

Water Resources Survey



Part I:

HISTORY OF LAND AND WATER
USE ON IRRIGATED AREAS

Golden Valley County, Montana

Published by

STATE ENGINEER'S OFFICE

Helena, Montana, July, 1949

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STATE ENGINEER'S OFFICE

State Engineer..... Fred E. Buck

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MONTANA STATE AGRICULTURAL EXPERIMENT STATION

O. W. Monson..... Irrigation Engineer and Consultant

July, 1949

Hon. John W. Bonner
Capitol Building
Helena, Montana

Dear Governor Bonner:

Submitted herewith is a consolidated report on the Water Resources Survey of Golden Valley County, Montana. This work is being carried on by funds made available to the State Engineer by the Thirty-first Legislative Session, 1949, and in cooperation with the State Water Conservation Board.

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

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Acknowledgments

A survey and study of water resources involves many phases of work in order to gather the necessary data to make the work both complete and comprehensive. 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.

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Irrigation Systems and names of water users from whom much of the information was received:

Lavina Water Users' Association	O. P. Balgord, Water User
Sims Mutual Ditch Company	Harry Henton, Water User
Slayton Mutual Ditch Company	G. H. Belcher, Water User

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 a copy of 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. Nor is there any relation whatsoever between the amount filed on and the normal flow of the stream. 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. At the time of this publication, Yellowstone, Carbon, Stillwater, Big

Horn, Custer, Rosebud, Musselshell, Golden Valley and Wheatland Counties are completed, with work progressing on Meagher County. A prospective land purchaser, after studying the record in these counties 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.

The results of this work were used 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 irrigated 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.

The subject of water rights is coming more and more into prominence as the rapid expansion of our irrigated area proceeds under the impetus of both State and Federal development programs. As new canals are dug and old canals and ditches are enlarged and extended, the relative area of land to be irrigated, compared to the water supply available for irrigation, becomes greater, and a competition for the limited water supply results, which often develops into controversy over the right and ownership of the water.

In a strict sense a "water right" on a live stream does not imply ownership in the same way as does a deed to a tract of land or a certificate of title to an automobile. A water right implies only the right to divert and use water from river or stream. Water when stored in a reservoir, however, is recognized as real property which may be sold, or disposed of as desired by the owner. The ownership to the water of our rivers and streams rests in the State and the rules under which the State grants to the individual the right to use these waters are known as Water Right Laws.

The early settlers in Montana took up land under the provisions of the Homestead Law of 1862 and the Desert Land Act of 1877. The former act gave 160 acres of land to anyone who settled on it and put it in cultivation. The latter gave 640 acres of land to anyone who would irrigate it and pay the government \$1.25 per acre. In 1890, filings under the Desert Land Act were reduced to 320 acres. The construction of ditches on desert claims was in compliance for title to land, rather than for irrigation, and little attention was paid to the water supply available. Consequently miles of ditches were dug through which no water ever flowed. This is especially true in the drier parts of the state, where the diversions were made from intermittent streams.

In the more fertile mountain valleys irrigation was given more importance than in the plains country. Live streams provided a dependable source of water supply and the ditches which tapped them were designed to actually carry water, not merely to comply

with a legal requirement to obtain title to a piece of land. Thus, the right to diversion and use of water for irrigation became as important as the acquisition of title to the land.

But, while the government granted a patent deed as evidence of title to the land upon proof of compliance with the Homestead Laws, there was no deed, certificate of title or other legal instrument offered as evidence of title to a water right.

Water rights refer also to other uses than irrigation. Thus, the authorized use of water for mining, power, fish hatcheries, bird refuges, recreational purposes, municipal needs for culinary supply and sewage disposal, manufacturing, or navigation, all may become valid water rights.

The first irrigators took for granted their right to use water from creeks or rivers for irrigation. They saw water going to waste and appropriated it to their needs. It was as free to them as the air they breathed. They made no official record of the game they shot for food or the fish they caught in the streams and likewise considered it unnecessary to make official record of the time, place, or the amount of water diverted for irrigation. However, time has changed these conditions and it is now necessary to record the game killed and limit the fish catch, and also file a claim for the water appropriated from the streams and rivers for irrigation or other use.

When game was plentiful, no one concerned himself with the number of deer a person killed, but when game became scarce, steps were taken to prevent a few persons from taking more than their share while others had to go without. To do this it became necessary to issue licenses or permits to kill game and also to keep a record of game killed, a practice which is still followed.

Likewise, when only a few settlers diverted water for irrigation and the supply was more than enough for all, no one was concerned about the exact amount used by any one person. But as more and more settlers constructed diversion dams and ditches and tapped the rivers and streams for irrigation water, it soon became evident that there would not be enough water for all. Thus, a year with low water brought about disputes over the division of the supply. The older settlers, in such cases, demanded that the later comers close down their headgates and refrain from taking water, in order that the prior appropriations might have a full supply. The later users, on the other hand insisted that the available supply be divided among all users so that all might share alike.

Thus, progressive over-development of irrigation, together with the occurrence of seasons of water shortage, combined to bring about the enactment of Water Right Laws in the Western States where irrigation is practiced.

Method of Survey

Data incorporated in this report were obtained by the field survey method in cooperation with the irrigators on the land.

For irrigation systems under private ownership, water users were asked for specific information as to the source of water, present acreage irrigated, potential irrigable acreage under existing works, seeped acreage, condition of irrigation system, type of system, water supply, dates of priority, and the amount of water appropriated or decreed. This information was then recorded on a field form and later checked as to its authenticity.

The information in regard to the location of the irrigation system, present irrigated and potential irrigable lands, was indicated on aerial photographs with the exact location of each shown, and the various systems distinguished by color.

After the field survey was completed, the information was mapped on township maps from the aerial photographs, by means of projection, to insure the utmost in accuracy. In addition to the information pertaining to irrigation, all culture, drainage, section lines, etc., were taken in order to make complete and authentic township plats for the area concerned. This information was then mapped by farm units on individual farm forms that show the farm boundary, the location and type of irrigation system, location of irrigated and potential irrigable lands, present irrigated acres, potential irrigable acres, types of system, source of water, etc., with water filings attached. If the field survey information was complete, these individual farm forms were completed in the office. If not, the water user was again contacted in an attempt to complete the form. After these farm unit forms were completed, a summary was made of each township, which shows the name of the water user, section, township and range, source of water, whether a user has a private irrigation system or is under a ditch company or irrigation district, acres irrigated from each source, present irrigated acres, potential irrigable acres under existing facilities and maximum irrigable acres. The summary given in this report was tabulated from these township summaries to show the totals for the county. After this was accomplished and a final check made, color separation maps were drawn which included from 3 to 10 separation plates, depending on the number of colors that appear on the final township map in Part 2 of this report. Section and township corner locations were obtained by the photogrammetric system, based on Government land classification maps, county maps, plane table sheets and other sources.

This is the first survey of its kind ever to be consummated in the United States. The value of this work has been well substantiated by giving Montana its first accurate and verified information concerning its water resources under existing irrigation facilities. New lands to be developed by State and Federal construction 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 Golden Valley County

EARLY HISTORY

Before the coming of the settlers, the Musselshell River Valley was the hunting grounds of the Sioux and Crow Indians. This area was investigated in the '50's by the Hayden Exposition, but it was not until military posts were established in central Montana that ranchers began to settle here in the late '70's and early '80's.

The first known settlement on the land now incorporated into Golden Valley County was in 1877 and 1878 when several men settled on the south side of the Snowy Mountains on Swimming Woman Creek. In 1880 the "79" Outfit from the Montana Cattle Company in Miles City established headquarters in the Big Coulee. More and more arrivals from the East marked the settlement of this area until the big influx of homesteading came in 1910 after the construction of the railroad.

Even before the coming of the railroad, however, a thriving inland trading post existed about a mile to the west of the present town of Lavina. A stage road leading from Billings to the north country crossed the Musselshell River here. Since the distance from Billings was such as to make this an ideal stopping place for the stages, this brought considerable traffic to the location. A bridge across the river was constructed, making the road passable at all seasons. The home ranches of several large companies by this time were also situated nearby. When the railroad came, the present more desirable site for Lavina was chosen.

EARLY AGRICULTURE

After the fur trader and the miner, came the first permanent white settlers who were cattlemen largely of English and Scotch descent. They were the first to develop irrigation of the bottom lands along the Musselshell River for the production of hay for winter feed for livestock. In the early part of the agricultural development most of the area was used as open range, and a very small acreage was actually cultivated until the coming of the homesteader.

The stockmen fought to hold the open range against the plows and fences of the homesteaders, but with the construction of the Milwaukee railroad through the valley more and more settlers seeking to make a fortune on homestead land and golden grain came into the area. As a result of this influx of settlers most of the cattlemen's opposition was swept aside. During this time many of the homesteaders settled north and south of Lavina, establishing homes and raising excellent crops under dry land farming methods, because of high prices and abnormal rainfall. Dry land farming methods prospered until the drought years of 1918 to 1922 when dry land farming methods resulted in repeated failures. Not all of the newcomers took to the benches—some chose the river valleys for their future homes. Those who settled in the valleys started the construction of small diversion dams

and canals to divert the water to their lands. Due to the nature of the flow of the streams in the county the construction of these works was an extremely hazardous investment because in the spring the streams would be a raging torrent, swollen beyond their banks, sweeping away the headworks of the irrigation system or else leaving them high and dry because of channel changes. Then in the summer or early fall scarcely enough water was available to supply their livestock needs much less the thirsty soil under the canals. As the years passed the people in the area realized that in order to have permanent irrigation farming and a dependable supply they must in some way store the spring runoff in order to have a stable agriculture. Through their efforts the present irrigation development was effectuated.

GOLDEN VALLEY COUNTY ORGANIZATION

Golden Valley County, one of Montana's smaller counties, was created October 4, 1920, having an area of 1,111 square miles. The County is located in south central Montana and is bounded on the east by Musselshell County; on the north by Fergus County; on the west by Wheatland and Sweetgrass counties, and on the south by Sweetgrass, Stillwater and Yellowstone counties.

According to Mr. H. G. Todd, Clerk and Recorder of Golden Valley County, a petition was signed by residents of Musselshell County and filed with the Musselshell County Clerk and Recorder on January 31, 1920, to create a new county to be known as Golden Valley County. This new county was to be created from portions of Musselshell, Sweetgrass and Wheatland counties, the major portion being from Musselshell. Hearings were held by the Commissioners of Musselshell County at the courthouse in Roundup beginning February 20, 1920, and continuing on other dates until March 8, 1920, at which time the Commissioners approved the petition as being sufficient. On March 17, 1920, the Commissioners of Musselshell County fixed the boundaries of the new county, the school district boundaries and the election precincts. There were 49 school districts and 15 voting precincts. At the present time there are 16 school districts and 8 voting precincts.

The Commissioners ordered an election to be held on June 24, 1920, to determine whether the new county should be created. At this time provision was also made for the election of the officers of the new county. On June 29, 1920, the Commissioners of Musselshell County canvassed the vote, and the result was 1694 votes for and 168 votes against the proposition. This election also decided the location of the county seat, Ryegate receiving 1097 votes and Lavina 786. At the meeting on June 29, the Commissioners passed a resolution that the results of the election were sufficient to create the new County of Golden Valley, and sent a certified copy of the minutes to the Secretary of the State of Montana. The county was of the sixth class when created and is now seventh class. The area now included in Golden Valley County was previously first a part of Meagher County, then Fergus, Yellowstone and Musselshell counties.

The business of the several county officers got under way in October, 1920, when the County Commissioners provided quarters for the Assessor, Clerk of Court, Treasurer, and Clerk and Recorder in the old Methodist Church which was located on the same lots

as the fire hall. The Sheriff and Surveyor were provided offices in the basement of the school house. Part of the offices were moved into the new courthouse in March, 1921.

The assessed value of the property incorporated into the new county was \$18,053;-195.00 for the year 1919. The assessed valuation in 1947 was \$6,434,876.00. The optimism of the early settlers who paid as high as \$40.00 an acre for dry lands was largely responsible for the inflated valuation of real estate. In recent years, after tax deed procedure by the County, some of this said real estate sold for as little as 50c per acre.

Ryegate has two banks, The Farmers and Merchants State Bank and the State Bank of Ryegate. Lavina had the Lavina State Bank and there was also the Barber State Bank and the Belmont State Bank. All of the banks in the County closed in 1923 except the Belmont State Bank which was closed in January, 1924, a couple of months later. The County lost more than \$156,000 in closed banks. County deposits were secured by personal bonds, and the people who signed the bonds went broke when the banks failed. Less than \$500.00 was recovered from the bondsmen. The peak indebtedness of the County was reached in 1925 when it was over \$700,000.00. The County, having assumed the mother county indebtedness in proportion to the amount of assessed valuation each district or county bore to the total, issued \$545,000.00 in bonds to settle indebtedness claims to Musselshell County. On June 30, 1925, the approximate total county indebtedness was \$691,000.00. Since then, all of the above indebtedness has been retired and paid, and the county is free of debt, all funds now being on a cash basis. During this period the school districts of the County have retired all bonded indebtedness and the towns of Ryegate and Lavina are out of debt.

Ryegate, the county seat, is the principal town of the County and is located in the Musselshell River Valley. The town was founded in 1908 and the first sale of town lots was held in June, 1909. Ryegate's peak population was about 600 and at present is approximately 350. The large scale settlement came with the railroad when homesteading was the popular thing to do, from 1910 to 1915. Lavina, the other main town in the County, is located to the east of Ryegate, also in the Musselshell River Valley. It was developed when the Chicago, Milwaukee, St. Paul and Pacific Railway came through the area in 1907.

TRANSPORTATION

The area is served by a branch of the Great Northern Railway, the main line of the Chicago, Milwaukee, St. Paul and Pacific Railway, and State Highway No. 6. In addition to these transportation facilities, the County has several semi-surfaced, all-weather roads, to facilitate accessibility to the main shipping points on the highway and the railroads. The County is also served by the Canyon Transportation Bus line and several motor freight lines. An emergency landing field is located at Lavina.

