

STATISTICAL SUMMARY OF THE CHEMICAL QUALITY OF SURFACE WATER  
IN THE POWDER RIVER COAL BASIN, THE HANNA COAL FIELD, AND  
THE GREEN RIVER COAL REGION, WYOMING

By David A. Peterson

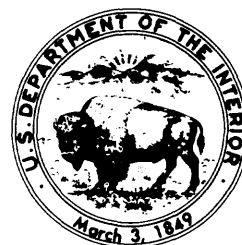
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U.S. GEOLOGICAL SURVEY

Water-Resources Investigations Report 84-4092

Cheyenne, Wyoming

1988



DEPARTMENT OF THE INTERIOR  
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## CONVERSION FACTORS

For the use of readers who prefer to use metric units rather than the inch-pound terms used in this report, the following conversion factors may be used:

<i>Multiply inch-pound unit</i>	<i>By</i>	<i>To obtain metric unit</i>
inch	25.40	millimeter
cubic foot per second (ft <sup>3</sup> /s)	0.02832	cubic meter per second
square mile	2.59	square kilometer
ton, short	0.9072	megagram

Temperature in degree Celsius (°C) can be converted to degree Fahrenheit (°F) as follows:

$$^{\circ}\text{F} = 1.8 \times ^{\circ}\text{C} + 32$$

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ABSTRACT

Sampling of the chemical quality of surface water in the three principal coal-producing areas of Wyoming was intensified by the U.S. Geological Survey during 1975-81, in response to interest spurred by a dramatic increase in surface mining of the areas. This statistical summary consists of descriptive statistics and regression analyses of data from 72 stations on streams in the Powder River coal basin, the Hanna coal field, and the Green River coal region of Wyoming. Constituents described include dissolved solids, major ions, nutrients, bacteria, trace elements, suspended sediment, turbidity, and other miscellaneous constituents.

The mean dissolved-solids concentrations in streams ranged from 15 to 4,800 milligrams per liter. Samples collected near mountainous areas or in the upstream reaches of perennial streams in the plains had the smallest concentrations of dissolved solids, and the predominant ions were calcium and bicarbonate. Samples from ephemeral, intermittent, and the downstream reaches of perennial streams in the plains contained relatively large dissolved-solids concentrations, and the predominant ions usually were sodium and sulfate. Regression models showed that the concentrations of dissolved solids, calcium, magnesium, sodium, alkalinity, sulfate, and chloride correlated well with specific-conductance values in many of the streams.

INTRODUCTION

The collection and analysis of hydrologic information in Wyoming was expanded greatly during 1975-81, in response to the sudden increase in the surface mining of coal. Funding for much of the intensified data-collection activity was provided by the U.S. Geological Survey Coal Hydrology Program and the U.S. Bureau of Land Management Energy Mineral Resource Inventory and Analysis (EMRIA) Program.

The data-collection efforts focused on the three principal coal-producing areas of Wyoming: the Powder River coal basin, the Hanna coal field, and the Green River coal region (fig. 1). Data from several stations located outside these areas are included in this report, because of the importance of the stations in evaluating the water quality of the areas.

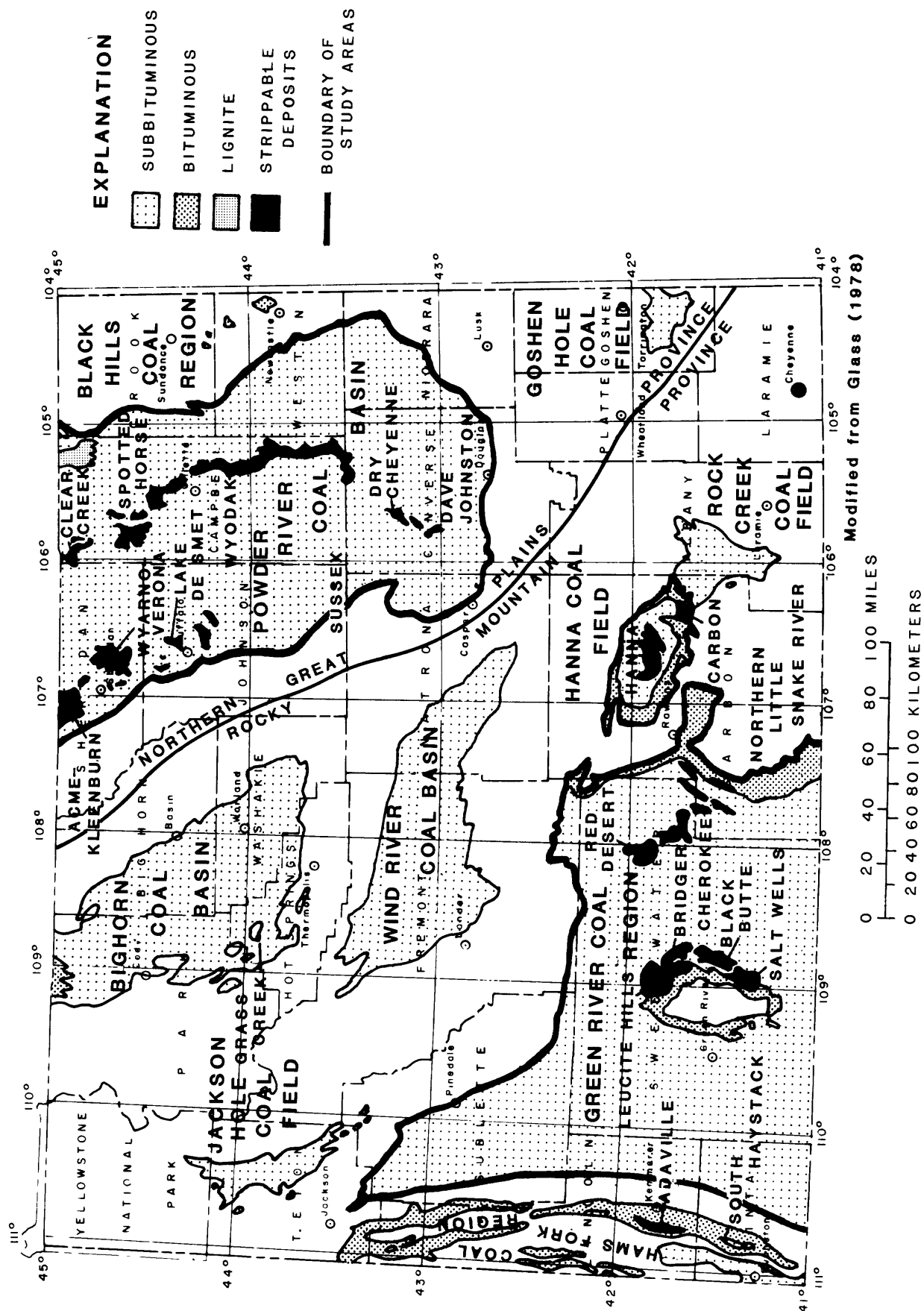


Figure 1.--Principal areas of coal production in Wyoming.

Wyoming coal production during 1981 from the Powder River coal basin was approximately 78 million short tons, from the Hanna coal field approximately 8 million short tons, and from the Green River coal region approximately 11 million short tons (Wyoming State Inspector of Mines, 1982). Locations of active or planned mines and their annual production rates are shown by Hausel and others (1979).

### Purpose and Scope

The purpose of this report is twofold: (1) To summarize statistically the surface-water-quality data collected by the Geological Survey in the Powder River coal basin, the Hanna coal field, and the Green River coal region and, (2) to evaluate the adequacy of the water-quality data and to evaluate the need for future water-quality data-collection activities in the coal areas of Wyoming.

The statistical summary consists of descriptive statistics and regression analyses of data from samples collected at 72 stations. The samples were collected using methods described by Skougstad and others (1979), Greeson and others (1977), and Guy and Norman (1970). Brief overviews of water-quality conditions in each of the three coal areas also are included.

### Description of Study Area

#### Landscape and Climate

A high-plains topography characterizes the study areas. The low, rolling hills are vegetated with sagebrush and grasses. Trees generally are absent, although cottonwoods grow along some stream channels, and evergreens sometimes grow on breaks and upland areas.

The average annual precipitation in the semiarid climate of the study areas is 5 to 20 inches. Spring and summer thunderstorms contribute much of the precipitation; winter and spring snowstorms provide the remainder of the precipitation.

#### Stream Types

Perennial, intermittent, and ephemeral streams are present throughout the study areas. The perennial streams flow year-round, in response to precipitation runoff, snowmelt, and ground-water inflow. Many of the perennial streams in the study areas originate in nearby mountain ranges, and flows are sustained by meltwater from the mountain snowpack. Some streams originating in the study areas (plains) are perennial for a short distance because they are sustained by perennial springs, but streamflow losses cause them to become intermittent or ephemeral. Streams originating in the study areas typically are intermittent or ephemeral. Intermittent streams receive ground-water inflow in addition to precipitation runoff, but usually cease flowing during part of the year. Ephemeral streams flow only in response to precipitation.

## Previous Studies

Several investigators have studied surface-water quality in the Powder River Basin of Wyoming and Montana. Small concentrations of dissolved solids and predominance of calcium and bicarbonate in mountainous tributaries to the Powder River, and a relatively large dissolved-solids concentration and predominance of sodium and sulfate in the main stem of the Powder River were noted by Hembree and others (1952, p. 49-51). Predominance of sodium and sulfate during baseflow conditions in streams of the plains in the Montana part of the Powder River coal basin was noted by Knapton and Ferreira (1980, p. 11). Relatively large concentrations of dissolved solids and small concentrations of suspended sediment during baseflow conditions, compared to small dissolved-solids and large suspended-sediment concentrations during large flows were also noted by Hembree and others (1952, p. 24-51) and Knapton and Ferreira (1980, p. 7-9).

The water quality at stations in and near the Powder River and Hanna coal areas during 1968-75 was described by Rucker and DeLong (1987) in their study of stations throughout Wyoming, excluding the Green River basin. A report listing surface- and ground-water-quality data from the Hanna area also is available (Freudenthal, 1979).

In recent years the water quality of streams in the Green River Basin in Wyoming has been studied as part of the Geological Survey's energy-related hydrologic investigations. Multivariable regression models of dissolved-solids concentrations and loads versus streamflow in several streams of the Green River basin during 1961-75 were described by DeLong (1977); inclusion of a simple harmonic time function in the models to account for seasonal effects also is described. The flushing action of flow on accumulated salts in the seasonally dry channel of an intermittent stream in the Great Divide basin was described by Larson and Zimmerman (1981, p. 34-38). Flushing of salts and organic debris in an intermittent stream in the Green River basin also was noted by Lowham and others (1982, p. 24-36).

## METHODS OF DATA ANALYSIS

The water-quality data used in this report are from samples collected during water years 1975-81 (October 1, 1974 to September 30, 1981). Water-quality samples collected before water year 1975 are not included in this study, in order to compare samples for a consistent period. The data have been published in annual reports (U.S. Geological Survey, 1976-82). The descriptive statistics and regression relations listed in tables 1, 2, and 3 (at the end of this report) were generated using computer programs developed by the SAS Institute, Inc.<sup>1</sup> (1982).

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<sup>1</sup> The use of brand names in this report is for identification purposes only and does not imply endorsement by the U.S. Geological Survey.



Several cations and anions are collectively referred to in this report as the major ions because they comprise a majority of the dissolved solids found in water. The major ions include the following: calcium, magnesium, sodium, alkalinity, sulfate, and chloride. Alkalinity is included as an anion because it represents the bicarbonate and carbonate ions. The streamflow values used throughout this report are the instantaneous values at the time of sampling.

### Data Distribution

The data were found to be normally distributed, with the following exceptions: streamflow, suspended-sediment, turbidity, bacteria, and phytoplankton data tended to be lognormally distributed. These parameters are distinguished by large variations and potential for extreme values. The distribution was tested through interpretation of plots of data on probability paper, plots of regression residuals, and comparison of skewness values. Distribution of the sample data also was given a simplified test by comparing two measures of central tendency, the mean and the median. The mean was greatly different from the median in a lognormal distribution, but nearly equal in a normal distribution. For the purposes of discussion, the median is used as the measure of central tendency of the streamflow, suspended-sediment, turbidity, bacteria, and phytoplankton sample values. Use of the median, instead of the mean, decreases the effects of extreme values in choosing a representative value for the sample values.

### Descriptive Statistics

The descriptive statistics, which are included in tables 1, 2, and 3, in the "Supplemental Data" section at the end of the report, provide an overview of the data from each station. The descriptive statistics consist of sample size, maximum, minimum, mean, standard deviation, median, and percentile values.

All descriptive statistics are listed when the sample size of the constituent is 10 or greater. Only sample size, maximum, and minimum values are listed for constituents with sample size of one to nine. If samples were not analyzed for a constituent, that constituent is not listed for that station. The constituent pH is an exception to the above. The mean, standard deviation, and regression statistics, which are arithmetic calculations, are not listed for pH. Arithmetic calculations involving pH values can be misleading because pH is a logarithmic function of the hydrogen-ion concentration.

### Regression Analyses

The regression analyses, which are obtained from regression models, measure correlation between variables in the data sets. The regression analyses are included in tables 1, 2, and 3.

The regression analyses are not listed for constituents with a sample size less than 10. The sample size for a constituent in the regression analyses and the sample size for the same constituent in the descriptive statistics are listed separately in the tables, because the sample sizes may be unequal. Paired values of the constituent and the dependent variables are required to compute the regression models, but unpaired values are included in the descriptive statistics.

The regression models are based on a least squares line, which is described by an equation of the form:

$$\hat{Y} = a + bx \quad (1)$$

where  $\hat{Y}$  = predicted value of dependent variable (constituent);  
a = the regression constant;  
b = the regression coefficient;  
x = the independent variable [specific conductance (K),  
streamflow (Q), or the logarithm of streamflow (LOGQ)].

Each constituent was regressed against the three independent variables (three two-variable models); only the independent variable that explained the greatest degree of variation in the constituent is included in this report. The logarithm of streamflow was included as an independent variable in addition to specific conductance and streamflow, because of the tendency for streamflow data to be lognormally distributed.

Values of the  $r^2$  (coefficient of determination), significance probability of the F value, and the standard error of estimate are given to help the reader assess the fit of the data about the lines described by the regression equations. The  $r^2$  value is the square of the correlation coefficient, which is a measure of the linear correlation between the dependent and independent variables. The  $r^2$  values can range from 0.00 to 1.00. A value of 0.00 indicates no correlation; a value of 1.00 indicates perfect correlation. For example, an  $r^2$  value of 0.80 indicates that 80 percent of the variation of the constituent can be explained by variation in the independent variable.

Values of the significance probability of F are based on an F-test where F equals the ratio of the regression mean square to the error mean square. Values of the significance probability range from 0.0001 to 0.8 in this report. A value of 0.05, for example, indicates a 5-percent probability of no valid relationship between the dependent and independent variables.

The standard error of estimate is the square root of the mean square error. The standard error of estimate represents the standard deviation of the sample values from the line described by the regression equation. The range of value of the standard error of estimate is not fixed; the value is expressed in the same units as the constituent. Readers may wish to consult Mendenhall (1979) or Riggs (1968) for more information on regression statistics.

The results of the regression models were evaluated through two arbitrarily chosen criteria: an  $r^2$  value larger than 0.50, and a significance probability of the F value smaller than 0.05. If the model met the criteria, all of the regression statistics are included in the tables. If the model did not meet the criteria, a decreased set of regression statistics (sample size,  $r^2$ , and significance probability of the F value) is listed to give the reader some information about the constituent's relation to the independent variable.

Regression models of dissolved oxygen, biochemical oxygen demand, nitrogen compounds, phosphorus, flouride, silica, boron, bacteria, and phytoplankton versus the independent variables were computed, but are not listed in this report because they generally showed poor correlations. Multiple regressions, utilizing two or three independent variables concurrently were tested, but are not listed because they generally resulted in little improvement compared to the single independent-variable models.

## PREDICTION OF CONSTITUENT VALUES

The regression equation can be used to predict values of a constituent, resulting in cost savings through a decreased or more efficient sampling schedule. Predictions are calculated by multiplying the regression coefficient by a user-chosen value of the independent variable, and adding the regression constant. The  $r^2$  value, the significance probability of the F value, and the standard error of estimate help to define the reliability of the equation for predictive use, but other limitations also apply. Predictions of constituent values near the smallest or largest values of the data set can be misleading; predictions are not accurate if they are calculated for values outside the range of the data set. Predictions made from regression models based on a small number of samples may be particularly susceptible to error, because a small number of samples may not be typical of the long-term condition.

## STATISTICAL SUMMARY

### Station Location and Numbering System

The location of the stations where samples were collected is shown on plate 1. Each station is identified by an eight-digit station identification number, assigned by the U.S. Geological Survey to surface-water stations, in downstream order. The first two of the eight digits indicate the major drainage basin in which the site is located. For example, the Missouri River drainage basin is 06. The remaining six digits indicate position within the basin; the numbers are progressively larger in the downstream direction.

### Powder River Coal Basin

A change in the proportions of ions in the downstream direction was noted in many streams in the Powder River coal basin. Calcium and bicarbonate comprise a large proportion of the total milliequivalents per liter in the upstream reaches of the streams, whereas sodium and sulfate comprise a large

proportion in the downstream reaches (pl. 1). This trend, as well as an increase in the dissolved-solids concentration in the downstream direction in streams draining the Bighorn Mountains, is described in more detail in the following sections. Changes in water quality in the downstream direction are due in part to increased availability of fine particles for transport and dissolution, and irrigation practices.

The descriptive statistics and regression analyses of data from 33 stations in the Powder River coal basin are listed in table 1. The relative concentration of dissolved solids and proportion by milliequivalents of calcium, magnesium, sodium plus potassium, bicarbonate, sulfate, and chloride at each station are shown on plate 1.

### Tongue River Drainage

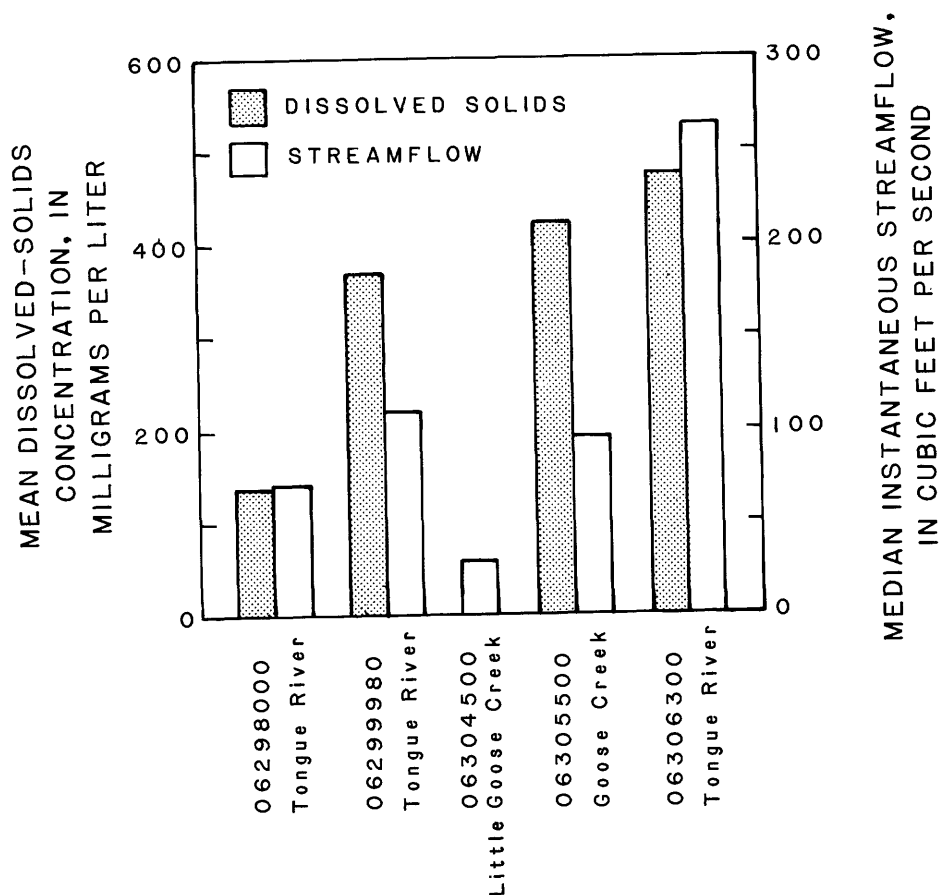
Water-quality data from three stations on the main stem of the Tongue River and two stations on tributaries are included in table 1. Perennial streamflow at these stations is derived from snowmelt in the Bighorn Mountains.

Dissolved-solids concentrations in the Tongue River drainage are some of the smallest concentrations in the Powder River coal basin (pl. 1). An increase in the mean dissolved-solids concentration in the downstream direction from station 06298000 to station 06306300 in the Tongue River is shown in figure 2. The median instantaneous streamflow in the Tongue River also increased in the downstream direction (fig. 2).

The predominant ions were calcium and bicarbonate in the Tongue River at stations 06298000, 06299980, and 06306300, and in Goose Creek at station 06305500. The proportions of sulfate and sodium by milliequivalents increased in the downstream direction in the Tongue River, but were not predominant. The sodium-adsorption ratio in the water of the Tongue River increased from a mean value of 0.19 at station 06298000 to a mean value of 0.80 at station 06306300.

Goose Creek, the largest tributary to the Tongue River in the study area, had median streamflow of 96.0 ft<sup>3</sup>/s at station 06305500. The median fecal coliform bacteria count of 31,000 cols/100 mL (colonies per 100 milliliters of water) in Goose Creek at station 06305500 is assumed to be a result of municipal-sewage effluent discharged to Goose Creek. The phosphorus and organic nitrogen concentrations in Goose Creek at station 06305500 also were greater than at the stations on the Tongue River, probably due to the sewage effluent.

Suspended-sediment data are summarized for two stations in the Tongue River drainage; the median concentration was 22.0 mg/L (milligrams per liter) in Goose Creek at station 06305500 and 46.5 mg/L in the Tongue River at station 06306300. Turbidity values were small at stations in the Tongue River drainage, compared to median values from other drainages in the Powder River coal basin. The largest median turbidity value in the drainage was 10.0 NTU (nephelometric turbidity units), in the Tongue River at station 06306300.



**Figure 2.--Mean dissolved-solids concentrations and median instantaneous streamflow values at stations in the Tongue River drainage.**

Regression equations relating specific conductance to streamflow or the logarithm of streamflow are presented for all stations in the Tongue River drainage. Regression equations relating dissolved solids and the major ions to specific conductance are presented for stations 06299980 and 06306300 on the Tongue River and 06305500 on Goose Creek.

#### Powder River Drainage

Streams in the Powder River drainage may be divided into two categories, mountains and plains, based on the dissolved-solids concentration and chemical composition of their waters. Streams in the mountain category have relatively small concentrations of dissolved solids, suspended sediment, and turbidity; the predominant cation was calcium and the predominant anion was either bicarbonate or sulfate. Streams in the plains category have relatively large concentrations of dissolved solids, suspended sediment, and turbidity; the predominant cation was sodium and the predominant anion is either sulfate or chloride.

Streams in the mountain category are perennial streams originating in the Bighorn Mountains. The mean concentration of dissolved solids increased in the downstream direction in Clear Creek, from 541 mg/L at station 06320200, to 712 mg/L at station 06320400, and to 826 mg/L at station 06324000 (fig. 3). Piney Creek, at station 06323500, near the headwaters, had a mean dissolved-solids concentration of 379 mg/L. Stations 06312500 on the Powder River and 06316400 on Crazy Woman Creek, which are not as near to their respective headwaters as the station on Piney Creek, had mean dissolved-solids concentrations of about 1,000 mg/L.

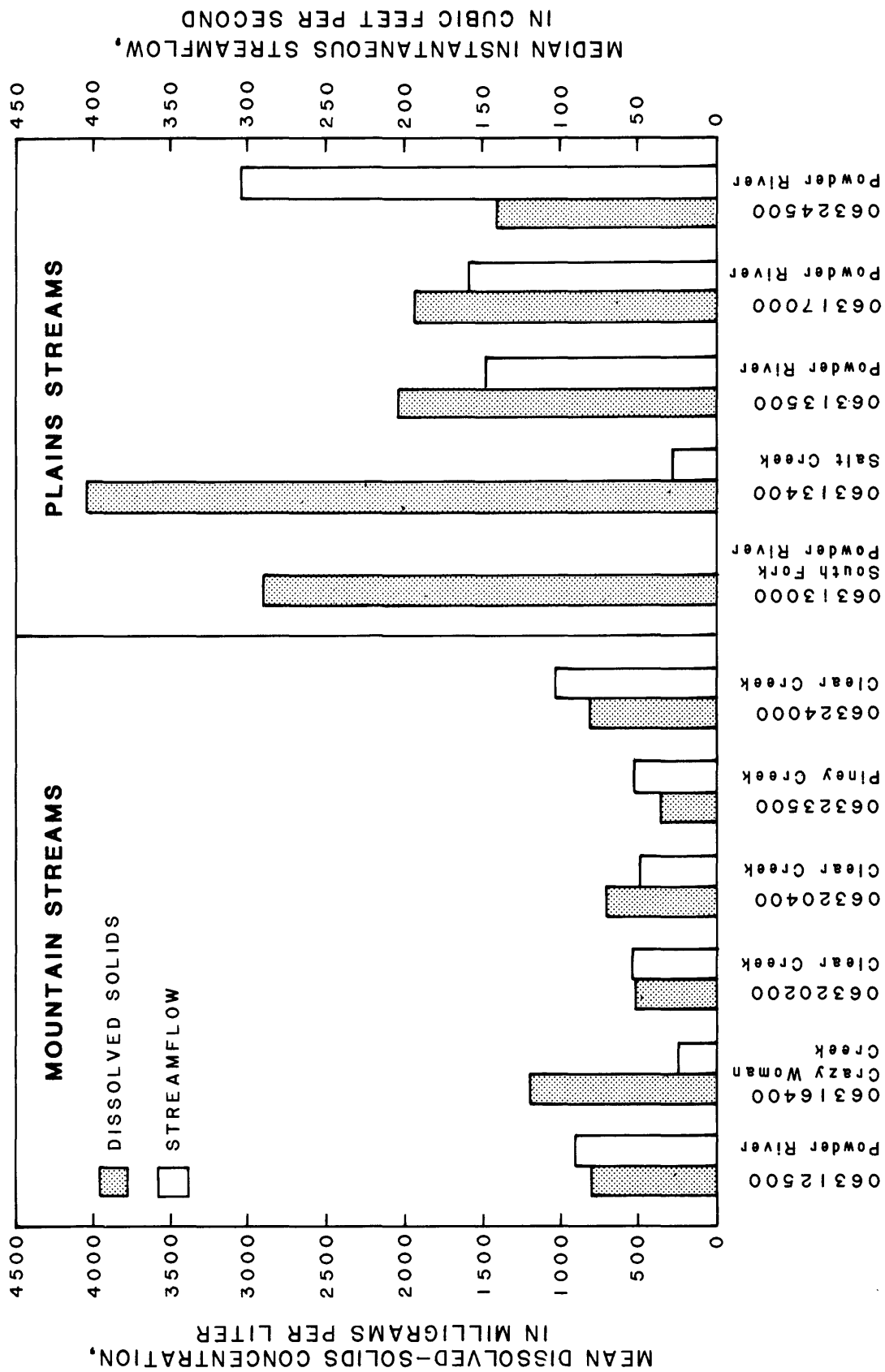
Calcium was the predominant cation at the stations on streams in the mountain category. Sulfate was the predominant anion in these streams, with one exception. The milliequivalent concentrations of sulfate and bicarbonate were approximately equal in Piney Creek at station 06323500.

Suspended-sediment and turbidity concentrations are small in streams in the mountain category. The median suspended-sediment concentration increased in the downstream direction in Clear Creek from 14.0 mg/L at station 06320200 to 56.0 mg/L at station 06324000. Turbidity also increased in the downstream direction. The increases were at least partly due to increased availability of fine particulates for transport.

Regression equations relating specific conductance to the logarithm of streamflow are presented for each station in the mountain category, with the exception of station 06323500 on Piney Creek. Regression equations relating dissolved solids and the major ions to specific conductance are presented for all the stations.

The plains-stream category includes three stations on the main stem of the Powder River and two stations on tributaries. The mean dissolved-solids concentrations and median values of streamflow at the time of sampling at these stations are included in figure 3. The largest mean dissolved-solids concentrations of streams in the plains category were 2,929 mg/L in the South Fork Powder River at station 06313000 and 4,074 mg/L in Salt Creek at station 06313400. The latter was the largest concentration recorded in the Powder River coal basin. The dissolved-solids concentrations of the South Fork Powder River at station 06313000 and Salt Creek at station 06313400 are diluted by flow in the main stem of the Powder River. Consequently, the mean dissolved-solids concentration was 2,062 mg/L in the Powder River at station 06313500, which is downstream from the mouth of the two tributaries. The mean dissolved-solids concentration of the Powder River decreased from 1,968 mg/L at station 06317000 to 1,422 mg/L at station 06324500, because of dilution by tributaries.

Sodium was the predominant cation at stations in the plains category. Sulfate was the predominant anion in the streams, with one exception. The predominant anion in Salt Creek at station 06313400 was chloride, possibly due to pumpage of oilfield brines into Salt Creek or its tributaries. The mean chloride concentration is 1,133 mg/L in Salt Creek at station 06313400. Consequently, the presence of chloride as a large but not predominant proportion of the anions in the Powder River at station 06313500 is a result of the chloride concentrations from Salt Creek. The chloride concentrations farther downstream on the main stem of the Powder River at stations 06317000 and



**Figure 3.--Mean dissolved-solids concentrations and median instantaneous streamflow values at stations in the Powder River drainage.**

06324500 still reflected the chloride concentrations from Salt Creek, but the concentrations were smaller, because of dilution by tributaries. The decreasing proportions of chloride in the downstream direction along the Powder River can be seen on plate 1.

Of the streams in the plains category, the largest median suspended-sediment concentration was 6,050 mg/L, and the largest median turbidity value was 500 NTU, both recorded in the Powder River at station 06317000. The smallest median suspended-sediment concentration was 715 mg/L, in Salt Creek at station 06313400, whereas the smallest median turbidity value was 60 NTU, in the South Fork Powder River at station 06313000.

Regression equations relating specific conductance to streamflow are presented for two of the five stations in the plains category, stations 06313500 and 06317000 on the Powder River. Regression equations relating dissolved solids and some of the major ions to specific conductance are listed for all five stations.

#### Little Powder River Drainage

Water-quality data from three stations along the Little Powder River are included in the summary. Streamflow is intermittent at the stations. The mean dissolved-solids concentrations of 2,370 mg/L in the water at the upstream station (06324890) and 2,330 mg/L at the intermediate station (06324925) were slightly greater than the mean concentration of 2,150 mg/L at the station farthest downstream (06324970). The decrease in dissolved solids in the downstream direction may have been related to a corresponding increase in the quantity of streamflow (fig. 4). The predominant cation in the Little Powder River was calcium at station 06324890 and sodium at stations 06324925 and 06324970; the predominant anion was sulfate at all three stations. The median suspended-sediment concentration at the three stations ranged from 48.5 to 166 mg/L.

Regression equations, relating specific conductance to streamflow, and relating dissolved solids and most of the major ions to specific conductance, from the stations on the Little Powder River are included in table 1.

#### Cheyenne River Drainage

Many of the streams of the Cheyenne River drainage are ephemeral or intermittent. Zero-flow conditions were recorded on at least one sampling date at six of the seven stations in this drainage.

The mean dissolved-solids concentrations in streams of the Cheyenne River drainage, shown in figure 5, ranged from 1,380 to 2,540 mg/L. The largest mean dissolved-solids concentrations were recorded at the two stations farthest downstream. Calcium was the predominant cation in the water of Antelope Creek at station 06364700, the Dry Fork Cheyenne River at station 06365300, and the main stem of the Cheyenne River at station 06365900. Sodium was the predominant cation in Little Thunder Creek at station 06375600, Lodgepole Creek at station 06378300, Lance Creek at station 06386000, and the Cheyenne



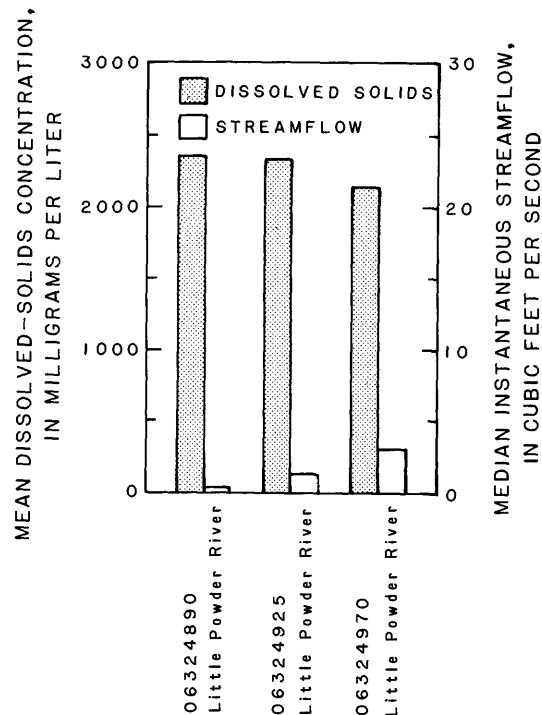


Figure 4.--Mean dissolved-solids concentrations and median instantaneous streamflow values at stations in the Little Powder River drainage.

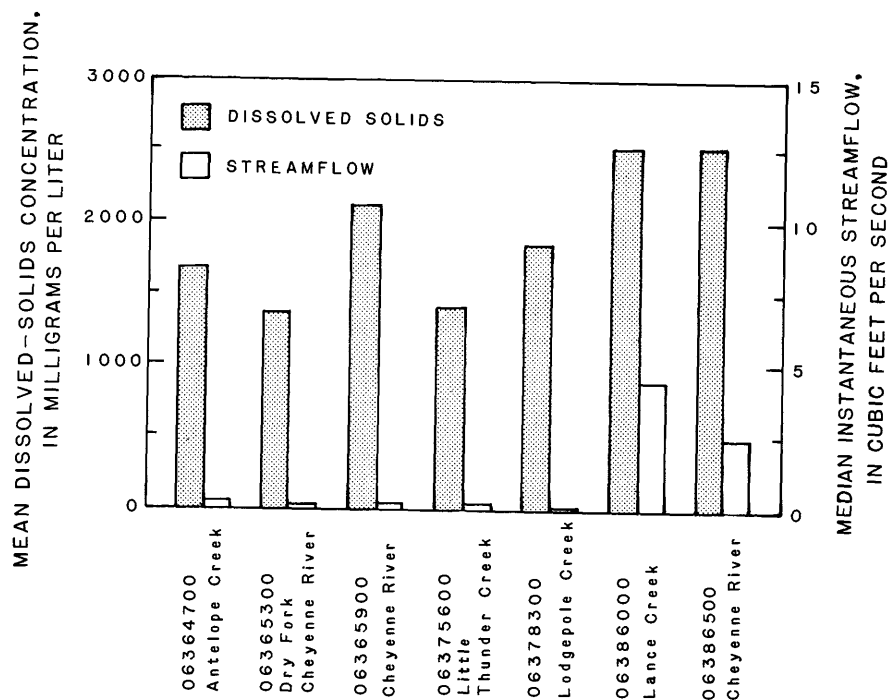


Figure 5.--Mean dissolved-solids concentrations and median instantaneous streamflow values at stations in the Cheyenne River drainage.

River at station 06386500. The increase in the proportion of sodium with increasing distance from the headwaters was similar to the pattern observed in the Tongue River, Powder River, and Little Powder River drainages (pl. 1). Sulfate was the predominant anion at all stations in the Cheyenne River drainage. A downstream trend in the proportion of sulfate to the other anions was not noted in this drainage area.

The median suspended-sediment concentrations in the streams of the Cheyenne River drainage ranged from 56 to 148 mg/L. The turbidity data were insufficient for comparison. The largest mean water temperature recorded in the drainage area was 14.9°C in the Cheyenne River at station 06386500, whereas the largest maximum water temperature was 35.0°C, in Lance Creek at station 06386000.

Regression equations relating specific conductance to streamflow are presented for two of the seven stations in the drainage area. The poor correlation shown between the two variables may have been due in part to the small volume of streamflow at these stations. Regression equations relating dissolved solids and most or all of the major ions to specific conductance are presented for five of the seven stations.

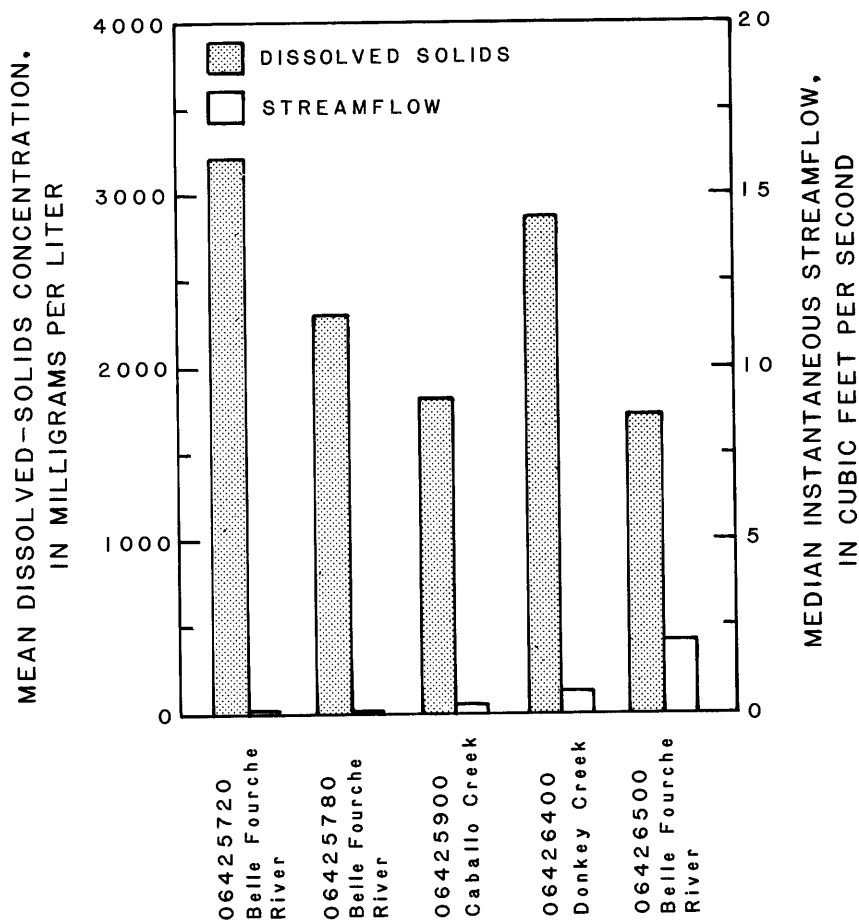
#### Belle Fourche River Drainage

Water-quality data from three stations on the main stem of the Belle Fourche River, and two stations on tributaries are included in table 1. The streams are ephemeral or intermittent at all five stations.

The mean dissolved-solids concentrations and median streamflow values recorded at stations in the Belle Fourche River drainage are shown in figure 6. Stations 06425720 and 06425780 on the Belle Fourche River are a relatively short distance apart. The decrease in dissolved-solids concentrations and small increase in streamflow between them may have been due to ground-water inflow, tributary inflow from Coal Creek, the rerouting of the channel around a coal surface mine or infrequent pumpage from the mine. The mean dissolved-solids concentration in the Belle Fourche River decreased to 1,760 mg/L at station 06426500. The decrease in dissolved-solids concentration and increase in streamflow in the downstream direction in the Belle Fourche River was similar to the pattern observed in the Powder and Little Powder Rivers.

The two tributaries, Caballo Creek (station 06425900) and Donkey Creek (station 06426400), might be expected to contain similar water-quality conditions because their drainages are approximately the same size and adjacent to each other, but this was not the case, probably because of man's activities in the basin of Donkey Creek. Donkey Creek receives municipal sewage effluent from the city of Gillette (population 12,000), frequent pumpage from dewatering of a coal surface-mine pit, and water that flows through an oil-well field, all within a distance of less than 25 miles upstream from the sampling station. The mean dissolved-solids concentration in Caballo Creek at station 06425900 was 1,840 mg/L, compared to 2,890 mg/L in Donkey Creek at station 06426400. The fecal streptococci bacteria, phytoplankton, sodium, and chloride

concentrations were larger in Donkey Creek at station 06426400 than in unpacted streams in the area. Although the effects of Donkey Creek are diluted in the Belle Fourche River at station 06426500, downstream from their confluence, chloride and phytoplankton concentrations were still relatively large.



**Figure 6.--Mean dissolved-solids concentrations and median instantaneous streamflow values at stations in the Belle Fourche River drainage.**

The predominant cation was sodium in the Belle Fourche River at stations 06425720 and 06426500 and in Donkey Creek at station 06426400. The predominance of sodium in the Belle Fourche River at station 06426500 probably reflected the trend of an increasing proportion of sodium in the downstream direction, as noted in other drainages, plus the effect of inflow from Donkey Creek. Sodium and calcium were present in approximately equal proportions in the Belle Fourche River at station 06425780 and Caballo Creek at station 06425900. The predominant anion was sulfate at all five stations.

The median suspended-sediment concentration in the Belle Fourche River increased from 61.0 mg/L at station 06425720 to 173 mg/L at station 06426500. The median turbidity values in the Belle Fourche River also increased in the downstream direction, from 7.0 NTU at station 06425720, to 40.0 NTU at station 06426500. The largest mean water temperature in the drainage was 12.7°C in the Belle Fourche River at station 06425720.

Regression equations relating specific conductance to streamflow are not presented for any of the stations in the drainage. Equations relating the dissolved solids and major ions to specific conductance are presented for most stations.

#### North Platte River Drainage

Water-quality data from stations 06645000 and 06646800 on the North Platte River are included in table 1. Perennial flow in the North Platte River at these stations is maintained by releases from three large reservoirs upstream on the main stem. Most of the water stored in the reservoirs originates in the mountain ranges of Wyoming and Colorado, which are the headwaters of the North Platte River.

The mean dissolved-solids concentration in the North Platte River was 429 mg/L at station 06645000 and 458 mg/L at station 06646800. The predominant ions at the stations were calcium and sulfate.

The regression models of the data from station 06645000 on the North Platte River showed poor correlations between the constituents and the independent variables. These correlations may have been poor, partly due to water-quality changes as a result of the standing-water conditions and the pattern of releases from the reservoirs upstream. Regression models were not calculated for station 06646800 because of an insufficient number of specific-conductance values.

#### Hanna Coal Field

Statistical summaries of water-quality data from four stations in or near the Hanna coal field are listed in table 2. Big Ditch at station 06630300 and Hanna Draw at station 06634990 are ephemeral streams. The Medicine Bow River at station 06635000 is perennial. These three streams, as well as the other streams in the area of active coal mining, drain into either the North Platte River or Seminoe Reservoir. The North Platte River is a relatively large, perennial river that flows through the western edge of the coal field, into Seminoe Reservoir. Although station 06630000 on the North Platte River is located outside the Hanna coal field, it is included in the summary because of its proximity to the coal field.

The mean dissolved-solids concentrations in the ephemeral streams (Big Ditch at station 06630300 and Hanna Draw at station 06634990) were about 2,000 mg/L; the mean dissolved-solids concentrations in the perennial streams (Medicine Bow River at station 06635000 and the North Platte River at station 06630000) were less than 1,000 mg/L (fig. 7). The predominant cation was

sodium in Big Ditch at station 06630300, and calcium in the Medicine Bow River at station 06635000 and the North Platte River at station 06630000. Calcium and magnesium were co-dominant cations in Hanna Draw at station 06634990. Sulfate was the predominant anion at the stations, excepting the predominance of bicarbonate at station 06630000 on the North Platte River. Differences in the quality of water between the stations may have been due to such factors as differences in the stream origins, agricultural practices, or mine drainage.

The largest median suspended-sediment concentration from the four stations was 1,510 mg/L, in Big Ditch at station 06630300. The largest mean water temperature was 17.0°C, also in Big Ditch at station 06630300.

Regression equations relating specific conductance to streamflow are presented for three stations. Equations relating dissolved solids and most or all of the major ions to specific conductance are presented for all four stations.

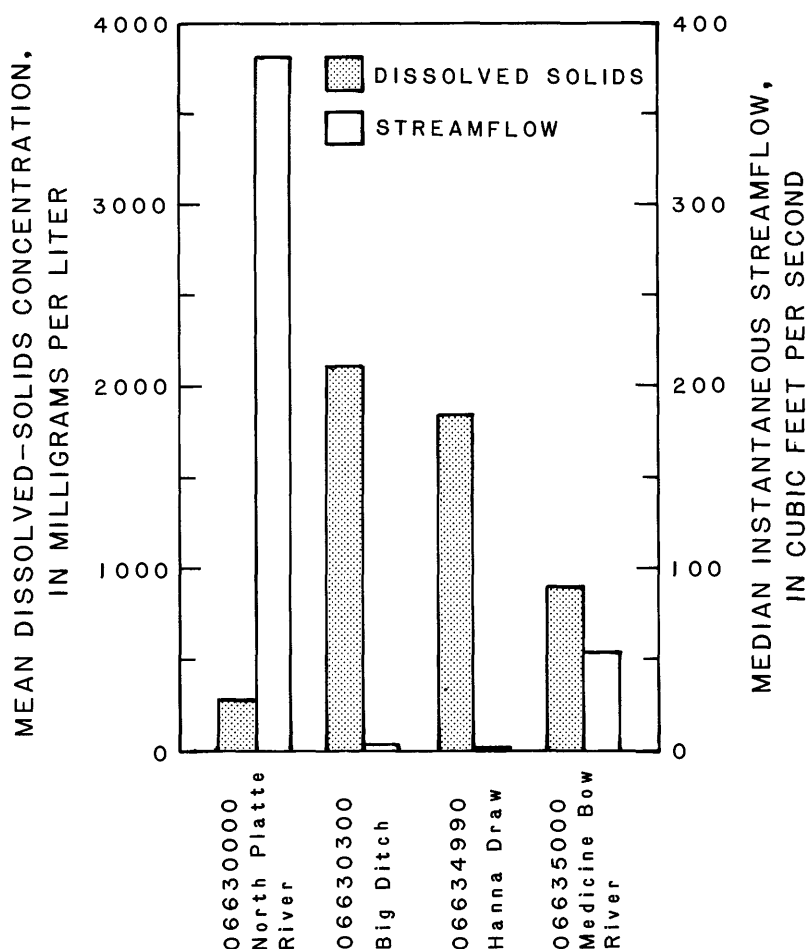


Figure 7.--Mean dissolved-solids concentrations and median instantaneous streamflow values at stations in the Hanna coal field.

## Green River Coal Region

Downstream trends in water quality in the Green River coal region include increasing dissolved-solids concentrations in the Green River and increasing proportions of sodium and sulfate in the Blacks Fork drainage. Irrigation of crops is extensive along the upper reaches of the Green River and its upper tributaries, the Big Sandy River, the Hams Fork, the Blacks Fork, the Smiths Fork, and the Henrys Fork. Inflows of saline water from underlying aquifers affect the water quality of the Big Sandy River and the Bitter Creek drainage.

The descriptive and regression statistics of data from 35 stations in the Green River coal region are listed in table 3. The range of the mean dissolved-solids concentrations and the proportion of the major ions at each station are shown on plate 1.

### Green River Main Stem and Upstream Tributaries

Seven stations on the main stem of the Green River and five stations on the upper tributaries of the Green River are considered in this section. The five upper tributaries are Pine Creek (station 09196500), East Fork River (station 09203000), New Fork River (station 09205000), La Barge Creek (station 09208000), and Fontenelle Creek (station 09210500). The streamflow is perennial at all of these stations.

The mean dissolved-solids concentration generally increased in the downstream direction on the Green River, but did not exceed 500 mg/L (fig. 8). Inflow of relatively saline water from the Big Sandy River contributed to the increase in the dissolved-solids concentration between stations 09211200 and 09216300 on the Green River. The mean dissolved-solids concentrations in the upstream tributaries ranged from 15 to 218 mg/L.

The predominant cation in the water was calcium at all of the stations along the Green River and upper tributaries. The predominant anion was sulfate in the Green River at the uppermost station (09188500) and the three stations farthest downstream (09216300, 09217000, and 09217010). Bicarbonate was the predominant anion in the Green River at station 09192600, 09209400, and 09211200, and in the tributary streams.

Suspended-sediment and turbidity concentrations were small in the Green River and the upper tributaries. The largest median suspended-sediment concentration in water at 11 stations is 27.0 mg/L, in the Green River at station 09217000. The largest median turbidity of all 12 stations was 8.0 NTU, in the Green River at station 09217010.

Regression equations relating specific conductance to streamflow are presented for 5 of the 12 stations on the Green River main stem and upstream tributaries. Equations relating dissolved solids and some of the major ions to specific conductance are presented for most stations.

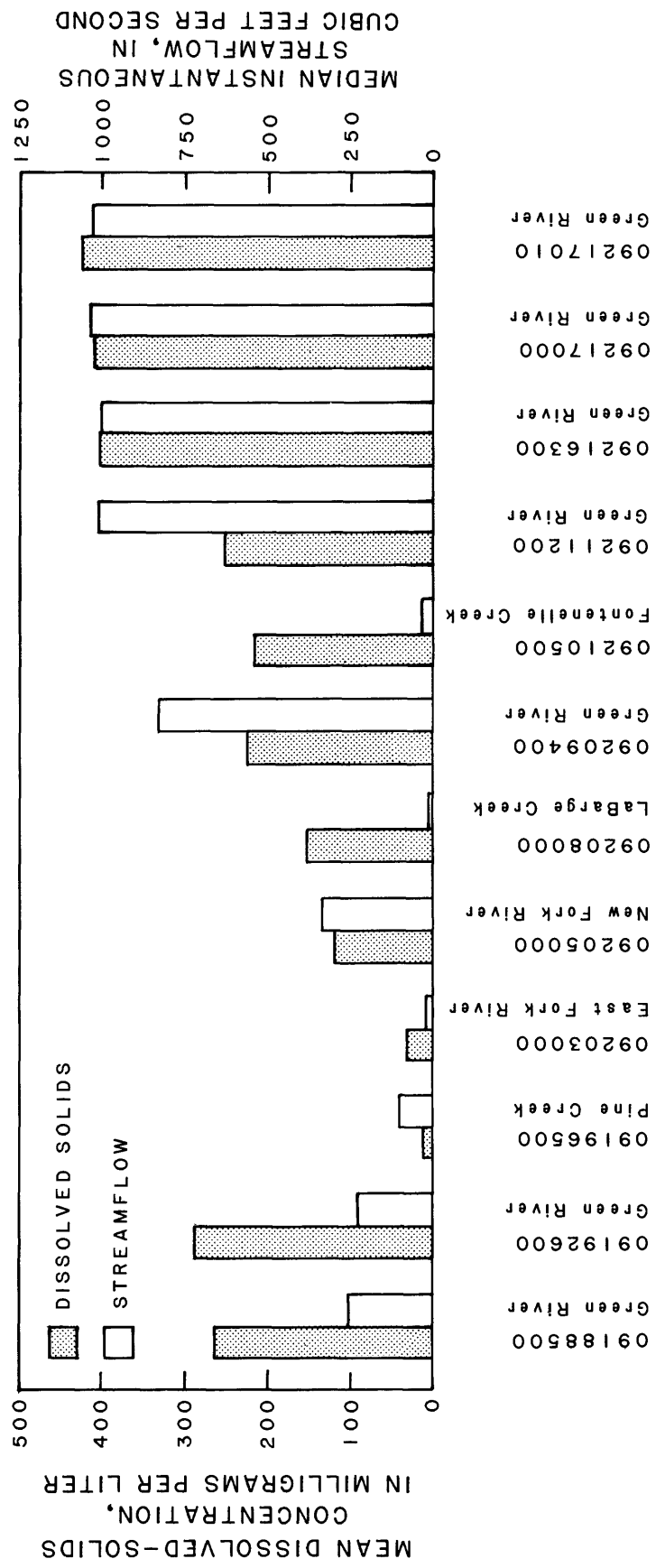


Figure 8.--Mean dissolved-solids concentrations and median instantaneous streamflow values at stations on the Green River main stem and upstream tributaries.

## Big Sandy River Drainage

Water-quality-data summaries from three stations on the Big Sandy River and one station on a tributary are included in table 3. Streamflow is perennial at the stations. The mean dissolved-solids concentrations were small in the Big Sandy River at station 09213500 and the Little Sandy River at station 09214500, compared to the downstream reaches of the Big Sandy River at stations 09216000 and 09216050 (fig. 9). Return flows from an extensive area of crop irrigation enter the Big Sandy River between stations 09213500 and 09216000; DeLong (1977) noted inflow of saline water from seeps between stations 09216000 and 09216050.

Calcium was the predominant cation in the Big Sandy River at station 09213500. Calcium and sodium comprised nearly equal proportions of the cation milliequivalents in the Little Sandy River at station 09214500. Sodium was the predominant cation in the Big Sandy River at stations 09216000 and 09216050. The predominant anion was bicarbonate in the Big Sandy River at station 09213500. Sulfate predominated in the Little Sandy River at station 09214500 and the Big Sandy River at stations 09216000 and 09216050. The seeps between stations 09216000 and 09216050 along the Big Sandy River contain large concentrations of sodium and sulfate (DeLong, 1977).

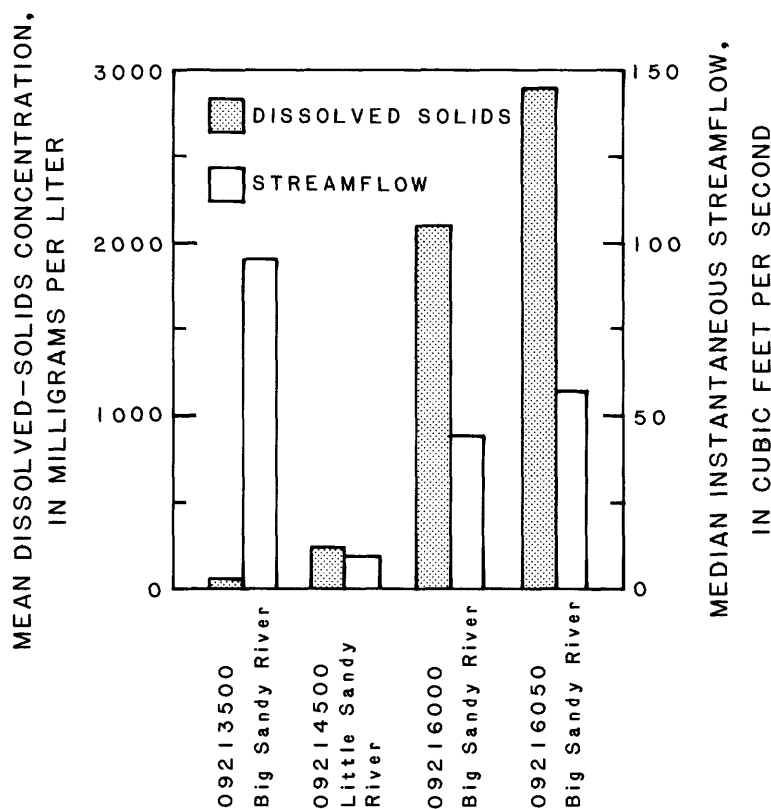


Figure 9.--Mean dissolved-solids concentrations and median instantaneous streamflow values at stations in the Big Sandy River drainage.



Suspended-sediment and turbidity concentrations in the Big Sandy River drainage did not have a distinct pattern. A regression equation relating specific conductance to streamflow is presented for only one station of the four. Regression equations relating most or all of the major ions and dissolved solids to specific conductance are presented for the four stations.

#### Bitter Creek and Vermillion Creek Drainages

Water-quality sampling stations in the Bitter Creek drainage include three stations on the main stem of Bitter Creek and four stations on tributaries to Bitter Creek. Data from station 09235300 on Vermillion Creek also are mentioned in this section because the headwaters of Vermillion Creek are adjacent to the headwaters of the Bitter Creek drainage. Streams in the Bitter Creek drainage are intermittent or have small quantities of baseflow. The median values of streamflow at the time of sampling are shown in figure 10.

