APPENDICES

APPENDIX A

LETTER AUTHORIZING PANEL

DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
WASHINGTON, DC 20310-0103

14 AUG 1987

Professor Jack Keller
Department of Agricultural
and Irrigation Engineering
Utah State University
Logan, Utah 84322-4105

Dear Professor Keller:

I am very pleased to inform you that I am formally constituting and commissioning the Red River Chloride Control Project Evaluation Panel to assess the effectiveness of area VIII of the Red River Chloride Control project. The members of the panel are:

> Dr. Herbert Grubb;
> Professor Jack Keller;
> Mr. Jack Kramer;
> Mr. Jack Rawson; and
> Mr. Glenn Sullivan.

You have agreed to serve as Chairman, and Mr. Rawson has agreed to serve as Vice Chairman.

I also have asked the Commander of the Southwestern Division of the Army Corps of Engineers to consult with you to arrange a meeting date in late September or October 1987 to initiate the activities of the panel. I would anticipate that the panel's first meeting would include a visit to area VIII and a first-hand viewing of the site and the works that are now in operation there.

Enclosed is information relating to the members of the panel, a copy of Section 1107 of Public Law 99-662, a charter to guide the panel's activities, and a paper containing useful background information. As indicated in the charter, the Commander of the Southwestern Division will designate a point of contact to assure that the panel receives the necessary technical and administrative support from the Corps. Major General Jerome B. Hilmes is the Commander, and his address is U.S. Army Engineer Division, Southwestern, 1114 Commerce Street, Dallas, Texas 75242-0216. Under separate cover you will receive a copy of the Corps recommendations regarding General Design Memorandum numbered 25 by the Director of Civil Works on behalf of the Chief of Engineers, dated August 8, 1977, referenced in Public Law 99-662.

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I consider the assignment given to the panel to be an important one not only for the Red River Chloride Control project but for other projects of this type as well. I am sure that each of you will take your responsibilities most seriously and deliver your best professional judgment with regard to the correspondence between the actual performance of area VIII and that assumed in the Corps reanalysis of November 1980.

I extend to you my best wishes for an expeditious fulfillment of the charter given to you by Public Law 99-662.

Sincerely,

John S. Doyle, Jr.
Acting Assistant Secretary of the Army
(Civil Works)

Enclosures

Similar letter sent to Jack Rawson, Jack Kramer, Herbert Grubb, and Glenn Sullivan

MEMBERS
RED RIVER CHLORIDE CONTROL PROJECT
EVALUATION PANEL

Professor Jack Keller - Chairman
Department of Agricultural
and Irrigation Engineering
Utah State University
Logan, Utah 84322-4105
801-750-2785

Mr. Jack Rawson - Vice Chairman
Water Resources Division
United States Geological Survey
649 Federal Building
300 East 8th Street
Austin, Texas 78701
512-482-5766

Dr. Herbert Grubb
Director of Planning
Texas Water Development Board
Capitol Station
Post Office Box 13231
Austin, Texas 78711-3231
512-463-7868

Mr. Jack Kramer
Texas Water Commission
Post Office Box 13087
Austin, Texas 78711
512-463-7791

Mr. Glenn Sullivan
Secretary of Natural Resources
Office of the Governor
State of Oklahoma
Oklahoma City, Oklahoma 73105
405-521-2413

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ble. Except as specifically provided herein all transactions will be in accordance with existing laws and procedures.

SEC. 1107. RED RIVER CHLORIDE CONTROL.

(a) The first sentence of the paragraph under the center heading "ARKANSAS AND RED RIVERS" in section 203 of the Flood Control Act of 1966 is amended by striking out "$46,400,000" and inserting in lieu thereof "$177,600,000".

(b) Section 201 of the Flood Control Act of 1970, as amended by section 153 of the Water Resources Development Act of 1976, is amended by striking out the last sentence under the heading "ARKANSAS-RED RIVER BASIN" and inserting in lieu thereof the following: "Construction shall not be initiated on any element of such project involving the Arkansas River Basin until such element has been approved by the Secretary of the Army. The chloride control projects for the Red River Basin and the Arkansas River Basin shall be considered to be authorized as separate projects with separate authority under section 203 of the Flood Control Act of 1966.

(c) Construction of remaining elements of the project involving the Red River Basin shall be initiated in accordance with the recommendations regarding general design memorandum numbered 25 by the director of civil works on behalf of the Chief of Engineers, dated August 8, 1977. Such construction shall commence upon transmittal of a report to the Secretary and to the Committee on Environment and Public Works of the Senate and the Committee on Public Works and Transportation of the House of Representatives of a favorable finding of the effectiveness of the operation of area VIII, to be made by a panel consisting of representatives of the United States Geological Survey and the Texas Water Commission, a person selected by the National Academy of Sciences, and two other qualified persons to be appointed by the Secretary with the concurrence of the governors of Texas and Oklahoma. The panel shall assess the improvement in water quality downstream of area VIII to determine its consistency with the water quality assumed in the development of project benefits in the economic reanalysis of the project completed in November 1980. Such report shall be submitted to the Secretary and to such committees no later than three years after the date area VIII commences operation. Cost sharing for construction on the Red River Basin project initiated under this section shall be the same as the cost sharing for area VIII of the project.

SEC. 1108. ST. JOHN'S RIVER BASIN, MAINE.

(a) The Secretary is authorized to implement a program of research in order to demonstrate the cropland irrigation and conservation techniques described in the report issued by the New England division engineer, dated May 1980, for the Saint John River Basin, Maine. The non-Federal share of the cost of such program shall be 35 percent.

(b) For the purposes of this section, there is authorized to be appropriated $1,825,000 for fiscal year 1988, $820,000 for fiscal year 1989, and $785,000 for fiscal year 1990, such sums to remain available until expended.

SEC. 1109. PROHIBITION ON GREAT LAKES DIVERSIONS.

(a) The Congress finds and declares that—

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CHARTER OF THE RED RIVER CHLORIDE CONTROL PROJECT EVALUATION PANEL

A. PANEL'S OFFICIAL DESIGNATION: Red River Chloride Control Project Evaluation Panel.

B. OBJECTIVES AND SCOPE: As defined in Section 1107 of Public Law (P.L.) 99-662, the panel shall assess the improvement in water quality downstream of area VIII of the Red River Chloride Control project to determine its consistency with the water quality assumed in the development of the project benefits in the economic reanalysis of the project completed in November 1980. The panel shall submit a report of its findings to the Secretary of the Army and to the Committee on Environment and Public Works of the Senate and the Committee on Public Works and Transportation of the House of Representatives.

C. DURATION: The panel has been established as the Red River Chloride Control Project Evaluation Panel under Section 1107 of P.L. 99-662. The panel will function until it submits a report of its findings to the Secretary of the Army and to the Committee on Environment and Public Works of the Senate and the Committee on Public Works and Transportation of the House of Representatives. As prescribed in P.L. 99-662, the report shall be submitted not later than three years after the date area VIII commenced operation. Area VIII commenced operation on May 11, 1987; therefore, the panel shall cease functioning not later than May 11, 1990.

D. OFFICIAL TO WHOM PANEL REPORTS: The panel will report to the Secretary of the Army, through the Assistant Secretary of the Army for Civil Works.

E. SPONSOR AND AGENCY PROVIDING SUPPORT: The United States Army Corps of Engineers will be the sponsor and will furnish secretarial, clerical, and other services as requested by the panel. The Commander, Southwestern Division, Corps of Engineers, will designate a point of contact for all matters relating to the activities of the panel. The Texas Water Commission also has agreed to provide administrative support upon request by the panel.

F. DUTIES: The evaluation panel shall assess the improvement in water quality downstream of area VIII of the Red River Chloride Control project to determine its consistency with the water quality assumed in the development of project benefits in the economic reanalysis of the project completed in November 1980. The panel shall submit a report of its findings to the Secretary of the Army and to the congressional committees not later than May 11, 1990.

G. FREQUENCY OF MEETINGS: The Commander, Southwestern Division, Corps of Engineers, after consulting with the Chairman, will convene the panel at Truscott Brine Lake or other appropriate designated location for an onsite review of the Red River Chloride Control project to be conducted by the Tulsa District of the Corps. Subsequent meetings will be convened by the Chairman at places designated by him to facilitate the work of the panel as necessary to fulfill the panel's stated objective.

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H. TERMINATION DATE: The panel will terminate upon submittal of a report of its findings to the Secretary of the Army and the congressional committees not later than May 11, 1990.

I. COMPOSITION AND TERMS OF MEMBERSHIP:

1. The panel will consist of five members:

a. Mr. Jack Rawson, representing the United States Geological Survey;

b. Mr. Jack Kramer, representing the Texas Water Commission;

c. Professor Jack Keller, National Academy of Engineering, selected by the Acting Assistant Secretary of the Army (Civil Works) from candidates suggested by the National Research Council;

d. Mr. Glenn Sullivan, Secretary of Natural Resources for the State of Oklahoma; and

e. Dr. Herbert Grubb, Director of Planning for the Texas Water Development Board.

Mr. Sullivan and Dr. Grubb were selected by the Acting Assistant Secretary of the Army (Civil Works) upon the recommendation of the Governors of Oklahoma and Texas, respectively.

2. The Assistant Secretary of the Army has designated Professor Jack Keller as the Chairman and Mr. Jack Rawson as Vice Chairman.

3. The terms of office shall expire upon submittal of a report of the panel's findings to the Secretary of the Army and the congressional committees not later than May 11, 1990.

4. Panel members will not be compensated for their services. Upon their request to the Southwestern Division's point of contact, members may be reimbursed for travel expenses, subsistence, and accommodation as allowed by current regulations.

INFORMATION FOR THE RED RIVER CHLORIDE CONTROL PROJECT EVALUATION PANEL

SECTION 1107 OF P.L. 99-662

Section 1107 of P.L. 99-662 states that the construction of the remaining elements of the Red River Chloride project shall be initiated in accordance with the recommendations regarding general design memorandum numbered 25 by the Director of Civil Works on behalf of the Chief of Engineers, dated August 8, 1977. Such construction may commence upon transmittal of a report to the Secretary and to the Committee on Environment and Public Works of the Senate and the Committee on Public Works and Transportation of the House of Representatives of a favorable finding of the effectiveness of the operation of Area VIII, to be made by the panel. The report shall be submitted to the Secretary and to such committees no later than three years after the date Area VIII commences operation. Cost sharing for construction on the Red River Basin project initiated under this section shall be the same as the cost sharing for Area VIII of the project. The Area VIII project was dedicated on May 11, 1987.

WATER QUALITY DATA

The final determination of the requirements and data collection stations will be made by the panel. The effectiveness of the Bateman pump station will be evaluated by monitoring the quantity and quality of stream flows and brine water pumped. Stream flow quantity and quality will be monitored by existing USGS gages located immediately upstream and downstream of the Bateman pump station and at the Benjamin gage. The quantity and quality of water pumped will be monitored at the Bateman collection point (Guthrie gage). All data collected can be evaluated to determine pump station effectiveness.

In order to assist the panel in the evaluation of the effectiveness of the operation of Area VIII, three full record stations have been installed. These stations record flow and water quality data collected in the Wichita River basin which would be affected by the operation of Bateman Pump Station. These are Guthrie gage at the Bateman Pump Station, Benjamin gage located five miles north of Benjamin, Texas, on the State Highway 6 bridge across the Southfork of the Wichita River, and Maybelle gage immediately downstream of Lake Kemp on the Big Wichita River. Flows and loads captured by pumping will be defined using gage data and the Truscott pipeline flow meter. Remaining flows and loads are measured by the downstream gage at the low-flow dam. Control system effectiveness can be demonstrated by the monthly flows and loads passing downstream with the pumping plant in operation.

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Data collected during the operation of the Bateman pump station can be used to evaluate the level of chloride control during the test period, predict the level of control during comparable stream flow periods, and predict the long term level of control. The level of control during the test period will be evaluated directly from data collected. Chloride control for comparable periods will be predicted using water flow and quality data from past records. Statistical data, past water quality and stream flow records, and information obtained during the test period can be used to predict the long term level of chloride control due to Bateman pump station operation.

Total load at the Benjamin gage is 210 tons per day (T/D) through the recorded period. With Bateman operating it is expected that approximately 68 T/D will remain. Between the Bateman gage and Benjamin gage an estimated 250,000 tons of chloride are dissolved in the pore water in alluvial silt deposits. Flushing of this stored brine in the alluvium must take place for definable improvement of quality parameters at Benjamin to take place. Flushing could occur in one normally wet spring. Preparation of a report should be possible shortly after the collection period ends. A period of 18 months would be required to show load control at Benjamin gage with a greater than 50 percent chance of normal flow conditions.

Maybelle gage, located immediately below Lake Kemp, would not show an improvement in water quality parameters until initial flushing of the upstream channel and flushing of the alluvial storage mentioned in paragraph 3-03 has occurred. Stored waters in Lake Kemp will delay the effects of Bateman's load removal. Normal load at Maybelle gage has been 450 T/D over the period of record. The expected load after the full effect of Bateman would be 308 T/D due to other defined and undefined sources. Time is necessary to collect sufficient data to confidently show the estimated load reduction is occurring since the contrasts of before and after are less sharp, and the flushing must take place. For this report the data collected at Maybelle gage will probably not be used as no less than five years could elapse before the expected control could confidently be expected and demonstrated with Bateman as the only control point.

ECONOMIC REANALYSIS AND ASSUMPTIONS

The following information described in subsequent paragraphs is taken from Design Memorandum No. 25, dated November 1980 and discusses the economic reanalysis and assumptions.

The improvement of water quality in the Red River Basin would result in major benefits to the municipal and industrial user and to the agricultural user. The concepts, methodologies and procedures used in the evaluation are discussed in the Economic Reanalysis Summary section.

The municipal and industrial benefits are measured as water quality benefits, water supply benefits, or induced benefits. Water quality benefits are calculated when Red River water is used with or without the project. The benefit is a measure of the quality cost of water (either the cost of treatment to acceptable standard or the damage cost as a result of no treatment) without the project compared to with the project. The water supply benefit is calculated if Red River water is used only with the project and is the value of the least costly alternative with the project. Induced benefits result when more water is used with the project than without.

Net agricultural benefits are estimated as the average annual value of the difference in net crop returns with the project as compared with net crop returns without the project. It is necessary to project the type and amount of the various crops expected to be grown over the 100-year period with and without the project. The basic assumption behind the forecast of cropping patterns with and without the project is that they will be based on providing the maximum possible net revenue to the farmer. The combination of crops which will provide the maximum possible net revenue is the optimal crop mix. An optimal crop mix is estimated for each reach, with irrigable land (acreages of each soil type) and irrigation water as resource constraints. Differences in net revenues occur primarily from the higher yields resulting from increased irrigation with water of improved quality.

