

# Private Water Wells and Transfers of Real Property

## A case Study.

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The following is a record of events that occurred during the course of a sale and transfer of a local residential property that had as its only source of water, a private water well. This case study points out one of the many reasons to employ a professional water well inspector when purchasing a property with a private water well.

The property in question was listed with a qualified real estate agent with experience in residential properties, but with little or no experience with properties supplied with water by a privately owned water well. The sellers had owned the home for several years, having purchased the property through a bank foreclosure sale. Over the course of the past several years the couple had maintained the property, made improvements, and counted daily on their well to meet their inside and outside water needs. During the time the sellers owned the property they did not have to perform any major repairs to the well or pumping equipment.

At the time of completing the Seller's Property Disclosure Statement (SPDS) regarding the water well, the sellers had very few facts to list on the form. Neighbors had told them that the well was 200 feet deep and had a static water level of 60 feet. They did not know the size, or depth setting of the pump. The equipment



had all been installed by the previous owner ten to twelve years ago.

The outdated information was reported on the SPDS form and provided to the buyer's agent. During the course of the inspection period the buyer's agent made reference to the private water well, and together the buyer and agent did a walk-by inspection of the water well and pressure tank. No formal inspection of the water well or related equipment was requested or completed even though a full inspection of the home was made by a Certified Home Inspector. The buyer relied on the disclosure statements of the seller, seller's agent, and his agent that the property was furnished with ample water for his needs.

A few months after the sale had closed some ominous symptoms of water supply problems began to appear. The new

owners noticed air, and sometimes dirt and fine sand, in their water. In addition, when ever the irrigation system was running there was very low water pressure inside the home. After several weeks of frustration and annoyances, the new owner contacted a water well contractor to check out the system and tell him what was wrong.

The investigation of the well and equipment revealed a sometimes all too frequent situation. First of all the well was only 170 feet to the top of fill material. The static water level (the depth to water in the aquifer when no pumping of the well was taking place) was 150 feet. It appeared that the pump was set at 160 to 165 feet as that was the measured pumping water level in the well when the pump was breaking suction.



Over the years the possibly 200 foot water well slowly filled in with fine sand and silt brought in by the water being pumped to a depth of 170 feet. As the well filled in with silt the bottom set of perforations in the well casing became plugged. During the same period of time the aquifer was being pumped by this well, as well as other wells in the area, and the static water level steadily declined.

The well and pump contractor gave the home owner the sad news that his well

was about to go dry as far as meeting his current needs. He has several choices of actions that could be taken to preserve his water supply. The first option is to have the pump and motor pulled and the well bailed back to the original reported depth of 200 feet. This would enable the submersible pump and motor to be lowered another twenty feet or so and extend the life of the well for a few years.

The second option would be to drill the well deeper, line it with a smaller diameter PVC well casing, and set a bigger model pump deeper in the well, maybe to 240 feet below the surface. Either option would provide the home owner with additional water from the well, but would do nothing to update or repair the aging water tank and electrical controls. Twelve or more years had made it's mark on the steel pressure tank and the electrical controls of the system. The contractor recommended it would be wise to update the tank and controls at the same time the well is deepened.

Estimates for the cost of these improvements were given by the contractor. In order to pull the pump, clean the well, re-install the pump and motor twenty feet deeper would cost the homeowner \$4,500. To pull the pump, deepen the well and re-install a different pump fifty feet lower would cost between \$9.500 and \$12.000. To replace the above ground pressure tank and electrical controls, bringing the service up to current building codes would cost approximately \$5,000 more.

When the cost of maintaining his very essential water supply gets to this level it becomes a major irritant to the buyer, and he begins to wonder why this situation wasn't explained to him during his purchase of the property. He can't help but wonder if he wasn't misled, certainly

misinformed, by the seller and his own agent. Does he have a claim against his agent and his agent's broker for recovering his unanticipated costs?

We can look back at how the home owner's problem with the water well developed, both during, and after the purchase. The first mistake the buyer made was to rely completely on the information provided by the seller, and the seller's agent. The seller's may have provided the only information that they had regarding the well, but had not realized that over the years the conditions had changed. His second mistake was not to engage the services of a professionally qualified person to inspect the water well and equipment during his allotted inspection period.

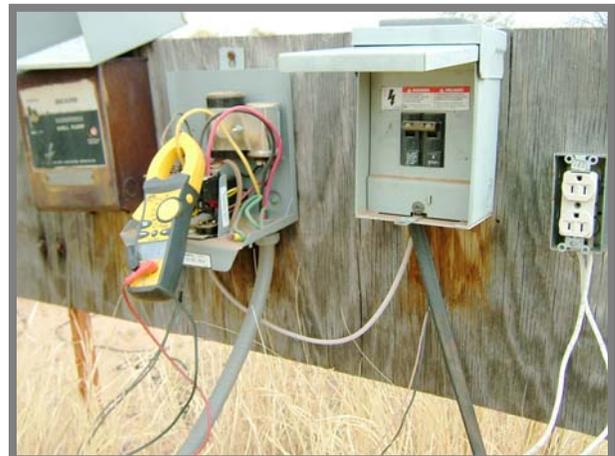
Like any other man made structure, water wells can deteriorate with time. The aquifer was being depleted as the well was being filled in with fine grained materials. The resulting reduction in perforated openings in the well casing caused higher flow velocities through the remaining openings. The higher flow velocities of the water rushing into the well to replace the water being removed picked up even more sediment and deposited it in the bottom of the well.

Natural deterioration of the steel pressure tank and associated plumbing due to corrosion and rusting took it's toll on the system over the years. The loss of well performance wasn't noticed until the new owner placed heavier demands on the system. The aquifer depletion was a naturally occurring event that takes place any time the total ground water demand exceeds nature's rate of replenishment.

To the untrained eye, all private water well systems may look alike. It takes an experienced professional to detect and

evaluate the often hidden specific details of water well health and performance. Current replacement values for some private water well systems can be worth \$20,000. For such a significant, and truly essential, part of a residential property, it can hardly be overlooked during the obligatory buyer inspection period. The Arizona Association of REALTORS® Domestic Water Well Addendum form, item C. states that the buyer shall perform a well inspection if well performance or water quality is a material matter.

Real estate agents who fail to recognize the significance of getting a professional water well inspection could be headed for trouble down the line. Hard factual information about water wells is not easily obtained. It takes special equipment to measure static and pumping water levels down inside a water well. It takes specially made testing tools to measure and evaluate the electrical components of water pumping equipment. It takes an experienced eye to detect aging conditions of steel tanks and associated plumbing components.



Lastly it takes a professional to inspect, test, evaluate, and compose a comprehensive report that is understandable by both the buyer and the seller. The inspection report must cover and report the existing conditions, as well

as presenting a clear understanding of just how much life remains in the components of the system. If items are noted that need immediate attention, then the estimated cost of those improvements should be presented also. An inspection

of the water well is as essential as the inspection of the home itself. Make sure the buyer does his due diligence not matter how passionately the seller promotes the water well.

*This the third of a series of informative papers about private water wells by Gary L. Hix, Registered Geologist, Certified Well Driller / Pump Installer. Gary is a former licensed water well driller and a certified pump installer turned consultant who now performs water well inspections for transfers of real estate.*