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Mike Fuentes for The New York Times

The Barnett Shale gas field was discovered in 1981 and stretches over 15 North Texas counties, roughly centered on Fort Worth.

Rigs on the Skyline and Gas Far Below

Drilling Boom and Dreams of Riches Go Door-to-Door in Fort Worth

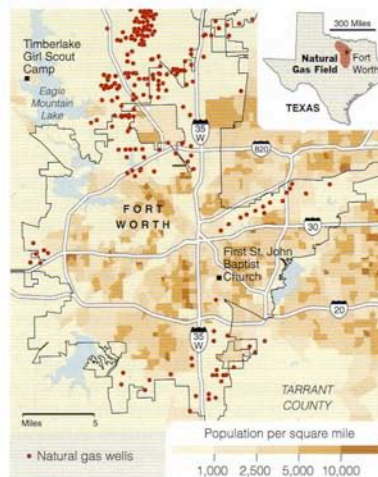
By CLIFFORD KRAUSS

BOSTON had the Big Dig. Now Fort Worth has the big drill.

Under golf courses, schools, parks, libraries, airports and dozens of neighborhoods, some of the nation's leading independent energy companies are scouring the city in search of the best locations to recover one of the largest concentrations of natural gas in the United States.

Everyone seems to be lining up for a share in the bonanza. The American Cancer Society recently made \$5 million just by selling its mineral rights to land that had been donated years ago. The Girl Scouts leased their mineral rights for drilling under a summer camp for an undisclosed amount.

It may not be a rerun of "The Beverly Hillbillies." And energy executives say



Source: City of Fort Worth
Erin Aigner/The New York Times

it will not tear up the heart of the city, as Boston's trouble-plagued highway construction project did.

But it is a replay of sorts of the oil drilling booms that roused and remade Los Angeles and Oklahoma City in the 1920's and 1930's. And with rigs lighted up like Christmas trees on the city's periphery at night, it is the biggest urban drilling boom in the nation today.

The surging interest in tapping gas trapped in the so-called Barnett Shale that veins through Fort Worth is only the beginning of a new far-flung search by wildcatters now exploring Alabama, Illinois, Ohio, Pennsylvania and West Texas for a big new source of shale natural gas.

The new drilling wave comes not only at a time when domestic gas production has stalled and demand for cleaner gas energy is increasing, but when new drilling technologies and relatively high



Photograph by Mike Fuentes for The New York Times

Three years ago, Lawrence B. Dale, president of a small drilling company, began leasing about 90 sites around Fort Worth for natural gas wells.

gas prices make the exploitation of shale economically feasible for the first time.

Not everybody in Fort Worth is happy about the prospect of all this drilling. But this time the advances in exploration technologies mean that most residents are not going to hear, smell or even see the drilling under their land.

That is because the holes are dug as much as a mile away, and the drills, thousands of feet down, reach out horizontally — not straight down — to the shale gas underneath the city. Only a few people are actually going to get rich, but there will be a lot of money floating around.

"It's manna from heaven!" said Bishop Kenneth B. Spears of the First St. John Baptist Church, whose predominantly black neighborhood in southeast Fort Worth suddenly finds itself in the middle of one very big energy play.

Still, some in the neighborhood fear potential accidents, while others are suspicious of the motives of rich energy companies.

For all his enthusiasm, Bishop Spears, who recently received a \$21,000 signing bonus to allow Dale Resources to drill for natural gas in the underground shale directly beneath his church, acknowledges the mixed feelings. He promises to use any new church riches to start a fund that will help people get out of debt and start businesses in the neighborhood.

He also leads a Y.M.C.A. across the street, which got an even fatter check, and Dale money is going to fix up a baseball field down the block as a good will gesture to the neighborhood.

In a recent sermon, Bishop Spears compared Dale's payments to the gifts

given by Joseph to his brethren in the Old Testament. "I got a lot of 'amens' and 'hallelujahs', but there was also a loud 'hmm,'" he recalled in an interview. "It's just not every day a white guy comes up and wants to give any black a check. People are concerned that 'someone is going to come and take what I own.'"

