

Lethbridge and the Irrigation Canal

Lethbridge is the most important town in Southern Alberta. It has a population of about 2,500, but is scattered over a large territory and, therefore, does not impress the visitor with its size. A large proportion of the population is made up of miners and their families.

There are a large number of stores here carrying large stocks, from the appearance of which it is evident that a good business is transacted.

The principal support of this town for years has been the coal mines, which are only a short distance from the railway station and which give employment to a large number of men.

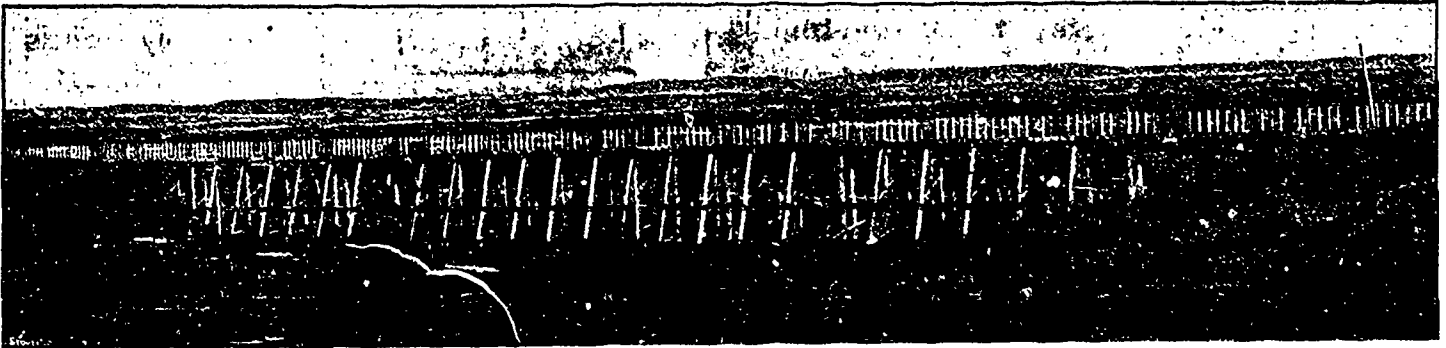
twenty-four feet in that distance, joining Spring Coulee at an elevation of 3,830 feet. From this point the natural channel of Spring Coulee is used for about ten miles, in which distance a further drop of 279 feet is made. From here another artificial channel carries the water for a distance of one and three-quarter miles to the Pot Hole coulee, the natural channel of which is used for nearly twelve miles, dropping in that distance 387 feet. Here a third artificial channel is reached, diverting the water from the creek. This channel extends for twenty-two miles easterly across the plains to the crossing of the Alberta Railway and Coal Cou-

on the bottom to carry five feet of water. The third division is sixteen feet wide at the bottom to carry five feet of water. The next division, reaching to Stirling, begins with a width of 10 feet at the bottom and decreasing to six feet. On the fifth, or Lethbridge, division, in order to maintain a sufficiently high elevation to cover land tributary to Lethbridge and at the same time to avoid too deep cutting through the rolling hills, it was necessary to construct a long flume, 1,400 feet in length, along the west shore of Fifteen Mile lake, in addition to constructing double earth banks at each end of the flume, 1,500 and 2,100 feet long, and to penetrate the rolling hills by one long deep cut, three and a-quarter miles long with a maximum depth of 19 feet.

By this irrigation system a tract

Irrigation, of course, involves considerable additional labor to the farmer as well as increasing the cost of raising grain, but on the other hand it removes the greatest cause of failures of crops. Irrigation also provides a continual fertilizing agent without adding expense. The alluvial materials carried in the waters of the rivers in spring and early summer are deposited on the soil and constantly enrich and fertilize it, so that in countries where irrigation has been practised for long periods, as in Colorado, crop after crop has been taken from the same soil with no material reduction in the yield, or evidence of exhaustion of the soil.

There is a large and ever increasing market in British Columbia for all the produce the farmer here can raise. The Lethbridge district has a



Flume, 784 Feet Long, with Trestles 28 feet high, carrying canal over bed of Willow Creek

These men are paid monthly and as their wages total to a large sum the merchants here are able to do a good business without being subjected to the burden of carrying the accounts for six months or a year.

