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BAKKEN



page 3 MT's speaker brings unique outlook from heart of oil country

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VERN WHITTEN PHOTOGRAPHY

In early May 2014, construction had just begun on the Watford City bypass in McKenzie County, North Dakota, and by the following October the bypass was in full service. By the time the bypass was complete, construction had begun on a pipeline along the right-of-way corridor.



TransCanada confirms plans for its Bakken crude export pipeline

TransCanada is dangling a fresh option for moving Bakken crude from North Dakota and Montana to central and eastern Canadian refineries, setting up a possible new skirmish with the United States government in the process.

It has confirmed plans announced with little fanfare last year to build the Upland system — a 285-mile, US\$600 million pipeline to deliver up to 70,000 barrels per day — not 300,000 bpd as reported by some sources — from the Bakken to TransCanada's proposed 1.1



RUSS GIRLING

see TC PLANS page 20

North Dakota DSU apps jump 29 percent in February

The number of drill spacing units that Williston Basin operators are seeking from the North Dakota Industrial Commission jumped to 81 in February, up 18 from January, up five from December and up 33 from November.

Most of the DSUs operators are asking the commission to create are for Bakken pool development in Burke, Dunn, McKenzie, Mountrail and Williams counties, although one application is for legacy pool development in Bottineau County.

Of the 11 operators filing DSU applications that the commission will consider in hearings on Feb. 25 and 26, XTO is seeking the most at 29, spread across 10 fields in McKenzie, Mountrail and Williams counties (see table). Most are overlapping 2,560s but a few are overlapping 1,280s where XTO wants to drill one to two wells. Two are new units, one at 1,920 acres

see DSU APPS page 18

PRODUCTION & RECOVERY

Positive finish

ND ends 2014 on a high note with output rising 3.3 percent in December

By MIKE ELLERD

Petroleum News Bakken

Following two months of lackluster and even negative production growth, North Dakota's oil production finished 2014 on a high note posting a nearly 40,000 barrel per day increase in December according to preliminary data released by the Department of Mineral Resources on Feb. 13.

The December production is a sharp rise over November which had a tepid production increase and October when production actually decreased, and is a stark contrast to December 2013 when the state's oil production fell by nearly 50,000 bpd



LYNN HELMS

from the previous November, which still stands as the largest production decline in the state's history (see chart).

At first glance, the large production increase was not intuitively obvious because it occurred during a period when oil prices were steadily falling and rigs were being laid down across the Bakken. However, what did increase in December was the number of well completions in the state, rising to 173, an increase of 125 over the 48 wells that were completed in November. But the question is why did the number of completions rise over three-fold

see POSITIVE FINISH page 20

MOVING HYDROCARBONS

More rail troubles

Two fiery crude-by-rail incidents in three days again draw attention to risks

By GARY PARK

For Petroleum News Bakken

Two North American derailments in three days have again put the spotlight on the dangers of using rail to haul crude oil, especially given that the Feb. 16 explosion and fire in West Virginia involved the use of newer version tank cars.

That incident occurred in a residential area 33 miles southeast of Charleston and where 26 cars of a CSX Corp. train left the tracks with as many as 19 erupting, shooting flames 100 yards into the sky.

No deaths or injuries were reported, although a mile-wide area was evacuated under a West

The train in the latest CSX accident was pulling 109 of the new CPC-1232 cars which are rated as tougher than the DOT-111 cars which safety investigators say are prone to puncture and are being phased out.

Virginia state of emergency.

The train was carrying Bakken crude from North Dakota to a Plains All American Pipeline's oil depot at Yorktown, Virginia.

The U.S. Department of Transportation and the

see RAIL TROUBLES page 18

COMPANY UPDATE

Costs down, output up

Halcon again cuts capex, but this time due to help from service providers

By MAXINE HERR

For Petroleum News Bakken

Halcon Resources is further reducing its 2015 drilling and completion budget by \$25 million, but this time it's the result of lower service costs and enhanced efficiencies, bringing the budget to \$350-\$400 million.

In January, the company announced it was cutting its original budget of \$750-\$800 million nearly in half. At that time, Halcon felt service costs were too high and it was expecting adjustments. Those adjustments came through negotiating better prices from service providers along with modifying operating techniques. The company



expects to further improve oil recoveries and reduce costs.

In a Feb. 17 statement, the company said its completed well costs have come down more than 20 percent compared to the fourth quarter 2014 average and anticipates well costs to drop another 10 percent within the Williston Basin by mid-year 2015. Its average well cost on the Fort Berthold Indian Reservation is \$8.5 million and the company plans to focus its efforts in this high-return area spending 65 percent of its total drilling and completions budget on these wells.

And by modifying its drilling and completion techniques, Halcon improved well results by 57

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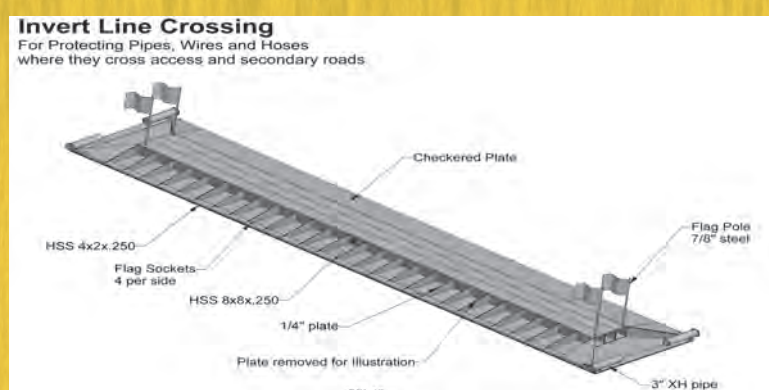
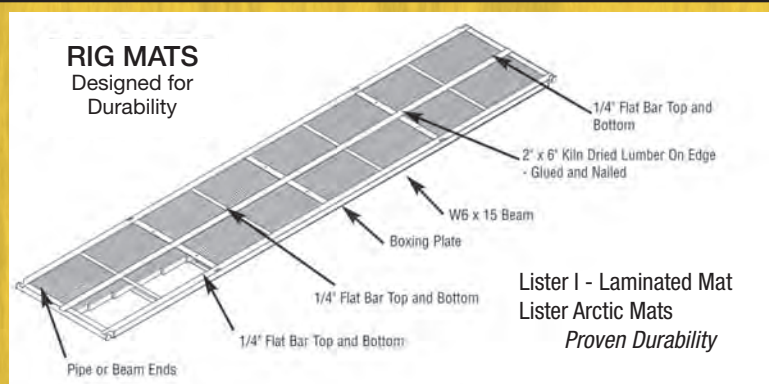
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• GOVERNMENT

Bringing unique experience to leadership

Austin Knudsen is an industry-experienced attorney with oil and gas development on the family farm in heart of Montana's Bakken

By **MIKE ELLERD**
Petroleum News Bakken

The speaker of Montana's House of Representatives brings a unique perspective to oil and gas issues facing lawmakers in the state's current legislative session. Rep. Austin Knudsen lives in the heart of Montana's Bakken oil country, where along with his brother he helps his parents run the family farm in eastern Roosevelt County not far from Williston, North Dakota. But helping with the family farm is just a part-time job when Knudsen can break away from his private law practice which has included a multitude of industry-related legal matters where he has represented both landowners and mineral developers. Knudsen sat down with Petroleum News Bakken in his Capitol office on Feb. 13 and shared his views on some of the more important industry-related bills and issues Montana is facing.

Relief to impacted communities

Petroleum News Bakken: You recently introduced House Bill 402, legislation that would authorize up to \$55 million in grants to local governments impacted by oil and gas development. As part of his "Build Montana" bill, HB 5, Gov. Bullock is proposing \$45 million in infrastructure spending in eastern Montana communities impacted by the industry. What was the impetus behind your introduction of HB 402, how does it differ from the governor's funding proposal, and what prospects do you give it versus the governor's proposal?

Knudsen: The impetus for House Bill 402 really started last session with HB 218, which was a bipartisan bill that several of us oil-impacted legislators put together for an impact fund for eastern Montana. It was modest — it was only \$35 million and we were hoping for more but with the way the budget ended up shaking out last session, \$35 million is where we ended up. But it was \$35 million in direct state aid coming right out of the general fund out into a grant program administered by the Department of Commerce that could be accessed by oil-impacted communities in eastern Montana immediately. And we were looking specifically at the Sidneys, at the Glendives, at the Bainvilles, at the Culbertsons, the Fairviews — the towns out there right along the border that are being dramatically impacted by the Bakken oil development.

The governor — all last session — was right along there with us, he was going to support the bill, he promised several of the towns there was going to be support coming their way, "don't worry, there's money coming," and at the last minute he vetoed the bill and left those towns in the lurch.

So that was the impetus for my bill this session, HB 402 — I call it '218 on steroids.' It's \$55 million, direct state aid — it's coming directly out of the general fund. And we've also added in a component to continually fund it through diverting a larger share of the state's portion of the oil and gas production tax into the fund. So in a nutshell, that's it.

What chances do I give it? Compared to the governor's plan I think it's got a lot better chances than his ideas in HB 5. His proposes bonding — all that \$45 million — that in and of itself is a high

hurdle to clear in the legislature because bonding takes a two-thirds vote in both chambers.

Oil and gas trust fund

Petroleum News Bakken: HB 310 would put before the voters a constitutional amendment establishing a permanent oil and gas trust fund similar to the state's coal severance trust fund, which would be funded with oil production taxes, similar to legislation introduced in the last session. There is concern the fund would siphon money which would otherwise go to oil-impacted communities. What are your views on such a trust fund?



AUSTIN KNUDSEN

Knudsen: My views on that fund are the same as they were last session. I can appreciate what Rep. Jacobson (the bill's sponsor) is trying to do. I voted no last time and I'll vote no this time because we're not North Dakota. The oil play in Montana is here but not to the extent that a lot of legislators in western Montana think it is — it's not the behemoth that it's become in North Dakota. It's not as large an asset to the state of Montana as the coal is and the coal severance has become. We've got enough of it (oil) that it's generated some decent revenue to the state, but it has also generated a lot of impacts in my part of the state that needs the help. I'm concerned about money that in my opinion is tax dollars being paid by private mineral owners that's being driven to the western side of the state that's not going

back to the eastern portion where it's generated to offset impacts.

Sage grouse management

Petroleum News Bakken: The sage grouse management program seems to have a lot of support both among legislators and within the industrial sector, but the consensus appears to be the program is the best of a bad deal. Senate Bill 261 was recently introduced which implements the program which is funded under HB 2 (the general appropriations bill). What are your thoughts on the program but also on how the state is being forced to deal with the sage grouse?

Knudsen: That's exactly the problem that a lot of us are having — we feel as though this is being crammed down our

see **KNUDSEN Q&A** page 17



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MOVING HYDROCARBONS

Canada gets very candid on Keystone XL

Ambassador to US accuses EPA of 'significant distortion and omission' on its claims of greenhouse gas emissions from Keystone XL

By GARY PARK

For Petroleum News Bakken

The Canadian government is apparently deciding it has no further reason to muzzle its feelings on the U.S. handling of Keystone XL.

Gary Doer, the Canadian ambassador to the U.S., sent a letter to Secretary of State John Kerry earlier in February lashing out at what he said was a "significant distortion and omission" by the U.S. Environmental Protection Agency in arriving at its conclusion that XL might worsen greenhouse gas emissions.

The missive was delivered as the XL saga entered a new phase when the Congress passed a pro-Keystone bill for the first time, testing President Barack Obama's threat to veto any attempt by lawmakers to get the pipeline approved.

Doer again urged the Obama administration to consider XL on its merits and

treat the EPA claims with suspicion.

He said EPA had made its GHG calculations from a study in 2005, which he observed was two years before iPhones existed.

Just as smart phones have improved, so has oil sands technology to reduce the sector's carbon footprint, Doer said.



GARY DOER

Doer also accused EPA of selecting the highest emissions number from among four studies considered by the State Department; assuming the pipeline would flow at its capacity of 830,000 barrels per day for 50 years; assuming it would carry only Canadian oil (when preliminary numbers include 100,000 bpd from the Bakken); and "most egregiously" calculating it would only displace light, lower-polluting Saudi crude.

In fact, Doer argued XL would provide Gulf Coast refineries with an alternative to heavier crudes imported from Mexico and Venezuela, which had said has emis-

sions levels comparable with the Alberta oil sands.

Girling dismisses EPA's conclusions

TransCanada Chief Executive Officer Russ Girling, having earlier embarked on a fight back against what he views as misinformation on XL, lent his weight to Doer's letter by dismissing EPA's call to revisit the pipeline's environmental impacts.

In a Toronto speech and a media conference call, Girling also recommended that any future proponents of cross-border pipelines should "look for more clarity on what the (regulatory) criteria will be for those crossings."

He said that during his 30 years in the business, the Canada-U.S. border has been "free and well regulated."

Now, in order for investment in new pipelines to occur and an efficient transportation structure to be maintained, the industry has to cope with uncertainty that has seen TransCanada spend US\$3 billion on a project that has been in the regulatory process for six and a half years and, by some estimates, has ballooned in cost to US\$10 billion.

"It's not a very comfortable place to be ... not knowing what the criteria are or what the end of the regulatory process looks like," Girling said.

He said global demand for oil will continue to grow over the coming years and that volatile crude oil prices do not mitigate the need for pipelines to move that crude to market, noting that oil prices were at US\$40 a barrel when TransCanada first proposed the pipeline.

"At US\$50 a barrel, the oil sands are still going to get developed anyway," Girling said. "And I don't think you need to have another market study to tell you that."

EPA argued that the slide in crude prices has created tough economic conditions for oil producers and that in the absence of pipeline, oil production and associated emissions will likely be reduced.

Girling countered that no single pipeline will "cause production to accelerate or decelerate."

He said TransCanada also "disagrees with any suggestion (by EPA) that the Department of State has not fully and completely assessed the environmental impacts of Keystone XL," targeting Obama's declaration that he will not issue a Presidential Permit if XL can be shown to substantially raise greenhouse gas emissions linked to climate change.

Cato Institute weighs in

Paul Kippenberger, assistant director of the Center for the Study of Science at the Washington, D.C.-based Cato Institute, wrote in Canada's Financial Post that the fight over XL is and always has been nothing but a "symbol of dedication to environmentalism, for the Left; of resistance to excessive government intervention, for the Right."

"Huge amounts of money have been spent — or, more accurately, wasted — arguing fruitlessly that it is something more concrete," when the project has little significance to gasoline prices, jobs and the environment.

He said the onerous carbon dioxide-limiting regulations the Obama administration has imposed through EPA that try to reduce demand by raising the price of energy derived from fossil fuels, make everything more expensive and potentially threaten the reliability of U.S. energy supply.

Kippenberger wrote that EPA's meddling will have "no demonstrable effect. Even a complete cessation of all greenhouse gas emissions from the U.S., starting now and lasting forever, would avoid only a fraction of a degree of global temperature rise."

He said XL has "little to offer besides a moral victory. Limiting the economic damage that the EPA regulations may inflict, on the other hand, will be a benefit to all Americans, for years to come." ●

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MOVING HYDROCARBONS

BNSF commits \$326 million in North Dakota rail improvements

BNSF Railway announced Feb. 11 that it will spend \$326 million on rail capacity improvements in North Dakota in 2015.

The projects include construction of 37 miles of double track between Minot and Williston, installation of central traffic control to improve on-time performance, an extension of rail lines between Mandan and Glendive, Montana, to enable trains to pass which allows better flow, and capacity expansion in Dickinson to accommodate single car volume growth.

"This year's substantial investments in North Dakota are a clear reflection of how important our operations in the state are to our overall network and our unwavering commitment to always operating safely — for our people and the communities in which we operate," Tom Albanese, BNSF general manager operations Twin Cities Division said in a statement. "This year's planned expansion and maintenance projects will help give BNSF the capacity flexibility it needs to support our customers' growing demands and connect North Dakota products to key markets."

The company will also pay for maintenance of 1,164 miles of track and replace nearly 97 miles of rail and about 393,500 ties as well as signal upgrades in North Dakota.

The planned capital investments are part of BNSF's record 2015 capital commitment of \$6 billion, which it announced in November. North Dakota's senior U.S. Sen. John Hoeven had been working with BNSF to secure a commitment for North Dakota including hosting Executive Chairman Matt Rose in Fargo in November to update stakeholders regarding backlogs and how BNSF intended to improve service.

see **BNSF SPENDING** page 5

• DRILLING & COMPLETION

ND drill applications decline again

By MIKE ELLERD

Petroleum News Bakken

While the number of new drill spacing units that North Dakota operators are requesting from the North Dakota Industrial Commission was up 29 percent in February over January (see story, page 1), the number of existing DSUs on which operators are looking to drill additional wells fell sharply from December to January and even more sharply from January to February.

In drilling applications that the North Dakota Industrial Commission will consider in hearings in Bismarck on Feb. 25 and 26, eight operators are looking to drill wells on 26 existing spacing units (see table). In January, 11 North Dakota operators filed applications to drill on 58 existing DSUs, and in December 13 operators filed applications to drill on 90 existing DSUs. The February applications are now back to a level last seen in November when just six operators filed applications seeking authorization to drill on 20 existing DSUs.

All of the February applications are for drilling wells in the Bakken petroleum system, with most in the Bakken pool and one DSU in the Sanish pool.

Whiting Oil and Gas filed for the most drilling activity in February with applications seeking authorization to drill up to a maximum total of 188 Bakken-pool wells on 15 DSUs in six fields in McKenzie,

February 2015 North Dakota Industrial Commission Additional Well Applications

Applicant	Wells per Unit ^A	Acres per Unit	Acres per Well	Units	Total Wells	Field	County ^B	Pool ^C
Burlington Resources Oil & Gas Co. LP	7	1,280	183	3	21	Little Knife	DUN	BKN
Continental Resources, Inc.	12	1,280	107	1	12	Murphy Creek	DUN	BKN
EOG Resources, Inc.	6	1,280	213	2	12	Parshall	MNT	BKN
Hess Corp.	13	1,280	98	1	13	Antelope	MCK	SAN
Marathon Oil Co.	2	2,560	1,280	2	4	Reunion Bay and/or Big Bend	MNT	BKN
Missouri River Resources ND, LLC	4	320	80	1	4	Squaw Creek	MCK	BKN
SM Energy Co.	11	1,280	116	1	11	Indian Hill	MCK	BKN
Whiting Oil and Gas Corp.	14	1,280	91	1	14	Grinnell	MCK, WIL	BKN
Whiting Oil and Gas Corp.	14	1,280	91	5	70	Banks	MCK, WIL	BKN
Whiting Oil and Gas Corp.	14	1,280	91	3	42	Bully	MCK	BKN
Whiting Oil and Gas Corp.	12	1,280	107	4	48	Truax	MCK, WIL	BKN
Whiting Oil and Gas Corp.	12	1,280	107	1	12	East Fork	WIL	BKN
Whiting Oil and Gas Corp.	2	2,560	1,280	1	2	Manitou	MNT	BKN
Total February New Wells					265			

A: Represents the maximum number of wells requested for a given spacing unit
 B: DUN = Dunn, MCK = McKenzie, MNT = Mountrail, WIL = Williams
 C: BKN = Bakken, SAN = Sanish

Mountrail and Williams counties. All but one of those 15 spacing units are 1,280 acres with the other being a 2,560. Whiting is looking to drill a maximum of 12 to 14 wells on the 1,280s and just two wells on the 2,560 for resulting densities of one well per every 91 acres to one well per 1,280 acres.

