

America's mid-century uranium boom changed the face of the West. Meet the man at the center of its secret afterlife.

Some westerners still dream of catching gold in a wire sieve. You can find them along the Hassayampa and the San Miguel rivers, ankle-deep in silt: the weekend panners. Others dream of a future in which wonders never cease and the world's machinery turns on a particular rock or gas they hope one day to possess in profitable quantities. I met one such dreamer in Arizona named Gregory Yount. He has been called the country's last uranium prospector.

Uranium is a forgotten legacy of the American West. More than any other natural resource, it shaped the region's economy in the middle of the 20th century, transforming frontier outposts like Moab and Grants into thriving atomic-age boomtowns while leaving cancer clusters in its wake. The bombing of Hiroshima and Nagasaki, the public revelation of the Manhattan Project, and the subsequent Cold War-era weapons build-up in the 1950s created a sudden, insatiable demand for uranium ore, which had previously been known to locals as a relatively unimportant byproduct of hard-metal mining. In 1947, the Atomic Energy Act transferred the Manhattan Project's uranium procurement powers to the civilian-led Atomic Energy Commission, whose primary task was to encourage Americans to supply the government with enough uranium to fuel a nuclear-arms race. That year, the AEC opened an office in Grand Junction to stoke local production, and the Colorado Plateau was soon overrun by fortune seekers hoping to find deposits of pitchblende and carnotite, uranium-rich ores that they could sell—at guaranteed, market-proof prices—to the only buyer in town.

The most famous of these wildcatters was a young geologist from Texas named Charlie Steen. Steen had the foresight not to waste his time combing the hills at random with a Geiger counter, as thousands of others did, but rather to look for physical evidence on the Earth's surface that might indicate the presence of a subterranean chimney of collapsed rock called a breccia pipe. The lightless depths of a breccia pipe are an agreeable place for the formation of heavy metals, including uranium, the heaviest metal commonly found in nature. Steen predicted their worth and believed he'd found the telltale signs in downward-sloping surface rock formations called anticlines. He got lucky when, on the verge of bankruptcy, he found that sample rocks from one of his anticlines set off a Geiger counter at a gas station. According to historian Michael Amundson, author of *Yellowcake Towns*, a thorough history of uranium mining in the American West, the mine he opened at the site of the anticline contained the largest uranium ore body in the history of the Colorado Plateau.

Steen became the prototype for an American novelty: the uraniumaire. *Time* and *Newsweek* profiled him. *The American Mercury* called him the "new Horatio Alger." It didn't hurt that he had a flair for extravagance, bronzing his work boots for mantelpiece display, and buying pedigreed Dalmatians and a television-equipped Cessna 195 that he liked to fly in circles to get better reception. He built a saucer-shaped mansion in Moab that overlooked the stretch of Colorado River where he would later sponsor the construction of a huge uranium-processing mill. (That mill, among the most egregious polluters in the history of uranium mining, is currently the target of a billion-dollar reclamation project.)

After Steen, prospecting became a national craze. Lucy and Desi hunted for uranium ore in an early episode of their *Comedy Hour*, as did Laurel and Hardy in their final film, *Utopia*. Yellowcake mills opened across western Colorado and eastern Utah, an area that Amundson defines as the "uranium belt." The rush lasted from the end of World War II until about 1962, when, for various reasons, including a reduced demand for new atomic weapons and the high regulatory costs of nuclear power, production of uranium began to decline. Despite a few spikes since then, domestic procurement has fallen into a permanent-seeming slump. Prospecting has become the purview of energy conglomerates with enough cash reserves to support unprofitable surveying expeditions and claim-filing fees. The individual prospector, once a staple of western lore, has all but disappeared.

I learned about Yount from Roger Clark, a conservationist who offered to show me the Grand Canyon when I visited Flagstaff. Clark worked for the Grand Canyon Trust, a non-profit group that advocates for a vision of unalloyed wildness in northern Arizona. We met on a cool morning in the Trust parking lot and took off in Clark's rental SUV. Beneath the hem of his shorts were tumescent calves formed by decades of canyon hiking and river running.

As we left the xeriscaped lawns of Flagstaff, Clark explained that my drive from Phoenix had taken us through four of the six life zones the biologist C. Hart Merriam defined while scouting in the region at the end of the 19th century. "We're in one of the most diverse ecosystems in the country," he said. "And it happens to be the energy breadbasket of the western United States." As if on cue, we arrived at an open field beneath high-voltage transmission lines carrying electricity from a coal plant in Phoenix to consumers in Oregon. The profits were being carried off too, Clark said. The Four Corners provides energy for large swaths of the West, bearing a disproportionate share of the environmental costs without even enjoying the benefits of local ownership. "Some might call it a colony," he grumbled.

