Water Resources Survey

CARBON COUNTY
MONTANA

PART I

History of Land and Water Use on Irrigated Areas

Published by

STATE ENGINEER

AND

STATE WATER CONSERVATION BOARD

HELENA, MONTANA

MAY, 1946

Water Resources Survey

CARBON COUNTY

Montana

Part I

History of Land and Water Use

on Irrigated Areas

Published by

STATE ENGINEER

and

STATE WATER CONSERVATION BOARD

Helena, Montana

May, 1946

STATE ENGINEER'S OFFICE

State Engineer	Fred E. Buck
Assistant	Gerald J. Oravetz

STATE WATER CONSERVATION BOARD

Governor Sam C. Ford	Chairman
O. S. Warden	Vice--Chairman
D. P. Fabrick	Member
C. H. Raymond	Member
Fred E. Buck	Member & Chief Engineer
R. J. Kelly	Assistant Secretary

MONTANA STATE AGRICULTURAL EXPERIMENT STATION

O. W. Monson	Irrigation Engineer, Consultant and Project Leader - Bozeman

May, 1946

Hon. Sam C. Ford
Capitol Building
Helena, Montana

Dear Governor Ford:

Submitted herewith is a consolidated report on the water resources survey of Carbon County, Montana. This work is being carried on by funds made available to the State Engineer and the State Water Conservation Board by the 29th Legislative Session, 1945.

The report is divided into two booklets—part one consisting of the history of land and water use, irrigated lands, water rights, etc., while part two contains all of the township maps showing in color the lands irrigated from each canal.

The office files contain minute descriptions and details of each individual water right, water and land use, etc., which are too voluminous to be included herein. These office files are available for inspection to those who are interested.

Mr. Gerald J. Oravetz, Assistant State Engineer, has directed the detail office and field work of this project and is entitled to much credit for the excellent accomplishment.

Respectfully submitted,

Fred E. Buck
State Engineer

CONTENTS

Ditches, Companies, Irrigation Districts, Associations

ACKNOWLEDGMENTS

Appreciation of the splendid cooperation of various agencies and individuals who gave their time and assistance in gathering data for the preparation of this report is hereby acknowledged.

Carbon County Agricultural Conservation Association

Roy E. Reams	Chairman
Lillian R. McCready	Secretary-Treasurer

Carbon County Officials

J. M. Anderson	Commissioner
Lewis Hetland	Commissioner
Harry Olcott	Commissioner
George J. McDonald	Clerk
John H. Honkala	Deputy Assessor
Ted A. Schmitz	Deputy Clerk
J. J. Gillen	Treasurer

Yellowstone County Officials

Charles Wicks	Commissioner
Carl Yerrington	Commissioner
Bill Fenton	Commissioner

Montana Agricultural Extension Service

Bill Jones, County Agricultural Agent, Yellowstone County
O. P. Roberts, County Agricultural Agent, Carbon County

Bureau of Reclamation - Office of Region 6

H. D. Comstock	Director
W. G. Sloan	Ass't. Director

Ditch companies and Irrigation District secretaries, and others co-operating, and the names of the ditch company or district they represent:

Bartlett Canal Co.	O. F. Yedlicka, Secretary
Bridger Ditch Co.	G. H. Reimer, Secretary
Carbon Canal Co. (ext. Last Chance)	John Jarussi, Secretary
Carbonada Ditch	Horace Winkler, User
Cartwright Ditch	Paul Cartwright, User
Clarks Fork & Silver Tip Ditch Co.	W. E. Ogden, Secretary
Danford Irrigation District	Mrs. Thelma Williams, Secretary
Doctor Ditch Co.	T. R. Chesarek, Secretary

Dry Creek Canal & Irrigation Co.	G. H. Reimer, Secretary
" " " " "	C. E. Haggerty, User
East Side Ditch Co. (R.C.-C.C.)	S. W. Kelsey, Secretary
Edgar Canal Co. (ext. Orchard Canal)	J. E. Patterson, Secretary
Elbow Ditch Co.	J. P. Wetstein, Secretary
Finn Ditch Co.	Herman Bell, Secretary
Free Silver Ditch	Roy Reams, User
Fromberg Ditch Co., (Ext. Sand Cr. Canal)	Arthur Foust, Secretary
Glennwood Ditch Co.	Mrs. W. L. Baumont, Secretary
Golden Ditch Co.	G. H. Reimer, Secretary
Grove Creek Canal Co.	Walter Heald, Secretary
Haara Ditch Co.	Gust Luoma, Jr., Secretary
Highline Ditch Co.	W. S. Simpson, President
Holland Ditch Co.	Florence Hall, Secretary
Inter-State Irrigation & Mining Ditch Co.	Q. E. Chance, Secretary
Joliet Irrigation Co.	John Jarussi, Secretary
Last Chance Ditch Co.	" " "
Maryott Ditch	J. L. Maryott, User
Matson Ditch Co.	Mrs. Elma Bowlen, Secretary
Mutual Ditch Co.	Matt. Brown, Secretary
New First Chance Ditch Co.	Leland Seright, Secretary
New Prosperity Ditch Co.	J. P. Wetstein, Trustee
Orchard Canal Co.	C. C. Crossen, Secretary
Orchard Ditch Co.	C. C. Crossen, Secretary
Pleasant Valley Canal Co.	James Dell, Secretary
Pleasant Valley Ditch Co.	Mrs. Annie E. Deuel, User
Powers Ditch	Maurice Powers, User
Pryde Ditch Co.	E. W. Draper, Secretary
Red Lodge - Rosebud Irrigation Dist.	Alex Boggio & Louis J. Hyem, Comm.
Riverview Ditch Co.	Mrs. J. Grebe, Secretary
Rock Creek - Clear Creek Ditch Co.	Frank J. O'Connor, Secretary
Rocky Point Ditch Co.	W. J. Frouse, Secretary
Sand Creek Canal Co.	G. H. Reimer, Secretary
Smith Ditch Co.	Roy Reams, President
Sparr Ditch	Samuel F. Sparr, President
West Fork Irrigation Co.	Archie Harrison, Secretary
White Horse Canal Co.	W. E. Ogden, Secretary
Wills Canal Co.	J. R. Daugherty, Secretary
Youst Ditch Co.	Mrs. C. A. Andrew, Secretary

FOREWORD

In nearly all of the 17 Western Reclamation States a water right is obtained by first making a filing with some legally designated central state agency--usually the State Engineer's Office--setting forth the amount of water desired and the area proposed to be irrigated. A study is then made of the sufficiency of the water supply and, if found adequate, a permit for use of the water is issued and recorded. If studies show that the stream is depleted, the application is denied. The procedure in Montana, however, is vastly different.

In Montana a right to the use of water from a stream not adjudicated by the courts is acquired by posting a notice on the stream and filing same in the office of the county clerk of the county wherein the appropriation is located, and by proceeding to divert and use the water. Where a person diverts and uses water from a stream without posting or filing a notice, a water right based thereon has been recognized as valid by the courts. Whenever it becomes necessary to adjudicate the stream, both methods of acquiring rights have been recognized by the courts, and the amount of water finally decreed and dates of priority in either case are determined by the evidences and proofs.

Under Montana law there is no restriction as to the amount of water one may designate in his notice of appropriation. As a consequence, the amount set forth in the filing in no way indicates the amount being diverted and used, nor does it show whether or not the water was ever used at all to perfect the right. To further complicate this matter, our courts have made it almost impossible to prove the abandonment of a water right.

There is no central office in the State where recordings are filed, or any supervision over the distribution of water from unadjudicated streams. One wishing to study the validity of a water right must make a search of the county records wherein the stream is located and perhaps two, three, or more counties if the stream courses through them. About the only result one will accomplish by such a research will be a tabulation of the dates of filing. The amounts of water filed on will be of no consequence; there is no conclusive evidence that the recorded appropriations have been perfected, and there is no record of the rights which are being used but never recorded. Therefore, a purchaser of ranch property, where he has to depend upon irrigation from a stream that is not adjudicated, has no way of determining the validity or priority of his water right. He has no assurance of the value of the right until the stream is adjudicated by the court, when each claimant must prove his claim by material witnesses.

The pioneers who are able to offer direct testimony in adjudication suits are rapidly passing on. One phase of this water resources survey is to obtain all of the first-hand information possible on water and land use from the "old-timers" who are left, before it is too late. These data will include every known water right up to the time of completing the work in the respective counties, and the information will be on file for inspection in the State Engineer's Office. A prospective land purchaser, after studying the record, may have a good idea of the sufficiency and priority of the right appurtenant to the land in question.

In this and succeeding volumes of the data compiled by this water resources survey, it is the intention to provide as much information as is possible relative to the water right records of the various counties, as well as to assemble such other information as may be available from all sources having knowledge of these various water rights. Every precaution is being taken to avoid errors in the compilation of these data. However, because of the vagueness of the records and of the contradictions found therein, we cannot absolutely guarantee their authenticity.

The value of this work has been well substantiated in negotiating the Yellowstone River Compact between the states of Wyoming, North Dakota, and Montana. In arriving at an equitable division of the waters between the states, it was necessary for Montana to have a catalog of its land and water use. This same question may arise in other river basins. Again, it is highly important that Montana gather such data and thereby be able to defend its water rights in the development of the great river basins of the Missouri and Columbia Rivers.

PROJECT HISTORY

As the result of a proposal made by the Montana State College and the State Engineer on August 9, 1939, to the Works Projects Administration, an authorization for the expenditure of $176,195 of Federal funds was secured for the purpose of making a comprehensive study of Montana's water resources. The two state agencies, acting as co-sponsors with WPA, pledged additional funds in the amount of $41,930 making a total of $218,125.

Work began on the study in February, 1940, after formal approval by the Washington office of the Works Projects Administration, but before approval could be secured the sponsors were required to submit satisfactory evidence of the usefulness of the study and proof that it would not duplicate work already being done by other agencies.

Statements were obtained from all Federal Departments that were likely to be interested in the study in answer to inquiries as to: (1) Whether the proposed study would duplicate or overlap studies already in progress; and (2) Whether the study when completed would be useful to these agencies.

Excerpts from the replies received from several agencies are given below:

U. S. Army Engineers - The following is from a letter dated September 11, 1939, signed by Col. C. L. Sturdevant, Corps of Engineers:

"The scope of the proposed project appears to be quite comprehensive, and the results of a study such as you have outlined would be of value to this office. The proposed studies would be of particular value to this office and also to the Missouri Headwaters and Yellowstone Drainage Basin Committees of the National Resources Planning Board, if they were to include estimates, for both existing potential individual projects of water shortage, available water supply, gross duty and ultimate return flow (for determining consumptive use and stream flow depletion)."

U. S. Geological Survey - From a letter dated August 16, 1939, signed by A. H. Tuttle, District Engineer:

"Receipt is acknowledged of your letter of August 10 in regard to compilations of factual data concerning water supply and irrigable lands of Montana. I believe the purposes as presented in your letter cover the field very adequately.

"Your attention is called to the first of these purposes, which has to deal with summaries of stream flow records for the principal water sheds of Montana. The Geological Survey is compiling summaries for all Stations, and this information may

be of considerable assistance to you in making up your report."

U. S. Bureau of Reclamation - The following paragraph is from a letter dated November 21, 1939, signed by then acting Commissioner, H. W. Bashore:

"It appears to this office that the data you propose to obtain will be of considerable value, particularly in the preliminary planning of our investigations of potential irrigation projects. The value, of course, will be measured by both the authenticity and the completeness of the basic data and the accuracy of the proposed study. It is not believed that this survey will duplicate any activity of this agency."

U. S. Forest Service - From a letter by Evan Kelly, Regional Forester:

"Though unable to make detailed evaluation of the project in our work, we have recognized an increasing need for complete, readily available data on water resources, water use and water needs in our lines of endeavor. Such information, compiled in usable form, is essential for adequate multi-use resource planning and management on national forest lands from which comes a large part of Montana's usable water. In more specific fields, such as flood control studies, the granting of permits for the occupancy of national forest lands involving water use, the redemption of responsibility vested in us in cooperation with the Federal Power Commission, etc., the need for such data is apparent to us. I have only commendation for the project and again express hope that it can be successfully consummated."

Farm Security Administration - From a letter by C. H. Willson, Regional Director:

"The comprehensive study of Montana's water resources to be conducted by the Montana Agricultural Experiment Station, State Water Conservation Board, and W.P.A., as indicated in your letter, will in no way duplicate work done by Farm Security. I sincerely hope that this project may be expedited to the greatest extent possible, as no doubt Farm Security will be one of the principal agencies making use of the information you contemplate obtaining and cataloging. Lack of such information has been a severe handicap to Farm Security Administration in the rehabilitation and water facilities program in Montana."

U. S. Indian Service - Statement by W. S. Hanna, Supervising Engineer:

"I am of the opinion that studies such as you describe would be useful to this service. As you are aware, there are a number of Indian Irrigation Service Projects in Montana, and we have more or less complete data regarding the greater number of such projects and a considerable volume of information has already been

submitted to the National Resources Committee.

"For the urpose of study, it would be advantageous to us to have rather complete information as to the use already being made of the available waters in any particular water shed in which we might contemplate further development."

The statements received from all Federal Agencies showed not only that the work proposed under this project was not a duplication of something already being done, but that the work when completed would be useful in various development programs.

As soon as authorization was received from the Washington Office of W.P.A., the co-sponsors activated the project as a "Study of Water Rights and Water Use in Montana". The broad scope of this study made it advisable to divide the study into four phases as follows:

(1) Summary and tabulation of stream flow data.
(2) Ownership and use of water--cataloging of water rights.
(3) Mapping of lands now under irrigation and use of water on these lands.
(4) Potential irrigable lands.

The first phase of the study was accomplished by assigning several W.P.A. workers to the District Office of the U. S. Geological Survey at Helena, where all the stream flow measurements were summarized in preparation for publication. Pending its official publication as a water supply paper by the U. S. Government Printing Office, these data were made available in mimeograph form as Special Reports:

Little Missouri River

Special Report #11 - Water Resources of Montana - Missouri River above Fort Benton.
" " #12 - " " " " - Missouri River below Fort Benton.
" " #13 - " " " " - Clarks Fork, Kootenai and St. Mary's Rivers

The data contained in these reports have since been published by the U. S. Printing Office and are available as Water Supply Paper #917, "Summary of Records of Surface Waters of Missouri and St. Mary River Basins in Montana, 1881-1938".

The second phase of the study, which covers the ownership and use of water and recording of water rights, is well under way, but it will require several years to complete the work for all counties in the state. Transcribing existing records of appropriations and decrees was the first step and is now complete in all counties.

The cataloging and indexing of these water rights is a highly technical procedure requiring constant and professional supervision. It involves a careful examination and verification of each recorded appropriation, and a field check to determine location and extent of use.

As the work is completed in each county, a report will be prepared which will become a permanent record for the benefit of all persons concerned with the use of water. This report is being prepared in two parts, the first of which consists of a history of each ditch, company, association, irrigation district, etc., beginning with the original filing of the water right; the construction of the diversion dam and canal system; the names of persons connected with the organization, and a county summary. Part two consists of a set of township maps, showing the location of all canals, and ditches, the boundaries of irrigated land and the potential irrigable lands. Lands now irrigated under the several canals are shown on the maps in different colors.

Records of appropriations, together with a plat of each irrigated farm, are cross-indexed for easy accessibility and kept as a permanent record in the State Engineer's Office.

METHOD OF SURVEY

Data incorporated in this report were largely obtained by the field survey method. Each water user was contacted and asked specific questions about his respective irrigated and irrigable land. Data for the individual project reports were obtained from project managers or secretaries, water users, and old-timers in the area. Data for land ownership and recorded water rights were obtained from county records. To obtain the location of irrigated lands, irrigation ditches, streams, and other data, aerial photographs, ditch company records, plain table maps, county land classification maps and Bureau of Reclamation maps were used in conjunction with a field check. This information was then mapped by farm units, showing the farm boundary, the location of ditches and irrigated land, and sent to each water user for his verification.

Information was also asked as to source of water, present acreage irrigated, potential irrigable acreage under existing works, seeped acreage, condition of irrigating systems, water supply, dates of priority, and the amount of water appropriated or decreed. Upon return of these forms, copies of the original water filings decreed and appropriated rights were attached, thus tying the water rights to the land.

This method was used for the entire county, with the exception of the Red Lodge-Rosebud Irrigation District, which is not now in operation. Data for its potential irrigable land and location of canal systems were obtained from district and county records.

Two sets of township maps were made on 2-inch-to-the-mile scale. The first set shows land ownership, location of irrigated land, irrigation ditches, pumping plants, etc. Each tract or farm has been given a code number which, when referred to the county summary, gives the name of the water user; section, township, and range in which the land is located; source of water; acres irrigated from each source; potential irrigable acres; maximum irrigable acres; and seeped acres per farm unit. The second set of maps shows by colors the location of all the land irrigated under the various ditch companies, private users, and pumping plants, so that land under each system or water right is distinguished from the other systems. In addition, location of all main canals, pumping plants, main highways, railroads, towns, rivers, and streams are shown.

Each township also has a summary which shows the name of the water user; code number (code numbers when referred to the ownership maps show the location of the irrigated land and the farm boundary); section; township; range; source of water; whether a user has a private irrigation system or is under a ditch company or irrigation district; number of shares held in ditch company; acres irrigated from each source; present irrigated acres; potential

irrigable acres under existing facilities; maximum irrigable acres and seeped acres. The summary given in this report was tabulated from these township summaries to show the totals for the county.

New lands to be developed by State and Federal constructing agencies are not within the scope of this report. No effort has been made to analyze economic possibilities or the problems of the irrigated projects, or to make recommendations as to their future development. The facts presented are as found and provide the items and figures from which a detailed analysis can be made.

GENERAL INFORMATION ABOUT CARBON COUNTY

Carbon County is located in the south central part of Montana on the southern boundary. It is bounded on the east by Big Horn County, on the northeast by Yellowstone County, on the west and north by Stillwater and Park Counties, and on the south by the State of Wyoming. The eastern wing-shaped section of the county is bisected by the Pryor Mountains, while in the extreme western part are the rugged and towering Beartooth Mountains, with some of the highest and most beautiful mountain peaks in the State of Montana. The northern boundary of Carbon County is formed by the Yellowstone River, into which drain the Clarks Fork and its tributaries, which have formed agricultural valleys extending to the mountains. The East Rosebud River flows into the Stillwater River, which drains the extreme western part of the county. The eastern wing of the county is drained by the Big Horn River.

The area now embraced within the boundaries of Carbon County was traversed successively in the early period of exploration by Lewis and Clark journeying down the Yellowstone River in 1806, by John Colter scouting for furs in 1807, and Captain Bonneville in 1830. The trails blazed by Jim Bridger, who passed through this region in 1860, and by John Bozeman in 1863, brought many whites into the area. Chief Joseph, in his famous retreat, led his Nez Perce Indian band down the Clarks Fork River in 1877.

The region was included in the Crow Indian Reservation until 1887, when a portion was withdrawn to permit mining of coal deposits. Expansion of this industry led to the development of agriculture and rapid settlements in the Red Lodge area.

In 1889 the Northern Pacific Railroad branch from Laurel to Red Lodge was completed, and citizens of the area petitioned the Legislature to be attached to Yellowstone County. After the failure of an attempt in 1891 to have a new county formed, the movement to be annexed to Yellowstone County was renewed without success. Finally, after a sharp battle during the legislative session of 1895, the new county, named Carbon, was formed from Park and Yellowstone Counties, with the county seat located at Red Lodge. It had an area of 2,411 square miles. An additional four sections of land were taken from Yellowstone County in 1925, but other adjustments of boundaries with Yellowstone County and the creation of Stillwater County in 1913 have reduced the area to 2,064 square miles.

Altitude, Temperature and Precipitation

Valley elevations vary from 3,404 feet above sea level at Silesia to 5,557 at Red Lodge, which has the highest altitude of any town in the county. In the Clarks Fork Valley the elevation remains more constant, with Edgar at 3,471 feet and Chance, at the southern edge of the county, having an elevation of 3,840 feet above sea level. These two towns are approximately the same

distance apart as Silesia and Red Lodge on Rock Creek. The average annual frost-free period in the County is about 120 days.

At Bridger the average date for the last killing frost is May 19th, and killing frosts can be expected on or after September 17th. The frost-free season there is about 121 days. At Red Lodge a record extending over 33 years shows that killing frosts may be expected as late as June 4th, and as early as September 9th. The frost-free period at Red Lodge averages 97 days.

At Bridger, over a period of 21 years, the average mean annual temperature has been 45.2 degrees. The temperature at Bridger has averaged for that period from April 1st to September 30th, 59.4 degrees and during January and February 28.7 degrees. At Red Lodge, over a period of 31 years, the average annual temperature has been 39.9 degrees, with the average for the April 1st-September 30th period, 52.3 degrees, and the January-February average 20.8 degrees.

The average annual precipitation at Bridger over a period of 27 years has been 10.4 inches, with 7.43 inches between April 1st and September 30th. At Red Lodge over 31 years of record, the annual precipitation has averaged 19.82 inches, with 13.37 inches during the April 1st to September 30th period.