Hess Corp. is looking to drill up to 13 Sanish-pool wells on a 1,280 in the

Antelope field in McKenzie County. All of the remaining drill applications are for Bakken-pool wells. The densities in the other applications range from one well per 80 acres to 1,280 acres.

Continental Resources wants to drill up to 12 wells on a 1,280 in the Murphy Creek field in Dunn County; SM Energy wants to drill up to 11 wells on a 1,280; Burlington Resources wants to drill up to

seven on three 1,280s; EOG Resources wants to drill up to six on each of two 1,280s; Missouri Rivers Resources wants to drill up to four wells on a 320-acre unit; and Marathon Oil wants to drill up to two wells on each of two existing 1,280s. ●

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• NATURAL GAS

ND continues to gain on flaring

By MAXINE HERR

For Petroleum News Bakken

Though a few operators in North Dakota struggled to reach gas capture targets in November and December, the oil and gas industry is adapting operations to hit the January target of 76 percent and continue to grow that capture percentage.

The state's Department of Mineral Resources Director Lynn Helms said on Feb. 13 that there has been an "enormous increase" in the number of well site liquids gas processing units being used which helped the industry reach a 77 percent capture rate in December. He said when gas capture targets began in October, there were only a couple dozen of the units in operation and now there are more than 200.

However, some companies are reducing oil production in order to stay in compliance; Helms said at least one company has choked back 5,000 barrels per day to do so.

"I think we're going to get to the

goals, but there's some sacrifices," he said.

Helms noted that the backlog of wells to be completed and the lower rig count has given companies the breathing room to make it easier to achieve gas capture goals. He added that there is no indication that infrastructure projects are slowing in the Bakken and gas gathering and processing companies are not reducing capital expenditures at all.

Oneok moves to Plan B

One obstacle to greater gas capture is fully utilizing the Hess Tioga natural gas processing plant which is currently only running at about 75 percent. Oneok Partners has decided to abandon its project to install a 1.6-mile section of gathering pipeline on the southwest part of the Fort Berthold Indian Reservation that would connect to the Hess plant because of an inability to obtain approvals from tribal government and the U.S. Forest Service. Instead, Helms said Oneok plans to reroute the pipeline and build a gas

plant in northwest Dunn County. The company plans to construct high pressure and natural gas liquids pipelines from that plant to connect to its Lonesome Creek plant near Watford City. The decision to reroute will likely delay the project for a year or more, Helms said.

"That project potentially could have debottlenecked southwestern Fort Berthold (Indian Reservation) in '15. That's not going to happen until third quarter '16 or maybe into '17," Helms said. "It's going to be a pressure point for us, certainly, for gas capture."

Another key connection has been held up for Hess Corp. which has strug-

gled to obtain necessary permits to complete a small stretch of gathering pipeline near Lake Sakakawea. A cultural study was approved and Helms said Hess is confident it will obtain the permit to build within the 2015 construction season.

"There is 50 million cubic feet per day tied up behind that, but it looks like they're going to get that in place late this year," Helms said.

Flaring legislation loses steam

The state's legislature was introduced to two proposed bills that would alter current flaring policies but one was defeated

see **FLARING GAINS** page 20

continued from page 4

BNSF SPENDING

"We have been working to maintain and improve our infrastructure, especially our railways, to meet the needs of our growing state," Hoeven said in a Feb. 11 statement. "BNSF's \$326 million investment will help to relieve backlogs now, but also plan for the continued growth of our economy."

BNSF Railway operates on 32,500 route

miles of track in 28 states and its \$6 billion of investments include \$2.9 billion of replacements and maintenance to its core network, nearly \$1.5 billion on expansion and efficiency projects, \$200 million for signal upgrades and \$1.4 billion for car and equipment acquisitions.

—MAXINE HERR

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The Difference Is Our People!

MOVING HYDROCARBONS

WB export shares flat in December

By MIKE ELLERD

Petroleum News Bakken

Railroad's and pipeline's crude oil export market share in the Williston Basin remained unchanged from November to December with rail accounting for 59 percent of exports and pipelines accounting for 35 percent according to data released by the North Dakota Pipeline Authority on Feb. 13.

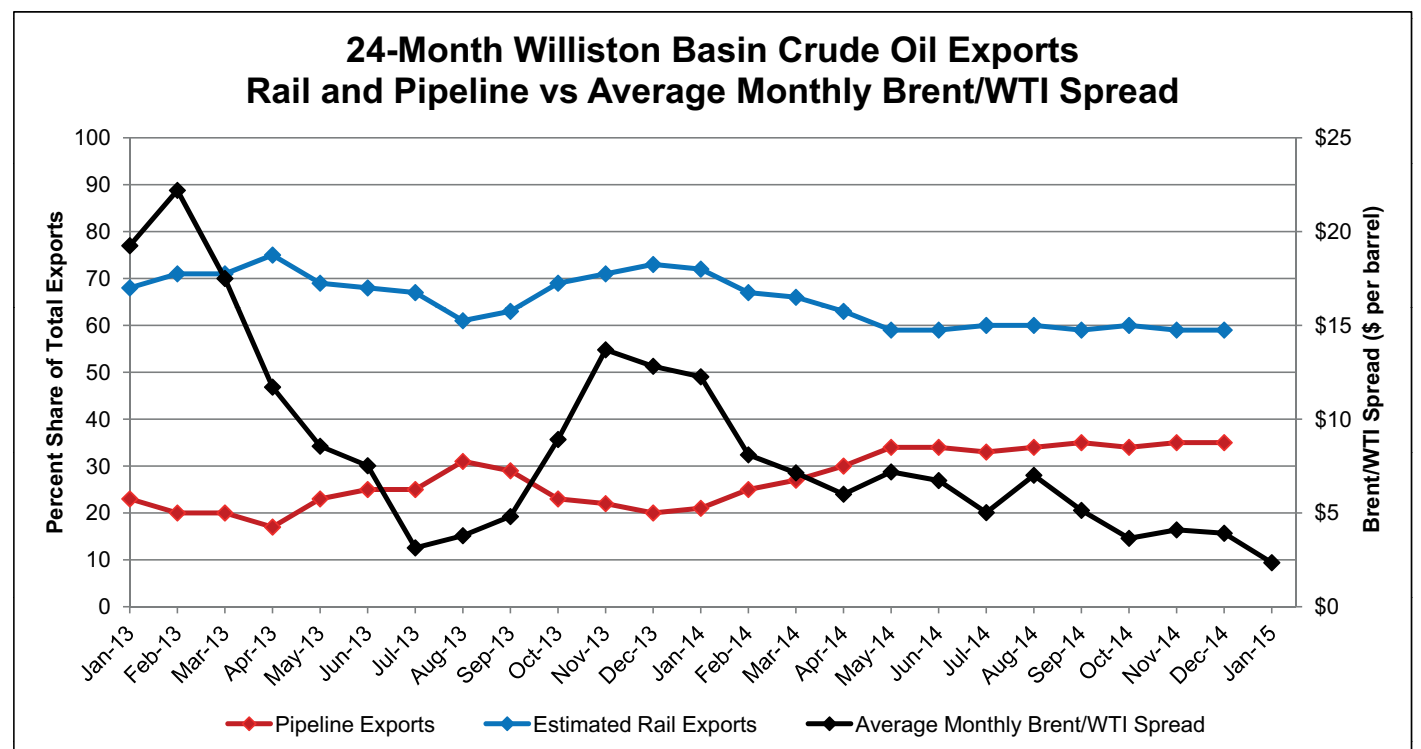
Also consistent with November was the 6 percent of Williston Basin crude that went to the Tesoro refinery in Mandan and the 1 percent was trucked into Canada.

Since May, the rail/pipe export market share has remained essentially flat with rail accounting for 59 to 60 percent of Williston Basin crude oil exports and pipelines accounting for 33 to 35 percent (see chart).

Price trends

Concurrent with the steady export trend was an essentially steady Brent/WTI price differential, which narrowed slightly from an average of \$4.10 in November to \$3.92 in December (see chart).

However, since May when the export shares began flattening, the price differential between Brent North Sea and West Texas Intermediate, generally considered as global and U.S. benchmarks, began an overall narrowing trend averaging \$7.19 in May and \$3.92 in December. Bringing the price of the two benchmarks closer removes some of the incentives for producers to pay higher transportation costs



to ship Bakken crude oil via rail to the East or West coasts where higher Brent prices are often realized as opposed to shipping through pipelines into the Midcontinent where WTI is the generally realized benchmark.

Along with the narrowing price spread has been a steady drop in the price of both benchmarks with each falling nearly in half between the beginning of May and the end of December 2014, indicating Brent took a slightly larger overall hit over the period than did WTI.

Looking ahead

While January export data won't be available until March, the Brent/WTI spread narrowed even more in January averaging just \$2.35 for the month. That narrowing came as crude oil prices showed signs of stabilizing in January — WTI fell 23 percent in December and only 9 percent in January, and Brent fell 21 percent in December and only 6 percent in January.

However, through the first half of February, crude prices showed some pos-

itive movement and concurrently the Brent/WTI spread widened. At closing on Feb. 18, WTI settled on the New York Mercantile Exchange at \$52.14 and Brent settled at \$60.53 for a spread of \$8.39. But whether that widening spread will affect Williston Basin crude oil export market share in February remains to be seen when February export data are released by the Pipeline Authority in April. ●

Contact Mike Ellerd
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LEGAL COLUMN

Gender discrimination alleged in Bakken

Cindy Marchello filed EEOC complaint; later she filed discrimination and wage claims against C & J Energy Services, Inc.

By JANNELLE STEGER COMBS

For Petroleum News Bakken

On February 9, 2015, Cindy Marchello filed a federal lawsuit in North Dakota against C & J Energy Services Inc. that alleges violations of the North Dakota Human Rights Act, Title VII and the North Dakota Equal Pay Act, plus violations of other laws including discrimination.

Facts of the case

According to the complaint,

Marchello is a 57 year old woman who resides in Ogden, Utah. From October 2012 until October 2014, she was an employee of C & J Energy Services Inc. in Williston, North Dakota. C & J provides oil field services, including completions of wells.

Initially, Marchello applied for and received the position of pump operator. She had three years of prior oil field experience and was a certified heavy duty diesel mechanic. Marchello received a job offer and started work at \$21 per hour for C & J, along with bene-

fits and housing. Marchello also received significant overtime benefits which increased her projected yearly salary to \$120,000 if she continued working the amount of hours she was working.

Marchello alleges that she received insults by co-workers in the presence of her supervisor, remarks which she alleges were related to her gender. She also alleges that an employee of an operator for whom C & J was providing completion services, remarked that he did not like women working on the site. For the rest of that week, Marchello alleges that she was prohibited from running the pump, and solely had to carry 50 pound buckets of chemicals.

In May 2013, the manager of operations for C & J pulled Marchello out of the field and put her into an office position. With the new position, she did not receive overtime, and she alleges that her per diem, round trip flights home on off weeks and travel accommodations were all denied. Without the overtime, Marchello's annual salary had fallen to \$40,000 to \$50,000.

In the new position, Marchello handled payroll. In doing so, she realized that other similarly experienced and



JANNELLE STEGER COMBS

graded pump operators in her category were being paid \$2 more per hour than she was.

Legal intervention

In August 2014, Marchello filed a charge of sex discrimination against C & J at the Equal Employment Opportunity Commission. Marchello alleges that individuals at C & J threatened her for the filing and that her pay would be even further cut after the complaint process was finished. Marchello went home to Utah for dental surgery shortly after filing the complaint and decided not to return to work at C & J. She was officially discharged from the company on Oct. 5, 2014.

This case was filed by Marchello in North Dakota District Court. To date, no answer has been filed by C & J Energy Services. It is assumed the company will answer the complaint and then the matter will begin a slow process through the federal court system.

As more individuals are laid off due to lower oil prices, more lawsuits like this one are likely to be filed. When oil prices are high and jobs are bountiful, there is often little incentive for employees to sue. However, with fewer available jobs, employees who feel wronged are more willing to take their chances with the court system. ●

Contact Jannelle Steger Combs
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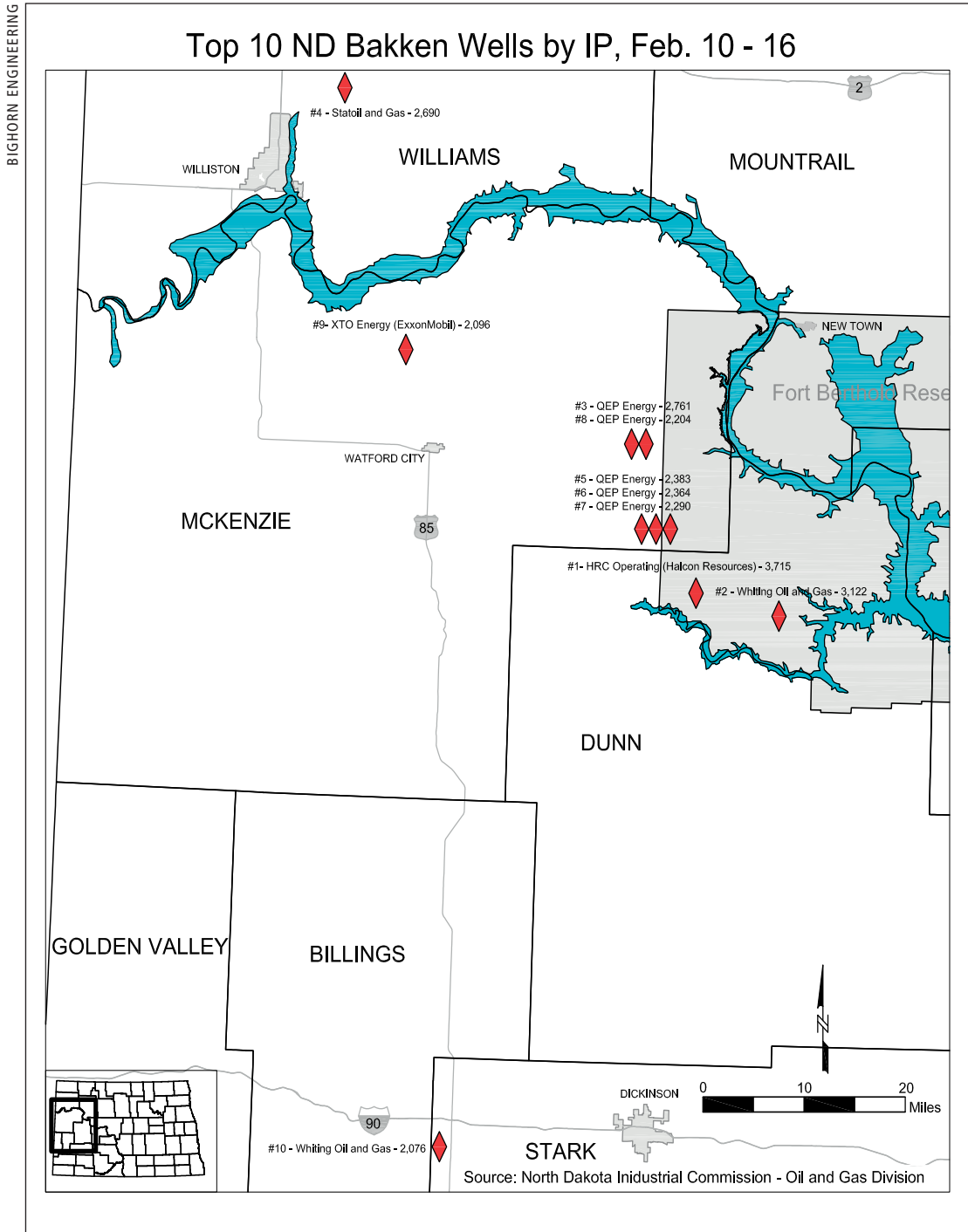
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Petroleum **BAKKEN** Stats

● BAKKEN COMMENTARY

Hess inches to No. 2 in ND, Halcon tops IP list



MIKE ELLERD
Petroleum News Bakken

According to preliminary production data released by the North Dakota Department of Mineral Resources on Feb.

13, Hess Corp. inched past Continental Resources into the No. 2 spot among the state's top Bakken oil producers averaging 113,453 barrels per day in December and moving Continental into a very close third position at 113,420 bpd (see chart on

page 12). The two companies increased their production between November and December by 5 to 7 percent in parallel with the state's overall production increase of more than 3 percent for the last month of the year (see story, page 1).

While increasing December production by less than 1 percent, Whiting had no problem firmly holding its position as North Dakota's No. 1 Bakken oil producer averaging 128,692 bpd for the month.

XTO held on to its No. 4 position and EOG moved up from No. 6 in November to No. 5 in December pushing Burlington Resources into the No. 6 spot for the month.

Statoil, Marathon, Oasis and QEP all held their positions rounding out North Dakota's top 10 Bakken producers at the end of the year.

A new member on the top 50 list is Lime Rock Resources which recently acquired a portion of Fidelity's assets putting Lime Rock in the No. 26 position in December at 5,582 bpd. Without those assets, Fidelity moved from the No. 20 spot in November to No. 24 in December averaging 6,053 bpd.

Top IPs increase

Halcon Resources topped the week's North Dakota initial production chart with a middle Bakken well in the Eagle Nest field in Dunn County that produced

Whiting also broke the 3,000 barrel mark with a well in the Moccasin field well in Dunn County that had the No. 2 IP at 3,122 barrels.

3,715 barrels in the first 24 hours on production (see map this page and charts on pages 9 and 10). That is the first reported IP to break the 3,000 barrel mark in four weeks.

Whiting also broke the 3,000 barrel mark with a well in the Moccasin field well in Dunn County that had the No. 2 IP at 3,122 barrels.

QEP Energy had five of the wells on the week's top 10 list. A Three Forks well in the Grail field in McKenzie County came in third at 2,761 barrels, and a middle Bakken well on the same pad was eighth at 2,204 barrels. On a separate pad in the Grail field, two middle Bakken and a Three Forks well filled the Nos. 5, 6 and 7 spots with IPs ranging from 2,290 (Three Forks) to 2,383 (middle Bakken) barrels.

