1	140	2.7	6.0	115	1.9	12	125	4.1
25	6.9	145	2.7	6.2	120	2.0	12	150	4.9
26	6.6	150	2.7	6.4	135	2.3	13	170	6.0
27	6.2	168	2.8	6.6	150	2.7	14	190	7.2
28	5.8	173	2.7	6.9	164	3.1	16	210	9.1
29	5.5	170	2.5	---	---	---	18	235	11
30	5.3	168	2.4	---	---	---	20	260	14
31	5.0	164	2.2	---	---	---	21	280	16
MONTH	250.0	---	94.7	152.1	---	55.0	328.9	---	131.8

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, S. DAK.--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	20	300	16	488	156	206	73	224	44
2	20	303	16	452	173	211	71	272	52
3	20	300	16	407	179	197	71	244	47
4	20	290	16	368	195	194	72	263	51
5	21	286	16	333	195	175	66	265	47
6	23	288	18	303	195	160	64	268	46
7	35	290	27	284	195	150	63	200	34
8	90	290	70	256	170	118	63	250	43
9	390	270	284	241	176	115	70	287	54
10	400	260	281	235	185	117	67	276	50
11	380	240	246	226	190	116	67	256	46
12	340	218	200	225	200	121	69	282	53
13	400	170	184	222	162	97	70	258	49
14	450	120	146	207	271	151	77	200	42
15	480	130	168	194	216	113	82	184	41
16	490	134	177	182	254	125	78	140	29
17	536	136	197	165	280	125	76	107	22
18	578	206	321	153	225	93	80	140	30
19	532	220	316	144	237	92	82	172	38
20	494	230	307	139	190	71	88	154	37
21	532	240	345	125	267	90	85	152	35
22	626	250	423	125	298	101	86	223	52
23	714	260	501	120	350	113	83	216	48
24	693	272	509	120	391	127	82	219	48
25	612	142	235	111	159	48	82	207	46
26	598	150	242	100	134	36	79	247	53
27	609	160	263	100	129	35	73	255	50
28	630	170	289	100	269	73	71	261	50
29	581	188	295	89	200	48	67	190	34
30	532	179	257	69	159	30	62	217	36
31	---	---	---	73	145	29	---	---	---
MONTH	11846	---	6381	6356	---	3477	2219	---	1307
	JULY			AUGUST			SEPTEMBER		
1	60	146	24	13	172	6.0	19	170	8.7
2	55	171	25	19	134	6.9	17	175	8.0
3	50	165	22	20	170	9.2	14	176	6.7
4	48	148	19	19	167	8.6	12	159	5.2
5	45	244	30	18	134	6.5	12	155	5.0
6	43	313	36	18	202	9.8	11	149	4.4
7	39	192	20	18	238	12	11	192	5.7
8	37	184	18	18	162	7.9	9.6	161	4.2
9	35	187	18	16	188	8.1	8.9	139	3.3
10	35	158	15	14	200	7.6	7.8	150	3.2
11	32	186	16	12	211	6.8	8.6	155	3.6
12	31	164	14	12	159	5.2	10	140	3.8
13	31	218	18	13	138	4.8	11	200	5.9
14	31	160	13	14	150	5.7	12	184	6.0
15	30	168	14	12	167	5.4	11	145	4.3
16	28	166	13	9.3	143	3.6	11	150	4.5
17	25	175	12	7.6	145	3.0	11	211	6.3
18	24	185	12	12	145	4.7	12	154	5.0
19	20	139	7.5	11	181	5.4	13	155	5.4
20	18	134	6.5	9.4	119	3.0	14	155	5.9
21	17	155	7.1	7.7	138	2.9	14	156	5.9
22	15	166	6.7	9.0	130	3.2	14	157	5.9
23	13	149	5.2	11	160	4.8	14	162	6.1
24	13	180	6.3	13	157	5.5	14	129	4.9
25	18	211	10	14	140	5.3	15	184	7.5
26	22	196	12	17	134	6.2	15	163	6.6
27	24	210	14	20	146	7.9	16	156	6.7
28	24	204	13	22	152	9.0	16	135	5.8
29	19	229	12	22	140	8.3	16	118	5.1
30	14	225	8.5	21	201	11	14	152	5.7
31	10	200	5.4	21	167	9.5	---	---	---
MONTH	906	---	453.2	463.0	---	203.8	383.9	---	165.3

TOTAL DISCHARGE FOR YEAR (FT^3/S-DAYS) 24119.4 TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 12697.9

06482020 BIG SIOUX RIVER AT NORTH CLIFF AVENUE, AT SIOUX FALLS, S. DAK.

LOCATION.--Lat 43°34'01", long 96°42'39", in SW¼NW¼ sec.10, T.101 N., R.49 W., Minnehaha County, at gaging station, 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.

PERIOD OF RECORD.--Chemical analyses: August 1973 to September 1975.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED SILICA (SIO2) (MG/L) (00955)	DISSOLVED CALCIUM (CA) (MG/L) (00915)	DISSOLVED MAGNESIUM (MG) (MG/L) (00925)	DISSOLVED SODIUM (NA) (MG/L) (00930)	DISSOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	ALKALINITY AS CACO3 (MG/L) (00410)	DISSOLVED SULFATE (SO4) (MG/L) (00945)	DISSOLVED CHLORIDE (CL) (MG/L) (00940)	TOTAL NITRITE PLUS NITRATE (N) (MG/L) (00630)
OCT.												
02...	1050	23	--	--	--	--	--	--	--	--	--	1.3
NOV.												
04...	1000	24	--	--	--	--	--	--	--	--	--	.00
19...	1105	31	--	--	--	--	--	--	--	--	--	.00
DEC.												
03...	1400	33	--	--	--	--	--	--	--	--	--	.00
17...	1200	31	--	--	--	--	--	--	--	--	--	.00
JAN.												
05...	1345	26	20	100	38	190	15	297	244	260	230	4.2
09...	1245	27	--	--	--	--	--	--	--	--	--	.00
FEB.												
06...	1415	23	--	--	--	--	--	--	--	--	--	1.2
MAR.												
03...	1020	22	22	83	41	330	18	177	145	270	470	2.0
20...	1400	43	--	--	--	--	--	--	--	--	--	.56
APR.												
02...	1615	38	--	--	--	--	--	--	--	--	--	1.3
15...	1135	514	--	--	--	--	--	--	--	--	--	1.0
MAY												
05...	1145	382	--	--	--	--	--	--	--	--	--	.15
15...	1330	242	--	--	--	--	--	--	--	--	--	.10
JUNE												
02...	1300	87	--	--	--	--	--	--	--	--	--	.09
16...	1345	125	--	--	--	--	--	--	--	--	--	1.0
JULY												
01...	1415	70	16	87	45	160	12	244	200	240	210	1.5
11...	1130	39	--	--	--	--	--	--	--	--	--	3.7
AUG.												
06...	1300	62	--	--	--	--	--	--	--	--	--	2.9
19...	1300	44	--	--	--	--	--	--	--	--	--	4.1
SEP.												
05...	0930	45	--	--	--	--	--	--	--	--	--	2.1
15...	1215	34	--	--	--	--	--	--	--	--	--	6.1

NOTE.--Carbonate (CO_3) analysis for all samples, 0.0 mg/l.

TRACE METALS

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	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 MANGANESE (MN) (UG/L) (01055)	TOTAL MERCURY (HG) (UG/L) (71900)	TOTAL SELENIUM (SE) (UG/L) (01147)	TOTAL ZINC (ZN) (UG/L) (01092)
NOV.										
19...	1105	31	0	10	420	100	240	--	1	70
DEC.										
17...	1200	31	1	10	360	<100	230	.0	2	140
FEB.										
06...	1415	23	2	2600	270	100	330	.3	0	90
MAR.										
03...	1020	22	2	10	310	<100	390	.0	1	90
20...	1400	43	3	10	660	<100	510	--	1	80
APR.										
15...	1135	514	1	<10	1800	<100	310	--	2	30
MAY										
15...	1330	242	4	10	410	<100	300	.0	1	10
JUNE										
16...	1345	125	3	<10	1000	<100	330	--	1	40
JULY										
11...	1130	39	4	30	830	<100	450	.0	2	50
AUG.										
19...	1300	44	3	10	770	<100	320	.1	1	50
SEP.										
15...	1215	34	3	10	740	<100	370	--	--	50

NOTE.--Carbonate (CO_3) analysis for all samples, 0.0 mg/l.

< Less than

06482020 BIG SIOUX RIVER AT NORTH CLIFF AVENUE, AT SIOUX FALLS, S. DAK.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	AMMONIA NITROGEN (N) (MG/L) (00610)	TOTAL KJELDAHL NITROGEN (N) (MG/L) (00625)	TOTAL ORGANIC NITROGEN (N) (MG/L) (00605)	TOTAL NITROGEN (N) (MG/L) (00600)	TOTAL NITROGEN (NO3) (MG/L) (71887)	TOTAL PHOSPHORUS (P) (MG/L) (00665)	TOTAL ORGANIC CARBON (C) (MG/L) (00680)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L) (00340)	DISSOLVED OXYGEN (MG/L) (00300)	TURBIDITY (JTU) (00070)	SUSPENDED SOLIDS (MG/L) (70299)
OCT.											
02...	34	41	7.0	42	190	13	23	54	5.5	4	7
NOV.											
04...	22	20	.00	20	89	7.7	14	38	8.1	6	12
19...	13	--	.00	--	--	8.6	20	55	6.7	7	20
DEC.											
03...	13	18	5.0	18	80	9.8	16	53	8.4	6	8
17...	19	19	.00	19	84	9.9	19	64	8.8	5	14
JAN.											
05...	22	24	2.0	28	120	6.9	35	88	--	10	23
09...	22	32	10	32	140	12	23	85	8.0	6	0
FEB.											
06...	17	17	.00	18	81	10	19	51	12.2	10	23
MAR.											
03...	14	16	2.0	18	80	9.6	23	53	9.0	3	11
20...	9.8	12	2.2	13	56	8.1	22	59	10.6	20	16
APR.											
02...	16	18	2.0	19	85	6.4	19	54	10.9	26	58
15...	.76	1.9	1.1	2.9	13	.42	10	32	13.7	22	56
MAY											
05...	1.1	3.0	1.9	3.2	14	.84	18	44	10.3	22	72
15...	7.1	8.3	1.2	8.4	37	3.1	12	36	9.0	11	0
JUNE											
02...	11	11	.00	11	49	4.0	18	44	9.7	24	64
16...	5.7	7.0	1.3	8.0	35	3.0	12	39	10.0	16	80
JULY											
01...	6.2	8.8	2.6	10	46	4.5	.0	45	--	11	36
11...	4.5	6.9	2.4	11	47	6.2	14	44	8.0	190	68
AUG.											
06...	3.4	4.8	1.4	7.7	34	4.5	16	51	8.2	18	44
19...	3.0	3.9	.90	8.0	35	6.0	11	33	9.0	16	32
SEP.											
05...	2.6	4.3	1.7	6.4	28	4.0	14	70	7.7	2	48
15...	.04	10	10	16	71	8.1	18	41	8.7	15	0

DATE	IMMEDIATE COLIFORM (COL. PER 100 ML) (31501)	FECAL COLIFORM (COL. PER 100 ML) (31616)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L) (70300)	DISSOLVED SOLIDS (TONS PER DAY) (70302)	DISSOLVED SOLIDS (TONS PER AC-FT) (70303)	HARDNESS (CA+MG) (MG/L) (00900)	NONCARBONATE HARDNESS (MG/L) (00902)	SODIUM ADSORPTION RATIO (00931)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)	PH (UNITS) (00400)	TEMPERATURE (DEG C) (00010)
OCT.											
02...	80000	60800	1380	85.7	1.88	--	--	--	2500	--	18.5
NOV.											
04...	350000	210000	1010	65.4	1.37	--	--	--	1250	7.6	12.0
19...	910000	94000	1160	97.1	1.58	--	--	--	1770	7.8	11.0
DEC.											
03...	720000	44000	1240	110	1.69	--	--	--	1850	7.7	10.5
17...	B1860000	168000	1280	107	1.74	--	--	--	1820	7.6	10.0
JAN.											
05...	--	--	1060	74.4	1.44	410	160	4.1	1750	7.5	6.5
09...	430000	166000	1550	113	2.11	--	--	--	2270	7.7	12.0
FEB.											
06...	106000	--	1310	81.4	1.78	--	--	--	1880	7.7	8.5
MAR.											
03...	520000	36000	1430	84.9	1.94	380	230	7.4	2100	7.7	7.0
20...	102000	60000	1060	123	1.44	--	--	--	1570	7.7	10.0
APR.											
02...	--	--	1050	108	1.43	--	--	--	1770	7.8	9.0
15...	132000	500	297	412	.40	--	--	--	470	7.8	3.0
MAY											
05...	1220	360	662	683	.90	--	--	--	885	8.6	16.0
15...	8250	<0	819	535	1.11	--	--	--	1180	8.4	18.5
JUNE											
02...	6100	1700	781	183	1.06	--	--	--	1120	7.6	19.5
16...	830	3200	690	233	.94	--	--	--	1000	7.3	20.5
JULY											
01...	--	--	925	175	1.26	400	200	3.5	1280	7.7	28.0
11...	11600	8870	1010	106	1.37	--	--	--	1440	7.7	23.5
AUG.											
06...	7300	1300	752	126	1.02	--	--	--	1050	7.7	26.0
19...	110000	70000	822	97.7	1.12	--	--	--	1160	8.0	23.5
SEP.											
05...	30000	<0	901	109	1.23	--	--	--	1420	7.6	20.0
15...	300	B40	940	86.3	1.28	--	--	--	960	7.8	17.5

B Non-ideal colony count
< Less than

06485500 BIG SIOUX RIVER AT AKRON, IOWA
(National Stream Quality Accounting Network)
(National Pesticide Water Monitoring Network)

LOCATION.--Lat 42°49'42", long 96°33'45", in NE¼SW¼ sec.31, T.93 N., R.48 W., Plymouth County, Iowa, at gaging station, 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 mi^2 (23,390 km^2), approximately, of which about 1,970 mi^2 (5,100 km^2) is probably noncontributing.

PERIOD OF RECORD.--Chemical analyses: June 1967 to September 1974 (partial-record), October 1974 to September 1975 (monthly).
Specific conductance: October 1974 to September 1975.
Water temperatures: October 1974 to September 1975.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED SILICA (SIO2) (MG/L) (00955)	DISSOLVED CALCIUM (CA) (MG/L) (00915)	DISSOLVED MAGNESIUM (MG) (MG/L) (00925)	DISSOLVED SODIUM (NA) (MG/L) (00930)	DISSOLVED POTASSIUM (K) (MG/L) (00935)	BICARBONATE (HCO3) (MG/L) (00440)	ALKALINITY AS CACO3 (MG/L) (00410)	DISSOLVED SULFATE (SO4) (MG/L) (00945)	DISSOLVED CHLORIDE (CL) (MG/L) (00940)	DISSOLVED FLUORIDE (F) (MG/L) (00950)
OCT.												
10...	1000	85	5.2	110	42	80	9.0	310	254	230	110	.4
NOV.												
15...	1040	69	11	110	43	74	5.2	309	253	230	78	.5
DEC.												
13...	1050	86	10	130	49	79	7.9	297	244	270	91	.4
JAN.												
16...	1145	27	20	130	47	88	8.4	357	293	250	120	.5
FEB.												
21...	1045	52	22	140	48	110	10	381	313	280	140	.5
MAR.												
26...	1130	832	9.3	49	20	17	7.6	149	122	83	24	.4
APR.												
24...	1150	1580	14	89	28	20	6.3	220	180	170	20	.3
MAY												
23...	1045	612	2.1	87	42	32	6.4	222	182	210	33	.4
JUNE												
25...	0945	1480	14	77	31	19	6.0	240	197	110	22	.4
JULY												
10...	1045	290	.2	43	39	40	5.3	146	120	170	45	.3
AUG.												
13...	0845	147	.7	67	33	50	7.5	192	157	170	61	.3
SEP.												
11...	1000	194	.1	42	38	44	6.4	128	105	180	50	.4

NOTE.--Carbonate (CO_3) analysis for all samples, 0.0 mg/l.

