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Desperately

seeking workers in the oil patch

Jobs go begging in booming western North Dakota and northeastern Montana



By PHIL DAVIES Senior Writer

Rick Tofte doesn't try to hire workers for his starting wages at oilfield service firms in the area far exceed what he can pay for the services of carpenters, roofers and electricians. The 30-year-old firm has a full slate of building projects, including upscale housing and facilities for expanding oilfield companies. Yet Tofte Brothers Construction employs only six people; as the oil boom has taken

hold in the region, Tofte and his brother Terry have increasingly relied on subcontractors to do most of their work.

"We have changed our structure in how we Williston, N.D., construction business anymore. [operate]," Rick Tofte said. "We used to do it all They're difficult to find, and even harder to keep— ourselves; now we sub[contract] out 75 percent of it, just because we can't find the employees."

Such adaptations by employers to a tight labor market go with the territory in western North Dakota and northeastern Montana, where rapid oil and natural gas development has transformed the economic landscape. Extraordinary demands are being made on the labor supply in the oil patch.

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THE QUICK TAKE

Rapid oil and gas development in the "oil patch" of western North Dakota and northeastern Montana has created huge demand for workers—not just in the oilfields, but also in a range of non-oil industries. But so far, the supply of labor—from within and outside the region—has responded slowly to demand. In recent years, job openings have soared and unemployment has dropped to very low levels—below 3 percent in a number of counties.

The Bakken oil play is drawing job seekers from other Ninth District states and the rest of the country, but they're not coming in sufficient numbers to keep up with continued job growth. There are several obstacles to the flow of labor into the oil patch, among them low unemployment in eastern North Dakota, the area's frigid winters and—most important—a scarcity of housing.

The region faces an awkward period of adjustment, but labor conditions are likely to loosen within a few years as rising wages and improved living conditions for migrants increase the workforce.

From Minot, N.D., west to Sidney, Mont., and on down to Dickinson, N.D., few workers are available to fill thousands of job openings in a range of industries, from oil and construction to health care and food service. Last December, the unemployment rate in the Williston area was 1 percent, and job openings outnumbered the jobless 10 to one. "If you're not working right now, you don't want to be working," said Shawn Wenko, assistant director of economic development for the city of Williston. In the oil patch, labor supply constantly plays catch-up with demand setting it apart from most areas of the Ninth District and the nation, where unemployment rates remain high in the wake of the Great Recession. Oil country is a place where finding a job typically takes less than a day, unskilled laborers can make over \$60,000 per year and restaurants offer sign-on bonuses and prize drawings to attract workers.

As local pools of available labor have drained, job seekers have poured into the oil patch from other parts of the district, from distant states and even from other countries. But still there aren't enough outsiders arriving to satisfy rising demand for labor in a white-hot regional economy driven by ongoing oil and gas exploration, drilling and production.

Markets are rising to the workforce challenges of the oil boom. For example, employers have raised wages to lure workers in a variety of industries, not just oil and gas. But when jobs are plentiful and wages high, yet employers still go begging for workers—especially in this national economy—it's clear there are barriers to the free flow of labor into the oil patch. One obstacle is external to the region—low unemployment in eastern North Dakota that discourages migration from that area.

Communities and employers also face a variety of internal and place-specific factors that prevent or limit more labor recruitment, including a scarcity of housing and other critical infrastructure and services, and increasing crime. Hit by a massive economic stimulus that has attracted thousands of newcomers, many cities and towns are feeling growing pains. For many prospective workers, there's another type of pain—the region's notoriously harsh winters.

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One of the Minneapolis Fed's congressionally mandated responsibilities is to gather information on the Ninth District economy. The *fedgazette* is published quarterly to share that information with the district, which includes Montana, North and South Dakota, Minnesota, northwestern Wisconsin and the Upper Peninsula of Michigan.

The opinions expressed in the *fedgazette* are expressly those of the authors or of attributed sources and are not intended to represent a formal position of this bank or the Federal Reserve System.

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Businesses and local governments can't do much about the weather. But they're striving to make the oil patch a more hospitable place to live and work; for instance, the pace of housing construction has picked up over the past two years, despite lingering fears of a 1980s-style oil bust. These and other community-building efforts are critical to helping the oil patch continue its remarkable run of economic growth.

