# Petroleum News Bakken


page 3 QEP beats winter weather with record production in fourth quarter

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DRILLING & COMPLETION

# 'Good quality rock'

*Continental Resources' test results show lower benches are commercial*

**By RAY TYSON**
*For Petroleum News Bakken*

RICK BOTT

The explorer that's done the most work figuring out the production characteristics of the Bakken petroleum system's deepest zones said that while more testing of these lower benches will be required, the company "proved some big things" during the first full year of testing including the most important thing — the ability to generate profits.

"We've proved that it's good quality rock. We've proved that there is oil in there. We've proved that we can produce at a commercial rate," Rick Bott, president and chief operations officer of Oklahoma-based Continental Resources, declared Feb. 12 at the Credit Suisse Global Energy Summit in Vail, Colo.

Continental's bullishness on the Bakken is well established, having publicly announced increases in its estimated in-place oil on several occasions and each time well above the federal government's official projections, to a current 903 billion barrels of oil equivalent.

But not since 2010 has Continental altered the amount of oil it believes can be recovered or produced from the Bakken, which remains at 24 billion boe. But that's likely to change.

*see* **LOWER BENCHES** *page 16*

MOVING HYDROCARBONS

# Feds boost rail safety

*USDOT, AAR agree to adopt wide range of new crude-by-rail shipping standards*

**By MAXINE HERR**
*For Petroleum News Bakken*

EDWARD HAMBERGER

Crude oil trains will be slowing down across the country as part of a voluntary agreement between the U.S. Department of Transportation, DOT, and the Association of American Railroads, AAR. On Feb. 21, the two entities announced new safety practices in response to several fiery derailments in recent months.

The new practices state that any train carrying more than 20 cars of crude oil that includes at least one older model DOT-111 tank car will reduce its speed from 50 to 40 miles per hour through urban areas. Additional safety measures include more track inspections, enhanced braking systems, better emergency response plans and an analysis to determine the safest route for trains carrying more than 20 tanks of oil. They are set to go into effect between March and July.

In a letter to AAR, U.S. Transportation Secretary Anthony Foxx said "the rapid increase in the production and transportation of crude oil requires additional vigilance."

"We share the Administration's vision for making a safe rail network even safer, and have worked

*see* **RAIL SAFETY** *page 13*

UTILITIES

# Clash over easement fees

*ND electric co-op and tribes split apart on cost of right-of-way access on FBIR*

**By MAXINE HERR**
*For Petroleum News Bakken*

Securing electrical easements on the Fort Berthold Indian Reservation has become a huge challenge amidst oil development.

McKenzie Electric Cooperative, a rural co-op headquartered in Watford City, N.D., must treat all of its customers the same, but the Mandan, Hidatsa, Arikara, MHA Nation, is making certain demands that the electric co-op says impede construction.

"Until the Bakken boom, things on the reservation were fairly quiet and getting easements was fairly simple," said John Skurupey, manager of the electric co-op. "It was somewhat of a good ol' boys

*see* **EASEMENT FEES** *page 15*

## Other options for MHA

Because of a dispute over how much power line easements should cost on the Fort Berthold Indian Reservation, McKenzie Electric Cooperative Manager John Skurupey thinks the Mandan, Hidatsa, Arikara, MHA Nation may be looking for other electric power suppliers.

"Now the tribe is throwing out insinuations that they have another power supplier courting them," Skurupey said, but added that the co-op's board is willing to meet with the reservation's other potential suppliers and develop solutions.

*see* **MHA OPTIONS** *page 15*

## Processing Bakken gas

VERN WHITTEN PHOTOGRAPHY

**Oneok's Garden Creek I natural gas processing plant approximately 5 miles northeast of Watford City in McKenzie County, N.D. Two sister plants, Garden Creek II and III, are under construction as Oneok continues to expand its natural gas processing capacity in the Williston Basin (see story below).**

## Oneok looks to cut flaring to 10-15% within its WB footprint

TERRY SPENCER

Flaring on natural gas within Oneok's area of operation in the Williston Basin can be cut in half or even more in the next several years according to President and Chief Executive Officer Terry Spencer.

With the existing natural gas infrastructure that Oneok has in the Williston Basin, coupled with additional infrastructure planned to go into service in 2014 and 2015, Spencer believes that flaring within his company's area of operation in the basin can get as low as 10 to 15 percent, a considerable decrease

*see* **FLARING CUT** *page 16*

## Setbacks come mixed with hope for TransCanada on Keystone XL

RUSS GIRLING

An adverse Nebraska court ruling on Keystone XL was partly offset by word that President Barack Obama could be within months of his pivotal decision on the project, easing concerns that he would stall until after the mid-term elections in November.

Answering an appeal by Nebraska landowners, District Court Judge Stephanie Stacy ruled the state's Public Service Commission and not Gov. Dave Heineman should have signed off last year on the XL routing.

The Nebraska attorney general's office was quick to file an appeal and TransCanada Chief Executive Officer Russ Girling

*see* **XL HOPE** *page 15*

## EOG Resources' well count to jump nearly 50 percent in 2014

BILL THOMAS

EOG Resources, on the heels of its best year ever as a rapidly growing independent producer with notably strong positions in the top U.S. shale plays, is planning to dramatically step up drilling activity in the Williston Basin this year.

The Houston-based exploration and production company, with the help of 54 new wells in 2013, saw its daily Bakken production at year-end climb to a gross 86,000 barrels of oil equivalent, a hefty 38

*see* **EOG WELL COUNT** *page 14*

# contents

Petroleum News Bakken

● COMPANY UPDATE

# South Antelope driving QEP's production

*4Q company-wide production increase of 62% bolstered by Williston Basin output in the face of a nasty North Dakota December*

**By MIKE ELLERD**
*Petroleum News Bakken*

Denver-based QEP Resources held strong against Mother Nature logging an impressive 30 percent increase in its fourth quarter Williston Basin production despite severe winter weather conditions that dropped North Dakota's average daily oil production by over 5 percent in December.

In addition, the company set a new annual production record putting out 10.2 million barrels of oil over the year, a 62 percent increase over 2013, due primarily to "successful development" of the approximately 3,900 net South Antelope acres in far eastern McKenzie County that the Denver-based independent acquired in 2012.

CHUCK STANLEY

"In spite of initial delays due to downstream and weather related issues, our current South Antelope oil production has grown to levels that are commensurate with the company's expectations at the time of the acquisition," said Chuck Stanley, QEP Resources chairman, president and CEO in a Feb. 26 conference call.

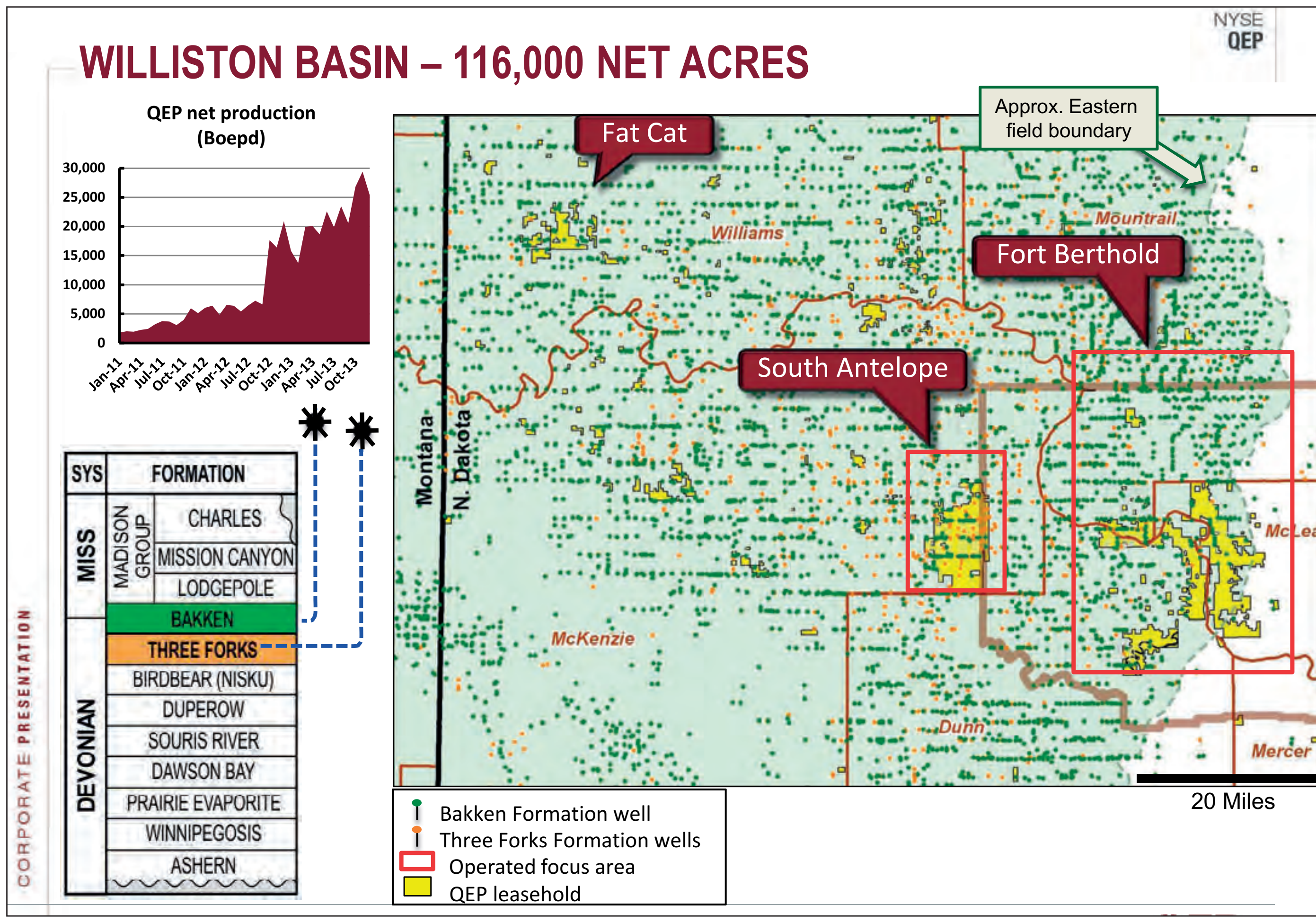
QEP reports total production for 2013 at 47.2 billion cubic feet of gas equivalent in the Williston Basin, which represents an increase of 133 percent over 2012 production. In December, QEP ranked 11th among North Dakota's oil producers averaging 31,925 barrels of oil per day for operated, non-confidential wells.

"Overall we remain very pleased with the technical results from the Williston Basin, and with the future potential of the play," Stanley said.

Since acquiring the South Antelope acreage in 2012 for $1.4 billion, Stanley said QEP has seen the value of that asset almost double. "Including probable reserves and associated development costs, the year-end 2013 pre-tax PV-10 value of South Antelope was over 2.8 billion, nearly double the net capital investment today," Stanley said Feb. 26. "We're excited about these results and we think it's a great example of our asset evaluation and follow-on development skills and our sound and stringent capital allocation process."

Like many Bakken operators, QEP is working to lower well costs, with the latest group of QEP-operated wells coming in at approximately $10 million for gross drilled, completed and equipped costs.

"As we drive efficiencies in our drilling and completion operations through pad drillings, we've also made significant progress on completed well costs during the year, with a reduction amount in actual gross completed well costs of more than a million dollars from our initial assumptions at the time of the acquisition," Stanley said, adding that "our wells cost today are approximately one-and-a-half million less than nearby, third party operated wells in which we have an interest."




QEP RESOURCES

QEP had eight drill rigs operating in the basin in the fourth quarter, six in the South Antelope area and two in Fort Berthold. In the third quarter QEP had five rigs in South Antelope and three in Fort Berthold.

The company completed 26 operated wells in the fourth quarter, up from 21 completions in the third quarter and nearly equal to the 27 seven well completed in the first two quarters.

Of the 26 wells completed in the fourth quarter, 17 were in the South Antelope area, which had an average 24-hour initial production of 3,025 barrels of oil equivalent. The other nine completed wells were in the Fort Berthold area with an average IP of 1,850 boe.

In addition to its South Antelope area, QEP's other core area in the Williston Basin is on the Fort Berthold Indian Reservation where the company completed nine wells in the fourth quarter. Combined, all of QEP's fourth quarter Bakken production averaged approximately 27,700 barrels of oil equivalent per day, which was 96 percent liquids. That fourth quarter output represents a 30 percent over the third quarter and a 51 percent increase over production in the fourth quarter 2012.

QEP is also evaluating the potential for increasing well densities on its Williston Basin acreage. "We're monitoring the results from several pilot programs that are being conducted by nearby operators, and we have our own pilot program under way to evaluate applicability of increased density development on our own acreage," Stanley said.

For 2014, Stanley said QEP plans to allocate approximately 55 percent of its entire capital budget of $1.65 billion to $1.75 billion to the Williston Basin. ●

*Contact Mike Ellerd at mellerd@bresnan.net*

● GOVERNMENT

# Oil counties want more money and fast

*Some commissioners want a special legislative session to access more money, but a reserve fund could be tapped in early January*

**By MAXINE HERR**
*For Petroleum News Bakken*

Oil-impacted counties in North Dakota want more money from production revenues, saying the state is "bankrupting" them while it sits on a surplus. County leaders may request a special legislative session to address the issue, but one legislator thinks there is some wiggle room at the bottom of the money pile.

McKenzie County Commissioner Ron Anderson says infrastructure improvements are falling behind, and the county will get less than 7 percent of the $2.4 billion it generates from oil production in the next two years.

"When you fall behind this far, every session those numbers get so large that eventually the legislature will say, well it's too big … we can't fund anything at that level," Anderson said. "That's what we want to keep away from."

In the letter signed by Democratic Minority Leader Mac Schneider of Grand Forks, House Minority Leader Kenton Onstad of Parshall and Sen. John Warner of Ryder, they state:

"The affected western counties do not think that the current funding level is adequate to meet the demand for services they are facing. If the present state funding levels do not change, many local leaders and residents fear that Western North Dakota may never catch up to the pace of oil and gas development."


RON ANDERSON


RICH WARDER

Currently, the gross production tax formula gives counties 25 percent of the tax revenue and 75 percent to the state. Some commissioners believe the special session could allow a change, allocating 60 percent to the counties and 40 percent to the state. They would also like to remove a sunset clause that makes the formula expire on June 30, 2015, which has made borrowing difficult."

Currently, the gross production tax formula gives 25 percent of the tax revenue to counties and 75 percent to the state. Other commissioners propose a special session to make a change, allocating 60 percent to the counties and 40 percent to the state. They would also like to remove a sunset clause that makes the formula expire on June 30, 2015, which has made borrowing difficult.

### Legislature could tap into reserve funds to help

Sen. Rich Wardner of Dickinson believes a special session isn't necessary because the legislature has the option to provide some financial relief at the start of the next scheduled session in January 2015. As production tax revenues are generated, they sift through a funnel of accounts. Money is first put into the state's general fund and additional monies move into other areas such as property tax and disaster relief funds. The reserves enter a strategic infrastructure and investment fund, or SIIF. At the end of the 2015 session, the SIIF balance will contain about $700 million.

> *"We're proud of ourselves to have a huge surplus at the state, and yet we're basically bankrupting our oil epicenter communities and it doesn't seem right."*
> **—Brent Sanford, Watford City mayor**

SIIF was created in the 2011 legislative session, and in 2013 the account was tapped to fund an immediate need for state and county road construction.

"The counties are concerned about missing the 2015 construction season, not having money to plan with," Wardner told Petroleum News Bakken. "SIIF allows us that opportunity, and we can do it immediately in the session if we want. That's what we did last session. The road money went out in January and it gave the Department of Transportation the opportunity to plan and do bidding for the summer."

But some officials would rather not wait.

Watford City Mayor Brent Sanford told Petroleum News Bakken that the city is at an impasse, having done all they can with grants, developer contributions and cash reserves.