Statoil made the list in the No. 4 spot at 2,690 barrels from a middle Bakken well in the Stony Creek field in Williams County.

XTO Energy filled the No. 9 spot for the week at 2,096 barrels from a Three Forks well in the North Tobacco Garden field in McKenzie County.

And for the fifth time in six weeks, a Whiting well completed in the Pronghorn Sand formation in northwest Stark County made the top 10 list coming in at No. 10 with 2,076 barrels.

North Dakota permitting

The number of drilling permits issued in North Dakota fell from 55 in November to 44 in December. XTO received the most permits at nine, followed by Whiting at seven and QEP at six. Most of the permits were issued in McKenzie and Mountrail counties (see pages 10 and 11). ●

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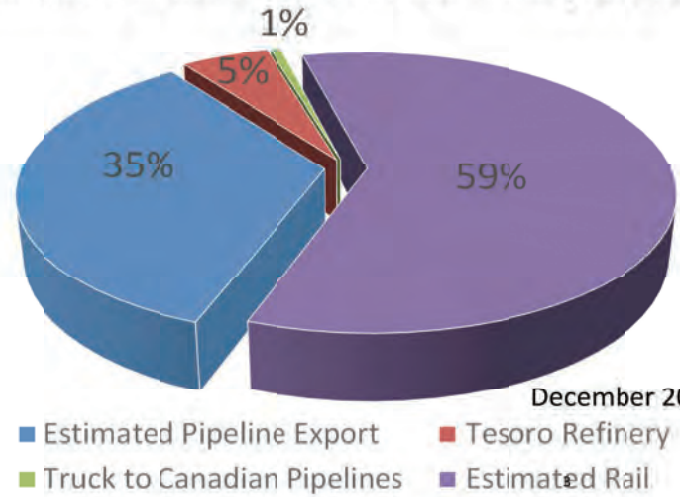
Responsibly Developing Our Natural Resources

US Williston Basin Oil Production - 2014

MONTH	ND	Eastern MT*	SD	TOTAL
January	937,200	71,664	4,830	1,013,694
February	953,305	73,667	4,712	1,031,684
March	976,798	73,104	4,753	1,054,655
April	1,004,255	74,681	4,755	1,083,691
May	1,040,625	72,792	4,677	1,118,095
June	1,092,922	74,728	4,785	1,172,435
July	1,114,521	76,302	4,875	1,195,697
August	1,132,842	75,518	4,669	1,213,029
September	1,186,328	74,861	4,721	1,265,910
October	1,183,586	77,601	4,602	1,265,789
November	1,188,258	77,087	4,640	1,269,985
December	1,227,344			--

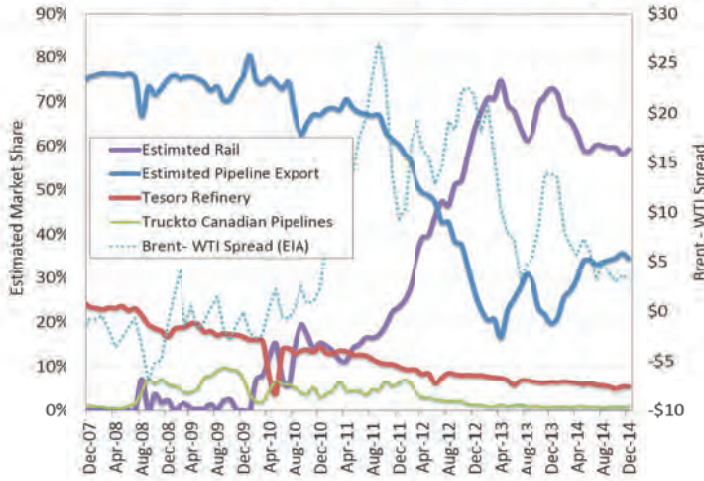
JJ Kringstad - North Dakota Pipeline Authority

Estimated Williston Basin Oil Transportation



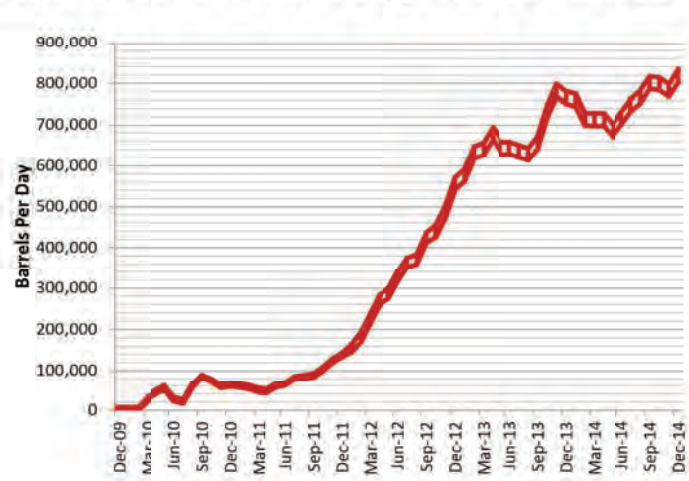
JJ Kringstad - North Dakota Pipeline Authority

Estimated Williston Basin Oil Transportation



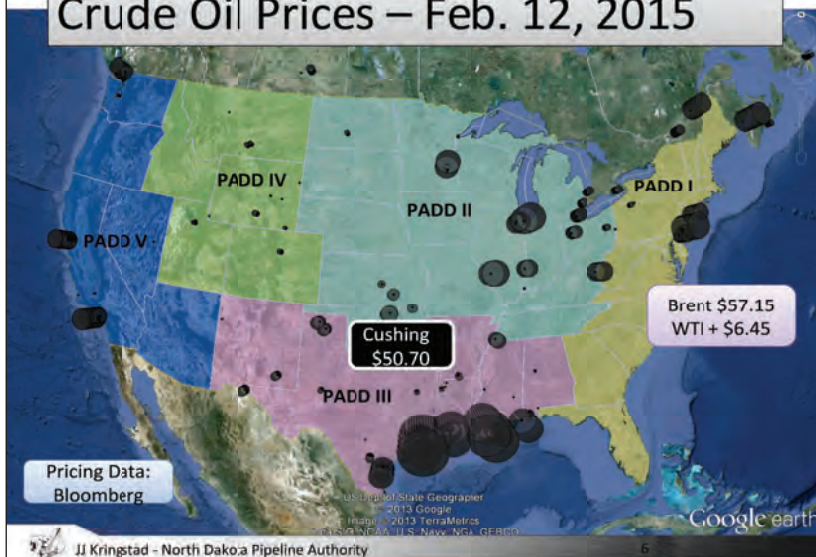
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Estimated ND Rail Export Volumes



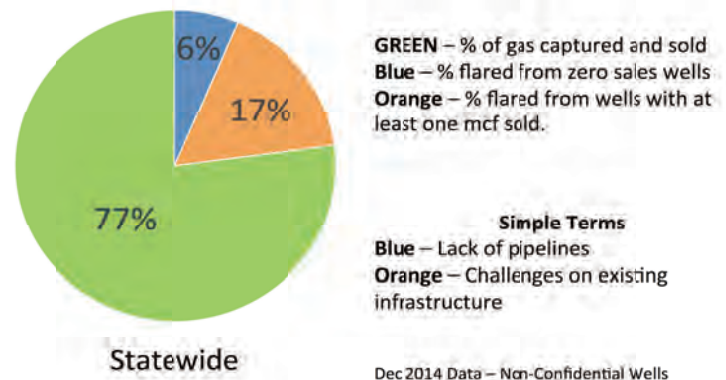
JJ Kringstad - North Dakota Pipeline Authority

Crude Oil Prices – Feb. 12, 2015



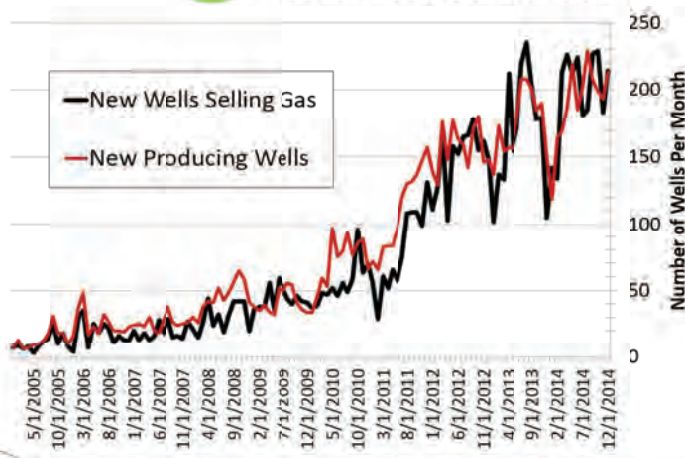
JJ Kringstad - North Dakota Pipeline Authority

Solving the Flaring Challenge



JJ Kringstad - North Dakota Pipeline Authority

Capturing the 6% Faster Well Connections



JJ Kringstad - North Dakota Pipeline Authority



IPs for ND Bakken wells

Feb. 10-16, 2015

This chart contains initial production rates, or IPs, for active wells that were filed as completed with the state of North Dakota from Feb. 10-16, 2015 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. 10-16. 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.

County (Co.) abbreviations are as follows — BIL: Billings, BOT: Bottineau, BOW: Bowman, BRK: Burke, DIV: Divide, DUN: Dunn, GDV: Golden Valley, MCH: McHenry, MCK: McKenzie, MCL: McLean, MER: Mercer, MNT: Mountrail, REN: Renville, SLP: Slope, STK: Stark, WRD: Ward, WIL: Williams

IPs for completed North Dakota wells

NDIC No.	Well Name	Field	Location	Spacing	Co.	Geologic Target	Wellbore Type	Total Depth	IP Test Date	IP Rate (bbl)	IP Nat. Gas (mcf)	IP Water (bbl)
EOG Resources												
28317	Parshall 38-1608H	Parshall	SESW 16-152-90	N/A	MNT	Bakken	conf.	N/A	N/A	853	N/A	2,354
28714	Parshall 93-2827H	Parshall	NWNW 28-152-90	2SEC	MNT	Bakken	horz.	16,415'	2/4/15	541	16	1,420
Hess Bakken Investments II												
27770	BL-Iverson B- 155-95-0708H-2	Beaver Lodge	NWSW 7-155-95	2SEC	WIL	Bakken	horz.	19,791'	1/30/15	772	930	395
28326	EN-Freda- 154-94-2635H-5	Alkali Creek	NWNW 26-154-94	2SEC	MNT	Bakken	horz.	21,900'	1/27/15	1,587	1,135	503
Hunt Oil												
21978	Bruhn 2-12H	Parshall	SWSW 12-154-90	SEC	MNT	Bakken	horz.	13,742'	2/5/15	399	69	7
SM Energy												
27721	Almos Farms 1-26HN	West Ambrose	NENE 26-163-100	4SEC	DIV	Bakken	horz.	18,505'	12/21/14	163	237	338
Triangle USA Petroleum												
28818	Simpson 151-102-5-8-2H	Elk	LOT1 5-151-102	2SEC	MCK	Bakken	horz.	20,705'	2/9/15	605	197	703
Whiting Oil and Gas												
25585	Moccasin Creek 14-33-28-3H	Moccasin Creek	SESW 33-148-93	2SEC	DUN	Bakken	horz.	19,687'	1/20/15	3,122	2,055	1,767
28878	Solberg 21-2TFH	Elk	LOT2 2-156-97	2SEC	WIL	Bakken	horz.	20,748'	1/11/15	867	1,499	1,750
28877	Solberg 31-2TFH	Elk	LOT2 2-156-97	2SEC	WIL	Bakken	horz.	20,905'	1/11/15	1,081	1,079	1,661
XTO Energy (ExxonMobil)												
27964	Kathy 31X-15C	Tioga	NWNE 15-158-95	ICO	WIL	Bakken	horz.	16,630'	1/12/15	541	685	439
27966	Kathy 31X-15D	Tioga	NWNE 15-158-95	ICO	WIL	Bakken	horz.	17,028'	1/15/15	828	400	1,350
27965	Kathy 31X-15H	Tioga	NWNE 15-158-95	ICO	WIL	Bakken	horz.	16,864'	12/30/14	755	404	2,205
28290	Rieckhoff 21X-3A	N. Tobacco Garden	LOT3 3-151-99	2SEC	MCK	Bakken	horz.	20,244'	12/20/14	1,715	2,265	711
28217	Rieckhoff 21X-3B	N. Tobacco Garden	LOT3 3-151-99	2SEC	MCK	Bakken	horz.	20,945'	1/5/15	2,065	2,670	696
28577	Rieckhoff 21X-3E	N. Tobacco Garden	LOT3 3-151-99	4SEC	MCK	Bakken	horz.	21,922'	1/16/15	2,096	2,428	810
28218	Rieckhoff 21X-3F	N. Tobacco Garden	LOT3 3-151-99	2SEC	MCK	Bakken	horz.	21,228'	1/13/15	1,615	2,186	1,022
28216	Rieckhoff 21X-3G	N. Tobacco Garden	LOT3 3-151-99	2SEC	MCK	Bakken	horz.	21,374'	12/30/14	1,298	1,617	503

IPs for ND wells released from confidential status

NDIC No.	Well Name	Field	Location	Spacing	Co.	Geologic Target	Wellbore Type	Total Depth	IP Test Date	IP Rate (bbl)	IP Nat. Gas (mcf)	IP Water (bbl)
Continental Resources												
28938	Bud 2-30H	Crazy Man Creek	LOT2 31-153-99	ICO	WIL	Bakken	horz.	23,017'	1/9/15	871	575	427
EOG Resources												
27036	Parshall 41-1509H	Parshall	SESW 15-152-90	ICO	MNT	Bakken	horz.	19,067'	8/12/14	137	5	119
27044	Parshall 44-1004H	Parshall	SESE 10-152-90	ICO	MNT	Bakken	horz.	21,176'	8/16/14	931	275	3,482
27160	Parshall 48-2226H	Parshall	NWNE 22-152-90	ICO	MNT	Bakken	horz.	19,603'	8/16/14	1,299	16	5,945
Fidelity Resources Oil and Gas (MDU)												
27393	Barnhart2 20-17H	Heart River	SESE 20-139-97	2SEC	STK	Bakken	horz.	19,700'	9/23/14	339	134	237
27392	Barnhart3 20-17H	Heart River	SESE 20-139-97	2SEC	STK	Bakken	horz.	19,817'	9/11/14	456	176	436
HRC Operating (Halcon Resources)												
27278	Fort Berthold 148-94-30B-31-4H	Eagle Nest	SESW 19-148-94	2SEC	DUN	Bakken	horz.	21,295'	8/22/14	3,715	3,995	1,938
Mountain Divide (Mountainview Energy)												
26306	BJNJ 30-31-1H	Big Dipper	NWNE 30-163-101	2SEC	DIV	Bakken	horz.	17,942'	10/17/14	291	146	3,242
Newfield Production												
28476	Rolfsrud State 152-96-29-32-3HX	Westberg	NENW 29-152-96	2SEC	MCK	Bakken	horz.	17,619'	11/16/14	1,620	2,917	620
28475	Rolfsrud State 152-96-29-32-11H	Westberg	NENW 29-152-96	2SEC	MCK	Bakken	horz.	20,853'	11/13/14	1,267	2,355	1,361
28477	Rolfsrud State 152-96-29-32-12H	Westberg	NENW 29-152-96	2SEC	MCK	Bakken	horz.	20,600'	11/18/14	823	1,039	426
Petro-Hunt												
27655	Jonsrud 152-96-34C-27-2HS	Clear Creek	LOT1 4-151-96	4SEC	MCK	Bakken	horz.	21,030'	12/17/14	1,644	2,988	584
27823	Moberg 159-94-20B-29-1HS	North Tioga	SWSW 17-159-94	4SEC	BRK	Bakken	horz.	19,565'	11/26/14	620	602	1,610
QEP Energy												
26226	Kirkland 1-23-14BH	Grail	SWSE 23-149-95	2SEC	MCK	Bakken	horz.	21,340'	10/11/14	2,364	2,556	2,742
26227	Kirkland 2-23-14BH	Grail	SWSE 23-149-95	2SEC	MCK	Bakken	horz.	21,131'	10/6/14	2,383	2,538	3,235
28265	Kirkland 14-23-13-24LL	Grail	SWSE 23-149-95	ICO	MCK	Bakken	horz.	21,617'	10/13/14	2,290	2,684	2,365
26705	MHA 5-27-34H-148-92	Heart Butte	SWSE 22-148-92	2SEC	DUN	Bakken	horz.	20,355'	1/11/15	1,777	1,371	2,642
28165	State 1-16-21BH	Grail	NENE 16-150-95	2SEC	MCK	Bakken	horz.	20,525'	10/25/14	1,444	2,361	942
28166	State 2-16-21BH	Grail	NENE 16-150-95	2SEC	MCK	Bakken	horz.	20,747'	10/23/14	2,204	3,091	1,582
28167	State 2-16-21TH	Grail	NWNE 16-150-95	2SEC	MCK	Bakken	horz.	20,948'	10/21/14	2,761	3,951	1,346

ND IP continued from page 9

NDIC No.	Well Name	Field	Location	Spacing	Co.	Geologic Target	Wellbore Type	Total Depth	IP Test Date	IP Rate (bbl)	IP Nat. Gas (mcf)	IP Water (bbl)
28168	State 3-16-21BH	Grail	NWNE 16-150-95	2SEC	MCK	Bakken	horz.	21,097'	12/10/14	649	616	122
Statoil Oil and Gas												
28970	Syverson 1-12 #8H-R	Stony Creek	LOT3 1-155-100	2SEC	WIL	Bakken	horz.	20,954'	11/24/14	2,690	2,541	4,383
Whiting Oil and Gas												
27947	Bock Federal 44-7PH	Bell	NENE 18-139-99	2SEC	STK	Bakken	horz.	20,860'	8/29/14	2,076	1,674	960
28266	Gunder T. 31-30-2H	Lonesome	NWNE 30-151-101	2SEC	MCK	Bakken	horz.	20,463'	8/13/14	1,390	1,145	2,827
28267	Gunder T. 31-30-3H	Lonesome	NWNE 30-151-101	2SEC	MCK	Bakken	horz.	20,625'	8/26/14	1,368	719	1,521