We reached the canyon around noon. He guided me along its furrowed south rim, identifying the layers of redwall limestone on the brown slab of time opposite us, until we arrived at an old shaft mine built into the cliff side. Workers at the Orphan Mine disclosed a large uranium lode in 1951. The miners descended to work in precarious tramway buckets to the amusement of tourists. Like virtually all uranium miners at the time, they likely worked without protection or proper ventilation, inhaling deep lungfuls of radon progeny while churning up over four million pounds of the country's highest-grade uranium oxide. It was among the richest of about 4,000 mines dug into the Colorado Plateau.

Clark urged me to lean over the fence to find the oculus where part of the mine's roof had caved in. According to the U.S. Geological Survey, uranium-rich water had seeped from the mine into nearby Horn Creek, which feeds into the Colorado River. After the Orphan Mine closed in 1969, it was taken over by the federal government, but 50 years later the mine's reclamation continues to drag on. The headframe was dismantled in 2009 as part of the \$15 million first stage of a National Parks Service clean-up. There is no estimate yet as to the cost of reducing the radiation or detoxifying the groundwater.

In Clark's view, this was a tragedy. The uranium industry didn't just poison its miners and the indigenous peoples unlucky enough to live adjacent to mines and mills, he claimed; it also rendered the earth and water in the surrounding area toxic. On a smaller scale, the current industry has continued to do the same, he said, at a handful of established mines in the vicinity of the Grand Canyon. When I brought up America's not insignificant energy needs and some of nuclear power's advantages—its plants have a much lower carbon footprint than natural gas or coal—he just shrugged. "You know, maybe there are places where it can happen safely." The Grand Canyon, he said, wasn't one of them.

We walked back to the car along the rim trail, passing a copse of ponderosas where, Clark remembered, a large cross once marked the site of an open-use chapel. His mother, a church organist from Prescott, used to play hymns on a harmonium for their congregation here. Clark had been coming to this place his whole life.

I asked him about the small-time prospectors who had been the driving force of the uranium boom. How many were still out there? Clark laughed. "None." The prospector was an extinct western species, he said, like the railroad baron. But then he thought for a minute and corrected himself. There was one living in his own hometown.

"You should get in touch with this guy out in Prescott," he said. With what sounded almost like admiration, he described Yount as an old-school prospector. "The last of his kind."

In *Who Owns the West?*, William Kittridge considers the question and describes two competing answers. One is the vision held by Clark: that the West belongs to all of its future inhabitants, the current residents being merely caretakers charged with preserving its natural state. The second, extractive vision holds that the West is an inexhaustibly fertile resource whose gifts are ours to use, in this lifetime, and that only by wise application of those gifts can the *spirit* of the West be preserved, a spirit of independence and hard work. This second vision is well-represented by the region's most familiar icons: miners, loggers, goldpanners, ranchers, and cowboys.

Sitting at Starbucks with his polo shirt tucked into his shorts, Gregory Yount was not exactly the cowboy I'd expected to find, but he was clean-shaven and very tall. "I could never have been a miner," he sighed regretfully. Yount learned about prospecting from his father, who'd held gold and silver claims in the Bradshaw Mountains, although he'd never expected to catch the bug himself. He moved to Hawaii with the Navy in 1982 and spent five years repairing nuclear submarines. Afterward he stayed on Oahu, married a professor's daughter, and sold engraved koa boxes to Japanese tourists.

When 9/11 cratered the tourism industry, Yount began scouting for a career change for himself and a more salubrious climate for his wife, who had been diagnosed with MS. One day he read an article about breccia pipes. He began scanning the arid country of his childhood using a brand new program called Google Earth, which had democratized the omniscient satellite views once monopolized by governments and corporations. At the time, not many people seemed to realize you could find depressions that might indicate the presence of a uranium deposit on Google Earth. He believed this gave him a potentially lucrative advantage in staking mineral claims, so he moved back home to become a prospector.

Back in Arizona, Yount found a job at a laser-engraved souvenir wholesaler and hired a full-time caretaker for his wife. In his spare time he read everything he could about geology and uranium. Like Charlie Steen (whom Yount claimed never to have heard of), he learned how to spot a breccia pipe based on where voids in the upper limestone had collapsed to form a shallow crater. On weekends he went out to examine targets he'd scouted online, driving up unpaved roads and hiking into the forest south of the Grand Canyon. I asked whether Geiger counters figured into this work, as they had for previous generations of prospectors. Yount laughed. "I've never used one," he said. "Google Earth was the great leveler." It was Steen's method, updated for the Information Age. The scouting was difficult work, Yount said, but the payoff would be worth it. In 2011, uranium was trading at more than \$60 per pound. By selling his mineral claims to a large mining outfit for extraction, he said, a good breccia pipe would have been worth \$150 million to \$500 million in 2012. Even at today's depressed prices, he figured he might expect half that amount.

