

State Department of Geology and Mineral Industries

702 Woodlark Building
Portland 5, Oregon

MEMORANDUM ON WOODWARD WATER WELL, Hillsboro, Washington County, Oregon

The background leading to a request for inspection is as follows:

A well was drilled in the NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21, T. 1 S., R. 2 W. on the property of a Mr. Campbell, 6 miles southeast of Hillsboro, Oregon. The well, approximately 50 feet above the Tualatin River, was drilled to a total depth of 104 feet. At 100 feet a gravel bed was encountered and proved to have a thickness of 4 feet. The pebbles range up to 2 inches and are weathered basalt for the most part. According to the driller, Mr. Harty, the well has a capacity of 2500 gallons per ~~hour~~ minute.

Another well was drilled approximately 100 yards north of this first well on the property of Mr. Woodward. A gravel stratum was encountered in this second well at about the same depth as that found in the first. Here, however, the gravel bed was no more than 1 to 2 feet in thickness and the pebbles although of the same general composition are predominantly less than 1 inch in size. According to Mr. Harty, a large amount of silt was intermixed with the gravel and repeated bailing of the hole failed to clear the water. The hole was deepened to 120 feet, but since no other gravel stratum was encountered it was decided that Mr. Woodward would make a request to the State Department of Geology for an inspection and recommendation.

Unfortunately there are no drilled wells in this vicinity that have gone as deep as 100 feet. Piper's* report shows the nearest one approximately 2 miles away in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 28, T. 1 S., R. 2 W., and the accompanying information indicates the well as having a capacity of only 2.8 gallons per minute with a draw-down of 210 feet. According to Dick Young of the U. S. Geological Survey, Ground Water Branch, the gravel encountered is in the Troutdale formation and is very lenticular in aspect. The only other possible source of water was at the top of the underlying basalt (Columbia River). Since the basalt is believed to be at least 900-1000 feet deep in this general area, the cost of drilling a well to that depth would be prohibitive for the private user.

Ramp and Corcoran visited the well and talked the situation over with Mr. Harty. Possible gravel packing and screening of the well to clear the water and prevent caving was considered impractical: (1) the cost for such a job would be somewhere in the neighborhood of \$1000-\$1500 for an adequate job; (2) the results on a long term basis would probably be unsatisfactory from previous experience with such jobs; (3) the sand and silt are of too fine a grain size to be adequately screened out.

The conclusion reached by all concerned was the obvious one of re-drilling a well as close to that of Mr. Campbell as was practicable. The spot chosen was approximately halfway between the first two on the line separating the two properties. Mr. Harty has promised to let the Department know the results of the third well and to include a driller's log to be added to our file.

Report by: REC, March 2, 1953

* Piper, Arthur M., Ground-Water Resources of the Willamette Valley, Oregon: U. S. Geol. Survey Water-Supply Paper 890, 1942.