TRACE METALS

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	DISSOLVED ARSENIC (AS) (UG/L) (01000)	SUSPENDED ARSENIC (AS) (UG/L) (01001)	TOTAL ARSENIC (AS) (UG/L) (01002)	DISSOLVED CADMIUM (CD) (UG/L) (01025)	SUSPENDED CADMIUM (CD) (UG/L) (01026)	TOTAL CADMIUM (CD) (UG/L) (01027)	DISSOLVED CHROMIUM (CR) (UG/L) (01030)	SUSPENDED CHROMIUM (CR) (UG/L) (01031)	TOTAL CHROMIUM (CR) (UG/L) (01034)	DISSOLVED COBALT (CO) (UG/L) (01035)
OCT.												
10...	1000	85	9	4	13	0	<10	<10	0	0	0	0
JAN.												
16...	1145	27	2	2	4	1	19	20	0	0	0	1
APR.												
24...	1150	1580	0	5	5	0	<10	<10	0	10	10	1
JULY												
10...	1045	290	2	1	3	1	<9	<10	0	10	10	1

DATE	SUSPENDED COBALT (CO) (UG/L) (01036)	TOTAL COBALT (CO) (UG/L) (01037)	DISSOLVED COPPER (CU) (UG/L) (01040)	SUSPENDED COPPER (CU) (UG/L) (01041)	TOTAL COPPER (CU) (UG/L) (01042)	DISSOLVED IRON (FE) (UG/L) (01046)	TOTAL IRON (FE) (UG/L) (01045)	DISSOLVED LEAD (PB) (UG/L) (01049)	SUSPENDED LEAD (PB) (UG/L) (01050)	TOTAL LEAD (PB) (UG/L) (01051)	DISSOLVED MANGANESE (MN) (UG/L) (01056)
OCT.											
10...	<50	<50	1	<9	<10	40	680	3	<97	100	80
JAN.											
16...	<49	<50	3	17	20	50	650	9	<91	<100	1500
APR.											
24...	<49	<50	2	<8	<10	20	9200	3	<97	<100	20
JULY											
10...	<49	<50	3	27	30	0	3500	2	98	100	10

< Less than

06485500 BIG SIOUX RIVER AT AKRON, IOWA--Continued

EXTREMES.--1974-75:
Specific conductance: Maximum daily, 1,580 micromhos Jan. 30; minimum daily, 400 micromhos June 6.
Water temperatures: Maximum, 31.0°C July 19; minimum, freezing point on several days in March and April.

Period of record:
Specific conductance: Maximum daily, 1,580 micromhos Jan. 30, 1975; minimum daily, 400 micromhos June 6, 1975.
Water temperatures: Maximum, 31.0°C July 19, 1975; minimum, freezing point on several days during winter months.

REMARKS.--Miscellaneous samples for chemical data published for water years 1962, 1966-67, and for sediment data for water year 1967. Maximum observed during water year: Dissolved solids, 960 mg/l Feb. 21; hardness, 550 mg/l Feb. 21. Minimum observed during water year: Dissolved solids, 315 mg/l Mar. 26; hardness, 200 mg/l Mar. 21.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	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)	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 DAY) (70302)	DIS-SOLVED SOLIDS (TONS PER AC-FT) (70303)	HARD-NESS (CA,MG) (MG/L) (00900)	NON-CAR-BONATE HARD-NESS (MG/L) (00902)	SODIUM AD-SORP-TION RATIO (00931)
OCT.												
10...	1.2	3.0	4.2	19	.98	798	740	183	1.09	450	190	1.6
NOV.												
15...	2.7	2.0	4.7	21	1.5	766	704	143	1.04	450	200	1.5
DEC.												
13...	2.8	3.0	5.8	26	1.9	845	784	196	1.15	530	280	1.5
JAN.												
16...	1.8	.23	2.0	9.0	1.9	892	842	65.0	1.21	520	230	1.7
FEB.												
21...	1.3	3.6	4.9	22	2.5	960	938	135	1.31	550	230	2.0
MAR.												
26...	3.5	3.1	6.6	29	.30	315	284	708	.43	200	83	.5
APR.												
24...	3.3	2.2	5.5	24	.59	477	456	2030	.65	340	160	.5
MAY												
23...	.56	2.6	3.2	14	.13	541	522	894	.74	390	210	.7
JUNE												
25...	4.9	3.1	8.0	35	.59	434	398	1730	.59	320	120	.5
JULY												
10...	.01	3.9	3.9	17	.48	423	415	331	.58	270	150	1.1
AUG.												
13...	.00	2.6	2.6	12	.50	498	484	198	.68	300	150	1.3
SEP.												
11...	.02	2.6	2.6	12	.45	469	424	246	.64	260	160	1.2

TRACE METALS

DATE	SUS-PENDED MAN-GANESE (MN) (UG/L) (01054)	TOTAL MAN-GANESE (MN) (UG/L) (01055)	DIS-SOLVED MERCURY (HG) (UG/L) (71890)	SUS-PENDED MERCURY (HG) (UG/L) (71895)	TOTAL MERCURY (HG) (UG/L) (71900)	DIS-SOLVED SELE-NIUM (SE) (UG/L) (01145)	SUS-PENDED SELE-NIUM (SE) (UG/L) (01146)	TOTAL SELE-NIUM (SE) (UG/L) (01147)	DIS-SOLVED ZINC (ZN) (UG/L) (01090)	SUS-PENDED ZINC (ZN) (UG/L) (01091)	TOTAL ZINC (ZN) (UG/L) (01092)
OCT.											
10...	230	310	.0	.0	.0	2	1	3	30	60	90
JAN.											
16...	100	1600	.0	.1	.1	6	0	2	30	20	50
APR.											
24...	340	360	.1	.1	.2	3	1	4	0	70	70
JULY											
10...	520	530	.0	.0	.0	3	0	3	10	60	70

06485500 BIG SIOUX RIVER AT AKRON, IOWA--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	PH (UNITS) (00400)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)	TEMPERATURE (DEG C) (00010)	TURBIDITY (JTU) (00070)	TOTAL ORGANIC CARBON (C) (MG/L) (00680)	FECAL COLIFORM (COL. PER 100 ML) (31616)	STREPTOCOCCI (COLONIES PER 100 ML) (31679)	TOTAL PHYTOPLANKTON (CELLS PER ML) (60050)	PERIPHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	UNCORRECTED PERIPHYTON CHLOROPHYLL A MG/SQ M (32228)	UNCORRECTED PERIPHYTON CHLOROPHYLL B MG/SQ M (32226)
OCT.												
10...	8.6	1080	11.5	10	13	3	10	140000	--	--	--	--
NOV.												
15...	8.5	1060	.5	7	--	70	10	15000	--	--	--	--
DEC.												
13...	8.0	1150	.0	3	--	10	144	--	--	--	--	--
JAN.												
16...	7.4	1200	.0	3	6.7	B30	B30	1600	--	--	--	--
FEB.												
21...	7.5	1350	.0	2	--	B20	B20	1300	--	--	--	--
MAR.												
26...	7.7	420	.0	28	--	210	200	3500	--	--	--	--
APR.												
24...	7.7	660	9.0	30	--	--	--	7100	--	--	--	--
MAY												
23...	8.2	720	22.0	27	--	B100	240	180000	--	--	--	--
JUNE												
25...	8.2	580	23.0	25	--	1380	1020	36000	--	--	--	--
JULY												
10...	8.4	660	24.0	28	26	B40	B80	330000	--	--	--	--
AUG.												
13...	8.3	670	21.5	60	--	750	8200	300000	73	34	22	2.7
SEP.												
11...	7.5	700	19.0	35	--	160	260	150000	--	--	--	--

B Non-ideal colony count

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, 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)
OCT.					
10...	1000	11.5	85	88	20
NOV.					
15...	1040	.5	69	108	20
DEC.					
13...	1050	.0	86	87	2.0
FEB.					
21...	1045	.0	52	99	14
MAR.					
26...	1130	.0	832	79	177
APR.					
24...	1150	9.0	1580	216	921
JUNE					
25...	0945	23.0	1480	617	2470
JULY					
10...	1045	24.0	290	240	188
AUG.					
13...	0845	21.5	147	237	94
SEP.					
11...	1000	19.0	194	150	79

06485500 BIG SIOUX RIVER AT AKRON, IOWA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1160	1100	---	1430	1540	1330	670	590	545	880	815	770
2	1250	1080	1400	1430	1570	1240	710	750	525	850	860	750
3	1280	1160	1480	1380	1440	1300	780	820	660	830	800	730
4	1250	1190	1530	1360	1440	1380	890	820	630	805	940	705
5	1260	1210	1400	1350	1440	1350	830	840	440	790	850	715
6	1230	1210	1370	1370	1520	1370	770	855	400	785	690	715
7	1230	1180	1400	1340	1500	1330	790	850	410	780	740	720
8	1280	1140	1460	1360	1360	1340	700	855	600	750	780	690
9	1340	1100	1490	1350	1480	1340	540	860	620	720	790	690
10	1320	1150	1460	1310	1380	1380	490	860	650	720	815	695
11	1300	1180	1480	1280	1540	1380	440	865	700	720	850	700
12	1310	1230	1360	1280	1500	1380	490	860	760	730	880	760
13	1260	1200	1300	1270	1470	1340	530	855	745	725	880	795
14	1300	1180	1340	1260	1520	1280	530	860	710	710	890	780
15	1360	1160	1320	1340	1410	1350	520	850	710	710	930	775
16	1390	1130	1330	1330	1400	1340	550	840	750	740	860	765
17	1280	1160	1390	1350	1440	1280	600	860	770	765	910	750
18	1190	1190	1380	1340	1460	740	600	880	720	770	950	770
19	1140	1140	1390	1370	1480	950	650	885	720	790	955	800
20	1150	1220	1380	1340	1570	720	690	880	630	795	910	805
21	1200	1190	1340	1380	1470	570	700	880	670	790	895	875
22	1240	1210	1320	1350	1390	725	720	840	620	820	930	875
23	1250	1230	1360	1340	1390	760	740	830	680	810	790	880
24	1190	1230	1370	1350	1400	520	740	885	610	760	500	850
25	1200	1270	1300	1380	1430	510	800	890	580	780	480	820
26	1180	1300	1360	1400	1430	490	760	880	675	790	525	855
27	1220	1230	1360	1530	1400	580	750	880	730	830	710	850
28	1250	1200	1390	1480	1380	600	730	840	770	860	750	910
29	1240	1170	1380	1550	---	625	780	860	790	880	495	895
30	1240	1220	1360	1580	---	710	730	845	800	930	730	950
31	1170	---	1400	1550	---	690	---	840	---	860	830	---
MONTH	1250	1190	1390	1380	1460	1030	674	845	654	790	798	788

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	---	1.0	1.0	1.0	1.0	0.0	10.0	18.0	28.0	25.0	---
2	8.0	---	1.0	1.0	1.0	2.0	0.0	11.0	16.0	28.0	22.0	---
3	10.0	---	1.0	1.0	1.0	1.0	0.0	10.0	17.0	28.0	23.0	---
4	15.0	---	1.0	1.0	1.0	2.0	0.0	12.0	21.0	28.0	25.0	---
5	11.0	---	2.0	1.0	1.0	2.0	1.0	16.0	19.0	28.0	25.0	---
6	9.0	---	2.0	1.0	1.0	2.0	2.0	18.0	20.0	30.0	24.0	---
7	7.0	---	2.0	1.0	1.0	2.0	4.0	17.0	20.0	27.0	22.0	---
8	10.0	---	1.0	1.0	1.0	2.0	3.0	16.0	20.0	27.0	23.0	---
9	10.0	---	1.0	2.0	1.0	1.0	2.0	16.0	18.0	25.0	23.0	20.0
10	12.0	---	1.0	1.0	1.0	1.0	1.0	16.0	16.0	25.0	25.0	20.0
11	15.0	---	1.0	1.0	1.0	1.0	1.0	17.0	18.0	26.0	27.0	20.0
12	12.0	---	2.0	1.0	1.0	1.0	3.0	16.0	17.0	26.0	24.0	15.0
13	11.0	---	1.0	1.0	1.0	1.0	6.0	16.0	22.0	26.0	21.0	15.0
14	10.0	---	1.0	1.0	1.0	1.0	6.0	16.0	21.0	26.0	22.0	16.0
15	7.0	---	1.0	1.0	1.0	1.0	5.0	16.0	21.0	24.0	25.0	17.0
16	10.0	---	1.0	1.0	1.0	2.0	7.0	19.0	21.0	24.0	22.0	17.0
17	10.0	---	2.0	1.0	2.0	2.0	9.0	17.0	22.0	24.0	22.0	18.0
18	14.0	---	1.0	1.0	2.0	2.0	8.0	20.0	21.0	27.0	20.0	18.0
19	10.0	---	1.0	1.0	2.0	2.0	6.0	20.0	23.0	31.0	20.0	14.0
20	9.0	---	1.0	1.0	2.0	2.0	5.0	22.0	23.0	30.0	24.0	14.0
21	9.0	---	1.0	1.0	2.0	3.0	7.0	21.0	25.0	25.0	27.0	12.0
22	12.0	---	2.0	1.0	1.0	2.0	7.0	22.0	25.0	24.0	24.0	13.0
23	11.0	---	1.0	1.0	1.0	1.0	8.0	24.0	23.0	25.0	25.0	13.0
24	12.0	---	1.0	1.0	1.0	0.0	9.0	23.0	23.0	23.0	25.0	14.0
25	11.0	---	1.0	1.0	1.0	0.0	12.0	21.0	24.0	27.0	24.0	12.0
26	8.0	---	1.0	1.0	1.0	0.0	11.0	18.0	25.0	24.0	22.0	17.0
27	12.0	---	1.0	1.0	2.0	0.0	13.0	18.0	24.0	24.0	24.0	14.0
28	14.0	---	1.0	1.0	2.0	0.0	12.0	19.0	26.0	25.0	23.0	12.0
29	15.0	---	1.0	1.0	---	0.0	12.0	17.0	27.0	26.0	23.0	12.0
30	12.0	---	1.0	1.0	---	0.0	10.0	17.0	28.0	26.0	24.0	14.0
31	14.0	---	1.0	1.0	---	1.0	---	16.0	---	26.0	27.0	---
MONTH	11.0	---	1.0	1.0	1.5	1.0	5.5	17.5	21.5	26.0	23.5	---

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

GRAND RIVER BASIN

06357000 SHADEHILL RESERVOIR AT SHADEHILL, S. DAK. (LAT 45 45 12 LONG 102 12 12)

DATE	TIME	DIS-SOLVED SILICA (SIO2) (MG/L) (00955)	DIS-SOLVED CAL-CIUM (CA) (MG/L) (00915)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L) (00925)	DIS-SOLVED SODIUM (NA) (MG/L) (00930)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L) (00935)	BICAR-BONATE (HCO3) (MG/L) (00440)	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)
OCT.											
08...	1300	6.1	44	27	300	10	385	336	520	6.4	.4
MAY											
27...	1700	4.9	45	31	270	9.2	350	287	490	6.0	.3
AUG.											
07...	0830	5.1	45	31	300	9.2	369	303	600	6.1	.3

DATE	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	DIS-SOL-VED-PHOS-PHORUS (P) (MG/L) (00666)	TOTAL PHOS-PHORUS (P) (MG/L) (00665)	DIS-SOLVED BORON (B) (UG/L) (01020)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L) (70301)	DIS-SOLVED SOLIDS (TONS PER AC-FT) (70303)	HARD-NESS (CA,MG) (MG/L) (00900)	NON-CAR-BONATE HARD-NESS (MG/L) (00902)	SODIUM AD-SORP-TION RATIO (00931)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS) (00095)	PH (UNITS) (00400)
OCT.											
08...	.08	.03	.04	460	1120	1.52	220	0	8.8	1700	--
MAY											
27...	.13	.00	.02	400	1030	1.40	240	0	7.6	1530	--
AUG.											
07...	.15	.03	.03	380	1180	1.60	240	0	8.4	1750	8.2

SPECIFIC CONDUCTANCE MEASUREMENTS, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

CROW CREEK BASIN

DATE	TIME	INSTAN-TANEOUS DIS-CHARGE (CFS) (00061)	TEMPER-ATURE (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS) (00095)
06442950 - CROW CREEK NEAR GANN VALLEY, S. DAK. (LAT 43 59 29 LONG 099 13 07)				
OCT., 1974				
17...	1715	.00	--	--
NOV.				
14...	1010	.00	--	--
DEC.				
11...	1250	.00	--	--
JAN., 1975				
09...	0845	.00	--	--
FEB.				
06...	1400	.00	--	--
MAR.				
06...	0830	.00	--	--
APR.				
03...	0840	.00	--	--
11...	1520	12	2.5	570
18...	1320	104	9.0	580
MAY				
02...	0935	7.7	10.0	1020
22...	0825	1.0	15.5	1280
JUNE				
19...	1455	5.0	21.0	1270
JULY				
14...	1210	.00	--	--
AUG.				
14...	1515	.00	--	--
SEP.				
11...	1545	.00	--	--

SPECIFIC CONDUCTANCE MEASUREMENTS, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