The big "hmm" reflects an anxiety in Fort Worth neighborhoods of all races that drilling could bring some kind of explosion or accident that could ruin drinking water. Trucks carrying water to the rigs could disrupt sleep, many fear, and some claim the companies are not paying residents fairly.

Fears grew when a gas well explosion in April killed a drilling company employee in Forest Hill, a suburb. Several other suburban neighborhoods are upset over new wells appearing almost in their backyards and that concern has spread to urban communities.

One neighborhood association in Morningside Park, another black neighborhood, has rejected all drilling under a three-block area. So far the organized opposition has been small, but some politicians and activists predict protests may pick up as drilling in the center of the city becomes more intense.

"Money isn't everything," said Paul Moss, 62, an aluminum factory supervisor who lives in Morningside Park. "Peace of mind is better than money."

But the anxiety is joined by an equally, if not more powerful money-loving giddiness from the drilling boom that has hit this sprawling city of 700,000, which often lives in the shadow of near-by Dallas.

"If you don't have a gas well, get one!" exclaims a yellow billboard along a Fort

Worth stretch of Interstate 30. Residents are receiving fliers offering them \$200 and \$300 bonuses and promises of royalties for years to come if they allow energy companies to drill several thousand feet under their homes.

The city's gas riches are "not only going to benefit this generation but generations to come," said the mayor, Mike Moncrief, who happens to come from a family of traditional wildcatters. "It is without question allowing us to float everyone's boat higher."

He said the city government had received \$10.4 million in bonuses and royalties from 18 wells in various stages of development around the city, just in the last year or so. And "we've only just started," he said.

The Barnett Shale gas field was discovered in 1981 and stretches over 15 North Texas counties. Its 5,000-square-mile reservoir is already the second-largest-producing land-based domestic natural gas field after the San Juan Basin in New Mexico and Colorado.

The first drill in Fort Worth came online in July 2005, and the city has leased more than 2,400 public acres alone for natural gas development.

The changes are unsettling to some. "I love prairies and I hate to see them gobbled up by development and gas drilling," said Don Young, a local activist. "There's a big dark secret nobody's talking about: Real estate will go down the tubes and there will be an environmental impact."

The United States Geological Survey now estimates that the entire Barnett Shale field contains 27 trillion cubic feet of gas, about what the nation consumes in 15 months. Recent studies suggest the core of the shale field may rest precisely beneath the city's high-rise banks, trendy restaurants and some black neighborhoods that have never benefited from oil and gas before.

Estimates of the size of Barnett Shale's reserves are rapidly increasing; the field is starting to make a big impact on the nation's gas business at a time of declining domestic production and projections of rising demand. Gas executives predict that the current production of 1.5 billion cubic feet a day — 2.5 percent of the national output — has the potential to climb to 3 billion to 4 billion cubic feet a day in a few years.

"It is providing security to the national energy picture," said Stephen J. Hadden, senior vice president for exploration and production at Devon Energy, the biggest driller in the Barnett Shale field. This North Texas gas, he said, "will mitigate to a degree some of the decline we see coming from the more mature gas resources around the country. It may temper prices."

The reserves of natural gas are caught in the cracks and crevices of an

underground shale structure that runs as deep as 7,000 feet. They were generally inaccessible until a new process developed in the 1990's and known as hydraulic fracturing or simply fracking allowed drilling companies to use high-pressure blasts of water and sand to release the gas.

And the advent of horizontal drilling allows producers to build drilling pods from which mile-long spokes of pipes spread thousands of feet under residential neighborhoods.

The early successes have led drilling companies to start exploiting other shale fields around the country.

Companies had been reluctant to drill inside Fort Worth's central city. The technical and political challenges of exploring in an urban area were large. But Lawrence B. Dale, president of Dale Resources, a small independent drilling company in Dallas, decided to take a chance.

