

©Before You Hire a “Water Witch”

This is a photocopy of the American Ground Water Trust Pamphlet #2
This publication currently is out of print.

A new revised edition is in preparation.

Please send enquiries to trustinfo@agwt.org or call (603) 228-5444



**Before You Hire a
“Water Witch”**

Numerous general inquiries concerning ground water geology and hydrology are received each day by The American Ground Water Trust, which has prepared a number of popular publications to help answer such requests. As part of that group of publications, this pamphlet is intended to answer some of the most frequently asked questions about the subject of water witching.

Ground Water Development Today

While belief in water witching can be considered a harmless matter of individual determination and faith, erroneous concepts as to the occurrence and availability of underground water have led to less than optimum development of our nation's vast and critically needed ground water resources.

Where mysterious and occult concepts have camouflaged basic, straight-forward scientific facts about the predictability and consistent availability of our underground water supplies, city and regional decision-makers have frequently shied away from ground water development.

Ignorance and uncertainty have too often prevailed as a result of our romantic desire to retain one of the more charming customs of American folklore.

If we are to solve our nation's water supply problems, we must approach them with the same level of sophistication as brought us victory in our efforts to land men on the moon. Today ground water hydrology is capable of using high level mathematics and complex computer simulations to predict the long-term availability of underground water. The physical laws which govern the occurrence and movement of this water in the earth's crust are known to be the very same laws of physics that have allowed major advances in electronics and space flight. No longer do we need to rely on vague guesstimates or "gut" reactions.

What Is Water Witching?

"Water witching" refers in general to the practice of using a forked stick, rod, pendulum, or similar device to locate underground water.

Although tools and methods vary widely, most water witches (also called diviners or water dowzers) still use the traditional forked stick, which may come from a variety of trees, including the willow, peach, and witch hazel. Others may use keys, wire coathangers, pliers, wire rods, pendulums, or various kinds of elaborate boxes and electrical instruments. Some claim powers that enable them to "see" through soil and rock, and some are



mediums who go into trances when conditions are favorable.

In the classic method using a forked stick, one fork is held in each hand with the palms upward. The bottom, or butt end of the "Y," is pointed skyward at an angle of about 45°. The water witch then walks back and forth over the area to be tested. When he passes over a source of water, the butt end of the stick is supposed to rotate or be attracted downward.

According to some water witches, the attraction of the water may be so great that the bark peels off as the rod twists in the hands. Some are said to have suffered blistered or bloody hands from the twisting.

Although most witching for water is done at the actual site where water is needed, some individuals claim to be able to locate water simply by passing the stick over a map.

Water witches practice mainly in rural and suburban communities where residents are uncertain as to how to locate the best and least expensive supply of ground water. Because the drilling and development of a well often costs several thousand dollars, homeowners are understandably reluctant to gamble on

a dry hole and may turn to the water witch for advice. The water witch undoubtedly believes that he is endowed with a natural ability or has found a workable if unexplainable method of locating underground water.

Water is only one of many substances that different dowzers claim they can find. Divining rods have been used in attempts to locate gold, silver, lead, uranium, oil, coal, and other valuable minerals; to discover buried or hidden treasure; to find lost landmarks and re-establish property boundaries; to detect criminals or hidden soldiers; as well as to analyze personal character, and to trace lost animals. A few dowzers even claim the ability to diagnose and cure disease or to determine the sex of an unborn child.

How Did Water Witching Begin?

One of the first known "divining" rods was that mentioned in the Biblical passage in which Moses strikes a rock with his rod and water gushes forth (Numbers 20: 9-11). Of course, Moses may also have been digging a well when the water gushed forth. Cave paintings in northwestern Africa that are 6000 to 8000 years old are believed to show a water witch at work. Divining rods were also used by the Scythians, Persians, and Medes. Most accounts, however, by Greek and Roman naturalists and scientists do not mention the use of a magic rod, although they do give hints and directions for finding water.

The exact origin of the divining rod in Europe is not known. The first detailed description of it is in Johannes Agricola's "De Re Metallica" (1556), a description of German mines and mining methods. The device was introduced into England during the reign of Elizabeth (1558-1603) to attempt to locate mineral deposits, and soon afterward it was adopted as a water-finding method throughout Europe.

