

Irrigation

The Yakima Canal and Land Company was organized on the 4th day of December, 1889, with a capital stock of \$1,000,000, divided into 200,000 shares of \$5.00 each. The officers of the Company for the first three months are: Walter N. Granger of St Paul, president; James Millisch, secretary and Albert Kleinschmidt of Helena, Mont., treasurer. The principal offices are located at Helena and North Yakima.

In January last a number of persons experienced in construction of irrigation canals conceived the idea of purchasing lands of the Northern Pacific Railroad lying south of North Yakima and easterly of the Yakima river, embracing what are known as the Sunnyside fruit lands in Yakima county, Washington, and building an irrigation canal to water them and the alternate sections of government land. Engineers were placed in the field, but it was soon learned that it would be a long tedious and expensive work to determine a practical route for the canal; hence all negotiations were discontinued until the engineers would complete their work and make a report. After running nearly 500 miles of gradelines the whole difficulty was solved by adopting the Natcheez route which will be described further on in the engineers report. Soon as the engineering difficulties had been surmounted the projectors at once set about making a permanent organization and taking their subscriptions to the capital stock. At this time 100,000 have been pledged and as soon as the amount can be increased to \$125,000 the work of construction is to begin.

The canal covers about 100,000 acres of government land which has not yet been taken up and which can be claimed by the subscribers of stock and also an equal amount of railroad land. The estimated cost of the all canals and reservoirs, according to the engineers report, is placed at \$1,000,000.

One hundred and twenty-five thousand dollars, it is estimated, will build the canal down to the lands taken under the desert act by subscribers to stock and it is desired to raise this amount before the work of construction is begun.

I completed the surveys of the Yakima Canal November 2, 1889 after having been engaged with an assistant engineer and a force of men for about three months. Four hundred and seventy-one miles of grade line, in all, was run and six different routes investigated.

The plan at first proposed was to build an irrigating canal from Union Gap onto what is known as the Sunnyside Lands along the Yakima river, easterly of the Yakima river between Union Gap and the mouth of the Yakima river. Six other engineers had preceded me at various times during the past four years and they had all reported that the Sunnyside line which begins at Union Gap was the only practical route.

I found this line to be a favorable one but too low to cover more than 47,000 acres of railroad land; the estimated cost of 80 miles of canal about \$470,000 and it was decided that unless a higher line covering more land could be found it would be better to abandon the enterprise.

I shall not attempt to describe in detail the various routes surveyed and abandoned, but will confine my description to the one adopted which I shall call the Natcheez Line.

The Natcheez line begins at the Natcheez river about two miles above where the stream mingles with the waters of the Yakima and runs in a southern direction around and to the west of the Ahtanum basin, crosses the Ahtanum creek about five miles to the west of its conference with the Yakima river; follows along the steep hillside south of Ahtanum creek to Union Gap, a distance of about 18 miles, thence across the Yakima river by a pipe line to the easterly side of the river at which point the elevation obtained above

the Yakima river and above the Sunnyside line is 199 feet; thence along the foot of the Rattlesnake range in a southeasterly direction to the town of Prosser, a distance of 80 miles, making in all a length of 98 miles of canal. By the adoption of this route the great objection to all lines heretofore run by us or by the engineers of the Northern Pacific Land Department to cover the Sunnyside lands is fully overcome; it is 199 feet higher, its course heads many of the deep ravines encountered by the other lines and covers over twice as much land as any one of them. I estimated the water in Natchez river in September last, at a time when a great drouth was prevailing, the water it was claimed by older settlers had never been so low since their advent in the country and at that time I found 29,000 miners inches of water in the stream.

There is probably from five to ten times as much water at this in the stream during the irrigating season. It has its source in the perennial snows of the Cascade mountains and in my opinion the water supply is abundant and permanent and the title undisputed.

I took no cross sections or slopes and my estimate is based simply upon the grade line. The estimated cost is \$500,000 for the canal 98 miles long. Storage reservoirs can be built at the cost of \$100,000 which will double the capacity of the canal. In order to successfully irrigate the whole tract of 200,000 acres of land a lower line of canal should be built at some future time after the settlements will justify it to be taken from Yakima river five miles above Union Gap and extended around Moxee valley and thence parallel with the old Sunnyside line, a distance of about 80 miles, which with a proper system of storage reservoirs would cost \$400,000, approximately, making the total estimate cost-\$1,000,000. These estimates are based upon a canal twenty feet wide on the bottom, thirty feet wide on top and

capable of carrying four feet of water for one-half the length of each canal and fourteen feet on the bottom and twenty four feet wide on the top and capable of carrying three feet of water for the lower half of each canal.