—Ashley Lindly | alindly@petroleumnewsbakken.com

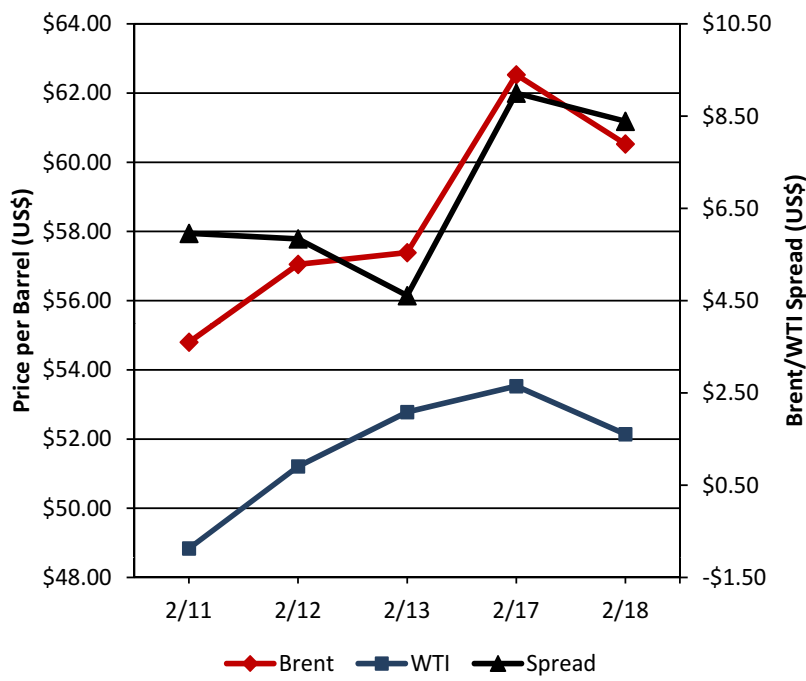
Petroleum NEWS BAKKEN Brent and WTI prices & spread
Feb. 11 – Feb. 18, 2015

Petroleum NEWS BAKKEN Bakken producers' stock prices
Closing prices as of Feb. 18 along with those from previous Wednesday

Delivery Months: March (WTI), April (Brent)

	2/11	2/12	2/13	2/17	2/18	Change
Brent	\$54.80	\$57.05	\$57.39	\$62.53	\$60.53	\$5.73
WTI	\$48.84	\$51.21	\$52.78	\$53.53	\$52.14	\$3.30
Spread	\$5.96	\$5.84	\$4.61	\$9.00	\$8.39	\$2.43

Weekly Summary



Source: CME Group

Company	Exchange	Symbol	Closing price	Previous Wed.
Abraxas Petroleum Corporation	NASDAQ	AXAS	\$3.31	\$3.21
American Eagle Energy Corporation	NYSE	AMZG	\$0.67	\$0.64
Arsenal Energy USA, Inc.	TSE	AEI	\$3.62	\$3.56
Baytex Energy USA Ltd.	NYSE	BTE	\$18.39	\$18.34
Burlington Resources Co., LP (ConocoPhillips)	NYSE	COP	\$67.73	\$67.88
Condor Petroleum	TSE	CPI	\$0.17	\$0.16
Continental Resources, Inc.	NYSE	CLR	\$48.08	\$44.57
Crescent Point Energy US Corporation	TSE	CPG	\$31.98	\$31.88
Denbury Onshore, LLC	NYSE	DNR	\$8.63	\$8.26
Emerald Oil, Inc.	NYSEMKT	EOX	\$1.17	\$1.07
Enerplus Resources USA Corporation	NYSE	ERF	\$11.15	\$10.83
EOG Resources, Inc.	NYSE	EOG	\$95.31	\$93.20
Fidelity Exploration & Production (MDU)	NYSE	MDU	\$22.32	\$21.60
Halcon Resources	NYSE	HK	\$2.18	\$2.10
Hess Corporation	NYSE	HES	\$77.10	\$72.80
Legacy Reserves Operating LP	NASDAQ	LGCY	\$13.25	\$12.38
Marathon Oil Company	NYSE	MRO	\$29.02	\$28.08
Mountain Divide, LLC (Mountainview Energy)	CVE	MVW.V	\$0.07	\$0.05
Newfield Production Company	NYSE	NFX	\$32.85	\$29.91
Northern Oil and Gas	NYSE	NOG	\$8.28	\$8.30
Oasis Petroleum North America	NYSE	OAS	\$16.82	\$15.93
Oxy USA, Inc. (Occidental Petroleum)	NYSE	OXY	\$81.37	\$79.98
PetroShale Inc.	CVE	PSH	\$1.25	\$1.15
QEP Energy Company	NYSE	QEP	\$22.71	\$21.36
Samson Resources Company (KKR & Co.)	NYSE	KKR	\$24.03	\$24.27
SM Energy Company	NYSE	SM	\$48.66	\$45.33
Statoil Oil and Gas LP	NYSE	STO	\$19.43	\$18.45
Triangle USA Petroleum Corporation	NYSE	TPLM	\$5.64	\$5.44
Whiting Oil and Gas Corporation	NYSE	WLL	\$38.64	\$34.91
WPX Energy Williston, LLC	NYSE	WPX	\$12.30	\$12.39
XTO Energy, Inc. (ExxonMobil)	NYSE	XOM	\$91.01	\$90.60

Petroleum NEWS BAKKEN ND weekly county permit totals
Feb. 10-16, 2015

Petroleum NEWS BAKKEN Top 10 Bakken wells by IP rate
Feb. 10-16, 2015

County	Permits issued	Permits issued for confidential wells	Permits renewed	Location resurveys authorized
Burke	0	0	1	0
Divide	2	2	0	0
Dunn	3	0	3	0
McKenzie	22	9	2	0
Mountrail	11	11	0	0
Williams	6	5	0	1
Totals	44	27	6	1

HRC Operating (Halcon Resources)				
27278	Fort Berthold 148-94-30B-31-4H	Eagle Nest	DUN	3,715
Whiting Oil and Gas				
25585	Moccasin Creek 14-33-28-3H	Moccasin Creek	DUN	3,122
QEP Energy				
28167	State 2-16-21TH	Grail	MCK	2,761
Statoil Oil and Gas				
28970	Syverson 1-12 #8H-R	Stony Creek	WIL	2,690
QEP Energy				
26227	Kirkland 2-23-14BH	Grail	MCK	2,383
26226	Kirkland 1-23-14BH	Grail	MCK	2,364
28265	Kirkland 14-23-13-24LL	Grail	MCK	2,290
28166	State 2-16-21BH	Grail	MCK	2,204
XTO Energy (ExxonMobil)				
28577	Rieckhoff 21X-3E	N. Tobacco Garden	MCK	2,096
Whiting Oil and Gas				
27947	Bock Federal 44-7PH	Bell	STK	2,076

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 10-16, 2015 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.

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North Dakota oil permit activity

Feb. 10-16, 2015

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

Permits issued									
Well Name	Location	Footages	Field	Geologic Target	Wellbore Type	Elev.	NDIC No.	API No.	NDIC date
Divide Co.									
SM Energy									
Hagen 3-28HN	NENW 28-160-99	330'FNL and 2,275'FWL	Burg	N/A*	conf.	2,141'	30703	33-023-01337	2/11/15
Hagen 3-28HS	NENW 28-160-99	330'FNL and 2,325'FWL	Burg	N/A*	conf.	2,140'	30702	33-023-01336	2/11/15
Dunn Co.									
Whiting Oil and Gas									
Charging Eagle 15-21A-16-3H	SWSE 21-147-92	487'FSL and 2,515'FEL	Twin Buttes	Bakken	horz.	2,290'	30694	33-025-02853	2/10/15
Charging Eagle 15-21A-16-4H	SWSE 21-147-92	524'FSL and 2,561'FEL	Twin Buttes	Bakken	horz.	2,292'	30696	33-025-02855	2/10/15
Charging Eagle 15-21A-16-4H3	SWSE 21-147-92	505'FSL and 2,538'FEL	Twin Buttes	Bakken	horz.	2,291'	30695	33-025-02854	2/10/15
Golden Valley Co.									
BTA Oil Producers									
20002 Agate 3427-2H	SESW 34-144-103	275'FSL and 1,610'FWL	Bicentennial	N/A*	conf.	2,336'	30705	33-033-00357	2/11/15
20002 Agate 3427-3H	SESW 34-144-103	275'FSL and 1,690'FWL	Bicentennial	N/A*	conf.	2,336'	30704	33-033-00356	2/11/15
Whiting Oil and Gas									
Beaver Creek State 41-36-1PH	NENE 36-143-103	1,055'FNL and 240'FEL	Roosevelt	Bakken	horz.	2,539'	30725	33-033-00359	2/13/15
Beaver Creek State 41-36-2PH	NENE 36-143-103	1,025'FNL and 240'FEL	Roosevelt	Bakken	horz.	2,539'	30724	33-033-00358	2/13/15
McKenzie Co.									
HRC Operating (Halcon Resources)									
Berg Trust Federal 4-26-35H	NENE 26-149-98	420'FNL and 1,285'FEL	Pembroke	Bakken	horz.	2,254'	30726	33-053-06729	2/13/15
Berg Trust Federal 5-26-35H	NENE 26-149-98	420'FNL and 1,255'FEL	Pembroke	Bakken	horz.	2,256'	30727	33-053-06730	2/13/15
Berg Trust Federal 6-26-35H	NENE 26-149-98	420'FNL and 1,225'FEL	Pembroke	Bakken	horz.	2,256'	30728	33-053-06731	2/13/15
Berg Trust Federal 7-26-35H	NENE 26-149-98	420'FNL and 1,195'FEL	Pembroke	Bakken	horz.	2,257'	30729	33-053-06732	2/13/15
QEP Energy									
State 4-25-24TH	LOT1 36-150-95	264'FNL and 400'FWL	Spotted Horn	Bakken	horz.	2,186'	30708	33-053-06716	2/12/15
State 4-25-24T2H	LOT1 36-150-95	279'FNL and 352'FWL	Spotted Horn	Bakken	horz.	2,188'	30710	33-053-06718	2/12/15
State 5-25-24TH	LOT1 36-150-95	294'FNL and 304'FWL	Spotted Horn	Bakken	horz.	2,188'	30712	33-053-06720	2/12/15
State 7-25-24BH	LOT1 36-150-95	256'FNL and 423'FWL	Spotted Horn	Bakken	horz.	2,185'	30707	33-053-06715	2/12/15
State 8-25-24BH	LOT1 36-150-95	271'FNL and 376'FWL	Spotted Horn	Bakken	horz.	2,188'	30709	33-053-06717	2/12/15
State 9-25-24BH	LOT1 36-150-95	286'FNL and 328'FWL	Spotted Horn	Bakken	horz.	2,187'	30711	33-053-06719	2/12/15
Whiting Oil and Gas									
Flatland Federal 11-4-2H	LOT4 4-152-97	550'FNL and 740'FWL	Twin Valley	Bakken	horz.	1,980'	30687	33-053-06712	2/10/15
Flatland Federal 11-4-2TFH	LOT4 4-152-97	550'FNL and 695'FWL	Twin Valley	Bakken	horz.	1,979'	30688	33-053-06713	2/10/15
Schilke 34-32-3H	SWSE 32-149-99	425'FSL and 1,850'FEL	Pleasant Hill	Bakken	horz.	2,148'	30706	33-053-06714	2/11/15
XTO Energy (ExxonMobil)									
Rink 12X-4D	SWNW 4-151-98	1,571'FNL and 250'FWL	Garden	N/A*	conf.	2,094'	30686	33-053-06711	2/10/15
State 11X-16MB4	NWNW 16-153-95	725'FNL and 330'FWL	Charlson	N/A*	conf.	2,436'	30715	33-053-06723	2/12/15
State 11X-16TF4	NWNW 16-153-95	725'FNL and 360'FWL	Charlson	N/A*	conf.	2,436'	30714	33-053-06722	2/12/15
State 11X-16MB5	NWNW 16-153-95	725'FNL and 390'FWL	Charlson	N/A*	conf.	2,436'	30713	33-053-06721	2/12/15
Tobacco Garden 24X-32A	SESW 32-151-99	290'FSL and 1,540'FWL	Tobacco Garden	N/A*	conf.	2,213'	30719	33-053-06724	2/13/15
Tobacco Garden 24X-32AXB	SESW 32-151-99	290'FSL and 1,600'FWL	Tobacco Garden	N/A*	conf.	2,212'	30721	33-053-06726	2/13/15
Tobacco Garden 24X-32B	SESW 32-151-99	290'FSL and 1,660'FWL	Tobacco Garden	N/A*	conf.	2,211'	30723	33-053-06728	2/13/15
Tobacco Garden 24X-32E	SESW 32-151-99	290'FSL and 1,570'FWL	Tobacco Garden	N/A*	conf.	2,212'	30720	33-053-06725	2/13/15
Tobacco Garden 24X-32F	SESW 32-151-99	290'FSL and 1,630'FWL	Tobacco Garden	N/A*	conf.	2,211'	30722	33-053-06727	2/13/15
Mountrail Co.									
EOG Resources									
Wayzetta 68-2531H	NWSW 25-153-90	1,910'FSL and 428'FWL	Parshall	N/A*	conf.	1,988'	30692	33-061-03583	2/10/15
Wayzetta 69-2531H	NWSW 25-153-90	1,959'FSL and 422'FWL	Parshall	N/A*	conf.	1,987'	30693	33-061-03584	2/10/15
Hess Bakken Investments II									
EN-D Cvacara S- 154-93-0904H-7	SWSE 9-154-93	350'FSL and 2,395'FEL	Robinson Lake	N/A*	conf.	2,395'	30717	33-061-03588	2/13/15
EN-D Cvacara S- 154-93-0904H-8	SWSE 9-154-93	383'FSL and 2,395'FEL	Robinson Lake	N/A*	conf.	2,395'	30718	33-061-03589	2/13/15
Marathon Oil									
Mikkelsen 11-14H	SWSW 11-151-93	215'FSL and 309'FWL	Reunion Bay	N/A*	conf.	2,098'	30697	33-061-03585	2/11/15
Slawson Exploration									
River Rat Federal 1-23-14H	NWNE 26-152-93	830'FNL and 2,250'FEL	Big Bend	N/A*	conf.	2,049'	30732	33-061-03592	2/16/15
River Rat Federal 2-23-14H	NWNE 26-152-93	830'FNL and 2,150'FEL	Big Bend	N/A*	conf.	2,042'	30730	33-061-03590	2/16/15
River Rat Federal 5-23-14TFH	NWNE 26-152-93	830'FNL and 2,300'FEL	Big Bend	N/A*	conf.	2,048'	30733	33-061-03593	2/16/15
River Rat Federal 6-23-14TFH	NWNE 26-152-93	830'FNL and 2,200'FEL	Big Bend	N/A*	conf.	2,042'	30731	33-061-03591	2/16/15
Statoil Oil and Gas									
Hospital 31-36 #7H	SESE 31-156-92	336'FSL and 684'FEL	Alger	N/A*	conf.	2,440'	30698	33-061-03586	2/11/15
Hospital 31-36 #8TFH	SESE 31-156-92	336'FSL and 656'FEL	Alger	N/A*	conf.	2,440'	30699	33-061-03587	2/11/15
Williams Co.									
Hess Bakken Investments II									
BL-Odegaard- 156-95-2116H-2	NWNE 28-156-95	350'FNL and 2,169'FEL	Beaver Lodge	N/A*	conf.	2,455'	30691	33-105-03984	2/10/15
BL-Odegaard- 156-95-2116H-3	NWNE 28-156-95	350'FNL and 2,136'FEL	Beaver Lodge	N/A*	conf.	2,456'	30690	33-105-03983	2/10/15
BL-Odegaard- 156-95-2116H-4	NWNE 28-156-95	350'FNL and 2,103'FEL	Beaver Lodge	N/A*	conf.	2,452'	30689	33-105-03982	2/10/15



Top 50 North Dakota Bakken oil producers

December 2014

Company	BPD*		
1. Whiting Oil and Gas Corp.	128,692	29. Crescent Point Energy U.S. Corp.	3,007
2. Hess Corp.	113,453*	30. Liberty Resources Management Co.	2,336
3. Continental Resources	113,420	31. Sinclair Oil and Gas Co.	2,272
4. XTO Energy (ExxonMobil)	70,535	32. SHD Oil and Gas	2,237
5. EOG Resources, Inc.	69,352	33. Petrogulf Corp.	1,803
6. Burlington Resources Oil and Gas (ConocoPhillips)	63,403*	34. Cornerstone Natural Resources	1,096
7. Statoil Oil and Gas LP	58,666	35. Arsenal Energy USA Inc.	1,033
8. Marathon Oil Co.	58,001	36. North Plains Energy	980
9. Oasis Petroleum North America	50,235	37. Denbury Onshore, LLC	901
10. QEP Energy Co.	44,506	38. Armstrong Operating	594
11. WPX Energy Williston	34,392	39. Mountain Divide (Mountainview Energy)	542
12. Halcon Resources	32,975	40. True Oil LLC	497
13. Petro-Hunt	32,018	41. Thunderbird Resources LP	445
14. Slawson Exploration Co., Inc.	29,684	42. Bakken Hunter, LLC	256
15. SM Energy Co.	25,005	43. Rim Operating, Inc.	110
16. Newfield Production Co.	19,874	44. Legacy Reserves Operating LP	105
17. Oxy USA Inc. (Occidental Petroleum)	19,025	45. Windsor Energy Group	103
18. Triangle USA Petroleum Corp.	14,295	46. Resource Drilling	89
19. Enerplus Resources USA Corp.	12,117	47. Gadeco	75
20. Zavanna LLC	11,178	48. Texakota	45
21. Hunt Oil Co.	10,564	49. Condor Petroleum	33
22. Murex Petroleum Corp.	6,961	50. Petro Harvester Operating	26
23. Samson Resources (KKR & Co.)	6,417		
24. Fidelity Exploration & Production (MDU)	6,053		
25. Emerald Oil, Inc.	5,641		
26. Lime Rock Resources III-A	5,582		
27. Abraxas Petroleum	4,960		
28. American Eagle Energy Corp.	3,820		

Note: Hess-owned Hess Bakken Investments production was added to Hess' separate production, so their total output determined their ranking. And ConocoPhillips-owned Burlington production was added to ConocoPhillips' separate production.

Information derived from the preliminary December 2014 Oil and Gas Production Report published by the North Dakota Industrial Commission, Department of Minerals' Oil and Gas Division. This is oil produced by wells operated by these companies; it does not identify the percentage of oil from the Bakken petroleum system oil production from wells on confidential status and the figures are rounded to the nearest whole.