IRRIGATION SUMMARY OF CARBON COUNTY BY RIVER BASINS

NAME OF DITCH	SOURCE	Present Irrigated Acres Sub-Totals	Present Irrigated Acres Totals	Potential Irrigable Acres Sub-Totals	Potential Irrigable Acres Totals	Maximum Acres Sub-Totals	Maximum Acres Totals	***Seeped Acres Sub-Totals	***Seeped Acres Totals
*BIG HORN BASIN									
Frannie Ditch	Shoshone R.		65.00		0		65.00		0
Private Ditch	Camp Cr.		50.00		30.00		80.00		0
" "	Crooked Cr.		331.00		100.00		431.00		0
" "	Deadman Cr.		130.00		210.00		340.00		0
" "	Layout Cr.		18.00		6.00		24.00		0
" "	Piney Cr.		475.00		443.00		918.00		0
" "	Sage Cr.		907.00		1403.00		2310.00		0
" "	Spring		115.00		0		115.00		0
" "	Well		130.00		0		130.00		0
			2,221.00		2192.00		4413.00		0
CLARKS FORK BASIN									
Bartlett	Clarks Fk. R.		1,849.00		299.50		2148.50		109.00
Bridger	" " "		2,789.75		314.50		3104.25		31.00
Clarks Fk.-Silver Tip	" " "		860.06		184.90		1044.96		0
Danford District	" " "		573.72		94.00		667.72		91.00
Doctor	" " "		270.00		0		270.00		0
Dry Cr. Canal	" " "		1,505.00		171.00		1676.00		0
Glennwood	" " "		419.00		76.00		495.00		0
Golden	" " "		919.00		120.00		1039.00		3.00
Grove Cr. Canal	" " "		1,233.00		170.00		1403.00		0
Holland	" " "		959.90		42.00		1001.90		15.00
Interstate	" " "		1,129.00		210.00		1339.00		1.00
Mutual	" " "		3,203.40		752.00		3955.40		138.00
O'Connor	Bluewater Cr.		259.00		558.00		817.00		70.00
Orchard Canal	Clarks Fk. R.	4265.02)	5,473.72	421.00)	917.50	4686.02)	6391.22	207.00)	234.00
" Edgar, Ext.	" " "	1208.70)		496.50)		1705.20)		27.00)	
Orchard Ditch	Bluewater Cr.		551.00		307.00		858.00		17.00
Riverview	Clarks Fk. R.		756.00		140.00		896.00		0

Name of Ditch	Source	Present Irrigated Acres		Potential Irrigable Acres		Maximum Acres		**Overpod Acres	
		Sub-Totals	Totals	Sub-Totals	Totals	Sub-Totals	Totals	Sub-Totals	Totals
Rocky Point	Clarks Fk. R.		633.00		38.00		671.00	-	0
Sand Creek Canal	" " "	2708.50)		324.00)		3032.50)		50.00)	
Farmers Ext.	" " "	80.00)	4111.00	50.00)	567.00	130.00)	4678.00	40.00)	106.00
Fromberg Ext.	" " "	1181.00)		193.00)		1374.00)		16.00)	
Lynn Ext.	" " "	141.50)		0)		141.50)		0)	
Sirrine	" " "		190.00		100.00		290.00		0
White Horse	" " "		447.80		319.00		766.80		0
Wills	" " "		1139.00		85.00		1224.00		0
Youst	" " "		677.00		128.00		805.00		0
Private Ditch	Bluewater Cr.		552.00		256.00		808.00		12.00
" "	Bridger Cr. N.Fk.		13.00		0		13.00		0
" "	Clarks Fk. R.		882.14		567.00		1449.14		25.00
" "	Dilworth Cr.		0		15.00		15.00		0
" "	Five Mile Cr.	90.00)	130.00	100.00)	220.00	190.00)	350.00	0)	.0
" "	" " E. Fk.	40.00)		120.00)		160.00)		0)	
" "	Grove Cr.		200.00		80.00		280.00		0
" "	Line Cr.		0		136.00		136.00		30.00
" "	Ruby Cr.		0		32.00		32.00		0
" "	Sand Cr.		0		10.00		10.00		0
" "	Spring		180.00		110.00		290.00		0
			31,905.49		7,019.40		38,924.89		882.00
*ROCK CREEK BASIN									
Allison	Elbow Cr.		32.00		33.00		65.00		0
Anderson	Rock Cr.		201.00		0		201.00		0
Antilla	Willow Cr.		39.50		0		39.50		0
Bailey	Rock Cr.	727.30)	862.30	275.00)	275.00	1002.30)	1137.30	10.00)	10.00
Tuck-Crockett Ext.	" "	135.00)		0)		135.00)		0)	
Barnett	Willow Cr.		135.00		5.00		140.00		5.00
Barri-Maki	Rock Cr.		155.00		0		155.00		0
Boyer	Willow Cr.		115.00		0		115.00		0
Caldwell	" "	63.10)	226.60	0)	40.00	63.10)	266.60	0)	0
McDonald Ext.	" "	163.50)		40.00)		203.50)		0)	
Carbonada	Rock Cr.		1264.00		267.00		1531.00		15.00
Carr	" "		100.00		20.00		120.00		0
Cartwright	" "		110.00		0		110.00		0

Name of Ditch	Source	Present Irrigated Acres		Potential Irriga-ble Acres		Maximum Acres		**Reaped Acres	
		Sub-Totals	Totals	Sub-Totals	Totals	Sub-Totals	Totals	Sub-Totals	Totals
Chapple	Rock Creek	0		100.00		100.00			0
Clawson	" "	563.00		69.00		632.00			10.00
Clear Cr. Ditch	" "	489.40		287.70		777.10			0
Close-Virtue	W. Fk. Rock Cr.	140.00		5.00		145.00			0
Curry	Rock Cr.	45.00		0		45.00			0
DeVries	Clear Cr.	405.00		453.00		858.00			0
DeVries-Crockett	" "	175.00		0		175.00			0
Dickey	Rock Cr.	100.00		0		100.00			0
Doty	Willow Cr.	290.00		65.00		355.00			8.00
Drake	Rock Cr.	481.00		10.00		491.00			0
Duffield	" "	257.00		70.00		327.00			0
Duncan-Akin	" "	532.00		3.00		535.00			0
Dutton	" "	587.00		26.00		613.00			0
**(Elbow, New Prosperity, Granite, Granite-Prosp. Ext.)	" "	3549.40		396.50		3945.90			159.50
Feeley	" "	498.00		43.00		541.00			0
Finn	" "	2022.80		460.80		2483.60			0
Free Silver	" "	938.00		260.00		1198.00			20.00
Gruel	" "	143.00		58.00		201.00			5.00
Haara	W. Fk. Rock Cr.	1426.53		60.00		1486.53			5.00
Hereim-Loyning-Ekle	Red Lodge Cr.	95.00		104.00		199.00			3.00
Highline	Rock Cr.	890.00		724.00		1614.00			1.00
Hoyle	" "	732.00		35.00		767.00			0
Hunt	" "	320.00		0		320.00			0
Hunter	" "	185.00		0		185.00			0
Hunter-Northy	" "	743.00		63.00		806.00			0
Hunter-Russett	" "	430.00		145.00		575.00			27.00
Hyuck	" "	22.50		0		22.50			0
Jane Boulden	" "	113.00		63.00		176.00			0
John-Maki	" "	315.00		0		315.00			0
Joliet	" "	513.20		73.00		586.20			15.00
Karvonen	Cottonwood Cr.	11.70		0		11.70			0
Kelsey-Coleman	Bear Cr.	35.00		0		35.00			0
Kero	Rock Cr.	301.00		72.00		373.00			10.00
Kivikangas	" "	265.00		59.50		324.50			10.00

Name of Ditch	Source	Present Irrigated Acres Sub-Totals	Present Irrigated Acres Totals	Potential Irrigable Acres Sub-Totals	Potential Irrigable Acres Totals	Maximum Acres Sub-Totals	Maximum Acres Totals	***Seeped Acres Sub-Totals	***Seeped Acres Totals
Last Chance-Carbon Ext.	Rock Cr.		1865.20		567.30		2432.50		154.00
Leeman	Cottonwood Cr.		0		21.20		21.20		0
Leimback	Rock Cr.		538.00		225.00		763.00		32.00
Luoma	Willow Cr.		8.00		0		8.00		0
Madson	Rock Cr.		156.00		0		156.00		0
Marino	" "		100.00		40.00		140.00		40.00
Maryott	W. Fk. Rock Cr.		750.00		0		750.00		0
Matson	" " " "		302.00		346.00		648.00		20.00
McDonald	" " " "		1513.00		175.00		1688.00		0
McIntosh	Clear Cr.		235.00		125.00		360.00		0
"	E. Fk. Rock Cr.		60.09		49.91		110.00		2.00
McKay	Red Lodge Cr.		85.00		35.00		120.00		0
McKensie-Allen	Rock Cr.		220.00		50.00		270.00		0
New First Chance	" "		1547.25		130.00		1677.25		40.00
Nutting	" "		595.00		0		595.00		0
Nutting, W. B.	" "		56.00		0		56.00		0
O'Shea	Willow Cr.		0		28.50		28.50		0
Pleasant Valley Ditch	Red Lodge Cr.		232.90		183.30		416.20		0
Pleasant Valley Canal	Rock Cr.	2127.26)	2386.26	372.00)	457.00	2499.26)	2843.26	17.00)	17.00
Jeffery Ext.		259.00)		85.00)		344.00)		0)	
Powers	W. Fk. Rock Cr.		190.00		329.00		519.00		0
Price	Rock Cr.		44.00		0		44.00		0
Pryde	W. Fk. Rock Cr.	590.00)	1610.00	35.00)	45.00	625.00)	1655.00	25.00)	25.00
Draper Ext.	" " " "	1020.00)		10.00)		1030.00)		0)	
Raspberry	Rock Cr.		99.50		0		99.50		0
Rock Cr.-Clear Cr.	" "	3215.00)		1278.00)		4493.00)		89.00)	
Crow	" "	70.00)		85.00)		155.00)		0)	
East Side	" "	208.00)	4520.00	6.00)	1542.00	214.00)	6062.00	0)	89.00
Kuchinski Hiline	" "	307.00)		43.00)		350.00)		0)	
O'Connor	" "	720.00)		130.00)		850.00)		0)	
Rooney	" "		361.00		55.00		416.00		0
Sabo-Johnson-Curry	Red Lodge Cr.		185.00		8.00		193.00		0
Schanck-Monohan	Rock Cr.		150.00		0		150.00		0
Shory	" "		543.00		102.00		645.00		30.00
Smith	" "		736.00		50.00		786.00		30.00

Name of Ditch	Source	Present Irrigated Acres Sub-Totals	Present Irrigated Acres Totals	Potential Irrigable Acres Sub-Totals	Potential Irrigable Acres Totals	Maximum Acres Sub-Totals	Maximum Acres Totals	***Seeped Acres Sub-Totals	***Seeped Acres Totals
Smith-Hughes	Rock Cr.		194.00		214.00		408.00		40.00
Sparr	" "		586.00		251.00		837.00		30.00
Surprise	" "		385.00		30.00		415.00		5.00
Taylor	" "	731.00)		70.00)		801.00)		0)	
O'Shea-Carr Ext.	" "	100.00)	917.50	15.00)	529.50	115.00)	1447.00	0)	0
Wentworth Ext.	" "	86.50)		444.50)		531.00)		0)	
Torryson	" "		73.00		0		73.00		0
Town	" "		112.00		7.00		119.00		7.00
Ward	" "		155.00		796.00		951.00		0
Weir	" "		52.00		22.00		74.00		0
West Fork	W. Fk. Rock Cr.		1386.00		473.00		1859.00		25.00
Williams	Rock Cr.		25.00		7.10		32.10		0
Worth	" "		30.00		0		30.00		0
Young-Pickering	" "		550.00		0		550.00		0
Private Ditch	Barlow Cr.		174.00		0		174.00		0
Ditto	Bear Cr.		165.00		70.00		235.00		0
"	Clear Cr.		202.00		0		202.00		0
"	Cole Cr.		493.00		260.00		753.00		0
"	Cottonwood Cr.		220.00		140.00		360.00		0
"	Cow Cr.		47.00		0		47.00		0
"	Deadhorse Cr.		5.00		50.00		55.00		3.00
"	Dry Cr.		547.00		545.00		1092.00		0
"	Elbow Cr.		271.00		55.00		326.00		45.00
"	Harney Cr.		477.00		148.00		625.00		0
"	Hogan Cr.		420.00		256.00		676.00		6.00
"	Lake		0		30.00		30.00		0
"	Nolton Cr.		86.00		0		86.00		0
"	Red Lodge Cr.	4198.40)		1599.40)		5797.80)		129.00)	
"	E. " " "	0	4901.40	1.30)	2017.70	1.30)	6919.10	0)	229.00
"	W. " " "	703.00)		417.00)		1120.00)		100.00)	
"	Rock Cr.	3356.37)		967.06)		4323.43)		55.00)	
"	E. Fk. Rock Cr.	74.00)	3579.37	41.70)	1387.76	115.70)	4967.13	0)	70.00
"	W. " " "	149.00)		379.00)		528.00)		15.00)	
"	Spring		218.25		0		218.25		0
"	Spring Cr.		110.00		0		110.00		0

Name of Ditch	Source	Present Irrigated Acres Sub-Totals	Present Irrigated Acres Totals	Potential Irrigable Acres Sub-Totals	Potential Irrigable Acres Totals	Maximum Acres Sub-Totals	Maximum Acres Totals	***Seeped Acres Sub-Totals	***Seeped Acres Totals
Private Ditch	Stanley Cr.		70.00	0		70.00		0	
Ditto	Theil Cr.		1055.00	340.00		1395.00		12.00	
"	Volney Cr.		91.70	0		91.70		0	
"	Willow Cr.		941.80	328.00		1269.80		8.00	
			58,482.15	16,866.77		75348.92		1,262.50	
*EAST ROSEBUD BASIN									
Antelope Basin Ditch	E. Rosebud R.		325.00	17.00		342.00		6.00	
Espeland-Ostrum-George	" " "		115.00	0		115.00		0	
George-Dana	" " "		996.00	55.00		1051.00		40.00	
John George	" " "		500.00	0.00		500.00		0	
Kyle-Seeley-Ferster	" " "		25.00	50.00		75.00		0	
Olson	" " "		782.00	90.00		872.00		0	
Red Lodge-Rosebud Dist.	" " "		0	8480.27		8480.27		0	
Selleck-Espeland	" " "		138.00	0		138.00		0	
Selleck-Scott	" " "		248.00	5.00		253.00		0	
Tuttle-Luther	" " "		520.00	0		520.00		0	
Private Ditch	Antelope Cr.		100.00	0		100.00		0	
Ditto	Butcher Cr.		110.00	64.20		174.20		0	
"	E. Rosebud R..		577.00	334.00		911.00		45.00	
"	W. " "		90.00	0		90.00		0	
"	Moss Cr.		60.00	0		60.00		0	
"	Spring		1.00	0		1.00		0	
			4,587.00	9,095.47		13682.47		91.00	
*YELLOWSTONE RIVER BASIN									
Private Ditch	Rye Grass Cr.		23.00	17.00		40.00		0	
" "	Yellowstone R.		50.00	115.00		165.00		5.00	
			73.00	132.00		205.00		5.00	
Big Horn Basin		2221.00		2192.00		4413.00		0	
Clarks Fork)		31905.49)	90387.64	7019.40)	23886.17	38924.89)	114273.81	882.00)	2144.50
Rock Creek)		58482.15		16866.77)		75348.92)		1262.50)	
Rosebud Basin		4587.50		9095.47		13682.47		91.00	
Yellowstone River Basin		73.00		132.00		205.00)		5.00	
		97,269.14		35,305.64		132,57428		2240.50	

* The summary under these headings includes all the land irrigated by the stream and its tributaries, even if the land irrigated is located in another Basin. As an example, we show the Red Lodge-Rosebud Irrigation District under the East Rosebud Basin as the water used to irrigate the district is from the East Rosebud River, but the land is located in the Rock Creek Basin.

** Elbow, New Prosperity, Granite and Granite-Prosperity extension ditches have been combined because they are so inter-related that we could not properly segregate them as to individual uses.

*** This figure does not represent the total seeped acres in the county, as only farms that were irrigated are represented. Areas abandoned or slightly seeped are not included in this figure. In most cases this figure represents crop land that has been entirely put out of production because of seepage.

DITCHES - COMPANIES - IRRIGATION DISTRICTS - ASSOCIATIONS

Bartlett Canal Company

The Bartlett Canal Company was organized in July, 1919, to succeed the Bartlett Ditch Company which was organized in 1897, and is a mutual ditch company. Water is taken by gravity from the Clarks Fork River in Carbon County, in the southwest quarter of the northwest quarter of Section 3, Township 6 South, Range 23 East, on the west side of the river.

The maximum capacity of the Bartlett Canal is estimated to be 3,000 inches; the canal is about eight miles in length. The headgate is considered to be in fair condition. The Company has a capital stock of 5,000 shares of a par value of $20 each, with 2,200 shares issued. As of October 26, 1943, the Company had no indebtedness. The cost of water per acre on an average is about 70¢. This charge includes operation and maintenance of the canal, and debt and service charges.

For the most part, the topography is even. Hay, beans, sugar beets, and small grains are the leading cash crops. Livestock is diversified with some cattle and sheep on most farms.

The Bartlett Canal supplies water to 50 share-holders living in the town of Fromberg. These users have a few shares each, which together total 150 shares. This water is used for gardens and lawns and small tracts within the city and its immediate surroundings. The total acreage amounts to about 20 acres irrigated by these users.

The water supply is said to be adequate, except in extremely dry years. The water users report that sometimes they are short of water during the busiest season when everyone is irrigating, as some of the lateral ditches are not large enough to carry sufficient water. The Clarks Fork River on some parts of the project is doing considerable damage to crop land during high water. As a result, considerable work has been done by individuals to turn the river back into its old channels and save their land. There is some seepage under the canal, but for the most part it is in small spots and is not considered serious.

In 1943 there were 1,849.00 acres being irrigated under the Bartlett Canal, with a potential acreage under existing works of 299.50 acres, or a maximum of 2,148.50 acres.

On July 12, 1919, the Bartlett Ditch Company filed on 5,000 miner's inches of water to be diverted from the Clarks Fork River by gravity in Section 4, Township 6 South, Range 23 East, on the

left bank of the stream. The purpose was to be for irrigation and domestic uses. The main canal was to be 144 inches wide by 36 inches deep, and of sufficient size to carry 3,000 inches of water. The lands to be irrigated were described as follows:

> From the point of diversion in a northeast direction and terminate at Elbow Creek in Section 34, Township 4 South, Range 23 East, said water to be used for the irrigation of all lands below said canal from its point of diversion to its terminus.

Said ditch has been constructed and in use since 1897.

The appropriation is on file in the Carbon County Court House, Red Lodge, Montana, in Book 3, Page 357, of Notice of Water Rights Records.

Bridger Ditch Company

The Bridger Ditch Company was organized January 24, 1914, to succeed the Clarks Fork and Bridger Ditch Company. All water rights of the Clarks Fork and Bridger Ditch Company were transferred to the Bridger Ditch Company. The Company was incorporated January 24, 1914, with a capital stock of 3,000 shares of a par value of $10 each, or $30,000. Of these, 2400 shares have been issued. The cost of water varies from 65 to 75¢ an acre. This cost includes charges for operation and maintenance. The Company has no indebtedness. The Company supplies water to a few users under a ditch called the Bridger Extension Ditch that is only considered a lateral of the main canal. Some users who are near the end of lateral systems report water shortages because their systems are not of sufficient carrying capacity to supply all users during the peak of the irrigation season. There has never been a serious water shortage under the main canal and the supply is considered adequate. The project is located on the east side of the Clarks Fork River in the vicinity of Bridger, Montana, which is the principal shipping point, and is served by the Chicago, Burlington & Quincy Railroad and U. S. Highway 310. The principal crops are sugar beets, beans and hay. Some livestock is kept on all farms.

Water is diverted from the Clarks Fork River in S½SE¼, Section 19, Township 7 South, Range 23 East. The system is described as a ditch 144" wide on the bottom, 184" across the top, and 20" deep, or of sufficient size to carry 2,500" of water. The purpose was to be for irrigation, mining and milling. The place of intended use was described as lands lying adjacent to the ditch and lying between the head of said ditch and a point below on said river, about 3 miles below the Bridger crossing.

In 1943 there were 2,789.75 acres being irrigated, with a potential acreage under existing works of 314.50 acres, or a maximum acreage of 3,104.25 acres.

On June 18, 1894, the Clarks Fork and Bridger Ditch Company filed on 2,500 miner's inches of water to be taken from the Clarks Fork River on the east bank. The point of diversion was given as about 15,000 feet south from Cottonwood Creek situated in Township 7 South, Range 23 East.

The appropriation was made June 18, 1894. The Notice of Appropriation is on file in the Carbon County Court House, Red Lodge, Montana, in Book 1, Page 634, of Water Right Location Records.

CLARKS Fork and Silver Tip Ditch Company

The Clarks Fork and Silver Tip Ditch Project lies northeast of the town of Belfry, Montana, on the east side of the Clarks Fork River. The main canal is about 8 miles long and takes water from the east side of the Clarks Fork River in the northwest quarter of the northwest quarter of Section 34, Township 8 South, Range 22 East. The headgate is immediately north of the highway bridge. The main ditch at the headgate is 8' across the bottom, 12' across the top, and 18" deep. The topography is even, with a general slope to the river and is well drained. Work was first started on the ditch in 1896. The ditch was constructed by means of hand labor, slips and horses. Some work was done each year, and the entire ditch was completed in about 1900. The farmers who built the ditch were paid back in shares for the amount of work they did; to date, these original shares are all that have been issued.

In 1910 a good headgate was constructed of concrete and steel with a steel gate and screw tops, and is still in operation. A steel flume on a trestle in Section 13, Township 8 South, Range 22 East, about 1,000' long, that takes water around a rocky point and high bank, was destroyed in 1930 by the bank sliding. This happened in the middle of the irrigation season and caused considerable damage. This flume was rebuilt in the same year at a cost of $6,936. In 1940 a new siphon was constructed at a cost of $1,399.30. The system also has a tunnel about 100' long through a hog-back which is north of the flume.

