

# High Country News

FOR PEOPLE WHO CARE ABOUT THE WEST

## The hidden consequences of New Mexico's latest oil boom

*Carlsbad residents are experiencing health impacts, but the science behind their woes lags behind the pace of drilling.*

**Tay Wiles** | May 22, 2019 | *From the print edition*

**W**hen Dee George was about 7 years old, his family moved to the outskirts of Carlsbad, New Mexico, where they bought an acre of land, set up a mobile home and planted mulberry trees. They had a clear view of the sunset, and birds flocked to the trees. George, now 53, still lives here with his wife, Penny Aucoin, and daughter Skyler.

Oil and gas development has existed for years in the Permian Basin, which stretches from southeastern New Mexico into Texas. But about five years ago, the boom landed on the George family's doorstep when Mack Energy started clearing a well pad in the field just across the road. In Carlsbad, wells can legally be drilled within 500 feet of homes. Outside city limits, where this family lives, the minimum is 300 feet. That well shook the family's home like an earthquake — literally and figuratively. "I always thought, 'This is a good thing,'" said Aucoin, noting the jobs and revenue drilling brought to the state's southeastern corner. "Until they moved in next door to me."



***Dee George drives past the flares at an oil field near his home in Carlsbad, New Mexico. "We're literally surrounded," he says. "What can we do?"***

*Joel Angel Juárez for High Country News*

Fueled by high oil prices and advances in drilling techniques, the Permian Basin has become the nation's busiest oilfield. Meanwhile, for people like George and Aucoin, life has become noisy, the once-quiet roads crowded and dangerous. The family has also suffered from enigmatic illnesses that might, or might not, be

related to the boom; the science can't keep pace with the frenzied rate of drilling. The lack of information and options has the family reeling. Others I spoke to had similar experiences.

After the well pad went in, the drilling began, shaking the house day and night and keeping the couple, their teenage son (whose name they asked me to withhold) and daughter awake. The noise and vibrations made Skyler, who was four years old at the time, hold her ears and shake her head, until George and Aucoin put earmuffs on her.

That was only the beginning. More wells have popped up, clogging even the narrowest back roads with traffic. Accidents in Eddy County shot up by 70% — not including those with fatalities — between 2016 and 2018 alone, according to the sheriff's office. Once, when Aucoin's son was trying to turn onto the county road, with Skyler in the backseat, a truck crashed into his vehicle.



***Skyler Aucoin, 10, walks past one of her family's vehicles that was hit by an oil truck near their home in Carlsbad, New Mexico. Two of the family's vehicles have been hit by oil trucks; Skyler was a passenger in one of them.***

*Joel Angel Juárez for High Country News*

**GEORGE AND AUCOIN NOW** park their car directly between their house and the road, for safety. This way, if a speeding truck runs off the road, it will hit the parked car before it hits their bedroom wall. When oilfield trucks started rumbling down the dirt road just south of their house, they kicked up rocks that flew like projectiles toward Skyler's trampoline. So they got rid of the trampoline. But there was no such easy fix for the constant dust and exhaust from the trucks, nor for the family's persistent, unexplained ailments. Skyler contracted a dry cough that didn't go away, and the humidifiers the doctors recommended did not help.

Aucoin, 49, a former school bus driver now working toward a degree in social work, found herself plagued by piercing headaches of unknown origin. Her doctor tried half a dozen medications but nothing has eased the pain. Blisters appeared on her face. She used to sit on the porch, waiting for Skyler's school bus; now she stays inside.

After the first well went in, Aucoin's son started experiencing gushing nosebleeds almost every day. They seemed to occur out of the blue, when he was doing the dishes or sitting in math class. A doctor recommended that his nose be chemically cauterized, which helped for a couple of days, but then the bleeding resumed. Now the boy mostly lives in Roswell, about 75 miles north of Carlsbad, where his nose doesn't bleed.

The combined weight of these maladies, Aucoin said, are “destroying us.” In the past few years, new wells have appeared within sight of their home in every direction. From their house, I could see methane flares to the east and south. Through the lens of an infrared camera, I watched otherwise invisible emissions emanate like smoke from well infrastructure less than a mile away.



***Penny Aucoin, left, and her husband, Dee George, hold hands as they pray with their family at their home in Carlsbad, New Mexico. Their home is surrounded by oil rigs, and most of the family members say they have suffered health impacts from the wells nearby.***

*Joel Angel Juárez for High Country News*

**RESEARCH FROM THE** past 15 years in Pennsylvania (<https://ehp.niehs.nih.gov/doi/10.1289/ehp.1307732>), Colorado, Utah and California (<http://publichealth.lacounty.gov/media/docs/PublicHealthAssessment.pdf>) show that many people living near drill sites suffer similar symptoms (<https://oxfordre.com/publichealth/view/10.1093/acrefore/9780190632366.001.0001/acrefore-9780190632366-e-44>). Still, a direct link has yet to be established. “Research is still trying to catch up to the industry,” says Diane Garcia-Gonzales (<https://www.annualreviews.org/doi/pdf/10.1146/annurev-publhealth-040218-043715>), a scientist at University of California-Los Angeles who specializes in air quality near drilling sites. Without sufficient data, it’s impossible to know the cause of any particular family’s symptoms.

Oil fields, however, provide the perfect ingredients for a variety of illnesses. Along with oil, the rigs deliver methane, a potent greenhouse gas that is typically flared or vented directly into the air, though it can escape through leaks. In January, operators in the New Mexico portion of the Permian Basin flared or vented more than 1.9 billion cubic feet of methane and associated gases — enough to heat about 25,000 homes for a year.