"We're at a point where we need to go bigger and quicker," Sanford said. "We're proud of ourselves to have a huge surplus at the state, and yet we're basically bankrupting our oil epicenter communities, and it doesn't seem right."

### Wallets running dry

Sanford's city has stretched from one square mile to five, straining the infrastructure. Watford city has expanded city and county offices, added to the fire station, erected two water towers, and is working to provide adequate sewer services for its growing population.

"To this point, we've done this development without indebting the citizens to a high degree, but we see the next piece is no choice but to borrow large sums with property tax and sales tax votes," Sanford said.

He said the SIIF fund has likely reached about $350 million by now, and he'd like a special session to access it.

In the last biennium, Sanford said Watford City spent $20 million for infrastructure, while additional funding needs were met by developers. The city has plans for $102 million in spending by summer 2015, but its wallet is $60 million short.

"This is mindboggling," Sanford said.

### Grants don't target hardest hit areas

Energy impact grants totaling $240 million have provided some relief, but Sanford said the grants were designed to assist communities on the periphery of the oil impacts, leaving cities like his frustrated.

"You have to get the hemorrhages figured out first in the center of the oil play because it's not reasonable to be sending tens of millions of dollars to the outskirts when (we're) being run over," Sanford said.

He thinks a special session could change the formula, remove the sunset clause and tap into the SIIF funds, but Wardner would like to avoid it since it would open the door for many other requests.

"We may say we're going to only let three bills in, but if you think legislators are going to follow the rules, you're dreaming," Wardner said.

Wardner said the oil production tax revenues will allow the counties the funding they need, but it is a slow process.

"I realize they don't think they've got enough, but keep in mind, the estimates on oil production and price was conservative and actual revenue is over forecast. They have that money that's coming in … but they have to wait every month for that check to come."

Whether the money covers the bills is the great debate. Brady Pelton of the North Dakota Association of Oil and Gas Producing Counties told Petroleum News Bakken that it's simply not enough.

"The estimates on the amount of tax has risen, and that increased production distribution helps, but it's not even close to what they need out there." ●

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● DRILLING & COMPLETION

# Montana activity focused on Elm Coulee

*Oasis files apps for 5 permanent spacing units and 34 infill wells; Continental wants 5 permanent spacing units and 17 infill wells*

By MIKE ELLERD

*Petroleum News Bakken*

Oasis Petroleum is leading in exploration and production applications that the Montana Board of Oil and Gas Conservation is considering in February, followed by Continental Resources, Whiting Oil and Gas and EOG Resources, with most of the proposed activity centered in Richland and Roosevelt counties along the North Dakota border in northeast Montana.

In the Elm Coulee Northeast field, Oasis Petroleum is seeking permanent status for five separate spacing units and authorization to dill up to 34 new infill wells. Initially all spacing units in Montana are given temporary status, but once wells on spacing units begin producing, units must be granted permanent status for continued production.

Oasis has one producing Bakken/Three Forks well on each of the five spacing units Oasis wants made permanent, four 1,280-acre units and one 2,560-acre unit. Wells on two of the 1,280-acre units went on production in November 2013. Through December, one produced for 33 days and the other for 51 days with average daily production of 418 and 410 barrels per day, respectively. Wells on the other two 1,280s went on production in July and August 2013 and produced 160 and 144 days with production averaging 101 and 239 bpd. The well on the 2,560-acre unit went on production in July 2012 and after 521 producing days has averaged 165 bpd.

Oasis also wants to drill up to six additional horizontal Bakken/Three Forks wells on two of the 1,280s, up to four more wells on each of the other two 1,280s, and up to eight additional wells on the 2,560. In addition, Oasis is seeking authorization to drill six additional wells on another existing 1,280.

## Continental

Continental Resources wants permanent status for six spacing units in Richland and Roosevelt counties. Two of the units are 1,280s in the Elm Coulee Northeast field in Roosevelt County. Wells on the two units went on production in October and December 2013 and have produced for 51 and 21 days averaging 142 and 368 bpd.

The other four spacing units are in the Elm Coulee field in Richland County, two of which are 640 acres and the other two are 1,280s. Wells on the 640s began producing in October 2013 and have averaged 165 and 178 bpd after producing for 49 and 38 days. Wells on the two 1,280s began production in November 2013 and averaged 338 and 349 bpd.

Continental is also seeking authorization to drill up to three additional wells on both of the Elm Coulee Northeast units in Roosevelt County and on one of the Richland County 1,280s. Continental also wants to drill up to three additional wells on two other Richland County 1,280s and two additional wells on another 1,280 in Richland County, bringing to 17 the number of infill wells the company is currently seeking in Montana.

Also in Richland County, Continental wants two temporary 1,280s and two new overlapping 2,560s created, with one horizontal Bakken/Three Forks well on each.

## Whiting and EOG in Elm Coulee NE

Whiting Oil and Gas filed applications asking that three 1,280-acre spacing units in the Elm Coulee Northeast field in Richland County be made permanent. Whiting has one producing horizontal Bakken formation well on each, which went on production in the third quarter 2013. Through December the wells produced for 11, 49 and 62 days with production averaging 340, 242 and 279 barrels per day. Whiting also filed applications for up to three additional Bakken/Three Forks wells on each of the three spacing units.

In addition, Whiting is asking that four new temporary 1,280-acre spacing units be created in Elm Coulee Northeast field in order to drill one horizontal Bakken/Three Forks well on each.

EOG Resources wants permanent status for two adjacent, startup-1280-acre spacing units in Elm Coulee Northeast field in Roosevelt County and to drill up to three additional Bakken/Three forks wells on each. Wells on the two spacing units went on production in June and July 2012 and through December 2013 have produced for 536 and 515 days averaging 259 and 235 bpd.

## Other unconventional Montana activity

Houston-based Kraken Oil and Gas is seeking permanent status for three 640-acre spacing units in the Elm Coulee field in Richland County, with up to three additional wells planned for each. The first well on the three units to go on production began producing in September 2013 and was on production for 317 days averaging 317 bpd. Wells on the other two units went on production in November and through December produced for 20 and 14 days averaging 111 and 197 bpd.

Statoil Oil and Gas wants permanent status for a Roosevelt County 1,280-acre unit with up to four additional wells. Production data from the existing well are not yet available.

SM Energy wants two new temporary 1,280-acre spacing units created in Roosevelt County to drill one horizontal Bakken/Three Forks well on each.

True Oil wants permanent designation for a 1,280-acre unit in the Elm Coulee Northeast field in Richland County where a well went on production in December 2013 and averaged 379 bpd over its first three days of production.

Enerplus Resources USA is seeking approval for a pilot project to inject produced water through an existing middle Bakken well to demonstrate the potential for enhanced secondary oil recovery in the Elm Coulee field in Richland County.

## Conventional Montana activity

In conventional activity, Legacy Reserves Operating filed an application to drill an additional Red River, Interlake, Stony Mountain and/or Charles formation well on each existing 80-acre spacing unit in one section and in an adjacent quarter section in the Deer Creek field in Dawson County in eastern Montana and to be allowed to commingle production from those four formations.

Big Sky Exploration is seeking a temporary five-lot spacing unit in neighboring McCone County in eastern Montana for the purpose of drilling a vertical Silurian Interlake well.

Interstate Explorations wants permanent status for two 320-acre spacing units in the Yates field in Wibaux County along the North Dakota border to continue production from an existing Red River formation well on each unit. Production data for those wells have not yet been made public.

In Fallon County, Continental is seeking authorization to convert two oil wells to enhanced recovery injection wells in the Red River formation.

In Sheridan County in the northeast corner of Montana, Northern Oil Production wants permanent status for three 320-acre spacing units in the Comertown field in order to produce from different formations in older, conventional wells on the units. Wells on all three units date back to the mid-1980s and have produced from the Nisku and Duperow formations underlying the Bakken/Three Forks and from the Lodgepole formation that overlies the Bakken/Three Forks. The company now wants the unit spaced so it can produce from any interval from the top of the Madison group above the Bakken/Three Forks all the way down to the base of the deeper Red River formation.

In central Montana, Onshore Holdings requested permanent status for a 640-acre spacing unit in Musselshell County for production from a Heath or Bear Gulch well. Both the Heath and Bear Gulch overlie the Madison group. Onshore Holdings also requested permanent status for a smaller four-lot spacing unit in neighboring Rosebud County for production from another Heath or Bear Gulch well. Production data from the wells are not yet publically available.

Energy Corporation of America filed an application to drill a horizontal Mowry formation well in Carbon County in south-central Montana. ●

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## COMPANY UPDATE

# Enerplus tags nearly half of capex for ND

Calgary-based Enerplus is turning up the volume at its North Dakota properties, which along with its Canadian waterfloods, will claim the majority of the company's C$760 million capital spending this year.

It said U.S. crude oil assets will attract C$300 million-C$325 million of the capital budget, with a two-rig program operating in both the Bakken and Three Forks.

About 20 net wells are expected to be drilled, completed and tied-in, following fourth quarter activities when Enerplus drilled the first three wells of a seven-well program that is designed to test downspacing in the area.

*Ray Daniels, the Enerplus senior vice president of operations, said the company wants to reduce drilling costs this year by 20 percent "through a more efficient pad drilling."*

In addition, the company said it started drilling into the lower benches of the Three Forks to test the prospectivity of those zones.

It reported that well completion design continued to evolve in North Dakota, resulting in a 50 percent increase in average 30-day initial production and an average lowering of well costs by 8 percent.

Chief Executive Officer Ian Dundas said Feb. 21 that "we expect continued growth from our crude oil properties at Fort Berthold and anticipate average annual production will increase by 15 percent in 2014." But he did not disclose specific numbers, beyond saying light crude volumes will represent 67 percent of the total oil production.

### Output guidance up 10 percent

However, Enerplus is counting on a 10 percent increase in production this year to 96,000-100,000 barrels of oil equivalent per day, with crude oil expected to rise 12 percent, accounting for 48 percent of the output along with natural gas liquids. Natural gas, amounting to 52 percent of the production mix, is targeted at just over 300 million cubic feet per day.

The company said that based on its forecast exit volumes for 2013, capital efficiencies made strong headway to under C$30,000 per boe per day and it is aiming to achieve similar efficiencies this year.

The company exited 2013 with crude oil and gas liquids production of 21,455 bpd in the U.S. and 18,958 bpd in Canada after a capital outlay for the year of C$681 million, C$490 million directed to oil plays.

Enerplus is basing its year on average commodity prices of US$92.80 per barrel of West Texas Intermediate crude, a Nymex gas price of US$3.90 per thousand cubic feet, or C$3.45 at the AECO hub.

The balance of the company's spending program will go to the Marcellus Shale in Pennsylvania and the Deep Basin region of Alberta as it embarks on the initial development of its Wilrich Basin and starts evaluating some wells it has drilled in the Duvernay of west central Alberta.

Enerplus holds 75,000 acres in North Dakota and the Bakken play spread across Canada's Prairie provinces and 110,000 acres in the Marcellus, plus working interests in the Montney, Mannville and Duvernay in Alberta and British Columbia.

Ray Daniels, the Enerplus senior vice president of operations, said the company wants to reduce drilling costs this year by 20 percent "through a more efficient pad drilling."

—GARY PARK



● COMPANY UPDATE

# Newfield concentrating on its domestic plays

*Bakken operator leaving oversees assets behind to concentrate on its key U.S. plays; Williston Basin efficiencies boost growth*

By **MAXINE HERR**
*For Petroleum News Bakken*

Texas-based Newfield Exploration Co. plans to concentrate its efforts closer to home in 2014. After selling its Malaysia operations in February and currently divesting its China business, the company is transitioning into domestic liquids production in the Rocky Mountains, onshore Gulf Coast, and Mid-Continent, which includes the Williston Basin.

"We are laser-focused as an organization on improving our returns and driving growth through our domestic developments," said Lawrence Massaro, Newfield's chief financial officer and executive vice president in a Feb. 26 conference call.

Fourth quarter production of 12.8 million barrels of oil brought the company to a yearly total of 48.3 million barrels, with domestic liquids production up 11 percent from the previous quarter.

This total exceeded Newfield's projections of 44 to 47 million barrels for the year, primarily due to the Williston and Anadarko basins, said Executive Vice President and Chief Operating Officer Gary Packer.

### Well costs drop in the Bakken

Packer said Newfield transitioned to full-field development in the Bakken where it completed 42 wells in 2013, and also lowered its well costs to approximately $8.4 million, a cost that includes $800,000 in facilities. Since 2012, average well costs for the company have dropped by $3 million.

"Through pad drilling and optimized well designs, we are seeing solid returns. These plays are providing strong oil growth," Packer said.

Solid production numbers have kept Newfield among the top 20 Bakken producers. In December, Newfield was in the 18th spot with daily production averaging 14,024 barrels per day for operated, non-confidential wells.

"Our volumes exceeded our forecast by 700,000 barrels in 2013 and we've seen excellent well performance from our base production," Packer said. "We expect 35 to 40 percent year-over-year production growth in 2014."

Newfield holds approximately 100,000 net Bakken acres in North Dakota and Montana, and is actively developing approximately 41,000 of those acres in its Aquarium/Watford area in east-central McKenzie County, Westberg area in northeast McKenzie County and Lost Bear area in northwest Dunn County.

### Testing the Three Forks

Newfield tested the first and second benches of the Three Forks formation with eight wells in 2013. Packer said the company is encouraged and plans to continue testing these prospective benches beneath the middle Bakken in 2014, while closely monitoring industry activity in the lower benches.

Newfield's 2013 production in the Williston Basin was up 40 percent from 2012 at 4.4 million barrels, exceeding its initial growth forecast of 25 percent due to better production from existing base wells and timely completion of pad drilling programs. The 34 wells Newfield completed in the middle Bakken averaged an initial production of 2,233 barrels per day, bpd, with an average gross of 800 bpd over 30 days. In the Three Forks, the eight wells averaged initial production of 2,091 bpd, and 628 bpd over 30 days.

Newfield expects to maintain operation of four rigs in the Williston Basin in 2014, investing approximately $330 million to drill 45 to 50 wells. It will focus on drilling super extended laterals, more than 7,500 feet, from common pad locations, targeting the middle Bakken and the first bench of the Three Forks.

### Half of 2014 budget allotted to Oklahoma's SCOOP and STACK

The company's fastest growing region, Oklahoma's Anadarko Basin, netted 7.1 million barrels of oil in 2013 and Newfield expects to double that this year. Its two key plays in that area, SCOOP and STACK, offer multiple "stacked" geologic horizons for exploitation. The recent completion of a large gathering system upgrade in the SCOOP region will allow Newfield to increase its net sales by approximately 4,500 bpd, bringing production to 31,000 bpd.

"Our $1.6 billion budget this year is allocated entirely to creating value through the liquids growth, with the SCOOP and STACK plays comprising nearly one-half of the total," Packer said. "Although we have a strong inventory of national gas assets… our investment strategy remains unchanged. Our returns from our oil and gas liquids plays remain superior."

### Utah plays offer great potential

Newfield's excitement is also building within Utah's Uinta Basin. The company has been working in its two large oil plays, the Uteland Butte and the Wasatch, bringing

*see* **NEWFIELD FOCUS** *page 13*

● LEGAL COLUMN

# ND's high court denies watermark rehearing

*Parties only option now is to US Supreme Court; flaring suit has first motion to dismiss; joint tenancy issues for spousal grants*

**By JANNELLE STEGER COMBS**
*For Petroleum News Bakken*

The North Dakota Supreme Court denied the petition for rehearing in the Reep, et al. v. State, et al. case on Feb. 24. The previous opinion that the state of North Dakota held title to the minerals under navigable waters within the state to the ordinary high watermark, subject to few exceptions, was not altered. The parties will now have 90 days from Feb. 24 in which to file a petition for a writ of certiorari with the U.S. Supreme Court. If no petition is filed, the decision will be final.

### Flaring suits slowly proceeding

The class action lawsuits filed against several operators, which Petroleum News Bakken reported in the Oct. 27, 2013, issue, is slowly proceeding through the courts. All of the operators, except for Marathon Oil Co., have had their matters removed to the federal district court. Marathon filed an answer on Dec. 2, generally denying the claims of the plaintiffs.

