From: Struck, Robert

Sent: 2/18/2016 11:50:27 AM

To: TTAB EFiling

CC:

Subject: U.S. TRADEMARK APPLICATION NO. 76716800 - NORTH TEXAS COMMUNITY HEALTHCARE - 67393-3087 - Request for Reconsideration Denied - Return to TTAB - Message 2 of 7

****

Attachment Information:

Count: 11

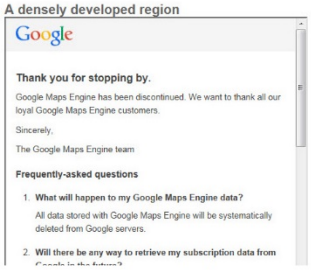
Files: publicinte-05.jpg, publicinte-06.jpg, publicinte-07.jpg, publicinte-08.jpg, publicinte-09.jpg, publicinte-10.jpg, publicinte-11.jpg, publicinte-12.jpg, publicinte-13.jpg, publicinte-14.jpg, publicinte-15.jpg

means for people when fracked wells and their associated equipment move into neighborhoods on a large scale. The sorts of complaints first raised here are being echoed in the newer Eagle Ford Shale play in South Texas, where drilling has soared the past several years. The Center for Public Integrity and InsideClimate News have been reporting on air pollution in the Eagle Ford for more than a year and a half.

The Barnett Shale snakes under 25 counties, a region that includes Dallas, Fort Worth and dozens of suburban and exurban communities. More than 16,000 wells produce gas here, along with several hundred yielding oil.

Wells are tucked near homes, schools, parks, businesses and hospitals, sometimes less than 200 feet away. With them have come compressor stations, glycol dehydrators, storage tanks and other follow-on equipment — more than 6,000 sources of toxic emissions and thousands of others considered less significant. This infrastructure could run for decades even as the drilling boom fades.

A densely developed region



Google

Thank you for stopping by.

Google Maps Engine has been discontinued. We want to thank all our loyal Google Maps Engine customers.

Sincerely,

The Google Maps Engine team

Frequently-asked questions

1. **What will happen to my Google Maps Engine data?**

   All data stored with Google Maps Engine will be systematically deleted from Google servers.

2. **Will there be any way to retrieve my subscription data from**

boom fades.

Taylor Ishee lived within a mile and a half of 37 active gas wells before his Burkitt leukemia diagnosis at age 19, a Center analysis of state data showed. Half were drilled in the two years before he became ill. Wells were also sunk near his high school in Argyle, in Denton County, while he was a student there. Then compressor stations, which move gas through pipelines, popped up on residential streets in the area.

Ishee's best friend, Justin Eaklor, was diagnosed with leukemia in May. Eaklor, 21, lives in another Barnett community with wells, including four just under two-thirds of a mile from his house.

For those who believe they've been harmed, proximity is troubling. For Texas as a whole, it's a bonanza.

The state collected $5.8 billion in natural gas and oil production taxes last fiscal year, triple the amount in 2003, early in the Barnett boom. That's after accounting for inflation. The technological advances that made the Barnett economical have spread to other plays in Texas, boosting not only taxes but also royalties for production on state land.

Politicians in Texas — many of whom receive campaign contributions from the oil and gas industry or have other financial ties — tend to focus on

Google in the future?

Four counties atop the Barnett Shale – Denton, Johnson, Tarrant and Wise – have the most natural-gas production in the region. Shown here are the gas and oil wells in those counties, along with the infrastructure that followed, such as compressor stations that move gas through pipelines.

- Red: Oil and gas wells
- Blue: Gas or oil infrastructure considered by the state to be "point sources," or more significant sources of air pollutants

Source: Railroad Commission of Texas and the Texas Commission on Environmental Quality

Smoke, odors and drifting foam in Fort Worth suburb stir frustration over fracking
By Jamie Smith Hopkins December 11, 2014

the economic implications of the boom, which are much simpler to quantify than health. More mineral owners getting payments. More jobs. Cheaper energy.

