



Continental shooting for zero



PETROLEUM NEWS FILE

The largest oil producer in North Dakota's Bakken play, Continental Resources, says it is aiming to bring its gas flaring down to as close as possible to zero. Currently it's under 10 percent, as compared to the rest of the oil and gas producers in the Williston Basin, where the average is 29 percent. See story on page 3 of this issue. (This photo is not of a Continental operation. Can you guess where it was taken? Email publisher@petroleumnewsbakken.com with your answer.)

Slawson's upper shale project yields Northern Oil's highest IRR

In Northern Oil and Gas's fourth quarter earnings call on March 1, Chairman and Chief Executive Officer Michael Reger updated investors on the company's joint venture with Slawson Exploration in Upper Bakken shale development in Richland County, Mont. Thanks to innovations by Slawson, the NW Big Sky prospect, he said, is now Northern's area of highest internal rate of return.



MICHAEL REGER

JOHN MOWERS

"This is not a huge deal for us, but it will be among many of the drivers of production and value in 2013, similar to the

see **UPPER SHALE** page 11

Top three Bakken wells by IP rate

While ConocoPhillips brought in what appears to be the best initial production rate, or IP, for oil produced in a 24-hour period of any well in North Dakota to date with its McKenzie County Brazos 24-34H well in 2012, Whiting Oil and Gas appears to be running a close second — and third — based on limited research of the North Dakota Oil and Gas Division's data base by Petroleum News Bakken.

Whiting has three wells in the Twin Valley field in northern McKenzie County called the Tarpon wells. Two of those Tarpon wells rank second and third behind ConocoPhillips' Brazos 23-34H well in terms of oil IP rates.

In December 2012, Whiting's Tarpon Federal 21-4-3H

see **IP RATE WELLS** page 11

COMPANY UPDATE

Best Bakken well

A record well, highest liquids; COP earmarks \$4B for Bakken through 2017

By **MIKE ELLERD**

For Petroleum News Bakken

In a liquids-rich play, oil is paramount, and nowhere was that more evident than for ConocoPhillips in the Williston Basin in 2012. Not only did the company's 2012 Bakken production yield the highest liquids percentage in its product mix of all of its Lower 48 plays, but the company also came in with what is believed to be the highest initial oil producing well ever in the Bakken.

That well, the company's Brazos 24-34H well, is in the Charlson field in northeast McKenzie County and had a vertical depth of 10,582 feet



RYAN LANCE

with a single horizontal extending 4,256 feet into the Middle Bakken formation. It was completed with a 10-stage frack in May 2012, and during the initial 24-hour test in June, the well produced 5,130 barrels of oil, 9.75 million cubic feet of gas and only 206 barrels of water under a flowing pressure of 1,325 pounds per square inch.

According to Alison Ritter, public information officer for the North Dakota Industrial Commission's Department of Mineral Resources Oil and Gas Division, that 24-hour initial production, or IP, rate of 5,130 barrels of oil

see **RECORD WELL** page 12

COMPANY UPDATE

New Bakken formation

Whiting to drill up to 15 wells to test Lower Bakken Silt oil zone at Hidden Bench

By **RAY TYSON**

Petroleum News Bakken

Williston Basin powerhouse Whiting Petroleum plans to test an untapped and highly prospective oil formation within the Bakken petroleum system known as the Lower Bakken Silt.

Sandwiched between the already producing Middle Bakken and Three Forks formations, Whiting says the "Silt" is situated in the central portion of the Williston Basin, and is "primarily present" at the company's Hidden Bench prospect in North Dakota's McKenzie County, James Volker, Whiting's chair-



JAMES VOLKER

man and chief executive officer, said in a recent presentation to analysts.

Whiting said it identified the zone through extensive core sampling, which "demonstrated high oil in place and may significantly increase reserves in this area."

The company is so confident about transforming the Silt into production that it plans to invest millions of dollars "bracketing" the formation with as many as eight wells above and seven wells below the Silt. The wells, to be drilled on 160-acre spacing, might even improve current production from the Middle Bakken zone, the company said.

see **NEW FORMATION** page 13

LAND & LEASING

MT flirts with records

Elm Coulee tracts top Montana auction, leading to 2nd highest ever average price

By **MIKE ELLERD**

For Petroleum News Bakken

While Montana oil and gas lease auction prices softened in 2012, the Minerals Management division of the Montana Department of Natural Resources and Conservation, or DNRC, saw an upswing in its March oil and gas lease auction. The agency sold 10-year leases this month on nearly twice as many acres as in its December auction for an average price per acre of more than three times that in December, nearly setting a new record.

