

Roberts Makes Report

(Continued from page 2.)

tions could be provided at McAllister's soda springs, where many campers resort in the summer time, there is nothing to menace the purity of the water down to the Hanley ranch, at the mouth of Wasson canyon. Here Hanley's large feeding yards, barn, house, etc., make it evident that no permanent intake for a pipe line should be placed below this point. Indeed, a point above the ford at the head of the Hanley ranch, as low as a permanent intake should be considered, if Little Butte water is to be used. Any other intake must be considered as a temporary expedient.

Quantity. There is no question of the ability of this company to deliver the amount of water they contract to sell to the city. The construction now going on at Four-Mile lake, in the forest reserve, as well as the plans for development at Fish lake, are a sufficient guarantee that the company is determined to supply large quantities of water to this valley. The 32,150 acre feet storage water is equivalent to a continuous flow of 134 second feet, or 5,566 inches for the entire low-water period of 120 days.

One second foot, 2-acre feet daily (approximately). One second foot, 240 acre feet in 120 days. The waters of Four Mile lake, now tributary to Klamath lake, are to be brought to Fish lake partly in natural water courses and partly in a canal ten feet wide on bottom and four feet deep.

Cost. The cost of a system from Little Butte can be estimated with the same degree of exactness as the Wasson canyon project since the pipe line would follow much the same course and its length and pressure are known. The intake from Little Butte, if this scheme is used, should be placed at least above the Hanley barn and feedyards, making the distance practically the same as in the Wasson canyon project. Better still, it should be placed above the road crossing, or ford, at the upper end of the Hanley field, increasing the distance about three-quarters of a mile at a cost of about \$7500. Add about \$1000 for land. There would also be an increase in cost of pipe per foot if the county road were used for right of way instead of hillside, where the pressure is less. This difference averages 12 cents per foot for an increase of 50 feet head, or 24 cents for 100 feet increased pressure. This would apply for about two miles unless right of way could be purchased cheaper, and the average increase in cost per foot would be 15 cents. This factor makes the difference in two miles \$1584. The sum of these three items makes \$10,984.

To make the matter clearer by comparison with the Wasson canyon project: The rights to water are \$15,000, against \$25,000 for Wasson canyon and Slinger rights, but there is an estimated additional cost of construction to overcome physical difficulties equal to that difference, thus placing the cost of the two systems on an equal basis.

Before leaving this project I may say that it adapts itself to the varying needs of the city as perhaps no other plan does in this respect.

That the elevation of the intake can be changed to increase the flow at some future time, provided that the line were consummated, so as to bear the increased pressure. One feature mentioned in the press: That the point of intake be at some point below the mouth of Wasson canyon, say at the 1800 foot elevation, in order to save distance and pressure, is not to be recommended for the following reasons: The elevation of the wagon bridge at Dick Slinger's lower bridge is 1825 feet. The elevation of the reservoir should be 200 feet above the principal street, plus an allowance for friction in the pipe when supplying the maximum draft during a fire. This condition requires an elevation:

Medford 1375 feet
Head for pressure 200 feet
Allowance for friction 40 feet

Total 1615 feet for elevation for reservoir.

Now, with this amount of fall available, 1825-200 feet in 20.1 miles, a 20-inch pipe would be required to deliver 4,000,000 gallons daily. This would cost 35 cents per foot more than the 16-inch pipe banded for the same pressure, but would save 1.5 miles over the Wasson canyon project. There would also be a saving on account of lessened pressure for about 20,000 feet, amounting at 15c per foot to \$3000.

The saving in distance, 1.5 mile, at \$10,000, equals \$15,000
The saving in pressure, 20,000 at 15c, equals 3,000

Total \$18,000
Add for increased diameter, 20.1 miles at 35c per foot, equals \$71,000 and the net increased cost by this plan would be \$37,000-\$18,000 plus \$15,000.

In like manner I have examined the cost of an 12-inch pipe as compared with the 16-inch pipe, and in order to carry an amount of water 4,000,000 gallons a day, it would have to be diverted at the Hanley hay barn, elevation 1889 feet, adding three-quarters of a mile to the line 30 inches in diameter. Mile for mile, the 18-inch pipe would cost \$1250 per mile more than the 16-inch pipe.

The further reason that the feed yards of Hanley's and Slinger's lower ranch are above the 1800-foot elevation and their dwellings and barns close to the banks of the creek make it ill advised to consider diverting the water

from the Little Butte creek at any point below the 1800-foot elevation above the ford referred to.

