The Lawyer Who Became DuPont's Worst Nightmare

Rob Bilott was a corporate defense attorney for eight years. Then he took on an environmental suit that would upend his entire career — and expose a brazen, decades-long history of chemical pollution.

By NATHANIEL RICH JAN. 6, 2016

Just months before Rob Bilott made partner at Taft Stettinius & Hollister, he received a call on his direct line from a cattle farmer. The farmer, Wilbur Tennant of Parkersburg, W.Va., said that his cows were dying left and right. He believed that the DuPont chemical company, which until recently operated a site in Parkersburg that is more than 35 times the size of the Pentagon, was responsible. Tennant had tried to seek help locally, he said, but DuPont just about owned the entire town. He had been spurned not only by Parkersburg's lawyers but also by its politicians, journalists, doctors and veterinarians. The farmer was angry and spoke in a heavy Appalachian accent. Bilott struggled to make sense of everything he was saying. He might have hung up had Tennant not blurted out the name of Bilott's grandmother, Alma Holland White.

White had lived in Vienna, a northern suburb of Parkersburg, and as a child, Bilott often visited her in the summers. In 1973 she brought him to the cattle farm belonging to the Tennants' neighbors, the Grahams, with whom White was friendly. Bilott spent the weekend riding horses, milking cows and watching

Secretariat win the Triple Crown on TV. He was 7 years old. The visit to the Grahams' farm was one of his happiest childhood memories.

When the Grahams heard in 1998 that Wilbur Tennant was looking for legal help, they remembered Bilott, White's grandson, who had grown up to become an environmental lawyer. They did not understand, however, that Bilott was not the right kind of environmental lawyer. He did not represent plaintiffs or private citizens. Like the other 200 lawyers at Taft, a firm founded in 1885 and tied historically to the family of President William Howard Taft, Bilott worked almost exclusively for large corporate clients. His specialty was defending chemical companies. Several times, Bilott had even worked on cases with DuPont lawyers. Nevertheless, as a favor to his grandmother, he agreed to meet the farmer. "It just felt like the right thing to do," he says today. "I felt a connection to those folks."

The connection was not obvious at their first meeting. About a week after his phone call, Tennant drove from Parkersburg with his wife to Taft's headquarters in downtown Cincinnati. They hauled cardboard boxes containing videotapes, photographs and documents into the firm's glassed-in reception area on the 18th floor, where they sat in gray midcentury-modern couches beneath an oil portrait of one of Taft's founders. Tennant — burly and nearly six feet tall, wearing jeans, a plaid flannel shirt and a baseball cap — did not resemble a typical Taft client. "He didn't show up at our offices looking like a bank vice president," says Thomas Terp, a partner who was Bilott's supervisor. "Let's put it that way."

Terp joined Bilott for the meeting. Wilbur Tennant explained that he and his four siblings had run the cattle farm since their father abandoned them as children. They had seven cows then. Over the decades they steadily acquired land and cattle, until 200 cows roamed more than 600 hilly acres. The property would have been even larger had his brother Jim and Jim's wife, Della, not sold 66 acres in the early '80s to DuPont. The company wanted to use the plot for a landfill for waste from its factory near Parkersburg, called Washington Works, where Jim was employed as a laborer. Jim and Della did not want to sell, but Jim had been in poor health for years, mysterious ailments that doctors couldn't diagnose, and they needed the money.

DuPont rechristened the plot Dry Run Landfill, named after the creek that ran through it. The same creek flowed down to a pasture where the Tennants grazed their cows. Not long after the sale, Wilbur told Bilott, the cattle began to act deranged. They had always been like pets to the Tennants. At the sight of a Tennant they would amble over, nuzzle and let themselves be milked. No longer. Now when they saw the farmers, they charged.

Wilbur fed a videotape into the VCR. The footage, shot on a camcorder, was grainy and intercut with static. Images jumped and repeated. The sound accelerated and slowed down. It had the quality of a horror movie. In the opening shot the camera pans across the creek. It takes in the surrounding forest, the white ash trees shedding their leaves and the rippling, shallow water, before pausing on what appears to be a snowbank at an elbow in the creek. The camera zooms in, revealing a mound of soapy froth.

"I've taken two dead deer and two dead cattle off this ripple," Tennant says in voice-over. "The blood run out of their noses and out their mouths. ... They're trying to cover this stuff up. But it's not going to be covered up, because I'm going to bring it out in the open for people to see."

The video shows a large pipe running into the creek, discharging green water with bubbles on the surface. “This is what they expect a man’s cows to drink on his own property,” Wilbur says. “It’s about high time that someone in the state department of something-or-another got off their cans.”

At one point, the video cuts to a skinny red cow standing in hay. Patches of its hair are missing, and its back is humped — a result, Wilbur speculates, of a kidney malfunction. Another blast of static is followed by a close-up of a dead black calf lying in the snow, its eye a brilliant, chemical blue. “One hundred fifty-three of these animals I’ve lost on this farm,” Wilbur says later in the video. “Every veterinarian that I’ve called in Parkersburg, they will not return my phone calls or they don’t want to get involved. Since they don’t want to get involved, I’ll have to dissect this thing myself. … I’m going to start at this head.”