In the March 5 auction, the division sold mineral leases on 12,596 acres in 25 separate tracts bringing in a total of \$1,011,287 for an average price of \$80.28 per acre, the second highest ever average price per acre received in a DNRC lease auction. In the

see **MONTANA RECORDS** page 15

Upcoming auctions

The next North Dakota Department of Trust Lands Minerals Management Division lease auction is scheduled for May 7. The location and time are yet to be announced. The nomination period for the North Dakota sale closes at 5:00 p.m. Central Daylight Time on March 22.

The Bureau of Land Management's Montana/Dakotas office will hold its next oil and gas lease auction on May 8 at the Montana BLM office in Billings, beginning at 9:00 a.m. Mountain Daylight Time. A total of 93,731 acres will be offered in 198

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● ENVIRONMENT

Continental headed to zero

Credits transportation infrastructure improvements for dramatic decline in Bakken gas flaring; already reduced to less than 10%

By RAY TYSON

Petroleum News Bakken

Continental Resources may be among the first producers in the Bakken oil patch to eradicate natural gas flaring from its operated well sites, or at the least come close to attaining that goal.

The big Oklahoma-based E&P independent already has reduced flaring to less than 10 percent in the Bakken, well below the 29 percent average recently cited by the North Dakota Industrial Commission.

However, “getting as close to zero percent flaring as possible” is Continental’s objective, according to the company’s annual 10-K report.



W.F. BOTT

First-mile hookups

William Frederick Bott, Continental’s president and chief operating officer, credits development of transportation infrastructure within a mile of the wellhead that allows produced gas to be shipped to market rather than wasted through flaring.

“We focused a great deal of effort the past two years on first-mile hookups to ship oil and gas directly from the wellhead to pipe and rail facilities in the Bakken,” Bott explained during a recent conference call.

“This effort has allowed us to again set the pace in industry in reducing flaring in the Bakken ... I mean clearly gas is a valuable and marketable commodity.”

Still, because well sites are generally situated in remote areas of the Williston Basin and away from infrastructure, flaring remains the only option for many field operators.

“However, we and other operators have continued to address this issue and work hard (on) these gathering systems with our midstream partners to make sure we can gather that gas as quickly and efficiently as possible,” Bott said.

As operators continue to move to larger,

In its 10-K filing, Continental reported that during December 2012, the percentage of its natural gas production flared in the North Dakota Bakken was about 10 percent, compared to about 20 percent in December 2011.

more efficient drilling pads, they can better plan for transportation infrastructure to ensure that gas-gathering systems are hooked up early.

“In fact, we hook them up every time we can before we start drilling,” Bott noted. “And so that’s essentially our goal — to do those as quickly as possible.”

The “driving forces” behind further flare reduction, he said, “is to make sure that we have supportive regulatory framework and that landowners also agree that this is valuable enough and access is granted to make sure the infrastructure can be hooked up. We’re very pleased with the result so far, and we’re well ahead of our goal ...”

Shareholder resolution in place

Continental’s goal of reducing its Bakken flaring as close to zero as possible followed a shareholder resolution filed by Mercy Investment Services requesting that the producer “adopt quantitative, company-wide goals, based on current technologies, for reducing or eliminating flaring in all operations facilities under the company’s financial or operational control.”

The resolution was withdrawn earlier this year after “productive” dialogue between Continental and its investors, according to CSR Wire, which describes itself as “the corporate social responsibility newswire.”

“While our concerns over the environmental impacts of unconventional oil and gas development remain, we see Continental’s increasing disclosure and goal-setting as a clear step in the right direction,” Mercy director Pat Zerega was quoted as saying in a CSR news story.

Big improvement in last year

In its 10-K filing, Continental reported that during December 2012, the percentage of its natural gas production flared in the North Dakota Bakken was about 10 percent, compared to about 20 percent in December 2011.

“Continental’s announcement shows that it is possible to reduce flaring, and to do so quickly,” Andrew Logan, director of the oil and gas program at Ceres, said in a statement. Ceres is an investors and public interest advocacy group.

“Continental’s goal should serve as an example to its peers in the industry and to regulators and legislators who are working to limit flaring in North Dakota and across the nation.” ●

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PRODUCTION

North Dakota production drops — again

As this issue of Petroleum News Bakken went to press on March 15, Department of Mineral Resources chief Lynn Helms was getting ready to convene a conference call to explain why the latest North Dakota production numbers had dropped from an average of 770,111 barrels of oil per day in December to 738,022 bopd in January. It was the second time in 21 months that North Dakota’s production had declined.