CLIMATE

Golden Valley has a climate typical of the semi-arid Great Plains Region, marked by abundant sunshine, low relative humidity, moderate winds, low precipitation, wide daily and seasonal variations of temperature, and a relatively short growing season. The summer seasons have hot days with abundant sunshine, which are tempered by

cool nights caused by cool breezes which blow into the valleys from the adjoining mountain ranges. The winters are moderately cold, but as a rule they are not prolonged and are frequently broken by comparatively long periods of mild weather. Occasionally, late spring and early fall frosts cause damage, as do hail and flash summer rains which at times attain cloudburst intensity. For an eight-year period of weather conditions kept at Ryegate, with an elevation of 3,640 feet and located near the agricultural center of the County, the average annual precipitation is 14.82 inches. The greatest amount of this precipitation is received during May and June, with most of the total received between April first and November first. In the northern part of the County on the high benches and in the mountainous area, the precipitation is greater than in the southern part of the County because of the rise in elevation. The average date of the last killing frost is May 22 and the average date of the first killing frost is September 12. The records also show that killing frosts have occurred June 3 and August 25.

The average maximum temperature is 59.8 with the average minimum temperature 28.1 degrees. The highest temperature recorded is 109 degrees above zero and the lowset is a cool 49 degrees below zero. The prevailing winds are from the west with the velocity the greatest during the late winter and early spring.

SOILS

The better bottom land soils in the Musselshell Valley generally have a uniform profile of silt loam or fine sandy loam to a depth of 24 to 48 inches. They are usually underlaid with sand or gravel, providing good under drainage where the water table in the valley is 48 inches or more below the surface of the land. Other bottom land soils are variable as to surface texture, ranging from sandy loams to clay loams with subsoils similar in texture or stratified with sand and gravel. Medium textured soil predominate in this County.

Soils on the upland benches have been derived from fine grained sandstones and sandy or silty shales. A large portion of the area, outside of the valley proper, consists of shallow, usually stony soils on gently sloping to strongly rolling topography.

Detail soil surveys of technical descriptions of the soil types of Golden Valley County are not available.

CROPS

On the dryland adjoining the Musselshell River Valley the agriculture is divided between grazing and a summer fallow-small grain system of farming, with native grasses taking up the greater acreage. The climate is favorable and the soil well adapted to the gainful production of all staple northern crops. While small grains are grown, the principal crops on irrigated lands consist of alfalfa hay and native grasses. Most of the farms have a small garden for the production of small fruits and vegetables for home consumption.

LIVESTOCK

Originally the area now embraced in Golden Valley County was rich in fur trade and buffalo hunting. As the value of the highly nutritious native grasses and favorable climate became recognized, this industry rapidly and successfully turned to stock raising. Livestock at present on the farms and ranches consists chiefly of the raising of beef cattle and sheep. Cattle numbers are increasng and also is the average size of the ranch unit. Sheep numbers are declining due to the need for additional labor to handle sheep. A few dairy cows are kept on most farms to supply the farm needs, with a few farm operators selling milk to supplement the farm income. There are no large dairy herds in the County that are kept mainly for the production of milk. During recent years the number of horses has rapidly decreased, having been replaced by tractors and trucks to do farm work. Comparatively unimportant are swine and poultry which are raised chiefly for ranch and farm use, with the surplus usually sold locally.

NATURAL RESOURCES

Natural resources in Golden Valley County have not been developed to any great extent thus far. Coal of excellent quality, for both domestic and steam use, has been found in various parts of the county.

A considerable start has also been made in oil development, the local exploitation of this industry dating back to the first discovery of oil in the State, which was made at what is known as Woman's Pocket in September, 1919. A number of wells have been drilled and abandoned since that time, and at present the only real producer in this area is R. M. Amick's No. 3 N. P. well. This well at the present time is producing 125 barrels a day. With additional exploration, extensive oil production in this County is possible.

WATER SUPPLY

The principal stream in Golden Valley County from which water for irrigation is diverted is the Musselshell River, which drains an area of approximately 9,000 square miles. The North and South Forks of the Musselshell River, which unite near Martinsdale, have their origin in (a) North Fork, Little Belt and Castle Mountains, and (b) South Fork, Castle and Crazy mountains. The Crazy Mountains bound the watershed on the south, the Castle Mountains on the west, and the Little Belts and the Big Snowy Mountains on the north. These mountains are all high in elevation (6,000 to 10,000 feet), for the greater part are well timbered, and during average years of precipitation are good watersheds.

Numerous small streams enter the main river below the Forks. The main tributaries between Martinsdale and Shawmut are: Little Elk, Big Elk and Lebo Creeks and American Fork entering the river from the south, and Daisy Dean, Haymaker, Hopley, and Antelope creeks entering from the north. Below this point the principal tributaries are: Fish Creek, which rises in the Cayuse Hills east of the Crazy Mountains and flows northeast to join the Musselshell River near Ryegate; Careless, Cameron and Pole creeks, which rise

in the Big Snowy Mountains and flow southeast to join the Musselshell River near Rye-gate and Roundup respectively; Willow Creek, which also rises in the Big Snowy range and flows east and north to its confluence with the Musselshell; Flatwillow Creek, which, with its two large tributaries Box Elder and McDonald creeks, rises on the northeastern slopes of the Big Snowy Mountains and flows east to join Box Elder Creek, which flows east to join the Musselshell River.

A study of available stream flow records covering a twenty-year period at Harlowton indicates that the Musselshell River may be classed as an intermittent stream because of the usually high runoff in the spring and a deficiency of water for irrigation after July for areas lower down the stream. In order to improve this situation and provide additional irrigation water the State Water Conservation Board has constructed three storage reservoirs in the Musselshell River drainage Basin. Two of these, the DuRand with a storage capacity of 7,029 acre-feet on the North Fork, and Martinsdale, an off-stream reservoir near the South Fork with a storage capacity of 23,185 acre-feet, provide additional water for irrigation in the Musselshell Valley above Harlowton. The third, an off-stream reservoir, is Deadman's Basin with a usable storage capacity of 52,000 acre-feet, making a total usable capacity of 82,214 acre-feet for the three reservoirs. The State Water Conservation Board has filed water rights on all unappropriated water in the Musselshell Valley in connection with these reservoirs.

According to plans the Board stores flood water during the flood season and in this way does not interfere with prior water rights on the streams during the irrigation season. The plan of operation is that water users will use the natural flow as long as available and then stored water will be released from the reservoirs for later irrigation needs.

DEADMAN'S BASIN PROJECT

The Deadman's Basin Project is located in Wheatland, Golden Valley and Musselshell counties. This Project consists of a large diversion canal, which diverts water from the Musselshell River into a natural bench reservoir known as Deadman's Basin, and two outlet canals. The reservoir has a total storage capacity of 57,000 acre-feet, but 5,000 acre-feet of this amount is dead storage—thus giving a useful capacity of 52,000 acre-feet.

The supply canal diverts water from the Musselshell River in Wheatland County at a point about two miles below Winnecook, or about eight miles below Harlowton. It has a normal carrying capacity of 600 second-feet, with three feet of freeboard, which gives a velocity of 2.72 per second. It is possible to crowd the flow during high water periods to 787 second-feet, which would result in two feet of freeboard and a velocity of 2.92 feet per second. From the intake at the river to the discharge at the Basin the supply canal is 60,300 feet long. The intake structure of the supply canal consists of a concrete overflow weir and headgates built integrally. The overflow wall of the weir is 6 feet high and 184 feet long. On the right end of the weir an earth dyke 800 feet long prevents the Musselshell River from cutting around the weir, and on the left side of the headgate an earth dyke 500 feet long protects the headgate structure. Flow into the canal is controlled by two radial gates each 14 feet long by 6 feet high. The canal is carried under the rail-

road and highway by double concrete box culverts 7 feet by 6½ feet, 273 long, which includes two 20 foot transitions. Numerous concrete spillways along the canal protect it from being loaded beyond capacity.

At Deadman's Basin it was necessary to construct an earth fill dam across a low portion of the rim and a low earth fill dyke at another place. The dam is 1,065 feet long and the dyke is 625 feet in length. The dam has a maximum height above the natural surface of the rim of 25 feet, while the dyke rises only 12 feet above the rim, or only the amount of the freeboard. The following data applies to both structure: top width 26 feet, upstream slope 3:1 below water line and 2:1 above water line, and downstream slope 2:1. Elevations are: top of dam and dyke 3,923 feet; spillway crest 3,911 feet; lowest part of the Basin rim 3,898 feet; bottom of cutoff trench (dam) 3,988 feet and flow line of outlet 3,872 feet. The spillway has a crest length of 30 feet, is 12 feet below the top of the right end of the dam and is capable of discharging a flood of 1,000 second-feet with a freeboard of 7 feet. The flooded area of the reservoir is 1,895 acres at spillway crest of 1,980 acres with 5 feet of water over the spillway. The dam and dyke contain approximately 82,200 cubic yards of fill.

The outlet tunnel through the rim was driven through shale and sandstone under 110 feet of the dam sections. Under the balance of the fill section there is a concrete conduit 7 feet 6 inches in diameter. The total length including tunnel, conduit and end structures is 345 feet. An open ditch 1,330 feet long was dredged from the low spot in the reservoir to the entrance of the outlet tunnel. Water is controlled by two sluice gates, each 5 feet by 5 feet, operated through a concrete tower from the top of the dam. An outlet canal approximately two miles long allows the water to return from the reservoir to the Musselshell River below Barber.

Another branch of the outlet canal, approximately seven miles long, carries water out on the Franklin Bench and this water drains back into the Musselshell River through Careless Creek east of Ryegate.

Development of this project has been subjected to considerable colorful history. Various attempts had been made to build the project through private financing, state projects, etc., which covered a period of at least twenty-five years. Finally, when the F. E. R. A. came into existence the local people were successful in getting work initiated by that agency. When the W. P. A. replaced the F. E. R. A. it took the work over under sponsorship of the three counties involved and the State Water Conservation Board. After the sponsorship funds were exhausted the work was abandoned with the main supply canal about seventy per cent finished and no other work accomplished. This accomplishment covered a period from 1934 to about July 1, 1938, when the work ceased. Nothing further was done until May, 1939, when the State Water Conservation Board undertook to sponsor a new W. P. A. project, providing the Board could secure a loan of \$135,000 from the Reconstruction Finance Corporation. This loan was authorized and work resumed in the summer of 1940.

When the W. P. A. ceased work in July, 1938, the only work that had been done was on the main supply canal with the following expenditures: F. E. R. A., \$101,651.51; W. P. A., \$364,000.00; S. W. C. B., \$55,243.83; Counties, \$25,000; or a total of \$545,895.34.

Work under F. E. R. A. involved the removal of 193,000 cubic yards of earth excavation and 16,000 cubic yards of rock. Under the former W. P. A. project there was 968,163 cubic yards of earth and 23,128 cubic yards of rock removed. Under the two agencies, or up to the last operation before the new work was begun in 1940, there had been excavated a total of 1,161,163 cubic yards of earth and 39,128 cubic yards of rock. In order to complete the canal, W. P. A. let a contract with Lobnitz Brothers of Ashton, Idaho, which required the removal of 1,000,000 cubic yards of earth and rock, with the balance of the work being done by W. P. A. labor.

In order to complete the Project, the State Water Board made an application to the W. P. A. under date of March 21, 1940, in which the cost of completion was estimated at \$541,572.00, of which the W. P. A. was to furnish equipment, supplies and labor in the sum of \$392,113.00 and the Board to provide equipment, material and superintendents in the amount of \$149,459.00. In addition thereto the W. P. A. agreed to make a contractual expenditure in the sum of approximately \$100,000.00.

The Board had heretofore made application to the R. F. C. for a loan in the amount of \$135,000.00, to provide a part of its sponsorship. This application was approved by the R. F. C. on February 28, 1940—the loan evidenced by water conservation revenue bonds Series "W", dated May 1, 1940, interest at 4 per cent per annum, with first principal in the amount of \$2,500.00 due May 1, 1946, and increasing annual payments to \$7,500.00 on May 1, 1975, secured by a Trust Indenture dated May 1, 1940, between the Board and the Union Bank & Trust Company of Helena, as Trustee.

As security for the loan, the Board entered into a Water Marketing Contract with Deadman's Basin Water Users' Association, wherein that Association agreed to pay the Board the sum of 55 cents for each acre-foot of water contracted to be sold for the first four years, and 75 cents per acre-foot for the remaining thirty years, and agreed to enter into Water Purchase Contracts with individual water users aggregating not more than 20,000.00 acre-feet.

The sums due under the above mentioned Water Marketing Contract and Water Purchase Contracts are sufficient to repay the loan and reimburse the Board for any funds expended by it from the revolving fund.

As the irrigation systems in the Musselshell Valley are largely privately owned by individuals or groups of individuals, the responsibility for operation and maintenance is placed on the individuals concerned. In some instances the Milwaukee Railroad assumed responsibility in connection with the maintenance of structures when it obtained right-of-way for the railroad. Deadman's Basin Project, on the other hand, is owned and administered by the State Water Conservation Board.

ARTICLES OF INCORPORATION **of** **DEADMAN'S BASIN WATER USERS' ASSOCIATION**

KNOW ALL MEN BY THESE PRESENTS: That we, the undersigned, pursuant to and in conformity with the provisions of Chapters 12 to 23, Civil Code, Revised Codes

of Montana, 1935, and Acts amendatory thereof or supplemental thereto, associate ourselves together, not for profit, and do hereby adopt the following Articles of Incorporation:

ARTICLE I

The corporate name of this corporation is hereby declared to be **Deadman's Basin Water Users' Association**.

ARTICLE II

The objects and purposes for which this corporation is formed are as follows:

1. To appropriate, purchase, market, sell, pump, divert, develop, furnish, distribute, lease and dispose of the waters of the Musselshell River and tributaries, which will be impounded by means of a dam or dams, and a storage reservoir located in Wheatland and Golden Valley Counties, Montana; the waters of said Musselshell River and tributaries being diverted therefrom by a supply canal, the diversion point of which is located in Sections 13, 22, 23, 24, 25, 26, 27, 35, and 36, Twp. 7 N., R. 18 E. and Sections 19 and 30, Twp. 7 N., R. 19 E., and such other structures as may be necessary to carry out the purposes of the Association and the diversion of water from the Musselshell River and tributaries, and from all other available sources of supply, together with the return flow of all of the foregoing waters furnished or supplied by seeping or over-flowing from the previous place of use of such waters, and the waters from other dams, reservoirs, diversion canals, distributing canals, laterals, ditches, pumping units, mains, pipe lines and water works systems; said waters to be used for irrigating lands adjacent to and below said dams, reservoirs, laterals, and canals and for other useful and beneficial purposes.