The video cuts to a calf’s bisected head. Close-ups follow of the calf’s blackened teeth (“They say that’s due to high concentrations of fluoride in the water that they drink”), its liver, heart, stomachs, kidneys and gall bladder. Each organ is sliced open, and Wilbur points out unusual discolorations — some dark, some green — and textures. “I don’t even like the looks of them,” he says. “It don’t look like anything I’ve been into before.”

Bilott watched the video and looked at photographs for several hours. He saw cows with stringy tails, malformed hooves, giant lesions protruding from their hides and red, receded eyes; cows suffering constant diarrhea, slobbering white slime the consistency of toothpaste, staggering bowlegged like drunks. Tennant always zoomed in on his cows’ eyes. “This cow’s done a lot of suffering,” he would say, as a blinking eye filled the screen.

“This is bad,” Bilott said to himself. “There’s something really bad going on here.”

Bilott decided right away to take the Tennant case. It was, he says again, “the right thing to do.” Bilott might have had the practiced look of a corporate lawyer — soft-spoken, milk-complected, conservatively attired — but the job had not come naturally to him. He did not have a typical Taft résumé. He had not attended college or law school in the Ivy League. His father was a lieutenant colonel in the Air Force, and Bilott spent most of his childhood moving among air bases near Albany; Flint, Mich.; Newport Beach, Calif.; and Wiesbaden, West Germany. Bilott attended eight schools before graduating from Fairborn High, near Ohio’s Wright-Patterson Air Force Base. As a junior, he received a recruitment letter from a tiny liberal-arts school in Sarasota called the New College of Florida, which graded pass/fail and allowed students to design their own curriculums. Many of his friends there were idealistic, progressive — ideological misfits in Reagan’s America. He met with professors individually and came to value critical thinking. “I learned to question everything you read,” he said. “Don’t take anything at face value. Don’t care what other people say. I liked that philosophy.” Bilott studied political science and wrote his thesis about the rise and fall of Dayton. He hoped to become a city manager.

But his father, who late in life enrolled in law school, encouraged Bilott to do the same. Surprising his professors, he chose to attend law school at Ohio State, where his favorite course was environmental law. “It seemed like it would have real-world impact,” he said. “It was something you could do to make a difference.” When, after graduation, Taft made him an offer, his mentors and friends from New College were aghast. They didn’t understand how he could join a corporate firm.

Bilott didn't see it that way. He hadn't really thought about the ethics of it, to be honest. "My family said that a big firm was where you'd get the most opportunities," he said. "I knew nobody who had ever worked at a firm, nobody who knew anything about it. I just tried to get the best job I could. I don't think I had any clue of what that involved."

At Taft, he asked to join Thomas Terp's environmental team. Ten years earlier, Congress passed the legislation known as Superfund, which financed the emergency cleanup of hazardous-waste dumps. Superfund was a lucrative development for firms like Taft, creating an entire subfield within environmental law, one that required a deep understanding of the new regulations in order to guide negotiations among municipal agencies and numerous private parties. Terp's team at Taft was a leader in the field.

As an associate, Bilott was asked to determine which companies contributed which toxins and hazardous wastes in what quantities to which sites. He took depositions from plant employees, perused public records and organized huge amounts of historical data. He became an expert on the Environmental Protection Agency's regulatory framework, the Safe Drinking Water Act, the Clean Air Act, the Toxic Substances Control Act. He mastered the chemistry of the pollutants, despite the fact that chemistry had been his worst subject in high school. "I learned how these companies work, how the laws work, how you defend these claims," he said. He became the consummate insider.

Bilott was proud of the work he did. The main part of his job, as he understood it, was to help clients comply with the new regulations. Many of his clients, including Thiokol and Bee Chemical, disposed of hazardous waste long before the practice became so tightly regulated. He worked long hours and knew few people in Cincinnati. A colleague on Taft's environmental team, observing that he had little time for a social life, introduced him to a childhood friend named Sarah Barlage. She was a lawyer, too, at another downtown Cincinnati firm, where she defended corporations against worker's-compensation claims. Bilott joined the two friends for lunch. Sarah doesn't remember him speaking. "My first impression was that he was not like other guys," she says. "I'm pretty chatty. He's much quieter. We complemented each other."

They married in 1996. The first of their three sons was born two years later. He felt secure enough at Taft for Barlage to quit her job and raise their children full-time. Terp, his supervisor, recalls him as "a real standout lawyer: incredibly bright, energetic, tenacious and very, very thorough." He was a model Taft lawyer. Then Wilbur Tennant came along.

The Tennant case put Taft in a highly unusual position. The law firm was in the business of representing chemical corporations, not suing them. The prospect of taking on DuPont "did cause us pause," Terp concedes. "But it was not a terribly difficult decision for us. I'm a firm believer that our work on the plaintiff's side makes us better defense lawyers."

Bilott sought help with the Tennant case from a West Virginia lawyer named Larry Winter. For many years, Winter was a partner at Spilman, Thomas & Battle — one of the firms that represented DuPont in West Virginia — though he had left Spilman to start a practice specializing in personal-injury cases. He was amazed that Bilott would sue DuPont while remaining at Taft.

"His taking on the Tennant case," Winter says, "given the type of practice Taft had, I found to be inconceivable."

Bilott, for his part, is reluctant to discuss his motivations for taking the case. The closest he came to elaborating was after being asked whether, having set out "to make a difference" in the world, he had any misgivings about the path his career had taken.