Output first fell in November to 735,062 bopd from 749,212 bopd in October; a reduction mostly blamed on winter storm Brutus, which brought industry operations to a halt for several days and exposed infrastructure shortcomings, such as the region’s dependence on trucks and a snow and ice-vulnerable road system to transport fracking water and other materials to drill sites, and crude to rail and pipeline terminals.

In January the first major winter storm to hit was Gandolf, starting on Jan. 11 with freezing rain, then heavy snow and winds gusting to 35 miles per hour for two days.

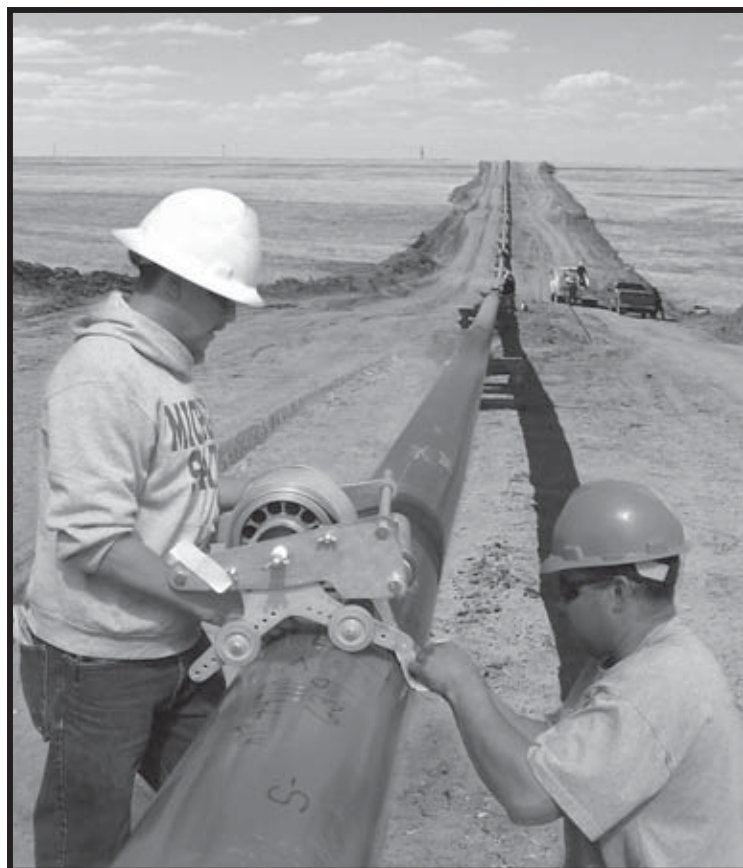
Gandolf was followed by extreme cold and 20 mph winds on Jan. 20 and 21. The month finished off with wind chill temps as low as 55 below zero on Jan. 30 and 31.

See full report in the next issue of Petroleum News Bakken.

—KAY CASHMAN



LYNN HELMS



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• E & P REGION

Talisman claims 'stellar results'

But plans to divest dry gas holdings in North Duvernay; Encana says it wouldn't move reservoir; would leave it 'exactly where it is'

By GARY PARK

For Petroleum News Bakken

Talisman Energy has posted some of the most definitive results yet from the Duvernay — northern Alberta's Bakken — as it prepares to "divest all or a portion" of its North Duvernay holdings despite what Chief Executive Officer Hal Kvisle rates as some "stellar results."

In the meantime the emerging liquids-rich play in west-central and northern Alberta is generating strong praise for the Alberta government's fiscal regime. The industry has so far drilled 95 Duvernay wells (62 horizontal and 33 vertical), with 40 wells on production.

Brendan McCracken, who leads the Duvernay team at Encana, told a Calgary unconventional resources conference that if his company had the option to move the Duvernay reservoir to anywhere it wanted in North America "my thinking is we would leave it exactly where it is."

The Duvernay qualities he identified were the Alberta government's fiscal and royalty incentives, a surface environment suited to a resource play hub and access to infrastructure and the service sector.

CS\$4 billion spent

The conference heard that the industry has so far spent more than CS\$4 billion on the Duvernay play, of which CS\$2.57 billion has gone to 3.1 million acres in the high-grade liquids fairway of the play where land fetched an average CS\$6,000 an acre.