The remaining 13 cases in federal district court have had amended answers filed recently. Only the HRC Operating matter has moved forward into the substantive issues, with a motion to dismiss by the defendant. HRC is the operator of the Miller 157-101-12C-1-1H well in Williams County, which was spud Nov. 16, 2011, and began production in February 2012. First gas sales on the Miller well occurred in July 2012. In its motion to dismiss, HRC lists six reasons why the flaring lawsuit should be dismissed:


JANNELLE STEGER COMBS

- There is no private cause of actions for alleged improper flaring.
- The Environment Act in NDCC 32-40-06 does not create a private cause of action for damages.
- Plaintiffs failed to exhaust administrative remedies.
- The common law claims of conversion and waste are preempted by Chapter 38-08 of the Century Code, which is the exclusive remedy for alleged improper flaring.
- The class action component of their complaints fail because the underlying claims fail as listed in the first four reasons.
- The claims based on flaring during the first year of production fail because HRC complied with the statute and North Dakota Industrial Order No. 18135.

Finally, the motion to dismiss asks that if the matter is not dismissed outright, then it should be stayed while proceedings are held in the North Dakota Industrial Commission, which has primary jurisdiction to determine flaring royalty compensation.

### Joint tenancy confusion

Several non-operating working interest partners who own minerals in North Dakota have been receiving conflicting title opinions regarding joint tenancy in North Dakota. While other oil producing states may allow joint tenancy to be created with the term "husband and wife" added to the grantees' names, it is not the case in North Dakota. North Dakota Century Code 47-02-08 provides that an interest given to more than one party is owned as tenants in common, "unless declared in its creation to be a joint tenancy." Without the joint tenancy language, the spouses own in their own individual names, with either a conveyance out or a probate conveyance needed to clear title. ●

*Contact Jannelle Steger Combs at jannelle@stegerlawoffice.com*

● MOVING HYDROCARBONS

# CP Rail boss talks terrorism potential

*Warns of dangers if US, Canadian governments require railroads to disclose what, when and where they carry dangerous goods*

**By GARY PARK**
*For Petroleum News Bakken*

Canadian Pacific Railway has added the elephant in the closet to the unease over the use of rail to move crude oil and other volatile energy products.

Hunter Harrison, who became chief executive officer at CP Rail after heading a successful turnaround at rival Canadian National Railway, startled the Calgary Chamber of Commerce on Feb. 18 by suggesting there is an element of danger that is even more disturbing than the series of derailments that have caused massive fires and explosions and cost lives in the last eight months.


HUNTER HARRISON

He said trains hauling dangerous goods could become targets for terrorists if word got out about the materials that were being carried.

Harrison said Canadians would be safer if the federal government held back from forcing railroads to disclose the goods on their manifests, along with the timing and routing of those shipments.

"You know what scares me the most out of this?" he asked his audience. "And I hesitate to even mention it. Third-party issues: Have you ever thought about (whether) this information could fall into the hands of the wrong people?

"The Internet is scary. Don't know how to derail a train? Look it up. Don't know how to build a bomb? Look it up.

"One of my worst nightmares ... is terrorists. So if you want that information (on what dangerous goods we railroads are moving) we will give it to you. Be sure you want it and you need it and you're going to act effectively with it."

### Not excited about shipping crude

Otherwise, Harrison called for a ban on DOT111 cars made before 2011 ahead of legislation by the U.S. and Canadian governments.

He said the rail industry knows the facts and knows that the ultimate question is "who will pay" for the changes.

Harrison said he has made his point that CP Rail "will retrofit our fair share of cars. We'll fix the damn tank cars ... and make it a safer Canada."

For now, he said CP Rail has no choice but to move explosive products such as propane and light crude because that is what customers want and as long as regulations allow the shipment of dangerous goods by rail, CP Rail is bound by law to carry products on any government-approved cars and on any route that shippers request.

But he told reporters that CP Rail is "not excited" about moving more crude, partly because the company is uncertain whether that presents a long-term future, or whether crude-by-rail will taper off if more pipelines get built.

"I'm going to do as good a job as I can, as safely as we can, but I am not going out there lobbying to get rules changed and make it easier for crude. It's not my game," Harrison said, noting that crude accounts for less than 5 percent of CP Rail's revenue and even less of its profits, making it one of the lowest-margin sectors.

He said CP Rail is not building up infrastructure to match forecasts that up to 1 million barrels per day of crude will move out of Western Canada.

Harrison said the rail assets typically last 40 years, adding: "Where are fossil fuels going to be in 40 years?"

### Limited XL alternative

Separately, TransCanada Chief Executive Officer Russ Girling made it even clearer in a conference call with analysts that his company sees only limited value in pursuing rail as an alternative to Keystone XL to ship crude from the Alberta oil sands and the Bakken formation to the Texas Gulf Coast.

Girling said rail could help bridge demand until pipelines are built and has become a serious option for shippers, with a number of TransCanada's customers placing orders for rail cars.

"If our customers want us to do that we will," he said. "So we're obviously seriously looking at what services we can provide for them."

Girling noted that rail is a means of moving crude across the Canada-U.S.

*see* **RAIL BOSS** *page 8*

● COMPANY UPDATE

# Three Forks targeted in Stockyard Creek

*Samson Oil and Gas says 8 Three Forks wells to be added at Slawson-operated Williams County project, 16 wells at Rainbow project*

**By STEVE SUTHERLIN**
*For Petroleum News Bakken*

Australian-based Samson Oil and Gas is eyeing the Three Forks formation for a new eight well drilling program on its North Stockyard acreage in Williams County, N.D., Terry Barr, Samson CEO said Feb. 18 in a presentation at Enercom in San Francisco.

The Slawson operated North Stockyard project has so far been targeting the Bakken.

The Three Forks drilling will take place on two centrally located pads, with 7,200-foot laterals drilled to the east and the west, Barr said.

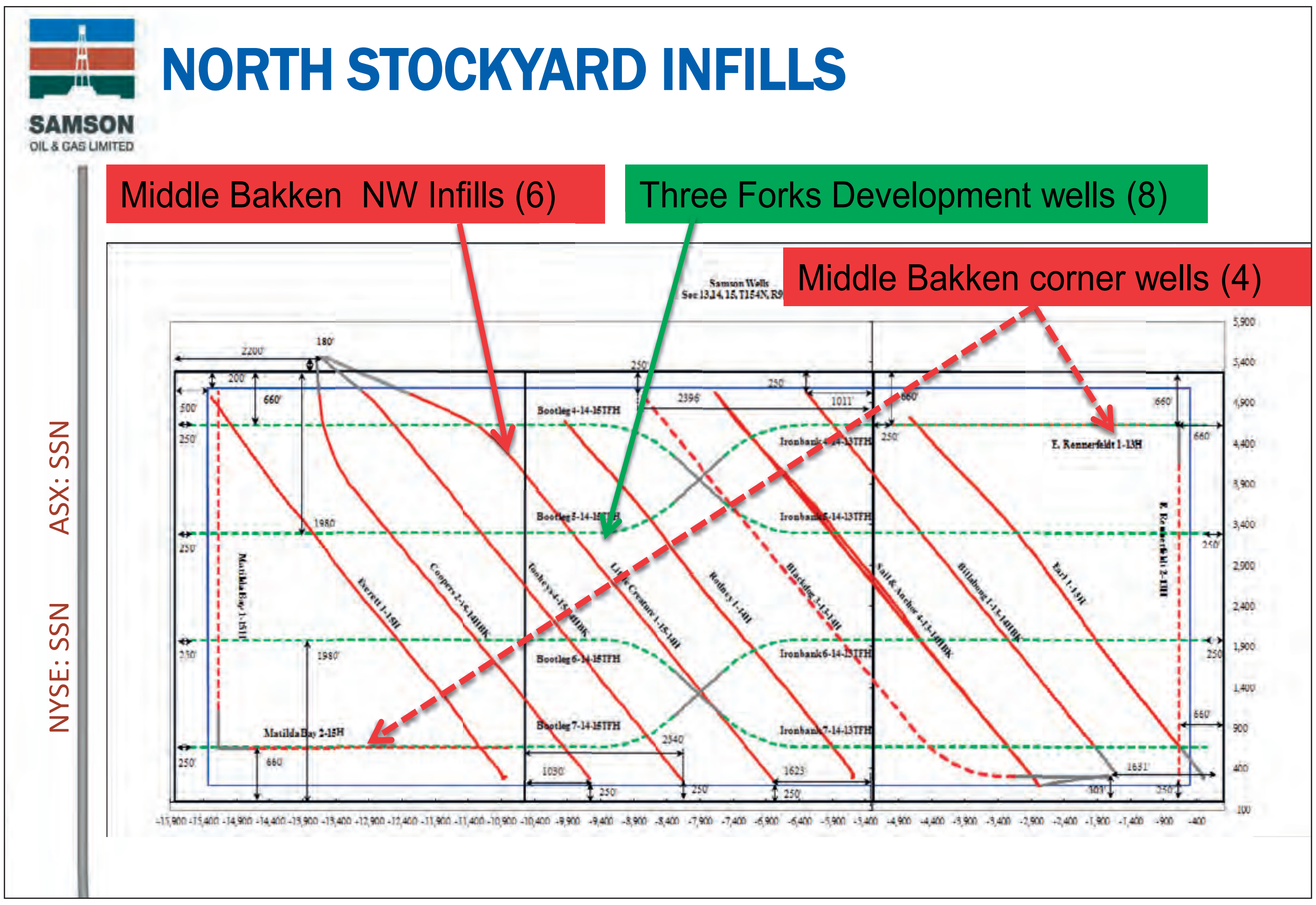
Barr said longer wells will give Three Forks wells the ability to compete with Bakken well production in North Stockyard.

"The longer lateral actually just reflects the slightly inferior rock quality that we see in the Three Forks compared to the Bakken," he said.

"North Stockyard is right in the heart of the Bakken; we have well established production rates in that area; we're drilling up a proved reserve base; we did sell down a part of it to advance development drilling." Barr said. The company took in $5.6 million on the sale.

At North Stockyard, Samson holds a 30 percent operating interest and a 23 percent net revenue interest in seven producing wells. The company has a production rate of 130 barrels of oil equivalent per day, which it expects to increase to 1,200 boepd by June, as infill wells come on line.

"We continue to produce while we are advancing this low risk infill development on North Stockyard to be followed by Rainbow," Barr said.




## Rainbow

One township north from North Stockyard, Samson is targeting a June spud date for its first Continental operated well in the Rainbow project, Barr said, adding that the companies are pursuing a permit transfer to Continental.

Sixteen wells are planned at Rainbow, with eight wells targeting the middle Bakken and eight wells targeting the first bench of the Three Forks, he said. The company's short-term objective is to drill one Bakken well and one Three Forks well.

Samson has two spacing units in 2,560 gross acres at Rainbow, with a 23 percent equity in the Continental operated unit, and a 53 percent equity in the second unit to be drilled later, Barr said.

One of Samson's longer term objectives is to sell part of its interest in Rainbow.

As the Rainbow wells come on line in February 2015, Samson expects its production to climb to 1,500 boepd, riding a predicted production surge in October from Three Forks wells at North Stockyard.

Samson expects its production to surge well above 2,000 boepd in 2016 as higher equity Rainbow wells come on line.

"We will see Samson's production growth over the course of the next two years grow quite healthily from this investment in both North Stockyard and Rainbow," Barr said.

The company's production growth line shows a decline in the second half of 2016 due to well depletion, Barr said, but the curve does not reflect future additions of acreage to the company's holdings.

"We would expect to add acreage to our portfolio in this area and that growth will continue, it's just that we don't have any more acres at this point and therefore haven't put anything on this particular production growth graph," he said.

Samson estimates that its proved production reserves growth, net to the company will rise above 1 million boe in late 2014, from a level below 500,000 boe in January, Barr said. In early 2016, the company expects its proved production reserves to rise above 2 million boe, and to approach 3 million boe later in the year.

"This will be the basis of our borrowing base," Barr said. As we develop these wells they will go into the borrowing base in terms of our reserves and we expect to be able to finance this drilling program through that facility."

## North Stockyard ops

Samson said in a Feb. 18 operations update that drilling on the Rennerfeldt 2-13-HBK well is completed and a 3,700 foot cemented liner was placed in the Middle Bakken reservoir.

On the Rennerfeldt 1-13-H, the Frontier rig 24 is drilling a 3,600 foot lateral in the Middle Bakken at a depth of 13,817, the company said. The Rennerfeldt wells will be fracked simultaneously.

A preparatory work-over on the Blackdog 3-13-14H well has been completed and the well is ready for fracture stimulation, with the first frack zone perforated, Samson said. The fracture stimulation is scheduled for Feb. 24.

Production was curtailed on the Coopers 2-15-14HBK well for seven days due to flow lines and production equipment being frozen, Samson said. The well is now back on production.●

*Contact Steve Sutherlin at stevepna@hotmail.com*



*continued from page 7*

## RAIL BOSS

border while bypassing the need for a Presidential Permit to build a cross-border pipeline.

He said Baker, Mont., is a "logical place" to build rail facilities to ship Bakken crude south, east or west.

But, despite his frustrations with delays imposed on Keystone XL, he made it clear TransCanada has no intention of walking away from the $2 billion it has invested so far in the pipeline, especially while contracted shippers remain 100 percent committed to the pipeline (see related story on page 1).●

*Contact Gary Park through publisher@petroleumnews.com*

# BAKKEN Stats

## MONTANA ACTIVITY

### Montana well permits and completions February 14—20, 2014

#### Expired permits

In Richland County, the permits for two Slawson Exploration Company Inc. wells expired: the Highwayman 1-30H, at SE SE 30-24N-52E (375 FSL/742 FEL) and the Scabbard 1-34H, at SW SW 34-22N-58E (300 FSL/1145 FWL). Both wells were permitted to the Bakken formation.

*Editor's note: Darryl L. Flowers, a contributor to Petroleum News Bakken, is the publisher of the Fairfield Sun Times in Fairfield, Mont., www.fairfieldsuntimes.com, and can be reached at publisher@fairfieldsuntimes.com. The information is derived from the online records of the Montana Board of Oil & Gas Conservation Commission.*

—COMPILED BY DARRYL L. FLOWERS

## North Dakota well operator transfers

### January 17 – February 21, 2014

**LEGEND**
Date of well operator transfer
Well(s) transferred from
Well(s) transferred to
NDIC well file number — well name — well type — geological target — field —
IP (initial production) test date — IP oil rate in barrels — location — county

**February 4, 2014**
**From: Sequel Energy, LLC**
**To: Enduro Operating, LLC**
**#14992** - Davis-Choctaw Cross 24-32; vertical; Red River; Moline; 3/31/2001; 307 bbl; E2SW 32-149N-102W; McKenzie Co.

**February 20, 2014**
**From: Sundance Energy, Inc.**
**To: Tracker Resource Development III, LLC**
**#17197** - Chase 21-30H; horizontal; Spotted Horn; Bakken; 11/15/2008; 284 bbl; NENW 30-150N-94W; McKenzie Co.

**From: Chesapeake Operating, Inc.**
**To: Williston Exploration, LLC**
**#22223** – Hutzenbiler 9-137-99 A 1H; horizontal; Madison; Wildcat; 6/14/2012; 0 bbl; SWSW 9-137N-99W; Stark Co.

