

THE ARTESIAN BASIN

PROF. I. C. RUSSELL DISCUSSES
SNAKE RIVER COUNTRY.

A Rough Estimate of the Agricultural Land in Idaho and Oregon Lying Within the Lewis Basin is Not Less Than 1000 Square Miles.

In a preliminary report on artesian basins in Southwestern Idaho and Southeastern Oregon, water supply and irrigation paper No. 78 now in press, United States geological survey, Prof. I. C. Russell discusses a subject of great interest as affecting large areas of private and public lands in the West.

The region embraced includes in a general way, the Snake river plains, Idaho, and large portions of Malheur and Harney counties, Oregon. Within this region four artesian basins are noted: the Lewis or Snake river basin, lying in both Idaho and Oregon; the Otis artesian basin, in Otis valley, about six miles north of Drewsey; the Harney artesian basin, in the broad valley in which lie Malheur and Harney lakes; and the Whitehorse artesian basin, situated about 10 miles east of the higher portion of Stein mountain—all three in Oregon.

Lewis Basin.
The portion of the Lewis artesian basin in which flowing water may be obtained is situated along Snake river between Glen's Ferry and Weiser, where the rocks on each side dip toward the canyon of the river. The margin of the basin in Idaho is not yet actually mapped out, but within it are included the Snake river plains in Elmore, Ada and Canyon counties, and the country in Owyhee county which is drained by the northward flowing streams. In Oregon its boundary is still less definitely known, but it includes the greater part of the northern third of Malheur county. Within these limits, the artesian head or the elevation below which flowing wells may be expected, is about 2500 feet above the sea.

Persons wishing to put down artesian wells can find the 2500-foot contour for this region by consulting the following topographic sheets, published by the United States geological survey (which may be purchased of the director of the survey for five cents each), namely, the Mountain Home, Blauka, Boise, Silver City, Nampa and Weiser sheets. There are no good maps of the region in Oregon embraced within the Lewis artesian basin. A rough estimate of the agricultural land in Idaho and Oregon lying within the Lewis artesian basin and below its known artesian head shows it to be not less than 1000 square miles.

Otis Valley.
Otis valley is a structural basin in

which about 1900 acres are now under irrigation, and in which about 10 or 15 square miles of good land are below the probable artesian head suggested by the elevation at which warm springs come to the surface.

Harney Basin.

The Harney artesian basin embraces roughly the region drained by streams flowing into Malheur and Harney lakes, and includes perhaps two-thirds of Harney county, the length of the basin north and south being about 135 miles, and its breadth east and west approximately 50 miles. A rough estimate based on the general map of Oregon indicates that the area within which artesian water may be expected in this basin is about 1000 square miles, but this includes Malheur and Harney lakes and the swamps bordering them.

White Horse Basin.

The Whitehorse artesian basin, containing perhaps 30 square miles of good land, lies east of Stein mountain. The apparent shape of the rocks beneath the valley and the presence of warm springs seems to warrant a careful test of the artesian conditions of the valley with a reasonable expectation of obtaining flowing water.

Prof. Russell insists that all wells drilled should be cased with iron casing and that the records of all wells drilled in these artesian basins should be carefully preserved, and suggests that, in every state in which artesian basins occur, laws should be enacted prescribing that every drill-hole in an artesian basin should be properly cased, that every artesian well when not in use should be securely closed, that every abandoned drill-hole in an artesian basin should be completely filled with impervious material, and that the observance of these laws should be rigorously enforced.

A Good Example to Emulate.

The ladies of the Capital City Improvement League have started out like they mean business. They have secured a horse and cart and hired a man with a shovel and hoe to clean up the alleys. If necessary, they will lay in a stock of brooms. It is war on dirt, dust and filth. Things have got to be kept clean around the town, and this may as well be understood. Hurrah for them! May they succeed in making Salem a clean and presentable city, and consequently a healthy one.

Wants a Big Job.

Miss Isabelle Pope, of Handy, Or., yesterday made application to Governor Chamberlain for the appointment as state game warden to succeed L. P. W. Quimby. This is the first application from a lady the governor has yet received, for an office of this kind. She gives some pretty good references and bases her application upon the fact that three other states in the Union have female game wardens and sees no reason why Oregon should discriminate against them. —Salem Statesman.