McCracken said Encana got in early, assembling 460,000 gross acres for only a fraction of the CS\$6,000 and believes it has "over half of the high-grade fair in the liquids-rich window."

Talisman shares the common view that the South Duvernay is the best bet because of its liquids content, while North Duvernay is largely a dry gas play.

The company holds a total of 350,000 net acres in the formation, which is frequently placed in the same category as the Eagle Ford in Texas.

Paul Smith, Talisman's executive vice president of North American operations, told analysts this month that the compa-

ny's first well on the South Duvernay yielded about 1,000 barrels of liquids for every 1 million cubic feet of natural gas.

Talisman now estimates it has a prospective resource of 600 million barrels of oil equivalent on the South Duvernay where it has drilled three and completed two wells.

Initial drilling results

Smith said the initial 11-03-041-05W5 well was completed "with a relatively short lateral of only 3,500 feet and with only five effective frac stages."

Over an initial 30-day production period it averaged about 300 bpd of condensate (50 degree API oil) to establish the liquids content.

The second well, 02-06-042-05W5, flowed 1.1 million cubic feet per day of gas with a condensate yield of 110 barrels, he said.

The third well has not been completed and a fourth well is currently under way, while two or three more should come onstream this year, Smith said.

He said Talisman is now working on plans for a phased development operation for the South Duvernay, starting in 2014.

In the North Duvernay Talisman has 159,000 acres in the Kaybob area, which Chevron initially developed in the 1950s and has recently returned to the area.

Three pilot wells in north

The company has drilled three pilot wells on the northern lands and each was completed with an average of six stages per well. They have delivered average initial 30-day production rates of 3.2 million cubic feet per day and 60 barrels of field condensate.

Smith said Talisman is also counting on an additional 290 bpd of natural gas liquids from each of the wells, which he translated into an optimized development well with a 5,000-foot lateral and 12 stages yielding 6.5 million cubic feet of gas and 700 barrels a day of condensate.

As part of Talisman's drive to focus its North American portfolio on the near term, the company would prefer to dilute

see **DUVERNAY RESULTS** page 6

Petroleum News Bakken looking for writers

Prefer experienced reporters, but oil industry knowledge also valued. Contact Kay Cashman at publisher@petroleumnews.com or 907.561.7517

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GOVERNMENT

Porter on ND oil and gas politics

Flaring bill targets residual 5 percent; time to restructure antiquated tax structure; pipeline easements a top priority

By MIKE ELLERD

For Petroleum News Bakken

Rep. Todd Porter chairs the North Dakota House Energy and Natural Resources Committee, and in that role deals directly with many of the oil and gas-related bills going through the current legislative session. Porter, who lives in Mandan, is no stranger to the legislative process or to energy issues. He has been in the House since 1999, and has also chaired the Energy and Natural Resources Committee and its predecessor, the Natural Resources Committee in the last six legislative sessions. In two sessions before that he was vice chairman of the committee.

Porter recently spoke with Petroleum News Bakken about a number of key oil and gas-related bills which the legislative assembly is currently considering.

Flaring

Petroleum News Bakken: Flaring is a big issue in North Dakota, and the state's goal is to eventually get flaring down to 5 percent. Several bills are being considered that address, in one way or another, the flaring issue, including your bill, HB 1134, which provides tax incentives for producers to implement alternatives to flaring of stranded gas. What are your thoughts on the flaring bills?

Porter: The bill I introduced, HB 1134, came out of the interim energy committee that I vice chair. As we were going around the state listening to testimony, listening to the industry and the concerned citizens and the regulators, the one thing that really stood out is that everyone has a concern about flaring, but it's not necessarily the same concern. If you talk to the citizens on the street, their concern is that you're wasting energy. If you talk to the environmentalists, they think you're dirtying the air. If you talk to the industry, they just think it's a normal byproduct of their oil exploration, and they don't get overly concerned. I wanted to find a way to make it good for everyone.

We've had, I think, about \$3.5 billion worth of infrastructure in relation to natural gas in North Dakota in the last couple of years. Oneok has spent billions of dollars on new processing plants, on capacity, on gathering systems and lines. But with the amount of drilling we're doing, we know we can't be ahead of it. You just can't put the cart ahead of the horse.

Flaring is currently holding in that 30 percent range, and we know that as infrastructure catches up, in the end we're going to be somewhere around 5 percent from wells that will be unable to connect just because of logistics.