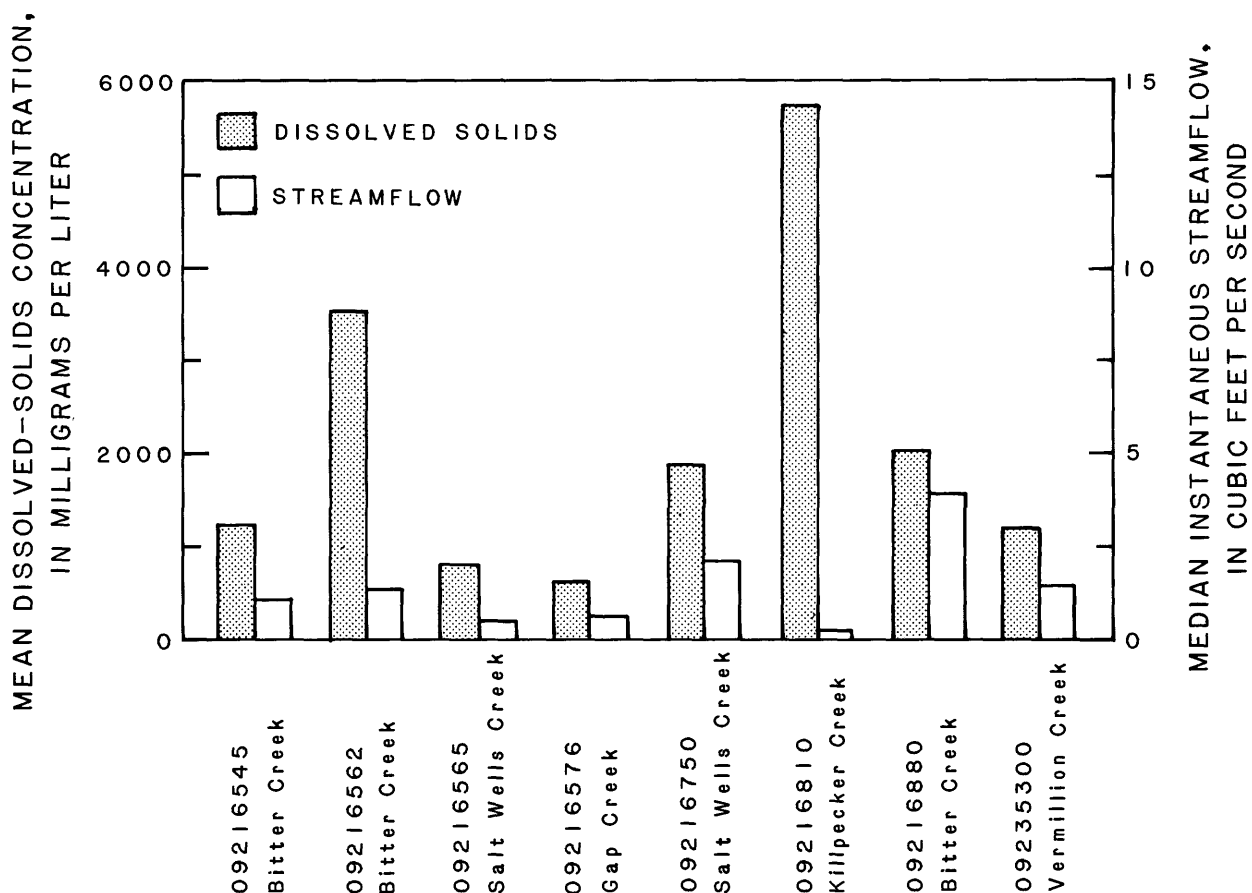


Figure 10.--Mean dissolved-solids concentrations and median instantaneous streamflow values at stations in the Bitter Creek and Vermillion Creek drainages.

The mean dissolved-solids concentrations were largest at the middle station of the three stations on Bitter Creek (fig. 10). The decrease in mean dissolved-solids concentration in Bitter Creek from 3,530 mg/L at station 09216562 to 2,076 mg/L at station 09216880 was largely due to dilution by Salt Wells Creek. The mean dissolved-solids concentration was 1,922 mg/L in Salt Wells Creek at station 09216750, near the mouth. The smallest mean dissolved-solids concentration in the Bitter Creek drainage was 618 mg/L in Gap Creek at station 09216576, whereas the largest was 5,763 mg/L in Killpecker Creek at station 09216810.

The predominant cation was sodium at seven of the nine stations in the Bitter Creek and Vermillion Creek drainages. The predominant cation was magnesium, in Salt Wells Creek at station 09216565 and Gap Creek at station 09216576. The predominant anion was sulfate at all nine stations. The mean chloride concentration in Killpecker Creek at station 09216880 was greater than 1,000 mg/L; the mean chloride concentrations were about 500 mg/L in Bitter Creek at stations 09216562 and 09216880. Inflow from flowing wells or seeps may contribute to the large chloride concentrations in Killpecker Creek and Bitter Creek. A water sample collected from a flowing well near Killpecker Creek contained a chloride concentration of 3,700 mg/L.

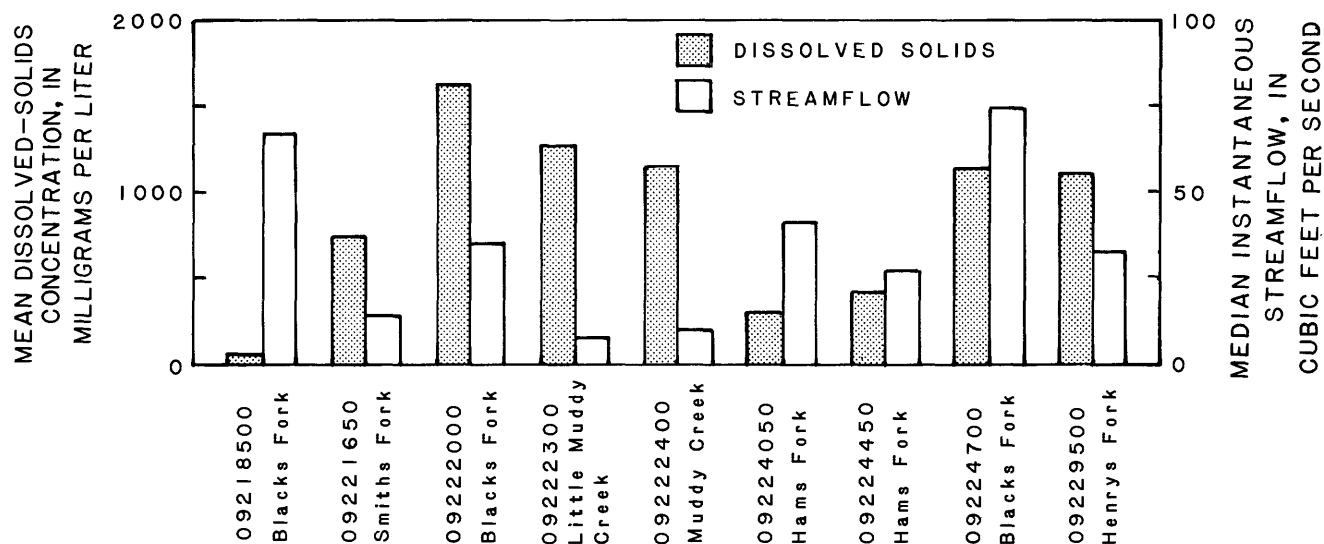
Suspended-sediment and turbidity concentrations in the Bitter Creek drainage did not have a distinct pattern. The largest median concentrations of these two constituents were in Salt Wells Creek at station 09216750. The large median fecal coliform bacteria count of 460,000 cols/100 mL in Bitter Creek at station 09216880 was a result of sewage effluent. Concentrations of nitrogen and phosphorus also were large at the same station. The largest mean water temperature in the two drainage areas was 11.1°C in Killpecker Creek at station 09216810.

Regression equations relating specific conductance to streamflow are not presented for any of the stations in the Bitter Creek and Vermillion Creek drainages. Equations relating dissolved solids and most or all of the major ions to specific conductance are presented in table 3.

#### Blacks Fork and Henrys Fork Drainages

Eight water-quality stations are located in the Blacks Fork drainage area and one on Henrys Fork. The streams are perennial at each station. The smallest mean dissolved-solids concentration in the Blacks Fork drainage was 65 mg/L, in the Blacks Fork at station 09218500; the largest mean concentration was 1,632 mg/L, also on the Blacks Fork, at station 09222000 (fig. 11). The decrease in the mean dissolved-solids concentration in the Blacks Fork to 1,164 mg/L at station 09224700 probably was due to dilution by tributaries. The Hams Fork at stations 09224050 and 09224450 contained a small mean dissolved-solids concentration, compared to Little Muddy Creek at station 09222300 and Muddy Creek at station 09222400.

An increase in the proportions of sodium and sulfate in the downstream direction in the Blacks Fork drainage is evident on plate 1. Calcium was the predominant cation in Blacks Fork at station 09218500, Hams Fork at stations 09224050 and 09224450, Little Muddy Creek at station 09222300, and Henrys Fork



**Figure 11.--Mean dissolved-solids concentrations and median instantaneous streamflow values at stations in the Blacks Fork and Henrys Fork drainages.**

at station 09229500. Sodium was the predominant cation in the Smiths Fork at station 09221650, Blacks Fork at stations 09222000 and 09224700, and in Muddy Creek at station 09222400. Bicarbonate was the predominant anion in Blacks Fork at station 09218500 and Hams Fork at stations 09224050 and 09224450; it was a co-dominant, with sulfate, in Smiths Fork at station 09221650. Sulfate was the predominant anion at the other five stations in the Blacks Fork and Henrys Fork drainages.

Suspended-sediment and turbidity concentrations in the Blacks Fork and Henrys Fork drainages were smallest in the Blacks Fork at station 09218500 and in the Hams Fork at station 09224050. The Hams Fork at station 09224050 contained larger concentrations of fecal coliform bacteria than other stations in the drainages; this probably was due to sewage effluent.

Regression equations are presented for seven of the nine stations in the Blacks Fork and Henrys Fork drainages, relating specific conductance to streamflow. Equations relating dissolved solids and most of the major ions to specific conductance also are presented.

## Great Divide Drainage Basin

The Great Divide basin is unique because it drains internally to playas rather than to a larger drainage. Streams in the Great Divide basin are ephemeral or intermittent, with the exception of perennial springs in the headwaters. Water-quality data from station 09216527, on an intermittent reach of Separation Creek, are summarized. The median streamflow at this station was 1.05 ft<sup>3</sup>/s, but there was no flow on at least 25 percent of the sample dates. The mean dissolved-solids concentration was 774 mg/L. Magnesium and sulfate were the predominant ions (pl. 1). The median suspended-sediment value was 212 mg/L and the median turbidity value was 50.0 NTU.

Dissolved-solids concentrations varying from less than 100 to more than 600 mg/L during snowmelt runoff in several ephemeral streams of the Great Divide basin were noted by H.W. Lowham (U.S. Geological Survey, written commun., 1982). Larson and Zimmerman (1981) reported a range of dissolved-solids concentrations from 60 to about 6,000 mg/L in several reaches of Separation Creek.

Regression equations relating the dissolved solids and major ions to specific conductance are presented, but an equation relating specific conductance to streamflow is not.

## Little Snake River Drainage

The Little Snake River at station 09253000 is perennial; the streamflow is sustained by snowmelt from the Sierra Madre. The mean dissolved-solids concentration of 98 mg/L was small, compared to other streams of the Green River coal region. Calcium and bicarbonate were the predominant ions in the water. Regression equations relating specific conductance to streamflow, and dissolved solids and some of the major ions to specific conductance are included in table 3.

## NEED FOR FUTURE SAMPLING PROGRAMS

The regression models showed poor correlation between specific conductance and discharge for many ephemeral and intermittent streams and some perennial streams. The patterns of specific conductance, dissolved solids, and the major-ion concentrations need to be studied in more detail, and significant variables affecting the patterns need to be identified. Better definition of the patterns in ephemeral and intermittent streams may be particularly difficult, because: (1) The temporary nature of flow in these streams hampers designing an effective sampling schedule, and (2) water-quality conditions can drastically change within a matter of hours. Sampling of ephemeral and intermittent streams, particularly at remote locations, may be aided through use of automated samplers.

## SUMMARY

Water-quality data from 72 stations were summarized through descriptive statistics and regression analyses. A total of 33 stations were located in the Powder River coal basin, 4 stations were located in or near the Hanna coal field, and 35 stations were located in the Green River coal region. The samples were collected during water years 1975-81, from perennial, intermittent, and ephemeral streams.

Constituents for which descriptive statistics are presented include dissolved solids, major ions, nutrients, bacteria, trace elements, suspended sediment, turbidity, and other miscellaneous constituents. Constituents included in the regression analyses are dissolved solids, major ions, stream-flow, the logarithm of streamflow, and specific conductance.

An increase in the mean concentration of dissolved solids in the downstream direction was noted in many streams of the Powder River coal basin and the Green River coal region. This downstream increase was noted in Clear Creek and in the Tongue, Cheyenne, North Platte, Green, and Big Sandy Rivers, which are all perennial streams originating in the mountains. The exception to this pattern occurred in the Powder River, because of the influence of Salt Creek and other tributaries. The downstream pattern of dissolved-solids concentrations varied in ephemeral or intermittent streams originating in the plains.

A change in the proportions of the ions in the downstream direction was noted in many of the perennial and intermittent streams. The proportions of sodium and sulfate, relative to calcium and bicarbonate, became larger in the downstream direction in the Tongue, Powder, Little Powder, Cheyenne, Belle Fourche, and Big Sandy Rivers.

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## SUPPLEMENTAL DATA

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin, based on samples collected from October 1, 1974, to September 30, 1981

[Water-quality constituent: Values in milligrams per liter, except as indicated; DEG C, degrees Celsius; FT3/S, cubic feet per second; NTU, Nephelometric turbidity units; MICROSIEMENS, microsiemens per centimeter at 25 degrees Celsius; UG/L, micrograms per liter; UG/KG, micrograms per kilogram, COLS/100 ML, colonies per 100 milliliters of water. CELLS PER ML, cells per milliliter of water.

Regression statistics: \*, value not included in table because coefficient of determination was less than 0.50, or significance of probability of the F-value was greater than 0.05, where F equals the ratio of the regression mean square to the error mean square.

Independent variable: K, specific-conductance value, in microsiemens per centimeter at 25 degrees Celsius; Q, instantaneous-streamflow value, in cubic feet per second; LOGQ, base 10 logarithm of instantaneous-streamflow value, in cubic feet per second]

STATION NUMBER: 06298000 STATION NAME AND LOCATION: TONGUE RIVER NEAR DAYTON, WYO.  
DRAINAGE AREA: 204 SQUARE MILES

WATER QUALITY CONSTITUENT	SAMPLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	83	18.00	0.00	6.66	4.93	15.00	10.50	5.50	2.00	0.50
STREAMFLOW, INSTANTANEOUS (FT3/S)	83	2310.00	34.00	194.14	344.64	771.20	143.00	71.00	55.00	41.20
TURBIDITY (NTU)	47	20.00	0.00	3.13	4.73	18.25	3.00	1.00	1.00	0.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	75	360.00	50.00	244.20	53.16	312.00	280.00	260.00	225.00	139.00
OXYGEN, DISSOLVED	35	13.00	7.60	10.31	1.50	12.68	11.60	10.50	8.90	8.08
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	36	4.90	0.60	2.34	1.00	3.79	3.22	2.10	1.52	0.77
PH (UNITS)	75	8.50	6.80	--	--	8.42	8.20	8.10	7.90	7.24
ALKALINITY (AS CaCO3)	82	172.00	41.00	122.94	25.01	148.00	140.00	131.00	110.00	74.15
NITROGEN, AMMONIA DISSOLVED (AS N)	1	0.13	0.13	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	37	0.13	0.01	0.03	0.03	0.12	0.05	0.01	0.01	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	37	1.30	0.01	0.25	0.22	0.66	0.33	0.19	0.12	0.02
NITROGEN, NO2+NO3 TOTAL (AS N)	37	0.61	0.01	0.15	0.12	0.38	0.19	0.13	0.07	0.02
NITROGEN, NO2+NO3 DISSOLVED (AS N)	24	1.90	0.00	0.20	0.41	1.61	0.22	0.05	0.00	0.00
PHOSPHORUS, TOTAL (AS P)	82	1.35	0.00	0.04	0.15	0.12	0.02	0.01	0.01	0.00
HARDNESS (AS CaCO3)	82	180.00	58.00	127.84	25.34	160.00	150.00	130.00	120.00	73.75
CALCIUM DISSOLVED	82	56.00	12.00	32.59	7.14	43.85	37.00	34.00	29.00	18.15
MAGNESIUM, DISSOLVED	82	29.00	2.70	11.24	3.43	15.85	13.00	12.00	9.47	5.32
SODIUM, DISSOLVED	82	240.00	0.00	4.73	26.31	3.50	2.30	1.80	1.30	0.53
SODIUM ADSORPTION RATIO	82	8.80	0.00	0.19	0.96	0.10	0.10	0.10	0.10	0.00
POTASSIUM, DISSOLVED	82	6.70	0.10	0.96	0.74	1.70	1.12	0.90	0.60	0.31
CHLORIDE, DISSOLVED	81	24.00	0.00	2.07	3.34	8.47	1.80	1.10	0.40	0.10
SULFATE DISSOLVED	81	19.00	0.00	6.07	4.08	16.00	8.00	4.90	3.30	1.00
FLUORIDE, DISSOLVED	82	0.60	0.00	0.15	0.09	0.30	0.20	0.10	0.10	0.10
SILICA, DISSOLVED	81	11.00	0.00	6.22	1.68	9.39	6.80	6.30	5.75	3.73
ARSENIC, DISSOLVED (UG/L)	10	1.00	0.00	--	--	1.00	1.00	<1.00	<1.00	<1.00
BARIUM, DISSOLVED (UG/L)	1	20.00	20.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	4	210.00	<20.00	--	--	--	--	--	--	--
CADMIUM DISSOLVED (UG/L)	10	<2.00	2.00	--	--	<2.00	<2.00	<2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	10	<20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	13	<10.00	<10.00	--	--	<10.00	<10.00	<10.00	<10.00	<10.00
IRON, DISSOLVED (UG/L)	10	410.00	<10.00	--	--	410.00	30.00	20.00	<10.00	<10.00
LEAD, DISSOLVED (UG/L)	13	12.00	<2.00	--	--	12.00	3.00	<2.00	<2.00	<2.00
MANGANESE, DISSOLVED (UG/L)	10	<10.00	<10.00	--	--	<10.00	<10.00	<10.00	<10.00	<10.00
ZINC, DISSOLVED (UG/L)	13	20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	13	1.00	<1.00	--	--	1.00	<1.00	<1.00	<1.00	<1.00
COLIFORM, FECAL, (COLS/100 ML)	24	42.00	0.00	6.92	9.16	35.25	11.00	2.00	1.00	0.25
PHENOLS (UG/L)	10	14.00	1.00	4.90	4.56	14.00	8.00	3.00	1.00	1.00
PHYTOPLANKTON, TOTAL (CELLS PER ML)	26	1600.00	10.00	433.27	412.50	1460.00	587.50	265.00	140.00	23.30
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	80	369.00	74.00	137.87	35.37	167.00	154.00	140.00	120.00	87.20
MERCURY DISSOLVED (UG/L)	13	0.60	<0.05	--	--	0.60	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	1	10.00	10.00	--	--	--	--	--	--	--



Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06298000 STATION NAME AND LOCATION: TONGUE RIVER NEAR DAYTON, WYO.--Continued

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION ( $r^2$ )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	40	0.00779	Q	1.34	0.51	0.0001	3.56
SPECIFIC CONDUCTANCE (MICROSIEMENS)	74	-97.8	LOGQ	442	.61	.0001	33.6
ALKALINITY (AS $\text{CaCO}_3$ )	74	-53.5	LOGQ	230	.76	.0001	13.0
HARDNESS (AS $\text{CaCO}_3$ )	74	-54.3	LOGQ	236	.79	.0001	11.9
CALCIUM, DISSOLVED	74	-12.8	LOGQ	58.2	.54	.0001	5.00
MAGNESIUM, DISSOLVED	74	*	LOGQ	*	.40	.0001	*
SODIUM, DISSOLVED	73	*	LOGQ	*	.00	.559	*
SODIUM ADSORPTION RATIO	74	*	LOGQ	*	.00	.592	*
POTASSIUM, DISSOLVED	72	*	Q	*	.03	.158	*
CHLORIDE, DISSOLVED	58	*	K	*	.01	.584	*
SULFATE, DISSOLVED	71	*	Q	*	.05	.0644	*
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	72	*	LOGQ	*	.37	.0001	*

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06299980 STATION NAME AND LOCATION: TONGUE RIVER AT MONARCH, WYO.  
DRAINAGE AREA: NOT AVAILABLE

WATER QUALITY CONSTITUENT	SAMPLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50 (MEDIAN)	25	5
TEMPERATURE (DEG C)	75	23.00	0.00	8.51	7.42	21.60	14.50	8.00	0.50	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	73	2200.00	43.00	246.82	392.70	1155.00	189.50	111.00	74.00	52.80
TURBIDITY (NTU)	73	100.00	0.70	12.31	21.14	80.00	10.00	4.10	2.00	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	75	660.00	180.00	438.60	107.43	582.00	520.00	450.00	395.00	208.00
OXYGEN, DISSOLVED	71	13.60	7.90	10.39	1.39	12.40	11.60	10.40	9.20	8.00
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	36	9.60	0.80	2.62	1.57	5.60	3.15	2.35	1.62	0.97
PH (UNITS)	73	8.90	6.90	--	--	8.52	8.20	8.00	7.85	7.47
ALKALINITY (MG/L AS CaCO <sub>3</sub> )	73	244.00	79.00	175.01	40.08	215.10	200.00	190.00	160.00	87.20
NITROGEN, AMMONIA DISSOLVED (AS N)	2	0.02	0.01	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	73	0.31	0.00	0.06	0.06	0.20	0.08	0.04	0.01	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	73	2.00	0.01	0.55	0.37	1.33	0.71	0.46	0.34	0.10
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	73	0.87	0.00	0.14	0.14	0.35	0.21	0.10	0.05	0.01
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	2	0.10	0.01	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	73	0.28	0.00	0.04	0.04	0.13	0.04	0.02	0.01	0.01
CARBON, ORGANIC DISSOLVED	7	8.30	2.90	--	--	--	--	--	--	--
CARBON, ORGANIC SUSPENDED	7	1.10	0.20	--	--	--	--	--	--	--
HARDNESS (AS CaCO <sub>3</sub> )	73	300.00	93.00	213.23	51.57	270.00	250.00	230.00	190.00	99.70
CALCIUM DISSOLVED	73	67.00	22.00	48.33	10.73	61.30	55.00	51.00	44.50	25.00
MAGNESIUM, DISSOLVED	73	32.00	7.60	22.50	6.18	30.00	27.00	24.00	20.00	9.18
SODIUM, DISSOLVED	73	32.00	3.00	15.82	6.63	29.60	19.00	15.00	12.50	4.42
SODIUM ADSORPTION RATIO	73	0.90	0.10	0.46	0.17	0.80	0.50	0.50	0.40	0.20
POTASSIUM, DISSOLVED	73	7.40	0.30	2.01	0.92	3.19	2.35	1.80	1.50	1.00
CHLORIDE, DISSOLVED	73	5.20	0.60	2.06	0.83	3.60	2.45	1.90	1.60	0.77
SULFATE DISSOLVED	73	150.00	12.00	66.97	29.04	130.00	78.50	68.00	57.50	16.40
FLUORIDE, DISSOLVED	68	0.40	0.00	0.19	0.06	0.30	0.20	0.20	0.20	0.10
SILICA, DISSOLVED	73	9.30	0.10	6.87	1.52	9.03	7.80	7.10	6.30	4.87
ARSENIC DISSOLVED (UG/L)	16	3.00	<1.00	--	--	3.00	1.00	1.00	<1.00	<1.00
BORON, DISSOLVED (UG/L)	66	350.00	<20.00	--	--	136.00	60.00	50.00	40.00	<20.00
CADMIUM DISSOLVED (UG/L)	16	3.00	<2.00	--	--	3.00	2.00	<2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	16	20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	18	6.00	<2.00	--	--	6.00	2.25	<2.00	<2.00	<2.00
IRON, DISSOLVED (UG/L)	64	490.00	<10.00	--	--	317.50	80.00	40.00	20.00	<10.00
LEAD, DISSOLVED (UG/L)	18	16.00	<2.00	--	--	16.00	3.00	<2.00	<2.00	<2.00
MANGANESE, DISSOLVED (UG/L)	16	30.00	<10.00	--	--	30.00	20.00	10.00	<10.00	<10.00
ZINC, DISSOLVED (UG/L)	18	20.00	<20.00	--	--	20.00	<20.00	<20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	18	1.00	<1.00	--	--	1.00	<1.00	<1.00	<1.00	<1.00
PHENOLS (UG/L)	7	20.00	0.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	2	470.00	360.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	73	395.00	105.00	269.85	70.78	374.60	306.50	288.00	241.50	115.80
MERCURY DISSOLVED (UG/L)	18	0.50	<0.50	--	--	<0.50	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	2	36.00	16.00	--	--	--	--	--	--	--

REGRESSION STATISTICS

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	67	*	Q	*	0.26	0.0001	--
SPECIFIC CONDUCTANCE (MICROSIEMENS)	69	-209	LOGQ	887	.56	.0001	73.7
ALKALINITY (AS CaCO <sub>3</sub> )	68	.313	K	37.3	.73	.0001	21.5
HARDNESS (AS CaCO <sub>3</sub> )	68	.443	K	18.5	.88	.0001	18.7
CALCIUM, DISSOLVED	68	.0889	K	9.18	.83	.0001	4.48
MAGNESIUM, DISSOLVED	68	.0531	K	-.841	.87	.0001	2.27
SODIUM, DISSOLVED	68	.0512	K	-6.51	.69	.0001	3.83
SODIUM ADSORPTION RATIO	68	.00114	K	-.0392	.54	.0001	.119
POTASSIUM, DISSOLVED	68	*	K	*	.10	.0085	*
CHLORIDE, DISSOLVED	68	*	K	*	.32	.0001	*
SULFATE, DISSOLVED	68	.239	K	-37.9	.79	.0001	13.8
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	68	.628	K	-5.87	.92	.0001	20.1

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06304500 STATION NAME AND LOCATION: LITTLE GOOSE CREEK AT SHERIDAN, WYO.  
DRAINAGE AREA: NOT AVAILABLE

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAM- PLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVIA- TION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	29	29.00	0.00	11.07	8.33	27.00	17.25	11.50	3.50	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	29	268.00	4.00	56.61	66.39	246.50	68.00	32.00	15.50	6.65
TURBIDITY (NTU)	29	35.00	2.00	8.24	7.79	30.00	10.00	6.00	3.00	2.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	29	1120.00	210.00	721.72	190.56	1060.00	830.00	740.00	652.50	235.00
OXYGEN, DISSOLVED (MG/L)	28	14.00	7.00	11.16	1.64	13.91	12.40	10.80	10.20	7.90
PH (UNITS)	29	8.80	7.80	--	--	8.70	8.40	8.30	8.10	7.85
NITROGEN, AMMONIA TOTAL (AS N)	16	0.83	0.00	0.09	0.20	0.83	0.07	0.05	0.01	0.00
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	17	3.80	0.52	1.11	0.90	3.80	1.25	0.74	0.59	0.52
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	17	0.78	0.00	0.17	0.25	0.78	0.28	0.05	0.01	0.00
PHOSPHORUS, TOTAL (AS P)	17	0.41	0.00	0.08	0.10	0.41	0.11	0.03	0.02	0.00

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	26	*	Q	*	0.48	0.0001	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	26	-2.56	Q	878	.79	.0001	94.2

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06305500 STATION NAME AND LOCATION: GOOSE CREEK BELOW SHERIDAN, WYO.  
DRAINAGE AREA: 392 SQUARE MILES

WATER QUALITY CONSTITUENT	SAMPLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	143	29.00	0.00	9.49	7.95	24.00	14.00	8.50	1.00	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	157	5540.00	18.00	301.68	651.53	1388.00	181.00	96.00	70.00	40.70
TURBIDITY (NTU)	82	90.00	1.00	12.51	14.62	40.00	15.00	7.00	3.00	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	84	1050.00	165.00	682.80	199.37	937.50	800.00	730.00	650.00	202.50
OXYGEN, DISSOLVED	81	14.40	5.60	10.30	1.91	13.20	11.60	10.40	9.10	6.73
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	67	9.90	1.40	4.76	1.78	8.56	5.60	4.70	3.20	2.20
PH (UNITS)	84	8.70	6.80	--	--	8.60	8.30	8.20	7.90	7.42
ALKALINITY (AS CaCO <sub>3</sub> )	85	295.00	41.00	223.62	64.45	286.70	262.50	250.00	206.00	66.50
NITROGEN, AMMONIA DISSOLVED (AS N)	2	0.01	0.01	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	82	2.60	0.01	0.66	0.52	1.70	0.99	0.55	0.24	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	82	9.60	0.42	1.52	1.18	2.97	1.80	1.30	0.85	0.51
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	82	0.82	0.00	0.25	0.20	0.58	0.43	0.19	0.10	0.03
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	26	1.40	0.01	0.22	0.29	1.12	0.22	0.12	0.05	0.02
PHOSPHORUS, TOTAL (AS P)	85	2.70	0.03	0.37	0.40	1.12	0.43	0.28	0.15	0.04
CARBON, ORGANIC DISSOLVED	8	13.00	4.40	--	--	--	--	--	--	--
CARBON, ORGANIC SUSPENDED	7	1.40	0.10	--	--	--	--	--	--	--
HARDNESS (AS CaCO <sub>3</sub> )	85	480.00	60.00	316.11	97.78	440.00	370.00	350.00	290.00	86.20
CALCIUM DISSOLVED	85	150.00	14.00	61.16	20.07	82.50	72.00	66.00	56.00	18.60
MAGNESIUM, DISSOLVED	85	65.00	6.10	39.64	14.15	58.70	48.00	43.00	35.00	8.95
SODIUM, DISSOLVED	85	49.00	4.80	27.99	9.57	40.00	34.00	30.00	25.00	6.11
SODIUM ADSORPTION RATIO	85	1.10	0.20	0.67	0.17	0.90	0.80	0.70	0.60	0.30
POTASSIUM, DISSOLVED	85	11.00	0.20	3.13	1.54	5.00	3.80	3.00	2.45	1.00
CHLORIDE, DISSOLVED	85	20.00	0.80	6.54	3.72	16.00	7.60	5.80	4.20	1.83
SULFATE DISSOLVED	85	260.00	21.00	140.46	53.05	227.00	170.00	150.00	120.00	30.30
FLUORIDE, DISSOLVED	85	0.70	0.10	0.39	0.12	0.60	0.50	0.40	0.30	0.13
SILICA, DISSOLVED	85	16.00	0.00	8.18	3.09	13.00	10.00	8.00	6.35	2.82
ARSENIC DISSOLVED (UG/L)	16	1.00	<1.00	--	--	1.00	1.00	<1.00	<1.00	<1.00
BORON, DISSOLVED (UG/L)	5	160.00	50.00	--	--	--	--	--	--	--
CADMIUM DISSOLVED (UG/L)	16	2.00	<2.00	--	--	2.00	2.00	<2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	16	<20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	19	8.00	<2.00	--	--	8.00	3.00	2.00	<2.00	<2.00
IRON, DISSOLVED (UG/L)	17	110.00	<10.00	--	--	110.00	55.00	50.00	15.00	<10.00
LEAD, DISSOLVED (UG/L)	19	12.00	<2.00	--	--	12.00	3.00	<2.00	<2.00	<2.00
MANGANESE, DISSOLVED (UG/L)	16	60.00	<10.00	--	--	60.00	37.50	25.00	<10.00	<10.00
ZINC, DISSOLVED (UG/L)	19	<20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	18	2.00	<1.00	--	--	2.00	1.00	1.00	<1.00	<1.00
COLIFORM, FECAL, (COLS/100 ML)	23	208000.00	1400.00	34917.39	41838.35	179198.24	41000.00	30999.93	12000.00	1420.00
PHENOLS (UG/L)	10	21.00	1.00	6.40	5.74	21.00	8.25	4.50	2.75	1.00
PHYTOPLANKTON, TOTAL (CELLS PER ML)	2	3200.00	2100.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	85	621.00	95.00	423.41	130.05	597.00	495.00	466.00	391.00	121.00
MERCURY DISSOLVED (UG/L)	19	<0.50	<0.50	--	--	<0.50	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	96	1740.00	5.00	113.60	297.85	788.00	58.50	22.00	14.00	7.00

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06305500 STATION NAME AND LOCATION: GOOSE CREEK BELOW SHERIDAN, WYO.--Continued

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION ( $r^2$ )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	80	*	LOGQ	*	0.41	0.0001	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	82	-460	LOGQ	1,610	.82	.0001	86.5
ALKALINITY (AS $\text{CaCO}_3$ )	82	.294	K	23.7	.82	.0001	27.7
HARDNESS (AS $\text{CaCO}_3$ )	82	.466	K	-.360	.90	.0001	31.7
CALCIUM, DISSOLVED	82	.0849	K	3.30	.71	.0001	11.0
MAGNESIUM, DISSOLVED	82	.0614	K	-2.07	.75	.0001	7.22
SODIUM, DISSOLVED	82	.0436	K	-1.61	.82	.0001	4.10
SODIUM ADSORPTION RATIO	82	.000686	K	.207	.69	.0001	.0941
POTASSIUM, DISSOLVED	82	*	K	*	.25	.0001	*
CHLORIDE, DISSOLVED	82	*	LOGQ	*	.29	.0001	*
SULFATE, DISSOLVED	82	.245	K	-25.5	.84	.0001	21.4
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	82	.623	K	.201	.91	.0001	40.0
SEDIMENT, SUSPENDED	21	.100	K	13.7	.81	.0001	15.8

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06306300 STATION NAME AND LOCATION: TONGUE RIVER AT STATE LINE, NEAR DECKER, MONT.  
DRAINAGE AREA: 1,477 SQUARE MILES

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVI- TION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	88	25.00	0.00	8.89	8.00	22.55	15.87	8.75	0.00	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	82	4320.00	71.00	500.77	715.81	1734.99	427.25	264.00	184.50	104.15
TURBIDITY (NTU)	71	100.00	1.00	17.11	21.69	74.00	20.00	10.00	4.00	1.60
SPECIFIC CONDUCTANCE (MICROSIEMENS)	88	1700.00	230.00	727.47	227.37	1016.60	850.00	760.00	642.50	289.00
OXYGEN, DISSOLVED	84	13.80	6.00	10.05	1.79	13.15	11.47	9.90	8.60	7.20
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	34	8.00	0.80	2.64	1.41	5.82	3.25	2.40	1.57	0.95
PH (UNITS)	86	8.70	7.00	--	--	8.60	8.30	8.10	7.90	7.47
ALKALINITY (AS CaCO3)	87	620.00	72.00	224.59	70.40	292.40	260.00	240.00	200.00	96.80
NITROGEN, AMMONIA TOTAL (AS N)	79	0.67	0.00	0.15	0.15	0.45	0.22	0.09	0.04	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	85	5.20	0.08	0.80	0.67	2.08	0.90	0.66	0.48	0.19
NITROGEN, NO2+NO3 TOTAL (AS N)	83	1.40	0.00	0.20	0.22	0.54	0.35	0.11	0.03	0.01
NITROGEN, NO2+NO3 DISSOLVED (AS N)	24	0.98	0.00	0.23	0.28	0.96	0.33	0.14	0.01	0.00
PHOSPHORUS, TOTAL (AS P)	84	1.60	0.00	0.09	0.17	0.20	0.11	0.06	0.03	0.01
CARBON, ORGANIC DISSOLVED	9	36.00	3.40	--	--	--	--	--	--	--
CARBON, ORGANIC SUSPENDED	9	3.90	0.40	--	--	--	--	--	--	--
HARDNESS (AS CaCO3)	84	900.00	100.00	340.60	112.48	447.50	400.00	360.00	290.00	125.00
CALCIUM DISSOLVED	84	180.00	24.00	67.36	21.90	91.00	78.75	69.50	56.50	27.00
MAGNESIUM, DISSOLVED	84	110.00	9.60	41.79	15.14	56.75	50.00	44.00	36.00	13.25
SODIUM, DISSOLVED	84	98.00	5.90	34.52	14.16	51.75	42.00	35.00	28.00	8.60
SODIUM ADSORPTION RATIO	84	1.40	0.30	0.80	0.22	1.17	0.90	0.80	0.70	0.30
POTASSIUM, DISSOLVED	83	11.00	0.20	3.54	1.40	5.48	4.20	3.50	2.80	1.60
CHLORIDE, DISSOLVED	84	18.00	0.90	5.02	3.40	15.50	5.82	4.10	3.50	1.72
SULFATE DISSOLVED	84	490.00	30.00	181.39	75.51	280.00	230.00	190.00	142.50	42.00
FLUORIDE, DISSOLVED	84	1.70	0.10	0.39	0.19	0.67	0.40	0.40	0.30	0.20
SILICA, DISSOLVED	81	26.00	0.00	6.91	3.61	12.90	8.60	6.60	4.65	2.33
ARSENIC DISSOLVED (UG/L)	18	4.00	<1.00	--	--	4.00	1.00	1.00	<1.00	<1.00
BORON, DISSOLVED (UG/L)	8	120.00	70.00	--	--	--	--	--	--	--
CADMIUM DISSOLVED (UG/L)	18	3.00	<2.00	--	--	3.00	2.00	2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	18	20.00	<20.00	--	--	20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	21	50.00	<2.00	--	--	50.00	4.50	2.00	2.00	<2.00
IRON, DISSOLVED (UG/L)	20	360.00	<10.00	--	--	275.00	40.00	20.00	<10.00	<10.00
LEAD, DISSOLVED (UG/L)	21	14.00	<2.00	--	--	12.00	4.00	2.00	<2.00	<2.00
MANGANESE, DISSOLVED (UG/L)	18	80.00	<10.00	--	--	76.00	30.00	20.00	<10.00	<10.00
ZINC, DISSOLVED (UG/L)	21	60.00	<20.00	--	--	60.00	<20.00	<20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	23	1.00	<1.00	--	--	1.00	1.00	<1.00	<1.00	<1.00
COLIFORM, FECAL, (COLS/100 ML)	15	2400.00	20.00	268.93	602.29	2400.00	130.00	100.00	68.00	20.00
PHENOLS (UG/L)	2	4.00	1.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	28	8800.00	170.00	1872.86	2073.71	7854.97	2400.00	945.00	565.00	219.50
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	82	1320.00	130.00	475.72	169.88	647.20	569.25	502.00	395.00	176.40
MERCURY DISSOLVED (UG/L)	21	<0.50	<0.50	--	--	<0.50	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	26	213.00	9.00	55.54	44.65	185.70	63.75	46.50	29.75	9.00

REGRESSION STATISTICS

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	66	*	LOGQ	*	0.47	0.0001	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	82	-446	LOGQ	1,820	.64	.0001	124
ALKALINITY (AS CaCO3)	81	.250	K	39.8	.80	.0001	25.5
HARDNESS (AS CaCO3)	79	.448	K	13.1	.91	.0001	29.4
CALCIUM, DISSOLVED	79	.0837	K	5.99	.87	.0001	6.58
MAGNESIUM, DISSOLVED	79	.0579	K	-.372	.76	.0001	6.56
SODIUM, DISSOLVED	79	.0569	K	-7.16	.87	.0001	4.42
SODIUM ADSORPTION RATIO	79	.000946	K	.106	.82	.0001	.0904
POTASSIUM, DISSOLVED	78	.00397	K	.582	.50	.0001	.799
CHLORIDE, DISSOLVED	79	*	K	*	.14	.0007	*
SULFATE, DISSOLVED	79	.311	K	-46.2	.87	.0001	24.
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	78	.647	K	.739	.86	.0001	53.0
SEDIMENT, SUSPENDED	26	.106	Q	21.3	.53	.0001	31.3

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06312500 STATION NAME AND LOCATION: POWDER RIVER NEAR KAYCEE, WYO.  
DRAINAGE AREA: 980 SQUARE MILES

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES				
	SAMPLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	WERE	LESS	OR	EQUAL	TO THOSE SHOWN
						95	75	50	25	5
								(MEDIAN)		
TEMPERATURE (DEG C)	84	26.00	0.00	9.43	8.13	23.00	17.00	8.25	1.00	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	75	1260.00	0.33	157.31	257.59	1010.00	140.00	92.00	23.00	0.84
TURBIDITY (NTU)	79	3000.00	2.00	225.29	513.78	1500.00	120.00	30.00	10.00	2.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	41	1900.00	400.00	1224.88	331.25	1866.00	1440.00	1190.00	1060.00	500.70
OXYGEN, DISSOLVED	81	13.00	6.20	9.87	1.76	12.50	11.60	9.90	8.35	7.02
PH (UNITS)	37	8.70	7.60	--	--	8.52	8.25	8.10	8.00	7.69
ALKALINITY (AS CaCO3)	81	250.00	82.00	184.05	33.21	230.00	202.50	190.00	170.00	108.30
NITROGEN, AMMONIA TOTAL (AS N)	1	0.03	0.03	--	--	--	--	--	--	--
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	1	0.60	0.60	--	--	--	--	--	--	--
NITROGEN, NO2+NO3 TOTAL (AS N)	1	0.05	0.05	--	--	--	--	--	--	--
NITROGEN, NO2+NO3 DISSOLVED (AS N)	22	2.10	0.00	0.39	0.51	1.99	0.50	0.25	0.04	0.00
PHOSPHORUS, TOTAL (AS P)	81	2.80	0.00	0.19	0.38	0.84	0.13	0.05	0.03	0.01
HARDNESS (AS CaCO3)	81	680.00	160.00	446.17	111.57	598.00	520.00	460.00	395.00	210.00
CALCIUM DISSOLVED	81	190.00	45.00	110.40	27.18	149.00	130.00	120.00	97.50	54.40
MAGNESIUM, DISSOLVED	81	64.00	12.00	41.36	11.74	60.00	49.00	43.00	35.00	15.20
SODIUM, DISSOLVED	81	180.00	14.00	93.48	35.77	159.00	110.00	90.00	78.50	24.30
SODIUM ADSORPTION RATIO	81	3.50	0.50	1.90	0.62	3.10	2.20	1.80	1.60	0.80
POTASSIUM, DISSOLVED	81	9.10	1.30	3.38	1.14	5.35	3.75	3.30	2.70	2.01
CHLORIDE, DISSOLVED	81	110.00	5.60	47.76	22.46	91.70	56.50	47.00	37.50	7.98
SULFATE DISSOLVED	81	710.00	92.00	387.60	131.38	589.00	475.00	390.00	330.00	111.00
FLUORIDE, DISSOLVED	81	1.00	0.00	0.53	0.17	0.80	0.60	0.50	0.40	0.30
SILICA, DISSOLVED	80	13.00	1.50	7.69	2.16	11.00	9.30	7.60	5.92	4.03
BORON, DISSOLVED (UG/L)	1	130.00	130.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	1	10.00	10.00	--	--	--	--	--	--	--
COLIFORM, FECAL, (COLS/100 ML)	24	3400.00	6.00	363.71	728.76	2849.97	355.00	92.00	27.75	6.75
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	80	1300.00	233.00	803.90	228.17	1169.50	938.00	825.50	716.75	313.25

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	28	*	LOGQ	*	0.10	0.101	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	32	-337	LOGQ	1,780	.62	.0001	226
ALKALINITY (AS CaCO3)	29	.0693	K	97.8	.60	.0001	20.4
HARDNESS (AS CaCO3)	29	.311	K	68.6	.90	.0001	38.1
CALCIUM, DISSOLVED	29	.0713	K	22.8	.87	.0001	9.86
MAGNESIUM, DISSOLVED	29	.0324	K	2.43	.80	.0001	5.78
SODIUM, DISSOLVED	29	.109	K	-34.3	.89	.0001	13.8
SODIUM ADSORPTION RATIO	29	.00168	K	-.0710	.79	.0001	.308
POTASSIUM, DISSOLVED	29	*	K	*	.12	.0699	*
CHLORIDE, DISSOLVED	29	.0662	K	-30.2	.78	.0001	12.5
SULFATE, DISSOLVED	29	.378	K	-63.1	.96	.0001	27.6
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	29	.670	K	-37.8	.97	.0001	45.2

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06313000 STATION NAME AND LOCATION: SOUTH FORK POWDER RIVER NEAR KAYCEE, WYO.  
DRAINAGE AREA: 1,150 SQUARE MILES

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAM- PLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	68	31.50	0.00	8.87	9.47	28.77	16.37	4.75	0.50	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	74	1000.00	0.00	32.27	123.73	159.25	13.75	3.00	0.05	0.00
TURBIDITY (NTU)	51	24000.00	1.00	1344.29	3714.43	6899.98	1100.00	60.00	10.00	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	47	6200.00	2050.00	3763.40	975.24	5380.00	4500.00	3900.00	3000.00	2140.00
OXYGEN, DISSOLVED	50	12.90	6.20	9.79	1.75	12.69	11.32	10.20	8.35	6.86
PH (UNITS)	43	8.50	7.50	--	--	8.48	8.20	8.00	7.90	7.50
ALKALINITY (AS CaCO3)	69	279.00	70.00	165.00	42.53	234.00	200.00	164.00	131.00	89.00
NITROGEN, AMMONIA TOTAL (AS N)	18	2.50	0.01	0.17	0.58	2.50	0.04	0.03	0.01	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	17	9.10	0.07	1.71	2.44	9.10	1.55	0.79	0.56	0.07
NITROGEN, NO2+NO3 TOTAL (AS N)	18	2.90	0.02	1.12	0.90	2.90	1.93	1.10	0.17	0.02
NITROGEN, NO2+NO3 DISSOLVED (AS N)	23	10.00	0.00	1.59	2.24	9.04	2.20	0.80	0.04	0.00
PHOSPHORUS, TOTAL (AS P)	68	4.00	0.01	0.33	0.71	2.07	0.23	0.05	0.03	0.01
HARDNESS (AS CaCO3)	69	1800.00	450.00	1106.96	325.06	1600.00	1400.00	1100.00	830.00	515.00
CALCIUM DISSOLVED	69	470.00	32.00	295.25	98.03	445.00	380.00	310.00	220.00	135.00
MAGNESIUM, DISSOLVED	69	170.00	25.00	85.94	28.64	135.00	100.00	87.00	66.00	38.50
SODIUM, DISSOLVED	69	930.00	210.00	503.77	156.88	745.00	630.00	480.00	380.00	250.00
SODIUM ADSORPTION RATIO	69	13.00	4.10	6.68	1.72	9.90	7.80	6.30	5.35	4.30
POTASSIUM, DISSOLVED	69	15.00	0.80	9.11	2.73	14.00	11.00	9.00	7.10	5.40
CHLORIDE, DISSOLVED	69	420.00	16.00	126.03	71.65	225.00	175.00	120.00	69.00	30.50
SULFATE DISSOLVED	69	3000.00	760.00	1795.65	511.13	2650.00	2300.00	1800.00	1400.00	860.00
FLUORIDE, DISSOLVED	69	4.60	0.60	1.38	0.73	3.35	1.30	1.20	1.10	0.85
SILICA, DISSOLVED	69	32.00	0.00	7.30	3.86	11.00	8.60	7.10	5.45	2.35
ARSENIC DISSOLVED (UG/L)	9	1.00	<1.00	--	--	--	--	--	--	--
CADMIUM DISSOLVED (UG/L)	9	2.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	9	20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	9	18.00	2.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	9	40.00	<10.00	--	--	--	--	--	--	--
LEAD, DISSOLVED (UG/L)	9	9.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	9	90.00	<10.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	9	30.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	9	26.00	1.00	--	--	--	--	--	--	--
COLIFORM, FECAL, (COLS/100 ML)	10	3200.00	14.00	478.30	969.80	3200.00	420.00	96.50	52.00	14.00
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	69	4800.00	770.00	2919.32	839.63	4250.00	3565.00	3040.00	2301.50	1400.00
MERCURY DISSOLVED (UG/L)	9	<0.50	<0.50	--	--	--	--	--	--	--

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	23	*	Q	*	0.35	0.0029	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	27	*	LOGQ	*	.31	.0024	*
ALKALINITY (AS CaCO3)	27	*	LOGQ	*	.12	.0820	*
HARDNESS (AS CaCO3)	27	0.244	K	157	.50	.0001	222
CALCIUM, DISSOLVED	27	*	K	*	.26	.0070	*
MAGNESIUM, DISSOLVED	27	*	K	*	.41	.0003	*
SODIUM, DISSOLVED	27	.117	K	83.5	.62	.0001	83.9
SODIUM ADSORPTION RATIO	27	*	K	*	.23	.0123	*
POTASSIUM, DISSOLVED	27	*	K	*	.38	.0007	*
CHLORIDE, DISSOLVED	27	.0508	K	-79.3	.56	.0001	40.8
SULFATE, DISSOLVED	27	.381	K	394	.56	.0001	312
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	26	.699	K	295	.61	.0001	518



Table 1.--Statistical summaries of water-quality data from the Powder River coal basin, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06313400 STATION NAME AND LOCATION: SALT CREEK NEAR SUSSEX, WYO.  
DRAINAGE AREA: 769 SQUARE MILES

WATER QUALITY CONSTITUENT	SAMPLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	147	29.50	0.00	10.79	8.69	25.00	17.50	11.50	0.50	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	148	2360.00	8.00	80.90	222.95	315.00	45.50	31.00	26.00	16.00
TURBIDITY (NTU)	10	2600.00	20.00	543.1	871.14	2600.00	850.00	140.00	36.50	20.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	76	8000.00	1700.00	6550.53	1309.68	8000.00	7725.00	6704.99	6000.00	3365.00
OXYGEN, DISSOLVED	71	12.40	0.70	7.53	2.51	11.08	9.20	7.80	6.80	2.38
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	60	9.80	0.10	5.43	1.89	7.60	6.97	5.90	4.20	2.41
PH (UNITS)	67	8.90	7.70	--	--	8.50	8.40	8.30	8.10	7.90
ALKALINITY (AS CaCO <sub>3</sub> )	82	1070.00	150.00	648.02	179.38	965.90	752.50	667.00	580.50	225.95
NITROGEN, AMMONIA DISSOLVED (AS N)	2	0.01	0.01	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	65	0.91	0.00	0.26	0.22	0.64	0.42	0.18	0.09	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	64	38.00	0.19	2.36	5.02	8.65	2.00	1.25	0.91	0.41
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	65	0.64	0.00	0.09	0.12	0.38	0.11	0.04	0.01	0.00
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	27	0.85	0.00	0.12	0.23	0.80	0.10	0.03	0.00	0.00
PHOSPHORUS, TOTAL (AS P)	83	3.30	0.01	0.26	0.48	1.28	0.25	0.10	0.04	0.01
CARBON, ORGANIC DISSOLVED	1	12.00	12.00	--	--	--	--	--	--	--
CARBON, ORGANIC SUSPENDED	1	0.90	0.90	--	--	--	--	--	--	--
HARDNESS (AS CaCO <sub>3</sub> )	82	3100.00	200.00	406.71	324.80	667.00	410.00	350.00	290.00	231.50
CALCIUM DISSOLVED	82	600.00	23.00	79.85	64.51	140.00	92.25	67.50	53.75	33.60
MAGNESIUM, DISSOLVED	82	390.00	7.80	50.20	41.67	88.25	50.25	42.00	36.00	29.00
SODIUM, DISSOLVED	82	1800.00	140.00	1335.49	299.47	1600.00	1500.00	1400.00	1300.00	460.00
SODIUM ADSORPTION RATIO	82	49.00	1.10	31.40	9.27	44.00	38.00	32.50	27.75	9.64
POTASSIUM, DISSOLVED	81	26.00	6.60	16.55	3.66	21.90	19.50	17.00	14.50	9.82
CHLORIDE, DISSOLVED	82	1600.00	120.00	1132.68	321.50	1400.00	1300.00	1210.00	1100.00	292.50
SULFATE DISSOLVED	82	2000.00	570.00	1025.37	290.20	1700.00	1100.00	945.00	847.50	703.00
FLUORIDE, DISSOLVED	82	9.20	0.30	2.55	1.43	4.67	3.62	2.30	1.50	0.40
SILICA, DISSOLVED	82	33.00	5.00	20.01	6.07	28.70	24.00	22.00	16.00	7.63
ARSENIC DISSOLVED (UG/L)	7	6.00	1.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	63	6200.00	270.00	1788.73	800.61	2640.00	2000.00	1900.00	1600.00	420.00
CADMIUM DISSOLVED (UG/L)	7	3.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	7	10.00	<10.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	7	9.00	<2.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	8	440.00	<10.00	--	--	--	--	--	--	--
LEAD, DISSOLVED (UG/L)	7	35.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	7	270.00	<10.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	7	40.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	7	1.00	<1.00	--	--	--	--	--	--	--
PHENOLS (UG/L)	12	110.00	3.00	22.92	30.21	110.00	24.25	11.00	7.25	3.00
PHYTOPLANKTON, TOTAL (CELLS PER ML)	2	660.00	150.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	81	7100.00	1180.00	4074.44	745.56	4786.00	4450.00	4130.00	3870.00	2596.00
MERCURY DISSOLVED (UG/L)	7	<0.50	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	82	88200.00	61.00	5038.97	14476.75	32679.93	1547.50	715.00	341.00	134.30

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION STATISTICS					
		REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
SPECIFIC CONDUCTANCE (MICROSIEMENS)	64	*	LOGQ	*	0.43	0.0001	*
ALKALINITY (AS CaCO <sub>3</sub> )	62	*	K	*	.44	.0001	*
HARDNESS (AS CaCO <sub>3</sub> )	61	*	LOGQ	*	.04	.147	*
CALCIUM, DISSOLVED	61	*	LOGQ	*	.06	.0537	*
MAGNESIUM, DISSOLVED	61	*	LOGQ	*	.01	.485	*
SODIUM, DISSOLVED	61	0.175	K	189	.66	.0001	170
SODIUM ADSORPTION RATIO	61	*	K	*	.49	.0001	*
POTASSIUM, DISSOLVED	61	*	K	*	.44	.0001	*
CHLORIDE, DISSOLVED	62	.193	K	-137	.54	.0001	241
SULFATE, DISSOLVED	62	*	Q	*	.01	.390	*
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	60	*	K	*	.44	.0001	*
SEDIMENT, SUSPENDED	24	38.8	K	-265	.53	.0001	723

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06313500 STATION NAME AND LOCATION: POWDER RIVER AT SUSSEX, WYO.  
DRAINAGE AREA: 3,090 SQUARE MILES

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAMPLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	72	25.00	0.00	9.67	8.25	23.00	16.37	9.25	0.50	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	67	10500.00	26.00	507.97	1395.19	2542.00	266.00	150.00	84.00	32.00
TURBIDITY (NTU)	2	200.00	90.00	--	--	--	--	--	--	--
SPECIFIC CONDUCTANCE (MICROSIEMENS)	56	7000.00	825.00	3150.18	1291.02	6272.50	3972.50	2685.00	2355.00	1511.50
OXYGEN, DISSOLVED	53	12.50	4.50	8.87	1.61	11.59	10.00	8.70	7.75	6.12
PH (UNITS)	54	8.50	7.20	--	--	8.43	8.33	8.20	8.00	7.68
ALKALINITY (AS CaCO3)	45	640.00	140.00	361.91	110.11	607.00	415.00	340.00	290.00	203.00
NITROGEN, AMMONIA DISSOLVED (AS N)	2	0.17	0.01	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	44	0.44	0.01	0.10	0.09	0.31	0.14	0.08	0.03	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	44	14.00	0.21	1.97	2.52	8.75	2.33	1.03	0.71	0.46
NITROGEN, NO2+NO3 TOTAL (AS N)	41	4.20	0.00	0.43	0.66	0.90	0.56	0.33	0.06	0.00
NITROGEN, NO2+NO3 DISSOLVED (AS N)	17	1.00	0.00	0.29	0.26	1.00	0.43	0.31	0.06	0.00
PHOSPHORUS, TOTAL (AS P)	45	5.10	0.01	0.59	0.92	2.64	0.70	0.22	0.10	0.01
CARBON, ORGANIC DISSOLVED	41	51.00	2.80	9.71	8.25	22.70	11.00	6.80	5.40	3.46
CARBON, ORGANIC SUSPENDED	36	12.00	0.20	2.75	3.32	10.30	3.65	1.15	0.70	0.29
HARDNESS (AS CaCO3)	52	1200.00	0.00	508.65	150.84	687.50	560.00	505.00	460.00	292.00
CALCIUM DISSOLVED	51	210.00	63.00	120.29	28.52	168.00	140.00	120.00	110.00	70.80
MAGNESIUM, DISSOLVED	51	160.00	21.00	52.90	17.63	67.00	56.00	51.00	46.00	30.80
SODIUM, DISSOLVED	51	1300.00	90.00	521.96	274.95	1240.00	660.00	420.00	350.00	184.00
SODIUM ADSORPTION RATIO	51	28.00	2.50	10.09	5.69	26.80	12.00	7.90	6.70	4.32
POTASSIUM, DISSOLVED	51	23.00	2.80	9.18	4.20	19.00	12.00	7.40	6.50	4.22
CHLORIDE, DISSOLVED	52	1600.00	5.10	422.10	319.11	1200.00	615.00	320.00	232.50	34.00
SULFATE DISSOLVED	52	2300.00	200.00	735.38	313.77	1235.00	887.50	680.00	555.00	396.00
FLUORIDE, DISSOLVED	52	2.10	0.00	0.90	0.40	1.77	1.17	0.80	0.70	0.37
SILICA, DISSOLVED	52	19.00	0.60	11.24	3.37	17.70	13.75	11.00	9.10	5.06
ARSENIC DISSOLVED (UG/L)	13	50.00	1.00	5.31	13.46	50.00	2.50	1.00	1.00	1.00
BARIUM, DISSOLVED (UG/L)	10	300.00	<100.00	--	--	300.00	<100.00	<100.00	<100.00	<100.00
BORON, DISSOLVED (UG/L)	51	3400.00	130.00	720.20	581.48	1940.00	890.00	520.00	380.00	210.00
CADMIUM DISSOLVED (UG/L)	13	18.00	<3.00	--	--	18.00	<3.00	<3.00	<3.00	<3.00
CHROMIUM, DISSOLVED (UG/L)	13	20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	15	36.00	<25.00	--	--	<25.00	<25.00	<25.00	<25.00	<25.00
IRON, DISSOLVED (UG/L)	50	1200.00	<10.00	--	--	144.00	52.50	36.50	20.00	<10.00
LEAD, DISSOLVED (UG/L)	12	66.00	<10.00	--	--	66.00	<10.00	<10.00	<10.00	<10.00
MANGANESE, DISSOLVED (UG/L)	20	110.00	<10.00	--	--	109.50	47.50	22.00	10.00	<10.00
ZINC, DISSOLVED (UG/L)	13	30.00	<20.00	--	--	30.00	20.00	<20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	13	7.00	<1.00	--	--	7.00	3.50	2.00	1.00	<1.00
STREPTOCOCCI, FECAL (COLS/100 ML)	29	7500.00	46.00	915.24	1746.48	6549.97	605.00	190.00	105.00	46.00
PHENOLS (UG/L)	14	32.00	0.00	7.29	8.18	32.00	10.75	4.50	2.75	0.00
PHYTOPLANKTON, TOTAL (CELLS PER ML)	48	38000.00	27.00	3652.02	6534.05	18649.96	4175.00	1550.00	505.00	56.60
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	43	4030.00	532.00	2062.14	801.23	3758.00	2590.00	1720.00	1580.00	1002.00
MERCURY DISSOLVED (UG/L)	13	1.30	<0.50	--	--	1.30	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	63	83700.00	138.00	5485.95	12773.66	23699.99	2680.00	805.00	436.00	238.40