—Ashley Lindly | alindly@petroleumnewsbakken.com

ND PERMITS *continued from page 11*

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

Well Name	Location	Footages	Field	Geologic Target	Wellbore Type	Elev.	NDIC No.	API No.	NDIC date
Statoil Oil and Gas									
Irgens 27-34 #7TFH	SESW 34-156-100	525'FSL and 1,633'FWL	East Fork	N/A*	conf.	2,127'	30700	33-105-03985	2/11/15
Irgens 27-34 #8H	SESW 34-156-100	525'FSL and 1,605'FWL	East Fork	N/A*	conf.	2,125'	30701	33-105-03986	2/11/15
Whiting Oil and Gas									
Kaldahl 44-12TFX	NENW 13-156-97	624'FNL and 558'FEL	Ray	Bakken	horz.	2,209'	30716	33-105-03987	2/12/15
Permits renewed									
Well Name	Location	Footages	Field	Geologic Target	Wellbore Type	Elev.	NDIC No.	API No.	NDIC date
Burke Co.									
Petro-Hunt									
Overlee 160-94-32A-4-1HS	NENE 32-160-94	325'FNL and 350'FEL	North Tioga	N/A*	conf.	2,416'	27669	33-013-01774	2/11/15
Dunn Co.									
Petro-Hunt									
Klatt 145-97-19C-18-3H	SESW 19-145-97	250'FSL and 1,620'FWL	Little Knife	N/A*	conf.	2,653'	27650	33-025-02465	2/10/15
Klatt 145-97-19C-18-4H	SESW 19-145-97	250'FSL and 1,570'FWL	Little Knife	N/A*	conf.	2,654'	27651	33-025-02466	2/10/15
Klatt 145-97-19C-18-5H	SESW 19-145-97	250'FSL and 1,520'FWL	Little Knife	N/A*	conf.	2,655'	27652	33-025-02467	2/10/15
McKenzie Co.									
Burlington Resources Oil and Gas (ConocoPhillips)									
Lovaas 7-1-1UTFH	NENE 1-150-96	410'FNL and 660'FEL	Blue Buttes	N/A*	conf.	2,387'	20468	33-053-03493	2/11/15
State Veeder 44-36TFH	SESE 36-150-96	275'FSL and 785'FEL	Blue Buttes	N/A*	conf.	2,294'	20469	33-053-03494	2/16/15

see ND PERMITS page 13



North Dakota Bakken oil production by company

December 2014

Derived from the preliminary December 2014 Oil & Gas Production Report published by the North Dakota Industrial Commission, Department of Minerals' Oil and Gas Division. Note this is the oil produced by wells operated by these companies; it does not identify the percentage of oil from the Bakken petroleum system (including Bakken, Three Forks, Pronghorn, Sanish, etc.) that is owned by each company AND it does not include production from wells operated by others, in which these companies might hold an interest. It also does not include Bakken system oil production from wells on confidential status. Consequently, it usually differs from what each company reports for production. The daily average for the individual companies was derived from dividing the total production by the number of days in December, versus the number of days wells were actually producing and rounded to the nearest whole.

LEGEND

Field – pool – county – total monthly oil production.
 Monthly total for all fields.
 Daily average for all fields.
 Numbers represent barrels of oil

The operator names used in this chart are exactly as they appear in the Oil and Gas Division records, but some of the companies and/or their Bakken assets might be owned by others. The ones we have identified include Burlington Resources Oil & Gas Company, LP, which is owned by ConocoPhillips; Fidelity Exploration & Production, owned by MDU; HRC Operating, owned by Halcon Resources; Mountain Divide, owned by Mountainview Energy; Oxy USA, owned by Occidental Petroleum; Samson Resources Company, owned by KKR & Co.; and XTO Energy, Inc., owned by ExxonMobil. Please let us know if you see others by emailing Ashley Lindly at alindly@petroleumnewsbakken.com.

Abraxas Petroleum	
Demores – Bakken – Billings	183
North Fork – Bakken – McKenzie	117,199
Pershing – Bakken – McKenzie	36,152
Roosevelt – Bakken – Billings	231
Monthly total:	153,765
Daily average:	4,960
American Eagle Energy	
Big Dipper – Bakken – Divide	3,337
Colgan – Bakken – Divide	86,209
Flat Lake East – Bakken – Divide	1,396
Skjeremo – Bakken – Divide	27,489
Monthly total:	118,431
Daily average:	3,820
Armstrong Operating	
Patterson Lake – Lodgepole – N/A	16,880
Versippi – Lodgepole – N/A	1,526
Monthly total:	18,406
Daily average:	594

If you add up all the oil produced by the operators of wells in North Dakota, average Bakken production in November was approximately 1,187,206 barrels of oil per day, which excludes wells on confidential status. These numbers compare to total North Dakota oil production of 1,227,344 bpd in December as released by the North Dakota Industrial Commission approximately 95 percent (1,163,352 bpd) of which came directly from the Bakken system, including wells on confidential status, with the remaining 5 percent coming from the other systems, such as the largely vertical wells in the Tyler, Mission Canyon, Duperow and Red River plays. The State of North Dakota does not release detailed production information for wells on confidential status, so Petroleum News Bakken is unable to include that data in its monthly company breakdown, including its Top 50 list. The daily average for the individual companies was derived from dividing the total production by the number of days in December, versus the number of days wells were actually producing, and rounded to the nearest whole.

Arsenal Energy USA	
Stanley – Bakken – Mountrail	32,030
Daily average:	1,033
Bakken Hunter	
Ambrose – Bakken – Divide	2,938
Bounty School – Bakken – Divide	2,710
Crosby – Bakken – Divide	1,346
Paulson – Bakken – Divide	930
Monthly total:	7,924
Daily average:	256

BTA Oil Producers	
Bicentennial – Bakken – Golden Valley	221
Elkhorn Ranch – Bakken – Billings	0
Pierre Creek – Bakken – McKenzie	117
Monthly total:	338
Daily average:	11
Burlington Resources Oil and Gas (ConocoPhillips)	
Bailey – Bakken – Dunn	8,341
Bennett Creek – Bakken – McKenzie	1,534
Blue Buttes – Bakken – McKenzie	112,815
Bull Moose – Bakken – McKenzie	1,195
Bully – Bakken – McKenzie	785

see ND PRODUCTION page 14

ND PERMITS continued from page 12

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

Permits cancelled										
Well Name	Location	Footages	Field	Geologic Target	Wellbore Type	Elev.	NDIC No.	API No.	NDIC date	
Bowman Co.										
Denbury Onshore										
CHSU 31-36NH 15	NENE 36-131-105	200'FNL and 1,085'FEL	Cedar Hills	S. Red River B	horz.	3,046'	30473	33-011-01540	2/16/15	
CHSU 31-36SH 15	NENE 36-131-105	200'FNL and 1,120'FEL	Cedar Hills	S. Red River B	horz.	3,046'	30073	33-011-01537	2/16/15	
CHSU 41-36NH 15	NENE 36-131-105	1,230'FNL and 325'FEL	Cedar Hills	Red River B	horz.	3,066'	30123	33-011-01538	2/16/15	
CHSU 41-36SH 15	NENE 36-131-105	1,230'FNL and 290'FEL	Cedar Hills	Red River B	horz.	3,067'	30124	33-011-01539	2/16/15	
McKenzie Co.										
Whiting Oil and Gas										
Smokey 2-16-21-14H	NWNE 16-149-98	428'FNL and 2,293'FEL	Pembroke	Bakken	horz.	2,384'	27388	33-053-05587	2/10/15	
Smokey 2-16-21-14H3	NWNE 16-149-98	399'FNL and 2,300'FEL	Pembroke	Bakken	horz.	2,385'	27389	33-03-05588	2/10/15	
Smokey 2-16-21-15H3A	NWNE 16-149-98	486'FNL and 2,277'FEL	Pembroke	Bakken	horz.	2,382'	27386	33-053-05585	2/10/15	
Smokey 2-16-21-15H3	NWNE 16-149-98	457'FNL and 2,285'FEL	Pembroke	Bakken	horz.	2,383'	27387	33-053-05586	2/10/15	
Smokey 4-29-32-13H3A	NWNW 29-149-98	250'FNL and 900'FWL	Pembroke	Bakken	horz.	2,306'	27446	33-053-05601	2/10/15	
Smokey 4-29-32-13H3	NWNW 29-149-98	250'FNL and 840'FWL	Pembroke	Bakken	horz.	2,306'	27447	33-053-05602	2/10/15	
Mountrail Co.										
Hess Bakken Investments II										
EN-D Cvacara S- 154-93-0904H-12	SWSE 9-154-93	449'FSL and 2,395'FEL	Robinson Lake	Bakken	horz.	2,402'	30450	33-061-03501	2/11/15	
EN-D Cvacara S- 154-93-0904H-13	SWSE 9-154-93	482'FSL and 2,395'FEL	Robinson Lake	Bakken	horz.	2,402'	30449	33-061-03500	2/11/15	
Williams Co.										
Triangle USA Petroleum										
Kittleson 157-103-32-29-1H	SWSW 32-157-103	225'FSL and 1,155'FWL	Strandahl	Bakken	horz.	2,354'	24885	33-105-02994	2/12/15	
Kittleson 157-103-32-29-2H	SWSW 32-157-103	225'FSL and 1,105'FWL	Strandahl	Bakken	horz.	2,351'	24886	33-105-02995	2/12/15	
Larson 157-101-21-16-2H	SESW 21-157-101	430'FSL and 1,480'FWL	Otter	Bakken	horz.	2,212'	24880	33-105-02991	2/12/15	
Larson 157-101-21-16-4H	SESW 21-157-101	430'FSL and 1,380'FWL	Otter	Bakken	horz.	2,208'	24882	33-105-02993	2/12/15	
Larson 157-101-28-33-4H	SESW 21-157-101	225'FSL and 1,380'FWL	Otter	Bakken	horz.	2,210'	24879	33-105-02990	2/12/15	
Larson 157-101-28-33-2H	SESW 21-157-101	225'FSL and 1,480'FWL	Otter	Bakken	horz.	2,208'	24877	33-105-02988	2/12/15	
Location resurveyed										
Well Name	Location	Footages	Field	Geologic Target	Wellbore Type	Elev.	NDIC No.	API No.	NDIC date	
Mountrail Co.										
Hess Bakken Investments II										
EN-D Cvacara S- 154-93-0904H-10	SWSE 9-154-93	449'FSL and 2,395'FEL	Robinson Lake	N/A*	conf.	2,395'	30452	33-061-03503	2/12/15	

* 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; Alger, Beaver Lodge, Bicentennial, Big Bend, Blue Buttes, Burg, Charlson, East Tioga, Garden, Little Knife, North Tioga, Parshall, Reunion Bay, Robinson Lake, and Tobacco Garden.

ND PRODUCTION continued from page 13

Cabernet – Bakken – Dunn	531
Camel Butte – Bakken – McKenzie	76,181
Charlson – Bakken – McKenzie	154,246
Clear Creek – Bakken – McKenzie	96,205
Corral Creek – Bakken – Dunn	378,231
Croff – Bakken – McKenzie	41,594
Crooked Creek – Bakken – Dunn	3,382
Dimmick Lake – Bakken – McKenzie	18,139
Elidah – Bakken – McKenzie	133,595
Fancy Buttes – Bakken – McKenzie	8,318
Fayette – Bakken – Dunn	365
Hawkeye – Bakken – McKenzie	127,894
Haystack Butte – Bakken – McKenzie	50,166
Jim Creek – Bakken – Dunn	3,340
Johnson Corner – Bakken – McKenzie	201,061
Keene – Bakken/Three Forks – McKenzie	240,985
Killdeer – Bakken – Dunn	3,005
Little Knife – Bakken – Dunn	29,834
Lone Butte – Bakken – Dunn	0
Mondak – Bakken – McKenzie	0
Morgan Draw – Bakken – Golden Valley	687
Murphy Creek – Bakken – Dunn	20,357
North Fork – Bakken – McKenzie	7,195
Pershing – Bakken – McKenzie	24,755
Pierre Creek – Bakken – McKenzie	502
Sand Creek – Bakken – McKenzie	26,128
Twin Valley – Bakken – McKenzie	4,281
Union Center – Bakken – McKenzie	49,094
Westberg – Bakken – McKenzie	127,626
Willmen – Bakken – Dunn	1,366
Monthly total:	1,953,733
Daily average:	63,024

Carl H. Nordstrand

Pierre Creek – Bakken – McKenzie	110
Daily average:	4

Citation Oil & Gas

Sadler – Bakken – Divide	100
Daily average:	3

Condor Petroleum

Hayland – Bakken – Divide	583
Stoneview – Bakken – Divide	444
Monthly total:	1,027
Daily average:	33

ConocoPhillips

Dickinson – Lodgepole – N/A	4,385
Duck Creek – Lodgepole – N/A	3,103
West Dickinson – Lodgepole – N/A	4,274
Monthly total:	11,762
Daily average:	379

Continental Resources

Alkali Creek – Bakken – Mountrail	195,048
Antelope – Sanish – McKenzie	143,620
Avoca – Bakken – Williams	7,685
Baker – Bakken – McKenzie	25,567
Baker – Bakken – Williams	43,979
Banks – Bakken – McKenzie	158,416
Barta – Bakken – Billings	5,482
Battleview – Bakken – Williams	2,720
Baukol Noonan – Bakken – Divide	1,591
Bear Creek – Bakken – Dunn	27,876
Beaver Creek – Bakken – Golden Valley	4,554
Beaver Creek Bay – Bakken – Mercer	0
Beaver Lodge – Bakken – Williams	7,632
Bell – Bakken – Stark	0
Bicentennial – Bakken – McKenzie	644
Big Gulch – Bakken – Dunn	5,095
Blacktail – Bakken – Billings	1,498
Bluffton – Bakken – Divide	6,383
Border – Bakken – Burke	10,556
Border – Bakken – Divide	810
Brooklyn – Bakken – Williams	253,303
Bully – Bakken – McKenzie	3,427
Burg – Bakken – Williams	3,282
Cabernet – Bakken – Dunn	6,499
Camel Butte – Bakken – McKenzie	1,164
Camp – Bakken – McKenzie	101,545
Catwalk – Bakken – Williams	13,410
Cedar Coulee – Bakken – Dunn	19,614
Charlie Bob – Bakken – McKenzie	1,789
Charlson – Bakken – McKenzie	0
Chimney Butte – Bakken – Dunn	140,508
Corinth – Bakken – Williams	16,425
Corral Creek – Bakken – Dunn	24,320
Crazy Man Creek – Bakken – Williams	82,113
Demores – Bakken – Billings	429
Dimmick Lake – Bakken – McKenzie	6,850
Dollar Joe – Bakken – Williams	168,799
Dolphin – Bakken – Divide	25,037
Dutch Henry Butte – Bakken – Stark	4,518
East Fork – Bakken – Williams	51,715
Edge – Bakken – McKenzie	48,349
Elidah – Bakken – McKenzie	36,694
Elk – Bakken – McKenzie	4,307
Elkhorn Ranch – Bakken – Billings	1,277
Ellisville – Bakken – Williams	17,467
Elm Tree – Bakken – McKenzie	115,309
Epping – Bakken – Williams	18,397
Fairfield – Bakken – Billings	2,169
Fancy Buttes – Bakken – McKenzie	869
Forthun – Bakken – Divide	2,391
Frazier – Bakken – Divide	12,806
Glade – Bakken – Billings	226
Glass Bluff – Bakken – McKenzie	2,372
Hamlet – Bakken – Divide	45,809
Hamlet – Bakken – Williams	7,414
Hanson – Bakken – Williams	5,355
Hardscrabble – Bakken – Williams	7,366
Hayland – Bakken – Divide	17,991
Haystack Butte – Bakken – Dunn	2,034
Haystack Butte – Bakken – McKenzie	7,334
Hebron – Bakken – Williams	17,742
Indian Hill – Bakken – McKenzie	55,742
Jim Creek – Bakken – Dunn	76,660
Juno – Bakken – Divide	14,329

Kimberly – Bakken – Divide	1,252
Last Chance – Bakken – McKenzie	4,334
Last Chance – Bakken – Williams	15,977
Leaf Mountain – Bakken – Burke	9,648
Lindahl – Bakken – Williams	42,735
Little Knife – Bakken – Dunn	13,278
Little Knife – Bakken – McKenzie	711
Lone Tree Lake – Bakken – Williams	17,933
Long Creek – Bakken – Williams	70,387
Mary – Bakken – McKenzie	913
Mondak – Bakken – McKenzie	2,209
Murphy Creek – Bakken – Dunn	37,790
New Home – Bakken – Williams	4,113
Noonan – Bakken – Divide	21,011
North Tioga – Bakken – Burke	11,391
North Tioga – Bakken – Williams	74,985
North Tobacco Garden – Bakken – McKenzie	156,331
Northwest McGregor – Bakken – Williams	43,457
Oakdale – Bakken – Dunn	117,717
Oliver – Bakken – Williams	73,310
Park – Bakken – Billings	1,839
Patent Gate – Bakken – McKenzie	58,712
Pembroke – Bakken – McKenzie	41,528
Pershing – Bakken – McKenzie	8,913
Pleasant Valley – Bakken – Williams	5,378
Poe – Bakken – McKenzie	70,685
Rainbow – Bakken – Williams	7,722
Ranch Coulee – Bakken – McKenzie	2,319
Ranch Creek – Bakken – McKenzie	713
Rattlesnake Point – Bakken – Dunn	24,460
Rosebud – Bakken – Williams	1,542
Ross – Bakken – Mountrail	464
Saddle Butte – Bakken – Billings	319
Sadler – Bakken – Divide	25,040
Sanish – Bakken – Mountrail	28,238
Sauk – Bakken – Divide	4,325
Sauk – Bakken – Williams	34,172
Siverston – Bakken – McKenzie	2,420
South Boxcar – Bakken – McKenzie	313
South Meadow – Bakken – Williams	1,039
Squaw Gap – Bakken – McKenzie	2,704
Squires – Bakken – Williams	5,516
St. Anthony – Bakken – Dunn	1,779
St. Demetrius – Bakken – Billings	31,690
Stoneview – Bakken – Burke	16,039
Stoneview – Bakken – Divide	109,147
Stoneview – Bakken – Williams	57,290
Temple – Bakken – Williams	23,546
Todd – Bakken – Williams	2,765
Ukraina – Bakken – Billings	16,045
Upland – Bakken – Divide	26,141
Viking – Bakken – Burke	5,645
West Capa – Bakken – Williams	2,433
Westberg – Bakken – McKenzie	4,430
Whitetail – Bakken – Billings	912
Wildrose – Bakken – Divide	11,416
Willow Creek – Bakken – Williams	36,486
Winner – Bakken – Williams	28,099
Monthly total:	3,516,018
Daily average:	113,420

Core 54 Oil and Gas

Dickinson – Lodgepole – Stark	23
Daily average:	0.74

Cornerstone Natural Resources

Bailey – Bakken – Dunn	2,347
Carter – Bakken – Burke	2,150
Clayton – Bakken – Burke	0
Clear Water – Bakken – Burke	740
Coteau – Bakken – Burke	2,382
Customs – Bakken – Burke	1,243
Flaxton – Bakken – Burke	2,494
Lignite – Bakken – Burke	287
Little Butte – Bakken – Burke	13,970
Lostwood – Bakken – Burke	1,147
Northeast Foothills – Bakken – Burke	2,993
Pickett – Bakken – Burke	724
South Coteau – Bakken – Burke	2,255
Wildcat – Bakken – Burke	393
Woburn – Bakken – Burke	843
Monthly total:	33,968
Daily average:	1,096

Crescent Point Energy U.S.