Unless it builds up and explodes, methane is not a human health hazard. It is, however, accompanied by a slew of potentially dangerous substances, including benzene — a known carcinogen — toluene and other volatile organic compounds. One of the most acutely toxic substances that wells and equipment emit is hydrogen sulfide, or H<sub>2</sub>S. Even at lower concentrations, it can cause headaches, nausea and other long-term effects if inhaled. At high concentrations, it kills almost instantly. It’s just one of the hazards faced by oil and gas workers, or indeed anyone who gets too close to a leaky well.

Two years ago, George, a soft-spoken former welding teacher who now works for a nonprofit that supports people with mental and developmental disabilities, asked a worker from the nearby site about hydrogen sulfide. Don't worry about it, he was told. On the back of a tank, however, George noticed a "Caution H<sub>2</sub>S" sign. That didn't necessarily mean the substance was present, but it was enough to worry him. Hydrogen sulfide smells like rotten eggs, and George and Aucoin say they notice that odor, or others, almost daily.

The lack of data hinders efforts to understand how the emissions and particulates are affecting residents. The state of New Mexico runs air-quality monitors in a handful of places, including Carlsbad. But Carlsbad's monitor is focused on ozone and does not track particulates, H<sub>2</sub>S or volatile organic compounds.

The national political situation isn't helping. Obama-era regulations targeting methane emissions would have cut down on the venting, flaring, leaking and other emissions, but the Trump administration, driven by its "energy dominance" agenda, eviscerated them before they went into effect, calling them too burdensome.



***An oil truck travels a road in Carlsbad, New Mexico. Trucks kick up dust and rocks that fly like projectiles, right outside the home where Dee George and Penny Aucoin live with their children.***

*Joel Angel Juárez for High Country News*

**TRADITIONALLY, NEW MEXICO** has taken a similarly lax approach to oil and gas; between 2009 and this year, the state had no authority to fine companies for spills. But with a Democratic sweep of top offices in 2018, that trend might change. In January, Democratic Gov. Michelle Lujan Grisham signed an [executive order](https://www.governor.state.nm.us/wp-content/uploads/2019/01/EO_2019-003.pdf) ([https://www.governor.state.nm.us/wp-content/uploads/2019/01/EO\\_2019-003.pdf](https://www.governor.state.nm.us/wp-content/uploads/2019/01/EO_2019-003.pdf)), creating a statewide climate strategy and holding industry accountable for emissions that could warm the planet or harm human health. In April, the state partnered with the Environmental Protection Agency to conduct 98 air-quality inspections at drill sites across southeast New Mexico. That was significant, considering that New Mexico usually makes only about 140 inspections statewide each year. And after the new state land commissioner, Stephanie Garcia Richard, toured well sites with members of the national environmental nonprofit Earthworks, she concluded that oil and gas-related emissions pose "significant public health and safety issues for our communities." Nathalie Eddy of Earthworks said, "I'm really hopeful that it's the beginning of a new era."

State leaders have to walk a fine line with the industry, however. Revenue from oil and gas makes up a third of New Mexico's general fund. The industry also attracts workers from around the country; the population of Carlsbad has doubled since 2016 as a result. Last year, New Mexico produced a record 250 million barrels of

oil, up 46% from 2017, and the U.S. became the world's top oil producer (<https://www.eia.gov/todayinenergy/detail.php?id=37053>).

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Aucoin personally owes a lot to oil and gas; her sister's family in North Dakota was able to buy a brand new doublewide by leasing land out for drilling, and they also purchased cars for Aucoin and her son. But both those cars have since been hit by oil trucks just a quarter-mile from her home. Aucoin's busted minivan sits in the backyard behind the chicken coop; she's been fighting for months to get the oil company to pay for a new vehicle.

One of the stranger things Aucoin and George have witnessed is birds ([https://www.fws.gov/southwest/ES/Documents/USFWS\\_Final\\_Report\\_H2S\\_Study\\_Version\\_2010.pdf](https://www.fws.gov/southwest/ES/Documents/USFWS_Final_Report_H2S_Study_Version_2010.pdf)) falling out of the mulberry trees and sometimes straight out of the sky. During the worst of it, "I'd have to go out with a pair of gloves and trash bag and pick up birds every day for months," Aucoin said. The couple said an oil and gas company tested a deceased blackbird and concluded it had simply starved to death. (The company did not respond to requests for comment.) This April, two of the family's chickens died — a full bin of feed nearby. I called University of Montana ornithologist Bret Tobalske to ask if hydrogen sulfide or some other chemical from a well could be responsible. The stories didn't surprise him at all. "Birds have a very efficient (respiratory) system and high metabolic rate that might make them more susceptible" to toxins in the air, he said. "That's why we had things like canaries in the coal mine. Birds would drop early as a warning system."



***Dee George gazes at an oil pump jack near the Pecos River near his home in Carlsbad, New Mexico, part of the oil-rich Permian Basin, which stretches from southeastern New Mexico into Texas.***

*Joel Angel Juárez for High Country News*

Tay Wiles is a correspondent for High Country News and a freelance reporter. Follow @taywiles. (<https://twitter.com/taywiles>) Email HCN at [editor@hcn.org](mailto:editor@hcn.org) (<mailto:editor@hcn.org>) or submit a letter to the editor (<https://www.hcn.org/feedback/contact-us>).

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