An employment gusher

The full impact of oil and gas development on the regional economy becomes evident in springtime, when the easing of road restrictions gives full rein to trucks headed out to drilling and well sites in the oilfields. The already high level of activity in communities such as Williston, Dickinson and Sidney rises to a fever pitch; restaurants are packed, long lines form at the post office, traffic jams main thoroughfares.

Total employment has exploded in the region since the early 2000s (see Chart 1), thanks to new horizontal drilling techniques that allow energy companies to tap the Bakken



Formation, a deep layer of oil-bearing shale underlying 200,000 square miles of the northern Great Plains.

Employment in Williams County (home to Williston, a bustling oilfield hub) and Mountrail County more than doubled between 2004 and 2011, according to figures from the U.S. Bureau of Labor Statistics (BLS). Employment growth in six Bakken counties with either major oil production or oilfield service centers far outstripped average growth in North Dakota—a state which led the country in job gains.

Not surprisingly, many new jobs in this core Bakken zone and other nearby counties are in oil and gas (oil wells produce natural gas as a byproduct). From 2003 to 2010—the latest year for which BLS data are available—the industry added at least 5,500 net new jobs in eastern North Dakota and western Montana. Most of the new positions were at North Dakota oilfield service firms that provide petroleum and drilling companies with everything from truck hauling to crane services to derrick and well components (see Chart 2).

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and home construction in Montana's portion of the Bakken

petroleum industry, home to 200-odd oilfield service firms

annexed land and

extended sewer lines to accommodate a burgeoning population and university community patch for oil companies, developing into an oilfield construction firms and other businesses doing business in the oilfields

bedroom community for oil and construction industry managers and their families

Location of the oil patch within the Ninth District



service center

Jobs from page 2

With the exception of a short slowdown during the recession (see the September 2009 *fedgazette*), oilfield activity and employment have grown at breakneck pace, especially in North Dakota. In February, over 180 drilling rigs were operating in the state—triple the number active three years before, according to Baker Hughes, an oilfield technology firm that compiles drilling statistics.

Oil and gas development has also created jobs in other industries that feed on energy spending rippling through the regional economy (see Chart 3 on page 2). Builders in core Bakken counties have thrived on expansion projects—new offices, workshops and temporary housing for workers for oilfield companies such as Baker Hughes, Halliburton and Brigham Exploration. In the second quarter of 2011, Williams County construction jobs more than doubled year over year.

Transportation employment has increased too. Together, Williams County and Stark County (home to Dickinson) gained over 700 trucking jobs from 2010 to 2011, an increase of 58 percent.

And as truck traffic has risen, so have crashes, increasing demand for ambulance crews, emergency room doctors and other health care workers. Oilfield trauma—falls, burns, explosions, crushed limbs—have added to the workload and strained capacity at hospitals in the region. Last fall, Mercy Medical Center in Williston broke ground on a 40,000-square-foot addition to accommodate expanded outpatient services, including new surgery suites.

Everywhere in the oil patch, new enterprises have opened to cash in on the boom—machine shops, restaurants, extended-stay motels, appliance stores. In the Williston area alone, almost 500 net new businesses have formed since 2004, according to BLS figures. All need labor, a commodity that has become more precious than oil itself.

Jobs chasing people

Rising demand for labor has severely taxed supply in a region that before the oil boom was an economic backwater compared with fast-growing western Montana and North Dakota's Red River Valley. Ranching and dry-land farming were the mainstays in what is now the oil patch, supporting a relatively small, dispersed workforce; in 2005, about 100,000 people lived in 11 North Dakota counties west of Minot and four border counties in Montana.

In a mere half-dozen years, oil has turbocharged that regional economy, driving down unemployment rates to the lowest levels in a generation. In December 2011, a swath of counties in western North Dakota and two in northeastern Montana had unemployment rates at or below 3 percent (see map on page 5). By comparison, North Dakota's average unemployment rate was 3.2 percent that month, and the equivalent figure in Montana was 6.7 percent. Rates were relatively higher in Montana's portion of the Bakken-though still low in most counties compared with the state and U.S. average-because of lower and declining oil production.

