





By Nick Werner Photography by Frank Oliver

he tower of pipes, pulleys and hydraulic hoses rose 40 feet into a clear summer sky.

At the base of the drilling rig, a driller and two rig hands operated the contraption, each dressed in white hard hats and fire-resistant work shirts. The rig's owner, Danny Veeck of Magnum Drilling Services, monitored progress as he stood by his heavy-duty pickup.

"We are about 82 feet deep," he told three onlookers, including a representative from CountryMark, the oil company financing the effort.

As the hole grew deeper, the rig hands swung additional 30-foot sections of drill pipe into place.

The plan was to drill a well 1,400 feet deep in this soybean field east of Terre Haute. Since 2011, a neighboring parcel with about a dozen wells had produced 800 barrels a day for CountryMark, or about \$30 million worth of oil annually, constituting the largest oil find in Indiana in 25 years.

How would Magnum know if it struck black gold? Not by seeing it gush out of the top of the rig and rain oil, if that's what you're thinking. At least that's not what's supposed to happen. Modern technology prevents the blowouts that characterized the brash drilling of the early 20th century. Today's process is much less dramatic.

Veeck periodically dipped a ladle-shaped strainer into a holding tank where a muddy soup of water, limestone and shale was being pumped from the well.

"You'll see an oily film and you'll be able to smell it," he said.

A 16-YEAR HIGH

Rising oil prices and technological advancements are fueling a surge in drilling across the United States, even in Indiana where the oil and gas industries are overshadowed by manufacturing, agriculture, coal and timber. The state ranks around 23rd in the nation in oil production.

In 2012, Indiana produced 2.35 million barrels of oil, a 16-year high. Oil production leveled in 2013, but drilling did not slow, according to Herschel McDivitt, director of the DNR Division of Oil & Gas. Indiana currently has 4,312 active oil wells.

"What I think we saw here in 2012 was more aggressive development of oil in some areas by some companies," McDivitt said.

Recent years have seen a boost in natural gas drilling too, although that activity has begun to decline.

Between 2002 and 2011, natural gas production in Indiana grew almost 700 percent.

The growth was due almost entirely to increased exploration in the New Albany Shale, a natural gas formation in southern Indiana. But production from the New Albany Shale was not keeping up with other places, like the Barnett Shale in Texas or the



(Left) Rodney Clark prepares another 30-foot section of drilling pipe to be driven into the ground by Magnum. (Above) Danny Veeck of Magnum sifts through water runoff during drilling east of Terre Haute. Indiana ranks in the upper half in the nation for oil production.

Marcellus Shale in northern Appalachia, and by 2012, many natural gas companies seemed to have lost interest in drilling new wells in Indiana.

"There's a lot of gas in the New Albany Shale, but nobody's found the key to unlock it yet," McDivitt said. "I have to think at some time in the future, somebody will figure it out. There's little doubt in my mind that there's significant potential there."

While some oil continues to be produced in the historic Trenton Field in east-central Indiana, the majority of Hoosier production happens in 10 counties in the state's southwest corner. Southwestern Indiana marks the eastern edge of the Illinois Basin, a 53,000-square-mile depression under parts of Illinois, Indiana and Kentucky. The basin's more than 20,000 wells produce 12 million barrels of crude oil annually.

CountryMark, an Indianapolis-based, farmerowned cooperative, is the biggest player in the Illinois Basin, managing more than 1,200 of its own wells and buying oil from thousands more. The company has a refinery in Mount Vernon and more than 100 fuel stations across the Midwest. CountryMark produces a variety of petroleum products, from gasoline to grease, but is perhaps best known for its high-quality diesel fuel, according to McDivitt.

Many more companies, big and small, make up Indiana's oil industry. Rex Energy, a publicly owned Pennsylvania-based company produces an estimated 2,500 barrels a day from the Illinois Basin, including oil from wells in Vigo, Sullivan, Washington, Posey and Gibson counties. Houston-based Citation Oil operates in 13 states, including Indiana. On a more local level, privately owned Core Minerals operates in Evansville, and Pioneer Oil is based in Lawrenceville, Ill., just across the border.