The Clarks Fork and Silver Tip Ditch was first incorporated April 9, 1898. The Company was re-incorporated in 1938 for 40 years, with a capital stock of 750 shares of a par value of $20 each, or $15,000. Of this amount 519 shares have been issued. The cost of water is, on an average, about $2.00 an acre, which is for operation and maintenance and debt service. The supply is considered adequate, and is delivered for a six-months' period. There are eleven water users under the system. The Company has no indebtedness.

The principal crops are beans, sugar beets, grains, and hay. Some livestock is kept on each farm, with some winter feeding practiced.

In 1943 there were 860.06 acres being irrigated under the Clarks Fork and Silver Tip Ditch, with a potential acreage under existing works of 184.90 acres, or a maximum of 1,044.96 acres.

On July 23, 1896, Owen Hancock, E. S. Darnell, Isaac Harness, Oliver Hiatt, Alex J. Ogden, and William Harness appropriated 2,500 miner's inches of water to be taken by gravity from the Clarks Fork River opposite the mouth of Wolf Creek or Taggarts Gulch, and about one and one-half miles below the mouth of Grove Creek, thence running to and upon said land. The diversion point was to be on the east bank. The purpose was for irrigation and other uses. The description of the system was described as a ditch below water line, 144" by 24" in size, which carries 2,500 inches of water. The land description of intended place of use was described as a flat, called Silver Tip, opposite the mouth of Bear Creek on the east bank of the Clarks Fork River. The foregoing appropriation is on file in the Carbon County Court House in Red Lodge, Montana, in Book 3, Page 15, of Notice of Water Right Locations.

On February 26, 1897, William Harness, Alex J. Ogden, John Asharbran, Owen Hancock, and Edward Darnell filed on 1,500 inches of water to be taken from the Clarks Fork River by means of a water wheel and a ditch 84" by 24" in size, to carry 1,500 inches of water. According to W. E. Ogden, son of Alex Ogden, a little work was done on this project, but it was later abandoned and has never been put to use. This appropriation is on file in the Carbon County Court House, Red Lodge, Montana, in Book 1, Page 71, of Notice of Water Right Records.

On March 16, 1898, C. S. Donnell, Jos. Carson, Frank Bergman, Owen Hancock, B. F. and J. H. Lomsley, Alex J. Ogden, Wm Holland, Joss Holland, Charles Hunter, and Walter Hunter filed on 2,500 inches of water to be taken by gravity from the Clarks Fork River on the east bank. The other descriptions on the Notice of Appropriation are identical to that given on the 1896 filing. W. E. Ogden, son of Alex J. Ogden, who is Secretary of the Clarks Fork and Silver Tip Ditch, said that as near as he could remember he thought that at this time more water users were taken under the ditch and that his father and the other appropriators in 1896 understood that it was necessary to file an additional Notice of Appropriation to cover the new users. This right is not now in use, as the original filing in 1896 for 2,500 inches is sufficient for the needs of the Company. This Notice of Appropriation is on file in the Carbon County Court House in Red Lodge, Montana, in Book 1, Page 135, of Water Right Locations Records.

Danford Irrigation District

The Danford Irrigation District is located between the Yellowstone and Clarks Fork Rivers in Yellowstone and Carbon Counties about 8 miles southwest of Laurel. The point of diversion is in the southeast quarter of Section 13, Township 3 South, Range 23 East, in Carbon County. The water is taken by gravity from the

Clarks Fork River on the west bank. Water is adequate, except in dry years. The project was started as the Mason Ditch Company about 1900. Later it became the Danford Ditch Company and was organized as the Danford Irrigation District in 1920. The total amount of money required to be raised in the year 1943 for general administrative expenses of the District, including costs of maintenance and repairs and interest, was $1,220.23. The average charge does not exceed $1.00 per acre and is often less.

The elevation of the project is about 3,400 feet and the estimated annual precipitation is about 13 inches. The average frost-free period is approximately 125 days. The topography is favorable for irrigation. Drainage has not been a problem, although the project has some seeped land. A branch line of the Northern Pacific Railway, extending from Laurel to Red Lodge, traverses the project with frequent shipping points and sidings. A paved highway (U. S. 12 and 310), which gives access to markets of Laurel and Billings the year round, traverses the project. The soil is very productive, being generally of a silt loam with occasional outcrops of gravel and heavier soils. Agriculture is highly developed, with beets and beans the principal crops. No great amount of livestock is kept on the farms.

The Clarks Fork River has done considerable damage to crop land along its banks. Some of the farmers estimate they are losing from 1 to 2 acres of land each spring by river washing during the spring run-off.

Early history: The Danford Ditch Company, incorporated March 8, 1913, in Carbon County. It was bonded for $21,000 to be paid by special tax and assessments upon all the land included within the Danford Irrigation District. At a meeting to decrease the capital stock from $40,000 to $30,000 the following stock owners were present: T. L. Wilkins - 141 2/3 shares; M. D. Hartley - 75 shares; R. Fritz - 141 2/3 shares; E. L. Merritt - 150 shares; J. W. Klamer 141 2/3 shares; G. E. Van Doren - 141 2/3 shares; O. M. Warfield 50 shares; and Joseph Kinnick - 80 shares and Ida A. Byam - 100 shares voted by proxy.

At the above mentioned meeting a resolution was adopted: "That the Danford Ditch Company purchase all the property, interest and franchises of the Mason Ditch Company, a corporation organized under the laws of the State of Montana, for the sum of $1.00 and for the surrender of all the capital stock of the said Mason Ditch Company to the Danford Ditch Company and all its property, and the cancellation thereof the stockholders of the Mason Ditch Company."

In 1943 there were 573.72 acres being irrigated under the Danford Ditch in Carbon County, with a potential acreage under existing works of 94 acres, or a maximum irrigable acreage of 667.72 acres. We also found 91 acres of seeped land in Carbon County.

Doctor Ditch Company

The Doctor Ditch Company is a gravity system and diverts water from the Clarks Fork River in Wyoming, in Section 36, Township 58 North, Range 102 West. There are 2 users in Wyoming and 3 users in Montana.

In 1943 there were 270 acres being irrigated under existing works in Montana, with no potential acreage. Mr. T. R. Chesarek, Secretary, estimates that there are about 264 acres being irrigated in Wyoming, and that the Company has a potential acreage of about 600 acres that could be served by new works. The only information Mr. Chesarek was able to give about the early use of the canal is that Ira Toothaker, on February 11, 1901, filed on 2.02 cubic feet per second to cover 142 acres, and that Sidney D. Henry on the same date filed on 1.05 cubic feet per second to cover 105 acres. On December 24, 1910, Sidney D. Henry filed on .21 cubic feet per second for 15 acres. The purpose was for irrigation, stock and domestic uses. On this same date, Ida L. Forest also made a subsequent filing for .15 cubic feet per second for 18 acres, to be used also for stock and domestic uses.

The Company is a mutual system and is not incorporated. All users share costs and equally help with work on the ditch. The water is also shared alike by all users. The average cost of water is about $1.50 per acre. This charge includes all ditch expenses.

The maximum capacity of the main canal is estimated to be 400 inches. The headgate and wing dam are not in good condition, and the main ditches need improvements. About 3 miles of the canal are in Montana. The Company does not supply water to any other sources and has no indebtedness. The supply is not considered adequate because of the poor condition of the canal system.

Beans, small grains and hay are considered the leading crops. Cattle and sheep are raised extensively because of nearness of large areas of grazing land. The nearest shipping point is at Belfry and is served by a gravel road. The topography is fairly even with a general slope to the Clarks Fork River. The elevation of the project is about 3,900 feet.

Dry Creek Canal and Irrigation Company

The project of the Dry Creek Canal and Irrigation Company is situated on the west side of the Clarks Fork River with the northern boundary about 2½ miles south of Bridger, the principal shipping point. Bridger is served by the Northern Pacific Railway and U. S. Highway No. 310.

The maximum capacity of themain canal is said to be 2,000 miner's inches. Water is taken by gravity on the west bank of the

Clarks Fork River in the SW¼SW¼ of Section 25, Township 7 South, Range 22 East. The supply is considered adequate. The total length of the main canal is about 5½ miles. Water is delivered to 14 farms. Beans, sugar beets and alfalfa are the principal crops, with small grains grown to some extent. Livestock is not kept extensively. Some feeding of outside livestock is done during the winter months.

What is now known as the Dry Creek Canal and Irrigation Company was first organized in 1893. The Company was re-incorporated in June, 1917, for 40 years, with a capital stock of 320 shares of a par value of $50 each, or $16,000. Per acre assessments are now 75¢, of which 50¢ is for operation and maintenance. The present indebtedness if $2,000.

The Company also supplies water to the Dry Creek Extension Ditch, which is considered as part of the main canal system. In 1943 there were 1,505.00 acres being irrigated, with a potential acreage under existing works of 171 acres, or a maximum of 1,676.00 acres. There is no seepage on this project.

The first water was appropriated on May 27, 1893, and filed on June 8, 1893, for 2,000 miner's inches to be taken by gravity nine chains below the mouth of Dry Creek on the west bank of the Clarks Fork River. The purpose was for irrigation. The description of the system was given as a dam, headgate, and ditch. The ditch was to be 96" x 24" and to carry 2,000 inches of water. The land description of intended place of use was given as Sections 5, 6, 7, 8, 18, and 19 in Township 7 South, Range 23 East, and Sections 12, 13 and 24 in Township 7 South, Range 22 East. Said lands lie on the west side of said river for a distance of 5 miles down said river from mouth of Dry Creek. The names of the original appropriators were: James Barclay, S. C. Hansen, Chas. Kuehing, Alva Burns, Geo. R. Turner, Frank Peterson, C. M. Baldwin and Wm. H. Buffington.

Original filing was made in Park County and later transferred to Carbon County. The Notice of Appropriation is on file in the Carbon County Court House, Red Lodge, Montana, in Book 1, Page 13, of Water Right Locations.

Elbow, Prosperity, Granite Group

New Prosperity Ditch Company
Elbow Ditch Company
New Granite Ditch Company
Granite-Prosperity Ditch Extension Company

As these ditch companies are so inter-related, we have combined them under the heading of "Elbow, Prosperity, Granite Group". The land irrigated by this group is all located in one township and is more or less administered as one system; however, each Company is separately incorporated.

In 1943 there were 3,549.40 acres being irrigated by these Companies, with a potential acreage under existing works of 396.50 acres, or a maximum irrigable acreage of 3,945.90 acres, with 159.50 acres of seeped land.

New Prosperity Ditch Company

The project is located between Rock Creek and the Clarks Fork River on what is known as Prosperity Flat. Joliet, with an altitude of 3,728 feet, is near the upper part of the project, and Edgar, with an altitude of 3,473 feet, is near the lower part.

The Notice of Appropriation gave the point of diversion about 200 yards from a certain ditch known as the Newton Ditch, which is about 1/4 mile south of Wilsey railroad station. The line of said ditch extends nearly parallel with said creek for a distance of about a quarter of a mile, thence in an easterly direction, thence in a southeasterly direction 2¼ miles to place of use, described as land situated on Rock Creek Flat, Elbow Creek Valley and the Clarks Fork Valley, and especially in Sections 20, 23, 26, and 30, in Township 4 South, Range 23 East, and Section 4 in Township 5 South, Range 23 East.

What is now known as the New Prosperity Ditch Company was first organized as the Prosperity Ditch Company in 1897. On September 18, 1897, the Prosperity Ditch Company appropriated 2,000 inches of water from Rock Creek. The Notice of Appropriation was filed September 21, 1897, and is on record in Book 1, Page 116, of Water Right Locations in the Carbon County Courthouse.

The Prosperity Ditch Company re-incorporated under the name of the New Prosperity Ditch Company, February 26, 1920, for 40 years, with a capital stock of 1,675 shares of a par value of $20 each, or $33,500. As of October 18, 1944, the Company had no indebtedness. The Company serves 15 water users.

In1931 the Elbow and Prosperity Ditch Companies consolidated their two ditches from the points of diversion on Rock Creek to Young's Corner, a distance of about 1¼ miles. The Prosperity Ditch Company pays 53% of the cost of ditch repair for this section of ditch, and the Elbow Ditch Company pays 47%. From Young's Corner, which is located in the southwest corner of the SW¼ of Section 17, Township 4 South, Range 23 East, the water is divided between the two Companies: 809.8 inches, or 26.75% to the East Elbow Ditch; 1201 inches, or 39.67% to the New Prosperity Ditch; and 1016.7 inches, or 33.58% to the West Elbow Ditch. 400 inches of the 1016.7 inches is New Prosperity Ditch water that is delivered to 3 users who use the West Elbow Ditch to convey the water to their farms. Each water user under the New Prosperity Ditch Company holds his own water right and buys supplemental water from the Rock Creek Water Users' Association as an individual. This water is stored in the Cooney Reservoir.

Water users report that by using Cooney water they have an adequate supply. Cost of water per irrigated acre averages about 25¢ an acre, which is for operation and maintenance charges under the system, and does not include Rock Creek Water Users' Association charges. The principal crops are beans, alfalfa, sugar beets, grain and corn, with some land used for pasture. All of the operators have some livestock.

The Company has the following decreed water rights in Rock Creek listed under case No. 275, decreed August 21, 1903:

1,451 miner's inches with a date of priority as of June 10,1898
155 " " " " " " " " July 1, 1898

Elbow Ditch Company

The Elbow Ditch Company project is located between Rock Creek and the Clarks Fork River on what is known as Prosperity Flat. Joliet, with an altitude of 3,728 feet, is near the upper part of the project and Edgar, with an altitude of 3,473 feet, is near the lower part.

Water is taken by gravity from Rock Creek in the SW¼NW¼ of Section 18, Township 4 South, Range 23 East. From this point water is carried to the northwest corner of Section 20 where the main ditch divides. This point is known as Young's Corner, division box of the main Elbow Canal. Of the total Elbow water 26.75% is allotted to the East Elbow Ditch; 39.67% to the Prosperity Ditch and 33.58% to the West Elbow Ditch. The entire length of the main ditches is about 10 miles. The maximum capacity of the main canal is estimated to be about 3,500 miner's inches. The project serves 13 farms.

The Company was incorporated February 7, 1898, for 99 years with a capital stock of 1,000 shares of a par value of $1.50 each; there have been 930 shares issued. Per acre assessments are 80¢ which include all ditch expenses. The present indebtedness is $2,000.

The Company has the following decreed water rights in Rock Creek listed under Case No. 275, decreed August 21, 1903:

1,040 miner's inches with a date of priority as of June 1,1893
280 " " " " " " " " May 30,1894
208 " " " " " " " " June 1,1897

In dry years the Company buys supplemental water from the Rock Creek Water Users' Association which is supplied by Cooney and Granite Reservoirs. The Company does not supply water to any other source and has always operated under its present name. J. P. Wetstein, Secretary, places the value of the system at $15,000.

The principal crops are beans, sugar beets, and small grains, with considerable livestock kept on some farms.

New Granite Ditch Company

The area under the New Granite Ditch Company is located between Rock Creek and the Clarks Fork River on what is known as Prosperity Flat. The headgate, when the canal was first constructed, was about one mile below the town of Joliet, or in the NE¼NW¼ of Section 18, Township 4 South, Range 23 East.

The New Granite Ditch Company was first started by Robert Duncan, Thomas Collins, Albert Hobbs, Antone Jenson, Charles Leitch, Andrew Nerlin and E. L. Crewell, who associated together in 1898, and formed the Granite Ditch Company. On January 11, 1898, the Company incorporated for 20 years with a capital stock of 600 shares of a par value of $5.00 each, or $3,000. The Company was divided into 3 parts, known as parts A, B and C, which were separate corporations and together formed the Granite Ditch Company.

The purpose of the Corporation was to construct the necessary ditches and to take 2,000 inches of water that had been appropriated from Rock Creek, June 15, 1894. The ditch was to be 120" wide on the bottom and 24" deep. The main canal was about 5 miles long. The Company re-incorporated under the name of the New Granite Ditch Company on May 3, 1924, for 40 years for $1,800 with a capital stock of 920 shares. Eight stockholders are served by the Company. The Company has 900 inches of decreed water with a date of priority as of May 29, 1894.

Granite-Prosperity Ditch Extension Company

The area served by the Granite-Prosperity Ditch Extension Company is located between Rock Creek and the Clarks Fork River on what is known as Prosperity Flat.

The Company takes water from the New Prosperity and Elbow ditches in Section 20, Township 4 South, Range 23 East. From this point the ditch runs east and is about 3 miles long. The Company also takes water from the New Granite Ditch in Section 17, Township 4 South, Range 23 East. The total capacity of the two ditches is about 2,200 miner's inches.

Supplemental water is purchased by this group from the Rock Creek Water User's Association, this water being stored in Cooney Reservoir on Red Lodge Creek.

The Granite-Prosperity Ditch Extension Company was formed and incorporated June 18, 1928, for 40 years with a capital stock of 1,726 shares of par value of $10 each, or $17,260. There were 30 stockholders in the Company.

The following list of decreed water rights are the result of a dispute that was brought about because of a water shortage in Rock Creek between the Granite Ditch Company and William Anderson:

The Granite Ditch Company, et al
vs
William Anderson, et al

A copy of the decree in the above entitled case, showing the day, month and year in which the parties to the action are entitled to water and the amount of water, chronologically arranged, so that each person can tell at a glance the number of rights and the amount of water preceding his right.

As a matter of law, the Court finds that each of the parties hereto are entitled to be decreed the several amounts of water herein found to have been appropriated by them, respectively, as of the dates thereof, as found by the Court; and that each and every party hereto should be enjoined by the decree herein from in any manner interfering with the ditches, dams, flumes or headgates of any other party hereto, or from using any of the water of said Rocky Fork Creek or the tributaries thereof, which other parties hereto are entitled to by right of prior appropriation, as found herein.

And the Court further finds that the distance between the upper and lower ditches of said Rocky Fork is about 45 miles; and that owing to the great distance between said ditches, and the numerous parties to this suit, it is necessary to an equitable distribution of the waters of said stream that measuring boxes be placed at the head of each and all of the ditches tapping said stream. It is, therefore, ordered that measuring boxes be immediately placed at the head of all of said ditches for the purpose of assisting a commissioner to properly measure said waters.

That all of the parties hereto should be enjoined by the decree herein from in any wise wasting the waters of said creek, or from diverting at any time more water than is reasonably necessary for the use to which it is applied, or to irrigate the lands of such party actually requiring irrigation at the time of diverting the same.

It is further ordered that the Sheriff's and Clerk's fees be equally divided between all of the parties to this suit, and that each party pay his own witness fees; and that a decree be drawn in accordance herewith.