My bill isn't targeting the current 30 percent, but it really is targeting the 5 percent because we would like to see that residual number drop down to 1 or 2 percent. There are just areas of the state where it's impossible to get gathering lines in to collect gas; that gas will be on flare forever unless we can get them to hook up to an alternate system. And we're hoping that others use the incentives in the bill so that the 30 percent number can drop down to maybe 20 percent or 15 percent while we're waiting

for the infrastructure.

Petroleum News Bakken: What about the other flaring bills?

First off I think they are a move in the right direction, although I haven't looked at the senate bill yet. But I do know that Burlington Northern is looking at utilizing liquefied natural gas in replacement of diesel fuel, which would allow us to reduce flaring. But we also told Burlington Northern that the plant's going to be built in North Dakota. It's something we're very supportive of, and it's a brand new industry. It's worth us investing through incentives to see if we can't get something up and running.

We want these entrepreneurs to figure out things that work right at the well site, whether it's stripping off the liquids and trucking them to a processing plant, or stripping off the liquids and running diesel engines onsite for the drilling operation, or running electrical generators onsite. Any of those would cut down on the amount of flare that's going on.

Petroleum News Bakken: Do you think that between the two flaring bills introduced in the house, i.e., HB 1134 and HB 1410, they will adequately address the flaring problem, or do you think it's too early to tell?

Porter: I think it's too early to tell, but I think it's getting things started. We have to set up the basic framework and then give industry the chance to utilize that framework during the 18 months we're out of session. If they don't use it or if they come back to us and say it was a good idea but there are ways to make it better, then in 18 months we'll make changes and hopefully get flaring to the point where we've set an industry standard.



TODD PORTER

Stripper wells and tax reductions

Petroleum News Bakken: Several bills are moving through the session that address stripper wells along with reductions in extraction taxes. What are your views of the tax provisions in these bills?

Porter: We have a very complicated taxing structure for oil. One of the biggest concerns that we have in North Dakota right now is that the cost to get to the Bakken play is creeping up to that \$10 million a well category, but the cost in Texas to get to their shale play is around \$7 million. And the tax is less in Texas. It doesn't take very long to figure out that if you're risking venture capital on a well, where you're going to get the best return on your investment.

So we have to make sure that North Dakota stays competitive, not only from a regulatory standpoint but also from a taxing standpoint, and there is no better time to fix our antiquated tax system than when our production is climbing and we're seeing billion dollar surpluses in the treasury. Right now is the time to flatten this thing out, get it fixed, and make sure that the citizens of the state of North Dakota, along with the industry, have a very flat and consistent tax when it comes to oil and gas.

Petroleum News Bakken: Bills were introduced in previous sessions dealing with the stripper well exemption, but none passed. Do you think stripper well legislation will pass in the current session, and do you think the provisions in these bills adequately address the stripper well exemption?

Porter: I certainly hope that it passes. I think the reason the bills didn't pass in the past is because they were left as standalone items to relieve the extraction taxes, and I think what we're doing now is a combination because we're addressing all taxes relative to oil extraction. By putting it all together as a package gives people a better look at what we're actually doing and what the actual cost is.

But more than that, even with the overall 2 percent reduction in taxes we're

"So we have to make sure that North Dakota stays competitive, not only from a regulatory standpoint but also from a taxing standpoint, and there is no better time to fix our antiquated tax system than when our production is climbing and we're seeing billion dollar surpluses in the treasury." —N.D. Rep. Todd Porter

still at a total tax, depending on the production rate, of 9 to 10 percent. When you look at us in comparison to other oil and gas producing states, and the return on investment and the cost of producing a Bakken well, it keeps us competitive for the industry to stay here. Back in the '80s, the state taxed the oil industry right out of existence. I think the citizens of North Dakota want an old antiquated taxing system fixed, and in the long-run that fix gives us a stable stream of income.

Other important O&G issues?

Petroleum News Bakken: What are other oil and gas-related issues you see as important in the current session?

Porter: In the last session we started to see the impacts in western North Dakota, and we sent them more money than they could spend in the two-year cycle, to the tune of about \$147 million in carryover money. And this session we are already authorizing bills to get out in front of the situation, and we are going to set a record with the amount of money going out into the oil patch for infrastructure.

But I think one of the biggest issues I see is that there seems to be a logjam with the easements granted to the oil companies to move their product, and the same person who is out there complaining about their road being destroyed and the truck traffic and how dangerous

see PORTER Q&A page 6



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• MOVING HYDROCARBONS

Obama says Keystone not big jobs creator

THE ASSOCIATED PRESS

Jobs numbers and other benefits touted by supporters of the Keystone XL oil pipeline are probably exaggerated, President Barack Obama told House Republicans March 13, according to lawmakers who attended the closed-door meeting.