Larry Schmitt of Evansville started K&S Oil with his father-in-law in 1973. At its peak, the company operated 200 wells. In 2007 the company sold to Core Minerals.

Schmitt still operates about 15 wells, selling his oil to CountryMark.

"The oil industry paid off for me in the long run, but it was a lot of hours, that's for sure," Schmitt said.

While Indiana-specific figures are not available, the entire Illinois Basin generates annual revenues of more than \$2.5 billion. The basin also supports more than 20,000 oil industry jobs, from drillers and rig hands to engineers, truck drivers, builders and refinery workers.

Some of the largest beneficiaries of the industry are not employees or oilmen but landowners, especially those with mineral rights.

OIL, THAT IS

Larry Weintraut and his family aren't about to "load up the truck and move to Beverly ... Hills that is," as an old TV show's theme song went.

But they are feeling pretty good.

Weintraut is a 62-year-old cryogenics operator with a 45-acre farm in Posey County. He bought the ground from a 92-year-old farmer 15 years ago. When Weintraut and the previous owner met with bankers to close, the bankers asked the farmer to confirm that he would retain mineral rights for the property.

In the United States, buying ground does not automatically mean you get what's underneath.

Negotiating for mineral rights hadn't crossed Weintraut's mind. He didn't know oil had been discovered on the property in 1951. In fact, Weintraut knew little about oil in Indiana. He just wanted ground with plenty of space.

The old man's response that day surprised everyone.

He said, "Let me tell you something, I have never in my life purchased a piece of property without mineral rights and I don't intend on selling land without mineral rights."

The farmer didn't. He passed them on to Weintraut, essentially for free. In summer 2013, Weintraut signed a lease with CountryMark that could make the mineral rights more valuable than the land itself.

As is typical with oil leases, Weintraut gets oneeighth of what CountryMark earns from his land. His conservative estimated earnings from the well, based on old records from the property and current oil prices, are about \$100 a day.

As of December, Weintraut was still waiting for his first royalty check. Weintraut said he planned on keeping his dependable but ugly 2001 Chevy S-10 pickup. But he and his wife have a wish list. Albeit, a very responsible wish list.



(Left) Sections of drilling pipe are lined up in preparation for being sunk into a soybean field near Terre Haute. (Above) Computer technology plays a part in oil drilling and capping. Probes are lowered hundreds of feet into the ground to return information to experts working above.

"I've prepaid for funeral expenses for my wife and I so my son and daughter won't have to worry about it in 20 years," he said.

They also hope to visit their son in Philadelphia, help their kids pay student loans, and start a college fund for their granddaughter, born in November.

"I'm looking way ahead," Weintraut said. "This thing could go dry tomorrow."

CountryMark alone pays more than \$784 million in royalty checks to more than 40,000 lease owners in the basin. One of the biggest CountryMark lease owners in the basin, in terms of oil production, is a family name many Hoosiers know well—Hulman.

INDIANA'S OIL HISTORY

Oil production in Indiana began hundreds of miles away from the Illinois Basin in the Trenton Field, one of the first giant oil and gas belts in the country.

The area stretched across 21 counties in central and east-central Indiana and included Muncie, Anderson, Gas City, Kokomo, Marion and Peru. Natural gas was the most important natural resource to come out of the Trenton Field, discovered in 1876.

Oil was discovered in 1889.

At its peak around 1905, the Trenton Field produced about 11 million barrels a year. By about 1920, the oil and gas was gone. Much of it had been lost through excessive drilling and other wasteful practices.

Production in the Trenton Field is a fraction of what it once was.

"People initially assumed it was an inexhaustible supply," McDivitt said. "In reality, oil and gas is a finite resource and production methods must be carefully managed and developed in an orderly fashion, otherwise you will deplete it much more rapidly, as



was demonstrated with the wasteful practices used in the early Trenton Field development."

