New Technologies Put Kansas on Cusp of Oil Boom

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MEDICINE LODGE, Kan. (AP) — Between the buttes and rolling terrain of the Gypsum Hills in south-central Kansas, a massive drilling rig grinds deep into the earth, seeking to reach the oil-rich Mississippian Lime formation buried some 5,000 feet deep. Just beyond the rig, Robert Murdock intently watches its progress and waxes confidently about the wealth under his feet.

"It will enrich the area in a way it never has before economically," the independent oilman says loudly, nearly shouting to be heard above the cacophony of clanging pipes and heavy equipment.

Prospectors like Murdock are punching holes across south-central Kansas, a gold rush-style hunt for oil and gas that players say could yield big returns not just for oil producers but also for the state's economy. The boom is occurring even as natural gas exploration begins to slow nationally.

In county courthouses across much of Kansas, scores of researchers comb through dusty land records stacked atop folding tables set up in hallways for them, toiling for producers and speculators alike who are scrambling to snap up millions of acres of mineral rights. Leases which just three years ago went for $30 an acre are now fetching $3,000 an acre in drilling hotspots. Awe-struck real estate agents watch incredulously as mineral rights fetch higher prices than the land itself.

Drilling has only just begun. Barber and Harper counties are "ground zero" of an oil boom anticipated to spread north across a wide swath of the central Kansas prairie.

"It is going to change things forever in this part of the world," Murdock said.

Look hard and you can see the first hints of change wafting through once sleepy rural hamlets. It's already tough to find a hotel room for the night or a rental property to live in. There's talk of possibly setting up "man camps" outside towns to house the anticipated influx of oilfield workers. Restaurants now seem busier than usual. And the local traffic sure feels like it has picked up on those old rural roads.

Murdock, president of Hutchinson-based Osage Resources, is among a handful of producers behind an emerging oil boom sparked by modern technologies using horizontal drilling and a technique known as hydraulic fracturing, or "fracking," to coax out oil and gas. Companies have already reaped fortunes off the Mississippian Lime Play in Oklahoma and are now following the rock formation northward into Kansas, where millions of acres of mineral rights have been leased in the past two or three years.

If the Mississippian Lime Play unfolds as expected, the economic boost in Kansas could be enormous. Severance taxes will swell state's coffers. Landowners will reap royalties. Oilfield workers will find hundreds, if not thousands, of good jobs typically paying $50,000 annually. Main Street business in countless small towns will thrive again.

"This represents an exciting opportunity for growing the Kansas economy while helping to secure greater energy independence for the country," Kansas Gov. Sam Brownback said. "It means more jobs and revenue here, fewer American dollars sent abroad. Tying this with our growth in wind energy production will make us a leading energy producing state."

But with horizontal drilling still in its infancy here, all those economic impacts have yet to be fully felt. Locals, who have seen other oil booms come and go, remain wary.

"We are excited about it and we are hopeful," said Ed Cross, president of the Kansas Independent Oil and Gas Association. "We just want to be cautious looking at the potential. We don't want to overstate it."

The new-fangled wells are essentially vertical wells with a horizontal bend at the oil-rich lime formation. Fracking, a technique used in Kansas since 1947, pushes water and sand down the hole to open up natural fractures in the rock and increase permeability. That combination of old and new technologies allows producers to extract as much as five to 10 times more oil and gas from a horizontal well than a conventional vertical well.

The potential production from the Mississippian Lime Play — and its impact on domestic energy supplies — remains uncertain. But the use of horizontal drilling and hydraulic fracturing to unlock energy supplies previously unavailable in the United States is now in play in places like Pennsylvania, Wyoming, Colorado, New Mexico, Texas, Oklahoma and Louisiana.

"We believe this is a game changer," said Shell spokesman Scott Scheffler. "And we hope the Mississippian will be one piece of that."

Just ask Kevin White, senior vice president of business development at Oklahoma-based SandRidge Energy Inc. His company has already spent $350 million to acquire nearly 2 million acres of mineral rights in Kansas and Oklahoma — with a majority of those leased acres located across a vast swath of central Kansas.

"Kansas as a percentage of what we are doing will just get bigger and bigger every year because it has got the most undrilled acreage left that we need to go drill," White said.

This year alone, SandRidge expects to pour $700 million into developing the Mississippian Lime Play in those two states.

The company now has 21 drilling rigs to drill 50 wells in Kansas and 350 wells in

Oklahoma this year. Next year the company plans to have 45 rigs drilling 675 wells. To hold on to its leases, the company must drill a well every mile or so. Once that is done — something White says will take five years — SandRidge will go back and drill more wells until they have three wells per square mile.

Within the next dozen years or so, SandRidge alone expects to punch more than 5,000 wells in Kansas, he said.

Other big players in Kansas are Shell Oil Co. and Chesapeake Energy, along with smaller independent Kansas producers.

Shell said it has acquired leases in a seven-county area in southern Kansas and is just now drilling its second exploratory well in Harper County. It plans to run three or four drilling rigs this year. Osage Resources plans to drill 216 horizontal wells to fully develop its Barber County lease.

"In this area, the chances of a dry hole are zero percent," said Ben Crouch, Osage's chief operating officer.

Tyson West now leaves his home in Enid, Okla., at 4:15 a.m. and drives two hours to the Medicine Lodge rig where his Oklahoma-based employer is drilling for Osage Resources. The 27-year-old oilfield worker logs a 12-hour work shift before driving back home. He works seven days straight, seven days off.

"It has kept me at a job," West said. "It is a real, good-paying job."

Each horizontal well costs about $3 million to develop and pays for itself within 18 months of production, White said. The typical rate of return on investment is 90 percent.

"One of the things making it so attractive today is the high oil prices we are seeing," White said.

In past decades, Kansas punched some 7,000 conventional vertical wells into the Mississippian Lime.

Meanwhile, the Sierra Club said it is concerned about the impact of fracking on water tables and underground aquifers, while the industry contends the wells are safe. The Mississippian Lime, for example, is 5,000 feet deep, while groundwater typically lies 500 to 1,000 feet deep — with a lot of geological barriers separating the two, Cross said.

Environmentalists want safeguards such as a requirement that drillers provide a list of toxic chemicals they are using and submit a test of the water table for analysis before drilling to pinpoint the culprit if chemicals are later found in groundwater, said Craig Wolfe, spokesman for the Kansas chapter of the Sierra Club.

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