Asked about health concerns, Texas Gov. Rick Perry's office did not respond. Neither did a spokeswoman for the governor-elect, state Attorney General Greg Abbott.

'No cause for alarm'

It's easy for Texas politicians to emphasize the positives, because the state's environmental protection agency gives Barnett air a thumbs-up.

Air-toxics data from 26 fixed stations around the region flow to the Texas Commission on Environmental Quality, known as the TCEQ. These monitors sample air either around the clock or once every six days, a network the agency said is unmatched in any other state.

TCEQ spokesman Terry Clawson said by email that the agency can't determine the cause of residents' health problems when complaints arise, but "it is highly unlikely that chemicals are being emitted at levels high enough to cause adverse health effects such as cancer, kidney damage, or liver damage."

"Since 2008, the TCEQ has heavily monitored the oil and gas activities in the Barnett Shale," he said. "Monitoring millions of measurements each year, the TCEQ has found no cause for alarm."

But air-emissions experts and other scientists say the

Big Oil, Bad Air

Fracking the Eagle Ford Shale of South Texas.

Stories in this series

As drilling ravages Texas' Eagle Ford Shale, residents 'living in a Petri dish'
By Jim Morris, Lisa Song and David Hasemyer February 18, 2014

Fracking hearing airs claims about conflicts of interest, 'misinformation'
By Jamie Smith Hopkins April 23, 2015

Interior: New fracking

Click here for more stories in this investigation

Citing health risks, New York State bans fracking

But air-emissions experts and other scientists say the state doesn't have enough information to make broad judgments about safety. Emission levels can be widely variable, they say, and the vast majority of the region goes un-sampled.

The Barnett spreads across 5,000 square miles, an area more than twice the size of Delaware. The 26 air-monitoring stations there can't quantify typical conditions near 16,000 wells and more than 6,000 compressor engines, tanks and other equipment, let alone determine where the highest emissions are.

Even right beside many of the state's monitors, it's difficult to get the full story on air quality. Samples are taken every six days at 11 of the stations.

"We don't really have the experience to be able to say, 'Oh, there's nothing to worry about,'" said Eduardo "Jay" Olaguer, program director for air quality science at the Houston Advanced Research Center, a nonprofit research group.

Given the measurement challenges, "traditional methods are really inadequate for the task at hand," he said.

Olaguer uses a newer, mobile measurement method that can chase pollution plumes. What he's finding suggests that emission "events" — significant releases of air pollutants — are larger and more frequent than expected.

Critics, meanwhile, contend that the TCEQ's policies are too lenient to ensure public health or force improvements when residents complain.

Since 2009, the year after Barnett drilling permits peaked, people in the four counties with the most gas development have filed more than 1,370 air complaints related to the industry with the TCEQ. It's a laundry list of woes. Vertigo. Unbearable headaches. Chest pain. Hives. Vomiting. Seizures. Dead

pets.

"Complainant stated that most of us in this area believe that someone will have to die from benzene exposure before the government does anything," a TCEQ employee wrote in one summary.

In only 2 percent of those complaints did the TCEQ issue violation notices, according to a Center analysis of data from 2009 through September of this year. Ninety-four percent were closed without violations. The rest were either referred to other agencies or were pending.

A complaint doesn't necessarily mean there's any violation to find, TCEQ's Clawson said.

"These types of occurrences are rare and demonstrate that many of the operations within this state are compliant with state and federal regulations and pose no negative impact to human health and the environment," he said by email.

TCEQ detractors see it differently — as a lack of appropriate enforcement from an agency whose mission is to protect public health and natural resources "consistent with sustainable economic development." Two residents of the Barnett were so fed up that they started a nonprofit called ShaleTest to take independent samples of air and water.