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
SPECIFIC CONDUCTANCE (MICROSIEMENS)	54	-2,270	LOGQ	7,950	0.64	0.0001	728
ALKALINITY (AS CaCO3)	43	.0676	K	151	.61	.0001	68.0
HARDNESS (AS CaCO3)	50	*	Q	*	.08	.0509	*
CALCIUM, DISSOLVED	49	*	Q	*	.11	.0186	*
MAGNESIUM, DISSOLVED	49	*	K	*	.12	.0133	*
SODIUM, DISSOLVED	49	.220	K	-163	.96	.0001	54.5
SODIUM ADSORPTION RATIO	49	.00428	K	-3.29	.88	.0001	1.81
POTASSIUM, DISSOLVED	49	.00307	K	-.293	.70	.0001	2.29
CHLORIDE, DISSOLVED	50	.230	K	-303	.80	.0001	142
SULFATE, DISSOLVED	50	*	K	*	.19	.0015	*
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	41	.630	K	126	.89	.0001	262
SEDIMENT, SUSPENDED	45	6.95	Q	233	.59	.0001	3,100

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06316400 STATION NAME AND LOCATION: CRAZY WOMAN CREEK AT UPPER STATION, NEAR ARVADA, WYO.  
DRAINAGE AREA: 945 SQUARE MILES

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIA- TION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	97	25.50	0.00	10.66	8.75	24.10	19.00	10.00	0.50	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	95	1640.00	0.68	80.02	211.07	286.40	55.00	26.00	14.00	4.86
TURBIDITY (NTU)	2	100.00	10.00	--	--	--	--	--	--	--
SPECIFIC CONDUCTANCE (MICROSIEMENS)	55	3180.00	445.00	1709.82	550.33	2800.00	2050.00	1630.00	1400.00	665.00
OXYGEN, DISSOLVED	51	14.00	5.60	9.88	1.79	12.56	11.30	9.80	8.40	6.90
PH (UNITS)	53	8.50	7.60	--	--	8.43	8.30	8.20	8.00	7.70
ALKALINITY (AS CaCO3)	76	370.00	80.00	193.74	53.34	266.00	230.00	200.00	160.00	96.80
NITROGEN, AMMONIA DISSOLVED (AS N)	4	0.12	0.01	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	43	0.25	0.00	0.05	0.05	0.20	0.07	0.03	0.02	0.00
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	43	3.90	0.13	0.82	0.63	2.32	0.91	0.72	0.50	0.31
NITROGEN, NO2+NO3 TOTAL (AS N)	40	0.40	0.00	0.12	0.12	0.40	0.19	0.07	0.02	0.00
NITROGEN, NO2+NO3 DISSOLVED (AS N)	17	0.71	0.00	0.10	0.17	0.71	0.11	0.06	0.02	0.00
PHOSPHORUS, TOTAL (AS P)	79	0.97	0.00	0.08	0.15	0.36	0.08	0.03	0.02	0.01
CARBON, ORGANIC DISSOLVED	41	21.00	4.40	10.17	4.06	19.80	12.50	10.00	7.20	4.92
CARBON, ORGANIC SUSPENDED	32	5.60	0.10	1.14	1.29	5.21	1.30	0.70	0.40	0.10
HARDNESS (AS CaCO3)	87	1300.00	180.00	690.69	246.58	1160.00	840.00	700.00	570.00	248.00
CALCIUM DISSOLVED	87	320.00	42.00	150.51	55.68	246.00	180.00	150.00	120.00	53.60
MAGNESIUM, DISSOLVED	87	170.00	18.00	76.57	28.79	132.00	90.00	76.00	63.00	26.20
SODIUM, DISSOLVED	87	310.00	24.00	118.95	51.65	226.00	140.00	120.00	89.00	36.00
SODIUM ADSORPTION RATIO	87	5.40	0.70	1.94	0.63	2.86	2.20	2.00	1.60	0.94
POTASSIUM, DISSOLVED	87	16.00	2.00	4.78	2.33	8.86	5.90	4.00	3.30	2.30
CHLORIDE, DISSOLVED	87	120.00	1.90	11.59	13.12	20.00	13.00	9.30	7.20	3.36
SULFATE DISSOLVED	87	1500.00	150.00	718.05	290.22	1320.00	890.00	690.00	560.00	218.00
FLUORIDE, DISSOLVED	87	1.50	0.00	0.40	0.23	0.86	0.60	0.30	0.30	0.20
SILICA, DISSOLVED	87	14.00	0.30	8.24	3.70	13.60	11.00	8.40	5.70	1.44
ARSENIC DISSOLVED (UG/L)	14	2.00	<1.00	--	--	2.00	1.25	1.00	<1.00	<1.00
BARIUM, DISSOLVED (UG/L)	12	300.00	<100.00	--	--	300.00	<100.00	<100.00	<100.00	<100.00
BORON, DISSOLVED (UG/L)	51	490.00	70.00	170.20	67.07	324.00	180.00	160.00	140.00	92.00
CADMIUM DISSOLVED (UG/L)	14	13.00	<2.00	--	--	13.00	5.50	<2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	14	20.00	<20.00	--	--	20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	14	20.00	<20.00	--	--	20.00	<20.00	<20.00	<20.00	<20.00
IRON, DISSOLVED (UG/L)	51	100.00	<10.00	--	--	78.00	40.00	20.00	<10.00	<10.00
LEAD, DISSOLVED (UG/L)	11	53.00	<20.00	--	--	53.00	<20.00	<20.00	<20.00	<20.00
MANGANESE, DISSOLVED (UG/L)	22	190.00	<10.00	--	--	190.00	120.00	60.00	38.75	<10.00
ZINC, DISSOLVED (UG/L)	14	20.00	<20.00	--	--	20.00	20.00	20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	14	3.00	<1.00	--	--	3.00	1.25	1.00	1.00	<1.00
STREPTOCOCCI, FECAL (COLS/100 ML)	32	2200.00	21.00	396.41	514.08	2005.00	462.50	215.00	89.75	24.25
PHENOLS (UG/L)	13	8.00	0.00	3.46	3.13	8.00	6.50	3.00	0.00	0.00
PHYTOPLANKTON, TOTAL (CELLS PER ML)	49	18000.00	30.00	2763.67	4064.89	12999.94	2950.00	970.00	395.00	80.00
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	82	2280.00	303.00	1203.63	448.76	2162.50	1482.50	1175.00	984.25	436.80
MERCURY DISSOLVED (UG/L)	14	0.50	<0.50	--	--	0.50	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	59	7860.00	8.00	459.53	1208.75	2764.99	316.00	103.00	43.00	11.00

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
SPECIFIC CONDUCTANCE (MICROSIEMENS)	54	-899	LOGQ	2,970	0.62	0.0001	349
ALKALINITY (AS CaCO3)	47	*	K	*	.19	.0020	*
HARDNESS (AS CaCO3)	51	.427	K	1.08	.91	.0001	74.5
CALCIUM, DISSOLVED	51	.0848	K	10.8	.85	.0001	19.3
MAGNESIUM, DISSOLVED	51	.0521	K	-6.23	.88	.0001	10.3
SODIUM, DISSOLVED	51	.0895	K	-20.6	.83	.0001	21.8
SODIUM ADSORPTION RATIO	51	.000912	K	.560	.54	.0001	.455
POTASSIUM, DISSOLVED	51	*	K	*	.31	.0001	*
CHLORIDE, DISSOLVED	51	*	K	*	.19	.0014	*
SULFATE, DISSOLVED	51	.486	K	-64.0	.83	.0001	118
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	46	.809	K	-76.2	.97	.0001	71.2
SEDIMENT, SUSPENDED	49	2.00	Q	51.6	.92	.0001	104

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06317000 STATION NAME AND LOCATION: POWDER RIVER AT ARVADA, WYO.  
DRAINAGE AREA: 6,050 SQUARE MILES

WATER QUALITY CONSTITUENT	SAMPLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	105	30.00	0.00	11.65	9.15	27.00	19.50	12.00	1.00	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	108	17800.00	2.00	758.98	2408.08	3238.00	398.50	161.00	83.50	13.00
TURBIDITY (NTU)	58	8000.00	20.00	1171.55	1912.36	7525.00	1225.00	500.00	87.50	34.50
SPECIFIC CONDUCTANCE (MICROSIEMENS)	73	5500.00	1000.00	2935.48	907.17	5060.00	3500.00	2800.00	2450.00	1474.00
OXYGEN, DISSOLVED	30	12.10	2.90	8.52	2.00	11.77	9.90	9.10	7.18	4.38
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	2	1.40	1.20	--	--	--	--	--	--	--
PH (UNITS)	40	8.80	7.60	--	--	8.79	8.40	8.30	8.10	7.61
ALKALINITY (AS CaCO3)	85	476.00	120.00	249.61	71.17	381.20	283.50	240.00	215.00	128.40
NITROGEN, AMMONIA DISSOLVED (AS N)	2	0.01	0.01	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	4	0.02	0.01	--	--	--	--	--	--	--
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	4	20.00	0.83	--	--	--	--	--	--	--
NITROGEN, NO2+NO3 TOTAL (AS N)	4	0.95	0.01	--	--	--	--	--	--	--
NITROGEN, NO2+NO3 DISSOLVED (AS N)	22	1.70	0.00	0.43	0.37	1.58	0.58	0.43	0.17	0.00
PHOSPHORUS, TOTAL (AS P)	85	5.90	0.01	0.47	0.84	1.84	0.56	0.17	0.05	0.01
HARDNESS (AS CaCO3)	85	2800.00	270.00	654.82	276.71	875.00	735.00	630.00	550.00	333.00
CALCIUM DISSOLVED	85	220.00	70.00	147.75	32.64	200.00	170.00	150.00	130.00	82.30
MAGNESIUM, DISSOLVED	85	120.00	22.00	62.87	18.31	95.70	76.50	62.00	53.50	32.60
SODIUM, DISSOLVED	85	850.00	91.00	422.31	141.06	666.00	495.00	420.00	350.00	149.00
SODIUM ADSORPTION RATIO	85	13.00	2.20	7.25	1.95	10.70	8.40	7.30	6.40	3.50
POTASSIUM, DISSOLVED	85	14.00	0.60	7.48	2.42	12.00	9.20	7.20	5.80	4.13
CHLORIDE, DISSOLVED	85	630.00	3.70	284.84	129.80	522.00	360.00	280.00	200.00	61.20
SULFATE DISSOLVED	85	1650.00	270.00	878.24	264.27	1370.00	1100.00	860.00	715.00	389.00
FLUORIDE, DISSOLVED	85	1.50	0.40	0.94	0.19	1.20	1.05	0.90	0.80	0.60
SILICA, DISSOLVED	85	18.00	0.00	8.83	2.74	13.70	10.00	8.50	7.30	4.54
ARSENIC DISSOLVED (UG/L)	1	1.00	1.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	4	840.00	310.00	--	--	--	--	--	--	--
CADMIUM DISSOLVED (UG/L)	1	<2.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	1	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	1	3.00	3.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	4	120.00	20.00	--	--	--	--	--	--	--
LEAD, DISSOLVED (UG/L)	1	<2.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	1	<10.00	<10.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	1	<20.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	1	5.00	5.00	--	--	--	--	--	--	--
COLIFORM, FECAL, (COLS/100 ML)	8	4000.00	1.00	--	--	--	--	--	--	--
PHENOLS (UG/L)	10	40.00	0.00	8.50	12.62	40.00	11.75	3.50	0.75	0.00
PHYTOPLANKTON, TOTAL (CELLS PER ML)	2	78000.00	5700.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	85	3530.00	610.00	1968.35	544.44	2831.00	2325.00	1930.00	1675.00	830.00
MERCURY DISSOLVED (UG/L)	1	<0.50	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	27	64200.00	200.00	16409.50	18304.03	58919.80	27999.94	6050.00	1720.00	262.40

REGRESSION STATISTICS

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	48	*	Q	*	0.14	0.0087	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	68	-1,230	LOGQ	5,540	.56	.0001	610
ALKALINITY (AS CaCO3)	64	*	Q	*	.24	.0001	*
HARDNESS (AS CaCO3)	64	*	Q	*	.22	.0001	*
CALCIUM, DISSOLVED	64	*	K	*	.49	.0001	*
MAGNESIUM, DISSOLVED	64	.0174	K	10.9	.68	.0001	10.5
SODIUM, DISSOLVED	64	.0155	K	-36.3	.88	.0001	51.0
SODIUM ADSORPTION RATIO	64	.00192	K	1.58	.73	.0001	1.04
POTASSIUM, DISSOLVED	64	*	K	*	.41	.0001	*
CHLORIDE, DISSOLVED	64	.127	K	-88.3	.72	.0001	69.2
SULFATE, DISSOLVED	64	.271	K	92.3	.73	.0001	147
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	64	.611	K	167	.91	.0001	169

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06320200 STATION NAME AND LOCATION: CLEAR CREEK BELOW ROCK CREEK, NEAR BUFFALO, WYO.  
DRAINAGE AREA: 322 SQUARE MILES

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAM- PLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	130	26.00	0.00	8.75	7.75	23.00	15.00	8.00	0.50	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	116	1240.00	15.00	124.54	193.93	506.60	102.25	54.00	38.25	18.85
TURBIDITY (NTU)	73	26.00	.80	3.88	3.80	11.00	4.10	3.00	2.00	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	76	1300.00	130.00	778.86	265.58	1183.00	968.75	820.00	650.00	215.50
OXYGEN, DISSOLVED	74	17.50	8.00	10.67	1.60	13.10	11.40	10.60	9.50	8.50
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	70	9.40	1.50	3.42	1.69	7.56	4.02	2.90	2.27	1.60
PH (UNITS)	74	8.90	7.50	--	--	8.87	8.50	8.15	7.80	7.50
ALKALINITY (AS CaCO <sub>3</sub> )	74	240.00	20.00	149.61	50.11	210.50	180.00	167.50	120.00	41.25
NITROGEN, AMMONIA DISSOLVED (AS N)	3	0.51	0.01	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	69	0.94	0.00	0.22	0.22	0.69	0.36	0.14	0.04	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	74	3.30	0.15	0.95	0.58	2.37	1.10	0.81	0.63	0.35
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	73	1.20	0.00	0.16	0.18	0.41	0.23	0.10	0.05	0.00
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	4	0.32	0.00	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	74	0.33	0.01	0.14	0.08	0.29	0.19	0.12	0.08	0.03
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	1	0.14	0.14	--	--	--	--	--	--	--
HARDNESS (AS CaCO <sub>3</sub> )	74	590.00	47.00	339.97	125.14	520.00	430.00	355.00	280.00	80.00
CALCIUM DISSOLVED	74	130.00	12.00	79.28	28.54	120.00	100.00	83.50	66.00	19.75
MAGNESIUM, DISSOLVED	74	64.00	4.20	34.41	13.17	53.25	43.00	35.50	27.75	7.48
SODIUM, DISSOLVED	74	80.00	5.70	41.99	16.28	64.50	53.25	44.00	35.00	9.45
SODIUM ADSORPTION RATIO	74	1.50	0.40	0.97	0.24	1.30	1.10	1.00	0.90	0.48
POTASSIUM, DISSOLVED	74	12.00	0.50	3.02	1.51	4.60	3.30	2.80	2.50	1.42
CHLORIDE, DISSOLVED	73	7.60	0.80	4.23	1.55	7.09	5.20	4.20	3.50	1.35
SULFATE DISSOLVED	74	490.00	31.00	273.57	110.30	452.50	350.00	280.00	220.00	52.50
FLUORIDE, DISSOLVED	74	0.50	0.00	0.18	0.07	0.30	0.20	0.20	0.10	0.10
SILICA, DISSOLVED	74	15.00	6.00	10.70	1.89	14.00	12.00	11.00	9.48	7.10
ARSENIC DISSOLVED (UG/L)	6	1.00	<1.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	74	210.00	4.00	80.82	38.60	170.00	90.00	80.00	60.00	25.00
CADMIUM DISSOLVED (UG/L)	6	5.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	6	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	6	5.00	<2.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	72	700.00	<60.00	--	--	183.50	97.50	60.00	<60.00	<60.00
LEAD, DISSOLVED (UG/L)	6	35.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	6	50.00	20.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	6	<20.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	6	1.00	<1.00	--	--	--	--	--	--	--
PHENOLS (UG/L)	11	15.00	1.00	6.91	4.68	15.00	10.00	6.00	4.00	1.00
PHYTOPLANKTON, TOTAL (CELLS PER ML)	3	89000.00	1500.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	72	913.00	72.00	541.19	197.67	820.00	684.75	553.50	455.00	123.55
MERCURY DISSOLVED (UG/L)	6	<0.50	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	77	674.00	3.00	35.30	88.77	141.10	26.50	14.00	7.00	4.00

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	66	*	LOGQ	*	0.08	0.0252	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	69	-589	LOGQ	1,830	.63	.0001	149
ALKALINITY (AS CaCO <sub>3</sub> )	67	.172	K	13.8	.86	.0001	19.5
HARDNESS (AS CaCO <sub>3</sub> )	67	.443	K	-8.73	.91	.0001	38.7
CALCIUM, DISSOLVED	67	.101	K	-1.223	.91	.0001	8.95
MAGNESIUM, DISSOLVED	67	.0461	K	-1.88	.89	.0001	4.51
SODIUM, DISSOLVED	67	.0575	K	-3.19	.91	.0001	5.13
SODIUM ADSORPTION RATIO	67	.000806	K	.339	.86	.0001	.0928
POTASSIUM, DISSOLVED	67	*	K	*	.20	.0001	*
CHLORIDE, DISSOLVED	66	.00468	K	.507	.71	.0001	.852
SULFATE, DISSOLVED	67	.400	K	-39.6	.96	.0001	24.0
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	65	.716	K	-25.6	.96	.0001	40.2
SEDIMENT, SUSPENDED	24	*	LOGQ	*	.49	.0001	*

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06320400 STATION NAME AND LOCATION: CLEAR CREEK AT UCROSS, WYO.  
DRAINAGE AREA: 409 SQUARE MILES

WATER QUALITY CONSTITUENT	SAMPLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	118	30.00	0.00	10.50	8.59	24.00	18.13	10.25	0.88	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	100	1410.00	6.60	123.24	234.21	659.90	79.50	49.50	26.35	9.62
TURBIDITY (NTU)	66	95.00	0.00	9.78	13.41	28.30	11.00	5.00	2.15	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	69	1600.00	205.00	1015.07	315.19	1535.00	1200.00	1090.00	880.00	360.00
OXYGEN, DISSOLVED	65	14.20	7.80	10.21	1.32	12.54	11.25	10.00	9.35	8.20
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	59	7.20	1.40	3.02	1.38	6.00	3.80	2.50	2.00	1.60
PH (UNITS)	67	9.20	7.40	--	--	8.76	8.30	8.10	7.90	7.50
ALKALINITY (AS CaCO3)	66	290.00	48.00	194.00	58.88	270.00	240.00	210.00	167.50	68.35
NITROGEN, AMMONIA DISSOLVED (AS N)	2	0.34	0.05	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	61	1.40	0.01	0.14	0.20	0.43	0.16	0.08	0.04	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	63	7.60	0.38	1.08	1.05	3.06	1.20	0.82	0.62	0.48
NITROGEN, NO2+NO3 TOTAL (AS N)	64	0.78	0.00	0.13	0.17	0.48	0.17	0.05	0.01	0.00
NITROGEN, NO2+NO3 DISSOLVED (AS N)	1	0.40	0.40	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	64	0.28	0.01	0.08	0.05	0.22	0.09	0.07	0.03	0.01
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	1	0.10	0.10	--	--	--	--	--	--	--
HARDNESS (AS CaCO3)	65	750.00	81.00	450.17	150.80	691.00	545.00	480.00	370.00	136.00
CALCIUM DISSOLVED	65	170.00	20.00	101.97	33.06	147.00	120.00	110.00	87.00	31.90
MAGNESIUM, DISSOLVED	65	79.00	7.50	47.64	16.87	76.50	58.00	50.00	38.50	13.60
SODIUM, DISSOLVED	65	120.00	9.80	58.90	22.09	94.50	72.00	61.00	47.50	16.30
SODIUM ADSORPTION RATIO	65	2.00	0.50	1.18	0.29	1.57	1.40	1.20	1.10	0.60
POTASSIUM, DISSOLVED	66	19.00	0.50	4.47	2.23	6.63	5.20	4.30	3.40	1.94
CHLORIDE, DISSOLVED	66	17.00	1.30	5.04	2.50	9.21	5.60	4.95	3.78	1.84
SULFATE DISSOLVED	66	670.00	50.00	371.33	136.93	606.00	450.00	385.00	315.00	100.00
FLUORIDE, DISSOLVED	66	0.50	0.10	0.20	0.07	0.30	0.20	0.20	0.20	0.10
SILICA, DISSOLVED	65	15.00	2.60	8.54	2.78	14.00	10.00	8.40	6.60	3.60
ARSENIC DISSOLVED (UG/L)	6	1.00	<1.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	66	210.00	30.00	114.09	41.10	190.00	140.00	110.00	97.50	43.50
CADMIUM DISSOLVED (UG/L)	6	5.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	6	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	6	7.00	<2.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	64	580.00	<10.00	--	--	232.50	100.00	50.00	30.00	10.00
LEAD, DISSOLVED (UG/L)	6	26.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	6	50.00	10.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	6	20.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	4	1.00	<1.00	--	--	--	--	--	--	--
PHENOLS (UG/L)	11	80.00	1.00	15.00	24.02	80.00	12.00	4.00	3.00	1.00
PHYTOPLANKTON, TOTAL (CELLS PER ML)	1	5000.00	5000.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	65	1190.00	131.00	712.32	243.34	1121.00	860.00	729.00	589.00	215.60
MERCURY DISSOLVED (UG/L)	6	<0.50	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	70	594.00	3.00	73.14	116.57	401.65	61.75	34.00	12.75	6.65

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION STATISTICS					
		REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	54	*	Q	*	0.33	0.0001	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	57	-681	LOGQ	2,160	.80	.0001	147
ALKALINITY (AS CaCO3)	54	.177	K	14.6	.89	.0001	20.6
HARDNESS (AS CaCO3)	54	.457	K	-6.42	.92	.0001	44.9
CALCIUM, DISSOLVED	54	.0988	K	3.15	.89	.0001	11.1
MAGNESIUM, DISSOLVED	54	.0514	K	-3.71	.92	.0001	4.92
SODIUM, DISSOLVED	54	.0679	K	-9.27	.94	.0001	5.78
SODIUM ADSORPTION RATIO	54	.000864	K	.315	.90	.0001	.0930
POTASSIUM, DISSOLVED	54	.00368	K	.505	.76	.0001	.680
CHLORIDE, DISSOLVED	54	*	K	*	.10	.0192	*
SULFATE, DISSOLVED	54	.418	K	-47.2	.92	.0001	40.8
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	54	.748	K	-36.5	.94	.0001	64.1
SEDIMENT, SUSPENDED	16	*	Q	*	.43	.0055	*

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06323500 STATION NAME AND LOCATION: PINEY CREEK AT UCROSS, WYO.  
DRAINAGE AREA: 267 SQUARE MILES

WATER QUALITY CONSTITUENT	SAMPLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	70	23.00	0.00	10.52	8.22	22.22	18.00	12.00	1.00	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	67	1090.00	10.00	140.69	221.59	736.40	127.00	54.00	26.00	15.60
TURBIDITY (NTU)	65	33.00	0.00	3.88	5.39	15.00	4.10	2.00	1.00	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	68	1160.00	120.00	581.62	238.95	1002.00	747.50	595.00	396.25	199.00
OXYGEN, DISSOLVED	66	12.80	7.10	10.05	1.33	12.40	10.85	10.20	9.00	7.73
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	1	2.30	2.30	--	--	--	--	--	--	--
PH (UNITS)	66	9.15	7.30	--	--	8.60	8.30	8.10	7.78	7.47
ALKALINITY (AS CaCO3)	64	280.00	35.00	161.11	58.24	260.00	196.75	160.00	120.75	62.00
NITROGEN, AMMONIA DISSOLVED (AS N)	1	0.04	0.04	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	56	0.78	0.00	0.08	0.11	0.18	0.10	0.05	0.03	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	64	3.30	0.13	0.67	0.50	1.45	0.84	0.61	0.38	0.17
NITROGEN, NO2+NO3 TOTAL (AS N)	61	0.82	0.00	0.13	0.15	0.40	0.20	0.06	0.03	0.01
NITROGEN, NO2+NO3 DISSOLVED (AS N)	1	0.18	0.18	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	58	0.70	0.00	0.05	0.10	0.20	0.05	0.02	0.02	0.01
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	1	0.02	0.02	--	--	--	--	--	--	--
CARBON, ORGANIC DISSOLVED	6	9.00	3.30	--	--	--	--	--	--	--
CARBON, ORGANIC SUSPENDED	6	0.90	0.30	--	--	--	--	--	--	--
HARDNESS (AS CaCO3)	64	480.00	49.00	247.00	102.04	425.00	310.00	260.00	160.00	72.75
CALCIUM DISSOLVED	64	100.00	12.00	56.03	21.85	96.25	72.00	58.50	38.00	18.00
MAGNESIUM, DISSOLVED	64	56.00	3.90	25.92	11.73	46.75	32.75	27.00	16.25	6.73
SODIUM, DISSOLVED	64	74.00	4.90	32.63	16.65	62.50	42.75	31.50	21.00	7.60
SODIUM ADSORPTION RATIO	64	1.50	0.30	0.87	0.30	1.37	1.10	0.90	0.70	0.40
POTASSIUM, DISSOLVED	64	16.00	1.10	4.61	2.59	8.07	5.78	4.20	2.95	1.73
CHLORIDE, DISSOLVED	64	6.20	1.00	2.60	1.10	4.65	3.40	2.40	1.83	1.10
SULFATE DISSOLVED	64	370.00	20.00	151.80	86.09	305.00	220.00	140.00	93.75	26.00
FLUORIDE, DISSOLVED	64	0.30	0.10	0.17	0.06	0.30	0.20	0.20	0.10	0.10
SILICA, DISSOLVED	64	14.00	2.70	8.05	2.96	12.75	11.00	7.80	5.35	3.25
ARSENIC, DISSOLVED (UG/L)	17	6.00	<1.00	--	--	6.00	1.00	<1.00	<1.00	<1.00
BORON, DISSOLVED (UG/L)	56	140.00	<20.00	--	--	104.50	77.50	60.00	50.00	<20.00
CADMIUM DISSOLVED (UG/L)	17	3.00	<2.00	--	--	3.00	2.00	<2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	17	<20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	17	<20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
IRON, DISSOLVED (UG/L)	58	990.00	<10.00	--	--	290.00	100.00	65.00	37.50	<10.00
LEAD, DISSOLVED (UG/L)	17	27.00	<2.00	--	--	27.00	4.75	3.50	<2.00	<2.00
MANGANESE, DISSOLVED (UG/L)	17	40.00	<10.00	--	--	40.00	20.00	<10.00	<10.00	<10.00
ZINC, DISSOLVED (UG/L)	17	40.00	<20.00	--	--	40.00	20.00	<20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	17	1.00	<1.00	--	--	1.00	<1.00	<1.00	<1.00	<1.00
COLIFORM, FECAL, (COLS/100 ML)	8	2000.00	18.00	--	--	--	--	--	--	--
PHENOLS (UG/L)	7	23.00	1.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	1	2300.00	2300.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	64	769.00	77.00	378.59	167.45	686.50	488.00	392.00	247.75	106.50
MERCURY DISSOLVED (UG/L)	17	2.20	<0.50	--	--	2.20	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	5	217.00	11.00	--	--	--	--	--	--	--

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION STATISTICS					SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
		REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )			
TURBIDITY (NTU)	57	*	LOGQ	*	0.21		0.0004	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	60	*	LOGQ	*	.24		.0001	*
ALKALINITY (AS CaCO3)	56	0.197	K	44.4	.70		.0001	28.9
HARDNESS (AS CaCO3)	56	.407	K	9.68	.93		.0001	25.8
CALCIUM, DISSOLVED	56	.0867	K	5.48	.92		.0001	5.94
MAGNESIUM, DISSOLVED	56	.0463	K	-1.09	.91		.0001	3.26
SODIUM, DISSOLVED	56	.0662	K	-5.74	.90		.0001	4.94
SODIUM ADSORPTION RATIO	56	.00120	K	.183	.84		.0001	.118
POTASSIUM, DISSOLVED	56	.00705	K	.273	.90		.0001	.525
CHLORIDE, DISSOLVED	56	.00337	K	.559	.71		.0001	.491
SULFATE, DISSOLVED	56	.347	K	-48.1	.90		.0001	26.1
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	56	.672	K	-12.7	.95		.0001	36.0

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06324000 STATION NAME AND LOCATION: CLEAR CREEK NEAR ARVADA, WYO.  
DRAINAGE AREA: 1,110 SQUARE MILES

WATER QUALITY CONSTITUENT	SAMPLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	264	29.00	0.00	7.91	8.36	23.87	14.00	4.25	0.00	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	250	3540.00	4.40	266.85	461.74	1316.00	194.25	105.00	76.00	28.55
TURBIDITY (NTU)	66	500.00	1.00	25.59	64.71	91.25	20.00	9.50	5.00	1.35
SPECIFIC CONDUCTANCE (MICROSIEMENS)	86	2200.00	230.00	1160.35	387.25	1882.50	1357.50	1130.00	957.50	347.00
OXYGEN, DISSOLVED	81	13.00	7.10	10.13	1.55	12.80	11.35	10.00	8.85	7.71
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	32	5.60	1.00	2.53	1.06	4.69	3.07	2.40	1.75	1.00
PH (UNITS)	84	8.80	7.30	--	--	8.50	8.30	8.20	8.00	7.60
ALKALINITY (AS CaCO3)	83	390.00	50.00	198.77	58.92	316.00	230.00	197.00	160.00	80.60
NITROGEN, AMMONIA TOTAL (AS N)	58	0.42	0.01	0.09	0.08	0.26	0.11	0.07	0.04	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	69	3.30	0.10	0.80	0.50	1.65	0.93	0.67	0.57	0.22
NITROGEN, NO2+NO3 TOTAL (AS N)	69	1.20	0.00	0.26	0.29	0.86	0.48	0.13	0.05	0.01
NITROGEN, NO2+NO3 DISSOLVED (AS N)	20	3.60	0.00	0.33	0.81	3.46	0.25	0.06	0.00	0.00
PHOSPHORUS, TOTAL (AS P)	74	0.33	0.00	0.05	0.05	0.18	0.06	0.03	0.02	0.01
CARBON, ORGANIC DISSOLVED	5	9.20	5.50	--	--	--	--	--	--	--
CARBON, ORGANIC SUSPENDED	4	0.80	0.30	--	--	--	--	--	--	--
HARDNESS (AS CaCO3)	83	970.00	92.00	490.75	168.76	832.00	590.00	470.00	390.00	154.00
CALCIUM DISSOLVED	83	230.00	23.00	109.51	36.94	188.00	130.00	110.00	88.00	37.20
MAGNESIUM, DISSOLVED	83	99.00	7.60	53.18	20.09	93.60	64.00	52.00	41.00	14.60
SODIUM, DISSOLVED	83	200.00	9.60	78.14	37.14	158.00	93.00	73.00	54.00	18.20
SODIUM ADSORPTION RATIO	83	3.20	0.40	1.49	0.50	2.48	1.70	1.40	1.20	0.70
POTASSIUM, DISSOLVED	83	11.00	1.60	4.87	2.02	9.00	6.00	4.50	3.70	1.90
CHLORIDE, DISSOLVED	83	48.00	1.80	5.67	5.54	14.80	6.10	4.40	3.60	1.90
SULFATE DISSOLVED	83	930.00	60.00	444.77	184.46	830.00	530.00	420.00	340.00	94.80
FLUORIDE, DISSOLVED	83	0.80	0.10	0.42	0.14	0.70	0.50	0.40	0.30	0.20
SILICA, DISSOLVED	81	15.00	0.00	6.54	3.76	13.00	8.90	6.50	3.45	0.95
ARSENIC DISSOLVED (UG/L)	16	2.00	<1.00	--	--	1.00	1.00	<1.00	<1.00	<1.00
BORON, DISSOLVED (UG/L)	7	980.00	60.00	--	--	--	--	--	--	--
CADMIUM DISSOLVED (UG/L)	16	3.00	2.00	--	--	3.00	2.00	<2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	16	<20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	19	7.00	<2.00	--	--	7.00	4.00	3.00	<2.00	<2.00
IRON, DISSOLVED (UG/L)	18	70.00	<10.00	--	--	70.00	40.00	30.00	20.00	<10.00
LEAD, DISSOLVED (UG/L)	19	13.00	<2.00	--	--	13.00	5.00	2.00	<2.00	<2.00
MANGANESE, DISSOLVED (UG/L)	16	60.00	<10.00	--	--	60.00	40.00	30.00	<10.00	<10.00
ZINC, DISSOLVED (UG/L)	19	20.00	<20.00	--	--	20.00	<20.00	<20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	19	2.00	<1.00	--	--	2.00	1.25	1.00	<1.00	<1.00
COLIFORM, FECAL, (COLS/100 ML)	3	96.00	26.00	--	--	--	--	--	--	--
PHENOLS (UG/L)	10	18.00	0.00	4.70	5.76	18.00	7.25	2.00	0.75	0.00
PHYTOPLANKTON, TOTAL (CELLS PER ML)	1	6700.00	6700.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	82	1650.00	143.00	826.02	310.07	1495.50	987.75	785.50	631.75	227.20
MERCURY DISSOLVED (UG/L)	19	2.40	<0.50	--	--	2.40	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	197	1670.00	7.00	141.33	253.90	631.80	108.00	56.00	28.00	17.00

REGRESSION STATISTICS

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	59	*	LOGQ	*	0.04	0.116	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	79	-672	LOGQ	2,500	.64	.0001	223
ALKALINITY (AS CaCO3)	73	.113	K	65.0	.68	.0001	28.0
HARDNESS (AS CaCO3)	73	.389	K	38.3	.87	.0001	54.9
CALCIUM, DISSOLVED	73	.0752	K	20.9	.75	.0001	15.9
MAGNESIUM, DISSOLVED	73	.0494	K	-3.69	.89	.0001	6.32
SODIUM, DISSOLVED	73	.0863	K	-23.1	.86	.0001	12.4
SODIUM ADSORPTION RATIO	73	.00114	K	.157	.77	.0001	.224
POTASSIUM, DISSOLVED	73	*	K	*	.48	.0001	*
CHLORIDE, DISSOLVED	73	*	Q	*	.17	.0003	*
SULFATE, DISSOLVED	73	.445	K	-72.8	.91	.0001	52.3
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	72	.729	K	-25.2	.91	.0001	82.2
SEDIMENT, SUSPENDED	21	.505	Q	6.64	.83	.0001	61.4



Table 1.--Statistical summaries of water-quality data from the Powder River coal basin, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06324500 STATION NAME AND LOCATION: POWDER RIVER AT MOORHEAD, MONT.  
DRAINAGE AREA: 8,088 SQUARE MILES

WATER QUALITY CONSTITUENT	SAMPLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	109	26.00	0.00	10.10	8.57	24.25	18.00	9.00	0.50	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	104	12100.00	20.00	795.75	1662.20	3652.49	578.75	307.00	183.00	58.00
TURBIDITY (NTU)	53	33000.00	7.00	1345.13	4568.35	4740.00	1100.00	300.00	50.00	13.50
SPECIFIC CONDUCTANCE (MICROSIEMENS)	91	3490.00	730.00	2072.36	562.52	2998.00	2450.00	2150.00	1700.00	978.00
OXYGEN, DISSOLVED	89	13.20	4.00	9.37	2.04	12.55	11.25	9.50	7.65	6.20
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	43	6.20	0.40	2.33	1.27	5.46	3.00	2.20	1.50	0.40
PH (UNITS)	90	8.80	7.50	--	--	8.60	8.40	8.20	7.90	7.60
ALKALINITY (AS CaCO <sub>3</sub> )	90	370.00	84.00	221.08	58.16	339.00	250.00	217.00	189.00	118.20
NITROGEN, AMMONIA TOTAL (AS N)	80	0.36	0.00	0.09	0.07	0.24	0.13	0.07	0.04	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	90	52.00	0.14	2.84	6.07	10.84	2.85	1.10	0.67	0.27
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	86	2.20	0.00	0.36	0.34	0.74	0.50	0.31	0.17	0.01
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	1	0.02	0.02	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	87	9.50	0.01	0.79	1.40	2.98	0.86	0.31	0.09	0.03
CARBON, ORGANIC DISSOLVED	14	19.00	3.90	9.20	4.23	19.00	12.25	8.70	5.93	3.90
CARBON, ORGANIC SUSPENDED	8	11.00	0.50	--	--	--	--	--	--	--
HARDNESS (AS CaCO <sub>3</sub> )	89	930.00	190.00	571.35	142.51	825.00	665.00	570.00	485.00	315.00
CALCIUM DISSOLVED	89	220.00	50.00	131.53	31.63	190.00	150.00	130.00	110.00	78.50
MAGNESIUM, DISSOLVED	89	110.00	16.00	58.99	16.58	87.00	69.00	60.00	48.00	29.00
SODIUM, DISSOLVED	89	490.00	74.00	254.39	88.00	420.00	305.00	260.00	195.00	90.00
SODIUM ADSORPTION RATIO	89	8.90	1.70	4.58	1.22	6.70	5.30	4.60	3.90	2.30
POTASSIUM, DISSOLVED	89	17.00	3.10	6.90	2.00	11.00	7.60	6.50	5.85	4.00
CHLORIDE, DISSOLVED	90	350.00	0.10	149.92	67.67	253.50	190.00	160.00	100.00	39.60
SULFATE DISSOLVED	89	1300.00	290.00	675.96	204.13	1045.00	765.00	650.00	540.00	350.00
FLUORIDE, DISSOLVED	88	0.80	0.20	0.46	0.13	0.75	0.50	0.40	0.40	0.30
SILICA, DISSOLVED	90	20.00	2.90	7.68	2.69	13.00	8.90	7.05	6.00	4.16
ARSENIC DISSOLVED (UG/L)	13	1.00	<1.00	--	--	1.00	1.00	1.00	1.00	<1.00
BARIUM, DISSOLVED (UG/L)	2	70.00	35.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	87	890.00	70.00	312.87	136.30	606.00	350.00	300.00	230.00	140.00
CADMIUM DISSOLVED (UG/L)	13	2.00	<2.00	--	--	2.00	<2.00	<2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	13	<20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	15	<20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
IRON, DISSOLVED (UG/L)	84	250.00	<10.00	--	--	110.00	40.00	30.00	<10.00	<10.00
LEAD, DISSOLVED (UG/L)	15	10.00	<2.00	--	--	10.00	3.00	2.00	<2.00	<2.00
MANGANESE, DISSOLVED (UG/L)	13	30.00	<10.00	--	--	30.00	10.00	<10.00	<10.00	<10.00
ZINC, DISSOLVED (UG/L)	15	180.00	<20.00	--	--	180.00	20.00	20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	14	3.00	<1.00	--	--	3.00	2.00	2.00	1.00	<1.00
PCB, TOTAL (UG/L)	8	0.00	0.00	--	--	--	--	--	--	--
PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	6	0.00	0.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	88	2510.00	570.00	1422.36	386.36	2173.00	1627.50	1430.00	1130.00	690.65
MERCURY DISSOLVED (UG/L)	15	4.00	<0.50	--	--	4.00	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	53	49700.00	76.00	4853.71	8886.92	27139.88	4965.00	1720.00	339.00	127.60

REGRESSION STATISTICS

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	50	*	LOGQ	*	0.02	0.342	
SPECIFIC CONDUCTANCE (MICROSIEMENS)	84	*	LOGQ	*	.30	.0001	*
ALKALINITY (AS CaCO <sub>3</sub> )	84	*	LOGQ	*	.26	.0001	*
HARDNESS (AS CaCO <sub>3</sub> )	83	0.210	K	134	.72	.0001	74.4
CALCIUM, DISSOLVED	83	.0450	K	38.0	.67	.0001	18.0
MAGNESIUM, DISSOLVED	83	.0236	K	9.76	.67	.0001	9.49
SODIUM, DISSOLVED	83	.140	K	-37.8	.83	.0001	36.9
SODIUM ADSORPTION RATIO	83	.00178	K	.872	.67	.0001	.716
POTASSIUM, DISSOLVED	83	*	K	*	.34	.0001	*
CHLORIDE, DISSOLVED	84	.0906	K	-40.2	.60	.0001	42.0
SULFATE, DISSOLVED	83	.319	K	12.9	.72	.0001	111
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	82	.647	K	68.3	.87	.0001	141
SEDIMENT, SUSPENDED	39	*	LOGQ	*	.16	.0130	*

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06324890 STATION NAME AND LOCATION: LITTLE POWDER RIVER BELOW CORRAL CREEK NEAR WESTON, WYO.  
DRAINAGE AREA: 204 SQUARE MILES

WATER QUALITY CONSTITUENT	SAMPLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	46	24.00	0.00	7.69	8.07	22.60	15.37	4.00	0.00	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	45	402.00	0.01	16.27	64.34	133.70	6.41	0.56	0.23	0.02
TURBIDITY (NTU)	3	25.00	1.00	--	--	--	--	--	--	--
SPECIFIC CONDUCTANCE (MICROSIEMENS)	40	5920.00	1700.00	2788.40	823.22	5335.00	3020.00	2600.00	2278.75	1952.00
OXYGEN, DISSOLVED	35	16.80	5.40	9.21	2.25	13.44	10.40	8.90	7.90	5.48
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	1	3.00	3.00	--	--	--	--	--	--	--
PH (UNITS)	39	8.51	7.40	--	--	8.40	8.00	7.90	7.60	7.40
ALKALINITY (AS CaCO <sub>3</sub> )	37	400.00	190.00	292.05	56.98	382.00	335.00	290.00	246.50	199.00
NITROGEN, AMMONIA DISSOLVED (AS N)	1	0.07	0.07	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	31	0.41	0.00	0.08	0.09	0.35	0.08	0.05	0.02	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	32	9.70	0.06	0.96	1.63	4.50	0.85	0.68	0.50	0.16
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	27	0.42	0.00	0.07	0.10	0.37	0.06	0.01	0.01	0.00
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	13	0.41	0.00	0.08	0.12	0.41	0.13	0.05	0.00	0.00
PHOSPHORUS, TOTAL (AS P)	30	0.19	0.01	0.04	0.04	0.15	0.05	0.03	0.02	0.01
CARBON, ORGANIC DISSOLVED	28	24.00	3.10	10.87	4.17	20.40	13.00	11.00	8.18	3.82
CARBON, ORGANIC SUSPENDED	21	1.20	0.00	0.50	0.32	1.19	0.65	0.40	0.30	0.01
HARDNESS (AS CaCO <sub>3</sub> )	36	3300.00	670.00	1375.28	467.53	2705.00	1500.00	1300.00	1125.00	695.50
CALCIUM DISSOLVED	36	420.00	130.00	280.28	51.35	377.50	310.00	285.00	250.00	181.00
MAGNESIUM, DISSOLVED	35	600.00	83.00	168.29	96.25	464.00	190.00	150.00	120.00	90.20
SODIUM, DISSOLVED	36	600.00	100.00	201.11	110.14	506.50	220.00	170.00	130.00	108.50
SODIUM ADSORPTION RATIO	35	7.30	1.30	2.27	1.13	5.14	2.50	2.00	1.60	1.46
POTASSIUM, DISSOLVED	37	56.00	3.00	33.29	11.81	54.20	39.50	34.00	29.50	6.51
CHLORIDE, DISSOLVED	36	26.00	5.10	12.73	5.59	23.45	16.75	11.00	8.38	6.04
SULFATE DISSOLVED	36	3900.00	690.00	1483.33	619.91	3305.00	1575.00	1300.00	1125.00	902.50
FLUORIDE, DISSOLVED	36	1.00	0.40	0.71	0.14	0.91	0.80	0.70	0.63	0.40
SILICA, DISSOLVED	36	24.00	1.70	12.38	6.69	23.15	20.00	11.00	8.35	1.87
ARSENIC DISSOLVED (UG/L)	12	2.00	<1.00	--	--	2.00	1.00	1.00	1.00	<1.00
BARIUM, DISSOLVED (UG/L)	9	100.00	<100.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	37	2200.00	280.00	1075.95	367.09	1930.00	1200.00	1100.00	865.00	469.00
CADMIUM DISSOLVED (UG/L)	13	8.00	<2.00	--	--	8.00	<2.00	<2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	13	<20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	14	36.00	<20.00	--	--	36.00	<20.00	<20.00	<20.00	<20.00
IRON, DISSOLVED (UG/L)	37	100.00	<10.00	--	--	92.00	50.00	40.00	30.00	<10.00
LEAD, DISSOLVED (UG/L)	13	110.00	<29.00	--	--	110.00	<29.00	<29.00	<29.00	<29.00
MANGANESE, DISSOLVED (UG/L)	17	360.00	20.00	105.29	94.61	360.00	170.00	60.00	40.00	20.00
ZINC, DISSOLVED (UG/L)	13	20.00	<20.00	--	--	20.00	20.00	<20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	12	7.00	<1.00	--	--	7.00	2.00	1.00	<1.00	<1.00
STREPTOCOCCI FECAL (COLS/100 ML)	22	1600.00	20.00	287.50	368.21	1502.49	335.00	150.00	89.00	26.00
PHENOLS (UG/L)	8	26.00	0.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	35	22000.00	0.00	1447.74	3782.28	9199.94	1200.00	370.00	90.00	16.00
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	36	5710.00	1570.00	2366.94	828.49	4893.99	2485.00	2200.00	1902.50	1604.00
MERCURY DISSOLVED (UG/L)	12	<0.50	<0.50	--	--	<0.50	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	44	1120.00	6.00	78.52	166.57	183.75	77.00	48.50	20.00	9.00

REGRESSION STATISTICS							
WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
SPECIFIC CONDUCTANCE (MICROSIEMENS)	39	*	Q	*	0.15	0.0132	*
ALKALINITY (AS CaCO <sub>3</sub> )	36	*	K	*	.22	.0037	*
HARDNESS (AS CaCO <sub>3</sub> )	35	0.468	K	44.3	.69	.0001	265
CALCIUM, DISSOLVED	35	*	K	*	.16	.0190	*
MAGNESIUM, DISSOLVED	34	.114	K	-152	.93	.0001	25.5
SODIUM, DISSOLVED	35	.113	K	-120	.74	.0001	57.8
SODIUM ADSORPTION RATIO	34	*	K	*	.23	.0041	*
POTASSIUM, DISSOLVED	36	*	K	*	.08	.106	*
CHLORIDE, DISSOLVED	35	*	K	*	.25	.0025	*
SULFATE, DISSOLVED	35	.712	K	-542	.91	.0001	186
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	35	.967	K	-382	.95	.0001	190
SEDIMENT, SUSPENDED	34	*	Q	*	.02	.475	*

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06324925 STATION NAME AND LOCATION: LITTLE POWDER RIVER NEAR WESTON, WYO.  
DRAINAGE AREA: 540 SQUARE MILES

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIA- TION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	67	29.00	0.00	9.91	8.93	24.50	18.00	9.00	0.50	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	64	4250.00	0.00	151.12	632.90	1515.73	17.75	1.45	0.32	0.01
TURBIDITY (NTU)	8	3500.00	9.00	--	--	--	--	--	--	--
SPECIFIC CONDUCTANCE (MICROSIEMENS)	58	5400.00	350.00	2955.78	1328.29	4858.49	3950.00	3125.00	1950.00	462.55
OXYGEN, DISSOLVED	50	14.50	5.00	9.64	2.16	13.13	11.33	9.55	8.00	6.30
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	1	3.10	3.10	--	--	--	--	--	--	--
PH (UNITS)	54	8.80	7.00	--	--	8.50	8.30	8.15	7.98	7.45
ALKALINITY (AS CaCO3)	54	770.00	57.00	391.68	191.90	730.00	500.00	405.00	255.00	59.25
NITROGEN, AMMONIA DISSOLVED (AS N)	2	0.02	0.01	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	43	0.39	0.01	0.06	0.09	0.35	0.05	0.04	0.02	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	44	15.00	0.39	1.25	2.22	4.02	1.00	0.79	0.60	0.40
NITROGEN, NO2+NO3 TOTAL (AS N)	38	1.00	0.00	0.09	0.18	0.50	0.05	0.02	0.01	0.01
NITROGEN, NO2+NO3 DISSOLVED (AS N)	15	0.93	0.00	0.10	0.24	0.93	0.09	0.02	0.00	0.00
PHOSPHORUS, TOTAL (AS P)	43	1.40	0.00	0.09	0.22	0.42	0.06	0.04	0.02	0.01
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	1	0.01	0.01	--	--	--	--	--	--	--
CARBON, ORGANIC DISSOLVED	36	25.00	0.50	12.19	5.16	23.30	15.00	11.50	8.73	2.79
CARBON, ORGANIC SUSPENDED	29	9.50	0.10	1.52	2.12	8.35	1.55	0.70	0.55	0.15
HARDNESS (AS CaCO3)	52	2000.00	59.00	737.81	424.18	1805.00	940.00	750.00	502.50	101.95
CALCIUM DISSOLVED	52	400.00	14.00	137.62	72.78	280.00	180.00	135.00	83.75	22.25
MAGNESIUM, DISSOLVED	52	330.00	5.90	95.95	63.89	229.00	120.00	100.00	50.25	11.16
SODIUM, DISSOLVED	51	1100.00	39.00	474.43	263.76	910.00	660.00	480.00	260.00	51.00
SODIUM ADSORPTION RATIO	51	15.00	1.70	7.71	3.59	14.00	11.00	7.70	4.90	1.98
POTASSIUM, DISSOLVED	53	49.00	5.80	18.03	9.84	46.60	20.00	17.00	11.50	6.11
CHLORIDE, DISSOLVED	52	64.00	1.50	13.75	10.49	37.00	16.00	13.00	7.15	2.97
SULFATE DISSOLVED	52	2800.00	100.00	1341.92	703.24	2600.00	1800.00	1450.00	717.50	149.00
FLUORIDE, DISSOLVED	51	0.90	0.10	0.53	0.18	0.84	0.70	0.60	0.40	0.20
SILICA, DISSOLVED	51	17.00	1.20	8.01	4.14	16.40	10.00	7.40	5.60	1.46
ARSENIC DISSOLVED (UG/L)	19	2.00	<1.00	--	--	2.00	1.00	1.00	1.00	<1.00
BARIUM, DISSOLVED (UG/L)	13	300.00	<100.00	--	--	300.00	100.00	<100.00	<100.00	<100.00
BORON, DISSOLVED (UG/L)	53	1800.00	70.00	321.70	361.34	1449.99	320.00	220.00	165.00	87.00
CADMIUM DISSOLVED (UG/L)	19	4.00	<2.00	--	--	4.00	<2.00	<2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	20	<20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	21	<25.00	<25.00	--	--	<25.00	<25.00	<25.00	<25.00	<25.00
IRON, DISSOLVED (UG/L)	53	180.00	<10.00	--	--	113.00	50.00	30.00	20.00	<10.00
LEAD, DISSOLVED (UG/L)	19	40.00	<29.00	--	--	40.00	<29.00	<29.00	<29.00	<29.00
MANGANESE, DISSOLVED (UG/L)	27	480.00	0.00	121.89	113.76	440.00	160.00	90.00	60.00	0.80
ZINC, DISSOLVED (UG/L)	20	32.00	<20.00	--	--	32.00	20.00	<20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	19	7.00	<1.00	--	--	7.00	1.00	<1.00	<1.00	<1.00
STREPTOCOCCI FECAL (COLS/100 ML)	27	320000.00	21.00	12189.89	6159.09	193037.06	400.00	160.00	87.00	25.80
PHENOLS (UG/L)	10	45.00	0.00	9.10	13.89	45.00	11.00	4.00	1.50	0.00
PHYTOPLANKTON, TOTAL (CELLS PER ML)	48	8800.00	0.00	1364.65	1841.80	5924.98	1375.00	640.00	217.50	37.70
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	46	4450.00	222.00	2334.17	1192.50	4256.00	3172.50	2565.00	1255.00	271.10
MERCURY DISSOLVED (UG/L)	19	0.70	<0.50	--	--	0.70	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	57	9130.00	48.00	653.63	1584.30	4720.98	364.00	153.00	91.50	57.20

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06324925 STATION NAME AND LOCATION: LITTLE POWDER RIVER NEAR WESTON, WYO.--Continued

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION ( $r^2$ )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
SPECIFIC CONDUCTANCE (MICROSIEMENS)	55	*	LOGQ	*	0.27	0.0001	*
ALKALINITY (AS $\text{CaCO}_3$ )	50	0.126	K	19.0	.82	.0001	84.0
HARDNESS (AS $\text{CaCO}_3$ )	48	.235	K	29.5	.57	.0001	284
CALCIUM, DISSOLVED	48	.0366	K	26.1	.50	.0001	51.7
MAGNESIUM, DISSOLVED	48	.0348	K	-8.41	.54	.0001	44.9
SODIUM, DISSOLVED	47	.180	K	-60.3	.87	.0001	98.8
SODIUM ADSORPTION RATIO	47	.00204	K	1.67	.60	.0001	2.32
POTASSIUM, DISSOLVED	49	*	K	*	.28	.0001	*
CHLORIDE, DISSOLVED	48	*	K	*	.32	.0001	*
SULFATE, DISSOLVED	48	.497	K	-148	.91	.0001	218
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	42	.828	K	-138	.98	.0001	168
SEDIMENT, SUSPENDED	47	*	K	*	.29	.0001	*

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06324970 STATION NAME AND LOCATION: LITTLE POWDER RIVER ABOVE DRY CREEK NEAR WESTON, WYO.  
DRAINAGE AREA: 1,235 SQUARE MILES

