

## Exploiting North Dakota's 'massive oil field' simply a matter of time, technology and capital

By Brad Allen | Published Wed, May 19 2010 10:24 am

Michael Reger has North Dakota oil in his blood. As the fourth generation in his family to work in the oil fields in western North Dakota, Reger boasts that his family has “leased more land, drilled more wells, shopped more seismic [data] and managed more production than everyone else combined from the 1930s to today.”

And he’s putting that heritage to good use as chairman and CEO of Northern Oil & Gas (AMEX:NOG), a non-operating company that is aggressively buying up leasing rights in the Bakken and Three Forks oil shale formations in western North Dakota.



Source: U.S. Geological Survey A map showing the Williston Basin Province boundary, in red, and the Bakken-Lodgepole Total Petroleum System in blue.

Reger, a University of St. Thomas grad, outlined his business strategy to a gathering of investor clients of Minneapolis-based Tealwood Asset Management, which was an early backer of the company. A key part of that strategy includes raising capital so Northern Oil can continue to participate in what he characterized as “a massive land grab” for leasing rights.

Oil has been pumped from beneath the Peace Garden State since the first well was drilled in 1951. By the early 1970s, some researchers estimated that a vast reservoir of oil-saturated shale rock existed in the Bakken formation, buried two miles below the western third of North Dakota, extending

into Montana and southern Canada. As recently as 1995, the U.S. Geological Survey (USGS) estimated that the area contained only 151 million barrels of “technically recoverable oil resources,” based on existing extraction technology and identified reserves.

As new horizontal shale-oil-drilling technology made extraction of shale oil feasible in 2000, the rate of leasing and drilling picked up, accelerating dramatically in 2005. (For a brief animated description of horizontal drilling, [go here](#).)

In 2006, Reger got wind of a successful drill site in Mountrail County, an area not thought to be that productive. He founded Northern Oil & Gas and immediately began buying up strategically located leasing rights in the surrounding areas, giving him a proportional share of the oil being pumped in exchange for sharing in the upfront cost of drilling.

Reger’s first shared well, where he held a 12.5 percent interest, required a \$600,000 investment, which was paid off in six months, he said. “And they’ll send us checks on that well for 50 years ... That was the ‘Eureka!’ moment” when he knew the non-operating business model was the way to go.

Realizing he needed to raise more capital quickly to acquire leasing rights, he took the company public in 2007.

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### North Dakota oil production

Year	# Wells	Total Daily Output	Daily Output /well	Annual Output/ /well	Annual Output Total
1951	1	72	72	26196	26196
1960	1551	60256	39	14180	21993603
1970	1624	60291	37	13551	22006300
1980	2401	110812	46	16846	40446550
1990	3579	100612	28	10261	36723443
2000	3332	89625	27	9818	32713018
2009	4588	218374	48	17373	79706495

Source: N.D. Industrial Commission, Dept. of Mineral Resources. Click on the chart to download an Excel spreadsheet showing annual oil production from 1950 to 2009.

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In 2008, prodded by North Dakota Sen. Byron Dorgan, the USGS reassessed the Bakken field. Based on new survey techniques, advances in extraction technology and newly discovered reserves, that reassessment projected a 25-fold increase in the amount of oil that can be recovered, up to 4.3 billion barrels, compared with the agency's earlier 151 million-barrel estimate. The USGS declared that the North Dakota oil field “represents the largest oil field of the lower 48 states and is the largest ‘continuous’ oil accumulation ever assessed by the USGS.”

There is another formation a couple of hundred feet below the Bakken, called the Three Forks formation, which Reger said could hold as much oil as the upper layer. The North Dakota Geological Survey estimates that more than 169 billion barrels of oil lie trapped in the two shale formations and approximately 4 billion barrels can be extracted with existing technology.

To date, Northern Oil & Gas has deployed about \$160 million in capital and owns the mineral rights under about 120,000 acres in North Dakota and Montana. With no debt and a \$25 million line of credit (that Reger intends to expand to \$100 million), he is still looking to expand the leasehold inventory.

And here, he says, the long family history in the area gives him an advantage in acquiring important leasehold rights. He believes he has a leg up on competitors in Houston or Denver who “don’t know the men I drink beer with and catch walleye with ... I know the Bakken land and people in the field better than any man alive.”

NOG, which traded as low as \$2 a share in January 2009 (after oil prices collapsed as the world economy slid into recession), closed Tuesday at \$13.36 a share, giving it a market capitalization of about \$677 million.

And it’s the aggressive optimism, bred into him after four generations in the Dakota oil patch that will likely keep him in the same region his great-grandfather first came to in the 1930s, working for Mobil Oil. Reger predicts that “the guys in white coats” working on new extraction technologies will continue to increase the oil-shale yield. “It’s more a function of time, technology and capital than it is exploration. There’s virtually no exploration anymore.”

### **North Dakota communities grapple with ‘boom and bust’**

While investors and oil patch workers benefit when the oil is flowing, it is a pure commodity, and highly volatile prices can whipsaw the local economy. The region’s oil industry has followed the boom in the late 1970s and early 1980s, followed by the bust when global oil prices slid.

Right now, the economy of western North Dakota continues to benefit from the oil patch boom. The Federal Reserve Bank last year published an article about the impact of the oil industry on the local economy that highlighted both the benefits to local employment and taxes as well as the pains the region suffered in the 'bust' in the mid-1980s and in the more recent slowdown in the midst of the recent recession