"The average person in Texas would not know if TCEQ just simply dissolved and went away," said co-founder Calvin Tillman, who stepped down as mayor of the tiny Barnett town of Dish in 2011 so he could move his family off the shale. "They're there to protect the oil and gas industry, not to protect the people being harmed by the oil and gas industry."

Gas wells and related infrastructure, including storage tanks, can be sited close to homes in a variety of places in the Barnett Shale region. A tank is pictured here on a residential street in the town of Dish. Jamie Smith Hopkins/Center for Public Integrity

'We have decided to close our file'

When the TCEQ does issue violation notices, the consequences sometimes amount to nothing.

"We don't really have the experience to be able to say, 'Oh, there's nothing to worry about.'"

- Eduardo "Jay" Olaguer, program director for air quality science at the Houston Advanced Research Center

Sandy DenBraber, a nurse so chemically sensitive she spends almost all her time in her home or yard in Arlington, Texas, prevailed upon the TCEQ in 2010 to find the operator of nearby gas wells in violation based on her medical records.

Because she doesn't get the everyday exposure to contaminants that most Americans do, TCEQ investigators were struck by the presence of chemicals such as ethylbenzene, xylene and hexane in her blood. They detected the

same chemicals in the air near the gas pad, though not at levels the agency deems concerning to health.

DenBraber's doctor, the TCEQ report notes, detailed her health problems during three years of drilling: "exacerbation of asthma, frequent migraines, increased fatigue, elevated white blood cell count, nausea, decreased appetite, aching joints, flu-like symptoms, low temperature, sleep disturbance, elevated blood pressure, nasal congestion, coughing, airway spasms, and shortness of breath."

DenBraber, who compared the odor outside her house to that of an oil refinery, waited for action. After almost a year, the TCEQ sent her a letter informing her that none would come.

Sandy DenBraber holds a picture showing the rig just beyond her street in Arlington, east of Fort Worth. Her health worsened during three years of drilling there, and tests showed chemicals in her blood that were also detected in the air near the drilling site. Jamie Smith Hopkins/Center for Public Integrity

"After thoroughly reviewing all available sources of information including the investigator's report, medical records, affidavits and monitoring data, we have decided to close our file on this matter and will not be pursuing formal enforcement action," the letter said, not specifying why.

Jim Tarr, a chemical engineer who worked in enforcement for the TCEQ's predecessor agency in the 1970s, said Barnett complaints over the last five years have been so numerous that it would be difficult for TCEQ staff to fully investigate them all.

But Tarr, who evaluates toxic chemical exposure for residents across the country, said the bigger problem is that the agency puts industry above public health.

His exhibit A: In 2007 the TCEQ raised the amount of benzene it considers an acceptable level of exposure for permitting purposes, doubling it to 54 parts per billion for brief periods and increasing it 40 percent for longer durations, to 1.4 parts per billion. For air-monitoring purposes, the agency's brief-exposure guideline is even higher, at 180 parts per billion.

The World Health Organization's guidelines say "no safe level of exposure can be recommended." As far back as the 1940s, research separately produced for the American Petroleum Institute and Shell — later introduced in court proceedings — also concluded that no amount of benzene was safe.

The confidential Shell report in 1943 said "prolonged exposure to low concentrations may be most dangerous."

Tarr sees the raised benzene guideline as just one example of problems with the yardstick the TCEQ uses to conclude that the air in the Barnett is fine.

"They don't develop these numbers to benefit people in Texas that live around these facilities," he said. "They develop these numbers to benefit the entities that want to build."

The TCEQ's Clawson said the method the agency uses to set exposure guidelines went through two rounds of peer review and "multiple rounds of public comments." For benzene, Clawson said, the agency calculated numbers aimed at the mid-range of what the U.S. Environmental Protection Agency considers an acceptable level of risk for cancer. (The TCEQ's long-term exposure guideline barely falls within the mid-range.)

"Other states and countries use our values," Clawson said by email. "We are continually improving our processes."