By reference to the general map herewith the locality of the lands in Central Washington which it is proposed to irrigate will be found. The surface or contour of the ground is rolling and broken by occasional ravines.

The soil is a sandy loam, having its origin in the sediments of a great inland lake, varying in depth from five to fifty, and resting upon a bed of basaltic rock. No boulders or gravel channels can be found on the tract. The basaltic rock comes to the surface at rare intervals but does not reduce materially the amount of available agricultural land, the slope is generally to the south and the surface is covered with a thick growth of sage brush, varying in height from two to five feet.

The production of the Yakima valley is very much the same as that of Fresno county, California, omitting of course the oranges. The cereals all do well but the character of the products such as fruits, hops, tobacco and alfalfa are such as will make the lands too high priced to be used for the production of cereals. I have made a close examination of the products of the basin, with a view of finding out what kind of fruits, vines and plants are best adapted to the soil and climate.

I find that the staples are grapes, apples, peaches, pears, plums, prunes, sorghum, melons, tobacco, hops, alfalfa or lucerne, sweet potatoes, peanuts and all the small fruits.

Wheat produces with irrigation about thirty-five bushels per acre and oats fifty; barley forty bushels. rye thirty-five bushels. I saw eleven different kind of shade trees growing in one yard: the

butternut, walnut, maple, mountain oak, ash, weeping willow and cypress growing side by side. Those who are said to be experts in grape culture claim that the finest varieties of wine grapes are grown here.

The tobacco raised from Havana seed upon the Moxee farm near Yakima and there made into cigars, is said to possess a flavor not excelled in the country. The Yakima basin must at no distant day become famous for its productions of many of the fruits, vines and plants mentioned above.

I questioned many of the farmers living under the line of the canal as well as others living at a distance, but where similar conditions exist, as to the price they place upon their irrigated lands, they ranged from fifty to one hundred and fifty dollars per acre.

I reminded some of them that this seemed high, but I was informed that where land produced five crops of alfalfa, 1700 pounds of hops which brought eight cents per pound, nine hundred pounds of tobacco per acre and where all the products were of that kind that bring much more per acre than cereals, the land was of course higher priced but without water they are regarded as worthless.

The climate may be regarded as semi-tropical, about ten and one-half months of the year, and the products are semi-tropical. Here may be found a latitude of forty nine degrees north with a mean temperature about the same as San Francisco. This unusual feature of the climate may be accounted for by the warm winds of the Japan current which follow up the Columbia river through the rift in the Cascade mountains, are turned aside by the high elevation of the Blue mountains and deflected into the Yakima basin so that many residents both north and south during the months of the winter

solstice are suffering from cold , those of this region are enjoying
bright suns and warm winds--^Very Respectf. J.D. McIntyre,
Chief Engineer. Yakima Herald, North Yakima, Washington,
Thursday, January 2, 1890.

Irrigation

The farmers and ditch people have settled upon a proposition between themselves and the proposed Natcheez, Cowychee and Wide Hollow Ditch company as follows:

The farmers propose to raise \$100,000 in subscriptions to stock or to take part of the amount in water-rights to be paid for in the following manner: One-sixth of each subscription on completion of the first three miles of the ditch, in cash; one sixth on completion of the second three miles; one sixth on completion of next four miles; one sixth on completion of next four miles; one sixth on completion of the whole ditch--the five sixths to be paid in notes and mortgages on the land to be watered, at 7 per cent, running from three to ten years. Each subscriber is to take one share of stock at par value of \$5 for each acre of land he proposes to water and pay annually \$1 to \$1.50 per acre rental, but to receive back any dividends the stock may declare, the ditch company to give a contract to furnish the water each year for an unlimited term: or the farmer to buy a water right at the rate of \$2,000 for a cubic foot of water per second during the months of April, May, June, July and August each year, the payments to be in six equal cash installments upon the completion of each section of the land as before described, and pay thereafter 25 cents per acre per year to keep the ditch in repair. The ditch company is to receive back from the purchasers 1500 acres of the unimproved railroad and government land at railroad or government price.

All persons interested are invited to meet at North Yakima Saturday February 1st, 1890--Yakima Herald, January 23, 1890.

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A.W. Dudley of the Yakima improvement company, better known as the Oneida company, was in the city last week and reported that eight miles of the company's ditch was completed and that four miles more would be finished by the first of April.

The ditch will be sixty miles long, four feet deep and have a width of twelve feet on the bottom. It is estimated that it will carry sufficient water to irrigate 50,000 acres.