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	179	30.00	0.00	11.79	8.64	25.50	19.50	12.00	3.50	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	186	4210.00	0.00	63.66	356.60	191.95	8.65	3.20	0.64	0.02
TURBIDITY (NTU)	108	5500.00	1.00	309.12	1014.58	3049.98	63.75	35.00	10.00	4.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	125	5500.00	690.00	2827.83	1056.64	4447.00	3550.00	3000.00	2165.00	907.50
OXYGEN, DISSOLVED	112	14.20	5.50	9.23	1.99	13.07	10.60	8.85	7.70	6.27
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	5	3.20	2.60	--	--	--	--	--	--	--
PH (UNITS)	121	8.80	7.50	--	--	8.70	8.30	8.10	7.90	7.60
ALKALINITY (AS CaCO <sub>3</sub> )	120	600.00	77.00	316.99	110.21	500.00	379.75	340.00	262.00	110.00
NITROGEN, AMMONIA DISSOLVED (AS N)	5	0.02	0.01	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	100	0.72	0.01	0.08	0.09	0.20	0.10	0.05	0.03	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	105	11.00	0.21	1.51	1.98	6.96	1.30	0.83	0.62	0.41
NITROGEN, NO <sub>2</sub> + NO <sub>3</sub> TOTAL (AS N)	84	1.40	0.00	0.12	0.20	0.46	0.15	0.05	0.02	0.01
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	18	0.52	0.00	0.12	0.17	0.52	0.20	0.03	0.02	0.00
PHOSPHORUS, TOTAL (AS P)	107	1.60	0.00	0.11	0.24	0.63	0.07	0.05	0.02	0.01
CARBON, ORGANIC DISSOLVED	20	30.00	3.80	13.47	6.28	29.60	17.25	13.00	8.70	3.91
CARBON, ORGANIC SUSPENDED	18	2.80	0.10	0.89	0.80	2.80	1.48	0.55	0.38	0.10
HARDNESS (AS CaCO <sub>3</sub> )	120	1500.00	41.00	798.59	336.82	1300.00	1000.00	785.00	542.50	210.50
CALCIUM DISSOLVED	119	320.00	36.00	157.33	60.52	260.00	200.00	150.00	110.00	55.00
MAGNESIUM, DISSOLVED	120	200.00	10.00	98.85	44.53	170.00	130.00	97.00	61.75	19.00
SODIUM, DISSOLVED	119	770.00	78.00	384.76	153.45	630.00	490.00	400.00	280.00	93.00
SODIUM ADSORPTION RATIO	119	12.00	2.20	5.88	1.76	8.70	7.10	5.60	5.00	2.70
POTASSIUM, DISSOLVED	120	43.00	4.90	19.02	6.67	32.00	22.00	18.00	15.25	9.41
CHLORIDE, DISSOLVED	120	580.00	3.50	16.61	52.11	23.95	15.00	11.00	8.40	3.91
SULFATE DISSOLVED	120	2400.00	240.00	1272.83	531.97	2095.00	1700.00	1300.00	820.00	330.00
FLUORIDE, DISSOLVED	120	2.40	0.20	0.62	0.24	1.00	0.70	0.60	0.50	0.40
SILICA, DISSOLVED	120	20.00	2.00	8.44	3.33	14.95	10.00	8.00	5.93	3.70
ARSENIC DISSOLVED (UG/L)	32	3.00	<1.00	--	--	3.00	1.00	1.00	<1.00	<1.00
BARIUM, DISSOLVED (UG/L)	6	100.00	10.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	117	1200.00	2.00	284.89	226.37	831.00	275.00	210.00	170.00	99.00
CADMIUM DISSOLVED (UG/L)	32	5.00	<2.00	--	--	5.00	3.00	<2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	32	<20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	34	35.00	<10.00	--	--	34.70	<10.00	<10.00	<10.00	<10.00
IRON, DISSOLVED (UG/L)	116	1100.00	<10.00	--	--	218.00	68.00	30.00	20.00	<10.00
LEAD, DISSOLVED (UG/L)	31	29.00	<15.00	--	--	29.00	<15.00	<15.00	<15.00	<15.00
MANGANESE, DISSOLVED (UG/L)	40	510.00	<10.00	--	--	316.00	160.00	100.00	55.00	<10.00
ZINC, DISSOLVED (UG/L)	32	40.00	<20.00	--	--	40.00	20.00	<20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	32	3.00	<1.00	--	--	3.00	1.00	1.00	1.00	<1.00
COLIFORM, FECAL (COLS./100 ML)	4	780.00	22.00	--	--	--	--	--	--	--
STREPTOCOCCI FECAL (COLS/100 ML)	8	380.00	26.00	--	--	--	--	--	--	--
PHENOLS (UG/L)	13	34.00	0.00	7.23	9.74	34.00	11.00	4.00	1.00	0.00
PHYTOPLANKTON, TOTAL (CELLS PER ML)	75	81000.00	82.00	6188.02	10930.70	19399.95	6599.99	3700.00	1200.00	206.00
SOLIDS, SUM OF CONSTITUENTS, (DISSOLVED)	120	3910.00	440.00	2145.67	807.58	3286.50	2775.00	2260.00	1590.00	591.00
MERCURY DISSOLVED (UG/L)	32	<0.50	<0.50	--	--	<0.50	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	117	13100.00	8.00	1061.14	2696.42	8873.99	225.00	166.00	84.00	31.30

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06324970 STATION NAME AND LOCATION: LITTLE POWDER RIVER ABOVE DRY CREEK NEAR WESTON, WYO.--Continued

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION ( $r^2$ )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	103	*	K	*	0.26	0.0001	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	122	*	LOGQ	*	.13	.0001	*
ALKALINITY (AS $\text{CaCO}_3$ )	116	0.0809	K	91.1	.56	.0001	74.8
HARDNESS (AS $\text{CaCO}_3$ )	116	.260	K	67.8	.63	.0001	206
CALCIUM, DISSOLVED	115	.0502	K	16.8	.72	.0001	32.3
MAGNESIUM, DISSOLVED	116	.0348	K	1.08	.64	.0001	26.9
SODIUM, DISSOLVED	115	.141	K	-6.34	.86	.0001	60.0
SODIUM ADSORPTION RATIO	115	.00130	K	2.28	.55	.0001	1.19
POTASSIUM, DISSOLVED	116	*	K	*	.37	.0001	*
CHLORIDE, DISSOLVED	116	*	K	*	.05	.0162	*
SULFATE, DISSOLVED	116	.471	K	-46.9	.82	.0001	231
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	116	.747	K	52.7	.89	.0001	269
SEDIMENT, SUSPENDED	57	*	K	*	.39	.0001	*

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06364700 STATION NAME AND LOCATION: ANTELOPE CREEK NEAR TECKLA, WYO.  
DRAINAGE AREA: 959 SQUARE MILES

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAMPLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	52	30.00	0.00	12.52	9.39	27.50	19.75	13.75	3.00	0.33
STREAMFLOW, INSTANTANEOUS (FT3/S)	51	80.00	0.02	7.33	14.60	37.00	6.50	0.32	0.15	0.03
TURBIDITY (NTU)	1	5.00	5.00	--	--	--	--	--	--	--
SPECIFIC CONDUCTANCE (MICROSIEMENS)	47	2700.00	435.00	2156.81	427.34	2638.00	2440.00	2240.00	2120.00	1090.00
OXYGEN, DISSOLVED	45	11.70	5.60	8.68	1.71	11.57	10.45	8.60	7.40	6.10
PH (UNITS)	46	8.30	7.30	--	--	8.27	8.10	8.00	7.80	7.40
ALKALINITY (AS CaCO3)	46	440.00	56.00	325.56	91.73	423.00	390.00	375.00	250.00	131.00
NITROGEN, AMMONIA TOTAL (AS N)	34	0.13	0.00	0.05	0.03	0.11	0.08	0.04	0.02	0.00
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	38	1.50	0.16	0.54	0.31	1.40	0.66	0.49	0.33	0.22
NITROGEN, NO2+NO3 TOTAL (AS N)	32	0.29	0.00	0.04	0.05	0.16	0.04	0.02	0.01	0.00
NITROGEN, NO2+NO3 DISSOLVED (AS N)	16	0.11	0.00	0.02	0.03	0.11	0.03	0.01	0.00	0.00
PHOSPHORUS, TOTAL (AS P)	35	0.30	0.00	0.04	0.07	0.28	0.03	0.01	0.01	0.00
CARBON, ORGANIC DISSOLVED	37	76.00	5.20	11.98	12.74	41.80	13.00	7.80	6.40	5.47
CARBON, ORGANIC SUSPENDED	34	3.00	0.10	0.49	0.53	1.65	0.63	0.35	0.20	0.10
HARDNESS (AS CaCO3)	45	1200.00	140.00	910.22	221.15	1170.00	1050.00	980.00	820.00	387.00
CALCIUM DISSOLVED	45	300.00	33.00	224.56	51.21	280.00	255.00	240.00	210.00	99.40
MAGNESIUM, DISSOLVED	45	110.00	13.00	84.60	24.24	110.00	100.00	96.00	73.50	19.50
SODIUM, DISSOLVED	45	280.00	28.00	187.89	42.96	237.00	220.00	200.00	170.00	89.90
SODIUM ADSORPTION RATIO	45	4.00	1.00	2.71	0.50	3.82	3.00	2.70	2.40	1.96
POTASSIUM, DISSOLVED	45	21.00	5.50	14.44	3.70	20.40	17.00	15.00	12.00	7.48
CHLORIDE, DISSOLVED	45	31.00	3.70	15.48	6.29	28.50	19.50	16.00	10.50	6.62
SULFATE DISSOLVED	45	1200.00	150.00	942.67	209.10	1200.00	1100.00	980.00	860.00	433.00
FLUORIDE, DISSOLVED	45	1.10	0.20	0.56	0.17	0.80	0.70	0.50	0.50	0.30
SILICA, DISSOLVED	45	23.00	4.70	15.74	5.36	23.00	20.00	17.00	11.00	6.08
ARSENIC DISSOLVED (UG/L)	13	1.00	<1.00	--	--	1.00	1.00	1.00	<1.00	<1.00
BARIUM, DISSOLVED (UG/L)	11	300.00	<100.00	--	--	300.00	100.00	<100.00	<100.00	<100.00
BORON, DISSOLVED (UG/L)	44	540.00	50.00	198.41	103.61	397.50	240.00	220.00	110.00	60.00
CADMIUM DISSOLVED (UG/L)	11	5.00	<2.00	--	--	5.00	2.00	<2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	13	20.00	<20.00	--	--	20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	15	36.00	<10.00	--	--	36.00	<10.00	<10.00	<10.00	<10.00
IRON, DISSOLVED (UG/L)	44	340.00	<10.00	--	--	258.00	50.00	30.00	20.00	<10.00
LEAD, DISSOLVED (UG/L)	12	33.00	<2.00	--	--	33.00	12.50	2.50	<2.00	<2.00
MANGANESE, DISSOLVED (UG/L)	19	790.00	<10.00	--	--	790.00	680.00	415.00	20.00	<10.00
ZINC, DISSOLVED (UG/L)	13	30.00	<20.00	--	--	30.00	20.00	<20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	13	1.00	<1.00	--	--	1.00	<1.00	<1.00	<1.00	<1.00
STREPTOCOCCI FECAL, (COLS/100 ML)	19	700.00	20.00	120.26	173.07	700.00	120.00	44.00	39.00	20.00
PHENOLS (UG/L)	12	26.00	1.00	7.58	8.13	26.00	12.50	4.00	2.25	1.00
PHYTOPLANKTON, TOTAL (CELLS PER ML)	44	20000.00	39.00	2013.50	4271.97	16474.85	1400.00	595.00	185.00	58.00
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	45	2120.00	272.00	1683.84	362.70	2087.00	1905.00	1790.00	1595.00	779.70
MERCURY DISSOLVED (UG/L)	13	0.40	<0.10	--	--	0.40	0.20	<0.10	<0.10	<0.10
SEDIMENT, SUSPENDED	50	1130.00	5.00	111.68	177.35	411.85	112.75	55.50	34.25	15.65

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
SPECIFIC CONDUCTANCE (MICROSIEMENS)	46	-34.8	Q	2,320	0.65	0.0001	255
ALKALINITY (AS CaCO3)	46	-90.0	LOGQ	308	.80	.0001	41.4
HARDNESS (AS CaCO3)	45	.476	K	-112	.85	.0001	85.6
CALCIUM, DISSOLVED	45	.113	K	-18.5	.90	.0001	16.3
MAGNESIUM, DISSOLVED	45	.0466	K	-15.4	.68	.0001	13.9
SODIUM, DISSOLVED	45	.0907	K	-6.74	.82	.0001	18.4
SODIUM ADSORPTION RATIO	45	*	K	*	.36	.0001	*
POTASSIUM, DISSOLVED	45	-3.21	LOGQ	13.9	.63	.0001	2.27
CHLORIDE, DISSOLVED	45	*	K	*	.16	.0065	*
SULFATE, DISSOLVED	45	.468	K	-60.6	.92	.0001	59.7
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	45	.834	K	-106	.97	.0001	59.0
SEDIMENT, SUSPENDED	44	8.19	Q	45.6	.68	.0001	54.8

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06365300 STATION NAME AND LOCATION: DRY FORK CHEYENNE RIVER NEAR BILL, WYO.  
DRAINAGE AREA: 128 SQUARE MILES

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAM- PLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	54	25.00	0.00	8.44	7.80	24.12	13.50	8.00	1.00	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	70	870.00	0.00	14.88	104.04	18.80	0.83	0.16	0.04	0.00
TURBIDITY (NTU)	31	320.00	1.00	16.11	56.71	144.20	9.00	3.00	2.00	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	31	2600.00	630.00	1768.39	463.06	2600.00	2140.00	1800.00	1460.00	852.00
OXYGEN, DISSOLVED	30	13.20	6.60	9.48	1.59	12.65	10.60	9.80	8.07	6.87
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	28	7.00	0.60	2.53	1.87	6.86	3.77	1.60	1.20	0.73
PH (UNITS)	27	8.20	6.80	--	--	8.16	8.00	7.80	7.60	7.04
ALKALINITY (AS CaCO3)	32	620.00	110.00	324.06	99.06	516.00	367.50	325.00	280.00	116.50
NITROGEN, AMMONIA TOTAL (AS N)	30	0.20	0.00	0.06	0.04	0.17	0.09	0.06	0.04	0.00
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	30	2.10	0.45	0.84	0.38	1.93	0.98	0.76	0.58	0.46
NITROGEN, NO2+NO3 TOTAL (AS N)	30	0.41	0.00	0.04	0.08	0.25	0.05	0.03	0.00	0.00
NITROGEN, NO2+NO3 DISSOLVED (AS N)	1	0.00	0.00	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	31	0.15	0.00	0.04	0.03	0.11	0.05	0.03	0.02	0.01
HARDNESS (AS CaCO3)	31	1700.00	260.00	942.58	303.04	1580.00	1100.00	900.00	770.00	410.00
CALCIUM DISSOLVED	32	370.00	71.00	210.34	66.63	357.00	255.00	200.00	165.00	96.35
MAGNESIUM, DISSOLVED	31	190.00	20.00	103.68	36.78	184.00	120.00	96.00	82.00	35.00
SODIUM, DISSOLVED	31	120.00	27.00	73.55	22.28	114.00	90.00	73.00	58.00	33.60
SODIUM ADSORPTION RATIO	30	1.40	0.50	1.02	0.22	1.40	1.20	1.00	0.88	0.61
POTASSIUM, DISSOLVED	32	23.00	9.10	13.92	3.42	21.70	16.00	13.00	11.00	9.49
CHLORIDE, DISSOLVED	32	73.00	5.30	18.12	12.59	49.60	23.00	15.50	11.25	5.30
SULFATE DISSOLVED	32	1500.00	110.00	731.25	316.68	1435.00	945.00	670.00	525.00	201.00
FLUORIDE, DISSOLVED	32	0.70	0.10	0.50	0.13	0.70	0.60	0.50	0.50	0.17
SILICA, DISSOLVED	32	29.00	0.50	12.28	5.46	23.80	16.00	11.50	9.28	3.16
ARSENIC DISSOLVED (UG/L)	6	2.00	1.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	31	300.00	90.00	150.97	42.61	252.00	170.00	150.00	130.00	90.00
CADMIUM DISSOLVED (UG/L)	6	5.00	<1.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	6	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	6	12.00	<10.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	32	1200.00	20.00	121.25	207.95	640.99	120.00	70.00	40.00	20.00
LEAD, DISSOLVED (UG/L)	6	46.00	<10.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	7	510.00	8.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	6	60.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	7	2.00	<1.00	--	--	--	--	--	--	--
STREPTOCOCCI FECAL, (COLS/100 ML)	1	150.00	150.00	--	--	--	--	--	--	--
PHENOLS (UG/L)	5	18.00	1.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	30	2450.00	679.00	1375.43	417.89	2246.50	1600.00	1290.00	1095.00	752.70
MERCURY DISSOLVED (UG/L)	6	1.50	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	38	15300.00	4.00	1458.74	3576.76	10198.43	167.25	47.00	25.00	8.75

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	31	*	K	*	0.22	0.0073	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	31	*	Q	*	.00	.741	*
ALKALINITY (AS CaCO3)	31	*	K	*	.23	.0066	*
HARDNESS (AS CaCO3)	30	0.617	K	-152	.91	.0001	93.7
CALCIUM, DISSOLVED	31	.135	K	-29.3	.86	.0001	25.9
MAGNESIUM, DISSOLVED	30	.0704	K	-22.3	.89	.0001	11.4
SODIUM, DISSOLVED	30	.0415	K	-2.90	.69	.0001	11.8
SODIUM ADSORPTION RATIO	29	*	K	*	.32	.0013	*
POTASSIUM, DISSOLVED	31	*	K	*	.26	.0033	*
CHLORIDE, DISSOLVED	31	*	K	*	.09	.0999	*
SULFATE, DISSOLVED	31	.597	K	-345	.86	.0001	111
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	29	.918	K	-294	.91	.0001	127
SEDIMENT, SUSPENDED	14	*	Q	*	.09	.302	*



Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06365900 STATION NAME AND LOCATION: CHEYENNE RIVER NEAR DULL CENTER, WYO.  
DRAINAGE AREA: 1,527 SQUARE MILES

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	94	31.00	0.00	13.98	9.35	28.12	21.25	15.00	4.75	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	85	2030.00	0.00	61.46	289.25	237.40	10.00	0.26	0.12	0.04
TURBIDITY (NTU)	45	1300.00	1.00	109.40	273.50	985.00	65.00	20.00	4.00	1.12
SPECIFIC CONDUCTANCE (MICROSIEMENS)	71	3800.00	650.00	2694.08	779.83	3585.00	3200.00	3000.00	2200.00	910.00
OXYGEN, DISSOLVED	66	12.00	6.10	9.09	1.51	11.70	9.98	9.00	8.15	6.30
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	37	5.60	1.20	2.99	1.04	5.06	3.75	2.90	2.15	1.20
PH (UNITS)	69	8.70	7.30	--	--	8.40	8.20	8.10	7.90	7.40
ALKALINITY (AS CaCO <sub>3</sub> )	65	527.00	62.00	262.28	77.32	384.00	300.00	273.00	220.00	103.00
NITROGEN, AMMONIA DISSOLVED (AS N)	2	0.03	0.01	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	54	0.57	0.00	0.09	0.09	0.23	0.11	0.07	0.03	0.00
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	55	2.20	0.05	0.76	0.46	2.04	0.90	0.69	0.48	0.19
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	50	0.80	0.00	0.06	0.11	0.16	0.06	0.04	0.01	0.00
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	17	0.08	0.00	0.02	0.02	0.08	0.03	0.01	0.00	0.00
PHOSPHORUS, TOTAL (AS P)	55	0.60	0.00	0.06	0.10	0.29	0.06	0.04	0.01	0.00
CARBON, ORGANIC DISSOLVED	16	41.00	6.20	11.93	8.37	41.00	11.00	9.85	7.58	6.20
CARBON, ORGANIC SUSPENDED	14	1.40	0.10	0.39	0.36	1.40	0.55	0.30	0.10	0.10
HARDNESS (AS CaCO <sub>3</sub> )	64	1800.00	170.00	1040.62	345.24	1500.00	1200.00	1100.00	815.00	325.00
CALCIUM DISSOLVED	64	400.00	41.00	242.91	75.72	357.50	290.00	250.00	210.00	80.00
MAGNESIUM, DISSOLVED	64	200.00	13.00	103.44	38.08	150.00	130.00	110.00	76.25	26.75
SODIUM, DISSOLVED	64	500.00	45.00	271.22	95.28	400.00	327.50	290.00	202.50	74.75
SODIUM ADSORPTION RATIO	64	5.10	1.50	3.61	0.79	4.65	4.10	3.85	3.20	1.90
POTASSIUM, DISSOLVED	64	28.00	1.70	15.40	5.05	23.00	18.75	16.00	13.00	7.35
CHLORIDE, DISSOLVED	64	42.00	4.40	23.30	8.28	38.00	28.00	24.00	18.50	7.20
SULFATE DISSOLVED	64	2300.00	190.00	1281.87	451.61	1900.00	1600.00	1400.00	960.00	345.00
FLUORIDE, DISSOLVED	64	0.80	0.00	0.48	0.12	0.60	0.60	0.50	0.40	0.30
SILICA, DISSOLVED	64	24.00	2.70	12.59	3.68	18.00	15.00	12.00	10.25	6.55
ARSENIC DISSOLVED (UG/L)	15	2.00	<1.00	--	--	2.00	1.00	1.00	<1.00	<1.00
BARIUM, DISSOLVED (UG/L)	6	300.00	<100.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	63	270.00	50.00	114.76	36.14	188.00	130.00	110.00	90.00	60.00
CADMIUM DISSOLVED (UG/L)	15	5.00	<2.00	--	--	5.00	2.00	<2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	15	20.00	<20.00	--	--	20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	17	36.00	<10.00	--	--	36.00	<10.00	<10.00	<10.00	<10.00
IRON, DISSOLVED (UG/L)	63	540.00	<10.00	--	--	176.00	60.00	40.00	20.00	<10.00
LEAD, DISSOLVED (UG/L)	14	24.00	<2.00	--	--	24.00	7.50	2.00	<2.00	<2.00
MANGANESE, DISSOLVED (UG/L)	21	1100.00	5.00	316.10	273.11	1063.00	490.00	240.00	120.00	6.80
ZINC, DISSOLVED (UG/L)	15	30.00	<20.00	--	--	30.00	30.00	<20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	15	1.00	<1.00	--	--	1.00	<1.00	<1.00	<1.00	<1.00
STREPTOCOCCI FECAL, (COLS/100 ML)	9	490.00	21.00	--	--	--	--	--	--	--
PHENOLS (UG/L)	13	13.00	0.00	5.00	3.56	13.00	7.00	5.00	2.50	0.00
PHYTOPLANKTON, TOTAL (CELLS PER ML)	22	9200.00	51.00	2063.23	2564.72	8854.98	3600.00	975.00	297.50	64.35
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	64	3810.00	348.00	2109.19	707.19	3047.50	2530.00	2260.00	1645.00	627.75
MERCURY DISSOLVED (UG/L)	15	1.50	<0.50	--	--	1.50	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	49	21500.00	13.00	1348.24	3807.04	10114.97	245.50	79.00	33.00	14.00

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06365900 STATION NAME AND LOCATION: CHEYENNE RIVER NEAR DULL CENTER, WYO.--Continued

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	35	*	Q	*	0.46	0.0001	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	61	*	LOGQ	*	.45	.0001	*
ALKALINITY (AS CaCO <sub>3</sub> )	59	0.0813	K	47.4	.68	.0001	45.7
HARDNESS (AS CaCO <sub>3</sub> )	58	.425	K	-79.1	.93	.0001	94.8
CALCIUM, DISSOLVED	58	.0921	K	.0589	.91	.0001	24.1
MAGNESIUM, DISSOLVED	58	.0459	K	-17.2	.89	.0001	13.3
SODIUM, DISSOLVED	58	.117	K	-37.8	.93	.0001	26.0
SODIUM ADSORPTION RATIO	58	.000954	K	1.08	.92	.0001	.239
POTASSIUM, DISSOLVED	58	*	K	*	.40	.0001	*
CHLORIDE, DISSOLVED	58	.00889	K	.294	.77	.0001	4.05
SULFATE, DISSOLVED	58	.547	K	-160	.90	.0001	146
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	58	.866	K	-175	.93	.0001	203
SEDIMENT, SUSPENDED	22	-.272	K	871	.61	.0001	142

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06375600 STATION NAME AND LOCATION: LITTLE THUNDER CREEK NEAR HAMPSHIRE, WYO.  
DRAINAGE AREA: 234 SQUARE MILES

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIA- TION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	41	26.00	0.00	11.11	8.66	25.35	19.25	12.00	2.00	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	42	178.00	0.00	10.99	32.05	92.65	5.27	0.26	0.04	0.00
TURBIDITY (NTU)	1	15.00	15.00	--	--	--	--	--	--	--
SPECIFIC CONDUCTANCE (MICROSIEMENS)	33	7500.00	240.00	2049.30	1504.68	5277.46	2915.00	1800.00	832.50	262.40
OXYGEN, DISSOLVED	25	13.80	6.00	9.60	2.24	13.56	11.70	9.60	7.90	6.03
PH (UNITS)	32	8.50	7.40	--	--	8.44	8.20	8.10	7.63	7.40
ALKALINITY (AS CaCO3)	30	550.00	40.00	228.37	131.71	462.00	342.50	210.00	107.50	43.85
NITROGEN, AMMONIA TOTAL (AS N)	23	1.80	0.01	0.21	0.45	1.72	0.13	0.07	0.05	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	24	4.10	0.47	1.15	0.81	3.80	1.28	0.90	0.68	0.47
NITROGEN, NO2+NO3 TOTAL (AS N)	18	0.33	0.01	0.09	0.10	0.33	0.12	0.05	0.02	0.01
NITROGEN, NO2+NO3 DISSOLVED (AS N)	10	0.68	0.00	0.11	0.20	0.68	0.12	0.06	0.00	0.00
PHOSPHORUS, TOTAL (AS P)	25	0.49	0.01	0.13	0.14	0.48	0.15	0.08	0.03	0.01
CARBON, ORGANIC DISSOLVED	24	30.00	5.70	13.39	4.88	27.00	15.75	14.00	9.03	6.05
CARBON, ORGANIC SUSPENDED	19	4.40	0.20	1.27	1.20	4.40	1.50	1.00	0.50	0.20
HARDNESS (AS CaCO3)	28	1000.00	95.00	468.04	245.23	946.00	670.00	455.00	247.50	115.25
CALCIUM DISSOLVED	29	180.00	22.00	93.34	43.62	175.00	125.00	96.00	54.50	26.50
MAGNESIUM, DISSOLVED	28	140.00	9.70	58.85	34.65	126.50	89.00	56.50	27.75	12.54
SODIUM, DISSOLVED	28	750.00	15.00	280.07	207.26	664.50	485.00	240.00	93.50	23.10
SODIUM ADSORPTION RATIO	28	10.00	0.70	5.15	2.83	9.59	8.13	5.15	2.65	0.92
POTASSIUM, DISSOLVED	28	25.00	3.00	12.94	5.01	23.65	15.75	13.50	9.63	4.22
CHLORIDE, DISSOLVED	29	44.00	2.00	14.74	12.17	44.00	20.00	11.00	5.90	3.00
SULFATE DISSOLVED	29	2200.00	82.00	771.45	555.29	1899.99	1250.00	680.00	280.00	96.00
FLUORIDE, DISSOLVED	29	0.90	0.10	0.48	0.17	0.85	0.60	0.40	0.40	0.20
SILICA, DISSOLVED	29	10.00	0.10	4.49	2.30	8.85	6.20	4.80	2.50	0.80
ARSENIC DISSOLVED (UG/L)	9	2.00	<1.00	--	--	--	--	--	--	--
BARIUM, DISSOLVED (UG/L)	7	200.00	<100.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	28	220.00	50.00	123.21	45.95	215.50	150.00	110.00	90.00	54.50
CADMIUM DISSOLVED (UG/L)	9	2.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	9	20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	10	33.00	<20.00	--	--	33.00	<20.00	<20.00	<20.00	<20.00
IRON, DISSOLVED (UG/L)	28	310.00	<10.00	--	--	297.00	50.00	35.00	20.00	<10.00
LEAD, DISSOLVED (UG/L)	9	16.00	<10.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	13	260.00	<10.00	--	--	260.00	130.00	90.00	40.00	<10.00
ZINC, DISSOLVED (UG/L)	9	30.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	9	1.00	<1.00	--	--	--	--	--	--	--
STREPTOCOCCI FECAL, (COLS/100 ML)	13	6800.00	44.00	956.92	1870.98	6800.00	1140.00	230.00	80.00	44.00
PHENOLS (UG/L)	7	5.00	1.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	28	21000.00	110.00	2880.36	4284.33	15869.86	3475.00	1250.00	530.00	137.00
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	27	3660.00	167.00	1403.41	928.80	3275.99	2150.00	1320.00	535.00	201.40
MERCURY DISSOLVED (UG/L)	7	0.70	<0.10	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	41	3790.00	17.00	750.56	1121.35	3118.00	1063.00	148.00	71.00	23.40

# REGRESSION STATISTICS

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
SPECIFIC CONDUCTANCE (MICROSIEMENS)	30	*	LOGQ	*	0.24	0.0061	*
ALKALINITY (AS CaCO3)	28	*	K	*	.34	.0011	*
HARDNESS (AS CaCO3)	26	*	K	*	.27	.0068	*
CALCIUM, DISSOLVED	27	*	K	*	.15	.0455	*
MAGNESIUM, DISSOLVED	26	*	K	*	.27	.0063	*
SODIUM, DISSOLVED	26	*	LOGQ	*	.36	.0012	*
SODIUM ADSORPTION RATIO	26	*	LOGQ	*	.47	.0001	*
POTASSIUM, DISSOLVED	26	*	Q	*	.14	.0624	*
CHLORIDE, DISSOLVED	27	*	LOGQ	*	.08	.151	*
SULFATE, DISSOLVED	27	*	K	*	.31	.0024	*
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	25	*	K	*	.30	.0043	*
SEDIMENT, SUSPENDED	26	*	K	*	.11	.103	*

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06378300 STATION NAME AND LOCATION: LODGEPOLE CREEK NEAR HAMPSHIRE, WYO.  
DRAINAGE AREA: 354 SQUARE MILES

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	30	23.00	0.00	10.83	7.98	22.72	18.25	10.25	1.00	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	31	501.00	0.00	21.89	93.42	296.40	0.82	0.10	0.04	0.00
TURBIDITY (NTU)	1	330.00	330.00	--	--	--	--	--	--	--
SPECIFIC CONDUCTANCE (MICROSIEMENS)	27	5000.00	695.00	2788.33	1284.47	4984.00	3740.00	2800.00	1750.00	775.00
OXYGEN, DISSOLVED	20	13.60	1.00	9.22	3.06	13.59	11.50	9.90	7.60	1.23
PH (UNITS)	25	9.10	8.00	--	--	9.07	8.80	8.60	8.40	8.00
ALKALINITY (AS CaCO3)	24	1400.00	200.00	689.17	305.48	1332.50	895.00	755.00	422.50	210.00
NITROGEN, AMMONIA TOTAL (AS N)	23	0.32	0.00	0.10	0.08	0.30	0.13	0.08	0.05	0.00
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	23	4.00	0.88	1.71	0.72	3.76	2.20	1.60	1.20	0.90
NITROGEN, NO2+NO3 TOTAL (AS N)	18	0.11	0.01	0.03	0.03	0.11	0.05	0.02	0.01	0.01
NITROGEN, NO2+NO3 DISSOLVED (AS N)	10	0.34	0.00	0.05	0.10	0.34	0.04	0.01	0.01	0.00
PHOSPHORUS, TOTAL (AS P)	23	0.41	0.05	0.15	0.09	0.39	0.17	0.13	0.10	0.05
CARBON, ORGANIC DISSOLVED	23	69.00	6.30	21.40	14.72	63.40	27.00	18.00	11.00	6.34
CARBON, ORGANIC SUSPENDED	21	7.40	0.40	2.97	2.42	7.39	4.30	2.20	0.85	0.41
HARDNESS (AS CaCO3)	25	270.00	0.00	124.44	53.38	249.00	150.00	120.00	85.50	13.80
CALCIUM DISSOLVED	24	39.00	9.80	22.24	6.38	37.00	26.50	23.00	17.25	10.35
MAGNESIUM, DISSOLVED	24	41.00	5.10	17.83	8.31	38.75	21.00	17.50	13.25	5.35
SODIUM, DISSOLVED	24	1200.00	130.00	625.42	311.41	1175.00	875.00	630.00	355.00	140.00
SODIUM ADSORPTION RATIO	24	38.00	6.30	23.38	9.04	36.50	30.75	26.50	15.00	6.97
POTASSIUM, DISSOLVED	24	14.00	3.10	7.27	3.12	14.00	8.13	6.10	5.63	3.25
CHLORIDE, DISSOLVED	25	33.00	3.60	16.65	8.50	32.10	25.00	16.00	9.60	4.38
SULFATE DISSOLVED	25	1600.00	140.00	767.20	428.88	1600.00	1150.00	730.00	405.00	152.00
FLUORIDE, DISSOLVED	25	1.30	0.20	0.55	0.27	1.24	0.70	0.50	0.40	0.20
SILICA, DISSOLVED	25	9.00	0.10	3.18	2.21	8.34	4.35	3.00	1.30	0.19
ARSENIC DISSOLVED (UG/L)	10	10.00	1.00	3.00	2.62	10.00	3.25	2.00	1.75	1.00
BARIUM, DISSOLVED (UG/L)	8	200.00	<100.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	25	290.00	50.00	122.00	57.37	275.00	145.00	110.00	90.00	53.00
CADMIUM DISSOLVED (UG/L)	9	11.00	<3.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	9	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	10	70.00	<25.00	--	--	70.00	<25.00	<25.00	<25.00	<25.00
IRON, DISSOLVED (UG/L)	24	500.00	20.00	161.67	114.35	462.50	227.50	145.00	75.00	20.00
LEAD, DISSOLVED (UG/L)	7	3.00	<3.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	11	140.00	<10.00	--	--	140.00	70.00	40.00	10.00	<10.00
ZINC, DISSOLVED (UG/L)	9	70.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	10	<1.00	<1.00	--	--	<1.00	<1.00	<1.00	<1.00	<1.00
STREPTOCOCCI FECAL, (COLS/100 ML)	14	13000.00	50.00	1287.71	3396.46	13000.00	630.00	240.00	125.00	50.00
PHENOLS (UG/L)	7	6.00	1.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	24	41000.00	280.00	10376.25	12375.68	40499.97	15500.00	4450.00	1975.00	347.50
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	25	3760.00	431.00	1846.52	922.94	3640.00	2630.00	1780.00	1116.00	467.60
MERCURY DISSOLVED (UG/L)	7	0.50	<0.10	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	31	713.00	19.00	208.10	182.20	633.20	245.00	134.00	96.00	24.40
REGRESSION STATISTICS										
WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE			
SPECIFIC CONDUCTANCE (MICROSIEMENS)	26	*	LOGQ	*	0.30	0.0036	*			
ALKALINITY (AS CaCO3)	24	0.232	K	47.5	.92	.0001	88.4			
HARDNESS (AS CaCO3)	25	.0309	K	39.7	.52	.0001	37.9			
CALCIUM, DISSOLVED	24	*	LOGQ	*	.29	.0067	--			
MAGNESIUM, DISSOLVED	24	.00606	K	1.27	.85	.0001	3.29			
SODIUM, DISSOLVED	24	.243	K	-39.1	.98	.0001	48.8			
SODIUM ADSORPTION RATIO	24	.00675	K	4.94	.89	.0001	3.01			
POTASSIUM, DISSOLVED	24	*	K	*	.42	.0006	*			
CHLORIDE, DISSOLVED	25	.00566	K	1.15	.68	.0001	4.91			
SULFATE, DISSOLVED	25	.327	K	-128	.89	.0001	145			
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	25	.720	K	-128	.94	.0001	240			
SEDIMENT, SUSPENDED	24	*	Q	*	.14	.0668	*			

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06386000 STATION NAME AND LOCATION: LANCE CREEK NEAR RIVERVIEW, WYO.  
DRAINAGE AREA: 2,070 SQUARE MILES

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAMPLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	92	35.00	0.00	13.09	9.99	29.70	20.38	13.25	2.75	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	101	2830.00	0.00	135.64	399.33	975.70	26.50	4.50	0.28	0.00
TURBIDITY (NTU)	58	12000.00	1.00	458.85	1831.94	4574.98	67.50	10.00	4.98	1.70
SPECIFIC CONDUCTANCE (MICROSIEMENS)	62	7500.00	540.00	3336.61	1369.86	5455.00	4000.00	3380.00	2507.50	611.00
OXYGEN, DISSOLVED	59	13.00	5.90	9.20	1.82	12.30	10.50	9.10	7.80	6.30
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	56	7.00	0.70	2.46	1.42	5.59	3.20	2.30	1.42	0.78
PH (UNITS)	58	8.30	7.30	--	--	8.30	8.10	8.00	7.70	7.39
ALKALINITY (AS CaCO3)	61	420.00	68.00	288.95	76.38	399.00	340.00	290.00	255.00	132.00
NITROGEN, AMMONIA TOTAL (AS N)	58	0.71	0.00	0.08	0.10	0.22	0.10	0.07	0.04	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	61	20.00	0.26	1.62	3.57	8.30	1.00	0.73	0.60	0.43
NITROGEN, NO2+NO3 TOTAL (AS N)	57	3.30	0.00	0.16	0.45	0.83	0.10	0.06	0.02	0.00
NITROGEN, NO2+NO3 DISSOLVED (AS N)	1	0.04	0.04	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	58	4.10	0.00	0.21	0.71	1.87	0.05	0.03	0.02	0.01
CARBON, ORGANIC DISSOLVED	2	10.00	6.80	--	--	--	--	--	--	--
CARBON, ORGANIC SUSPENDED	2	0.40	0.40	--	--	--	--	--	--	--
HARDNESS (AS CaCO3)	61	1500.00	160.00	836.23	317.85	1400.00	980.00	840.00	655.00	272.00
CALCIUM DISSOLVED	61	370.00	44.00	206.93	75.47	338.00	240.00	200.00	160.00	72.50
MAGNESIUM, DISSOLVED	61	150.00	12.00	76.57	30.69	130.00	95.00	77.00	56.00	22.20
SODIUM, DISSOLVED	61	900.00	43.00	495.02	194.24	804.00	635.00	530.00	380.00	100.10
SODIUM ADSORPTION RATIO	61	10.00	1.40	7.27	1.97	9.95	8.60	7.80	6.45	2.62
POTASSIUM, DISSOLVED	61	18.00	6.30	13.18	2.86	18.00	15.00	13.00	11.00	7.93
CHLORIDE, DISSOLVED	61	170.00	9.90	104.85	36.91	168.00	130.00	110.00	91.50	24.30
SULFATE DISSOLVED	61	3000.00	180.00	1439.67	632.89	2500.00	1850.00	1500.00	990.00	293.00
FLUORIDE, DISSOLVED	61	0.90	0.40	0.56	0.12	0.80	0.60	0.50	0.50	0.40
SILICA, DISSOLVED	61	20.00	5.90	13.17	3.16	18.00	16.00	13.00	10.50	8.62
ARSENIC DISSOLVED (UG/L)	8	2.00	<1.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	61	300.00	<20.00	--	--	280.00	210.00	190.00	150.00	120.00
CADMIUM DISSOLVED (UG/L)	8	4.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	8	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	8	15.00	<2.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	61	660.00	<10.00	--	--	433.50	110.00	51.00	30.00	11.00
LEAD, DISSOLVED (UG/L)	8	59.00	<10.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	8	620.00	100.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	8	80.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	8	1.00	<1.00	--	--	--	--	--	--	--
PHENOLS (UG/L)	11	11.00	0.00	3.09	3.21	11.00	5.00	2.00	1.00	0.00
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	61	4680.00	347.00	2523.72	984.27	4124.00	3170.00	2550.00	1900.00	635.90
MERCURY DISSOLVED (UG/L)	9	<0.50	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	51	14800.00	6.50	1771.93	3669.61	11879.97	409.00	117.00	48.00	17.60
REGRESSION STATISTICS										
WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE			
TURBIDITY (NTU)	55	8.46	Q	83.5	0.66	0.0001	1,100			
SPECIFIC CONDUCTANCE (MICROSIEMENS)	59	-854	LOGQ	3,620	.52	.0001	872			
ALKALINITY (AS CaCO3)	58	.0551	K	109	.74	.0001	40.1			
HARDNESS (AS CaCO3)	58	.220	K	95.8	.76	.0001	150			
CALCIUM, DISSOLVED	58	.0510	K	35.0	.72	.0001	38.8			
MAGNESIUM, DISSOLVED	58	.0214	K	4.53	.79	.0001	13.6			
SODIUM, DISSOLVED	58	.144	K	12.7	.85	.0001	73.2			
SODIUM ADSORPTION RATIO	58	.00145	K	2.48	.79	.0001	.922			
POTASSIUM, DISSOLVED	58	*	K	*	.26	.0001	*			
CHLORIDE, DISSOLVED	58	*	K	*	.38	.0001	*			
SULFATE, DISSOLVED	58	.443	K	-53.8	.80	.0001	269			
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	58	.714	K	124	.84	.0001	386			
SEDIMENT, SUSPENDED	22	13.0	Q	372	.80	.0001	1,650			

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06386500 STATION NAME AND LOCATION: CHEYENNE RIVER NEAR RIVERVIEW, WYO.  
DRAINAGE AREA: 5,270 SQUARE MILES

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAM- PLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVI- ATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	42	30.00	0.00	14.89	8.73	27.77	22.00	17.25	8.13	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	45	208.00	0.00	19.63	45.91	170.00	14.50	2.50	0.00	0.00
TURBIDITY (NTU)	42	4000.00	1.00	272.07	773.49	2700.00	111.00	8.25	3.00	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	41	6500.00	560.00	3390.00	1498.11	6159.00	4550.00	3300.00	2300.00	911.00
OXYGEN, DISSOLVED	42	12.50	6.40	9.09	1.59	11.75	10.65	8.90	7.70	6.54
PH (UNITS)	38	8.50	7.50	--	--	8.40	8.23	8.10	8.00	7.60
ALKALINITY (AS CaCO3)	41	420.00	82.00	258.90	80.58	412.30	300.00	260.00	218.00	86.80
NITROGEN, AMMONIA TOTAL (AS N)	39	0.84	0.00	0.13	0.14	0.41	0.15	0.11	0.06	0.00
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	39	20.00	0.17	1.90	3.51	8.90	1.10	0.86	0.67	0.28
NITROGEN, NO2+NO3 TOTAL (AS N)	41	0.88	0.00	0.15	0.19	0.67	0.25	0.07	0.02	0.00
PHOSPHORUS, TOTAL (AS P)	36	1.90	0.00	0.22	0.49	1.73	0.09	0.05	0.02	0.01
CARBON, ORGANIC DISSOLVED	5	8.70	7.10	--	--	--	--	--	--	--
CARBON, ORGANIC SUSPENDED	6	1.80	0.30	--	--	--	--	--	--	--
HARDNESS (AS CaCO3)	41	1800.00	110.00	807.56	404.25	1600.00	1045.00	740.00	515.00	166.00
CALCIUM DISSOLVED	41	420.00	29.00	194.49	93.17	389.00	245.00	180.00	130.00	40.70
MAGNESIUM, DISSOLVED	41	180.00	10.00	78.71	42.95	169.00	105.00	76.00	48.50	15.50
SODIUM, DISSOLVED	41	1200.00	50.00	507.41	279.62	1090.00	660.00	480.00	280.00	67.60
SODIUM ADSORPTION RATIO	41	12.00	1.70	7.39	2.58	11.90	9.40	7.60	5.45	2.60
POTASSIUM, DISSOLVED	41	16.00	5.30	12.06	2.69	15.90	14.00	13.00	10.50	6.05
CHLORIDE, DISSOLVED	41	150.00	7.00	75.26	35.26	129.00	97.00	80.00	49.00	9.75
SULFATE DISSOLVED	41	3600.00	160.00	1507.07	877.16	3400.00	1950.00	1400.00	795.00	196.00
FLUORIDE, DISSOLVED	41	0.70	0.40	0.57	0.11	0.70	0.65	0.60	0.50	0.40
SILICA, DISSOLVED	41	17.00	3.60	9.94	3.07	15.00	12.00	10.00	7.60	5.32
ARSENIC DISSOLVED (UG/L)	14	2.00	<1.00	--	--	2.00	1.00	<1.00	<1.00	<1.00
BORON, DISSOLVED (UG/L)	41	390.00	80.00	211.22	83.76	380.00	240.00	200.00	170.00	90.00
CADMIUM DISSOLVED (UG/L)	14	4.00	<2.00	--	--	4.00	2.25	<2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	14	<20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	14	<20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
IRON, DISSOLVED (UG/L)	41	1000.00	<10.00	--	--	270.00	80.00	40.00	25.00	<10.00
LEAD, DISSOLVED (UG/L)	14	20.00	<2.00	--	--	20.00	3.00	2.00	<2.00	<2.00
MANGANESE, DISSOLVED (UG/L)	14	2300.00	<10.00	--	--	2300.00	395.00	170.00	45.00	<10.00
ZINC, DISSOLVED (UG/L)	14	40.00	<20.00	--	--	40.00	20.00	<20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	14	2.00	<1.00	--	--	2.00	1.00	<1.00	<1.00	<1.00
COLIFORM, FECAL, (COLS/100 ML)	4	480.00	80.00	--	--	--	--	--	--	--
PHENOLS (UG/L)	7	9.00	0.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	41	5810.00	333.00	2541.07	1356.77	5324.00	3245.00	2370.00	1470.00	383.60
MERCURY DISSOLVED (UG/L)	14	<0.50	<0.50	--	--	<0.50	<0.50	<0.50	<0.50	<0.50
REGRESSION STATISTICS										
WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE			
TURBIDITY (NTU)	25	*	Q	*	0.27	0.0075	*			
SPECIFIC CONDUCTANCE (MICROSIEMENS)	25	*	Q	*	.01	.647	*			
ALKALINITY (AS CaCO3)	25	*	K	*	.19	.0288	*			
HARDNESS (AS CaCO3)	25	*	LOGQ	*	.31	.0039	*			
CALCIUM, DISSOLVED	25	*	LOGQ	*	.28	.0066	*			
MAGNESIUM, DISSOLVED	25	*	LOGQ	*	.32	.0031	*			
SODIUM, DISSOLVED	25	*	K	*	.33	.0028	*			
SODIUM ADSORPTION RATIO	25	*	K	*	.28	.0070	*			
POTASSIUM, DISSOLVED	25	*	Q	*	.12	.0835	*			
CHLORIDE, DISSOLVED	25	*	K	*	.21	.0209	*			
SULFATE, DISSOLVED	25	*	LOGQ	*	.35	.0020	*			
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	25	*	LOGQ	*	.31	.0036	*			

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06425720 STATION NAME AND LOCATION: BELLE FOURCHE RIVER BELOW RATTLESNAKE CREEK NEAR PINEY, WYO.  
DRAINAGE AREA: 495 SQUARE MILES

WATER QUALITY CONSTITUENT	SAMPLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	52	28.50	0.00	12.73	9.63	27.17	22.00	14.00	2.13	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	81	1060.00	0.00	16.27	117.85	35.40	0.95	0.01	0.00	0.00
TURBIDITY (NTU)	35	25.00	2.00	9.32	5.51	21.00	15.00	7.00	5.20	2.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	35	8000.00	1100.00	4156.57	1747.83	7440.00	5500.00	4000.00	3300.00	1100.00
OXYGEN, DISSOLVED (MG/L)	33	13.80	6.30	9.79	1.58	12.82	10.80	9.80	8.75	7.07
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	25	5.80	1.20	2.87	1.24	5.56	3.65	2.50	1.95	1.26
PH (UNITS)	31	8.40	7.20	--	--	8.40	8.10	7.90	7.60	7.26
ALKALINITY (AS CaCO <sub>3</sub> )	29	400.00	90.00	236.83	83.29	380.00	300.00	233.00	187.50	90.00
NITROGEN, AMMONIA DISSOLVED (AS N)	3	0.07	0.01	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	25	0.32	0.01	0.08	0.07	0.27	0.11	0.07	0.04	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	29	2.70	0.43	1.05	0.41	2.10	1.20	0.96	0.86	0.49
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	27	0.20	0.01	0.06	0.05	0.19	0.07	0.05	0.02	0.01
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	4	0.05	0.00	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	29	0.16	0.01	0.06	0.04	0.14	0.09	0.04	0.04	0.02
CARBON, ORGANIC DISSOLVED	2	15.00	11.00	--	--	--	--	--	--	--
CARBON, ORGANIC SUSPENDED	2	0.70	0.60	--	--	--	--	--	--	--
HARDNESS (AS CaCO <sub>3</sub> )	29	3500.00	380.00	1483.45	616.32	2849.98	1750.00	1600.00	1200.00	450.00
CALCIUM DISSOLVED	29	530.00	95.00	286.45	97.96	450.00	345.00	320.00	220.00	107.50
MAGNESIUM, DISSOLVED	29	530.00	35.00	187.62	98.40	435.00	235.00	190.00	135.00	43.00
SODIUM, DISSOLVED	29	1200.00	100.00	434.14	225.40	954.99	515.00	400.00	320.00	110.00
SODIUM ADSORPTION RATIO	29	8.80	2.20	4.73	1.55	8.00	5.50	4.60	4.00	2.20
POTASSIUM, DISSOLVED	29	45.00	6.40	16.83	8.39	42.50	18.00	16.00	11.50	7.45
CHLORIDE, DISSOLVED	29	55.00	4.10	22.81	12.80	53.00	28.50	22.00	15.00	4.60
SULFATE DISSOLVED	29	5400.00	510.00	2121.38	1003.51	4449.97	2650.00	2100.00	1650.00	575.00
FLUORIDE, DISSOLVED	29	0.90	0.20	0.47	0.14	0.75	0.50	0.50	0.40	0.20
SILICA, DISSOLVED	29	9.40	0.20	4.28	2.68	9.10	6.65	4.10	1.40	0.25
ARSENIC DISSOLVED (UG/L)	7	2.00	<1.00	--	--	--	--	--	--	--
BARIUM, DISSOLVED (UG/L)	2	100.00	50.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	29	810.00	60.00	162.07	135.45	534.99	180.00	140.00	100.00	65.00
CADMIUM DISSOLVED (UG/L)	7	10.00	<1.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	7	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	7	7.00	<2.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	29	410.00	<10.00	--	--	365.00	120.00	55.00	30.00	10.00
LEAD, DISSOLVED (UG/L)	7	5.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	7	800.00	120.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	7	40.00	4.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	7	2.00	<1.00	--	--	--	--	--	--	--
PHENOLS (UG/L)	5	20.00	0.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	3	49000.00	210.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	29	7870.00	809.00	3216.17	1451.86	6529.96	3999.99	3240.00	2530.00	919.50
MERCURY DISSOLVED (UG/L)	7	<0.50	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	28	927.00	20.00	108.82	168.78	594.44	126.00	61.00	36.25	23.15

REGRESSION STATISTICS

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	19	*	LOGQ	~ *	0.38	0.0046	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	20	*	Q	*	.39	.0034	*
ALKALINITY (AS CaCO <sub>3</sub> )	19	0.0470	K	61.8	.76	.0001	34.3
HARDNESS (AS CaCO <sub>3</sub> )	19	.308	K	216	.86	.0001	165
CALCIUM, DISSOLVED	19	.0522	K	87.1	.60	.0001	56.0
MAGNESIUM, DISSOLVED	19	.0445	K	-2.98	.93	.0001	15.6
SODIUM, DISSOLVED	19	.104	K	-2.15	.92	.0001	40.0
SODIUM ADSORPTION RATIO	19	.000776	K	1.54	.80	.0001	.516
POTASSIUM, DISSOLVED	19	.00225	K	6.09	.51	.0006	2.91
CHLORIDE, DISSOLVED	19	.00548	K	-.00366	.80	.0001	3.64
SULFATE, DISSOLVED	19	.520	K	-17.9	.96	.0001	140
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	19	.756	K	112	.96	.0001	196

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06425780 STATION NAME AND LOCATION: BELLE FOURCHE RIVER ABOVE DRY CREEK NEAR PINEY, WYO.  
DRAINAGE AREA: 594 SQUARE MILES

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50 (MEDIAN)	25	5
TEMPERATURE (DEG C)	78	32.00	0.00	11.54	8.72	26.00	18.37	12.00	3.88	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	99	2500.00	0.00	33.38	252.01	59.00	1.80	0.10	0.01	0.00
TURBIDITY (NTU)	51	1400.00	1.00	52.92	199.59	254.00	15.00	8.10	5.00	2.60
SPECIFIC CONDUCTANCE (MICROSIEMENS)	60	6500.00	270.00	3105.05	1480.57	5785.00	4175.00	3110.00	2200.00	415.35
OXYGEN, DISSOLVED	55	19.00	4.30	10.45	2.81	17.48	11.40	9.90	9.00	6.12
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	40	10.00	1.20	3.29	1.55	5.48	4.15	2.80	2.20	1.61
PH (UNITS)	54	8.70	7.30	--	--	8.52	8.10	8.00	7.78	7.37
ALKALINITY (AS CaCO3)	51	430.00	52.00	225.26	103.58	430.00	280.00	220.00	160.00	62.40
NITROGEN, AMMONIA DISSOLVED (AS N)	2	0.07	0.01	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	45	0.59	0.02	0.13	0.12	0.42	0.13	0.09	0.06	0.04
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	46	4.30	0.27	1.23	0.71	2.73	1.30	1.10	0.80	0.37
NITROGEN, NO2+NO3 TOTAL (AS N)	43	47.00	0.01	3.31	8.96	26.60	1.40	0.31	0.07	0.02
NITROGEN, NO2+NO3, DISSOLVED (AS N)	6	0.25	0.01	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	45	0.59	0.01	0.07	0.11	0.42	0.06	0.04	0.02	0.01
CARBON, ORGANIC DISSOLVED	4	20.00	0.90	--	--	--	--	--	--	--
CARBON, ORGANIC SUSPENDED	4	4.20	0.20	--	--	--	--	--	--	--
HARDNESS (AS CaCO3)	51	2600.00	72.00	1184.55	584.09	2100.00	1600.00	1300.00	710.00	120.00
CALCIUM DISSOLVED	51	550.00	19.00	259.90	121.88	434.00	350.00	280.00	170.00	31.60
MAGNESIUM, DISSOLVED	51	300.00	6.00	129.28	69.34	240.00	180.00	140.00	74.00	9.26
SODIUM, DISSOLVED	51	700.00	13.00	275.98	152.51	574.00	370.00	280.00	160.00	36.00
SODIUM ADSORPTION RATIO	51	6.30	0.50	3.37	1.21	5.82	4.10	3.40	2.60	1.62
POTASSIUM, DISSOLVED	51	50.00	5.80	18.64	9.36	37.40	24.00	18.00	12.00	5.92
CHLORIDE, DISSOLVED	51	35.00	2.00	14.46	7.29	32.00	17.00	14.00	9.40	4.16
SULFATE DISSOLVED	51	3400.00	77.00	1491.43	796.65	2800.00	2100.00	1600.00	870.00	88.60
FLUORIDE, DISSOLVED	51	0.80	0.20	0.39	0.13	0.70	0.40	0.40	0.30	0.20
SILICA, DISSOLVED	51	20.00	0.30	5.68	4.30	14.00	7.30	4.70	2.00	0.40
ARSENIC DISSOLVED (UG/L)	12	1.00	<1.00	--	--	1.00	1.00	1.00	1.00	<1.00
BARIUM, DISSOLVED (UG/L)	3	200.00	<100.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	51	1700.00	60.00	379.41	284.52	980.00	520.00	330.00	180.00	72.00
CADMIUM DISSOLVED (UG/L)	12	10.00	<2.00	--	--	10.00	3.00	<2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	12	20.00	<20.00	--	--	20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	13	31.00	<20.00	--	--	31.00	<20.00	<20.00	<20.00	<20.00
IRON, DISSOLVED (UG/L)	51	800.00	<10.00	--	--	605.00	110.00	60.00	40.00	12.00
LEAD, DISSOLVED (UG/L)	12	31.00	<2.00	--	--	31.00	<2.00	<2.00	<2.00	<2.00
MANGANESE, DISSOLVED (UG/L)	16	2000.00	9.00	298.06	503.02	2000.00	362.50	95.00	22.50	9.00
ZINC, DISSOLVED (UG/L)	12	30.00	<20.00	--	--	30.00	20.00	20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	12	22.00	<1.00	--	--	22.00	2.00	1.00	1.00	<1.00
PHENOLS (UG/L)	8	7.00	0.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	9	8000.00	550.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	48	5280.00	182.00	2309.87	1132.05	4192.00	3075.00	2435.00	1420.00	337.70
MERCURY DISSOLVED (UG/L)	12	<0.50	<0.50	--	--	<0.50	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	47	4020.00	3.00	580.36	1007.98	3478.00	996.00	73.00	36.00	9.60

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	38	*	Q	*	0.39	0.0001	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	48	*	Q	*	.21	.0011	*
ALKALINITY (AS CaCO3)	44	*	K	*	.38	.0001	*
HARDNESS (AS CaCO3)	44	0.385	K	79.2	.87	.0001	206
CALCIUM, DISSOLVED	44	.0787	K	35.8	.81	.0001	52.4
MAGNESIUM, DISSOLVED	44	.0448	K	-.878	.88	.0001	22.1
SODIUM, DISSOLVED	44	.0964	K	-6.13	.88	.0001	48.3
SODIUM ADSORPTION RATIO	44	.000724	K	1.26	.73	.0001	.594
POTASSIUM, DISSOLVED	44	*	K	*	.35	.0001	*
CHLORIDE, DISSOLVED	44	.00355	K	4.21	.51	.0001	4.73
SULFATE, DISSOLVED	44	.540	K	-64.3	.93	.0001	195
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	41	.770	K	89.9	.93	.0001	286



Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06425900 STATION NAME AND LOCATION: CABALLO CREEK AT MOUTH NEAR PINEY, WYO.  
DRAINAGE AREA: 260 SQUARE MILES