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APPENDIX B

SOUTH WICHITA RIVER NEAR BENJAMIN, TEXAS
MONTHLY AND ANNUAL MEANS AND LOADS
FOR OCTOBER 1970 TO SEPTEMBER 1976

7311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TEX.

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1970 TO SEPTEMBER 1971

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1970	206	22100	15000	8400	7300	4100	2300	1300	3100
NOV. 1970	133	37000	25000	9100	13000	4600	3200	1100	4700
DEC. 1970	155	35600	24000	10000	12000	5100	3200	1300	4500
JAN. 1971	162	35000	24000	11000	12000	5300	3200	1400	4500
FEB. 1971	129	35400	24000	8500	12000	4300	3200	1100	4500
MAR. 1971	108	39200	27000	7800	14000	4000	3200	920	4900
APR. 1971	116	32800	22000	7000	11000	3600	2800	880	4200
MAY 1971	4306	1990	1400	16000	590	6800	300	3500	340
JUNE 1971	788	9850	6800	14000	3000	6400	1400	2900	1500
JULY 1971	142	5560	3900	1500	1700	630	830	320	960
AUG. 1971	2271	5690	3900	24000	1700	10000	870	5300	990
SEPT 1971	832	12700	8800	20000	3900	8800	1700	3800	2100
TOTAL	9348	**	**	140000	**	64000	**	24000	**
WTD.AVG.	26	7900	5400	**	2500	**	950	**	1200

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7311800 SOUTH MICHITA RIVER NEAR BENJAMIN, TEX.

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1971 TO SEPTEMBER 1972

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICRO MHOS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1971	2478	6770	4700	31000	2000	14000	1000	6700	1200
NOV.	1971	581	20300	14000	22000	6400	10000	2500	3900	3100
DEC.	1971	662	17400	12000	22000	5500	9800	2200	4000	2700
JAN.	1972	254	22900	16000	11000	7400	5100	2700	1800	3400
FEB.	1972	225	27100	19000	11000	8900	5400	2900	1800	3300
MAR.	1972	196	32400	22000	12000	11000	5800	3100	1600	4100
APR.	1972	4736	2300	1600	20000	690	8800	340	4300	390
MAY	1972	1915	4740	3300	17000	1400	7300	700	3600	810
JUNE	1972	1476	6510	4500	18000	1900	7700	960	3800	1100
JULY	1972	1575	4960	3400	15000	1500	6300	740	3100	950
AUG.	1972	4346	3820	2600	31000	1100	13000	600	7000	680
SEPT	1972	4777	2940	2000	26000	860	11000	450	5800	510
TOTAL		23222	**	**	240000	**	100000	**	48000	**
WTD.AVG.		63	5440	3800	**	1700	**	760	**	900

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7311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TEX.

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1972 TO SEPTEMBER 1973

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICROMHOS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1972	2526	4460	3100	21000	1300	9100	650	4400	760
NOV.	1972	930	11400	7900	20000	3500	8700	1600	4000	1900
DEC.	1972	373	28500	14000	14000	6500	6600	2500	2500	3200
JAN.	1973	585	15800	11000	17000	4900	7700	2100	3300	2500
FEB.	1973	677	15300	11000	19000	4700	8600	2100	3800	2300
MAR.	1973	1972	8770	6100	32000	2600	14000	1300	6900	1500
APR.	1973	1613	9630	6700	29000	2900	13000	1400	6100	1500
MAY	1973	439	18800	13000	15000	5900	7000	2400	2800	2300
JUNE	1973	200	21400	15000	8000	6900	3700	2600	1400	3300
JULY	1973	470	5560	3800	4900	1700	2100	820	1000	350
AUG.	1973	167	9120	6300	2800	2800	1300	1200	550	1300
SEPT	1973	1905	5010	3500	18000	1500	7800	700	3600	530
TOTAL		11856	**	**	200000	**	89000	**	40000	**
WTD.AVG.		32	9130	6300	**	2800	**	1300	**	1500

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7311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TEX.

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1973 TO SEPTEMBER 1974

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICROMHOS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1973	229	21100	15000	9000	6800	4200	2400	1500	3100
NOV.	1973	607	13300	9200	15000	4200	6900	1600	2700	2000
DEC.	1973	184	29000	20000	9900	9700	4800	3000	1500	4100
JAN.	1974	145	31300	21000	8400	11000	4100	3100	1200	4300
FEB.	1974	130	34600	24000	8300	12000	4200	3200	1100	4500
MAR.	1974	150	35800	25000	10000	12000	5000	3200	1300	4500
APR.	1974	459	10900	7500	9200	3600	4500	1100	1400	1500
MAY	1974	947	8020	5500	14000	2400	6300	1100	2900	1300
JUNE	1974	2351	4560	3200	20000	1300	8600	690	4400	790
JULY	1974	12	19900	14000	430	6300	200	2500	78	3100
AUG.	1974	66	5430	3800	670	1600	280	830	150	950
SEPT	1974	3634	3300	2300	22000	960	9400	520	5100	590
TOTAL		8915	**	**	130000	**	58000	**	23000	**
WTD.AVG.		24	7698	5300	**	2400	**	970	**	1200

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7311800 SOUTH MICHITA RIVER NEAR BENJAMIN, TEX.

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1974 TO SEPTEMBER 1975

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICROMHOS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1974	1342	8550	5900	21000	2600	9400	1200	4300	1400
NOV.	1974	542	16800	12000	17000	5200	7700	2200	3200	2700
DEC.	1974	288	25700	18000	14000	8400	6500	2900	2200	3700
JAN.	1975	301	24700	17000	14000	8100	6500	2800	2300	3600
FEB.	1975	762	11900	8200	17000	3600	7400	1600	3400	2800
MAR.	1975	313	23500	16000	14000	7600	6400	2700	2300	3500
APR.	1975	509	12800	8800	12000	4000	5500	1600	2300	2800
MAY	1975	7012	3130	2200	41000	910	17000	500	9400	560
JUNE	1975	2277	6890	4800	29000	2100	13000	1000	6300	1200
JULY	1975	3859	4630	3200	33000	1400	14000	710	7400	810
AUG.	1975	1296	7840	5400	19000	2400	8300	1100	3900	1300
SEPT	1975	2252	5990	4100	25000	1800	11000	900	5500	1000
TOTAL		20753	**	**	260000	**	110000	**	52000	**
WTD.AVG.		57	6630	4600	**	2000	**	940	**	1100

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7311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TEX.

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICROMHOS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1975	318	20300	14000	12000	6400	5500	2500	2100	3100
NOV.	1975	1412	8450	5800	22000	2500	9700	1200	4600	1900
DEC.	1975	285	23900	16000	13000	7700	5900	2800	2100	3500
JAN.	1976	246	24600	17000	11000	8000	5300	2800	1900	3600
FEB.	1976	245	28500	20000	13000	9400	6200	3000	2000	4000
MAR.	1976	269	29900	21000	15000	10000	7300	3000	2200	4200
APR.	1976	826	14800	10000	23000	4600	10000	1900	4200	2300
MAY	1976	231	25700	18000	11000	8400	5300	2800	1800	3700
JUNE	1976	45	24500	17000	2000	8100	970	2600	320	3500
JULY	1976	512	7540	5200	7200	2200	3100	1100	1600	1300
AUG.	1976	1140	5370	3700	11000	1600	4900	830	2500	940
SEPT	1976	771	12900	8900	19000	3900	8200	1800	3700	2100
TOTAL		6299	**	**	160000	**	73000	**	29000	**
WTD.AVG.		17	13600	9300	**	4300	**	1700	**	2100

PROVISIONAL
Subject to Revision

APPENDIX C

SOUTH WICHITA RIVER NEAR GUTHRIE, TEXAS
MONTHLY AND ANNUAL MEANS AND LOADS
FOR OCTOBER 1970 TO SEPTEMBER 1976

REPRODUCED AT GOVERNMENT EXPENSE

7311780 SOUTH WICHITA RIVER NEAR GUTHRIE, TX. (DISC)

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1970 TO SEPTEMBER 1971

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICRO MHOS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1970	91	41700	29000	7200	15000	3600	3600	890	4700
NOV. 1970	84	41100	29000	6500	14000	3200	3600	810	4500
DEC. 1970	88	42100	29000	6900	15000	3500	3600	860	4700
JAN. 1971	97	41900	29000	7600	15000	3800	3600	950	4700
FEB. 1971	79	40600	28000	6000	14000	3000	3600	760	4500
MAR. 1971	90	43400	30000	7300	15000	3700	3700	900	4900
APR. 1971	83	43800	31000	6800	15000	3400	3700	840	4900
MAY 1971	96	41000	28000	7300	14000	3700	3600	920	4500
JUNE 1971	87	37400	26000	6100	13000	3000	3300	780	4100
JULY 1971	71	45300	32000	6100	16000	3100	3800	730	5100
AUG. 1971	1284	6670	4400	15000	2100	7300	680	2400	690
SEPT 1971	138	34500	24000	8800	12000	4400	3100	1200	3900
TOTAL	2287	**	**	92000	**	45000	**	12000	**
WTD.AVG.	6.3	21600	15000	**	7400	**	1900	**	2400

PROVISIONAL

Subject to Revision

7311780 SOUTH WICHITA RIVER NEAR GUTHRIE, TX. (DISC)

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1971 TO SEPTEMBER 1972

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICROMHOS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1971	279	25300	17000	13000	8300	6200	2400	1800	2700
NOV.	1971	175	32300	22000	10000	11000	5100	3000	1400	3500
DEC.	1971	174	32600	22000	10000	11000	5100	3000	1400	3500
JAN.	1972	154	35100	24000	10000	12000	4900	3200	1300	3800
FEB.	1972	125	37100	25000	8600	13000	4300	3300	1100	4100
MAR.	1972	142	40300	28000	11000	14000	5400	3500	1400	4500
APR.	1972	120	40100	28000	9000	14000	4500	3500	1100	4500
MAY	1972	131	40700	28000	10000	14000	5000	3600	1300	4500
JUNE	1972	162	31900	22000	9500	11000	4700	2900	1300	3500
JULY	1972	127	43400	30000	10000	15000	5200	3700	1300	4900
AUG.	1972	226	26300	18000	11000	8900	5400	2400	1500	2900
SEPT	1972	168	30700	21000	9400	10000	4600	2900	1300	3300
TOTAL		1984	**	**	120000	**	61000	**	16000	**
WTD.AVG.		5.4	33300	23000	**	11000	**	3000	**	3500

PROVISIONAL

Subject to Revision

REPRODUCED AT GOVERNMENT EXPENSE

7311780 SOUTH WICHITA RIVER NEAR GUTHRIE, TX. (DISC)

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1972 TO SEPTEMBER 1973

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICROMHOS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1972	153	33100	23000	9300	11000	4600	3100	1300	3500
NOV.	1972	152	33600	23000	9400	11000	4600	3100	1300	3600
DEC.	1972	152	35700	24000	10000	12000	5000	3200	1300	3300
JAN.	1973	156	35300	24000	10000	12000	5000	3200	1400	3900
FEB.	1973	134	36400	25000	9000	12000	4500	3300	1200	4000
MAR.	1973	242	28600	19000	13000	9500	6200	2700	1800	3100
APR.	1973	164	33300	23000	10000	11000	5000	3100	1400	3500
MAY	1973	148	35100	24000	9600	12000	4800	3200	1300	3800
JUNE	1973	143	37700	26000	10000	13000	5000	3400	1300	4100
JULY	1973	161	41200	29000	12000	14000	6200	3600	1600	4500
AUG.	1973	192	37800	26000	14000	13000	6800	3400	1700	4200
SEPT	1973	192	36100	25000	13000	12000	6400	3300	1700	4000
TOTAL		1988	**	**	130000	**	64000	**	17000	**
WTD.AVG.		5.4	35100	24000	**	12000	**	3200	**	3900

PROVISIONAL
Subject to Revision

7311780 SOUTH WICHITA RIVER NEAR GUTHRIE, TX. (DISC)

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1973 TO SEPTEMBER 1974

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICROMHOS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1973	180	38400	26000	13000	13000	6400	3400	1700	4200
NOV.	1973	122	37700	26000	8600	13000	4300	3400	1100	4200
DEC.	1973	130	37900	26000	9200	13000	4600	3400	1200	4200
JAN.	1974	133	39800	27000	9900	14000	4900	3500	1300	4400
FEB.	1974	116	40300	28000	8700	14000	4400	3500	1100	4500
MAR.	1974	140	41000	28000	11000	14000	5400	3600	1300	4500
APR.	1974	134	42600	30000	11000	15000	5400	3700	1300	4900
MAY	1974	152	40200	28000	11000	14000	5700	3500	1400	4500
JUNE	1974	305	21000	14000	12000	6900	5700	2000	1700	2200
JULY	1974	105	43700	31000	8600	15000	4400	3700	1100	4900
AUG.	1974	98	43200	30000	8000	15000	4000	3700	980	4800
SEPT	1974	156	32200	22000	9300	11000	4600	2900	1200	3500
TOTAL		1771	**	**	120000	**	60000	**	15000	**
WTD.AVG.		4.9	36300	25000	**	12000	**	3200	**	4000

PROVISIONAL

Subject to Revision

REPRODUCED AT GOVERNMENT EXPENSE

7311780 SOUTH WICHITA RIVER NEAR GUTHRIE, TX. (DISC)

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1974 TO SEPTEMBER 1975

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICROMHOS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1974	179	30600	21000	10000	10000	5000	2800	1400	3300
NOV.	1974	140	33100	23000	8500	11000	4200	3100	1200	3500
DEC.	1974	142	35500	24000	9300	12000	4600	3200	1200	3700
JAN.	1975	130	37300	26000	9000	13000	4500	3400	1200	4100
FEB.	1975	112	36700	25000	7700	13000	3800	3300	1000	4000
MAR.	1975	144	39300	27000	11000	14000	5300	3500	1400	4400
APR.	1975	107	39900	28000	8000	14000	4000	3500	1000	4100
MAY	1975	441	17400	12000	14000	5600	6600	1700	2100	1900
JUNE	1975	134	27400	18000	6600	9000	3200	2600	960	2300
JULY	1975	180	26900	18000	8900	9000	4400	2500	1200	2900
AUG.	1975	164	32800	22000	9900	11000	4900	3000	1400	3500
SEPT	1975	144	33800	23000	8900	11000	4400	3100	1200	3700
TOTAL		2018	**	**	110000	**	55000	**	15000	**
WTD.AVG.		5.5	30000	20000	**	10000	**	2800	**	3200