The company proposes to devote 160 acres of its land to model farming and thus instill into immigrants to this state the unanswerable object lessons of the capabilities of the arid lands of Yakima, when once reclaimed by means of irrigation. Mr. Dudley recently purchased a large quantity of fruit trees and shrubs of the best varieties for the model farm--of fifteen acres--Yakima Herald, Feb. 26, 1890.

Irrigation

Sunnyside Canal

Work on the big Sunnyside ditch will soon be started. The company has completed the purchase of 60,000 acres of land from the Northern Pacific and are now arranging to break ground and prosecute the work with vigor--Yakima Herald, Feb. 26, 1890.

Irrigation

A mass meeting of all persons interested in the irrigation of lands lying between the Natcheez and the Ahtanum rivers will be held at the court house on Wednesday, March 12, 1890 at 1:30 p.m. to discuss the advisability of forming an irrigation district under the McIntyre irrigation district law. Yakima Herald, March 6, 1890.

F.M. Reed, editor of The Herald, has been appointed the North Yakima correspondent of the Associated Press. He is also the accredited correspondent of the Seattle Post-Intelligencer, Tacoma Ledger, Portland Oregonian and Spokane Falls, Spokesman--Yakima Herald, March 13, 1890.

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Ahtanum

A meeting will be held at the Tanner school house on Monday, March 24th, 1890, at 1 o'clock for the purpose of ascertaining the sentiment of the residents of the Ahtanum valley in regard to the matter of establishing the boundary lines of an irrigation district about to be petitioned for under the recently enacted law authorizing the formation of irrigating districts. Every body is invited to be present and express themselves freely. R.S. Morgan, J.J. Tyler, D.W. Stair, committee on petition--Yakima Herald, March 20, 1890.

There will be a meeting at the Longmire school house on the Wenas, Monday afternoon, to take steps for the formation of an irrigation district. R. Strobach will explain the features of the McIntyre bill to those present--Yakima Herald, March 27, 1890.

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Selah Ditch

The Selah Valley Ditch , which will be twenty-two miles in length and will have cost in the neighborhood of \$75,000, will be finished by the 15th of this month. Forty-five men are now employed on the work under the direction of J.A. Stone--Yakima Herald, April 3, 1890.

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District formation

The committee on petition for an irrigation district have called a mass meeting of the citizens concerning residing within the proposed district to meet at the court house in North Yakima at 1 o'clock on Monday April 7th, 1890, for the purpose of hearing the report of the committee and to give an expression as to their preference in size of said district; that is to say, shall the committee present boundaries embracing the Cowychee and Wide Hollow sections in one district, or shall the section of country south of the Cowychee canyon alone constitute the district? Everyone interested is invited to attend and talk. J.J. Tyler, R. Strobach, D.W. Stair, R.S. Morgan, committee-Yakima Herald, April 3, 1890.

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Prof. Dr. Martin Winckel of the University of Vienna, who was in this country for the purpose of studying the systems of irrigation followed, was in Yakima last week and paid a visit to the Moxee plantations. He pronounced the Moxee system of irrigation the best he had examined in Europe or America. He further stated that the soil of Yakima was peculiarly qualified to grow the finest class of tobacco--The Yakima Herald, North Yakima, W.T. July 4, 1889.

Irrigation:

Tacoma, April 21, '90-Yakima Herald--Paul Schulze has negotiated the bonds for the big Yakima irrigation canal and it now is sure. Work will be commenced in thirty days. Fred H. Reed.

The telegram received on Monday was hailed with joy by those who had not seen the dispatch to the same effect received by Wm. Kar direct from Paul Schulze. In order to learn more about this canal on which the people of Yakima have set so much store, the Herald representative applied the pumping process to Engineer McIntyre with the following result:

As soon as the legislature delegated to the Northern Pacific the power to guarantee irrigation bonds, Paul Schulze took the matter of the big Yakima Irrigation canal in hand and while in New York pushed it forward with all his energy.

President Oakes guaranteed the bonds which, to the amount of half a million dollars, found ready takers and were duly signed and placed early this month. Half of the stock of the company will be held by Oakes, Schulze and other Northern Pacific people and half by J.D. McIntyre and his Montana associates.

Mr. Granger, a representative of the company, is now in Washington for the purpose of securing the right of way through a corner of the Yakima reserve and as soon as this is fixed, work will be commenced. Should Engineer McIntyre find a way to avoid going on the reservation, and he is now working to that end, the company will commence throwing dirt in two weeks and in no event will this be postponed longer than thirty days as the engineering corps which has been in the field since the first of the month has about completed its labors of running the line of definite location.