	Number of Miner's In.	Cubic Feet per second	Month	Year
City of Red Lodge	50	1 1/4	June 1	1886
Hotchkiss, O. L. (Issac Niemi)	100	2 1/2	" 10	1888
Pippinger, B. F.	125	3 1/8	" 15	"
McDonald, T. P.	345	8 5/8	Sept 1	"
McDonald, Maria	155	2 1/2	June 1	1889
Saunders, W. A.	120	3	July 1	"
Buzetti, C. J.	100	2 1/2	" 1	"
Saunders, Mary	40	1	" 1	"
Boyer, Peter et al	400	10	" 1	"
Maryott, John L.	350	8 3/4	July 1	1890
Virtue, James	150	3 3/4	June 1	1891
Lyman, Stanley	100	2 1/2	June 20	1892
Rocky Fork & Alkali Ditch Co.	2364	49 1/10	Oct. 3	"
First Chance Ditch Co.	1335	33 3/8	Nov. 18	"
Baker, David	145	3 5/8	Apr. 20	1893
Spaeth, A. L.	140	3 1/2	" 20	"
Boulden, Jane	40	1	" 20	"
Dickey, M.W.	70	1 3/4	" 20	"
Craig, H. T.	155	3 7/8	" 20	"
Banta, J. M.	75	1 7/8	May 5	"
" E. S.	75	1 7/8	" 5	"
Nelson, C. L.	72	1 3/5	" 20	"
Maryott, John L.	150	3 3/4	" 25	"
Lyman, Stanley	150	3 3/4	" 25	"
Hughes, R. H.	130	3 1/4	" 30	"
Lehrkind, Walter	100	2 1/2	" 31	"
" " (Spring)	20	1/2	" 31	"
Farwell, Marcus	145	3 5/8	" 31	"
Miner, J. W.	100	2 1/2	" 31	"
First Chance Ditch Co.	120	3	June 1	"
Elbow Ditch Co.	1040	26	" 1	"
Stearns, Frank	153	3 33/40	" 1	"
Hoagland, C. C.	153	3 33/40	" 10	"
Webber, Alice	137	3 17/40	" 10	"
Vincent, Barto	130	3 1/4	" 10	"
Duncan, Caleb	142	3 11/20	" 10	"
Weir, James	142	3 11/20	" 10	"
Estes, W. J.	100	2 1/2	" 10	"
Sullivan, D. R.	50	1 1/4	" 10	"
Vaill, B. E.	180	4 1/2	" 15	"
McMasters, J. W.	150	3 3/4	" 15	"
Drake, D. R.	157	3 37/40	" 24	"

	Number of Miner's In.	Cubic Feet per second	Month	Year
Drake, William	148	3 7/10	June 24	1893
" John C.	100	2 1/2	" 24	"
West Fork Ditch Co.	600	15	" 25	"
Dutton, L. B.	138	3 9/20	July 1	"
Pleasant Valley Canal Co.	440	11	" 4	"
Leverich, Bruce (heirs)	120	3	" 8	"
Sprague, B. F.	40	1	Aug. 1	"
Pickering, Frank C.	154	3 17/20	" 25	"
Weir, James	120	3	" 30	"
Chastain, W. S. and Dunnigan, D. R. (jointly)	115	2 7/8	" 30	"
Joliet Townsite Co.	35	7/8	" 30	"
Williams, Albert	150	3 3/4	Apr. 30	1894
Duffy, Owen	140	3 1/2	May 8	"
Henry, C. E.	138	3 9/20	" 11	"
Granite Ditch Co.	900	22 1/2	" 29	"
Elbow " "	280	7	" 30	"
Bronner, Henry	132	3 3/10	June 15	"
Joliet Ditch Co.	418	10 9/20	" 20	"
Price, Thomas M.	120	3	" 20	"
Pleasant Valley Canal Co.	560	14	" 21	"
Pryde, William	140	3 1/2	" 23	"
" George	125	3 1/8	" 23	"
Burns, Edward	140	3 1/2	" 23	"
Bogeatto, Joseph	140	3 1/2	" 23	"
McMillen, Wm.	125	3 1/8	" 23	"
Luoma, John	140	3 1/2	" 23	"
West Fork Ditch Co.	470	11 3/4	" 30	"
Kerrigan, M. J.	145	3 5/8	" 30	"
Hicox, Presley	120	3	" 30	"
Banta, J. N.	30	2	" 30	"
" E. S.	30	2	" 30	"
Draper, Mrs. F. W. (Admx)	220	5 1/2	July 1	"
" Ada	310	7 3/4	" 1	"
Webber, John T.	40	1	" 1	"
Northy, Thomas	150	3 3/4	" 15	"
Saysell, Anna	150	3 3/4	" 15	"
Manahan, Patrick	150	3 3/4	" 15	"
Harney, Thomas	146	3 13/20	" 15	"
Sparr, S. F.	150	3 3/4	" 26	"
Drake, Warren	150	3 3/4	Oct. 1	"
" John C.	50	1 1/4	" 1	"
Crockett, W. R. (Alkali Creek)	115	2 7/8	Nov. 30	"

	Number of Miner's In.	Cubic Feet per second	Month	Year
Close, Wm.	90	2 1/4	May 30	1895
Duffield, Harry	100	2 1/2	June 1	"
Rocky Fork & Alkali Ditch Co.	750	18 3/4	" 1	"
Rule, W. T.	120	3	" 1	"
Raspberry, W. H.	130	3 1/4	" 1	"
Lumley, Ridley	120	3	" 1	"
McGregor, Duncan	85	2 1/8	" 1	"
Hunter, Thomas	75	1 7/8	" 1	"
Gorman, Thomas	80	2	" 1	"
Barlow, L. J.	140	3 1/2	" 11	"
Heddington, I. N.	120	3	"12	"
Huyck, C. C.	215	5 3/8	" 15	"
Draper, Mrs. F. W. (Admx)	82	2 1/20	" 15	"
Webber, John T.	32	4/5	" 15	"
Dickey, Lizzie M.	125	3 1/8	" 20	"
Young, Wm.	154	3 17/20	" 20	"
Carbon County	150	3 3/4	" 20	"
Goff, W. I.	70	1 3/4	" 20	"
" O. J.	155	3 7/8	" 20	"
Black, Allan	60	1 1/2	" 20	"
McDonald, T. P.	345	8 5/8	" 20	"
" Maria	145	3 5/8	" 20	"
Pleasant Valley Canal Co.	770	19 1/4	" 21	"
Pagel, Edward W.	140	3 1/2	" 30	"
Gruel, Louis	110	2 3/4	" 30	"
" Max	110	2 3/4	" 30	"
Rooney, Patrick	147	3 27/40	July 1	"
Chapple, R. S. and E. (jointly)	136	3 3/5	" 1	"
Handley, H. C.	150	3 3/4	" 1	"
Finn Ditch Co. (Chas. Johnson)	150	3 3/4	" 1	"
Londrum, Frank	145	3 5/8	" 2	"
" L. E.	153	3 33/40	" 2	"
Underwood, H. T.	125	3 1/8	" 5	"
Leimbach, Fred	110	2 3/4	" 5	"
Vaill, Susie	145	3 5/8	" 5	"
Bronner, Henry	12	3/10	" 8	"
Black, Allan	64	1 3/5	" 8	"
Underwood, J. A.	80	2	" 8	"
Shank, Louis	146	3 13/20	" 8	"
Banta, James	79	1 39/40	" 8	"
Sawyer, Charles F. and Whitney, Leroy B.	80	2	" 8	"
Carbon County Bank	150	3 3/4	" 8	"
Washoe Copper Co.	235	5 7/8	" 8	"
Underwood, Ike	135	3 3/8	" 8	"
Boyd, John	146	3 13/20	" 8	"
Crockett, W. R.	146	3 13/20	" 8	"
Bailey, James	145	3 5/8	" 10	"
" Matthew	150	3 3/4	" 10	"

	Number of Miner's In.	Cubic Feet per second	Month	Year
Misera, Nocholas	150	3 3/4	July 10	1895
Newell, John	140	3 1/2	" 15	"
Joliet Ditch Co.	415	10 3/8	" 15	"
Last Chance Ditch Co.	760	19	Oct. 4	"
Hay, Walter	140	3 1/2	Apr. 15	1896
" John	140	3 1/2	" 15	"
Oliver, C. F.	64	1 3/5	May 1	"
Russet, Chas.	154	3 17/20	" 23	"
Mine Pump Water	150	3 3/4	June 1	"
Rocky Fork & Alkali Ditch Co.	750	18 3/4	" 1	"
Bedll, B. G.	150	3 3/4	" 1	"
Neill, Rogeness	100	2 1/2	" 1	"
Boulden, Jane	43	1 3/40	" 5	"
Hemry, Wm.	150	3 3/4	" 5	"
Chilcote, C. S.	149	3 29/40	" 5	"
Pryde, Chs.	60	1 1/2	" 6	"
" George	140	3 1/2	" 6	"
Duffield, Harry	40	1	" 8	"
Hughes, Myrtle	103	2 23/40	" 15	"
Mitchell, George	150	3 3/4	" 18	"
Fuller, C. F.	135	3 3/8	" 20	"
Page, Mrs. J. B.	70	1 3/4	" 30	"
Dix, James A.	70	1 3/4	" 30	"
McLeod, R. W.	140	3 1/2	" 30	"
Finn Ditch Co. (J. Johnson)	150	3 3/4	July 1	"
Leimbach, Ernest	70	1 3/4	" 5	"
Doty, Dan	145	3 5/8	" 7	"
" R. E.	154	3 17/20	" 7	"
Taylor, D. T.	155	3 7/8	" 7	"
Dulin, G. W.	155	3 7/8	" 7	"
Wentworth, M. S.	145	3 5/8	" 7	"
Thompson, F. B.	145	3 5/8	" 7	"
Chapman, Luke	150	3 3/4	" 7	"
Heddington, I. N.	60	1 1/2	" 15	"
Convery, James	50	1 1/4	" 15	"
Dunn, R. W.	160	4	" 31	"
Johnson, Maria C.	125	3 1/8	Aug. 10	"
Hill, John (Finn)	150	3 3/4	May 1	1897
Cammock, Edward	100	2 1/2	" 15	"
Bailey, John	60	1 1/2	" 15	"
Donaldson, Robert	140	3 1/2	" 15	"
Hunt, George	140	3 1/2	" 15	"
Hundley, Alex	125	3 1/8	" 15	"
Greenough, Ben	125	3 1/8	" 30	"
Crismas, W. J.	150	3 3/4	June 1	"
Anderson, Wm.	150	3 3/4	" 1	"
" David	150	3 3/4	" 1	"

	Number of Miner's In.	Cubic Feet per second	Month	Year
Smith, Frank	80	2	June 1	1897
Brandt, Wm. A.	80	2	" 1	"
Rocky Fork & Alkali Ditch Co.	1136	28 2/5	" 1	"
Last Chance Ditch Co.	360	9	" 1	"
Elbow Ditch Co.	208	5 1/5	" 1	"
Barlow, James R.	71	1 31/40	" 15	"
Barry, James	149	3 29/40	Apr. 21	1898
Chapman, S. L.	150	3 3/4	May 15	"
Hunter, Thomas	75	1 7/8	June 1	"
Gorman, Thomas	65	1 5/8	" 1	"
Brosseau, Arthur (H. Matson)	154	3 17/20	" 1	"
" J. A.	144	3 3/5	" 1	"
Wayman, Mark	100	2 1/2	" 1	"
Newell, George	140	3 1/2	" 1	"
Walsh, John	149	3 7/10	" 1	"
Price, Thomas H.	25	5/8	" 1	"
Brockway, P. I.	140	3 1/2	" 1	"
Byrnes, Laurence (Ruiter)	50	1 1/4	" 1	"
Last Chance Ditch Co.	466	10 13/20	" 1	"
Surprise Ditch Co.	585	14 5/8	" 5	"
Prosperity " "	1520	38	" 10	"
Burger, Wm.	75	1 7/8	" 12	"
Walsh, Wm.	145	3 5/8	" 15	"
Boyer, Peter	100	2 1/2	" 15	"
Hetzer, Peter (J. Maki)	70	1 3/4	" 15	"
Caldwell, Thomas	70	1 3/4	" 15	"
Hotchkiss, F. O.	100	2 1/2	" 15	"
Raspberry, Archie	87	2 7/40	" 23	"
Dawson, G. W.	100	2 1/2	" 23	"
Carrier, E. E.	94	2 7/20	" 23	"
Ingles, Charles (Kenedy)	87	2 7/40	" 23	"
Mosier, L. D.	125	3 1/8	" 25	"
Blue, Jessie L.	130	3 1/4	" 30	"
McGregor, Duncan	65	1 5/8	July 1	"
Walsh, James C.	140	3 1/2	" 1	"
Blyer, L. H.	120	3	" 1	"
Corle, Ed.	50	1 1/4	" 1	"
Bromfield, William	155	3 7/8	" 1	"
Lyman, Stanley	50	1 1/4	" 1	"
Prewitt, Levi	90	2 1/4	" 2	"
Clawson, J. R.	150	3 3/4	" 2	"
" Archie	100	2 1/2	" 2	"
Baker, W. H.	60	1 2/3	" 2	"
Simpson, C. E.	100	2 1/2	" 2	"
Parrott, M. L.	148	3 7/10	" 2	"
Powers, Maurice	204	5 1/10	" 6	"
Powers, Ann	314	7 17/20	" 6	"

	Number of Miner's In.	Cubic Feet per second	Month	Year
Feely, Thomas Sr.	154	3 17/20	July 10	1898
" Luke	140	3 1/2	" 10	"
" Kathryn	156	3 9/10	" 10	"
" Thomas Jr.	100	2 1/2	" 10	"
Cammock, Edward	40	1	May 15	1899
Bailey, John	60	1 1/2	" 15	"
Sprague, W. E.	140	3 1/2	" 15	"
First Chance Ditch Co.	100	2 1/2	" 15	"
Ditto	150	3 3/4	June 1	"
Weir, James	50	1 1/4	" 1	"
Last Chance Ditch Co.	80	2	" 1	"
Barker, S. H.	102	2 11/20	" 3	"
Baker, K. A.	140	3 1/2	" 30	"
Finley, G. L.	130	3 1/4	" 30	"
Boyd, Irwin	140	3 1/2	" 30	"
Hill, Mike	150	3 3/4	" 30	"
Boyer, Peter	50	1 1/4	July 1	"
Caldwell, Thomas	65	1 5/8	" 1	"
Hetzer, Peter (J. Maki Est.)	60	1 1/2	" 1	"
Henry, C. I.	154	3 17/20	" 1	"
" J. A.	154	3 17/20	" 1	"
Hides, John	60	1 1/2	" 10	"
Hotchkiss, F. O.	45	1 1/8	" 11	"
Underwood, J. A.	40	1	May 15	1900
Chilcott, O. S. and R. H.	71	1 31/40	" 15	"
" I. N.	64	1 3/5	" 15	"
" Mattie	60	1 1/2	" 15	"
Last Chance Ditch Co.	100	2 1/2	June 1	"
Banta, R. L.	150	3 3/4	" 3	"
Ray, John	150	3 3/4	" 3	"
McVey, E.	140	3 1/2	" 3	"
Blanchard, A. and Geneve (jointly)	140	3 1/2	" 3	"
Ross, Mary	100	2 1/2	" 3	"
Surprise Ditch Co.	50	1 1/4	" 5	"
Sutton, W. A.	105	2 5/8	" 7	"
Haars Ditch Co.	610	15 1/4	" 15	"
Sawyer, C. F. & Whitney, Leroy B	105	2 5/8	" 15	"
Hides, John	91	2 11/40	July 15	"
Black, Andrew	150	3 3/4	" 3	"
Mason, Thomas	150	3 3/4	Sept. 15	"
Sansaver, Albert	100	2 1/2	May 18	1901
Dixon, Samuel	116	2 9/10	" 19	"
Last Chance Ditch Co.	125	3 1/8	" 30	"
Sauerwein, F.	125	3 1/8	June 1	"
Virtue, James	100	2 1/2	" 5	"

	Number of Miner's In.	Cubic Feet per second	Month	Year
Close, William	160	4	June 5	1901
Webber, John T.	75	1 7/8	" 10	"
Harra Ditch Co.	615	13 3/8	" 28	"
Hill, John (Kaisy Paaval?)	100	2 1/2	July 1	"
Torreyson, Celeb	140	3 1/2	" 4	"
Jacobson, Jacob	125	3 1/8	" 5	"
Finn Ditch Co.	596	14 9/10	Aug. 25	"
Curry, Thomas	100	2 1/2	Oct. 30	"
Powers, Maurice	450	11 1/4	Nov. 11	"
Rogeness, Neil	45	1 1/8	Apr. 15	1902
Mattson Ditch Co.	130	3 1/4	" 20	"
Draper, Ada	100	2 1/2	June 1	"
Finn Ditch Co.	1626	40 13/40	" 10	"
West Fork Ditch Co.	450	11 1/4	July 15	"
Luoma, John	150	3 3/4	" 31	"
Beall, B. G.	50	1 1/4	Aug. 5	"
Mattson Ditch Co.	560	14	" 10	"

Year	Inches Decreed
1886	50
1888	570
1889	815
1890	350
1891	150
1892	3799
1893	6231
1894	6174
1895	8767
1896	4562
1897	3225
1898	7391
1899	1870
1900	2276
1901	2927
1902	3111

Total inches decreed 52268 or 1,306 27/40 cu. ft.

It is further ordered, adjudged and decreed by this Court that each of the parties hereto is entitled to the use and enjoyment of the several amounts of water herein found to have been appropriated by them, respectively, as of the dates of said several appropriations as shown in the findings of the Court, which said findings are hereby referred to and made a part of this decree, and that each and every party hereto be and he is hereby enjoined from in any manner interfering with the ditches, dams, flumes, or headgates of any other party hereto, or from using of the water of said Rock Creek or tributaries thereof or springs constituting the source thereof, to which other parties hereto are entitled by right of prior appropriation as found herein.

It is further ordered, adjudged and decreed that the said appropriations of the parties hereto shall be measured at their respective head gates at the point of diversion from said creek, and that they and each of them be and hereby is required to construct measuring boxes and place the same at their respective points of diversion of their said

appropriations from said creek, or as near thereto as headgates can be practically constructed, and that the said measuring boxes be maintained at all times and be of such construction as will enable a commissioner or commissioners to properly and readily measure the water flowing into the said several ditches.

That all of the parties hereto be, and are hereby, enjoined from in any wise wasting any of the waters of said creek, or from diverting at any time more of the water than is reasonably necessary for the use for which it is to be applied, or to irrigate the lands of such party actually requiring irrigation at the time of diverting the same. And this decree shall be binding upon the heirs, successors and assigns of the parties hereto.

It is further ordered, adjudged and decreed that the Sheriff's fees and the fees of the District Clerk be paid by the several parties hereto in equal amounts and that the Clerk of this Court proceed to determine the amount due from each of the several parties hereto for his proportionate part of said costs, and notify the parties hereto of the amount due from them respectively, and upon failure of any such parties to pay said sum due from them, that an execution issue from this Court against such party or parties for the collection of his proportionate part of said costs. And it is further ordered, adjudged and decreed that each party hereto pay his own witness fees and the stenographer's fees charged against him.

Frank Henry, Judge

Dated this 21st day of August, 1903.

I, E. E. Esselstyn, Clerk of the District Court, in and for Carbon County, State of Montana, hereby certify that the foregoing is a full, true and correct transcript of the number of inches of water decreed in the Granite Ditch Company et al, plaintiffs, and W. Anderson et al, defendants, and the whole thereof.

E. E. ESSELSTYN,
Clerk District Court

Attest:

CHARLOTTE DILWORTH, Deputy Clerk,
Dated January 20, 1904

Elk Basin Pumping Plant

The Elk Basin Pumping Plant is included in this report, as it is located immediately on the Wyoming side of the Montana-Wyoming state line on the Clarks Fork River. The plant has 2 Diesel operated pumps - one with a 10" stroke which has a capacity of 175 barrels per hour, and the other with a 14" stroke has a capacity of

225 barrels per hour (42 gallon barrel). The engines are Caterpillar Diesel design, having 125 horsepower each. The pump house and well are located on the east bank of the Clarks Fork River. The well is about 12 feet in diameter. It has a tile inlet and also a 6" inlet to the river. There are 17 miles of 6" pipe from the pumping station to Elk Basin. At the Basin a 10,000 barrel storage tank is maintained. Pumping operations started about April 1, 1944.

Finn Ditch Company

The area served by the Finn Ditch Company lies west and south of Roberts, which is the principal shipping point, and is served by the Northern Pacific Railway and U. S. Highway No. 12. The altitude at Roberts if 4,585 feet above sea level.

The Finn Ditch Company takes water by gravity on the west bank of Rock Creek in the NW¼SW¼, Section 18, Township 6 South, Range 21 East. The main canal is about 7½ miles in length and is estimated to have a maximum capacity of 3,000 miner's inches.

The Finn Ditch Company was first started in 1895 and was incorporated July 24, 1901, for a period of 40 years. The stock is divided into 19 shares, all being issued. The Company serves 16 farms. Herman Bell, Secretary for the Company, estimated that there are about 800 acres under the ditch that are not receiving a full supply of water, and that the entire ditch is short in dry years. Operation and maintenance charges average 55¢ per acre. The project is not troubled with seepage.

Principal crops are small grains and hay. Considerable acreage is given to oats and barley, which are used as feeder crops. Most farms have some livestock, while some have small bands of sheep which lend diversity to their farming program. Some winter feeding is done. The topography is rolling hills.

The Company has the following decreed water rights in Rock Creek listed under Case No. 275, decreed August 21, 1903:

150	miner's	inches	with	a	date	of	priority	as	of	July	1, 1895
150	"	"	"	"	"	"	"	"	"	"	1, 1896
596	"	"	"	"	"	"	"	"	"	Aug.	25, 1901
1626	"	"	"	"	"	"	"	"	"	June	10, 1902

In 1943 there were 2,022.80 acres being irrigated under the Finn Ditch, with a potential acreage under existing works of 460.80 acres, or a maximum acreage of 2,483.60.

Free Silver Ditch

The area served by the Free Silver Ditch is located near the town of Rockvale which has an altitude of 3,483 feet above sea level.

The Free Silver Ditch is a gravity system with no large structures of any kind. Water is taken from Rock Creek in the SW¼SE¼ of Section 4, Township 4 South, Range 23 East, on the north bank. A measuring weir is about one-fourth of a mile northeast from the headgate. The ditch crosses U. S. Highway No. 12, and the Northern Pacific Railway in the SE¼NE¼ of Section 4, then continues northeast to the NE¼NW¼, then east one-fourth of a mile to NW¼NE¼ of Section 3, then northeast past Rockvale to the SE¼SW¼ of Section 35, Township 3 South, Range 23 East, then north. In the N½SW¼ the ditch divides; the two forks run parallel for about 1½ miles, then join near a coulee in the NE¼NW¼ of Section 26, and it continues north for about one mile where it empties into Farwell Creek in the SE¼NW¼ of Section 23, Township 3 South, Range 23 East. The total length of the ditches is about 9¼ miles.

The Free Silver Ditch was first used in 1893. The main canal hasbeen kept in a fairly good state of repair. The ditch was cleaned with a dragline in 1943 for its entire length. A new headgate was constructed to replace the old one, for it could not be closed, and winter floods damaged some of the land along the upper part of the ditch. The new headgate is located about 150 yards upstream from the old location.

The Free Silver Ditch is a farmers' cooperative ditch in which the users do most of the maintenance and have no assessments except when there is an expense on the ditch. The average cost for operation and maintenance is about 10¢ an acre. The water supply is considered adequate. The ditch has no indebtedness. Each user has his own decreed water right for a given amount of water that is delivered to him through the main ditch.

There are 10 water users under the main ditch, three of whom are near the head of the ditch and irrigate about 30 acres each from the Free Silver, but receive most of their irrigation water from other sources. These users were permitted this use because they could not get water to this acreage from the systems with which they were associated. The capacity of the main ditch is estimated to be about 955 inches. The topography is river bottom land, the soil being a sandy loam and very productive. Principal crops are sugar beets, beans and small grains. Some livestock is kept on all farms.