PROVISIONAL

Subject to Revision

7311780 SOUTH WICHITA RIVER NEAR GUTHRIE, TX. (DISC)

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICROMHOS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1975	127	36700	25000	8700	13000	4300	3300	1100	4000
NOV.	1975	108	36900	25000	7400	13000	3700	3300	970	4100
DEC.	1975	116	38200	26000	8200	13000	4100	3400	1100	4200
JAN.	1976	96	39800	28000	7200	14000	3600	3500	910	4400
FEB.	1976	83	40900	28000	6400	14000	3200	3600	800	4500
MAR.	1976	123	41900	29000	9700	15000	4900	3600	1200	4700
APR.	1976	139	39900	28000	10000	14000	5200	3500	1300	4400
MAY	1976	135	41700	29000	11000	15000	5300	3600	1300	4700
JUNE	1976	111	43900	31000	9200	15000	4600	3700	1100	4900
JULY	1976	144	39600	27000	11000	14000	5300	3500	1300	4400
AUG.	1976	145	29800	20000	8000	10000	3900	2700	1100	3200
SEPT	1976	131	35400	24000	8600	12000	4300	3200	1100	3900
TOTAL		1460	**	**	110000	**	52000	**	13000	**
WTD.AVG.		4.0	38500	27000	**	13000	**	3400	**	4300

PROVISIONAL

Subject to Revision

APPENDIX D

SOUTH WICHITA RIVER AT LOW FLOW DAM NEAR GUTHRIE, TEXAS
(STATION NOS. 7311782 AND 7311783)
DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTHS
MAY 1987 - APR 1988

REPRODUCED AT GOVERNMENT EXPENSE

7311782 SOUTH WICHITA RIVER AT LOW FLOW DAM NR GUTHRIE,

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF MAY 1987

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
MAY	1987									
1		7.1	32700	22000	426	11000	210	3000	58	**
2		7.1	32700	22000	426	11000	210	3000	58	**
3		7.1	32700	22000	426	11000	210	3000	58	**
4		0.8	32700	22000	49	11000	24	3000	6.7	**
5		6.2	32700	22000	371	11000	183	3000	51	**
6		0.00	--	--	--	--	--	--	--	--
7		2.9	33400	23000	177	11000	87	3100	24	**
8		6.9	33200	23000	423	11000	209	3100	58	**
9		6.7	33200	23000	409	11000	202	3100	56	**
10		6.7	32900	22000	405	11000	200	3100	55	**
11		6.7	32800	22000	403	11000	199	3100	55	**
12		7.0	33300	23000	428	11000	211	3100	58	**
13		5.2	32900	22000	312	11000	154	3100	43	**
14		7.1	33500	23000	435	11000	215	3100	59	**
15		6.7	33500	23000	414	11000	204	3100	56	**
16		7.4	33100	23000	447	11000	220	3100	61	**
17		7.9	32900	22000	478	11000	236	3100	65	**
18		5.5	30800	21000	312	10000	153	2900	44	**
19		7.0	30100	20000	382	10000	187	2900	54	**
20		10	30400	21000	571	10000	280	2900	80	**
21		7.8	32800	22000	468	11000	231	3100	64	**
22		2.1	31100	21000	120	10000	59	2900	17	**
23		7.1	26900	18000	343	8800	167	2600	50	**
24		9.4	26200	18000	445	8500	217	2600	65	**
25		13	22200	15000	512	7100	247	2200	78	**
26		13	24000	16000	556	7700	269	2400	83	**
27		1.7	25700	17000	78	8300	38	2500	11	**
28		0.00	--	--	--	--	--	--	--	--
29		0.00	--	--	--	--	--	--	--	--
30		0.00	--	--	--	--	--	--	--	--
31		0.01	7860	5000	0.1	2300	0.06	870	0.02	770
TOTAL		176	**	**	9800	**	4800	**	1400	**
WTD. AVG.		5.7	30500	21000	**	10000	**	2900	**	3300

7311762 SOUTH WICHITA RIVER AT LOW FLOW DAM NR GUTHRIE,

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF JUNE 1987

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
JUNE 1987									
1	3.9	12600	8100	85	3800	40	1400	14	**
2	5.4	13000	8400	122	4000	58	1400	20	**
3	8.5	14500	9400	216	4500	102	1500	35	**
4	14	15700	10000	375	4900	178	1600	61	**
5	14	16800	11000	403	5200	192	1800	64	**
6	14	17400	11000	418	5400	199	1800	66	**
7	13	18200	12000	422	5700	202	1900	66	**
8	14	18900	12000	452	5900	217	1900	71	**
9	13	19600	13000	466	6200	224	2000	73	**
10	11	20100	13000	383	6400	184	2000	59	**
11	3.3	16900	11000	98	5300	47	1800	16	**
12	11	13400	8700	256	4100	121	1400	42	**
13	13	13300	8600	304	4100	144	1400	50	**
14	13	14200	9200	326	4400	154	1500	53	**
15	12	15200	9900	313	4700	149	1600	51	**
16	13	16200	11000	382	5000	182	1700	61	**
17	12	17200	11000	356	5400	170	1800	57	**
18	7.8	18100	12000	250	5700	120	1900	39	**
19	11	19100	13000	371	6000	178	2000	58	**
20	8.6	20100	13000	307	6400	148	2000	48	**
21	13	21100	14000	489	6700	235	2100	75	**
22	13	22100	15000	513	7100	248	2200	78	**
23	13	22900	15000	541	7300	261	2300	82	**
24	13	24200	16000	578	7800	280	2400	86	**
25	9.5	23700	16000	402	7600	194	2400	60	**
26	13	24500	16000	579	7900	281	2400	86	**
27	11	24900	17000	485	8100	235	2500	72	**
28	8.8	25200	17000	401	8200	195	2500	59	**
29	11	25600	17000	501	8300	244	2500	74	**
30	13	23600	16000	546	7600	264	2300	82	**
TOTAL	332	**	**	11000	**	5400	**	1800	**
WTD. AVG.	11	19200	13000	**	6100	**	2000	**	2000

7311782 SOUTH WICHITA RIVER AT LOW FLOW DAM NR GUTHRIE,

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF JULY 1987

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
JULY 1987									
1	8.6	25000	17000	385	8100	187	2500	57	**
2	12	25100	17000	539	8100	262	2500	80	**
3	10	25400	17000	471	8200	229	2500	69	**
4	9.7	26600	18000	464	8700	226	2600	68	**
5	11	28200	19000	587	9300	287	2700	84	**
6	3.8	27400	18000	187	9000	91	2700	27	**
7	0.00	--	--	--	--	--	--	--	--
8	0.2	27200	18000	9.4	8900	4.6	2600	1.4	**
9	0.00	--	--	--	--	--	--	--	--
10	3.1	28800	19000	160	9500	78	2800	23	**
11	12	28700	19000	638	9400	312	2800	91	**
12	12	30700	21000	693	10000	340	2900	97	**
13	6.7	29300	20000	357	9700	175	2800	51	**
14	13	28600	19000	661	9400	323	2700	94	**
15	7.2	28400	19000	371	9300	181	2700	53	**
16	10	28000	19000	517	9200	252	2700	74	**
17	7.3	28400	19000	376	9300	184	2700	54	**
18	0.00	--	--	--	--	--	--	--	--
19	0.00	--	--	--	--	--	--	--	--
20	7.9	16500	11000	229	5100	109	1700	37	**
21	13	18400	12000	436	5800	209	1900	69	**
22	13	21600	14000	516	6900	249	2200	79	**
23	13	26200	18000	611	8500	297	2600	89	**
24	7.5	27400	18000	371	9000	181	2700	54	**
25	8.3	26000	17000	389	8500	189	2500	57	**
26	13	27400	18000	635	9000	310	2700	92	**
27	12	27800	19000	589	9100	288	2700	85	**
28	10	28400	19000	518	9300	253	2700	74	**
29	7.8	28600	19000	405	9400	198	2700	58	**
30	7.8	29000	20000	411	9600	201	2800	58	**
31	7.8	28500	19000	404	9400	197	2700	58	**
TOTAL	249	**	**	12000	**	5800	**	1700	**
WTD. AVG.	8.0	26500	18000	**	8600	**	2600	**	2800

7311782 SOUTH WICHITA RIVER AT LOW FLOW DAM NR GUTHRIE.

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF AUG. 1987

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
AUG. 1987									
1	7.8	28900	19000	410	9500	200	2800	58	**
2	7.8	29700	20000	422	9800	207	2800	60	**
3	7.7	30500	21000	427	10000	210	2900	60	**
4	7.4	31300	21000	424	10000	208	2900	59	**
5	7.4	31500	21000	426	10000	210	3000	59	**
6	8.2	29700	20000	442	9800	217	2800	62	**
7	3.5	29100	20000	186	9600	91	2800	26	**
8	0.00	--	--	--	--	--	--	--	--
9	0.00	--	--	--	--	--	--	--	--
10	0.00	--	--	--	--	--	--	--	--
11	7.7	31000	21000	435	10000	214	2900	61	**
12	14	31000	21000	770	10000	378	2900	107	**
13	9.2	31100	21000	521	10000	256	2900	73	**
14	6.9	31300	21000	392	10000	193	2900	54	**
15	2.9	31800	22000	171	11000	84	3000	24	**
16	9.3	31600	21000	535	11000	263	3000	74	**
17	10	31500	21000	577	10000	284	3000	80	**
18	7.8	31500	21000	449	10000	221	3000	62	**
19	7.8	31500	21000	449	10000	221	3000	62	**
20	7.8	31500	21000	449	10000	221	3000	62	**
21	7.8	31500	21000	449	10000	221	3000	62	**
22	7.8	31400	21000	448	10000	220	3000	62	**
23	7.2	31600	21000	413	11000	203	3000	57	**
24	3.9	31600	21000	223	11000	110	3000	31	**
25	7.1	31600	21000	411	11000	202	3000	57	**
26	3.2	31500	21000	182	10000	90	3000	25	**
27	8.8	31600	21000	508	11000	250	3000	70	**
28	13	31700	21000	764	11000	376	3000	106	**
29	12	29200	20000	650	9600	318	2900	92	**
30	7.8	28200	19000	399	9300	195	2700	57	**
31	7.8	31300	21000	446	10000	219	2900	62	**
TOTAL	219	**	**	12000	**	6100	**	1700	**
WTD. AVG.	7.1	30900	21000	**	10000	**	2900	**	3300

REPRODUCED AT GOVERNMENT EXPENSE

7311782 SOUTH WICHITA RIVER AT LOW FLOW DAM NR GUTHRIE,

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF SEPT 1987

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
SEPT 1987									
1	7.8	31400	21000	448	10000	220	3000	62	**
2	7.8	31500	21000	449	10000	221	3000	62	**
3	7.8	31700	21000	453	11000	223	3000	63	**
4	7.3	30500	21000	405	10000	199	2900	57	**
5	7.1	30200	20000	391	10000	192	2900	55	**
6	7.1	29700	20000	384	9800	188	2800	54	**
7	6.5	31500	21000	375	10000	185	3000	52	**
8	7.1	31400	21000	408	10000	201	3000	57	**
9	9.3	31500	21000	534	10000	263	3000	74	**
10	7.8	31500	21000	449	10000	221	3000	62	**
11	7.8	31500	21000	449	10000	221	3000	62	**
12	7.4	31400	21000	425	10000	209	3000	59	**
13	7.9	31300	21000	452	10000	222	2900	63	**
14	7.8	31200	21000	445	10000	219	2900	62	**
15	13	29500	20000	671	9700	329	2800	95	**
16	8.7	31300	21000	495	10000	243	2900	69	**
17	7.8	31200	21000	445	10000	219	2900	62	**
18	7.8	31100	21000	443	10000	218	2900	62	**
19	7.8	31000	21000	442	10000	217	2900	62	**
20	7.8	31100	21000	443	10000	218	2900	62	**
21	7.8	31200	21000	445	10000	219	2900	62	**
22	7.8	31300	21000	446	10000	219	2900	62	**
23	7.8	31400	21000	448	10000	220	3000	62	**
24	7.8	31500	21000	449	10000	221	3000	62	**
25	7.8	31500	21000	449	10000	221	3000	62	**
26	7.8	31600	21000	451	11000	222	3000	62	**
27	6.2	31600	21000	357	11000	176	3000	49	**
28	7.4	31700	21000	427	11000	210	3000	59	**
29	7.1	31600	21000	411	11000	202	3000	57	**
30	7.1	31500	21000	409	10000	201	3000	57	**
TOTAL	233	**	**	13000	**	6500	**	1800	**
WTD. AVG.	7.8	31200	21000	**	10000	**	2900	**	3400

7311782 SOUTH WICHITA RIVER AT LOW FLOW DAM NR GUTHRIE,

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF OCT. 1987

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT. 1987									
1	7.0	31500	21000	400	10000	197	3000	56	**
2	6.5	31500	21000	375	10000	184	3000	52	**
3	7.1	31300	21000	406	10000	200	2900	56	**
4	7.1	31100	21000	404	10000	198	2900	56	**
5	7.1	31300	21000	406	10000	200	2900	56	**
6	7.1	31200	21000	405	10000	199	2900	56	**
7	7.1	31000	21000	400	10000	197	2900	56	**
8	7.2	31800	22000	417	11000	205	3000	58	**
9	7.4	32100	22000	438	11000	215	3000	60	**
10	7.4	31900	22000	435	11000	214	3000	60	**
11	7.4	31700	21000	431	11000	212	3000	60	**
12	7.4	32200	22000	438	11000	216	3000	60	**
13	7.4	32400	22000	440	11000	217	3000	60	**
14	7.4	32000	22000	433	11000	213	3000	60	**
15	7.2	32000	22000	420	11000	207	3000	58	**
16	7.5	32100	22000	440	11000	217	3000	61	**
17	7.5	32200	22000	443	11000	218	3000	61	**
18	4.6	32200	22000	271	11000	134	3000	37	**
19	0.3	32500	22000	15	11000	7.3	3000	2.0	**
20	7.6	32600	22000	452	11000	223	3000	62	**
21	10	32700	22000	605	11000	298	3000	83	**
22	7.0	32600	22000	417	11000	206	3000	57	**
23	6.9	32000	22000	402	11000	198	3000	55	**
24	7.0	31900	22000	408	11000	201	3000	56	**
25	7.0	32000	22000	409	11000	201	3000	56	**
26	6.9	32100	22000	408	11000	201	3000	56	**
27	6.9	32200	22000	408	11000	201	3000	56	**
28	6.9	31900	22000	404	11000	199	3000	56	**
29	6.9	32100	22000	407	11000	200	3000	56	**
30	7.0	32100	22000	412	11000	203	3000	57	**
31	7.0	32000	22000	410	11000	202	3000	57	**
TOTAL	215	**	**	13000	**	6200	**	1700	**
WTD. AVG.	6.9	31900	22000	**	11000	**	3000	**	3400