"There was a reason why I was interested in helping out the Tennants," he said after a pause. "It was a great opportunity to use my background for people who really needed it."

Bilott filed a federal suit against DuPont in the summer of 1999 in the Southern District of West Virginia. In response, DuPont's in-house lawyer, Bernard Reilly, informed him that DuPont and the E.P.A. would commission a study of the property, conducted by three veterinarians chosen by DuPont and three chosen by the E.P.A. Their report did not find DuPont responsible for the cattle's health problems. The culprit, instead, was poor husbandry: "poor nutrition, inadequate veterinary care and lack of fly control." In other words, the Tennants didn't know how to raise cattle; if the cows were dying, it was their own fault.

This did not sit well with the Tennants, who began to suffer the consequences of antagonizing Parkersburg's main employer. Lifelong friends ignored the Tennants on the streets of Parkersburg and walked out of restaurants when they entered. "I'm not allowed to talk to you," they said, when confronted. Four different times, the Tennants changed churches.

FURTHER READING

For more about DuPont's FPOA pollution, see ''The Teflon Toxin'' by Sharon Lerner (The Intercept, Aug. 17, 2015) and ''Welcome to Beautiful Parkersburg, West Virginia'' by Mariah Blake (The Huffington Post, Aug. 27, 2015).

Wilbur called the office nearly every day, but Bilott had little to tell him. He was doing for the Tennants what he would have done for any of his corporate clients — pulling permits, studying land deeds and requesting from DuPont all documentation related to Dry Run Landfill — but he could find no evidence that explained what was happening to the cattle. "We were getting frustrated," Bilott said. "I couldn't blame the Tennants for getting angry."

With the trial looming, Bilott stumbled upon a letter DuPont had sent to the E.P.A. that mentioned a substance at the landfill with a cryptic name: "PFOA." In all his years working with chemical companies, Bilott had never heard of PFOA. It did not appear on any list of regulated materials, nor could he find it in Taft's in-house library. The chemistry expert that he had retained for the case did, however, vaguely recall an article in a trade journal about a similar-sounding compound: PFOS, a soaplike agent used by the technology conglomerate 3M in the fabrication of Scotchgard.

Bilott hunted through his files for other references to PFOA, which he learned was short for perfluorooctanoic acid. But there was nothing. He asked DuPont to share all documentation related to the substance; DuPont refused. In the fall of 2000, Bilott requested a court order to force them. Against DuPont's protests, the order was granted. Dozens of boxes containing thousands of unorganized documents began to arrive at Taft's headquarters: private internal correspondence, medical and health reports and confidential studies conducted by DuPont scientists. There were more than 110,000 pages in all, some half a century old. Bilott spent the next few months on the floor of his office, poring over the documents and arranging them in chronological order. He stopped answering his office phone. When people called his secretary, she explained that he was in the office but had not been able to reach the phone in time, because he was trapped on all sides by boxes.

“I started seeing a story,” Bilott said. “I may have been the first one to actually go through them all. It became apparent what was going on: They had known for a long time that this stuff was bad.”

Bilott is given to understatement. (“To say that Rob Bilott is understated,” his colleague Edison Hill says, “is an understatement.”) The story that Bilott began to see, cross-legged on his office floor, was astounding in its breadth, specificity and sheer brazenness. “I was shocked,” he said. That was another understatement. Bilott could not believe the scale of incriminating material that DuPont had sent him. The company appeared not to realize what it had handed over. “It was one of those things where you can’t believe you’re reading what you’re reading,” he said. “That it’s actually been put in writing. It was the kind of stuff you always heard about happening but you never thought you’d see written down.”

The story began in 1951, when DuPont started purchasing PFOA (which the company refers to as C8) from 3M for use in the manufacturing of Teflon. 3M invented PFOA just four years earlier; it was used to keep coatings like Teflon from clumping during production. Though PFOA was not classified by the government as a hazardous substance, 3M sent DuPont recommendations on how to dispose of it. It was to be incinerated or sent to chemical-waste facilities. DuPont’s own instructions specified that it was not to be flushed into surface water or sewers. But over the decades that followed, DuPont pumped hundreds of thousands of pounds of PFOA powder through the outfall pipes of the Parkersburg facility into the Ohio River. The company dumped 7,100 tons of PFOA-laced sludge into “digestion ponds”: open, unlined pits on the Washington Works property, from which the chemical could seep straight into the ground. PFOA entered the local water table, which supplied drinking water to the communities of Parkersburg, Vienna, Little Hocking and Lubeck — more than 100,000 people in all.

Bilott learned from the documents that 3M and DuPont had been conducting secret medical studies on PFOA for more than four decades. In 1961, DuPont researchers found that the chemical could increase the size of the liver in rats and rabbits. A year later, they replicated these results in studies with dogs. PFOA’s peculiar chemical structure made it uncannily resistant to degradation. It also bound to plasma proteins in the blood, circulating through each organ in the body. In the 1970s, DuPont discovered that there were high concentrations of PFOA in the blood of factory workers at Washington Works. They did not tell the E.P.A. at the time. In 1981, 3M — which continued to serve as the supplier of PFOA to DuPont and other corporations — found that ingestion of the substance caused birth defects in rats. After 3M shared this information, DuPont tested the children of pregnant employees in their Teflon division. Of seven births, two had eye defects. DuPont did not make this information public.