The practice of water witching has always aroused wide-

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spread controversy. Its 17th century champions attempted to explain it by the principle of "empathy" or "attraction and repulsion." Its adversaries condemned it as a superstitious and vain practice. Some held that the stick was moved by a satanic influence, and others believed that the dowser received his power from God. To protect against evil, the rod was sometimes "Christianized" by being placed in bed with a newly baptized baby, by whose Christian name it was afterward addressed.

Despite opposition from church and lay leaders, use of the rod spread throughout Europe. Water witching seems to be a mainly European cultural phenomenon, completely unknown to New World Indians and Eskimos. It was carried across the Atlantic to America by some of the earliest settlers from England and Germany. Although the published record was slight at first, water dowsing or witching began to be mentioned after 1675 in connection with witches and witchcraft. Two articles condemning it appeared in the 1821 and 1826 issues of the *American Journal of Science* and were among the first in a long line of treatises criticizing water witching.

Despite almost unanimous condemnation by geologists, hydrologists, and engineers, the practice of water witching still occurs throughout America.

What Do Water Witches Believe About Ground Water?

Most water witches believe that water occurs in veins resembling the veins of one's body. According to the late Henry Gross, one of the best known modern practitioners, underground water flows upward from great depths, forming "domes." He believed such domes to be the source of water for underground veins that flow in various directions. Three domes supposedly on top of Mount Washington, New Hampshire, were said to be coming

by johnny hart

from a depth of 57,000 feet.

Most water witches attempt only to locate the positions of the so-called water veins. But many of their clients ask: How deep will I have to drill, and how much water will I get? Some, therefore, do attempt to estimate the quantity of and the depth to water.

If the ground water contractor does not find water at the indicated spot, the failure may be blamed on interference of hills with the dowsing, a short circuit of "current," incorrect drilling, or the crushing or deflection of the delicate water veins by the contractor.

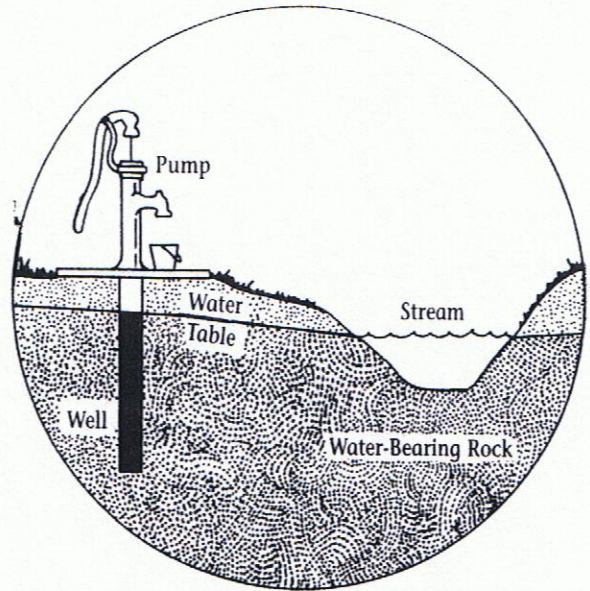
What Does Science Say About Water Witching?

Case histories and demonstrations of water witches may seem convincing, but when witching is exposed to scientific examination it presents a very different picture. For instance, what does it mean to say that a water witch is successful in eight out of 10 cases? The water witch may find water, but how much? And of what quality? At what rate can it be withdrawn? For how long and with what impact on other wells and on nearby streams?

The natural explanation of "successful" water witching is that in many areas water would be hard to miss. The water witch commonly implies that the spot indicated by the rod is the only one where water could be found, but this is not necessarily true. In a region of adequate rainfall and favorable geology, it is difficult to drill and not find water!

Some water exists under the Earth's surface almost everywhere. This explains why many water witches appear to be successful. To locate ground water accurately, however, as to depth, quantity, and quality, a number of techniques must be used. Hydrologic, geologic, and geophysical knowledge are needed to determine the depths and extent of the different water-bearing strata and the quantity and quality of water found in each. The area must be thoroughly tested and studied to determine these facts. The U.S. Geological Survey, the federal agency with major responsibility for assessing the quantity and quality of the nation's surface and ground waters, believes that no single technique suffices to locate favorable water well sites. It is best to rely on a qualified, experienced ground water contractor to select the site at which to drill.

Numerous books and pamphlets have been written on the subject of water witching. Some of these publications report on scientifically controlled experiments and investigations. From these findings, the U.S. Geological Survey has concluded that the expense of further tests of water dowsing is not justified. Not one scientifically conducted experiment using water witches to locate optimal sites for water well location has ever yielded conclusive, reproducible support for water witches' claims.



