

IRRIGATION AT ECHO

Interview With the Government Engineer in Charge.

Description of Extensive Government Plans and Scientific Review by Engineer Camp.

Echo, Oregon, March 15, 1903.—Editor Gazette: I mail you today an East Oregonian of the 13th, published at Pendleton, Oregon, outlining the United States government's plan of irrigating, for the benefit of those having homestead rights, a large tract of public arid land in the vicinity of this town. The land here already under irrigation, that lying along Butter creek and Umatilla river, and identical in character with that the government proposes to irrigate, is very fertile, producing several large crops of alfalfa in a single year, and is valued at from \$75 to \$100 per acre. The climate is warm and dry, the altitude being less than 700 feet, and the rainfall being light on account of the situation of the district with reference to the Cascade range and the Blue mountains, and the land, when irrigated, is adapted to raising alfalfa, peaches and grapes. Good drinking water is easily obtainable. A person having a homestead right is privileged to take 160 acres of these lands, and already quite a number have filed their homesteads, and more are coming here right along. So those desiring to exercise their homestead rights upon their lands should do so immediately. Owen Horton, the city engineer of Colfax, is here surveying out the section lines and locating them in reference to the proposed governmental ditches and reservoirs and is prepared to locate parties, making a charge therefor of \$75 a location. He has made arrangements with James Green, the proprietor of the hotel at this place, to secure teams and accommodations for those who may desire to have him locate them. I will close by again stating that those who desire to take up a homestead of 160 acres on these lands should come here immediately and be located quickly by Mr. Horton. I shall be back in Colfax by the time this is published, and will be pleased to state to those calling on me more about this matter and the necessary expenses, etc. Respectfully,
E. M. WARNER.

Echo, Ore., March 12.—It needs no prophetic vision to see that Echo is destined to become a prosperous and thriving place at no distant day. I have just returned from a trip to the proposed government's irrigation canal, J. G. Camp, the government engineer in charge of the preliminary survey, extended an invitation to accompany him while surveying for a feasible route.

We rode in a stout hack behind a pair of sturdy Oregon horses, across country to where the last stake had been set the night before.

Near Echo we passed J. Cunha's place. He is a Portuguese, who was herding sheep 15 years ago. Now he has a splendid ranch, with a new \$5000 home, good barn and other farm buildings; new fences and new head gates on his irrigation ditch. He practices the check system of irrigation.

The Check System of Irrigation.
A few acres are leveled up, a bank of earth is thrown up around it on all sides. The water is let in and when it has thoroughly soaked into the ground the surplus water is allowed to flow into the adjoining similarly banked enclosure. With this system of one good wetting two heavy crops of alfalfa is raised.

Extent of the Reserve.
Approximately nine townships have been withdrawn from all entry, except homestead," said Mr. Camp. "About 300,000 acres or more lie below the proposed line and are susceptible of irrigation."

"In Southern Idaho it requires from two and a half to four acre feet to the acre throughout the season. Here, on account of the different character of the soil, one acre foot of water, a foot deep on an acre of land will produce two good crops of alfalfa."
"The land here will absorb water till it is well saturated before the water runs off. I think we can count on 200,000 acre feet of water available for irrigation purposes here. If alfalfa or hay is to be raised, this amount is sufficient to reclaim 200,000 acres of land."

For gardening, however, or fruit or for any all season crop, it will probably require about two and a half acre feet per season to the acre.

The Reservoir Sites.
"Owing to the fact that the high water is over on the Umatilla by May 1st, the amount of full-season land that can be handled depends on the reservoir capacity we can secure. So far I have surveyed four reservoir sites, all of which are rather shallow. In all we have seven available sites, three of which are of good size."

Reservoir Capacity.
"My estimate is that we can secure reservoir capacity sufficient to carry 30,000 acres of full season land after the flood water season is over."
"I think I am perfectly conservative when I say that we will have water enough to suffice for at least 100,000 acres of mixed purpose land, that is, hay, garden and orchard land."

