

Building Oregon's Ground Water Observation Well Network

Well Measurement

The Oregon Water Resources Department relies on existing, privately owned water wells and landowner permission to access and measure ground-water levels across the state. This is done for the purpose of tracking the health of Oregon's ground water reservoirs. Reliance on long-term access to privately owned wells has prevented the Department from developing and maintaining extended water level records across the state.

Information generated through the Department's well measurement program is served electronically and is available to any that are interested in accessing it. The records developed from this program assist the Department in matters of investigation, water allocation and water regulation, and assists a variety of interested parties ranging from landowners and their water supply concerns to the real estate community and home sale interests.

Well Access

Under the current structure it is necessary to have a long-term commitment with well owners to develop an extensive record of water-level trends over time. Well access is interrupted when wells change ownership, wells are reconstructed or abandoned, or changes in water use prevent ground water data from being collected.

Dedicated Wells

This proposal recommends a drilling program that adds a network of new dedicated observation wells across the basins of Oregon. The wells would be located on public lands or lands where easements could be attained for the purpose of long-term monitoring of the health of Oregon's aquifers. Each of the wells would be fitted with continuous water-level recording devices. The wells would be contracted and drilled by Oregon licensed well drillers selected through a bid process.

Digital recording devices allow for a much more detailed data collection program when compared with quarterly spot measurements. Long-term recorder sites are analogous to surface water recording gages in that they provide an extended record of continuous data at a location. Ground water recorder sites provide information on changes in ground water storage (due to climate changes or resource development), aquifer response to recharge, confinement, and well-to-well interference.

Cost Breakdown

This program anticipates six-inch diameter wells drilled to an average depth of 500 feet (some deeper, some shallower) with a grout seal extending to within 100 feet of the bottom of the hole. Each well will be instrumented with a digital recorder and barometer. All of the wells will be fitted with telemetry, and it is anticipated that drill cuttings for approximately half of the wells will be analyzed for geochemical signature.

Estimated well drilling cost: (\$22,500 x 40 wells)	\$ 900,000
Recorder/ Barometer: (\$4,000 x 40 wells)	\$ 160,000

Telemetry and solar power: (\$4,000 x 40 wells)	\$ 160,000
Recorder shelter and pad: (\$2,000 x 40 wells)	\$ 80,000
Cuttings analysis: (\$2,000 x 20 wells)	<u>\$ 40,000</u>
Total Proposal Cost:	\$1,340,000

Stimulation Benefits

The dollars expended on this program are distributed over many service trades. The construction of the wells and the materials will be contracted by Oregon licensed well drillers across the state; the recorder and telemetry equipment will be purchased from a USA company; and the cuttings analysis will be contracted with an Oregon geological consulting firm.

For more information contact:

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