One other combination possible under the offer is the following:

Joining the Slinger rights with rights to 150 inches from the Fish Lake Water company. The rights and land would cost \$15,000 and the pipeline the same as for the Fish lake project if diversion could be made at the point named above the ford at head of Hanley's field. This is in section 25, and I am informed is on railroad land. This would necessitate that the Slinger rights have the point of diversion amended. The same phase of the use of Slinger's rights is presented in the Hanley offer. Mr. Colvig's letter indicates that this can be done, since no other rights intervene.

Fourth—The Condor Water & Power company's offer:

This company presented three offers in June and July, and I prepared answers to them for the use of the special committee at that time. Since then their fourth offer is exactly as in the third, except that the estimated cost of the system is placed at \$197,000 instead of \$229,000 as in a former offer.

Mr. Roberts gives the comparative annual cost for operation and maintenance of the two proposed systems as follows:

Table with 3 columns: Item, Gravity, Pumping. Rows include Men required, pipe, Superintendent, Operator, Depreciation, Interest, 5 per cent, and Total.

An annual difference of \$5000 in favor of the gravity system. Nor is this all.

It requires 473 horse power, allowing 75 per cent efficiency for motor and pump, to raise 4,000,000 a day 300 feet at Granite Hill and Water & Power company, to pump this, even with surplus power, at a much lower rate than 2 cents per kilowatt-hour, as an item to be charged as part of the operating expenses. Two cents per kilowatt hour would cost Medford \$61,830 per annum. (The price to Medford now is 3 1/2 cents per kilowatt hour.)

The full correspondence on the Ray proposition will be printed tomorrow. The Sterling Mining Company's Offer.

Rights: The following letters will be self-explanatory: Medford, Or., Sept. 22.—Mr. F. J. Blakeley, President Sterling Mining Co. Medford, Oregon—Dear Sir: I have just returned from Big Butte and am now ready to write my report to the city council on the various projects submitted. It will aid me in clearing up some of the doubtful points if you will give me answers to the following questions bearing on rights and quantity:

First—It has been stated that the Farmers' ditch, watering the lands of Cameron brothers, etc., was prior to the Sterling rights. Can you give me any light on this statement?

Second—In case the flow from all the creeks above the Farmers' ditch, Applegate, Glade fork, south fork, Sterling creek, does not exceed the 500 inches you propose to deliver by the amount claimed by the Farmers' Ditch company, how can you make that deficiency good?

Third—It has been stated or published, that the Cantrell ranch, now leased to Kleinhammer, has 250 inches prior rights to the Sterling, and that for 20 years the Sterling company has not refused to turn down "Wolf gulch" from the Sterling ditch sufficient water to supplement the flow in Little Applegate to the amount of their right. Can you make this clear to me?

Fourth—In case the combined flow of the two forks, Little Applegate and Glade fork, in low water season, should be less than the amount decreed to the riparian water users, plus the amount guaranteed by you to Medford, have you any supplementary supply not referred to in your offer? Yours truly, W. J. ROBERTS.

Answer: Medford, Or., Sept. 26.—Mr. W. J. Roberts, Supervising Engineer, Medford, Oregon—Dear Sir: I am in receipt of your valued favor of the 22d inst., and will undertake to answer the questions bearing on the rights and quantity of water to your satisfaction.

In answer to the first question: Our position is that our rights are prior to the Farmers' ditch, but inasmuch as it is not involved in our proposition to the city, there is nothing to consider.

In answer to the second question: Having supplemented our proposition to deliver to the city 200 inches, by one offering 300 inches, there can be no question regarding our ability to deliver the same.

In answer to the third question: The water rights of the Cantrell ranch are not prior to the Sterling rights; however, on several occasions when they were cleaning up at the mine and had no use for the water, upon request of the Cantrell ranch people that they be furnished enough water to flood the ranch, the water has been furnished as a matter of accommodation. This request has not always been complied with, however. Furthermore, the Sterling Mining company owns a half interest in the San Phillips ditch, which is one of the principal ditches used to irrigate the Cantrell ranch.

In answer to the fourth question: Yes. We could supplement this supply with 2500 inches, if we so elected, from our Squaw lake system, but inasmuch as our proposition now is to furnish but 200 inches, there will be no occasion to supplement the supply. A careful investigation of the water rights owned and controlled by the Sterling Mining company should convince anyone that we are in a position to deliver to the city the amount of water specified without any controversy whatever. Yours truly, J. D. HEARD.

Gen. Mgr. Sterling Mining Co. Quality: This water if used is to be from the Little Applegate and Glade fork, tributaries of the Big Applegate, the water at its source, has the usual characteristics of mountain spring wa-

ter and is clear and cold. A sample from each fork was sent to the experiment station at Corvallis for analysis, but at this date no reply has been received. However, there is nothing in the character of the watershed to cause any doubt as to its purity at the proposed point of diversion.