2. To enter into and carry out agreements with the State of Montana, the State Water Conservation Board, the United States of America, or any instrumentality or agency thereof, any person, firm, association, corporation, private, public or municipal with reference to the purchasing, marketing, furnishing, distributing and selling of the aforesaid waters, and of the privilege of obtaining such waters when available, and the diversion, development, disposition and utilization of such waters, the charging, collecting and disposition of rents and revenues for such waters and privileges, the operation, maintenance, repair, alteration, construction, reconstruction and supervision of the means of conserving and distributing such waters.

3. To construct, reconstruct, maintain, repair, alter, use, control and operate dams, reservoirs, irrigation works and systems, drainage works and systems, diversion canals, distributing canals, lateral ditches, pumping ditches, pumping units, mains, pipe lines, waterworks systems and other means of conserving and distributing the aforesaid waters.

4. To lease, sell or otherwise dispose of water, water rights, lands, easements and / or property which it may acquire.

5. To acquire, own and hold such real and personal property as may be necessary or convenient for the transaction of its business.

6. To incur indebtedness upon its bonds, notes, contracts or other evidences of indebtedness, and to secure the same by mortgages, deeds of trust, pledges of any or all of its

revenues and contracts, or in any other manner, subject, however, to the approval of any such indebtedness by resolution of the State Water Conservation Board.

7. To acquire, hold and dispose of stock in other corporations, domestic or foreign.

8. To acquire by purchase, forfeiture or in any other legal manner, shares of the capital stock of this corporation, and to acquire and exercise options thereon, and to dispose of, re-issue or cancel same as the Board of Directors may determine.

9. To have and exercise all the powers and to perform any and all acts necessary, convenient or appropriate to carry out any one or more of the said purposes or anything incident thereto, or which shall at any time appear conducive or expedient for the protection or benefit of the Association or its shareholders, and to that end to enter into any contract, agreement or other arrangement with the State of Montana, the State Water Conservation Board, the United States of America or any instrumentality or agency thereof, or any person, firm, association, corporation, private, public or municipal, or any state or foreign government.

10. To make and promulgate by-laws for the government and control of this corporation. The by-laws, or amendments thereto, adopted by the Board of Directors shall be and become effective only after their approval by the State Water Conservation Board.

11. The powers herein granted and conferred, shall be exercised only with the approval of the State Water Conservation Board.

ARTICLE III

The principal place of transacting the business of the corporation shall be at Roundup, in the County of Musselshell, State of Montana.

ARTICLE IV

This corporation shall have continual existence as provided in Chapter 185, Laws of Montana, 1937.

ARTICLE V

The number of directors who shall manage the affairs of this corporation shall be five (5), and the names and residences of those who are appointed for the first three months, and until their successors are elected and qualified are as follows:

Name	Residence
L. W. Goffena	Roundup, Montana
O. P. Balgord	Lavina, Montana
J. Minneman	Barber, Montana
Marguerite M. Jacobs	Musselshell, Montana
Magnus Lindstrand	Roundup, Montana

ARTICLE VI

The capital stock of said corporation shall be Fifty Thousand (\$50,000.00) Dollars, which shall be divided into fifty thousand (50,000) shares of the par value of One Dollar

(\$1.00) each. Each shareholder of the capital stock of this corporation shall be entitled to one (1) vote for each share of stock owned by him.

Capital shares of the stock of this corporation shall be subject to purchase, sale or forfeiture under such terms and conditions as are provided by the By-Laws of the corporation and its subscription and pledge agreements with shareholders. Except with the consent of the corporation, no stock of this corporation shall be transferred on the books of the corporation so long as the owner or owners thereof are obligated in any way to the corporation, whether such obligations be matured or unmatured or be under a subscription agreement or note, a water purchase contract or otherwise.

The private property of the stockholders of this corporation shall not be liable for the obligations of the corporation except as in the By-Laws of the corporation otherwise provided.

ARTICLE VII

That the amount of the Capital Stock actually subscribed is Twenty-five Dollars (\$25.00), as follows:

Name	Amount
L. W. Goffena	5 shares \$5.00
O. P. Balgord	5 shares \$5.00
J. Minneman	5 shares \$5.00
Marguerite M. Jacobs	5 shares \$5.00
Magnus Lindstrand	5 shares \$5.00

Witness our hands and seals this 22nd day of June A. D. 1940.

/s/ L. W. Goffena
O. P. Balgord
J. Minneman
Marguerite M. Jacobs
Magnus Linstrand

STATE OF MONTANA)
County of Musselshell) ss.

On this 22nd day of June, A. D. One Thousand Nine Hundred and Forty, personally appeared before me, a Notary Public for the State of Montana, L. W. Goffena, O. P. Balgord, J. Minneman, Marguerite M. Jacobs and Magnus Lindstrand whose names are subscribed to the foregoing instrument as the parties thereto, personally known to me to be the same persons described in and who executed the said foregoing instrument, as the parties thereto and who, each of them duly acknowledged to me that they each of them, respectively, executed the same.

IN WITNESS WHEREOF, I have herreunto set my hand and affixed my official seal the day and year in this certificate first above written.

(SEAL)

/s/ R. A. Buzzard
Notary Public for the State of Montana
Residing at Helena, Montana
My Commission expires June 1, 1942.

Filed in the Clerk & Records Office
Recorded in Secretary of States Office,
Helena, Montana - S-3, Page 152

MUSSELHELL-MELSTONE CANALS

(Under Contruction)

Field work and actual construction is under way toward the development of 14,500 acres of irrigable land by the State Water Conservation Board in the Musselshell Valley, east of Roundup. The proposed plan calls for the construction of a concrete overflow diversion weir across the Musselshell River 182 feet long and 6 feet high; a main canal 3,000 feet long with a capacity of 220 second-feet to its division; a canal 33.3 miles long with a capacity of 135 second-feet on the south side of the Musselshell River, and a canal 15.4 miles long with a capacity of 100 second-feet on the north side of the river. The total excavation is estimated to be approximately 787,000 cubic yards. The water supply is to come from the Musselshell River and storage water from Deadman's Basin Reservoir.

In addition to the canals, the Board also plans to install pumps to get water to some of the terraced land. The estimated cost of this project is approximately \$300,000.00. The money used to develop the canals is from the State Post-War fund and also Legislative appropriations to the revolving fund. Earth work on the canals will be completed this fall. Bids were opened September 1 to build a diversion dam, head works, and a few small structures down to the division of the canal. Contracts will be let later for finishing the remaining structures.

Briefly the water contract plan is this: The canal user pays 75 cents per acre plus the operation and maintenance charge for the use of the canal in delivering his water. This entitles him to a seasonal flow of two acre-feet per acre. Any water that he can divert from the natural flow of the stream up to June 15th will be considered free water, and will be subtracted from his two acre-feet. The balance of the two acre-feet which he receives after June 15th is considered as storage water from Deadman's Basin and for this amount he will have to pay the Deadman's Basin Water Users' Association 75 cents per acre-foot plus operation and maintenance charges. For the past several years, the operation and maintenance charge on Deadman's Basin has been only 10 cents per acre-foot.

There is one point about the contracts for canal use and that is the water subscribed for is dedicated to a definite piece of land and cannot be used on other land. This phase is different from any of the other Water Board contracts. If a farmer has, say, 160 acres and he wishes water next year for only 40 acres, he can take out a contract for the 40 acres.

Next year if he clears up another 40 acres, he can take out a new contract for the second 40, etc. In this way, each contract is separate and has no relation to the others even though the land is owned by the same man.

On April 2, 1949, the State Water Conservation Board filed a notice of appropriation in the Musselshell County Courthouse for 250 cubic feet of water to be diverted from the Musselshell River by means of a diversion dam located in the Northeast quarter of Section 28, Township 9 North, Range 29 East, and the canal running in an easterly direction therefrom. The purpose is to be for irrigation of lands in Sections 1, 2, 11, 12, 13, 14, 15, 22, 23 and 24, Township 9 North, Range 29 East; Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12, Township 9 North, Range 30 East; Sections 5, 6, and 7, Township 9 North, Range 31 East; Sections 31, 32, 33, 34, 35, and 36, Township 10 North, Range 30 East; Sections 2, 3, 9, 10, 11, 14, 15, 16, 21, 22, 23, 27, 28, 29, 30, 31, 32, 33, and 34, Township 10 North, Range 31 East; Sections 9, 16, 21, 22, 26, 27, 34, 35, and 36, Township 11 North, Range 31 East; and for the watering of stock, domestic and municipal and other beneficial purposes.

The above declaration was made and filed under provisions of Section 349.18 of the Revised Codes of Montana.

Another part of the State Water Conservation Board overall Musselshell Basin development plan is known as the Upper Musselshell Storage Project. This Project was planned to supply supplemental irrigation water to 29,000 acres and a full supply for 6,000 acres. The effect of the upper project on the lower project is that it lowers the flood stages of the Musselshell River at Winnecook where the intake canal diverts to Deadman's Basin Storage Reservoir—thus saving flood water which would otherwise be lost because of the insufficient carrying capacity of said canal. It also increases the fall and winter flow from return ground water. Also, a portion of the peak flood diverted to the upper reservoir can be reclaimed at Deadman's Basin as return flow during late fall and winter.

UPPER MUSSELSHELL PROJECT

This project consists of two storage reservoirs, three diversion canals, one outlet canal and one distribution canal. The project is designed to serve supplemental irrigation to about 28,000 acres of land. The major part of the project lands are located in the Musselshell Valley between Harlowton and Martinsdale, while a minor part is in the North Fork of the Musselshell Valley, between Martinsdale and Delpine.

The upper reservoir, called DuRand Reservoir, is located on the North Fork about one-half mile above Delpine, and has a storage capacity of 7,029 acre-feet at the elevation of spillway crest. In addition to the North Fork drainage, water is also fed into the reservoir by a diversion canal from Checkerboard Creek. This canal is three miles long and has a carrying capacity of 51 second-feet. Drainage area tributary to the reservoir from North Fork is 48.2 square miles and from Checkerboard 21.3 square miles, or a total of 69.5 square miles, all of which is moderately high mountains and is lightly timbered.

The Lower, or Martinsdale Reservoir, is located in a basin about one mile southeast of the town of Martinsdale, and contains a storage capacity of 23,185 acre-feet at the ele-

vation of spillway crest. Water is fed into it by a diversion canal from the South Fork of Musselshell River; said canal is 2.5 miles long, and has a carrying capacity of 400 second-feet. Another diversion canal was constructed to carry water from the North Fork to the South Fork, emptying just above the diversion canal to the Martinsdale Reservoir. This canal assures a water supply to the reservoir from both forks of the river. Said canal is 11.5 miles long, and has a capacity of 104 second-feet. The drainage area of the South Fork above the intake canal is 285 square miles, and about 100 square miles of the North Fork drains into the Martinsdale Reservoir, or a total of 385 square miles of moderately high timbered area. The outlet canal, which conveys stored water from the Martinsdale Reservoir back to the river, is 2.5 miles long and has a capacity of 330 second-feet.

The distribution canal, known as the Two Dot Canal, diverts from the north bank of the river, just below the junction of the North and South Forks, and courses 32 miles to its end, about two miles northwest of Harlowton. The canal has an initial carrying capacity of 123 second-feet, and terminates with a capacity of 5 second-feet. It serves water to approximately 5,000 acres of land.

The DuRand Dam is an earth, sand, gravel and rock fill, having a total crest length of 550 feet and top width of 30 feet. The front slope is 3:1 below water line and 2:1 above water line. Downstream slope is 2:1. Elevations are: Top of dam, 5,337 feet; spillway crest, 5,325 feet; natural creek bottom, 5,237 feet; bottom depth of cutoff trench, 5,222 feet; flow line of outlet, 5,247.15 feet. From these elevations, the maximum height of dam above natural creek bed is 100 feet and above the bottom of cutoff trench, 115 feet. The spillway crest is 12 feet below the top of the dam. The dam contains approximately 241,600 cubic yards of material.

The outlet conduit rests on solid rock near the middle of the dam and the concrete spillway is at the left end of the dam. The concrete lined outlet conduit is 54 inches by 54 inches inside and equipped with two gates operated through a concrete tower from the top of the dam. The operating gate is a 48 inch diameter Dow disc arm pivot valve, while the emergency is a 48 inch diameter gate valve. The spillway has a crest length of 64 feet and is capable of discharging a flood of 6,000 second-feet with a freeboard of 3 feet. The flooded area of the reservoir covers 272 acres.

The Martinsdale Reservoir was formed by the construction of two earth, sand and gravel fill dams which are designated as the North Dam and the South Dam. The North Dam has a crest length of 1,000 feet and top width of 23 feet. Elevations are, top of dam, 4,791 feet; natural coulee bottom, 4,695 feet; bottom depth of cutoff trench, 4,675 feet. From these elevations the maximum height of the dam above natural coulee bed is 96 feet and above the bottom of cutoff trench is 116 feet. The South Dam has a crest length of 1,635 feet and top width of 23 feet. The elevations are: top of dam, 4,791 feet; natural coulee bottom, 4,742 feet; bottom depth of cutoff trench, 4,729 feet. From these elevations the maximum height of dam above natural coulee bed is 49 feet and above the bottom of cutoff trench is 62 feet.

The slopes are the same for both dams, being: front slope, 3:1 below water line and 2:1 above water line, downstream slopes are 2:1. There is only one spillway, outlet conduit and one set of control gates. The spillway crest elevation is 4,779 feet or 12 feet be-

low the tops of the dams. It has a crest length of 10 feet and is capable of discharging a flood of 600 second-feet with a freeboard of 4½ feet. It is located at the right end of the South Dam. The outlet conduit is built of concrete pipe, 60 inches in diameter and laid on sandstone near the right abutment of the North Dam. Elevation of the flow line is 4,715 feet. There are two gates operated through a concrete tower from the top of the dam. The operating gate is 54 inches diameter Dow disc arm pivot valve, while the emergency is a 54 inch diameter gate valve. The two dams together contain approximately 716,500 cubic yards of material. The flooded area of the reservoir covers 985 acres. Rights-of-Way purchased for the entire project, including reservoir, borrow pits, canals, etc., totaled 2,276.4 acres.