Water will be taken from the Natchez and will be carried around this basin on a grade twenty feet lower than the Hubbard ditch. The

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Senator Allen on the 3d inst , introduced a bill for a right of way to the Northern Pacific and Yakima Irrigation company for construction of an irrigation canal through the Yakima Indian reservation.

The canal is to start on the boundary of the reservation at section 33, township 113, range 18 and run about easterly through the reservation.

A right of way seventy five feet wide on each side of the center of the canal is given and the company has the right to such timber and earth along the canal as are necessary for its construction. The work must be completed within two years or the privileges granted in the bill will lapse--Yakima Herald May 8, 1890.

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A notice has been filed with the county auditor by Walter N. Granger, Albert Kleinschmidt and John D. McIntyre claiming and appropriating the running water of the Natcheez river to the extent of 1000 cubic feet per second to be diverted from said stream for the purpose of irrigating and the creation of water power for manufacturing, mining and milling , at a point so00 on the south or right bank of the river, in the south half of the southeast quarter of section 10, township 13, north of range 18 east. The means by which they will divert the water will be by 00000 canals, flumes, pipelines and tunnels along the grade in a southwesterly direction around the Ahtanum basin, across the Ahtanum creek and thence in a southeasterly direction to a point in Union gap opposite the county bridge; thence across the Yakima river at this point to the northeast side of the Yakima river; thence in a southeasterly direction along the grade; thence to a point northerly and northeasterly of Prosser, a distance of 100 miles--Yakima Herald, May 15, 1890.

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Selah

The arid regions of the state of Washington comprise that part of central Washington lying east of the Cascade mountains and west of the Columbia river. They consist of a succession of dry plains or valleys, intersected by ranges of hills which are spurs of the main range of the Cascades.....These plains are covered with a growth of sage brush and bunch grass the latter of which affords food supply for immense herds of cattle which formerly, before the advent of the settler bent upon agricultural pursuits, was the principal industry of this vast region.

The first irrigation enterprise of any considerable magnitude undertaken in the Yakima county, and for that matter in the arid region of eastern Washington of which Yakima county forms the greater and most important part, was that of the Selah Valley Ditch company, excavating and constructing by means of dykes, flumes and viaducts a canal to be used for the purpose of watering and making productive a large area of high table lands situated a distance of from three and one-half to twelve miles from the city of North Yakima and known as the Selah valley.

The ditch or canal has its source in the upper Natcheez river where the river ceases to flow through the fertile Natcheez valley but rushes through a canyon flanked on each side by high rocky walls. From this source it winds its tortuous way across the valley and along the hillsides until, owing to the great and rapid fall of our mountain streams, its lesser grades enable it to surmount and cover the elevated table lands of the Selah valley, whose bare surface awakens to a new life at its magic touch.

The extreme length of this canal is twenty-two miles. Its width at the top is 22 feet and at the bottom eight feet. Its depth is five feet. An appropriation of eight hundred cubic feet per minute of the

He set about to organize a company of which he was the principal stockholder and prime mover and was made its head.

Ten thousand acres of the richest land in the Yakima valley was purchased of the Northern Pacific Railroad company. Preparations for the work were made on a large scale and no time was lost in beginning the work.

It is pronounced the equal, if not the superior of any irrigating ditch on the Pacific coast.

The soil of the Selah valley is a volcanic ash, exceedingly rich and of great depth. It is adapted to the growth of any product of the northern half of the temperate zone. Hops and alfalfa are staple products. Two thousand pounds per acre is the average yield of hops. The average price paid for eight or ten years past is 13 cents a pound.

From six to nine tons per acre of alfalfa can be raised. Its ruling price is \$10 a ton. Timothy hay is another profitable product of this soil.

Furthermore it is intended that a section of ~~the~~ this land is to be put into cultivation and set out to fruit in a novel way. It is to be subdivided, so as to leave ~~the~~ in its center a large circular space to be reserved for a commons, from which individual farms in tracts of twenty, forty or eighty acres will radiate in oblong form.

This enables the settlers upon these farms to build their homes around the border of this commons reserved in the center of the section and thus enables them to live in a community instead of a long distance from each other.

A portion of this section is to be put into a high state of cultivation and made into an experimental farm to demonstrate the varied nature of the products that can be raised upon the soil.

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Walter Granger, Jr.

Walter Granger, Jr. of Helena is preparing to extend his irrigation project into Eastern Washington. "There is no doubt" said Mr. Granger yesterday, "but that the irrigation projects of eastern Washington are feasible. When the ditches now proposed are built and the land under the ditches is producing crops, fruit enough can be raised east of the mountains to supply the entire northwest." Tacoma Ledger, June, 1890.