Data on job openings paint an even starker portrait of demand chasing supply in the oil patch. Job openings have climbed in the region as more jobs go unfilled for longer periods. According to Job Service North Dakota, job openings in most oil counties increased at least 80 percent in December 2011 compared with the year before; in Williams County, vacant positions more than doubled year over year.

A large share of openings are for oilfield jobs—petroleum engineers, roustabouts, crane operators, heavytruck drivers. In January, there were over 1,100 oilfield positions open within a 50-mile radius of Williston. But there were also hundreds of other job openings in a range of occupations, including construction, office administration and sales.

Job Service data show that last

December, job openings outnumbered unemployed people in many oil counties—an indication that labor pools were nearing rock bottom. In Williams County, there were 10 openings for every unemployed person, and five openings per jobless worker in Stark County.

Oil and gas development is also putting pressure on labor supplies in Minot and Bismarck, N.D., cities on the periphery of the oil patch. Petroleum isn't the only factor driving demand for workers in these relatively large communities, which have diverse economies based on agriculture, health care, retail trade and other industries. Bismarck is the state capital, with thousands of government jobs. But Minot and the Bismarck-Mandan metro area are becoming centers for oil companies, engineering, land leasing agencies and other firms doing business in the oilfields to the west.

Last December, the Bismarck-Mandan unemployment rate stood at 3.2 percent, a year-over-year drop of almost 1 percentage point. In the Minot area, average weekly wages rose 12 percent in the second quarter of 2011 compared with the same period the previous year. And in both cities, percentage increases in job openings over that period mirrored those seen in oil-producing counties.

High wages and bigscreen TVs

With labor supplies stretched tight as a drum, recruiting and holding onto workers is a daily battle for many firms, from the oilfields to Main Street. "The labor shortage situation is so serious that there are incredible accommodations being made by employers; everything from hours of the work shift to the wage rate," said David Flynn, director of the Bureau of Business & Economic Research at the University of North Dakota (UND).

Raising wages is the most obvious tactic to lure scarce workers, and indeed average private wages have risen dramatically in the oil patch. Since 2004, wage increases in core Bakken counties have dwarfed increases in the state and nation (see Chart 4).

Some of the increase in oil counties is due to a rising proportion of wellpaid workers in oil-related industries. (The average annual wage for North Dakota oilfield service workers was over \$76,000 in 2010.) But most of the rise in average wages stems from increases across the spectrum of industries. For example, in McKenzie County, N.D., average wages for motel and food service workers increased 66 percent from 2010 to 2011. In the Sidney area, the locus of oil activity in the western part of the Bakken, average construction wages rose 10 percent from 2009 to 2010.

Business at Johnson Hardware & Furniture in Sidney was booming in January on the strength of increased sales of household goods to new residents and farmers flush with oil royalty income. "Things are fantastic," said owner Phil Johnson. "We've posted 18 consecutive record months [in sales]; we've just put to bed the biggest month ever in the history of our store." But costs have increased as well; to compete with rising wages in the area, Johnson has increased average pay at the store 40 percent to 50 percent over the past two years, to about \$12 per hour.

In Watford City, the seat of McKenzie County, auto dealership S&S Motors has doubled its wage rates over the past five years. Owner Brent Sanford—who also is city mayor—said via email that the firm has also sweetened health benefits, paying 100 percent of employees' medical, dental and vision coverage.

Employers have tried other ways of attracting and retaining workers, including offering flexible or part-time hours, paying sign-on bonuses and enlisting current employees in recruitment efforts. Last winter, a Williston restaurant ran a promotion in which workers who referred new hires were entered in a prize drawing for a largescreen television.

But no matter how diligently they pursue workers and strive to keep them



Big trucks hauling materials and equipment to the oilfields take a toll on roads throughout the Bakken region.

Low unemployment in the oil patch

December 2011 unemployment rates



happy, many businesses in the oil patch inevitably lose employees to the oilfields. Not everybody is cut out to work on an oil rig, or an oilfield service crew—the work is physically demanding and the hours long. But the lure of high wages can be irresistible, particularly for young men. Tofte, Johnson and other employers interviewed for this article said workers had quit to take jobs in the oil and gas industry.