WHITE RIVER BASIN

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	TEMPERATURE (DEG C) (00010)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)
06445980 - WHITE CLAY C NR OGLALA, S. DAK. (LAT 43 08 46 LONG 102 40 58)				
OCT., 1974				
22...	1100	1.2	9.0	678
NOV.				
20...	1400	1.7	3.0	600
DEC.				
19...	0945	1.6	.0	840
JAN., 1975				
15...	0945	3.9	.5	670
FEB.				
12...	1015	6.0	.0	580
APR.				
07...	1130	.20	.5	520
MAY				
06...	1045	11	13.5	460
JUNE				
03...	1345	9.0	25.0	490
JULY				
21...	1245	.60	23.0	635
AUG.				
28...	0930	1.5	19.0	500
SEP.				
16...	1130	1.9	16.0	495

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	TEMPERATURE (DEG C) (00010)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)
06449100 - LITTLE WHITE RIVER NEAR VETAL, S. DAK. (LAT 43 06 03 LONG 101 13 49)				
OCT., 1974				
16...	1050	30	4.5	340
NOV.				
12...	1055	22	3.0	300
DEC.				
01...	0915	12	.0	307
JAN., 1975				
07...	1035	22	.0	300
FEB.				
06...	0820	19	.0	350
MAR.				
04...	0850	41	1.0	360
04...	0855	41	1.0	360
APR.				
10...	1320	125	3.0	300
30...	1220	160	8.5	330
30...	1225	160	8.5	160
MAY				
20...	1230	49	11.5	360
JUNE				
17...	1240	44	20.0	330
JULY				
22...	0900	21	20.0	340
AUG.				
12...	1325	19	22.5	310
SEP.				
10...	0950	16	19.0	300

SPECIFIC CONDUCTANCE MEASUREMENTS, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

WHITE RIVER BASIN--Continued

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	TEMPERATURE (DEG C) (00010)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)
06449400 - ROSEBUD CREEK AT ROSEBUD S.DAK. (LAT 43 14 09 LONG 100 51 12)				
NOV., 1974				
12...	1345	7.0	5.0	365
DEC.				
11...	1235	6.3	.0	360
JAN., 1975				
07...	1420	6.6	.5	370
FEB.				
05...	1110	4.8	.0	360
MAR.				
04...	1250	6.8	2.0	360
04...	1255	6.8	2.0	360
APR.				
02...	0900	10	1.0	290
10...	1630	10	5.5	--
30...	1645	9.2	11.5	360
30...	1650	9.2	11.5	360
MAY				
20...	1525	7.1	14.5	340
JUNE				
17...	1535	7.4	20.0	320
JULY				
22...	1310	5.1	25.5	305
AUG.				
13...	0910	4.1	18.5	330
SEP.				
10...	1350	4.0	20.0	335

JAMES RIVER BASIN

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	TEMPERATURE (DEG C) (00010)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)
06473000 - JAMES RIVER AT ASHTON, S. DAK. (LAT 45 00 02 LONG 098 28 57)				
OCT., 1974				
02...	1000	.00	--	--
08...	1315	.09	--	--
29...	1505	.01	--	--
NOV.				
25...	1430	.00	--	--
25...	1500	.00	--	--
DEC.				
16...	1415	.00	--	--
JAN., 1975				
13...	1440	.00	--	--
FEB.				
10...	1635	.00	--	--
MAR.				
11...	1530	.00	--	--
APR.				
09...	1040	2.9	.5	1260
26...	1700	161	9.0	1120
MAY				
06...	1250	310	14.5	570
28...	1430	629	19.0	700
JUNE				
17...	1430	670	20.5	640
JULY				
15...	1110	821	23.0	660
AUG.				
13...	1225	1060	22.0	550
SEP.				
10...	1050	655	18.5	730

SPECIFIC CONDUCTANCE MEASUREMENTS, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

JAMES RIVER BASIN--Continued

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	TEMPERATURE (DEG C) (00010)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)
06473750 - WOLF C NR REE HEIGHTS S DAK (LAT 44 36 25 LONG 099 13 54)				
OCT., 1974				
01...	1115	.00	--	--
29...	1030	.00	--	--
NOV.				
25...	1030	.00	--	--
DEC.				
16...	1045	.00	--	--
JAN., 1975				
13...	1020	.00	--	--
FEB.				
10...	1100	.00	--	--
MAR.				
11...	1020	.00	--	--
APR.				
08...	1135	.00	--	--
15...	1150	1.2	--	--
22...	1315	.24	9.0	--
22...	1350	.24	9.0	--
MAY				
05...	1220	.02	17.0	290
05...	1225	.02	17.0	--
27...	1130	.10	14.5	200
27...	1135	.10	14.5	200
JUNE				
16...	1130	.00	--	--
JULY				
14...	1045	.00	--	--
AUG.				
12...	0920	.00	--	--
SEP.				
09...	1145	.00	--	--

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	TEMPERATURE (DEG C) (00010)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)
06474000 - TURTLE CREEK NEAR TULARE, S. DAK. (LAT 44 44 06 LONG 098 35 09)				
OCT., 1974				
01...	1445	.00	--	--
29...	1305	.00	--	--
NOV.				
25...	1305	.00	--	--
DEC.				
16...	1325	.00	--	--
JAN., 1975				
13...	1250	.00	--	--
FEB.				
10...	1420	.00	--	--
MAR.				
11...	1310	.00	--	--
APR.				
08...	1405	.13	--	--
15...	1440	5.1	2.0	--
23...	0930	2.1	7.0	510
MAY				
05...	1540	.55	18.5	630
28...	0900	.23	16.0	710
JUNE				
16...	1620	.27	24.0	810
JULY				
14...	1430	.00	--	--
AUG.				
12...	1400	.00	--	--
SEP.				
09...	1425	.00	--	--

SPECIFIC CONDUCTANCE MEASUREMENTS, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

JAMES RIVER BASIN--Continued

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	TEMPERATURE (DEG C) (00010)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)
06474300 - MEDICINE CREEK NEAR ZELL, S. DAK. (LAT 44 45 52 LONG 098 42 13)				
OCT., 1974				
01...	1420	.00	--	--
29...	1240	.01	14.5	2000
NOV.				
25...	1200	.02	--	--
DEC.				
16...	1240	.00	--	--
JAN., 1975				
13...	1215	.00	--	--
FEB.				
10...	1300	.00	--	--
MAR.				
11...	1235	.00	--	--
APR.				
08...	1320	.00	--	--
15...	1340	10	25.0	--
22...	1720	6.3	10.5	--
MAY				
05...	1355	1.9	18.5	1080
28...	0820	.51	12.0	1460
JUNE				
16...	1520	.42	24.0	1600
JULY				
14...	1400	.02	23.5	1570
AUG.				
12...	1330	.01	24.0	2000
SEP.				
09...	1425	.00	--	--

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	TEMPERATURE (DEG C) (00010)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)
06475000 - JAMES RIVER NEAR REDFIELD, S. DAK. (LAT 44 55 13 LONG 098 25 52)				
OCT., 1974				
02...	0930	.00	--	--
29...	1405	.00	--	--
DEC.				
16...	1415	.00	--	--
JAN., 1975				
13...	1340	.00	--	--
FEB.				
10...	1515	.00	--	--
MAR.				
11...	1400	.00	--	--
APR.				
08...	1630	12	.0	--
23...	1225	156	8.0	--
MAY				
06...	1035	249	14.5	780
28...	1155	581	18.0	700
JUNE				
17...	1055	642	20.5	650
JULY				
15...	0915	828	22.5	660
AUG.				
13...	0955	1010	22.0	580
SEP.				
10...	0930	624	18.0	690

SPECIFIC CONDUCTANCE MEASUREMENTS, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

BIG SIOUX RIVER BASIN

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	TEMPERATURE (DEG C) (00010)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)
06479529 - STRAY HORSE CREEK NEAR CASTLEWOOD, S. DAK. (LAT 44 43 52 LONG 096 57 23)				
OCT., 1974				
01...	1640	.00	--	--
NOV.				
05...	1345	.02	4.0	675
DEC.				
04...	1220	.00	--	--
JAN., 1975				
07...	1400	.00	--	--
FEB.				
04...	1120	.00	--	--
MAR.				
04...	1440	.00	--	--
APR.				
01...	1325	.00	--	--
16...	1310	70	1.0	550
MAY				
06...	1710	6.2	16.0	830
JUNE				
03...	1530	.35	21.0	990
JULY				
08...	1310	.05	28.0	820
AUG.				
05...	1110	.04	24.0	770
SEP.				
03...	1100	.03	18.0	1130

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS) (00061)	TEMPERATURE (DEG C) (00010)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)
06479640 - HIDEWOOD CREEK NEAR ESTELLINE, S. DAK. (LAT 44 36 42 LONG 096 54 17)				
OCT., 1974				
01...	1520	.00	--	--
NOV.				
05...	1245	.18	3.0	650
DEC.				
04...	1200	.08	.0	1600
JAN., 1975				
07...	1300	.03	.0	1440
FEB.				
04...	1000	.00	--	--
MAR.				
04...	1400	.00	--	--
APR.				
01...	1225	.00	--	--
16...	1155	6.5	1.0	520
MAY				
06...	1530	22	16.0	860
JUNE				
03...	1430	3.2	21.0	1030
JULY				
08...	1520	2.2	27.0	820
AUG.				
05...	1240	1.2	23.5	720
SEP.				
03...	1200	.26	19.0	1000

CHEMICAL ANALYSES, OCTOBER 1974 TO SEPTEMBER 1975

STATION NUMBER	LOCAL IDENTIFIER	COUNTY	SITE	DATE OF SAMPLE	TIME	DISSOLVED SILICA (SIO2) (MG/L) (00955)	DISSOLVED IRON (FE) (UG/L) (01046)	DISSOLVED MANGANESE (MN) (UG/L) (01056)	DISSOLVED CALCIUM (CA) (MG/L) (00915)
451431098061001	121N61W36DDDD	013	GW	74-10-10	1415	29	610	--	300
		013	GW	75-06-11	1300	25	480	--	290
451436098233201	121N63W34DDDD	013	GW	74-10-10	1500	33	240	--	130
		013	GW	75-06-11	1505	30	30	--	120
451802098183002	121N62W 9CCCC2	013	GW	74-10-11	1110	36	20	--	73
451759098333501	121N63W15AAAB	013	GW	74-10-10	1610	30	720	--	80
		013	GW	75-06-11	1550	27	600	--	72
451947098355504	121N65W 1AAAA4	013	GW	74-10-11	1430	26	20	--	330
		013	GW	75-06-11	1435	24	40	--	420
452312098210401	122N63W12DDD	013	GW	74-10-11	1145	32	290	--	60
		013	GW	75-06-11	1200	29	680	--	66
452312098283002	122N64W13AAAA2	013	GW	74-10-11	1350	28	20	--	82
		013	GW	75-06-12	0825	27	70	--	82
452915098271501	123N63W 8BBBB	013	GW	74-10-10	1740	30	3000	--	350
		013	GW	75-06-11	0825	28	3100	--	320
452456098233101	123N63W34DDD	013	GW	74-10-11	1230	29	80	--	210
		013	GW	75-06-10	1620	28	1900	--	200
453428098194202	124N62W 8BBBB2	013	GW	74-10-11	1005	29	20	--	59
		013	GW	75-06-11	1030	26	70	--	57
454431098271301	124N63W 5CCCC	013	GW	74-10-11	0830	29	910	--	86
		013	GW	75-06-11	0910	27	1100	--	80
453800098222000	125N63W13CCCC	013	GW	74-10-11	0920	26	720	--	350
453800098222002	125N63W13CCCC2	013	GW	75-06-11	0950	25	1200	--	320
443749097494901	113N58W 5BABB	025	GW	75-06-26	1345	29	3900	1300	250
443620097464101	113N58W10DDAA	025	GW	75-06-27	1445	36	4500	1100	320
443846097332801	114N56W33AABC	025	GW	75-06-02	1400	26	220	2800	210
444044097485301	114N58W16CBCC	025	GW	75-06-26	1145	29	1700	1700	190
443847097462701	114N58W26CCCD	025	GW	75-05-19	--	32	3800	1700	250
443757097570901	114N59W32CDCA	025	GW	75-05-19	--	24	610	700	390
443757097530101	114N59W35DCDD	025	GW	75-06-26	1045	30	1700	200	130
444907097475401	116N58W33AABA	025	GW	75-06-18	1549	28	690	7700	270
445327097525201	116N59W 2ABAB	025	GW	75-05-20	--	31	3900	930	180
444914097545601	116N59W27CCCC	025	GW	75-06-05	1322	26	80	1500	200
445432097372301	117N57W25DCCA	025	GW	75-06-12	1345	31	1400	210	150
445648097503201	117N58W18AADD	025	GW	75-06-03	1510	29	7000	560	250
445403097480301	117N58W33ADDA	025	GW	75-06-03	1100	27	4300	580	160
445822097540801	117N59W 3ADDA	025	GW	75-05-20	--	29	4000	470	210
450321097332401	118N 56W 4DADD	025	GW	75-06-19	1458	19	4300	100	180
450032097363401	118N56W19CDCC	025	GW	75-06-19	1542	15	1300	240	250
450903097323501	119N 56W 3ABBB	025	GW	75-06-19	1358	32	140	740	140
441451098525501	109N67W15BCCC	059	GW	75-06-18	1445	8.9	11000	280	400
441609099040101	109N69W 1DDCD	059	GW	75-05-19	1100	10	4500	170	370
441653099153301	109N70W 4BABD	059	GW	75-05-19	1200	12	2500	170	420
442402098464801	111N66W21CCCA	059	GW	75-09-10	1300	9.0	50	60	540
442652098553101	111N67W 6DA	059	GW	75-05-19	1430	10	6700	110	160
442625099024603	111N68W 7AAD3	059	GW	75-05-19	1245	8.4	4400	110	240
442904098471002	112N66W29AABC2	059	GW	75-05-19	1630	10	1700	20	18
442904098471003	112N66W29AABC3	059	GW	75-05-19	1600	12	1600	110	300
443647098482501	113N66W 7ADD	059	GW	75-05-20	1240	10	2200	160	330
443616098480501	113N66W17BBAA	059	GW	75-05-20	1145	10	4000	60	66
443220099100501	113N69W 6DDBD	059	GW	75-06-18	1130	12	590	40	62
443600099100001	113N69W17BCCB	059	GW	75-06-18	1200	10	1400	140	400
443931098542001	114N67W29ADAA	059	GW	75-05-20	1340	12	2100	140	400
444135099094301	114N69W 8CDC	059	GW	75-05-20	1500	11	2500	160	410
444558098424401	115N66W13DCDC	059	GW	75-05-21	1115	9.8	360	40	36