HISTORY:

The State Water Conservation Board received a loan and grant offer from the federal government, dated October 2, 1937, which was accepted on October 6, 1937. This offer called for the construction of two reservoirs known as "DuRand" and "Martinsdale"; a supply canal known as "Checkerboard Canal"; a supply canal known as "Martinsdale Canal"; and an "Outlet Canal", at an estimated cost of \$776,364.00, of which \$349,364.00 was to be a grant and \$427,000.00 a loan, evidenced by water conservation revenue bonds. It required the formation of the Upper Musselshell Water Users' Association, and the sale of 30,000 acre-feet of water purchase contracts, acceptable to the Finance Division of the PWA. Owing to the question of a sufficiency of water supply for the Martinsdale Reservoir, the PWA required the construction of an additional diversion canal, known as the "North Fork Diversion Canal" in order that the surplus waters of the North Fork of the Musselshell River could be diverted to the South Fork of the Musselshell River, and then into the Martinsdale Reservoir. In order to secure sufficient water purchase contracts acceptable to PWA, it was necessary to construct the "Two Dot Canal" to distribute water to lands not irrigable from any existing ditches from the river. This enlarged in a considerable degree the scope of the project and accounts for the cost over and above the original estimate.

The Upper Musselshell Water Users' Association was incorporated under the laws of Montana on October 22, 1927. Water Purchase contracts in the amount of 30,000 acre feet of water on contracts acceptable to PWA were secured and approved by the Association on May 31, 1938, and by the Board on June 1, 1938. The bond transcript was then completed and the bonds sold to the government on December 3, 1938.

Bids for the construction of the project were received on March 17, 1938, the low bidder being Peter Kiewit Son's Company, of Omaha, Nebraska, (\$619,804.30) and contract was awarded to said contractor on the same day, subject to approval of PWA. This approval was received on March 30, 1938. Work was started on April 1, 1938 and completed September 20, 1939.

OPERATIONS:

The project operated during 1940 for the first time. Owing to the extremely dry fall of 1939 and lack of snow fall and spring rains during 1940, there were only 13,293 acre-feet of water in storage for use during the season. This was proportioned among water purchasers, and by its use many crops were grown that otherwise would have been a total failure. Since that time there has never been a shortage of stored water.

FINANCES:

To secure funds to construct the project, the Board issued its water conservation revenue bonds, Series "N" in the amount of \$427,000.00, dated May 1, 1938, secured by a trust indenture of the same date, executed by the Board and the Montana National Bank of Billings, Montana, as trustee. The indenture provides for the pledge of all of the revenues of the project for the payment of interest on and principal of the bonds. These bonds bear interest at 4% per annum, payable May 1st of each year, commencing with the year 1939, and with first bond principal in the amount of \$9,000.00, due May 1, 1942, and increasing annual payments to the sum of \$25,000, due May 1, 1968.

The security mentioned consists of a water marketing contract between the Board and the Association, and water purchase contracts entered into between each individual water purchaser, the association and the Board.

The original list comprises 128 water purchaser contracts totaling 30,000 acre-feet of water, at \$1.10 per acre-foot per year, commencing with the year 1939 to and including 1967. The total sums due under the contracts are sufficient to pay all interest and principal, and provide a reserve of approximately 23%.

ARTICLES OF INCORPORATION

of

UPPER MUSSELHELL WATER USERS' ASSOCIATION

KNOW ALL MEN BY THESE PRESENTS: That, we, the undersigned, pursuant to and in conformity with the provisions of Chapters 12 to 23, Civil Code, Revised Codes of Montana, 1935, and Acts amendatory thereof, or supplemental thereto, associate ourselves together, not for profit, and do hereby adopt the following Articles of Incorporation.

ARTICLE I

The corporate name of this corporation is hereby declared to be UPPER MUSSEL-SHELL WATER USERS' ASSOCIATION.

ARTICLE II

The objects and purposes for which this corporation is formed are as follows:

1. To appropriate, purchase, market, sell, pump, divert, develop, furnish, distribute, lease and dispose of the waters of the North Fork of the Musselshell River and tributaries and the South Fork of the Musselshell River and tributaries, Meagher and Wheatland Counties, Montana, and such other waters as may be deemed advisable.

2. To enter into and carry out agreements with the State of Montana, the State Water Conservation Board, the United States of America, or any instrumentality or agency thereof, any person, firm, association, corporation, private, public or municipal with reference to the purchasing, marketing, furnishing, distributing and selling of the afore-said waters, and of the privilege of obtaining such waters when available, and the diver-

sion development, disposition and utilization of such waters, the charging, collecting, and disposition of rents and revenues for such waters and privileges, the operation, maintenance, repair, alteration, construction, reconstruction and supervision of the means of conserving and distributing such waters.

3. To construct, reconstruct, maintain, repair, alter, use, control and operate dams, reservoirs, irrigation works and systems, drainage works and systems, diversion canals, distributing canals, laterals, ditches, pumping ditches, pumping units, mains, pipe lines, waterworks systems, and other means of conserving and distributing the aforesaid waters.

4. To lease, sell or otherwise dispose of water, water rights, lands, easements and / or property which it may acquire.

5. To acquire, own and hold such real and personal property as may be necessary or convenient for the transaction of its business.

6. To incur indebtedness upon its bonds, notes, contracts or other evidences of indebtedness, and to secure the same by mortgages, deeds of trust, pledges of any or all of its revenues and contracts, or in any other manner, subject, however, to the approval of any such indebtedness by resolution of the State Water Conservation Board.

7. To acquire, hold and dispose of stock in other corporations, domestic or foreign.

8. To acquire by purchase, forfeiture or in any other legal manner, shares of the capital stock of this corporation, and to acquire and exercise options thereon, and to dispose of, re-issue or cancel same as the Board of Directors may determine.

9. To have and exercise all the powers and to perform any and all acts necessary, convenient or appropriate to carry out any one or more of the said purposes or anything incident thereto, or which shall at any time appear conducive or expedient for the protection or benefit of the Association or its shareholders, and to that end to enter into any contract, agreement or other arrangement with the State of Montana, the State Water Conservation Board, the United States of America or any instrumentality or agency thereof, or any person, firm, association, corporation, private, public or municipal, or any state or foreign government.

10. To make and promulgate By-laws for the government and control of this corporation. The By-laws, or amendments thereto, adopted by the Board of Directors shall be and become effective only after their approval by the State Water Conservation Board.

11. The powers herein granted and conferred, shall be exercised only with the approval of the State Water Conservation Board.

ARTICLE III

The principal place of transacting the business of the corporation shall be at Harlowton, in the County of Wheatland, State of Montana.

ARTICLE IV

This corporation shall continue in existence for the term of forty (40) years from and after the filing of these Articles of Incorporation.

ARTICLE V

The number of directors who shall manage the affairs of this corporation shall be five (5) and the names and residences of those who are appointed for the first three months, and until their successors are elected and qualified are as follows:

Name	Residence
E. J. Settle	Martinsdale, Montana
John Duncan	Martinsdale, Montana
Sanford M. Holliday	Martinsdale, Montana
H. C. Klock	Harlowton, Montana
Chas. F. Williams	Two Dot, Montana

ARTICLE VI

The capital stock of said Corporation shall be fifty thousand (\$50,000.00) Dollars, which shall be divided into fifty thousand (50,000) shares of the par value of One Dollar (1.00) each. Each shareholder of the capital stock of this corporation shall be entitled to one (1) vote for each share of stock owned by him.

Capital shares of the stock of this corporation shall be subject to purchase, sale or forfeiture under such terms and conditions as are provided by the By-laws of the corporation and its subscription and pledge agreements with shareholders. Except with the consent of the corporation, no stock of this corporation shall be transferred on the books of the corporation so long as the owner or owners thereof are obligated in any way to the corporation, whether such obligations be matured or unmatured, or be under a subscription agreement or note, a water purchase contract or otherwise.

The private property of the stockholders of this corporation shall not be liable for the obligations of the corporation except as in the By-Laws of the corporation otherwise provided.

ARTICLE VII

That the amount of the Capital Stock actually subscribed is twenty-five (\$25.00) Dollars, as follows:

Name	Amount
E. J. Settle	\$5.00
John Duncan	5.00
Sanford M. Holliday	5.00
H. C. Klock	5.00
Chas. F. Williams	5.00

Witness our hands and seals this 11th day of September, A. D., 1937.

/s/ E. J. Settle
John Duncan
Sanford M. Holliday
H. C. Klock
Chas. F. Williams

STATE OF MONTANA)
) ss.
County of Wheatland)

On this 11th day of September, A. D., 1937, personally appeared before me, a Notary Public for the State of Montana, E. J. Settle, John Duncan, Sanford M. Holliday, H. C. Klock, and Chas. F. Williams, whose names are subscribed to the foregoing instrument as the parties thereto, personally known to me to be the same persons described in, and who executed the said foregoing instrument, as the parties thereto, and who, each of them, duly acknowledged to me that they each of them respectively, executed the same.

In witness whereof, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

A. A. Poirier
Notary Public for the State of Montana
Residing at Harlowton, Montana
My Commission expires Jan. 15, 1940.

(SEAL)

In the formation of State Projects the terms "Water Marketing" and "Water Purchase Contracts" are often referred to. In order to clarify the meaning of these two terms they are explained briefly herewith:

WATER MARKETING CONTRACT

This is an agreement between the Association and the State Water Conservation Board, whereby the Board agrees to sell to the Association all of the available water of the Project, and the Association agrees to distribute same to water purchasers; and provides method of payment of sums due, levying of assessment for operation and maintenance cost, time of notification of such levy to be given water purchasers, time of default and remedies in the event of default.

WATER PURCHASE CONTRACT

This is a contract entered into between the individual water purchasers, the Association and the State Water Conservation Board, whereby the individual agrees to purchase a definite amount of water, and to pay therefore a definite sum of money on or before a definite day of each year, until a definite future date; in addition to such definite annual sum the individual agrees to pay such additional sum or sums as may be required annually as his proportionate share of the cost of operation and maintenance of the Association. This contract is void unless the water purchaser executes a Subscription and Pledge Agreement.

SUMMARY OF IRRIGATED LAND BY RIVER BASINS IN THE FOLLOWING COUNTIES COMPLETED TO DATE:

Big Horn, Carbon, Custer, Golden Valley, Musselshell, Rosebud, Stillwater and
Yellowstone

River Basin	Present Irrigated Acres	Irrigable Acres Under Present Facilities	Maximum Irrigable Acres
Big Horn River Basin	46,915.56	14,850.65	61,766.21
Little Big Horn River Basin	17,134.26	9,843.52	26,977.78
Clarks Fork Basin	33,285.96	7,328.00	40,613.96
Missouri River Basin	54.60	62.00	116.60
Musselshell River Basin	13,086.25	25,680.87	38,767.12
Powder River Basin	8,263.60	1,803.60	10,067.20
Rosebud Creek Basin	1,398.50	3,012.20	4,410.70
Rosebud River Basin	11,831.00	4,724.00	16,555.00
East Rosebud River Basin	4,587.50	9,095.47	13,682.97
Rock Creek Basin	58,482.15	16,866.77	75,348.92
Stillwater River Basin	11,661.20	3,458.50	15,119.70
Tongue River Basin	22,136.56	7,479.48	29,616.04
Yellowstone River Basin	153,914.01	29,879.89	183,793.90
Totals	382,751.15	134,084.95	516,836.10

It was necessary to cover 8,292,606.00 acres in the above basins in order to complete the survey.

GOLDEN VALLEY COUNTY
IRRIGATION SUMMARY OF GOLDEN VALLEY COUNTY
BY RIVER BASINS

Name of Ditch	Source	Present Irrigated Acres	Irrigable Acres Under Present Facilities	Maximum Irrigable Acres
Deadman's Basin Outlet Canal	Musselshell River	42.00	7,600.00	7,642.00
Lavina Water Users' Assoc.	" "	1,046.45	174.00	1,220.45
Simms Mutual Ditch	" "	499.86	144.26	644.12
Slayton Mutual Ditch	" "	387.00	40.00	427.00

Private Ditches—Regular Irrigation

Private — Ditch	Big Coulee Creek	1.50	0	1.50
" "	Cameron Creek	1.00	0	1.00
" "	Careless Creek	1.50	6.00	7.50
" "	Cherry Creek	.50	0	.50
" "	Cottonwood Creek	.50	0	.50
" "	*Currant Creek	1.00	210.00	211.00
" "	Custer Gulch Creek	2.00	0	2.00
" "	McGibbon Creek	50.00	81.00	131.00
" "	Musselshell River	605.44	242.41	847.85
" "	Painted Robe Creek	1.00	150.00	151.00
" "	Spring Creek	.50	0	.50
" "	Springs & Unnamed Cou- lee (Trib. to Fish Creek)	30.00	28.00	58.00
" "	Swimming Woman Creek	0	441.00	441.00
" "	Trib. to Fish Creek	1.00	0	1.00
" "	Unnamed Coulee (Trib. to N. Fork Big Coulee Creek)	12.00	7.00	19.00

***Grand Total of Regular Irrigated Acreage 2,683.25 9,123.67 11,806.92

(*Part of Currant Creek also called Folsom Creek)

IRRIGATION SUMMARY OF GOLDEN VALLEY COUNTY BY RIVER BASINS

(Continued)

Name of Ditch	Source	Present Irrigated Acres	Irrigable Acres Under Present Facilities	Maximum Irrigable Acres
Private Ditches— Flood Irrigation				
Private	Alkali Creek	38.00	15.00	53.00
"	Andrews Creek	23.00	52.00	75.00
"	Big Coulee Creek	80.00	323.50	403.50
"	Cameron Creek	189.00	133.00	322.00
"	Cameron Cr. & Spring Coulee	15.00	0	15.00
"	Cameron Cr. & Unnamed Coulee	53.00	0	53.00
"	Careless Creek	141.00	399.00	540.00
"	Cherry Creek	75.00	163.00	238.00
"	Cottonwood Creek	0	4.50	4.50
"	*Dry Ashley Gulch	165.00	60.00	225.00
"	Dry Coulee	24.00	60.00	84.00
"	Dry Coulee & Huffman Gulch	53.00	0	53.00
"	Fish Creek	0	105.30	105.30
"	Five Mile Creek	45.00	0	45.00
"	Jim Creek	95.00	13.00	108.00
"	LaBelle Creek	34.00	0	34.00
"	McGibbon Creek	12.00	0	12.00
"	Musselshell River	8.00	0	8.00
"	No. Fork Big Coulee Creek	2.50	77.50	80.00
"	Painted Robe Creek	5.00	12.00	17.00
"	Pole Creek	12.80	0	12.80
"	Simmons Cr. or E. Fork of Fish Creek	0	222.00	222.00
"	Spring Creek	15.00	0	15.00
"	Swimming Woman Creek	1,278.05	802.30	2,080.35
"	Tony Creek	0	275.00	275.00
"	Twin Coulee Creek	29.60	0	29.60
"	Unnamed Coulee	15.00	0	15.00
"	Unnamed Coulee (Trib. to Big Coulee Creek)	0	104.00	104.00
"	Unnamed Coulee (Trib. to Cameron Creek)	0	35.00	35.00
"	Unnamed Coulee (Trib. to Musselshell River)	31.00	0	31.00

(Continued)

"	Unnamed Coulee (Trib. to N. Fork Big Coulee Cr.)	0	146.0)	146.00
"	Unnamed Coulee (Trib. to Simmons Cr. or E. Fork of Fish Creek	15.00	0	15.00
**Grand Total of Flood Irrigated Acreage		2,453.95	3,002.10	5,456.05
Grand Total of all Irrigated Acreage		5,137.20	12,125.77	17,262.97
(*Also called Folsom Creek)				

IRRIGATION SUMMARY OF GOLDEN VALLEY COUNTY BY RIVER BASINS

(Continued)

Regular Irrigation

Name of River Basin	Present Irrigated Acres	Irrigable Acres Under Present Facilities	Maximum Irrigable Acres
Musselshell River Basin	2,683.25	9,123.67	11,806.92
Total Regular Irrigation	2,683.25	9,123.67	11,806.92

Flood Irrigation

Musselshell River Basin	2,453.95	3,002.10	5,456.05
Total Flood Irrigation	2,453.95	3,002.10	5,456.05
Total all Basins	5,137.20	12,125.77	17,262.97
Grand Total of all Acres in Golden Valley County Covered by Survey			598,829.00

LAVINA WATER USERS' ASSOCIATION

Lavina Water Users' Association project is located in Golden Valley County in the vicinity of the town of Lavina. Water is diverted from the Musselshell River by means of a dam located in the northwest quarter of the southwest quarter of Section 5, Township 6 North, Range 22 East. From the point of diversion two main canals extend in an easterly direction—one on the north side and the other on the south side of the Musselshell River.