In 1984, DuPont became aware that dust vented from factory chimneys settled well beyond the property line and, more disturbing, that PFOA was present in the local water supply. DuPont declined to disclose this finding. In 1991, DuPont scientists determined an internal safety limit for PFOA concentration in drinking water: one part per billion. The same year, DuPont found that water in one local district contained PFOA levels at three times that figure. Despite internal debate, it declined to make the information public.

(In a statement, DuPont claimed that it did volunteer health information about PFOA to the E.P.A. during those decades. When asked for evidence, it forwarded two letters written to West Virginian government agencies from 1982 and 1992, both of which cited internal studies that called into question links between PFOA exposure and human health problems.)

By the ’90s, Bilott discovered, DuPont understood that PFOA caused cancerous testicular, pancreatic and liver tumors in lab animals. One laboratory study suggested possible DNA damage from PFOA exposure, and a study of workers linked exposure with prostate cancer. DuPont at last hastened to develop an alternative to PFOA. An interoffice memo sent in 1993 announced that “for the first time, we have a viable candidate” that appeared to be less toxic and stayed in the body for a much shorter duration of time. Discussions were held at DuPont’s corporate headquarters to discuss switching to the new compound. DuPont decided against it. The risk was too great: Products manufactured with PFOA were an important part of DuPont’s business, worth $1 billion in annual profit.

But the crucial discovery for the Tennant case was this: By the late 1980s, as DuPont became increasingly concerned about the health effects of PFOA waste, it decided it needed to find a landfill for the toxic sludge dumped on company property. Fortunately they had recently bought 66 acres from a low-level employee at the Washington Works facility that would do perfectly.

By 1990, DuPont had dumped 7,100 tons of PFOA sludge into Dry Run Landfill. DuPont’s scientists understood that the landfill drained into the Tennants’ remaining property, and they tested the water in Dry Run Creek. It contained an extraordinarily high concentration of PFOA. DuPont did not tell this to the Tennants at the time, nor did it disclose the fact in the cattle report that it commissioned for the Tennant case a decade later — the report that blamed poor husbandry for the deaths of their cows. Bilott had what he needed.

In August 2000, Bilott called DuPont’s lawyer, Bernard Reilly, and explained that he knew what was going on. It was a brief conversation.

The Tennants settled. The firm would receive its contingency fee. The whole business might have ended right there. But Bilott was not satisfied.

“I was irritated,” he says.

DuPont was nothing like the corporations he had represented at Taft in the Superfund cases. “This was a completely different scenario. DuPont had for decades been actively trying to conceal their actions. They knew this stuff was harmful, and they put it in the water anyway. These were bad facts.” He had seen what the PFOA-tainted drinking water had done to cattle. What was it doing to the tens of thousands of people in the areas around Parkersburg who drank it daily from their taps? What did the insides of their heads look like? Were their internal organs green?

Bilott spent the following months drafting a public brief against DuPont. It was 972 pages long, including 136 attached exhibits. His colleagues call it “Rob’s Famous Letter.” “We have confirmed that the chemicals and pollutants released into the environment by DuPont at its Dry Run Landfill and other nearby DuPont-owned facilities may pose an imminent and substantial threat to health or the environment,” Bilott wrote. He demanded immediate action to regulate PFOA and provide clean water to those living near the factory. On March 6, 2001, he sent the letter to the director of every relevant regulatory authority, including Christie Whitman, administrator of the E.P.A., and the United States attorney general, John Ashcroft.

DuPont reacted quickly, requesting a gag order to block Bilott from providing the information he had discovered in the Tennant case to the government. A federal court denied it. Bilott sent his entire case file to the E.P.A.

“DuPont freaked out when they realized that this guy was onto them,” says Ned McWilliams, a young trial lawyer who later joined Bilott’s legal team. “For a corporation to seek a gag order to prevent somebody from speaking to the E.P.A. is an extraordinary remedy. You could realize how bad that looks. They must have known that there was a small chance of winning. But they were so afraid that they were willing to roll the dice.”

With the Famous Letter, Bilott crossed a line. Though nominally representing the Tennants — their settlement had yet to be concluded — Bilott spoke for the public, claiming extensive fraud and wrongdoing. He had become a threat not merely to DuPont but also to, in the words of one internal memo, “the entire fluoropolymers industry” — an industry responsible for the high-performance plastics used in many modern devices, including kitchen products, computer cables, implantable medical devices and bearings and seals used in cars and airplanes. PFOA was only one of more than 60,000 synthetic chemicals that companies produced and released into the world without regulatory oversight.

“Rob’s letter lifted the curtain on a whole new theater,” says Harry Deitzler, a plaintiff’s lawyer in West Virginia who works with Bilott. “Before that letter, corporations could rely upon the public misperception that if a chemical was dangerous, it was regulated.” Under the 1976 Toxic Substances Control Act, the E.P.A. can test chemicals only when it has been provided evidence of harm. This arrangement, which largely allows chemical companies to regulate themselves, is the reason that the E.P.A. has restricted only five chemicals, out of tens of thousands on the market, in the last 40 years.

It was especially damning to see these allegations against DuPont under the letterhead of one of the nation’s most prestigious corporate defense firms. “You can imagine what some of the other companies that Taft was representing — a Dow Chemical — might have thought of a Taft lawyer taking on DuPont,” Larry Winter says. “There was a threat that the firm would suffer financially.” When I asked Thomas Terp about Taft’s reaction to the Famous Letter, he replied, not quite convincingly, that he didn’t recall one. “Our partners,” he said, “are proud of the work that he has done.”