In 1943 there were 938.00 acres being irrigated, with a potential acreage of 260.00 acres, or a maximum acreage of 1,198.00 acres. Fifty acres of the potential acreage shown will be irrigated in 1944, through the upper Free Silver that is locally known as the Highline. An extension ditch has been constructed and will be ready for use in 1944. The land served is owned by R. H. Chilcott.

GLENNWOOD DITCH COMPANY

The area served by the Glennwood Ditch Company is located about one mile east of Silesia and consists of a narrow strip of river bottom land between the Clarks Fork River and adjoining bench land. The altitude at Silesia is 3,404 feet above sea level.

The land description of intended place of use was given as lands in Sections 30, 19, 18, 7 and 8 in Township 3 South, Range 24 East.

Water is taken by gravity from the east bank of the Clarks Fork River in the NE¼NE¼ of Section 36, Township 3 South, Range 23 East.

The Glennwood Ditch Company was first organized in 1895 by Rudolph Holt, R. K. Terrell, W. L. Terrell, J. O. Terrell, and C. A. Heatherington. On August 23, 1895, they appropriated 3,000 miner's inches of water from the Clarks Fork River at or near the southwest corner of Section 30, Township 3 South, Range 24 East, on the east bank of the stream. The filing was made on September 17, 1895. The purpose was for irrigation. The system was described as a ditch 84" by 79" in size, which carries 3,000 inches of water. The main canal is about 4 miles long.

Notice of Appropriation is on file in the Carbon County Court House, Red Lodge, Montana, in Book 2, Page 118, of Water Right Records.

On March 4, 1913, this system was incorporated as the Glennwood Ditch Company, for 40 years, with a capital stock of 300 shares of a par value of $100 each, or $30,000. On October 14, 1944, 250 shares had been issued.

In 1944 the Company negotiated with the Farm Security Administration for a loan of $6,000 to repair their diversion dam and headgate, and relocate 1,000 ft. of canal. Later, the idea was dropped and the farmers decided to do the work themselves. Because of flood damage to their old siphon, they are also constructing a new siphon over Cottonwood Creek, approximately 150 feet long, consisting of 2 corrugated steel pipes---one 18" in diameter, the other 24". There are seven farms served by the Company.

The project is served by the Northern Pacific Railway and U.S. Highway No. 310 and 12. The principal crops are sugar beets, alfalfa, and small grains. Some livestock is kept on most farms. The lands vary greatly as to soil character, as the project is all river bottom land. Considerable damage has been caused by flood waters from Cottonwood Creek.

In 1943 there were 482 acres being irrigated under the system with a potential area of 76 acres, or a maximum of 558 acres. Of this amount, 63 of the irrigated acres were in Yellowstone County.

GOLDEN DITCH COMPANY

The Golden Ditch Company Project is located 5 miles north of Belfry on the west side of the Clarks Fork River. The place of intended use was described as the land lying between the line of the ditch and the Clarks Fork River in Sections 35, 25, 13, and 12, in Township 7 South, Range 22 East. The point of diversion is in the S½SE¼ of Section 26, Township 7 South, Range 22 East, near the mouth of Dry Creek. The entire system is gravity with no structures of any consequence. The main canal is about 6 miles long. The Company has always operated under its present name and does not supply water to any other source.

The Golden Ditch Company was first organized in 1903. The purpose of the organization was to supply water for irrigation to lands in the Clarks Fork Valley. On March 28, 1944, the Company re-incorporated for 40 years with a capital stock of 1,400 shares of a par value of $25 each, or $35,000. There have been 1,387 shares issued. The present assessment is 50¢ an acre, which is for operation and maintenance. The Company has no indebtedness.

On March 31, 1903, the Golden Ditch Company appropriated 2,000 miner's inches of water to be taken by gravity from the Clarks Fork River in the SE¼ of Section 3, Township 8 South, Range 22 East on the west bank of stream. The purpose was for irrigation, manufacturing and domestic uses. The system was to be a dam in said river to divert water into a canal, the headgate of which was 8' in width and 6' in depth. The ditch was to be 2' in depth by 8' in width on the bottom, and 12' in width on the top. (This original point of diversion has been changed). Notice of Appropriation is on file in the Carbon County Courthouse, Red Lodge, Montana, in Book 1, Page 378, of Water Right Locations.

The altitude at Belfry is 3,740 feet. The topography is fairly level and drainage for the most part is no problem.

In 1943 there were 919.00 acres being irrigated under the Golden Ditch, with a potential area under existing works of 120.00 acres, or a maximum of 1,039.00 acres.

GRove Creek Canal Company

The project of the Grove Creek Canal Company starts 3 miles south of Belfry, and extends to a point in Section 8, Township 9 South, Range 22 East, where the main canal flumes across the Clarks Fork River. The irrigated land by this system lies immediately west of the river. The altitude at Belfry is 3,740 feet.

Water is taken by gravity in lot 5, Section 20, Township 9 South, Range 22 East, on the east bank of the Clarks Fork River.

The capacity of the main canal is 3,000 inches. The supply is adequate. In the SW¼ of Section 8, Township 9 South, Range 22 East, the Company has a large flume across the Clarks Fork River, 400' long, 7' wide, and 20" deep. This is the only structure of any consequence under the system. At this point the canal crosses from the east to the west side of the river.

What is now known as the Grove Creek Canal Company was first organized in 1897 as the Grove Creek Ditch Company. The Grove Creek Canal Company was incorporated April 10, 1902, with a capital stock of 1,000 shares of a par value of $25 each, or $25,000. Of these, 288 shares have been issued. On March 2, 1942, the Company was extended and given continual existence. At present the Company has no indebtedness. The cost of water for operation and maintenance averages about $1.00 per acre.

On November 1, 1897, the Grove Creek Ditch Company appropriated and filed on 3,000 miner's inches of water to be taken from the Clarks Fork River on the east bank. From this point it was to run 2¼ miles in a northerly direction along east bank of said stream; thence into a flume across said river to the west bank, thence nearly north 2 miles, thence over and upon said land. The purpose was for irrigation, domestic and mining uses. The system was described as a ditch 120" by 36" in size and carries 3,000 miner's inches of water from said stream.

Notice of Appropriation is on file in Carbon County Court House, Red Lodge, Montana, in Book 1, page 121, of Water Right Locations.

Six stockholders have farms in the system. There are 1,233.00 acres of irrigated land under this canal, with a potential acreage under existing works of 170.00 acres, or a maximum irrigable acreage of 1,403.00 acres. Seepage is not a factor as the project is well drained.

HAARA DITCH COMPANY

The Haara Ditch Company Project is located on the bench land west of Red Lodge. The altitude at Red Lodge is 5,557 feet. Water is taken by gravity in the N½SE¼ of Section 5, Township 8 South, Range 20 East, from the West Fork of Rock Creek.

The Haara Ditch Company was first incorporated on June 10, 1902; the Company was re-incorporated for 40 years in 1942. The Company has 200 shares of stock, all of which are issued. The Company does not supply water to any other source and has always operated under its present name.

The Haara Ditch Company has two decreed water rights under its name. One, of a priority date of June 15, 1900, for 610 inches, the other of a priority date of June 28, 1901, for 615 inches. The other

three rights are held by the following individuals under the ditch: Albert Luoma, 1894 right for 140 inches; Matt Joki, 1895 right for 120 inches; Gust Luoma, 1902 right for 150 inches.

The supply is adequate in years of heavy snowfall in the mountains. In dry years the supply is not, and in some years water is rotated in order to give each user some water. Since the establishment of a Rock Creek Water Users' Association, stored water has been purchased, which has alleviated this condition. The 10 stockholders in the Company buy stored water for a total cost of $575 a year, or $57.50 each. All users have their own water rights, and help with ditch repairs and share equally all expenses. The main canal is about 10 miles long and has a capacity of 2,000 inches. Ditch assessments are about 40¢ an acre. The Company has no indebtedness.

There are several deep cuts along the ditch that have to be repaired each year before the irrigation season. The topography is rough and rolling hills, with the soil types being of a sandy or gravelly nature.

In 1943 there were 1,426.53 acres being irrigated under the Haara Ditch, with a potential acreage under existing works of 60.00 acres, or a maximum acreage of 1,486.53 acres.

Highline Ditch Company

The Highline Ditch Company was first incorporated in 1900. In 1924 the Company was re-incorporated to raise additional funds for a ditch extension, but the extension was never made. The Company was incorporated with a capital stock of 16,800 shares of a par value of $1.00 each, or $16,800.

Water is taken by gravity from the east bank of Rock Creek in the SE¼NW¼ of Section 21, Township 5 South, Range 21 East. A measuring weir is located about 1/4 of a mile northeast from the headgate. The system consists of a ditch 6' wide, 3' deep, about 10½ miles long, 4 wooden flumes, and a 20' drop, in Section 14 where the ditch crosses a tributary of Stanley Creek. An extension ditch called the White Ditch carries on from the end of the Highline Ditch. The project is located near Selms Siding on the Northern Pacific branch line to Red Lodge. The elevation at Selms is 4,377 feet. From the project it is about 15 miles south to Red Lodge. The Company has trouble with the main ditch silting and requires frequent cleaning in order to keep it in first-class condition so that sufficient water can be carried to supply its users.

Each water user has his own water right or a separate decree. Because of the late date of filing, the Company has to buy water from the Rock Creek Water Users' Association. With this supplemental supply the users report they have sufficient water. The Company has 830 inches of decreed water, with a priority as of 1900

and 125 inches with a priority as of 1901.

In 1943 there were 890.00 acres being irrigated, with a potential acreage of 724.00 acres, or a maximum irrigable acreage of 1,614.00 acres. 500 acres of the potential acreage could be irrigated by extending the ditch. The present ditch up to the drop is of sufficient carrying capacity to carry water for the additional acres. B. C. Lillis, Engineer of Billings, Montana, made a survey of this land and has a map of the potential area.

The principal crops are small grains and alfalfa hay. Some dairy cattle, poultry and other stock is kept on each farm with some winter feeding being done. The topography is rolling land. The Company has no indebtedness. The cost of water averages 50¢ an acre, which is for operation and maintenance. 7 Stockholders have farms under the system.

Holland Ditch Company

On February 13, 1897, John Holland, William Holland and Josiah Holland appropriated 1,500 miner's inches of water to be taken by gravity from the Clarks Fork River on the east bank. No point of diversion was given. The purpose was for irrigation, domestic and mining uses. The system was described as a ditch 72" by 24" in size which carries 1,500 miner's inches of water. The intended place of use was described as follows: on Silver Tip Flat and more particularly on the ranches of claimants.

The Notice of Appropriation is on file in the Carbon County Court House, Red Lodge, Montana, in Book 1, Page 351, of Water Right Location Records.

The project was first developed in 1897. In 1911 the ditch was enlarged to carry 2,500 inches of water and additional water users were admitted to the Company. It was the belief of Mr. John Holland, a son of one of the original appropriators, that a filing was made at that time for 2,500 inches by the Holland Ditch Company. We were unable to find any record of a Notice of Appropriation in the County records in Red Lodge, made by the Holland Ditch Company.

The Holland Ditch Company was incorporated February 16, 1911, for 40 years, with a capital stock of 240 shares of a par value of $100 each, or $24,000. Of this amount, 120 shares have been issued. The cost of water on an average is about $2.25 an acre, which is for operation and maintenance. The Company does not supply water to any other source and has no indebtedness.

The Holland Ditch Company takes water by gravity in the $NE\frac{1}{4}NE\frac{1}{4}$, Section 14, Township 8 South, Range 22 East, on the east side of the Clarks Fork River, one mile east of Belfry. The land under this project is for the greater part river bottom land, varying

greatly as to soil character. Sandy loam soils predominate. Topography is fairly level and for the most part drainage is fair. The supply of water is considered adequate. The main canal is 5 miles in length and has no extensive lateral system. It is 8' wide from start to finish.

In 1943 there were 959.90 acres of irrigated land under this ditch, with a potential acreage under existing works of 42 acres, or a maximum irrigable acreage of 1,001.90 acres. We also found 15 acres of seeped land which is used for pasture.

Inter-State Irrigating and Mining Ditch Company

The main part of the area served by the Inter-State Irrigating and Mining Ditch Company is located on the west side of the river immediately north of the Montana-Wyoming state line, near the Chance Bridge. All land under this system that is irrigated, except a small garden that is irrigated by T. R. Chesarek, is in Montana. On the north side of a road bridge across the Clarks Fork River on the Chesarek Ranch, water is flumed across the Clarks Fork River to irrigate land owned by Q. E. Chance on the east side of the river.

On the 22nd day of April, 1901, Charles B. Orr, Charles Richards, J. H. Hall, Oscar Denay, Nathan Chance, Louis B. Sickler and George A. Smith associated together and formed the Inter-State Irrigation and Mining Ditch Company. The Company was incorporated for 40 years with 2,000 shares of stock of a par value of $1.00 each. Each share represented one inch of water, or a total of 2000 inches of water, that was to be taken from the Clarks Fork River by gravity in the NE¼NW¼ of Section 30, Township 58 North, Range 101 West, in the state of Wyoming. Said ditch was to terminate in Section 13, Township 9 South, Range 21 East, in Carbon County, Montana, or about 6 miles from the place of beginning.

On April 19, 1913, the Company increased its capital stock from 2,000 to 3,000 shares - each share having a par value of $1.00 each. Nathan Chance and Charles Beardslee were the Company Directors at the time. On February 24, 1941, the Company re-incorporated with a capital stock of 3,000 shares of a par value of $1.00 each, or $3000 for 40 years. We were unable to find any water right filing for this Company in the Carbon County Water Right Records.

The altitude at Chance is 3,840 feet. In 1943 there were 1,129.00 acres being irrigated, with 210 acres of potential land under existing works, or a maximum irrigable acreage of 1339.00 acres. The topography and water supply would permit the irrigating of several hundred acres more. There are 7 stockholders served by the system. The operation and maintenance charges average about 50¢ an acre, which is mostly worked out by the users. Topography is river bottom land.

Joliet Irrigation Company

The area irrigated by this project lies northeast of Joliet. The altitude at Joliet, which is the principal shipping point and served by a branch line of the Northern Pacific Railway, is 3,728 ft.

The Joliet Irrigation Company takes water by gravity near the northwest corner of the SE¼NE¼ of Section 33, Township 4 South, Range 22 East. Measuring weir is about 1/4 mile northeast of the headgate. The main canal is about 6¼ miles long.

The Company was incorporated in 1919, for 40 years, with a capital stock of 1,000 shares of a par value of $20 each, or $20,000. To date 917 shares have been issued. The Company has no indebtedness. The cost of water per irrigated acre averages about 50¢ which is for operation and maintenance. The topography is level with a gentle slope to Rock Creek. The soils vary greatly as to soil character, this being all river bottom land. Drainage for the most part is fair with some seepage. The supply of water is considered adequate in normal years, but the stockholders say they do not have enough water in dry years.

The following water rights were decreed to the Joliet Ditch Company, predecessor of the Joliet Irrigation Company:

393 inches with a date of priority as of June 20, 1894.
390 " " " " " " " " June 15, 1895.

The following rights were decreed to the Joliet Irrigation Company:

50 inches with a date of priority as of July 1, 1898.
20 " " " " " " " " May 15,1899.
64 " " " " " " " " May 1, 1896.

In 1943 there were 513.20 acres being irrigated, with a potential acreage of 73.00 acres, under existing works, or a maximum irrigable acreage of 586.20 acres. There were 15 acres of seeped land reported.

Last Chance Ditch Company and Carbon Canal Company Extension of Last Chance

The project is located between Joliet and Fromberg, with the greater part situated in an area called Prosperity Flat. These 2 towns are the principal shipping points and also provide a local market for some products.

The Last Chance Ditch takes water on the east bank of Rock Creek in the SE¼SE¼ of Section 14, Township 4 South, Range 22 East. Measurement weir is about one mile from the headgate. The ditch

runs east for about a mile paralleling Rock Creek, then it swings south thru Sections 18, 19, 30, 31, and 32, in Township 4 South, Range 23 East. In Section 32 there is a siphon across a waste water coulee. The ditch ends on the section line in the east half between Sections 4 and 9, Township 5 South, Range 23 East. In the SE¼NE¼ of Section 31, Township 4 South, Range 23 East, the Last Chance diverts water to the Carbon Canal. From this point it runs south thru Sections 6, 5, 8, and 17, and terminates in the S½S½ of Section 17, near the town of Fromberg in the Clarks Fork Valley. A lateral ditch takes out of the Carbon main canal in the NE¼NW¼ of Section 8 and runs northeast for about one mile.

Water is diverted from Rock Creek thru the Last Chance Ditch to a point near the center of Section 5, Township 5 South, Range 23 East, which is the end of the Last Chance and the beginning of the Carbon Canal.

There is little information as to the early history of the Last Chance Ditch. The Company has 32 stockholders, having 1,057.36 shares issued. The first use of what now is the Last Chance Ditch was in 1895. The cost of water averages about 50¢ per acre. The Company has no indebtedness. In dry years the Company buys supplemental water from the Rock Creek Water Users' Association which is supplied by Cooney and Granite Reservoirs.

The Carbon Canal Company was incorporated in 1927 for 40 years with a capital stock of 625 miner's inches of water, or 500 shares of A stock and 475 miner's inches of water, or 350 shares of B stock. The A stock has a par value of $10 per share and the B stock has a par value of $20 per share, or $15,750. The stock is assessable as follows: Class A stock is assessable for the purpose of securing the necessary funds for the construction from the terminus of the Last Chance Ditch Company's ditch, or from the beginning of the Carbon Canal Company, to a point 100' north of what is known as the Kelly Flume. No further liabilities are levied against Class A stock. Class B stock is assessable for the purpose of securing funds for the construction and operation of maintenance charges for the remainder of the ditch. In order to have stock in the Carbon Canal Company, users must also have stock in the Last Chance Ditch Company.

The water charges under the Carbon Canal are about 75¢ per acre. There are 10 water users under the system. This charge is for all ditch company expenses. The Company as of January 17, 1944, had no indebtedness.

The Company has the following decreed water rights in Rock Creek, listed under Case No. 275, decreed August 21, 1903:

760	miner's inches with a date of priority as of	Oct. 4, 1895
360	Ditto	June 1, 1897
466	"	June 1, 1898
80	"	June 1, 1899
100	"	June 1, 1900
125	"	May 30, 1901.

In 1943 there were 1,865.20 acres being irrigated under Last Chance and Carbon Canal, with a potential acreage under existing works of 567.30 acres, or a maximum acreage of 2,432.50. We also found 154 acres of seeped land under the two systems.

Maryott Ditch

The project is located about 3 miles north of Red Lodge, which provides a good local market and is the principal shipping point, being served by a branch line of the Northern Pacific Railway and U. S. Highway No. 12. The altitude at Red Lodge is 5,557 feet.

The Maryott Ditch diverts water by gravity in the SW¼SE¼ of Section 6, Township 8 South, Range 20 East, on the north bank of the West Fork of Rock Creek, about ½ mile west of the Ranger Station. From this point water is carried around gravelly hills and on lands of a shallow soil with a gravel sub-base for 8 miles.

The Maryott Ditch is a privately owned ditch that is representative of many small ditches in the Red Lodge area. In Township 6 South, Range 20 East, we have 26 different ditches, most of which are similar to the Maryott with each user having his own water right. No records are kept of cost of operation and maintenance. If there is work to be done on a ditch, each user gets out and does his share. Cost of new materials or new construction is likewise shared. Ditch consolidation in this area has great possibilities and would insure more water at a cheaper cost and give protection against seepage.

Farmers who have their fields cut up by ditches could also improve their land and step up its productivity. These numerous ditches also provide a natural breeding ground for weeds that in some areas have caused large acreages of farm land to be abandoned. The Canadian thistle is the most predominant and widespread.

According to John L. Maryott and Thos. L. Maryott, the two users under the ditch, the cost of operation and maintenance averages from $1.25 to $2.00 an acre. The maximum capacity of the ditch is estimated to be 1,000 inches.

The precipitation for over 31 years has averaged 19.82 inches, with 13.37 inches, or 67%, falling during the April 1 - September 30 period.

In 1943 there were 750.00 acres being irrigated under the Maryott Ditch, with no potential acreage on the 2 existing farms served by the ditch. The ditch could easily serve two or three hundred more acres. The following water rights were decreed to J. L. Maryott:

350	miner's inches with a priority as of	July 1, 1890
300	Ditto	May 25, 1893
50	"	July 1, 1898

Matson Ditch Company

The area served by the Matson Ditch Company is located about 2 miles west of Red Lodge, the principal shipping point for this area.

The main canal is about 4 miles long and takes water by gravity from the West Fork of Rock Creek in the NW¼NW¼ of Section 8, Township 8 South, Range 20 East.

The Matson Ditch Company is a small incorporated ditch having 6 stockholders who own farms that are served by the system. The Company has no indebtedness. No record has been kept as to the cost of water. In years of normal rainfall little irrigation is required, as the project is near the base of the Beartooth Mountains which have a high altitude. The ditches are repaired as needed by those who use them.

The Company was incorporated for 40 years May 24, 1902, with a capital stock of 3,000 shares of a par value of a dollar each, or $3,000. Of these, 2500 shares have been issued.

The following water rights were decreed to the Matson Ditch Company:

130 miner's inches with a date of priority as of April 20,1902
560 Ditto Aug. 10, 1902

100 miner's inches with a date of priority as of June 10, 1898, and also 45 miner's inches with a date of priority as of July 11, 1899, decreed to John Aalto.

The soils are of a gravelly, clay loam nature. Principal crops are alfalfa, peas and small grains. The topography is mostly foothills and bench land.

In 1943 there were 302.00 acres being irrigated under the Matson Ditch, with a potential acreage under existing works of 346 acres, or a maximum irrigable acreage of 648.00 acres. We also found 20 acres of seeped land.