With 23 years of exploring widely for natural gas, Mr. Dale, now 53, said that he had decided to spend more time with his family and drill closer to home.

Three years ago, he began selling off his East Texas production wells. He then leased about 90 sites around Fort Worth where drilling would stir less of a protest: areas in or abutting industrial zones close to pipelines.

"It was completely a wildcat venture," he said, noting that seismic work could not be done under a dense urban area. "We didn't know. We thought, but we didn't know."

Mr. Dale's company has already invested \$100 million in the field, but he said he realized that it would take much deeper pockets than he had to develop the city's gas potential fully.

Having already sold some wells to Chesapeake Energy, a bigger gas company, he said that in the future "we will enter into strategic alliances and partial property sales with larger companies that have the capital, the equipment and the balance sheet to develop a major field like this."

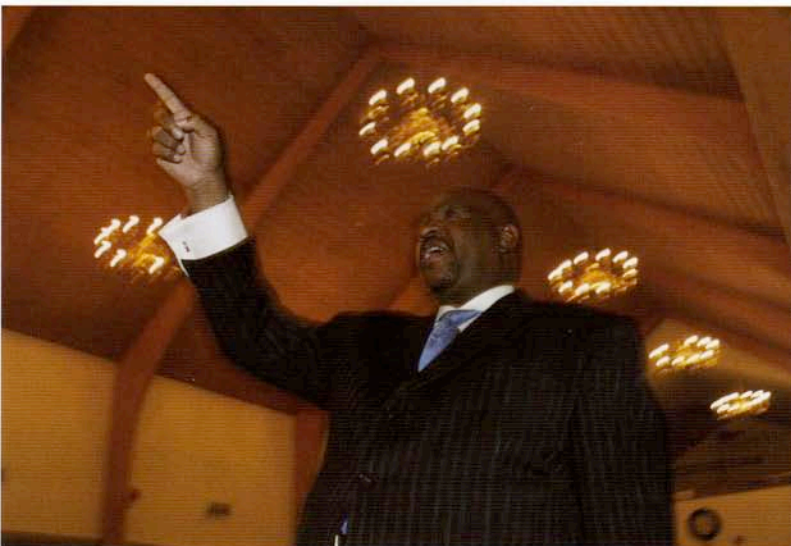
Mr. Dale was quick to locate and buy up most of the good drilling sites — those that are relatively unobtrusive to gas-rich neighborhoods but in easy reach of them.

Mr. Dale said he was well aware of local concerns, and was working to address them. His company constructs high berms and sound blankets and develops green spaces around rig sites to ameliorate disturbances. Signs are put up in affected neighborhoods with the phone number of his director of community affairs who is available to answer questions, listen to complaints and even make house calls any hour of the day or night.



Photographs by Mike Fuentes for The New York Times

A natural gas well in Fort Worth. New technology allows energy companies to drill horizontally deep underground in heavily settled areas.



Bishop Kenneth B. Spears of the First St. John Baptist Church will use a \$21,000 payment for drilling rights to help people start businesses.

"I sleep in my cowboy boots," joked David Buchanan, Dale's director of community affairs.

Most neighborhoods appear ready to go along. The City Council recently tried to calm concerns by setting minimum distances between wells and existing residences and stiffened rules over hours of operation and noise.

But the jitters persist.

People became alarmed a few weeks ago when signs went up in the small central city black neighborhood of Greenway Place stating that Dale

would soon establish a rig site on the other side of a local park. Most had already signed up to have drilling done under their homes from a separate rig, but they did not like the surprise.

Dale sponsored a barbecue to explain. "I can barbecue at home," said the Rev. Raymond Oliver of the Progressive Missionary Baptist Church, who had been an early supporter of Dale's efforts before the new signs went up. "You telling me we don't get paid for a well on my front door and we don't get royalties? I got a problem about that."

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