—Compiled by Ashley Lindly

## Looking for a rig report?

**North Dakota**
The best list for North Dakota is updated daily by the North Dakota Oil and Gas Division at **www.dmr.nd.gov/oilgas/riglist.asp**

**Saskatchewan**
Weekly drilling activity report from the government of Saskatchewan:
**www.economy.gov.sk.ca/Daily-Well-Bulletin-Weekly-Drilling-Reports**

**Manitoba**
Weekly drilling activity report from the government of Manitoba:
**www.manitoba.ca/iem/petroleum/wwar/index.html**


PHOTO COURTESY CONTINENTAL RESOURCES

## BAKKEN STATS COMMENTARY

### Continental tops MT's Bakken production

In December, Continental Resources was once again Montana's largest Bakken oil producer averaging 17,030 barrels per day from Elm Coulee and Elm Coulee Northeast production in Richland and Roosevelt counties (see page 10). For the month, Continental produced 510,896 barrels, 92 percent of which was Bakken formation production from the Elm Coulee field in Richland County. The remaining 8 percent came from Bakken and Three Forks wells in the Elm Coulee Northeast field in both Richland and Roosevelt counties.

Oasis Petroleum was a somewhat distant second averaging 6,952 bpd, with all but a small fraction from Bakken and Three Forks wells in the Elm Coulee Northeast field. Virtually all of Enerplus Resources' production came from Bakken wells in the Elm Coulee field, while Whiting's December production came almost entirely from both Bakken and Three Forks wells in the Elm Coulee Northeast field.

#### XTO tops the weeks IP list

ExxonMobil subsidiary XTO Energy came in with the week's highest 24-hour initial production, IP, well in North Dakota at 3,264 barrels from a well in the Blue Buttes field in northeastern McKenzie County. Other Top 10 IPs for the week ranged from 1,810 to 2,880 barrels. Five of those nine wells are also in McKenzie County in the Charlson, Bear Den, Pembroke and Lonesome fields in the central, eastern and northeastern region of the county. Two other Top 10 wells are in the Parshall field in southern Mountrail County, and one is in the Murphy Creek field in central Dunn County. Operators of those wells are ConocoPhillips subsidiary Burlington Resources, Newfield Production, Kodiak Oil and Gas, Whiting Oil and Gas, Marathon Oil and EOG Resources.

#### Burlington issued 12 ND well permits

McKenzie County had the most new drilling permits issued between Feb. 18 and 24 with 19, 12 of which were issued to Burlington Resources with three others to Newfield Production, two to QEP Energy, and one each to WPX Energy and Williston-based BOH Inc. In Williams County, 14 permits were issued with nine of those to Oasis Petroleum, three to Statoil and two to Hunt Oil. Other new permits were issued in Divide (five), Bottineau (four), Dunn (four), Mountrail (two) and Renville (two) counties.

Four permits were reissued in Dunn County, two to Enerplus Resources, one to Oxy USA and one to Slawson Exploration. Three permits were renewed in Williams County, two to Texakota Inc. and one to Crescent Point Energy.

Location resurveys were issued in McKenzie County to Halcon subsidiary HRC Operating (three), QEP Energy (five) and WPX Energy Williston (one).

—MIKE ELLERD

## Bakken producers' stock prices

*Closing prices as of Feb.26 along with those from previous Wednesday*

| Company | Exchange | Symbol | Closing price | Previous Wed. |
|---|---|---|---|---|
| Abraxas Petroleum Corporation | NASDAQ | AXAS | $3.35 | $3.28 |
| American Eagle Energy Corporation | OTC | AMZG | $1.85 | $1.82 |
| Arsenal Energy USA, Inc. | TSE | AEI | $5.33 | $5.20 |
| Baytex Energy USA Ltd | NYSE | BTE | $36.32 | $36.89 |
| Burlington Resources Co., LP (ConocoPhillips) | NYSE | COP | $66.13 | $65.00 |
| Continental Resources, Inc. | NYSE | CLR | $120.58 | $116.86 |
| Crescent Point Energy US Corporation | TSE | CPG | $38.76 | $38.68 |
| Denbury Onshore, LLC | NYSE | DNR | $16.29 | $15.78 |
| Emerald Oil, Inc. | NYSEMKT | EOX | $7.45 | $7.51 |
| Enerplus Resources USA Corporation | NYSE | ERF | $19.73 | $19.86 |
| EOG Resources, Inc. | NYSE | EOG | $186.44 | $178.68 |
| Fidelity Exploration & Production (MDU) | NYSE | MDU | $34.40 | $34.47 |
| Halcon Resources | NYSE | HK | $3.86 | $3.70 |
| Hess Corporation | NYSE | HES | $79.32 | $80.71 |
| Kodiak Oil and Gas (USA), Inc. | NYSE | KOG | $11.46 | $11.70 |
| Legacy Reserves Operating LP | NASDAQ | LGCY | $26.70 | $27.41 |
| Marathon Oil Company | NYSE | MRO | $33.77 | $33.34 |
| Mountain Divide, LLC (Mountainview Energy) | CVE | MVW.V | $0.47 | $0.46 |
| Newfield Production Company | NYSE | NFX | $27.54 | $25.72 |
| Northern Oil and Gas | NYSE | NOG | $15.71 | $15.57 |
| Oasis Petroleum North America | NYSE | OAS | $42.12 | $42.40 |
| Oxy USA, Inc. (Occidental Petroleum) | NYSE | OXY | $95.20 | $94.94 |
| PetroShale Inc. | CVE | PSH | $1.32 | $1.35 |
| QEP Energy Company | NYSE | QEP | $28.81 | $32.01 |
| Resolute Natural Resources Company, LLC | NYSE | REN | $9.12 | $8.96 |
| Samson Resources Company (KKR & Co) | NYSE | KKR | $23.82 | $23.95 |
| SM Energy Company | NYSE | SM | $72.07 | $74.30 |
| Statoil Oil and Gas LP | NYSE | STO | $26.26 | $26.41 |
| Triangle USA Petroleum Corporation | NYSE | TPLM | $8.69 | $8.42 |
| Whiting Oil and Gas Corporation | NYSE | WLL | $62.88 | $61.35 |
| WPX Energy Williston, LLC | NYSE | WPX | $17.54 | $17.67 |
| XTO Energy, Inc. (ExxonMobil) | NYSE | XOM | $95.96 | $93.95 |

# Montana Bakken oil production by company

## *December 2013*

The information below is derived from State of Montana production reports and separated out by company. Note this is oil produced by wells operated by these companies; it does not identify the percentage of Bakken petroleum system oil such as Three Forks, Bakken, Pronghorn, etc. that is actually owned by the company, so it might differ from what each company reports. It also does not include oil production from wells operated by others, in which these companies might hold an interest, or wells currently on confidential status. The daily average was derived from dividing the total production by the number of days in December, excluding production from wells on confidential status and rounded to the nearest whole. Note: Abraxas, Armstrong, Charger Resources, Marathon, MBI Oil and Gas, McRae and Henry, Mountain Pacific, Panther Energy, Samson Oil and Gas USA Montana, Samson Resources, and TAQA North had not yet filed their December production information, so their November production is shown, as noted.

The operator names used in this report are as they appear in State of Montana records, even though some of the companies or their Bakken system assets might have been purchased by other companies. When that is the case, the current owner's name is in parenthesis behind the owner of record. If any current owners are missing, please contact Ashley Lindly at alindly@petroleumnewsbakken.com.

**LEGEND**
Field – county – pool – barrels of oil per month
Daily average in barrels of oil

**Top 5 Montana Bakken oil producers**
**December 2013**

| | |
|---|---|
| Continental Resources | 17,030 bpd |
| Oasis Petroleum | 6,952 bpd |
| XTO Energy (ExxonMobil) | 5,628 bpd |
| Enerplus Resources | 5,225 bpd |
| Whiting Oil and Gas | 3,335 bpd |

**Abraxas Petroleum (November 2013)**

| | |
|---|---|
| Elm Coulee – Richland – Bakken | 97 |
| Lane – Richland – Bakken | 0 |
| Sidney – Richland – Bakken | 0 |
| Daily average: | 3 |

**Armstrong Operating (November 2013)**

| | |
|---|---|
| Elm Coulee – Richland – Bakken | 802 |
| Daily average: | 27 |

**Charger Resources (November 2013)**

| | |
|---|---|
| Elm Coulee – Richland – Bakken | 2008 |
| Daily average: | 67 |

**Continental Resources**

| | |
|---|---|
| Elm Coulee – Richland – Bakken | 471,841 |
| Elm Coulee, Northeast – Richland – Bakken | 16,016 |
| Elm Coulee, Northeast – Roosevelt – Bakken | 22,666 |
| Elm Coulee, Northeast – Richland – Three Forks | 373 |
| Wildcat Richland – Richland – Bakken | 0 |
| Monthly total: | 510,896 |
| Daily average: | 17,030 |

**Denbury Onshore**

| | |
|---|---|
| Lookout Butte – Fallon – Lodgepole | 115 |
| Lookout Butte, East, Unit – Fallon – Lodgepole | 0 |
| Daily average: | 4 |

**Earthstone Energy**

| | |
|---|---|
| Spring Lake, West – Richland – Bakken | 0 |
| Vaux – Richland – Madison, Bakken | 335 |
| Daily average: | 11 |

**Enerplus Resources USA**

| | |
|---|---|
| Charlie Creek – Richland – Bakken | 160 |
| Elm Coulee – Richland – Bakken | 155,592 |
| Epworth – Richland – Bakken | 148 |
| Girard – Richland – Bakken | 63 |
| Mustang – Richland – Bakken | 376 |
| Putnam – Richland – Bakken | 0 |
| Spring Lake – Richland – Bakken | 285 |
| Three Buttes – Richland – Bakken | 131 |
| Monthly total: | 156,755 |
| Daily average: | 5,225 |

**EOG Resources**

| | |
|---|---|
| Elm Coulee – Richland – Bakken | 23,939 |
| Elm Coulee, Northeast – Roosevelt – Bakken | 46,247 |
| Wildcat Richland – Richland – Bakken | 0 |
| Monthly total: | 70,186 |
| Daily average: | 2,340 |

**Fidelity Exploration and Production (MDU)**

| | |
|---|---|
| Elm Coulee – Richland – Bakken | 2,463 |
| Elm Coulee – Richland – Three Forks | 298 |
| Monthly total: | 2,761 |
| Daily average: | 92 |

**Marathon Oil (November 2013)**

| | |
|---|---|
| Elm Coulee, Northeast – Sheridan – Bakken | 5,436 |
| Elm Coulee, Northeast – Sheridan – Three Forks | 1,581 |
| Monthly total: | 7,017 |
| Daily average: | 234 |

**MBI Oil and Gas (November 2013)**

| | |
|---|---|
| Elm Coulee, Northeast – Richland – Bakken | 735 |
| Daily average: | 25 |

**McRae and Henry (November 2013)**

| | |
|---|---|
| Outlook – Sheridan – Mission Canyon, Bakken | 0 |
| Outlook – Sheridan – Nisku, Bakken | 319 |
| Daily average: | 11 |

**Mountain Pacific General (November 2013)**

| | |
|---|---|
| Two Waters – Richland – Bakken | 0 |

Murex Petroleum

| | |
|---|---|
| Girard – Richland – Bakken | 33 |
| Daily average: | 1 |

**Newfield Production Company**

| | |
|---|---|
| Elm Coulee – Richland – Bakken | 21,539 |
| Daily average: | 718 |

**Oasis Petroleum North America**

| | |
|---|---|
| Elm Coulee – Richland – Bakken | 282 |
| Elm Coulee, Northeast – Richland – Bakken | 51,255 |
| Elm Coulee, Northeast – Roosevelt – Bakken | 153,330 |
| Elm Coulee, Northeast – Roosevelt – Three Forks | 3,680 |
| Monthly total: | 208,547 |
| Daily average: | 6952 |

**Panther Energy (November 2013)**

| | |
|---|---|
| Elm Coulee, Northeast – Richland – Bakken | 238 |
| Daily average: | 8 |

**Samson Oil and Gas USA Montana (November 2013)**

| | |
|---|---|
| Elm Coulee, Northeast – Roosevelt – Bakken | 0 |

**Samson Resources (KKR & Co.) (November 2013)**

| | |
|---|---|
| Elm Coulee, Northeast – Sheridan – Bakken | 687 |
| Elm Coulee, Northeast – Sheridan – Three Forks | 759 |
| Monthly total: | 1,446 |
| Daily average: | 48 |

**Sinclair Oil and Gas**

| | |
|---|---|
| Elm Coulee – Richland – Bakken | 659 |
| Elm Coulee, Northeast – Sheridan – Bakken | 1,978 |
| Monthly total: | 2,637 |
| Daily average: | 88 |

**Slawson Exploration**

| | |
|---|---|
| Elm Coulee – Richland – Bakken | 57,905 |
| Elm Coulee –Richland – Lodgepole | 552 |
| Elm Coulee, Northeast – Roosevelt – Bakken | 6,481 |
| Monthly total: | 64,938 |
| Daily average: | 2,165 |

**SM Energy**

| | |
|---|---|
| Brorson – Richland – Mission Canyon, Bakken | 379 |
| Brorson, South – Richland – Bakken | 0 |
| Brorson, South – Richland – Mission Canyon, Bakken | 815 |
| Elm Coulee – Richland – Bakken | 22,979 |
| Mustang – Richland – Bakken | 102 |
| Putnam – Richland – Mission Canyon, Bakken | 154 |
| Vaux – Richland – Mission Canyon, Bakken | 506 |
| Monthly total: | 24,935 |
| Daily average: | 831 |

**TAQA North USA (November 2013)**

| | |
|---|---|
| Flat Lake – Sheridan – Bakken | 24,345 |
| Johnson Lake – Sheridan – Bakken | 0 |
| Monthly total: | 24,345 |
| Daily Average: | 812 |

**True Oil**

| | |
|---|---|
| Elm Coulee, Northeast – Richland – Bakken | 1,137 |
| Daily average: | 38 |

**Vaalco Energy (USA)**

| | |
|---|---|
| Salt Lake – Sheridan – Bakken | 0 |
| Wildcat Sheridan – Sheridan – Bakken | 0 |

**Whiting Oil and Gas**

| | |
|---|---|
| Elm Coulee – Richland – Bakken | 193 |
| Elm Coulee, Northeast – Richland – Bakken | 94,642 |
| Elm Coulee, Northeast – Richland – Three Forks | 1,828 |
| Elm Coulee, Northeast – Roosevelt – Bakken | 1,726 |
| Elm Coulee, Northeast – Roosevelt – Three Forks | 985 |
| Elm Coulee, Northeast – Sheridan – Three Forks | 675 |
| Monthly total: | 100,049 |
| Daily average: | 3,335 |

**XTO Energy (ExxonMobil)**

| | |
|---|---|
| Elm Coulee – Richland – Bakken | 161,834 |
| Elm Coulee – Richland – Bakken | 6,999 |
| Monthly total: | 168,833 |
| Daily average: | 5,628 |

—Compiled by Ashley Lindly

*Contact Ashley Lindly at alindly@petroleumnewsbakken.com*

# North Dakota oil permit activity

*February 18—24, 2014*

**LEGEND**

The county name is on the upper line, the type of permit issued is on the second line, and company names are next, followed by individual wells with data in this order: well name; location; footages; field; geological target; well bore type; elevation; NDIC file number; API number; date permit shows on NDIC website.