REPRODUCED AT GOVERNMENT EXPENSE

7311782 SOUTH WICHITA R AT LOW FLOW DAM NR GUTHRIE, TX.

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF NOV. 1987

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
NOV. 1987									
1	7.5	32300	22000	444	11000	219	3000	61	**
2	7.5	32300	22000	444	11000	219	3000	61	**
3	7.5	32400	22000	446	11000	220	3000	61	**
4	7.5	32700	22000	450	11000	222	3000	62	**
5	7.5	32800	22000	451	11000	223	3100	62	**
6	7.5	32800	22000	451	11000	223	3100	62	**
7	7.5	32800	22000	451	11000	223	3100	62	**
8	7.5	32700	22000	450	11000	222	3000	62	**
9	7.4	32400	22000	440	11000	217	3000	60	**
10	6.6	32900	22000	399	11000	197	3100	55	**
11	7.4	33200	23000	451	11000	223	3100	62	**
12	7.4	32300	22000	438	11000	216	3000	60	**
13	7.4	32100	22000	435	11000	214	3000	60	**
14	7.4	32000	22000	434	11000	214	3000	60	**
15	7.4	32100	22000	435	11000	214	3000	60	**
16	7.4	32300	22000	438	11000	216	3000	60	**
17	7.3	32500	22000	435	11000	214	3000	60	**
18	7.4	32900	22000	447	11000	220	3100	61	**
19	7.3	33100	23000	444	11000	219	3100	61	**
20	7.3	32900	22000	441	11000	217	3100	60	**
21	7.3	32300	22000	432	11000	213	3000	59	**
22	7.3	32500	22000	435	11000	214	3000	60	**
23	7.3	32500	22000	435	11000	214	3000	60	**
24	7.3	32200	22000	431	11000	212	3000	59	**
25	7.3	31200	21000	416	10000	205	2900	58	**
26	6.2	29700	20000	335	9800	164	2800	47	**
27	6.9	31900	22000	403	11000	198	3000	56	**
28	6.9	32200	22000	407	11000	201	3000	56	**
29	6.9	31900	22000	403	11000	198	3000	56	**
30	6.9	31800	22000	402	11000	198	3000	56	**
TOTAL	218	**	**	13000	**	6400	**	1800	**
WTD. AVG.	7.3	32300	22000	**	11000	**	3000	**	3500

7311?82 SOUTH WICHITA R AT LOW FLOW DAM NR GUTHRIE, TX.

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF DEC. 1987

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
DEC. 1987									
1	6.8	31600	21000	393	11000	193	3000	54	**
2	6.9	31500	21000	398	10000	196	3000	55	**
3	6.9	31400	21000	396	10000	195	3000	55	**
4	6.9	31100	21000	392	10000	193	2900	55	**
5	8.5	31400	21000	488	10000	240	3000	68	**
6	8.1	31700	21000	470	11000	231	3000	65	**
7	6.9	31300	21000	395	10000	194	2900	55	**
8	7.1	31800	22000	413	11000	203	3000	57	**
9	7.4	32100	22000	435	11000	214	3000	60	**
10	7.3	32000	22000	428	11000	211	3000	59	**
11	7.4	31900	22000	432	11000	213	3000	60	**
12	7.5	31800	22000	437	11000	215	3000	60	**
13	5.9	31700	21000	342	11000	168	3000	47	**
14	6.0	31600	21000	347	11000	171	3000	48	**
15	12	31500	21000	692	10000	340	3000	96	**
16	7.9	31400	21000	454	10000	223	3000	63	**
17	7.3	31300	21000	418	10000	205	2900	58	**
18	7.3	31200	21000	416	10000	205	2900	58	**
19	7.4	31100	21000	421	10000	207	2900	59	**
20	9.7	31000	21000	549	10000	270	2900	77	**
21	7.2	31000	21000	408	10000	200	2900	57	**
22	7.2	30900	21000	406	10000	200	2900	57	**
23	7.2	30900	21000	406	10000	200	2900	57	**
24	7.4	31200	21000	422	10000	207	2900	59	**
25	11	30300	20000	608	10000	298	2900	85	**
26	4.1	30700	21000	230	10000	113	2900	32	**
27	2.8	30500	21000	156	10000	76	2900	22	**
28	12	28900	19000	630	9500	308	2800	90	**
29	12	29200	20000	637	9600	312	2800	90	**
30	9.4	29600	20000	507	9800	248	2800	72	**
31	6.9	29600	20000	372	9800	182	2800	53	**
TOTAL	238.4	**	**	13000	**	6600	**	1900	**
WTD. AVG.	7.7	31000	21000	**	10000	**	2900	**	3300

REPRODUCED AT GOVERNMENT EXPENSE

7311782 SOUTH WICHITA R AT LOW FLOW DAM NR GUTHRIE, TX.

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF JAN. 1988

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
JAN. 1988									
1	10	29800	20000	543	9900	266	2800	77	**
2	6.8	30200	20000	374	10000	184	2900	53	**
3	7.9	30200	20000	435	10000	213	2900	61	**
4	9.0	30200	20000	496	10000	243	2900	70	**
5	6.5	30100	20000	357	10000	175	2900	50	**
6	6.1	29900	20000	332	9900	163	2800	47	**
7	12	30300	20000	663	10000	325	2900	93	**
8	8.1	30100	20000	444	10000	218	2900	62	**
9	5.0	29300	20000	267	9700	131	2800	38	**
10	1.7	29100	20000	90	9600	44	2800	13	**
11	0.00	--	--	--	--	--	--	--	--
12	0.00	--	--	--	--	--	--	--	--
13	0.00	--	--	--	--	--	--	--	--
14	0.00	--	--	--	--	--	--	--	--
15	0.00	--	--	--	--	--	--	--	--
16	0.00	--	--	--	--	--	--	--	--
17	0.00	--	--	--	--	--	--	--	--
18	0.00	--	--	--	--	--	--	--	--
19	0.00	--	--	--	--	--	--	--	--
20	3.2	31000	21000	181	10000	89	2900	25	**
21	7.4	31300	21000	424	10000	208	2900	59	**
22	7.4	31400	21000	425	10000	209	3000	59	**
23	9.3	31400	21000	534	10000	263	3000	74	**
24	12	31600	21000	694	11000	341	3000	96	**
25	7.5	31200	21000	428	10000	210	2900	59	**
26	6.9	31400	21000	396	10000	195	3000	55	**
27	6.9	31500	21000	398	10000	196	3000	55	**
28	6.9	31800	22000	402	11000	198	3000	56	**
29	6.9	31800	22000	402	11000	198	3000	56	**
30	6.9	32100	22000	406	11000	200	3000	56	**
31	6.8	32100	22000	400	11000	197	3000	55	**
TOTAL	161.2	**	**	9100	**	4500	**	1300	**
WTD. AVG.	5.2	30900	21000	**	10000	**	2900	**	3300

REPRODUCED AT GOVERNMENT EXPENSE

7311782 SOUTH WICHITA R AT LOW FLOW DAM NR GUTHRIE, TX.

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF FEB. 1988

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
FEB. 1988									
1	7.9	32200	22000	466	11000	230	3000	64	**
2	8.6	31500	21000	496	10000	244	3000	69	**
3	7.6	32500	22000	453	11000	223	3000	62	**
4	7.6	32300	22000	450	11000	222	3000	62	**
5	7.6	32100	22000	447	11000	220	3000	62	**
6	7.6	31900	22000	444	11000	219	3000	61	**
7	7.6	32000	22000	445	11000	219	3000	61	**
8	7.5	31600	21000	434	11000	213	3000	60	**
9	5.7	31400	21000	327	10000	161	3000	45	**
10	7.6	31500	21000	438	10000	215	3000	61	**
11	9.0	31800	22000	524	11000	258	3000	72	**
12	7.6	31300	21000	435	10000	214	2900	60	**
13	7.5	31300	21000	429	10000	211	2900	60	**
14	7.5	31700	21000	435	11000	214	3000	60	**
15	7.5	32200	22000	443	11000	218	3000	61	**
16	9.7	31400	21000	557	10000	274	3000	77	**
17	7.9	31300	21000	452	10000	222	2900	63	**
18	3.7	32700	22000	222	11000	109	3000	30	**
19	0.00	--	--	--	--	--	--	--	--
20	2.4	33000	22000	145	11000	72	3100	20	**
21	7.4	33200	23000	451	11000	223	3100	62	**
22	6.6	33200	23000	403	11000	199	3100	55	**
23	7.5	33300	23000	459	11000	227	3100	63	**
24	9.6	33000	22000	582	11000	287	3100	79	**
25	12	32800	22000	722	11000	356	3100	99	**
26	9.0	32800	22000	542	11000	267	3100	74	**
27	7.3	32900	22000	441	11000	217	3100	60	**
28	7.3	32700	22000	438	11000	216	3000	60	**
29	7.3	32700	22000	438	11000	216	3000	60	**
TOTAL	212.1	**	**	13000	**	6200	**	1700	**
WTD. AVG.	7.3	32200	22000	**	11000	**	3000	**	3500

REPRODUCED AT GOVERNMENT EXPENSE

7311782 SOUTH WICHITA R AT LOW FLOW DAM NR GUTHRIE, TX.

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF MAR. 1988

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
MAR. 1988									
1	5.8	33000	22000	351	11000	173	3100	48	**
2	3.2	32800	22000	193	11000	95	3100	26	**
3	9.4	32400	22000	558	11000	275	3000	77	**
4	11	31400	21000	632	10000	311	3000	88	**
5	11	31200	21000	627	10000	308	2900	87	**
6	7.1	30700	21000	398	10000	195	2900	56	**
7	6.7	31100	21000	381	10000	187	2900	53	**
8	8.1	30800	21000	456	10000	224	2900	64	**
9	6.7	31100	21000	381	10000	187	2900	53	**
10	6.7	31700	21000	389	11000	191	3000	54	**
11	9.3	31400	21000	534	10000	263	3000	74	**
12	7.6	30600	21000	424	10000	208	2900	59	**
13	7.1	32200	22000	419	11000	206	3000	58	**
14	7.1	32800	22000	427	11000	211	3100	59	**
15	7.1	33000	22000	430	11000	212	3100	59	**
16	7.1	33300	23000	434	11000	214	3100	59	**
17	7.1	33600	23000	439	11000	217	3100	60	**
18	7.1	33600	23000	439	11000	217	3100	60	**
19	7.1	33600	23000	439	11000	217	3100	60	**
20	7.1	33700	23000	440	11000	217	3100	60	**
21	7.0	33700	23000	434	11000	214	3100	59	**
22	7.0	34300	23000	442	12000	219	3200	60	**
23	7.4	35000	24000	478	12000	237	3200	64	**
24	9.1	34900	24000	586	12000	290	3200	79	**
25	6.9	34200	23000	435	12000	215	3100	59	**
26	7.2	34400	23000	456	12000	226	3200	61	**
27	7.2	34600	24000	459	12000	227	3200	62	**
28	7.2	34700	24000	461	12000	228	3200	62	**
29	7.2	34900	24000	464	12000	230	3200	62	**
30	7.2	35000	24000	465	12000	230	3200	62	**
31	7.2	34700	24000	461	12000	228	3200	62	**
TOTAL	230	**	**	14000	**	6900	**	1900	**
WTD. AVG.	7.4	33000	22000	**	11000	**	3100	**	3600

7311782 SOUTH WICHITA R AT LOW FLOW DAM NR GUTHRIE, TX.

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF APR. 1988

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
APR. 1988									
1	7.3	34400	23000	463	12000	229	3200	62	**
2	7.4	34100	23000	465	11000	230	3100	63	**
3	7.4	33800	23000	460	11000	227	3100	62	**
4	7.4	33600	23000	457	11000	226	3100	62	**
5	7.4	33500	23000	456	11000	225	3100	62	**
6	7.4	33500	23000	456	11000	225	3100	62	**
7	7.4	33400	23000	454	11000	224	3100	62	**
8	5.9	33400	23000	362	11000	179	3100	49	**
9	5.7	33200	23000	348	11000	172	3100	47	**
10	3.0	33300	23000	184	11000	91	3100	25	**
11	6.9	33200	23000	421	11000	208	3100	57	**
12	6.9	33200	23000	421	11000	208	3100	57	**
13	8.9	33100	23000	541	11000	267	3100	74	**
14	7.9	33100	23000	480	11000	237	3100	66	**
15	7.5	33000	22000	454	11000	224	3100	62	**
16	7.5	33000	22000	454	11000	224	3100	62	**
17	7.5	32900	22000	453	11000	223	3100	62	**
18	7.5	32900	22000	453	11000	223	3100	62	**
19	7.5	32800	22000	451	11000	223	3100	62	**
20	3.6	32800	22000	217	11000	107	3100	30	**
21	0.00	--	--	--	--	--	--	--	--
22	0.00	--	--	--	--	--	--	--	--
23	0.00	--	--	--	--	--	--	--	--
24	0.00	--	--	--	--	--	--	--	--
25	0.00	--	--	--	--	--	--	--	--
26	0.00	--	--	--	--	--	--	--	--
27	0.00	--	--	--	--	--	--	--	--
28	2.2	34100	23000	138	11000	68	3100	19	**
29	10	34500	24000	636	12000	315	3200	86	**
30	12	34500	24000	763	12000	378	3200	103	**
TOTAL	162.2	**	**	10000	**	4900	**	1400	**
WTD. AVG.	5.4	33500	23000	**	11000	**	3100	**	3600