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	24	24.50	0.00	9.73	7.58	23.87	16.37	9.25	2.38	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	41	1040.00	0.00	30.34	162.04	44.95	5.25	0.33	0.00	0.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	20	4780.00	320.00	2385.90	1291.30	4746.00	3349.75	2525.00	1080.00	325.00
OXYGEN, DISSOLVED	19	12.20	6.50	9.33	1.93	12.20	11.20	9.70	7.60	6.50
PH (UNITS)	19	8.30	6.10	--	--	8.30	8.10	8.10	8.00	6.10
ALKALINITY (AS CaCO3)	19	370.00	44.00	212.26	100.63	370.00	300.00	210.00	130.00	44.00
NITROGEN, AMMONIA TOTAL (AS N)	15	0.23	0.01	0.07	0.06	0.23	0.10	0.06	0.02	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	19	1.70	0.43	0.98	0.30	1.70	1.00	0.93	0.86	0.43
NITROGEN, NO2+NO3 TOTAL (AS N)	14	1.60	0.01	0.17	0.43	1.60	0.09	0.01	0.01	0.01
NITROGEN, NO2+NO3, DISSOLVED (AS N)	5	0.27	0.00	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	19	0.35	0.01	0.08	0.08	0.35	0.09	0.04	0.03	0.01
CARBON, ORGANIC DISSOLVED	19	25.00	6.20	13.92	5.45	25.00	18.00	15.00	8.90	6.20
CARBON, ORGANIC SUSPENDED	17	2.10	0.00	0.81	0.54	2.10	0.95	0.80	0.45	0.00
HARDNESS (AS CaCO3)	19	1800.00	120.00	962.63	533.56	1800.00	1400.00	1000.00	410.00	120.00
CALCIUM DISSOLVED	19	390.00	24.00	205.58	116.97	390.00	280.00	240.00	82.00	24.00
MAGNESIUM, DISSOLVED	19	250.00	10.00	107.68	71.81	250.00	160.00	110.00	41.00	10.00
SODIUM, DISSOLVED	19	500.00	16.00	210.05	147.49	500.00	300.00	210.00	72.00	16.00
SODIUM ADSORPTION RATIO	19	6.80	0.60	2.81	1.59	6.80	4.10	2.40	1.60	0.60
POTASSIUM, DISSOLVED	19	46.00	7.30	20.19	11.80	46.00	26.00	17.00	11.00	7.30
CHLORIDE, DISSOLVED	19	190.00	4.40	43.78	46.53	190.00	64.00	30.00	11.00	4.40
SULFATE DISSOLVED	19	2300.00	110.00	1116.84	664.23	2299.99	1700.00	1200.00	440.00	110.00
FLUORIDE, DISSOLVED	19	0.60	0.10	0.37	0.17	0.60	0.50	0.40	0.20	0.10
SILICA, DISSOLVED	19	8.70	0.10	4.04	2.52	8.70	5.80	4.20	1.40	0.10
ARSENIC DISSOLVED (UG/L)	7	2.00	<1.00	--	--	--	--	--	--	--
BARIUM, DISSOLVED (UG/L)	8	344.00	<100.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	19	1100.00	110.00	435.26	311.26	1100.00	630.00	350.00	180.00	110.00
CADMIUM DISSOLVED (UG/L)	7	3.00	<3.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	7	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	7	<25.00	<25.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	19	120.00	<10.00	--	--	120.00	60.00	40.00	20.00	<10.00
LEAD, DISSOLVED (UG/L)	7	<25.00	<25.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	7	1100.00	<10.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	7	130.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	7	2.00	<1.00	--	--	--	--	--	--	--
STREPTOCOCCI FECAL, (COLS/100 ML)	16	8900.00	25.00	1029.25	2227.67	8900.00	667.50	220.00	71.75	25.00
PHENOLS (UG/L)	4	7.00	1.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	19	54000.00	170.00	8251.05	14031.34	53999.68	9200.00	1800.00	650.00	170.00
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	19	3580.00	209.00	1835.79	1047.81	3579.99	2770.00	2030.00	718.00	209.00
MERCURY DISSOLVED (UG/L)	7	0.30	<0.10	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	32	14500.00	5.00	1857.34	3696.91	11704.96	1121.00	39.00	23.00	5.65

REGRESSION STATISTICS							
WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
SPECIFIC CONDUCTANCE (MICROSIEMENS)	20	*	Q	*	0.35	0.0059	*
ALKALINITY (AS CaCO3)	19	0.0662	K	55.2	.76	.0001	50.7
HARDNESS (AS CaCO3)	19	.354	K	124	.77	.0001	262
CALCIUM, DISSOLVED	19	.0796	K	16.7	.81	.0001	52.0
MAGNESIUM, DISSOLVED	19	*	K	*	.47	.0013	*
SODIUM, DISSOLVED	19	.106	K	-42.3	.91	.0001	44.7
SODIUM ADSORPTION RATIO	19	.00107	K	.265	.80	.0001	.729
POTASSIUM, DISSOLVED	19	*	K	*	.28	.0209	*
CHLORIDE, DISSOLVED	19	.0252	K	-16.0	.52	.0005	33.3
SULFATE, DISSOLVED	19	.482	K	-25.7	.92	.0001	189
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	19	.773	K	2.00	.96	.0001	226
SEDIMENT, SUSPENDED	18	*	LOGQ	*	.08	.254	*

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06426400 STATION NAME AND LOCATION: DONKEY CREEK NEAR MOORCROFT, WYO.  
DRAINAGE AREA: 246 SQUARE MILES

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	53	26.50	0.00	7.85	7.57	21.30	13.50	7.00	0.50	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	57	2530.00	0.01	86.99	353.89	500.00	4.00	0.73	0.17	0.06
TURBIDITY (NTU)	1	30.00	30.00	--	--	--	--	--	--	--
SPECIFIC CONDUCTANCE (MICROSIEMENS)	48	6900.00	740.00	3717.08	1425.02	6484.99	4617.50	3665.00	2685.00	1022.50
OXYGEN, DISSOLVED	45	18.60	4.20	9.35	2.77	14.93	10.55	9.40	7.45	4.93
PH (UNITS)	45	8.80	7.10	--	--	8.64	8.30	8.10	7.85	7.36
ALKALINITY (AS CaCO3)	45	880.00	74.00	463.42	191.46	745.00	615.00	470.00	335.00	105.00
NITROGEN, AMMONIA TOTAL (AS N)	36	6.80	0.00	0.89	1.81	6.37	1.03	0.10	0.05	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	38	11.00	0.56	2.19	2.05	7.58	2.50	1.35	1.08	0.77
NITROGEN, NO2+NO3 TOTAL (AS N)	33	1.10	0.00	0.18	0.29	1.02	0.21	0.04	0.01	0.01
NITROGEN, NO2+NO3, DISSOLVED (AS N)	14	3.00	0.00	0.44	0.87	3.00	0.41	0.03	0.02	0.00
PHOSPHORUS, TOTAL (AS P)	39	4.50	0.01	0.34	0.76	1.90	0.25	0.10	0.06	0.03
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	1	0.01	0.01	--	--	--	--	--	--	--
CARBON, ORGANIC DISSOLVED	37	110.00	4.60	17.28	16.75	39.80	17.50	13.00	11.00	7.57
CARBON, ORGANIC SUSPENDED	32	6.00	0.20	1.72	1.37	5.09	2.68	1.40	0.73	0.27
HARDNESS (AS CaCO3)	45	1500.00	250.00	952.67	315.43	1400.00	1200.00	990.00	750.00	323.00
CALCIUM DISSOLVED	45	250.00	45.00	148.93	51.20	237.00	190.00	150.00	110.00	49.00
MAGNESIUM, DISSOLVED	45	260.00	33.00	141.02	58.15	254.00	180.00	150.00	93.00	47.60
SODIUM, DISSOLVED	45	1400.00	47.00	582.04	307.02	1170.00	750.00	530.00	375.00	77.50
SODIUM ADSORPTION RATIO	45	22.00	1.10	8.03	3.84	14.70	9.75	7.40	6.25	1.71
POTASSIUM, DISSOLVED	45	49.00	3.20	15.99	7.26	26.80	19.00	16.00	12.00	4.04
CHLORIDE, DISSOLVED	45	250.00	12.00	99.38	71.23	230.00	165.00	75.00	38.50	18.90
SULFATE DISSOLVED	45	3400.00	220.00	1571.33	804.20	3280.00	2000.00	1400.00	980.00	335.00
FLUORIDE, DISSOLVED	45	3.80	0.20	1.06	0.56	1.87	1.20	1.10	0.80	0.23
SILICA, DISSOLVED	44	23.00	0.40	6.66	5.08	17.50	9.35	4.70	2.55	1.07
ARSENIC DISSOLVED (UG/L)	12	3.00	1.00	1.75	0.75	3.00	2.00	2.00	1.00	1.00
BARIUM, DISSOLVED (UG/L)	11	200.00	<100.00	--	--	200.00	200.00	<100.00	<100.00	<100.00
BORON, DISSOLVED (UG/L)	44	940.00	110.00	423.86	209.94	885.00	557.50	360.00	252.50	152.50
CADMIUM DISSOLVED (UG/L)	12	<20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
CHROMIUM, DISSOLVED (UG/L)	12	<20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	13	<25.00	<25.00	--	--	<25.00	<25.00	<25.00	<25.00	<25.00
IRON, DISSOLVED (UG/L)	44	160.00	<10.00	--	--	107.00	52.50	40.00	30.00	<10.00
LEAD, DISSOLVED (UG/L)	12	<200.00	<200.00	--	--	<200.00	<200.00	<200.00	<200.00	<200.00
MANGANESE, DISSOLVED (UG/L)	18	700.00	100.00	275.56	177.21	700.00	412.50	205.00	167.50	100.00
ZINC, DISSOLVED (UG/L)	12	40.00	<20.00	--	--	40.00	20.00	<20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	12	3.00	<1.00	--	--	3.00	1.00	<1.00	<1.00	<1.00
STREPTOCOCCI FECAL, (COLS/100/ML)	29	20000.00	24.00	1332.76	3668.89	11549.74	1150.00	350.00	120.00	36.00
PHENOLS (UG/L)	10	20.00	0.00	5.80	6.70	20.00	10.50	2.50	0.75	0.00
PHYTOPLANKTON, TOTAL (CELLS PER ML)	43	630000.00	76.00	35029.58	98966.00	150000.00	22000.00	8700.00	1400.00	86.80
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	43	5410.00	460.00	2892.91	1242.20	5243.99	3680.00	2710.00	2060.00	614.20
MERCURY, DISSOLVED (UG/L)	12	0.50	<0.10	--	--	0.50	<0.10	<0.10	<0.10	<0.10
SEDIMENT, SUSPENDED	58	6040.00	11.00	381.95	937.69	2375.99	199.75	141.00	72.75	17.95

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION STATISTICS					
		REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
SPECIFIC CONDUCTANCE (MICROSIEMENS)	47	*	LOGQ	*	0.38	0.0001	*
ALKALINITY (AS CaCO3)	44	0.104	K	73.6	.63	.0001	116
HARDNESS (AS CaCO3)	44	.177	K	300	.64	.0001	195
CALCIUM, DISSOLVED	44	*	Q	*	.11	.0255	*
MAGNESIUM, DISSOLVED	44	.0356	K	9.30	.76	.0001	29.4
SODIUM, DISSOLVED	44	.203	K	-178	.92	.0001	85.5
SODIUM ADSORPTION RATIO	44	.00227	K	-.478	.75	.0001	1.92
POTASSIUM, DISSOLVED	44	*	K	*	.10	.0417	*
CHLORIDE, DISSOLVED	44	*	Q	*	.04	.213	*
SULFATE, DISSOLVED	44	.521	K	-371	.87	.0001	297
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	42	.834	K	-265	.94	.0001	310
SEDIMENT, SUSPENDED	44	1.76	Q	115	.79	.0001	66.3

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06426500 STATION NAME AND LOCATION: BELLE FOURCHE RIVER BELOW MOORCROFT, WYO.  
DRAINAGE AREA: 1,670 SQUARE MILES

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	122	31.00	0.00	10.74	9.22	25.85	19.00	10.75	1.00	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	123	2400.00	0.00	64.51	275.82	326.40	12.00	2.20	0.24	0.02
TURBIDITY (NTU)	65	1500.00	2.00	138.30	300.84	1055.00	90.00	40.00	13.50	3.86
SPECIFIC CONDUCTANCE (MICROSIEMENS)	79	5500.00	480.00	2449.62	1142.67	4699.99	3310.00	2400.00	1500.00	670.00
OXYGEN, DISSOLVED	76	16.20	3.50	8.96	2.43	13.78	10.48	8.45	7.60	5.27
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	22	9.80	1.20	4.12	1.87	9.36	5.37	3.45	2.80	1.39
PH (UNITS)	72	8.90	6.70	--	--	8.60	8.30	8.10	7.70	7.43
ALKALINITY (AS CaCO3)	72	710.00	74.00	352.88	156.23	614.00	466.00	340.00	232.50	92.05
NITROGEN, AMMONIA TOTAL (AS N)	60	6.30	0.00	0.42	0.92	2.07	0.38	0.13	0.05	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	63	6.70	0.42	1.70	1.14	4.38	2.00	1.50	0.96	0.61
NITROGEN, NO2+NO3 TOTAL (AS N)	59	4.40	0.00	0.37	0.89	3.00	0.20	0.06	0.01	0.00
NITROGEN, NO2+NO3, DISSOLVED (AS N)	5	0.95	0.00	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	63	2.50	0.00	0.23	0.37	0.61	0.28	0.13	0.06	0.02
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	1	0.01	0.01	--	--	--	--	--	--	--
CARBON, ORGANIC DISSOLVED	10	30.00	0.80	10.12	8.18	30.00	11.75	9.65	5.25	0.80
CARBON, ORGANIC SUSPENDED TOTAL	10	2.70	0.00	1.27	0.83	2.70	1.85	1.45	0.65	0.00
HARDNESS (AS CaCO3)	72	1400.00	140.00	604.86	308.65	1200.00	850.00	560.00	340.00	200.00
CALCIUM DISSOLVED	72	280.00	30.00	121.07	60.63	243.50	160.00	110.00	69.25	40.30
MAGNESIUM, DISSOLVED	72	180.00	12.00	73.56	40.56	147.00	110.00	63.50	40.00	16.25
SODIUM, DISSOLVED	71	740.00	40.00	356.38	176.20	646.00	500.00	340.00	220.00	66.60
SODIUM ADSORPTION RATIO	71	14.00	1.30	6.25	2.51	11.00	7.80	6.50	4.30	1.98
POTASSIUM, DISSOLVED	72	26.00	6.00	12.66	4.18	20.75	15.75	12.00	9.73	7.67
CHLORIDE, DISSOLVED	72	210.00	5.80	70.56	57.97	183.50	120.00	44.50	22.00	9.83
SULFATE DISSOLVED	72	2000.00	130.00	895.97	456.03	1670.00	1300.00	870.00	517.50	196.50
FLUORIDE, DISSOLVED	72	1.60	0.00	0.60	0.25	1.07	0.78	0.60	0.50	0.27
SILICA, DISSOLVED	72	16.00	0.00	6.80	2.88	12.35	8.18	6.75	4.73	3.16
ARSENIC DISSOLVED (UG/L)	20	4.00	<1.00	--	--	3.90	1.75	1.00	<1.00	<1.00
BARIUM, DISSOLVED (UG/L)	2	100.00	50.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	72	870.00	70.00	256.25	152.45	557.00	315.00	195.00	152.50	90.00
CADMIUM DISSOLVED (UG/L)	20	3.00	<2.00	--	--	3.00	<2.00	<2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	20	20.00	<20.00	--	--	20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	21	23.00	<2.00	--	--	23.00	<2.00	<2.00	<2.00	<2.00
IRON, DISSOLVED (UG/L)	72	640.00	<10.00	--	--	455.50	100.00	50.00	30.00	<10.00
LEAD, DISSOLVED (UG/L)	20	24.00	<2.00	--	--	24.00	4.00	2.00	<2.00	<2.00
MANGANESE, DISSOLVED (UG/L)	28	1000.00	<10.00	--	--	779.49	220.00	155.00	90.00	<10.00
ZINC, DISSOLVED (UG/L)	20	30.00	<20.00	--	--	30.00	<20.00	<20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	20	13.00	<1.00	--	--	13.00	2.00	1.00	<1.00	<1.00
PHENOLS (UG/L)	11	49.00	0.00	7.91	14.06	49.00	7.00	3.00	1.00	0.00
PHYTOPLANKTON, TOTAL (CELLS PER ML)	34	64000.00	230.00	15075.59	16061.84	57249.86	26250.00	9900.00	2050.00	590.00
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	71	3620.00	290.00	1755.63	827.35	3142.00	2470.00	1760.00	1060.00	406.00
MERCURY DISSOLVED (UG/L)	20	<0.50	<0.50	--	--	<0.50	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	64	10500.00	9.00	735.22	1722.44	2965.00	465.00	173.00	69.25	10.50

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06426500 STATION NAME AND LOCATION: BELLE FOURCHE RIVER BELOW MOORCROFT, WYO.--Continued

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION ( $r^2$ )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	59	*	K	*	0.25	0.0001	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	74	*	Q	*	.08	.0159	*
ALKALINITY (AS $\text{CaCO}_3$ )	68	0.120	K	60.9	.69	.0001	89.0
HARDNESS (AS $\text{CaCO}_3$ )	68	.240	K	23.1	.78	.0001	143
CALCIUM, DISSOLVED	68	.0417	K	19.2	.63	.0001	35.7
MAGNESIUM, DISSOLVED	68	.0327	K	-5.18	.81	.0001	17.7
SODIUM, DISSOLVED	67	.153	K	15.7	.89	.0001	60.3
SODIUM ADSORPTION RATIO	67	.00166	K	2.21	.50	.0001	1.84
POTASSIUM, DISSOLVED	68	*	K	*	.49	.0001	*
CHLORIDE, DISSOLVED	68	*	K	*	.36	.0001	*
SULFATE, DISSOLVED	68	.384	K	-32.1	.88	.0001	157
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	67	.722	K	-2.43	.93	.0001	214
SEDIMENT, SUSPENDED	19	30.0	Q	187	.63	.0001	337

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06645000 STATION NAME AND LOCATION: NORTH PLATTE RIVER BELOW CASPER, WYO.--Continued  
DRAINAGE AREA: 12,574 SQUARE MILES

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVI- TION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	159	22.00	0.00	8.84	6.66	18.50	15.40	9.00	2.00	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	157	4130.00	440.00	1391.87	743.68	3014.99	1800.00	1030.00	900.00	700.00
TURBIDITY (NTU)	145	1100.00	2.00	35.44	108.65	123.80	20.00	13.00	8.00	4.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	158	1600.00	425.00	719.48	154.36	992.00	778.75	700.00	617.50	529.25
OXYGEN, DISSOLVED	151	16.10	2.30	9.84	2.05	13.06	11.20	9.40	8.30	7.26
PH (UNITS)	141	9.30	7.20	--	--	8.90	8.70	8.50	8.30	7.80
ALKALINITY (AS CaCO3)	99	170.00	90.00	135.37	12.34	160.00	140.00	136.00	130.00	120.00
NITROGEN, AMMONIA TOTAL (AS N)	129	0.68	0.00	0.12	0.10	0.30	0.16	0.10	0.04	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	144	3.70	0.14	0.78	0.47	1.60	0.93	0.66	0.48	0.34
NITROGEN, NO2+NO3 TOTAL (AS N)	142	2.40	0.00	0.43	0.31	0.86	0.54	0.41	0.24	0.11
NITROGEN, NO2+NO3 DISSOLVED (AS N)	24	1.00	0.05	0.34	0.25	0.94	0.49	0.24	0.16	0.05
PHOSPHORUS, TOTAL (AS P)	153	1.30	0.01	0.11	0.12	0.27	0.12	0.09	0.06	0.03
HARDNESS (AS CaCO3)	98	400.00	170.00	237.04	32.72	280.50	250.00	240.00	210.00	189.50
CALCIUM DISSOLVED	98	78.00	42.00	59.29	7.05	70.10	64.00	59.00	54.00	48.85
MAGNESIUM, DISSOLVED	98	32.00	14.00	21.17	3.28	28.00	23.00	21.00	19.00	16.00
SODIUM, DISSOLVED	98	110.00	29.00	51.28	13.12	76.20	57.25	50.00	41.00	35.00
SODIUM ADSORPTION RATIO	98	2.90	0.90	1.45	0.29	2.00	1.60	1.40	1.27	1.10
POTASSIUM, DISSOLVED	98	5.60	2.10	3.49	0.57	4.40	3.92	3.50	3.10	2.49
CHLORIDE, DISSOLVED	98	50.00	4.90	13.96	5.30	22.05	16.00	14.00	11.00	7.40
SULFATE DISSOLVED	98	340.00	110.00	186.73	43.48	270.50	210.00	190.00	150.00	130.00
FLUORIDE, DISSOLVED	96	1.00	0.20	0.47	0.10	0.60	0.50	0.50	0.40	0.30
SILICA, DISSOLVED	98	16.00	0.00	9.32	2.65	13.00	11.00	9.70	8.27	3.55
ARSENIC DISSOLVED (UG/L)	3	2.00	<1.00	--	--	--	--	--	--	--
BARIUM, DISSOLVED (UG/L)	1	30.00	30.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	4	80.00	50.00	--	--	--	--	--	--	--
CADMIUM DISSOLVED (UG/L)	4	2.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	4	<3.00	<3.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	4	4.00	2.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	4	30.00	<10.00	--	--	--	--	--	--	--
LEAD, DISSOLVED (UG/L)	4	5.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	4	<10.00	<10.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	4	<20.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	4	7.00	3.00	--	--	--	--	--	--	--
COLIFORM, FECAL, (COLS/100 ML)	47	37600.00	20.00	5782.06	7012.43	19699.96	9099.98	4530.00	220.00	33.00
PHENOLS (UG/L)	8	10.00	0.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	1	360.00	360.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	98	670.00	305.00	429.49	73.02	567.05	469.50	429.50	372.75	320.00
MERCURY, DISSOLVED (UG/L)	3	<0.50	<0.50	--	--	--	--	--	--	--

REGRESSION STATISTICS

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	145	*	K	*	0.07	0.0011	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	156	*	LOGQ	*	.29	.0001	*
ALKALINITY (AS CaCO3)	97	*	LOGQ	*	.28	.0001	*
HARDNESS (AS CaCO3)	96	*	LOGQ	*	.33	.0001	*
CALCIUM, DISSOLVED	96	-25.6	LOGQ	139	.53	.0001	4.77
MAGNESIUM, DISSOLVED	96	*	LOGQ	*	.41	.0001	*
SODIUM, DISSOLVED	96	-47.7	LOGQ	199	.51	.0001	9.15
SODIUM ADSORPTION RATIO	96	*	LOGQ	*	.46	.0001	*
POTASSIUM, DISSOLVED	96	*	LOGQ	*	.10	.0017	*
CHLORIDE, DISSOLVED	96	*	LOGQ	*	.24	.0001	*
SULFATE, DISSOLVED	96	*	LOGQ	*	.48	.0001	*
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	96	-272	LOGQ	1,275	.55	.0001	48.8

Table 1.--Statistical summaries of water-quality data from the Powder River coal basin,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06646800 STATION NAME AND LOCATION: NORTH PLATTE RIVER NEAR GLENROCK, WYO.  
DRAINAGE AREA: 13,538 SQUARE MILES

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES				
	SAM- PLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVIA- TION	WERE LESS THAN OR EQUAL TO THOSE SHOWN				
						95	75	50 (MEDIAN)	25	5
TEMPERATURE (DEG C)	75	26.50	0.00	14.09	6.49	23.50	20.00	14.00	9.00	3.40
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	84	3970.00	465.00	1508.64	799.44	3489.99	1902.50	1210.00	950.50	605.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	4	845.00	550.00	--	--	--	--	--	--	--
PH (UNITS)	4	8.70	8.20	--	--	--	--	--	--	--
ALKALINITY (AS CaCO <sub>3</sub> )	82	170.00	98.00	138.02	14.55	160.00	150.00	140.00	130.00	110.00
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	1	0.29	0.29	--	--	--	--	--	--	--
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	26	1.80	0.09	0.56	0.40	1.55	0.89	0.44	0.28	0.09
PHOSPHORUS, TOTAL (AS P)	80	0.64	0.00	0.12	0.11	0.40	0.13	0.09	0.05	0.03
HARDNESS (AS CaCO <sub>3</sub> )	82	450.00	170.00	250.85	45.06	330.00	272.50	250.00	220.00	190.00
CALCIUM DISSOLVED	82	92.00	44.00	62.06	10.32	79.70	69.00	62.00	53.00	46.00
MAGNESIUM, DISSOLVED	82	37.00	14.00	22.73	4.79	32.00	25.00	22.00	19.00	16.00
SODIUM, DISSOLVED	82	140.00	32.00	54.95	18.73	90.85	60.25	53.00	41.75	36.00
SODIUM ADSORPTION RATIO	82	3.50	1.00	1.50	0.40	2.20	1.70	1.50	1.20	1.10
POTASSIUM, DISSOLVED	82	4.70	0.30	3.35	0.74	4.60	3.80	3.35	3.00	2.11
CHLORIDE, DISSOLVED	82	26.00	5.30	14.56	4.32	23.00	17.00	14.00	12.00	8.09
SULFATE DISSOLVED	82	450.00	130.00	204.27	56.98	328.50	222.50	200.00	160.00	140.00
FLUORIDE, DISSOLVED	82	0.80	0.30	0.52	0.10	0.70	0.60	0.50	0.50	0.40
SILICA, DISSOLVED	82	17.00	1.50	8.83	2.45	12.00	10.00	9.05	7.57	3.94
SELENIUM, DISSOLVED (UG/L)	1	3.00	3.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	82	963.00	308.00	458.12	101.33	642.95	501.50	455.50	384.50	340.00
SEDIMENT, SUSPENDED	2	144.00	11.00	--	--	--	--	--	--	--

Table 2.--Statistical summaries of water-quality data from the Hanna coal field,  
based on samples collected from October 1, 1974, to September 30, 1981

[Water-quality constituent: Values in milligrams per liter, except as indicated;  
DEG C, degrees Celsius; FT3/S, cubic feet per second; NTU, Nephelometric turbidity units;  
MICROSIEMENS, microsiemens per centimeter at 25 degrees Celsius; UG/L, micrograms per liter;  
UG/KG, micrograms per kilogram; COLS/100 ML, colonies per 100 milliliters of water.  
Regression statistics: \*, value not included in table because coefficient of determination was less than 0.50,  
or significance of probability of the F-value was greater than 0.05, where F equals the  
ratio of the regression mean square to the error mean square.  
Independent variable: K, specific-conductance value, in microsiemens per centimeter at 25 degrees Celsius;  
Q, instantaneous-streamflow value, in cubic feet per second; LOGQ, base 10 logarithm of  
instantaneous-streamflow value, in cubic feet per second]

STATION NUMBER: 06630000 STATION NAME AND LOCATION: NORTH PLATTE RIVER ABOVE SEMINOLE RESERVOIR NEAR SINCLAIR, WYO.  
DRAINAGE AREA: 4,175 SQUARE MILES

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVI- TION	95	75	50 (MEDIAN)	25	5
TEMPERATURE (DEG C)	84	24.00	0.00	8.11	7.59	21.37	15.00	6.75	0.50	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	75	8780.00	125.00	1270.65	1898.45	5818.00	1070.00	382.00	280.00	171.60
TURBIDITY (NTU)	83	600.00	1.00	19.07	66.48	61.00	20.00	6.00	3.00	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	52	640.00	200.00	446.02	123.40	622.00	548.75	465.00	331.00	215.45
OXYGEN, DISSOLVED	82	13.20	6.10	9.73	1.55	12.08	10.85	9.75	8.40	7.51
PH (UNITS)	52	8.70	7.60	--	--	8.60	8.38	8.15	7.90	7.67
ALKALINITY (AS CaCO3)	84	180.00	50.00	121.42	29.91	164.00	140.00	130.00	107.00	60.75
NITROGEN, AMMONIA TOTAL (AS N)	9	0.55	0.05	--	--	--	--	--	--	--
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N).	9	2.20	0.37	--	--	--	--	--	--	--
NITROGEN, NO2+NO3 TOTAL (AS N)	8	0.18	0.00	--	--	--	--	--	--	--
NITROGEN, NO2+NO3 DISSOLVED (AS N)	22	2.20	0.00	0.25	0.56	2.09	0.14	0.00	0.00	0.00
PHOSPHORUS, TOTAL (AS P)	73	0.47	0.00	0.06	0.07	0.19	0.06	0.03	0.02	0.01
HARDNESS (AS CaCO3)	83	280.00	63.00	174.12	52.27	248.00	210.00	190.00	130.00	76.40
CALCIUM DISSOLVED	83	67.00	18.00	46.58	13.91	66.00	58.00	50.00	35.00	21.20
MAGNESIUM, DISSOLVED	83	28.00	4.40	14.03	4.75	21.80	17.00	15.00	10.00	5.84
SODIUM, DISSOLVED	83	57.00	8.00	28.50	9.81	41.00	36.00	31.00	21.00	11.00
SODIUM ADSORPTION RATIO	83	1.60	0.40	0.93	0.23	1.30	1.10	0.90	0.80	0.50
POTASSIUM, DISSOLVED	83	4.70	0.30	2.73	0.81	4.16	3.30	2.80	2.20	1.32
CHLORIDE, DISSOLVED	83	22.00	1.20	11.07	4.53	18.00	14.00	11.00	7.30	4.26
SULFATE DISSOLVED	83	210.00	24.00	98.23	40.23	176.00	130.00	110.00	64.00	33.80
FLUORIDE, DISSOLVED	83	0.70	0.20	0.49	0.11	0.70	0.60	0.50	0.40	0.30
SILICA, DISSOLVED	83	20.00	0.00	12.85	4.79	19.80	17.00	13.00	10.00	1.02
COLIFORM, FECAL, (COLS/100 ML)	7	160.00	1.00	--	--	--	--	--	--	--
PCB, TOTAL (UG/L)	9	0.00	0.00	--	--	--	--	--	--	--
PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	9	2.00	0.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	83	463.00	109.00	287.81	86.61	411.00	349.00	311.00	210.00	127.60

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	40	*	LOGQ	*	0.08	0.0748	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	41	-196	LOGQ	993	.64	.0001	77.8
ALKALINITY (AS CaCO3)	41	.231	K	17.1	.86	.0001	12.2
HARDNESS (AS CaCO3)	40	.433	K	-21.7	.93	.0001	14.5
CALCIUM, DISSOLVED	40	.108	K	-2.90	.90	.0001	4.57
MAGNESIUM, DISSOLVED	40	.0381	K	-3.02	.79	.0001	2.45
SODIUM, DISSOLVED	40	.0695	K	-4.20	.85	.0001	3.70
SODIUM ADSORPTION RATIO	40	.00135	K	.282	.60	.0001	.139
POTASSIUM, DISSOLVED	40	*	K	*	.29	.0003	*
CHLORIDE, DISSOLVED	40	*	K	*	.46	.0001	*
SULFATE, DISSOLVED	40	.279	K	-29.7	.68	.0001	23.9
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	40	.695	K	-31.5	.91	.0001	27.2

Table 2.--Statistical summaries of water-quality data from the Hanna coal field,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06630300 STATION NAME AND LOCATION: BIG DITCH NEAR COYOTE SPRINGS, WYO.  
DRAINAGE AREA: 110 SQUARE MILES

WATER QUALITY CONSTITUENT	SAMPLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	17	21.00	0.00	10.74	6.66	21.00	15.25	12.00	3.50	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	23	39.00	0.00	6.15	9.11	34.60	9.40	3.20	0.02	0.00
TURBIDITY (NTU)	17	15000.00	78.00	1635.18	3569.04	15000.00	1300.00	480.00	185.00	78.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	17	6500.00	1000.00	2933.53	1750.75	6500.00	4800.00	2360.00	1385.00	1000.00
OXYGEN, DISSOLVED (MG/L)	15	11.30	6.60	8.77	1.33	11.30	9.60	8.90	7.90	6.60
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	3	10.00	8.10	--	--	--	--	--	--	--
PH (UNITS)	15	8.60	7.90	--	--	8.60	8.60	8.40	8.00	7.90
ALKALINITY (AS CaCO <sub>3</sub> )	17	490.00	78.00	277.59	135.14	490.00	417.00	250.00	155.00	78.00
NITROGEN, AMMONIA TOTAL (AS N)	16	1.10	0.03	0.40	0.35	1.10	0.60	0.34	0.13	0.03
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	16	13.00	1.30	4.02	2.85	13.00	4.75	3.30	2.00	1.30
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	16	6.80	0.02	1.60	1.75	6.80	2.70	0.92	0.26	0.02
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	1	0.73	0.73	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	16	12.00	0.06	1.84	3.05	12.00	2.05	0.73	0.20	0.06
HARDNESS (AS CaCO <sub>3</sub> )	17	1800.00	300.00	812.35	479.56	1800.00	1050.00	730.00	460.00	300.00
CALCIUM DISSOLVED	17	290.00	47.00	126.94	62.94	290.00	150.00	110.00	81.50	47.00
MAGNESIUM, DISSOLVED	17	280.00	13.00	119.47	80.45	280.00	165.00	110.00	63.00	13.00
SODIUM, DISSOLVED	17	850.00	100.00	375.88	245.54	850.00	575.00	310.00	170.00	100.00
SODIUM ADSORPTION RATIO	17	12.00	2.50	5.54	2.62	12.00	7.45	4.90	3.35	2.50
POTASSIUM, DISSOLVED	17	18.00	5.70	9.15	2.95	18.00	10.00	8.80	6.90	5.70
CHLORIDE, DISSOLVED	17	83.00	10.00	34.12	22.45	83.00	51.00	28.00	15.50	10.00
SULFATE DISSOLVED	17	3000.00	390.00	1275.88	781.26	3000.00	1750.00	1100.00	615.00	390.00
FLUORIDE, DISSOLVED	17	1.80	0.20	0.54	0.37	1.80	0.55	0.40	0.35	0.20
SILICA, DISSOLVED	17	6.90	0.50	3.57	1.45	6.90	4.50	3.30	2.55	0.50
ARSENIC DISSOLVED (UG/L)	12	2.00	1.00	1.33	0.49	2.00	2.00	1.00	1.00	1.00
BORON, DISSOLVED (UG/L)	17	3100.00	60.00	352.94	712.57	3100.00	235.00	180.00	115.00	60.00
CADMIUM DISSOLVED (UG/L)	12	3.00	<2.00	--	--	3.00	<2.00	<2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	12	<20.00	<20.00	--	<20.00	<20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	12	19.00	2.00	5.92	4.70	19.00	8.00	4.50	3.25	2.00
IRON, DISSOLVED (UG/L)	17	4000.00	40.00	355.88	950.19	4000.00	200.00	60.00	40.00	40.00
LEAD, DISSOLVED (UG/L)	12	17.00	<2.00	--	--	17.00	2.75	<2.00	<2.00	<2.00
MANGANESE, DISSOLVED (UG/L)	12	50.00	<10.00	--	--	50.00	50.00	40.00	<10.00	<10.00
ZINC, DISSOLVED (UG/L)	12	60.00	<20.00	--	--	60.00	30.00	20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	12	2.00	1.00	1.08	0.29	2.00	1.00	1.00	1.00	1.00
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	17	4740.00	674.00	2113.65	1240.83	4740.00	2965.00	1860.00	1065.00	674.00
MERCURY DISSOLVED (UG/L)	12	<0.50	<0.50	--	--	<0.50	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	12	27300.00	534.00	4050.17	7490.57	27300.00	3092.50	1505.00	826.75	534.00

REGRESSION STATISTICS

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	17	*	K	*	0.14	0.132	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	17	*	LOGQ	*	.37	.0097	*
ALKALINITY (AS CaCO <sub>3</sub> )	17	0.0685	K	76.7	.79	.0001	64.4
HARDNESS (AS CaCO <sub>3</sub> )	17	.244	K	97.8	.79	.0001	227
CALCIUM, DISSOLVED	17	.0308	K	36.5	.74	.0001	33.4
MAGNESIUM, DISSOLVED	17	.0394	K	3.92	.73	.0001	42.8
SODIUM, DISSOLVED	17	.132	K	-10.4	.88	.0001	87.2
SODIUM ADSORPTION RATIO	17	.00120	K	2.01	.65	.0001	1.60
POTASSIUM, DISSOLVED	17	*	K	*	.38	.0080	*
CHLORIDE, DISSOLVED	17	.00944	K	6.42	.54	.0007	15.7
SULFATE, DISSOLVED	17	.420	K	43.6	.89	.0001	272
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	17	.674	K	138	.90	.0001	398
SEDIMENT, SUSPENDED	11	*	K	*	.30	.0802	*



Table 2.--Statistical summaries of water-quality data from the Hanna coal field, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06634990 STATION NAME AND LOCATION: HANNA DRAW NEAR HANNA, WYO.  
DRAINAGE AREA: 22 SQUARE MILES

WATER QUALITY CONSTITUENT	SAMPLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	35	26.00	0.00	10.41	6.73	24.00	15.50	10.00	5.50	0.80
STREAMFLOW, INSTANTANEOUS (FT3/S)	45	45.00	0.00	2.72	8.06	24.70	1.40	0.22	0.10	0.00
TURBIDITY (NTU)	34	20000.00	2.00	998.98	3596.59	11749.80	247.50	15.00	7.50	2.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	33	3800.00	615.00	2239.24	934.89	3765.00	2900.00	2400.00	1330.00	737.50
OXYGEN, DISSOLVED	30	12.00	5.60	9.59	1.41	11.95	10.70	9.55	8.87	6.53
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	12	6.40	0.70	3.02	1.97	6.40	4.65	2.35	1.57	0.70
PH (UNITS)	32	8.70	7.00	--	--	8.70	8.30	8.20	7.93	7.20
ALKALINITY (AS CaCO3)	32	396.00	81.00	284.69	102.48	392.10	379.00	318.50	200.00	90.75
NITROGEN, AMMONIA DISSOLVED (AS N)	1	0.12	0.12	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	31	0.72	0.00	0.12	0.14	0.50	0.16	0.10	0.02	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	32	24.00	0.48	1.97	4.12	11.19	1.35	0.97	0.71	0.50
NITROGEN, NO2+NO3 TOTAL (AS N)	31	2.00	0.01	0.30	0.42	1.52	0.34	0.14	0.05	0.02
NITROGEN, NO2+NO3 DISSOLVED (AS N)	1	0.01	0.01	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	31	9.40	0.01	0.52	1.74	5.56	0.30	0.04	0.02	0.01
HARDNESS (AS CaCO3)	32	1700.00	270.00	1090.00	466.94	1700.00	1500.00	1150.00	607.50	309.00
CALCIUM DISSOLVED	32	310.00	60.00	207.28	82.15	310.00	280.00	230.00	122.50	64.55
MAGNESIUM, DISSOLVED	32	240.00	24.00	140.00	66.99	233.50	190.00	145.00	77.00	29.20
SODIUM, DISSOLVED	32	300.00	27.00	175.28	85.81	293.50	247.50	195.00	84.50	36.75
SODIUM ADSORPTION RATIO	32	3.20	0.70	2.20	0.75	3.14	2.80	2.40	1.43	0.83
POTASSIUM, DISSOLVED	32	12.00	5.40	8.30	1.71	12.00	9.30	8.35	7.33	5.47
CHLORIDE, DISSOLVED	32	160.00	4.00	20.83	26.78	78.10	26.50	15.00	8.65	4.39
SULFATE DISSOLVED	32	2000.00	220.00	1110.94	524.43	1870.00	1575.00	1150.00	565.00	259.00
FLUORIDE, DISSOLVED	32	0.50	0.20	0.37	0.08	0.50	0.40	0.40	0.30	0.20
SILICA, DISSOLVED	32	14.00	4.00	6.11	1.71	9.77	6.68	6.00	5.30	4.07
ARSENIC DISSOLVED (UG/L)	16	3.00	<1.00	--	--	3.00	1.00	1.00	<1.00	<1.00
BORON, DISSOLVED (UG/L)	32	1400.00	50.00	130.00	232.71	587.49	100.00	90.00	70.00	56.50
CADMIUM DISSOLVED (UG/L)	16	3.00	<2.00	--	--	3.00	2.00	<2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	16	20.00	<20.00	--	--	20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	16	35.00	<2.00	--	--	35.00	4.00	3.00	2.00	<2.00
IRON, DISSOLVED (UG/L)	32	310.00	10.00	68.44	66.29	277.50	80.00	45.00	30.00	10.00
LEAD, DISSOLVED (UG/L)	16	18.00	<2.00	--	--	18.00	5.00	3.50	<2.00	<2.00
MANGANESE, DISSOLVED (UG/L)	16	480.00	20.00	262.50	138.15	480.00	360.00	305.00	125.00	20.00
ZINC, DISSOLVED (UG/L)	16	40.00	<20.00	--	--	40.00	<20.00	<20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	16	1.00	<1.00	--	--	1.00	1.00	1.00	<1.00	<1.00
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	32	3050.00	415.00	1840.00	815.70	2933.00	2557.50	1950.00	989.75	480.00
MERCURY DISSOLVED (UG/L)	16	1.80	<0.50	--	--	1.80	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	30	25800.00	9.00	1948.33	6479.80	25744.98	329.75	95.50	51.00	20.55

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION STATISTICS					
		REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	31	*	K	*	0.15	0.0336	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	31	-1120	LOGQ	1980	.75	.0001	489
ALKALINITY (AS CaCO3)	30	.0837	K	95.1	.62	.0001	64.8
HARDNESS (AS CaCO3)	30	.435	K	95.3	.86	.0001	171
CALCIUM, DISSOLVED	30	.0781	K	29.2	.89	.0001	27.3
MAGNESIUM, DISSOLVED	30	.0594	K	3.79	.79	.0001	30.4
SODIUM, DISSOLVED	30	.0832	K	-12.9	.89	.0001	29.5
SODIUM ADSORPTION RATIO	30	.000721	K	.583	.83	.0001	.324
POTASSIUM, DISSOLVED	30	*	LOGQ	*	.45	.0001	*
CHLORIDE, DISSOLVED	30	*	K	*	.19	.0161	*
SULFATE, DISSOLVED	30	.495	K	-16.7	.87	.0001	188
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	30	.780	K	64.9	.89	.0001	270
SEDIMENT, SUSPENDED	27	*	Q	*	.46	.0001	*

Table 2.--Statistical summaries of water-quality data from the Hanna coal field,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 06635000 STATION NAME AND LOCATION: MEDICINE BOW RIVER ABOVE SEMINOE RESERVOIR NEAR HANNA, WYO.  
DRAINAGE AREA: 2,338 SQUARE MILES

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAM- PLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	91	27.00	0.00	8.58	7.94	22.70	14.00	8.50	0.50	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	79	2220.00	3.80	266.55	432.37	1399.99	345.00	54.00	31.00	9.20
SPECIFIC CONDUCTANCE (MICROSIEMENS)	16	1950.00	700.00	1378.13	366.10	1950.00	1621.25	1440.00	1097.50	700.00
PH (UNITS)	11	8.90	8.20	--	--	8.90	8.50	8.40	8.30	8.20
ALKALINITY (AS CaCO <sub>3</sub> )	86	221.00	81.00	149.71	36.66	211.95	180.00	150.00	120.00	90.00
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	24	5.50	0.00	0.71	1.22	4.72	0.85	0.27	0.04	0.00
PHOSPHORUS, TOTAL (AS P)	82	2.20	0.00	0.14	0.34	0.60	0.09	0.04	0.02	0.01
CARBON, ORGANIC DISSOLVED	1	4.10	4.10	--	--	--	--	--	--	--
CARBON, ORGANIC SUSPENDED	1	1.30	1.30	--	--	--	--	--	--	--
HARDNESS (AS CaCO <sub>3</sub> )	86	1100.00	160.00	497.33	191.15	769.50	630.00	535.00	337.50	173.50
CALCIUM DISSOLVED	86	270.00	31.00	115.99	43.56	180.00	140.00	130.00	83.50	43.70
MAGNESIUM, DISSOLVED	86	110.00	13.00	50.66	21.58	89.50	64.50	53.50	33.25	17.35
SODIUM, DISSOLVED	86	200.00	26.00	96.62	40.86	170.00	120.00	93.50	71.50	32.35
SODIUM ADSORPTION RATIO	86	3.70	0.90	1.86	0.56	2.90	2.20	1.90	1.40	1.00
POTASSIUM, DISSOLVED	86	14.00	0.20	3.61	1.67	6.29	4.00	3.40	2.87	1.50
CHLORIDE, DISSOLVED	86	80.00	3.60	29.69	16.16	55.65	41.00	31.00	16.00	5.57
SULFATE DISSOLVED	86	1100.00	130.00	504.58	217.75	780.00	645.00	540.00	337.50	153.50
FLUORIDE, DISSOLVED	86	0.90	0.20	0.54	0.14	0.80	0.60	0.60	0.40	0.30
SILICA, DISSOLVED	84	12.00	0.00	6.08	2.52	9.95	7.90	6.10	4.30	0.90
ARSENIC DISSOLVED (UG/L)	8	4.00	<1.00	--	--	--	--	--	--	--
CADMIUM DISSOLVED (UG/L)	8	2.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	8	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	8	<20.00	<20.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	8	190.00	10.00	--	--	--	--	--	--	--
LEAD, DISSOLVED (UG/L)	8	4.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	8	30.00	<10.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	8	30.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	8	8.00	<1.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	86	1720.00	269.00	901.58	338.62	1349.50	1127.50	977.00	641.25	317.70
MERCURY DISSOLVED (UG/L)	8	0.20	<0.10	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	86	3770.00	3.00	336.02	556.43	1422.50	412.00	92.00	52.00	17.40

REGRESSION STATISTICS

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
SPECIFIC CONDUCTANCE (MICROSIEMENS)	13	-480	LOGQ	2140	0.50	0.0070	294
ALKALINITY (AS CaCO <sub>3</sub> )	12	*	LOGQ	*	.04	.524	*
HARDNESS (AS CaCO <sub>3</sub> )	12	.495	K	-71.3	.80	.0001	109
CALCIUM, DISSOLVED	12	-78.8	LOGQ	272	.69	.0009	32.4
MAGNESIUM, DISSOLVED	12	.0514	K	-9.09	.91	.0001	7.25
SODIUM, DISSOLVED	12	*	K	*	.44	.0181	*
SODIUM ADSORPTION RATIO	12	*	K	*	.12	.271	*
POTASSIUM, DISSOLVED	12	*	K	*	.37	.0352	*
CHLORIDE, DISSOLVED	12	*	K	*	.37	.0355	*
SULFATE, DISSOLVED	12	.572	K	-161	.88	.0001	92.6
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	12	.837	K	-85.2	.91	.0001	117
SEDIMENT, SUSPENDED	12	*	LOGQ	*	.21	.136	*

Table 3.--Statistical summaries of water-quality data from the Green River coal region, based on samples collected from October 1, 1974, to September 30, 1981

[Water-quality constituent: Values in milligrams per liter, except as indicated; DEG C, degrees Celsius; FT<sup>3</sup>/S, cubic feet per second; NTU, Nephelometric turbidity units; MICROSIEMENS, microsiemens per centimeter at 25 degrees Celsius; UG/L, micrograms per liter; UG/KG, micrograms per kilogram; COLS/100 ML, colonies per 100 milliliters of water. CELLS PER ML, cells per milliliter of water.

Regression statistics: \*, value not included in table because coefficient of determination was less than 0.50, or significance of probability of the F-value was greater than 0.05, where F equals the ratio of the regression mean square to the error mean square.

Independent variable: K, specific-conductance value, in microsiemens per centimeter at 25 degrees Celsius; Q, instantaneous-streamflow value, in cubic feet per second; LOGQ, base 10 logarithm of instantaneous-streamflow value, in cubic feet per second]

STATION NUMBER: 09188500 STATION NAME AND LOCATION: GREEN RIVER AT WARREN BRIDGE, NEAR DANIEL, WYO.  
DRAINAGE AREA: 468 SQUARE MILES

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
SUMMARY OF DATA COLLECTED AT PERIODIC INTERVALS										
TEMPERATURE (DEG C)	137	20.00	0.00	6.62	6.51	17.55	12.50	6.00	0.00	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	124	3620.00	65.00	574.40	695.67	2005.00	829.50	261.50	122.50	85.00
TURBIDITY (NTU)	126	15.00	0.00	2.04	2.26	6.00	2.00	1.00	1.00	0.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	135	680.00	116.00	380.26	155.69	620.00	520.00	390.00	240.00	139.00
OXYGEN, DISSOLVED	87	11.00	7.10	9.35	1.00	10.70	10.20	9.70	8.60	7.62
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	2	8.20	0.50	--	--	--	--	--	--	--
PH (UNITS)	47	8.80	7.50	--	--	8.70	8.20	8.10	7.80	7.54
ALKALINITY (AS CaCO3)	89	150.00	33.00	98.01	32.89	140.50	123.00	110.00	67.00	40.50
NITROGEN, AMMONIA, DISSOLVED (AS N)	3	0.16	0.01	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	2	0.30	0.01	--	--	--	--	--	--	--
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	5	5.00	0.11	--	--	--	--	--	--	--
NITROGEN, NO2+NO3 TOTAL (AS N)	1	0.06	0.06	--	--	--	--	--	--	--
NITROGEN, NO2+NO3 DISSOLVED (AS N)	79	0.73	0.00	0.07	0.09	0.19	0.09	0.06	0.01	0.00
PHOSPHORUS, TOTAL (AS P)	55	0.14	0.00	0.02	0.02	0.07	0.03	0.02	0.01	0.01
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	3	0.14	0.01	--	--	--	--	--	--	--
HARDNESS (AS CaCO3)	89	360.00	49.00	214.45	88.48	325.00	290.00	220.00	130.00	70.00
CALCIUM DISSOLVED	89	100.00	15.00	62.72	25.99	97.00	86.00	64.00	39.00	21.00
MAGNESIUM, DISSOLVED	89	26.00	2.80	13.95	5.73	21.00	19.00	15.00	8.85	4.25
SODIUM, DISSOLVED	89	11.00	1.30	3.40	1.34	4.85	4.15	3.50	2.45	1.55
SODIUM ADSORPTION RATIO	89	0.30	0.10	0.10	0.02	0.10	0.10	0.10	0.10	0.10
POTASSIUM, DISSOLVED	89	4.40	0.60	1.30	0.57	2.20	1.50	1.20	1.00	0.70
CHLORIDE, DISSOLVED	87	2.70	0.10	1.25	0.51	2.22	1.50	1.20	0.90	0.40
SULFATE DISSOLVED	88	210.00	18.00	117.81	59.03	200.00	170.00	120.00	63.00	25.35
FLUORIDE, DISSOLVED	87	0.60	0.10	0.26	0.11	0.40	0.30	0.30	0.20	0.10
SILICA, DISSOLVED	89	8.00	0.60	4.88	2.04	7.45	6.80	5.10	2.95	1.80
ARSENIC DISSOLVED (UG/L)	2	1.00	<1.00	--	--	--	--	--	--	--
BARIUM, DISSOLVED (UG/L)	1	<100.00	<100.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	20	320.00	<20.00	--	--	306.00	30.00	<20.00	<20.00	<20.00
CADMIUM, DISSOLVED (UG/L)	2	<2.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	2	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	2	<2.00	<2.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	6	570.00	20.00	--	--	--	--	--	--	--
LEAD, DISSOLVED (UG/L)	2	3.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	5	20.00	<10.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	2	<20.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	2	<1.00	<1.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	18	1100.00	29.00	308.83	366.72	1100.00	380.00	140.00	68.25	29.00
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	88	438.00	70.00	266.18	109.83	410.55	367.25	274.00	160.25	85.60
MERCURY DISSOLVED (UG/L)	2	0.70	<0.10	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	54	216.00	2.00	18.94	32.90	68.50	25.00	7.00	4.00	2.00

Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09188500 STATION NAME AND LOCATION: GREEN RIVER AT WARREN BRIDGE, NEAR DANIEL, WYO.--Continued

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	113	*	Q	*	0.41	0.0001	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	121	-259	LOGQ	1,010	.64	.0001	91.4
ALKALINITY (AS CaCO <sub>3</sub> )	73	.203	K	17.8	.75	.0001	17.5
HARDNESS (AS CaCO <sub>3</sub> )	73	.582	K	-19.8	.93	.0001	24.0
CALCIUM, DISSOLVED	73	.171	K	-6.10	.93	.0001	7.21
MAGNESIUM, DISSOLVED	73	.0371	K	-1.02	.90	.0001	1.81
SODIUM, DISSOLVED	73	.00645	K	.761	.74	.0001	.561
SODIUM ADSORPTION RATIO	73	*	Q	*	.00	.604	*
POTASSIUM, DISSOLVED	73	*	Q	*	.14	.0012	*
CHLORIDE, DISSOLVED	71	*	Q	*	.16	.0005	*
SULFATE, DISSOLVED	72	.366	K	-32.0	.88	.0001	19.8
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	72	.713	K	-22.8	.93	.0001	29.8
SEDIMENT, SUSPENDED	52	*	Q	*	.27	.0001	*

Table 3.--Statistical summaries of water-quality data from the Green River coal region, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09192600 STATION NAME AND LOCATION: GREEN RIVER NEAR BIG PINEY, WYO.  
DRAINAGE AREA: 1,260 SQUARE MILES

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAMPLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	83	20.00	0.00	6.51	6.94	19.40	13.50	4.50	0.00	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	82	6680.00	6.50	637.40	1033.99	2100.00	513.25	230.00	164.00	105.80
TURBIDITY (NTU)	34	50.00	0.00	5.56	11.09	35.00	2.00	1.00	1.00	0.75
SPECIFIC CONDUCTANCE (MICROSIEMENS)	77	760.00	180.00	449.14	125.56	623.00	550.00	460.00	340.00	229.00
PH (UNITS)	39	8.90	7.60	--	--	8.50	8.30	8.10	7.90	7.70
ALKALINITY (AS CaCO <sub>3</sub> )	81	221.00	62.00	146.40	32.00	180.00	170.00	160.00	120.00	82.80
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	2	1.20	0.15	--	--	--	--	--	--	--
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	22	0.73	0.00	0.07	0.16	0.66	0.06	0.01	0.00	0.00
PHOSPHORUS, TOTAL (AS P)	60	0.22	0.00	0.03	0.05	0.20	0.03	0.01	0.01	0.00
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	1	0.01	0.01	--	--	--	--	--	--	--
HARDNESS (AS CaCO <sub>3</sub> )	82	320.00	59.00	223.13	62.48	300.00	280.00	240.00	170.00	120.00
CALCIUM DISSOLVED	82	88.00	17.00	62.63	18.14	85.00	79.00	66.50	44.00	33.60
MAGNESIUM, DISSOLVED	82	40.00	4.00	16.19	5.27	22.85	19.00	16.50	12.75	8.13
SODIUM, DISSOLVED	82	89.00	3.30	11.61	11.98	29.55	12.00	8.60	6.50	4.36
SODIUM ADSORPTION RATIO	82	2.40	0.10	0.34	0.31	0.87	0.30	0.20	0.20	0.20
POTASSIUM, DISSOLVED	82	3.90	0.20	1.48	0.62	2.77	1.82	1.40	1.10	0.54
CHLORIDE, DISSOLVED	78	19.00	0.20	3.93	3.85	14.00	4.75	2.35	1.70	0.79
SULFATE DISSOLVED	82	250.00	9.90	92.45	42.82	140.00	120.00	100.00	58.00	27.15
FLUORIDE, DISSOLVED	81	1.80	0.10	0.32	0.19	0.50	0.40	0.30	0.20	0.10
SILICA, DISSOLVED	81	10.00	0.10	5.89	2.07	8.79	7.25	6.20	4.30	2.22
BORON, DISSOLVED (UG/L)	1	<20.00	<20.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	2	60.00	<10.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	1	8.00	8.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	80	562.00	86.00	287.94	88.39	444.10	341.75	317.00	231.50	142.35
SEDIMENT, SUSPENDED	42	406.00	2.00	42.29	82.72	251.95	32.00	12.00	6.00	2.00

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	34	0.00832	Q	-0.246	0.62	0.0001	6.91
SPECIFIC CONDUCTANCE (MICROSIEMENS)	77	*	LOGQ	*	.41	.0001	*
ALKALINITY (AS CaCO <sub>3</sub> )	76	*	K	*	.49	.0001	*
HARDNESS (AS CaCO <sub>3</sub> )	77	.408	K	40.8	.70	.0001	33.6
CALCIUM, DISSOLVED	77	.109	K	13.9	.59	.0001	11.4
MAGNESIUM, DISSOLVED	77	.0315	K	2.10	.58	.0001	3.38
SODIUM, DISSOLVED	77	*	K	*	.20	.0001	*
SODIUM ADSORPTION RATIO	77	*	K	*	.11	.0027	*
POTASSIUM, DISSOLVED	77	*	K	*	.21	.0001	*
CHLORIDE, DISSOLVED	73	*	K	*	.10	.0068	*
SULFATE, DISSOLVED	77	.258	K	-24.9	.70	.0001	21.3
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	75	.562	K	31.6	.72	.0001	43.3
SEDIMENT, SUSPENDED	41	*	Q	*	.48	.0001	*

Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09196500 STATION NAME AND LOCATION: PINE CREEK ABOVE FREMONT LAKE, WYO.  
DRAINAGE AREA: 76 SQUARE MILES