CHEMICAL ANALYSES, OCTOBER 1974 TO SEPTEMBER 1975

STATION NUMBER	DATE OF SAMPLE	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L) (00925)	DIS-SOLVED SODIUM (NA) (MG/L) (00930)	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 NITRITE PLUS NITRATE (N) (MG/L) (00631)
451431098061001	74-10-10	290	1600	20	1020	--	837	4200	150	.3	3.1
	75-06-11	290	1700	21	1060	0	869	4600	150	.4	2.9
451436098233201	74-10-10	35	200	18	375	--	308	270	200	.2	.01
	75-06-11	35	190	17	372	0	305	310	200	.3	.00
451802098183002	74-10-11	47	6.5	6.0	296	--	243	110	33	.2	.22
451759098333501	74-10-10	8.9	430	12	571	--	468	410	240	.2	.00
	75-06-11	22	440	12	585	0	480	440	250	.3	2.2
451947098355504	74-10-11	110	30	12	364	--	299	890	85	.2	.02
	75-06-11	140	36	14	365	0	299	1300	110	.2	.00
452312098210401	74-10-11	15	690	13	924	--	758	290	510	.2	.00
	75-06-11	17	690	13	930	0	763	300	510	.2	2.8
452312098283002	74-10-11	24	700	17	615	--	504	83	930	.3	.04
	75-06-12	25	710	16	621	0	509	83	940	.3	.03
452915098271501	74-10-10	160	510	16	550	--	451	1800	260	.3	.01
	75-06-11	150	490	16	623	0	511	1700	250	.4	.14
452456098233101	74-10-11	51	220	14	442	--	363	700	96	.2	.16
	75-06-10	51	210	14	447	0	367	710	94	.2	.04
453428098194202	74-10-11	20	5.9	6.1	291	--	239	8.3	1.1	.3	.19
	75-06-11	19	4.4	6.7	278	0	228	8.4	2.6	.3	.20
454431098271301	74-10-11	25	27	4.1	341	--	280	75	20	.2	.01
	75-06-11	26	26	4.3	340	0	279	67	20	.2	.02
453800098222000	74-10-11	380	1200	27	446	--	366	3700	610	.3	.00
453800098222002	75-06-11	380	1200	28	457	0	375	4000	520	.3	.39
443749097494901	75-06-26	94	200	17	357	0	293	1100	31	.3	.48
443620097464101	75-06-27	160	370	28	387	0	317	1900	53	.3	.08
443846097332801	75-06-02	60	81	12	338	0	277	660	5.3	.4	.60
444044097485301	75-06-26	60	220	12	292	0	240	880	62	.3	.99
443847097462701	75-05-19	93	190	19	377	0	309	1100	25	.3	.05
443757097570901	75-05-19	140	470	30	542	0	445	1800	150	.2	23
443757097530101	75-06-26	49	530	14	372	0	305	1300	50	.3	.74
444907097475401	75-06-18	120	260	19	406	0	333	1300	41	.5	.00
445327097525201	75-05-20	53	20	5.9	418	0	343	340	7.3	.3	.02
444914097545601	75-06-05	68	37	9.9	426	0	349	500	3.9	.3	.00
445432097372301	75-06-12	72	540	11	417	0	342	1400	84	.2	.06
445648097503201	75-06-03	92	180	13	463	0	380	980	17	.2	.01
445403097480301	75-06-03	54	220	15	441	0	362	750	8.3	.3	.11
445822097540801	75-05-20	71	280	9.8	412	0	338	970	40	.2	.36
450321097332401	75-06-19	76	57	6.4	386	0	317	540	4.7	.2	.05
450032097363401	75-06-19	190	200	8.5	188	0	154	1600	17	.1	.08
450903097323501	75-06-19	71	130	13	332	0	272	620	36	.3	1.3
441451098525501	75-06-18	93	110	23	145	0	119	1300	130	2.6	.01
441609099040101	75-05-19	82	300	27	224	0	184	1300	300	2.8	.01
441653099153301	75-05-19	97	56	20	166	0	136	1300	80	3.0	.00
442402098464801	75-09-10	32	1400	19	55	0	45	1300	2200	2.4	.23
442652098553101	75-05-19	46	790	26	329	0	270	760	890	2.2	.04
442625099024603	75-05-19	72	210	22	113	0	93	1100	68	2.1	.02
442904098471002	75-05-19	7.2	1300	18	629	0	516	6.8	1600	2.4	.03
442904098471003	75-05-19	79	200	21	160	0	131	1200	96	2.5	.00
443647098482501	75-05-20	80	170	22	164	0	135	1200	94	2.7	.02
443616098480501	75-05-20	21	510	12	266	0	218	880	150	2.4	.03
443220099100501	75-06-18	23	440	16	281	0	230	740	190	2.5	.00
443600099100001	75-06-18	95	70	22	168	0	138	1300	81	2.8	.02
443931098542001	75-05-20	100	87	21	167	0	137	1300	94	3.0	.02
444135099094301	75-05-20	97	73	21	166	0	136	1300	84	3.0	.07
444558098424401	75-05-21	11	560	11	297	0	244	790	190	2.3	.09

CHEMICAL ANALYSES, OCTOBER 1974 TO SEPTEMBER 1975

STATION NUMBER	DATE OF SAMPLE	AMMONIA NITROGEN (N) (MG/L) (00610)	TOTAL NITRITE (N) (MG/L) (00615)	TOTAL NITRATE (N) (MG/L) (00620)	TOTAL NITRITE PLUS NITRATE (N) (MG/L) (00630)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) (70301)	HARDNESS (CA,MG) (MG/L) (00900)	NONCARBONATE HARDNESS (MG/L) (00902)	PERCENT SODIUM (00932)	SODIUM ADSORPTION RATIO (00931)	BROMIDE (BR) (MG/L) (71870)
451431098061001	74-10-10	--	--	--	--	7110	1900	1100	64	16	--
	75-06-11	--	--	--	--	7610	1900	1000	66	17	--
451436098233201	74-10-10	--	--	--	--	1070	470	160	47	4.0	--
	75-06-11	--	--	--	--	1090	440	140	47	3.9	--
451802098183002	74-10-11	--	--	--	--	459	380	130	4	.1	--
451759098333501	74-10-10	--	--	--	--	1490	240	0	79	12	--
	75-06-11	--	--	--	--	1560	270	0	77	12	--
451947098355504	74-10-11	--	--	--	--	1660	1300	980	5	.4	--
	75-06-11	--	--	--	--	2220	1600	1300	5	.4	--
452312098210401	74-10-11	--	--	--	--	2070	210	0	87	21	--
	75-06-11	--	--	--	--	2100	230	0	86	20	--
452312098283002	74-10-11	--	--	--	--	2170	300	0	82	17	--
	75-06-12	--	--	--	--	2190	310	0	82	18	--
452915098271501	74-10-10	--	--	--	--	3400	1500	1100	42	5.7	--
	75-06-11	--	--	--	--	3270	1400	910	43	5.7	--
452456098233101	74-10-11	--	--	--	--	1540	730	370	39	3.5	--
	75-06-10	--	--	--	--	1530	710	340	39	3.4	--
453428098194202	74-10-11	--	--	--	--	275	230	0	5	.2	--
	75-06-11	--	--	--	--	263	220	0	4	.1	--
454431098271301	74-10-11	--	--	--	--	436	320	38	15	.7	--
	75-06-11	--	--	--	--	420	310	28	15	.6	--
453800098222000	74-10-11	--	--	--	--	6510	2400	2100	51	11	--
453800098222002	75-06-11	--	--	--	--	6700	2400	2000	52	11	--
443749097494901	75-06-26	--	--	--	--	1910	1000	720	30	2.7	--
443620097464101	75-06-27	--	--	--	--	3070	1500	1100	35	4.2	--
443846097332801	75-06-02	--	--	--	--	1230	770	500	18	1.3	--
444044097485301	75-06-26	--	--	--	--	1610	720	480	39	3.6	--
443847097462701	75-05-19	--	--	--	--	1900	1000	700	29	2.6	--
443757097570901	75-05-19	--	--	--	--	3380	1600	1100	39	5.2	--
443757097530101	75-06-26	--	--	--	--	2300	530	220	68	10	--
444907097475401	75-06-18	--	--	--	--	2250	1200	840	32	3.3	--
445327097525201	75-05-20	--	--	--	--	849	670	320	6	.3	--
444914097545601	75-06-05	--	--	--	--	1060	780	430	9	.6	--
445432097372301	75-06-12	--	--	--	--	2500	670	330	63	9.1	--
445648097503201	75-06-03	--	--	--	--	1800	1000	630	28	2.5	--
445403097480301	75-06-03	--	--	--	--	1460	620	260	43	3.8	--
445822097540801	75-05-20	--	--	--	--	1820	820	480	42	4.3	--
450321097332401	75-06-19	--	--	--	--	1080	760	450	14	.9	--
450032097363401	75-06-19	--	--	--	--	2380	1400	1300	24	2.3	--
450903097323501	75-06-19	--	--	--	--	1220	640	370	30	2.2	--
441451098525501	75-06-18	--	--	--	--	2150	1400	1300	15	1.3	--
441609099040101	75-05-19	--	--	--	--	2510	1300	1100	34	3.7	--
441653099153301	75-05-19	--	--	--	--	2080	1500	1300	8	.6	--
442402098464801	75-09-10	--	--	--	--	5530	1500	1400	67	16	--
442652098553101	75-05-19	--	--	--	--	2860	590	320	73	14	--
442625099024603	75-05-19	--	--	--	--	1780	900	800	33	3.1	--
442904098471002	75-05-19	--	--	--	--	3280	76	0	97	66	--
442904098471003	75-05-19	--	--	--	--	1990	1100	940	28	2.7	--
443647098482501	75-05-20	--	--	--	--	1990	1200	1000	24	2.2	--
443616098480501	75-05-20	--	--	--	--	1790	250	33	81	14	--
443220099100501	75-06-18	--	--	--	--	1630	250	19	78	12	--
443600099100001	75-06-18	--	--	--	--	2070	1400	1300	10	.8	--
443931098542001	75-05-20	--	--	--	--	2100	1400	1300	12	1.0	--
444135099094301	75-05-20	--	--	--	--	2080	1400	1300	10	.8	--
444558098424401	75-05-21	--	--	--	--	1760	140	0	89	21	--

CHEMICAL ANALYSES, OCTOBER 1974 TO SEPTEMBER 1975

STATION NUMBER	DATE OF SAMPLE	IODIDE (I) (MG/L) (71865)	CYANIDE (CN) (MG/L) (00720)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)	PH (UNITS) (00400)	TEMPERATURE (DEG C) (00010)	DISSOLVED BORON (B) (UG/L) (01020)
451431098061001	74-10-10	--	--	8200	6.8	8.8	1900
	75-06-11	--	--	9000	7.4	6.5	730
451436098233201	74-10-10	--	--	1800	6.3	9.0	1000
	75-06-11	--	--	1740	8.0	8.8	1000
451802098183002	74-10-11	--	--	7850	7.6	8.1	100
451759098333501	74-10-10	--	--	2550	5.2	7.9	940
	75-06-11	--	--	2500	7.6	8.0	1000
451947098355504	74-10-11	--	--	2300	6.7	8.8	110
	75-06-11	--	--	2800	7.4	8.8	30
452312098210401	74-10-11	--	--	3650	7.8	8.1	2200
	75-06-11	--	--	3650	7.5	8.5	2300
452312098283002	74-10-11	--	--	4200	6.8	8.2	1900
	75-06-12	--	--	3920	7.5	8.5	310
452915098271501	74-10-10	--	--	4380	5.7	8.2	340
	75-06-11	--	--	4150	7.3	8.0	300
452456098233101	74-10-11	--	--	2250	7.4	8.0	860
	75-06-10	--	--	2040	7.2	8.0	850
453428098194202	74-10-11	--	--	520	7.3	7.9	60
	75-06-11	--	--	460	8.1	7.5	40
454431098271301	74-10-11	--	--	720	8.2	7.5	100
	75-06-11	--	--	720	7.6	7.5	70
453800098222000	74-10-11	--	--	6100	8.3	7.1	770
453800098222002	75-06-11	--	--	7730	7.3	8.0	790
443749097494901	75-06-26	--	--	2700	7.7	10.0	970
443620097464101	75-06-27	--	--	3950	7.5	9.5	1500
443846097332801	75-06-02	--	--	1750	7.3	10.0	940
444044097485301	75-06-26	--	--	2300	7.7	10.0	630
443847097462701	75-05-19	--	--	2550	7.6	11.0	1000
443757097570901	75-05-19	--	--	4200	7.2	12.0	760
443757097530101	75-06-26	--	--	3000	7.6	11.0	1400
444907097475401	75-06-18	--	--	2950	7.0	--	1100
445327097525201	75-05-20	--	--	1310	7.2	10.5	110
444914097545601	75-06-05	--	--	1500	7.7	9.3	230
445432097372301	75-06-12	--	--	3450	7.8	10.5	930
445648097503201	75-06-03	--	--	2425	7.6	10.0	690
445403097480301	75-06-03	--	--	2075	7.7	9.0	980
445822097540801	75-05-20	--	--	2600	7.4	11.0	780
450321097332401	75-06-19	--	--	1580	7.6	12.0	380
450032097363401	75-06-19	--	--	3250	8.0	10.0	530
450903097323501	75-06-19	--	--	1900	7.4	10.0	800
441451098525501	75-06-18	--	--	2530	7.5	12.5	310
441609099040101	75-05-19	--	--	3300	7.8	14.5	880
441653099153301	75-05-19	--	--	2400	7.3	28.0	170
442402098464801	75-09-10	--	--	8500	7.2	19.5	1500
442652098553101	75-05-19	--	--	4400	8.3	--	2700
442625099024603	75-05-19	--	--	2300	8.0	--	800
442904098471002	75-05-19	--	--	6000	8.4	--	5200
442904098471003	75-05-19	--	--	2450	7.5	--	740
443647098482501	75-05-20	--	--	2560	7.4	23.0	280
443616098480501	75-05-20	--	--	2700	7.9	20.0	2500
443220099100501	75-06-18	--	--	2460	7.5	20.0	3600
443600099100001	75-06-18	--	--	2440	7.5	25.0	200
443931098542001	75-05-20	--	--	2500	7.3	23.0	240
444135099094301	75-05-20	--	--	2440	7.2	29.0	210
444558098424401	75-05-21	--	--	2760	8.0	19.0	2100

CHEMICAL ANALYSES, OCTOBER 1974 TO SEPTEMBER 1975

STATION NUMBER	LOCAL IDENTIFIER	COUNTY	SITE	DATE OF SAMPLE	TIME	DISSOLVED SILICA (SIO2) (MG/L) (00955)	DISSOLVED IRON (FE) (UG/L) (01046)	DISSOLVED MANGANESE (MN) (UG/L) (01056)	DISSOLVED CALCIUM (CA) (MG/L) (00915)
444607098442501	115N66W14CACC	059	GW	75-09-05	1400	26	2400	280	69
444550099022001	115N68W20BAAB	059	GW	75-05-21	1315	12	2200	130	400
444830098554501	116N67W31DDDB	059	GW	75-05-21	1200	11	190	20	26
444835099170101	116N70W32CDD	059	GW	75-06-03	1400	24	60	20	280
441215099310501	109N72W32BBB	065	GW	75-09-10	1100	1.1	50	40	140
441550099341001	109N73W11ABBC	069	GW	75-09-10	1000	11	2300	130	420
442110099194001	110N71W11ABAA	069	GW	75-06-17	1300	14	1100	160	420
443444099231201	113N71W21CDBD	069	GW	75-06-18	0830	10	400	50	26
443858099242201	114N 71W 29CDDC	069	GW	75-06-18	0945	11	2200	170	400
444259099224901	114N 71W 4ACAC	069	GW	75-06-17	1630	9.9	160	10	17
444125099330701	114N73W13AADA	069	GW	75-06-11	1200	27	1900	80	19
443931099391401	114N73W29BCBC	069	GW	75-06-11	1245	27	4100	280	21
444749099254501	115N72W 1DDAA	069	GW	75-06-11	1430	11	2600	130	400
445134099315401	116N72W18ADDD	069	GW	75-06-17	1500	10	2600	180	420
434508096372701	103N48W 5CACA	099	GW	74-10-22	1350	27	20	240	140
		099	GW	75-05-27	1200	24	80	250	130
434414096380301	103N48W 7DAC	099	GW	75-05-27	1345	22	140	<3	88
434432096364201	103N48W 8ADA	099	GW	74-10-22	1515	30	20	39	180
		099	GW	75-05-27	1530	23	180	5	160
434435096374802	103N48W 8BCCB2	099	GW	74-10-22	1315	17	10	310	210
		099	GW	75-05-27	1300	17	150	430	220
434357096364201	103N48W 8DDDD	099	GW	74-10-23	0845	28	220	50	110
		099	GW	75-05-27	1430	25	440	45	110
434429096361501	103N48W 9BDCA	099	GW	75-05-28	1120	16	90	--	65
434429096361801	103N48W 9BDCB	099	GW	74-10-22	1425	30	75	7	100
434429096361801	103N48W 9BDCB	099	GW	75-05-28	1030	27	140	3	92
434400096362201	103N48W 9CCDA	099	GW	74-10-23	0920	27	30	6	190
		099	GW	75-05-28	1200	24	150	<7	210
434332096371501	103N48W17ACCC	099	GW	74-10-22	1555	25	--	--	130
		099	GW	75-05-28	0930	23	420	330	140
434339096381101	103N48W18ACA	099	GW	74-10-23	0955	24	3200	1400	290
		099	GW	75-05-28	1245	23	2300	1500	320
444731098203001	115N63W 1DDDD	115	GW	74-10-15	0930	29	190	--	33
443731098203001		115	GW	75-06-12	1445	26	400	--	34
445344098221601	116N63W 2BAAA	115	GW	74-10-15	1120	30	50	--	470
		115	GW	75-06-11	1325	28	30	--	530
445000098225501	116N63W27AADA	115	GW	74-10-15	1000	27	3400	--	290
		115	GW	75-06-12	1405	26	3900	--	380
445900098135001	118N61W31CCCC	115	GW	74-10-10	1100	28	5300	--	330
		115	GW	75-06-12	1135	26	2700	--	310
450315098194502	118N62W 8BBBB2	115	GW	74-10-10	1145	28	32000	--	610
		115	GW	75-06-12	1045	27	27000	--	560
450920098122501	119N61W 6AAAA	115	GW	74-10-10	1300	30	400	--	50
		115	GW	75-06-11	1345	28	1800	--	49
450609098342701	119N64W20CCCB	115	GW	74-10-15	1300	23	20	--	300
		115	GW	75-06-12	0935	24	150	--	300
451200098240002	120N63W22ABB2	115	GW	74-10-15	1340	30	20	--	410
		115	GW	75-06-11	1415	27	90	--	610
451023098381001	120N65W35BBBB	115	GW	75-06-10	1230	28	150	--	76
452140099494501	122N74W30BBBC	129	GW	75-07-23	--	12	30	160	230

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CHEMICAL ANALYSES, OCTOBER 1974 TO SEPTEMBER 1975