Even after the TCEQ increased its benzene guidelines, it found the carcinogen at levels that exceeded them. During a Barnett monitoring project in 2009, agency employees discovered benzene above that yardstick in nearly a third of the 64 sites where they arrived to test for it.

Most of the problem samples exceeded the guideline for exposure over an extended time. Tests at two of the sites came back so high they were above the 180-parts-per-billion level deemed safe for brief exposure — including a 15,000 parts-per-billion measurement at a well pad. Thirty-four other chemicals there exceeded TCEQ's short-term guidelines, too.

That prompted repairs at the two sites with the highest levels, bringing benzene down to a fraction of a part per billion there, the TCEQ said.

Clawson said the focus should be only on those two sites because the agency does not consider it scientifically appropriate to compare brief air measurements to long-term exposure guidelines. The agency's toxicology division made that comparison in its report at the time because of a "concern about long-term cumulative exposure levels," but Clawson said the stationary monitors installed afterward allay those concerns.

He wrote in an email that "we can confidently say that emissions from natural gas operations in the area haven't significantly affected ambient levels of air toxics like benzene."

Another benzene finding prompted an internal investigation.

The agency told the Fort Worth City Council in 2010 that a mobile monitoring effort showed no benzene in the air. Not explained was the fact that the measurement techniques weren't sensitive enough to make that

measurement techniques weren't sensitive enough to make that determination.

A TCEQ follow-up with more sensitive equipment found benzene above the agency's guidelines for longer-term exposure at four locations, but no one hastened to alert city officials. David Manis, a quality-assurance manager at the TCEQ, was so upset that he filed an internal fraud complaint, according to documents released in a public information request from state Sen. Wendy Davis, D-Fort Worth.

An investigation by the agency's chief auditor's office concluded that the original information, "while technically accurate, could be considered to be misleading."

Reached at home last month, Manis referred questions to the TCEQ.

The TCEQ's Clawson said by email that there had been a miscommunication about the data, but he defended its use because the measurements were brief.

"Samples collected over short time frames are not appropriate for comparison to long-term [exposure guidelines]," Clawson wrote.

A challenging task

Determining a safe level of exposure, as it happens, is extraordinarily tough — fraught with bizarre twists worthy of science fiction.

Take the endocrine system. It controls important functions such as growth, reproduction and energy levels, and it can be affected by very low levels of chemicals, including ones used in fracking, said Carol Kwiatkowski, executive director of the nonprofit Endocrine Disruption Exchange.

Kwiatkowski said her group doesn't trust that government safe level

Kwiatkowski said her group doesn't trust that government safe-level standards for endocrine-disrupting chemicals are actually safe. These substances are tricky. Years of research shows that at least some can damage health at high and low doses — but not in the doses in between.

That's a problem given that government researchers have typically stopped testing once they hit the dose where they observed no effects. In 2012 the director of the National Institute of Environmental Health Sciences called for more low-dose testing to fill the void.

Then there's the difficulty posed by so-called chemical soups.

Air sampling near natural gas sites typically detects multiple substances. A grab bag of nasties showed up in TCEQ tests taken around sites not far from Taylor Ishee's home in Argyle, for instance.

The carcinogen benzene. Another carcinogen linked to leukemia called 1,3-butadiene. Toluene, which can cause dizziness and headaches. Xylenes, associated with those problems plus respiratory and cardiovascular effects. And a long list of additional chemicals, the cancer and other health impacts of which are in some cases unclear or unknown.

The effect of those chemicals when people are exposed to them together in low doses — frequently — is anyone's guess. Scientists typically study chemicals one by one, not in mixtures. But researchers have found that a blend of toxics can be more dangerous than the individual substances alone.

In a study published last year, prostate cells exposed to supposedly safe levels of arsenic and estrogen for six months turned cancerous. Co-author Kamaleshwar Singh, an assistant professor at Texas Tech

"They don't develop these numbers to benefit people in Texas that live around these facilities. They develop these numbers to benefit the entities that want to build."