**Abbreviations**

Following are the abbreviations used in the report and what they mean:

FNL = From North Line | FEL = From East Line

FSL = From South Line | FWL = From West Line

## Bottineau Co.

### Permits issued

**Ballantyne Oil**

**Sagsveen 8-21**; SENE 21-159N-83W; 2,100'FNL and 700'FEL; Spring Coulee; Madison; vertical; 1,625' ground; 27720; 33-009-02365; 2/20/2014

**Ballard Petroleum Holdings**

**Drovdal 13-2**; NWSW 2-160N-81W; 2,135'FSL and 660'FWL; Wildcat; N/A; on confidential status; 1,496' ground; 27704; 33-009-02363; 2/19/2014

**Middaugh 33-23**; NWSW 2-160N-81W; 1,980'FSL and 1,830'FWL; Wildcat; N/A; on confidential status; 1,495' ground; 27703; 33-009-02362; 2/19/2014

**Corinthian Exploration**

**Corinthian Backman 12-35 3-H**; NWSW 35-164N-77W; 2,130'FSL and 800'FWL; North Souris; N/A**; on confidential status; 1,688' ground; 27717; 33-009-02364; 2/20/2014

### Geophysical permit issued

**Tesla Exploration**

**Kuroki 2-D 2014**; 163-80; Bottineau Co. 4 in.mi.; 2/19/2014

## Divide Co.

### Permits issued

**Hunt Oil**

**Alexandria 161-100-32-29H-1**; SWSE 32-161N-100W; 208'FSL and 1,980'FEL; Alexandria; N/A*; on confidential status; 2,213' ground; 27725; 33-023-01169; 2/21/2014

**SM Energy**

**Almos Farms 1-26HN**; NENE 26-163N-100W; 272'FNL and 271'FEL; West Ambrose; N/A*; on confidential status; 2,177' ground; 27721; 33-023-01165; 2/21/2014

**Almos Farms 1B-26HN**; NENE 26-163N-100W; 322'FNL and 271'FEL; West Ambrose; N/A*; on confidential status; 2,177' ground; 27722; 33-023-01166; 2/21/2014

**Almos Farms 1-26HS**; NENE 26-163N-100W; 372'FNL and 271'FEL; West Ambrose; N/A*; on confidential status; 2,175' ground; 27723; 33-023-01167; 2/21/2014

**Almos Farms 1B-26HS**; NENE 26-163N-100W; 422'FNL and 271'FEL; West Ambrose; N/A*; on confidential status; 2,177' ground; 27724; 33-023-01168; 2/21/2014

### Permits cancelled

**Baytex Energy**

**Thvedt 24-13-160-98H 1PB**; SWSE 24-160N-98W; 250'FSL and 2,245'FEL; Skabo; Bakken; horizontal; 2,332' ground; 24522; 33-023-00959; 2/18/2014

## Dunn Co.

### Permits issued

**Marathon Oil**

**Dave Stroh 34-11TFH**; SESE 11-145N-95W; 608'FSL and 910'FEL; Killdeer; N/A*; on confidential status; 2,299' ground; 27739; 33-025-02469; 2/24/2014

**WPX Energy**

**Independence 2-35 HI**; NWNE 11-149N-93W; 565'FNL and 1,699'FEL; Mandaree; N/A*; on confidential status; 2,236' ground; 27711; 33-025-02468; 2/19/2014

**XTO Energy (Exxon Mobil)**

**Brandvik 24X-13E2**; SESW 13-147N-96W; 300'FSL and 1,495'FWL; Corral Creek; N/A*; on confidential status; 2,535' ground; 27740; 33-025-02470; 2/24/2014

**Brandvik Federal 24X-13F**; SESW 13-147N-96W; 300'FSL and 1,555'FWL; Corral Creek; N/A*; on confidential status; 2,533' ground; 27741; 33-025-02471; 2/24/2014

### Permits renewed

**Enerplus Resources**

**Carp 148-93-15A-16H**; SWNW 14-148N-93W; 2,601'FNL and 503'FWL; South Fork; N/A*; on confidential status; 1,897' ground; 22472; 33-025-01637; 2/24/2014

**Beans 148-93-14B-13H**; SWNW 14-148N-93W; 2,501'FNL and 330'FWL; South Fork; N/A*; on confidential status; 1,896' ground; 22473; 33-025-01638; 2/24/2014

**Oxy USA (Occidental Petroleum)**

**Eddy Dvorak 1-14-23H-142-95**; SWSE 11-142N-95W; 350'FSL and 1,470'FEL; Murphy Creek; Bakken; horizontal; 2,251' ground; 22449; 33-025-01628; 2/20/2014

**Slawson Exploration**

**Drone 2-34-27H**; SWSW 34-145N-93W; 325'FSL and 550'FWL; Saxon; N/A*; on confidential status; 2,229' ground; 22437; 33-025-01622; 2/20/2014

## McKenzie Co.

### Permits issued

**BOH**

**State SWD #1**; LOT 3 36-149N-95W; 1,395'FSL and 1,524'FWL; Eagle Nest; N/A*; on confidential status; 2,492' ground; 90305; 33-053-90305; 2/21/2014

**Burlington Resources Oil and Gas (ConocoPhillips)**

**Bullrush 14-10TFH**; SWSW 10-151N-97W; 239'FSL and 802'FWL; Elidah; N/A*; on confidential status; 2,373' ground; 27716; 33-053-05701; 2/19/2014

**Haymaker 21-15MBH**; NENW 15-151N-97W; 314'FNL and 2,145'FWL; Elidah; N/A*; on confidential status; 2,335' ground; 27701; 33-053-05693; 2/18/2014

**Haymaker 31-15MBH-A**; NENW 15-151N-97W; 294'FNL and 2,233'FWL; Elidah; N/A*; on confidential status; 2,326' ground; 27699; 33-053-05691; 2/18/2014

**Haymaker 31-15MBH-B**; NENW 15-151N-97W; 231'FNL and 2,521'FWL; Elidah; N/A*; on confidential status; 2,309' ground; 27697; 33-053-05689; 2/18/2014

**Haymaker 31-15TFH-A**; NENW 15-151N-97W; 304'FNL and 2,189'FWL; Elidah; N/A*; on confidential status; 2,331' ground; 27700; 33-053-05692; 2/18/2014

**Haymaker 31-15TFH-B**; NENW 15-151N-97W; 240'FNL and 2,477'FWL; Elidah; N/A*; on confidential status; 2,312' ground; 27698; 33-053-05690; 2/18/2014

**Haymaker 41-15TFH-A**; NENW 15-151N-97W; 221'FNL and 2,565'FWL; Elidah; N/A*; on confidential status; 2,304' ground; 27696; 33-053-05688; 2/18/2014

**Haymaker 44-22MBH-A**; SESE 22-151N-97W; 310'FNL and 481'FEL; Elidah; N/A*; on confidential status; 2,380' ground; 27706; 33-053-05696; 2/19/2014

**Haymaker 44-22MBH-B**; SESE 22-151N-97W; 310'FNL and 391'FEL; Elidah; N/A*; on confidential status; 2,394' ground; 27708; 33-053-05698; 2/19/2014

**Haymaker 44-22TFH-B**; SESE 22-151N-97W; 310'FNL and 436'FEL; Elidah; N/A*; on confidential status; 2,387' ground; 27707; 33-053-05697; 2/19/2014

**Haydon 44-22TFH-ULW**; SESE 22-151N-97W; 310'FSL and 346'FEL; Elidah; N/A*; on confidential status; 2,397' ground; 27709; 33-053-05699; 2/19/2014

**Siverston Rush 14-10MBH ULW**; SWSW 10-151N-97W; 239'FSL and 757'FWL; Elidah; N/A*; on confidential status; 2,372' ground; 27715; 33-053-05700; 2/19/2014

**Newfield Production**

**Fleck 150-100-12-1-2H**; SESW 12-150N-100W; 400'FSL and 2,273'FWL; Sandrocks; N/A*; on confidential status; 2,330' ground; 27733; 33-053-05705; 2/24/2014

**Fleck 150-100-12-1-3H**; SESW 12-150N-100W; 400'FSL and 2,318'FWL; Sandrocks; N/A*; on confidential status; 2,329' ground; 27732; 33-053-05704; 2/24/2014

**Fleck 150-100-12-1-4H**; SESW 12-150N-100W; 400'FSL and 2,363'FWL; Sandrocks; N/A*; on confidential status; 2,329' ground; 27731; 33-053-05703; 2/24/2014

**QEP Energy**

**Kirkland 22-15-23-14LL**; SWSW 23-149N-95W; 286'FSL and 1,175'FWL; Grail; Bakken; horizontal; 2,303' ground; 27705; 33-053-05695; 2/19/2014

**Otis 28-29-32-33LL**; SESW 21-150N-95W; 462'FSL and 1,395'FWL; Grail; Bakken; horizontal; 2,332' ground; 27702; 33-053-05694; 2/18/2014

**WPX Energy**

**Ruby 31-30HX**; SESW 31-151N-94W; 313'FSL and 1,898'FWL; Antelope; N/A**; on confidential status; 2,241' ground; 27728; 33-053-05702; 2/21/2014

### Permits cancelled

**Hess**

**HA-Swenson Observation 18-4**; NWSE 18-152N-95W; 1,690'FSL and 1,240'FWL; Hawkeye; N/A*; on confidential status; 2,395' ground; 22420; 33-053-03992; 2/19/2014

### Location resurveyed

**HRC Operating (Halcon Resources)**

**Fort Berthold 152-94-24D-013-5H**; SWSE 24-152N-94W; 470'FSL and 2,000'FEL; Antelope; N/A**; on confidential status; 2,056' ground; 26798; 33-053-05405; 2/21/2014

**Fort Berthold 152-94-24D-13-6H**; SWSE 24-152N-94W; 450'FSL and 1,977'FEL; Antelope; N/A**; on confidential status; 2,057' ground; 26797; 33-053-05404; 2/21/2014

**Fort Berthold 152-94-24D-13-7H**; SWSE 24-152N-94W; 430'FSL and 1,955'FEL; Antelope; N/A**; on confidential status; 2,057' ground; 26796; 33-053-05403; 2/21/2014

**QEP Energy**

**Kirkland 2-23-14TH**; SWSW 23-149N-95W; 287'FSL and 1,281'FWL; Grail; Bakken; horizontal; 2,303' ground; 27144; 33-053-05526; 2/21/2014

**Kirkland 3-23-14BH**; SWSW 23-149N-95W; 287'FSL and 1,256'FWL; Grail; Bakken; horizontal; 2,303' ground; 27146; 33-053-05528; 2/24/2014

**Kirkland 4-23-14BH**; SWSW 23-149N-95W; 287'FSL and 1,206'FWL; Grail; Bakken; horizontal; 2,303' ground; 27145; 33-053-05527; 2/24/2014

**Kirkland 22-15-23-14LL**; SWSW 23-149N-95W; 287'FSL and 1,181'FWL; Grail; Bakken; horizontal; 2,303' ground; 27705; 33-053-05695; 2/24/2014

**Otis 4-28-33BHR**; SESW 21-150N-95W; 462'FSL and 1,420'FWL; Grail; Bakken; horizontal; 2,332' ground; 26580; 33-053-05424; 2/18/2014

**WPX Energy Williston**

**Ruby 31-30HA**; SESW 31-151N-94W; 314'FSL and 1,848'FWL; Antelope; N/A**; on confidential status; 2,240' ground; 23481; 33-053-04283; 2/20/2014

## Mountrail Co.

### Permits issued

**BOH**

**Ruud SWD #1**; NENW 26-154N-93W; 308'FNL and 2,245'FWL; Robinson Lake; N/A*; on confidential status; 2,303' ground; 90304; 33-061-90304; 2/20/2014

**Whiting Oil and Gas**

**Littlefield 11-34H**; NWNW 34-154N-91W; 725'FNL and 435'FWL; Sanish; Bakken; horizontal; 2,349' ground; 27710; 33-061-02977; 2/19/2014

## Renville Co.

### Geophysical permit issued

**Geokinetics USA**

**North Fram 2-D**; 162-84, 85, 86; 163-84, 86; Renville Co.; 32.95 in.mi.; 2/20/2014

**South Fram 2-D**; 159-86, 87; 160-85, 86, 87; 161-86; Renville, Ward Co.; 52.86 in.mi.; 2/20/2014

## Williams Co.

### Permits issued

**Hunt Oil**

**Scorio 159-101-11-2H-1**; SWSE 11-159N-101W; 208'FSL and 1,875'FEL; Zahl; N/A*; on confidential status; 2,087' ground; 27727; 33-105-03428; 2/21/2014

**Scorio 159-101-14-23H-1**; SWSE 11-159N-101W; 208'FSL and 1,980'FEL; Zahl; N/A*; on confidential status; 2,087' ground; 27726; 33-105-03427; 2/21/2014

**Oasis Petroleum North America**

**Holmes 5501 12-5 4B**; LOT3 5-155N-101W; 385'FNL and 2,161'FWL; Tyrone; Bakken; horizontal; 2,270' ground; 27730; 33-105-03430; 2/21/2014

**Holmes 5501 12-5 5T**; LOT3 5-155N-101W; 398'FNL and 2,226'FWL; Tyrone; Bakken; horizontal; 2,269' ground; 27729; 33-105-03429; 2/21/2014

**McCauley 5601 41-34 4B**; SWSW 34-156N-101W; 255'FSL and 1,280'FWL; Tyrone; Bakken; horizontal; 2,053' ground; 27734; 33-105-03431; 2/24/2014

**McCauley 5601 41-34 5T**; SWSW 34-156N-101W; 255'FSL and 1,230'FWL; Tyrone; Bakken; horizontal; 2,054' ground; 27735; 33-105-03432; 2/24/2014

**McCauley 5601 41-34 6B**; SWSW 34-156N-101W; 255'FSL and 1,180'FWL; Tyrone; Bakken; horizontal; 2,056' ground; 27736; 33-105-03433; 2/24/2014

**Montague 5601 41-34 6T**; SWSW 34-156N-101W; 255'FSL and 1,130'FWL; Cow Creek; Bakken; horizontal; 2,057' ground; 27737; 33105-03434; 2/24/2014

**Montague 5601 41-34 7B**; SWSW 34-156N-101W; 255'FSL and 1,080'FWL; Cow Creek; Bakken; horizontal; 2,059' ground; 27738; 33105-03435; 2/24/2014

**Shepherd 5501 12-5 2B**; LOT3 5-155N-101W; 392'FNL and 2,193'FWL; Missouri Ridge; Bakken; horizontal; 2,270' ground; 27719; 33-105-03426; 2/20/2014

**Shepherd 5501 12-5 3B**; LOT3 5-155N-101W; 405'FNL and 2,258'FWL; Missouri Ridge; Bakken; horizontal; 2,269' ground; 27718; 33-105-03425; 2/20/2014

**Statoil Oil and Gas**

**Syverson 1-12 #5TFH**; LOT1 1-155N-100W; 320'FNL and 380'FEL; Stony Creek; N/A*; on confidential status; 2,272' ground; 27714; 33-105-03424; 2/19/2014

**Syverson 1-12 #6H**; LOT1 1-155N-100W; 320'FNL and 350'FEL; Stony Creek; N/A*; on confidential status; 2,272' ground; 27713; 33-105-03423; 2/19/2014

**Syverson 1-12 #7TFH**; LOT1 1-155N-100W; 320'FNL and 320'FEL; Stony Creek; N/A*; on confidential status; 2,271' ground; 27712; 33-105-03422; 2/19/2014

### Permits renewed

**Crescent Point Energy**

**CPEUSC Dressler 36-25-158N-100W**; SWSE 36-158N-100W; 250'FSL and 1,950'FEL; Dublin; N/A*; on confidential status; 2,171' ground; 25055; 33-105-03008; 2/24/2014

**Texakota**

**H. Borstad 3-6**; SWNW 3-157N-95W; 2,054'FNL and 600'FWL; West Tioga; N/A*; on confidential status; 2,484' ground; 18036; 33-105-01716; 2/20/2014

**Hemsing 3**; NENE 9-157N-95W; 600'FNL and 900'FWL; West Tioga; N/A*; on confidential status; 2,446' ground; 18037; 33-105-01717; 2/20/2014

### Geophysical permit issued

**Microseismic**

**Kodiak Scanlan West Extension 153-98,99**; 154-98; Williams Co.; 2/18/2014

**Note - The geologic target for these wells was not listed in its well file because they are tight (confidential) holes, but the following fields produce from the Bakken pool; Alexandria, Corral Creek, Dublin, Eagle Nest, Elidah, Hawkeye, Killdeer, Mandaree, Robinson Lake, Sandrocks, Saxon, South Fork, Stony Creek, West Ambrose, West Tioga, and Zahl.*

***Note - The geologic target for these wells was not listed in their well file because they are a tight (confidential) hole, but the Antelope and North Souris fields produce from the Spearfish pool.*

Petroleum News Bakken

# IPs for ND Bakken wells

*February 18—24, 2014*

This chart contains initial production rates, or IPs, for active wells that were filed as completed with the state of North Dakota from Feb. 18-24, 2014 in the Bakken petroleum system, which includes formations such as the Bakken and Three Forks. The completed wells that did not have an available IP rate (N/A) likely haven't been tested or were awarded confidential (tight-hole) status by the North Dakota Industrial Commission's Department of Minerals. This chart also contains a section with active wells that were released from confidential status during the same period, Feb 18-24. Again, some IP rates were not available (N/A). The information was assembled by Petroleum News Bakken from NDIC daily activity reports and other sources. The name of the well operator is as it appears in state records, with the loss of an occasional Inc., LLC or Corporation because of space limitations. Some of the companies, or their Bakken petroleum system assets, have been acquired by others. In some of those cases, the current owner's name is in parenthesis behind the owner of record, such as ExxonMobil in parenthesis behind XTO Energy. If the chart is missing current owner's names, please contact Ashley Lindly at alindly@petroleumnewsbakken.com.