Bilott, however, worried that corporations doing business with Taft might see things differently. “I’m not stupid, and the people around me aren’t stupid,” he said. “You can’t ignore the economic realities of the ways that business is run and the way clients think. I perceived that there were some ‘What the hell are you doing?’ responses.”

The letter led, four years later, in 2005, to DuPont’s reaching a $16.5 million settlement with the E.P.A., which had accused the company of concealing its knowledge of PFOA’s toxicity and presence in the environment in violation of the Toxic Substances Control Act. (DuPont was not required to admit liability.) At the time, it was the largest civil administrative penalty the E.P.A. had obtained in its history, a statement that sounds more impressive than it is. The fine represented less than 2 percent of the profits earned by DuPont on PFOA that year.

Bilott never represented a corporate client again.

The obvious next step was to file a class-action lawsuit against DuPont on behalf of everyone whose water was tainted by PFOA. In all ways but one, Bilott himself was in the ideal position to file such a suit. He understood PFOA’s history as well as anyone inside DuPont did. He had the technical and regulatory expertise, as he had proved in the Tennant case. The only part that didn’t make sense was his firm: No Taft lawyer, to anyone’s recollection, had ever filed a class-action lawsuit.

It was one thing to pursue a sentimental case on behalf of a few West Virginia cattle farmers and even write a public letter to the E.P.A. But an industry-threatening class-action suit against one of the world's largest chemical corporations was different. It might establish a precedent for suing corporations over unregulated substances and imperil Taft's bottom line. This point was made to Terp by Bernard Reilly, DuPont's in-house lawyer, according to accounts from Bilott's plaintiff's-lawyer colleagues; they say Reilly called to demand that Bilott back off the case. (Terp confirms that Reilly called him but will not disclose the content of the call; Bilott and Reilly decline to speak about it, citing continuing litigation.) Given what Bilott had documented in his Famous Letter, Taft stood by its partner.

A lead plaintiff soon presented himself. Joseph Kiger, a night-school teacher in Parkersburg, called Bilott to ask for help. About nine months earlier, he received a peculiar note from the Lubeck water district. It arrived on Halloween day, enclosed in the monthly water bill. The note explained that an unregulated chemical named PFOA had been detected in the drinking water in "low concentrations," but that it was not a health risk. Kiger had underlined statements that he found particularly baffling, like: "DuPont reports that it has toxicological and epidemiological data to support confidence that exposure guidelines established by DuPont are protective of human health." The term "support confidence" seemed bizarre, as did "protective of human health," not to mention the claim that DuPont's own data supported its confidence in its own guidelines.

Still, Kiger might have forgotten about it had his wife, Darlene, not already spent much of her adulthood thinking about PFOA. Darlene's first husband had been a chemist in DuPont's PFOA lab. (Darlene asked that he not be named so that he wouldn't be involved in the local politics around the case.) "When you worked at DuPont in this town," Darlene says today, "you could have everything you wanted." DuPont paid for his education, it secured him a mortgage and it paid him a generous salary. DuPont even gave him a free supply of PFOA, which, Darlene says, she used as soap in the family's dishwasher and to clean the car. Sometimes her husband came home from work sick — fever, nausea, diarrhea, vomiting — after working in one of the PFOA storage tanks. It was a common occurrence at Washington Works. Darlene says the men at the plant called it "Teflon flu."

STATES OF UNCERTAINTY

No one knows for certain how much PFOA is safe to drink. Rob Bilott's lawsuit against DuPont in West Virginia included anyone whose drinking water had levels above 0.05 parts per billion. But last June, based on a comprehensive review of previous health studies, Philippe Grandjean of the Harvard School of Public Health and Richard Clapp of the University of Massachusetts-Lowell named an "approximate" safe level of 0.001 p.p.b. Soon thereafter, the nonprofit Environmental Working Group analyzed two years of E.P.A. survey data to find that this threshold had been exceeded — in some cases by factors of 100 or more — in 94 water systems across 27 states. Below, the estimated number of people in each state whose drinking water is affected.

Alabama	312,522
Arizona	217,218
California	1,441,298
Colorado	67,348
Delaware	320,484
Florida	971,913
Georgia	94,874
Illinois	135,763
Kentucky	730,611

Massachusetts	103,762
Maryland	104,567
Minnesota	143,637
New Hampshire	53,000
New Jersey	1,334,413
New York	174,000
North Carolina	225,262
Ohio	79,337
Oklahoma	20,307
Pennsylvania	221,121
Rhode Island	21,900
South Carolina	24,904
Tennessee	139,110
Texas	11,489
Virginia	47,574
Washington	109,527
West Virginia	34,251
Wisconsin	30,100

In 1976, after Darlene gave birth to their second child, her husband told her that he was not allowed to bring his work clothes home anymore. DuPont, he said, had found out that PFOA was causing health problems for women and birth defects in children. Darlene would remember this six years later when, at 36, she had to have an emergency hysterectomy and again eight years later, when she had a second surgery. When the strange letter from the water district arrived, Darlene says, "I kept thinking back to his clothing, to my hysterectomy. I asked myself, what does DuPont have to do with our drinking water?"