How Does Ground Water Occur?

Contrary to the belief of water witches, ground water does not commonly flow in veins, domes, or underground rivers. Ground water is the water which fills pores or cracks in underground rocks. It is replenished by nature according to the local climate and geology and is variable in both amount and quality.

When rain falls, the plants and soil take up water. Some of the excess water runs off to streams, and some percolates down into the pores or cracks in the subsurface rocks. A well that extends into the saturated zone will fill with water to the level of the water table — the top of the zone in which all the openings of the rocks are filled with water.

It is important to know whether water will flow into the well fast enough to make it useful for man's purposes. A "tight" rock such as clay or solid granite, with tiny pores or only a few narrow cracks, may give up water so slowly that it is not useful. If the openings in the rock are large enough to let water flow freely, however, water in useful amounts can be taken out.

Several water-bearing rock layers may lie beneath the surface, separated by layers of rock less capable of carrying water. This geologic configuration may give rise to artesian conditions, where water levels in wells that penetrate the deeper layers of water-carrying rock rise under pressure and in some instances rise so high as to create flowing wells.

How Do Hydrologists Locate Ground Water?

Compared to the water witch's dramatic display, the hydrologist's procedure for locating ground water may seem dull. His patient pursuit of the unseen is interesting, nonetheless.

The landscape offers helpful clues. Shallow ground water is more likely to occur in large quantities under valleys than under hills, because ground water obeys the law of gravity and flows downward just as surface water does. In arid regions the presence of "water-loving" plants is an indication of ground water at shallow depth. Any area where water shows up at the surface, in springs, seeps, swamps, or lakes, will invariably have a usable supply of high quality ground water.

Rocks are the most valuable clues of all. Hydrologists use the word "rock" for hard, consolidated formations such as sandstone, limestone, or granite as well as for loose, unconsolidated sediments such as gravel or sand. An "aquifer" is any body of rock that contains a usable supply of water. A good aquifer must be both porous enough to hold water and permeable enough to allow the continuous recharge of water to a well. Gravel, sand, sandstone, and limestone are among the best aquifers, but they form only a part of the rocks in the Earth's crust. Many rocks are fine-grained or otherwise "tight" and store or carry little water.

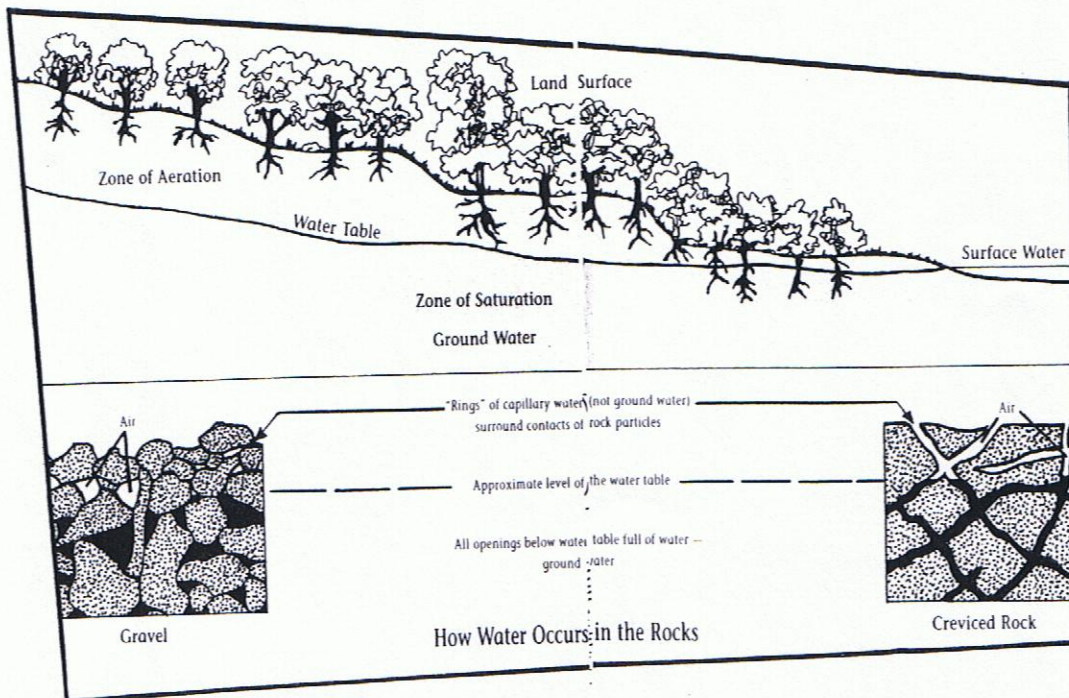
For man's use of water, quality is just as important as quantity. The hydrologist will take samples of water from different wells and have them chemically analyzed.