## LEGEND

The well operator's name is on the upper line, followed by individual wells with data in this order: NDIC file number; well name; field; location; spacing; county; geologic target; wellbore type; total depth; IP test date; IP oil flow rate. (IP stands for initial production; in this chart it's the first 24 hours of oil production.)

## IPs for completed North Dakota wells

**Burlington Resources Oil and Gas (ConocoPhillips)**
**25961**; Archer 44-25MBH; Charlson; SESE 25-153N-95W; ICO; McKenzie; Bakken; horizontal; 17,661; 2/4/2014; 2,880 bbl

**Continental Resources**
**23875**; Juneau 2-11H; Brooklyn; SESE 11-155N-98W; 2SEC; Williams; Bakken; horizontal; 21,142; 12/4/2013; 662 bbl
**25766**; Madison 4-28H1; Dollar Joe; SWNE 28-155N-97W; 4SEC; Williams; Bakken; horizontal; 19,252; 12/24/2013; 594 bbl
**25765**; Madison 5-28H; Dollar Joe; SWNE 28-155N-97W; 4SEC; Williams; Bakken; horizontal; 18,062; 12/24/2013; 848 bbl
**25478**; Malcolm 2-20H1; Sauk; NWNE 20-159N-95W; 4SEC; Williams; Bakken; horizontal; 19,580; 1/26/2014; 528 bbl
**25479**; Malcolm 3-20H; Sauk; NWNE 20-159N-95W; 4SEC; Williams; Bakken; horizontal; 19,138; 2/11/2014; 487 bbl
**25480**; Malcolm 4-20H1; Sauk; NWNE 20-159N-95W; 4SEC; Williams; Bakken; horizontal; 19,309; 2/9/2014; 261 bbl
**25767**; Pierre 5-21H; Dollar Joe; SWNE 28-155N-97W; 4SEC; Williams; Bakken; horizontal; 23,050; 12/24/2013; 531 bbl

**Hess Bakken Investments II**
**25071**; EN-Hermanson A 155-93-3601H-5; Robinson Lake; NWNW 36-155N-93W; 2SEC; Mountrail; Bakken; horizontal; 22,542; 1/26/2014; 480 bbl
**24785**; LK-Bice-147-97- 1201H-2; Big Gulch; SWSE 12-147N-97W; 2SEC; Dunn; Bakken; horizontal; 21,207; 1/29/2014; 1,057 bbl

**XTO Energy (ExxonMobil)**
**25549**; Marlene 42X-20G; Blue Buttes; SENE 20-150N-95W; 2SEC; McKenzie; Bakken; horizontal; 20,487; 2/3/2014; 3,264 bbl

## WELLS RELEASED FROM "TIGHT HOLE" STATUS

**American Eagle Energy**
**25954**; Kent 1-3N-163-101; Colgan; LOT1 3-163N-101W; 2SEC; Divide; Bakken; horizontal; 14,835; 10/23/2013; 203 bbl

**Burlington Resources Oil and Gas (ConocoPhillips)**
**23736**; Bryce 41-5TFH; Westberg; LOT 1 5-152N-96W; N/A; McKenzie; Bakken; horizontal; N/A; N/A; N/A
**25784**; CCU William 14-20TFH; Corral Creek; SWSW 20-147N-95W; N/A; Dunn; Bakken; horizontal; N/A; N/A; N/A

**Continental Resources**
**25827**; Akron 5-34H1; Banks; SESW 34-152N-99W; N/A; McKenzie; Bakken; horizontal; N/A; N/A; N/A
**25826**; Akron 6-34H1; Banks; SESW 34-152N-99W; N/A; McKenzie; Bakken; horizontal; N/A; N/A; N/A
**25959**; Haffner 1-31H; Noonan; SWSE 31-162N-95W; N/A; Divide; Bakken; horizontal; N/A; N/A; N/A
**26111**; Major Federal 1-6H; Squaw Gap; SESW 6-146N-104W; SEC; McKenzie; Bakken; horizontal; 15,919; 10/25/2013; 286 bbl
**22344**; Metz 1-33H; Ukraina; SESW 33-141N-98W; 2SEC; Billings; Bakken; horizontal; 20,475; 10/26/2013; 239 bbl
**25157**; Tallahassee 3-16H; Baker; SENE 16-153N-101W; N/A; McKenzie; Bakken; horizontal; N/A; N/A; N/A

**EOG Resources**
**25056**; Van Hook 33-1218H; Parshall; NENW 12-152N-91W; ICO; Mountrail; Bakken; horizontal; 19,932; 11/20/2013; 1,815 bbl
**20643**; Van Hook 104-1218H; Parshall; NENW 12-152N-91W; ICO; Mountrail; Bakken; horizontal; 21,210; 11/19/2013; 1,816 bbl
**25336**; Wayzetta 137-2226H; Parshall; NENW 22-153N-90W; ICO; Mountrail; Bakken; horizontal; 20,557; 9/4/2013; 2129 bbl
**25093**; Wayzetta 150-1509H; Parshall; SESW 15-153N-90W; ICO; Mountrail; Bakken; horizontal; 20,019; 8/17/2013; 745 bbl

### Top 10 Bakken wells by IP rate

**XTO Energy (ExxonMobil)**
**25549**; Marlene 42X-20G; Blue Buttes; McKenzie; 3,264 bbl

**Burlington Resources Oil and Gas (ConocoPhillips)**
**25961**; Archer 44-25MBH; Charlson; McKenzie; 2,880 bbl

**Newfield Production**
**26026**; Moberg Federal 149-95-29-32-12H; Bear Den; McKenzie; 2,049 bbl

**Kodiak Oil and Gas**
**24904**; Smokey 3-17-20-14HA; Pembroke; McKenzie; 2,002 bbl
**24902**; Smokey 3-17-20-14H; Pembroke; McKenzie; 1,949 bbl

**Whiting Oil and Gas**
**25402**; Gajewski 14-12H; Lonesome; McKenzie; 1,908 bbl

**Marathon Oil**
**25107**; Darcy Dirkach 44-12H; Murphy Creek; Dunn; 1,824 bbl

**EOG Resources**
**20643**; Van Hook 104-1218H; Parshall; Mountrail; 1,816 bbl
**25056**; Van Hook 33-1218H; Parshall; Mountrail; 1,815 bbl

**Marathon Oil**
**25761**; Kathryn Kukla 14-34H; Murphy Creek; 1,810 bbl

*Note: This chart contains initial production rates, or IPs, from the adjacent IP chart for active wells that were filed as completed with the state of North Dakota from Feb 18-24, 2014 in the Bakken petroleum system, as well as active wells that were released from tight- hole (confidential) status during the same period. The well operator's name is on the upper line, followed by individual wells; the NDIC file number; well name; field; county; IP oil flow rate in barrels of oil.*

**Kodiak Oil and Gas**
**25600**; P Scanlan 153-98-16-9-5-12H; Truax; SESE 9-153N-98W; N/A; Williams; Bakken; horizontal; N/A; N/A; N/A
**24902**; Smokey 3-17-20-14H; Pembroke; NENW 17-149N-98W; 2SEC; McKenzie; Bakken; horizontal; 21,040; 1/2/2014; 1,949 bbl
**24903**; Smokey 3-17-20-14H3; Pembroke; NENW 17-149N-98W; 2SEC; McKenzie; Bakken; horizontal; 21,070; 12/31/2013; 1,319 bbl
**24904**; Smokey 3-17-20-14HA; Pembroke; NENW 17-149N-98W; 2SEC; McKenzie; Bakken; horizontal; 20,950; 1/2/2014; 2,002 bbl

**Hess Bakken Investments II**
**25700**; AN-Evenson 152-95-0310H-3; Antelope; LOT3 3-152N-95W; N/A; McKenzie; Sanish; horizontal; N/A; N/A; N/A
**25699**; AN-Evenson 152-95-0310H-4; Antelope; LOT3 3-152N-95W; N/A; McKenzie; Sanish; horizontal; N/A; N/A; N/A
**25698**; AN-Evenson 152-95-0310H-5; Antelope; LOT3 3-152N-95W; N/A; McKenzie; Sanish; horizontal; N/A; N/A; N/A
**26112**; EN-Chamley 156-93-0508H-2; Baskin; NENW 5-156N-93W; N/A; Mountrail; Bakken; horizontal; N/A; N/A; N/A
**26113**; EN-Chamley 156-93-0508H-3; Baskin; NENW 5-156N-93W; N/A; Mountrail; Bakken; horizontal; N/A; N/A; N/A
**25313**; EN-Weyrauch A 154-93-1720H-7; Robinson Lake; SESW 8-154N-93W; 2SEC; Mountrail; Bakken; horizontal; 21,110; 1/24/2014; 998 bbl
**25312**; EN-Weyrauch A 154-93-1720H-8; Robinson Lake; SESW 8-154N-93W; N/A; Mountrail; Bakken; horizontal; N/A; N/A; N/A
**25311**; EN-Weyrauch A 154-93-1720H-9; Robinson Lake; SESW 8-154N-93W; 2SEC; Mountrail; Bakken; horizontal; 21,442; 1/25/2014; 970 bbl

**HRC Operating (Halcon Resources)**
**25210**; Fort Berthold 148-95-22C-15-5H; Eagle Nest; SESW 22-148N-95W; N/A; Dunn; Bakken; horizontal; N/A; N/A; N/A
**25209**; Fort Berthold 148-95-27B-34-5H; Eagle Nest; SESW 22-148N-95W; N/A; Dunn; Bakken; horizontal; N/A; N/A; N/A
**25992**; Pasternak Federal 2-2-11H; Strandahl; LOT1 2-157N-102W; 2SEC; Williams; Bakken; horizontal; 19,995; 10/27/2013; 524 bbl

**Hunt Oil**
**25666**; Alexandria 161-100-18-19H-1; Alexandria; NENW 18-161N-100W; 2SEC; Divide; Bakken; horizontal; 17,839; 11/13/2013; 305 bbl
**26005**; Bear Butte 1-15-16H; Red Wing Creek; NENE 15-148N-101W; 2SEC; McKenzie; Bakken; horizontal; 20,544; 12/17/2013; 342 bbl

**Marathon Oil**
**25107**; Darcy Dirkach 44-12H; Murphy Creek; SWSE 12-144N-95W; 2SEC; Dunn; Bakken; horizontal; 20,716; 12/3/2013; 1,824 bbl
**25761**; Kathryn Kukla 14-34H; Murphy Creek; SESW 34-145N-96W; 2SEC; Dunn; Bakken; horizontal; 20,742; 12/29/2013; 1,810 bbl
**25545**; Rudolph USA 41-15TFH; Reunion Bay; NENE 15-151N-93W; N/A; Mountrail; Bakken; horizontal; N/A; N/A; N/A

**Newfield Production**
**26009**; Hold 150-98-8-5-4H; Siverston; NENW 17-150N-98W; N/A; McKenzie; Bakken; horizontal; N/A; N/A; N/A
**26025**; Moberg Federal 149-95-29-32-4H; Bear Den; NENW 29-149N-95W; 2SEC; McKenzie; Bakken; horizontal; 21,120; 11/28/2013; 1,609 bbl
**26027**; Moberg Federal 149-95-29-32-11H; Bear Den; NENW 29-149N-95W; 2SEC; McKenzie; Bakken; horizontal; 20,805; 12/4/2013; 434 bbl
**26026**; Moberg Federal 149-95-29-32-12H; Bear Den; NENW 29-149N-95W; 2SEC; McKenzie; Bakken; horizontal; 20,914; 11/28/2013; 2,049 bbl

**Oasis Petroleum North America**
**25421**; Link 14-23H; Foreman Butte; NWNE 14-150N-102W; 2SEC; McKenzie; Bakken; horizontal; 20,500; 10/29/2013; 1,597 bbl

**Petro-Hunt**
**24055**; Wisness 152-96-28A-33-6H; Clear Creek; SESE 21-152N-96W; 2SEC; McKenzie; Bakken; horizontal; 20,924; 11/13/2013; 1,657 bbl

**SM Energy**
**24524**; Koeser 4X-26H; Siverston; NWNW 26-150N-98W; N/A; McKenzie; Bakken; horizontal; N/A; N/A; N/A
**24447**; Lucille 1X-27H; Siverston; NENE 27-150N-98W; N/A; McKenzie; Bakken; horizontal; N/A; N/A; N/A

**Whiting Oil and Gas**
**25402**; Gajewski 14-12H; Lonesome; SWSW 12-151N-102W; 2SEC; McKenzie; Bakken; horizontal; 20,580; 8/17/2013; 1,908 bbl
**25401**; Gajewski 14-12-2H; Lonesome; SWSW 12-151N-102W; 2SEC; McKenzie; Bakken; horizontal; 20,782; 8/17/2013; 1,523 bbl
**25151**; Tescher State 11-25PH; Bicentennial; NWNW 25-144N-104W; 2SEC; Golden Valley; Bakken; horizontal; 19,910; 8/10/2013; 1,038 bbl

**XTO Energy (ExxonMobil)**
**25423**; Alice 44X-34H; Siverston; SESE 34-151N-98W; N/A; McKenzie; Bakken; horizontal; N/A; N/A; N/A
**25260**; Bully Federal 44X-20A; Bear Den; SESE 20-149N-96W; N/A; McKenzie; Bakken; horizontal; N/A; N/A; N/A
**25259**; Bully Federal 44X-20E; Bear Den; SESE 20-149N-96W; N/A; McKenzie; Bakken; horizontal; N/A; N/A; N/A
**25261**; Bully Federal 44X-20F; Bear Den; SESE 20-149N-96W; N/A; McKenzie; Bakken; horizontal; N/A; N/A; N/A
**25473**; Kerbaugh 31X-4D; Beaver Lodge; LOT2 4-155N-96W; 2SEC; Williams; Bakken; horizontal; 20,273; 12/14/2013; 931 bbl
**25595**; Loomer 31X-4D; Tobacco Garden; LOT2 4-155N-96W; N/A; McKenzie; Bakken; horizontal; N/A; N/A; N/A
**25416**; Rolfsrud STATE 14X-36E; Sand Creek; SWSW 36-153N-97W; N/A; McKenzie; Bakken; horizontal; N/A; N/A; N/A
**25417**; Rolfsrud STATE 14X-36F; Sand Creek; SWSW 36-153N-97W; N/A; McKenzie; Bakken; horizontal; N/A; N/A; N/A

—Compiled by Ashley Lindly

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*continued from page 1*

## RAIL SAFETY

together to swiftly pinpoint new operating practices that enhance the safety of moving crude oil by rail," said AAR President and CEO Edward R. Hamberger.

### A timeline toward safety

Starting March 25, railroads will conduct at least one additional inspection annually on main line routes for trains moving 20 or more cars of crude oil beyond those inspections required by new Federal Railroad Administration, FRA, regulations. In January, the FRA strengthened its track safety standards by requiring performance-based rail inspections to maintain low rail failure rates. Railroads will also conduct at least two high-tech track geometry inspections each year on those same lines, something current federal regulations do not require.