The district surrounding Lethbridge has been brought very prominently before the public lately by the system of irrigation which was completed last year by The Canadian North-West Irrigation Company and as a result a large number of settlers are taking up land which has thus been rendered fit for cultivation and the good effects of this are already being felt by the merchants.

The great trouble with this district has been the light rainfall which made it practically impossible to raise grain

pany's line, a few miles south of Stirling, terminating at an elevation of 3,111 feet. This section of the canal crosses a drainage canal known as Nine Mile coulee, about eight miles from its point of diversion from the Pot Hole, at an elevation of 3,140 feet. Nine Mile coulee drains northerly partly to the Pot Hole and partly to Fifteen Mile Lake, which is used as a waste receptacle into which water is turned from the canal. By a complete system of water gates and waste gates, all the way down from the head of the canal, the supply of water is controlled as completely as in the water mains laid along the streets of a city. From fifteen mile lake, the natural channel of Nine Mile coulee is made use of for the Lethbridge branch

of about 200,000 acres of rich prairie land is now supplied with water and the supply still available from the St. Mary river will permit of a great enlargement of the main channel of the canal as well as extensions to the branches.

The irrigating is done by means of a ditch from the canal to the highest point of the land to be irrigated. From this ditch the water is distributed in small channels. These channels are simply cut by a plow, hoe, or spade, and the water is allowed to flow out of them and spread over the surface as far as it will go, and sink as deep as may be necessary to give the required moisture to the roots of the growing grain. The distributing ditches are so constructed that they

great advantage over other parts of the Northwest on account of its nearness to this market thus enabling the farmers there to land their products at the different towns in a much fresher condition and on that account their goods will be more in demand and will command a better price.

Besides the increase in the business already noticeable at Lethbridge, as a result of the completion of this irrigation system, it is expected that several manufacturing and other industries will be started. It is reported that the cultivation of sugar beets will be commenced on a large scale and that a factory for extracting the sugar will be erected. The company behind this enterprise has been negotiating for a large tract of irrigated



On Fourth Division of Irrigation Canal

profitably except in exceptionally wet seasons and it was to overcome this drawback that the Galt canal was constructed at a cost of over \$400,000, which draws upon an inexhaustible supply of water from the melted snows of the Rocky Mountains and makes possible the irrigation of hundreds of thousands of acres of land. The water is taken from the St. Mary river at an elevation of 3,834 feet above sea level and is conveyed in the main channel a distance of sixty-one miles with a branch thirty-two miles in length running to Lethbridge and another branch of twenty-two miles to Stirling. From the point of intake on the St. Mary river an artificial channel has been excavated for a distance of about ten and a half miles, dropping

of the system. From the point where that five-mile stretch ends, at an elevation of 2,020 feet,—no less than 120 feet of a drop being made in five miles—an artificial channel extends twenty-five miles, making possible the irrigation of the wide area of some 100,000 acres immediately surrounding the town of Lethbridge.

This section of the canal from St. Mary's river to the headwaters of Spring Coulee is 20 feet wide on the bottom, carrying five feet of water along on a slope of two feet to a mile. The banks of the canal are built one and a half feet above high water line and are eight feet wide on top. From Spring Coulee to Pot Hole coulee the dimensions are 15 feet wide

spread the water quickly over the ground to be irrigated. When the field, or any portion of it, is sufficiently watered, the cuts through which the water escapes from the ditches to the growing grain are closed by a shovelful of earth, and the water carried to another portion of the field, and that operation is repeated until the whole crop is irrigated. The "furrow method" is also employed, though most frequently for root crops, as well as in orchards, vineyards, and in small fruit gardens. The water is allowed to follow down the furrow made by the "shovel-plow" between the rows of vegetables, and sweeping downwards and sideways, rapidly reaches the roots to be watered.

land, and it is intended to sell this in small parcels, the purchaser agreeing to sow a certain portion with sugar beets. If this enterprise is carried out successfully it will mean a large increase in the number of settlers here, as in this class of farming only a few acres are necessary to insure a man a good living.

This season has been a particularly favorable one for crops, owing to the amount of rain which has fallen and irrigating has not been as necessary as in some seasons, still it has been used to good advantage, and it is confidently expected that in a few years this district will be known as one of the best agricultural portions of Western Canada.