It is in the 19 miles of open ditch, constructed to carry 2500 inches, but supplying only 400, that the menace to public health would obtain. Following that ditch after a night of heavy rainfall for many miles, I saw that the muddy waters, heavily laden with dirt from washing banks would make the water too turbid to be considered a satisfactory source of water supply.

Quantity—The original proposal was to furnish 500 inches at the reservoir about five miles from town. The project includes about 19 miles of open ditch, a short tunnel and about 11 1/2 miles of pipeline. A weir measurement on Little Applegate at an elevation 167 feet above the divide between the Sterling creek and the Poorman's creek, and about 1.6 miles up the creek from the present head of the Sterling ditch, gave a measurement of 259 inches.

A weir measurement on Glade fork near the same elevation gave 155 inches, a total for the two forks of 414 inches, at such points as the new or amended diversion would require.

This measurement cuts the possible delivery of the amount named in the original offer below the 500 inches. Further, there would be a loss in seepage and evaporation in the 19 miles of ditch during the low water flow equal to about 25 per cent of the amount diverted. This would make the low water delivery, if all were diverted, about 311 inches at the mine, and approximately the same amount at the reservoir.

Cost—Although the offer is to deliver the water within the city limits for \$230,000 (now amended to 300 inches for \$220,000), I nevertheless submit an estimate of the cost of the work to be done.

Table with 2 columns: Item, Amount. Rows include Diversian, Two-and-one-half miles ditch, capacity, 2500 inches, one cubic yard solid rock per lineal foot, The flumes would be of short length and are included in the ditch above, Tunnel, 3000 feet at \$15, Two and one-half miles inverted siphon, 6000 feet steel at \$3.25, 6000 feet wood at \$2, Three and one-half miles 14-inch wood pipe at \$1.50, Five miles 16-inch wood pipe at \$1.85, Reservoir, Regulation, Roads, clearing and hauling, Engineering, surveys, superintendence.

Total \$363,430
Necessary lands, right of way and extension figured into the other projects are not included here.

Of the above, about \$140,000 is for pipeline and reservoir.

The Big Butte proposition will be published tomorrow. Selecting from the Several Projects.

In giving you my opinion on the proper selection of a supply from the many sources named, I have due regard to the character of the water delivered in the reservoir as well as at the source. Greater weight should be placed upon the quality of the water than upon the quantity or cost. In selecting, consideration must be given to maintenance as a factor of the total cost. For these reasons I would say that the Sterling and Big Butte projects, having open ditches or flumes for more than half of their lengths, which would be a menace to the health of the public, should not have first place.

The pumping proposition I do not recommend, for the reasons stated in my reply to the third proposal to pump from Rogue river: That before 30 years the total cost of the water paid for under a pumping system

would exceed that from a gravity supply, with the added doubt that the filter may some time go wrong and leave the city without that safeguard. The Wasson canyon and Fish lake propositions, costing so nearly alike in amount, the quality of the water from either system comparable for a domestic supply, compel me to state that you would make no mistake in choice of a system if either one were adopted.

Weighting the Two, Side by Side.

Quality. A slight advantage for Wasson canyon on account of isolated watershed.

Quantity. A material advantage for the Fish Lake company on account of certainty.

Cost. About equal; possibly a slight advantage in favor of Fish Lake when the auxiliary line from Little Butte to Wasson canyon is considered.

My recommendation is that you take up with the Fish Lake company's proposal, paying for only such amount of water as the pipe line is able to carry, say 250 inches.

Respectfully submitted, W. J. ROBERTS, Consulting Engineer.

KLAMATH FALLS REPORTS BUSINESS IS GOOD

KLAMATH FALLS, Or., Sept. 30.—Much activity in all lines is the rule in Klamath Falls and vicinity at this time.

Two new brick blocks are now well under way and a third has the foundation completed. Many residences are being erected, nearly all being of a better class than originally built here, being modern bungalows.

The Hot Spring company is having a modern bathhouse built to exploit the famous hot springs of Klamath Falls and is also engaged in laying cement sidewalks on many of the residence streets.

The Klamath Falls Light and Water company alone has spent thousands of dollars in pipeline extensions and the building of two new reservoirs, and still has a large force of men in the field.

Two large power plants on Link river are nearing completion. Moore brothers will supply light to the valley town, and the power generated in the government plant will be used for the pumping of water to the higher lands of the irrigating system under construction.

Railroad camps with large forces of men are now maintained within sight of this city, and the government is employing a large force on the canal work and flume.