But Obama did not rule out a decision to approve the \$7 billion pipeline, according to participants.

Obama told Republicans at the Capitol that he's still weighing a decision on the pipeline, which would carry oil from western Canada to refineries along the Texas Gulf Coast.

Rep. Lee Terry, R-Neb., said Obama appeared "conflicted" on the pipeline, saying that many of the promised jobs would be temporary and that much of the oil produced likely would be exported.

But Terry said Obama also indicated that dire environmental consequences predicted by pipeline opponents were exaggerated.

"He said there were no permanent jobs, and that the oil will be put on ships and exported and that the only ones who are going to get wealthy are the Canadians," Terry said.

A White House spokesman said March 13 that no decision on the pipeline has been made.

Terry, who supports the long-delayed pipeline, said he wished Obama's comments were less negative, but said he was still hopeful the project would be approved, a view echoed by Rep. Steve Scalise, R-La., another pipeline supporter.

Scalise, who asked Obama about Keystone at the GOP meeting, said the president "made light" of jobs numbers predicted by supporters, including some who have predicted that the project could create as many as 100,000 direct and indirect jobs.

Obama said the pipeline "is not going to create as many jobs as you (Republicans) hope," Scalise said.

Calgary-based TransCanada, which is proposing the pipeline, initially said it could create at least 20,000 jobs,

including 13,000 construction jobs and 7,000 jobs among suppliers and manufacturers. The company later clarified that the figures were for one person per year, based on a two-year construction timetable. The State Department has estimated the project would create about 5,000 to 6,000 jobs.

A draft environmental report released by the State Department this month said there would be no significant environmental impact to most resources along the proposed pipeline route, which goes through Montana, South Dakota, Kansas, Nebraska, Oklahoma and Texas. The report also said other options to get the oil from Canada to Gulf Coast refineries are worse for climate change.

State Department approval is needed because the project crosses a U.S. border.

On at least one aspect of the pipeline, Obama is "flat-out-wrong," Terry said, noting that while some oil is likely to be exported, the total is far less than a majority. "That was disturbing to me," he said. ●

• FINANCE & ECONOMY

Oil industry economic impact pegged at \$30B

By JAMES MACPHERSON

The Associated Press

The economic impact of North Dakota's oil industry has increased nearly sevenfold between 2005 and 2011, from \$4.4 billion to \$30.4 billion, according to a study from North Dakota State University released March 13.

The study, sponsored by the North Dakota Petroleum Council, estimates each barrel of oil produced in North Dakota generates about \$150 in economic activity.

The oil industry accounted for nearly 41,000 full-time jobs in 2011, about 9 percent of the state's workforce, the study said. The oil industry accounted for only about 5,000 jobs in 2005, when North Dakota's oil boom was in its infancy.

North Dakota currently trails only Texas in oil output. The state has risen from the ninth biggest oil state just six years ago with improved horizontal drilling techniques in the rich Bakken petroleum system in the western part of the

state, which includes the prolific tight sands of the Bakken and Three Forks formations.

Gov. Jack Dalrymple said the study validates the contribution to North Dakota's economy. But the economic benefit has come with increased crime, shortages of housing, greater costs for road repairs and other infrastructure improvements in oil-producing counties in western North Dakota, he said.

"Oil and gas has had a very significant impact on our state's economy," Dalrymple told The Associated Press. "No question, there are some challenges."

Dalrymple's \$12.8 billion budget proposes that \$532 million in oil tax revenues be given to oil-producing counties over the next two years for infrastructure improvements and other projects impacted by oil development. The Republican governor's plan also includes 171 new state employees, including more law enforcement, court, health and regulatory workers to monitor the growing energy industry. It includes about \$1 billion for road work in west-

ern North Dakota.

Dalrymple spokesman Jeff Zent said the governor's budget also allocates \$214 million in so-called energy-impact grants to communities affected by oil development.

Senate Minority Leader Mac Schneider, D-Grand Forks, said the governor's budget doesn't go far enough in addressing the impacts that have come with oil development.

Ron Ness, president of the North Dakota Petroleum Council, agreed that the state faces challenges keeping up with record oil production.

"But every one of those challenges presents an opportunity," Ness said.

The \$30,000 study, by NDSU research scientist Dean Bangsund and assistant professor Nancy Hodurand, has been published every two years since 2005.