WATER QUALITY CONSTITUENT	SAMPLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50 (MEDIAN)	25	5
TEMPERATURE (DEG C)	49	17.00	0.00	5.80	4.89	15.00	9.00	5.00	1.25	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	49	1680.00	4.20	288.47	411.19	1389.99	353.00	106.00	22.00	6.45
TURBIDITY (NTU)	34	2.00	0.00	.76	0.50	1.25	1.00	1.00	0.00	0.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	39	230.00	10.00	26.82	34.11	52.00	25.00	22.00	18.00	12.00
OXYGEN, DISSOLVED	2	8.10	7.20	--	--	--	--	--	--	--
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	1	0.80	0.80	--	--	--	--	--	--	--
PH (UNITS)	3	7.70	7.50	--	--	--	--	--	--	--
ALKALINITY (AS CaCO <sub>3</sub> )	13	15.00	3.00	7.46	3.62	15.00	9.00	7.00	5.00	3.00
NITROGEN, AMMONIA TOTAL (AS N)	2	0.06	0.00	--	--	--	--	--	--	--
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	3	0.07	0.02	--	--	--	--	--	--	--
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	8	0.11	0.01	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	6	0.02	0.01	--	--	--	--	--	--	--
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	2	0.01	0.01	--	--	--	--	--	--	--
HARDNESS (AS CaCO <sub>3</sub> )	13	15.00	5.00	9.15	3.67	15.00	13.00	8.00	6.50	5.00
CALCIUM DISSOLVED	13	5.40	1.50	3.06	1.04	5.40	3.90	2.80	2.35	1.50
MAGNESIUM, DISSOLVED	13	1.20	0.10	0.36	0.39	1.20	0.41	0.20	0.10	0.10
SODIUM, DISSOLVED	13	1.40	0.30	0.73	0.42	1.40	1.15	0.60	0.35	0.30
SODIUM ADSORPTION RATIO	13	0.20	0.00	0.12	0.06	0.20	0.15	0.10	0.10	0.00
POTASSIUM, DISSOLVED	11	0.70	0.20	0.46	0.16	0.70	0.60	0.50	0.30	0.20
CHLORIDE, DISSOLVED	13	0.10	0.10	0.41	0.24	1.10	0.50	0.40	0.30	0.10
SULFATE DISSOLVED	13	7.40	1.40	3.06	1.93	7.40	4.90	2.00	1.55	1.40
FLUORIDE, DISSOLVED	6	0.10	0.00	--	--	--	--	--	--	--
SILICA, DISSOLVED	13	3.70	0.60	2.09	0.82	3.70	2.55	2.30	1.45	0.60
ARSENIC DISSOLVED (UG/L)	2	1.00	<1.00	--	--	--	--	--	--	--
BARIUM, DISSOLVED (UG/L)	2	9.00	6.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	13	<20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
CADMIUM, DISSOLVED (UG/L)	2	<1.00	<1.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	2	<10.00	<10.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	13	120.00	<10.00	--	--	120.00	60.00	30.00	20.00	<10.00
LEAD, DISSOLVED (UG/L)	2	<10.00	<10.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	8	<10.00	<10.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	2	<3.00	<3.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	2	<1.00	<1.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	2	0.00	0.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS,	11	26.00	8.00	15.36	5.94	26.00	21.00	13.00	10.00	8.00
MERCURY DISSOLVED (UG/L)	2	<0.50	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	41	15.00	1.00	4.85	3.52	12.90	7.00	4.00	2.00	2.00

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	REGRESSION STATISTICS		
					COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	31	*	LOGQ	*	0.44	0.0001	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	39	*	LOGQ	*	.00	.715	*
ALKALINITY (AS CaCO <sub>3</sub> )	10	*	LOGQ	*	.23	.0933	*
HARDNESS (AS CaCO <sub>3</sub> )	10	*	K	*	.29	.107	*
CALCIUM, DISSOLVED	10	*	K	*	.18	.225	*
MAGNESIUM, DISSOLVED	10	*	K	*	.33	.0816	*
SODIUM, DISSOLVED	10	*	K	*	.28	.119	*
SODIUM ADSORPTION RATIO	10	*	Q	*	.19	.202	*
POTASSIUM, DISSOLVED	10	*	K	*	.32	.0882	*
CHLORIDE, DISSOLVED	10	*	K	*	.06	.497	*
SULFATE, DISSOLVED	10	*	K	*	.18	.224	*
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	10	*	K	*	.29	.109	*
SEDIMENT, SUSPENDED	36	*	K	*	.21	.0052	*

Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09203000 STATION NAME AND LOCATION: EAST FORK RIVER NEAR BIG SANDY, WYO.  
DRAINAGE AREA: 79 SQUARE MILES

WATER QUALITY CONSTITUENT	SAMPLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	51	21.00	0.00	6.37	6.39	19.20	12.00	5.00	0.00	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	52	886.00	1.20	177.58	285.28	860.20	194.00	22.00	10.50	2.48
TURBIDITY (NTU)	40	2.00	0.00	1.10	0.38	2.00	1.00	1.00	1.00	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	44	165.00	12.00	43.98	29.07	113.75	51.50	39.00	24.25	14.25
OXYGEN, DISSOLVED	3	11.80	8.40	--	--	--	--	--	--	--
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	1	5.30	5.30	--	--	--	--	--	--	--
PH (UNITS)	4	7.80	6.60	--	--	--	--	--	--	--
ALKALINITY (AS CaCO <sub>3</sub> )	11	29.00	6.00	15.73	8.61	29.00	25.00	12.00	8.00	6.00
NITROGEN, AMMONIA DISSOLVED (AS N)	2	0.02	0.02	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	3	0.06	0.02	--	--	--	--	--	--	--
NITROGEN, AMMONIA + ORGANIC TOTAL	3	0.70	0.30	--	--	--	--	--	--	--
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	2	0.02	0.01	--	--	--	--	--	--	--
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	6	1.20	0.02	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	6	12.00	0.01	--	--	--	--	--	--	--
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	4	0.03	0.01	--	--	--	--	--	--	--
HARDNESS (AS CaCO <sub>3</sub> )	11	46.00	8.00	21.00	12.92	46.00	32.00	13.00	12.00	8.00
CALCIUM DISSOLVED	11	15.00	2.40	6.45	4.12	15.00	9.80	4.60	3.50	2.40
MAGNESIUM, DISSOLVED	11	2.70	0.40	1.18	0.79	2.70	1.90	0.80	0.70	0.40
SODIUM, DISSOLVED	11	4.20	0.40	1.75	1.24	4.20	2.50	1.20	0.80	0.40
SODIUM ADSORPTION RATIO	11	0.30	0.00	0.16	0.08	0.30	0.20	0.20	0.10	0.00
POTASSIUM, DISSOLVED	11	2.50	0.30	0.92	0.64	2.50	1.30	0.60	0.50	0.30
CHLORIDE, DISSOLVED	11	2.60	0.20	0.89	0.70	2.60	1.20	0.80	0.30	0.20
SULFATE DISSOLVED	11	25.00	1.60	7.13	6.95	25.00	11.00	4.40	2.60	1.60
FLUORIDE, DISSOLVED	6	0.10	0.10	--	--	--	--	--	--	--
SILICA, DISSOLVED	11	8.30	2.70	4.69	1.78	8.30	6.30	4.50	3.20	2.70
BORON, DISSOLVED (UG/L)	11	30.00	<20.00	--	--	30.00	<20.00	<20.00	<20.00	<20.00
IRON, DISSOLVED (UG/L)	11	310.00	60.00	120.00	68.70	310.00	140.00	100.00	70.00	60.00
MANGANESE, DISSOLVED (UG/L)	8	30.00	<10.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	2	390.00	370.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	11	74.00	12.00	33.36	19.97	74.00	52.00	27.00	18.00	12.00
SEDIMENT, SUSPENDED	49	37.00	1.00	7.08	7.37	28.50	8.00	4.00	3.00	1.50

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION STATISTICS					
		REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	36	*	Q	*	0.04	0.227	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	44	*	LOGQ	*	.18	.0040	*
ALKALINITY (AS CaCO <sub>3</sub> )	11	0.157	K	8.06	.68	.0017	5.12
HARDNESS (AS CaCO <sub>3</sub> )	11	.264	K	8.11	.86	.0001	5.12
CALCIUM, DISSOLVED	11	.0848	K	2.30	.87	.0001	1.55
MAGNESIUM, DISSOLVED	11	.0123	K	.581	.50	.0149	.587
SODIUM, DISSOLVED	11	.0225	K	.653	.68	.0017	.732
SODIUM ADSORPTION RATIO	11	*	K	*	.24	.124	*
POTASSIUM, DISSOLVED	11	*	K	*	.41	.0338	*
CHLORIDE, DISSOLVED	11	*	K	*	.36	.0531	*
SULFATE, DISSOLVED	11	.145	K	.0217	.90	.0001	2.32
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	11	.415	K	13.0	.89	.0001	6.95
SEDIMENT, SUSPENDED	42	*	Q	*	.25	.0008	*

Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09205000 STATION NAME AND LOCATION: NEW FORK RIVER NEAR BIG PINEY, WYO.  
DRAINAGE AREA: 1,230 SQUARE MILES

WATER QUALITY CONSTITUENT	SAMP LE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	WERE	LESS	THAN OR	EQUAL	TO THOSE SHOWN
						95	75	50 (MEDIAN)	25	5

SUMMARY OF DATA COLLECTED AT PERIODIC INTERVALS										
TEMPERATURE (DEG C)	102	25.00	0.00	8.02	7.41	19.92	15.00	8.50	0.00	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	90	5660.00	165.00	896.32	1241.27	3931.99	873.25	335.00	259.50	177.75
TURBIDITY (NTU)	42	15.00	0.00	2.71	3.41	14.25	3.00	2.00	1.00	0.15
SPECIFIC CONDUCTANCE (MICROSIEMENS)	100	340.00	65.00	192.88	57.42	269.80	230.00	210.00	160.00	75.00
OXYGEN, DISSOLVED	2	10.80	9.70	--	--	--	--	--	--	--
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	1	6.20	6.20	--	--	--	--	--	--	--
PH (UNITS)	49	9.00	7.10	--	--	8.85	8.10	7.90	7.60	7.30
ALKALINITY (AS CaCO3)	82	123.00	23.00	87.93	23.08	114.55	100.75	98.00	82.00	29.90
NITROGEN, AMMONIA DISSOLVED (AS N)	1	0.02	0.02	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	2	0.08	0.06	--	--	--	--	--	--	--
NITROGEN, AMMONIA + ORGANIC TOTAL	3	0.74	0.11	--	--	--	--	--	--	--
NITROGEN, NO2+NO3 TOTAL (AS N)	2	0.03	0.01	--	--	--	--	--	--	--
NITROGEN, NO2+NO3 DISSOLVED (AS N)	24	1.60	0.00	0.11	0.33	1.30	0.07	0.03	0.00	0.00
PHOSPHORUS, TOTAL (AS P)	75	0.18	0.00	0.03	0.03	0.10	0.03	0.02	0.01	0.00
HARDNESS (AS CaCO3)	82	140.00	23.00	84.33	22.00	110.00	98.00	89.00	80.00	34.00
CALCIUM DISSOLVED	82	34.00	6.70	23.95	6.26	31.00	28.00	26.00	22.00	8.30
MAGNESIUM, DISSOLVED	82	12.00	1.50	5.81	2.05	9.48	6.72	5.75	5.02	1.83
SODIUM, DISSOLVED	82	19.00	3.00	9.39	2.90	13.85	11.00	9.90	7.97	3.50
SODIUM ADSORPTION RATIO	82	0.80	0.20	0.45	0.11	0.60	0.50	0.50	0.40	0.30
POTASSIUM, DISSOLVED	81	3.50	0.10	1.64	0.49	2.30	1.90	1.60	1.40	0.80
CHLORIDE, DISSOLVED	80	9.30	0.50	2.95	1.86	7.09	3.60	2.20	1.80	0.90
SULFATE DISSOLVED	82	46.00	0.00	12.36	7.17	26.55	14.00	12.00	8.90	3.00
FLUORIDE, DISSOLVED	79	0.50	0.00	0.23	0.08	0.30	0.30	0.20	0.20	0.10
SILICA, DISSOLVED	81	23.00	1.10	8.46	2.92	12.00	9.70	8.40	6.85	3.97
ARSENIC, DISSOLVED (UG/L)	1	<1.00	<1.00	--	--	--	--	--	--	--
BARIUM, DISSOLVED (UG/L)	2	<100.00	<100.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	3	30.00	<20.00	--	--	--	--	--	--	--
CADMIUM, DISSOLVED (UG/L)	1	<2.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	1	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	2	2.00	<2.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	3	80.00	30.00	--	--	--	--	--	--	--
LEAD, DISSOLVED (UG/L)	1	<2.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	3	30.00	<10.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	2	20.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED, UG/L)	1	<1.00	<1.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	15	1500.00	66.00	584.07	451.98	1500.00	930.00	510.00	190.00	66.00
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	82	173.00	36.00	119.13	30.26	160.00	136.25	126.50	115.00	50.15
MERCURY, DISSOLVED (UG/L)	1	<0.10	<0.10	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	50	476.00	2.00	30.42	70.68	115.05	31.00	8.00	5.00	2.00

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	42	*	LOGQ	*	0.13	0.0204	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	87	-105	LOGQ	469	.61	.0001	35.5
ALKALINITY (AS CaCO3)	65	.465	K	-4.54	.85	.0001	10.0
HARDNESS (AS CaCO3)	65	.409	K	2.78	.73	.0001	12.6
CALCIUM, DISSOLVED	65	.119	K	.164	.81	.0001	2.95
MAGNESIUM, DISSOLVED	65	*	K	*	.46	.0001	*
SODIUM, DISSOLVED	65	.0481	K	-.194	.66	.0001	1.74
SODIUM ADSORPTION RATIO	65	*	K	*	.39	.0001	*
POTASSIUM, DISSOLVED	64	*	K	*	.33	.0001	*
CHLORIDE, DISSOLVED	63	*	K	*	.04	.105	*
SULFATE, DISSOLVED	65	*	K	*	.37	.0001	*
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	65	.570	K	5.50	.77	.0001	15.9
SEDIMENT, SUSPENDED	50	*	K	*	.13	.0101	*



Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09208000 STATION NAME AND LOCATION: LA BARGE CREEK NEAR LA BARGE MEADOWS RANGER STATION, WYO.  
DRAINAGE AREA: 6 SQUARE MILES

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAM- PLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVI- ATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	50	17.00	0.00	5.60	5.10	15.12	10.62	4.00	1.00	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	50	126.00	2.30	22.26	30.37	96.00	30.25	6.65	3.90	3.00
TURBIDITY (NTU)	37	7.00	1.00	2.00	1.83	7.00	2.00	1.00	1.00	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	47	350.00	130.00	268.26	55.19	348.00	300.00	280.00	238.00	151.00
OXYGEN, DISSOLVED	4	8.80	7.00	--	--	--	--	--	--	--
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	1	0.10	0.10	--	--	--	--	--	--	--
PH (UNITS)	3	8.40	8.20	--	--	--	--	--	--	--
ALKALINITY (AS CaCO <sub>3</sub> )	13	180.00	88.00	126.00	27.66	180.00	145.00	128.00	104.00	88.00
NITROGEN, AMMONIA DISSOLVED (AS N)	3	0.04	0.01	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	1	0.01	0.01	--	--	--	--	--	--	--
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	1	0.30	0.30	--	--	--	--	--	--	--
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	1	0.05	0.05	--	--	--	--	--	--	--
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	10	0.21	0.01	0.09	0.08	0.21	0.16	0.05	0.03	0.01
PHOSPHORUS, TOTAL (AS P)	8	0.03	0.02	--	--	--	--	--	--	--
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	5	0.06	0.01	--	--	--	--	--	--	--
HARDNESS (AS CaCO <sub>3</sub> )	13	210.00	97.00	143.38	34.46	210.00	165.00	150.00	115.00	97.00
CALCIUM DISSOLVED	13	58.00	27.00	39.69	9.34	58.00	46.50	40.00	31.50	27.00
MAGNESIUM, DISSOLVED	13	16.00	7.10	10.71	2.80	16.00	12.50	11.00	8.00	7.10
SODIUM, DISSOLVED	13	3.30	0.80	1.57	0.79	3.30	1.85	1.30	1.10	0.80
SODIUM ADSORPTION RATIO	13	0.10	0.00	0.05	0.05	0.10	0.10	0.00	0.00	0.00
POTASSIUM, DISSOLVED	13	0.80	0.30	0.48	0.17	0.80	0.65	0.40	0.35	0.30
CHLORIDE, DISSOLVED	13	2.60	0.50	0.88	0.55	2.60	1.00	0.70	0.60	0.50
SULFATE DISSOLVED	13	31.00	12.00	20.85	7.21	31.00	28.00	24.00	14.00	12.00
FLUORIDE, DISSOLVED	13	0.20	0.10	0.15	0.05	0.20	0.20	0.20	0.10	0.10
SILICA, DISSOLVED	13	6.80	4.10	4.98	0.77	6.80	5.35	4.80	4.25	4.10
BORON, DISSOLVED (UG/L)	13	<20.00	<20.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	13	130.00	20.00	50.00	36.51	130.00	85.00	30.00	20.00	20.00
MANGANESE, DISSOLVED (UG/L)	9	150.00	<10.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	5	590.00	0.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	13	227.00	109.00	155.31	35.75	227.00	177.50	158.00	122.50	109.00
SEDIMENT, SUSPENDED	44	66.00	2.00	10.70	11.07	29.00	13.00	7.00	4.00	2.00

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	36	2.68	LOGQ	-0.682	0.52	0.0001	1.30
SPECIFIC CONDUCTANCE (MICROSIEMENS)	47	*	LOGQ	*	.30	.0001	*
ALKALINITY (AS CaCO <sub>3</sub> )	12	.286	K	53.1	.57	.0043	19.1
HARDNESS (AS CaCO <sub>3</sub> )	12	.353	K	53.8	.55	.0055	24.5
CALCIUM, DISSOLVED	12	.0970	K	15.0	.58	.0040	6.39
MAGNESIUM, DISSOLVED	12	.0307	K	2.92	.64	.0018	1.79
SODIUM, DISSOLVED	12	*	Q	*	.06	.448	*
SODIUM ADSORPTION RATIO	12	*	K	*	.05	.508	*
POTASSIUM, DISSOLVED	12	*	Q	*	.27	.0842	*
CHLORIDE, DISSOLVED	12	*	Q	*	.07	.401	*
SULFATE, DISSOLVED	12	.0762	K	1.40	.61	.0026	4.69
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	12	.381	K	58.6	.60	.0029	23.9
SEDIMENT, SUSPENDED	41	*	Q	*	.39	.0001	*

Table 3.--Statistical summaries of water-quality data from the Green River coal region, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09209400 STATION NAME AND LOCATION: GREEN RIVER NEAR LABARGE, WYO.  
DRAINAGE AREA: 3,910 SQUARE MILES

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAMPLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	161	22.00	0.00	9.02	7.61	20.00	16.00	9.00	0.00	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	144	11100.00	228.00	2058.26	2416.90	8342.48	2797.50	839.50	582.00	420.00
TURBIDITY (NTU)	137	1100.00	0.00	23.16	100.42	95.00	15.00	3.00	2.00	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	147	710.00	160.00	367.56	88.39	496.40	430.00	370.00	300.00	220.00
OXYGEN, DISSOLVED	72	11.80	6.20	9.38	1.26	11.47	10.37	9.50	8.32	7.26
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	25	7.70	0.90	3.07	1.60	7.19	3.75	2.80	2.10	0.90
PH (UNITS)	82	8.70	7.30	--	--	8.40	8.20	8.00	7.87	7.52
ALKALINITY (AS CaCO3)	84	220.00	77.00	139.61	27.26	178.00	160.00	144.00	120.00	86.00
NITROGEN, AMMONIA DISSOLVED (AS N)	2	0.15	0.05	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	54	0.28	0.00	0.05	0.05	0.14	0.07	0.04	0.03	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	63	1.90	0.12	0.54	0.35	1.30	0.68	0.43	0.28	0.14
NITROGEN, NO2+NO3 TOTAL (AS N)	60	0.85	0.00	0.09	0.15	0.35	0.11	0.04	0.02	0.00
NITROGEN, NO2+NO3 DISSOLVED (AS N)	28	0.83	0.00	0.09	0.18	0.65	0.08	0.02	0.00	0.00
PHOSPHORUS, TOTAL (AS P)	70	0.46	0.00	0.04	0.06	0.13	0.04	0.02	0.01	0.00
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	1	0.01	0.01	--	--	--	--	--	--	--
CARBON, ORGANIC DISSOLVED	6	11.00	2.40	--	--	--	--	--	--	--
CARBON, ORGANIC SUSPENDED	4	1.00	0.10	--	--	--	--	--	--	--
HARDNESS (AS CaCO3)	84	330.00	88.00	167.85	42.47	220.00	200.00	170.00	140.00	100.00
CALCIUM DISSOLVED	84	84.00	23.00	44.38	10.76	58.75	52.75	43.50	37.00	27.25
MAGNESIUM, DISSOLVED	84	23.00	6.70	13.32	3.33	19.75	16.00	13.00	11.00	8.07
SODIUM, DISSOLVED	84	75.00	6.00	16.97	9.17	30.75	19.00	16.00	12.25	7.15
SODIUM ADSORPTION RATIO	84	2.30	0.20	0.57	0.28	1.07	0.60	0.50	0.40	0.30
POTASSIUM, DISSOLVED	81	4.00	0.10	1.76	0.65	3.26	2.00	1.70	1.40	0.80
CHLORIDE, DISSOLVED	84	12.00	0.40	4.31	2.13	8.72	5.47	4.00	2.82	1.80
SULFATE DISSOLVED	84	200.00	20.00	56.26	24.33	79.75	71.75	55.00	40.25	23.25
FLUORIDE, DISSOLVED	83	0.80	0.00	0.28	0.10	0.40	0.30	0.30	0.20	0.10
SILICA, DISSOLVED	82	15.00	0.80	6.83	2.36	10.77	8.12	7.10	5.50	2.63
ARSENIC DISSOLVED (UG/L)	15	2.00	<1.00	--	--	2.00	1.00	1.00	<1.00	<1.00
BORON, DISSOLVED (UG/L)	2	40.00	40.00	--	--	--	--	--	--	--
CADMIUM DISSOLVED (UG/L)	15	5.00	<2.00	--	--	5.00	2.00	<2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	15	<20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	15	18.00	<2.00	--	--	18.00	4.00	2.00	<2.00	<2.00
IRON, DISSOLVED (UG/L)	18	80.00	<10.00	--	--	80.00	42.50	30.00	15.00	<10.00
LEAD, DISSOLVED (UG/L)	15	6.00	<2.00	--	--	6.00	3.00	<2.00	<2.00	<2.00
MANGANESE, DISSOLVED (UG/L)	17	30.00	<10.00	--	--	30.00	<10.00	<10.00	<10.00	<10.00
ZINC, DISSOLVED (UG/L)	15	<20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	15	<1.00	<1.00	--	--	<1.00	<1.00	<1.00	<1.00	<1.00
COLIFORM, FECAL, (COLS/100 ML)	7	100.00	21.00	--	--	--	--	--	--	--
PCB, TOTAL (UG/L)	8	0.00	0.00	--	--	--	--	--	--	--
PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	9	0.00	0.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	4	4400.00	330.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	83	458.00	121.00	228.96	57.67	291.40	265.00	239.00	187.00	135.60
MERCURY DISSOLVED (UG/L)	15	1.30	<0.50	--	--	1.30	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	92	880.00	2.00	63.23	121.29	291.29	72.25	15.00	9.00	3.00

Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09209400 STATION NAME AND LOCATION: GREEN RIVER NEAR LABARGE, WYO.--Continued

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	119	*	LOGQ	*	0.06	0.0102	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	127	*	LOGQ	*	.32	.0001	*
ALKALINITY (AS CaCO <sub>3</sub> )	66	0.305	K	25.5	.76	.0001	12.3
HARDNESS (AS CaCO <sub>3</sub> )	66	*	K	*	.48	.0001	*
CALCIUM, DISSOLVED	66	.103	K	5.43	.61	.0001	5.95
MAGNESIUM, DISSOLVED	66	.0293	K	2.14	.56	.0001	1.89
SODIUM, DISSOLVED	66	*	K	*	.40	.0001	*
SODIUM ADSORPTION RATIO	66	*	K	*	.25	.0001	*
POTASSIUM, DISSOLVED	63	*	K	*	.19	.0004	*
CHLORIDE, DISSOLVED	66	*	LOGQ	*	.12	.0045	*
SULFATE, DISSOLVED	66	.182	K	-15.0	.60	.0001	10.6
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	65	.544	K	22.0	.69	.0001	26.6
SEDIMENT, SUSPENDED	74	*	LOGQ	*	.27	.0001	*

Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09210500 STATION NAME AND LOCATION: FONTENELLE CREEK NEAR HERSCHLER RANCH, NEAR FONTENELLE, WYO.  
DRAINAGE AREA: 152 SQUARE MILES

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAM- PLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	51	21.00	0.00	7.76	6.41	18.50	13.00	7.50	0.50	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	51	445.00	9.10	111.18	128.57	412.60	162.00	40.00	24.00	16.00
TURBIDITY (NTU)	41	60.00	0.00	9.34	14.06	39.50	15.00	2.00	1.00	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	51	1000.00	46.00	388.45	112.23	474.00	420.00	385.00	340.00	266.00
OXYGEN, DISSOLVED	1	10.00	10.00	--	--	--	--	--	--	--
PH (UNITS)	1	8.70	8.70	--	--	--	--	--	--	--
ALKALINITY (AS CaCO3)	10	190.00	138.00	158.60	14.71	190.00	162.25	160.00	147.50	138.00
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	1	0.15	0.15	--	--	--	--	--	--	--
NITROGEN, NO2+NO3 DISSOLVED (AS N)	5	0.32	0.01	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	6	0.30	0.01	--	--	--	--	--	--	--
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	1	0.01	0.01	--	--	--	--	--	--	--
HARDNESS (AS CaCO3)	10	230.00	160.00	190.00	22.61	230.00	202.50	195.00	167.50	160.00
CALCIUM DISSOLVED	10	60.00	44.00	51.50	5.28	60.00	55.25	52.00	45.75	44.00
MAGNESIUM, DISSOLVED	10	19.00	11.00	14.70	2.67	19.00	16.75	14.00	12.75	11.00
SODIUM, DISSOLVED	10	10.00	3.60	6.92	2.41	10.00	9.33	6.65	4.63	3.60
SODIUM ADSORPTION RATIO	10	0.30	0.10	0.22	0.08	0.30	0.30	0.20	0.18	0.10
POTASSIUM, DISSOLVED	10	8.20	0.80	1.84	2.26	8.20	1.70	1.00	0.90	0.80
CHLORIDE, DISSOLVED	10	7.30	2.10	4.20	1.61	7.30	5.25	4.40	2.75	2.10
SULFATE DISSOLVED	10	63.00	16.00	37.00	16.04	63.00	47.75	35.50	24.75	16.00
FLUORIDE, DISSOLVED	10	0.20	0.10	0.13	0.05	0.20	0.20	0.10	0.10	0.10
SILICA, DISSOLVED	10	7.40	4.20	6.08	0.91	7.40	6.78	6.20	5.60	4.20
BORON, DISSOLVED (UG/L)	10	40.00	<20.00	--	--	40.00	32.00	30.00	<20.00	<20.00
IRON, DISSOLVED (UG/L)	10	150.00	<10.00	--	--	150.00	87.50	35.00	15.00	<10.00
MANGANESE, DISSOLVED (UG/L)	6	40.00	<10.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	1	280.00	280.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	10	279.00	167.00	217.70	33.47	279.00	237.50	223.50	191.75	167.00
SEDIMENT, SUSPENDED	49	304.00	3.00	55.59	77.31	243.00	92.50	18.00	6.00	3.00

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	41	0.0898	Q	0.650	0.62	0.0001	8.77
SPECIFIC CONDUCTANCE (MICROSIEMENS)	51	*	LOGQ	*	.29	.0001	*
ALKALINITY (AS CaCO3)	10	-.0791	Q	170	.60	.0086	9.87
HARDNESS (AS CaCO3)	10	.320	K	73.4	.77	.0008	11.4
CALCIUM, DISSOLVED	10	-.0288	Q	55.7	.62	.0071	3.46
MAGNESIUM, DISSOLVED	10	-4.67	LOGQ	23.6	.94	.0001	.705
SODIUM, DISSOLVED	10	*	K	*	.48	.0259	*
SODIUM ADSORPTION RATIO	10	*	K	*	.44	.0367	*
POTASSIUM, DISSOLVED	10	*	LOGQ	*	.03	.633	*
CHLORIDE, DISSOLVED	10	-2.47	LOGQ	8.92	.72	.0018	.894
SULFATE, DISSOLVED	10	.244	K	-51.9	.89	.0001	5.59
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	10	.490	K	39.5	.82	.0003	14.9
SEDIMENT, SUSPENDED	49	.501	Q	-.0568	.71	.0001	42.1

Table 3.--Statistical summaries of water-quality data from the Green River coal region, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09211200 STATION NAME AND LOCATION: GREEN RIVER BELOW FONTENELLE RESERVOIR, WYO.  
DRAINAGE AREA: 4,280 SQUARE MILES

WATER QUALITY CONSTITUENT	SAMPLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50 (MEDIAN)	25	5
TEMPERATURE (DEG C)	142	22.00	1.00	9.76	5.98	19.42	14.50	10.00	4.00	2.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	143	8520.00	302.00	1668.85	1672.78	5688.00	1630.00	1020.00	749.00	364.00
TURBIDITY (NTU)	130	35.00	0.00	2.42	4.15	8.00	2.00	1.00	1.00	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	140	750.00	120.00	416.86	90.56	559.50	470.00	420.00	360.00	280.50
OXYGEN, DISSOLVED	85	13.40	6.60	10.14	1.42	12.34	11.00	10.30	9.10	7.33
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	25	6.60	1.40	2.84	1.34	6.18	3.20	2.50	1.80	1.43
PH (UNITS)	91	8.70	7.60	--	--	8.64	8.40	8.20	8.00	7.80
ALKALINITY (AS CaCO <sub>3</sub> )	86	170.00	110.00	138.59	16.99	164.00	150.00	139.00	122.25	110.00
NITROGEN, AMMONIA DISSOLVED (AS N)	1	0.03	0.03	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	51	0.25	0.00	0.07	0.05	0.18	0.10	0.05	0.03	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	64	2.60	0.03	0.50	0.37	1.15	0.61	0.44	0.29	0.13
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	63	0.52	0.00	0.11	0.09	0.32	0.13	0.09	0.05	0.01
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	25	0.39	0.00	0.08	0.08	0.32	0.11	0.07	0.01	0.00
PHOSPHORUS, TOTAL (AS P)	74	2.40	0.00	0.05	0.28	0.07	0.03	0.02	0.01	0.01
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	1	0.01	0.01	--	--	--	--	--	--	--
CARBON, ORGANIC DISSOLVED	6	6.90	3.20	--	--	--	--	--	--	--
CARBON, ORGANIC SUSPENDED	3	0.70	0.40	--	--	--	--	--	--	--
HARDNESS (AS CaCO <sub>3</sub> )	86	230.00	120.00	173.95	26.45	220.00	190.00	170.00	150.00	130.00
CALCIUM DISSOLVED	86	61.00	11.00	45.69	8.63	59.65	51.00	46.00	40.00	34.00
MAGNESIUM, DISSOLVED	86	35.00	7.60	14.65	3.36	19.00	16.00	14.00	13.00	10.00
SODIUM, DISSOLVED	86	38.00	5.10	21.15	6.60	34.00	26.00	21.00	17.00	10.35
SODIUM ADSORPTION RATIO	86	1.20	0.20	0.69	0.19	1.00	0.80	0.65	0.60	0.40
POTASSIUM, DISSOLVED	84	6.30	0.10	1.75	0.72	2.77	2.07	1.60	1.40	0.92
CHLORIDE, DISSOLVED	85	30.00	1.20	5.28	3.50	9.66	5.75	4.70	3.60	1.96
SULFATE DISSOLVED	86	130.00	26.00	72.44	23.73	116.50	88.25	72.50	55.50	30.70
FLUORIDE, DISSOLVED	86	1.60	0.00	0.30	0.17	0.40	0.30	0.30	0.20	0.20
SILICA, DISSOLVED	85	18.00	0.00	6.22	2.17	8.81	7.30	6.30	5.30	3.09
ARSENIC DISSOLVED (UG/L)	17	2.00	1.00	1.18	0.39	2.00	1.00	1.00	1.00	1.00
BARIUM, DISSOLVED (UG/L)	1	<100.00	<100.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	2	40.00	40.00	--	--	--	--	--	--	--
CADMIUM DISSOLVED (UG/L)	17	8.00	<2.00	--	--	8.00	2.00	2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	17	<20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	17	9.00	<2.00	--	--	9.00	4.00	2.00	<2.00	<2.00
IRON, DISSOLVED (UG/L)	18	290.00	<10.00	--	--	290.00	35.00	20.00	15.00	<10.00
LEAD, DISSOLVED (UG/L)	17	28.00	<2.00	--	--	28.00	2.50	2.00	<2.00	<2.00
MANGANESE, DISSOLVED (UG/L)	18	30.00	<10.00	--	--	30.00	20.00	<10.00	<10.00	<10.00
ZINC, DISSOLVED (UG/L)	17	30.00	<20.00	--	--	30.00	<20.00	<20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	17	<1.00	<1.00	--	--	<1.00	<1.00	<1.00	<1.00	<1.00
COLIFORM, FECAL, (COLS/100 ML)	1	48.00	48.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	16	14000.00	76.00	2002.25	3335.40	14000.00	2125.00	1070.00	360.00	76.00
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	82	357.00	161.00	254.01	46.11	331.00	282.25	262.50	219.50	170.60
MERCURY DISSOLVED (UG/L)	17	<0.50	<0.50	--	--	<0.50	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	57	27.00	1.00	5.61	4.69	17.50	7.00	4.00	2.50	2.00

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	129	*	LOGQ	*	0.10	0.0003	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	140	*	LOGQ	*	.30	.0001	*
ALKALINITY (AS CaCO <sub>3</sub> )	85	*	K	*	.43	.0001	*
HARDNESS (AS CaCO <sub>3</sub> )	85	0.295	K	50.6	.69	.0001	14.8
CALCIUM, DISSOLVED	85	.0888	K	8.60	.59	.0001	5.60
MAGNESIUM, DISSOLVED	85	*	K	*	.18	.0001	*
SODIUM, DISSOLVED	85	*	K	*	.47	.0001	*
SODIUM ADSORPTION RATIO	85	*	K	*	.31	.0001	*
POTASSIUM, DISSOLVED	83	*	K	*	.02	.222	*
CHLORIDE, DISSOLVED	84	*	K	*	.10	.0028	*
SULFATE, DISSOLVED	85	.262	K	-37.0	.68	.0001	13.4
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	81	.515	K	38.9	.72	.0001	24.6
SEDIMENT, SUSPENDED	56	*	LOGQ	*	.04	.130	*

Table 3.--Statistical summaries of water-quality data from the Green River coal region, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09213500 STATION NAME AND LOCATION: BIG SANDY RIVER NEAR FARSON, WYO.  
DRAINAGE AREA: 322 SQUARE MILES

WATER QUALITY CONSTITUENT	SAMPLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50 (MEDIAN)	25	5
TEMPERATURE (DEG C)	75	27.50	0.00	12.99	7.10	24.80	18.00	14.00	9.00	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	73	804.00	4.50	175.69	186.30	553.20	309.00	96.00	29.00	14.70
TURBIDITY (NTU)	52	3200.00	1.00	250.29	652.42	2105.00	106.25	27.50	4.25	1.65
SPECIFIC CONDUCTANCE (MICROSIEMENS)	69	390.00	42.00	141.14	78.43	290.00	192.50	120.00	72.50	45.00
PH (UNITS)	8	8.90	7.20	--	--	--	--	--	--	--
ALKALINITY (AS CaCO <sub>3</sub> )	10	67.00	12.00	35.00	15.53	67.00	42.75	36.50	23.25	12.00
NITROGEN, AMMONIA DISSOLVED (AS N)	1	0.01	0.01	--	--	--	--	--	--	--
NITROGEN, AMMONIA + ORGANIC TOTAL	1	0.06	0.06	--	--	--	--	--	--	--
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	5	0.17	0.01	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	6	0.44	0.03	--	--	--	--	--	--	--
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	1	0.01	0.01	--	--	--	--	--	--	--
HARDNESS (AS CaCO <sub>3</sub> )	10	57.00	15.00	36.40	14.05	57.00	48.25	39.00	21.75	15.00
CALCIUM DISSOLVED	10	21.00	4.60	12.28	5.12	21.00	16.25	13.00	7.15	4.60
MAGNESIUM, DISSOLVED	10	2.30	0.80	1.38	0.50	2.30	1.73	1.35	0.90	0.80
SODIUM, DISSOLVED	10	18.00	1.90	6.77	4.75	18.00	8.23	6.90	2.70	1.90
SODIUM ADSORPTION RATIO	10	1.00	0.20	0.47	0.24	1.00	0.60	0.45	0.27	0.20
POTASSIUM, DISSOLVED	10	2.50	0.60	1.13	0.55	2.50	1.22	1.15	0.75	0.60
CHLORIDE, DISSOLVED	10	3.90	0.40	1.74	1.20	3.90	3.05	1.35	0.77	0.40
SULFATE DISSOLVED	10	30.00	4.30	14.35	8.81	30.00	19.25	12.50	7.35	4.30
FLUORIDE, DISSOLVED	9	0.20	0.10	--	--	--	--	--	--	--
SILICA, DISSOLVED	10	13.00	5.30	7.47	2.60	13.00	8.75	6.55	5.58	5.30
BORON, DISSOLVED (UG/L)	10	50.00	<20.00	--	--	50.00	40.00	<20.00	<20.00	<20.00
IRON, DISSOLVED (UG/L)	10	780.00	20.00	186.00	222.32	780.00	212.50	130.00	60.00	20.00
MANGANESE, DISSOLVED (UG/L)	6	<10.00	<10.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	2	570.00	460.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS,	10	128.00	26.00	67.20	30.60	128.00	90.00	66.50	41.00	26.00
SEDIMENT, SUSPENDED	75	4160.00	4.00	355.93	630.49	1616.00	386.00	176.00	49.00	10.00

REGRESSION STATISTICS

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	47	*	Q	*	0.17	0.0039	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	66	*	Q	*	.18	.0004	*
ALKALINITY (AS CaCO <sub>3</sub> )	10	0.291	K	5.58	.94	.0001	4.08
HARDNESS (AS CaCO <sub>3</sub> )	10	.252	K	10.9	.86	.0001	5.60
CALCIUM, DISSOLVED	10	.0938	K	2.79	.90	.0001	1.73
MAGNESIUM, DISSOLVED	10	-.00190	Q	1.70	.51	.0212	.370
SODIUM, DISSOLVED	10	.0877	K	-2.10	.91	.0001	1.49
SODIUM ADSORPTION RATIO	10	.00414	K	.0508	.83	.0003	.104
POTASSIUM, DISSOLVED	10	.00990	K	.129	.87	.0001	.206
CHLORIDE, DISSOLVED	10	.0189	K	-.174	.67	.0039	.733
SULFATE, DISSOLVED	10	.142	K	-.0506	.70	.0026	5.12
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	10	.561	K	10.5	.90	.0001	10.3
SEDIMENT, SUSPENDED	65	*	Q	*	.41	.0001	*

Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09214500 STATION NAME AND LOCATION: LITTLE SANDY CREEK ABOVE EDEN, WYO.  
DRAINAGE AREA: 134 SQUARE MILES

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIA- TION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	138	24.50	0.00	8.36	7.58	21.00	15.00	8.50	0.00	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	121	493.00	0.00	39.41	61.14	141.90	59.00	9.60	5.20	0.56
TURBIDITY (NTU)	82	3200.00	1.00	142.96	475.40	1295.00	35.00	7.50	2.00	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	133	1080.00	95.00	394.80	211.17	863.00	490.00	360.00	245.00	120.00
OXYGEN, DISSOLVED	2	8.10	7.70	--	--	--	--	--	--	--
PH (UNITS)	36	8.60	7.10	--	--	8.43	8.10	7.70	7.50	7.19
ALKALINITY (AS CaCO3)	59	166.00	1.00	73.73	32.54	157.00	85.00	74.00	56.00	23.00
NITROGEN, AMMONIA DISSOLVED (AS N)	8	0.07	0.00	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	5	0.04	0.00	--	--	--	--	--	--	--
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	19	0.85	0.05	0.47	0.21	0.85	0.59	0.51	0.29	0.05
NITROGEN, NO2+NO3 TOTAL (AS N)	18	0.18	0.00	0.04	0.04	0.18	0.06	0.03	0.02	0.00
NITROGEN, NO2+NO3 DISSOLVED (AS N)	48	2.00	0.00	0.11	0.30	0.58	0.07	0.03	0.01	0.00
PHOSPHORUS, TOTAL (AS P)	53	0.77	0.01	0.09	0.12	0.31	0.11	0.04	0.03	0.02
CARBON, ORGANIC DISSOLVED	1	5.80	5.80	--	--	--	--	--	--	--
HARDNESS (AS CaCO3)	59	320.00	34.00	109.10	54.69	240.00	130.00	98.00	78.00	37.00
CALCIUM DISSOLVED	59	97.00	11.00	33.03	16.55	72.00	39.00	29.00	24.00	11.00
MAGNESIUM, DISSOLVED	59	20.00	1.70	6.40	3.47	14.00	8.20	5.80	4.00	2.00
SODIUM, DISSOLVED	59	120.00	5.70	40.46	24.76	89.00	55.00	35.00	22.00	7.40
SODIUM ADSORPTION RATIO	59	3.00	0.40	1.60	0.66	2.90	2.00	1.60	1.10	0.50
POTASSIUM, DISSOLVED	59	3.70	0.80	1.97	0.76	3.50	2.30	1.80	1.50	0.90
CHLORIDE, DISSOLVED	59	24.00	1.20	8.63	5.85	21.00	13.00	8.20	4.00	1.50
SULFATE DISSOLVED	59	390.00	16.00	108.15	71.31	230.00	140.00	96.00	60.00	20.00
FLUORIDE, DISSOLVED	59	0.90	0.10	0.26	0.13	0.40	0.30	0.30	0.20	0.10
SILICA, DISSOLVED	59	30.00	1.80	9.83	4.57	18.00	12.00	9.40	6.30	4.50
ARSENIC DISSOLVED (UG/L)	4	1.00	<1.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	5	60.00	<20.00	--	--	--	--	--	--	--
CADMIUM DISSOLVED (UG/L)	4	3.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	4	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	4	6.00	2.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	9	230.00	40.00	--	--	--	--	--	--	--
LEAD, DISSOLVED (UG/L)	4	18.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	5	20.00	<10.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	4	<20.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	4	<1.00	<1.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	1	400.00	400.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	58	760.00	64.00	255.00	139.58	546.05	330.75	239.50	162.75	67.90
MERCURY DISSOLVED (UG/L)	4	<0.50	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	102	1560.00	2.00	132.44	225.26	609.95	161.25	36.50	10.00	4.00

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	66	*	Q	*	0.37	0.0001	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	115	*	LOGQ	*	.40	.0001	*
ALKALINITY (AS CaCO3)	46	0.137	K	17.3	.78	.0001	15.5
HARDNESS (AS CaCO3)	46	.270	K	1.80	.95	.0001	13.1
CALCIUM, DISSOLVED	46	.0800	K	1.26	.94	.0001	4.39
MAGNESIUM, DISSOLVED	46	.0169	K	-.372	.94	.0001	.882
SODIUM, DISSOLVED	46	.121	K	-7.89	.97	.0001	4.30
SODIUM ADSORPTION RATIO	46	.00292	K	.416	.82	.0001	.284
POTASSIUM, DISSOLVED	46	.00322	K	.691	.77	.0001	.368
CHLORIDE, DISSOLVED	46	.0234	K	-.597	.62	.0001	3.89
SULFATE, DISSOLVED	46	.349	K	-30.0	.94	.0001	18.2
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	45	.686	K	-20.5	.98	.0001	22.0
SEDIMENT, SUSPENDED	81	*	Q	*	.45	.0001	*

Table 3.--Statistical summaries of water-quality data from the Green River coal region, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09216000 STATION NAME AND LOCATION: BIG SANDY RIVER BELOW EDEN, WYO.  
DRAINAGE AREA: 1,610 SQUARE MILES

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAMPLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	140	25.50	0.00	9.17	7.15	21.00	15.37	8.75	2.50	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	130	1250.00	14.00	64.16	113.52	151.65	66.00	44.50	28.00	17.55
TURBIDITY (NTU)	117	4200.00	0.00	107.95	491.52	357.00	15.00	4.00	2.00	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	132	4300.00	340.00	2565.53	737.65	3600.00	3000.00	2700.00	2000.00	1213.00
OXYGEN, DISSOLVED	55	12.50	7.30	9.75	1.18	11.86	10.60	9.40	9.00	7.86
PH (UNITS)	65	9.10	7.80	--	--	8.50	8.20	8.10	8.00	7.80
ALKALINITY (AS CaCO3)	76	290.00	120.00	225.09	31.96	264.05	250.00	230.00	201.25	160.00
NITROGEN, AMMONIA TOTAL (AS N)	45	0.29	0.00	0.07	0.06	0.24	0.08	0.05	0.03	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	54	2.10	0.22	0.82	0.40	1.67	0.99	0.76	0.54	0.29
NITROGEN, NO2+NO3 TOTAL (AS N)	54	1.50	0.02	0.58	0.42	1.42	0.92	0.50	0.23	0.03
NITROGEN, NO2+NO3 DISSOLVED (AS N)	23	2.90	0.08	0.69	0.57	2.56	0.89	0.56	0.39	0.09
PHOSPHORUS, TOTAL (AS P)	66	1.70	0.00	0.09	0.24	0.44	0.06	0.03	0.01	0.01
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	1	0.01	0.01	--	--	--	--	--	--	--
CARBON, ORGANIC DISSOLVED	5	14.00	4.80	--	--	--	--	--	--	--
CARBON, ORGANIC SUSPENDED	5	1.90	0.10	--	--	--	--	--	--	--
HARDNESS (AS CaCO3)	76	1400.00	280.00	857.50	260.51	1300.00	1100.00	905.00	650.00	415.50
CALCIUM DISSOLVED	76	410.00	70.00	208.86	65.99	313.00	250.00	220.00	160.00	94.40
MAGNESIUM, DISSOLVED	76	140.00	26.00	81.28	27.62	131.50	99.50	85.00	58.50	37.85
SODIUM, DISSOLVED	76	600.00	110.00	343.68	86.67	481.50	390.00	350.00	282.50	197.00
SODIUM ADSORPTION RATIO	76	9.60	2.80	5.18	1.15	7.01	5.77	5.15	4.42	3.44
POTASSIUM, DISSOLVED	76	25.00	0.10	4.02	2.62	5.23	4.35	3.80	3.35	1.60
CHLORIDE, DISSOLVED	76	84.00	18.00	48.59	11.25	67.30	56.00	48.50	42.25	29.85
SULFATE DISSOLVED	76	1800.00	360.00	1275.66	349.52	1700.00	1600.00	1400.00	927.50	697.00
FLUORIDE, DISSOLVED	75	3.60	0.20	1.04	0.44	1.30	1.10	1.00	0.90	0.70
SILICA, DISSOLVED	75	17.00	0.20	11.25	2.72	15.00	13.00	12.00	10.00	5.92
ARSENIC DISSOLVED (UG/L)	14	7.00	1.00	2.64	1.95	7.00	4.00	2.00	1.00	1.00
BORON, DISSOLVED (UG/L)	1	450.00	450.00	--	--	--	--	--	--	--
CADMIUM DISSOLVED (UG/L)	14	5.00	<2.00	--	--	5.00	3.00	2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	14	<20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	14	9.00	<2.00	--	--	9.00	5.25	3.50	<2.00	<2.00
IRON, DISSOLVED (UG/L)	16	260.00	<10.00	--	--	260.00	50.00	25.00	<10.00	<10.00
LEAD, DISSOLVED (UG/L)	14	13.00	<2.00	--	--	13.00	5.25	<2.00	<2.00	<2.00
MANGANESE, DISSOLVED (UG/L)	15	30.00	<10.00	--	--	30.00	30.00	20.00	<10.00	<10.00
ZINC, DISSOLVED (UG/L)	14	40.00	<20.00	--	--	40.00	20.00	20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	14	5.00	1.00	2.29	1.49	5.00	3.25	2.00	1.00	1.00
COLIFORM, FECAL, (COLS/100 ML)	4	240.00	40.00	--	--	--	--	--	--	--
PCB, TOTAL (UG/L)	8	0.00	0.00	--	--	--	--	--	--	--
PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	7	1.00	0.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	1	2700.00	2700.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	75	2910.00	670.00	2110.80	533.89	2764.00	2580.00	2260.00	1610.00	1216.00
MERCURY DISSOLVED (UG/L)	14	<0.50	<0.50	--	--	<0.50	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	93	3030.00	3.00	187.29	489.11	872.30	107.50	49.00	27.50	11.40

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	108	3.55	Q	-121	0.74	0.0001	262
SPECIFIC CONDUCTANCE (MICROSIEMENS)	122	-1960.	LOGQ	5870	.63	.0001	447
ALKALINITY (AS CaCO3)	65	.0414	K	112	.56	.0001	22.0
HARDNESS (AS CaCO3)	65	.325	K	-49.2	.61	.0001	157
CALCIUM, DISSOLVED	65	*	K	*	.47	.0001	*
MAGNESIUM, DISSOLVED	65	.0355	K	-17.0	.66	.0001	15.3
SODIUM, DISSOLVED	65	.126	K	3.34	.69	.0001	51.4
SODIUM ADSORPTION RATIO	65	*	K	*	.22	.0001	*
POTASSIUM, DISSOLVED	65	*	K	*	.00	.805	*
CHLORIDE, DISSOLVED	65	.0147	K	9.85	.55	.0001	8.02
SULFATE, DISSOLVED	65	.522	K	-159	.79	.0001	161
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	64	-2,030	LOGQ	5,350	.77	.0001	261
SEDIMENT, SUSPENDED	77	*	Q	*	.31	.0001	*



Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09216050 STATION NAME AND LOCATION: BIG SANDY RIVER AT GASSON BRIDGE, NEAR EDEN, WYO.  
DRAINAGE AREA: 1,720 SQUARE MILES

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	113	25.50	0.00	9.67	8.31	23.50	17.00	9.00	0.50	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	108	277.00	19.00	65.68	43.19	126.00	79.50	57.50	39.00	23.00
TURBIDITY (NTU)	47	650.00	1.00	56.72	127.50	410.00	40.00	10.00	6.00	2.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	107	6000.00	1200.00	3597.01	1023.23	5300.00	4199.99	3500.00	2800.00	2088.00
OXYGEN, DISSOLVED	3	14.40	8.20	--	--	--	--	--	--	--
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	2	1.20	1.00	--	--	--	--	--	--	--
PH (UNITS)	27	8.50	7.70	--	--	8.46	8.20	8.20	8.00	7.82
ALKALINITY (AS CaCO <sub>3</sub> )	57	320.00	139.00	250.61	40.12	311.00	290.00	250.00	220.5	171.80
NITROGEN, AMMONIA DISSOLVED (AS N)	1	0.04	0.04	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	3	0.12	0.01	--	--	--	--	--	--	--
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	4	1.60	0.39	--	--	--	--	--	--	--
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	2	0.76	0.26	--	--	--	--	--	--	--
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	13	1.60	0.00	0.52	0.44	1.60	0.83	0.40	0.20	0.00
PHOSPHORUS, TOTAL (AS P)	54	1.80	0.00	0.12	0.28	0.69	0.09	0.04	0.02	0.01
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	2	0.01	0.01	--	--	--	--	--	--	--
HARDNESS (AS CaCO <sub>3</sub> )	57	1600.00	75.00	1101.32	307.02	1510.00	1350.00	1200.00	875.00	659.00
CALCIUM DISSOLVED	57	360.00	19.00	226.51	59.91	320.00	270.00	240.00	185.00	129.00
MAGNESIUM, DISSOLVED	57	200.00	6.90	130.30	40.88	191.00	165.00	130.00	98.50	73.90
SODIUM, DISSOLVED	57	730.00	280.00	513.16	122.26	730.00	610.00	510.00	410.00	327.00
SODIUM ADSORPTION RATIO	57	23.00	4.50	6.96	2.39	8.52	7.60	6.70	5.95	4.78
POTASSIUM, DISSOLVED	57	5.60	0.30	3.66	0.98	5.10	4.10	3.80	3.50	1.21
CHLORIDE, DISSOLVED	57	150.00	4.90	54.72	21.32	111.00	59.00	52.00	44.00	35.60
SULFATE DISSOLVED	57	2600.00	690.00	1826.14	482.43	2500.00	2250.00	1800.00	1450.00	1090.00
FLUORIDE, DISSOLVED	56	4.50	0.90	1.61	0.81	4.03	1.50	1.35	1.20	1.00
SILICA, DISSOLVED	57	22.00	0.20	11.25	3.07	16.10	13.00	11.00	10.00	5.31
ARSENIC DISSOLVED (UG/L)	1	2.00	2.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	2	510.00	450.00	--	--	--	--	--	--	--
CADMIUM, DISSOLVED (UG/L)	1	<2.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	1	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	1	2.00	2.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	4	90.00	30.00	--	--	--	--	--	--	--
LEAD, DISSOLVED (UG/L)	1	<2.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	3	60.00	20.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	1	<20.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	1	4.00	4.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	17	3500.00	70.00	1208.24	1005.03	3500.00	1900.00	830.00	370.00	70.00
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	57	4040.00	1440.00	2906.67	702.28	3942.00	3520.00	2910.00	2350.00	1778.00
MERCURY, DISSOLVED (UG/L)	1	<0.50	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	61	2190.00	6.00	194.48	333.00	888.00	212.50	83.00	46.50	26.20

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	46	*	Q	*	0.27	0.0002	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	98	*	LOGQ	*	.49	.0001	*
ALKALINITY (AS CaCO <sub>3</sub> )	44	0.0390	K	101	.73	.0001	20.4
HARDNESS (AS CaCO <sub>3</sub> )	44	.333	K	-163	.81	.0001	141
CALCIUM, DISSOLVED	44	.0576	K	7.55	.66	.0001	35.5
MAGNESIUM, DISSOLVED	44	.0456	K	-42.0	.83	.0001	18.1
SODIUM, DISSOLVED	44	-552	LOGQ	1,460	.77	.0001	59.2
SODIUM ADSORPTION RATIO	44	--	LOGQ	*	.24	.0007	*
POTASSIUM, DISSOLVED	44	--	K	*	.10	.0382	*
CHLORIDE, DISSOLVED	44	--	Q	*	.17	.0056	*
SULFATE, DISSOLVED	44	.534	K	-207	.87	.0001	183
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	44	.756	K	27.7	.84	.0001	285
SEDIMENT, SUSPENDED	53	*	Q	*	.34	.0001	*

Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09216300 STATION NAME AND LOCATION: GREEN RIVER AT BIG ISLAND, NEAR GREEN RIVER, WYO.  
DRAINAGE AREA: 7,300 SQUARE MILES

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAM- PLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	86	22.00	0.00	9.24	7.33	21.00	16.63	9.00	2.00	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	73	7710.00	389.00	1441.16	1253.19	4867.99	1670.00	1010.00	821.00	400.60
TURBIDITY (NTU)	37	150.00	1.00	14.08	32.71	123.00	10.00	2.00	1.00	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	81	950.00	340.00	624.42	139.15	897.00	730.00	630.00	515.00	395.50
OXYGEN, DISSOLVED	38	12.20	7.60	9.61	1.23	11.63	10.65	9.55	8.47	7.79
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	2	1.40	1.30	--	--	--	--	--	--	--
PH (UNITS)	51	8.90	7.90	--	--	8.70	8.50	8.30	8.20	7.90
ALKALINITY (AS CaCO3)	84	172.00	107.00	143.27	17.07	167.75	159.00	149.00	130.00	120.00
NITROGEN, AMMONIA DISSOLVED (AS N)	1	0.10	0.10	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	2	0.06	0.03	--	--	--	--	--	--	--
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	2	0.97	0.25	--	--	--	--	--	--	--
NITROGEN, NO2+NO3 TOTAL (AS N)	1	0.07	0.07	--	--	--	--	--	--	--
NITROGEN, NO2+NO3 DISSOLVED (AS N)	24	2.40	0.00	0.20	0.52	2.07	0.11	0.04	0.02	0.00
PHOSPHORUS, TOTAL (AS P)	70	0.84	0.00	0.04	0.11	0.15	0.03	0.02	0.01	0.00
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	1	0.01	0.01	--	--	--	--	--	--	--
HARDNESS (AS CaCO3)	84	310.00	130.00	224.17	43.47	290.00	257.50	230.00	200.00	142.50
CALCIUM DISSOLVED	84	81.00	32.00	55.64	9.62	70.25	62.00	57.00	50.25	37.25
MAGNESIUM, DISSOLVED	84	33.00	11.00	20.98	5.44	31.00	25.00	21.00	17.00	12.00
SODIUM, DISSOLVED	84	95.00	16.00	49.82	19.33	85.75	62.00	46.50	37.25	18.25
SODIUM ADSORPTION RATIO	84	2.50	0.60	1.41	0.45	2.27	1.70	1.40	1.10	0.62
POTASSIUM, DISSOLVED	83	6.30	0.10	1.93	0.74	2.96	2.30	1.90	1.60	1.02
CHLORIDE, DISSOLVED	84	21.00	3.00	8.37	3.54	15.00	10.00	7.75	5.60	3.80
SULFATE DISSOLVED	84	330.00	46.00	172.90	64.66	287.50	220.00	165.00	140.00	59.25
FLUORIDE, DISSOLVED	84	1.20	0.00	0.37	0.14	0.60	0.40	0.40	0.30	0.20
SILICA, DISSOLVED	81	12.00	0.00	5.65	2.19	9.68	6.90	5.90	4.35	2.52
BORON, DISSOLVED (UG/L)	2	100.00	80.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	2	60.00	20.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	2	<10.00	<10.00	--	--	--	--	--	--	--
COLIFORM, FECAL, (COLS/100 ML)	2	32.00	14.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	15	2200.00	440.00	1029.33	598.44	2200.00	1500.00	780.00	520.00	440.00
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	84	634.00	191.00	403.10	103.12	569.50	477.50	401.00	348.50	213.50
SEDIMENT, SUSPENDED	42	549.00	3.00	45.50	97.58	322.65	46.00	16.00	8.00	3.00