Making sure the resource is properly managed is the job of the DNR Division of Oil & Gas.

Created in 1947 when DNR was called the Department of Conservation, the division's mission is to encourage responsible development of oil and gas, which includes preventing waste, protecting the rights of landowners, looking out for health and safety, and protecting the environment. The division's staff of geologists and inspectors reviews permit applications, conducts site inspections and well testing, responds to spills and citizen complaints, and plugs abandoned wells.

Operations are inspected regularly to verify wells and facilities are being operated properly, well sites are maintained, and that the operators promptly report and clean any leaks or spills.

Protection of the environment and public health and safety are important to the division, McDivitt said. But in the broader context, the division also exists to promote the responsible and orderly development of oil and gas in Indiana.

"Our philosophy is that responsible development of oil and gas and protection of our environment are compatible outcomes and that we are committed to achieve both," McDivitt said.

Indiana has regulated oil and gas production since 1891, initially under the state natural gas inspector and later under the state geologist. The Division of Oil & Gas formed as oil production in southwestern Indiana was picking up.

Major production from the southwestern Indiana oil fields progressed after a 1938 discovery in the Griffin Pool along the Wabash River in Gibson County. Indiana oil production peaked in 1956 at more than 12 million barrels for the year, according to the Indiana Geological Survey. Then falling oil prices and other economic factors caused many operators to pull out of the Midwest in search of more productive fields.

In 2007 crude oil prices surpassed \$100 a barrel, motivating operators to re-explore previously discovered oil fields with new technologies, such as horizontal drilling.

"We've got some companies that are drilling more horizontal oil wells," McDivitt said. "They are targeting specific areas in some locations that operators have determined may contain stranded oil. These are pockets of oil that have been left behind by previous oil and gas production operations."

Many operators are drilling horizontal wells that go right through the middle of these stranded oil areas, otherwise referred to as "the sweet spot."

Activity has even heated up again in the Griffin Pool, where operators have begun drilling deeper wells and used hydraulic fracturing and horizontal drilling to extract more oil.

The recent Griffin Pool development probably helped account for some of the bump in oil production



(Left) Nestled in the rolling farm fields of southwest Indiana, oil pumps are at work. Indiana has 4,312 active oil wells. (Above) Grazing deer don't seem to mind the presence of oil wells. In 2012, such wells helped Indiana produce 2.35 million barrels of oil, a 16-year high.

in 2012, McDivitt said. But the largest factor in the banner year was a discovery outside Terre Haute.

"It's huge for Indiana, at least in recent history," McDivitt said.

The property is owned by members of the Hulman family, which made its fortune in Clabber Girl Baking Powder and has owned the Indianapolis Motor Speedway since 1945.

The Hulman strike tapped into a pocket of oil that developed from a coral reef millions of years ago when what is now Indiana was part of a vast sea. CountryMark officials estimate it could hold a million barrels of oil.

NO GUARANTEES

The operation that opened this story was drilling on Hulman ground.

After about six days, at around 1,600 feet, the strainer revealed the telling oily film mixed with the limestone and shale fragments being pumped out of the well. The crew struck oil. But according to CountryMark's drilling superintendent, Brian Terrel, it wasn't enough to justify keeping the well in operation, at least not for now.

The company capped the well and filed it with the DNR as "temporarily abandoned," an industry and regulatory term that essentially means it is not in production. The drilling rig is gone. All that's left is a concrete pad and a small wellhead with three valves.

"Sometimes you just want to evaluate and take a look at a site," Terrel said.

In the oil business, there are no guarantees. But given the success of other sites in Terre Haute and surrounding areas and the rising price of crude oil, drilling is a risk that CountryMark and other operators are willing to take.

"There's nothing that attracts more investment and interest in oil and gas than someone who is having success," McDivitt said.