REPRODUCED AT GOVERNMENT EXPENSE

7311750 SOUTH WICHITA RIVER BELOW LOW FLOW DAM NR GUTHR

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF MAY 1987

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
MAY 1987									
1	0.03	29700	20000	1.6	9800	0.8	2800	0.2	**
2	0.04	30600	21000	2.2	10000	1.1	2900	0.3	**
3	0.03	30900	21000	1.7	10000	0.8	2900	0.2	**
4	0.04	30500	21000	2.2	10000	1.1	2900	0.3	**
5	0.03	31400	21000	1.7	10000	0.8	3000	0.2	**
6	0.03	29700	20000	1.6	9800	0.8	2800	0.2	**
7	0.4	31900	22000	22	11000	11	3000	3.0	**
8	0.05	34000	23000	3.1	11000	1.5	3100	0.4	**
9	0.05	33100	23000	3.0	11000	1.5	3100	0.4	**
10	0.06	32000	22000	3.5	11000	1.7	3000	0.5	**
11	0.06	31300	21000	3.4	10000	1.7	2900	0.5	**
12	0.06	31600	21000	3.5	11000	1.7	3000	0.5	**
13	0.07	31600	21000	4.0	11000	2.0	3000	0.6	**
14	0.08	31700	21000	4.6	11000	2.3	3000	0.6	**
15	0.08	31600	21000	4.6	11000	2.3	3000	0.6	**
16	0.08	31400	21000	4.6	10000	2.3	3000	0.6	**
17	0.1	31700	21000	5.8	11000	2.9	3000	0.8	**
18	0.1	30900	21000	5.6	10000	2.8	2900	0.8	**
19	0.1	28900	19000	5.3	9500	2.6	2800	0.7	**
20	0.09	29400	20000	4.8	9700	2.4	2800	0.7	**
21	0.08	30800	21000	4.5	10000	2.2	2900	0.6	**
22	0.09	25400	17000	4.1	8200	2.0	2500	0.6	**
23	6.7	23300	15000	280	7500	135	2300	42	**
24	6.4	25400	17000	293	8200	142	2500	43	**
25	0.1	25700	17000	6.0	8300	2.9	2500	0.9	**
26	0.1	26200	18000	5.7	8500	2.8	2600	0.8	**
27	112	21300	14000	4250	6800	2050	2200	651	**
28	1030	1150	720	2000	330	920	130	368	110
29	415	3530	2200	2490	1000	1150	400	449	340
30	52	6460	4100	576	1900	268	720	101	630
31	25	9230	5900	399	2800	187	1000	68	910
TOTAL	1649	**	**	10000	**	4900	**	1700	**
WTD. AVG.	53	3630	2300	**	1100	**	390	**	360

REPRODUCED AT GOVERNMENT EXPENSE

7311783 SOUTH WICHITA RIVER BELOW LOW FLOW DAM NR GUTHR

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF JUNE 1987

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
JUNE 1987									
1	9.3	11700	7500	189	3600	89	1300	32	**
2	8.3	12800	8300	185	3900	88	1400	31	**
3	8.5	13700	8900	204	4200	96	1500	33	**
4	3.8	15300	9900	102	4700	48	1600	17	**
5	2.6	16400	11000	75	5100	36	1700	12	**
6	1.0	17200	11000	29	5400	14	1800	4.7	**
7	0.4	18200	12000	13	5700	6.0	1900	2.0	**
8	0.2	19100	13000	7.8	6000	3.7	2000	1.2	**
9	0.3	19800	13000	9.5	6300	4.6	2000	1.5	**
10	12	20500	14000	438	6500	210	2100	68	**
11	11	15300	9900	295	4700	140	1600	48	**
12	6.4	14100	9100	158	4300	75	1500	26	**
13	4.9	14500	9400	124	4500	59	1500	20	**
14	5.7	16300	11000	163	5100	78	1700	26	**
15	2.5	16900	11000	74	5300	36	1800	12	**
16	1.2	17600	12000	37	5500	18	1800	5.9	**
17	0.5	19800	13000	19	6300	8.9	2000	2.9	**
18	5.0	20700	14000	184	6600	89	2100	28	**
19	0.1	21700	14000	4.3	6900	2.1	2200	0.6	**
20	4.4	22600	15000	178	7200	86	2300	27	**
21	0.1	23600	16000	5.1	7600	2.5	2300	0.8	**
22	0.1	24500	16000	4.8	7900	2.3	2400	0.7	**
23	0.1	25400	17000	5.9	8200	2.9	2500	0.9	**
24	0.1	26400	18000	6.7	8600	3.2	2600	1.0	**
25	0.3	24400	16000	14	7900	6.8	2400	2.1	**
26	0.2	24800	17000	8.0	8000	3.9	2400	1.2	**
27	0.2	24800	17000	8.5	8000	4.1	2400	1.3	**
28	0.2	24700	16000	8.4	8000	4.1	2400	1.3	**
29	1.5	22900	15000	61	7300	30	2300	9.3	**
30	0.3	19900	13000	9.5	6300	4.6	2000	1.5	**
TOTAL	91	**	**	2600	**	1300	**	420	**
WTD. AVG.	3.0	16300	11000	**	5100	**	1700	**	1700

REPRODUCED AT GOVERNMENT EXPENSE

7311783 SOUTH WICHITA RIVER BELOW LOW FLOW DAM NR GUTHR

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF JULY 1987

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
JULY 1987									
1	0.2	20800	14000	7.0	6600	3.4	2100	1.1	**
2	0.2	21000	14000	6.7	6700	3.2	2100	1.0	**
3	0.2	21300	14000	6.1	6800	2.9	2200	0.9	**
4	0.1	24800	17000	6.2	8000	3.0	2400	0.9	**
5	0.1	27000	18000	6.8	8800	3.3	2600	1.0	**
6	0.1	26100	17000	6.1	8500	3.0	2600	0.9	**
7	1.8	25500	17000	83	8300	40	2500	12	**
8	7.5	26200	18000	355	8500	173	2600	52	**
9	7.5	26400	18000	358	8600	174	2600	52	**
10	6.3	27300	18000	311	8900	152	2600	45	**
11	0.1	27400	18000	6.9	9000	3.4	2700	1.0	**
12	0.1	28900	19000	6.3	9500	3.1	2800	0.9	**
13	0.2	26200	18000	9.0	8500	4.4	2600	1.3	**
14	0.1	27100	18000	5.9	8900	2.9	2600	0.9	**
15	0.1	28200	19000	5.1	9300	2.5	2700	0.7	**
16	0.8	25400	17000	37	8200	18	2500	5.5	**
17	28	18800	12000	932	5900	447	1900	146	**
18	26	11600	7500	524	3500	247	1300	88	**
19	5.6	13200	8500	129	4000	61	1400	21	**
20	1.8	14200	9200	45	4400	21	1500	7.3	**
21	0.2	16800	11000	4.4	5200	2.1	1800	0.7	**
22	0.1	20300	13000	4.3	6400	2.1	2100	0.7	**
23	0.09	22500	15000	3.6	7200	1.7	2300	0.5	**
24	0.08	23900	16000	3.4	7700	1.7	2400	0.5	**
25	0.07	25000	17000	3.1	8100	1.5	2500	0.5	**
26	0.07	25600	17000	3.2	8300	1.6	2500	0.5	**
27	0.06	26000	17000	2.8	8500	1.4	2500	0.4	**
28	0.06	26400	18000	2.9	8600	1.4	2600	0.4	**
29	0.06	26600	18000	2.9	8700	1.4	2600	0.4	**
30	0.06	26800	18000	2.9	8700	1.4	2600	0.4	**
31	0.07	27200	18000	3.4	8900	1.7	2600	0.5	**
TOTAL	88	**	**	2900	**	1400	**	450	**
WTD. AVG.	2.8	18500	12000	**	8800	**	1900	**	1900

REPRODUCED AT GOVERNMENT EXPENSE

7311780 SOUTH WICHITA RIVER BELOW LOW FLOW DAM NR GUTHR

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF AUG. 1987

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
AUG. 1987									
1	0.09	27800	19000	4.5	9100	2.2	2700	0.7	**
2	0.09	28400	19000	4.6	9300	2.3	2700	0.7	**
3	0.08	29000	20000	4.2	9600	2.1	2800	0.6	**
4	0.06	29500	20000	3.2	9700	1.6	2800	0.5	**
5	0.06	29600	20000	3.2	9800	1.6	2800	0.5	**
6	0.07	29500	20000	3.8	9700	1.8	2800	0.5	**
7	0.06	29100	20000	3.2	9600	1.6	2800	0.5	**
8	0.06	28700	19000	3.1	9400	1.5	2800	0.4	**
9	4.1	30000	20000	224	9900	110	2800	32	**
10	6.5	31000	21000	368	10000	181	2900	51	**
11	6.6	31000	21000	374	10000	184	2900	52	**
12	3.6	31000	21000	204	10000	100	2900	28	**
13	0.1	30900	21000	5.6	10000	2.8	2900	0.8	**
14	0.09	31500	21000	5.2	10000	2.6	3000	0.7	**
15	0.08	30700	21000	4.5	10000	2.2	2900	0.6	**
16	0.08	30900	21000	4.5	10000	2.2	2900	0.6	**
17	0.08	30900	21000	4.5	10000	2.2	2900	0.6	**
18	0.08	30400	21000	4.4	10000	2.2	2900	0.6	**
19	0.08	30500	21000	4.5	10000	2.2	2900	0.6	**
20	0.1	30600	21000	5.6	10000	2.7	2900	0.8	**
21	0.08	30100	20000	4.4	10000	2.2	2900	0.6	**
22	0.07	29700	20000	3.8	9800	1.9	2800	0.5	**
23	0.05	29700	20000	2.7	9800	1.3	2800	0.4	**
24	0.05	29400	20000	2.7	9700	1.3	2800	0.4	**
25	0.06	29600	20000	3.2	9800	1.6	2800	0.5	**
26	0.06	29600	20000	3.2	9800	1.6	2800	0.5	**
27	0.8	26800	18000	37	8700	18	2600	5.3	**
28	0.08	25700	17000	3.7	8300	1.8	2500	0.5	**
29	0.09	25700	17000	4.2	8300	2.0	2500	0.6	**
30	0.09	26200	18000	4.3	8500	2.1	2600	0.6	**
31	0.08	27000	18000	3.9	8800	1.9	2600	0.6	**
TOTAL	24	**	**	1300	**	640	**	180	**
WTD. AVG.	0.8	30500	21000	**	10000	**	2900	**	3300

REPRODUCED AT GOVERNMENT EXPENSE

7311783 SOUTH WICHITA RIVER BELOW LOW FLOW DAM NR GUTHR

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF SEPT 1987

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
SEPT 1987									
1	0.08	26800	18000	3.9	8700	1.9	2600	0.6	**
2	0.07	28100	19000	3.6	9200	1.7	2700	0.5	**
3	0.08	27200	18000	3.9	8900	1.9	2600	0.6	**
4	0.09	25000	17000	4.0	8100	2.0	2500	0.6	**
5	0.08	24700	16000	3.6	8000	1.7	2400	0.5	**
6	0.09	23900	16000	3.9	7700	1.9	2400	0.6	**
7	0.07	26000	17000	3.3	8500	1.6	2500	0.5	**
8	0.06	26700	18000	2.9	8700	1.4	2600	0.4	**
9	0.07	27700	19000	3.5	9100	1.7	2700	0.5	**
10	0.08	28700	19000	4.2	9400	2.0	2800	0.6	**
11	0.06	28700	19000	3.1	9400	1.5	2800	0.4	**
12	0.08	27000	18000	3.9	8800	1.9	2600	0.6	**
13	0.08	27400	18000	4.0	9000	1.9	2700	0.6	**
14	0.06	26000	17000	2.8	8500	1.4	2500	0.4	**
15	0.06	26700	18000	2.9	8700	1.4	2600	0.4	**
16	0.06	27000	18000	2.9	8800	1.4	2600	0.4	**
17	0.06	27300	18000	3.0	8900	1.4	2600	0.4	**
18	0.05	27300	18000	2.5	8900	1.2	2600	0.4	**
19	0.06	27300	18000	3.0	8900	1.4	2600	0.4	**
20	0.06	27400	18000	3.0	9000	1.5	2700	0.4	**
21	0.06	27500	18000	3.0	9000	1.5	2700	0.4	**
22	0.06	27500	18000	3.0	9000	1.5	2700	0.4	**
23	0.05	27600	19000	2.5	9000	1.2	2700	0.4	**
24	0.05	27600	19000	2.5	9000	1.2	2700	0.4	**
25	0.05	27600	19000	2.5	9000	1.2	2700	0.4	**
26	0.05	27600	19000	2.5	9000	1.2	2700	0.4	**
27	0.05	27700	19000	2.5	9100	1.2	2700	0.4	**
28	0.05	27700	19000	2.5	9100	1.2	2700	0.4	**
29	0.05	27600	19000	2.5	9000	1.2	2700	0.4	**
30	0.05	27600	19000	2.5	9000	1.2	2700	0.4	**
TOTAL	1.9	**	**	94	**	46	**	14	**
WTD. AVG.	0.06	27000	18000	**	8800	**	2600	**	2900

7311783 SOUTH WICHITA RIVER BELOW LOW FLOW DAM NR GUTHR

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF OCT. 1987

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT. 1987									
1	0.06	27100	18000	2.9	8900	1.4	2600	0.4	**
2	0.05	27100	18000	2.5	8900	1.2	2600	0.4	**
3	0.06	27200	18000	3.0	8900	1.4	2600	0.4	**
4	0.07	27100	18000	3.4	8900	1.7	2600	0.5	**
5	0.05	27000	18000	2.4	8800	1.2	2600	0.4	**
6	0.05	27100	18000	2.5	8900	1.2	2600	0.4	**
7	0.06	27000	18000	2.9	8800	1.4	2600	0.4	**
8	0.06	27300	18000	3.0	8900	1.4	2600	0.4	**
9	0.06	27600	19000	3.0	9000	1.5	2700	0.4	**
10	0.05	27600	19000	2.5	9000	1.2	2700	0.4	**
11	0.05	27600	19000	2.5	9000	1.2	2700	0.4	**
12	0.06	27600	19000	3.0	9000	1.5	2700	0.4	**
13	0.06	27500	18000	3.0	9000	1.5	2700	0.4	**
14	0.06	27500	18000	3.0	9000	1.5	2700	0.4	**
15	0.05	27400	18000	2.5	9000	1.2	2700	0.4	**
16	0.04	27300	18000	2.0	8900	1.0	2600	0.3	**
17	0.04	27400	18000	2.0	9000	1.0	2700	0.3	**
18	0.05	27400	18000	2.5	9000	1.2	2700	0.4	**
19	0.04	27500	18000	2.0	9000	1.0	2700	0.3	**
20	0.04	27800	19000	2.0	9100	1.0	2700	0.3	**
21	0.06	27800	19000	3.0	9100	1.5	2700	0.4	**
22	0.06	27900	19000	3.0	9100	1.5	2700	0.4	**
23	0.05	27900	19000	2.5	9100	1.2	2700	0.4	**
24	0.06	27900	19000	3.0	9100	1.5	2700	0.4	**
25	0.06	27800	19000	3.0	9100	1.5	2700	0.4	**
26	0.06	27800	19000	3.0	9100	1.5	2700	0.4	**
27	0.07	27900	19000	3.5	9100	1.7	2700	0.5	**
28	0.06	28000	19000	3.0	9200	1.5	2700	0.4	**
29	0.06	28100	19000	3.1	9200	1.5	2700	0.4	**
30	0.08	28100	19000	4.1	9200	2.0	2700	0.6	**
31	0.06	28200	19000	3.1	9300	1.5	2700	0.4	**
TOTAL	1.7	**	**	87	**	42	**	13	**
WTD. AVG.	0.06	27600	19000	**	9000	**	2700	**	2900