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	37	*	K	*	0.00	0.736	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	69	-374	LOGQ	1,770	.57	.0001	90.7
ALKALINITY (AS CaCO3)	67	*	K	*	.16	.0010	*
HARDNESS (AS CaCO3)	67	-121	LOGQ	595	.61	.0001	27.1
CALCIUM, DISSOLVED	67	.0498	K	24.8	.55	.0001	6.13
MAGNESIUM, DISSOLVED	67	-15.7	LOGQ	69.2	.65	.0001	3.19
SODIUM, DISSOLVED	67	.116	K	-23.8	.74	.0001	9.44
SODIUM ADSORPTION RATIO	67	.00258	K	-.226	.66	.0001	.250
POTASSIUM, DISSOLVED	66	*	K	*	.03	.135	*
CHLORIDE, DISSOLVED	67	.0175	K	-2.73	.52	.0001	2.29
SULFATE, DISSOLVED	67	.410	K	-84.1	.79	.0001	28.3
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	67	.655	K	-7.37	.80	.0001	44.5
SEDIMENT, SUSPENDED	30	*	K	*	.01	.610	*

Table 3.--Statistical summaries of water-quality data from the Green River coal region, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09216527 STATION NAME AND LOCATION: SEPARATION CREEK NEAR RINER, WYO.  
DRAINAGE AREA: 53 SQUARE MILES

WATER QUALITY CONSTITUENT	SAMPLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	45	21.00	0.00	8.02	6.54	19.35	13.50	8.00	1.50	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	76	62.00	0.00	5.45	9.51	25.15	8.17	1.05	0.00	0.00
TURBIDITY (NTU)	29	760.00	5.00	127.43	177.78	630.00	135.00	50.00	22.50	7.20
SPECIFIC CONDUCTANCE (MICROSIEMENS)	39	2390.00	220.00	1088.92	587.67	2379.99	1580.00	975.00	670.00	240.00
OXYGEN, DISSOLVED	20	10.20	7.50	9.01	0.81	10.20	9.67	9.05	8.28	7.51
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	10	5.10	1.60	2.99	1.08	5.10	3.82	2.60	2.20	1.60
PH (UNITS)	24	8.60	7.80	--	--	8.58	8.37	8.20	8.10	7.80
ALKALINITY (AS CaCO3)	22	360.00	91.00	230.27	84.21	358.50	300.75	238.50	167.50	91.15
NITROGEN, AMMONIA DISSOLVED (AS N)	5	0.10	0.02	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	15	0.22	0.01	0.08	0.06	0.22	0.12	0.06	0.03	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	18	3.20	0.49	1.37	0.84	3.20	1.95	0.99	0.77	0.49
NITROGEN, NO2+NO3 TOTAL (AS N)	18	0.53	0.00	0.11	0.12	0.53	0.13	0.07	0.04	0.00
NITROGEN, NO2+NO3 DISSOLVED (AS N)	7	0.15	0.01	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	19	1.60	0.03	0.33	0.43	1.60	0.37	0.15	0.10	0.03
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	3	0.03	0.01	--	--	--	--	--	--	--
HARDNESS (AS CaCO3)	22	1100.00	95.00	467.05	271.13	1085.00	612.50	370.00	285.00	103.25
CALCIUM DISSOLVED	22	150.00	24.00	74.41	34.41	147.00	96.00	67.00	52.75	24.75
MAGNESIUM, DISSOLVED	22	180.00	8.60	68.57	46.39	178.50	91.25	49.50	36.25	10.31
SODIUM, DISSOLVED	22	200.00	15.00	80.45	56.35	200.00	117.50	64.00	36.00	16.50
SODIUM ADSORPTION RATIO	22	2.70	0.70	1.52	0.65	2.70	1.97	1.40	0.97	0.70
POTASSIUM, DISSOLVED	22	13.00	3.20	5.51	2.08	12.13	6.38	5.15	3.88	3.28
CHLORIDE, DISSOLVED	22	44.00	2.50	13.16	10.47	42.95	17.75	9.35	5.95	2.89
SULFATE DISSOLVED	22	1200.00	48.00	385.36	303.54	1170.00	560.00	275.00	160.00	58.80
FLUORIDE, DISSOLVED	22	0.50	0.10	0.28	0.11	0.48	0.32	0.30	0.20	0.10
SILICA, DISSOLVED	22	10.00	2.80	6.91	2.10	10.00	8.30	7.00	5.47	2.81
ARSENIC DISSOLVED (UG/L)	6	2.00	<1.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	22	170.00	50.00	110.91	33.93	170.00	132.50	110.00	80.00	53.00
CADMIUM DISSOLVED (UG/L)	6	4.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	6	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	6	9.00	<2.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	22	580.00	<10.00	--	--	512.50	85.00	40.00	27.50	<10.00
LEAD, DISSOLVED (UG/L)	6	6.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	7	90.00	<10.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	6	20.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	6	1.00	<1.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	3	53000.00	460.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	22	1970.00	163.00	773.95	490.18	1941.50	1070.00	598.00	415.50	180.85
MERCURY DISSOLVED (UG/L)	6	<0.50	<0.50	--	--	<0.50	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	31	1820.00	11.00	363.06	436.91	1808.00	454.00	212.00	104.00	23.60

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION STATISTICS					
		REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	26	*	K	*	0.34	0.0018	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	37	*	LOGQ	*	.49	.0001	*
ALKALINITY (AS CaCO3)	21	0.115	K	103	.66	.0001	48.6
HARDNESS (AS CaCO3)	21	.449	K	-25.4	.98	.0001	42.1
CALCIUM, DISSOLVED	21	.0557	K	13.4	.92	.0001	9.47
MAGNESIUM, DISSOLVED	21	.0773	K	-16.0	.98	.0001	6.67
SODIUM, DISSOLVED	21	.0941	K	-22.3	.97	.0001	9.54
SODIUM ADSORPTION RATIO	21	.00103	K	.397	.86	.0001	.247
POTASSIUM, DISSOLVED	21	*	K	*	.43	.0012	*
CHLORIDE, DISSOLVED	21	.0173	K	-5.59	.92	.0001	3.05
SULFATE, DISSOLVED	21	.511	K	-169	.96	.0001	59.1
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	21	.828	K	-129	.99	.0001	56.1
SEDIMENT, SUSPENDED	24	*	K	*	.34	.0029	*

Table 3.--Statistical summaries of water-quality data from the Green River coal region, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09216545 STATION NAME AND LOCATION: BITTER CREEK NEAR BITTER CREEK, WYO.  
DRAINAGE AREA: 308 SQUARE MILES

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAMPLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	150	29.00	0.00	10.61	8.87	25.00	18.12	10.50	1.00	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	143	157.00	0.00	6.28	18.32	43.00	2.60	1.10	0.56	0.25
TURBIDITY (NTU)	141	7200.00	1.40	341.38	854.44	2180.00	220.00	99.00	55.00	15.40
SPECIFIC CONDUCTANCE (MICROSIEMENS)	148	4500.00	280.00	1754.39	612.65	2600.00	2100.00	1765.00	1500.00	569.00
OXYGEN, DISSOLVED	79	11.90	6.70	9.33	1.32	11.60	10.40	9.30	8.20	7.20
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	67	8.70	0.80	3.32	1.60	6.58	4.40	3.00	2.20	1.12
PH (UNITS)	80	9.30	7.80	--	--	9.30	8.80	8.50	8.30	8.00
ALKALINITY (AS CaCO <sub>3</sub> )	78	530.00	91.00	304.38	78.49	410.50	350.00	316.50	280.00	120.00
NITROGEN, AMMONIA DISSOLVED (AS N)	3	0.05	0.01	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	70	0.46	0.00	0.09	0.09	0.25	0.13	0.06	0.03	0.00
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	76	4.70	0.05	1.17	0.80	2.74	1.38	0.93	0.68	0.38
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	74	0.95	0.00	0.14	0.16	0.42	0.17	0.08	0.03	0.01
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	6	0.22	0.03	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	77	6.20	0.01	0.36	0.84	1.62	0.24	0.15	0.08	0.04
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	3	0.03	0.01	--	--	--	--	--	--	--
HARDNESS (AS CaCO <sub>3</sub> )	78	340.00	66.00	211.08	63.14	310.50	260.00	210.00	160.00	99.25
CALCIUM DISSOLVED	78	71.00	15.00	39.63	14.62	63.05	52.00	41.00	27.75	16.00
MAGNESIUM, DISSOLVED	78	39.00	5.00	27.23	8.14	38.05	34.00	28.00	23.00	9.95
SODIUM, DISSOLVED	78	840.00	58.00	348.22	124.15	532.00	422.50	350.00	280.00	109.15
SODIUM ADSORPTION RATIO	78	26.00	1.60	10.76	4.11	18.05	13.00	9.90	8.20	5.29
POTASSIUM, DISSOLVED	78	7.60	1.30	2.95	1.12	5.51	3.30	2.80	2.17	1.60
CHLORIDE, DISSOLVED	78	92.00	4.90	38.72	15.30	63.40	47.00	38.00	29.50	12.81
SULFATE DISSOLVED	78	1400.00	56.00	589.82	200.44	845.00	700.00	600.00	477.50	170.00
FLUORIDE, DISSOLVED	78	2.00	0.30	0.86	0.31	1.40	1.10	0.80	0.60	0.40
SILICA, DISSOLVED	78	18.00	0.50	7.85	3.82	13.00	11.00	8.30	5.90	0.98
ARSENIC DISSOLVED (UG/L)	6	2.00	1.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	77	460.00	10.00	209.35	72.35	324.00	250.00	200.00	170.00	98.00
CADMIUM DISSOLVED (UG/L)	6	4.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	6	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	6	8.00	2.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	76	770.00	<10.00	--	--	331.50	130.00	70.00	40.00	<10.00
LEAD, DISSOLVED (UG/L)	6	3.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	12	40.00	<10.00	--	--	40.00	<10.00	<10.00	<10.00	<10.00
ZINC, DISSOLVED (UG/L)	6	20.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	6	1.00	<1.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	6	4600.00	12.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	78	2740.00	295.00	1239.05	383.79	1807.50	1440.00	1265.00	1010.00	400.55
MERCURY DISSOLVED (UG/L)	6	0.50	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	104	21900.00	22.00	1859.30	4193.91	10954.96	649.50	252.00	147.25	67.50

# REGRESSION STATISTICS

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	121	*	LOGQ	*	0.30	0.0001	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	130	*	LOGQ	*	.47	.0001	*
ALKALINITY (AS CaCO <sub>3</sub> )	65	0.113	K	99.7	.59	.0001	44.6
HARDNESS (AS CaCO <sub>3</sub> )	65	*	K	*	.03	.136	*
CALCIUM, DISSOLVED	65	*	LOGQ	*	.05	.0749	*
MAGNESIUM, DISSOLVED	65	*	K	*	.16	.0009	*
SODIUM, DISSOLVED	65	.196	K	-6.41	.76	.0001	52.0
SODIUM ADSORPTION RATIO	65	*	K	*	.49	.0001	*
POTASSIUM, DISSOLVED	65	*	LOGQ	*	.08	.0253	*
CHLORIDE, DISSOLVED	65	.0234	K	-3.41	.63	.0001	8.50
SULFATE, DISSOLVED	65	.320	K	11.4	.79	.0001	79.6
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	65	.610	K	135	.79	.0001	149
SEDIMENT, SUSPENDED	83	*	LOGQ	*	.45	.0001	*

Table 3.--Statistical summaries of water-quality data from the Green River coal region, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09216562 STATION NAME AND LOCATION: BITTER CREEK ABOVE SALT WELLS CREEK NEAR SALT WELLS, WYO.  
DRAINAGE AREA: 836 SQUARE MILES

WATER QUALITY CONSTITUENT	SAMPLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50 (MEDIAN)	25	5
TEMPERATURE (DEG C)	113	26.50	0.00	8.43	7.94	22.15	15.75	8.00	0.00	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	112	776.00	0.00	22.07	87.56	106.05	7.15	1.40	0.10	0.00
TURBIDITY (NTU)	111	34000.00	1.00	1980.53	4873.61	10920.00	1400.00	110.00	20.00	3.6
SPECIFIC CONDUCTANCE (MICROSIEMENS)	93	8000.00	600.00	3468.60	1946.23	7030.00	5000.00	3000.00	1700.00	964.00
OXYGEN, DISSOLVED	54	12.10	6.30	9.78	1.51	11.80	11.20	9.85	8.50	7.22
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	50	8.40	0.80	3.48	1.65	6.60	4.25	3.00	2.27	1.11
PH (UNITS)	55	8.80	7.60	--	--	8.70	8.50	8.30	8.20	7.80
ALKALINITY (AS CaCO3)	55	850.00	57.00	313.09	141.34	570.80	370.00	310.00	230.00	110.00
NITROGEN, AMMONIA TOTAL (AS N)	50	0.45	0.00	0.11	0.11	0.39	0.17	0.08	0.04	0.00
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	53	16.00	0.28	1.92	2.68	7.73	1.70	1.30	0.83	0.31
NITROGEN, NO2+NO3 TOTAL (AS N)	54	4.50	0.00	0.73	1.14	4.17	0.90	0.31	0.03	0.00
NITROGEN, NO2+NO3 DISSOLVED (AS N)	2	1.50	0.16	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	54	3.60	0.00	0.43	0.83	2.70	0.25	0.09	0.05	0.01
CARBON, ORGANIC DISSOLVED	1	8.50	8.50	--	--	--	--	--	--	--
CARBON, ORGANIC SUSPENDED	1	0.40	0.40	--	--	--	--	--	--	--
HARDNESS (AS CaCO3)	55	5600.00	0.00	1260.55	948.02	2900.00	1800.00	1100.00	660.00	168.00
CALCIUM DISSOLVED	54	590.00	32.00	159.91	95.18	307.50	200.00	135.00	117.50	33.75
MAGNESIUM, DISSOLVED	54	1000.00	19.00	215.00	179.56	602.50	277.50	170.00	96.00	25.00
SODIUM, DISSOLVED	55	2700.00	100.00	708.55	551.67	2040.00	890.00	610.00	330.00	118.00
SODIUM ADSORPTION RATIO	54	22.00	2.00	8.27	3.93	16.25	9.73	7.20	5.58	3.45
POTASSIUM, DISSOLVED	55	34.00	2.70	11.63	6.34	22.80	15.00	11.00	6.30	2.94
CHLORIDE, DISSOLVED	55	1900.00	14.00	495.93	438.42	1620.00	670.00	380.00	180.00	45.20
SULFATE DISSOLVED	55	6400.00	230.00	1750.18	1319.92	4539.99	2300.00	1400.00	910.00	260.00
FLUORIDE, DISSOLVED	55	1.20	0.10	0.69	0.21	1.02	0.90	0.70	0.60	0.28
SILICA, DISSOLVED	55	15.00	0.00	5.30	3.66	13.20	7.60	4.40	2.60	0.40
ARSENIC DISSOLVED (UG/L)	6	1.00	<1.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	55	1700.00	110.00	494.55	340.37	1300.00	590.00	410.00	260.00	138.00
CADMIUM DISSOLVED (UG/L)	6	3.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	6	20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	6	12.00	<2.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	55	1200.00	<10.00	--	--	476.00	100.00	60.00	30.00	<10.00
LEAD, DISSOLVED (UG/L)	6	6.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	6	330.00	50.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	6	30.00	10.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	6	10.00	<1.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	55	12300.00	530.00	3527.11	2569.37	9483.99	4580.00	2860.00	1750.00	619.20
MERCURY DISSOLVED (UG/L)	6	0.60	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	82	51800.00	22.00	5074.46	10552.99	29059.93	3387.50	634.50	201.50	34.75

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION STATISTICS					SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
		REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )			
TURBIDITY (NTU)	78	*	LOGQ	*	0.28		0.0001	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	78	*	LOGQ	*	.46		.0001	*
ALKALINITY (AS CaCO3)	38	*	K	*	.37		.0001	*
HARDNESS (AS CaCO3)	38	0.254	K	-19.2	.63		.0001	352
CALCIUM, DISSOLVED	37	.0293	K	28.3	.54		.0001	50.2
MAGNESIUM, DISSOLVED	37	.0454	K	-19.9	.77		.0001	46.3
SODIUM, DISSOLVED	38	.140	K	-5.82	.86		.0001	102
SODIUM ADSORPTION RATIO	37	.00100	K	3.51	.50		.0001	1.85
POTASSIUM, DISSOLVED	38	*	K	*	.39		.0001	*
CHLORIDE, DISSOLVED	38	.116	K	-88.6	.86		.0001	86.6
SULFATE, DISSOLVED	38	.349	K	-51.2	.85		.0001	266
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	38	.702	K	-48.1	.91		.0001	408
SEDIMENT, SUSPENDED	58	84.1	Q	3010	.69		.0001	6800

Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09216565 STATION NAME AND LOCATION: SALT WELLS CREEK NEAR SOUTH BAXTER, WYO.  
DRAINAGE AREA: 35 SQUARE MILES

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIA- TION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	208	29.50	0.00	9.04	8.21	23.00	15.00	8.50	0.00	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	174	19.00	0.00	1.42	2.57	6.30	1.40	0.50	0.16	0.01
TURBIDITY (NTU)	199	9000.00	1.00	392.23	1006.20	2300.00	260.00	25.00	5.00	2.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	198	4000.00	440.00	1090.08	339.11	1500.00	1282.50	1100.00	907.50	600.00
OXYGEN, DISSOLVED	63	13.60	6.30	9.50	1.57	11.78	10.80	9.60	8.20	6.68
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	59	5.70	0.70	2.22	1.03	4.60	2.60	2.00	1.50	0.90
PH (UNITS)	66	8.80	7.60	--	--	8.70	8.50	8.30	8.10	7.93
ALKALINITY (AS CaCO <sub>3</sub> )	63	490.00	170.00	269.25	50.58	326.80	300.00	270.00	230.00	200.40
NITROGEN, AMMONIA DISSOLVED (AS N)	5	0.05	0.01	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	53	0.25	0.00	0.07	0.07	0.23	0.10	0.04	0.02	0.00
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	58	9.80	0.15	1.05	1.39	3.08	1.01	0.69	0.44	0.33
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	58	0.47	0.00	0.10	0.12	0.43	0.17	0.04	0.01	0.00
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	10	0.33	0.01	0.13	0.13	0.33	0.28	0.04	0.02	0.01
PHOSPHORUS, TOTAL (AS P)	60	3.00	0.01	0.26	0.57	1.49	0.15	0.06	0.03	0.01
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	5	0.03	0.01	--	--	--	--	--	--	--
HARDNESS (AS CaCO <sub>3</sub> )	63	1000.00	200.00	482.54	142.51	678.00	590.00	480.00	390.00	242.00
CALCIUM DISSOLVED	63	170.00	39.00	87.30	27.87	130.00	110.00	85.00	65.00	45.60
MAGNESIUM, DISSOLVED	63	140.00	24.00	64.40	19.04	90.20	77.00	64.00	54.00	29.00
SODIUM, DISSOLVED	63	340.00	43.00	91.52	40.89	166.00	100.00	85.00	75.00	46.20
SODIUM ADSORPTION RATIO	63	6.60	1.30	1.82	0.73	2.70	1.80	1.70	1.60	1.30
POTASSIUM, DISSOLVED	63	12.00	2.60	5.41	1.85	9.68	6.20	5.00	4.30	2.84
CHLORIDE, DISSOLVED	63	190.00	4.60	15.74	22.77	22.20	17.00	12.00	10.00	5.24
SULFATE DISSOLVED	63	800.00	74.00	382.21	146.44	596.00	480.00	370.00	300.00	112.00
FLUORIDE, DISSOLVED	62	0.70	0.10	0.32	0.11	0.50	0.40	0.30	0.20	0.20
SILICA, DISSOLVED	63	21.00	4.20	11.25	2.96	15.80	13.00	11.00	9.10	5.52
ARSENIC DISSOLVED (UG/L)	8	3.00	1.00	--	--	--	--	--	--	--
BARIUM, DISSOLVED (UG/L)	2	<100.00	<100.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	63	250.00	70.00	139.21	36.65	226.00	150.00	140.00	120.00	82.00
CADMIUM DISSOLVED (UG/L)	8	3.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	8	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	8	7.00	<2.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	63	520.00	<10.00	--	--	366.00	120.00	70.00	40.00	20.00
LEAD, DISSOLVED (UG/L)	8	10.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	10	440.00	10.00	169.00	151.98	440.00	267.50	135.00	45.00	10.00
ZINC, DISSOLVED (UG/L)	8	<20.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	8	2.00	<1.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	7	120000.00	100.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	63	1630.00	343.00	822.63	248.04	1136.00	997.00	807.00	668.00	399.60
MERCURY DISSOLVED (UG/L)	8	1.00	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	144	18800.00	6.00	875.08	2268.96	4797.50	623.50	106.00	28.00	10.50

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION STATISTICS					
		REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	154	*	Q	*	0.37	0.0001	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	160	*	LOGQ	*	.41	.0001	*
ALKALINITY (AS CaCO <sub>3</sub> )	50	*	K	*	.44	.0001	*
HARDNESS (AS CaCO <sub>3</sub> )	50	0.479	K	-63.6	.86	.0001	49.9
CALCIUM, DISSOLVED	50	.0911	K	-16.0	.75	.0001	13.5
MAGNESIUM, DISSOLVED	50	.0616	K	-6.07	.82	.0001	7.36
SODIUM, DISSOLVED	50	*	K	*	.24	.0003	*
SODIUM ADSORPTION RATIO	50	*	K	*	.08	.0511	*
POTASSIUM, DISSOLVED	50	.00521	K	-.479	.56	.0001	1.19
CHLORIDE, DISSOLVED	50	*	LOGQ	*	.09	.0380	*
SULFATE, DISSOLVED	50	.507	K	-190	.84	.0001	56.4
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	50	.836	K	-125	.79	.0001	111
SEDIMENT, SUSPENDED	105	*	LOGQ	*	.27	.0001	*

Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09216576 STATION NAME AND LOCATION: GAP CREEK BELOW BEANS SPRING CREEK NEAR SOUTH BAXTER, WYO.  
DRAINAGE AREA: 36 SQUARE MILES

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	64	25.00	0.00	9.06	7.67	24.25	15.75	8.25	1.00	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	66	14.00	0.20	1.65	2.47	5.70	1.70	0.66	0.50	0.31
TURBIDITY (NTU)	50	800.00	1.00	64.92	129.93	318.00	61.25	21.00	4.75	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	60	2020.00	270.00	909.92	401.24	1795.00	1020.00	745.00	642.50	512.50
OXYGEN, DISSOLVED	19	12.80	7.10	9.89	1.84	12.80	11.30	9.30	8.30	7.10
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	16	7.30	1.00	2.61	1.54	7.30	3.30	2.40	1.40	1.00
PH (UNITS)	25	8.90	7.90	--	--	8.84	8.45	8.30	8.20	7.93
ALKALINITY (AS CaCO3)	21	364.00	153.00	243.52	49.05	361.00	269.00	239.00	208.50	156.90
NITROGEN, AMMONIA DISSOLVED (AS N)	6	0.08	0.01	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	15	0.12	0.01	0.05	0.04	0.12	0.07	0.03	0.02	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	17	1.80	0.24	0.77	0.47	1.80	1.15	0.59	0.44	0.24
NITROGEN, NO2+NO3 TOTAL (AS N)	17	0.21	0.02	0.09	0.07	0.21	0.15	0.07	0.04	0.02
NITROGEN, NO2+NO3 DISSOLVED (AS N)	8	0.20	0.01	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	18	0.85	0.02	0.19	0.20	0.85	0.22	0.12	0.07	0.02
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	4	0.03	0.01	--	--	--	--	--	--	--
HARDNESS (AS CaCO3)	21	790.00	290.00	442.38	151.82	790.00	510.00	400.00	325.00	291.00
CALCIUM DISSOLVED	21	120.00	59.00	86.29	16.05	120.00	97.00	87.00	73.50	59.80
MAGNESIUM, DISSOLVED	21	120.00	30.00	55.19	28.70	120.00	68.00	44.00	34.50	30.20
SODIUM, DISSOLVED	21	110.00	16.00	40.67	28.81	109.00	55.50	27.00	18.00	16.20
SODIUM ADSORPTION RATIO	21	1.70	0.40	0.79	0.41	1.68	1.15	0.60	0.50	0.40
POTASSIUM, DISSOLVED	21	9.00	3.40	5.05	1.73	8.93	6.00	4.30	3.85	3.41
CHLORIDE, DISSOLVED	21	27.00	12.00	17.00	4.23	26.80	19.50	16.00	13.50	12.00
SULFATE DISSOLVED	21	610.00	120.00	255.71	164.97	609.00	340.00	190.00	130.00	120.00
FLUORIDE, DISSOLVED	21	0.60	0.30	0.44	0.08	0.60	0.50	0.40	0.40	0.30
SILICA, DISSOLVED	21	14.00	7.70	10.80	1.62	13.90	12.00	11.00	9.35	7.80
ARSENIC DISSOLVED (UG/L)	4	3.00	1.00	--	--	--	--	--	--	--
BARIUM, DISSOLVED (UG/L)	1	<100.00	<100.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	21	260.00	80.00	129.05	45.04	254.00	155.00	110.00	95.00	81.00
CADMIUM DISSOLVED (UG/L)	4	2.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	4	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	4	3.00	<2.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	21	1700.00	<10.00	--	--	1556.00	70.00	60.00	30.00	<10.00
LEAD, DISSOLVED (UG/L)	4	8.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	5	160.00	70.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	4	<20.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	4	2.00	<1.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	9	4600.00	11.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	21	1210.00	382.00	617.76	259.72	1209.00	725.00	520.00	424.00	382.00
MERCURY, DISSOLVED (UG/L)	4	<0.50	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	53	13200.00	10.00	642.53	2127.96	3860.92	343.50	98.00	35.00	17.40

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	49	51.8	Q	-19.6	0.77	0.0001	61.0
SPECIFIC CONDUCTANCE (MICROSIEMENS)	60	*	LOGQ	*	.46	.0001	*
ALKALINITY (AS CaCO3)	21	*	K	*	.44	.0010	*
HARDNESS (AS CaCO3)	21	.416	K	62.4	.96	.0001	32.9
CALCIUM, DISSOLVED	21	.0371	K	52.4	.68	.0001	9.34
MAGNESIUM, DISSOLVED	21	.0792	K	-17.1	.97	.0001	5.34
SODIUM, DISSOLVED	21	.0787	K	-31.1	.95	.0001	6.75
SODIUM ADSORPTION RATIO	21	.00109	K	-.205	.89	.0001	.140
POTASSIUM, DISSOLVED	21	3.40	LOGQ	5.26	.74	.0001	.911
CHLORIDE, DISSOLVED	21	.00939	K	8.43	.63	.0001	2.65
SULFATE, DISSOLVED	21	.456	K	-161	.97	.0001	28.1
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	21	.719	K	-38.9	.98	.0001	42.0
SEDIMENT, SUSPENDED	48	701	Q	-635	.77	.0001	1080

Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09216750 STATION NAME AND LOCATION: SALT WELLS CREEK NEAR SALT WELLS, WYO.  
DRAINAGE AREA: 526 SQUARE MILES

WATER QUALITY CONSTITUENT	SAMPLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	83	24.00	0.00	10.19	6.51	20.00	15.00	11.50	3.50	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	118	823.00	0.00	20.44	83.78	54.85	11.00	2.15	0.00	0.00
TURBIDITY (NTU)	74	91200.00	15.00	6781.76	12466.40	25324.90	8700.00	2100.00	942.50	76.25
SPECIFIC CONDUCTANCE (MICROSIEMENS)	77	6700.00	420.00	2532.21	1074.71	5000.00	3000.00	2300.00	1800.00	1299.00
OXYGEN, DISSOLVED	28	11.60	4.50	8.91	1.68	11.51	10.55	8.50	8.02	5.53
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	25	8.20	1.40	4.07	1.92	7.84	5.55	3.80	2.45	1.58
PH (UNITS)	30	8.60	7.70	--	--	8.60	8.50	8.35	8.20	7.81
ALKALINITY (AS CaCO3)	27	353.00	100.00	194.74	61.71	317.40	240.00	220.00	150.00	102.80
NITROGEN, AMMONIA TOTAL (AS N)	27	0.37	0.00	0.11	0.11	0.35	0.21	0.06	0.03	0.00
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	27	90.00	0.46	8.85	18.11	66.40	6.20	3.20	1.60	0.48
NITROGEN, NO2+NO3 TOTAL (AS N)	27	2.80	0.01	0.58	0.64	2.48	0.75	0.36	0.16	0.02
NITROGEN, NO2+NO3 DISSOLVED (AS N)	3	2.60	0.36	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	27	27.00	0.11	3.83	5.64	22.60	5.10	2.20	0.78	0.12
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	2	0.02	0.01	--	--	--	--	--	--	--
HARDNESS (AS CaCO3)	28	1800.00	370.00	951.43	325.53	1665.00	1200.00	970.00	712.50	419.50
CALCIUM DISSOLVED	28	290.00	81.00	174.29	50.63	290.00	205.00	170.00	145.00	86.40
MAGNESIUM, DISSOLVED	28	250.00	41.00	126.71	53.82	232.00	170.00	120.00	83.50	49.55
SODIUM, DISSOLVED	28	660.00	100.00	265.00	122.28	570.00	307.50	255.00	190.00	109.00
SODIUM ADSORPTION RATIO	28	7.40	2.00	3.65	1.14	6.41	4.10	3.65	2.90	2.05
POTASSIUM, DISSOLVED	28	25.00	1.40	13.48	5.19	24.10	15.75	14.00	10.00	2.30
CHLORIDE, DISSOLVED	28	440.00	49.00	156.54	85.94	363.50	200.00	135.00	95.50	52.60
SULFATE DISSOLVED	28	2200.00	420.00	1090.36	440.99	2065.00	1375.00	1050.00	765.00	429.00
FLUORIDE, DISSOLVED	27	1.90	0.20	0.51	0.30	1.38	0.50	0.50	0.40	0.24
SILICA, DISSOLVED	28	12.00	3.80	7.30	2.00	11.55	8.48	7.10	5.68	3.89
ARSENIC DISSOLVED (UG/L)	4	1.00	1.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	28	970.00	240.00	569.29	212.98	943.00	787.50	515.00	405.00	244.50
CADMIUM DISSOLVED (UG/L)	4	6.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	4	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	4	17.00	2.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	28	2100.00	<10.00	--	--	1263.00	107.50	70.00	30.00	<10.00
LEAD, DISSOLVED (UG/L)	4	3.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	6	30.00	<10.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	4	<20.00	20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	4	2.00	1.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	1	0.00	0.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	27	3900.00	827.00	1921.96	744.02	3700.00	2270.00	1850.00	1380.00	838.60
MERCURY DISSOLVED (UG/L)	4	<0.50	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	68	80700.00	175.00	13627.46	17015.39	47659.93	22274.96	5389.99	1725.00	267.30

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	66	*	LOGQ	*	0.11	0.0064	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	68	*	LOGQ	*	.01	.315	*
ALKALINITY (AS CaCO3)	24	*	LOGQ	*	.22	.0221	*
HARDNESS (AS CaCO3)	24	0.321	K	103	.78	.0001	158
CALCIUM, DISSOLVED	24	.0421	K	63.1	.55	.0001	34.6
MAGNESIUM, DISSOLVED	24	.0530	K	-13.0	.75	.0001	27.7
SODIUM, DISSOLVED	24	.135	K	-97.0	.91	.0001	37.8
SODIUM ADSORPTION RATIO	24	.00118	K	.438	.80	.0001	.533
POTASSIUM, DISSOLVED	24	*	K	*	.40	.0008	*
CHLORIDE, DISSOLVED	24	.0939	K	-98.5	.90	.0001	29.0
SULFATE, DISSOLVED	24	.477	K	-185	.92	.0001	129
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	24	.813	K	-219	.92	.0001	212
SEDIMENT, SUSPENDED	56	*	LOGQ	*	.34	.0001	*



Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09216810 STATION NAME AND LOCATION: KILLPECKER CREEK AT ROCK SPRINGS, WYO.  
DRAINAGE AREA: NOT AVAILABLE

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	57	28.00	0.00	11.06	8.38	26.15	17.50	11.00	2.25	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	33	3.00	0.00	0.48	0.70	2.93	0.52	0.30	0.10	0.00
TURBIDITY (NTU)	57	1500.00	2.00	82.39	237.82	628.00	40.00	20.00	10.00	3.72
SPECIFIC CONDUCTANCE (MICROSIEMENS)	28	8000.00	2600.00	5332.14	1753.32	8000.00	7000.00	5700.00	3500.00	2780.00
OXYGEN, DISSOLVED	57	19.20	0.60	9.27	3.59	16.19	10.95	8.80	6.95	3.80
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	4	9.00	4.70	--	--	--	--	--	--	--
PH (UNITS)	57	9.00	6.80	--	--	8.90	8.30	8.00	7.80	7.39
ALKALINITY (AS CaCO3)	55	2640.00	176.00	460.25	333.48	776.00	520.00	410.00	310.00	199.60
NITROGEN, AMMONIA TOTAL (AS N)	52	27.00	0.01	2.43	4.21	8.98	3.00	0.94	0.19	0.03
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	55	43.00	0.90	5.01	6.22	16.00	4.90	3.60	2.00	1.00
NITROGEN, NO2+NO3 TOTAL (AS N)	55	4.30	0.00	0.63	0.79	2.66	0.90	0.41	0.12	0.01
PHOSPHORUS, TOTAL (AS P)	55	9.50	0.04	1.05	1.83	5.44	1.00	0.32	0.16	0.06
CARBON, ORGANIC DISSOLVED	6	34.00	15.00	--	--	--	--	--	--	--
CARBON, ORGANIC SUSPENDED	6	5.00	0.60	--	--	--	--	--	--	--
HARDNESS (AS CaCO3)	55	5500.00	520.00	2086.73	1018.03	3600.00	2800.00	2100.00	1200.00	552.00
CALCIUM DISSOLVED	55	400.00	71.00	226.42	95.06	372.00	310.00	230.00	140.00	83.60
MAGNESIUM, DISSOLVED	55	1100.00	75.00	368.96	200.14	640.00	500.00	350.00	180.00	88.80
SODIUM, DISSOLVED	55	3000.00	210.00	1160.18	577.19	2060.00	1500.00	1200.00	670.00	344.00
SODIUM ADSORPTION RATIO	55	21.00	4.00	10.89	3.61	20.00	12.00	11.00	8.30	5.36
POTASSIUM, DISSOLVED	55	180.00	4.00	59.65	36.09	124.00	83.00	59.00	33.00	12.50
CHLORIDE, DISSOLVED	55	3300.00	150.00	1197.64	675.03	2400.00	1600.00	1200.00	630.00	256.00
SULFATE DISSOLVED	55	6900.00	500.00	2464.73	1237.03	4220.00	3200.00	2400.00	1400.00	630.00
FLUORIDE, DISSOLVED	54	2.00	0.30	0.83	0.30	1.47	0.90	0.80	0.70	0.38
SILICA, DISSOLVED	55	14.00	0.20	6.04	3.85	13.00	9.10	5.10	3.30	0.70
ARSENIC DISSOLVED (UG/L)	16	7.00	<1.00	--	--	7.00	4.75	1.50	1.00	<1.00
BORON, DISSOLVED (UG/L)	54	5100.00	410.00	1992.78	1006.41	3700.00	2700.00	2000.00	1000.00	512.50
CADMIUM DISSOLVED (UG/L)	16	5.00	<2.00	--	--	5.00	3.00	2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	16	20.00	<20.00	--	--	20.00	20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	16	15.00	<2.00	--	--	15.00	6.00	4.00	2.00	<2.00
IRON, DISSOLVED (UG/L)	55	6100.00	<10.00	--	--	1760.00	320.00	110.00	70.00	30.00
LEAD, DISSOLVED (UG/L)	16	27.00	<2.00	--	--	27.00	4.00	3.00	2.00	<2.00
MANGANESE, DISSOLVED (UG/L)	16	4200.00	8.00	1441.75	1052.00	4200.00	1875.00	1450.00	475.00	8.00
ZINC, DISSOLVED (UG/L)	16	100.00	<20.00	--	--	100.00	30.00	25.00	20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	16	3.00	<1.00	--	--	3.00	1.00	1.00	1.00	<1.00
COLIFORM, FECAL, (COLS/100 ML)	9	5600.00	500.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS,	55	15000.00	1210.00	5763.27	2758.04	9911.99	7440.00	5790.00	3460.00	1654.00
MERCURY DISSOLVED (UG/L)	16	<0.50	<0.50	--	--	<0.50	<0.50	<0.50	<0.50	<0.50

#### REGRESSION STATISTICS

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	20	341	Q	-86.6	0.58	0.0001	248
SPECIFIC CONDUCTANCE (MICROSIEMENS)	20	*	Q	*	.14	.103	*
ALKALINITY (AS CaCO3)	18	*	K	*	.49	.0013	*
HARDNESS (AS CaCO3)	18	.307	K	-248	.70	.0001	377
CALCIUM, DISSOLVED	18	.0369	K	-11.7	.62	.0001	55.0
MAGNESIUM, DISSOLVED	18	.0516	K	-50.9	.71	.0001	62.6
SODIUM, DISSOLVED	18	.132	K	-17.8	.69	.0001	167
SODIUM ADSORPTION RATIO	18	*	K	*	.24	.0389	*
POTASSIUM, DISSOLVED	18	.00904	K	-10.8	.66	.0001	12.2
CHLORIDE, DISSOLVED	18	.163	K	-163	.71	.0001	196
SULFATE, DISSOLVED	18	.328	K	-196	.67	.0001	437
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	18	.745	K	-370	.76	.0001	796

Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09216880 STATION NAME AND LOCATION: BITTER CREEK BELOW LITTLE BITTER CREEK NEAR KANDA, WYO.  
DRAINAGE AREA: NOT AVAILABLE

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAM- PLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	69	31.00	0.00	10.79	8.80	25.50	17.50	10.00	1.25	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	50	222.00	0.00	12.49	32.13	48.30	10.00	4.00	2.50	0.27
TURBIDITY (NTU)	69	5600.00	1.00	441.13	1150.15	3750.00	85.00	20.00	10.00	2.50
SPECIFIC CONDUCTANCE (MICROSIEMENS)	69	7000.00	1500.00	3256.52	1046.81	5499.98	3750.00	3100.00	2500.00	1925.00
OXYGEN, DISSOLVED	67	19.80	3.40	9.12	3.84	17.20	10.20	8.40	6.20	4.70
OXYGEN DEMAND, BIOCHEMICAL, (5 DAY)	24	16.00	2.50	7.49	2.73	15.25	8.30	7.05	6.45	2.70
PH (UNITS)	69	9.30	6.60	--	--	9.10	8.40	8.20	7.90	7.60
ALKALINITY (AS CaCO <sub>3</sub> )	66	919.00	160.00	308.42	106.22	430.00	360.00	295.00	247.50	184.90
NITROGEN, AMMONIA DISSOLVED (AS N)	3	13.00	9.20	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	65	29.00	0.01	9.30	8.20	26.50	15.00	6.70	1.70	0.09
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	65	29.00	1.10	13.66	8.19	28.70	19.50	15.00	5.35	2.88
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	64	2.70	0.02	0.66	0.60	2.15	0.92	0.46	0.25	0.04
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	4	1.50	0.06	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	67	21.00	0.00	6.00	4.16	13.80	8.10	6.10	2.40	0.28
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	3	6.70	2.70	--	--	--	--	--	--	--
CARBON, ORGANIC DISSOLVED	10	38.00	7.20	17.82	8.57	38.00	20.75	16.50	11.00	7.20
CARBON, ORGANIC SUSPENDED	9	14.00	0.90	--	--	--	--	--	--	--
HARDNESS (AS CaCO <sub>3</sub> )	66	1500.00	250.00	618.79	257.18	1100.00	782.50	540.00	427.50	334.00
CALCIUM DISSOLVED	66	210.00	48.00	101.88	33.45	176.50	120.00	93.00	78.00	62.35
MAGNESIUM, DISSOLVED	66	250.00	32.00	88.26	43.34	166.50	112.50	74.00	55.75	41.00
SODIUM, DISSOLVED	66	990.00	190.00	486.36	157.97	801.50	590.00	470.00	380.00	247.00
SODIUM ADSORPTION RATIO	66	14.00	3.40	8.76	2.39	12.65	11.00	8.65	7.25	4.51
POTASSIUM, DISSOLVED	66	34.00	2.70	16.17	4.37	22.65	18.00	16.00	15.00	9.35
CHLORIDE, DISSOLVED	67	1100.00	100.00	445.67	191.20	746.00	560.00	430.00	310.00	124.00
SULFATE DISSOLVED	67	1900.00	230.00	743.28	329.96	1420.00	950.00	620.00	520.00	384.00
FLUORIDE, DISSOLVED	67	1.60	0.30	0.68	0.19	1.00	0.80	0.70	0.60	0.44
SILICA, DISSOLVED	67	18.00	0.80	8.56	3.33	15.80	10.00	8.10	6.20	3.44
ARSENIC DISSOLVED (UG/L)	18	250.00	2.00	19.89	57.57	250.00	8.00	5.50	4.00	2.00
BORON, DISSOLVED (UG/L)	67	1600.00	1.00	732.10	233.23	1100.00	850.00	750.00	620.00	304.00
CADMIUM DISSOLVED (UG/L)	18	2.00	<2.00	--	--	2.00	2.00	<2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	18	20.00	<20.00	--	--	20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	18	9.00	<2.00	--	--	9.00	6.25	4.00	<2.00	<2.00
IRON, DISSOLVED (UG/L)	66	1900.00	<10.00	--	--	370.00	152.50	80.00	40.00	<10.00
LEAD, DISSOLVED (UG/L)	18	6.00	<2.00	--	--	6.00	5.00	2.00	<2.00	<2.00
MANGANESE, DISSOLVED (UG/L)	21	320.00	1.00	146.24	93.27	318.00	210.00	140.00	70.00	2.90
ZINC, DISSOLVED (UG/L)	18	50.00	<20.00	--	--	50.00	32.50	20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	18	3.00	<1.00	--	--	3.00	2.00	<1.00	<1.00	<1.00
COLIFORM, FECAL, (COLS/100 ML)	10	1780000.00	50000.00	591199.70	564344.73	1780000.00	784999.25	460000.00	225500.00	50000.00
PHYTOPLANKTON, TOTAL (CELLS PER ML)	2	130000.00	420.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	66	4000.00	756.00	2075.70	654.56	3766.00	2422.50	1960.00	1625.00	1291.00
MERCURY DISSOLVED (UG/L)	18	<0.50	<0.50	--	--	<0.50	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	7	2290.00	23.00	--	--	--	--	--	--	--

Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09216880 STATION NAME AND LOCATION: BITTER CREEK BELOW LITTLE BITTER CREEK NEAR KANDA, WYO.--Continued

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	48	*	LOGQ	*	0.23	0.0006	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	48	*	Q	*	.04	.172	*
ALKALINITY (AS CaCO <sub>3</sub> )	46	*	Q	*	.01	.545	*
HARDNESS (AS CaCO <sub>3</sub> )	45	0.184	K	18.0	.53	.0001	169
CALCIUM, DISSOLVED	45	*	K	*	.33	.0001	*
MAGNESIUM, DISSOLVED	45	.0338	K	-21.7	.59	.0001	27.6
SODIUM, DISSOLVED	45	.149	K	-13.9	.88	.0001	54.5
SODIUM ADSORPTION RATIO	45	*	K	*	.34	.0001	*
POTASSIUM, DISSOLVED	45	*	LOGQ	*	.28	.0002	*
CHLORIDE, DISSOLVED	46	.146	K	-46.8	.70	.0001	97.2
SULFATE, DISSOLVED	46	.250	K	-58.1	.58	.0001	216
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	46	.618	K	37.3	.90	.0001	203

Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09217000 STATION NAME AND LOCATION: GREEN RIVER NEAR GREEN RIVER, WYO.  
DRAINAGE AREA: 14,000 SQUARE MILES

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAM- PLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	159	23.00	0.00	9.56	7.45	21.00	16.00	9.50	1.00	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	148	8410.00	275.00	1817.98	1808.25	6739.48	1867.50	1040.00	768.25	362.35
TURBIDITY (NTU)	142	400.00	0.00	20.20	52.26	100.00	15.00	5.00	2.00	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	147	1350.00	310.00	626.54	176.98	950.00	740.00	600.00	510.00	360.00
OXYGEN, DISSOLVED	81	12.70	6.20	9.94	1.42	12.38	11.00	10.20	8.75	7.81
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	29	6.70	1.40	2.98	1.36	6.15	4.10	2.60	1.85	1.40
PH (UNITS)	74	9.10	7.80	--	--	8.73	8.53	8.30	8.20	7.98
ALKALINITY (AS CaCO3)	79	176.00	107.00	144.33	17.41	166.00	160.00	150.00	130.00	110.00
NITROGEN, AMMONIA DISSOLVED (AS N)	18	0.14	0.00	0.03	0.04	0.14	0.06	0.02	0.01	0.00
NITROGEN, AMMONIA TOTAL (AS N)	59	0.73	0.00	0.07	0.11	0.18	0.08	0.04	0.02	0.00
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	68	9.40	0.12	0.89	1.38	1.70	0.95	0.59	0.41	0.19
NITROGEN, NO2+NO3 TOTAL (AS N)	68	0.32	0.00	0.08	0.06	0.20	0.12	0.07	0.03	0.00
NITROGEN, NO2+NO3 DISSOLVED (AS N)	28	0.69	0.00	0.15	0.18	0.65	0.14	0.09	0.05	0.00
PHOSPHORUS, TOTAL (AS P)	67	0.41	0.00	0.05	0.07	0.15	0.05	0.03	0.02	0.01
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	3	0.04	0.00	--	--	--	--	--	--	--
CARBON, ORGANIC DISSOLVED	10	10.00	3.30	5.83	2.10	10.00	7.18	5.75	3.55	3.30
CARBON, ORGANIC SUSPENDED TOTAL	11	2.30	0.20	0.77	0.57	2.30	1.00	0.60	0.50	0.20
HARDNESS (AS CaCO3)	79	330.00	130.00	226.33	43.27	290.00	250.00	230.00	200.00	150.00
CALCIUM DISSOLVED	79	78.00	34.00	55.22	9.40	68.00	63.00	55.00	50.00	38.00
MAGNESIUM, DISSOLVED	79	33.00	11.00	21.41	4.99	31.00	24.00	21.00	18.00	13.00
SODIUM, DISSOLVED	79	110.00	16.00	53.46	21.26	99.00	64.00	50.00	42.00	19.00
SODIUM ADSORPTION RATIO	79	2.80	0.60	1.52	0.49	2.50	1.80	1.50	1.20	0.70
POTASSIUM, DISSOLVED	79	12.00	1.40	2.38	1.26	3.80	2.40	2.10	1.90	1.60
CHLORIDE, DISSOLVED	79	22.00	2.90	9.15	3.70	16.00	11.00	8.20	6.90	3.70
SULFATE DISSOLVED	79	350.00	47.00	178.72	70.39	320.00	210.00	170.00	140.00	61.00
FLUORIDE, DISSOLVED	79	0.60	0.10	0.25	0.07	0.40	0.30	0.20	0.20	0.20
SILICA, DISSOLVED	78	8.00	0.30	5.31	1.68	7.80	6.40	5.75	4.30	1.90
ARSENIC DISSOLVED (UG/L)	22	2.00	<1.00	--	--	2.00	1.00	1.00	1.00	<1.00
BARIUM, DISSOLVED (UG/L)	9	200.00	50.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	62	200.00	<20.00	--	--	128.50	80.00	60.00	50.00	31.50
CADMIUM DISSOLVED (UG/L)	22	23.00	<2.00	--	--	20.60	2.25	<2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	22	<20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	22	16.00	<2.00	--	--	16.00	5.25	2.50	<2.00	<2.00
IRON, DISSOLVED (UG/L)	71	1300.00	<10.00	--	--	254.00	70.00	30.00	20.00	<10.00
LEAD, DISSOLVED (UG/L)	22	16.00	<2.00	--	--	14.95	4.00	2.00	<2.00	<2.00
MANGANESE, DISSOLVED (UG/L)	24	60.00	<10.00	--	--	52.50	<10.00	<10.00	<10.00	<10.00
ZINC, DISSOLVED (UG/L)	22	70.00	<20.00	--	--	68.50	20.00	<20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	22	1.00	<1.00	--	--	1.00	<1.00	<1.00	<1.00	<1.00
COLIFORM, FECAL, (COLS/100 ML)	14	400.00	28.00	82.71	95.63	400.00	86.00	54.50	31.50	28.00
STREPTOCOCCI FECAL, (COLS/100 ML)	8	100.00	6.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	15	19000.00	160.00	2933.33	4835.85	19000.00	2600.00	1300.00	450.00	160.00
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	78	687.00	186.00	411.87	112.28	619.45	462.50	404.00	353.50	228.00
MERCURY DISSOLVED (UG/L)	21	1.10	<0.50	--	--	1.00	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	80	6570.00	2.00	181.49	806.25	381.95	81.50	27.00	11.25	6.00

Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09217000 STATION NAME AND LOCATION: GREEN RIVER NEAR GREEN RIVER, WYO.--Continued

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	127	*	K	*	0.08	0.0013	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	135	-428	LOGQ	1,950	.63	.0001	110
ALKALINITY (AS CaCO <sub>3</sub> )	70	*	K	*	.37	.0001	*
HARDNESS (AS CaCO <sub>3</sub> )	70	.249	K	66.2	.80	.0001	20.2
CALCIUM, DISSOLVED	70	.0502	K	22.7	.71	.0001	5.11
MAGNESIUM, DISSOLVED	70	.0300	K	2.32	.84	.0001	2.06
SODIUM, DISSOLVED	70	.126	K	-25.9	.82	.0001	9.55
SODIUM ADSORPTION RATIO	70	.00280	K	-.239	.75	.0001	.259
POTASSIUM, DISSOLVED	70	*	K	*	.04	.0883	*
CHLORIDE, DISSOLVED	70	.0186	K	-2.52	.59	.0001	2.51
SULFATE, DISSOLVED	70	.427	K	-93.0	.86	.0001	27.4
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	70	.688	K	-25.4	.88	.0001	40.4
SEDIMENT, SUSPENDED	64	*	K	*	.19	.0003	*

Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09217010 STATION NAME AND LOCATION: GREEN RIVER BELOW GREEN RIVER, WYO.  
DRAINAGE AREA: NOT AVAILABLE

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAMPLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	92	23.00	0.00	9.24	7.49	21.35	16.00	9.00	0.63	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	76	7700.00	298.00	1630.35	1467.00	5022.49	1820.00	1030.00	822.75	384.30
TURBIDITY (NTU)	84	300.00	1.00	30.60	63.12	225.00	20.00	8.00	3.78	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	84	1000.00	340.00	657.80	152.91	965.00	750.00	632.50	572.50	392.50
OXYGEN, DISSOLVED	83	13.20	6.20	10.03	1.53	12.60	11.00	10.10	8.90	7.82
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	71	8.80	0.80	2.75	1.32	5.18	3.30	2.50	1.90	1.26
PH (UNITS)	75	9.10	7.60	--	--	8.92	8.60	8.40	8.20	8.00
ALKALINITY (AS CaCO <sub>3</sub> )	81	200.00	108.00	145.73	18.95	171.80	160.00	150.00	130.00	110.00
NITROGEN, AMMONIA TOTAL (AS N)	69	0.31	0.00	0.09	0.07	0.23	0.13	0.06	0.04	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	71	5.00	0.08	0.79	0.68	2.16	0.90	0.64	0.47	0.23
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	71	0.34	0.00	0.10	0.09	0.33	0.13	0.08	0.04	0.00
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	17	0.49	0.02	0.12	0.12	0.49	0.16	0.08	0.04	0.02
PHOSPHORUS, TOTAL (AS P)	71	0.59	0.01	0.10	0.10	0.29	0.10	0.07	0.04	0.01
CARBON, ORGANIC DISSOLVED	11	10.00	3.90	6.38	2.07	10.00	7.90	5.70	5.10	3.90
CARBON, ORGANIC SUSPENDED TOTAL	9	2.20	0.30	--	--	--	--	--	--	--
HARDNESS (AS CaCO <sub>3</sub> )	82	330.00	130.00	229.15	43.95	300.00	260.00	230.00	200.00	150.00
CALCIUM DISSOLVED	82	78.00	34.00	55.44	9.55	70.85	62.25	55.50	48.75	37.45
MAGNESIUM, DISSOLVED	82	34.00	12.00	22.04	5.11	30.85	25.00	22.00	18.75	13.00
SODIUM, DISSOLVED	82	150.00	16.00	57.07	24.60	100.00	68.25	53.00	42.50	21.30
SODIUM ADSORPTION RATIO	82	4.30	0.08	1.59	0.61	2.60	1.90	1.50	1.20	0.63
POTASSIUM, DISSOLVED	82	3.50	1.50	2.19	0.46	3.09	2.40	2.10	1.80	1.60
CHLORIDE, DISSOLVED	82	34.00	2.60	12.12	6.28	24.70	16.25	10.50	7.55	4.75
SULFATE DISSOLVED	82	330.00	49.00	183.68	69.36	320.00	220.00	180.00	140.00	66.80
FLUORIDE, DISSOLVED	82	0.60	0.10	0.25	0.08	0.38	0.30	0.20	0.20	0.20
SILICA, DISSOLVED	82	15.00	0.20	5.27	2.07	7.69	6.55	5.70	3.98	1.80
ARSENIC DISSOLVED (UG/L)	18	3.00	<1.00	--	--	3.00	1.25	1.00	1.00	<1.00
BORON, DISSOLVED (UG/L)	73	240.00	<20.00	--	--	123.50	90.00	70.00	60.00	27.00
CADMIUM DISSOLVED (UG/L)	18	13.00	<2.00	--	--	13.00	2.00	<2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	18	<20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	18	10.00	<2.00	--	--	10.00	4.00	2.00	<2.00	<2.00
IRON, DISSOLVED (UG/L)	65	470.00	<10.00	--	--	230.00	80.00	40.00	20.00	<10.00
LEAD, DISSOLVED (UG/L)	18	35.00	<2.00	--	--	35.00	6.00	2.50	<2.00	<2.00
MANGANESE, DISSOLVED (UG/L)	18	40.00	<10.00	--	--	40.00	20.00	<10.00	<10.00	<10.00
ZINC, DISSOLVED (UG/L)	18	50.00	<20.00	--	--	50.00	22.50	<20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	18	<1.00	<1.00	--	--	2.00	<1.00	<1.00	<1.00	<1.00
COLIFORM, FECAL, (COLS/100 ML)	20	1700.00	66.00	677.20	454.64	1695.00	860.00	695.00	342.50	67.10
PCB, TOTAL (UG/L)	9	0.00	0.00	--	--	--	--	--	--	--
PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	9	1.00	0.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	13	5900.00	710.00	1722.31	1375.88	5900.00	1550.00	1300.00	955.00	710.00
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	81	665.00	190.00	423.83	116.83	645.60	492.00	414.00	357.50	230.90
MERCURY DISSOLVED (UG/L)	18	29.00	<0.50	--	--	29.00	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	2	6620.00	42.00	--	--	--	--	--	--	--

REGRESSION STATISTICS							
WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	68	*	LOGQ	*	0.04	0.0917	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	69	-413	LOGQ	1,930	.63	.0001	98.5
ALKALINITY (AS CaCO <sub>3</sub> )	66	*	K	*	.43	.0001	*
HARDNESS (AS CaCO <sub>3</sub> )	67	.257	K	55.1	.87	.0001	16.0
CALCIUM, DISSOLVED	67	.0518	K	20.1	.79	.0001	4.31
MAGNESIUM, DISSOLVED	67	.0313	K	1.02	.91	.0001	1.58
SODIUM, DISSOLVED	67	.137	K	-35.0	.90	.0001	7.52
SODIUM ADSORPTION RATIO	67	.00296	K	-.403	.72	.0001	.299
POTASSIUM, DISSOLVED	67	*	K	*	.44	.0001	*
CHLORIDE, DISSOLVED	67	.0301	K	-8.08	.61	.0001	3.91
SULFATE, DISSOLVED	67	.422	K	-98.4	.90	.0001	22.5
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	66	.712	K	-54.3	.94	.0001	30.4

Table 3.--Statistical summaries of water-quality data from the Green River coal region, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09218500 STATION NAME AND LOCATION: BLACKS FORK NEAR MILLBURNE, WYO.  
DRAINAGE AREA: 152 SQUARE MILES