Mutual Ditch Company

The area served by the Mutual Ditch Company is located south of Bridger, the principal shipping point, and is served by the Northern Pacific Railway and the Chicago, Burlington and Quincy Railroad. A hard surfaced highway, U. S. Highway No. 310, connects to Billings, a distance of 46 miles, which provides a good local market.

Water is taken by gravity in the NE¼NE¼ of Section 14, Township 8 South, Range 22 East, one mile east of Belfry, and terminates in the center of Section 26, Township 6 South, Range 23 East.

The Mutual Ditch Company was first started by O. B. HArt, Jas. Carson and J. K. Hart, and called the Hart Ditch. In Sept. 12, 1899, they filed on and appropriated 1,500 miner's inches of water to be taken by gravity on the east bank of the Clarks Fork River. The point of diversion was about 6,000 feet above a high cut bank and about 2 miles above Silver Tip point. The purpose was for irrigation, manufacturing, and domestic uses. The system was described as a headgate and a ditch 18" by 48" in size, which carries 1,500 inches of water from the Clarks Fork River to the ranches of appropriators. The Notice of Appropriation is on file in the Carbon County Courthouse in Book 1, on page 215, of Water Right Location Records.

In 1909 the Hart Ditch was to be enlarged and renamed the Jack Creek Ditch Company. On July 30, 1909, this Company appropriated 3,000 inches of water. The filing was made August 27, 1909, and is on record in the Carbon County Courthouse in Book 2, page 210, of Water Right Records. The point of diversion was the same as for the Hart Ditch, and thence it ran in a northerly direction to Rush Water Canyon east of Bridger. The said ditch was an enlargement of the Hart Ditch for about 4 miles, thence ran thru an extension for about 15 miles.

The new ditch company, called the Jack Creek Extension Ditch Company, was formed a few months later to take over the Jack Creek Ditch. On Dec. 30, 1909, the Jack Creek Extension Ditch Company appropriated and filed on 5,000 inches to be used for irrigation, power and domestic uses. The ditch was to be 13' wide by 4' deep and would carry 5,000 inches of water from the Clarks Fork River. The land description of intended place of use was given as lands under ditch on theeast side of the Clarks Fork River between the town of Bridger and the Yellowstone River. Later this ditch was known as the Clarks Fork Valley Irrigation Company.

The Mutual Ditch Company was formed to acquire all the rights, title and interest of the Clarks Fork Valley Irrigation Company and the Jack Creek Ditch Company. The Mutual Ditch Company was incorporated Jan. 10, 1930, for 40 years with a capital stock of 2,720 shares of a par value of $30 each, or $81,600. The stock is divided into 2,070 shares of "B" stock and 650 shares of "A" stock. The preferred, or "A" stock, pays one-fourth of the expense for improving and operating of the ditch above the south Hunt Creek flume and one-fourth of the ditch riders' expense. The common, or "B" stock, pays three-fourths of the expense above the Hunt Creek flume and all of the expense for improving and operation below the flume. Preferred stockholders paid an assessment of 31¢ and common stockholders paid $2.75 a share, or an average assessment of about $1.85 an acre. Of this amount, 80% was for operation and maintenance and 20% for debt and service charges. The indebtedness of the Company as of Oct. 19, 1943, was $2,400. The Company is negotiating with the Farm Security Administration for a loan of $25,400. This is a water facilities loan for rehabilitation and new construction under their system. As of Nov. 24, 1944, this loan had not been made.

33 stockholders have farms under this system. Seventy inches of water are also supplied to a farm operated by Hubert Wennemar. This water is from the E. B. Merrill water right or stock.

The main ditch is about 15 miles long and has an estimated capacity of 3,500 inches. The headgate is of concrete construction and is in good repair. The Company also maintains a siphon over Cottonwood Creek that is about 1,100 feet long and approximately 4' in diameter, of wood stave construction and is in good repair. The Company also maintains several wooden flumes and one smaller concrete siphon. The water supply is considered adequate if the ditch is kept free of silt and debris.

The altitude at Bridger is 3,664 feet. Over a period of 21 years, the average mean annual temperature at Bridger has been 45.2 degrees. The temperature at Bridger has averaged 59.4 degrees for that period from April 1 to September 30, and 28.7 degrees during January and February.

The greater part of the project is river bottom land, and the lands vary greatly as to soil character. Brown sandy loams predominate.

In 1943 there were 3,203.40 acres being irrigated under the Mutual Ditch, with a potential acreage under existing works of 752.00 acres, or a maximum irrigable acreage of 3,955.40 acres. We also found 138 acres of seeped land.

New First Chance Ditch Company

The area served by the New First Chance Ditch Company is located about 2½ miles northwest of Edgar, which has an altitude of 3,473 feet above sea level.

In normal years the water supply is considered adequate, but in dry years there are about 400 acres under the ditch not receiving full supply. The main canal is about 5 miles in length and takes water by gravity from Rock Creek in the NW¼SE¼ of Section 13, Township 4 South, Range 22 East, on the south bank; it has a maximum capacity of 2,000 inches. A measuring weir is maintained near the headgate. The system serve 13 farms. In dry years the Company buys supplemental water from the Rock Creek Users' Association which is supplied by Cooney and Granite Reservoirs.

The New First Chance Ditch Company, also known as the First Chance Ditch, was first incorporated in about 1892. The Company was re-incorporated in 1919, with a capital stock of 10,000 shares of a par value of $1.00 each, or $10,000. There are 10,000 shares issued. Originally one inch of water was allowed per acre, but shares have been transferred until no equal distribution of shares is on record. The Company has no indebtedness, and value their system at $20,000. Operation and maintenance charges are 30¢ an acre.

The Company has the following decreed water rights, that were decreed Aug. 21, 1903, and are listed under Case No. 275 in the Carbon County Court House at Red Lodge:

1,335	miner's inches with a date of priority as of	Nov.18,1892
120	Ditto	June 1,1893
100		May 15, 1899
150	"	June 1,1899

In 1943 there were 1,547.25 acres being irrigated under the system with a potential acreage under existing works of 130.00 acres, or a maximum acreage of 1,677.25 acres. We also found 40.00 acres of seeped land.

Orchard Canal Company and Edgar Canal Extension of Orchard

The Orchard Project is located on the east side of the Clarks Fork River, near the towns of Bridger, Fromberg and Edgar. The project is served by the Northern Pacific Railway and the Chicago Burlington and Quincy Railroad, and U. S. Highway No. 310. The altitude at Edgar is 3,473 and at Bridger it is 3,664 feet.

Water is taken by gravity in the SW¼NW¼ of Section 27, Township 6 South, Range 23 East, from the Clarks Fork River on the east bank. The estimated capacity of the main canal is 8000 miner's inches. The combined length of the 2 canals is about 16½ miles, with about 5½ miles under the Edgar extension, which starts in the SE¼NE¼NW¼, in Section 2, Township 5 South, Range 23 East. The principal works under the Orchard Canal are:

One concrete headgate having an original cost of	$3,000	
A concrete dam across Clarks Fork River	5,000	
2 flumes around slough	2,700	each
One concrete flume across Bluewater Creek	3,000	
" " spillway where water is dropped into the Edgar Canal	2,500	

According to S.T.McCall of Fromberg, "Silbern W. Sybarger made the first appropriation of what is now the Orchard Canal on October 28, 1898". These rights were then transferred to the Wrangler Ditch Company on May 24, 1902. At this time the Wrangler Ditch filed on 5,000 miner's inches of water. The Orchard Canal Company was organized April 18, 1910. All water rights of the Wrangler Ditch were transferred to the Orchard Canal Company. The Company was re-incorporated April 18, 1930, for 40 years with a capital stock of 8,000 miner's inches of a par value of $20 per inch. The Company was incorporated for $40,000. There have been 5,407 inches issued. Of these, 1282 miner's inches of water are supplied to the Edgar Canal. The cost of water varies from 25 to 50¢ an acre. This cost includes charges for operation and maintenance. The Company had no indebtedness as of September 19, 1943.

The topography is favorable for irrigation with a general slope to the river. The water supply is considered adequate.

The principal crops are sugar beets, beans and small grains. Considerable breeding and some dairy stock are kept. Some winter feeding of beef cattle and sheep from adjacent range lands is practiced.

In 1943 there were 5,473.72 acres being irrigated, with a potential acreage of 917.50 acres, or a maximum acreage of 6,391.22 acres, under the Orchard Project. Of this amount there were 1,208.70 acres being irrigated under the Edgar Canal, with a potential acreage of 496.50. We found that there are 234 acres of seeped land on the entire project.

Edgar Canal-Extension of Orchard Canal

The Edgar Canal was first constructed in 1918, with a capacity of 1,300 miner's inches. The Company was incorporated in 1918, for 40 years with a capital stock of 1,500 shares of a par value of $5 each, or $7,500. The purpose of the incorporation was to own, maintain and operate said irrigation ditch,- this ditch being an extension of the main ditch of the Orchard Canal. The first directors were J. P. Van Hoose, C. P. Parsons and H. H. McHose. Under this system assessments are equal, regardless of acreage. Assessments are made for construction of new works, but most of the cost per acre is worked out by farmers under the ditch. An equal amount of stock must be owned in the Orchard Canal for each share in the Edgar Canal. The Company serves 12 farms. The supply has been adequate.

The main canal follows the hillsides and, as a result, there have been some bad slides taking out parts of the ditch and leaving those users below without water. In 1943 a large flume went out, but was repaired and now is in working condition. In the spring of 1944 about 100' of main canal slid on to the country road near Edgar as a result of a cloudburst in the adjoining hills. The stockholders plan to eliminate this part of the canal, and are now negotiating with the Farm Security Administration to secure a loan of $15,000 to construct a new ditch, which would require a cut of some 30 ft. Where the ditch is near the bottom of the hills on more level ground, it is silted in badly and requires frequent cleaning in order to supply adequate water. The Company had an indebtedness of $1,300 as of June 6, 1944.

The Edgar Canal is an extension of the Orchard Canal and, therefore, constitutes an enlargement of the original Wrangler Ditch appropriation.

On May 24, 1902, the Wrangler Ditch appropriated 5,000 miner's inches of water from the Clarks Fork River, the point of diversion

being 1,481 feet distant in a northerly direction and 960 ft. distant in an easterly direction from a permanent monument in the SW¼ of Section 27, Township 6 South, Range 23 East. The filing was made May 31, 1902. The purpose was for irrigation and for hire to consumers. The system was described as a dam and ditch, the ditch to be 12' across the bottom, 18' across the top and 3' deep. The land description of intended place of use was described as lands in the Clarks Fork Valley, on the east side of the Clarks Fork River, extending northerly from the point of diversion to a small gulch in the NE¼SW¼ of Section 2, Township 5 South, Range 23 East.

Notice of Appropriation is on file in the Carbon County Court House, Red Lodge, Montana, in Book 3, page 68, in Notice of Water Right Records.

Orchard Ditch Company

The area served by the Orchard Ditch Company is located in the Bluewater Creek Valley, southeast of Fromberg, the principal shipping point. Fromberg is served by the Northern Pacific Railway and the Chicago, Burlington and Quincy Railroad, and U. S. Highway 310. The altitude at Fromberg is 3,538 ft. above sea level.

Water is diverted from Bluewater Creek in the NE¼SE¼SW¼ of Section 5, Township 6 South, Range 24 East, the source of the water being Bluewater Springs. The ditch runs west for about one mile on the north side of Bluewater Creek. At this point it is siphoned through a 24" steel pipe about one-fourth of a mile long across Bluewater Creek to the south side. From this point the ditch continues for about 4 miles in a westerly direction.

The leading crops are beans, alfalfa and small grains. Considerable livestock is kept on most farms. Some winter feeding is done. Topography is very favorable for irrigation, most land being fairly level with a gentle slope.

The Orchard Ditch Company was first incorporated April 22, 1910. The Company was re-incorporated April 22, 1930, for 40 years with a capital stock of 6,000 units that is divided into 20 shares of a par value of $300 each, or $6,000. The indebtedness of the Company was $700 as of Sept. 19, 1943. The average cost of water is about 60¢ an acre. Each water user has separate water rights in Bluewater Creek, and the Company ditch is used as a means of conveying this water to the users incorporated in the system. The holders of 1900 rights, or rights of a later date, are usually without water as it is very seldom that there is sufficient water for these late rights. There are twelve and one-third shares of stock issued in the Company. These are owned by 7 farmers.

In 1943 there were 551.00 acres irrigated under Orchard Ditch, with a potential acreage of 307.00 under existing works, or a maximum irrigable acreage of 858.00 acres. We also found 17 acres of seeped land.

Pleasant Valley Canal Company

The Pleasant Valley Canal Company takes water by gravity from Rock Creek. The point of diversion is in the $SW\frac{1}{4}SW\frac{1}{4}$ of Section 23, Township 7 South, Range 20 East, on the east bank. From this point the canal runs in a northeasterly direction about $3\frac{1}{2}$ miles to the $W\frac{1}{2}SE\frac{1}{4}$ of Section 12, or where it reaches Clear Creek. From this point on it is known as the Jeffery Ditch. The Jeffery Ditch Extension is about $3\frac{1}{2}$ miles long. Water is also spilled into Clear Creek and Elbow Creek, and is picked up along these creeks by users who maintain their own irrigation systems, but have stock in the Pleasant Valley Canal Company.

The project of the Plesant Valley Canal Company is located about 3 miles northeast of Red Lodge, the principal shipping point. The project is served by the Northern Pacific Railway and U. S. Highway No. 12. Shipping facilities are also available at Fox, which is located 2 miles north of the project. The altitude at Fox is 5,048 feet. The leading crops are hay, small grains and peas. Considerable numbers of livestock are kept on most farms. Beef cattle and sheep predominate, and range on the adjacent foothills. The soils are moderately dark in color and vary from a sandy loam to a silty loam in texture. The topography is rolling bench land.

The Pleasant Valley Canal Company is incorporated for $20,000. There are 6,203 shares of stock in the Company. These are owned by 18 farmers. As of December 15, 1943, the Company had an indebtedness of $600. The average cost is about 50¢ an acre. The water supply is considered adequate.

In 1943 there were 2386.26 acres being irrigated under the Pleasant Valley Irrigation System, with a potential acreage under existing works of 457.00 acres, or a maximum irrigable acreage of 2843.26 acres.

Seepage is no problem as the project is well drained because of the rolling topography. On account of frequent washouts and ditch silting, the Company has trouble in supplying sufficient water to its water users during the peak of the irrigation season.

The Company has the following decreed water rights:

440	miner's inches with a date of priority as of	July 4, 1893
560	Ditto	June 21,1894
770	"	June 21,1895
125	"	Aug. 10,1896

The following example is used as an illustration to show how some of the water rights in the Pleasant Valley Canal Company are served: The Loyning Brothers have 25 shares of stock in the Company. In order to get water to their land it runs through the

Pleasant Valley Canal to Clear Creek, from this point thru the Joffery Canal, to Elbow Creek, and then down Elbow Creek to where it is diverted into the Loyning Ditch which serves their land. This condition, however, is only typical for a small percentage of the rights, as the majority of the rights are served directly by the Joffery or Pleasant Valley Canals which are considered as one system.

Pleasant Valley Ditch

The Pleasant Valley Ditch takes water by gravity on the east bank of Red Lodge Creek in the SE¼SW¼ of Section 6, Township 6 South, Range 20 East. The ditch is about 2¼ miles long. The ditch ends in the S½SW¼ of Section 30, Township 5 South, Range 20 East, where it spills into the Chapman Ditch.

Mrs. Thurston E. Deuel, wife of one of the original appropriators, writes, "This form on water resources is rather difficult for me to fill out, as a water right suit in 1901 resulted in changed dates of our date of priority by Judge Henry. Our water right was recorded in Billings, Yellowstone County, in 1892, and was changed in Carbon County in 1901 by the Judge's decree to May 15, 1894. The original members of the 1892 filings were my husband, Thurston E. Deuel, George B. Stevenson, Edward Olcott and Pat Walsh. The ditch is locally known as the Pleasant Valley Ditch but is not recorded as such. The present owners are Mrs. Annie E. Deuel, widow of T. E. Deuel; J. T. Kelly, successor of Geo. B. Stevenson; and Mrs. Jennie Hyem, widow of James Hyem, Sr., successor of Edward Olcott, and Martin Loftus, successor of Pat Walsh. The number of inches of water decreed on May 15,1894, was: T. E. Deuel, 117 inches - James Hyem, 130 inches." The following Notice of Appropriation was first made in Park County and later transferred to Carbon and is on record in Book 1, page 611, of Water Right Location Records in Red Lodge. T. E. Deuel, Geo. B. Stevenson, Edward Olcott and Patrick Walsh, on December 13, 1892, appropriated and filed on 1,800 inches of water to be taken by gravity from Red Lodge Creek, on the east bank. The point of diversion was given as a point about one-fourth of a mile below the junction of the forks of said creek and being an unsurveyed piece of land, at present claimed by Mrs. Hobson; thence, running or to run upon described land. The purpose was for domestic and irrigation uses. The system was described as a ditch 84" by 20" in size, and to carry 1800 inches of water from said stream.

In 1943 there were 232.90 acres being irrigated under the Pleasant Valley Ditch, with a potential acreage under existing works of 183.30 acres, or a maximum irrigable acreage of 416.20 acres.

Powers Ditch

The area served by the Powers Ditch is located about 3 miles northwest of Red Lodge, the county seat of Carbon County.

Water is diverted by gravity from the West Fork of Rock Creek in the NE¼NE¼ of Section 12, Township 8 South, Range 19 East.

The Powers Ditch is a privately owned system about 10 miles long. The estimated capacity is 600 inches. The entire ditch has not been in use for the last 2 years, because part of it is full of silt and cut off by slides in many places. When the main ditch was constructed, the contract called for a ditch 5 ft. deep. Coulees and small creeks are also used to carry water. Mr. Powers said that when he was constructing the ditch and came to a ridge he plowed three furrows and let the water follow and form its own ditch with the fall of the land.

As the ditch runs along the sides of the hills and mountains, considerable seepage has resulted from the ditch when it is in use.

Water is cut off about July 1, so that only about 30% of the needed water is available. It has been estimated that an additional 175 acre feet of water would be required to irrigate all of the potential land under the system. The shortage is due to the earlier water rights on the West Fork of Rock Creek. The cost of water per irrigated acre is about $3.00.

The following water rights were decreed to the Powers Ditch: 314 inches decreed to Ann Powers with a date of priority as of July 6, 1898; 204 inches decreed to Maurice Powers with a date of priority as of July 6, 1898; and 450 inches decreed to Maurice Powers with a date of priority as of November 11, 1901.

The maximum irrigable area under the ditch has been estimated at 675 acres. In1943 there were 190 acres being irrigated. On the two farms irrigated there is a potential acreage of 329 acres.

Pryde Ditch Company

The area served by the Pryde Ditch Company is located on the bench north of Red Lodge. The water is diverted by gravity from the north bank of the West Fork of Rock Creek in the NW¼SW¼ of Section 4, Township 8 South, Range 20 East.

The Pryde Ditch Company was first organized by Edward Burns, Geo. Pryde, Wm. Pryde, and Wm. McMilliam. On May 19, 1893, they appropriated 2,000 inches of water from the West Fork of Rocky Fork Creek (now called Rock Creek). The filing was made on May 23, 1893. The point of diversion was about three-fourths of a mile above the mouth of said West Fork Creek, and about 100 ft. below the headgate of the John L. Maryott Ditch, being on the north bank of the said stream. The purpose was for irrigation. The system was described as a ditch 24" in depth by 90" wide, which carries 2,000 inches of water. The place of intended use was described as lands in Sections 9, 10, 15, 16, and 22, in Township 7 South, Range 20 East, and especially in the SE¼ of Section 15, the W½ of Section 10, and the NE¼ and E½ of NW¼ of Section 22.

The Pryde Ditch is about 8 miles in length and runs in a northerly direction. The capacity of the ditch is 2,500 inches. The Company was incorporated December 12, 1910, for 40 years. There are 2,075 shares in the Company having a par value of $2.50 each; 1,985 shares have been issued. There are 10 stockholders who have farms under the system. Seven of those have decreed water rights. Dan Davis owns 100 shares of stock, but has only 10 inches of decreed water, the balance being undecreed as of 1901 filing. John Cornelio and the Kent Brothers have undecreed water with no recorded filing. Each user under the system has his own water right. The Company has 1,604 inches of decreed water and 275 inches of undecreed water. The Company also has 450 acre feet of stored water in Glacier Reservoir that is purchased from the Rock Creek Water Users' Association. The cost of water under this system is almost negligible averaging about 10¢ an acre. The supply is adequate, except in extremely dry years.

Topography is bench land moderately rolling to smooth, and the farming land is largely a sandy loam with occasional outcrops of gravel. The annual precipitation is about 20 inches. The principal crops are oats, wheat, barley, flax and hay. Barley, oats and hay are fed primarily to beef cattle and sheep which are kept on most farms.

In 1943 tthere were 590.00 acres being irrigated under the Pryde Ditch and 1,020.00 acres under the Draper Ditch, which is an extension of the Pryde and is owned by the Draper Brothers who have stock in the Pryde Ditch for the water they receive on their farm; or a total of 1,610.00 acres under the Pryde-Draper system. We also found 45 acres of potential land under existing works and 25 acres of seeped land.