Ness said 2011 was a big year, but it was dwarfed by last year's production.

"2012 was a very, very big year," he said. ●

continued from page 5

PORTER Q&A

it is, that's the same person who's not allowing the easement across their property for the gathering lines. We need to get out in front of this problem so that the utility corridors can move water, move electricity, move oil, and move natural gas, and the companies can, in fact, reduce the amount of traffic in the oil-concentrated areas.

The surface owners of split estates know they can't control the mining of the mineral, but they certainly can control the movement of it. That the same person who would complain about too much truck traffic is the same person who would deny an easement is a concern to us because they

aren't helping the situation.

Petroleum News Bakken: What's the solution?

Well, right now it's industry-driven, it's money — how much money is that mile worth? It seems like the surface owner is holding the industry hostage a little bit, so it's going to be a market thing. But if it gets too high and it becomes too big of an issue to get their product moved, industry may pack up and leave.

Petroleum News Bakken: So it's all about money.

Porter: Isn't everything? ●

Contact Mike Ellerd
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continued from page 4

DUVERNAY RESULTS

its North Duvernay position through outright sale.

Kvisle said the company's North American acreage is too large for the company, often touted as a target for a takeover bid, to develop on its own.

"We are simply not a large enough company, we do not have the financial resources," he said, in announcing that North Duvernay and the Montney shale lands in northeastern British Columbia could see a complete exit by Talisman, a sale, or a joint venture.

Tax regime 'huge leg up'

McCracken said Alberta's deep gas holiday and new shale well program are a "huge leg up ... on an after-tax, after-royalty basis the Duvernay actually winds up delivering superior returns to some of its sister peer plays in the United States."

Although the Eagle Ford delivers much better returns than the Duvernay on a cost basis before taxes and royalties, the Duvernay delivers "superior returns" once taxes and royalties are taken into account, he said.

"You can look at wells that are making (100 barrels per million cubic feet) and go down dip and make (300 barrels per million cubic feet) and that doesn't really happen in any other liquids-rich plays in North America," he said.

"When you consider that condensate is trading at about a \$14 per barrel premium to WTI, that's a pretty good news story from a commercial standpoint."

McCracken said Encana currently has two rigs actively drilling and has drilled 10 gross wells (eight horizontal and two vertical). Four horizontals are producing and three of them are the longest horizontals in the play.

The Ferrier 12-04-42-8W5 has a 7,200 foot lateral and was completed with 23 frac stages and registered 50 barrels of condensate per million cubic feet of gas. The 30-day initial production rate was 3.5 million cubic feet.

The Saxon 16-5-62-24 well has a 4370 foot lateral completed with 12 stages and an IP-30 rate of 6.4 million cubic feet per day with 200 barrels of condensate per million cubic feet.

In response to a question, McCracken said there is still limited information on how the play will develop, noting that a lot of Encana wells are restricted because it has to use spare infrastructure capacity.

Encana said the Duvernay shale on its wells is found at depths of 8,200 feet to 13,100 feet with a gross thickness of 65 feet to 230 feet.

Encana estimates it has 9.1 billion barrels of oil equivalent initially-in-place on its lands, with an estimated ultimate recovery of 4 billion to 9 billion cubic feet equivalent per well. ●

Contact Gary Park through
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Bakken Stats



IPs for ND Bakken wells

March 3 — March 11, 2013

This chart contains initial production rates, or IPs, for active wells that were filed as completed with the state of North Dakota from March 3 to March 11, 2013 in the Bakken petroleum system, which includes formations such as the Bakken, Three Forks and Birdbear. The completed wells that are missing either haven't been tested or were awarded tight-hole status, so the IP rate is not yet available. This chart also contains a section with active wells that were released from tight-hole status during the same period, March 3 to March 11. The information was assembled by Petroleum News Bakken from daily activity reports from the North Dakota Industrial Commission's Department of Minerals, Oil and Gas Division, website 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. Some of the companies, or their Bakken assets, have been acquired by others. In those cases, the current owner is in parenthesis, such as ExxonMobil in parenthesis behind XTO Energy.