REPRODUCED AT GOVERNMENT EXPENSE

7311783 SOUTH WICHITA R BLW LOW FLOW DAM NR GUTHRIE, TX

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF NOV. 1987

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
NOV. 1987									
1	0.06	28100	19000	3.1	9200	1.5	2700	0.44	**
2	0.07	28200	19000	3.6	9300	1.7	2700	0.51	**
3	0.07	28000	19000	3.6	9200	1.7	2700	0.51	**
4	0.06	27800	19000	3.0	9100	1.5	2700	0.43	**
5	0.05	27900	19000	2.5	9100	1.2	2700	0.36	**
6	0.05	28000	19000	2.5	9200	1.2	2700	0.36	**
7	0.06	28100	19000	3.1	9200	1.5	2700	0.44	**
8	0.06	28300	19000	3.1	9300	1.5	2700	0.44	**
9	0.05	28300	19000	2.6	9300	1.3	2700	0.37	**
10	0.05	28400	19000	2.6	9300	1.3	2700	0.37	**
11	0.05	28500	19000	2.6	9400	1.3	2700	0.37	**
12	0.05	28600	19000	2.6	9400	1.3	2700	0.37	**
13	0.05	28700	19000	2.6	9400	1.3	2800	0.37	**
14	0.05	28800	19000	2.6	9500	1.3	2800	0.37	**
15	0.04	28800	19000	2.1	9500	1.0	2800	0.30	**
16	0.05	29000	20000	2.6	9600	1.3	2800	0.37	**
17	0.04	29100	20000	2.1	9600	1.0	2800	0.30	**
18	0.04	29200	20000	2.1	9600	1.0	2800	0.30	**
19	0.05	29300	20000	2.7	9700	1.3	2800	0.38	**
20	0.04	29300	20000	2.1	9700	1.0	2800	0.30	**
21	0.04	29300	20000	2.1	9700	1.0	2800	0.30	**
22	0.04	29300	20000	2.1	9700	1.0	2800	0.30	**
23	0.04	29300	20000	2.1	9700	1.0	2800	0.30	**
24	0.04	29300	20000	2.1	9700	1.0	2800	0.30	**
25	0.03	29300	20000	1.6	9700	0.78	2800	0.23	**
26	0.04	29200	20000	2.1	9600	1.0	2800	0.30	**
27	0.03	29100	20000	1.6	9600	0.78	2800	0.23	**
28	0.03	29100	20000	1.6	9600	0.78	2800	0.23	**
29	0.03	29100	20000	1.6	9600	0.78	2800	0.23	**
30	0.04	29000	20000	2.1	9600	1.0	2800	0.30	**
TOTAL	1.4	**	**	73	**	36	**	10	**
WTD. AVG.	0.05	28700	19000	**	9400	**	2700	**	3100

7311763 SOUTH WICHITA R BLW LOW FLOW DAM NR GUTHRIE, TX

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF DEC. 1987

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
DEC. 1987									
1	0.06	28900	19000	3.2	9500	1.5	2800	0.45	**
2	0.03	28900	19000	1.6	9500	0.77	2800	0.22	**
3	0.03	28900	19000	1.6	9500	0.77	2800	0.22	**
4	0.03	28900	19000	1.6	9500	0.77	2800	0.22	**
5	0.03	28800	19000	1.6	9500	0.77	2800	0.22	**
6	0.03	28800	19000	1.6	9500	0.77	2800	0.22	**
7	0.04	28700	19000	2.1	9400	1.0	2800	0.30	**
8	0.03	28500	19000	1.6	9400	0.76	2700	0.22	**
9	0.05	28200	19000	2.6	9300	1.2	2700	0.37	**
10	0.05	28300	19000	2.6	9300	1.3	2700	0.37	**
11	0.08	28200	19000	4.1	9300	2.0	2700	0.59	**
12	0.08	28200	19000	4.1	9300	2.0	2700	0.59	**
13	0.03	28200	19000	1.5	9300	0.75	2700	0.22	**
14	0.03	28000	19000	1.5	9200	0.74	2700	0.22	**
15	0.05	28000	19000	2.5	9200	1.2	2700	0.36	**
16	0.06	28000	19000	3.0	9200	1.5	2700	0.44	**
17	0.06	27900	19000	3.0	9100	1.5	2700	0.44	**
18	0.06	27800	19000	3.0	9100	1.5	2700	0.43	**
19	0.05	27700	19000	2.5	9100	1.2	2700	0.36	**
20	0.04	27600	19000	2.0	9000	0.98	2700	0.29	**
21	0.03	27500	18000	1.5	9000	0.73	2700	0.22	**
22	0.03	27600	19000	1.5	9000	0.73	2700	0.22	**
23	0.03	27700	19000	1.5	9100	0.74	2700	0.22	**
24	0.02	27900	19000	1.0	9100	0.49	2700	0.15	**
25	0.03	28000	19000	1.5	9200	0.74	2700	0.22	**
26	0.03	27900	19000	1.5	9100	0.74	2700	0.22	**
27	6.7	29400	20000	358	9700	176	2800	51	**
28	0.05	29500	20000	2.7	9700	1.3	2800	0.38	**
29	0.05	28900	19000	2.6	9500	1.3	2800	0.37	**
30	0.06	29500	20000	3.2	9700	1.6	2800	0.46	**
31	0.03	29900	20000	1.6	9900	0.80	2800	0.23	**
TOTAL	7.98	**	**	420	**	210	**	60	**
WTD. AVG.	0.26	29200	20000	**	9600	**	2800	**	3100

REPRODUCED AT GOVERNMENT EXPENSE

7311783 SOUTH WICHITA R BLW LOW FLOW DAM NR GUTHRIE, TX

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF JAN. 1988

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
JAN. 1988									
1	0.02	28600	19000	1.0	9400	0.51	2700	0.15	**
2	0.02	27900	19000	1.0	9100	0.49	2700	0.15	**
3	0.02	26100	17000	0.94	8500	0.46	2600	0.14	**
4	0.02	25800	17000	0.93	8400	0.45	2500	0.14	**
5	0.02	28400	19000	1.0	9300	0.50	2700	0.15	**
6	0.03	29700	20000	1.6	9800	0.80	2800	0.23	**
7	0.04	28800	19000	2.1	9500	1.0	2800	0.30	**
8	0.06	30000	20000	3.3	9900	1.6	2900	0.46	**
9	0.06	29700	20000	3.2	9800	1.6	2800	0.46	**
10	0.06	26800	18000	2.9	8700	1.4	2600	0.42	**
11	6.0	29400	20000	321	9700	157	2800	45	**
12	6.3	29200	20000	335	9600	164	2800	47	**
13	5.5	28200	19000	281	9300	137	2700	40	**
14	5.7	28100	19000	291	9200	142	2700	42	**
15	7.9	26800	18000	383	8700	186	2600	56	**
16	8.3	30100	20000	455	10000	223	2900	64	**
17	7.4	30300	20000	409	10000	201	2900	57	**
18	8.3	29500	20000	446	9700	218	2800	63	**
19	6.1	27300	18000	301	8900	147	2600	44	**
20	2.3	30300	20000	127	10000	62	2900	18	**
21	0.04	30800	21000	2.2	10000	1.1	2900	0.31	**
22	0.03	30800	21000	1.7	10000	0.83	2900	0.24	**
23	0.03	30100	20000	1.6	10000	0.81	2900	0.23	**
24	0.03	30300	20000	1.7	10000	0.81	2900	0.23	**
25	0.03	30000	20000	1.6	9900	0.80	2900	0.23	**
26	0.03	30200	20000	1.7	10000	0.81	2900	0.23	**
27	0.03	30200	20000	1.7	10000	0.81	2900	0.23	**
28	0.02	30200	20000	1.1	10000	0.54	2900	0.15	**
29	0.02	30200	20000	1.1	10000	0.54	2900	0.15	**
30	0.02	30300	20000	1.1	10000	0.54	2900	0.16	**
31	0.03	30200	20000	1.7	10000	0.81	2900	0.23	**
TOTAL	64.46	**	**	3400	**	1700	**	480	**
WTD. AVG.	2.1	28900	19000	**	9500	**	2800	**	3100

REPRODUCED AT GOVERNMENT EXPENSE

7311783 SOUTH WICHITA R BLW LON FLOW DAM NR GUTHRIE, TX

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF FEB. 1988

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
FEB. 1988									
1	0.03	30200	20000	1.7	10000	0.81	2900	0.23	**
2	0.03	30300	20000	1.7	10000	0.81	2900	0.23	**
3	0.03	30200	20000	1.7	10000	0.81	2900	0.23	**
4	0.03	30300	20000	1.7	10000	0.81	2900	0.23	**
5	0.03	30200	20000	1.7	10000	0.81	2900	0.23	**
6	0.03	30000	20000	1.6	9900	0.80	2900	0.23	**
7	0.03	29900	20000	1.6	9900	0.80	2800	0.23	**
8	0.03	29800	20000	1.6	9900	0.80	2800	0.23	**
9	0.03	29900	20000	1.6	9900	0.80	2800	0.23	**
10	0.03	29900	20000	1.6	9900	0.80	2800	0.23	**
11	0.03	30000	20000	1.6	9900	0.80	2900	0.23	**
12	0.03	30100	20000	1.6	10000	0.81	2900	0.23	**
13	0.03	30200	20000	1.7	10000	0.81	2900	0.23	**
14	0.03	30300	20000	1.7	10000	0.81	2900	0.23	**
15	0.03	30300	20000	1.7	10000	0.81	2900	0.23	**
16	0.03	30500	21000	1.7	10000	0.82	2900	0.23	**
17	0.03	30700	21000	1.7	10000	0.83	2900	0.24	**
18	0.03	30800	21000	1.7	10000	0.83	2900	0.24	**
19	0.03	30900	21000	1.7	10000	0.83	2900	0.24	**
20	3.4	33000	22000	206	11000	102	3100	28	**
21	0.03	32800	22000	1.8	11000	0.89	3100	0.25	**
22	0.03	32600	22000	1.8	11000	0.88	3000	0.25	**
23	0.03	32400	22000	1.8	11000	0.88	3000	0.25	**
24	0.03	32200	22000	1.8	11000	0.87	3000	0.24	**
25	0.03	32000	22000	1.8	11000	0.87	3000	0.24	**
26	0.03	31900	22000	1.8	11000	0.86	3000	0.24	**
27	0.03	31800	22000	1.7	11000	0.86	3000	0.24	**
28	0.03	31700	21000	1.7	11000	0.86	3000	0.24	**
29	0.03	31600	21000	1.7	11000	0.85	3000	0.24	**
TOTAL	4.24	**	**	250	**	120	**	35	**
WTD. AVG.	0.15	32600	22000	**	11000	**	3000	**	3500

REPRODUCED AT GOVERNMENT EXPENSE

7311783 SOUTH WICHITA R BLW LOW FLOW DAM NR GUTHRIE, TX

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF MAR. 1988

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
MAR. 1988									
1	0.03	31500	21000	1.7	10000	0.85	3000	0.24	**
2	0.03	31400	21000	1.7	10000	0.85	3000	0.24	**
3	0.03	31300	21000	1.7	10000	0.84	2900	0.24	**
4	0.03	31200	21000	1.7	10000	0.84	2900	0.24	**
5	0.03	31100	21000	1.7	10000	0.84	2900	0.24	**
6	0.03	31000	21000	1.7	10000	0.84	2900	0.24	**
7	0.06	30700	21000	3.4	10000	1.7	2900	0.47	**
8	0.07	30300	20000	3.9	10000	1.9	2900	0.54	**
9	0.07	30200	20000	3.9	10000	1.9	2900	0.54	**
10	0.09	30200	20000	5.0	10000	2.4	2900	0.70	**
11	0.08	30100	20000	4.4	10000	2.2	2900	0.62	**
12	0.06	30100	20000	3.3	10000	1.6	2900	0.46	**
13	0.04	30100	20000	2.2	10000	1.1	2900	0.31	**
14	0.04	30000	20000	2.2	9900	1.1	2900	0.31	**
15	0.05	30000	20000	2.7	9900	1.3	2900	0.38	**
16	0.04	30100	20000	2.2	10000	1.1	2900	0.31	**
17	0.04	30200	20000	2.2	10000	1.1	2900	0.31	**
18	0.03	30200	20000	1.7	10000	0.81	2900	0.23	**
19	0.04	30300	20000	2.2	10000	1.1	2900	0.31	**
20	0.05	30300	20000	2.8	10000	1.4	2900	0.39	**
21	0.05	30300	20000	2.8	10000	1.4	2900	0.39	**
22	0.06	30400	21000	3.3	10000	1.6	2900	0.47	**
23	0.06	30500	21000	3.3	10000	1.6	2900	0.47	**
24	0.07	30600	21000	3.9	10000	1.9	2900	0.55	**
25	0.04	30600	21000	2.2	10000	1.1	2900	0.31	**
26	0.04	30700	21000	2.2	10000	1.1	2900	0.31	**
27	0.03	30800	21000	1.7	10000	0.83	2900	0.24	**
28	0.03	30900	21000	1.7	10000	0.83	2900	0.24	**
29	0.03	31000	21000	1.7	10000	0.84	2900	0.24	**
30	0.03	31100	21000	1.7	10000	0.84	2900	0.24	**
31	0.03	31000	21000	1.7	10000	0.84	2900	0.24	**
TOTAL	1.41	**	**	78	**	39	**	11	**
WTD. AVG.	0.05	30500	21000	**	10000	**	2900	**	3300

