

STATE ENGINEER
Salem, Oregon

MARI... 5678

Well Record

STATE WELL NO. 6/1-19D(1)
COUNTY Marion
APPLICATION NO. GR-71

OWNER: Ben Fisher

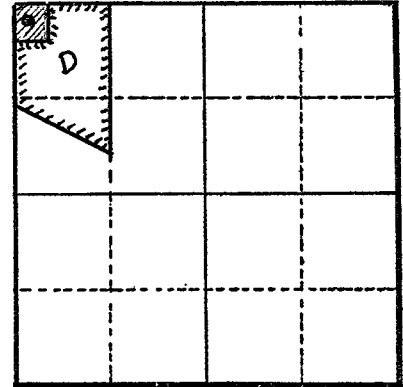
MAILING ADDRESS:

LOCATION OF WELL: Owner's No.

CITY AND STATE: Silverton, Oregon

NW 1/4 NW 1/4 Sec. 19 T. 6 N. S., R. 1 E. W., W.M.

Bearing and distance from section or subdivision corner
350 feet East and 300 feet South from NW Corner, Section 19



Section 19

Altitude at well

TYPE OF WELL: Drilled Date Constructed Mar. 1951

Depth drilled 100 feet Depth cased 100 feet

CASING RECORD:

6-inch casing set from 0 to 100 feet

FINISH:

Miller slots cut between 65 feet and 80 feet

AQUIFERS:

WATER LEVEL:

6 feet below land surface

PUMPING EQUIPMENT: Type Pacific Jet H.P. 2

Capacity 45 G.P.M.

WELL TESTS:

Drawdown ft. after hours G.P.M.

Drawdown ft. after hours G.P.M.

USE OF WATER Irrigation 5 Temp. °F., 19

SOURCE OF INFORMATION GR-61

DRILLER or DIGGER Simon

ADDITIONAL DATA:

Log no Water Level Measurements Chemical Analysis Aquifer Test

REMARKS:

911-19D
M. Fisher

GROUND WATER BRANCH
Box 3418 - 623 Post Office Building
Portland 8, Oregon

September 22, 1950

RECEIVED

SEP 25 1950

STATE ENGINEER
SALEM, OREGON

Mr. Ben Fisher
Route 1, Box 363
Silverton, Oregon

Dear Mr. Fisher:

In reference to your September 20 request for information on probable ground-water conditions on your tract (NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 19, T. 6 S., R. 1 E.):

Apparently your place lies on the terrace just west of Four Corners and just north of the flood plain of Abiqua Creek. The surface there is underlain by a hundred feet or more of old terrace alluvium. The mountain spurs to the south and west are all composed of Stayton basalt. The flood plain of Abiqua Creek is underlain with a comparatively shallow layer of young alluvium.

The old terrace alluvium like that beneath your place in general consists of interbedded layers of clay, silt, sand, and gravel. I do not have sufficient information in your neighborhood to state the percentages of sand and gravel in the alluvium at your place but I would expect those permeable materials to be represented by some strong but irregularly deposited layers of gravel in front of the Abiqua Canyon. The depth of the old alluvium is also unknown because the slope of the bedrock from the mountain front westward under the alluvium is irregular. Probably inquiry among your neighbors who have wells may give you some information on the depth of alluvium overlying bedrock and the percentage of permeable strata -- sand and gravel -- in the alluvium.

If you should not be able to obtain enough water in the alluvium (because of lack of gravels or because of its thinness) you might need to try the bedrock. If the Stayton basalt forms the bedrock there, as it probably does, water might be developed from it. Usually a 6- or 8-inch well penetrating 100 to 200 feet into the Stayton basalt produces 50 to 100 gallons of water per minute.

Water level in a well that develops water from the alluvium on your property will be a few feet above the surface level of Abiqua Creek to the south. Ground water from the basalt might be a little higher due to the westward dip of the basalt flow planes.

Your letter does not state the probable size or use of your well, but I presume it is wanted for irrigation, probably of 20 or more acres of land. Hence, at least 100 gallons per minute of water might be desired. If that presumption is correct you might consider a fairly large diameter well, 10 inches or so, in case you wish to develop water from sand that might require the setting of a screen, or in case you might wish to deepen the well into the bedrock below.

Sincerely yours,

R. C. Newcomb
District Geologist

RCN:rls

cc: Mr. Stricklin ✓

6/1-195
MARION

GROUND WATER BRANCH
Box 3418 - 623 Post Office Building
Portland 8, Oregon

July 19, 1951

Mrs. Gobler
Willamette Real Estate Co.
172 S. Liberty Street
Salem, Oregon

RECEIVED
JUL 21 1951
STATE ENGINEER
SALEM, OREGON

Dear Mrs. Gobler:

Reference is made to your telephone inquiries of yesterday and today as to the possibility of developing ground water for irrigation on a tract of 38 acres described as the SE 1/4 sec. 19, T. 6 S., R. 1 E. The usual water requirement per acre to be irrigated in this region is given by agriculturalists as a minimum capacity of about 3 gallons per minute.

This office collects basic ground-water data in cooperation with the State Engineer and makes it available by letter to individuals located in places not adequately covered by our publications.

The rock underlying the hill slope on the tract of your concern is known collectively as the Stayton lavas. It consists of a tabular series of old lava flows that now dip about 2° to the westward. The Stayton lavas transmit moderate amounts of ground water, largely in the interflow planes. Eight-inch wells drilled 100 to 150 feet below the regional water table into this rock commonly produce water at the rate of 50 or so gallons per minute. Large 10- or 12-inch wells yield considerably more.

The regional water table will probably be encountered at about the level of Abiqua Creek adjacent to the tract. Water in the deeper layers of the basalt may rise slightly above that level, and perched water streaks in the basalt above the regional water table will cascade down the well to the water table level. If the presently-used spring is above the well location, it is unlikely that the well would cause a diminution of the spring; however, a well might affect small springs on the hillside below. If so, its adverse effect could be neutralized by casing the well down to the regional water table. Wells in the lava rock are commonly cased only a few feet into the rock to which the casing is usually sealed with a cement grout.

The lavas are estimated to be about 200 to 300 feet thick beneath that tract and drilling should not be extended into the formations below the lavas, as those materials are non-water bearing or saline-water bearing, shaley beds.

Sincerely yours,

RCN:rls
cc: Mr. Stricklin

R. C. Newcomb District Geologist