Alkabo – Bakken – Divide	739
Blue Ridge – Bakken – Williams	3,425
Church – Bakken – Williams	11,314
Colgan – Bakken – Divide	2,414
Dublin – Bakken – Williams	14,664
Ellisville – Bakken – Williams	19,342
Gooseneck – Bakken – Divide	2,214
Little Muddy – Bakken – Williams	16,159
New Home – Bakken – Williams	275
West Ambrose – Bakken – Divide	9,747
Wheelock – Bakken – Williams	576
Wildrose – Bakken – Divide	785
Winner – Bakken – Williams	11,568
Monthly total:	93,222
Daily average:	3,007

Denbury Onshore

Eland – Lodgepole – N/A	18,509
Livestock – Lodgepole – N/A	0
Stadium – Lodgepole – N/A	9,030
Subdivision – Lodgepole – N/A	386
Monthly total:	27,925
Daily average:	901

Eagle Operating

Spiral – Bakken – Burke	39
Daily average:	1

Earthstone Energy

Flat Top Butte – Bakken – McKenzie	5
Daily average:	0.16

Emerald Oil

Boxcar Butte – Bakken – McKenzie	51,219
Charbonneau – Bakken – McKenzie	51,416
Foreman Butte – Bakken – McKenzie	23,360
Green River – Bakken – Stark	16,838
Moline – Bakken – McKenzie	7,751
Mondak – Bakken – McKenzie	7,301
Pierre Creek – Bakken – McKenzie	910
Sheep Butte – Bakken – McKenzie	6,546
St. Demetrius – Bakken – Billings	9,538
Temple – Bakken – Williams	0
Monthly total:	174,879
Daily average:	5,641

Encore Energy Partners Operating

Ice Caves – Bakken – Billings	179
North Tioga – Bakken – Burke	0
Tree Top – Bakken – Billings	63
Monthly total:	242
Daily average:	8

Endeavor Energy Resources

Bicentennial – Bakken – McKenzie	0
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Enduro Operating

Hay Draw – Bakken – McKenzie	0
Stoneview – Bakken – Divide	0

Energyquest II

Flat Top Butte – Bakken – McKenzie	0
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Enerplus Resources USA

Antelope – Sanish – McKenzie	16,310
Eagle Nest – Bakken – Dunn	5,056
Eagle Nest – Bakken – McKenzie	12,813
Four Bears – Bakken – McKenzie	863
Heart Butte – Bakken – Dunn	20,821
Mandaree – Bakken – Dunn	84,403
McGregory Buttes – Bakken – Dunn	78,694
Moccasin Creek – Bakken – Dunn	33,606
South Fork – Bakken – Dunn	23,071
Spotted Horn – Bakken – McKenzie	96,066
Squaw Creek – Bakken – Dunn	3,917
Monthly total:	375,620
Daily average:	12,117

EOG Resources

Alger – Bakken – Mountrail	32,518
Antelope – Sanish – McKenzie	33,807
Clarks Creek – Bakken – McKenzie	153,324
Clear Water – Bakken – Burke	8,891
Clear Water – Bakken – Mountrail	69,134
Cottonwood – Bakken – Mountrail	7,774
Eightmile – Bakken – Williams	1,189
Ft. Buford – Bakken – Williams	3,859
Hebron – Bakken – Williams	3,205
Kittleson Slough – Bakken – Mountrail	31,275
Lake Trenton – Bakken – Williams	5,189
Little Butte – Bakken – Burke	795
Mandaree – Bakken – Dunn	5,967
Painted Woods – Bakken – Williams	27,014
Parshall – Bakken – Mountrail	1,508,882
Rosebud – Bakken – Williams	5,073
Ross – Bakken – Mountrail	31,601
Round Prairie – Bakken – Williams	18,642
Sixmile – Bakken – Williams	6,553
Spotted Horn – Bakken – McKenzie	77,081
Squaw Creek – Bakken – McKenzie	33,922
Squires – Bakken – Williams	1,742
Stanley – Bakken – Mountrail	46,763
Thompson Lake – Bakken – Burke	7,705
Van Hook – Bakken – Mountrail	27,422
Vanville – Bakken – Burke	577
Monthly total:	2,149,904
Daily average:	69,352

Evertson Operating

Ray – Bakken – Williams	144
Daily average:	5

Fidelity Exploration & Production (MDU)

Dickinson – Bakken – Stark	9,877
Dutch Henry Butte – Bakken – Stark	18,734
Green River – Bakken – Stark	7,280
Heart River – Bakken – Stark	28,565
Lehigh – Bakken – Stark	0
New Hradec – Bakken – Stark	3,309
Sanish – Bakken – Mountrail	118,425
Zenith – Bakken – Stark	1,458
Monthly total:	187,648
Daily average:	6,053

Filco

Charlson – Bakken – McKenzie	50
Rough Rider – Bakken – McKenzie	7
Monthly total:	57
Daily average:	2

Gadeco

Epping – Bakken – Williams	2,337
Daily average:	75

Galaxy Oil

Hamlet – Bakken – Divide	1
Sauk – Bakken – Williams	14
Monthly total:	15
Daily average:	0.48

Hess Bakken Investments II

Alger – Bakken – Mountrail	175,556
Alkali Creek – Bakken – Mountrail	262,698
Antelope – Sanish – McKenzie	131,656
Antelope Creek – Bakken – McKenzie	3,830
Bailey – Bakken – Dunn	364
Banks – Bakken – McKenzie	27,703

ND PRODUCTION *continued from page 14*

Baskin – Bakken – Mountrail	30,051
Baukol Noonan – Bakken – Divide	612
Bear Creek – Bakken – Dunn	92,987
Beaver Lodge – Bakken – Williams	59,528
Big Butte – Bakken – Mountrail	113,159
Big Gulch – Bakken – Dunn	67,985
Blue Buttes – Bakken – McKenzie	468,487
Capa – Bakken – Williams	20,187
Cedar Coulee – Bakken – Dunn	22,893
Cherry Creek – Bakken – McKenzie	138,301
Clear Water – Bakken – Mountrail	13,021
Cottonwood – Bakken – Mountrail	845
Crazy Man Creek – Bakken – Williams	3,684
Davis Buttes – Bakken – Stark	1,934
Dollar Joe – Bakken – Williams	16,966
East Fork – Bakken – Williams	1,646
East Tioga – Bakken – Mountrail	420
Elk – Bakken – McKenzie	2,126
Ellsworth – Bakken – McKenzie	55,752
Elm Tree – Bakken – McKenzie	9,965
Enget Lake – Bakken – Mountrail	994
Forthun – Bakken – Burke	1,539
Glass Bluff – Bakken – McKenzie	4,071
Hawkeye – Bakken – McKenzie	422,820
Hofflund – Bakken – Williams	90,259
Jim Creek – Bakken – Dunn	1,522
Juniper – Bakken – McKenzie	1,769
Kittleson Slough – Bakken – Mountrail	259
Larson – Bakken – Burke	1,761
Little Knife – Bakken – Dunn	184,822
Little Knife – Bakken – McKenzie	1,170
Lone Butte – Bakken – Dunn	2,528
Lone Tree Lake – Bakken – Williams	19,810
Long Creek – Bakken – Williams	2,440
Manitou – Bakken – Mountrail	106,247
Manning – Bakken – Dunn	1,741
Marmon – Bakken – Williams	4,655
Midway – Bakken – Williams	609
Murphy Creek – Bakken – Dunn	33,877
New Home – Bakken – Williams	50,943
Oliver – Bakken – Williams	7,541
Parshall – Bakken – Mountrail	2,852
Pleasant Valley – Bakken – Mountrail	7,937
Rainbow – Bakken – Williams	49,622
Ranch Coulee – Bakken – McKenzie	6
Ray – Bakken – Williams	32,049
Robinson Lake – Bakken – Mountrail	410,865
Ross – Bakken – Mountrail	46,578
Sandrock – Bakken – McKenzie	25,072
Sather Lake – Bakken – McKenzie	5,488
Short Creek – Bakken – Burke	422
Siverston – Bakken – McKenzie	14,784
Sorkness – Bakken – Mountrail	3,799
South Meadow – Bakken – Williams	5,364
South Tobacco Garden – Bakken – McKenzie	15,168
Spencer – Bakken – Ward	1,463
Stanley – Bakken – Mountrail	3,183
Timber Creek – Bakken – McKenzie	11,490
Tioga – Bakken – Mountrail	5,513
Tioga – Bakken – Williams	12,741
Tioga – Lodgepole – Williams	0
Truax – Bakken – Williams	154,733
Westberg – Bakken – McKenzie	6,567
Wheelock – Bakken – Williams	31,045
White Earth – Bakken – Mountrail	6,038
Wildcat – Bakken – Burke	525
Monthly total:	3,517,037
Daily average:	113,453

HRC Operating (Halcon Resources)	
Antelope – Sanish – McKenzie	177,606
Climax – Bakken – Williams	16,926
Dublin – Bakken – Williams	7,303
Eagle Nest – Bakken – Dunn	202,338
Ellisville – Bakken – Williams	8,783
Four Bears – Bakken – McKenzie	133,023
Good Luck – Bakken – Williams	11,030
Little Muddy – Bakken – Williams	4,687
Lone Tree Lake – Bakken – Williams	6,896
Marmon – Bakken – Williams	60,076
McGregory Buttes – Bakken – Dunn	271,895
Otter – Bakken – Williams	44,446
Pembroke – Bakken – McKenzie	3,093
Spotted Horn – Bakken – McKenzie	13,216
Strandahl – Bakken – Williams	43,014
Tyrone – Bakken – Williams	17,889
Monthly total:	1,022,221
Daily average:	32,975

Hunt Oil	
Alexandria – Bakken – Divide	60,007
Antelope Creek – Bakken – McKenzie	6,168
Bailey – Bakken – Dunn	4,057
Bear Butte – Bakken – McKenzie	6,425
Bluffton – Bakken – Divide	1,737
Boxcar Butte – Bakken – McKenzie	4,287
Buffalo Wallow – Bakken – McKenzie	641
Bully – Bakken – McKenzie	915
Clear Water – Bakken – Mountrail	6,254
Ellsworth – Bakken – McKenzie	1,516
Frazier – Bakken – Divide	11,660
Green Lake – Bakken – Williams	4,459
Lake Ilo – Bakken – Dunn	7,040
Little Tank – Bakken – McKenzie	9,739
Musta – Bakken – Divide	4,406
Parshall – Bakken – Mountrail	63,090
Red Wing Creek – Bakken – McKenzie	1,800
Ross – Bakken – Mountrail	33,052
Sather Lake – Bakken – McKenzie	15,655
Sioux Trail – Bakken – Divide	18,086
Smoky Butte – Bakken – Divide	14,314
Smoky Butte – Bakken – Williams	2,218
Werner – Bakken – Dunn	14,159
Wolf Bay – Bakken – Dunn	18,168
Writing Rock – Bakken – Divide	3,346
Zahl – Bakken – Williams	14,277
Monthly total:	327,476
Daily average:	10,564

Jettison	
Little Knife – Bakken – Billings	27
Stoneview – Bakken – Burke	430
Monthly total:	457
Daily average:	15

Legacy Reserves Operating	
Ash Coulee – Bakken – Billings	200
Buckhorn – Bakken – McKenzie	0
Elkhorn Ranch – Bakken – Billings	998
Roosevelt – Bakken – Billings	1,466
South Boxcar – Bakken – McKenzie	23
Squaw Gap – Bakken – McKenzie	569
Monthly total:	3,256
Daily average:	105

Leland Oil & Gas	
Big Gulch – Bakken – Dunn	0

Liberty Resources Management	
Bull Moose – Bakken – McKenzie	0
Cinnamon Creek – Bakken – McKenzie	1,810
Cottonwood – Bakken – Burke	187
Cottonwood – Bakken – Mountrail	324
Flat Top Butte – Bakken – McKenzie	1,904
Hay Draw – Bakken – McKenzie	190
McGregor – Bakken – Williams	30,699
North Tioga – Bakken – Burke	273
North Tioga – Bakken – Divide	2,624
Pierre Creek – Bakken – McKenzie	3,306
Stoneview – Bakken – Burke	110
Stoneview – Bakken – Divide	394
Temple – Bakken – Williams	30,581
Monthly total:	72,402
Daily average:	2,336

Lime Rock Resources III-A	
ALGER – Bakken – Mountrail	11,292
Stanley – Bakken – Mountrail	161,750
Monthly total:	173,042
Daily average:	5,582

Marathon Oil	
Antelope – Sanish – McKenzie	18,544
Bailey – Bakken – Dunn	346,143
Big Bend – Bakken – Mountrail	11,657
Chimney Butte – Bakken – Dunn	154,730
Deep Water Creek Bay – Bakken – McLean	29,224
Four Bears – Bakken – McKenzie	29,766
Jim Creek – Bakken – Dunn	592
Killdeer – Bakken – Dunn	166,508
Lake Ilo – Bakken – Dunn	12,933
Lost Bridge – Bakken – Dunn	8,471
McGregory Buttes – Bakken – Dunn	51,131
Moccasin Creek – Bakken – Dunn	37,490
Murphy Creek – Bakken – Dunn	137,547
Murphy Creek – Lodgepole – Dunn	173
Reunion Bay – Bakken – McKenzie	39,218
Reunion Bay – Bakken – Mountrail	582,205
Saxon – Bakken – Dunn	775
Van Hook – Bakken – Mountrail	151,415
Werner – Bakken – Dunn	3,387
Wildcat – Bakken – McLean	0
Wolf Bay – Bakken – Dunn	16,118
Monthly total:	1,798,027
Daily average:	58,001

MBI Oil & Gas	
Rough Rider – Bakken – McKenzie	485
Tree Top – Bakken – Billings	0
Daily average:	16

Missouri River Royalty	
Juniper – Bakken – McKenzie	0
Manitou – Bakken – Mountrail	192
Daily average:	6

Mountain Divide (Mountainview Energy)	
Fortuna – Bakken – Divide	15,206
Wildcat – Bakken – Divide	1,604
Monthly total:	16,810
Daily average:	542

Murex Petroleum	
Alexander – Bakken – McKenzie	2,678
Alexandria – Bakken – Divide	4,811
Beaver Lodge – Bakken – Williams	10,454
Daneville – Bakken – Divide	3,837
Fortuna – Bakken – Divide	18,245
Glass Bluff – Bakken – McKenzie	4,627
Gooseneck – Bakken – Divide	6,365
Lonesome – Bakken – McKenzie	3,616
McGregor – Bakken – Williams	8,172
Midway – Bakken – Williams	10,328
Rawson – Bakken – McKenzie	2,415
Sandrock – Bakken – McKenzie	5,252
Sanish – Bakken – Mountrail	42,526
Stanley – Bakken – Mountrail	42,615
Temple – Bakken – Williams	0
Tioga – Bakken – Williams	1,900
West Bank – Bakken – Williams	13,901
West Capa – Bakken – Williams	0
West Tioga – Bakken – Williams	1,032
Writing Rock – Bakken – Divide	33,028
Monthly total:	215,802
Daily average:	6,961

Newfield Production	
Bear Den – Bakken – McKenzie	23,188
Fertile Valley – Bakken – Divide	2,245
Hanks – Bakken – Williams	2,123
Haystack Butte – Bakken – Dunn	2,021
Haystack Butte – Bakken – McKenzie	9,339
Keene – Bakken/Three Forks – McKenzie	19,514

Lost Bridge – Bakken – Dunn	5,453
Pembroke – Bakken – McKenzie	43,096
Sand Creek – Bakken – McKenzie	17,043
Sandrock – Bakken – McKenzie	32,042
Siverston – Bakken – McKenzie	144,752
South Tobacco Garden – Bakken – McKenzie	85,944
Tobacco Garden – Bakken – McKenzie	78,327
Westberg – Bakken – McKenzie	151,005
Monthly total:	616,092
Daily average:	19,874

North Plains Energy	
Sioux Trail – Bakken – Divide	7,137
Smoky Butte – Bakken – Divide	23,258
Monthly total:	30,395
Daily average:	980

Oasis Petroleum North America	
Alger – Bakken – Mountrail	209,950
Alkali Creek – Bakken – Mountrail	3,457
Assiniboine – Bakken – McKenzie	4,715
Baker – Bakken – McKenzie	47,979
Banks – Bakken – McKenzie	47,421
Black Slough – Bakken – Burke	3,091
Bonetrail – Bakken – Williams	10,591
Bull Butte – Bakken – Williams	44,914
Camp – Bakken – McKenzie	218,039
Camp – Bakken – Williams	1,406
Church – Bakken – Williams	3,925
Cottonwood – Bakken – Burke	86,570
Cottonwood – Bakken – Mountrail	94,165
Cow Creek – Bakken – Williams	89,950
Crazy Man Creek – Bakken – Williams	15,163
Dore – Bakken – McKenzie	15,681
Dublin – Bakken – Williams	2,577
Eightmile – Bakken – McKenzie	21,054
Eightmile – Bakken – Williams	2,339
Elidah – Bakken – McKenzie	103
Elk – Bakken – McKenzie	6,376
Enget Lake – Bakken – Mountrail	17,446
Foothills – Bakken – Burke	5,129
Foreman Butte – Bakken – McKenzie	42,355
Ft. Buford – Bakken – Williams	4,164
Glass Bluff – Bakken – McKenzie	5,724
Gros Ventre – Bakken – Burke	111,325
Harding – Bakken – McKenzie	2,694
Hebron – Bakken – Williams	2,699
Indian Hill – Bakken – McKenzie	4,935
Lake Trenton – Bakken – Williams	7,769
Leaf Mountain – Bakken – Burke	344
Lucy – Bakken – Burke	6,942
Marmon – Bakken – Williams	4,562
Missouri Ridge – Bakken – Williams	44,066
Mondak – Bakken – McKenzie	2,546
Nohly Lake – Bakken – McKenzie	3,021
North Tioga – Bakken – Burke	2,328
North Tobacco Garden – Bakken – McKenzie	4,943
Painted Woods – Bakken – Williams	16,911
Pronghorn – Bakken – McKenzie	4,720
Randolph – Bakken – McKenzie	1,879
Rawson – Bakken – McKenzie	2,291
Robinson Lake – Bakken – Mountrail	21,104
Rosebud – Bakken – Williams	14,407
Sand Creek – Bakken – McKenzie	1,120
Sanish – Bakken – Mountrail	40,778
Siverston – Bakken – McKenzie	41,597
Sorkness – Bakken – Mountrail	7,720
Squires – Bakken – Williams	31,577
Strandahl – Bakken – Williams	527
Todd – Bakken – Williams	7,515
Trenton – Bakken – Williams	7,958
Tyrone – Bakken – Williams	86,688
Tyrone – Lodgepole – Williams	334
Viking – Bakken – Burke	4,156
Willow Creek – Bakken – Williams	63,554
Monthly total:	1,557,294
Daily average:	50,235

Oxy USA (Occidental Petroleum)	
Cabernet – Bakken – Dunn	81,309
Crooked Creek – Bakken – Dunn	33,148
Diamond – Bakken – Burke	27,043
Fayette – Bakken – Dunn	149,650
Hungry Man Butte – Bakken – Billings	3,583
Little Knife – Bakken – Billings	11,109
Little Knife – Bakken – Dunn	58,474
Manning – Bakken – Dunn	49,526
Murphy Creek – Bakken – Dunn	94,018
Russian Creek – Bakken – Dunn	12,128
Saddle Butte – Bakken – Billings	2,607
Simon Butte – Bakken – Dunn	5,654
Snow – Bakken – Billings	4,408
St. Anthony – Bakken – Dunn	22,931
Vanville – Bakken – Burke	1,431
Wildcat – Bakken – Dunn	0
Willmen – Bakken – Billings	738
Willmen – Bakken – Dunn	32,020
Monthly total:	589,777
Daily average:	19,025

Peregrine Petroleum Partners	
Buckhorn – Bakken – Billings	159
Covered Bridge – Bakken – McKenzie	33
Flat Top Butte – Bakken – McKenzie	225
Monthly total:	417
Daily average:	13

Petro Harvester Operating	
Little Butte – Bakken – Burke	297
Thompson Lake – Bakken – Burke	515
Monthly total:	812
Daily average:	26

Petrogulf	
Antelope – Sanish – Mountrail	55,907
Daily average:	1,803

TECHNOLOGY

North Dakota brings in drone technology

ND welcomes its first unmanned aircraft systems manufacturing to be used for a variety of applications including pipelines

By **MAXINE HERR**

For *Petroleum News Bakken*

A new method for monitoring pipelines is on the horizon in North Dakota, but it still faces federal obstacles.

