GUIDE TO SELF-SUFFICIENCY

DRINK

We can teach you how to procure water for your family. For whiskey, you're on your own.

THE HOW AND WHERE OF WELLS

Forget Wi-Fi. Modern homesteader **BEN HEWITT** faced the greatest obstacle to living far from utility lines: How do you get water?

When I was one, my family moved from a large farmhouse in northwestern Vermont into a small cabin my parents had built at the edge of a nearby hardwood forest. The cabin featured neither electricity nor indoor plumbing. It was lit by smoky kerosene lanterns, and we bathed in a metal washtub filled with water heated atop an old wood-fired cookstove.

At first, my parents hauled totes of water to the cabin in the backseat of their rust-bitten Volkswagen Beetle. When they tired of this, my father rigged up a hand pump and managed to pull water from a stream nearly a half-mile distant and at least a hundred vertical feet below the cabin site. He was understandably proud.

Though I was too young to grasp the implications, that pump was my first experience with water that hadn't come from a municipal authority. My next would come twenty-five years later, after my wife, Penny, and I closed on forty remote acres of our own. Seeking a more permanent solution than my father's stream-fed hand pump, we chose to drill a well.

It has been another two decades since then, but I remember clearly the day the rig arrived to set its bit. At the time, Penny and I had $1,500 to our names, and like all drillers, ours charged by the foot. If memory serves, the late-nineties price was $8 per foot. If we didn't strike water by 150 feet or so (we needed a small reserve to pay for the steel casing that would line the well from surface to bedrock), we'd

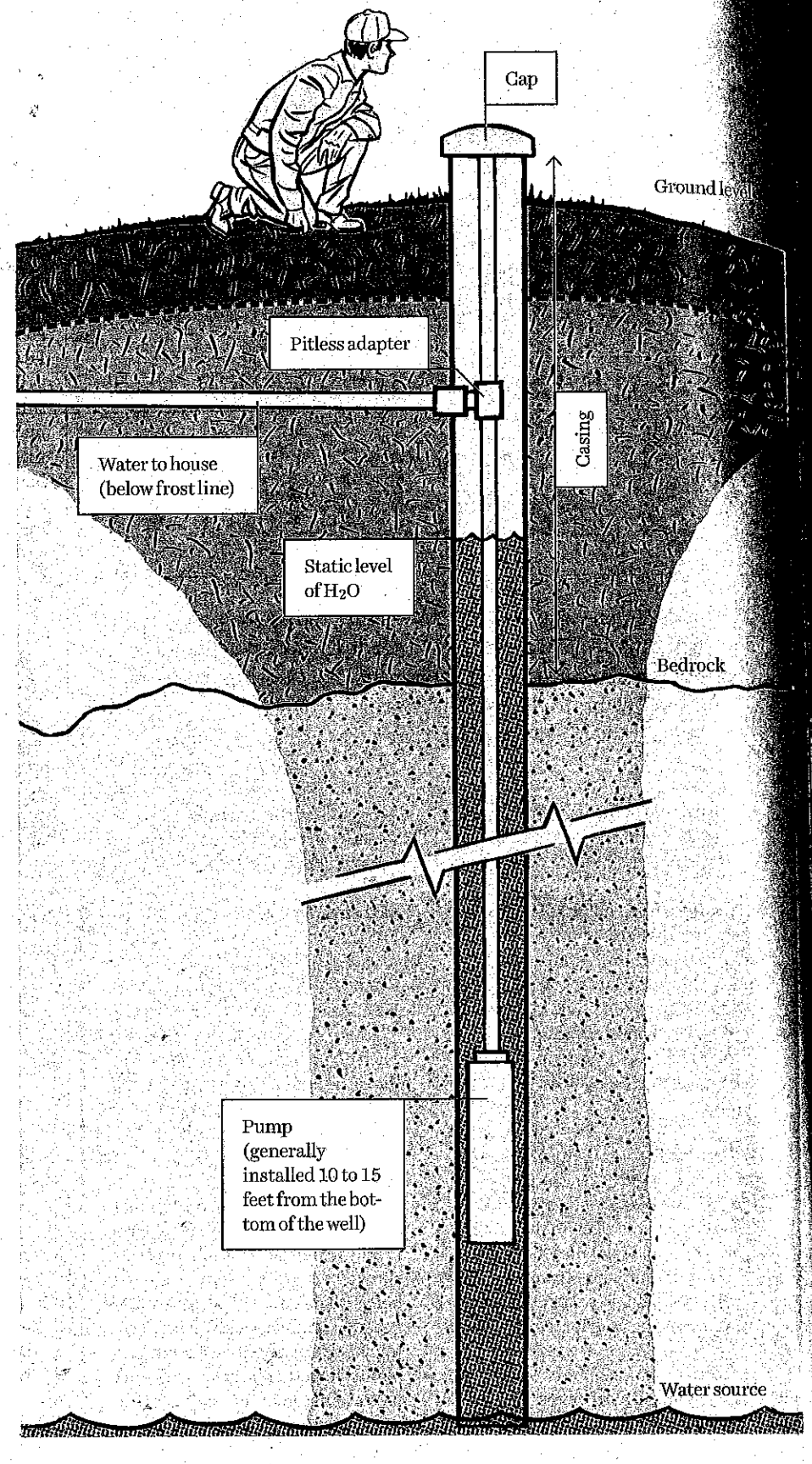

ILLUSTRATION BY JONATHAN CARLSON

have to pull the plug.