STATION NUMBER	DATE OF SAMPLE	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L) (00925)	DIS-SOLVED SODIUM (NA) (MG/L) (00930)	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 NITRITE PLUS NITRATE (N) (MG/L) (00631)
444607098442501	75-09-05	22	380	13	685	0	562	340	150	.2	1.9
444550099022001	75-05-21	76	86	22	170	0	139	1200	92	3.0	.05
444830098554501	75-05-21	9.5	540	9.7	411	0	337	520	270	2.8	.04
444835099170101	75-06-03	200	220	13	468	0	384	510	330	.1	170
441215099310501	75-09-10	55	260	7.9	11	0	9	760	170	2.5	.09
441550099341001	75-09-10	99	63	18	172	0	141	1300	82	2.9	.00
442110099194001	75-06-17	97	53	21	170	0	139	1300	75	3.0	.00
443444099231201	75-06-18	10	670	14	543	0	445	480	480	3.1	.00
443858099242201	75-06-18	97	64	20	173	0	142	1300	81	3.0	.00
444259099224901	75-06-17	7.4	570	11	488	0	400	400	390	3.5	.01
444125099330701	75-06-11	7.4	520	7.5	819	0	672	190	270	.6	1.6
443931099391401	75-06-11	5.3	610	9.6	452	0	371	350	510	.5	2.2
444749099254501	75-06-11	97	56	19	179	0	147	1300	75	3.3	.03
445134099315401	75-06-17	95	67	19	171	0	140	1300	83	3.0	.01
434508096372701	74-10-22	31	16	3.6	374	--	307	200	1.1	.8	.03
	75-05-27	30	16	4.0	376	0	308	170	1.3	.8	.05
434414096380301	75-05-27	58	22	1.6	474	0	389	63	26	1.0	4.1
434432096364201	74-10-22	98	32	3.6	683	--	560	76	78	.6	57
	75-05-27	74	19	4.8	772	0	633	40	21	.5	12
434435096374802	74-10-22	56	23	3.7	360	--	295	500	2.8	.6	.00
	75-05-27	67	23	4.3	367	0	301	530	3.4	.7	.06
434357096364201	74-10-23	35	21	4.3	439	--	360	88	4.9	1.3	.09
	75-05-27	38	21	4.6	445	0	365	90	5.9	1.3	.04
434429096361501	75-05-28	25	13	2.2	275	0	226	44	6.6	.4	3.0
434429096361801	74-10-22	35	22	3.0	411	--	337	91	2.7	.8	2.0
434429096361801	75-05-28	35	21	3.0	413	0	339	56	4.0	.7	4.1
434400096362201	74-10-23	100	32	6.7	579	--	475	91	92	.4	80
	75-05-28	130	34	5.4	521	0	427	95	140	.5	110
434332096371501	74-10-22	26	17	3.7	392	--	322	160	1.1	.4	.07
	75-05-28	28	17	4.1	393	0	322	160	.8	.4	.05
434339096381101	74-10-23	84	33	5.5	392	--	322	780	7.3	.4	.06
	75-05-28	96	33	5.9	399	0	327	890	7.6	.4	.11
444731098203001	74-10-15	14	120	8.5	443	--	363	50	7.5	.5	.03
443731098203001	75-06-12	12	130	8.5	445	0	365	54	7.8	.4	1.4
445344098221601	74-10-15	110	44	9.5	361	--	296	1300	45	.6	2.3
	75-06-11	150	55	11	366	0	300	1700	42	.6	1.8
445000098225501	74-10-15	110	54	11	401	--	329	870	38	.4	.00
	75-06-12	140	59	12	383	0	314	1300	47	.4	.02
445900098135001	74-10-10	100	330	19	596	--	489	1300	110	.1	.00
	75-06-12	90	360	20	603	0	495	1300	110	.2	.06
450315098194502	74-10-10	210	290	30	469	--	385	2500	79	.2	.00
	75-06-12	190	330	30	459	0	376	2200	72	.2	.00
450920098122501	74-10-10	19	340	8.3	662	--	543	130	180	.3	.01
	75-06-11	16	340	8.2	657	0	539	150	180	.4	.03
450609098342701	74-10-15	170	380	14	429	--	352	1700	140	.3	.17
	75-06-12	240	400	12	434	0	356	2000	170	.4	2.9
451200098240002	74-10-15	500	260	19	543	--	445	2800	320	.3	.00
	75-06-11	530	300	20	568	0	466	3300	400	.3	.01
451023098381001	75-06-10	26	49	7.8	368	0	302	79	22	.4	1.1
452140099494501	75-07-23	58	330	22	192	--	157	1300	80	2.7	.04

CHEMICAL ANALYSES, OCTOBER 1974 TO SEPTEMBER 1975

STATION NUMBER	DATE OF SAMPLE	AMMONIA NITROGEN (N) (MG/L) (00610)	TOTAL NITRITE (N) (MG/L) (00615)	TOTAL NITRATE (N) (MG/L) (00620)	TOTAL NITRITE PLUS NITRATE (N) (MG/L) (00630)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) (70301)	HARDNESS (CA,MG) (MG/L) (00900)	NONCARBONATE HARDNESS (MG/L) (00902)	PERCENT SODIUM (00932)	SODIUM ADSORPTION RATIO (00931)	BROMIDE (BR) (MG/L) (71870)
444607098442501	75-09-05	--	--	--	--	1350	260	0	75	10	--
444550099022001	75-05-21	--	--	--	--	1980	1300	1200	12	1.0	--
444830098554501	75-05-21	--	--	--	--	1600	110	0	91	23	--
444835099170101	75-06-03	--	--	--	--	2560	1500	1100	24	2.5	--
441215099310501	75-09-10	--	--	--	--	1410	580	580	49	4.7	--
441550099341001	75-09-10	--	--	--	--	2080	1500	1300	8	.7	--
442110099194001	75-06-17	--	--	--	--	2070	1400	1300	7	.6	--
443444099231201	75-06-18	--	--	--	--	1970	110	0	92	28	--
443858099242201	75-06-18	--	--	--	--	2060	1400	1300	9	.7	--
444259099224901	75-06-17	--	--	--	--	1660	73	0	93	29	--
444125099330701	75-06-11	--	--	--	--	1460	78	0	93	26	--
443931099391401	75-06-11	--	--	--	--	1770	74	0	94	31	--
444749099254501	75-06-11	--	--	--	--	2050	1400	1300	8	.7	--
445134099315401	75-06-17	--	--	--	--	2090	1500	1300	9	.8	--
434508096372701	74-10-22	.08	.00	.14	.14	605	480	170	7	.3	.0
	75-05-27	--	.00	.12	.12	563	450	140	7	.3	.0
434414096380301	75-05-27	--	.00	4.2	4.2	535	460	70	9	.4	.5
434432096364201	74-10-22	.07	.04	39	39	1090	850	290	8	.5	.6
	75-05-27	--	.00	13	13	777	710	72	6	.3	.4
434435096374802	74-10-22	.03	.00	.12	.12	993	760	460	6	.4	.0
	75-05-27	--	.00	.00	.00	1050	830	530	6	.3	.1
434357096364201	74-10-23	.01	.00	.68	.68	513	420	59	10	.4	.0
	75-05-27	--	.00	.00	.00	518	430	67	9	.4	.1
434429096361501	75-05-28	--	--	--	--	321	270	40	10	.3	--
434429096361801	74-10-22	.02	.00	2.2	2.2	497	390	57	11	.5	.0
434429096361801	75-05-28	--	.00	4.2	4.2	461	380	36	11	.5	.0
434400096362201	74-10-23	.05	.00	83	83	1180	890	410	7	.5	.9
	75-05-28	--	.00	110	110	1390	1100	630	6	.5	.8
434332096371501	74-10-22	.38	.00	.08	.08	557	430	110	8	.4	.0
	75-05-28	--	.00	.30	.30	568	470	140	7	.3	.0
434339096381101	74-10-23	.77	.00	.46	.46	1420	1100	750	6	.4	.1
	75-05-28	--	.01	.34	.35	1580	1200	870	6	.4	.5
444731098203001	74-10-15	--	--	--	--	482	140	0	63	4.4	--
443731098203001	75-06-12	--	--	--	--	500	130	0	66	4.9	--
445344098221601	74-10-15	--	--	--	--	2200	1600	1300	6	.5	--
	75-06-11	--	--	--	--	2710	1900	1600	6	.5	--
445000098225501	74-10-15	--	--	--	--	1600	1200	850	9	.7	--
	75-06-12	--	--	--	--	2160	1500	1200	8	.7	--
445900098135001	74-10-10	--	--	--	--	2520	1200	750	36	4.1	--
	75-06-12	--	--	--	--	2520	1100	650	40	4.6	--
450315098194502	74-10-10	--	--	--	--	4010	2400	2000	21	2.6	--
	75-06-12	--	--	--	--	3660	2200	1800	24	3.1	--
450920098122501	74-10-10	--	--	--	--	1090	200	0	78	10	--
	75-06-11	--	--	--	--	1100	190	0	79	11	--
450609098342701	74-10-15	--	--	--	--	2940	1500	1100	36	4.3	--
	75-06-12	--	--	--	--	3370	1700	1400	33	4.2	--
451200098240002	74-10-15	--	--	--	--	4610	3100	2600	15	2.0	--
	75-06-11	--	--	--	--	5470	3700	3200	15	2.1	--
451023098381001	75-06-10	--	--	--	--	475	300	0	26	1.2	--
452140099494501	75-07-23	--	--	--	--	2130	810	660	46	5.0	--

CHEMICAL ANALYSES, OCTOBER 1974 TO SEPTEMBER 1975

STATION NUMBER	DATE OF SAMPLE	IODIDE (I) (MG/L) (71865)	CYANIDE (CN) (MG/L) (00720)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)	PH (UNITS) (00400)	TEMPERATURE (DEG C) (00010)	DISSOLVED BORON (B) (UG/L) (01020)
444607098442501	75-09-05	--	--	2000	7.5	--	920
444550099022001	75-05-21	--	--	2500	7.3	29.0	280
444830098554501	75-05-21	--	--	2640	8.1	21.5	4500
444835099170101	75-06-03	--	--	3500	7.3	--	800
441215099310501	75-09-10	--	--	1930	8.3	20.5	150
441550099341001	75-09-10	--	--	2325	7.4	29.0	150
442110099194001	75-06-17	--	--	2420	7.2	24.0	200
443444099231201	75-06-18	--	--	3220	8.1	12.0	6700
443858099242201	75-06-18	--	--	2430	7.1	18.0	180
444259099224901	75-06-17	--	--	2740	8.0	19.0	5800
444125099330701	75-06-11	--	--	2450	7.9	--	970
443931099391401	75-06-11	--	--	3000	7.9	11.0	2300
444749099254501	75-06-11	--	--	2450	7.2	25.5	170
445134099315401	75-06-17	--	--	2430	7.1	22.0	170
434508096372701	74-10-22	.00	.00	840	7.4	--	150
	75-05-27	.01	.00	837	7.3	--	150
434414096380301	75-05-27	.00	.01	878	7.4	8.0	55
434432096364201	74-10-22	.00	.00	1840	7.2	--	80
	75-05-27	.00	.03	1270	6.9	--	50
434435096374802	74-10-22	.01	.00	1480	7.5	--	260
	75-05-27	.01	.00	1480	7.2	--	250
434357096364201	74-10-23	.00	.00	840	7.7	--	150
	75-05-27	.01	.00	804	7.3	--	150
434429096361501	75-05-28	--	--	548	7.6	--	20
434429096361801	74-10-22	.00	.00	825	7.5	--	82
434429096361801	75-05-28	.00	.01	727	7.4	--	90
434400096362201	74-10-23	.04	.01	1950	7.4	--	30
	75-05-28	.02	.01	2250	7.1	--	30
434332096371501	74-10-22	.00	.00	880	7.5	--	310
	75-05-28	.00	.00	890	7.4	--	270
434339096381101	74-10-23	.01	.00	2000	7.6	--	410
	75-05-28	.02	.00	1900	7.6	--	400
444731098203001	74-10-15	--	--	815	7.2	8.2	630
443731098203001	75-06-12	--	--	800	7.7	8.5	690
445344098221601	74-10-15	--	--	2780	7.2	8.5	260
	75-06-11	--	--	3000	7.2	9.0	270
445000098225501	74-10-15	--	--	2150	7.0	8.1	230
	75-06-12	--	--	2600	7.2	8.0	230
445900098135001	74-10-10	--	--	3400	6.8	8.0	480
	75-06-12	--	--	3180	7.1	8.5	510
450315098194502	74-10-10	--	--	4150	7.6	8.2	2100
	75-06-12	--	--	3500	7.0	8.0	1400
450920098122501	74-10-10	--	--	1830	8.1	8.2	990
	75-06-11	--	--	1780	7.7	8.5	1000
450609098342701	74-10-15	--	--	3850	7.2	8.0	810
	75-06-12	--	--	3750	7.2	8.0	990
451200098240002	74-10-15	--	--	5900	8.0	8.5	600
	75-06-11	--	--	6000	7.2	8.0	610
451023098381001	75-06-10	--	--	710	7.7	9.0	80
452140099494501	75-07-23	--	--	2690	--	23.0	470

TRACE METALS ANALYSES, OCTOBER 1974 TO SEPTEMBER 1975

STATION NUMBER	LOCAL IDENTIFIER	COUNTY	SITE	DATE OF SAMPLE	TIME	DISSOLVED ALUMINUM (AL) (UG/L) (01106)	DISSOLVED ARSENIC (AS) (UG/L) (01000)	DISSOLVED BARIUM (BA) (UG/L) (01005)	DISSOLVED BERYLLIUM (BE) (UG/L) (01010)
451431098061001	121N61W36DDDD	013	GW	74-10-10	1415	--	--	--	--
		013	GW	75-06-11	1300	--	--	--	--
451436098233201	121N63W34DDDD	013	GW	74-10-10	1500	--	--	--	--
		013	GW	75-06-11	1505	--	--	--	--
451802098183002	121N62W 9CCCC2	013	GW	74-10-11	1110	--	--	--	--
451759098333501	121N63W15AAAB	013	GW	74-10-10	1610	--	--	--	--
		013	GW	75-06-11	1550	--	--	--	--
451947098355504	121N65W 1AAAA4	013	GW	74-10-11	1430	--	--	--	--
		013	GW	75-06-11	1435	--	--	--	--
452312098210401	122N63W12DDD	013	GW	74-10-11	1145	--	--	--	--
		013	GW	75-06-11	1200	--	--	--	--
452312098283002	122N64W13AAAA2	013	GW	74-10-11	1350	--	--	--	--
		013	GW	75-06-12	0825	--	--	--	--
452915098271501	123N63W 8BBBB	013	GW	74-10-10	1740	--	--	--	--
		013	GW	75-06-11	0825	--	--	--	--
452456098233101	123N63W34DDD	013	GW	74-10-11	1230	--	--	--	--
		013	GW	75-06-10	1620	--	--	--	--
453428098194202	124N62W 8BBBB2	013	GW	74-10-11	1005	--	--	--	--
		013	GW	75-06-11	1030	--	--	--	--
454431098271301	124N63W 5CCCC	013	GW	74-10-11	0830	--	--	--	--
		013	GW	75-06-11	0910	--	--	--	--
453800098222000	125N63W13CCCC	013	GW	74-10-11	0920	--	--	--	--
453800098222002	125N63W13CCCC2	013	GW	75-06-11	0950	--	--	--	--
443749097494901	113N58W 5BABB	025	GW	75-06-26	1345	--	--	--	--
443620097464101	113N58W10DDAA	025	GW	75-06-27	1445	--	--	--	--
443846097332801	114N56W33AABC	025	GW	75-06-02	1400	--	--	--	--
444044097485301	114N58W16CBCC	025	GW	75-06-26	1145	--	--	--	--
443847097462701	114N58W26CCCD	025	GW	75-05-19	--	--	--	--	--
443757097570901	114N59W32CDCA	025	GW	75-05-19	--	--	--	--	--
443757097530101	114N59W35DCDD	025	GW	75-06-26	1045	--	--	--	--
444907097475401	116N58W33AABA	025	GW	75-06-18	1549	--	--	--	--
445327097525201	116N59W 2ABAB	025	GW	75-05-20	--	--	--	--	--
444914097545601	116N59W27CCCC	025	GW	75-06-05	1322	--	--	--	--
445432097372301	117N57W25DCCA	025	GW	75-06-12	1345	--	--	--	--
445648097503201	117N58W18AADD	025	GW	75-06-03	1510	--	--	--	--
445403097480301	117N58W33ADDA	025	GW	75-06-03	1100	--	--	--	--
445822097540801	117N59W 3ADDA	025	GW	75-05-20	--	--	--	--	--
450321097332401	118N 56W 4DADD	025	GW	75-06-19	1458	--	--	--	--
450032097363401	118N56W19CDCC	025	GW	75-06-19	1542	--	--	--	--
450903097323501	119N 56W 3ABBB	025	GW	75-06-19	1358	--	--	--	--
441451098525501	109N67W15BCCC	059	GW	75-06-18	1445	--	--	--	--
441609099040101	109N69W 1DDCD	059	GW	75-05-19	1100	--	--	--	--
441653099153301	109N70W 4BABD	059	GW	75-05-19	1200	10	0	--	--
442402098464801	111N66W21CCCA	059	GW	75-09-10	1300	--	--	--	--
442652098553101	111N67W 6DA	059	GW	75-05-19	1430	--	--	--	--
442625099024603	111N68W 7AAD3	059	GW	75-05-19	1245	--	--	--	--
442904098471002	112N66W29AABC2	059	GW	75-05-19	1630	<10	0	--	--
442904098471003	112N66W29AABC3	059	GW	75-05-19	1600	--	--	--	--
443647098482501	113N66W 7ADD	059	GW	75-05-20	1240	--	--	--	--
443616098480501	113N66W17BBAA	059	GW	75-05-20	1145	--	--	--	--
443220099100501	113N69W 6DDBD	059	GW	75-06-18	1130	--	--	--	--
443600099100001	113N69W17BCCB	059	GW	75-06-18	1200	--	--	--	--
443931098542001	114N67W29ADAA	059	GW	75-05-20	1340	--	--	--	--
444135099094301	114N69W 8CDC	059	GW	75-05-20	1500	--	--	--	--
444558098424401	115N66W13DCDC	059	GW	75-05-21	1115	--	--	--	--