Red Lodge-Rosebud Irrigation District

In about 1900 J. P. Weast started construction of a ditch 12' wide on the bottom with a 1 to 1 slope, from the East Rosebud River. He went broke in his endeavor, with only part of the ditch being constructed. He then received financial aid from Mr. Pillsbury of the Pillsbury Flour Company of Minneapolis, Minnesota. The two men constructed 12 miles of the ditch. From about 1902 to 1919 the ditch lay idle and was never used for irrigation. Some water was turned into the ditch, as they thought this would help hold their water right. The year 1919 was a very dry year, and most of the farmers in the area were burned out. Remembering the 12 miles of ditch that were constructed by Pillsbury and Weast, the farmers in the area organized the Red Lodge-Rosebud Irrigation District as insurance against repeating dry years that might occur.

The first steps to organize a district were taken by a group of farmers. With the help of the U. S. National Bank of Red Lodge, they bought an option on the Pillsbury-Weast Ditch. This included all

water rights. They also made a subsequent filing on the East Rosebud River. This group also made a preliminary survey of the area and presented it to the Public Service Commission for approval. David Loy made the report and was engineer for same. The public service commission endorsed the report and reported the proposed project as feasible. Fred E. Buck, now State Engineer, was Chief Engineer for the Public Service Commission. The farmers then secured 51% of the land-owners in the area to agree to the project. After this was completed, non-signers were given 30 days in which to contest. Some landholders contested and presented sufficient evidence to the court that they were not included in the district. As a result of having 51% of the landholders' signatures, all those that did not contest were automatically included into the district. As a result there were 111 landholders included.

The district was now organized and bonds were offered for sale. The original bond issue was for $418,000. The total area of the project was 22,000 acres with 9,758 acres classified as irrigable. The bonds were sold to Pyne Wibber and Company of Boston for 86¢ on a dollar. The engineer's estimate to construct the necessary irrigation works was $216,000. This money was laid out for the contractor with a $75,000 reserve fund to cover costs for a 3-year period before any assessments were to be made. J. S. Haley of Bozeman was the contractor. He worked the job until the money gave out. About 75% of the system as planned was completed. As the ditches were dug with teams and slips, many of the farmers supplied hay, oats and equipment to help construction for which they were never paid. The farmers now call this event their first thorn. After Haley left, additional work had to be done in order to finish the job and put it in an operative condition.

After the 3 years passed, the first assessment made was for 50¢ an acre. Assessments became higher each year until they reached $4.80 an acre. At this point the farmers turned down the assessment, and refused to pay any more levies on the grounds that they were too high for the productivity of the land.

So the financial history of the district has not been too bright. A total of $418,000 worth of bonds were sold, none of which have been paid. Interest on these bonds has been in default since July 1, 1927. There is also a warrant indebtedness of nearly $22,000 against the district. Based on the original 9,758 acres classified as irrigable, this is an indebtedness of approximately $45 an acre. The area for the greater part became tax delinquent, and the district deteriorated until the system gave out in1942, causing the farmers to go back to dry land farming. In April, 1932, the county took tax title to 7,302.87 acres in the district. No taxes have been paid on this land since that time. On March 15, 1944, Carbon County offered the land held by the County for sale. No land was sold, and as a result the County is now leasing the land to the farmers in the district. Information as to the water rights for the district is not too clear. As near as we could find out,

the district adquired an equity by contract in 10,000 inches of water from the East Rosebud River from the old Rosebud Irrigation Company, and about 12 miles of ditch that had been constructed for $27,000, and the right of the Red Lodge-Rosebud Ditch Company.

On June 7, 1902, Jacob P. Weast, William Weast and Frank Weast filed a Notice of Appropriation for 10,000 inches of water to be taken from the East Rosebud River. Together they formed the Rosebud Irrigation Company. The Company was incorporated for 35,000 shares of a par value of $1.00 each. They went broke in their endeavor to complete the ditch, and received financial aid from Mr. Pillsbury. He later acquired the rights of the Company. These rights were later purchased by William Larkin, President of the United States National Bank of Red Lodge, for the Red Lodge-Rosebud Irrigation District. On July 8, 1919, William Larkin, J. R. Hutton, Millard May, R. P. March, Hugh Scilley, Harry Edwards and John J. Hash incorporated together to form the Red Lodge-Rosebud Ditch Company. The capital stock of said corporation was $40,000, divided into 40,000 shares having a par value of $1.00 each. The term for which said corporation was organized and was to exist was for 40 years. This Company filed on 15,000 miner's inches of water to be taken from the East Rosebud River about 2½ miles north of the San Ford Bridge, which is about 3 miles south of the Roscoe Post Office. The purpose was for domestic mechanical, irrigation, etc. These rights were later transferred to the district.

The Red Lodge-Rosebud Irrigation District was incorporated Aug. 10, 1920, and divided into 3 divisions. The court ordered, adjudged, and decreed that the following named persons be and are hereby appointed commissioners: for District One - John A. Fiveland; District Two - Harry Edwards; and John J. Hash for District Three. Louis J. Hyem of Luther was secretary. Plans were then made to construct 154 miles of additional ditch and laterals at a cost of about $45 per acre for the lands in the district.

On May 22, 1922, the Public Service Commission of the State of Montana made a final report approving the plan of reclamation of the district. Stock to the value of $418,000 was to be issued and sold for the purpose of providing funds for the necessary irrigation canals and works, including drainage and acquiring property rights, etc. There were 418 bonds of a value of $1,000 each. The first 20 were to mature January 1, 1929, and thereafter 20 would mature on January 1 of each year until the last year. 38 bonds would mature on the last year, that being on January 1, 1949. Bonds were to bear interest at a rate of 6% per annum from date thereof until paid.

The main canal from its source to Butcher Creek is about 12 miles long. From the East Rosebud River to Red Lodge Creek there are about 20 miles of canal. Laterals L and K are about 10 miles long, and laterals S and O are about 8 miles long with about 20 miles of miscellaneous laterals. The headgate is in need of

repair, as part of the spillway and apron are gone. There is one tunnel about 100' long that is in fair condition. This tunnel is thru a limestone formation and has to be cleaned every year or so when it is in operation. Along the upper part of the canal the district has some trouble with spring run-offs, causing slides.

Siphon number one, over Cottonwood Creek, is a wood stave siphon about 1,300' long, being 5' in diameter. This siphon went out in the spring of 1941, and since it controls most of the water for the district, there has been no irrigation since that time. The only irrigation that could be done in the present state is thru laterals K and L which divert above the siphon. A concrete flume that crosses East Butcher Creek needs a new floor, but could be used in its present condition. This flume is about 50' by 12'.

Siphon number two, which crosses the main Butcher Creek, is about 1,500' long and 5' in diameter, and is in need of repair. This siphon needs about 80' of new wood staves and new pillars, which average from 2 to 6' in length and number 120. These pillars are made of jack pine logs. About a quarter of a mile below siphon number two, the main canal crosses a spring which causes the ditch to fill with silt. This portion of the ditch needs repair and a drainage pipe to handle the spring water. About half a mile from siphon number two is the Dell Cut which passes thru the Dell Ranch. At this point the ditch silts in badly, caused by erosion from near by steep hills. The district also has to maintain flumes for two private ditches in the Dell Cut.

Siphon number three, over Volney Creek, is 3' in diameter and is about 2,000' long. This siphon needs about 600' of new staves. For about 2 miles below this siphon the ditch is on a slow grade and is badly silted. Past this point water is spilled into Red Lodge Creek to supply users who take water out of that creek. Across Red Lodge Creek there is a steel flume about 5' in diameter and 36' long. This flume carried water to 4 users across Red Lodge Creek, but is now abandoned and has been plowed up in places. This area has a potential acreage of 2,800 acres which would require the construction of a new ditch.

On Lateral K, there is one drop of 300' into Cottonwood Gulch. The stilling box at the end of the drop is gone and would have to be rebuilt before it could be used. Water is dropped into Cottonwood Gulch, and after flowing down the gulch for about 1 mile is picked up again. This lateral is silted badly. There is also a flume on lateral K about 280' long of all metal construction. There is also a short drop into Dry Volney Creek. Water from this drop is picked up by farms down the creek. From lateral K at Dry Volney Creek, water is diverted into Lateral L and K-11 south. Lateral L is about 6 miles long, and K-11 south about 5 miles long. Ditches have a 4' bottom. On K-11 south there is a metal flume about 200' long, across Dry Volney Creek, that needs repair.

Drop number two into Butcher Creek: This drop is about 250' long and is constructed of rock and concrete. The stilling box at the bottom of the drop needs repair. Water is taken from stilling box by means of a flume 5' across the top and 36' long across Butcher Creek. Some water is spilled into Butcher Creek for users down the creek.

Lateral O starts at the mouth of Dell Cut and is about 2 miles long. It is in good condition and has a drop of 100' into a tributary of Volney Creek. An extension of lateral O has 5 users and is about 12 miles long. This lateral has one metal flume to maintain grade across a saddle which is of metal construction. This flume is about 5' in diameter, 12' high and 150' long. The flume needs repair and the lateral needs cleaning.

Lateral S is an 8' on the bottom ditch, and is in good condition. It has one metal flume across a saddle in a ridge 297' long and 5' in diameter. The flume needs repair and new pillars. This lateral has another flume across a saddle of about the same size that is in fair condition.

The district is located about 6 milesnorthwest of Red Lodge, which is the principal shipping point. The altitude is about 5100 feet. The topography is rough and rolling, making irrigation very difficult in many places. The average growing season is about 89 days. Killing frosts may be expected about June 8 in the spring, and about September 5 in the fall. The soil is a dark loam and is very productive. Because of the topography of the area, drainage has not been a problem. Only about 1,000 acres of the original project were ever irrigated in any one year. Plans were made to refinance the district, and reduce the irrigable acreage to 5,500 acres, and to have the bondholders write off a sufficient amount to make payment of the refunding bonds commensurate with the income producing productiveness of the land. These plans never materialized.

Following are the views of Mr. Wood, of the law firm of Wood and Cook of Billings, who represents 75% of the bondholders. "The bonds are a general obligation bond and are a lien on the land in the district. The bonds were bought in good faith and sold in good faith. These bonds were sold all over the country, not only to land-owners. Good engineers were employed on the project. The land in the district is not of sufficient productivity to pay off bond levies. In 1937 the bondholders tried to file bankruptcy and settle for 25¢ on the dollar, but to no avail."

These are the views of Robert C. Stong, a lawyer in Billings, and former judge who adjudicated water in Carbon County: "The district was licked from the start, as the amount of money borrowed and assessments to be made were more than the land could stand. People in the area have no interest in theproject. I think it would be better to let the area go back to dry land as the soils with short growing season are not productive enough to support a project of this kind."

Alex Boggio, one of the commissioners for the district, believes the project should be cut down in size and canals put in order as they need the water as an insurance against dry years.

As the district boundary now stands, there are 8,480.27 acres classified as irrigable. This information is from county, district and individual farm records.

This district is located in Carbon County and lies about 6 miles northwest of Red Lodge, the county seat. A branch line of the Northern Pacific Railway connects Red Lodge with the main line at Laurel. Surfaced highways make this district readily accessible by auto. Billings is only 50 miles distant.

Riverview Ditch Company

The Riverview project is located 1½ miles south of Belfry, on the east side of the Clarks Fork River. Water is taken by gravity in the $NE\frac{1}{4}SE\frac{1}{4}NE\frac{1}{4}$ of Section 4, township 9 south, range 22 east.

What is now known as the Riverview Ditch Company was first organized by C. H. Williams, John Kinnick, William Smith and G. B. Whittington. On March 1, 1896, they filed and appropriated 800 inches of water to be taken by gravity from the Clarks Fork River. Water was to be taken at a point at thehead of an island located in the $N\frac{1}{2}NE\frac{1}{4}$ of Section 4, Township 9 South, Range 22 East, on the east bank. The purpose was for irrigation, domestic and agricultural uses. The system was described as a ditch 72" by 12" in size which carries 800 inches of water. The ditch was to extend from the point of diversion to the northeast corner of Section 23, the $N\frac{1}{2}SW\frac{1}{4}$, $SE\frac{1}{4}NW\frac{1}{4}$, $SW\frac{1}{4}NE\frac{1}{4}$, $N\frac{1}{2}NW\frac{1}{4}$ of Section 27, the $E\frac{1}{2}SE\frac{1}{4}$ of Section 22, the $W\frac{1}{2}SW\frac{1}{4}$, $NE\frac{1}{4}SW\frac{1}{4}$, and the $W\frac{1}{2}NE\frac{1}{4}$ in Section 23, all in Township 8 south, Range 22 East.

The main canal is about 3 miles long and has an estimated capacity of 1,000 inches. The Riverview Ditch Company was organized Aug. 21, 1943, to succeed the Riverview Canal Company, which was organized in 1896. All waterrights of the Riverview Canal Company were transferred to the Riverview Ditch Company. The Company was incorporated with a capital stock of 1,000 shares of a par value of $10 each, or $10,000. All shares are issued. The Company has no indebtedness. There are 6 water users on the project.

Agriculture is highly developed and the system of farming is well established. Beans, wheat, oats, sugar beets, corn and potatoes are the leading cash crops. Alfalfa is raised on all farms and is used for winter feeding of cattle and sheep. Some livestock is kept on all farms.

At the present time the ditch needs cleaning. The Company plans to construct a new wing dam in the fall of 1944 to insure ample water for irrigation.

In 1943 there were 756.00 acres of irrigated land under the system, with a potential acreage of 140.00 acres under existing works, or a maximum irrigable acreage of 896.00 acres. The project is not troubled with seepage.

Rock Creek-Clear Creek Ditch Company

What is now known as the Rock Creek-Clear Creek Ditch Company was first organized as the Rocky Fork and Alkali Ditch Company. This Company appropriated 5,000 inches of water from Rocky Fork Creek on October 3, 1892. (Rocky Fork Creek now called Rock Creek). The Notice of Appropriation was filed on October 8, 1892, in Park County. The point of diversion was about 40 rods south of the north line of Section 9, Township 8 South, Range 20 East, on the east bank of the stream now called Rock Creek. The purpose was for irrigation. The system was described as a ditch 120" wide by 40" deep, which carries 5,000 inches of water. The description of intended place of use was given as lands lying between Rocky Fork Creek and Alkali Creek, especially Sections 1, 11, 12, 13, 14, 23 and 24 in 7 South, 20 East, and Sections 6, 7, 18, and 19 in Township 7 South, Range 21 East. Notice of Appropriations is on file in the Carbon County Court House in Book 2, Page 55, of Water Right Records.

The Rocky Fork and Alkali Ditch was developed by farmers who constructed some of the ditch each year and were issued stock in payment for work. This plan did not prove successful and was later changed, and the ditch was placed on a cash basis. In 1916 the Company was incorporated for 40 years as the Rock Creek-Clear Creek Ditch Company. The Company was incorporated with 50 shares of stock of a par value of $1,000 each, or $50,000. All shares are issued. The cost of water per irrigated acre averages about 50¢; of this amount 82% is for operation and maintenance and 18% for debt and service charges. The operation charges for the entire system average about $1,500 a year. As of Jan. 6, 1944, the Company had an indebtedness of $4,200.

The Rock Creek-Clear Creek Ditch is the first system of any importance to divert water from Rock Creek. The main canal system is about 12 miles in length and has a capacity of 5,500 inches. Water is taken by gravity in the $NE\frac{1}{4}SW\frac{1}{4}$ of Section 9, Township 8 South, Range 20 East, from Rock Creek. From this point it is carried about 3 miles to the top of the bench west of Red Lodge. The first lateral is in the $SW\frac{1}{4}SW\frac{1}{4}$ of Section 26, Township 7 South, Range 20 East, which is siphoned under the Washoe-Bear Creek Road. About $\frac{1}{2}$ mile east of this point another lateral cuts out and spills into a coulee, then runs into Bear Creek, which is used as a canal to carry water for the users in the Bear Creek Bottom. The last ditch on Bear Creek to use Rock Creek water is the Higham Ditch, which irrigates the Higham land north and south of Belfry in the Clarks Fork Valley. In the $SE\frac{1}{4}SE\frac{1}{4}$ of Section 26, Township 7 South, Range 20 East, the Company has had trouble with the ditch washing a deep cut

where the water is spilled over a hillside. This water then runs to the SW¼SW¼ of Section 24, where the Company has a concrete dividing box and the water is divided into 4 ditches. Ditches from this point spill into Nolton Creek, Dry Creek and Elbow Creek. Water is then picked up by various users from these creeks which are used as canals. The last ditch on Dry Creek, called the Joe Kuchinski Ditch, irrigates land in Township 7 South, Range 22 East, which is in the Clarks Fork Basin, ½ mile north of the Clarks Fork River. Water is also supplied to the East Side Ditch Company, an incorporated ditch with 5 users. This Company buys water from the Rock Creek-Clear Creek Ditch Company, and thenissues stock to the users under its system.

The East Side Ditch Company was incorporated in 1925, for 40 years, with a capital stock of 8 shares of a par value of $300 each or $2,400. The point of diversion is in the SE¼SW¼ of Section 24, Township 7 South, Range 20 East, where water is taken from the Rock Creek-Clear Creek Ditch. The cost of water per irrigated acre averaged about $1.00, this amount being for operation and maintenance. The Company has no indebtedness. The capacity of the Company's ditch is estimated to be 800 inches and the ditch is approximately 8 miles long. The supply is considered adequate. The principal crops are alfalfa and small grains. Some livestock is kept on most of the farms. The soil types are a mixture of heavy gumbo, gravel and sandy loam. The topography varies from hills to river bottom land.

Water is supplied also to the O'Connor Ditch located along Dry Creek and comprised of 4 users, and the Crow Ditch along Nolton Creek with 9 users. The O'Connor, Ohio Oil Company and the Shupack Reservoirs are also supplied by the Rock Creek-Clear Creek Ditch Company. As one farmer put it: "water is spread all over the country from Red Lodge to Belfry". All users must have stock in the Rock Creek-Clear Creek Ditch Company, which only maintains its original system, which has about 12 miles of main canal including both forks. There are times in the spring when the Rock Creek-Clear Creek Ditch on the bench east of Red Lodge, and with an altitude of nearly 6,000 feet, is full of snow and ice, depriving the water users along the Clarks Fork in the Belfry area, with an altitude of 3,740 feet, of needed irrigation water. The frost-free season at Red Lodge average 97 days, while at Belfry the average is about 122 days.

In 1943 there were 4,520.00 acres being irrigated under the Rock Creek-Clear Creek Ditch system, with a potential acreage under existing works of 1,542.00 acres, or a maximum irrigable acreage of 6,062.00 acres. We found also 89 acres of seeped land. These figures include all lateral or extension ditches.

The following decreed water rights were decreed to the Rocky Fork and Alkali Ditch Company that is now known as the Rock Creek-

Clear Creek Ditch Company:

2,364	inches with a date of priority as of	Oct. 3, 1892
750	Ditto	June 1, 1895
750	"	June 1, 1896
1,136	"	June 1, 1897

Rocky Point Ditch Company

The land which is irrigated by the Rocky Point Ditch Company is located 2½ miles south of Belfry on the east side of the Clarks Fork River.

Water is taken by gravity in the SW¼SW¼ of Section 8, Township 9 South, Range 22 East. The main canal has an estimated capacity of 900 inches and is about 5 miles long. The water supply is considered adequate at the source, but because of a slow ditch with not much fall, the water users claim they do not receive the amount of water they need during the peak of the irrigation season.

James Ingram, A. H. Woods, Joseph Fisher, A. N. Chase, and N.D. Hall associated together and formed what is now known as the Rocky Point Ditch Company, and on Nov. 3, 1903, they appropriated 1,500 inches of water from the Clarks Fork River. The Notice of Appropriation was filed Nov. 21, 1903. The point of diversion was about 300 feet southwest from the northwest cornerstone of Section 18, Township 9 South, Range 22 East, on the east bank. The system was described as a ditch 96" wide by 18" deep, which carries 1,500 inches of water. The land description of intended place of use was given as ranches in Township 8 South, Range 22 East. Notice of Appropriation is on file in Book 1, page 396, of Water Right Location Records in the Carbon County Court House.

The Rocky Point Ditch Company was incorporated Feb. 19, 1919, with a capital stock of 896 shares of a par value of $25 each, or $22,400. All shares are issued. As of Nov. 16, 1943, the Company had an indebtedness of $760. Six farmers own stock in the Company.

In 1943 there were 633.00 acres irrigated under the system, with a potential acreage under existing works of 38.00 acres, or a maximum irrigable acreage of 671 acres. The project is not troubled with seepage.

Sand Creek Canal Company and Fromberg Ditch Company

The Sand Creek Canal Company project starts about 2 miles south of Bridger, and extends to a point about 6 miles north of Bridger, on the west side of the Clarks Fork River.

Bridger, the principal shipping point, is served by the Northern Pacific Railway and U. S. Highway No. 310. Billings, 45 miles distant, is the principal market and trading center. In Billings is located the factory of the Great Western Sugar Company, excellent creameries and a good market for other farm produce.

The Sand Creek Canal Company was first incorporated as the Sand Creek Ditch Company, June 4, 1895. John Babcock, Jacob Stobaugh, James Mattenberger, George H. Town and A. G. Duffield, trustees of the Sand Creek Ditch Company, on June 3, 1895, appropriated 5,000 inches of water to be taken by gravity from the Clarks Fork River on the west bank. The Notice of Appropriation was filed June 4, 1895, in Book 2, Page 101, of Water Right Records in the Carbon County Court House. The point of diversion was given as a point in the NE¼ of Section 8, Township 7 South, Range 23 East. From this point the canal was to run thru Sections 5 and 4 in Township 7 South, Range 23 East; thence thru Sections 33, 28, 21, 16 and 8 in Township 6 South, Range 23 East. The purpose was for irrigation, mining, milling and manufacturing. The system was described as a ditch 180" by 60" in size which carries 5,000 inches of water from said stream. The land description of intended place of use was given as lands owned by the incorporators of said ditch in Township 6 South, Range 23 East.