REPRODUCED AT GOVERNMENT EXPENSE

7311783 SOUTH WICHITA R BLW LOW FLOW DAM NR GUTHRIE, TX

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF APR. 1988

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
APR. 1988									
1	0.03	30900	21000	1.7	10000	0.83	2900	0.24	**
2	0.03	30700	21000	1.7	10000	0.83	2900	0.24	**
3	0.02	30500	21000	1.1	10000	0.55	2900	0.16	**
4	0.02	30400	21000	1.1	10000	0.54	2900	0.16	**
5	0.02	30300	20000	1.1	10000	0.54	2900	0.16	**
6	0.02	30300	20000	1.1	10000	0.54	2900	0.16	**
7	0.02	30300	20000	1.1	10000	0.54	2900	0.16	**
8	0.02	30200	20000	1.1	10000	0.54	2900	0.15	**
9	0.02	30200	20000	1.1	10000	0.54	2900	0.15	**
10	0.02	30100	20000	1.1	10000	0.54	2900	0.15	**
11	0.02	30100	20000	1.1	10000	0.54	2900	0.15	**
12	0.02	30000	20000	1.1	9900	0.54	2900	0.15	**
13	0.03	30000	20000	1.6	9900	0.80	2900	0.23	**
14	0.03	29900	20000	1.6	9900	0.80	2800	0.23	**
15	0.03	29900	20000	1.6	9900	0.80	2800	0.23	**
16	0.03	29800	20000	1.6	9900	0.80	2800	0.23	**
17	0.02	29800	20000	1.1	9900	0.53	2800	0.15	**
18	0.02	29700	20000	1.1	9800	0.53	2800	0.15	**
19	0.04	29700	20000	2.2	9800	1.1	2800	0.31	**
20	0.03	29700	20000	1.6	9800	0.80	2800	0.23	**
21	0.06	29800	20000	3.3	9900	1.6	2800	0.46	**
22	5.8	32500	22000	346	11000	170	3000	47	**
23	3.2	32900	22000	193	11000	95	3100	26	**
24	3.5	33000	22000	212	11000	105	3100	29	**
25	3.2	33400	23000	196	11000	97	3100	27	**
26	3.1	33500	23000	191	11000	94	3100	26	**
27	3.1	33700	23000	192	11000	95	3100	26	**
28	1.9	33900	23000	119	11000	59	3100	16	**
29	0.03	33600	23000	1.9	11000	0.92	3100	0.25	**
30	0.03	32300	22000	1.8	11000	0.88	3000	0.24	**
TOTAL	24.41	**	**	1500	**	730	**	200	**
WTD. AVG.	0.81	33100	23000	**	11000	**	3100	**	3600

APPENDIX E

SOUTH WICHITA RIVER NEAR BENJAMIN, TEXAS
(STATION NO. 7311800)
DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTHS
MAY 1987 - APR 1988

REPRODUCED AT GOVERNMENT EXPENSE

7311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TEX.

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF MAY 1987

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
MAY	1987									
1		7.9	21200	15000	311	6700	144	2600	55	**
2		7.9	21400	15000	314	6800	145	2600	56	**
3		7.9	21800	15000	320	7000	148	2600	56	**
4		7.9	21900	15000	322	7000	149	2600	56	**
5		7.8	22000	15000	319	7000	148	2600	56	**
6		6.2	22000	15000	254	7000	118	2600	44	**
7		6.1	22000	15000	249	7000	116	2600	44	**
8		5.6	21900	15000	228	7000	106	2600	40	**
9		5.5	21700	15000	222	6900	103	2600	39	**
10		13	20500	14000	496	6500	228	2500	89	**
11		8.7	20000	14000	324	6300	148	2500	59	**
12		7.1	20000	14000	264	6300	121	2500	48	**
13		8.8	20000	14000	327	6300	150	2500	59	**
14		8.2	14700	10000	225	4500	100	2000	45	**
15		5.4	19900	14000	200	6300	92	2500	36	**
16		4.8	21500	15000	192	6900	89	2600	34	**
17		4.4	22700	16000	186	7300	87	2700	32	**
18		3.5	23800	16000	155	7700	73	2800	26	**
19		13	21000	14000	508	6700	234	2600	90	**
20		9.9	14700	10000	271	4500	120	2000	54	**
21		5.1	16300	11000	155	5000	69	2200	30	**
22		123	7990	5500	1840	2400	781	1200	405	1400
23		1090	5850	4100	11900	1700	5000	920	2710	1000
24		112	6410	4400	1340	1900	565	1000	303	1100
25		49	7040	4900	645	2100	273	1100	144	1200
26		34	7540	5200	479	2200	203	1200	106	1300
27		135	6220	4300	1570	1800	660	970	355	1100
28		1850	1380	960	4790	390	1950	230	1160	260
29		2530	2100	1500	9960	600	4070	350	2380	390
30		1440	2100	1500	5670	600	2320	350	1360	390
31		190	3680	2600	1310	1100	541	600	307	670
TOTAL		7708	**	**	45000	**	19000	**	10000	**
WTD. AVG.		249	3150	2200	**	920	**	490	**	560

7311500 SOUTH WICHITA RIVER NEAR BENJAMIN, TEX.

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF JUNE 1987

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICRO_ MHOS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
JUNE 1987									
1	100	5260	3600	985	1500	411	840	226	940
2	76	6840	4700	973	2000	410	1100	218	1200
3	57	7530	5200	802	2200	340	1200	178	1300
4	48	7490	5200	672	2200	285	1200	149	1300
5	37	9430	6500	652	2800	280	1400	141	1600
6	30	5830	4000	327	1700	137	920	74	1000
7	24	5170	3600	232	1500	97	820	53	920
8	21	5130	3600	204	1500	85	820	47	930
9	48	5430	3800	488	1600	204	860	112	970
10	39	5860	4100	428	1700	179	920	97	1000
11	48	7860	5400	706	2300	300	1200	156	1400
12	29	7570	5200	411	2200	174	1200	91	1300
13	18	6530	4500	220	1900	93	1000	50	1200
14	11	7880	5500	162	2300	69	1200	36	1400
15	9.2	8230	5700	141	2400	60	1300	31	1400
16	7.2	11900	8200	160	3600	70	1700	33	**
17	5.4	15800	11000	159	4900	71	2100	31	**
18	4.6	15000	10000	129	4600	57	2000	25	**
19	4.9	13900	9600	127	4200	56	1900	26	**
20	935	5910	4100	10300	1700	4340	930	2350	1000
21	536	4780	3300	4800	1400	2000	760	1110	860
22	127	4460	3100	1060	1300	440	720	246	800
23	113	2850	2000	604	810	248	470	143	520
24	101	3460	2400	659	1000	272	570	155	630
25	101	4720	3300	893	1400	371	760	206	850
26	81	7010	4900	1060	2100	449	1100	237	1200
27	71	6170	4300	820	1800	344	970	185	1100
28	71	6070	4200	807	1800	339	950	183	1100
29	298	6290	4300	3490	1800	1460	980	788	1100
30	175	8680	6000	2840	2600	1210	1300	619	1500
TOTAL	3226	**	**	35000	**	15000	**	8000	**
WTD. AVG.	108	5850	4100	**	1700	**	920	**	1000

REPRODUCED AT GOVERNMENT EXPENSE

7311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TEX.

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF JULY 1987

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
JULY 1987									
1	53	8620	6000	854	2500	365	1300	186	1500
2	43	8820	6100	709	2600	303	1300	154	1500
3	37	8980	6200	621	2700	266	1400	135	1600
4	32	10000	6900	598	3000	257	1500	128	**
5	30	10800	7500	605	3200	262	1600	128	**
6	27	11400	7900	575	3400	250	1700	120	**
7	24	12100	8400	542	3700	237	1700	112	**
8	22	12600	8700	517	3800	227	1800	106	**
9	21	13200	9100	517	4000	227	1900	105	**
10	20	13800	9500	515	4200	227	1900	104	**
11	19	14300	9900	507	4400	224	2000	101	**
12	20	14500	10000	541	4400	240	2000	108	**
13	117	6140	4300	1340	1800	565	960	304	1100
14	23	6730	4700	290	2000	122	1000	65	1200
15	20	9990	6900	373	3000	161	1500	80	1700
16	32	10000	6900	598	3000	257	1500	128	**
17	80	3300	2300	495	940	204	540	116	600
18	26	3280	2300	160	940	66	540	38	600
19	66	3450	2400	427	990	176	560	100	630
20	48	8320	5800	747	2500	318	1300	164	1400
21	44	13200	9100	1080	4000	476	1900	221	**
22	26	13300	9200	645	4000	284	1900	131	**
23	22	13300	9200	546	4000	240	1900	111	**
24	20	13400	9300	500	4100	220	1900	101	**
25	18	13400	9300	450	4100	198	1900	91	**
26	17	13600	9400	431	4100	190	1900	87	**
27	16	13700	9500	409	4200	180	1900	83	**
28	15	13800	9500	386	4200	170	1900	78	**
29	14	13800	9500	360	4200	159	1900	73	**
30	14	13900	9600	363	4200	160	1900	73	**
31	13	14000	9700	339	4300	150	1900	68	**
TOTAL	979	**	**	17000	**	7400	**	3600	**
WTD. AVG.	32	9320	6400	**	2800	**	1400	**	1600

7311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TEX.

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF AUG. 1987

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
AUG. 1987									
1	12	14000	9700	313	4300	138	1900	63	**
2	11	14000	9700	287	4300	127	1900	58	**
3	11	14100	9700	289	4300	128	2000	58	**
4	82	11700	8100	1790	3500	780	1700	373	**
5	129	2920	2000	706	830	290	480	167	530
6	17	9020	6200	287	2700	123	1400	62	1600
7	13	11000	7600	267	3300	116	1600	56	**
8	11	12000	8300	246	3600	107	1700	51	**
9	10	13000	9000	243	3900	106	1800	50	**
10	9.7	14000	9700	253	4300	112	1900	51	**
11	9.5	15000	10000	266	4600	118	2000	53	**
12	9.1	15000	10000	254	4600	113	2000	50	**
13	21	13400	9300	525	4100	231	1900	107	**
14	9.9	8400	5800	155	2500	66	1300	34	1500
15	7.6	12500	8600	177	3800	78	1800	36	**
16	17	12400	8600	393	3700	172	1800	81	**
17	15	13300	9200	372	4000	164	1900	76	**
18	7.7	11000	7600	158	3300	69	1600	33	**
19	6.3	12000	8300	141	3600	62	1700	29	**
20	5.7	12500	8600	133	3800	58	1800	27	**
21	5.2	13000	9000	126	3900	55	1800	26	**
22	4.8	13500	9300	121	4100	53	1900	24	**
23	4.5	14000	9700	118	4300	52	1900	24	**
24	4.3	14500	10000	116	4400	52	2000	23	**
25	4.0	15000	10000	112	4600	50	2000	22	**
26	18	10800	7500	363	3200	157	1600	77	**
27	159	3600	2500	1070	1000	443	590	251	650
28	13	7100	4900	173	2100	73	1100	39	1200
29	13	8000	5500	194	2400	83	1200	43	1400
30	10	11000	7600	205	3300	89	1600	43	**
31	9.1	12000	8300	204	3600	89	1700	42	**
TOTAL	659	**	**	10000	**	4400	**	2100	**
WTD. AVG.	21	8170	5700	**	2400	**	1200	**	1400

REPRODUCED AT GOVERNMENT EXPENSE

7311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TEX.

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF SEPT 1987

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
SEPT 1987									
1	7.7	13000	9000	187	3900	82	1800	38	**
2	5.9	14000	9700	154	4300	68	1900	31	**
3	5.0	14900	10000	139	4600	62	2000	28	**
4	4.4	15500	11000	127	4800	57	2100	25	**
5	3.8	15800	11000	112	4900	50	2100	22	**
6	3.8	15600	11000	110	4800	49	2100	22	**
7	3.7	16100	11000	111	5000	50	2200	22	**
8	3.2	16200	11000	97	5000	43	2200	19	**
9	2.9	16500	11000	89	5100	40	2200	17	**
10	2.8	16500	11000	86	5100	39	2200	17	**
11	2.5	16500	11000	77	5100	34	2200	15	**
12	4.5	9600	6600	81	2900	35	1400	17	1600
13	83	4400	3100	684	1300	284	710	159	790
14	19	6100	4200	217	1800	91	960	49	1100
15	11	7800	5400	160	2300	68	1200	35	1400
16	7.9	8130	5600	120	2400	51	1200	26	1400
17	10	8800	6100	165	2600	70	1300	36	1500
18	24	7310	5100	328	2100	139	1100	73	1300
19	8.4	12200	8400	191	3700	84	1700	40	**
20	5.6	12300	8500	129	3700	56	1800	27	**
21	4.5	12500	8600	105	3800	46	1800	22	**
22	3.9	12600	8700	92	3800	40	1800	19	**
23	3.6	12700	8800	85	3800	37	1800	18	**
24	3.2	12800	8800	76	3900	34	1800	16	**
25	2.5	12800	8800	60	3900	26	1800	12	**
26	2.3	12900	8900	55	3900	24	1800	11	**
27	1.9	13300	9200	47	4000	21	1900	9.6	**
28	2.6	13600	9400	66	4100	29	1900	13	**
29	2.0	13800	9500	51	4200	23	1900	10	**
30	1.8	15000	10000	50	4600	22	2000	10.0	**
TOTAL	247	**	**	4100	**	1800	**	860	**
WTD. AVG.	8.2	8770	6100	**	2600	**	1300	**	1500

REPRODUCED AT GOVERNMENT EXPENSE

7311600 SOUTH WICHITA RIVER NEAR BENJAMIN, TEX.

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF OCT. 1987

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
OCT. 1987									
1	1.6	16200	11000	48	5000	22	2200	9.4	**
2	1.5	16300	11000	46	5000	20	2200	8.8	**
3	1.3	16500	11000	40	5100	18	2200	7.7	**
4	1.3	16500	11000	40	5100	18	2200	7.7	**
5	1.3	16700	12000	40	5200	18	2200	7.8	**
6	1.3	16900	12000	41	5200	18	2200	7.8	**
7	1.2	16800	12000	38	5200	17	2200	7.2	**
8	1.1	16700	12000	34	5200	15	2200	6.6	**
9	1.1	16900	12000	35	5200	16	2200	6.6	**
10	1.1	17100	12000	35	5300	16	2300	6.7	**
11	1.1	17000	12000	35	5300	16	2200	6.7	**
12	1.2	17100	12000	38	5300	17	2300	7.3	**
13	1.4	17000	12000	44	5300	20	2200	8.5	**
14	1.3	17000	12000	41	5300	19	2200	7.9	**
15	1.4	16700	12000	44	5200	20	2200	8.4	**
16	1.6	16900	12000	50	5200	23	2200	9.6	**
17	1.7	16900	12000	54	5200	24	2200	10	**
18	1.9	17200	12000	61	5300	27	2300	12	**
19	1.7	16500	11000	52	5100	23	2200	10	**
20	1.3	16700	12000	40	5200	18	2200	7.8	**
21	1.0	16300	11000	30	5000	14	2200	5.9	**
22	1.1	16800	12000	34	5200	15	2200	6.6	**
23	1.2	16800	12000	38	5200	17	2200	7.2	**
24	1.4	16900	12000	44	5200	20	2200	8.4	**
25	1.5	16900	12000	47	5200	21	2200	9.0	**
26	1.4	17100	12000	45	5300	20	2300	8.5	**
27	1.3	16500	11000	40	5100	18	2200	7.7	**
28	1.5	17100	12000	48	5300	22	2300	9.1	**
29	1.6	17200	12000	51	5300	23	2300	9.8	**
30	1.3	17300	12000	42	5400	19	2300	8.0	**
31	0.9	17400	12000	30	5400	13	2300	5.7	**
TOTAL	42	**	**	1300	**	590	**	250	**
WTD. AVG.	1.3	16800	12000	**	5200	**	2200	**	2700

