

Before I bore you with the details of my story, I want you to know, it does have a happy ending, but that's only due to the care, knowledge and skill of Hawk Drilling. Without them, I don't know what my family would've done for water after we went all in on building a new home in 2015.

We were building a home in Knox, NY in 2015 and didn't know much about wells or the geology of the area, I am, after all, just a numbers guy in my day job. The goal for the home was to build a new place to raise our children, in a quiet country setting where we could also have my parents live as they were becoming somewhat less independent and where my in-laws could have a home on the plot next door as they would be shortly behind. We knew there were plenty of homes in the area and all using wells as their home's water source, so we weren't too concerned about the level of difficulty finding water on a 23 acre plot of land since, well, everyone else had, so, how hard could it be? I'll never ask such a stupid question again.

We, in conjunction with our project general contractor, agreed it would be best to use a 'local guy #1' as the well driller, someone from that immediate area that was a third generation well driller with a good reputation. When our 'local guy' showed up before the spring thaw to assess the site, he asked us where we wanted to put the well. Again, not knowing much about wells or the geology of the area, to us it seemed that he must essentially be stating that there was plenty of water to be had on site in the area, so we could pretty much dictate where we'd like to have the well located. I selected a spot and asked him if that seemed like a good location and likely to yield a well. He shrugged, that should've been my first sign.

In the meantime, our general contractor believe in water divination and brought in a friend with a wooden diving rod whom coincidentally liked the spot we chose to drill, as well as a few other spots.

After the spring thaw and our septic approval came through, we got the okay from the county to drill the well. On the appointed day the 'local guy' was to show, he called me in the afternoon to state he drilled in the designated spot to a depth of 320' and had nothing. I asked him his suggestion based on his experience and history of drilling in the area, to which he replied, drill another 100' and if we still don't have anything, as long as we frack, we should get something. After speaking with my general contractor, the consensus was to follow the experienced 'local guy's' advice. The next day he showed up in the morning, set the drill rig up again and drilled. Before noon he called my general contractor to say they went 200', not the agreed upon 100', fracked and have nothing. Further, he asked why we wanted to spend so much money and time on that well as the price was now literally up to \$20,000 for a dry well. Needless to say, that was the end of that well driller for my project.

Next up, 'local guy #2', same type of experience as the first 'local guy', a third generation driller, grew up in the immediate area and did most of his drilling in the area. He divined water himself as well and liked some of the same spots as my general contractor's friend. He had a spot he said should yield and drilled. This driller hit water around 280' and drilled open to 400' to increase the storage capacity as it seemed like it's refill rate was just under 1 gallon per minute, after he had us frack the well for an additional fee. That would allow us to store somewhere over 600 gallons in the well head, so the refill rate wouldn't be an issue. That sounded great, and we had the county out to verify the well and rate, test the water, etc., and okay the well provided we had a water storage tank for capacity. We obtained county approval and went forward to build the house.

As the house was finished and we obtained our CO, the general contractor went to bleach the water lines and pump the system to make sure it was running clean, but he couldn't get water. Long story with this issue short, as it turns out, there were caves under our property and the water level dropped out of the well. To this day, on occasion, the well has water 4' from the top of the well, or sometimes next to none.

We didn't know what to do, so the general contractor called 'local guy #2' who essentially thought the best bet would be to try to drill in another part of the property where there is an underground spring feeding our pond. We agreed to try a short well, as the spring should be fairly shallow. We missed the spring, so we fed the pond through a sand and rock filtering system, the type that the state has been known to use on occasion, to feed the shallow well head and at least have some water for the time being. This would allow us the ability to only have to pay for, not two and save for a more solid well in the long term. In the short term, it also meant we couldn't take care of my parents as planned until it was fixed.

So far, three wells, more than \$40,000 and nothing permanent. Easy, right?

During all of this, incidentally, my in-laws drilled a well on their 10 acre plot adjacent mine and hit a well yielding 3 gallons plus per minute the first time out and drilled only to 250' using 'local guy #2'.

The pond lasted less than a year before something happened to the filtering process and it wouldn't yield 100 gallons over a 24 hour period, meaning we needed to apply the permanent solution before we were fully ready.

My brother-in-law fortunately heard about the issue and happened to talk to a co-worker who had just had Hawk Drilling in Ballston Spa out to perform a 'fracture trace analysis' on their land to prepare to drill a well. As it turned out, Hawk Drilling had someone that had a geology background and specialized in assisting landowners with finding the likeliest locations to drill for water. My brother-in-law showed me a copy of the full written report that included all sorts of maps about his co-workers property and where Hawk Drilling indicated the likeliest place to find water.