On Feb. 13, Gov. Jack Dalrymple announced a partnership between Wahpeton-based ComDel Innovation and Florida-based Altavian that will allow unmanned aircraft systems, UAS, commonly known as drones, to be manufactured in the state.

Dalrymple described the agreement as “an important step” in the state’s efforts to

apply the technology within the energy and agriculture industries.

“North Dakota is well-positioned to attract UAS-related investment and jobs, to lead the nation’s quest for the safe integration of the technologies and to further diversify our state economy in the process,” he said in a press conference at the state Capitol.

Altavian Chief Operating Officer Thomas Rambo joined Dalrymple and said the aircraft provides a data collection platform of mapping, pictures and video.

“North Dakota is presenting Altavian with the opportunity to grow in a number

of ways including an opportunity to refine and scale our manufacturing process, to engage the universities and corporations with research and development and to expand our market presence,” Rambo said. “The first aircraft coming off the line at ComDel are slated to remain in North Dakota at research institutions and North Dakota based companies.”

ComDel is a manufacturer providing fabrication, molding, assembly and metal finishing services. The company estimates hiring 10 to 20 employees to work on the project over the next two years, depending on sales. Altavian will also hire a few local people to manage the partnership.

Rambo said Altavian has worked on the product in Florida and Mississippi, but this is the first time it has ventured into a northern climate. However, he said the aircraft has been used in water applications so feels the possibilities of the technology are “endless.”

“Today’s proposed regulations are a start, but they have a ways to go before we will be able to apply this new and innovative technology in the realm of commerce,” Hoeven said in a statement. “The administration still needs to outline an actual strategy for integration that does the research required for the UAS industry to reach its full potential. The technology is here, the demand is here, and the ability for the UAS to utilize the NAS must keep pace.”

Hoeven’s office announced on Feb. 11 that the FAA approved the Northern Plains UAS Test Site’s request to conduct flights through an expanded area of North Dakota airspace. North Dakota has invested more than \$20 million to establish the test site and support related activities.

The other concern from industry is finding an unmanned aerial system that is economical and effective.

‘A mixed bag’

Kari Cutting, vice president of the North Dakota Petroleum Council who also served on the pipeline technology working group set up by Dalrymple in 2014 which reviewed UAS options, said the unmanned aerial concept is “a mixed bag.”

“Fly overs are great but still can miss leaks and spills,” she told *Petroleum News Bakken* in an email. “If the fly over also has the technology to detect hydrocarbons and/or brine water in small quantities, that would be a win/win for all.”

Rambo insists once the product is manufactured, the service will be useful and economical for various industries.

“People are already doing remote sensing with traditional assets,” Rambo said at a press conference at the state’s Capitol. “There’s a niche for really high precision data for bid that you need to turn around in days. The economic package is already there, we’re just trying to pull that extra piece.” ●

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DRILLING & COMPLETION

Montana spacing unit apps decline further

The number of Bakken-system spacing unit and drilling applications filed with the Montana Board of Oil and Gas Conservation fell noticeably between October and December 2014, and even fewer applications were filed for the board’s bimonthly hearing scheduled for Feb. 26. In December, the board saw six operators file for the creation of five new temporary drill spacing units, down from 14 requested by 13 operators in October. In the February hearing the board will consider temporary DSU requests filed by three operators for one new unit each.

And in December, operators requested permanent status for six temporary Bakken-system DSUs, down from the nine units operators wanted made permanent in October applications. In the February applications, Montana operators are seeking permanent status for only five Bakken/Three Forks DSUs, although operators are seeking permanent status for three DSUs in conventional pools.

New temporary DSU apps

SM Energy is asking the board to create one temporary 1,280-acre DSU in Richland County and authorize drilling up to three horizontal Bakken/Three Forks wells.

Also in Richland County, Continental Resources filed for a temporary overlapping 2,560-acre spacing unit where it wants to drill one horizontal Bakken/Three Forks well.

And in neighboring Roosevelt County, Oasis is seeking creation of a temporary overlapping 2,560-acre DSU for drilling three horizontal Bakken/Three Forks wells.

Permanent status apps

Whiting Oil and Gas filed applications seeking permanent status for a 1,280-acre and a 1,920-acre DSU in the Elm Coulee Northeast field in Richland County where the company has four producing common-pad Bakken/Three Forks wells on each unit. In one of the spacing units, the wells went on production in November 2014, and through December those wells were on production from 29 to 52 days with output ranging from 286 barrels per day (more than 52 days) to 430 bpd (more than 29 days). The four wells on the other spacing unit also went on production in November and through December produced from 20 to 35 days with daily production averaging from 502 (more than 20 days) to 680 bpd (more than 23 days).

Oasis Petroleum wants permanent status for a 2,560-acre spacing unit for production of Bakken/Three forks wells in the Elm Coulee Northeast field in Roosevelt County. That well has averaged 167 bpd over 481 days of production.

Continental Resources is seeking permanent status for a 2,560-acre unit in Richland County for production from a Bakken/Three Forks well recently completed on the unit.

XTO Energy is seeking authorization to drill one horizontal Bakken/Three Forks well on each of two permanent DSUs in Richland County. One of the DSUs is 960 acres and the other is 1,280 acres.

Bensun Energy, LLC is seeking permanent status for a 160-acre spacing unit in the Outlook Southwest field in Sheridan County in far northeast Montana for production from a former Southwestern Energy well originally completed in the Red River and Winnipegosis formations but in 2013 was recompleted in the Nisku, Three Forks and Bakken formations.

Conventional activity

Interstate Explorations is asking for permanent status for a 320-acre unit in Wibaux County for production from a Red River formation well.

Continental Resources is seeking permanent status for a 320-acre spacing unit in Richland County for a well producing from the Red River formation.

J. Burns Brown Operating Co. is seeking permanent status for a 160-acre spacing unit in Blain County where the company has a well producing from the Sawtooth formation, the top of which lies at a depth of approximately 4,000 feet in the north-central Montana county.

BTA Oil Producers wants to drill an oil and gas well to a depth of approximately 8,500 feet into the Minnelusa formation in Powder River County in south-central Montana.

—MIKE ELLERD

The need for airspace

However, the volume of production will be based on airspace approvals from the Federal Aviation Administration to commercially operate the aircraft.

Sen. John Hoeven issued a statement on Feb. 15 in response to the FAA’s new guidance on UAS and President Barack Obama’s new policies regarding federal oversight of the systems. As former governor of North Dakota and in his role as senator, Hoeven worked to build Grand Forks as a prime location for expanding UAS technology. North Dakota made national headlines in 2013 when it was chosen as one of six national UAS test sites to perform research and development. In April 2014, North Dakota’s Northern Plains UAS Test Site in Grand Forks was the nation’s first to be FAA certified to go live into national airspace. Hoeven said the draft guidance shows the FAA is responding to the need for rules in order for the industry to operate, but said the FAA needs to utilize the test sites to do the work and get UAS functioning in the national airspace.

NATURAL GAS

ND operators still identify flaring needs

While North Dakota continues to make gains on flaring reductions (see story, page 5), there are still certain circumstances where operators identify the need to flare natural gas, and three operators are requesting exemptions to flaring rules from the North Dakota Industrial Commission. The cases will be heard at the commission’s Feb. 25-26 hearings in Bismarck.

Whiting Petroleum, filing as Whiting Oil and Gas Corp. in North Dakota, is asking the commission to temporarily authorize flaring from certain wells in the Sand Creek field of McKenzie County because it has been unsuccessful in obtaining right-of-way access for construction of a new gas gathering line due to the demands of one or more landowners. In its flaring request, Whiting cited the commission’s flaring order which recognizes that “flexibility is required due to surface landowner, tribal, and federal government right-of-way delays; temporary midstream down-time for system upgrades and maintenance; federal regulatory restrictions or delays; safety issues; delayed access to electrical power; and possible reservoir damage.”

Similarly, Newfield Production Co. is requesting a flaring exception on certain wells within Sand Creek field and the adjacent Keene field of McKenzie County because the construction of a 20-inch gas line has been stalled, also due to right-of-way issues.

Rerouting a pipeline

XTO Energy wants authorization to temporarily flare gas from current and

see **FLARING NEEDS** page 19

continued from page 3

KNUDSEN Q&A

throat by Washington, D.C., under the Endangered Species Act and the threat of a federal listing. And the question that I and many of the conservatives in the building have is, okay, today it's sage grouse and we capitulate and we fund their program and we try to avoid a listing — what's tomorrow? Is it the wolverine tomorrow? Is it the bull trout tomorrow? Is this going to keep going? Are we encouraging this tactic from the feds?

Now, with that said, we've been in lots of meetings with all kinds of stakeholders — I think everyone understands this is the best scenario we've got. No one's really happy about it, but I certainly don't think anyone in the state of Montana benefits from a listing of the sage grouse. So we've got a model out there that we know has worked in Wyoming — the thought is we emulate that as closely as we can. What worked there should work here — there's no reason it shouldn't and hopefully we can avoid a listing.

Generally speaking I think there's a little heartburn about the program. There's some heartburn about the \$10 million appropriation. There seems to be some real heartburn over the five or six additional full-time employees that will be required to implement the program in the state — that might end up being something that's fought over a little bit. But at the end of the day I do think there's enough support for that bill — I think we're going to grudgingly hold our noses and pass it.

Keystone XL

Petroleum News Bakken: Congress just passed legislation approving the Keystone XL pipeline and it now goes to the president, who has said he will veto the bill arguing the State Department's process to run its course. The pipeline would run pretty close to where you live. You are a farmer in the area and you have oil and gas development on your property. From that standpoint as well as from a legislative standpoint, what are your views on XL?

Knudsen: I think we absolutely need it. The major benefits are the tax base to the counties and the onramp.

“But at the end of the day I do think there's enough support for that bill — I think we're going to grudgingly hold our noses and pass it.” —Speaker Austin Knudsen on Montana's sage grouse management legislation

The counties in northeastern Montana that that pipeline would run through — and I can only speak for the counties that I represent — the commissioners are beside themselves excited because they're counties that have a lot of federal land and not much of a tax base. They're absolutely thrilled by the prospect of a large pipeline going through and the tax base that's going to generate for the county.

For Bakken oil the onramp is huge. We're discounted so heavily in northeastern Montana and northwestern North Dakota for our oil — it's higher quality yet we're discounted very heavily just for transportation costs. To get that oil out of the area on a truck and to a pipeline is expensive. So the onramp at Baker — you know it's not a huge onramp, it's only 100,000 barrels, we could do better than that, but it's a start.

As a guy who grew up on Highway 2 — and we went from seeing four cars an hour to four trucks every 30 seconds — I would much rather see a pipeline in the ground than trucks on the highway.

Waste management

Petroleum News Bakken: SB 136 establishes a new classification of waste in which oil field waste falls. Is there a need for additional oil field waste management?

Knudsen: I have a little professional experience in this area. I say that first hand because I had clients who were having to haul drill cuttings and low-level radioactive waste to North Dakota or up into Canada because Montana literally did not have a Class III disposal site. There's one in place now in Glendive. So that's the first issue — we don't have these sites by and large.

Secondly, from my perspective, I think there's already a pretty good regulation process in place. If you're on the well pad, that waste is controlled by the Department of Natural Resources and Conservation

through the Board of Oil and Gas. They've got jurisdiction over it. They tell you what you can have, whether or not you can have a pit, where you can dispose of it.

Once that waste leaves the well pad, at that point it's under the Department of Environmental Quality. I really don't see the need for it (additional regulation), and that's not just armchair quarterbacking, that's me having dealt with this as an attorney on both sides of the issue. Honestly, I've worked for a company dealing with it and for a landowner who's had to deal with some potential wastes and environmental issues — I think DEQ's got a pretty good handle on it.

Taxation

Petroleum News Bakken: Two bills have been introduced that would lower taxes on classes of equipment in which certain oil and gas equipment fall. One, HB 213, increases equipment exemptions, and the other, HB 323, reclassifies pollution control equipment. How do you view the current equipment tax structure in the state as it pertains to the oil and gas industry and the changes proposed in these two bills?

Knudsen: Maybe not so much the governor but certainly his party has shown a lot of resistance this session to any kind of tax relief. We've tried to put together a package of tax relief bills, not necessarily these, but just some general income tax relief, some property tax relief — they've been very, very combative about those.

First of all, drilling is at a low point in the state — I think anything we can do to incentivize oil drilling in the state of Montana is a good thing. And I think the governor would be well served by that bill.

As far as the pollution control, honestly that doesn't have a whole lot to do with the oil field, it's got more to do with coal and cement manufacturing plants which were forced by federal regulation to invest multi-million dollars into their discharge systems, and we turn around and we tax them on that as business equipment. So on one hand we're forcing them through regulation to invest multi-millions of dollars, on other hand we're turning around and saying “oh, that's business equipment and we're going to tax you on that every year.” ●

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BAKKEN

OIL & GAS DIRECTORY

A biannual supplement



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RAIL TROUBLES

Federal Railroad Administration are investigating the site.

A similar derailment occurred about 200 miles to the west on the same line in April 2014 when 15 CSX cars came off the tracks.

On Feb. 14, a Canadian National Railway train moving crude from the Alberta oil sands to Eastern Canadian markets derailed in a remote wooded area of northern Ontario. CN said 29 of 100 cars were involved and seven caught fire. No injuries were reported.

Because there is no road access to the site it will take time to determine whether the spill caused any damage to land or waterways.

New tank cars failed

The train in the latest CSX accident was pulling 109 of the new CPC-1232 cars which are rated as tougher than the DOT-111 cars which safety investigators say are prone to puncture and are being phased out.

The walls on both car types are 7/16ths of an inch thick, but new draft safety regulations being developed in Canada and the United States are expected to increase the minimum thickness to 9/16ths of an inch.

Changes coming

In the United States, government sources say the Obama administration is revising its proposal to limit the risks of oil trains from catching fire in a derailment.

The changes will reportedly give companies more time to upgrade their tank cars, but will not back down from requirements for thicker walls in the cars and better brakes.

Proposals were sent by DOT to the White House for review before they are released.

Companies that own tank cars have voiced opposition to the DOT's aggressive schedule for modifying cars within two years, saying that would cost billions of dollars and reduce oil production.

Concerns over Bakken crude

The rapid increase in oil shipments by rail has led to a spate of derailments, cul-

see **RAIL TROUBLES** page 19

February 2015 North Dakota Industrial Commission Drill Spacing Unit Applications

Applicant	Units	Acres	Type ^A	Wells	Field	County ^B	Pool ^C
Burlington Resources Oil & Gas Co. LP	3	2,560	N	One or more	Little Knife, Big Gulch and/or Rattlesnake Point	DUN	BKN
Continental Resources, Inc.	2	1,600	O	Up to 14	Catwalk	WIL	BKN
Continental Resources, Inc.	1	3,200	O	One	Catwalk	WIL	BKN
Continental Resources, Inc.	1	1,920	O	Up to seven	North Tioga	BRK	BKN
Corinthian Exploration (USA) Corp.	4	160	N	Up to 14	Northeast Landa	BOT	SPF/MAD
Hess Bakken Investments II, LLC	1	2,560	O	One	Beaver Lodge	WIL	BKN
Hess Bakken Investments II, LLC	1	1,280	N	Up to 7	Capa	WIL	BKN
Liberty Resources Management Co.	4	2,560	O	Up to three	Stoneview and/or North Tioga	DIV, BRK	BKN
Liberty Resources Management Co.	3	2,560	O	Up to three	Temple	WIL	BKN
QEP Energy Co.	1	2,560	O	Up to three	Grail	MCK	BKN
SHD Oil & Gas	1	3,520	O	Up to 27	Van Hook and/or Heart Butte	DUN, MCL	BKN
SHD Oil & Gas	1	1,600	O	Up to 17	Heart Butte	DUN	BKN
SHD Oil & Gas	1	4,000	O	Up to three	Deep Water Creek Bay	DUN, MCL	BKN
Slawson Exploration	2	2,560	O	Up to two	Reunion Bay and/or Big Bend	MNT	BKN
Statoil Oil and Gas LP	1	1,280	O	One	Briar Creek	MCK, WIL	BKN
Statoil Oil and Gas LP	1	1,280	O	One	Sugar Beet and/or Eightmile	WIL	BKN
Whiting Oil and Gas Corp.	7	2,560	O	Up to two	Banks, Truax, Grinnell and/or Sand Creek	MCK, WIL	BKN
Whiting Oil and Gas Corp.	3	2,560	O	Up to two	Sand Creek	MCK, WIL	BKN
Whiting Oil and Gas Corp.	3	2,560	O	Up to two	Poe	MCK	BKN
Whiting Oil and Gas Corp.	3	2,560	O	Up to two	Bully	MCK	BKN
Whiting Oil and Gas Corp.	2	2,560	O	Up to two	Poe, Banks and/or Camp	MCK	BKN
Whiting Oil and Gas Corp.	2	2,560	O	Up to two	Pembroke and/or Cherry Creek	MCK	BKN
Whiting Oil and Gas Corp.	1	2,560	N	Up to 28	Banks, Truax, Grinnell and/or Sand Creek	MCK, WIL	BKN
Whiting Oil and Gas Corp.	1	1,280	N	Up to 14	Sand Creek	MCK	BKN
Whiting Oil and Gas Corp.	1	2,560	O	Up to two	Grinnell	MCK, WIL	BKN
Whiting Oil and Gas Corp.	1	2,560	O	Up to two	Pembroke and/or Juniper	MCK	BKN
XTO Energy Inc.	5	2,560	O	Up to two	Grinnell	MCK, WIL	BKN
XTO Energy Inc.	4	2,560	O	Up to two	Glass Bluff	MCK, WIL	BKN
XTO Energy Inc.	4	2,560	O	Up to two	Alkali Creek	MNT, WIL	BKN
XTO Energy Inc.	4	2,560	O	Up to two	Elk	MCK	BKN
XTO Energy Inc.	2	2,560	O	Up to two	Sand Creek	MCK	BKN
XTO Energy Inc.	2	2,560	O	Up to two	Hofflund	WIL	BKN
XTO Energy Inc.	2	1,280	O	Up to two	Charlson	MCK	BKN
XTO Energy Inc.	2	2,560	O	Up to two	Charlson	MCK	BKN
XTO Energy Inc.	1	1,920	N	Up to 12	North Tobacco Garden	MCK	BKN
XTO Energy Inc.	1	2,560	N	Up to 16	Haystack Butte	MCK	BKN
XTO Energy Inc.	1	2,560	O	Up to two	Truax	MCK, WIL	BKN
XTO Energy Inc.	1	1,280	O	One	Grinnell	MCK, WIL	BKN
Total October DSUs	81						

A: N = New, O = Overlapping

B: BOT = Bottineau, BRK = Burke, DUN = Dunn, MCL = McLean, MCK = McKenzie, MNT = Mountrail, WIL = Williams

C: BKN = Bakken, MAD = Madison, SPF = Spearfish

continued from page 1

DSU APPS

and the other at 2,560 acres, where XTO wants to drill a maximum of 12 and 16 wells.