Soil Texture Will Improve.
"While this soil is already excellent soil and with water will prove rich and fertile, yet when water has been on it for a few years it will fill up with water and require less to irrigate it."
"The soil is a deep and sandy loam and is underlaid at a depth of from 25 to 40 feet with basaltic bedrock or cement gravel."

The Uplands Will Be Reclaimed.
"This means more than appears on the surface. It means that the uplands where wheat was once grown and which have been abandoned will be reclaimed. The former trouble was that the hot winds killed the tender wheat before it was advanced sufficiently to withstand the shriveling effects of the heat."

"With the evaporation from the various reservoirs and from fields of growing crops, the winds will no longer be hot winds. They will strike the uplands near the head of Butter creek and on McKay creek and the country between as a cool and moist wind."

The Problem of Evaporation.
"As yet we have made no experiments as to the probable amount of loss by evaporation from the reservoirs. After May 1st there will be four or five months when we will have to contend with evaporation, with nothing to take the place of the water that will be lost in this manner."

"In Idaho we lose about three feet of water during the summer months. A shallow reservoir with a depth of water of 15 feet would shrink to 12 feet through losses of evaporation. It may be more here. With a surface of seven or eight square miles of water, which will be about what we will have with our seven reservoirs, we will lose a large amount of water from this cause."

"You can see how the evaporation of that amount of water would change the character of the wind from a hot wind to a cool, moist wind."

The River Gets Back Its Own.
"In the Boise river we notice that the water put on in the early spring months gradually seeps down and striking the impervious strata it flows back to the river or appears as springs lower down. The land acts as a reservoir and gradually releases the water."

"Measurements taken at the canyon at the head of the valley during the short winter months show only one-fourth of the amount of water actually taken out of the river by the various ditches. Of this extra water, probably one-half is surface water and the remainder underflow."

"Owing to the conformation of the basalt bedrock in this vicinity the water we divert from the river will be returned to the river by seepage. This will furnish more than sufficient water for Holbrook and others who wish to draw from the river for irrigation purposes."

Running A Trial Line.
"At present I am running a trial ditch line from a low gap near East Thompson's farm across Butter creek near the school house and I expect to strike the river somewhere near Yookum. This line will be the highest available line and it may be necessary to use a lower line."

"The ditch will be high enough to be above all the reservoir sites, so that the reservoirs may be filled from the ditch and a part of the seepage from the ditches will go into the reservoir."

"As to the capacity of the reservoir, I will not hazard an opinion as I have not made a preliminary survey nor made any estimates."

Our Citizens Have Co-Operated.
"My work has been greatly expedited by the helpfulness of the citizens of Echo and the farmers of Butter creek and of the vicinity. They have furnished me information that has enabled me to cover the ground more quickly than I otherwise could have done."

"I have also been greatly helped by Mr. T. G. Hailey, Judge Lowell and other members of the executive committee of Umatilla County Irrigation Committee."

Gives Credit to Umatilla County.
"I notice that Mr. Moody is given the entire credit for securing the withdrawal of this land. To give the credit where credit is due, it was largely through the efforts of Mr. John Hailey, Sr., that this action was taken. His efforts were instrumental in arousing an interest in the work and in starting the investigation. Mr. Hailey is an intimate friend of D. W. Ross, who has charge of the irrigation work in Oregon, Washington and Utah."

"Though Morrow county will be equally benefitted, yet to the progressive business men of Pendleton and Umatilla county the credit is largely due. However, one should take the broad minded view of Judge Lowell. 'Suppose it does help Morrow county as much as Umatilla, whatever helps to build up the state is a good thing.'

What the Government Will Require.
"One of the first things the government will ask is, 'What security can be given under the present laws that the cost of construction will be paid promptly and without litigation?' You have the right district law. It should be ascertained if it is constitutional. Similar laws have been declared unconstitutional."