As a together, the activity in the Klamath country is very marked. Business is good.

UNCLE SAM PASSES OUT COIN TO KLAMATH INDIANS

KLAMATH FALLS, Or., Sept. 29.—Every man, woman and child on the Klamath Indian reservation is to be given \$50.35 within the next ten days.

Several years ago the government purchased a large tract of land belonging to the Indians, but not within the boundaries of the reservation, and a \$25,000 cash payment was then made, \$250,000 was placed to their credit, drawing 5 per cent interest, and a sum was also set apart for the construction of irrigation ditches. It was provided that the interest each year would be given them and 10 per cent of the principal, if asked for. The Indians asked for it this year, bringing the total amount to be given them \$52,500.

REAL ESTATE TRANSFERS.

L. L. Hamilton to W. J. D. Anderson, lots 31, 32 and 42, High land addition to Medford, \$ 650
T. W. Osgood to Oliver Jones, right of way 1
Jesse W. Adams to G. W. Wheel, er, 10 acres in D. L. C. 67, township 28, range 1 W 1000
Charles M. Wolgast to J. T. Eads, property in Medford 19

SPORTING NEWS

"Cholly" Hartman, Portland's crack southpaw, who was drafted by Connie Mack for the Philadelphia Athletics last season's team in Portland, will finish the season with the Beavers. He was traded to Boston by Philadelphia and Mackie gets him from the Beavers to finish this season and for next year.

The Portland aggregation of ball players has awakened at last and won a large majority of the games played with San Francisco and Oakland, but too late to take first place from Los Angeles.

Packey McFarland, the great stock yards fighter of Chicago, has challenged Battling Nelson, who has won 45 fights without a defeat, to fight for the lightweight championship of the world, and before many months the pair will probably be matched. Before the last Gans-Nelson fight he was out with a challenge to the winner, and his judgment of fighters was that good that he picked the Dane as his probable next opponent.

New York, Chicago and Pittsburg are bunched in the contest for the pennant of the National baseball league, only a few points separating them. The same can be said of Detroit, Chicago and Cleveland in the American league.

The Chehalis, Wash., baseball team holds the world's record for number of straight games won by either amateur or professional clubs, having won 27 games without a defeat and playing against the best clubs in southwestern Washington, and some of the crack Tri-City league teams. The club also holds the pennant for southwestern Washington.

Who Buys the Product of Your Hand?

Does the would-be protector of your home, the fat stove peddler, who sells you a common range for \$39.50 and when the note is due you find it was for \$79 appeal to you as the man to patronize? Has he ever paid any taxes to keep up the roads? Did he pay any money on the book that has gone all over the world to bring new people into this valley and double and treble the price of your holdings? Does he support your church or schools? Is he interested in this country in a way that it will benefit you? Is he not an imposition charging you an exorbitant price for what he gives you only to get your money, send it back to St. Louis? Is he not violating the laws when he refuses to take out license so to do? We have merchants who own property, have their all invested right here, who can and will sell you better stoves and ranges for less money and will not make and false statements or violate any law, in doing so. Where would be your market for butter, eggs and vegetables if all the merchants should quit and turn over the mercantile business to peddlers. Patronize your home merchant, so he can patronize you.

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Write for program of studies, also for booklet concerning dress regulations, etc.
Address: SISTER SUPERIOR, ST. MARY'S ACADEMY, MEDFORD, OR.

SHOE PERFECTION
So many of the defects in shoes, such as breaking down of box toes and heel counters, ripping of stitching, etc., which prove a constant source of annoyance, as well as a detriment to the shoe, result from lack of proper attention to the details of construction.
The Florsheim SHOE
Van Dyke's
Prepaid Railroad Orders.
Something which is of considerable interest to the public generally and which is perhaps not generally known is the system of prepaid orders now in effect between stations of the Southern Pacific company and all points in the United States. By means of this system tickets may be purchased at Medford from any place in the United States and mailed or telegraphed direct to the party wishing to come here. Sleeper accommodations and small amounts of cash in connection with these tickets may also be forwarded at the same time.
Reduced Rates to San Francisco, Round Trip.
Account the trans-Mississippi Commercial Congress to be held in San Francisco October 6 to 10, the Southern Pacific will sell tickets for the round trip at a fare and one-third, sale date October 3 and 4, continuous passage in both directions. Final return limit 28 days from date of sale. Further particulars at the depot.
Anybody wishing a nice, new residence property, 100x150 feet big, with lawn, fruit and ornamental trees, logan and strawberries, modern in every way and located on the best street in Medford, should address P. O. Box 512.
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