Tofte said he stopped trying to compete with oil wages years ago. "We've lost some to the oilfields and never really tried to retain them, either," he said. "It wasn't like, 'What will it take to keep you here,' that type of thing. We've found that you can't get into a bidding war."

Powerful attraction

With unemployment rates in the abyss, the oil patch depends on workers from outside the region to supplement homegrown help, "whether they're commuters or migrants that move there," said Michael Ziesch, manager of the North Dakota Labor Market Information Center in Bismarck. "They're important to us; the youngsters aren't going to grow up and hit 18 quick enough." The oil patch is a black hole for labor, sucking in workers from near and far. The Bakken's gravitational pull is strongest in adjacent areas such as western Montana, Wyoming, eastern North Dakota and Minnesota, but its influence extends across the continent and overseas.

Extensive construction in the region—new commercial facilities, housing, roads, utilities—has created opportunities for businesses based elsewhere to provide skilled labor. A number of contractors and engineering firms in Fargo and Grand Forks, N.D., regularly dispatch work crews west, putting them up in motels, apartments or other temporary housing. They come home on weekends, completing a 600-mile roundtrip commute.

"It's attractive to do business out there, because labor is so scarce," said Barry Wilfahrt, president of the Grand Forks-East Grand Forks chamber of commerce. "[Oil patch firms] are paying a very significant premium to get people to come out." Other contractors commute from Bismarck and Billings, Mont., and housing developers based in western Montana maintain work crews in the oil patch for part of the year.

This transient labor is difficult to



Chart 6

1,200



track; most itinerant contractors draw their paychecks from firms based outside the oil patch. What can be quantified is migration to oil country—people from other places coming to take jobs and settle in.

Between 2004 and 2010, after minimal growth earlier in the decade, the combined population of six counties in the heart of the oil patch increased markedly (see Chart 5). Census data show that the population of Williams County increased at more than three times the state average from 2005 to



The lure of oil

Net migration of tax filers in core Bakken counties*

2010, for a gain of about 2,700 people.

The region's torrid economy has surely accelerated population growth over the past two years, which has yet to show up in the census. Williston officials in January estimated the city's population at about 20,000, based on building activity and water consumption; that's far higher than the official 2010 census of less than 15,000.

A *fedgazette* analysis of federal tax return data provides further evidence of in-migration. The numbers are Continued on page 6









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Jobs from page 5









Daily bustle pervades the oil patch, both in the oilfields and on Main Street.

small—tax data documenting household moves miss newcomers who filed returns from their previous hometowns—but the data (see Chart 6 on page 5) show a net inflow of taxpayers into core Bakken counties since 2008, reversing an opposite trend before the oil boom.

Talk to oil patch employers, and the wide sweep of the region's labor net becomes clear. Every business contacted for this article employed people from outside the area, some of whom had traveled hundreds of miles to find work. In January, Johnson Hardware had six workers on its payroll who had recently moved to Sidney, including three men from Montana's Flathead Valley, where home building has been slow. "We've seen a large influx of fellow Montanans moving from the mountains to the plains because of the opportunity that exists out here," Johnson said.

At Mitchell's Oil Field Service, a Sidney-based construction and trucking company with facilities in Watford City and other communities in the region, applicants from western Montana and other states such as Minnesota, Idaho and Arizona far outnumber those from area residents. "Pretty much all the local people have been snatched up by somebody, either by our company or other companies around here," said Human Resources Director Andrea Davidson.

A half-open gate

Despite the inflow of workers, there's no sign of loosening labor conditions in the oil patch.

Throughout 2011, unemployment rates across the Bakken remained very



Photography by Kevin Cederstrom

low and ratios of job openings to unemployed kept rising, with increasing numbers of jobs available to those who somehow had managed to avoid employment.

Clearly, not enough people are moving to the oil patch to keep up with the pace of job creation in the region. Or perhaps it isn't attracting enough of the right types of workers—those with the aptitudes and skills sought by employers.

Ziesch sees a structural "imbalance" in the region's workforce: a dearth of teenagers, mothers of young children and other part-time workers to fill positions in offices, retail stores, restaurants and motels. A large proportion of workers who come to the area to work in the oilfields are men who are either single or choose to live apart from their families for weeks or months at a time.