Improved braking systems will be in place no later than April 1, giving trains the technology that allows crews to stop faster by applying emergency brakes from both ends of the train. Railroads have until July 1 to ensure that wheel bearing detectors are in place every 40 miles along tracks.

Also by that date, railroads will determine the safest and most secure rail routes for the 20-plus tank car trains by using the Rail Corridor Risk Management System, RCRMS. It is a tool the railroads currently use for routing security sensitive materials, and considers commodity volume, trip length, population densities, local emergency response capability and track quality to assess safety.

Oil trains will slow down in the 46 federally designated cities of highest threat. From the list, Denver, Colo., and the Twin Cities are the closest in proximity to the Bakken. The oil train that caused a plume of smoke to soar into the sky near Casselton in December was traveling about 43 mph, 17 mph under the speed limit. But for communities like Casselton in eastern North Dakota with frequent crude oil trains traffic, AAR said railroads will continue to work with them regarding location-specific concerns.

Finally, railroads will develop an inventory of emergency response resources along routes used to haul 20 or more cars of crude oil, making appropriate equipment and notification information available to those at the scene. AAR said railroads have committed $5 million toward tuition for 1,500 local first responders for specialized crude by rail training this year.

### Tank car and classification standards yet to come

But train speeds, routes, and track improvements are only part of the equation. Since Bakken crude has proven to be more flammable and prone to explosion than other crude oil, according to the Pipeline and Hazardous Materials Safety Administration, PHMSA, railroads continue to work with the administration to address tank car standards and proper labeling of oil transported by rail. After reviewing public comments on potential changes to federal tank car standards, the DOT met with the House Transportation and Infrastructure Committee on Feb. 26 to review the safety of transporting crude oil by rail. A day earlier, the DOT issued an emergency order requiring oil from North Dakota to be tested and properly labeled prior to loading it on trains. (See sidebar)

On Feb. 20, Reuters reported that BNSF Railway plans to buy its own fleet of 5,000 new crude oil tank cars designed to exceed the latest industry standards. The cars would have thicker walls and ends fitted with better safety and pressure valves. It's a unique move for BNSF because railroad companies do not typically own the cars, but only the tracks and locomotives that pull the trains.

### False documents provoke needs for tighter regulation

Since many rail cars are not designed to carry the flammable crude and can puncture easily, PHMSA has also cracked down on the misclassification of car contents. The agency upgraded its inspections, what it terms "the Bakken Blitz," in western North Dakota since the Casselton incident.

As a result, three North Dakota companies were fined in February for the alleged violations after investigators found 11 of 17 oil samples were misclassified. DOT officials say further review may necessitate additional enforcement action.

"Today, our railways move more hazardous materials than ever before," Cynthia Quarterman, head of PHMSA wrote on the Transportation Department's website. "DOT will continue to enforce safety regulations — and revise them if necessary — to protect our communities and the environment."

North Dakota state Sen. Connie Triplett told a legislative committee that she is unnerved by the misclassifications, and said the state needs to step in to keep the public safe.

"We can't just keep saying this is up to the federal government because we know they don't have the money to send inspectors," Triplett said. "We need to ask our agencies how it could be done better."

She proposed giving oversight to the state's Public Service Commission, and Commissioner Julie Fedorchak briefly addressed the idea at a separate meeting with energy officials.

"We need to look at what some of the changes the feds are considering," Fedorchak said. "The industry is ahead of the feds on the rail side. There are some legitimate shortcomings, and there are ways to address those things."

Federal officials said they will use regular inspections to check for compliance with the industry agreement, but with no formal rules in place, inspectors could not issue fines or take other punitive measures. ●

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## USDOT orders testing of Bakken crude

Federal regulators are cracking down on those transporting Bakken crude oil by rail. On Feb. 25, the U.S. Department of Transportation, DOT, issued an emergency order requiring oil from North Dakota to be tested and property labeled to reflect its volatile nature prior to being loaded onto trains.

Following a large explosion after an oil train collided with another train near Casselton, N.D., in December, DOT declared that Bakken crude is more dangerous to ship by rail than other oil due to its flammability. DOT recently fined three companies in North Dakota for misclassifying the crude oil sent by rail.

"If you intend to move crude oil by rail, then you must test and classify the material appropriately," Department of Transportation Secretary Anthony Foxx said in a statement.

The new rules come on the heels of new voluntary safety measures developed by DOT and the American Association of Railroads for transporting oil due to concerns arising from recent fiery derailments. (See rail story, page 1)

Regulators also acknowledge that tank cars need improvements, and older DOT-111 cars make up much of the crude-by-rail fleet yet they are prone to puncture during accidents. However, hazardous materials rules still permit the crude to be carried on the older tank cars.

The order states that all crude oil shipments must be labeled in Packing Group 1 or 2, not the less strict Group 3, the DOT said. Packing Group 1 represents explosive materials and Group 2 is for flammable gases, while Group 3 indicates flammable liquids.

**—MAXINE HERR**

*continued from page 6*

## NEWFIELD FOCUS

in some of the company's highest returns. The company's net resource potential in the Uinta is estimated at more than 700 million barrels of oil.

"As we have worked with state regulators to modify the spacing requirements, our drilling has now evolved to (extended lateral) wells, consistent with best practices in other resource plays, and we like the results to date," Packer said. "We know these wells are the optimal wells for the future … and continue to work with Utah regulators to permanently amend the field rules to allow these longer wells, which will offer a more effective drainage of the resource."

The company's three-year plan is right on schedule, achieving all of its targets to date.

"In 2013, we focused on superior execution," said President and CEO Lee Boothby. "Our operating teams delivered exceptional performance. Our focus today is very clear — profitably grow our oil and liquids production in our key U.S. operating areas." ●

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*continued from page 1*

## EOG WELL COUNT

percent jump from year-end 2012.

But this year EOG said it's looking to drill 80 new wells on its Bakken acreage, representing a nearly 50 percent increase over the 54 wells drilled last year. Operations will be primarily in the company's 90,000-acre Bakken Core area, followed by its Antelope Extension area, EOG said, adding that based on successful drilling results from the first and second intervals of the Three Forks formation in the Antelope Extension, it intends to test additional benches during 2014.

### 'Technical renaissance' in the Bakken

"In the Bakken, we created a technical renaissance not only for EOG, but also for the industry. We changed our completion techniques and improved the well productivity," Bill Thomas, EOG's chairman and chief executive officer, told analysts in a Feb. 25 conference call.

"We continue to see plenty of opportunity on our Bakken Core acreage," he added.

Recent Bakken Core wells with notable initial production, IP, rates are the Wayzetta 30-3230H and 31-3230H, which began at 2,510 and 2,540 barrels of oil per day, respectively. EOG holds a 59 percent working interest in each well.

The Wayzetta 35-1920H, located in Mountrail County, had an IP rate of 2,240 bpd of oil with 1.2 million cubic feet a day of rich natural gas, EOG said. The company holds a 60 percent stake in the well.

EOG said using the same improved completion techniques, it's seeing similar enhanced IP rates and estimated ultimate recoveries, EURs, in the Antelope Extension area. For example, the Hawkeye 2-2501H had an IP of 2,075 bpd of oil per day with 3.8 million cubic feet a day of rich natural gas. EOG has an 80 percent working interest in the well.

### Growing production in 2014

"In 2014, we expect to again grow crude oil production," Billy Helms, EOG's executive vice president of exploration and production, said, adding that the company's drilling efforts will again focus on the Bakken Core and Antelope Extension, with the majority of activity in the Core.

"We will continue to down space in both areas and plan to operate a six rig drilling program," he added.

EOG said it also is shifting to self-sourced sand for use in completions, a move that will contribute to significant well cost savings. The company has owned and operated sand mines supplying other plays for years.

"We have existing oil and pipeline infrastructure within the Core and, with the integration of EOG sand into our Bakken operations, we will continue our focus on reducing well cost even further, while enhancing the productivity and recovery factor of the field," Helms said.

The lion's share of E&P capital spending in 2014 is earmarked for the company's two biggest liquids plays — the Bakken and the company's flagship Eagle Ford in South Texas, where EOG maintains 632,000 acres and plans to drill 520 net wells this year using 26 rigs.

The Eagle Ford produced 178,000 boepd for EOG at year-end 2013, a whopping 69 percent increase versus year-end 2012.

EOG's total U.S. and international production in 2013 was 510,100 boepd, a 9 percent increase over 466,400 boepd in 2012. However, the crude oil component alone rocketed 40 percent, reflecting the company's strategy of becoming a more liquids-weighted producer. This year the company plans to increase oil production 27 percent and overall production, including natural gas, by 11.5 percent.

### Proved reserves at 2.1 billion boe

At year-end 2013, EOG's total net proved reserves of 2.1 billion boe increased 17 percent over year-end 2012, while total net proved developed reserves increased 19 percent to 1.1 billion boe. U.S. net proved crude oil and condensate reserves increased 31 percent. And total proved liquids reserves increased 25 percent year-over-year, comprising 60 percent of total company proved reserves as of Dec. 31, 2013, EOG reported.

For full-year 2013, EOG said it spent $7.1 billion on exploration and production excluding acquisitions. This year the company has earmarked $8.1-$8.3 billion in capital expenditures. EOG also reported $761 million in asset sales in 2013 compared to a goal of $550 million.

"We have increased our capex budgets from last year because we have so many high rates-of-return opportunities to pursue," Thomas said. "The greatest increases are in our highest return plays, the Eagle Ford and Bakken."

The company reported fourth-quarter 2013 adjusted net income of $548 million compared to $437 million (25 percent increase) for the same period a year earlier. Adjusted net income for full-year 2013 was $2.2 billion versus $1.5 billion for 2012, a 47 percent increase.

EOG is now the largest producer of crude oil in Texas and a top tier company by production in the Bakken.

"Last year was EOG's best year on record," Thomas said, noting that over the course of 2013, EOG increased crude oil

*see* **EOG WELL COUNT** *page 15*

Petroleum News Bakken

# Oil Patch Bits



### Profile Products introduces Tornado Tack ST-1000

Profile Products introduces the first in its line of Tornado Tack products, the Straw Tack-1000 — a new, all-in-one, high-loading straw tackifier. Tornado Tack ST-1000 gives contractors twice the coverage of a traditional blended mulch and tackifier while providing the strongest environmentally safe bond. It features a high-loading formulation and 500 pounds-per-acre application rate.

Tornado Tack can be loaded at up to 70 pounds per 100 gallons to yield double the coverage of traditional blended mulch and tackifier. A 3,000-gallon tank can cover up to four acres. Its all-in-one package means easier loading and storage, so there is never a need to transport multiple products to the jobsite for field mixing.

In addition to a base composition of wood cellulose fiber, Tornado Tack contains patented interlocking fibers and porous ceramic particles that combine with the tackifier providing superior bulk density and bond strength to the ground. This composition lengthens the functional longevity of the straw and prevents it from blowing or washing away. Tornado Tack is also biodegradable, making it the safe alternative to asphalt emulsion binder.

For more information about Tornado Tack or to find the nearest distributor, visit www.profileevs.com.


# Bakken Players

continued from page 1

# XL HOPE

again vented his frustration at the latest setback, while declaring that his company is certain "this is a solvable problem."

It coincided with the so-called Mexican Three Amigos Summit — attended by Obama, Canadian Prime Minister Stephen Harper and Mexico's President Enrique Pena Nieto — where Obama gave no ground on XL.

"Keystone will proceed along the path that has already been set forth," he said at a joint news conference, while conceding that Harper obviously views the years of U.S. reviews as a "little too laborious."

That downbeat offering was at least partly softened Feb. 24 at the annual National Governors Association winter meeting, when Obama apparently said in a private meeting that he anticipated a decision on the Presidential Permit "one way or other in a couple of months," said Oklahoma Gov. Mary Fallin.

South Carolina Gov. Nikki Haley, also a Republican, agreed that Obama said a decision would come "soon."

The White House stuck with the traditional line, saying Obama would do nothing until he received the Department of State's review of the pipeline, with the department saying the Nebraska court decision would not affect its review.

At the Mexico summit, Harper said only that his views in favor of XL "are well known," noting that the State Department's final environmental impact assessment "was pretty definite" that the pipeline would not significantly increase greenhouse gas emissions and that oil sands development would continue whether or not XL is built.

The only bargaining chip offered by Obama was an invitation to Harper to develop common U.S.-Canada goals on limiting GHGs.

"The science is irrefutable," he said, indirectly acknowledging the pressure he is under from the environmental wing of the Democratic Party. "We're already seeing more severe weather patterns increase and that has consequences for our business, for our jobs, for our families, for safety and security."

Obama has yet to answer the arguments of TransCanada, Canadian governments and pro-Keystone factions in the U.S. that the pipeline will create jobs and above all reduce U.S. reliance on "unstable" foreign oil sources, whose production and delivery to the U.S. creates GHGs that are on a par with those estimated for XL.

## TransCanada's options

A spokesman for TransCanada welcomed the signal from the governors' meeting, insisting the route "remains valid" during the court appeal.

He said that "if we are able to bring this process to a conclusion in the term, that's positive for us, and it's positive for our shippers who want to get their product" to Gulf Coast refineries from the Alberta oil sands and the North Dakota Bakken.

TransCanada has argued that "under any of the scenarios where the project is denied" GHG emissions would increase, including by 28 percent if rail was used to move the same crude to market.

Harper said in Mexico that climate change is a shared concern, suggesting the U.S. and Canada have similar targets for lowering emissions.

He also argued that streamlining of Canada's process for environmental reviews of major resource projects should give investors more confidence in Canada — an apparent indirect jab at the time being taken in the U.S. to review XL.

Girling said that should the Nebraska attorney general's appeal fail, TransCanada could seek approval of the route through Nebraska from the Public Service Commission, which would likely add at least another seven months to the review process.

He said TransCanada could try to shorten that review by referring to the information it has already submitted to the Nebraska Department of Environmental Quality or NDEQ.

The Department of State is now in the midst of a 90-day interagency review of its final report and TransCanada doubts that process will be impacted by the court decision.

TransCanada spokesman Shawn Howard emphasized to Petroleum News that Stacy's ruling "was not based on the merits of the pipeline," noting that the State Department and NDEQ agreed the current proposed route through Nebraska is the best one.

He said that although TransCanada is able to use eminent domain — effectively expropriation — in its dealings with Nebraska landowners for pipeline easements it will try to avoid taking that action.

Howard said agreements have been negotiated with more than 75 percent of affected landowners. "If we have to go through the eminent domain process, we view that as lose-lose. You end up with an adversarial relationship."

He said TransCanada has dealt with many XL issues in the past "and we are confident we can overcome this latest hurdle."

## The Energy East project

That mood aside, TransCanada is not placing all of its hopes in the XL basket.

Girling told a fourth-quarter conference call that interest is so strong in the company's proposed Energy East pipeline megaproject in Canada that it is giving serious consideration to adding more binding commitments to the C$12 billion venture.

He said that could be prompted by concerns among producers over the delays in getting approval for major pipelines out of the oil sands — XL, Kinder Morgan's Trans Mountain expansion and Enbridge's Northern Gateway.

Girling said Energy East has contractual commitments for 900,000 barrels per day, but it does not currently plan to seek greater capacity on the proposed 1.1 million bpd line when it files a regulatory application with Canada's National Energy Board around mid-year.

However, he said that under NEB regulations, TransCanada is required to maintain a certain volume of spot capacity.

Girling said that as crude production in Western Canada continues to grow, shippers are in a position to commit to longer-term projects.

He said TransCanada is optimistic that the proposed capacity on Energy East will increase, but even if it does expand the project "additional commitments are not a necessary component of the filing."

Girling said TransCanada is currently focused on consultations with aboriginal communities and other stakeholders on its plans to convert one of six natural gas pipelines on the Canadian Mainline system and build extensions to deliver oil sands bitumen and Bakken crude from Western Canada to refineries in Ontario, Quebec and New Brunswick. First shipments are targeted for 2018.

The plan also includes the provision of tanker terminals in Saint John, New Brunswick, and on the St. Lawrence River at Cacouna, Quebec, for possible crude exports beyond North America.