The water rights for the north side canal were originally known as the Bair rights, and the water rights for the south side canal the Trask rights. The Association is not incorporated and is operated as a mutual enterprise. According to the by-laws of the Association the purpose is to control, maintain and operate the use of water, water rights, ditches and flumes of the original Bair and Trask rights and for the decreed water rights as of February 6, 1935.

It was on May 1, 1890 that Charles M. Bair appropriated 2000 miner's inches of water to be diverted from the north bank of the Musselshell River in the southwest quarter of the northeast quarter of Section 5, Township 6 North, Range 22 East. From this point the water was to be conducted by a ditch six feet wide and three feet deep. This ditch was completed during the year 1891. The land description of intended place of use was described as the north half of Section 4, the south half of Section 2, the south half of Section 1, the east half of the northwest quarter and the west half of the northeast quarter of Section 12, all in Township 6 North, Range 22 East, and the southwest quarter of the southeast quarter, the south half of the southwest quarter and the northwest quarter of the southwest quarter of Section 6 in Township 6 North, Range 23 East. The notice of appropriation was filed on January 2, 1891 and is recorded in Book 3, Page 16 of Water Right Records in the Golden Valley County Courthouse, Book 1, Pages 340-41 of Water Right Records in Fergus County Courthouse, and Book E-1, Page 26 of Water Right Records in the Musselshell County Courthouse.

Bair transferred an undivided one-half of this water right to Ludwig C. Lehfeldt and Herman Lehfeldt by deed dated March 29, 1897. This transfer is recorded in Book 17, Page 166 of Deed Records in the Golden Valley County Courthouse. The other undivided one-half of the water right was transferred by deed to the same parties dated July 14, 1898, and is recorded in Book 18, Page 30 of Deed Records in the Golden Valley Courthouse. Ludwig Lehfeldt transferred 200 inches of this water right to Daniel W. Slayton by deed dated February 23, 1906, and recorded in Book 17, Page 363 of Deed Records in the Golden Valley County Courthouse. Slayton used this water right up to the time of his death when his lands were sold, and the 200 miner's inches were divided among the buyers in proportion to the number of acres purchased. The other 1800 inches of this water right were transferred by Lehfeldt to the Enterprise Land and Improvement Company by deed dated February 6, 1906 and recorded in Book 17, Page 368 of Deed Records in the Golden Valley County Courthouse. As far as can be determined at this time, each purchaser of land from the Enterprise Land and Improvement Company received as a water right that portion of the 1800 inches as was necessary to irrigate his lands.

The Trask rights on the south side of the Musselshell River are not as clear cut and

as easy to follow as the above described Bair rights on the north side. From available records it appears that Millard Trask made four appropriations and filings. On September 17, 1892, Trask appropriated 1000 miner's inches. The water was conveyed through the ditch constructed by Bair and used on the land described as the northeast quarter of Section 5, all of Section 3, and the north half of Section 11 in Township 6 North, Range 22 East. This appropriation was filed on September 17, 1892, and is recorded in Book 3, Page 35 of Water Right Records in the Golden Valley County Courthouse, Book 2, Page 116 of Water Right Records in the Fergus County Courthouse and Book E-1, Page 67 of Water Right Records in the Musselshell County Courthouse. This water right was divided among the buyers of the above described land in proportion to the number of acres purchased.

Trask made another appropriation on October 5, 1892, for 1000 miner's inches to be diverted from the Musselshell River at a point on its north bank 4 chains and 50 links above the dam located 93 chains and 13 links measured along the north bank of the river below where the section line between Sections 5 and 6, Township 6 North, Range 22 East crosses the Musselshell River. The system was described as a dam, flume and ditch—said flume and ditch to be 8 feet across the bottom and 2 feet deep. The land description of intended place of use was described as being all that part of Sections 3, 10 and 11 in Township 6 North, Range 22 East lying between the ditch and the Musselshell River. This appropriation was filed on October 7, 1892, and is recorded in Book 3, Page 22 of Water Right Records in the Golden Valley County Courthouse, Book 1, Page 474 of Water Right Records in the Fergus County Courthouse, and Book E-1, Page 36 in Water Right Records in the Musselshell County Courthouse. According to all available information, however, Trask did not build the above described system. The water right was transferred by quit claim deed filed February 15, 1902, to Daniel W. Slayton and recorded in Book 17, Page 314 of Deed Records in the Golden Valley County Courthouse.

The system that Trask did build and use was described in the appropriation which he made on October 5, 1892 for 1500 miner's inches. This point of diversion was described as being on the south bank of the Musselshell River 15 chains and 13 links measured along the north bank of said river below where the section line between Sections 5 and 6, Township 6 North, Range 22 East crosses said river. The system was described as being a dam, flume and ditch—the ditch being 6 feet wide and 2 feet deep. The land description of intended place of use was described as all that portion of land which lies between the ditch hereinafter described and the Musselshell River in Sections 4, 5, 9 and 10, Township 6 North, Range 22 East. The appropriation was filed on October 7, 1892, and is recorded in Book 22, Page 255 of Miscellaneous Records in the Golden Valley County Courthouse, in Book A, Page 568 of Miscellaneous Records in the Yellowstone County Courthouse and in Book C-2, Page 14 of Miscellaneous Records in the Musselshell County Courthouse. Trask made an additional appropriation of 1500 miner's inches for this same land to be diverted by the same dam and conveyed through the same ditch. This appropriation was also made on October 7, 1892. The filing date is given as October 25, 1892, and is recorded in Book 22, Page 317 of Miscellaneous Records in the Golden Valley County Courthouse, Book D, Page 16 of Miscellaneous Records in the Yellowstone County Courthouse and Book C-2, Page 114 of Miscellaneous Records in the Musselshell County Courthouse. As far as can be determined at this time both of these water rights were transferred to the subsequent buyers of the above described land in proportion to the number of acres each purchased.

In 1917, when both the original Bair dam and the original Trask dam were in a condition of disrepair and washed out, Daniel Slayton, then owner of water rights on both sides of the Musselshell River, constructed a new dam at his own cost and expense. This new dam was located in the northwest quarter of the southwest quarter of Section 5, Township 6 North, Range 22 East. After the construction of the new dam Slayton offered to sell, exchange, transfer and convey to all the other then Bair right owners and their successors in interest, a pro rate interest in the new dam, upon the condition and agreement that they construct the mile and a half of new ditch necessary to connect the old ditch with the new dam. This was done and it is this system that is used today by the Lavina Water Users' Association on the north side of the Musselshell River. The ditch hereinbefore described as being constructed by Trask is the one used by the Association on the south side of the river.

For complete understanding of the water rights involved in the Lavina Water User's Association, the decree for this system is included herewith.

IN THE DISTRICT COURT OF THE FIFTEENTH JUDICIAL DISTRICT OF THE STATE OF MONTANA, IN AND FOR THE COUNTY OF GOLDEN VALLEY.

L. O. Helmey, Plaintiff
versus

DECREE

Ludwig C. Lehfeldt, Enterprise Land and Improvement Company, a corporation, Millard F. Trask, Annie P. Trask, American Lutheran Church of Lavina, Montana, Oscar Balgord, Enoch Bilden, C. L. Barnhouse, L. H. Box, C. M. Bruvold, William G. Burdick, W. M. Busk, J. M. Candler, Virgil T. Carmichael, Beulah L. Carmichael, Vern Cornell, Chicago Milwaukee, St. Paul and Pacific Railroad Company, a corporation, Andrew E. Dale, William Dwyer, C. B. Egge, J. B. Doll, L. P. Englet, Edward Englet, Sadie Englet, Ruth E. Englet, Eileen Englet, Sadie Englet, as Guardian of the Persons and Estates of the said Ruth E. Englet and Eileen Englet, J. Kenneth Ford, Marie Ford, Enga Frye, Henry Gettmann, Henry J. Gettmann, Fred Edwin Gettmann, John G. Gossink, Anna S. Gossink, Henrietta L. Gossink, Etta L. Gossink, Velma L. Goddard, Claude C. Gray, Receiver of Corporation Loan Company, S. Lawrence Hanson, V. B. Hendershott, Lillian M. Henne, Catherine Henne, William D. Howland, W. D. Howland, George M. Hurd, John Mason Hurd, Abe Horpsted, Anna J. Jensen, J. C. Jensen, Albert Johnson, Albert Kavorkian, Gertrude Kennedy, R. C. King, T. J. Leahy, James R. Linton, The Lavina Cemetery Association, T. W. Linton, Josephine Linton, Ben Loga, Clyde E. Luke, John A. Mashino, Lyman G. Mason, Florence Mason, Milwaukee Land Company, a corporation, Mary Moe, John Moe, Peter Elness, Hugh H. M. McCoy, H. M. McCoy, Mrs. H. M. McCoy, Myrtle E. Kimmel, Harriet E. Taft, Emma Olcott, William Olcott, Fred C. Olcott, Eliza C. Olcott, Rudolph Pfister, C. C. Pike, B. E. Plinger, J. O. Plinger, Ethel J. Rasmussen, Melvin J. Rasmussen, George F. Rediske, Carrie Roach Sheridan, Margaret A. Rorabeck, Mary Sagar, Lizzie E. Slayton, John W. Slayton, Chris Sakalaris, Rye Schmittou William Sheehy, Slayton Mercantile Company, a corporation, J. F. Slegel, Myrtle Slegel, Dellsena Smith, A. O. Stanger, Minnie Strong, Eva D. Stewart, Marie Stewart, Bishop of the Roman Catholic Diocese of Great Falls, Trustees of the First Methodist Episcopal Church of Lavina, School District No. 41 of Golden Valley County, State of Montana, J. G. Reitsch, Lavina Mutu-

al Telephone Company, a corporation, the Montana Power Company, a corporation, Henrietta Thom, Hans Thom, John H. Thom, United States Building & Loan Association, a corporation, Bertha Viebrock, Elmer E. Walters, Frank Walters, George Watson, Jane Watson, T. S. Watson, W. L. Wolfe, Oscar Zahn, Golden Valley County, a quasi-municipal corporation of the State of Montana, Emily J. Moore, Lincoln Hospital Association, Bernt A. J. Alstad, Helen L. Laughlin, Frank W. Laughlin, and Albert Holte, Defendants.

IT IS ORDERED, ADJUDGED AND DECREED:

I

That the plaintiff in this action is the owner and entitled to the immediate possession of the lands and premises described in his complaint filed herein, and that each of the appearing defendants in this action is the owner and entitled to the immediate possession of the lands and premises described in the respective answers of the said defendants on file herein.

That all of the said lands now are, and at all times herein mentioned, have been arid and require artificial irrigation for the profitable production of agricultural crops and that the use of one (1) miner's inch, or one-fortieth ($1/40$) of one (1) cubic foot per second is required per acre for the proper irrigation thereof.

II

That the Musselshell River mentioned in the pleadings herein, is now and has been at all times herein mentioned, and long prior to the year 1890, a natural stream situated and flowing in and through that part of the State of Montana, now known as Golden Valley County.

III

That the plaintiff and each of the appearing defendants in this action are respectively entitled to the use of the amounts of the waters of the said Musselshell River set opposite to their respective names, by virtue of an appropriation of the said waters by the said parties or their respective predecessors in interest on the dates also set opposite to the several names of the said parties, viz:

Name	Amount Expressed in Miner's Inches	Date of Appropriation
L. O. Helmey	102.9	May 1, 1890
A. O. Stanger	191.01	May 1, 1890
Margaret A. Rorabeck	1	May 1, 1890
James R. Linton	26.63	May 1, 1890
Henry Gettmann	22.90	May 1, 1890
Ethel J. Rasmussen	8.04	May 1, 1890
J. C. Jensen & Anna Jensen	108.62	May 1, 1890
Albert Kavorkian	9.33	May 1, 1890
Josephine Linton & T. W. Linton	24.9	May 1, 1890
Frank Walters	2	May 1, 1890
Enoch Bilden	70.10	May 1, 1890
Ben Loga	29.65	May 1, 1890
J. Kenneth Ford, Marie Ford & Lizzie E. Slayton	75.05	May 1, 1890

Sadie Englet, Edward Englet, Ruth		
E. Englet & Eileen Englett	89.77	May 1, 1890
Abe Horpsted and J. G. Reitsch	46.59	Sept. 17, 1892
Clyde E. Luke	6.13	Sept. 17, 1892
Abe Horpsted and J. G. Reitsch	120.36	Oct. 5, 1892
Sadie Englet, Edward Englet, Ruth		
E. Englet & Eileen Englet	26.27	Oct. 5, 1892
Norman J. Hogan and Union Central Life		
Insurance Co., a corporation	168.58	Oct. 5, 1892
William Olcott	29.94	June 15, 1929

IV

That all the above water rights appropriated as of the date May 1, 1890, are co-equal in date of appropriation and right of use, one with the other, and are prior and superior in date of appropriation and right of use to all the other water rights mentioned in this Decree;

That the above water rights appropriated as of the date of September 17, 1892, are co-equal in date of appropriation and right of use, one with the other, and are subsequent and inferior to all of the said rights bearing date of May 1, 1890.

