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There's Oil in Them Thar Hills

And gold, too. The problem is getting it out.

Yes, the Rockies really do still have a lot of gold. Unfortunately it is mixed in with a lot of dirt. A Google search will net you surface mining equipment including modern, automated pans and sluices. A panning vacation can be a fun family outing for Denverites and a good lesson in economics for the kids. You can catch a few, pretty bits to float in a vial of water as a souvenir. But will your efforts pay for the gas it took to drive to the mountains? Nope.

As for oil shale, this is a Colorado "resource" that has been around for a long time; however extracting the oil costs more energy and dollars than you will get out of it, even with today's prices. In 1982 Exxon cancelled its \$5 billion Colony Shale Oil Project near Parachute, Colorado turning the new community into a ghost town overnight. Per an article on the Web, in response to this the US government terminated the subsidies they had been pouring into development of this technology. According to local gossip it was the other way around: the whole thing was a boondoggle and, when it became obvious the government would soon quit throwing good money after bad, Exxon pulled out.

Today, Royal Dutch Shell (RYDAF.PK) says they have a new technique that may eventually convert shale to petroleum at a cost of only about \$30/barrel. A "Fortune Magazine" article described their process as follows: "Shell drills 1,800-foot wells and into them inserts heating rods that raise the temperature of the oil shale to 650 degrees Fahrenheit. To keep the oil from escaping into the ground water, the heater wells are ringed by freeze walls created by coolant piped deep into the ground; this freezes the rock and water on the perimeter of the drill site. Eventually the heat begins to transform the kerogen (the fossil fuel embedded in the shale) into oil and natural gas. After the natural gas is separated, the oil is piped to a refinery to be converted into gasoline and other products." The frozen "wall" is meant to keep oil from seeping into the local water.

Speaking of water, the process will also require **a lot** of it. The Fortune article says, "...some of the water it intends to utilize will be salinated water pumped from deep aquifers that are not part of the conventional water supply." And where will the rest come from? We are talking about high, arid mountains not that far from the Continental divide! There's not that much local water to begin with and our downstream agriculture needs every drop we can collect.

Has Shell really taken into account adequate budgeting for environmental remediation? Especially if, after the decades necessary to develop the project, their idea doesn't work well enough to be profitable? If they abandon the project what happens to all that salinated water in the "wall"?

If Shell wants to spend their *own* money, not my tax dollars, on a humongous, experimental project which sounds really wacko, that would be OK with me *if only* I could be sure my state's economy and environment would not ultimately get clobbered. Many Coloradoans are understandably skeptical and are opposed to the US government allowing Shell access to the national land they want.

Colorado also has a lot of wind and sun which we are developing into energy sources. It's true that wind and solar technologies, also in early stages, will take decades to develop into an energy backbone. The question is where do we encourage our economy to expand and where do we put our investment dollars? There is only so much R&D money to go around. Personally, I'd prefer oil investment go to underwater drilling such as the new Brazilian underwater oil fields. Although underwater oil takes time and effort to access, it looks much less iffy than oil shale. The US should develop nuclear, like much of the rest of the world. Plus we should spend more effort on sun, wind and perhaps algae. The strength of this country has always been in innovation. We need to once again become leaders in SOMETHING the entire world wants and new energy technology will be in demand for quite a while.