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TRACE METALS ANALYSES, OCTOBER 1974 TO SEPTEMBER 1975

STATION NUMBER	DATE OF SAMPLE	DIS-SOLVED BISMUTH (BI) (UG/L) (01015)	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 COPPER (CU) (UG/L) (01040)	DIS-SOLVED COBALT (CO) (UG/L) (01035)	DIS-SOLVED GALLIUM (GA) (UG/L) (01120)	DIS-SOLVED GER-MANIUM (GE) (UG/L) (01125)	DIS-SOLVED IRON (FE) (UG/L) (01046)	TOTAL MERCURY (HG) (UG/L) (71900)
451431098061001	74-10-10	--	1900	--	--	--	--	--	--	610	--
	75-06-11	--	730	--	--	--	--	--	--	480	--
451436098233201	74-10-10	--	1000	--	--	--	--	--	--	240	--
	75-06-11	--	1000	--	--	--	--	--	--	30	--
451802098183002	74-10-11	--	100	--	--	--	--	--	--	20	--
451759098333501	74-10-10	--	940	--	--	--	--	--	--	720	--
	75-06-11	--	1000	--	--	--	--	--	--	600	--
451947098355504	74-10-11	--	110	--	--	--	--	--	--	20	--
	75-06-11	--	30	--	--	--	--	--	--	40	--
452312098210401	74-10-11	--	2200	--	--	--	--	--	--	290	--
	75-06-11	--	2300	--	--	--	--	--	--	680	--
452312098283002	74-10-11	--	1900	--	--	--	--	--	--	20	--
	75-06-12	--	310	--	--	--	--	--	--	70	--
452915098271501	74-10-10	--	340	--	--	--	--	--	--	3000	--
	75-06-11	--	300	--	--	--	--	--	--	3100	--
452456098233101	74-10-11	--	860	--	--	--	--	--	--	80	--
	75-06-10	--	850	--	--	--	--	--	--	1900	--
453428098194202	74-10-11	--	60	--	--	--	--	--	--	20	--
	75-06-11	--	40	--	--	--	--	--	--	70	--
454431098271301	74-10-11	--	100	--	--	--	--	--	--	910	--
	75-06-11	--	70	--	--	--	--	--	--	1100	--
453800098222000	74-10-11	--	770	--	--	--	--	--	--	720	--
453800098222002	75-06-11	--	790	--	--	--	--	--	--	1200	--
443749097494901	75-06-26	--	970	--	--	--	--	--	--	3900	--
443620097464101	75-06-27	--	1500	--	--	--	--	--	--	4500	--
443846097332801	75-06-02	--	940	--	--	--	--	--	--	220	--
444044097485301	75-06-26	--	630	--	--	--	--	--	--	1700	--
443847097462701	75-05-19	--	1000	--	--	--	--	--	--	3800	--
443757097570901	75-05-19	--	760	--	--	--	--	--	--	610	--
443757097530101	75-06-26	--	1400	--	--	--	--	--	--	1700	--
444907097475401	75-06-18	--	1100	--	--	--	--	--	--	690	--
445327097525201	75-05-20	--	110	--	--	--	--	--	--	3900	--
444914097545601	75-06-05	--	230	--	--	--	--	--	--	80	--
445432097372301	75-06-12	--	930	--	--	--	--	--	--	1400	--
445648097503201	75-06-03	--	690	--	--	--	--	--	--	7000	--
445403097480301	75-06-03	--	980	--	--	--	--	--	--	4300	--
445822097540801	75-05-20	--	780	--	--	--	--	--	--	4000	--
450321097332401	75-06-19	--	380	--	--	--	--	--	--	4300	--
450032097363401	75-06-19	--	530	--	--	--	--	--	--	1300	--
450903097323501	75-06-19	--	800	--	--	--	--	--	--	140	--
441451098525501	75-06-18	--	310	--	--	--	--	--	--	11000	--
441609099040101	75-05-19	--	880	--	--	--	--	--	--	4500	--
441653099153301	75-05-19	--	170	0	10	0	0	--	--	2500	--
442402098464801	75-09-10	--	1500	--	--	--	--	--	--	50	--
442652098553101	75-05-19	--	2700	--	--	--	--	--	--	6700	--
442625099024603	75-05-19	--	800	--	--	--	--	--	--	4400	--
442904098471002	75-05-19	--	5200	0	0	0	0	--	--	1700	--
442904098471003	75-05-19	--	740	--	--	--	--	--	--	1600	--
443647098482501	75-05-20	--	280	--	--	--	--	--	--	2200	--
443616098480501	75-05-20	--	2500	--	--	--	--	--	--	4000	--
443220099100501	75-06-18	--	3600	--	--	--	--	--	--	590	--
443600099100001	75-06-18	--	200	--	--	--	--	--	--	1400	--
443931098542001	75-05-20	--	240	--	--	--	--	--	--	2100	--
444135099094301	75-05-20	--	210	--	--	--	--	--	--	2500	--
444558098424401	75-05-21	--	2100	--	--	--	--	--	--	360	--

TRACE METALS ANALYSES, OCTOBER 1974 TO SEPTEMBER 1975

STATION NUMBER	DATE OF SAMPLE	DIS-SOLVED LEAD (PB) (UG/L) (01049)	DIS-SOLVED LITHIUM (LI) (UG/L) (01130)	DIS-SOLVED MAN-GANESE (MN) (UG/L) (01056)	DIS-SOLVED MOLYB-DENUM (MO) (UG/L) (01060)	DIS-SOLVED NICKEL (NI) (UG/L) (01065)	DIS-SOLVED SELE-NIUM (SE) (UG/L) (01145)	DIS-SOLVED SILVER (AG) (UG/L) (01075)	DIS-SOLVED STRON-TIUM (SR) (UG/L) (01080)	DIS-SOLVED TIN (SN) (UG/L) (01100)	DIS-SOLVED TI-TANIUM (TI) (UG/L) (01150)
451431098061001	74-10-10	--	--	--	--	--	--	--	--	--	--
	75-06-11	--	--	--	--	--	--	--	--	--	--
451436098233201	74-10-10	--	--	--	--	--	--	--	--	--	--
	75-06-11	--	--	--	--	--	--	--	--	--	--
451802098183002	74-10-11	--	--	--	--	--	--	--	--	--	--
451759098333501	74-10-10	--	--	--	--	--	--	--	--	--	--
	75-06-11	--	--	--	--	--	--	--	--	--	--
451947098355504	74-10-11	--	--	--	--	--	--	--	--	--	--
	75-06-11	--	--	--	--	--	--	--	--	--	--
452312098210401	74-10-11	--	--	--	--	--	--	--	--	--	--
	75-06-11	--	--	--	--	--	--	--	--	--	--
452312098283002	74-10-11	--	--	--	--	--	--	--	--	--	--
	75-06-12	--	--	--	--	--	--	--	--	--	--
452915098271501	74-10-10	--	--	--	--	--	--	--	--	--	--
	75-06-11	--	--	--	--	--	--	--	--	--	--
452456098233101	74-10-11	--	--	--	--	--	--	--	--	--	--
	75-06-10	--	--	--	--	--	--	--	--	--	--
453428098194202	74-10-11	--	--	--	--	--	--	--	--	--	--
	75-06-11	--	--	--	--	--	--	--	--	--	--
454431098271301	74-10-11	--	--	--	--	--	--	--	--	--	--
	75-06-11	--	--	--	--	--	--	--	--	--	--
453800098222000	74-10-11	--	--	--	--	--	--	--	--	--	--
453800098222002	75-06-11	--	--	--	--	--	--	--	--	--	--
443749097494901	75-06-26	--	--	1300	--	--	--	--	2200	--	--
443620097464101	75-06-27	--	--	1100	--	--	--	--	3800	--	--
443846097332801	75-06-02	--	--	2800	--	--	--	--	1400	--	--
444044097485301	75-06-26	--	--	1700	--	--	--	--	1100	--	--
443847097462701	75-05-19	--	--	1700	--	--	--	--	--	--	--
443757097570901	75-05-19	--	--	700	--	--	--	--	--	--	--
443757097530101	75-06-26	--	--	200	--	--	--	--	1600	--	--
444907097475401	75-06-18	--	--	7700	--	--	--	--	2800	--	--
445327097525201	75-05-20	--	--	930	--	--	--	--	--	--	--
444914097545601	75-06-05	--	--	1500	--	--	--	--	1200	--	--
445432097372301	75-06-12	--	--	210	--	--	--	--	1900	--	--
445648097503201	75-06-03	--	--	560	--	--	--	--	2200	--	--
445403097480301	75-06-03	--	--	580	--	--	--	--	1400	--	--
445822097540801	75-05-20	--	--	470	--	--	--	--	--	--	--
450321097332401	75-06-19	--	--	100	--	--	--	--	1900	--	--
450032097363401	75-06-19	--	--	240	--	--	--	--	3400	--	--
450903097323501	75-06-19	--	--	740	--	--	--	--	1600	--	--
441451098525501	75-06-18	--	--	280	--	--	--	--	--	--	--
441609099040101	75-05-19	--	--	170	--	--	--	--	--	--	--
441653099153301	75-05-19	0	110	170	1	0	0	0	11000	--	--
442402098464801	75-09-10	--	--	60	--	--	--	--	--	--	--
442652098553101	75-05-19	--	--	110	--	--	--	--	--	--	--
442625099024603	75-05-19	--	--	110	--	--	--	--	--	--	--
442904098471002	75-05-19	0	200	20	1	0	0	0	910	--	--
442904098471003	75-05-19	--	--	110	--	--	--	--	--	--	--
443647098482501	75-05-20	--	--	160	--	--	--	--	--	--	--
443616098480501	75-05-20	--	--	60	--	--	--	--	--	--	--
443220099100501	75-06-18	--	--	40	--	--	--	--	--	--	--
443600099100001	75-06-18	--	--	140	--	--	--	--	--	--	--
443931098542001	75-05-20	--	--	140	--	--	--	--	--	--	--
444135099094301	75-05-20	--	--	160	--	--	--	--	--	--	--
444558098424401	75-05-21	--	--	40	--	--	--	--	--	--	--

TRACE METALS ANALYSES, OCTOBER 1974 TO SEPTEMBER 1975

STATION NUMBER	DATE OF SAMPLE	DIS-SOLVED VANA-DIUM (V) (UG/L) (01085)	DIS-SOLVED ZINC (ZN) (UG/L) (01090)	DIS-SOLVED ZIR-CONIUM (ZR) (UG/L) (01160)
451431098061001	74-10-10	--	--	--
	75-06-11	--	--	--
451436098233201	74-10-10	--	--	--
	75-06-11	--	--	--
451802098183002	74-10-11	--	--	--
451759098333501	74-10-10	--	--	--
	75-06-11	--	--	--
451947098355504	74-10-11	--	--	--
	75-06-11	--	--	--
452312098210401	74-10-11	--	--	--
	75-06-11	--	--	--
452312098283002	74-10-11	--	--	--
	75-06-12	--	--	--
452915098271501	74-10-10	--	--	--
	75-06-11	--	--	--
452456098233101	74-10-11	--	--	--
	75-06-10	--	--	--
453428098194202	74-10-11	--	--	--
	75-06-11	--	--	--
454431098271301	74-10-11	--	--	--
	75-06-11	--	--	--
453800098222000	74-10-11	--	--	--
453800098222002	75-06-11	--	--	--
443749097494901	75-06-26	--	40	--
443620097464101	75-06-27	--	260	--
443846097332801	75-06-02	--	70	--
444044097485301	75-06-26	--	290	--
443847097462701	75-05-19	--	--	--
443757097570901	75-05-19	--	--	--
443757097530101	75-06-26	--	130	--
444907097475401	75-06-18	--	360	--
445327097525201	75-05-20	--	--	--
444914097545601	75-06-05	--	10	--
445432097372301	75-06-12	--	40	--
445648097503201	75-06-03	--	510	--
445403097480301	75-06-03	--	50	--
445822097540801	75-05-20	--	--	--
450321097332401	75-06-19	--	210	--
450032097363401	75-06-19	--	1200	--
450903097323501	75-06-19	--	430	--
441451098525501	75-06-18	--	--	--
441609099040101	75-05-19	--	--	--
441653099153301	75-05-19	.3	10	--
442402098464801	75-09-10	--	--	--
442652098553101	75-05-19	--	--	--
442625099024603	75-05-19	--	--	--
442904098471002	75-05-19	22	20	--
442904098471003	75-05-19	--	--	--
443647098482501	75-05-20	--	--	--
443616098480501	75-05-20	--	--	--
443220099100501	75-06-18	--	--	--
443600099100001	75-06-18	--	--	--
443931098542001	75-05-20	--	--	--
444135099094301	75-05-20	--	--	--
444558098424401	75-05-21	--	--	--

TRACE METALS ANALYSES, OCTOBER 1974 TO SEPTEMBER 1975

STATION NUMBER	LOCAL IDENTIFIER	COUNTY	SITE	DATE OF SAMPLE	TIME	DISSOLVED ALUMINUM (AL) (UG/L) (01106)	DISSOLVED ARSENIC (AS) (UG/L) (01000)	DISSOLVED BARIUM (BA) (UG/L) (01005)	DISSOLVED BERYLLIUM (BE) (UG/L) (01010)
444607098442501	115N66W14CACC	059	GW	75-09-05	1400	--	--	--	--
444550099022001	115N68W20BAAB	059	GW	75-05-21	1315	--	--	--	--
444830098554501	116N67W31DDDB	059	GW	75-05-21	1200	<10	0	--	--
444835099170101	116N70W32CDD	059	GW	75-06-03	1400	--	--	--	--
441215099310501	109N72W32BBB	065	GW	75-09-10	1100	10	0	--	--
441550099341001	109N73W11ABBC	069	GW	75-09-10	1000	--	--	--	--
442110099194001	110N71W11ABAA	069	GW	75-06-17	1300	--	--	--	--
443444099231201	113N71W21CDBD	069	GW	75-06-18	0830	--	--	--	--
443858099242201	114N 71W 29CDDC	069	GW	75-06-18	0945	--	--	--	--
444259099224901	114N 71W 4ACAC	069	GW	75-06-17	1630	--	--	--	--
444125099330701	114N73W13AADA	069	GW	75-06-11	1200	--	--	--	--
443931099391401	114N73W29BCBC	069	GW	75-06-11	1245	--	--	--	--
444749099254501	115N72W 1DDAA	069	GW	75-06-11	1430	--	--	--	--
445134099315401	116N72W18ADDD	069	GW	75-06-17	1500	20	0	--	--
434508096372701	103N48W 5CACA	099	GW	74-10-22	1350	30	--	26	<1
		099	GW	75-05-27	1200	140	--	35	<1
434414096380301	103N48W 7DAC	099	GW	75-05-27	1345	130	--	250	<2
434432096364201	103N48W 8ADA	099	GW	74-10-22	1515	15	--	160	<2
		099	GW	75-05-27	1530	20	--	440	<2
434435096374802	103N48W 8BCCB2	099	GW	74-10-22	1315	50	--	12	<2
		099	GW	75-05-27	1300	20	--	20	<2
434357096364201	103N48W 8DDDD	099	GW	74-10-23	0845	26	--	42	0
		099	GW	75-05-27	1430	50	--	50	<2
434429096361501	103N48W 9BDCA	099	GW	75-05-28	1120	--	--	--	--
434429096361801	103N48W 9BDCB	099	GW	74-10-22	1425	7	--	130	0
434429096361801	103N48W 9BDCB	099	GW	75-05-28	1030	130	--	170	<1
434400096362201	103N48W 9CCDA	099	GW	74-10-23	0920	20	--	240	<2
		099	GW	75-05-28	1200	230	--	220	<3
434332096371501	103N48W17ACCC	099	GW	74-10-23	1555	33	--	100	0
		099	GW	75-05-28	0930	20	--	110	<4
434339096381101	103N48W18ACA	099	GW	74-10-23	0955	45	--	9	<2
		099	GW	75-05-28	1245	35	--	20	<3
444731098203001	115N63W 1DDDD	115	GW	74-10-15	0930	--	--	--	--
443731098203001		115	GW	75-06-12	1445	--	--	--	--
445344098221601	116N63W 2BAAA	115	GW	74-10-15	1120	--	--	--	--
		115	GW	75-06-11	1325	--	--	--	--
445000098225501	116N63W27AADA	115	GW	74-10-15	1000	--	--	--	--
		115	GW	75-06-12	1405	--	--	--	--
445900098135001	118N61W31CCCC	115	GW	74-10-10	1100	--	--	--	--
		115	GW	75-06-12	1135	--	--	--	--
450315098194502	118N62W 8BBBB2	115	GW	74-10-10	1145	--	--	--	--
		115	GW	75-06-12	1045	--	--	--	--
450920098122501	119N61W 6AAAA	115	GW	74-10-10	1300	--	--	--	--
		115	GW	75-06-11	1345	--	--	--	--
450609098342701	119N64W20CCCB	115	GW	74-10-15	1300	--	--	--	--
		115	GW	75-06-12	0935	--	--	--	--
451200098240002	120N63W22ABB2	115	GW	74-10-15	1340	--	--	--	--
		115	GW	75-06-11	1415	--	--	--	--
451023098381001	120N65W35BBBB	115	GW	75-06-10	1230	--	--	--	--
452140099494501	122N74W30BBBC	129	GW	75-07-23	--	--	--	--	--