Joe called the West Virginia Department of Natural Resources ("They treated me like I had the plague"), the Parkersburg office of the state's Department of Environmental Protection ("nothing to worry about"), the water division ("I got shut down"), the local health department ("just plain rude"), even DuPont ("I was fed the biggest line of [expletive] anybody could have been fed"), before a scientist in the regional E.P.A. office finally took his call.

"Good God, Joe," the scientist said. "What the hell is that stuff doing in your water?" He sent Kiger information about the Tennant lawsuit. On the court papers Kiger kept seeing the same name: Robert Bilott, of Taft Stettinius & Hollister, in Cincinnati.

Bilott had anticipated suing on behalf of the one or two water districts closest to Washington Works. But tests revealed that six districts, as well as dozens of private wells, were tainted with levels of PFOA higher than DuPont's own internal safety standard. In Little Hocking, the water tested positive for PFOA at seven times the limit. All told, 70,000 people were drinking poisoned water. Some had been doing so for decades.

But Bilott faced a vexing legal problem. PFOA was not a regulated substance. It appeared on no federal or state list of contaminants. How could Bilott claim that 70,000 people had been poisoned if the government didn't recognize PFOA as a toxin — if PFOA, legally speaking, was no different than water itself? In 2001, it could not even be proved that exposure to PFOA in public drinking water caused health problems. There was scant information available about its impact on large populations. How could the class prove it had been harmed by PFOA when the health effects were largely unknown?

The best metric Bilott had to judge a safe exposure level was DuPont's own internal limit of one part per billion. But when DuPont learned that Bilott was preparing a

new lawsuit, it announced that it would re-evaluate that figure. As in the Tennant case, DuPont formed a team composed of its own scientists and scientists from the West Virginia Department of Environmental Protection. It announced a new threshold: 150 parts per billion.

Bilott found the figure "mind-blowing." The toxicologists he hired had settled upon a safety limit of 0.2 parts per billion. But West Virginia endorsed the new standard. Within two years, three lawyers regularly used by DuPont were hired by the state D.E.P. in leadership positions. One of them was placed in charge of the entire agency. "The way that transpired was just amazing to me," Bilott says. "I suppose it wasn't so amazing to my fellow counsel in West Virginia who know the system there. But it was to me." The same DuPont lawyers tasked with writing the safety limit, Bilott said, had become the government regulators responsible for enforcing that limit.

Bilott devised a new legal strategy. A year earlier, West Virginia had become one of the first states to recognize what is called, in tort law, a medical-monitoring claim. A plaintiff needs to prove only that he or she has been exposed to a toxin. If the plaintiff wins, the defendant is required to fund regular medical tests. In these cases, should a plaintiff later become ill, he or she can sue retroactively for damages. For this reason, Bilott filed the class-action suit in August 2001 in state court, even though four of the six affected water districts lay across the Ohio border.

Meanwhile the E.P.A., drawing from Bilott's research, began its own investigation into the toxicity of PFOA. In 2002, the agency released its initial findings: PFOA might pose human health risks not only to those drinking tainted water, but also to the general public — anyone, for instance, who cooked with Teflon pans. The E.P.A. was particularly alarmed to learn that PFOA had been detected in American blood banks, something 3M and DuPont had known as early as 1976. By 2003 the average concentration of PFOA in the blood of an adult American was four to five parts per billion. In 2000, 3M ceased production of PFOA. DuPont, rather than use an alternative compound, built a new factory in Fayetteville, N.C., to manufacture the substance for its own use.

Bilott's strategy appeared to have worked. In September 2004, DuPont decided to settle the class-action suit. It agreed to install filtration plants in the six affected water districts if they wanted them and pay a cash award of $70 million. It would fund a scientific study to determine whether there was a "probable link" — a term that delicately avoided any declaration of causation — between PFOA and any diseases. If such links existed, DuPont would pay for medical monitoring of the affected group in perpetuity. Until the scientific study came back with its results, class members were forbidden from filing personal-injury suits against DuPont.

A reasonable expectation, at this point, was that the lawyers would move on. "In any other class action you've ever read about," Deitzler says, "you get your 10 bucks in the mail, the lawyers get paid and the lawsuit goes away. That's what we were supposed to do." For three years, Bilott had worked for nothing, costing his firm a fortune. But now Taft received a windfall: Bilott and his team of West Virginian plaintiff lawyers received $21.7 million in fees from the settlement. "I think they were thinking, This guy did O.K.," Deitzler says. "I wouldn't be surprised if he got a raise."

Not only had Taft recouped its losses, but DuPont was providing clean water to the communities named in the suit. Bilott had every reason to walk away.

He didn't.

“There was a gap in the data,” Bilott says. The company’s internal health studies, as damning as they were, were limited to factory employees. DuPont could argue — and had argued — that even if PFOA caused medical problems, it was only because factory workers had been exposed at exponentially higher levels than neighbors who drank tainted water. The gap allowed DuPont to claim that it had done nothing wrong.

Bilott represented 70,000 people who had been drinking PFOA-laced drinking water for decades. What if the settlement money could be used to test them? “Class members were concerned about three things,” Winter says. “One: Do I have C8 in my blood? Two: If I do, is it harmful? Three: If it’s harmful, what are the effects?” Bilott and his colleagues realized they could answer all three questions, if only they could test their clients. Now, they realized, there was a way to do so. After the settlement, the legal team pushed to make receipt of the cash award contingent on a full medical examination. The class voted in favor of this approach, and within months, nearly 70,000 West Virginians were trading their blood for a $400 check.

