

# Article

## Abandoned Mines ... Stay Out, Stay Alive?

Oh, really!

We've heard the admonitions before; seen the billboards warning against entering mines. But are they really as dangerous as we're led to believe?

The answer, of course, is yes... and no. It depends entirely on who is doing the entering.

All human activity presents a degree of danger. In fact, just being alive is wrought with peril. From the moment we're born we face countless threats to our well being with every breath we take and every step we make. Danger is a matter of perspective, and always based on a subconscious calculation of risks versus benefits.

We think nothing of getting behind the wheel of a car and cruising through a gauntlet of death defying adversity, knowing, but consciously subduing, the knowledge that at any instant our lives may come to a horrific end due to an unforeseen obstacle or careless fellow motorist. Yet I have never seen a sign that says "Stay Alive... Don't Drive!"

Wise words, but impractical. We need our transportation for everything we do, from going to work across town, to dropping the kids at school, to shopping, to getting to a mine... *everything*. The risk never changes, but in this case, the benefit is overwhelmingly in our favor. Tell that to the tens of thousands of drivers and passengers killed and maimed in car wrecks!



How many are killed and maimed in abandoned mines each year? Few care, for lack of interest in the subject, but the answer is less than zero! Disregarding commercial operations such as coal mines, when's the last time you heard of someone dying in a mining mishap? Yet we are led to believe by government agencies that abandoned mines are particularly dangerous. Comparatively speaking, they are not.

Humans are intrepid souls...at least some, anyway. We gawk at the TV as a skier fearlessly maneuvers through a Giant Slalom course at





bullet-train speeds, and though fascinated, we wonder how he got so crazy to want to attempt such a thing. Likewise, no one can deny that climbing Mt. Everest is dangerous, or negotiating a cliff face with no safety rope; attempting to fly the first rickety airplanes; venturing into the Old Wild West in a covered wagon looking for a new start in life; exploring vast and unknown wildernesses. All very risky endeavors, we all would

agree. No one taught those pioneering and intrepid souls how to do what they did. They learned by doing. Some people are simply cut out for such activities. They are adventurers. Perhaps with a good measure of crazy, too!

In that regard, some people (such as myself) are drawn to such an activity as exploring abandoned mines. Many started out as geologists, and exploring mines is just a natural extension of that preoccupation. Like all geologists, we learned in school about geologic history, rock formations, and the environments they're found in; we learned to identify individual rocks and minerals; were taught chemistry, physics, and all the other related disciplines. But I never saw a class called Abandoned Mines 101!

There simply is no such thing. No one is ever taught in a school environment how to explore an abandoned mine. When we get out of the classroom and into geologic life, it comes with the territory. Sometimes we may be lucky to hook up with an oldtimer who may impart some useful knowledge, but by and large, we learn on our own. We learn by doing. Then something magical happens... we turn into the oldtimer!

In all my years of exploring and collecting minerals from mining localities, I've never had a serious mishap in a mine—barring dropping my flashlight and breaking the bulb! Luckily, I had a backup, but the experience of having to locate a specific piece of equipment in a backpack—in total blackness—was still rather harrowing (at least I was smart enough to bring a backup!). I also lost my footing on a dump and slid all the way down on my kiester. Not fun, but other than my pride, and a few patches of skin from my, uh, hands, I was no worse for the wear.

One fact of vein deposits forming where they do is that they are almost always found intruded into competent rocks, and most often in the desert southwest that means limestones. Veins do not occur haphazard. They are derived from aqueous solutions exuded from magmatic intrusions; exuded into pre-existing overlying rock formations. Sometimes those rocks are of igneous origin themselves (granites, diorites,



gneisses, etc.). Such rocks are very compact, tough, resilient; as they themselves were originally forged from the furnace of the Earth's interior.

More often, however, the formations are carbonate (limestone, dolomite). Also compact, tough, resilient. Limestones may be dissolved easily by scorching hot water, but they are still very hard and difficult to break. In other words, competent. By extension, excavations dug out of these rocks will also be competent, for the most part. It's not like they're dug out of loose soil as



**Adventure-loving friends of mine:  
Eric and Erin Seckner, and daughter Kayla.**

in the movie "The Great Escape" where the tunnels constantly kept collapsing over poor Charles Bronson. Digging ore was tough work in the early days of mining with just pick and shovel.

Of the thousands of mines I've had the pleasure of exploring, only two made me the slightest bit nervous. One was a uranium mine on the banks of the Green River, Utah; the other, a borate deposit in the Calico Mountains near Barstow, California. What they both had in common was that they occurred in distinctly incompetent rocks! Shales, to be exact.

Shales are rocks formed essentially from dirt and mud, compressed by heat and pressure driving out all water, and solidified into a single geologic unit. One characteristic of shales is that they break easily along horizontal bedding planes. Fossils are famously claimed from shales by breaking suspected samples along these planes. The downside is, once a deposit is removed from a shaly formation, there is nothing left to support the overlying rocks, which, since they break easily along those bedding planes, tend to slump and eventually collapse. Goodbye, Charlie Bronson!

If you happen to be one of those special people with the moxie to get out of the house and experience what the world has to offer—danger be damned!—then by all means explore mines to your heart's content. If you conduct yourself professionally and responsibly (i.e. dress properly, be prepared, no drinking alcohol, use due caution, know your abilities and temperament, pay attention to where you're going and what you're doing, do not step or hammer rhythmically, etc.), you are likely to reap the rewards of a new experience, and possibly take home a treasured mineral specimen as a prize for surviving life's dangerous nature.



The BLM has seen fit to waste valuable money and time putting up barriers such as these where they're not *really* needed. Like putting up a sign on Mt. Everest that climbing is dangerous. This horizontal adit is only a few paces in, and hardly at risk of collapse notwithstanding a powerful earthquake.



Typical timbered shoring found in many mines of the Mojave southwest. While timbers do rot away in time, most I have encountered are still dutifully preventing collapse of mine portals. This one is in a adit of the Key West Mine in the Virgin Mountains of Nevada.