When he calculates the cost of all the soil assays, claim-filing fees, forensic sampling, and other exploration techniques, Yount estimates he spent \$40,000 on his quest and had finally hit on "between two and three" surefire deposits at the moment when, in 2009, President Barack Obama's secretary of the interior, Ken Salazar, proposed a 20-year emergency mineral withdrawal on all mining claims located on a million acres of federal land surrounding the Grand Canyon. Intended to protect the site as a tourist attraction, environmental resource, and sacred grounds for American Indians, the withdrawal was the result of years of coordinated efforts by local indigenous tribes, the Sierra Club, the Grand Canyon Trust, and others. When the long-term withdrawal went into effect in 2012, it rendered Yount's claims effectively worthless overnight. He hadn't yet drilled into any ore bodies—exploratory drilling can cost up to a million dollars, he said—so he didn't benefit from the fact that the withdrawal included an exemption for validated claims. Instead, he sued the government, lost, and filed a Ninth Circuit appeal based on a creative argument that invoked the Establishment Clause of the First Amendment. He appears on court documents as the lone individual plaintiff alongside large industry organizations like the National Mining Association and the American Exploration & Mining Association.

The withdrawal was upheld in a December of 2017 decision in which I noticed that Yount's name was in one instance spelled *Youndt*. In March of 2018, Yount joined the NMA and AEMA in petitioning the Supreme Court to reconsider the December ruling through a Writ of Certiorari. He found a lawyer to represent him pro bono with an argument Yount described to me as "very technical." But the real issue was simple. "I never got to drill," he said. "If I'd gotten to drill, I feel confident I would have had a discovery, and then it wouldn't matter about the withdrawal. But I was right in the middle of my plan of discovery when the withdrawal went down." In the language of the Supreme Court brief filed on his behalf: "Mr. Yount was stuck in a catch-22."

On October 1st, 2018, the Supreme Court denied the petition. Clark released a celebratory statement through the Trust:

Today's decision slams the door on false claims that the 2012 ban on new uranium mines around the Grand Canyon was illegal. By deciding not to hear the mining industry's appeal of our hard won decision, the Supreme Court has sided with Arizona voters in both political parties, the Havasupai Tribe, hunters and anglers, local governments and businesses, outdoor recreationist [sic], and millions of visitors who visit the Grand Canyon every year.

The matter seems settled for now. "You get very little relief from the courts unless you're an environmentalist," Yount had told me back when judgment was still pending.

There are still a few options open for mining companies who desire access to the land near the Grand Canyon where the country's highest-grade uranium ore is buried. The Department of Commerce listed uranium on its 2018 list of critical minerals, citing its important "non-fuel" uses. This means the Trump administration might decide to incentivize domestic production under the banner of national security, as mid-century administrations did in birthing the original uranium boom. President Donald Trump's former secretary of the interior, Ryan Zinke, devoted his tenure to rescinding or restricting several Obama-era environmental protections, and his eventual replacement might simply decide to lift the mineral ban administratively. Uranium companies have filed a petition to set quotas on uranium imports, which could further increase production around the Grand Canyon if the Department of Commerce approves.

Despite my prejudice for non-profit naturalists like Clark, I'd found Yount to be a serious, likable man whose enthusiasm for prospecting was infectious. When he described the sweaty, day-long hikes he'd undertaken in pursuit of untested claims, I could feel my heart leap in harmony with his. He knew a hell of a lot about uranium, most of which he'd taught himself. I even felt a twitch of regret when I read the October court judgment that seemed to place his fortune forever out of reach, a decade of backbreaking work struck down by bureaucrats with all the capricious force of God. He was the last of his kind: not the line-toeing, bland employee of some international energy consortium, but a lone eccentric with the idea of striking it rich in rocks.

Clark had won a small victory for his vision of unalloyed wildness; Yount had lost. At the same time, with extraction-friendly men of Zinke's ilk in power, it wasn't clear whose vision of the West was obsolete, and whose foretold the future.

Yount did not believe uranium was anything to worry about, health-wise. "There are some rocks right here in downtown Prescott that will make a needle jump," he told me. Uranium leaches into rivers quite naturally, he explained. Each year, many tons sweep into the Colorado River as ore-grade breccia pipes crumble off the cliff faces of the Grand Canyon. He felt this could explain the U.S. Geological Survey studies that have found dangerously elevated levels of dissolved uranium in mine-adjacent springs and wells across the region. "Nuclear is clean energy," Yount said as we stood up to say goodbye. What about the waste, I asked. "Honestly," he said, "I think we should toss it into the Mariana Trench and forget about it."

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