The team of epidemiologists was flooded with medical data, and there was nothing DuPont could do to stop it. In fact, it was another term of the settlement that DuPont would fund the research without limitation. The scientists, freed from the restraints of academic budgets and grants, had hit the epidemiological jackpot: an entire population’s personal data and infinite resources available to study them. The scientists designed 12 studies, including one that, using sophisticated environmental modeling technology, determined exactly how much PFOA each individual class member had ingested.

It was assured that the panel would return convincing results. But Bilott could not predict what those results would be. If no correlation was found between PFOA and illness, Bilott’s clients would be barred under the terms of the agreement from filing any personal-injury cases. Because of the sheer quantity of data provided by the community health study and the unlimited budget — it ultimately cost DuPont $33 million — the panel took longer than expected to perform its analysis. Two years passed without any findings. Bilott waited. A third year passed. Then a fourth, a fifth, a sixth. Still the panel was quiet. Bilott waited.

It was not a peaceful wait. The pressure on Bilott at Taft had built since he initiated the class-action suit in 2001. The legal fees had granted him a reprieve, but as the years passed without resolution, and Bilott continued to spend the firm’s money and was unable to attract new clients, he found himself in an awkward position.

“This case,” Winter says, “regardless of how hugely successful it ends up, will never in the Taft firm’s mind replace what they’ve lost in the way of legal business over the years.”

The longer it took for the science panel to conduct its research, the more expensive the case became. Taft continued to pay consultants to interpret the new findings and relay them to the epidemiologists. Bilott counseled class members in West Virginia and Ohio and traveled frequently to Washington to attend meetings at the E.P.A., which was deciding whether to issue advisories about PFOA. “We were incurring a lot of expenses,” Bilott says. “If the scientific panel found no link with diseases, we’d have to eat it all.”

Clients called Bilott to say that they had received diagnoses of cancer or that a family member had died. They wanted to know why it was taking so long. When would they get relief? Among those who called was Jim Tennant. Wilbur, who had

cancer, had died of a heart attack. Two years later, Wilbur's wife died of cancer. Bilott was tormented by "the thought that we still hadn't been able to hold this company responsible for what they did in time for those people to see it."

Taft did not waver in its support of the case, but the strain began to show. "It was stressful," Sarah Barlage, Bilott's wife, says. "He was exasperated that it was lasting a long time. But his heels were so dug in. He's extremely stubborn. Every day that went by with no movement gave him more drive to see it through. But in the back of our minds, we knew that there are cases that go on forever."

His colleagues on the case detected a change in Bilott. "I had the impression that it was extremely tough on him," Winter says. "Rob had a young family, kids growing up, and he was under pressure from his firm. Rob is a private person. He didn't complain. But he showed signs of being under enormous stress."

In 2010, Bilott began suffering strange attacks: His vision would blur, he couldn't put on his socks, his arms felt numb. His doctors didn't know what was happening. The attacks recurred periodically, bringing blurry vision, slurred speech and difficulty moving one side of his body. They struck suddenly, without warning, and their effects lasted days. The doctors asked whether he was under heightened stress at work. "Nothing different than normal," Bilott told them. "Nothing it hadn't been for years."

The doctors ultimately hit upon an effective medication. The episodes ceased and their symptoms, apart from an occasional tic, are under control, but he still doesn't have a diagnosis.

"It was stressful," Bilott says, "not to know what the heck was going on."

In December 2011, after seven years, the scientists began to release their findings: there was a "probable link" between PFOA and kidney cancer, testicular cancer, thyroid disease, high cholesterol, pre-eclampsia and ulcerative colitis.

"There was relief," Bilott says, understated nearly to the point of self-effacement. "We were able to deliver what we had promised to these folks seven years earlier. Especially since, for all those years, DuPont had been saying that we were lying, trying to scare and mislead people. Now we had a scientific answer."

As of October, 3,535 plaintiffs have filed personal-injury lawsuits against DuPont. The first member of this group to go to trial was a kidney-cancer survivor named Carla Bartlett. In October, Bartlett was awarded $1.6 million. DuPont plans to appeal. This may have ramifications well beyond Bartlett's case: Hers is one of five "bellwether" cases that will be tried over the course of this year. After that, DuPont may choose to settle with every afflicted class member, using the outcome of the bellwether cases to determine settlement awards. Or DuPont can fight each suit individually, a tactic that tobacco companies have used to fight personal-injury lawsuits. At the rate of four trials a year, DuPont would continue to fight PFOA cases until the year 2890.

DuPont's continuing refusal to accept responsibility is maddening to Bilott. "To think that you've negotiated in good faith a deal that everybody has abided by and worked on for seven years, you reach a point where certain things were to be resolved but then remain contested," he says. "I think about the clients who have been waiting for this, many of whom are sick or have died while waiting. It's infuriating."

As part of its agreement with the E.P.A., DuPont ceased production and use of PFOA in 2013. The five other companies in the world that produce PFOA are also phasing out production. DuPont, which is currently negotiating a merger with Dow Chemical, last year severed its chemical businesses: They have been spun off into a new corporation called Chemours. The new company has replaced PFOA with similar fluorine-based compounds designed to biodegrade more quickly — the alternative considered and then discarded by DuPont more than 20 years ago. Like PFOA, these new substances have not come under any regulation from the E.P.A. When asked about the safety of the new chemicals, Chemours replied in a statement: "A significant body of data demonstrates that these alternative chemistries can be used safely."