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TRACE METALS ANALYSES, OCTOBER 1974 TO SEPTEMBER 1975

STATION NUMBER	DATE OF SAMPLE	DIS-SOLVED BISMUTH (BI) (UG/L) (01015)	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 COPPER (CU) (UG/L) (01040)	DIS-SOLVED COBALT (CO) (UG/L) (01035)	DIS-SOLVED GALLIUM (GA) (UG/L) (01120)	DIS-SOLVED GER-MANIUM (GE) (UG/L) (01125)	DIS-SOLVED IRON (FE) (UG/L) (01046)	TOTAL MERCURY (HG) (UG/L) (71900)
444607098442501	75-09-05	--	920	--	--	--	--	--	--	2400	--
444550099022001	75-05-21	--	280	--	--	--	--	--	--	2200	--
444830098554501	75-05-21	--	4500	0	0	0	0	--	--	190	--
444835099170101	75-06-03	--	800	--	--	--	--	--	--	60	--
441215099310501	75-09-10	--	150	1	10	0	0	--	--	50	.0
441550099341001	75-09-10	--	150	--	--	--	--	--	--	2300	--
442110099194001	75-06-17	--	200	--	--	--	--	--	--	1100	--
443444099231201	75-06-18	--	6700	--	--	--	--	--	--	400	--
443858099242201	75-06-18	--	180	--	--	--	--	--	--	2200	--
444259099224901	75-06-17	--	5800	--	--	--	--	--	--	160	--
444125099330701	75-06-11	--	970	--	--	--	--	--	--	1900	--
443931099391401	75-06-11	--	2300	--	--	--	--	--	--	4100	--
444749099254501	75-06-11	--	170	--	--	--	--	--	--	2600	--
445134099315401	75-06-17	--	170	0	10	0	1	--	--	2600	--
434508096372701	74-10-22	<4	150	<12	<4	1	<3	<1	<4	20	.4
	75-05-27	<4	150	0	<4	1	<4	<2	<4	80	.0
434414096380301	75-05-27	<4	55	0	<4	2	<4	<2	<4	140	.0
434432096364201	74-10-22	<8	80	<25	<8	2	<6	<2	<8	20	.0
	75-05-27	<6	50	0	<6	1	<6	<3	<6	180	.0
434435096374802	74-10-22	<6	260	<20	<6	<2	<5	<2	<6	10	.0
	75-05-27	<6	250	0	<6	<2	<6	<3	<6	150	.0
434357096364201	74-10-23	<4	150	<12	<4	1	<3	0	<4	220	.0
	75-05-27	<4	150	0	<4	<1	<4	<2	<4	440	.0
434429096361501	75-05-28	--	20	--	--	--	--	--	--	90	--
434429096361801	74-10-22	<4	82	<10	<4	8	<3	0	<4	75	.0
434429096361801	75-05-28	<4	90	0	<4	7	<4	<2	<4	140	.0
434400096362201	74-10-23	<8	30	<25	<8	5	<6	<2	<8	30	.0
	75-05-28	<9	30	0	<9	5	<9	<4	<9	150	.0
434332096371501	74-10-23	<4	250	<12	<4	<1	<3	0	<4	430	--
	75-05-28	<11	270	0	<12	<3	<12	<6	<20	420	.0
434339096381101	74-10-23	<9	410	<28	<9	<2	<6	<2	<9	3200	.0
	75-05-28	<9	400	0	<9	<2	<9	<4	<9	2300	.0
444731098203001	74-10-15	--	630	--	--	--	--	--	--	190	--
443731098203001	75-06-12	--	690	--	--	--	--	--	--	400	--
445344098221601	74-10-15	--	260	--	--	--	--	--	--	50	--
	75-06-11	--	270	--	--	--	--	--	--	30	--
445000098225501	74-10-15	--	230	--	--	--	--	--	--	3400	--
	75-06-12	--	230	--	--	--	--	--	--	3900	--
445900098135001	74-10-10	--	480	--	--	--	--	--	--	5300	--
	75-06-12	--	510	--	--	--	--	--	--	2700	--
450315098194502	74-10-10	--	2100	--	--	--	--	--	--	32000	--
	75-06-12	--	1400	--	--	--	--	--	--	27000	--
450920098122501	74-10-10	--	990	--	--	--	--	--	--	400	--
	75-06-11	--	1000	--	--	--	--	--	--	1800	--
450609098342701	74-10-15	--	810	--	--	--	--	--	--	20	--
	75-06-12	--	990	--	--	--	--	--	--	150	--
451200098240002	74-10-15	--	600	--	--	--	--	--	--	20	--
	75-06-11	--	610	--	--	--	--	--	--	90	--
451023098381001	75-06-10	--	80	--	--	--	--	--	--	150	--
452140099494501	75-07-23	--	470	--	--	--	--	--	--	30	--

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TRACE METALS ANALYSES, OCTOBER 1974 TO SEPTEMBER 1975

STATION NUMBER	DATE OF SAMPLE	DIS-SOLVED LEAD (PB) (UG/L) (01049)	DIS-SOLVED LITHIUM (LI) (UG/L) (01130)	DIS-SOLVED MAN-GANESE (MN) (UG/L) (01056)	DIS-SOLVED MOLYB-DENUM (MO) (UG/L) (01060)	DIS-SOLVED NICKEL (NI) (UG/L) (01065)	DIS-SOLVED SELE-NIUM (SE) (UG/L) (01145)	DIS-SOLVED SILVER (AG) (UG/L) (01075)	DIS-SOLVED STRON-TIUM (SR) (UG/L) (01080)	DIS-SOLVED TIN (SN) (UG/L) (01100)	DIS-SOLVED TI-TANIUM (TI) (UG/L) (01150)
444607098442501	75-09-05	--	--	280	--	--	--	--	--	--	--
444550099022001	75-05-21	--	--	130	--	--	--	--	--	--	--
444830098554501	75-05-21	1	120	20	0	1	0	0	1200	--	--
444835099170101	75-06-03	--	--	20	--	--	--	--	--	--	--
441215099310501	75-09-10	7	140	40	2	0	0	0	7000	--	--
441550099341001	75-09-10	--	--	130	--	--	--	--	--	--	--
442110099194001	75-06-17	--	--	160	--	--	--	--	--	--	--
443444099231201	75-06-18	--	--	50	--	--	--	--	--	--	--
443858099242201	75-06-18	--	--	170	--	--	--	--	--	--	--
444259099224901	75-06-17	--	--	10	--	--	--	--	--	--	--
444125099330701	75-06-11	--	--	80	--	--	--	--	--	--	--
443931099391401	75-06-11	--	--	280	--	--	--	--	--	--	--
444749099254501	75-06-11	--	--	130	--	--	--	--	--	--	--
445134099315401	75-06-17	1	90	180	0	0	0	0	9400	--	--
434508096372701	74-10-22	<4	63	240	4	<3	--	0	570	<4	<3
	75-05-27	<4	60	250	6	<4	--	0	450	<4	<2
434414096380301	75-05-27	<4	30	<3	2	<4	--	0	330	<4	<3
434432096364201	74-10-22	<8	55	39	<2	<6	--	0	720	<8	<6
	75-05-27	<6	50	5	<2	<6	--	0	480	<6	<3
434435096374802	74-10-22	<6	85	310	4	<5	--	0	1100	<6	<5
	75-05-27	<6	110	430	7	<6	--	0	860	<6	--
434357096364201	74-10-23	8	70	50	4	<3	--	0	490	<4	<3
	75-05-27	<4	90	45	3	<4	--	0	400	<4	<2
434429096361501	75-05-28	--	--	--	--	--	--	--	--	--	--
434429096361801	74-10-22	<4	50	7	3	<3	--	0	440	<4	<3
434429096361801	75-05-28	<4	50	3	4	<4	--	0	460	<4	<2
434400096362201	74-10-23	<8	26	6	<2	<6	--	0	600	<8	<6
	75-05-28	<9	30	<7	<2	<9	--	<1	550	<9	<5
434332096371501	74-10-23	<4	66	320	18	<3	--	0	640	<4	<3
	75-05-28	<12	70	330	20	<12	--	<2	450	<12	<6
434339096381101	74-10-23	<9	110	1400	2	<6	--	<1	1300	<9	<6
	75-05-28	<9	130	1500	5	<9	--	<1	1400	<9	<4
444731098203001	74-10-15	--	--	--	--	--	--	--	--	--	--
443731098203001	75-06-12	--	--	--	--	--	--	--	--	--	--
445344098221601	74-10-15	--	--	--	--	--	--	--	--	--	--
	75-06-11	--	--	--	--	--	--	--	--	--	--
445000098225501	74-10-15	--	--	--	--	--	--	--	--	--	--
	75-06-12	--	--	--	--	--	--	--	--	--	--
445900098135001	74-10-10	--	--	--	--	--	--	--	--	--	--
	75-06-12	--	--	--	--	--	--	--	--	--	--
450315098194502	74-10-10	--	--	--	--	--	--	--	--	--	--
	75-06-12	--	--	--	--	--	--	--	--	--	--
450920098122501	74-10-10	--	--	--	--	--	--	--	--	--	--
	75-06-11	--	--	--	--	--	--	--	--	--	--
450609098342701	74-10-15	--	--	--	--	--	--	--	--	--	--
	75-06-12	--	--	--	--	--	--	--	--	--	--
451200098240002	74-10-15	--	--	--	--	--	--	--	--	--	--
	75-06-11	--	--	--	--	--	--	--	--	--	--
451023098381001	75-06-10	--	--	--	--	--	--	--	--	--	--
452140099494501	75-07-23	--	--	160	--	--	--	--	--	--	--

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TRACE METALS ANALYSES, OCTOBER 1974 TO SEPTEMBER 1975

STATION NUMBER	DATE OF SAMPLE	DIS-SOLVED VANA-DIUM (V) (UG/L) (01085)	DIS-SOLVED ZINC (ZN) (UG/L) (01090)	DIS-SOLVED ZIR-CONIUM (ZR) (UG/L) (01160)
444607098442501	75-09-05	--	--	--
444550099022001	75-05-21	--	--	--
444830098554501	75-05-21	4.4	0	--
444835099170101	75-06-03	--	--	--
441215099310501	75-09-10	1.2	10	--
441550099341001	75-09-10	--	--	--
442110099194001	75-06-17	--	--	--
443444099231201	75-06-18	--	--	--
443858099242201	75-06-18	--	--	--
444259099224901	75-06-17	--	--	--
444125099330701	75-06-11	--	--	--
443931099391401	75-06-11	--	--	--
444749099254501	75-06-11	--	--	--
445134099315401	75-06-17	1.1	10	--
434508096372701	74-10-22	3.0	160	<6
	75-05-27	<3.0	200	<6
434414096380301	75-05-27	<3.0	40	<6
434432096364201	74-10-22	<6.0	220	<11
	75-05-27	<4.0	20	<9
434435096374802	74-10-22	<5.0	380	<9
	75-05-27	--	140	<9
434357096364201	74-10-23	<3.0	2600	<6
	75-05-27	<3.0	1300	<6
434429096361501	75-05-28	--	--	--
434429096361801	74-10-22	<3.0	130	<6
434429096361801	75-05-28	<3.0	80	<5
434400096362201	74-10-23	<6.0	240	<12
	75-05-28	<7.0	40	<13
434332096371501	74-10-23	<3.0	160	<6
	75-05-28	<12	320	<25
434339096381101	74-10-23	<6.0	110	<13
	75-05-28	<6.0	780	<13
444731098203001	74-10-15	--	--	--
443731098203001	75-06-12	--	--	--
445344098221601	74-10-15	--	--	--
	75-06-11	--	--	--
445000098225501	74-10-15	--	--	--
	75-06-12	--	--	--
445900098135001	74-10-10	--	--	--
	75-06-12	--	--	--
450315098194502	74-10-10	--	--	--
	75-06-12	--	--	--
450920098122501	74-10-10	--	--	--
	75-06-11	--	--	--
450609098342701	74-10-15	--	--	--
	75-06-12	--	--	--
451200098240002	74-10-15	--	--	--
	75-06-11	--	--	--
451023098381001	75-06-10	--	--	--
452140099494501	75-07-23	--	--	--

< Less than

SECTION 3. GROUND-WATER RECORDS

BON HOMME COUNTY

425643097571001. 94N60W21BCCC. U.S. GEOLOGICAL SURVEY, S.W. OF TYNDALL. DRILLED OBSERVATION WATER TABLE WELL IN GLACIAL OUTWASH. DIAM 3 IN, DEPTH 64 FT, SAND POINT 59-64 FT, MP TOP OF RECORDER PLATFORM 2.50 FT ABOVE LSD.
LSD 1334.52 FT ABOVE MSL.
HIGHEST WATER LEVEL 18.66 BELOW LSD, JUNE 10, 1972,
LOWEST WATER LEVEL 25.73 BELOW LSD, DEC. 20, 1975.
RECORDS AVAILABLE: 1966-68, 1970-75.

1974

DAY	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
5	.....	.....	.....	.....	.....	.....	.....	.....	.....	23.11	23.56	23.79
10	.....	.....	.....	.....	.....	.....	.....	.....	.....	23.20	23.60	23.83
15	.....	.....	.....	.....	.....	.....	.....	.....	.....	23.29	23.64	23.89
20	.....	.....	.....	.....	.....	.....	.....	.....	.....	23.42	23.67	23.92
25	.....	.....	.....	.....	.....	.....	.....	.....	.....	23.49	23.73	24.00
EOM	.....	.....	.....	.....	.....	.....	.....	.....	.....	23.46	23.80	24.05

1975

DAY	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
5	24.05	24.31	24.43	24.66	24.67	24.78	24.94	25.14	25.24	.....	.....	.....
10	24.04	24.22	24.47	24.69	24.75	24.86H	24.97	25.16	25.25	.....	.....	.....
15	.....	24.37	24.55	24.69	24.74	24.83	25.02H	25.18	25.30H	.....	.....	.....
20	24.08	24.35	24.54	24.67	24.64	24.91	25.05	25.01	25.31	.....	.....	.....
25	24.11	24.41	24.59	24.64	24.76	24.92	25.09	25.02	25.37	.....	.....	.....
EOM	24.28	24.41	24.58	24.66	24.79	24.93	25.11	25.14	25.39	.....	.....	.....