Method of Taking the Land.
"Until water is on the land the only method of taking the land will be by homestead right, scrip and desert acts being barred. When the water is on the land it may be that it can be taken by scrip or under the desert act, I do not know. From the time the water is turned on the land the government will require the cost of construction of the irrigation ditches to be paid. It will be paid in 10 yearly payments without interest. The government wishes to have these payments made just as taxes are paid. It must be secured for the payment of the actual cost of construction."

"During this period of ten years the government will have charge of the canal and will charge maintenance or the actual expense of running the ditch to the users of the water."
"At the end of this time the water users will own the ditch and will elect their own board of managers to control its affairs. The law covers the difficulty of private ownership of reservoir sites. The act of August 30, 1890, contains the following provisions:
"Reservoir sites heretofore located or selected shall remain segregated and reserved from entry or settlement as provided by said act until otherwise provided by law, and reservoir sites heretofore located or selected on public land shall in like manner, be reserved from the date of location or selection thereof."
"In all patents for lands hereafter taken up under any of the land laws of the United States, or on entries or claims validated by this act west of the 100th meridian, it shall be expressed that there is reserved from the lands in said patent, described, a right of way thereon for ditches and canals constructed by authority of the United States."

Additional Legislation.
"On June 17, 1902, the following provisions were added: 'That all moneys received from the sale and disposal of public lands in Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, Oklahoma, Oregon, South Dakota, Utah, Washington and Wyoming, beginning with the fiscal year ending June 30, 1901, including the surplus of fees and commissions in

excess of allowances to registers and receivers, and excepting the five per centum of the proceeds of the sales of public lands in the other states set aside by law for educational purposes, shall be and the same are hereby reserved, set aside and appropriated as a special fund in the treasury to be known as the 'Reclamation fund,' to be used in the examination and survey for the construction and maintenance of irrigation works for the storage, diversion and development of water for the reclamation of arid and semi-arid land in the said states and territories, and for the payment of all other expenditures provided for in this act.'

We surveyed during the forenoon over a rolling country.
"Here is where one must use head work," said Mr. Camp. "Cuts and fills are expensive work. We try to avoid them as much as possible. In places we will be compelled to use flumes. We will use steel in this construction. As the ditch is to be 10 feet deep, 40 feet wide at the bottom and 70 feet wide at the top, the flume will cost from \$23 to \$25 per running foot, hence you can see the necessity for avoiding the use of any more flumes than absolutely necessary. By putting in a tunnel through that ridge, I can save four miles of ditch. The tunnel will be about 3000 feet long and will come out at the head of Alkali flat."

"Tunneling, such as we will do here, will cost about \$50 per running foot. I think we will strike basalt and it will not require brick work, but merely smoothing up with cement."

"The ditch will have a fall of 10 to 12 inches to the mile and will be from 25 to 40 miles long."
"It is impossible to work here by trying to depend to a needle course. The local attraction is so great as to make the needle too variable. One has to run the course by a solar compass. I believe," said Mr. Camp, he pointed to the miles of rabbit brush and sage brush, toward and beyond Little Emigrant Butte, "that in five or 10 years we will see a farm house on every 80 acres of that land."

"This is a splendid climate with an early spring and a late fall. The soil is rich, and with water, you will see what has been called the Great American Desert, become the Great American Garden Spot."

Something as to the Man.
J. G. Camp is not a visionary nor a mere theorist. Before he became a government engineer he was a practical agriculturist. He has a splendid farm in the Boise country, which was once valueless sage brush land. For 20 years he has been in close contact with nature and has absorbed something of the good, wholesome taint of the primal clay. He knows nature and loves the smell of the smoke from the camp fire.

When he had returned from 18 months' campaigning with the Idaho troops in the Philippines, he served his country in the Idaho legislature. For 10 years Mr. Camp has had charge of construction and irrigation works. Some years ago a tract of 10,000 acres of arid land, 10 miles from Boise, was taken up by homesteaders, with a view of irrigation. The capitalists wanted a rate so exorbitant that the irrigation scheme fell through. Finally the farmers decided to go ahead and put in the canal themselves.