Last May, 200 scientists from a variety of disciplines signed the Madrid Statement, which expresses concern about the production of all fluorochemicals, or PFASs, including those that have replaced PFOA. PFOA and its replacements are suspected to belong to a large class of artificial compounds called endocrine-disrupting chemicals; these compounds, which include chemicals used in the production of pesticides, plastics and gasoline, interfere with human reproduction and metabolism and cause cancer, thyroid problems and nervous-system disorders. In the last five years, however, a new wave of endocrinology research has found that even extremely low doses of such chemicals can create significant health problems. Among the Madrid scientists' recommendations: "Enact legislation to require only essential uses of PFASs" and "Whenever possible, avoid products containing, or manufactured using, PFASs. These include many products that are stain-resistant, waterproof or nonstick."

When asked about the Madrid Statement, Dan Turner, DuPont's head of global media relations, wrote in an email: "DuPont does not believe the Madrid Statement reflects a true consideration of the available data on alternatives to long-chain perfluorochemicals, such as PFOA. DuPont worked for more than a decade, with oversight from regulators, to introduce its alternatives. Extensive data has been developed, demonstrating that these alternatives are much more rapidly eliminated from the body than PFOA, and have improved health safety profiles. We are confident that these alternative chemistries can be used safely — they are well characterized, and the data has been used to register them with environmental agencies around the world."

Every year Rob Bilott writes a letter to the E.P.A. and the West Virginia D.E.P., urging the regulation of PFOA in drinking water. In 2009, the E.P.A. set a "provisional" limit of 0.4 parts per billion for short-term exposure, but has never finalized that figure. This means that local water districts are under no obligation to tell customers whether PFOA is in their water. In response to Bilott's most recent letter, the E.P.A. claimed that it would announce a "lifetime health advisory level for PFOA" by "early 2016."

This advisory level, if indeed announced, might be a source of comfort to future generations. But if you are a sentient being reading this article in 2016, you already have PFOA in your blood. It is in your parents' blood, your children's blood, your lover's blood. How did it get there? Through the air, through your diet, through your use of nonstick cookware, through your umbilical cord. Or you might have drunk tainted water. The Environmental Working Group has found manufactured fluorochemicals present in 94 water districts across 27 states (see sidebar beginning on Page 38). Residents of Issaquah, Wash.; Wilmington, Del.; Colorado Springs; and Nassau County on Long Island are among those whose water has a higher concentration of fluorochemicals than that in some of the districts included in Rob Bilott's class-action suit. The drinking water in Parkersburg itself, whose water district was not included in the original class-action suit and has failed to

compel DuPont to pay for a filtration system, is currently tainted with high levels of PFOA. Most residents appear not to know this.

Where scientists have tested for the presence of PFOA in the world, they have found it. PFOA is in the blood or vital organs of Atlantic salmon, swordfish, striped mullet, gray seals, common cormorants, Alaskan polar bears, brown pelicans, sea turtles, sea eagles, Midwestern bald eagles, California sea lions and Laysan albatrosses on Sand Island, a wildlife refuge on Midway Atoll, in the middle of the North Pacific Ocean, about halfway between North America and Asia.

"We see a situation," Joe Kiger says, "that has gone from Washington Works, to statewide, to the United States, and now it's everywhere, it's global. We've taken the cap off something here. But it's just not DuPont. Good God. There are 60,000 unregulated chemicals out there right now. We have no idea what we're taking."

Bilott doesn't regret fighting DuPont for the last 16 years, nor for letting PFOA consume his career. But he is still angry. "The thought that DuPont could get away with this for this long," Bilott says, his tone landing halfway between wonder and rage, "that they could keep making a profit off it, then get the agreement of the governmental agencies to slowly phase it out, only to replace it with an alternative with unknown human effects — we told the agencies about this in 2001, and they've essentially done nothing. That's 14 years of this stuff continuing to be used, continuing to be in the drinking water all over the country. DuPont just quietly switches over to the next substance. And in the meantime, they fight everyone who has been injured by it."

Bilott is currently prosecuting Wolf v. DuPont, the second of the personal-injury cases filed by the members of his class. The plaintiff, John M. Wolf of Parkersburg, claims that PFOA in his drinking water caused him to develop ulcerative colitis. That trial begins in March. When it concludes, there will be 3,533 cases left to try.

Correction: January 24, 2016

An article on Jan 10. about legal action against DuPont for chemical pollution referred incorrectly to DuPont's response in the 1970s when the company discovered high concentrations of PFOA in the blood of workers at Washington Works, a DuPont factory. DuPont withheld the information from the E.P.A., not from its workers. The article also misstated the year DuPont agreed to a $16.5 million settlement with the E.P.A. It was 2005, not 2006. In addition, the article misidentified the water district where a resident received a letter from the district noting that PFOA had been detected in the drinking water. It was Lubeck, W.Va. — not Little Hocking, Ohio. The article also misidentified the district where water tested positive for PFOA at seven times the limit. It was Little Hocking, not Lubeck. And the article misidentified the city in Washington State that has fluorochemicals in its drink-ing water. It is Issaquah, not Seattle.

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