My wife and I compiled what funds we could and spoke with Sandra at Hawk Drilling sometime around August of 2016. She was very pleasant and compassionate toward our plight, even though I'm sure it wasn't the first time she heard such a tale. She put me in touch with Jeremy at Hawk Drilling, who has a background in geology. Jeremy agreed to come out and take a look at my land without having to agree to any services, however I did agree that I needed the fracture trace analysis done. He asked a plethora of questions about the property and it's geology, some of which I was now knowledgeable enough to answer. I emailed him some satellite images, surveys and maps of the site prior to his arrival and he obtained information on other local wells.

Between his information and the information I had and was able to gather from local neighbors, my land had a number of caves beneath it, as does the immediate neighboring area. The caves, without getting technical, essentially mean that one of my neighbors, about a ¼ mile away, has a well less than 200' that is an artisan well (it comes out the top the water pressure in the well is so high), while another potential neighbor drilled one well a few years back using an unknown driller and went 800' before giving up and deciding not to build on the property. As it turns out, water can be hard to come by where I build my

home, and a few hundred feet can make a big difference between living on oasis or having a dead dream in a desert.

Jeremy and I spent a few hours going over the maps together on site and walking the land. He oriented his maps with the layout of the land, looked at my in-laws' solidly producing well and imparted a bit of his knowledge as to the geology of the area to me. As it turned out, there were two geologic fractures that ran on my land, both of which could contain water, but one of which that was larger (which ran miles into the next county) and more likely to produce. On the side of our 23 acres where the house was built, Jeremy located the two fractures and noted they intersected at the back boundary, just off to the outside of my property line. Additionally, he noted my in-laws' well was fortunate enough to have fallen on the smaller of the two fractures.

Using all of this information, Jeremy decided that our best chance for a well if we only have one shot was to drill between the two fractures where they are close to intersecting while still within the bounds of my property line and in a place that was fairly well set to be able to bring in the well drilling rig and the support truck. I agreed to have Hawk Drilling perform the drilling since it became clear their professionalism and knowledge was readily apparent, especially compared to my two 'local guys'.

When speaking with Hawk Drilling's office regarding contracts, etc., we discussed my situation, what I had been through and that I had limited funds to do the drilling, install, etc. The Baldwin family (owners of Hawk Drilling) were all willing to work with me knowing what we had been through, even though none of it was their fault. We made an arrangement for Hawk Drilling to do the drilling, me to do the work of bringing the water line and electrical from the house to the well and for Hawk Drilling to provide and install a pump, drill through the 10" foundation for the line to go through and do the final hook up of the well, using as many of the old well supplies as possible. (minus the Tractor Supply pump the 'local guy' installed) This allowed us to work within our budget.

Hawk Drilling showed up the day of drilling, and Jeremy was the drill operator. He repeatedly checked the drill shavings to see what sort of material they were drilling through as different types of rock indicate different things about the history of the formation of the land and can tell him different things about the likeliness of water. Somewhere between 100' and 150' he hit water, but drilled a little further (up to around 180') to make sure it wasn't just a pocket. He then spent some time using the drilling rig to determine that we had some sort of well yielding about 1 to 1.5 gallons per minute. Jeremy was patient in making sure he was confident that it would yield, pumping out the well a number of times and pressurizing it a number of times to make sure it was refilling from a true water source and not just a pocket.

We collectively agreed to drill an additional just over 100' to go to 300' so we had storage since the refill rate was slow. Jeremy indicated that they could come back and frack if we felt the need, but since we were low on funds, if the yield was sufficient for now, we could do that at a later point in time. He also pointed out that the veins the water flows through to fill the well could open a little more as we use the well and that it may not even be necessary. Again, something none of the other drillers suggested.

On a side note, it is worth mentioning that I saw as they performed their work, they used American steel for the well casing and the well pumps they use are considered some of the best in the business.

I worked on the remaining installation items over the next week and once the trench was finished and filled, Hawk Drilling sent out their team to do perform the installation of the well pump and hook the system to my existing water softener in the house. When they were finished, we finally had what appeared to be a solid water source.

After a few months of use and no issues, my parents moved in around Christmas and even after adding two more people to the five already in the house, we have had no water issues at all.

I would definitely recommend Hawk Drilling to anyone looking to put a well in, be it their house, commercial business, or anything else. They were the first place I experience that put the customer first and didn't expect the customer to have some sort of expertise in the field they themselves claim to be professionals. Hawk worked with us and provided a level of comfort and support with the process that we were hoping the 'local guys' would. To this day, whenever anyone says the word 'well' around me, my ears perk up and if there is an opportunity, I mention and give the phone number for Hawk Drilling. They are a family run business that treated us like family.

And, if that doesn't tell you something about this company, their standard pricing for drilling, overall was a lower cost per foot than either of the 'local guys'.

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