—GARY PARK

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continued from page 1

# EASEMENT FEES

system over there."

## Right-of-way price increased

But then Bakken development emerged. Skurupey told Petroleum News Bakken it seemed the tribe saw opportunities to increase revenue and things started to change. In the most current MHA Nation resolution dated July 11, 2013, the standard minimum rate for issuing easements is $2,000 per acre, up from $1,500 per acre in 2011.

"This reared its ugly head the first time the tribe passed a resolution on the right of way," Skurupey said. "We stopped constructing because we couldn't pay the right-of-way fees. By policy we couldn't do it."

The electric co-op's break from construction in 2011 lasted over a year. The MHA Nation eventually sat down with the electric co-op to review the resolution's implications for a public utility.

"We told them if you're a public utility offering an essential service, it should be in the best interest of the tribe and everyone to allow those entities to serve those consumers," Skurupey explained. "They said we were absolutely right and they changed the resolution, but then changed it back later because they saw us associated with the deep pockets of the oil company. They put us back on the other playing field and we're treated differently."

Skurupey said, in contrast, Reservation Telephone Cooperative, RTC, does not pay for easements because "the oil companies do not need phone service, but they do need power, and the tribe is just after those dollars." Kristin Jaeger, spokeswoman for RTC told Petroleum News Bakken her company did not want to comment on the subject.

Tex Lone Bear, director of easements for MHA Nation, says all residences are currently served with single-phase power lines, and they don't need the commercial three-phase power that oil producers want.

"If they don't want to pay, then we're fine with single-phase. The landowners and homeowners are still getting electricity, but if they want to increase it to three-phase, then they need to pay the landowner what they want," Lone Bear told Petroleum News Bakken.

Lone Bear compared the tribe's pricing resolution to the electric co-op's price limit policy.

"It's the same thing here," he said. "Our government agency establishes the rate on tribal land within the reservation boundary and you have to abide by it, or you don't come in."

Skurupey said the process with the tribe is not how the electric co-op traditionally does business.

"It's a difficult situation for us, because we care. In this situation, that's a negative for us," Skurupey said. "We care that not only the farmer/rancher gets power to his water well, but we also care that the producer gets their power when they need it, but it's just not happening."

## The red tape is thick

The electric co-op has tried repeatedly to obtain easements, and it currently has a 30-mile line project with more than $400,000 in easement acquisition costs, but not a single signed easement agreement. The co-op board wants the issue corrected before it proceeds any further, but the tribe insists all easements be assigned to it so it can, in turn, make an agreement with the co-op to use the easements.

"That's not an easement in our book," Skurupey said. "We need certainty in our business, and just having an agreement is by far not a certainty."

Claryca Mandan, natural resources administrator for the MHA Nation, told Petroleum News Bakken she believes the oil companies have been obtaining the easements in their name and then assigning them to the electric co-op, and she doesn't see why the tribe couldn't do the same.

## Co-op throws up its hands

The electric co-op has told its members that if they want power to their water well, home, or oil well, they must secure the easements with the tribe in the name of the co-op, providing all necessary documentation.

"Only when you hand in everything to us in a nice, neat package that keeps us out of federal prison, only then will we construct," Skurupey said.

Oil producers have requested a large electrical capacity project on the reservation, and they've told Skurupey if they can't have power within five years, than it isn't worth trying.

"Then in all those remote areas where producers would have paid for the line extensions and the tribal members could attach to those lines and get power relatively cheap, that opportunity is going to disappear," Skurupey said.

The electric co-op has reached a breaking point, he said, but it keeps getting the cold shoulder from the tribe.

"We've been trying to get a meeting with the tribe for a month now, but we get pushed to voice mail, they're not returning calls," Skurupey said. ●

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continued from page 1

# MHA OPTIONS

Claryca Mandan, natural resources administrator for the MHA Nation, told Petroleum News Bakken that she is not aware of other potential suppliers, but did say the tribe has the potential to operate its own utility company. However, Mandan sees yet another alternative.

"Every day we're generating significant amounts of natural gas that is being flared on this reservation," she said. "There's an abundance that can be used for onsite generation."

—MAXINE HERR

continued from page 14

# EOG WELL COUNT

production growth targets three times and ended the year with total company oil production up substantially over 2012.

"This is a 44 percent average increase over the last three years," he emphasized. "Our key assets … keep getting better, and we continue to improve well productivities from these plays. A 42 percent increase in U.S. oil production last year is solid proof of the depth of EOG's drilling inventory."

—RAY TYSON

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*continued from page 1*

## FLARING CUT

from the approximately 30 percent of natural gas that Spencer said is currently flared in Oneok's Williston Basin footprint.

"We're at about 30 percent flaring within our footprint," Spencer said in a Feb. 25 conference call with industry analysts. "Even in the midst of just tremendous growth that we've experienced, producers have a very high sense of urgency to get these flares put out and to reduce the flaring levels. We've got a targeted expectation of around 10 percent to 15 percent, going from 30 percent to 10 percent to 15 percent over the next couple of years."

Spencer's projection comes amid continued growth of oil and gas production in the basin as North Dakota approaches the 1 million barrel per day milestone en route to the projected peak production of 1.5 million bpd. Meanwhile, the North Dakota Industrial Commission and the North Dakota Petroleum Council continue to get their arms around the flaring issue.

"Natural gas volumes gathered and processed continue to grow, driven by increased well connections in the Williston Basin as a result of more efficient drilling program," Spencer said in the Feb. 25 conference call. "While the absolute number of Williston Basin rigs has decreased, multi-well pad drilling has increased significantly. In addition, the quality of the producing acreage yields some of the highest returns in our producer's portfolios. Also, the transition to a manufacturing mode from exploration continues to accelerate. We expect to see continued drilling in the Williston Basin as more than 90 percent of the economics come from crude oil production."

Since 2011, Oneok has put three new gas processing plants in service in the Williston Basin with two more under construction and another in the planning stages. The Stateline I plant in Williams County went in service in September 2012 and neighboring Stateline II plant went in service in April 2013.

The Garden Creek I plant in McKenzie County went in service in December 2011, and the neighboring Garden Creek II and III plants are under construction and are expected to be completed in the third quarter 2014 and the first quarter 2015. The processing capacity of all five plants is 100 million cubic feet, mmcf, per day.

The company's Lonesome Creek plant, also in McKenzie County,will have 200 mmcf per day capacity and is expected to be in service by the end of 2015. Oneok also owns and operates the former Bear Paw Energy Grasslands plant in McKenzie County, which has a 100 mmcf per day capacity.

In addition, Oneok completed and put in service a portion of its Divide County gathering system in 2013 with the rest of that system scheduled to be in service by the end of 2014. And Oneok is continually connecting wells to existing gathering systems as well as upgrading other components of its gathering infrastructure such as adding compression. The company is also expanding its Bakken NGL pipeline from 135,000 barrels per day to 160,000 bpd, which is expected to be completed during the second quarter 2016.

All of that infrastructure is part of Oneok's 2010-2016 capital growth program, which the company is increasing by approximately $1.2 billion to the anticipated range of $6.0 to $6.4 billion, of which $2.3 to $2.5 billion is for Williston Basin projects that Spencer believes will put a significant dent in flaring.

Spencer said Oneok connected 1,160 Williston Basin and Midcontinent wells to its gathering infrastructure in 2013, and despite extreme weather conditions, 210 of those connections came in the fourth quarter. The winter weather had a minimal effect on volume of gas that the company processed in the quarter. "We experienced extreme weather conditions in the Williston Basin and Mid-Continent in December that marginally affected our processed volumes, which increased by almost 25 percent in the fourth quarter of 2013 compared with the same period last year," Spencer said. "We plan accordingly for these conditions and the loss of productivity during the winter months."

In 2012, Oneok connected 940 Williston and Midcon wells, and Spencer expects the company will connect approximately 1,300 wells to its Williston Basin and Midcon systems in 2014. ●

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*continued from page 1*

## LOWER BENCHES

### Confidence is running high

"We're confident that the total now is larger," J. Warren Henry, Continental's vice present of investor relations, told Petroleum News Bakken in a Feb. 21 email. "But we don't have a formal estimate of it yet."

Nor does Continental have any immediate plans to disclose a change in its recoverable estimates for the Bakken system, Henry said. However, if the company were to announce, it likely would wait until results are in hand from additional well-density pilots this year that again include the lower sections, or more specifically, the second, third and fourth benches of the Three Forks.

The prolific nature of the Middle Bakken and first bench of the underlying Three Forks formation has been known and exploited by industry for years, with Continental again taking the early lead in exploring both zones and establishing their commerciality.

"On an area by area basis, we don't necessarily see a tremendous difference between the Middle Bakken and first bench," Bott told analysts. "In fact, in some areas, the first bench can be better than the Middle Bakken."

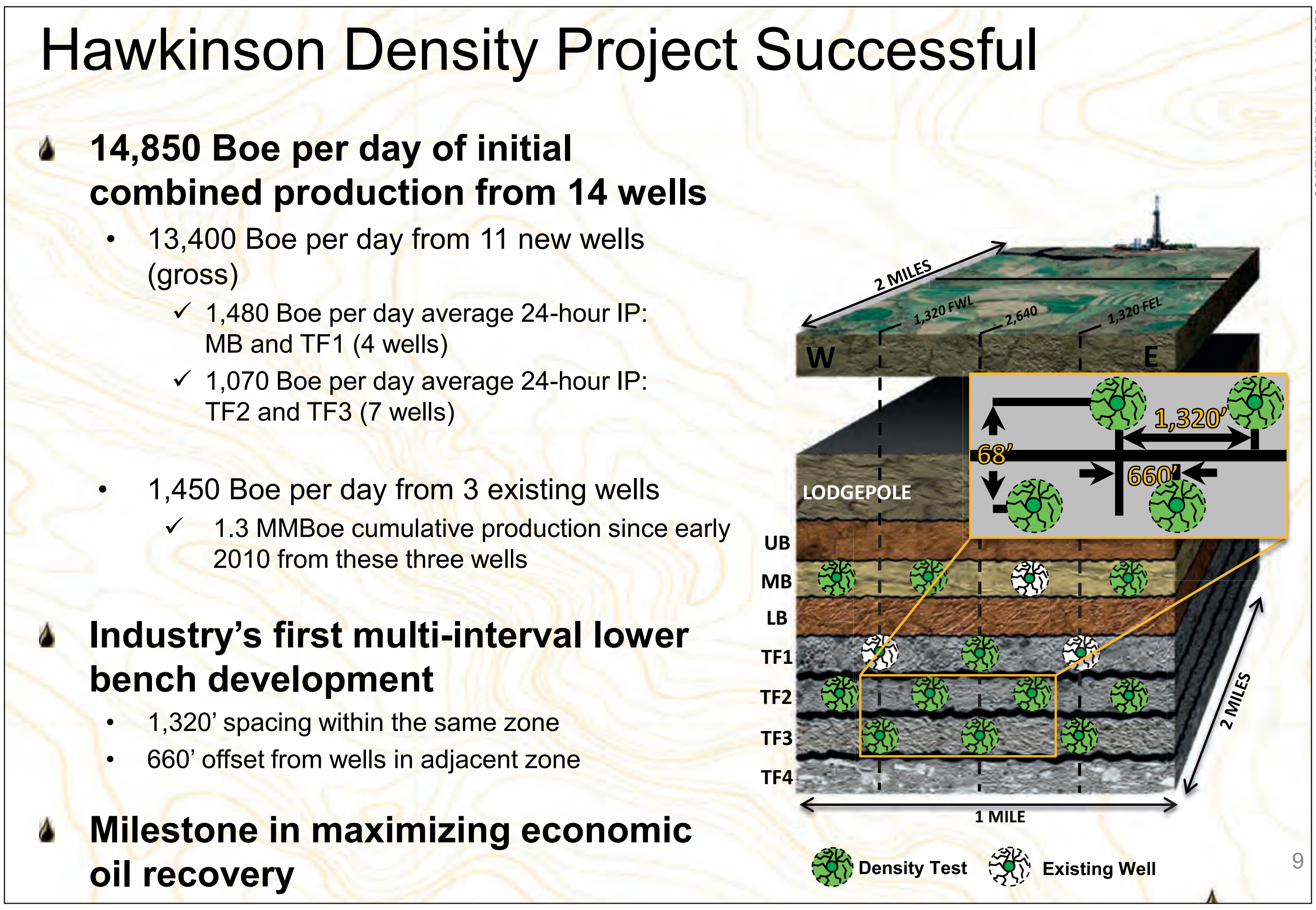
The stakes are high as Continental goes about testing the productivity of the lower benches. For example, by Continental's estimates, a modest 3.5 percent recovery rate on 903 billion boe of in-place resource would increase its current 24 billion boe recovery rate to 32 billion boe, while 4 percent would yield 36 billion boe, and 5 percent could generate 45 billion boe.

### Few have tested lower Three Forks

Only a handful of other operators have done one or two tests each and most of them only the second bench, Bott noted, adding that a few companies are now just beginning to delve into the third and fourth benches.

"So as we explore this basin, we'll get more understanding and more ideas about how good this is or not across the basin," he said.

Last year Continental's successful Hawkinson well density project became industry's first drilling program in the Williston Basin to include multiple lower benches of the Three Forks. Eleven wells were completed and put on line.



CONTINENTAL RESOURCES

Additionally, 20 of 22 lower Three Forks wells were tested for productivity. In total, some 3,800 square miles of lower bench productivity have been conducted to date, the company said.

"We are quite excited that we've come out of 2013 really having moved the needle in terms of the size of the pie," Bott said.

### Pressure theory validated

Hawkinson did more than just prove the commercial capability of the lower benches of the Three Forks; it further validates Continental's reservoir pressure theory, which explains the company's rationale behind dramatically increasing its in-place oil estimate for the petroleum system to 903 billion boe from 577 billion boe, a 57 percent hike.

Continental once viewed the Middle Bakken and Three Forks formations as separate and isolated, until a few years ago when the company drew numerous top-to-bottom core samples across a vast area of the play and found consistent oil saturation and pressure throughout the system. Tight limestone at the top and bottom bind the petroleum system, preventing the oil from migrating out of the cell.

"And that's what causes the over pressuring and makes it such a great reservoir," Bott said, noting that the upper and lower shales are the main source rock for the oil.

However, Continental learned from testing that because over pressuring tends to force the oil downward, production rates aren't necessarily consistent below the first bench and can vary by geographical location.

### Zone productivity can vary

Though production rates from the first bench are roughly the same as from the Middle Bakken, the second bench could be slightly less productive than the first bench, the third bench could be slightly less productive than the second, and the fourth bench could be a lot less productive than the third bench. With a slight change in the rock type as the oil is pushed downward, there can be less permeability and porosity, so less oil storage and higher amounts of water.

For example, the 11 new wells completed at Hawkinson in 2013 produced a combined 13,400 boepd. The average rate per well of the four wells drilled into the first bench was 1,480 boepd, while the average rate per well of seven wells drilled into the second and third benches was 1,070 boepd. Referred to as a "milestone in maximizing economic oil recovery," wells in the same zone were spaced 1,320 feet apart, while wells in adjacent zones were spaced 660 feet apart.

"What that means is you might produce more water out of the third bench, but it still may be a very, very commercial well, if you get your well costs right and you handle your water properly," Bott said.

### More bench testing to come

Drilling results from three other 2013 density pilots — Tangsrud, Rollefstad and Wahpeton — are expected during the first half of 2014 and should shed even more light on the production capabilities of the deep zones, along with three additional density pilots — Hartman, Mack and Lawrence — scheduled for this year. Moreover, 26 lower Three Forks exploratory wells are planned for 2014.

"Then it becomes a portfolio management issue about when you drill the right wells and maximize your rate of return," Bott said. "And that's a balance between operations efficiencies, infrastructure capabilities and takeaway, the surface typography and how you drill that, and the overall logistics of managing an operation. So there's a lot of news yet to come on that." ●

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