At a hundred feet, the bit struck a vein of water that produced thirty gallons per minute. According to the EPA, the average American family of four uses four hundred gallons of water a day. We'd have plenty to spare. Better yet, the total bill, including the casing and well cap, came to around $1,000. That night, we ate steak.

Last summer, Penny and I drilled yet another rural well, to serve a house we are building on a hundred acres in Vermont's remote Northeast Kingdom. Again we faced the obstacle that all property owners do when they drill for water: There is no way to know with certainty how deep the water lies, or how much water there is to be found. If the four hundred gallons a day statistic is correct, a mere third of a gallon per minute is all that's necessary to supply the average family of four, but that leaves little wiggle room for times of heavy use or variations in flow. Besides, we keep livestock, including a small herd of cattle, thirsty beasts capable of drinking thirty gallons a day apiece.

I wish I could report that this time around money was not an issue. Alas, my career as freelance writer and small-scale farmer has ensured that I cannot. Compounding the problem was the fact that many of the neighboring wells ran to four hundred feet, and delivered only three or four gallons a minute, barely sufficient for our needs. Worse yet, according to the well maps provided by the state, one nearby property owner had drilled six hundred feet without hitting water. Nor had drilling costs magically defied the one-way rule of inflation: In rural Vermont, it now costs approximately $12 per foot to drill, and the six-inch steel casing is $17 a foot. At those rates, assuming a hundred feet of casing, a four-hundred-foot well would cost us $6,500 *before* we installed a pump.

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So we hired a dowser, a sort of water psychic who locates ideal drilling locations by watching the movement of copper rods. This despite numerous studies clearly demonstrating that the practice is no better than a coin toss.

The dowser arrived on a late-summer morning. I don't know what I'd expected, exactly—flowing robes? a flower crown?—but I was nonetheless pleased that he arrived in a commonplace Toyota Tacoma and wore the utilitarian garb of a rural working person.

"I'm going to have you find the water. I want your energy in it," he said to Penny and me, before handing us each a pair of foot-long copper L-rods fashioned out of wire. Sleeves installed over the short end of the L allowed the rods to rotate freely in our hands, ostensibly in response to the presence of potable water.

My confidence increased when my L-rods crossed mere minutes after I started off on my walk around the property. It felt almost as if I could not have stopped them from crossing if I'd tried. Penny got the same result, as did our coach, though I couldn't help considering that they'd both seen me go first. Still. My rods had crossed entirely unbidden by human force. They absolutely had. Hadn't they?

In matters of faith, one can choose to believe or choose not to. The agony, I've found, resides in the middle path. Besides, we'd shelled out $250 for the dowser's time. A flagged stake was planted.

Three weeks later, the rig arrived. The drill carriage was mounted on a lift. When raised, by leveling jacks that hoisted the rig's front wheels off the ground, it stood forty feet in the air. Despite the modern technology—diesel engine, digital display, high-flow hydraulics—it looked prehistoric, like a dinosaur ready to chew up my yard. At 165 feet, it punched into a vein that shot past at approximately fifty gallons per minute. "Truth is, I'm not sure exactly how fast it's flowing," the rig operator told me. "It's coming in too damn fast. But it's the best well in town, that's for sure."

That evening, I threw a couple of T-bones on the grill and got my sons to move the picnic table from the backside of the house to the front. It'd be another day before the casing was fully installed, and another week before a friend and I dropped in the pump and ran water to the house. Still, I wanted to look out on our good fortune while I ate my steak.

Can I say with certainty that divination produced our desired result? I cannot. We've got water. That's all I need to know.

You Need

A Sand-Point Well

A sand-point is basically a spear tip with a metal screen behind it. If you have a reasonably high water table and sandy-gravel soil, pound that sucker into the ground using either a slide hammer or a drop weight and pulley on a tripod. Keep pounding until the point penetrates about ten feet past the water table. It's slow and grueling, but it works. And it's cheap. The sand-point method can save you thousands compared to having a well drilled professionally.

Great Unknowns of Self-Sufficiency!

What's the closest anyone's gotten to creating no trash at all?

Astonishingly close, though it certainly takes an effort that most folks aren't prepared to expend. The average American, per Environmental Protection Agency statistics, jettisons 4.4 pounds of trash a day. Lauren Singer, a Brooklyn-based blogger, on the other hand, has managed to fit several years' worth of waste into a single mason jar. Of course, she drinks her iced coffee through a reusable straw and makes her own toothpaste. Singer is one of several young bloggers dedicated to sharing strategies to cut down on waste. For starters, you'll want to be conscious of what you buy—items in nonrecyclable packaging are no-nos. Obviously, you'll want to recycle or compost absolutely anything you can. Otherwise, think of a way to reuse it. Styrofoam blocks might make for stylish lightweight headgear, and used PC towers serve as sleek, modern side tables.