The hydrologist's report and geologic map will show where water can be found, its chemical composition, and in a general way, how much is available. This is the scientific approach used by the U.S. Geological Survey, state resource agencies, and consulting engineers and water well drillers in making their ground water studies. Information about local ground water conditions may be found in the offices that the U.S. Geological Survey's Water Resources Division maintains in all 50 states.

As a first step in locating ground water, the hydrologist prepares a geologic map showing where the different kinds of rock come to the land surface. Some of the rocks may be so cracked and broken that they provide good openings to carry water underground. The rocks may be so folded and displaced, however, that it is difficult to trace their location underground.

Next, he gathers information on the other wells in the area — their locations, the depth to water, the amount of water pumped, and the kinds of rock they penetrate. Because he cannot always afford to drill a test hole to obtain information, records of wells already drilled are his mainstay.

If there are no wells in the area, or not enough information available on existing ones, the hydrologist may contract with a



ground water contractor to put down some test holes. At these holes he will make pumping or aquifer tests. These tests indicate the water-bearing properties of the aquifer tapped by the well. From the tests the hydrologist can determine the amount of water moving through the aquifer, the volume of water that can enter the well, and the effect of pumping on the water level of other wells in the area.

The complexities of some geologic conditions beneath the earth's surface can complicate predictions of ground water occurrence when adequate data is not readily available. In these areas, however, an effort to obtain additional data will generally be more productive than to fall back on the unscientific customs of the past.



Who to Contact When You Need a Water Well

A water well is one of the most important investments you will make in your home or business. You need to consult someone who knows and understands the ground water beneath your property and can develop it to its maximum capacity. This person further needs to know how to protect the supply from pollution and how to pump the water most efficiently.

You should be employing a qualified ground water contractor to perform these duties. In doing so, you will be putting your trust in a person who has the knowledge and the equipment to properly construct your well. He is also familiar with state and federal requirements concerning well location in regard to septic tanks, drain fields, surface water, and other wells.

In most cases, the ground water contractor has many years of experience in the area in which he operates. He has made a large investment in sophisticated equipment. In some instances the contractor himself may be a geologist or hydrologist, or may retain such a scientist on his staff. If not, he has many other sources of technical information at his disposal.

First and most important are his files of well logs — records of other wells drilled in the area. These will help him advise you of the approximate depth of your planned water well, and can help predict the quality of water you can expect.

When you need a water well, consult your local ground water contractor first. He is the best qualified individual to select the site of your water well.

For a simple and easily understood discussion of basic facts, principles, and problems of water, you may wish to obtain some of the following pamphlets:

- America's Priceless Ground Water Resource
- Ground Water Pollution Control: It Depends on You
- When You Need a Water Well
- Water Conservation in Your Home
- Everything You Always Wanted to Know About Septic Tanks but Didn't Know Who to Ask
- Ground Water Heat Pumps

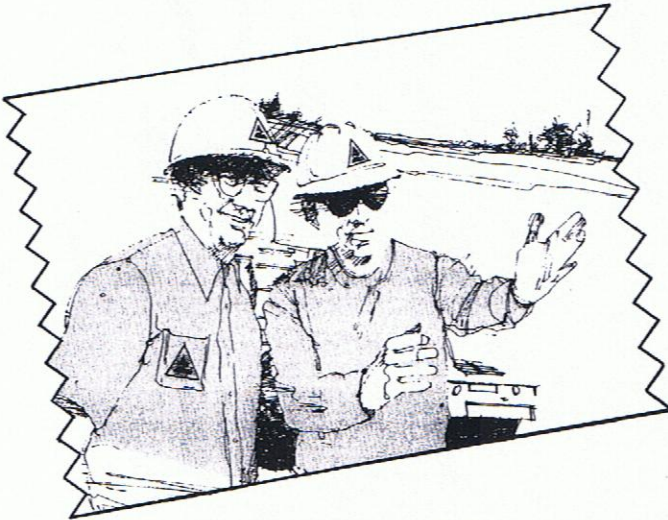
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