That all of the above rights appropriated as of the date of October 5, 1892, are co-equal in date of appropriation and right of use, one with the other, and are subordinate and inferior to all of the said water rights bearing date as of May 1, 1890, and September 17, 1892, and are superior to all other water rights mentioned in this Decree;

That the above water right bearing date as of June 15, 1929, is subordinate and inferior to all other said water rights, mentioned in this Decree.

V

That the plaintiff, L. O. Helmey, and the defendants, A. O. Stanger, Margaret A. Rorabeck, James R. Linton, Henry J. Gettman, Ethel J. Rasmussen, J. C. Jensen and Anna Jensen, Albert Kavorkian, J. Kenneth Ford, Marie Ford and Lizzie E. Slayton, Josephine T. Linton and T. W. Linton, Frank Walters, Enoch Bilden, Ben Loga, Sadie Englet, Edward Englet, Ruth E. Englet, and Eileen Englet are tenants in common in the dam, canals, headgates, and irrigation system owned, used, had, and enjoyed in connection with the Charles M. Bair appropriation of May 1, 1890.

That the defendants, Frank Walters and Margaret A. Rorabeck have a permanent easement in and to the ditch tapping the said main Bair irrigating ditch and leading to the lands owned and possessed by the said J. Kenneth Ford, Marie Ford, and Lizzie E. Slayton, to the extent of their necessary use of the said ditch to conduct water to and upon their land;

That the defendants, Ethel J. Rasmussen, Ben Loga, and Josephine Linton and T. W. Linton, have a permanent easement in and to the ditch tapping the main Bair irrigating ditch and leading to the lands owned and possessed by the said Enoch Bilden to the extent of their necessary use of the said ditch to conduct water to and upon their respective lands;

That the defendant, Abe Horpsted and J. G. Reitsch and Clyde E. Luke, have a permanent easement in and to the said main Bair irrigating ditch, to the extent of their necessary use of the said ditch to conduct water to and upon their respective lands;

That the said defendant, William Olcott, has a permanent easement in and to the main Bair irrigating ditch to the extent of the necessary use of the said ditch by him to conduct water to and upon his lands.

VI

That the defendants, Abe Horpsted, J. G. Reitsch, Sadie Englet, Edward Englet, Ruth E. Englet, and Eileen Englet, and Norman J. Hogan and Union Central Life Insurance Company, a corporation, are tenants in common in the dam, canals, ditches, head-gates, and irrigation system owned, used, had and enjoyed in connection with the said Mil-lard F. Trask right of October 5, 1892, lying south of the Musselshell River.

VII

That the waters to be used by the plaintiff and the appearing defendants respectively awarded to them herein, shall be measured at their respective points of diversion from the said main Bair ditch or the said main Trask ditch, except that the waters to be used by the defendants, Frank Walters and Margaret A. Rorabeck, respectively shall be measured at their respective points of diversion from the ditch tapping the main Bair ditch and leading to the lands owned and possessed by the defendants, J. Kenneth Ford, Marie Ford, and Lizzie E. Slayton; and except that the waters to be used by the defendants, Ethel J. Rasmussen, Ben Loga, and Josephine Linton, and T. W. Linton respectively, shall be measured at their respective points of diversion from the ditch tapping the main Bair ditch and leading to the lands owned and possessed by the said defendant, Enoch Bilden.

VIII

IT IS FURTHER ORDERED, ADJUDGED AND DECREED, That each of the said parties to this Decree, place, keep, and maintain at the point of diversion of the waters awarded to him by this Decree, boxes, flumes, or weirs suitable for measuring water as provided by the statute of the State of Montana, and that whenever said water is used by any of the parties hereto, the said water must be measured through the said boxes, flumes, or weirs in the manner provided by the said statute of the State of Montana, and that unless such boxes, flumes, or weirs shall be provided in accordance with the provisions of this Decree, the party so neglecting to provide the same shall not be entitled to the use of any of the said waters unless and until such boxes, flumes, or weirs shall be so placed and maintained as above provided.

IX

That the defendants, Ralph E. Rorabeck, Oscar Balgord, John H. Thom, Melvin J. Rasmussen, Bernt A. J. Alstad, B. I. Plinger, C. M. Brovold, John Moe, Peter Elnes, Albert Holte, J. F. Slegel, Virgil T. Carmichael, William Dwyer, Albert Johnson, John A. Mashino, C. B. Egge, Beulah L. Carmichael, Carrie Roach Sheridan, T. S. Watson, T. J. Leahy, Frank W. Laughlin, Rye Schmittou, Helen L. Laughlin, Slayton Mercantile Company, Fred C. Olcott, John Gossink, Ludwig C. Lehfeldt, School District No. 41 of Golden Valley County, R. C. King, William D. Howland, Lavina Mutual Telephone Company, Andrew A.

Dale, County of Golden Valley, Trustees of First Methodist Episcopal Church of Lavina, Henrietta Thom, Hans Thom, Bertha Viebrock, George Watson, Jane Watson, Emma Olcott, J. M. Candler, Oscar Zahn, Eva E. Stewart, Marie Stewart, the Lavina Cemetery Association, Mary Sager, Myrtle Slegel, Henrietta L. Gossink, and Florence Mason are without right or title to or interest in the waters of the Musselshell River, and are by their default herein forever estopped from asserting any right therein as against any or either of the rights hereinbefore set forth, and they, and each of them, their agents, servants, employees, attorneys, grantees, and successors in interest, are hereby perpetually restrained and enjoined from in any manner interfering with the prior rights of the parties herein named.

X

IT IS FURTHER ORDERED, ADJUDGED AND DECREED, That the plaintiff and each and all of the appearing defendants in this action shall be entitled to the use and enjoyment of their respective appropriations of the waters of said Musselshell River, according to their respective priorities of the date of appropriation and the amounts of their respective appropriations of the said waters, as the same are established and set forth in this Decree; and that the said parties, and each of them, their heirs, assigns, successors in interest, personal representative, tenants, agents, sub-tenants, attorneys, servants, and employees, are hereby perpetually enjoined, and restrained from in any manner interfering with or using the rights of each or any of the other appearing parties to this action; and from in any manner interfering, hindering or delaying any of the said parties in taking from the said stream or ditches the respective amounts of their several appropriations, as set forth and described in this Decree, and from in any manner interfering with or stopping the flow of said waters through the ditch or ditches of the other appearing parties to this action.

XI

IT IS FURTHER ORDERED, ADJUDGED AND DECREED, That the parties to this action shall pay their respective costs and disbursements herein.

IN WITNESS WHEREOF, I have hereunto set my hand in open Court this 6th day of February, 1935.

Wm. L. Ford, Judge

DISTRICT COURT FOURTEENTH JUDICIAL DISTRICT GOLDEN VALLEY
COUNTY, MONTANA

L. O. Helmey, Plaintiff

vs

Ludwig C. Lehfelddt et al, Defendants

DECREE filed February 6, 1935,

J. A. Slayton, Clerk of Court.

Stock is not issued on the Lavina Water Users' Association, and assessments, operation and maintenance charges, and votes per member in the Association are proportional to the number of decreed miner's inches each member holds of the original Bair and

Trask water rights for the system. According to available records there were sixteen members in the Association in 1949, and the estimated value of the system is over \$10,000.00.

The operation and maintenance charges for the Association vary from year to year, depending on the amount of work done on the system. The last large assessment was in 1944 when the dam was rebuilt. The charge that year amounted to about \$4.00 per acre. The ditches of the system are kept in good condition. The canal on the north side of the Musselshell River is about 12 miles long, and the one on the south side is about 6 miles long.

The canals divert water by gravity, and in 1948 there were 967.45 acres being irrigated, with a potential acreage under existing facilities of 154 acres, or a maximum irrigable acreage of 1,121.45 acres. Since the stream flow of the Musselshell River is often not adequate to irrigate all the lands under cultivation, members of the Association purchase additional stored water from the Lower Musselshell Water Users' Association.

SIMS MUTUAL DITCH

The Sims Mutual Ditch diverts water by gravity from the Musselshell River in the southeast quarter of Section 2, Township 6 North, Range 19 East. At the point of diversion the users have employed a log and rock dam which, at the present time, is in need of rehabilitation. From the point of diversion the main canal extends in an easterly direction on the north side of the Musselshell River to a point near the center of Section 3, Township 6 North, Range 20 East, the canal being approximately 10 miles in length.

Early history pertaining to this system is not too well defined by the "old timers" in this area. Some are positive a water filing was made and others are not. The human memory, dimming with time, cannot be depended upon for an accurate portrayal of past conditions. In searching through all of the County records for the counties involved, we were unable to find a recorded water filing made by a Joseph Sims or Simms. The spelling is shown both ways. However, in a court case held in district court of the Fifteenth Judicial District with Ida Babcock et al, Plaintiffs, vs J. B. Gregg, Defendant, we found the following reference made to the Sims Ditch: "That the said ditch was taken out of the Musselshell River, and water diverted therefrom by means of said ditch, in the month of June of the year 1895; and that the construction of said ditch was prosecuted with reasonable diligence and was completed within said year of 1895; and water was carried through said ditch in that same year, to and upon the said lands.

"That the said ditch was so taken out and constructed by one Joseph Sims, a predecessor in interest of these plaintiffs, and each of them; and that said Joseph Sims, and his successors in interest, including the plaintiffs, have continuously used said ditch for the purpose above mentioned, and have continuously, ever since the year 1895, diverted the waters of the Musselshell River and conveyed them to and upon the said lands, and have continuously irrigated the said lands since 1895, as aforesaid. That by means of the said ditch, and a dam constructed at the intake thereof, these plaintiffs, and their predecessors in interest, appropriated on the 15th day of June A. D. 1895, fifteen hundred

(1500) inches of water of the said Musselshell River, for use upon the above mentioned lands, and have at all times enjoyed the undisturbed possession and use of said waters for the said purpose, except when and until their possession and use of the same was interfered with, and disturbed by the above named defendant, as hereinafter set forth."

The above transcript was taken from Case No. 641, Civil Actions, and is filed in the Musselshell County Courthouse in Roundup, Montana. After reading the entire court proceedings for this case which evolved around the defendant building an obstruction across the ditch of the plaintiffs thus depriving them of irrigation water, we find in no place where reference is made to the Book, Page number, Record, or County in which said appropriation was filed. We therefore are led to believe that no recorded filing was made by Joseph Sims. However, we feel that we have sufficient evidence establishing the date of priority as of June 15, 1895. On May 3, 1927, J. B. Gregg and Ida Landice filed a notice of appropriation for 1000 miner's inches of water to be diverted from the Musselshell River at a point on its north bank at or near the east line of Section 2, Township 6 North, Range 19 East, where said line intersects said Musselshell River, thence in an easterly direction north of the right-of-way of the Chicago, Milwaukee, St. Paul and Pacific Railway, through Section 1, Township 6 North, Range 19 East, and across Sections 6, 5, 4, and 3, all in Township 6 North, Range 20 East. The purpose was for irrigation, domestic, stock water and other purposes. The system was described as a dam and ditch, with said ditch being 8 to 10 feet wide at the top and 3 feet wide at the bottom and 3 or more feet deep, capable of carrying 1000 miner's inches of water from said river.

The land description of intended place of use was described as: Lots 9, 10, 11, 12 and 13 in Block one, Lots 7 and 8 in Block two of farm addition to Ryegate, the east half of the southwest quarter and part of the northeast quarter of the southwest quarter lying and being north of the Chicago, Milwaukee, St. Paul & Pacific Railway, all in Section 4, Township 6 N, Range 20 East.

Under remarks the appropriation reads on, "and also for the surplus of said waters, if any, to such owners or those in possession of certain lands under the said ditch hereinafter described, as may contribute to the expense, construction, maintenance and upkeep, or other expense and particularly in Section 1, Township 6 North, Range 19 East, and Sections 6, 5, 4, and 3 in Township 6 North, Range 20 East as may come under and susceptible of irrigation under said ditch, and who may apply and pay their share of the said expense and costs." The date appropriated was given as June 1, 1926.

The above notice of appropriation is filed in Book 3, Page 281, of Water Right Records in the Golden Valley County Courthouse.

According to Alex Landice, in about 1925 the Sims ditch was in such a bad state of repair that it was impossible to divert water through it. In order to make the ditch capable of carrying water for irrigation he cleaned the ditch to his land at that time. The above filing was made to cover the water that was diverted after the said ditch was cleaned so as to protect those who had a part in the ditch cleaning expense against those who did not contribute. As far as we could find, no ditch extensions were made at that time.

In addition to Gregg and Landice filing, we also found in Book T, Page 257, in Location Records of Meagher County, a filing was made by William Wilkins filed on April 19,

1884, for 500 miner's inches to be diverted from the Musselshell River at a point in the southwest quarter of Section 5, Township 6 North, Range 20 East. The date appropriated was given as April 19, 1884. No land description of intended place of use was given. This filing covers the land now owned by W. K. Broderson. As this filing covers land now irrigated by the Sims Ditch it is included herein.

In 1947 the entire length of the ditch was cleaned by drag line at a cost of \$1,200.00. In order to meet this obligation all water users were assessed in accordance to the number of acres to be irrigated. The water users are not organized and have no agreements for operation and maintenance of the system. Most of the water users buy stored water from Deadman's Basin Storage Reservoir from the State Water Conservation Board through the Lower Musselshell Water Users' Association.

In 1948 there were 499.86 acres under irrigation in the Sims Ditch project under existing facilities, with a potential acreage of 144.26 acres, or a maximum irrigable acreage of 644.12 acres.

SLAYTON MUTUAL DITCH COMPANY

The first use of what is now known as the Slayton Ditch was made by David Fratt who, on October 21, 1885, filed a notice of appropriation in the Meagher County Courthouse for 1000 miner's inches of water to be diverted from the Musselshell River, at a point near and about the center of the west line of the northwest quarter of the southeast quarter of Section 2, Township 6 North, Range 21 East. The date of appropriation was given as May 5, 1885. The purpose was to be for irrigation. The system was described as a ditch 72 inches by 36 inches. The land description of intended place of use was given as the south half of Section 1, Township 6 North, Range 21 East, lots 6 and 7, and the east half of the southwest quarter of Section 6, Township 6 North, Range 22 East. Under remarks pertaining to use there is a notation stating that Fratt also claimed the right-of-way for said ditch, and that water was first appropriated by him on July 10, 1884. The above Notice of Appropriation is on file in the Meagher County Courthouse in Book T, Page 513 of Location Records; in the Yellowstone County Courthouse in Book D, Page 12 of Miscellaneous Records; in the Fergus County Courthouse in Book A, Page 374 of Miscellaneous Location Records; in the Golden Valley County Courthouse in Book 22, Page 315 of Miscellaneous Records, and in Book C-2, Page 112 of Miscellaneous Records in the Musselshell County Courthouse. There are some differences between the original appropriation and those transferred to subsequent counties. These differences we believe are errors made when the records were transcribed to the new counties.