WATER QUALITY CONSTITUENT	SAMPLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	54	16.00	1.50	6.94	4.47	15.25	9.75	6.00	2.88	1.50
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	54	1150.00	6.10	243.88	323.59	1092.50	423.00	67.50	25.50	6.77
TURBIDITY (NTU)	38	8.00	0.00	2.24	1.88	7.05	3.00	1.50	1.00	0.95
SPECIFIC CONDUCTANCE (MICROSIEMENS)	50	250.00	30.00	117.10	50.47	214.50	150.00	110.00	70.00	45.50
OXYGEN, DISSOLVED	2	10.40	9.70	--	--	--	--	--	--	--
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	1	2.60	2.60	--	--	--	--	--	--	--
PH (UNITS)	2	8.20	8.00	--	--	--	--	--	--	--
ALKALINITY (AS CaCO <sub>3</sub> )	12	84.00	23.00	50.25	19.76	84.00	67.50	51.50	30.50	23.00
NITROGEN, AMMONIA DISSOLVED (AS N)	1	0.02	0.02	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	1	0.19	0.19	--	--	--	--	--	--	--
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	3	0.93	0.15	--	--	--	--	--	--	--
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	1	0.06	0.06	--	--	--	--	--	--	--
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	8	2.30	0.02	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	3	0.02	0.01	--	--	--	--	--	--	--
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	2	0.02	0.01	--	--	--	--	--	--	--
HARDNESS (AS CaCO <sub>3</sub> )	12	91.00	28.00	56.92	20.69	91.00	71.00	55.00	36.50	28.00
CALCIUM DISSOLVED	12	25.00	8.00	15.95	5.60	25.00	20.00	16.00	10.28	8.00
MAGNESIUM, DISSOLVED	12	7.00	2.00	4.17	1.69	7.00	5.30	3.95	2.60	2.00
SODIUM, DISSOLVED	12	2.10	1.00	1.48	0.39	2.10	1.85	1.40	1.08	1.00
SODIUM ADSORPTION RATIO	12	0.10	0.10	0.10	0.00	0.10	0.10	0.10	0.10	0.10
POTASSIUM, DISSOLVED	12	1.00	0.40	0.61	0.21	1.00	0.68	0.60	0.43	0.40
CHLORIDE, DISSOLVED	12	1.80	0.80	1.12	0.33	1.80	1.40	1.00	0.83	0.80
SULFATE DISSOLVED	12	13.00	3.00	6.10	2.77	13.00	7.10	5.45	4.30	3.00
FLUORIDE, DISSOLVED	4	0.10	0.10	--	--	--	--	--	--	--
SILICA, DISSOLVED	12	5.90	3.20	4.36	0.95	5.90	5.25	4.15	3.38	3.20
ARSENIC, DISSOLVED (UG/L)	2	<1.00	<1.00	--	--	--	--	--	--	--
BARIUM, DISSOLVED (UG/L)	2	<100.00	<100.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	11	40.00	<20.00	--	--	40.00	<20.00	<20.00	<20.00	<20.00
CADMIUM, DISSOLVED (UG/L)	2	<2.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	2	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	2	<2.00	<2.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	12	180.00	20.00	84.17	46.80	180.00	120.00	75.00	42.50	20.00
LEAD, DISSOLVED (UG/L)	2	2.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	6	60.00	<10.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	2	<20.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	2	<1.00	<1.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	2	1100.00	440.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	12	101.00	35.00	65.25	21.63	101.00	80.75	63.00	43.75	35.00
MERCURY, DISSOLVED (UG/L)	2	<0.50	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	51	354.00	2.00	14.63	48.76	23.80	11.00	7.00	4.00	2.00

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION STATISTICS					
		REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	37	0.00662	Q	1.12	0.71	0.0001	1.03
SPECIFIC CONDUCTANCE (MICROSIEMENS)	50	-57.2	LOGQ	229	.63	.0001	30.9
ALKALINITY (AS CaCO <sub>3</sub> )	11	*	LOGQ	*	.34	.0576	*
HARDNESS (AS CaCO <sub>3</sub> )	11	*	LOGQ	*	.30	.0812	*
CALCIUM, DISSOLVED	11	*	LOGQ	*	.28	.0924	*
MAGNESIUM, DISSOLVED	11	*	LOGQ	*	.29	.0847	*
SODIUM, DISSOLVED	11	*	K	*	.25	.118	*
SODIUM ADSORPTION RATIO	11	*	K	*	.05	.0001	*
POTASSIUM, DISSOLVED	11	*	K	*	.03	.596	*
CHLORIDE, DISSOLVED	11	*	Q	*	.35	.0557	*
SULFATE, DISSOLVED	11	*	K	*	.42	.0307	*
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	11	*	LOGQ	*	.24	.124	*
SEDIMENT, SUSPENDED (MG/L)	49	*	K	*	.00	.696	*

Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09221650 STATION NAME AND LOCATION: SMITHS FORK NEAR LYMAN, WYO.  
DRAINAGE AREA: NOT AVAILABLE

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAM- PLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	84	26.00	0.00	8.68	8.19	22.37	15.00	8.25	0.50	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	76	350.00	0.90	51.85	86.44	277.55	46.50	14.00	4.70	1.30
TURBIDITY (NTU)	80	4500.00	1.00	186.87	594.44	1177.50	95.00	23.50	10.00	2.10
SPECIFIC CONDUCTANCE (MICROSIEMENS)	84	3400.00	400.00	1190.13	618.04	2400.00	1515.00	990.00	752.75	495.00
OXYGEN, DISSOLVED	84	15.10	6.30	9.69	1.45	11.80	10.70	9.75	8.60	7.50
PH (UNITS)	41	9.20	7.50	--	--	8.89	8.55	8.30	8.10	7.61
ALKALINITY (AS CaCO <sub>3</sub> )	84	390.00	130.00	240.11	57.84	337.50	283.75	229.50	205.00	130.00
NITROGEN, AMMONIA TOTAL (AS N)	1	0.05	0.05	--	--	--	--	--	--	--
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	1	0.09	0.09	--	--	--	--	--	--	--
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	80	0.67	0.00	0.11	0.14	0.47	0.15	0.06	0.03	0.01
PHOSPHORUS, TOTAL (AS P)	56	13.00	0.02	0.70	2.04	5.12	0.24	0.08	0.05	0.02
HARDNESS (AS CaCO <sub>3</sub> )	84	410.00	52.00	206.56	54.75	280.00	230.00	210.00	180.00	112.50
CALCIUM DISSOLVED	84	110.00	16.00	54.48	15.83	79.50	62.00	57.00	41.25	28.75
MAGNESIUM, DISSOLVED	84	34.00	3.00	17.08	5.71	26.75	20.00	16.00	14.00	7.45
SODIUM, DISSOLVED	84	650.00	36.00	187.92	137.52	465.00	270.00	135.00	84.50	48.25
SODIUM ADSORPTION RATIO	84	21.00	1.30	5.92	4.76	15.50	7.78	4.00	2.60	1.70
POTASSIUM, DISSOLVED	84	9.20	2.10	3.76	1.04	5.38	4.18	3.65	3.20	2.40
CHLORIDE, DISSOLVED	84	260.00	23.00	95.57	55.10	225.00	127.50	80.00	57.50	28.25
SULFATE DISSOLVED	84	850.00	37.00	236.06	185.49	617.50	357.50	155.00	100.00	50.25
FLUORIDE, DISSOLVED	84	1.60	0.20	0.60	0.39	1.40	0.90	0.40	0.30	0.20
SILICA, DISSOLVED	84	27.00	3.40	13.17	4.04	20.75	15.75	13.50	11.00	5.83
ARSENIC DISSOLVED (UG/L)	1	4.00	4.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	17	2000.00	100.00	316.47	449.96	2000.00	310.00	190.00	120.00	100.00
CADMIUM, DISSOLVED (UG/L)	1	<2.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	1	5.00	5.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	1	<2.00	<2.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	2	40.00	<10.00	--	--	--	--	--	--	--
LEAD, DISSOLVED (UG/L)	1	<2.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	1	<10.00	<10.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	1	<20.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	1	3.00	3.00	--	--	--	--	--	--	--
COLIFORM, FECAL, (COLS/100 ML)	12	228.00	42.00	121.17	60.58	228.00	177.50	100.00	82.50	42.00
PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	1	0.00	0.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	84	2000.00	242.00	753.35	396.80	1532.50	1027.50	639.50	459.50	297.00
MERCURY, DISSOLVED (UG/L)	1	<0.50	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	41	16200.00	22.00	800.97	2653.04	5726.96	407.00	120.00	56.00	27.20

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	72	*	LOGQ	*	0.06	0.0378	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	76	-611	LOGQ	1,880	.56	.0001	379
ALKALINITY (AS CaCO <sub>3</sub> )	76	.0710	K	154	.57	.0001	35.4
HARDNESS (AS CaCO <sub>3</sub> )	76	*	Q	*	.25	.0001	*
CALCIUM, DISSOLVED	76	*	Q	*	.14	.0010	*
MAGNESIUM, DISSOLVED	76	*	K	*	.44	.0001	*
SODIUM, DISSOLVED	76	.221	K	-74.3	.97	.0001	20.8
SODIUM ADSORPTION RATIO	76	.00691	K	-2.32	.84	.0001	1.72
POTASSIUM, DISSOLVED	76	*	K	*	.15	.0005	*
CHLORIDE, DISSOLVED	76	.0804	K	-.386	.80	.0001	22.8
SULFATE, DISSOLVED	76	.299	K	-118	.96	.0001	33.2
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	76	.642	K	-10.9	.98	.0001	50.5
SUSPENDED SEDIMENT	37	*	LOGQ	*	.06	.157	*



Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09222000 STATION NAME AND LOCATION: BLACKS FORK NEAR LYMAN, WYO.  
DRAINAGE AREA: 821 SQUARE MILES

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	17	21.00	0.00	10.74	6.66	21.00	15.25	12.00	3.50	0.00
TEMPERATURE (DEG C)	151	26.50	0.00	9.49	8.29	22.20	17.00	9.00	0.00	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	133	2200.00	2.30	139.83	299.78	615.70	123.50	36.00	14.50	6.49
TURBIDITY (NTU)	133	8700.00	1.00	225.17	1024.65	1015.00	40.00	10.00	4.00	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	144	6000.00	300.00	2237.74	1174.56	4299.99	3000.00	2100.00	1312.50	677.50
OXYGEN, DISSOLVED	75	12.40	6.70	9.47	1.33	11.60	10.80	9.30	8.30	7.60
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	1	7.80	7.80	--	--	--	--	--	--	--
PH (UNITS)	43	8.90	6.80	--	--	8.76	8.30	8.20	8.10	7.52
ALKALINITY (AS CaCO3)	86	330.00	66.00	210.20	46.51	286.50	240.00	210.00	187.00	133.50
NITROGEN, AMMONIA DISSOLVED (AS N)	2	0.19	0.04	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	2	0.06	0.05	--	--	--	--	--	--	--
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	3	1.40	0.68	--	--	--	--	--	--	--
NITROGEN, NO2+NO3 TOTAL (AS N)	1	0.03	0.03	--	--	--	--	--	--	--
NITROGEN, NO2+NO3 DISSOLVED (AS N)	79	3.00	0.00	0.16	0.35	0.47	0.19	0.06	0.02	0.01
PHOSPHORUS, TOTAL (AS P)	3	2.00	0.03	--	--	--	--	--	--	--
HARDNESS (AS CaCO3)	87	1300.00	140.00	677.59	321.27	1200.00	920.00	650.00	400.00	194.00
CALCIUM DISSOLVED	87	300.00	36.00	168.03	74.20	290.00	230.00	160.00	100.00	52.20
MAGNESIUM, DISSOLVED	87	150.00	7.30	62.33	33.26	120.00	84.00	59.00	36.00	15.40
SODIUM, DISSOLVED	87	690.00	62.00	273.32	148.03	542.00	360.00	260.00	160.00	83.00
SODIUM ADSORPTION RATIO	87	11.00	1.90	4.51	1.78	8.02	5.40	4.30	3.20	2.10
POTASSIUM, DISSOLVED	86	6.60	0.50	4.14	1.09	6.07	4.83	4.30	3.50	2.30
CHLORIDE, DISSOLVED	87	160.00	23.00	79.14	31.20	140.00	98.00	78.00	58.00	27.80
SULFATE DISSOLVED	87	2300.00	120.00	914.94	563.19	2000.00	1300.00	830.00	430.00	232.00
FLUORIDE, DISSOLVED	86	1.60	0.20	0.73	0.30	1.20	1.00	0.70	0.50	0.30
SILICA, DISSOLVED	87	20.00	4.20	11.05	2.93	16.00	13.00	11.00	9.00	6.30
ARSENIC DISSOLVED (UG/L)	2	7.00	3.00	--	--	--	--	--	--	--
BARIUM, DISSOLVED (UG/L)	1	<100.00	<100.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	86	1900.00	100.00	431.63	266.48	872.50	582.50	380.00	237.50	150.00
CADMIUM, DISSOLVED (UG/L)	2	<2.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	2	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	2	9.00	<2.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	87	430.00	<10.00	--	--	276.00	100.00	60.00	30.00	<10.00
LEAD, DISSOLVED (UG/L)	2	3.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	3	20.00	<10.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	2	<20.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	2	4.00	3.00	--	--	--	--	--	--	--
COLIFORM, FECAL, (COLS/100 ML)	9	650.00	20.00	--	--	--	--	--	--	--
PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	1	0.00	0.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	1	610.00	610.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	86	3650.00	373.00	1631.76	836.41	3205.50	2185.00	1500.00	959.75	514.40
MERCURY, DISSOLVED (UG/L)	2	<0.50	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	91	13800.00	3.00	804.29	2089.54	5400.00	267.00	90.00	34.00	9.20

REGRESSION STATISTICS

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	113	*	LOGQ	*	0.02	0.140	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	125	-1500	LOGQ	4,710	.57	.0001	806
ALKALINITY (AS CaCO3)	67	*	Q	*	.10	.0094	*
HARDNESS (AS CaCO3)	68	.265	K	72.1	.87	.0001	125
CALCIUM, DISSOLVED	68	.0593	K	31.1	.83	.0001	31.9
MAGNESIUM, DISSOLVED	68	.0282	K	-1.32	.90	.0001	11.5
SODIUM, DISSOLVED	68	.128	K	-9.45	.92	.0001	45.1
SODIUM ADSORPTION RATIO	68	.00115	K	2.06	.50	.0001	1.38
POTASSIUM, DISSOLVED	67	*	K	*	.20	.0001	*
CHLORIDE, DISSOLVED	68	.0238	K	26.6	.73	.0001	17.4
SULFATE, DISSOLVED	68	.496	K	-192	.95	.0001	141
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	67	.732	K	.242	.95	.0001	196
SUSPENDED SEDIMENT	75	*	LOGQ	*	.11	.0030	*

Table 3.--Statistical summaries of water-quality data from the Green River coal region, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09222300 STATION NAME AND LOCATION: LITTLE MUDDY CREEK NEAR GLENCOE, WYO.  
DRAINAGE AREA: 416 SQUARE MILES

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAMPLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	119	28.00	0.00	8.13	7.15	21.00	13.50	8.00	0.50	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	109	343.00	0.93	18.43	46.11	74.50	13.00	7.40	4.25	1.80
TURBIDITY (NTU)	117	5400.00	1.00	135.72	568.57	425.00	55.00	20.00	7.50	2.36
SPECIFIC CONDUCTANCE (MICROSIEMENS)	117	5500.00	600.00	1753.16	896.45	3720.00	1900.00	1480.00	1250.00	879.50
OXYGEN, DISSOLVED	58	11.80	6.80	9.13	1.35	11.61	10.20	9.20	7.90	6.90
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	56	6.20	0.80	2.63	1.19	4.91	3.15	2.30	1.90	1.08
PH (UNITS)	61	9.10	7.30	--	--	8.69	8.20	8.00	7.80	7.60
ALKALINITY (AS CaCO <sub>3</sub> )	61	378.00	40.00	189.51	80.03	346.00	235.00	190.00	137.50	56.40
NITROGEN, AMMONIA DISSOLVED (AS N)	1	0.01	0.01	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	56	9.40	0.00	0.67	1.58	3.84	0.31	0.08	0.02	0.01
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	60	10.00	0.27	1.46	1.61	4.98	1.50	0.99	0.62	0.40
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	59	7.30	0.01	0.74	1.25	4.30	0.84	0.27	0.07	0.01
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	2	0.23	0.21	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	60	1.80	0.01	0.15	0.28	0.50	0.16	0.07	0.04	0.01
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	2	0.02	0.01	--	--	--	--	--	--	--
HARDNESS (AS CaCO <sub>3</sub> )	61	1500.00	240.00	725.74	262.71	1380.00	810.00	650.00	575.00	430.00
CALCIUM DISSOLVED	61	400.00	52.00	173.11	72.72	363.00	205.00	160.00	130.00	81.00
MAGNESIUM, DISSOLVED	61	140.00	1.00	71.16	26.47	130.00	84.00	64.00	55.00	40.10
SODIUM, DISSOLVED	61	470.00	43.00	126.98	97.23	339.00	145.00	85.00	65.50	47.20
SODIUM ADSORPTION RATIO	61	5.90	0.80	1.95	1.16	4.19	2.45	1.40	1.20	0.91
POTASSIUM, DISSOLVED	61	18.00	1.00	7.01	3.45	15.90	7.70	5.70	4.85	3.61
CHLORIDE, DISSOLVED	61	93.00	15.00	39.11	19.08	88.40	49.00	34.00	24.50	16.20
SULFATE DISSOLVED	61	1900.00	170.00	731.80	394.84	1790.00	850.00	630.00	495.00	251.00
FLUORIDE, DISSOLVED	60	1.00	0.20	0.61	0.18	0.90	0.78	0.60	0.50	0.31
SILICA, DISSOLVED	61	17.00	0.30	5.45	3.54	11.90	8.10	5.30	2.65	0.41
ARSENIC DISSOLVED (UG/L)	8	2.00	<1.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	60	7000.00	150.00	2167.50	1435.72	5484.99	2700.00	1850.00	1200.00	251.50
CADMIUM DISSOLVED (UG/L)	8	2.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	8	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	8	<20.00	<20.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	61	470.00	<10.00	--	--	322.00	80.00	40.00	30.00	<10.00
LEAD, DISSOLVED (UG/L)	8	3.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	9	100.00	<10.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	8	30.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	8	12.00	<1.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	1	650.00	650.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	61	2970.00	401.00	1271.31	598.96	2918.00	1440.00	1070.00	899.00	619.10
MERCURY, DISSOLVED (UG/L)	8	<0.50	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	75	3680.00	8.00	289.36	579.42	1348.00	279.00	88.00	47.00	14.20

WATER QUALITY CONSTITUENT	REGRESSION STATISTICS						
	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	104	9.52	Q	-27.9	0.56	0.0001	403
SPECIFIC CONDUCTANCE (MICROSIEMENS)	106	*	LOGQ	*	.09	.0022	*
ALKALINITY (AS CaCO <sub>3</sub> )	56	*	LOGQ	*	.18	.0011	*
HARDNESS (AS CaCO <sub>3</sub> )	56	.303	K	209	.85	.0001	105
CALCIUM, DISSOLVED	56	.0771	K	41.2	.72	.0001	39.2
MAGNESIUM, DISSOLVED	56	.0266	K	26.2	.62	.0001	16.8
SODIUM, DISSOLVED	56	.115	K	-66.1	.90	.0001	32.0
SODIUM ADSORPTION RATIO	56	.00122	K	-.109	.72	.0001	.620
POTASSIUM, DISSOLVED	56	.00356	K	.852	.69	.0001	1.94
CHLORIDE, DISSOLVED	56	*	K	*	.47	.0001	*
SULFATE, DISSOLVED	56	.475	K	-70.2	.90	.0001	128
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	56	.735	K	26.4	.95	.0001	138
SUSPENDED SEDIMENT	66	*	LOGQ	*	.40	.0001	*

Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09222400 STATION NAME AND LOCATION: MUDDY CREEK NEAR HAMPTON, WYO.  
DRAINAGE AREA: 963 SQUARE MILES

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	135	25.00	0.00	9.34	7.95	21.60	16.00	10.00	0.00	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	125	455.00	0.00	46.37	78.03	232.70	43.00	9.60	3.90	0.22
TURBIDITY (NTU)	123	4400.00	1.00	221.63	522.21	1100.00	160.00	40.00	15.00	3.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	130	5000.00	340.00	1671.35	846.67	3300.00	2000.00	1525.00	1187.50	511.00
OXYGEN, DISSOLVED	64	12.20	7.20	9.49	1.24	11.55	10.50	9.45	8.60	7.40
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	57	7.00	0.60	2.79	1.43	5.92	3.20	2.60	1.75	0.98
PH (UNITS)	65	9.80	7.50	--	--	8.84	8.40	8.20	8.00	7.60
ALKALINITY (AS CaCO3)	63	410.00	50.00	204.57	83.41	341.60	250.00	200.00	137.00	63.60
NITROGEN, AMMONIA DISSOLVED (AS N)	1	0.23	0.23	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	55	5.00	0.00	0.21	0.68	0.80	0.14	0.05	0.03	0.00
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	63	8.70	0.30	1.22	1.17	3.52	1.20	0.93	0.71	0.46
NITROGEN, NO2+NO3 TOTAL (AS N)	62	3.00	0.00	0.40	0.60	1.78	0.41	0.18	0.05	0.01
NITROGEN, NO2+NO3 DISSOLVED (AS N)	3	0.64	0.02	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	64	4.80	0.01	0.45	0.91	3.07	0.39	0.10	0.04	0.01
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	2	0.01	0.01	--	--	--	--	--	--	--
HARDNESS (AS CaCO3)	63	1200.00	0.00	581.90	263.27	1100.00	710.00	580.00	420.00	182.00
CALCIUM DISSOLVED	62	270.00	37.00	123.81	59.08	248.50	160.00	120.00	77.50	44.30
MAGNESIUM, DISSOLVED	62	140.00	14.00	68.48	29.62	130.00	81.00	65.00	53.75	20.15
SODIUM, DISSOLVED	63	450.00	22.00	154.56	97.24	384.00	190.00	140.00	89.00	37.00
SODIUM ADSORPTION RATIO	62	6.10	0.90	2.61	1.16	4.90	3.13	2.50	1.68	1.12
POTASSIUM, DISSOLVED	63	21.00	3.80	11.06	4.99	20.80	15.00	11.00	6.70	4.28
CHLORIDE, DISSOLVED	63	400.00	27.00	108.10	69.78	228.00	150.00	97.00	50.00	28.60
SULFATE DISSOLVED	63	2200.00	30.00	576.05	422.12	1500.00	670.00	460.00	300.00	69.60
FLUORIDE, DISSOLVED	61	1.00	0.20	0.49	0.18	0.80	0.60	0.40	0.40	0.20
SILICA, DISSOLVED	63	14.00	0.20	5.30	3.28	9.96	7.80	5.50	1.90	0.50
ARSENIC DISSOLVED (UG/L)	8	9.00	1.00	--	--	--	--	--	--	--
BARIUM, DISSOLVED (UG/L)	1	<100.00	<100.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	61	6500.00	50.00	1534.10	1284.64	4040.00	2150.00	1300.00	670.00	160.00
CADMIUM DISSOLVED (UG/L)	8	4.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	8	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	8	<20.00	<20.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	63	820.00	<10.00	--	--	540.00	90.00	40.00	20.00	<10.00
LEAD, DISSOLVED (UG/L)	8	19.00	<10.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	8	20.00	<10.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	8	20.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	8	6.00	<1.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	3	3400.00	610.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	63	2800.00	223.00	1169.35	590.36	2390.00	1370.00	1040.00	798.00	327.20
MERCURY DISSOLVED (UG/L)	8	<0.50	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	86	7780.00	4.00	866.74	1633.35	5100.00	650.00	136.00	56.00	8.70

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	107	*	Q	*	0.32	0.0001	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	117	-706	LOGQ	2360	.50	.0001	581
ALKALINITY (AS CaCO3)	51	*	LOGQ	*	.14	.0060	*
HARDNESS (AS CaCO3)	51	*	LOGQ	*	.31	.0001	*
CALCIUM, DISSOLVED	50	.0622	K	21.3	.56	.0001	37.8
MAGNESIUM, DISSOLVED	50	.0385	K	7.06	.76	.0001	14.7
SODIUM, DISSOLVED	51	.116	K	-44.2	.90	.0001	29.7
SODIUM ADSORPTION RATIO	50	.00140	K	.236	.69	.0001	.650
POTASSIUM, DISSOLVED	51	*	K	*	.45	.0001	*
CHLORIDE, DISSOLVED	51	*	K	*	.24	.0003	*
SULFATE, DISSOLVED	51	.496	K	-233	.83	.0001	178
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	51	.710	K	-28.8	.93	.0001	154
SUSPENDED SEDIMENT	72	14.1	Q	185	.55	.0001	1,190

Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09224050 STATION NAME AND LOCATION: HAMS FORK NEAR DIAMONDVILLE, WYO.  
DRAINAGE AREA: NOT AVAILABLE

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	75	19.50	0.00	6.94	6.69	17.80	13.50	5.50	0.00	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	62	826.00	4.80	121.76	200.93	732.30	101.25	41.50	20.50	7.32
TURBIDITY (NTU)	75	210.00	1.00	10.83	27.67	56.00	6.00	3.70	2.00	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	75	800.00	310.00	501.53	106.12	692.00	570.00	510.00	400.00	360.00
OXYGEN, DISSOLVED	74	13.40	4.20	8.76	1.93	12.40	9.70	8.85	7.67	5.02
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	73	7.00	1.50	3.15	1.25	5.78	3.80	2.80	2.20	1.70
PH (UNITS)	75	9.10	7.20	--	--	8.90	8.20	7.90	7.60	7.38
ALKALINITY (AS CaCO3)	75	210.00	94.00	156.81	26.35	199.20	180.00	160.00	140.00	110.00
NITROGEN, AMMONIA TOTAL (AS N)	67	1.60	0.01	0.28	0.32	0.87	0.43	0.16	0.07	0.02
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	72	2.00	0.21	0.93	0.36	1.67	1.10	0.92	0.68	0.39
NITROGEN, NO2+NO3 TOTAL (AS N)	73	1.20	0.00	0.19	0.19	0.65	0.25	0.14	0.06	0.01
PHOSPHORUS, TOTAL (AS P)	74	1.30	0.02	0.25	0.21	0.70	0.31	0.20	0.11	0.03
CARBON, ORGANIC DISSOLVED	9	10.00	4.20	--	--	--	--	--	--	--
CARBON, ORGANIC SUSPENDED	8	3.70	0.30	--	--	--	--	--	--	--
HARDNESS (AS CaCO3)	75	330.00	130.00	235.47	49.19	314.00	280.00	230.00	190.00	170.00
CALCIUM DISSOLVED	75	94.00	38.00	66.53	13.75	89.60	79.00	66.00	54.00	48.80
MAGNESIUM, DISSOLVED	75	25.00	9.20	16.95	4.02	24.00	19.00	18.00	14.00	10.80
SODIUM, DISSOLVED	74	43.00	4.90	14.76	6.76	28.75	18.00	14.50	9.78	5.88
SODIUM ADSORPTION RATIO	74	1.10	0.20	0.41	0.17	0.72	0.50	0.40	0.30	0.20
POTASSIUM, DISSOLVED	75	3.40	0.90	1.80	0.45	2.54	2.00	1.90	1.50	1.08
CHLORIDE, DISSOLVED	73	16.00	2.20	6.97	3.06	13.00	8.70	6.90	4.45	2.74
SULFATE DISSOLVED	74	200.00	26.00	99.30	42.29	162.50	130.00	110.00	64.00	32.00
FLUORIDE, DISSOLVED	75	0.60	0.10	0.27	0.09	0.40	0.30	0.30	0.20	0.10
SILICA, DISSOLVED	75	8.20	0.10	3.86	2.17	7.04	5.70	3.80	2.10	0.30
ARSENIC DISSOLVED (UG/L)	18	3.00	<1.00	--	--	3.00	2.00	1.00	1.00	<1.00
BORON, DISSOLVED (UG/L)	75	1900.00	<20.00	--	--	96.00	60.00	50.00	30.00	20.00
CADMIUM DISSOLVED (UG/L)	18	3.00	<2.00	--	--	3.00	<2.00	<2.00	<2.00	<2.00
CHROMIUM, DISSOLVED (UG/L)	18	<20.00	<20.00	--	--	<20.00	<20.00	<20.00	<20.00	<20.00
COPPER, DISSOLVED (UG/L)	18	7.00	<2.00	--	--	7.00	3.25	<2.00	<2.00	<2.00
IRON, DISSOLVED (UG/L)	75	970.00	<10.00	--	--	372.00	90.00	50.00	30.00	<10.00
LEAD, DISSOLVED (UG/L)	18	8.00	<2.00	--	--	8.00	4.00	2.00	<2.00	<2.00
MANGANESE, DISSOLVED (UG/L)	18	170.00	<10.00	--	--	170.00	95.00	40.00	27.50	<10.00
ZINC, DISSOLVED (UG/L)	18	40.00	<20.00	--	--	40.00	<20.00	<20.00	<20.00	<20.00
SELENIUM, DISSOLVED (UG/L)	18	1.00	<1.00	--	--	1.00	<1.00	<1.00	<1.00	<1.00
COLIFORM, FECAL, (COLS/100 ML)	12	4900.00	400.00	2788.33	1776.07	4900.00	4725.00	2550.00	1220.00	400.00
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	73	478.00	185.00	304.62	74.99	420.30	359.50	308.00	233.00	200.40
MERCURY DISSOLVED (UG/L)	18	<0.50	<0.50	--	--	<0.50	<0.50	<0.50	<0.50	<0.50
SEDIMENT, SUSPENDED	11	20.00	4.00	8.27	4.76	20.00	12.00	7.00	5.00	4.00

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	62	*	Q	*	0.26	0.0001	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	62	*	LOGQ	*	.33	.0001	*
ALKALINITY (AS CaCO3)	62	*	K	*	.42	.0001	*
HARDNESS (AS CaCO3)	62	0.408	K	26.3	.86	.0001	17.4
CALCIUM, DISSOLVED	62	.106	K	11.7	.78	.0001	6.04
MAGNESIUM, DISSOLVED	62	.0343	K	-.409	.82	.0001	1.69
SODIUM, DISSOLVED	62	.0526	K	-11.6	.68	.0001	3.87
SODIUM ADSORPTION RATIO	62	*	K	*	.46	.0001	*
POTASSIUM, DISSOLVED	62	*	K	*	.20	.0003	*
CHLORIDE, DISSOLVED	61	.0229	K	-4.52	.61	.0001	1.97
SULFATE, DISSOLVED	61	.340	K	-72.1	.75	.0001	21.1
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	61	.656	K	-28.6	.92	.0001	21.1
SUSPENDED SEDIMENT	11	.337	Q	-2.16	.77	.0004	2.39

Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09224450 STATION NAME AND LOCATION: HAMS FORK NEAR GRANGER, WYO.  
DRAINAGE AREA: 670 SQUARE MILES

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	83	22.50	0.00	8.43	7.75	20.80	16.00	8.00	0.50	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	80	1350.00	0.00	135.75	252.34	820.70	105.75	27.00	14.00	0.06
TURBIDITY (NTU)	54	400.00	1.00	27.46	62.62	148.75	20.00	8.00	5.75	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	75	1180.00	340.00	650.72	165.55	970.00	740.00	660.00	530.00	416.00
OXYGEN, DISSOLVED	2	8.10	5.00	--	--	--	--	--	--	--
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	1	1.60	1.60	--	--	--	--	--	--	--
PH (UNITS)	40	8.60	7.50	--	--	8.60	8.40	8.20	8.10	7.50
ALKALINITY (AS CaCO <sub>3</sub> )	81	270.00	98.00	183.78	30.21	230.00	200.00	189.00	164.00	136.30
NITROGEN, AMMONIA DISSOLVED (AS N)	1	0.09	0.09	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	1	0.14	0.14	--	--	--	--	--	--	--
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	1	0.55	0.55	--	--	--	--	--	--	--
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	1	0.04	0.04	--	--	--	--	--	--	--
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	26	2.30	0.00	0.22	0.50	1.84	0.14	0.03	0.00	0.00
PHOSPHORUS, TOTAL (AS P)	77	1.80	0.00	0.12	0.26	0.45	0.11	0.04	0.02	0.01
HARDNESS (AS CaCO <sub>3</sub> )	81	440.00	130.00	274.69	62.43	389.00	310.00	280.00	225.00	190.00
CALCIUM DISSOLVED	81	110.00	32.00	71.77	15.43	99.90	83.50	70.00	60.00	50.00
MAGNESIUM, DISSOLVED	81	46.00	7.80	23.22	7.15	36.00	28.00	23.00	18.50	13.00
SODIUM, DISSOLVED	81	120.00	11.00	42.35	19.23	76.70	50.00	40.00	32.00	19.10
SODIUM ADSORPTION RATIO	81	2.50	0.30	1.09	0.40	1.97	1.25	1.00	0.80	0.60
POTASSIUM, DISSOLVED	78	5.00	0.40	2.04	0.65	3.00	2.30	1.95	1.60	1.19
CHLORIDE, DISSOLVED	81	51.00	1.90	19.11	9.98	39.00	23.00	18.00	12.00	3.64
SULFATE DISSOLVED	81	360.00	41.00	152.93	62.69	285.00	185.00	150.00	120.00	57.20
FLUORIDE, DISSOLVED	81	1.60	0.20	0.43	0.17	0.60	0.50	0.40	0.30	0.30
SILICA, DISSOLVED	76	24.00	0.10	3.49	3.65	6.90	4.10	2.70	1.50	0.80
ARSENIC DISSOLVED (UG/L)	2	2.00	1.00	--	--	--	--	--	--	--
BARIUM, DISSOLVED (UG/L)	1	<100.00	<100.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	1	70.00	70.00	--	--	--	--	--	--	--
CADMIUM DISSOLVED (UG/L)	2	3.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	2	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	2	13.00	3.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	2	20.00	20.00	--	--	--	--	--	--	--
LEAD, DISSOLVED (UG/L)	2	2.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	2	40.00	5.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	2	<20.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	2	<1.00	<1.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	1	760.00	760.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	80	827.00	217.00	428.02	117.57	666.50	483.50	423.50	340.75	251.60
MERCURY, DISSOLVED (UG/L)	2	<0.50	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	81	1500.00	3.00	92.60	195.63	422.00	67.00	36.00	17.00	9.00

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	47	*	LOGQ	*	0.20	0.0016	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	68	-195	LOGQ	975	.57	.0001	112
ALKALINITY (AS CaCO <sub>3</sub> )	66	*	K	*	.41	.0001	*
HARDNESS (AS CaCO <sub>3</sub> )	66	.319	K	59.2	.80	.0001	27.2
CALCIUM, DISSOLVED	66	.0677	K	26.1	.63	.0001	8.82
MAGNESIUM, DISSOLVED	66	.0371	K	-1.90	.82	.0001	2.97
SODIUM, DISSOLVED	66	.100	K	-24.4	.89	.0001	6.06
SODIUM ADSORPTION RATIO	66	.00192	K	-.184	.76	.0001	.182
POTASSIUM, DISSOLVED	63	*	K	*	.03	.215	*
CHLORIDE, DISSOLVED	66	.0480	K	-13.3	.74	.0001	4.88
SULFATE, DISSOLVED	66	.342	K	-76.6	.88	.0001	21.5
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	65	.657	K	-16.4	.92	.0001	31.7
SUSPENDED SEDIMENT	65	*	Q	*	.29	.0001	*

Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09224700 STATION NAME AND LOCATION: BLACKS FORK RIVER NEAR LITTLE AMERICA, WYO.  
DRAINAGE AREA: 3,100 SQUARE MILES

WATER QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS					PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAM- PLE SIZE	MAXIMUM	MINIMUM	MEAN	STANDARD DEVIA- TION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	164	27.00	0.00	9.05	7.87	22.75	15.00	9.00	0.50	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	152	3450.00	0.20	312.76	562.49	1568.50	307.75	74.00	21.50	5.09
TURBIDITY (NTU)	144	10200.00	0.00	256.43	1011.54	1525.00	100.00	10.00	5.00	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	147	4500.00	470.00	1583.20	734.98	2960.00	2000.00	1500.00	980.00	620.00
OXYGEN, DISSOLVED	86	12.60	6.30	9.70	1.65	12.36	11.20	9.55	8.37	7.17
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	2	5.20	1.70	--	--	--	--	--	--	--
PH (UNITS)	45	8.90	7.70	--	--	8.64	8.40	8.20	8.10	7.70
ALKALINITY (AS CaCO3)	88	320.00	75.00	192.19	45.34	277.50	220.00	185.50	160.00	120.00
NITROGEN, AMMONIA DISSOLVED (AS N)	2	0.41	0.02	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	2	0.05	0.02	--	--	--	--	--	--	--
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	4	1.80	0.27	--	--	--	--	--	--	--
NITROGEN, NO2+NO3 TOTAL (AS N)	2	0.08	0.03	--	--	--	--	--	--	--
NITROGEN, NO2+NO3 DISSOLVED (AS N)	83	4.20	0.00	0.17	0.47	0.58	0.16	0.07	0.02	0.01
PHOSPHORUS, TOTAL (AS P)	4	1.40	0.02	--	--	--	--	--	--	--
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	2	0.01	0.01	--	--	--	--	--	--	--
HARDNESS (AS CaCO3)	88	1100.00	180.00	499.32	200.81	903.00	627.50	490.00	340.00	224.50
CALCIUM DISSOLVED	88	220.00	40.00	117.26	43.90	200.00	140.00	120.00	84.00	54.90
MAGNESIUM, DISSOLVED	88	150.00	16.00	50.16	23.86	95.75	64.00	46.00	32.00	18.45
SODIUM, DISSOLVED	88	620.00	41.00	191.02	106.96	427.50	240.00	170.00	120.00	55.00
SODIUM ADSORPTION RATIO	88	8.20	1.20	3.60	1.42	6.93	4.25	3.30	2.80	1.50
POTASSIUM, DISSOLVED	88	12.00	2.60	5.01	1.67	8.70	5.75	4.65	3.90	3.05
CHLORIDE, DISSOLVED	88	310.00	16.00	72.92	47.47	172.00	82.50	64.00	46.00	24.45
SULFATE DISSOLVED	88	1900.00	120.00	603.52	355.07	1355.00	777.50	545.00	315.00	153.50
FLUORIDE, DISSOLVED	87	0.80	0.20	0.49	0.15	0.70	0.60	0.50	0.40	0.24
SILICA, DISSOLVED	88	13.00	0.10	6.40	2.70	11.55	7.90	6.50	4.70	1.55
ARSENIC DISSOLVED (UG/L)	2	3.00	2.00	--	--	--	--	--	--	--
BARIUM, DISSOLVED (UG/L)	1	200.00	200.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	87	1400.00	110.00	431.03	267.57	1100.00	530.00	380.00	250.00	120.00
CADMIUM DISSOLVED (UG/L)	2	4.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	2	30.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	2	20.00	<2.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	88	1300.00	<10.00	--	--	371.00	87.50	40.00	20.00	<10.00
LEAD, DISSOLVED (UG/L)	2	4.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	4	60.00	<10.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	2	60.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	2	3.00	1.00	--	--	--	--	--	--	--
COLIFORM, FECAL (COLS/100 ML)	9	620.00	23.00	--	--	--	--	--	--	--
PCB, TOTAL (UG/L)	9	0.00	0.00	--	--	--	--	--	--	--
PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	8	0.00	0.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	2	21000.00	18000.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS,	88	3190.00	361.00	1163.73	557.56	2306.00	1450.00	1085.00	745.25	412.45
MERCURY, DISSOLVED (UG/L)	2	<0.50	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	94	8780.00	2.00	690.70	1526.87	5022.50	502.00	79.00	34.75	8.75

REGRESSION STATISTICS							
WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	128	*	Q	*	0.09	0.0004	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	134	-.768	LOGQ	3050	.65	.0001	452
ALKALINITY (AS CaCO3)	73	*	Q	*	.05	.0623	*
HARDNESS (AS CaCO3)	73	.245	K	94.9	.82	.0001	88.8
CALCIUM, DISSOLVED	73	.0472	K	37.9	.67	.0001	25.4
MAGNESIUM, DISSOLVED	73	.0307	K	.241	.87	.0001	9.09
SODIUM, DISSOLVED	73	.142	K	-35.2	.90	.0001	35.6
SODIUM ADSORPTION RATIO	73	.00174	K	.855	.75	.0001	.761
POTASSIUM, DISSOLVED	73	.00180	K	2.14	.59	.0001	1.15
CHLORIDE, DISSOLVED	73	.0571	K	-18.3	.72	.0001	27.3
SULFATE, DISSOLVED	73	.463	K	-141	.89	.0001	123
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	73	.742	K	-32.4	.92	.0001	166
SUSPENDED SEDIMENT	81	*	Q	*	.37	.0001	*

Table 3.--Statistical summaries of water-quality data from the Green River coal region, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09229500 STATION NAME AND LOCATION: HENRYS FORK NEAR MANILA, UTAH  
DRAINAGE AREA: 520 SQUARE MILES

WATER QUALITY CONSTITUENT	SAMPLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	80	23.00	0.00	10.59	7.51	21.97	16.37	12.25	2.00	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	77	1300.00	0.45	108.64	234.79	630.70	68.00	33.00	4.35	1.59
TURBIDITY (NTU)	39	700.00	1.00	95.67	176.62	700.00	70.00	20.00	3.00	1.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	71	2700.00	370.00	1392.18	618.77	2540.00	2000.00	1210.00	950.00	458.00
OXYGEN, DISSOLVED	1	7.30	7.30	--	--	--	--	--	--	--
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	1	4.90	4.90	--	--	--	--	--	--	--
PH (UNITS)	10	8.40	7.80	--	--	8.40	8.40	8.25	8.00	7.80
ALKALINITY (AS CaCO <sub>3</sub> )	66	369.00	118.00	231.06	38.58	280.00	250.50	238.50	216.00	144.00
NITROGEN, AMMONIA DISSOLVED (AS N)	1	0.02	0.02	--	--	--	--	--	--	--
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	2	1.60	0.77	--	--	--	--	--	--	--
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	1	7.20	7.20	--	--	--	--	--	--	--
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	64	18.00	0.01	1.37	2.84	6.77	1.50	0.27	0.13	0.04
PHOSPHORUS, TOTAL (AS P)	6	0.11	0.01	--	--	--	--	--	--	--
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	2	0.02	0.01	--	--	--	--	--	--	--
HARDNESS (AS CaCO <sub>3</sub> )	66	1600.00	0.00	751.52	342.50	1365.00	1100.00	655.00	507.50	235.00
CALCIUM DISSOLVED	65	310.00	46.00	166.83	65.33	284.00	235.00	150.00	120.00	71.40
MAGNESIUM, DISSOLVED	65	200.00	14.00	84.52	42.04	150.00	120.00	70.00	56.00	31.30
SODIUM, DISSOLVED	66	140.00	13.00	68.70	32.65	126.50	96.75	56.50	44.75	26.00
SODIUM ADSORPTION RATIO	65	1.60	0.40	1.05	0.29	1.50	1.30	1.00	0.80	0.60
POTASSIUM, DISSOLVED	65	19.00	3.50	10.54	3.38	16.00	13.00	9.60	7.85	5.89
CHLORIDE, DISSOLVED	66	76.00	3.80	26.98	13.28	49.00	39.00	22.00	18.00	11.35
SULFATE DISSOLVED	65	1500.00	80.00	589.48	333.24	1200.00	855.00	470.00	360.00	193.00
FLUORIDE, DISSOLVED	65	1.80	0.20	0.54	0.27	1.11	0.60	0.50	0.40	0.30
SILICA, DISSOLVED	66	29.00	11.00	17.95	3.49	23.65	20.00	17.50	16.00	13.00
BORON, DISSOLVED (UG/L)	61	590.00	80.00	254.92	134.36	490.00	395.00	190.00	155.00	110.00
IRON, DISSOLVED (UG/L)	60	720.00	<10.00	--	--	339.00	127.50	65.00	40.00	<10.00
MANGANESE, DISSOLVED (UG/L)	1	160.00	160.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	1	2500.00	2500.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	66	2470.00	247.00	1112.62	511.53	1979.00	1615.00	948.50	750.00	463.80
SEDIMENT, SUSPENDED	52	4740.00	6.00	537.87	987.40	3125.49	575.00	135.50	38.25	7.95

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	39	*	LOGQ	*	0.21	0.0038	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	68	-683	LOGQ	2,360	.73	.0001	329
ALKALINITY (AS CaCO <sub>3</sub> )	57	*	Q	*	.30	.0001	*
HARDNESS (AS CaCO <sub>3</sub> )	57	.507	K	.0728	.81	.0001	148
CALCIUM, DISSOLVED	56	.0963	K	22.8	.83	.0001	26.4
MAGNESIUM, DISSOLVED	56	.0631	K	-8.81	.81	.0001	18.2
SODIUM, DISSOLVED	57	-42.6	LOGQ	124	.80	.0001	14.7
SODIUM ADSORPTION RATIO	56	-.358	LOGQ	1.52	.69	.0001	.167
POTASSIUM, DISSOLVED	56	-4.39	LOGQ	16.4	.77	.0001	1.68
CHLORIDE, DISSOLVED	57	.0203	K	-2.63	.79	.0001	6.36
SULFATE, DISSOLVED	56	.520	K	-155	.83	.0001	142
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	57	.730	K	32.1	.74	.0001	260
SUSPENDED SEDIMENT	52	*	Q	*	.40	.0001	*

Table 3.--Statistical summaries of water-quality data from the Green River coal region, based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09235300 STATION NAME AND LOCATION: VERMILLION CREEK NEAR HIAWATHA, COLO.  
DRAINAGE AREA: 196 SQUARE MILES

WATER QUALITY CONSTITUENT	SAMPLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	133	28.00	0.00	9.81	9.19	25.65	18.00	8.50	0.00	0.00
STREAMFLOW, INSTANTANEOUS (FT <sup>3</sup> /S)	125	75.00	0.00	3.34	8.08	15.40	2.65	1.60	0.54	0.02
TURBIDITY (NTU)	126	23000.00	1.00	775.43	2417.16	4190.00	562.50	91.00	29.75	2.00
SPECIFIC CONDUCTANCE (MICROSIEMENS)	134	3200.00	700.00	1626.60	446.85	2600.00	1850.00	1500.00	1350.00	960.00
OXYGEN, DISSOLVED	66	11.60	6.70	9.29	1.55	11.30	10.62	9.60	7.80	6.80
OXYGEN DEMAND, BIOCHEMICAL, 5 DAY	61	6.80	0.80	2.81	1.55	6.40	3.60	2.40	1.65	0.91
PH (UNITS)	67	8.80	7.60	--	--	8.56	8.40	8.30	8.10	7.90
ALKALINITY (AS CaCO <sub>3</sub> )	65	524.00	100.00	354.54	75.86	483.50	410.00	350.00	310.00	231.60
NITROGEN, AMMONIA DISSOLVED (AS N)	1	0.08	0.08	--	--	--	--	--	--	--
NITROGEN, AMMONIA TOTAL (AS N)	58	1.10	0.00	0.07	0.15	0.16	0.08	0.05	0.02	0.00
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	63	20.00	0.25	1.76	2.68	6.18	1.90	1.10	0.60	0.32
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (AS N)	65	5.80	0.00	0.30	0.73	0.89	0.27	0.18	0.05	0.00
NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DISSOLVED (AS N)	5	0.56	0.01	--	--	--	--	--	--	--
PHOSPHORUS, TOTAL (AS P)	63	12.00	0.01	0.76	1.84	4.42	0.79	0.12	0.06	0.02
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	3	0.04	0.01	--	--	--	--	--	--	--
HARDNESS (AS CaCO <sub>3</sub> )	65	1500.00	0.00	566.77	223.71	1067.00	625.00	510.00	455.00	325.00
CALCIUM DISSOLVED	64	520.00	40.00	115.88	75.28	290.00	127.50	94.50	78.25	58.50
MAGNESIUM, DISSOLVED	64	100.00	27.00	69.31	14.16	92.00	81.00	68.50	61.00	44.25
SODIUM, DISSOLVED	64	310.00	87.00	200.89	53.51	297.50	240.00	190.00	160.00	112.50
SODIUM ADSORPTION RATIO	64	5.00	1.20	3.68	0.67	4.80	4.10	3.65	3.30	2.43
POTASSIUM, DISSOLVED	66	16.00	2.10	4.59	1.83	7.60	5.00	4.30	3.68	2.70
CHLORIDE, DISSOLVED	64	39.00	3.60	24.97	8.19	37.75	31.75	25.00	19.25	10.25
SULFATE DISSOLVED	64	1600.00	220.00	599.69	296.93	1450.00	687.50	520.00	392.50	302.50
FLUORIDE, DISSOLVED	65	0.60	0.20	0.34	0.07	0.47	0.40	0.30	0.30	0.20
SILICA, DISSOLVED	64	74.00	4.70	13.14	8.18	17.50	14.00	12.00	10.00	7.80
ARSENIC DISSOLVED (UG/L)	7	2.00	1.00	--	--	--	--	--	--	--
BARIUM, DISSOLVED (UG/L)	1	<100.00	<100.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	64	480.00	10.00	172.97	60.49	275.00	180.00	165.00	140.00	120.00
CADMIUM DISSOLVED (UG/L)	7	4.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	7	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	7	6.00	<2.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	63	4200.00	<10.00	--	--	1372.00	110.00	60.00	30.00	<10.00
LEAD, DISSOLVED (UG/L)	7	7.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	9	710.00	30.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	7	30.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	7	1.00	<1.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	3	4400.00	1300.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	65	2560.00	185.00	1226.46	427.89	2265.00	1425.00	1130.00	953.00	674.80
MERCURY DISSOLVED (UG/L)	7	1.50	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	89	13200.00	9.00	1238.47	2316.50	5989.98	1380.00	256.00	126.50	13.50

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION STATISTICS					
		REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
TURBIDITY (NTU)	113	*	Q	*	0.35	0.0001	*
SPECIFIC CONDUCTANCE (MICROSIEMENS)	120	*	LOGQ	*	.38	.0001	*
ALKALINITY (MG/L AS CaCO <sub>3</sub> )	55	*	Q	*	.21	.0004	*
HARDNESS (AS CaCO <sub>3</sub> )	55	0.435	K	-167	.69	.0001	133
CALCIUM, DISSOLVED	54	.133	K	-107	.57	.0001	53.2
MAGNESIUM, DISSOLVED	54	.0228	K	30.5	.50	.0001	10.5
SODIUM, DISSOLVED	54	.0944	K	39.2	.60	.0001	36.0
SODIUM ADSORPTION RATIO	54	*	LOGQ	*	.36	.0001	*
POTASSIUM, DISSOLVED	56	*	K	*	.29	.0001	*
CHLORIDE, DISSOLVED	54	*	K	*	.27	.0001	*
SULFATE, DISSOLVED	54	.617	K	-439	.81	.0001	139
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	55	.892	K	-283	.81	.0001	201
SUSPENDED SEDIMENT	81	*	LOGQ	*	.43	.0001	*



Table 3.--Statistical summaries of water-quality data from the Green River coal region,  
based on samples collected from October 1, 1974, to September 30, 1981--Continued

STATION NUMBER: 09253000 STATION NAME AND LOCATION: LITTLE SNAKE RIVER NEAR SLATER, COLO.  
DRAINAGE AREA: 285 SQUARE MILES

WATER QUALITY CONSTITUENT	SAM- PLE SIZE	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
		MAXIMUM	MINIMUM	MEAN	STANDARD DEVIATION	95	75	50	25	5
						(MEDIAN)				
TEMPERATURE (DEG C)	69	21.50	0.00	7.62	7.13	20.50	13.50	6.50	0.50	0.00
STREAMFLOW, INSTANTANEOUS (FT3/S)	38	1950.00	15.00	324.52	530.35	1760.00	407.50	36.75	23.50	15.00
TURBIDITY (NTU)	1	1.00	1.00	--	--	--	--	--	--	--
SPECIFIC CONDUCTANCE (MICROSIEMENS)	43	300.00	60.00	167.47	55.47	238.00	205.00	180.00	125.00	61.00
OXYGEN, DISSOLVED	6	13.10	7.00	--	--	--	--	--	--	--
PH (UNITS)	9	9.80	7.20	--	--	--	--	--	--	--
ALKALINITY (AS CaCO3)	36	110.00	15.00	63.44	24.89	93.00	82.00	70.00	36.75	19.25
NITROGEN, AMMONIA + ORGANIC TOTAL (AS N)	2	0.21	0.13	--	--	--	--	--	--	--
NITROGEN, NO2+NO3 TOTAL (AS N)	1	0.01	0.01	--	--	--	--	--	--	--
NITROGEN, NO2+NO3 DISSOLVED (AS N)	21	0.65	0.00	0.08	0.14	0.61	0.08	0.04	0.01	0.00
PHOSPHORUS, TOTAL (AS P)	35	0.83	0.01	0.05	0.14	0.33	0.03	0.02	0.01	0.01
PHOSPHORUS, ORTHO, DISSOLVED (AS P)	1	0.01	0.01	--	--	--	--	--	--	--
CARBON, ORGANIC DISSOLVED	1	9.00	9.00	--	--	--	--	--	--	--
CARBON, ORGANIC SUSPENDED TOTAL	1	0.20	0.20	--	--	--	--	--	--	--
HARDNESS (AS CaCO3)	36	95.00	18.00	59.14	20.76	89.05	74.50	63.50	43.75	18.85
CALCIUM DISSOLVED	36	32.00	4.90	16.97	6.43	26.05	22.00	18.00	12.25	5.32
MAGNESIUM, DISSOLVED	36	9.80	1.00	4.06	1.73	7.84	4.65	4.20	3.20	1.17
SODIUM, DISSOLVED	36	18.00	1.10	9.56	5.04	17.15	12.75	11.00	4.55	1.61
SODIUM ADSORPTION RATIO	36	0.90	0.10	0.52	0.23	0.81	0.70	0.60	0.32	0.10
POTASSIUM, DISSOLVED	35	2.50	0.20	1.32	0.54	2.26	1.80	1.40	0.90	0.28
CHLORIDE, DISSOLVED	36	6.20	0.40	3.53	1.63	6.03	4.67	3.80	2.40	0.48
SULFATE DISSOLVED	36	23.00	0.00	11.32	5.62	22.15	14.75	11.50	6.95	0.68
FLUORIDE, DISSOLVED	36	0.40	0.00	0.22	0.09	0.40	0.30	0.20	0.20	0.08
SILICA, DISSOLVED	35	22.00	0.00	13.36	5.21	22.00	19.00	13.00	9.50	4.40
ARSENIC DISSOLVED (UG/L)	1	9.00	9.00	--	--	--	--	--	--	--
BARIUM, DISSOLVED (UG/L)	1	<100.00	<100.00	--	--	--	--	--	--	--
BORON, DISSOLVED (UG/L)	1	40.00	40.00	--	--	--	--	--	--	--
CADMIUM DISSOLVED (UG/L)	2	2.00	<2.00	--	--	--	--	--	--	--
CHROMIUM, DISSOLVED (UG/L)	1	<20.00	<20.00	--	--	--	--	--	--	--
COPPER, DISSOLVED (UG/L)	2	<2.00	<2.00	--	--	--	--	--	--	--
IRON, DISSOLVED (UG/L)	2	110.00	40.00	--	--	--	--	--	--	--
LEAD, DISSOLVED (UG/L)	2	11.00	<2.00	--	--	--	--	--	--	--
MANGANESE, DISSOLVED (UG/L)	2	<10.00	<10.00	--	--	--	--	--	--	--
ZINC, DISSOLVED (UG/L)	2	<20.00	<20.00	--	--	--	--	--	--	--
SELENIUM, DISSOLVED (UG/L)	2	<1.00	<1.00	--	--	--	--	--	--	--
PHYTOPLANKTON, TOTAL (CELLS PER ML)	1	510.00	510.00	--	--	--	--	--	--	--
SOLIDS, SUM OF CONSTITUENTS,	35	160.00	34.00	98.41	36.19	154.40	129.00	106.00	60.00	37.20
MERCURY, DISSOLVED (UG/L)	2	<0.50	<0.50	--	--	--	--	--	--	--
SEDIMENT, SUSPENDED	6	156.00	2.00	--	--	--	--	--	--	--

WATER QUALITY CONSTITUENT	SAMPLE SIZE	REGRESSION STATISTICS					
		REGRESSION COEFFICIENT	INDEPENDENT VARIABLE	REGRESSION CONSTANT	COEFFICIENT OF DETERMINATION (r <sup>2</sup> )	SIGNIFICANCE PROBABILITY OF F	STANDARD ERROR OF ESTIMATE
SPECIFIC CONDUCTANCE (MICROSIEMENS)	19	-68.1	LOGQ	285	0.82	0.0001	21.9
ALKALINITY (MG/L AS CaCO3)	10	.412	K	-4.17	.99	.0001	2.30
HARDNESS (AS CaCO3)	10	.263	K	16.1	.89	.0001	5.09
CALCIUM, DISSOLVED	10	.0791	K	3.39	.88	.0001	1.61
MAGNESIUM, DISSOLVED	10	*	K	*	.36	.0682	*
SODIUM, DISSOLVED	10	.0815	K	-4.16	.91	.0001	1.44
SODIUM ADSORPTION RATIO	10	.00379	K	-.123	.79	.0006	.110
POTASSIUM, DISSOLVED	10	*	Q	*	.31	.0930	*
CHLORIDE, DISSOLVED	10	*	LOGQ	*	.05	.522	*
SULFATE, DISSOLVED	10	*	K	*	.25	.146	*
SOLIDS, SUM OF CONSTITUENTS, DISSOLVED	10	.475	K	17.8	.93	.0001	7.51