Mr. Camp was in charge. It cost \$75,000 and took five years to complete. The \$2 and \$3 land increased in value to \$150 to \$200 per acre. The shares which cost \$50 per share are now worth \$225 per share. Mr. Camp's farm last year netted him above all expenses, \$12.60 per acre. This land can do as well or better. It is easily broken up and will be very fertile.

FRED LOCKLEY, JR.
WILL DAM ROCK LAKE.
Electric Company Expects to Create Large Storage Reservoir.

One of the largest propositions for the storage of water ever entered into in the Inland Empire may soon be launched by the Adams County Transit Company. It means the expenditure of about \$60,000, says the Spokane Chronicle. The plan is to put in a huge dam at the end of Rock lake for the purpose of storing water to supply the power plant in case water runs low in the stream.

The company's power house is to be at the Palouse river falls. The dam will be situated 15 miles above the falls, while a line of pipe will be laid from the lake to the power house. The lake is several miles long, and about one mile wide. By putting in this huge dam, in case the river runs too low to furnish sufficient power for the big plant, the storage supply can be drawn on. It is estimated that the company intends to have enough water stored in the lake to supply 400 cubic feet of water per second for a period of four months. This would tide the plant over a very dry season.

The company's survey party is hard at work in the field. The line has already been carried from Washuena to Ritzville, and work is being rapidly pushed. From Ritzville to Odessa will be the next stretch of country covered. It is stated that the company is still a little in doubt about the advisability of carrying the line on to the Columbia river. It is to extend from Washuena to Odessa, however.

It is not thought the road can be put in operation in time to handle this fall's crop, as it is estimated that a year will be necessary for construction work. However no needless delays are to be allowed to hinder the progress, as the capitalists who are back of the enterprise are anxious to see the work of construction started.

Danger of Colds and Grip.
The greatest danger from colds and grip is their resulting in pneumonia. If reasonable care is used, however, and Chamberlain's Cough Remedy taken, all danger will be avoided. Among the tens of thousands who have used this remedy for these diseases we have yet to learn of a single case having resulted in pneumonia, which shows conclusively that it is a certain preventive of that dangerous disease. It will cure a cold or an attack of the grip in less time than any other treatment. It is pleasant and safe to take. For sale by Elk Drug Store.

A Physician Writes.
"I am desirous of knowing if the profession can obtain Herbine in bulk for prescribing purposes? It has been of great use to me in treating cases of dyspepsia brought on by excesses or overwork. I have never known it to fail in restoring the organs affected, to their healthful activity." 50c bottle at Elk Drug Store.

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12c quality spring style outing flannel for	7c
48c quality Bleached Table Linen for	29c
27x17 Turkish Bath Towels for	5c
35c quality Fast Turkey Red Table Linen for	19c
New Spring Styles Percales for	7c
\$1.00 quality Ladies' Girdles and Corsets for	48c

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\$1.25 Shirts at 49c

15 dozen Men's White and Fancy Shirts, made from finest muslin and best percales and Madras, nearly all sizes, regular prices up to \$1.25, 49c on bargain table at each.....

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50 pairs Men's Shoes, in box calf, velour calf and finest vicid kid, elegant hand turned footwear for dress occasions, and the heavier Goodyear welts for every day wear. This is the biggest shoe bargain we ever offered, values to \$4.50 on bargain table per pair.....

15c Linen Collars 5c

Fully 50 dozen Men's Pure Linen Collars, in nearly all shapes and sizes, a line we intend to close out, positively the 2 for 25c quality, on bargain table, each.....