On January 14, 1945, the users of the David Fratt water right reached the following agreement:

"The respective parties to this agreement shall be the following:

G. H. Belcher, individually and as attorney in fact for Ronald H. Belcher; Bessie Belcher, wife of the said G. H. Belcher; Bessie L. Belcher, wife of the said Ronald H. Belcher; Don E. Belcher and Clare E. Belcher, his wife, all of Cushman, Montana, parties of the first part:

Ival L. Carmichael and Ada Carmichael, his wife, of Roundup, Montana, parties of the second part;

Gates Mason and Dorothy Mason, his wife, of Lavina, Montana, parties of the third part; and

Merwyn D. Armstrong and Eva Grace Armstrong, his wife, of Broadview, Montana, parties of the fourth part.

WITNESSETH:

For valuable consideration, receipt of which is hereby acknowledged, the respective parties agree to a division of water under that certain water right appropriated by David Fratt, July 16, 1884, recorded in Book 22, Page 315, of the records of Golden Valley County, Montana, for use upon certain lands and in the following proportions, to-wit:

To the first parties, for use upon the S $\frac{1}{2}$ of Sec. 1, Twp. 6N., Rge. 21E., M. P. M., Golden Valley County, Montana, miner's inches 333-1/3

To the second parties, for use upon the SW $\frac{1}{4}$ of Sec. 6, Twp. 6N., Rge. 22E., M. P. M., Golden Valley County, Montana, miner's inches 333-1/3

To the third parties, for use upon Lots 1, 2, and all that part of the S $\frac{1}{2}$ NE $\frac{1}{4}$ and the SE $\frac{1}{4}$ NW $\frac{1}{4}$ and Lot 5 of Sec. 6, Twp. 6N., Rge. 22 E., M. P. M. lying north of the right of way of the Chicago, Milwaukee, St. Paul and Pacific Railroad Company, miner's inches 145-8/10

To the fourth parties, for use upon all that portion of Sec. 5, Twp. 6N., Rge. 22E., M. P. M., Golden Valley County, Montana, north of the right of way of the Chicago, Milwaukee, St. Paul and Pacific Railroad Company, miner's inches 187-5/10

In further consideration of the division of the water under said water right, it is understood and agreed that each party or parties shall assume his or their share of the cost of the maintenance of the so-called Slayton dam at Slayton, Montana, and the ditch or ditches under said dam, in the proportions above named; the aggregate being 1000 miner's inches.

This agreement shall extend to the heirs, executors, administrators, and assigns, of the respective parties.

In witness whereof, the undersigned have hereunto set their hands and seals this 21st day of November, A. D. 1944.

Signatures:

G. H. Belcher
Individually and as attorney-in-fact for
Ronald H. Belcher
Bessie M. Belcher
Bessie L. Belcher
Don E. Belcher
Clare E. Belcher
Ival L. Carmichael
Ada Carmichael
Gates Mason
Dorothy Mason
Merwyn D. Armstrong
Eva Grace Armstrong

(Seal)

State of Montana)
County of Golden Valley)SS

On this 21st day of November, A. D. 1944, before me, a Notary Public for the State of Montana, personally appeared G. H. Belcher, individually and as attorney-in-fact for Ronald H. Belcher; Bessie Belcher, wife of the said G. H. Belcher; Bessie L. Belcher, wife of the said Ronald H. Belcher; Don E. Belcher and Clare E. Belcher, his wife; Ival L. Carmichael and Ada Carmichael, his wife, Gates Mason and Dorothy Mason, his wife, and Merwyn D. Armstrong and Eva Grace Armstrong, his wife; known to me to be the persons who executed the foregoing instrument and acknowledged to me that they executed the same as their free act and deed.

In Witness Whereof, I have hereunto set my hand and affixed my Notarial Seal, the day and year in this certificate above written.

J. A. Liggett,

Notary Public for the State of Montana, residing at Roundup, Montana. My commission expires January 14th, 1945.

The history of the David Fratt water right, in brief, is as follows: Anton Jenson purchased land from David Fratt and thereby acquired one-third (1/3) share in the Fratt right. Jensen later sold the said land to Clyde Luke. Mason and Armstrong purchased said land from Luke, Mason acquiring forty percent (40%) of Luke's one-third (1/3) share in said right, and Armstrong acquiring sixty percent (60%) of Luke's one-third (1/3) share in said right. Belcher and E. G. Slayton also purchased land from David Fratt thereby each becoming owner of one-third (1/3) of said right. Slayton later sold his part to Carmichael who in turn sold to Overgaard, the present owner of one-third (1/3) of said right.

As a result of heavy spring runoff in about 1917 the Musselshell River changed its course, leaving the original dam constructed by Fratt in the old channel without water. In the fall of 1919 a new concrete dam was constructed across the Musselshell River immediately west of where the Billings branch of the Great Northern Railway crosses the main line of the Chicago, Milwaukee, St. Paul and Pacific Railway at the station of Slayton, this location being about 500 feet above the original dam site. From the point of diversion the main canal extends in an easterly direction for approximately two miles to a point in the southeast quarter of Section 1, Township 6 North, Range 21 East, where the ditch divides. One fork extends on in an easterly direction for about one mile, while the other fork extends in a north and easterly direction for about two and one-half miles. In addition to the dam the other main structures on the system are, a syphon under the Musselshell River in the southwest quarter of the northwest quarter, Section 6, Township 6 North, Range 22 East, and a flume over Five Mile Creek near the center of the north half of the north half of Section 5, Township 6 North, Range 22 East. Water for the main canal is diverted by gravity. Near the center of the south half of the south half of Section 1, Township 6 North, Range 21 East, a five inch Hysham pump driven by tractor power is used to irrigate about 50 acres above the main canal, this being the only pumping operation at the present time.

The Slayton Mutual Ditch Company is comprised of five water users. These users

are assessed for the necessary repairs to the system in accordance to the number of acres they irrigate.

The main canal is in good condition, it having been cleaned and enlarged in 1946. The project is located on the north and south sides of the Musselshell River between the towns of Slayton and Lavina.

Since the natural stream flow of the Musselshell River is often inadequate to irrigate all of the irrigable lands under the system, individual water users purchase stored water from the Lower Musselshell Water Users' Association. In 1948 there were 387.00 acres being irrigated under the Slayton Mutual Ditch Company, with a potential acreage under existing facilities of 40.00 acres, or a maximum irrigable acreage of 427.00 acres.

PROPOSED FISH CREEK IRRIGATION PROJECT

In compliance with the provisions of Section 4 of Chapter 153 of the Session Laws of Montana for the year 1921, an engineering report including recommendations as to the feasibility of the Fish Creek Irrigation District in Golden Valley and Wheatland Counties was submitted to the Golden Valley Clerk of the District Court in 1922.

The project was essentially to have been a storage proposition, and would have irrigated 15,350 acres of the gross area of 36,140 acres. According to the general plan of irrigation outlined for the district, water was to be stored in the proposed Fish Creek Reservoir. If this reservoir was of insufficient capacity, the additional water was to have been stored in the proposed Widicomb or Duffy Reservoirs. If needed, water from American Fork was to be diverted into Fish Creek through a ditch four miles long and stored in one of the above named reservoirs. Also if needed, water from Sweetgrass Creek was to be stored either in the proposed Sweetgrass Reservoir or in one of the proposed reservoirs on Fish Creek. Diversion from Sweetgrass to Fish Creek was to be effected by enlargement of the existing Van Cleve Ditch near Melville.

After the engineering survey, however, it was concluded that all the reservoirs with the exception of Sweetgrass would have been too expensive to be economically feasible, and the storage capacity, therefore, was greatly reduced.

The water was to have been distributed over the project by two main canals, one on each side of Fish Creek, extending in an easterly direction from the dam on the creek in Section 2, Township 6 North, Range 17 East. The North Side Canal would have been approximately 23 miles long and the South Side Canal 27 miles. As the land lies in a compact body, only short and inexpensive laterals would have been required in distributing the water to each farm unit.

The settlers in the area began agitation for irrigation in 1921, and through the aid of the Public Service Commission effected an organization for the creation of the district. Of the total acreage of 36,140 within the proposed district, 20,680 acres, or 57 per cent, were represented by signers of the petition to create the district.

The greater part of the land in the proposed district lay well for irrigation, and except for two small sections, conditions were found to be quite favorable for good natural drainage. The soil in this area was found to be quite fertile, easily workable, and relatively free from injurious alkalies.

The total water requirement for the irrigation district was computed to be 37,225 acre-feet. The dependable water supply, as nearly as could be ascertained, was insufficient to properly serve the full acreage included in the petition, and it was recommended that the proposed acreage be reduced because of the absence of complete stream flow records and the uncertain status of the prior water rights.

The repayment for the project was to have been extended over a 25 year period. The first three years the annual payment would be \$1.00 for maintenance, the fourth and fifth years would include maintenance plus interest to total \$4.79, and from the sixth to the twenty-fifth year cost would include maintenance plus principal and interest to total \$6.50. After the twenty-fifth year it was estimated that cost would be \$1.00 for maintenance.

The total bonded obligation, including the bond issue of \$28.65 per acre for the project and the general county obligations and outstanding bonds against some of the school districts in the area amounting to \$1.00, would have been \$29.65 per acre. Taking the gross acreage of 12,400, the total bonded obligation would have been approximately \$368,000, which was 70 per cent of the aggregate value of the land which included the land value of \$248,000 plus the construction cost of \$275,600 to total \$523,600. Since the usual method of determining the financial soundness of a proposed irrigation district bond issue was to limit the total bonded indebtedness to 50 per cent or 60 per cent, it appeared that there was inadequate security for this proposed bond issue.

Because of the above stated adverse conditions existing in the district, it was concluded that the proposed plan of irrigation was feasible for only a minor portion of the lands covered by the petition, and conditions were not favorable for bonding the district at that time for the necessary construction cost. It was recommended that the proposed irrigation district be created, however, but that no construction be attempted by the district until such time as later development or more favorable conditions should warrant the bonding of the district for the necessary cost of construction.

This brief summation of the proposed Fish Creek Irrigation Project is contained in this report to give those who might be interested in irrigation development in this area a brief historical sketch on what has been done in the past.

ADJUDICATION OF THE WATERS OF SWIMMING WOMAN CREEK

Swimming Woman Creek rises on the eastern slope of the Big Snowy Mountains in Golden Valley County, and flows in a southerly direction for about 25 miles until its confluence with Careless Creek; from this point Careless Creek follows in a southeasterly direction for about nine miles to where it joins the Musselshell River. The first settlement in the area was in about 1878 by large livestock companies who used the area as ranch headquarters and for grazing purposes. Later the area became subdivided into smaller units, and the over-construction of many irrigation ditches in the area took place. This, in addition to the nature of the soil and the short supply of water, led to the adjudication of Swimming Woman Creek.

There are no major weirs or measuring devices on any of the headgates on the stream. The farmers in the area have done some work in utilizing the spring runoff by

rehabilitating parts of old irrigating systems and also building new works. In the past the stream has had a water master appointed by the court to distribute the water, but in the last few years the decision has been left to the local farmers.

The adjudication of the waters of Swimming Woman Creek began when George Pirrie filed cause of action against P. I. Moule on October 14, 1901. It was claimed that the latter had begun to enlarge Pirrie's ditch, which diverted water from Swimming Woman Creek, without first obtaining the consent of Pirrie. In the course of the case the various water rights and appropriations of the plaintiff and the defendants were established by testimony and evidence as to priority and amount.

The following decree was filed on July 23, 1903:

IN THE DISTRICT COURT OF THE TENTH JUDICIAL DISTRICT OF THE STATE
OF MONTANA, IN AND FOR THE COUNTY OF FERGUS

George Pirrie, Plaintiff

versus

P. I. Moule, Daniel Whelan, Annie Whelan,
Charles B. Sharpes, William F. Williamson,
Elisha M. Clark, Frank J. Cameron, Frank
Walters, William Walters, A. P. Brewington,
Samuel Baker, and Joseph Simms, Defendants.

THIS CAUSE coming on for hearing before the Court sitting without a Jury, a Jury having been expressly waived, the parties appearing in person except defendants Elisha M. Clark, Frank Walters, William Walters, Samuel Baker, and Joseph Simms, whose default for not appearing and answering to the complaint herein was duly entered, and Rudolf von Tobel and Walsh & Newman appearing as counsel for plaintiff, Lewis Penwell and McConnell & McConnell appearing for defendant, P. I. Moule, W. M. Johnston appearing as counsel for defendants Daniel Whelan, and Annie Whelan and Blackford & Blackford appearing as counsel for defendants Charles B. Sharpes, William F. Williamson, A. P. Brewington and Frank J. Cameron, and all proofs of the respective parties appearing having been submitted, and the Court having heard the evidence and having personally inspected the lands and ditches of the respective parties and the waters flowing upon the said lands and in the said ditches and in Swimming Woman Creek, and having examined the briefs and arguments of counsel, and being fully advised in the premises, and the Court having thereupon made and adopted the Findings of Fact filed in this action, and having deducted therefrom the Conclusions of Law, also filed in this action:

IT IS NOW, THEREFORE, HEREBY ORDERED, ADJUDGED AND DECREED:

1. That the plaintiff and each of the appearing defendants in this action are the owners and in possession of the lands and premises mentioned and described in the pleadings herein, excepting lands situated in Sections Numbered 16 and 36, and of such lands they are respectively in possession thereof.

2. That the lands and premises mentioned and described in the pleadings herein and the whole thereof are arid lands, and will not produce to the full capacity of the soil thereof without artificial irrigation.

3. That the amount of water required to irrigate an acre of said land is one inch to each acre which is capable of irrigation on the respective tracts.