On January 29, 1906, the Sand Creek Extension Ditch Company appropriated 2,500 inches of water from the Clarks Fork River, to be carried thru the Sand Creek Canal Company ditch. The Notice of Appropriation was filed February 23, 1906. The purpose was for irrigation, manufacturing and industrial uses. The system was described as enlarging the canal of the Sand Creek Ditch Company to a width of 16' on the bottom, 20' on top and 3' deep, and to use said ditch to Sand Creek where it terminates. From Sand Creek on, the ditch was to be 8' wide on the bottom, 10' on the top, and 2' deep. The ditch was to extend to a point about 1 mile northeast of Gebo where said Sand Creek Extension terminates.

In 1919 the Sand Creek Extension Ditch Company went broke.

In October, 1920, the Sand Creek Ditch Company reincorporated under the new name of the Sand Creek Canal Company with a capital stock of 500 shares, of a par value of $80 each, or $40,000. In December, 1920, the Company reincorporated with a capital stock of 1,000 shares of a par value of $80 each, or $80,000. The December incorporation was made in order to include the Fromberg Ditch Company, that was formerly known as the Sand Creek Extension Ditch Company.

In 1921 it was incorporated under the new name of Fromberg Ditch Company with a capital stock of 250 shares of a par value of $60 each, or $15,000. The Company has no indebtedness. There are approximately 100 acres under this extension that do not receive a full supply of water. This extension canal is about 4 miles long.

Water is supplied to 16 stockholders served by the Fromberg Ditch Company. The cost of water averages about 60¢ an acre. The total water charge for users under the Fromberg Ditch Company will average about $1.35 an acre, as the users must have an equal number of shares in the Sand Creek Canal Company. That is, if a user has 5 shares in the Fromberg Ditch Company, he also must have 5 shares in the Sand Creek Canal Company. These shares in the Sand Creek Canal Company are assessed the same as the shares held by users who irrigate from, and are under, the Sand Creek Canal, which is on equal assessment basis for the number of shares held. There are 90 water users served by the Sand Creek, Fromberg Ditch systems, some of which are small users in and around the town of Bridger. The principal structures under the system are a spillway about one mile from the headgate, a flume over a dry coulee, a spillway at Sand Creek and a spillway at the end of the Fromberg Ditch which has about 1,700 feet of concrete-lined ditch down a hillside.

Water is also supplied to the Farmers and Lynn Extension Ditches. They are not incorporated and only considered as lateral ditches of the main system.

The topography is gently sloping to level. Seepage has occurred on parts of the project. At Bridger the average date for the last killing frost is May 19, and killing frosts can be expected on or after September 17. The frost-free period averages about 121 days. The average annual precipitation is 10.4 inches. The altitude at Bridger is 3,664 feet. Operation and maintenance charges average about 75¢ an acre. As of January 21, 1944, the Company had no indebtedness. The water supply is considered adequate.

In 1943 there were 4,111.00 acres being irrigated under the Sand Creek system, with 567.00 acres of potential land under existing works, or a maximum irrigable acreage of 4,678.00 acres, of which 106.00 acres are seeped land. Of this amount there were 2,708.50 acres under the Sand Creek Canal; 1,181.00 acres under the Fromberg; 141.50 under the Lynn; and 80 acres under the Farmers Extension, with 324.00 potential acres under the Sand Creek Canal, 193 acres under the Fromberg, and 50 acres under the Farmers Extension.

Sparr Ditch

The area served by the Sparr Ditch is located about 5 miles north of Red Lodge, the county seat of Carbon County. The point of diversion is in the NE¼NW¼ of Section 11, Township 7 South, Range 20 East, on the east bank. The purpose was for mining, milling and irrigation. The system was described as a headgate and ditch 36" wide on the bottom, 60" across the top and 24" deep. The land description of place of intended use was given as the NE¼NW¼ of Section 30, Township 6 South, Range 20 East, and SW¼SW¼, SE¼SE¼ of Section 19, Township 6 South, Range 20 East.

The Sparr Ditch was first started by Samuel F. Sparr. On July 2, 1894, he appropriated 1,000 inches of water from Rock Creek. The Notice of Appropriation was filed July 16, 1894, in book 5, page 496, of Miscellaneous Records in the Park County Court House in Livingston, Montana.

The Sparr Ditch is about 5½ miles long and has one flume 7' long over a private ditch. No records are kept as to the cost of water, as each user pays his portion of operation and maintenance cost which is mostly worked out. The average volume of water entering the main canal is about 850 miner's inches. Irrigation water is delivered from May to September and is measured as it is delivered to each irrigator.

Water is diverted by use of a small rock wing dam and a concrete headgate of weir type construction. The farmers value their irrigation works and equipment at $4,800 and their water rights at $24,870. The Sparr Ditch is an individual or partnership ditch and is not incorporated.

Matt Martilla also uses the Sparr Ditch to carry 145 inches of water with a priority as of July 2, 1895, to his farm. The supply for all the users under the Sparr Ditch is not adequate because it is ruled by the priority of rights. Isaac Niemi, with the second oldest water right on Rock Creek, would always be sure of an adequate supply, while the Alberi Brothers would only have water in extremely wet years. However, stored water may be purchased from the Rock Creek Water Users' Association.

The decreed water rights held by the farmers under this system are as follows:

Decreed Owners	Date of Priority	Present Owners	Inches
O. L. Hotchkiss	June 10, 1888	Isaac Niemi	100
Samuel F. Sparr	July 26, 1894	Samuel F. Sparr	150
Ben Greenough	May 30, 1897	J. E. Carroll	100
" "	" 30, 1897	Samuel F. Sparr	25
L. E. Lendrum	July 2, 1895	T. N. Olsen	153
Caleb Torreyson	July 4, 1901	Alberi Brothers	140

In 1943 there were 586.00 acres being irrigated under the Sparr Ditch, with a potential acreage of 251.00 acres under existing works, or a maximum irrigable acreage of 837.00 acres.

State Water Conservation Board

Description - This project, known as the "Rock Creek Project" was built and is owned by the State Water Conservation Board. It consists of two storage reservoirs. The larger, Cooney Reservoir, with a storage capacity of 27,515 acre feet, is located on Red Lodge Creek, about 8 miles west of Boyd. The other, Glacier Lake,

with a storage capacity of 4,200 acre feet, is located at an elevation of nearly 10,000 feet, in the rough Beartooth Mountains, near the source of Rock Creek, about 25 miles southwest of Red Lodge. Plans and/or PWA allotment did not include construction of any canals. The total 31,715 acre feet of storage is primarily for supplemental irrigation of 40,000 acres of land in Rock Creek Valley, but will also furnish domestic water supply for several small towns. The Cooney Dam is a clay-gravel fill, having a total crest length of 2,250' and top width of 25'. The front slope is 3:1 below water line and 2:1 above water line. Downstream slope is 2:1. Elevations are (approximate sea level datum): top of dam, 5,060'; spillway crest 5,046'; natural creek bottom 4,963'; bottom depth of cut-off trench 4,949'; flow line of outlet, 4,973.8'. From these elevations the maximum height of dam above natural creek bed is 97' and above bottom of cut-off trench is 111'. The spillway crest is 14' below the top of the dam. The dam contains approximately 1,362,000 cubic yards of materials.

The outlet tunnel was driven thru shale at the east abutment, and the spillway is at the west end of the dam. The concrete lined outlet tunnel is 6' in diameter inside and equipped with two gates operated through a concrete tower from the top of the dam. The operating gate is a Dow disc arm pivot valve, while the emergency is a gate valve. The spillway has a crest of 200' and is capable of discharging a flood of 8,000 second feet with a freeboard of 10'.

The flooded area of Cooney Reservoir at the elevation of spillway crest covers 796 acres; with 4' of flashboards, (the elevation necessary to obtain 27,515 acre feet of required storage), the flooded area covers 862 acres, while at the elevation of top of dam, 1025.5 acres are within the site. The total area purchased for the Cooney Reservoir site, including borrow pits, was 1852.87 acres. Suitable material for constructing the dam could not be found in thick deposits which made it necessary to buy a large area for borrow pits in order to get enough acceptable material.

Glacier Lake Dam is a loose, rock fill with hand-placed grouted paving on the upstream side and faced with a reinforced concrete slab, varying in thickness from 6" at the top to 12" at the bottom. The dam has a crest length of 675' and top width of 10'. The front slope is 1:1 and the back slope 1½:1. Elevations are: top of dam 9,817'; spillway crest 9,812'; natural creek bottom 9,765'; flow line of outlet 9,780'; natural lake surface 9,784'. From these elevations the maximum height of dam above natural creek bed is 52', and freeboard of 5'. Flow line of the outlet is 2' below the natural lake surface. The dam contains approximately 8,400 cubic yards of material.

The outlet tunnel was driven thru solid rock at the north abutment and the spillway was cut thru a solid rock ledge protruding up through the dam about midway between the two abutments. The outlet tunnel is 4' x 4', unlined, and equipped with a sliding sluice gate

operated through a tower from the top of the dam. The spillway has a crest length of 90' and is capable of discharging a flood of 2000 second feet. The flooded area of the reservoir at spillway crest cofers 160.32 acres. No right-of-way had to be purchased as the area is located in the U. S. Forest Reserve.

Construction of this dam was spectacular in that all equipment and materials had to be transported to the dam site by a suspended cable, which was about 3,500' long and elevated equipment to the top of a rock ledge 2,000' above.

Canals - In addition to funds received from PWA for construction of reservoirs only, the Board, by cooperating with the WPA built the following two canals to serve the project:

1 - Finn Ditch, to serve water users.
2 - Point of Rocks Canal, which carries 50 second feet from Rock Creek to Red Lodge Creek, to insure full storage water in the Cooney Reservoir.

The Board also made surveys of the following canals, (not built)

1 - Stanley Ditch, to divert 3,500 acre feet by the construction of a 65 second foot canal.
2 - Cottonwood Canal, having a capacity of 128 second feet to supply additional water to Cooney Reservoir from Cottonwood Creek.
3 - Taylor Ditch, having a capacity of 200 second feet to supply Cooney Reservoir from Rock Creek to Willow Creek.
4 - White Horse Bench Canal, to serve 8,000 acres of land on the bench.
5 - Elbow Ditch, to serve additional land on the east bench below Red Lodge.

History - The Rock Creek Water Users' Association was incorporated under the laws of Montana on June 27, 1935. Water purchase contracts in the amount of 31,584 acre feet were secured and approved by said Association on January 27, 1936, and approved by the State Water Conservation Board on June 29, 1936, immediately following approval by the Finance Division of the PWA. The bond transcript was completed and approved by PWA, and the bonds sold to the Federal Government on July 7, 1936.

Bids for the construction of Cooney Dam and appurtenances were received on June 15, 1935; the low bidder was the Utah Construction Company. The contract was executed by the Board and the Company on August 14, 1935. Construction work was started August 27, 1935, and completed September 21, 1936.

Bids for the construction of Glacier Lake Dam were received on September 27, 1935; the low bidder was S. J. Groves and Son. The Board awarded the contract on the same day to said Company, which

was approved by PWA on January 22, 1936. Construction work was completed December 2, 1937.

Bonds and Finances - To secure funds to construct the project, the Board issued its water conservation revenue bonds, Series "A", in the amount of $535,000, dated August 15, 1935, secured by a trust indenture of the same date, executed by the Board and the Montana National Bank of Billings, Montana, as trustee, wherein the revenues of the project were pledged for the payment of the interest on and the principal of the bonds. These bonds bear interest at the rate of 4% per annum, payable February 15 of each year, commencing with the year 1936, with first bond principal in the amount of $3,000 due February 15, 1939, and increasing annual payments to the sum of $27,000 due February 15, 1975.

The security mentioned consists of a water marketing contract between the Board and the Water Users' Association, and water purchase contracts entered into between each individual water purchaser, the Association and the Board. The original list comprised 432 water purchase contracts, totaling 31,584 acre feet of water at $1.00 per acre foot, per year, commencing with the year 1937 and ending with the year 1975. The total sum due under these contracts is sufficient to pay all interest and bonds, and provide an approximate 30% reserve.

West Fork Irrigation Company

This project is located about 2 miles northwest of Red Lodge, the principal shipping point and trade center.

The West Fork Ditch Company was first organized 1893. On Jan. 3 the Company appropriated 2,000 inches of water to be taken by gravity from the West Fork of Rock Creek on the north bank. The point of diversion is between the headgates of the McDonald and Maryott ditches and is located in the SE¼ of Section 6, Township 8 South, Range 20 East. The Notice of Appropriation was filed Jan. 13,1893. William N. Hunter, Anthony Chaffin and Prestey C. Hicok, as trustees for the Company, made the filing. The filing also contained a note, saying that water was first appropriated and used October 7, 1890. The purpose was for irrigation. The system was described as a ditch 24" by 72" in size, or designed to carry 2000 inches of water. The land description of intended place of use was given as lands in Sections 28, 29, 19, 20, 21, 17, 18, and 16 and adjoining lands all in Township 7 South, Range 20 East. The Notice of Appropriation was filed in book 1, page 451, of Water Right Records in the Park County Court House. It was later transferred to the Carbon County records and can be found in book 2, page 58, of Water Right Records in Red Lodge.

On June 1, 1917, the Company re-incorporated under the name of the West Fork Irrigation Company for 40 years, with a capital stock

of 1,520 shares of a par value of $10 each, or $15,200. The Company has no indebtedness. Water assessments average about 20¢ an acre, which is for operation and maintenance charges. The capacity of the main canal is estimated to be 1,520 miner's inches. The Company does not supply water to any other source. There are 13 stockholders served by the Company.

The main canal is about 7 miles long. From the point of diversion it runs northeast for about 2 miles and then northwest for about 5 miles. The entire canal follows along the foothills at the base of the Beartooth Mountains, where the soil is very gravelly, causing much water to be lost thru absorption and leakage. When the season is dry the water supply is cut about one-third because of the older water rights on the West Fork of Rock Creek.

The following waterrights were decreed to the West Fork Ditch Company, August 21, 1903, Case No. 275:

600	inches	with a date of priority as of	June 25, 1893
470	"	Ditto	June 30, 1894
450	"	"	July 15, 1902

In 1943 there were 1,386 acres being irrigated, with a potential acreage under existing works of 473.00 acres, or a maximum irrigable acreage of 1,859.00 acres. There is some seepage on the project.

White Horse Canal Company

What is now known as the White Horse Canal Company was first organized as the White Horse Ditch Company and was constructed by a group of farmers who went broke in their endeavor. Water at first was taken from Rock Creek, but because of a water shortage in Rock Creek the Company extended the ditch to the Clarks Fork River and diverted water from it. On June 9, 1906, the White Horse Ditch Company appropriated 2,500 miner's inches of water to be taken from the Clarks Fork River at a point 1,642 feet from the southwest cornerof Section 1, Township 4 South, Range 23 East, on the west bank. The Notice of Appropriation was filed June 12, 1906, in book 1, page 301 of Miscellaneous Records in the Yellowstone County Court House in Billings, Montana. This notice is also on file in Book 1, page 434, of Water Right Records in the Carbon County Court House in Red Lodge. The purpose was to be for power, transportation, manufacturing and irrigation; also, to lease and sell surplus water not used by the stockholders. The system was described as a ditch 84" on the bottom by 30" deep. The land description of intended place of use was given as lands of stockholders lying between the Clarks Fork and Yellowstone Rivers.

In 1931 the White Horse Canal Company was organized. This Company took over all of the water rights of the White Horse Ditch

Company and the land it served. The Company was incorporated with a capital stock of 100 shares of a par value of $1,000 each or $100,000. The incorporation was for 40 years. The stock is divided as follows: J. W. Chapman Incorporated 997 shares; Alpha Champan 1 share; W. E. Ogden 1 share; and Mary C. Williams one share.

Together they formed the Inter-County Land Company. The land under the White Horse Canal was owned by J. W. Chapman Incorporated who had 140 acres, and the Inter-County Land Company who had 730 acres. The White Horse Canal was owned and operated by the Inter-County Land Company; it is 10' wide on the bottom, 4' deep and is about 15 miles long. On December 28, 1942, the Inter-County Land Company was dissolved and all rights and land owned by that Company were taken over by J. W. Chapman Incorporated. This land is subdivided in farm units, and is only rented on a share-cropper basis, and is not sold.

The project is located on a bench between the Clarks Fork and Yellowstone Rivers about 5 miles south of Laurel. The altitude is about 3,400 feet. The leading crops are sugar beets, beans, small grains and alfalfa. Some livestock is kept on most farms. The topography is bench land with a slope towards the Clarks Fork River. The soils are of a sandy loam nature and the water supply is considered adequate. The cost of water per irrigated acre averages about $2.00 an acre. This cost is for operation and maintenance. The Company has no indebtedness. The main structures in this system are 12 farm bridges, 11 flumes, 3 siphons and 7 waste gates. Water is taken by gravity from the Clarks Fork River in the SE¼SW¼ of Section 1, Township 4 South, Range 23 East. From this point it runs northeast until it crosses the Smith-Hughes Ditch in the SW¼ NE¼ of Section 1, then northwest to where it is siphoned across Rock Creek in the NE¼NW¼ of Section 1. From this point it follows a northerly direction to the NW¼ of Section 28, Township 2 South, Range 24 East, in Yellowstone County where the ditch terminates. The system is not used for irrigation until it reaches Section 1, Township 3 South, Range 23 East, a distance of about 7 miles.

In 1943 there were 542.80 acres being irrigated under this system, with a potential acreage under existing works of 319.00 acres or a maximum irrigable acreage of 861.80 acres.

Wills Canal Company

The land controlled by the Wills Canal Company is located about 7 miles south of Belfry, on the east side of the Clarks Fork River.

Water is taken by gravity in the SE¼NE¼ of Section 31, Township 9 South, Range 22 East, on the north side of the Clarks Fork River. From this point the canal follows the river for about 3/4 of a mile; it then flumes across the Clarks Fork River. From this point the main canal runs northeast for about 4½ miles.

According to J. R. Daughterty, Secretary for the Wills Canal Company, from its beginning, Mr. Irvin H. Will, in the year 1891, appropriated 2,000 miner's inches of water from the Clarks Fork River. We are unable to find any record of this filing in the Water Right Records in the Carbon County Court House in Red Lodge. As the first courthouse and fixtures were destroyed by fire in 1899, there is a possibility that this record may have been destroyed. The canal was constructed by a group of homesteaders, each taking credit in stock for the man, team hours, material and money they invested until they were all being supplied with water.

On November 8, 1900, these men, known as Irvin H. Will, Roscoe Daugherty, John F. Allen, Charles B. Moore, Arthur Barnes, P. W. Livingston, Dave Lindsey, W. P. Lowe, G. P. Miles and S. D. Vilkinson, associated together and formed the Wills Canal Company. It was incorporated for 40 years with a capital stock of 120 shares of a par value of $25 each or $3,000. On December 28, 1911, the Company increased its capital stock to 25,000 shares of a par value of $1.00 each or $25,000. On October 27, 1944, the Company was reincorporated for 40 years for the same amount. The cost of water averages about $1.00 per irrigated acre. 11 water users are served by this system. As of November 1, 1944, the Company had no indebtedness.

The topography is favorable for irrigation with the land sloping north and east. The soils are a sandy loam which is characteristic for river bottoms in this part of the state. The water supply cannot be considered sufficient, for when the Clarks Fork River is low about 10% of the land does not receive an adequate supply of water.

The headgate and canal are in good condition and are capable of carrying sufficient water for the land. The estimated capacity of the canal is 2,000 miner's inches.

In 1943 there were 1,139.00 acres being irrigated under this system, with a potential acreage of 85.00 acres under existing works, or a maximum irrigable acreage of 1,224.00 acres. The project is not troubled with seepage.

Youst Ditch Company

The Youst Ditch Company project is located immediately east of Belfry, on the west side of the Clarks Fork River. Water is taken by gravity in the NE¼SE¼ of Section 22, Township 8 South, Range 22 East. The point of diversion was about 2½ miles above the confluence of Bear Creek on the west bank.

The land description of intended place of use was given as lands lying on the left side of the Clarks Fork River facing downstream, and extending from a point below the mouth of Bear Creek

about one mile to a point on the Clarks Fork River about 2 miles above the mouth of Bear Creek, and extending in width about one mile from the said left bank of said river.

Robert Ray and Gilford E. Youst on February 3, 1894, appropriated 1,000 miner's inches of water to be taken by gravity from the Clarks Fork River. The Notice of Appropriation was filed Feb. 7, 1894, and is on record in book 1, page 561, of Water Right Locations in the Carbon County Court House.

In 1912 the Company was incorporated for 40 years with a capital stock of 1,000 shares of a par value of $20 each or $20,000. The purpose for securing the water was stated to be for irrigation and domestic uses.

The system was described as a ditch 60" wide on the bottom, 75 to 150" across the top, and 16" deep. The main canal is about 3 miles long.

There are 8 stockholders served by this system. The Company has no indebtedness. The annual charges will average 50¢ and is used for the operation and maintenance of the system each year.

The climate is suitable for the growing of most crops found in the Northwest. The nearest town is Belfry, with an altitude of 3,740 feet above sea level.

The water supply is considered adequate for the crops grown in this area. The soils are a sandy loam and respond quickly to the application of water. The topography is rolling with a gentle slope towards the Clarks Fork River.

In 1943 there were 677.00 acres irrigated under the Youst Ditch with a potential acreage under existing works of 128.00 acres, or a maximum irrigable acreage of 805.00 acres. The project is not troubled with seepage.