BROWN COUNTY

451947098355201. 121N65W 1AAAA1. U.S. BUREAU OF RECLAMATION, 3 WELLS, WEST. DRILLED OBSERVATION ARTESIAN WELL IN THE MIDDLE JAMES AQUIFER. DIAM 1 IN, DEPTH 144 FT, PERFORATED 60-144 FT, MP TOP OF CASING 2.20 FT ABOVE LSD.
LSD 1336.73 FT ABOVE MSL.
HIGHEST WATER LEVEL 25.96 BELOW LSD, SEP. 13, 1967,
LOWEST WATER LEVEL 31.40 BELOW LSD, JAN. 17, 1969.
RECORDS AVAILABLE: 1952-58, 1967-75.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 2, 1974	30.13	MAR. 6, 1975	30.30	MAY 7, 1975	30.13	AUG. 1, 1975	30.03
DEC. 4	30.23	APR. 10	30.18	JUNE 10	30.11	SEP. 3	30.03

451946098292201. 122N64W36CCDD. U.S. BUREAU OF RECLAMATION, WARNER PT 12. DRILLED OBSERVATION WATER TABLE WELL IN LAKE SEDIMENTS. DIAM 4 IN, DEPTH 48 FT, PERFORATED 6-48 FT, MP TOP OF CASING 2.00 FT ABOVE LSD.
LSD 1298.70 FT ABOVE MSL.
HIGHEST WATER LEVEL 14.01 BELOW LSD, JULY 1, 1953,
LOWEST WATER LEVEL 24.44 BELOW LSD, APR. 1, 1968.
RECORDS AVAILABLE: 1953-75.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 2, 1974	21.91	MAR. 6, 1975	22.37	JUNE 4, 1975	17.42	SEP. 3, 1975	19.80
DEC. 4	22.20	MAY 6	19.69	AUG. 1	18.32		

CAMPBELL COUNTY

454327100013601. 126N76W15CCCC. U.S. GEOLOGICAL SURVEY, R-83, E. OF MOUND CITY. DRILLED OBSERVATION ARTESIAN WELL IN THE GRAND AQUIFER. DIAM 1 1/4 IN, DEPTH 237 FT, SCREENED 234-237 FT, MP TOP OF CASING 4.60 FT ABOVE LSD.
LSD 1688 FT ABOVE MSL.
HIGHEST WATER LEVEL 15.27 BELOW LSD, JAN. 17, 1973,
LOWEST WATER LEVEL 21.67 BELOW LSD, MAY 23, 1967.
RECORDS AVAILABLE: 1967-75.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 1, 1974	19.27	JAN. 13, 1975	18.57	APR. 28, 1975	17.30	JULY 7, 1975	16.95
OCT. 29	19.03	FEB. 10	18.24	MAY 19	17.10	AUG. 4	17.48
NOV. 25	18.91	MAR. 10	18.13	JUNE 10	16.99	SEP. 2	17.95
DEC. 17	18.65						

BEADLE COUNTY

442112098174001. 110N62W 9BCCC. CITY OF HURON, WELL FIELD S.W. DRILLED UNUSED ARTESIAN WELL IN GLACIAL OUTWASH. DIAM 12 IN, DEPTH 74 FT, PERFORATED 38-74 FT, MP TOP OF PLATFORM 2.00 FT ABOVE LSD.
LSD 1306.93 FT ABOVE MSL.
HIGHEST WATER LEVEL 10.81 BELOW LSD, FEB. 5, 1954,
LOWEST WATER LEVEL 40.85 BELOW LSD, MAR. 31, 1960.
RECORDS AVAILABLE: 1954-75.

1974

DAY	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
5	.....	.....	.....	.....	.....	.....	.....	.....	.....	18.33	17.08H	16.47
10	.....	.....	.....	.....	.....	.....	.....	.....	.....	18.00	17.00	16.36
15	.....	.....	.....	.....	.....	.....	.....	.....	.....	17.82	16.87	16.25
20	.....	.....	.....	.....	.....	.....	.....	.....	.....	17.65	16.74	16.16
25	.....	.....	.....	.....	.....	.....	.....	.....	.....	17.50	16.70	16.08
EOM	.....	.....	.....	.....	.....	.....	.....	.....	.....	17.21	16.65	16.00

1975

5	15.9 E	16.10	16.24H	16.06	15.88H	16.07H	17.05	29.32	26.12	.....	.....	.....
10	15.78	16.13H	16.26	.....	15.94	16.01	20.50	30.16	25.20	.....	.....	.....
15	15.84	16.21	16.25	15.99	15.88	16.00	23.25	30.45	24.58	.....	.....	.....
20	15.90	16.17	16.25	15.98	15.85	15.94	25.60	30.89	24.08	.....	.....	.....
25	15.96	16.20	16.13	15.88	16.02	15.95	27.30	28.60	23.67	.....	.....	.....
EOM	16.03	16.24	15.97	15.84	16.05	16.06	28.38H	27.15	23.05	.....	.....	.....

443000098005001. 112N60W22AAAA. SOUTH DAKOTA DEPARTMENT OF NATURAL RESOURCES, B-13, N. OF YALE. DRILLED OBSERVATION ARTESIAN WELL IN GLACIAL DRIFT. DIAM 1 1/4 IN, DEPTH 99 FT, OPEN END CASING, MP TOP OF CASING 1.20 FT ABOVE LSD.
LSD 1332 FT ABOVE MSL.
HIGHEST WATER LEVEL 21.90 BELOW LSD, JULY , 1963,
LOWEST WATER LEVEL 26.85 BELOW LSD, DEC. 1, 1975.
RECORDS AVAILABLE: 1960-75.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC. 4, 1974	26.59	MAR. 7, 1975	26.79	MAY 7, 1975	25.93	JULY 21, 1975	26.49

443758098225701. 113N63W 28BBB. U.S. BUREAU OF RECLAMATION, HITCHCOCK. DRILLED OBSERVATION WATER TABLE WELL IN THE TULARE AQUIFER. DIAM 4 IN, DEPTH 71 FT, PERFORATED 19-71 FT, MP TOP OF WELL COVER 2.20 FT ABOVE LSD (SINCE AUGUST, 1973).
LSD 1307.81 FT ABOVE MSL.
HIGHEST WATER LEVEL 25.09 BELOW LSD, OCT. 11, 1973,
LOWEST WATER LEVEL 28.03 BELOW LSD, FEB. 16, 1953.
RECORDS AVAILABLE: 1953-75.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC. 4, 1974	25.64	APR. 11, 1975	25.89	JUNE 4, 1975	25.83	SEP. 3, 1975	25.94
MAR. 6, 1975	25.79	MAY 7	25.83	JULY 24	25.90		

CLAY COUNTY

430223096590001. 95N52W21AAAA. SOUTH DAKOTA DEPARTMENT OF NATURAL RESOURCES, CU-66A, S. OF CENTERVILLE. DRILLED OBSERVATION WATER TABLE WELL IN THE LOWER VERMILLION-MISSOURI AQUIFER. DIAM 2 IN, DEPTH 84 FT, OPEN END CASING, MP TOP OF CASING 2.20 FT ABOVE LSD.
LSD 1231 FT ABOVE MSL.
HIGHEST WATER LEVEL 52.40 BELOW LSD, APR. 25, 1969,
LOWEST WATER LEVEL 60.32 BELOW LSD, NOV. 13, 1975.
RECORDS AVAILABLE: 1966-75.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 16, 1974	59.39	JAN. 16, 1975	59.57	APR. 9, 1975	59.38	JULY 15, 1975	59.50
NOV. 14	59.52	FEB. 13	59.55	MAY 14	59.02	AUG. 21	59.87
DEC. 11	59.33	MAR. 13	59.67	JUNE 10	59.37	SEP. 15	59.78

HAND COUNTY

444828098433901. 115N66W 2AAAA. U.S. BUREAU OF RECLAMATION, COTTONWOOD DEEP. DRILLED OBSERVATION ARTESIAN WELL IN GLACIAL OUTWASH. DIAM 4 IN, DEPTH 62 FT, PERFORATED 40-60 FT, MP TOP OF COVER 3.30 FT ABOVE LSD (SINCE SEPTEMBER, 1970).
LSD 1359.65 FT ABOVE MSL.
HIGHEST WATER LEVEL 20.20 BELOW LSD, JULY 31, 1953,
LOWEST WATER LEVEL 27.30 BELOW LSD, APR. 29, 1968, MAR. 24, 1969.
RECORDS AVAILABLE: 1953-75.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 1, 1974	26.75	JAN. 7, 1975	26.85	MAY 5, 1975	27.06	JULY 31, 1975	26.78
NOV. 5	26.76	MAR. 5	26.99	JUNE 5	26.91	SEP. 2	26.73
DEC. 3	26.81	APR. 11	27.16	JULY 7	26.82		

MINNEHAHA COUNTY

434540096461501. 104N49W31CCCC. SOUTH DAKOTA DEPARTMENT OF NATURAL RESOURCES, S-24, NEAR BALTIC. DRILLED OBSERVATION WATER TABLE WELL IN THE BIG SIOUX AQUIFER. DIAM 1 1/4 IN, DEPTH 26 FT, MP TOP OF CASING 1.70 FT ABOVE LSD.
LSD 1465.09 FT ABOVE MSL.
HIGHEST WATER LEVEL 4.63 BELOW LSD, MAY 23, 1969,
LOWEST WATER LEVEL 14.84 BELOW LSD, OCT. 22, 1974.
RECORDS AVAILABLE: 1957-75.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 22, 1974	14.84	JAN. 14, 1975	14.34	APR. 7, 1975	13.85	JULY 18, 1975	12.66
NOV. 22	14.09	FEB. 11	14.42	MAY 15	12.23	AUG. 7	13.10
DEC. 10	14.18	MAR. 11	14.48	JUNE 12	12.52	SEP. 5	13.69

SANBORN COUNTY

440040097555001. 106N59W 5DDDD. SOUTH DAKOTA DEPARTMENT OF NATURAL RESOURCES, SM66J, NEAR ARTESIAN. DRILLED OBSERVATION ARTESIAN WELL IN THE FLOYD AQUIFER. DIAM 2 IN, DEPTH 147 FT, OPEN END CASING, MP TOP OF CASING 2.20 FT ABOVE LSD.
LSD 1313.60 FT ABOVE MSL.
HIGHEST WATER LEVEL 7.50 BELOW LSD, JUNE 27, 1968,
LOWEST WATER LEVEL 11.84 BELOW LSD, AUG. 2, 1971.
RECORDS AVAILABLE: 1966-75.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 22, 1974	11.12	MAR. 7, 1975	10.83	MAY 8, 1975	10.64	JULY 21, 1975	11.03
DEC. 11	10.91						

440600098151001. 107N62W10AAAA. SOUTH DAKOTA DEPARTMENT OF NATURAL RESOURCES, S67D, N. OF WOONSOCKET. DRILLED OBSERVATION WATER TABLE WELL IN THE WARREN AQUIFER. DIAM 2 IN, DEPTH 13 FT, OPEN END CASING, MP TOP OF CASING 1.80 FT ABOVE LSD.
LSD 1298.98 FT ABOVE MSL.
HIGHEST WATER LEVEL 2.22 BELOW LSD, APR. 3, 1973,
LOWEST WATER LEVEL 7.72 BELOW LSD, DEC. 1, 1975.
RECORDS AVAILABLE: 1967-75.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC. 11, 1974	7.01	MAR. 7, 1975	7.27	MAY 8, 1975	6.79	JULY 21, 1975	7.24

SPINK COUNTY

444219098300801. 114N64W18BBBB. U.S. BUREAU OF RECLAMATION, S. TULARE. DRILLED OBSERVATION ARTESIAN WELL IN GLACIAL OUTWASH. DIAM 4 IN, DEPTH 60 FT, PERFORATED 20-60 FT, MP TOP OF RECORDER PLATFORM 3.22 FT ABOVE LSD.
LSD 1310.80 FT ABOVE MSL.
HIGHEST WATER LEVEL 3.19 BELOW LSD, AUG. 20, 1959,
LOWEST WATER LEVEL 18.20 BELOW LSD, AUG. 15, 1971.
RECORDS AVAILABLE: 1953-75.

1974

DAY	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
5	.....	.....	.....	.....	.....	.....	.....	.....	.....	11.18	10.58H	10.27
10	.....	.....	.....	.....	.....	.....	.....	.....	.....	11.00	10.52	10.24
15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10.45	10.24
20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10.42	10.22
25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10.37	10.22
EOM	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10.36	10.19

1975

DAY	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
5	10.14	10.05	9.93H	9.90	9.12H	8.57H	8.71	17.08	13.36	.....	.....	.....
10	10.04	9.95	9.98	.....	9.10	8.50	9.87	17.10	12.84	.....	.....	.....
15	10.09	10.02	9.97	9.72	8.97	8.45	10.59	18.04	12.58	.....	.....	.....
20	9.98	9.94	9.94	9.54	8.84	8.37	11.90	17.72	12.41	.....	.....	.....
25	10.01	9.97	9.93	9.39	8.74	8.29	13.90	16.80	12.26	.....	.....	.....
EOM	10.09	9.98	9.87	9.22	8.64	8.26	16.07H	13.90	12.28	.....	.....	.....

444458098385501. 115N65W28AAAA. U.S. BUREAU OF RECLAMATION, PT 9. DRILLED UNUSED IRRIGATION WATER TABLE WELL IN GLACIAL OUTWASH. DIAM 8 IN, DEPTH 105 FT, PERFORATED 58-105 FT, MP TOP OF RECORDER PLATFORM 3.20 FT ABOVE LSD (SINCE AUGUST 1970).
LSD 1340.43 FT ABOVE MSL.
HIGHEST WATER LEVEL 22.06 BELOW LSD, JUNE 20, 1953, JUNE 30, 1953,
LOWEST WATER LEVEL 36.46 BELOW LSD, AUG. 20, 1964.
RECORDS AVAILABLE: 1952-75.

1974

DAY	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
5	.....	.....	.....	.....	.....	.....	.....	.....	.....	27.98	27.49H	27.23
10	.....	.....	.....	.....	.....	.....	.....	.....	.....	27.85	27.43	27.20
15	.....	.....	.....	.....	.....	.....	.....	.....	.....	27.75	27.38	27.17
20	.....	.....	.....	.....	.....	.....	.....	.....	.....	27.67	27.31	27.14
25	.....	.....	.....	.....	.....	.....	.....	.....	.....	27.60	27.30	27.1 E
EOM	.....	.....	.....	.....	.....	.....	.....	.....	.....	27.55	27.28	27.1 E

1975

DAY	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
5	.....	27.00	26.96H	26.78	26.30H	26.27H	27.65	34.28	29.82	.....	.....	.....
10	27.01	27.01	26.94	.....	26.28	26.16	.....	34.63	29.57	.....	.....	.....
15	.....	27.00	26.90	26.62	26.23	26.10	.....	34.92	29.30	.....	.....	.....
20	27.03	26.98	26.86	26.50	26.17	26.03	.....	33.10	29.04	.....	.....	.....
25	27.00	26.94	26.77	26.43	26.16	26.00	29.8 E	31.16	28.89	.....	.....	.....
EOM	27.01	26.96	26.75	26.33	26.27	26.40	34.40H	30.36	28.72	.....	.....	.....

UNION COUNTY

430405096463201. 95N50W 8ABBD. J.J. DOLAN, NEAR BERESFORD. DUG UNUSED WATER TABLE WELL IN SAND AND GRAVEL OF PLEISTOCENE AGE. DIAM 24 IN, DEPTH 42 FT, MP TOP OF CASING 2.50 FT ABOVE LSD. LSD 1515 FT ABOVE MSL.
HIGHEST WATER LEVEL 0.51 BELOW LSD, APR. 11, 1947,
LOWEST WATER LEVEL 14.77 BELOW LSD, MAY 2, 1957.
RECORDS AVAILABLE: 1936-44, 1946-75.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 22, 1974	12.58	JAN. 14, 1975	13.46	APR. 7, 1975	12.76	JULY 18, 1975	9.46
NOV. 22	13.08	FEB. 11	13.49	MAY 15	10.23	AUG. 7	9.84
DEC. 10	13.30	MAR. 11	13.38	JUNE 12	10.15	SEP. 5	9.19

YANKTON COUNTY

425240097252001. 93N56W14AA. JOHN KAYSER, NEAR YANKTON. BORED STOCK WELL IN THE NIOBRARA FORMATION. DIAM 18 IN, DEPTH 80 FT, MP BASE OF PUMP 4.50 FT ABOVE LSD (SINCE SEPT, 1964). LSD 1200 FT ABOVE MSL.
HIGHEST WATER LEVEL 36.40 BELOW LSD, JUNE 16, 1961,
LOWEST WATER LEVEL 51.16 BELOW LSD, NOV. 17, 1960.
RECORDS AVAILABLE: 1947-75.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 17, 1974	43.54	JAN. 17, 1975	43.78	APR. 10, 1975	43.01	JULY 16, 1975	43.33
NOV. 15	43.52	FEB. 14	43.80	MAY 14	43.09	AUG. 13	43.28
DEC. 12	43.68	MAR. 13	43.58	JUNE 11	42.79	SEP. 16	43.54

EXPLANATION OF SYMBOLS APPEARING AFTER WATER-LEVEL MEASUREMENTS

E Estimated
H Tape measurement (recorder)

INDEX

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U.S. DEPARTMENT OF THE INTERIOR
Geological Survey
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