REPRODUCED AT GOVERNMENT EXPENSE

7311600 SOUTH WICHITA RIVER NEAR BENJAMIN, TEX.

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF NOV. 1987

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
NOV. 1987									
1	0.71	17400	12000	23	5400	10	2300	4.4	**
2	0.62	17500	12000	20	5500	9.1	2300	3.8	**
3	0.55	17200	12000	18	5300	7.9	2300	3.4	**
4	0.67	17100	12000	21	5300	9.6	2300	4.1	**
5	0.69	17200	12000	22	5300	10.0	2300	4.2	**
6	0.59	17300	12000	19	5400	8.6	2300	3.6	**
7	0.55	17700	12000	18	5500	8.2	2300	3.4	**
8	0.59	17700	12000	19	5500	8.8	2300	3.7	**
9	0.66	17300	12000	21	5400	9.6	2300	4.0	**
10	0.64	17400	12000	21	5400	9.4	2300	3.9	**
11	0.67	17400	12000	22	5400	9.8	2300	4.1	**
12	0.91	17900	12000	30	5600	14	2300	5.7	**
13	1.1	18400	13000	38	5800	17	2400	7.0	**
14	1.3	18900	13000	46	5900	21	2400	8.5	**
15	1.4	18800	13000	49	5900	22	2400	9.1	**
16	1.3	18800	13000	45	5900	21	2400	8.4	**
17	1.2	18500	13000	41	5800	19	2400	7.7	**
18	1.3	17900	12000	43	5600	20	2300	8.2	**
19	1.2	18500	13000	41	5800	19	2400	7.7	**
20	1.2	18400	13000	41	5800	19	2400	7.7	**
21	1.3	18900	13000	46	5900	21	2400	8.5	**
22	1.4	19200	13000	50	6000	23	2400	9.2	**
23	1.5	19200	13000	54	6000	24	2400	9.9	**
24	1.6	19200	13000	57	6000	26	2400	11	**
25	1.6	19500	13000	58	6100	27	2500	11	**
26	1.6	19600	14000	58	6200	27	2500	11	**
27	1.7	19500	13000	62	6100	28	2500	11	**
28	1.8	19500	13000	65	6100	30	2500	12	**
29	1.9	19800	14000	70	6200	32	2500	13	**
30	2.0	19600	14000	73	6200	33	2500	13	**
TOTAL	34.25	**	**	1200	**	540	**	220	**
WTD. AVG.	1.1	18700	13000	**	5900	**	2400	**	2900

REPRODUCED AT GOVERNMENT EXPENSE

7311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TEX.

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF DEC. 1987

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
DEC. 1987									
1	1.9	19700	14000	70	6200	32	2500	13	**
2	2.0	19500	13000	73	6100	33	2500	13	**
3	2.1	19400	13000	76	6100	35	2500	14	**
4	2.1	19400	13000	76	6100	35	2500	14	**
5	2.1	19300	13000	75	6100	34	2400	14	**
6	2.2	19300	13000	79	6100	36	2400	15	**
7	1.9	19400	13000	69	6100	31	2500	13	**
8	2.0	19500	13000	73	6100	33	2500	13	**
9	1.9	19200	13000	68	6000	31	2400	12	**
10	1.9	19500	13000	69	6100	32	2500	13	**
11	2.0	19500	13000	73	6100	33	2500	13	**
12	1.9	19500	13000	69	6100	32	2500	13	**
13	1.9	19600	14000	69	6200	32	2500	13	**
14	2.8	19600	14000	102	6200	47	2500	19	**
15	3.3	19200	13000	118	6000	54	2400	22	**
16	3.2	19300	13000	115	6100	52	2400	21	**
17	3.2	19300	13000	115	6100	52	2400	21	**
18	3.5	18800	13000	122	5900	56	2400	23	**
19	3.2	18200	13000	108	5700	49	2400	20	**
20	3.6	18100	12000	121	5700	55	2300	23	**
21	3.6	18100	12000	121	5700	55	2300	23	**
22	3.3	18100	12000	111	5700	50	2300	21	**
23	3.2	17900	12000	107	5600	48	2300	20	**
24	3.2	17900	12000	107	5600	48	2300	20	**
25	11	17700	12000	363	5500	164	2300	68	**
26	7.3	16600	11000	226	5100	101	2200	43	**
27	6.0	13500	9300	151	4100	67	1900	31	**
28	7.0	11600	8000	152	3500	66	1700	32	**
29	6.7	14800	10000	185	4500	82	2000	37	**
30	5.3	14400	9900	142	4400	63	2000	28	**
31	5.2	14800	10000	143	4500	64	2000	28	**
TOTAL	110.5	**	**	3500	**	1600	**	670	**
WTD. AVG.	3.6	17200	12000	**	5400	**	2300	**	2700

REPRODUCED AT GOVERNMENT EXPENSE

7311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TEX.

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF JAN. 1988

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
JAN. 1988									
1	5.0	15300	11000	143	4700	64	2100	28	**
2	4.5	15200	10000	128	4700	57	2100	25	**
3	4.3	15200	10000	122	4700	54	2100	24	**
4	4.0	15500	11000	116	4800	52	2100	23	**
5	3.8	15500	11000	110	4800	49	2100	22	**
6	3.6	15400	11000	103	4700	46	2100	20	**
7	3.5	16600	11000	108	5100	49	2200	21	**
8	3.4	16000	11000	101	4900	45	2100	20	**
9	3.4	16000	11000	101	4900	45	2100	20	**
10	3.4	15900	11000	101	4900	45	2100	20	**
11	3.5	15300	11000	100	4700	44	2100	20	**
12	7.6	15500	11000	220	4800	98	2100	43	**
13	5.9	15800	11000	174	4900	78	2100	34	**
14	5.5	15800	11000	162	4900	72	2100	32	**
15	7.3	15800	11000	215	4900	96	2100	42	**
16	9.0	15800	11000	265	4900	118	2100	52	**
17	9.4	14800	10000	259	4500	115	2000	51	**
18	9.8	14200	9800	260	4300	115	2000	52	**
19	9.6	14500	10000	260	4400	115	2000	52	**
20	8.9	14500	10000	241	4400	107	2000	48	**
21	8.5	14400	9900	228	4400	101	2000	46	**
22	7.6	14300	9900	203	4400	90	2000	41	**
23	7.2	14800	10000	199	4500	88	2000	39	**
24	5.9	16400	11000	180	5100	81	2200	35	**
25	4.8	16700	12000	149	5200	67	2200	29	**
26	4.5	16500	11000	138	5100	62	2200	27	**
27	4.1	16300	11000	125	5000	56	2200	24	**
28	3.9	16000	11000	116	4900	52	2100	23	**
29	3.6	15800	11000	106	4900	47	2100	21	**
30	3.3	16100	11000	99	5000	44	2200	19	**
31	3.3	16400	11000	101	5100	45	2200	19	**
TOTAL	172.1	**	**	4900	**	2200	**	970	**
WTD. AVG.	5.6	15400	11000	**	4700	**	2100	**	2500

REPRODUCED AT GOVERNMENT EXPENSE

7311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TEX.

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF FEB. 1988

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
FEB. 1988									
1	3.3	16900	12000	104	5200	47	2200	20	**
2	3.2	17500	12000	104	5500	47	2300	20	**
3	3.5	17700	12000	115	5500	52	2300	22	**
4	3.4	17900	12000	113	5600	51	2300	21	**
5	3.9	17700	12000	129	5500	58	2300	24	**
6	4.6	17300	12000	148	5400	67	2300	28	**
7	4.1	17300	12000	132	5400	60	2300	25	**
8	4.0	17600	12000	131	5500	59	2300	25	**
9	3.8	17800	12000	126	5600	57	2300	24	**
10	3.6	18200	13000	122	5700	55	2400	23	**
11	3.2	20500	14000	122	6500	56	2500	22	**
12	3.7	19300	13000	133	6100	61	2400	24	**
13	3.3	17800	12000	109	5600	49	2300	21	**
14	3.1	18200	13000	105	5700	48	2400	20	**
15	2.5	18300	13000	85	5700	39	2400	16	**
16	2.6	18200	13000	88	5700	40	2400	16	**
17	2.3	18200	13000	78	5700	35	2400	15	**
18	2.2	18200	13000	75	5700	34	2400	14	**
19	2.4	18200	13000	81	5700	37	2400	15	**
20	2.5	18200	13000	85	5700	38	2400	16	**
21	2.3	18100	12000	78	5700	35	2300	15	**
22	2.5	18300	13000	85	5700	39	2400	16	**
23	2.2	18800	13000	77	5900	35	2400	14	**
24	1.9	18600	13000	66	5800	30	2400	12	**
25	2.4	18400	13000	82	5800	37	2400	15	**
26	2.7	18500	13000	93	5800	42	2400	17	**
27	2.7	18700	13000	94	5900	43	2400	17	**
28	2.3	18700	13000	80	5900	36	2400	15	**
29	2.2	18900	13000	77	5900	35	2400	14	**
TOTAL	86.4	**	**	2900	**	1300	**	550	**
WTD. AVG.	3.0	18100	13000	**	5700	**	2300	**	2900

REPRODUCED AT GOVERNMENT EXPENSE

7311800 SOUTH WICHITA RIVER NEAR BENJAMIN, TEX.

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF MAR. 1988

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
MAR. 1988									
1	2.0	18700	13000	70	5900	32	2400	13	**
2	30	8840	6100	496	2600	212	1300	108	1500
3	13	3520	2400	86	1000	35	570	20	640
4	5.8	7120	4900	77	2100	33	1100	17	1300
5	5.2	11000	7600	107	3300	46	1600	23	**
6	5.0	14600	10000	136	4500	60	2000	27	**
7	4.5	16800	12000	141	5200	63	2200	27	**
8	4.0	17300	12000	129	5400	58	2300	25	**
9	3.6	17400	12000	117	5400	53	2300	22	**
10	3.3	17900	12000	110	5600	50	2300	21	**
11	3.0	17800	12000	99	5600	45	2300	19	**
12	2.5	18000	12000	84	5600	38	2300	16	**
13	2.2	18300	13000	75	5700	34	2400	14	**
14	2.3	18500	13000	79	5800	36	2400	15	**
15	2.3	18600	13000	80	5800	36	2400	15	**
16	2.2	18600	13000	76	5800	35	2400	14	**
17	2.8	17900	12000	93	5600	42	2300	18	**
18	2.7	18000	12000	90	5600	41	2300	17	**
19	2.7	18000	12000	90	5600	41	2300	17	**
20	2.5	18300	13000	85	5700	39	2400	16	**
21	2.5	18400	13000	86	5800	39	2400	16	**
22	2.3	18600	13000	80	5800	36	2400	15	**
23	2.3	18900	13000	81	5900	37	2400	15	**
24	2.0	19100	13000	71	6000	32	2400	13	**
25	1.7	19100	13000	60	6000	28	2400	11	**
26	1.5	19500	13000	54	6100	25	2500	10.0	**
27	1.2	19500	13000	44	6100	20	2500	8.0	**
28	1.3	19600	14000	47	6200	22	2500	8.7	**
29	1.2	19800	14000	44	6200	20	2500	8.0	**
30	1.1	19900	14000	41	6300	19	2500	7.4	**
31	1.3	19600	14000	47	6200	22	2500	8.7	**
TOTAL	120	**	**	3000	**	1300	**	580	**
WTD. AVG.	3.9	13300	9200	**	4100	**	1800	**	2200

REPRODUCED AT GOVERNMENT EXPENSE

7311000 SOUTH WICHITA RIVER NEAR BENJAMIN, TEX.

DAILY AND MONTHLY MEANS AND LOADS FOR THE MONTH OF APR. 1988

MONTH YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO_ MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA, MG) (MG/L)
APR. 1988									
1	1.7	19200	13000	61	6000	28	2400	11	**
2	2.2	19600	14000	80	6200	37	2500	15	**
3	2.1	19800	14000	77	6200	35	2500	14	**
4	1.9	19800	14000	70	6200	32	2500	13	**
5	1.8	20100	14000	67	6400	31	2500	12	**
6	1.6	20000	14000	60	6300	27	2500	11	**
7	1.5	19700	14000	55	6200	25	2500	10	**
8	1.3	20100	14000	49	6400	22	2500	8.8	**
9	1.3	20300	14000	49	6400	23	2500	8.9	**
10	1.9	19800	14000	70	6200	32	2500	13	**
11	1.6	20000	14000	60	6300	27	2500	11	**
12	1.4	20800	14000	54	6600	25	2600	9.7	**
13	1.4	20400	14000	53	6500	24	2500	9.6	**
14	1.3	20600	14000	50	6500	23	2500	8.9	**
15	1.2	20600	14000	46	6500	21	2500	8.3	**
16	1.2	20500	14000	46	6500	21	2500	8.2	**
17	35	5250	3600	344	1500	144	830	79	940
18	15	6000	4200	168	1700	71	940	38	1100
19	6.4	8000	5500	96	2400	41	1200	21	1400
20	5.0	11700	8100	109	3500	48	1700	23	**
21	5.0	15400	11000	144	4700	64	2100	28	**
22	4.4	16900	12000	139	5200	62	2200	27	**
23	3.5	17200	12000	112	5300	51	2300	21	**
24	2.7	17700	12000	89	5500	40	2300	17	**
25	2.3	19400	13000	83	6100	38	2500	15	**
26	2.1	19600	14000	77	6200	35	2500	14	**
27	1.6	19100	13000	57	6000	26	2400	10	**
28	2.3	19200	13000	82	6000	38	2400	15	**
29	3.7	20100	14000	138	6400	63	2500	25	**
30	4.1	20400	14000	156	6500	72	2500	28	**
TOTAL	118.5	**	**	2700	**	1200	**	530	**
WTD. AVG.	4.0	12400	8600	**	3800	**	1700	**	2000