Behind XTO is Whiting which is asking for 24 DSUs over parts of nine fields in McKenzie and Williams counties. All but two of those DSUs are overlapping 2,560s for drilling up to two wells each. The remaining two units are new DSUs of 1,280 and 2,560 acres where Whiting wants to drill maximums of 14 and 28 wells.

Liberty Resources is seeking seven over-

lapping 2,560s in Burke, Divide and Williams counties for drilling up to three wells on each.

Continental is looking for four overlapping DSUs ranging from 1,600 to 3,200 acres in Burke and Williams counties. Continental wants to drill one well on the 3,200-acre unit, up to seven on a 1,920 and up to 14 on the 1,600-acre DSU.

SHD Oil & Gas is asking for three overlapping units from 1,600 to 4,000 acres in Dunn and McLean counties. SHD wants to drill up to three wells on the 4,000-acre unit, but on the 1,600-acre unit the company wants to drill up to 17 wells and up to 27 wells on a 3,520-acre unit.

Burlington Resources is asking for three new 2,560s for drilling one or more wells in portions of three fields in Dunn County.

Other operators filing Bakken-pool spacing unit applications in February are Slawson Exploration (two), Statoil (two), Hess (two) and QEP (one).

In legacy pool activity, Corinthian Exploration is asking for four new 160-acre units in the Northeast Landa field in Bottineau County and authorize the drilling of up to 14 Spearfish/Madison-pool wells on each.

—MIKE ELLERD

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FLARING NEEDS

future wells in the Bear Den field of McKenzie and Dunn counties, and Cedar Coulee and Lost Bridge fields of Dunn County, while also excluding the flare volumes from calculations of statewide and county-wide volumes. The company's application indicates that the wells need to flare because of a "washed-out trunkline" which has resulted in no market for the gas. It states that a new route must be established for the trunkline, but because of right-of-way delays, a new trunkline is not expected to be constructed until July. The company also cited the order's section regarding flexibility in cases of right-of-way delays by surface owners.

NDIC getting stricter

New flaring rules were put in place on July 1, 2014, by the NDIC in order to meet gas capture targets of 74 percent by Oct. 1, 2014; 77 percent by Jan. 1, 2015; 85 percent by Jan. 1, 2016; and 90 percent by Oct. 1, 2020, with potential for 95 percent capture. Production records indicate the majority of gas flared in the state is from wells that are connected to a gas gathering system but a lack of pipeline capacity causes the gas to flare. The NDIC order specifically states that "such wells should not be excluded from gas

capture goals adopted by the Commission." NDIC gave operators three options to utilize the surplus gas: equip the well with electrical generators to consume the gas; utilize a system to strip natural gas liquids to use as fuel or transport it to a processing facility for other uses; or consider value-added processes to reduce volume or intensity of the flare by more than 60 percent.

When considering a flaring exemption at a January meeting of the NDIC, the commission was clear they are not willing to grant many of those types of requests. Attorney General Wayne Stenehjem who serves alongside the governor and agriculture commissioner said, "I don't want to send the message that we're going to approve these just because they come in and ask."

And Gov. Jack Dalrymple concurred when he said, "I think we do need to be very careful about making exceptions to our new rules."

However, in one case, Zavanna wanted to flare some wells in preparation for connection to a new gas plant and because the end result would be of greater benefit to the area, and the commission granted the exemption for a limited time.

—MAXINE HERR

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HALCON MOVES

percent year-over-year in the Williston Basin throughout 2014 to realize an average of approximately 28,900 barrels of oil equivalent per day. The Houston-based independent's entire production averaged approximately 42,000 boepd, representing a 65 percent increase over 2013 according to data released on Feb 17.

In December, Halcon's North Dakota Bakken production averaged 32,975 barrels per day from operated, non-confidential wells, making it the 12th largest Bakken producer in the state according to the latest production data released by the Department of Mineral Resources on Feb. 13 (see chart, page 12). In addition, Halcon had the highest 24-hour initial production volume reported between Feb. 10 and 16 in North Dakota at 3,715 barrels from a middle Bakken well in the Eagle Nest field on the Fort Berthold Indian Reservation in northern Dunn County (see commentary on page 7 and charts on pages 9 and 10).

Decreasing drilling rigs

During the fourth quarter, Halcon averaged three rigs in the Williston Basin, spudded 11 wells, and put five wells online. It also participated in 88 non-operated wells during the quarter with an approximately 3 percent working interest. Throughout 2014, the company averaged 3.5 rigs, spudded 53

wells and put 59 wells online in the basin. The company operates 172 producing Bakken and 53 Three Forks wells and has 18 wells either being completed or waiting on completion.

In 2015, Halcon will release one of its rigs and operate just two and only spud 25 to 30 gross operated wells with an average working interest of about 57 percent. It expects to participate as a non-operator in 85 to 90 gross wells during the year with 4 percent working interest, a drop from the 263 wells in which it held 5 percent throughout 2014. The company holds working interest in more than 127,000 net acres in the Bakken and Three Forks.

Proved reserves see growth

Halcon also estimates proved reserves at the end of 2014 totaled approximately 189.1 million boe, a 60 percent pro forma reserve growth. Eighty-two percent of those reserves are oil, 9 percent natural gas and 9 percent natural gas liquids. Seventy-four percent of the reserves are in the Williston Basin, another 22 percent are in the Eagle Ford with the remaining 4 percent in the company's other plays. The El Halcon in the Eagle Ford averaged production of approximately 8,600 boepd in 2014 which was a 136 percent increase over 2013. The company plans to operate one rig and spud 12 to 15 gross operated wells in the Eagle Ford; it currently has 89 wells producing in the region. ●

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Canadian Pacific workers end walkout

Until the two latest rail accidents involving explosions of crude oil tank cars (see story on page 1), the chief concern facing Canada's two big railroads — CN and Canadian Pacific Railway — and the government was the prospect of system wide strikes.

But that prospect was swiftly snuffed out in the case of CP Rail, a major transporter of Bakken crude, when 3,300 engineers and conductors abruptly ended their two-day walkout on Feb. 16, opting for arbitration rather than federal legislation ordering them back to work.

Federal Labor Minister Kellie Leitch said the agreement between the Teamsters union and CP Rail "will bring an end to the work stoppage that could have seriously harmed the Canadian economy," costing an estimated C\$205 million a week in lost output.

However, labor relations experts said the government intervention will do more harm than good because research shows that approach is likely to "institutionalize" future strikes.

The government ordered an end to a nine-day strike by CP workers in 2012. Those same issues are still unresolved, including operator fatigue and minimum rest periods between shifts.

Next in line is CN which is negotiating with unions, though neither side has yet taken steps towards a strike or lockout.

Leitch said it would be "inappropriate" to speculate on what, if any, government action could be taken while CN negotiations continue.

—GARY PARK

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RAIL TROUBLES

minating in mid-2013 when 47 people were killed in the Quebec town of Lac-Megantic after an unmanned train carrying Bakken crude to the Irving Oil refinery in New Brunswick derailed and exploded.

Subsequent investigations identified the volatile mix of Bakken crude as being responsible for the devastation caused at Lac-Megantic, with the Canadian government ordering "targeted" inspections to ensure that the labeling of hazardous materials matches the actual contents of a train, along with tighter safety rules.

The government has expressed its con-

Companies that own tank cars have voiced opposition to the DOT's aggressive schedule for modifying cars within two years, saying that would cost billions of dollars and reduce oil production.

cern about the flammability of very light oil from the Bakken shale.

But, conceding that not enough is yet known about the "properties of crude" being carried on trains, the government is conducting more detailed research. ●

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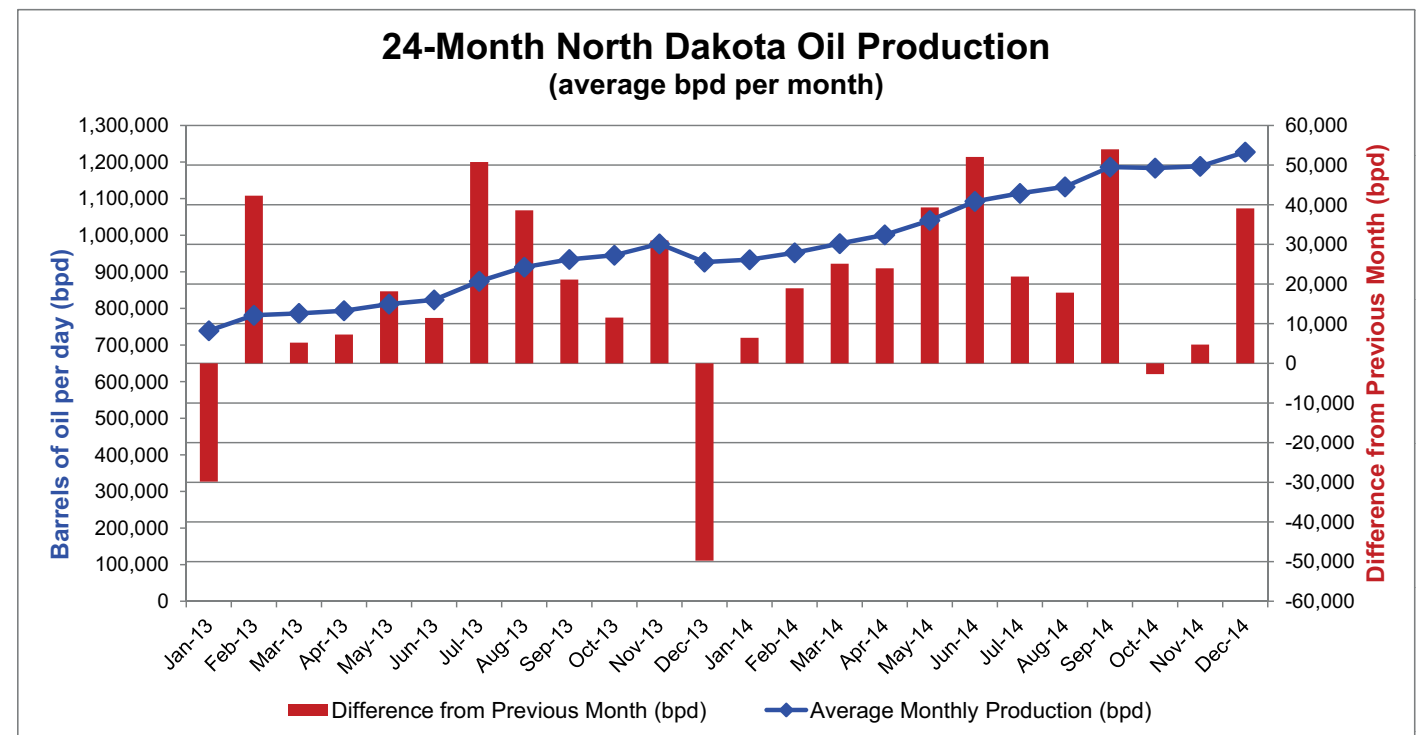
between November and December?

DMR Director Lynn Helms believes much of the increase in completions in December was attributable to operators trying to reach year-end production targets while utilizing money remaining in their 2014 capital expenditure budgets. "So there was a surge in terms of completing wells and bringing wells on at year-end to spend up that 2014 capital budget and hit those production targets that they had promised for their stockholders and their venture capital folks," Helms said in a monthly press conference on Feb. 13.

Coupled with budgets and production targets was the tumbling price of oil in December (the WTI price fell 23 percent in December following a 16 percent drop in November), which Helms believes contributed to the production increase because of the uncertainty in the market and the prospect that crude prices could fall more — which they did with WTI falling another 8 percent in January. "And so I think oil companies were looking at the oil price with no idea where the bottom was going to be and thinking they should capitalize on the price that they have now with that high initial production," Helms said.

The December numbers

Preliminary production data indicate North Dakota's average daily oil production reached a new record high of



Data source: North Dakota Department of Mineral Resources Oil and Gas Division

1,227,344 barrels per day in December, up 39,086 bpd or 3.29 percent over November output.

For full-year 2014, North Dakota produced a total of 396,684,494 million barrels of oil for an average of 1,086,807 bpd. That 2014 production is an increase of 26.6 percent over 2013 when the state produced a total of 313,275,384 barrels for an average 858,289 bpd.

Ninety-five percent of the December production came from 73 percent of the state's wells targeting the Bakken petroleum system, with the remaining 5 percent of production coming from the other 27

percent of the state's wells that target conventional "legacy" petroleum pools.

Natural gas production averaged 1.509 billion cubic feet per day in December, also a record high and an increase of 5.4 percent over November.

The 173 well completions in December pushed the number of producing wells to 12,124, breaking the 12,000-mark for the first time.

And despite the volatility in the global crude oil market and the laying down of rigs as contracts expire, the number of drilling permits increased to 251 in December, an increase of 16 over

November. However, that number has since decreased with 246 permits issued in January, five fewer than December.

And finally there is the rig count. At the end of November there were 188 rigs operating in the state. That count fell by seven in December ending the month at 181. At the end of January the rig count had further declined to 160, and as of Feb. 13, the state's rig count stood at 137, marking a 27 percent decline in the number of rigs operating in the state over two and a half months. ●

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FLARING GAINS

and the other has been changed to the point that it no longer deals with flaring at all. The defeated Senate Bill 2287 would have changed the one-year allowance for flaring from first production to 90 days and granted exemptions only for volumes less than 50,000 cubic feet per day. Senate Bill 2343 would have changed the initial flaring limit to 14 days but that language was removed and now the bill simply requires the North Dakota Industrial Commission to report fiscal impacts of its orders to the legislature.

House Bill 1187 was initially written to either require NDIC's recent orders regarding flaring and oil conditioning to

go through the rulemaking process or be void. It has been amended to require "any rules of general applicability" after July 31, 2015, to be subject to rulemaking. The bill has passed the House and moves on to the Senate.

"I think flaring is essentially off the table for the legislature and is going to remain the job of the Industrial Commission," Helms said. "There's a fair amount of pressure to relax those (flaring) goals on the part of the Industrial Commission but there is no hard evidence or information at this point that would lead me to make that recommendation to the commission." ●

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TC PLANS

million bpd Energy East pipeline.

The project is in addition to the 100,000 bpd set aside on the 830,000 bpd Keystone XL pipeline for North Dakota and Montana crude (see related story on page 4).

Chief Executive Officer Russ Girling told analysts' call that the increase of 2 million bpd in U.S. crude production and 1 million bpd of Canadian output since the XL application was filed with regulators means that more producers are looking for more ways to get that crude to markets.

But he was reluctant to predict that the regulatory process for the Upland project would match the 6-plus years so far consumed by XL.

Provided Energy East overcomes the growing resistance it faces, it would be available to start carrying Bakken crude in 2018, the company said.

Sanctioning of Energy East depends on regulatory and corporate approval for the C\$12 billion venture, which is designed to serve refineries in Quebec and New Brunswick and possibly use two tanker terminals to export crude beyond North America.

In recent years, licenses have been issued for U.S.-to-Canada shipments, reaching about 106 million barrels in the first 11 months of last year.

The competition factor

Complicating matters is talk that the demand for Bakken crude in eastern U.S. refinery markets is weakening.

TransCanada rival Enbridge Energy Partners has been stalled in its plans for a US\$2.6 billion, 600-mile system to move North Dakota crude to Wisconsin and other destinations in the Midwest and Atlantic Coast.

In addition, Phillips 66 and Energy Transfer Partners are working on a

pipeline from the Bakken through Illinois to Texas.

PBF Energy, which operates refineries in Delaware and New Jersey, has lowered the popularity of Bakken crude by shifting its orders to cheaper South American crude this year, said Chief Executive Officer Tom Nimbley.

Energy East's latest battles have involved a Federal Court of Canada action by the Quebec Environmental Law Center which says French-speaking Canadians are entitled to a full French version of the regulatory application by TransCanada.

The center said French-speaking Canadians are having to apply for intervenor status without having an official French-language translation — a claim TransCanada rejects, arguing that documentation is available in French and English on the company's website.

Elsewhere within TransCanada

Also in dispute are TransCanada's plans for an export tanker terminal in Quebec on the St. Lawrence River — the other is proposed for Saint John, New Brunswick — because of the threat posed to a habitat for beluga whales.

While grappling with the major U.S. portion of XL, TransCanada reported that the southern leg of the controversial pipeline has already made a positive contribution to its bottom line since coming on stream last year.

It said the Gulf Coast line from the Cushing, Oklahoma, hub to Nederland, Texas, plus a Houston lateral, is one of several projects that are supporting its plan to double the dividend growth rate through 2017, including an 8 percent dividend hike announced Feb. 13. Gulf Coast has initial capacity of 700,000 bpd and could grow to 830,000 bpd if XL proceeds. ●

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