4. That the plaintiff, George Pirrie, his heirs, executors, administrators, and assigns, as against each and all of the defendants and their respective heirs, executors, administrators, and assigns, is entitled to the first 165 inches of the waters of Swimming Woman Creek and its tributaries situated in the County of Fergus and State of Montana, measured as required by the statutes of Montana in relation to the measurement of water expressed in miner's inches, by virtue of an appropriation thereof by his predecessor in interest, Michael O'Brien, on the 8th day of March, 1883, diverted through what is known as the "O'Brien Ditch," and known as the "O'Brien right."

5. That the defendant P. I. Moule, his heirs, executors, administrators, and assigns, as against the plaintiff and all the other defendants herein, and his and their respective heirs, executors, administrators, and assigns, and subject to the prior right of the plaintiff to the use of the aforesaid "O'Brien right," is entitled to the next 120 inches of the waters of said Swimming Woman Creek, measured as required by the statutes aforesaid, by virtue of an appropriation by his predecessor in interest, Francis M. Geer, on the 11th day of March, 1883, diverted by means of the so-called "Geer ditch" and known as the "Geer right."

6. That the defendants, Daniel Whelan and Anna Whelan, their heirs, executors, administrators, and assigns, as against the plaintiff and all the other defendants, and his and their respective heirs, executors, administrators, and assigns, and subject to the prior right of the plaintiff to the use of the aforesaid "O'Brien right," and to the prior right of the defendant, P. I. Moule, to the use of the aforesaid "Geer right," are entitled to the next 200 inches of the waters of said Swimming Woman Creek, measured as required by the statutes aforesaid, by virtue of an appropriation by their predecessor in interest, Thomas Brewington, on the 15th day of October, 1883, and known in the trial of this action as the "Thomas Brewington right."

7. That the defendant, A. P. Brewington, his heirs, executors, administrators, and assigns, as against the plaintiff and all the other defendants and his and their respective heirs, executors, administrators, and assigns, and subject to the prior right of the plaintiff to the use of the aforesaid "O'Brien right," to the prior right of the defendant, P. I. Moule, to the use of the aforesaid "Geer right," and to the prior right of the defendants, Daniel Whelan and Anna Whelan, to the use of the "Thomas Brewington right" is entitled to the next 135 inches of waters of said Swimming Woman Creek, measured as required by the statutes aforesaid, by virtue of an appropriation made on the 31st day of March, 1885.

8. That the plaintiff, George Pirrie, his heirs, executors, administrators, and assigns, as against all the defendants and their respective heirs, executors, administrators, and assigns, and subject to the prior right of the defendant, P. I. Moule, to the use of the aforesaid "Geer right" to the prior right of the defendants, Daniel Whelan and Anna Whelan to the aforesaid "Thomas Brewington right" and to the prior right of the defendant A. P. Brewington, to the use of the aforesaid 135 inches of the waters of Swimming Woman Creek as appropriated on the 31st day of March, 1885, is entitled to the use of the next 165 inches of the waters of said Swimming Woman Creek, measured as re-

quired by the statutes aforesaid, by virtue of an appropriation made by his predecessor in interest, George Jones, on the 15th day of October, 1885, and known in the trial of this action as the "George Jones right."

9. That the defendants, Charles B. Sharpes, and William F. Williamson, their respective heirs, executors, administrators, and assigns, as against the plaintiff and all the other defendants, and his and their respective heirs, executors, administrators, and assigns, and subject to all prior rights hereinbefore in this Decree mentioned and described, are entitled to the use of the next 140 inches of the waters of said Swimming Woman Creek, measured as required by the statutes aforesaid, by virtue of an appropriation by their predecessor in interest William Ferguson, on the 31st day of May, 1886, and known in the trial of this action as the "William Ferguson right."

10. That the Plaintiff, George Pirrie, his heirs, executors, administrators, and assigns, as against all the defendants and their respective heirs, executors, administrators, and assigns, and subject to the prior rights of the defendants hereinbefore in this Decree mentioned and described, is entitled to the use of the next 145 inches of the waters of said Swimming Woman Creek, measured as required by the statutes aforesaid, by virtue of an appropriation by his predecessor in interest, Torger Stigen, made on the 30th day of June, 1886, and known in the trial of this action as the "Torger Stigen right."

11. That the plaintiff, George Pirrie, his heirs, executors, administrators, and assigns, as against all the defendants and their respective heirs, executors, administrators, and assigns and subject to the prior rights of the respective defendants hereinbefore in this Decree mentioned and described, is entitled to the use of the next 160 inches of the waters of said Swimming Woman Creek, measured as required by the statutes aforesaid by virtue of an additional appropriation by his predecessor in interest, the said Torger Stigen, on the 30th day of June, 1886, and known in the trial of this action as the "second Torger Stigen right."

12. That the defendant, P. I. Moule, his heirs, executors, administrators, and assigns, as against the plaintiff and all the other defendants, and his and their respective heirs, executors, administrators, and assigns, and subject to the prior rights of the plaintiff and of the several defendants hereinbefore in this Decree respectively mentioned and described, is entitled to the use of the next 120 inches of the waters of said Swimming Woman Creek, measured as required by the statutes aforesaid, by virtue of an appropriation by his predecessor in interest, Andrew T. Jackson, made on the 1st day of April, 1889, and known in the trial of this action as the "Jackson right."

13. That the defendant, P. I. Moule, his heirs, executors, administrators, and assigns, as against the plaintiff and all the other defendants, and his and their respective heirs, executors, administrators, and assigns, and subject to certain prior rights of the plaintiff and of certain prior rights of the several respective defendants in this action, as hereinbefore in this Decree mentioned and described, is entitled to the use of the next 150 inches of the waters of said Swimming Woman Creek, by virtue of an appropriation made by his predecessor in interest, Frederick W. Awe, on the 11th day of June, 1889, and known in the trial of this action as the "Awe right."

14. That the plaintiff, George Pirrie, his heirs, executors, administrators, and assigns, as against all the defendants and their respective heirs, executors, administrators,

and assigns, and subject to certain other prior rights of the respective defendants hereinbefore in this Decree mentioned and described, is entitled to the use of the next 120 inches of the waters of said Swimming Woman Creek, measured as required by the statutes as aforesaid, by virtue of an appropriation of his predecessor in interest, Elizabeth Blanford, made on the 1st day of April, 1891, and known in the trial of this action as the "Blanford right."

15. That the defendants, Charles B. Sharpes and William F. Williamson, their respective heirs, executors, administrators, and assigns, as against the plaintiff and all the other defendants, and his and their respective heirs, executors, administrators, and assigns, and subject to certain prior rights of the plaintiff and of the several defendants to this action hereinbefore in this Decree mentioned and described, are entitled to the use of the next 80 inches of the waters of said Swimming Woman Creek, measured as required by the statutes aforesaid by virtue of an appropriation by their predecessor in interest, Edward Taylor, made on the 16th day of April, 1891, and known in the trial of this action as the "Taylor right."

16. That the defendant, P. I. Moule, his heirs, executors, administrators, and assigns, as against the plaintiff and all the other defendants, and his and their respective heirs, executors, administrators, and assigns and subject to certain prior rights of the plaintiff and to certain prior rights of the several respective defendants hereinbefore in this Decree mentioned and described, is entitled to the use of the next 80 inches of the waters of said Swimming Woman Creek, measured as required by the statutes, aforesaid, by virtue of an appropriation by his predecessor in interest Myron R. Smith, made on the 22nd day of April, 1891, and known in the trial of this action as the "Taylor & Hahn" or "Highland right."

17. That the defendant, P. I. Moule, his heirs, executors, administrators, and assigns, as against the plaintiff and all the other defendants and his and their respective heirs, executors, administrators, and assigns, and subject to certain prior rights of the plaintiff and to certain prior rights of the several respective defendants hereinbefore in this Decree mentioned and described, is entitled to the use of the next 200 inches of the waters of said Swimming Woman Creek, by virtue of an appropriation by his predecessor in interest, Louis P. Stigen, made on the 23rd day of May, 1892, and known in this action as the "Louis P. Stigen right."

18. That the defendant, P. I. Moule, his heirs, executors, administrators, and assigns, as against the plaintiff and all the other defendants, and his and their respective heirs, executors, administrators, and assigns, and subject to certain prior rights of the plaintiff and to certain prior rights of the several respective defendants hereinbefore in this Decree mentioned and described, is entitled to the use of the next 250 inches of the waters of said Swimming Woman Creek, measured as required by the statutes aforesaid, by virtue of an appropriation by his predecessor in interest, Thomas N. Lee, made on the 2nd day of July, 1892, and known in the trial of this action as the "Lee right."

19. That the defendant, Frank J. Cameron, his heirs, executors, administrators, and assigns, as against the plaintiff and all the other defendants, and his and their respective heirs, executors, administrators, and assigns, and subject to certain prior rights of the plaintiff and to certain prior rights of the several respective defendants hereinbefore in this Decree mentioned and described is entitled to the use of the next 40 inches of

the waters of La Belle Creek, a tributary of said Swimming Woman Creek, measured as required by the statutes aforesaid, by virtue of an appropriation made by himself on the 1st day of April, 1893, and known in the trial of this action as the "Frank J. Cameron right."

20. That the plaintiff George Pirrie, his heirs, executors, administrators, and assigns as against all the defendants and their respective heirs, executors, administrators, and assigns, and subject to certain prior rights of the several respective defendants as hereinbefore in this Decree mentioned and described, is entitled to the use of the next 160 inches of the waters of said Swimming Woman Creek, measured as required by the statutes as aforesaid, by virtue of an appropriation by his predecessor in interest, Christina Wilson, made on the 1st day of June, 1894, and known in the trial of this action as the "Christina Wilson right."

21. That the defendants, Charles B. Sharpes and William F. Williamson, as against the plaintiff and all the other defendants and his and their respective heirs, executors, administrators, and assigns, and subject to certain prior rights of the plaintiff and to certain prior rights of the other respective defendants, as hereinbefore in this Decree mentioned and described are entitled to the use of the next 120 inches of the waters of said Swimming Woman Creek, by virtue of an appropriation by their predecessor in interest Anna Whelan made on the 15th day of May, 1897, and known in the trial of this action as the "Anna Whelan right."

22. That the defendant, Frank J. Cameron, his heirs, executors, administrators, and assigns, as against the plaintiff and all the other defendants and his and their respective heirs, executors, administrators, and assigns, and subject to certain prior rights of the plaintiff and to certain prior rights of the other respective defendants, as hereinbefore in this Decree mentioned and described, is entitled to the use of the next 40 inches of the waters of La Belle Creek, a tributary of said Swimming Woman Creek, by virtue of an appropriation made by his predecessor in interest, Thomas R. Cameron, on the 10th day of June, 1897, and known in the trial of this action as the "Thomas R. Cameron right."

IT IS FURTHER ORDERED, ADJUDGED, AND DECREED That the plaintiff and each and all of the appearing defendants in this action, and his and their respective heirs, executors, administrators, and assigns, shall be entitled to the use and enjoyment of his and their respective appropriations according to their several respective priorities of date and amounts of their respective appropriations of the waters of said Swimming Woman Creek and its tributaries as the same are established and set forth in this Decree, and that the plaintiff and each and all of the defendants, and his and their respective heirs, executors, administrators, and assigns, be, and they and each of them hereby are, perpetually enjoined and restrained from in any manner interfering with or using the respective rights of each and any of the other parties to this action, or any part thereof, and from in any manner interfering with hindering or delaying the other respective parties, or their heirs, executors, administrators, and assigns, in taking from the said stream or its tributaries, or diverting into any ditch or ditches at any point or at any time that any of the respective parties, their heirs, executors, administrators, and assigns may desire, the respective amounts of their several appropriations, or any part thereof, set forth and described in this Decree as aforesaid, and from in any manner interfering with or stopping the flow of said waters to the head of or through the ditch or ditches of the other re-

spective appearing parties in this action, or his or their respective heirs, executors, administrators, and assigns, and from in any manner interfering with the other several appearing parties, and his or their respective heirs, executors, administrators, and assigns, or any part thereof, as hereinbefore set forth and described.

IT IS FURTHER ORDERED, ADJUDGED, AND DECREED That each of the said appearing parties, their heirs, executors, administrators, and assigns, place and keep at the head of each of their respective ditches suitable flumes, boxes, or appliances for measuring water, as required by the statute aforesaid, and determining the exact amount of water from said stream, or its tributaries, to which each of the said parties is respectively entitled and that no water be taken from said stream or its tributaries, or used by said parties, their heirs, executors, administrators, and assigns except such water has been measured through the said boxes or flumes as required by statute, and the said boxes or flumes must be placed by a person or persons competent to place the same correctly and must be kept and maintained in proper condition by the said appearing parties, their heirs, executors, administrators, and assigns respectively.

IT IS FURTHER ORDERED, ADJUDGED, AND DECREED That the defendant, P. I. Moule, his heirs, executors, administrators, and assigns are perpetually enjoined and restrained from diverting and conveying any of the waters of said Swimming Woman Creek through the said "Highland ditch," and from permitting the same to run to waste, excepting the amount of 80 inches of the waters of said Creek, hereinbefore mentioned and described as the "Highland water-right," or so much of the said "Highland water-right" as shall be applied to a beneficial use, and excepting such amounts of his other water rights as the said defendant, P. I. Moule, his heirs, executors, administrators, and assigns, may at any time desire to divert and convey through the said "Highland ditch," according to the priorities and amounts of his said other appropriations.

IT IS FURTHER ORDERED, ADJUDGED, AND DECREED That the appearing parties hereto are entitled to the use of the waters of said Swimming Woman Creek and its tributaries, according to the amounts and dates of appropriations hereinbefore set forth in this Decree, or so much of the said amounts respectively as the said parties respectively shall apply to a beneficial use, and **it is ordered** that, when not so applied to a beneficial use, the said water shall be permitted to flow back into the said Swimming Woman Creek, and its tributaries, in order that the other appropriators may enjoy the use thereof.

IT IS FURTHER ORDERED, ADJUDGED, AND DECREED That none of the parties to this action shall convey any of the waters acquired by their several appropriations from and out of the basin of the said Swimming Woman Creek, or across the water sheds lying respectively on the easterly and westerly sides of the said Creek, but that, after the use of such waters, all the parties hereto shall allow the said waters to follow the natural declivity of the grounds toward and into the said Swimming Woman Creek.

Dated this 23rd day of July, A. D. 1903.

E. K. Cheadle, Judge.

ENDORSED: Entered, compared No. 751, Recorded Book 5, Page 211 George Pirrie, Plft. vs. P. I. Moule et al, Defts. Decree. Filed July 23, 1903, Edmund Wright, Clerk of Court.