Many newcomers are people down on their luck without the necessary skills to work in the oil industry, construction and other fields, said Wenko of Williston economic development. "It's unfortunate we have people showing up off the bus, off the train," he said. "We're looking for skilled labor up here; we're not looking for lost souls."

There are a number of obstacles to increased migration to the region, some more easily surmounted than others.

One is strong economic growth and low unemployment in other parts of North Dakota. The Red River Valley, the most populous part of the state, is the closest large source of potential workers for the oil patch. Many residents of Fargo, Grand Forks and other communities along the Minnesota border are familiar with the oil patch and may have relatives or friends living there. But the job market in eastern North Dakota gives them little incentive to pull up stakes. Last December, the Fargo area had over 6,000 open positions, twice the number available a year earlier. Most counties in the eastern half of the state had unemployment rates below 4 percent-enviably low compared with the nation as a whole.

In Grand Forks, most people are content to stay put for now, said Keith Reitmeier, customer service area manager for the Grand Forks Job Service office. "They like the communities where they live," he said. "There are a lot of opportunities in eastern North Dakota, and people are aware of that. There's no gate swung open and people heading west."

Strains on the physical capacity of the oil patch to absorb more people are another impediment to migration. Public and private resources necessary to support a burgeoning workforce are being stretched to their limits in cities at the epicenter of the oil boom, such as Williston and Watford City. "You're getting communities that are just completely overwhelmed with this influx of people," said Flynn of UND.

A housing shortage—a major reason why more nuclear families aren't moving to the region—has driven up rents and forced many workers to sleep in trailers, tents and vehicles (see "No room at the inn," page 7).

A related problem: maxed out sewage systems in some communities. In 2011, the flow of wastewater into the city of Williston's treatment plant exceeded its design capacity; this year, the city plans to spend \$5 million to \$6 million in state grants funded by impact fees on oil companies to upgrade the plant—a stopgap measure until a bigger facility can be built.

Other strains on infrastructure and public services make life stressful and unpleasant, discouraging some people from moving to the oil patch. Truck traffic clogs highways and ravages county roads, lengthening commutes; small police and sheriff's departments struggle to respond to increased crime.

Finally, there's the weather, an issue for migrants from warmer climes. Flynn noted that North Dakota's bracing winters give pause to workers considering moving anywhere in the state, not just its western reaches. "The fact that it's North Dakota doesn't help," he said. "There's a perception of North Dakota being cold, and it happens to be true."

In time, they will come

This year is likely to set new records in oil drilling and production in the oil patch. Petroleum companies are exploring promising new areas of the Bakken, like Montana's Roosevelt County, and refining their drilling techniques to tap even deeper shale-oil deposits. Unless global oil prices fall or regulators intervene—drilling processes that inject water and chemicals into the earth have drawn federal scrutiny—economic growth tied to oil and gas development will continue to strain the region's labor supply.

Any further tightening in the job market could retard economic development in the region if some employers search in vain for workers, forcing them to delay or cancel new initiatives and facility expansions.

That possibility concerns Gaylon Baker, executive vice president of Stark Development Corp., the economic development arm for Stark County. "Our workers are hard to find, and our wage scales are up there," he said, making it hard for the Dickinson area to attract manufacturers and other non-oil employers.

Williston is being eyed by restaurant and retail chains for new locations, Wenko said. But they're worried about ultra-low unemployment, and the scarcity and expense of housing for workers. "We understand that it's going to take significant investment for them to come in here," he said. "It comes down to the workforce and housing."

Not every business is a winner in an oil boom; over the next few years, many employers, especially non-oil firms, will continue to struggle to hire and retain workers, at least at wages they want to pay. A surfeit of job openings in the region will keep unemployment rates in the basement.

However, down the road, labor supplies are likely to increase in the oil patch as state and local governments invest in sewers, highways and other infrastructure, and developers build more housing for workers and their families.

Rising wages in a range of industries should encourage more local residents to enter the workforce and attract more workers from outside the region willing to brave frigid winters. "We're catching up with the rest of the world," Baker said. "We were a low-wage environment prior to [the oil boom], and thank goodness we're no longer famous for that."

Instead, western North Dakota and northeastern Montana are known for having jobs—more jobs than anyone could have imagined before oil lit a fire under the region's economy.