Grocery Specials

18 pounds Granulated Sugar..... \$1.00
30 pounds Rolled Oats..... \$1.00
17 pounds Rice..... \$1.00
Gold Dust, per package..... 20c
10 pound pail Lard..... \$1.25
1500 Parlor Matches..... 15c
Leading brands Plug Tobacco .. \$4c
20 pounds Navy Beans..... \$1.00
20 pounds Blue Stone..... \$1.00
Blue Ribbon Corn, per can..... 10c
Blue Ribbon Tomatoes, per can 10c
Bacon, per pound..... 14c
8 packages Arbuckle Coffee..... \$1.00



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Contest Notice.
Ryan vs. Carlson.
Department of the Interior, United States Land Office, Walla Walla, Washington, February 11, 1903.—A sufficient contest affidavit having been filed in this office by David S. Ryan, of Hay, Washington, contestant, against homestead entry No. 3501, made April 24, 1901, for E. J. SEJ, Section 18, Township 14 N., Range 40 E. W. M., by Martin A. Carlson, contestee, in which it is alleged that said Martin A. Carlson has wholly abandoned said tract for more than six months last past; that he has sold the dwelling which he erected thereon and that the same has been removed from said land; that there are no improvements on said tract, and he has abandoned same; and that said alleged absence from the said land was not due to his employment in the Army, Navy, or Marine Corps of the United States as a private soldier, officer, seaman or marine, during the war with Spain, or during any other war in which the United States may be engaged; and that parties are hereby notified to appear, respond and offer evidence touching said allegation at 10 o'clock a. m. on April 23, 1903, before the Register and Receiver at the United States Land Office in Walla Walla, Washington, which he erected thereon and that the same has been removed from said land; that there are no improvements on said tract, and he has abandoned same; and that said alleged absence from the said land was not due to his employment in the Army, Navy, or Marine Corps of the United States as a private soldier, officer, seaman or marine, during the war with Spain, or during any other war in which the United States may be engaged; said parties are hereby notified to appear, respond and offer evidence touching said allegation at 10 o'clock a. m. on May 8, 1903, before the Register and Receiver at the United States Land Office in Walla Walla, Wash.

The said contestant having, in a proper affidavit, filed February 11, 1903, set forth facts which show that after due diligence personal service of this notice can not be made, it is hereby ordered and directed that such notice be given by due and proper publication.
JOSEPH L. MOHUNDRO, Register.
YANCY C. BLALOCK, Receiver.

Contest Notice.
Blue vs. Cole.
Department of the Interior, United States Land Office, Walla Walla, Wash., March 2, 1903.—A sufficient contest affidavit having been filed in this office by Sam W. Blue, contestant, against homestead entry No. 10381, made November 29, 1901, for the S. J. SEJ, Section 30, Township 14 N., Range 39 E. W. M., by Fones Cole, contestee, in which it is alleged that the said Fones Cole has wholly abandoned said tract for more than six months last past, preceding the date of the contest affidavit herein, and that said alleged absence from the said land was not due to his employment in the Army, Navy, or Marine Corps of the United States, during the war with Spain, or during any other war in which the United States may be engaged; said parties are hereby notified to appear, respond and offer evidence touching said allegation at 10 o'clock a. m. on May 8, 1903, before the Register and Receiver at the United States Land Office in Walla Walla, Wash.

The said contestant having, in a proper affidavit, filed February 28, 1903, set forth facts which show that after due diligence personal service of this notice can not be made, it is hereby ordered and directed that such notice be given by due and proper publication.
JOSEPH L. MOHUNDRO, Register.
YANCY C. BLALOCK, Receiver.

Notice for Publication (Isolated Tract)
PUBLIC LAND SALE.
Notice is hereby given that in pursuance of instructions from the Commissioner of the General Land Office, under authority vested in him by section 2455, U. S. Rev. Stat., as amended by the act of Congress approved February 26, 1895, we will proceed to offer at public sale on the 21st day of April, 1903, at ten (10) o'clock A. M., at this office, the following tract of land, to-wit: The SW 1/4 SE 1/4, Sec. 6, T. 14 N., R. 41 E. W. M. Any and all persons claiming adversely the above-described lands are advised to file their claims in this office on or before the day above designated for the commencement of said sale; otherwise, their rights will be forfeited.
JOSEPH L. MOHUNDRO, Register.
YANCY C. BLALOCK, Receiver.
Done at the United States Land Office at Walla Walla, Washington, this 24th day of February, 1903.

Nothing equals Dr. Buck's Celery, Sarsaparilla and Dandelion Compound, Elk Drug Store.