A damaged footballer has just been fitted at a London hospital with a celluloid nose.

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SITUATION

The properties of the HIGHLAND GOLD MINES COMPANY, consisting of twelve claims, (240 acres), and known locally as the KNAPP GROUP OF MINES, are situated on the famous MOTHER LODE system of the Sumpter district, in Baker county, state of Oregon, and on the great Elkhorn divide at the head waters of Rock Creek flowing to the east and Cracker Creek flowing to the west, through that renowned Cracker Creek district of Eastern Oregon, where are situated upon the MOTHER LODE system the North Pole, E. & E., Columbia, and Goleonda mines, known the world over as the "Big 4" of Eastern Oregon.

MEMORANDA OF SAMPLES TAKEN FOR THE PAST THREE YEARS.

BY COL. M. L. LOHMIRE

1899—Glasgow drift west side creek, heavy sulphides, ore from rich streak	\$330.00
From crosscut east side of creek on Eldorado, 16 feet wide, taken in 5-foot sections, north wall	5.78
Six feet in center vein, large sample	2.59
Five feet south side, large sample	5.28
The Bannock Burn tunnel, 7 feet on foot wall, large sample	8.25
Bannock Burn tunnel, 10 feet, 6 inches width, large sample	7.70
Back 8 feet from face and 2 feet next to hanging wall, large sample	15.90
Same body 14 feet back from face, 4 feet of ore	22.32

From Glasgow drift west of creek, from ore on dump in boxes	398.33
From same point in Glasgow drift, 11 inches wide, 20 feet back from face, 9 inches wide, same drift	491.88
East side of creek, in crosscut next to shaft on Eldorado, 15 feet wide	4.70
Float in and around open cuts half way up the mountain from east end of Bannock Burn tunnel, general sample	27.00
At open cuts near west line, values obtained ranged from	\$28.00 to \$29.00
Small streak in open cut near west end line of Bannock Burn	360.00
Sample from surface near creek east side, 8 feet wide	2.43

JULY—1900.

Bannock Burn tunnel face, 6 feet in width, tunnel having been driven ahead a few feet	4.10
General sample, 6 feet of ore 8 feet back from face of Bannock Burn tunnel	10.82
General sample of 4 feet of ore, 30 feet back from face of Bannock Burn tunnel	5.70
General sample, 8 feet of ore in open cut 250 feet west, further up the mountain from Bannock Burn tunnel	5.53
General sample next to foot of wall, same place, General sample 2 feet in width, hanging wall 250 feet west of Bannock Burn tunnel	2.25
Bannock Burn claim near west end line 2 1/2 feet ore	9.64

Bannock Burn claim, general sample, from large boulders of ore half way up the mountain	16.01
Sample from 14 inches in face of Glasgow	27.10
Sample of lot of float 1000 feet west of Bannock Burn tunnel	4.39
Sample of sulphide ores from Glasgow drift, west of creek	219.00
General sample, open cut 700 feet west of Bannock Burn tunnel	13.22
Memoranda of sampling and results for the fall of 1901 misplaced or lost, but results were good.	
Sampling this fall from the Eldorado tunnel in the face, general sample ran from	\$3.76 to \$15.76 per ton.
Sample of 18-inch gouge or selvage	4.58

WIDTH AND LENGTH OF VEIN

The vein is traceable the entire length of the claims, thirty-five hundred (3500) feet, and the ore shoots are known to be of immense length, and the values in the same evenly distributed throughout.

The width of the vein varies from ten (10) to forty (40) feet, and has a northeasterly and southwesterly strike of course; the permanency of which has been demonstrated by the development of the other mines on the now famous MOTHER LODE of the Sumpter District.

The vein on this property has been explored thoroughly on the surface by means of shafts, tunnels and open cuts, and is known to carry commercial values the entire length of the claims.

FREE TRIP TO THE HIGHLAND MINE

If you seriously consider an investment in the Stock of the HIGHLAND GOLD MINES CO., and wish to make a personal examination of the MINE, and personally learn the facts, you may do so without cost to yourself. We will pay your expenses from your home to the

MINE and return; and if you find the facts as represented, all we ask in return is a fair and reasonable investment, but if you find that the facts have been misrepresented, we will not ask you for an investment, and forever hold you harmless from all necessary expenses on account of your visit and examination.

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