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

IPs for completed North Dakota wells

Brigham Oil and Gas (Statoil)
22794; Scha 33-342TFH; Alger; NWNW 33-153N-92W; 2SEC; Mountrail, horizontal; 19,868; 1/8/2013; 1,298 bbl

Continental Resources
22987; Doe 34-23NH; Murphy Creek; SWSE 23-145N-95W; 2SEC; Dunn, horizontal; 19,802; 1/3/2013; 718 bbl
23520; Jack 3-9H; Murphy Creek; SESE 9-145N-95W; 2SEC; Dunn, horizontal; 20,710; 1/23/2013; 585 bbl

Crescent Point Energy
23400; Cpeusc Suitor 13-24-158N-101W; Little Muddy; SESW 12-158N-101W; 2SEC; Williams, horizontal; n/a; 2/6/2013; n/a

EOG Resources
22703; Wayzetta 22-1509H; Parshall; NESE 15-153N-90W; ICO; Mountrail, horizontal; 16,517; 1/29/2013; 1,185 bbl
22962; West Clarks 5-2425H; Clarks Creek; SWNE 24-151N-95W; ICO; McKenzie, horizontal; 19,553; 12/1/2012; 1,093 bbl
22963; West Clark 102-2413H; Clarks Creek; SWNE 24-151N-95W; ICO; McKenzie, horizontal; 17,167; 10/25/2012; 1,908 bbl

Hess
22538; BW-Kenny 149-101-0904H-1; Sather Lake; NENW 16-149N-101W; 2SEC; McKenzie, horizontal; 21,403; 12/29/2012; 447 bbl
23299; SC-TR Slette 153-98-1819H-2; Truax; NENW 18-153N-98W; 2SEC; Williams, horizontal; 20,509; 12/14/2012; 515 bbl
23300; SC-TR Slette 153-98-1819H-3; Truax; NENW 18-153N-98W; 2SEC; Williams, horizontal; 20,733; 12/17/2012; 941 bbl

Kodiak Oil and Gas
22661; Polar Bibler 155-99-15-31-30-2H3; Epping; SWSE 31-155N-99W; 2SEC; Williams, horizontal; 20,160; 1/26/2013; 1,769 bbl
22162; Skunk Creek 16-2-3-13H; South Fork; SESE 2-148N-93W; 2SEC; Dunn, horizontal; 19,835; 12/2/2012; 1,749 bbl

Legacy Oil and Gas
22364; Legacy Etal Bernstein 5-17H; Red Rock; SWNW 17-163N-76W; N2; Bottineau, horizontal; 7,203; 10/27/2012; 138 bbl

Marathon Oil
23433; Ivan Hoff 31-28H; Strandahl; NWNE 28-157N-103W; 2SEC; Williams, horizontal; 19,879; 11/27/2012; 301 bbl
22289; Joanne Quale USA 21-30TFH; Reunion Bay; NWNE 30-152N-93W; 2SEC; McKenzie, horizontal; 20,804; 12/16/2012; 1,444 bbl
23107; T D Steffan 21-27H; Murphy Creek; SESW 22-144N-96W; 2SEC; Dunn, horizontal; 20,941; 11/27/2012; 1,213 bbl

OXY USA (Occidental Petroleum Corp.)
21705; Enger 1-15-22H-142-97; Willmen; SWSW 10-142N-97W; 2SEC; Dunn, horizontal; 20,854; 9/5/2012; 808 bbl
22133; Mongoose 1-13-24H-142-95; Murphy Creek; SESE 12-142N-95W; 2SEC; Dunn, horizontal; 20,788; 9/11/2012; 388 bbl

Top 10 Bakken wells by IP rate

EOG Resources
22963; West Clark 102-2413H; McKenzie; 1,908 bbl

Kodiak Oil and Gas
22661; Polar Bibler 155-99-15-31-30-2H3; Williams; 1,769 bbl
22162; Skunk Creek 16-2-3-13H; Dunn; 1,749 bbl

Whiting Oil and Gas
24241; Anderson 41-7; Mountrail; 1,609 bbl

Marathon Oil
22289; Joanne Quale USA 21-30TFH; McKenzie; 1,444 bbl

Brigham Oil and Gas (Statoil)
22794; Scha 33-342TFH; Mountrail; 1,298 bbl

QEP Energy
22194; Moberg 13-17/16H; McKenzie; 1,248 bbl

Marathon Oil
23107; T D Steffan 21-27H; Dunn; 1,213 bbl

EOG Resources
22703; Wayzetta 22-1509H; Mountrail; 1,185 bbl
22962; West Clarks 5-2425H; McKenzie; 1,093 bbl

Note: This chart contains initial production rates, or IPs, from the adjacent IP chart for active wells that were filed as completed with the state of North Dakota from March 3 to March 11, 2013 in the Bakken petroleum system, as well as active wells that were released from tight-hole 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; county and IP oil flow rate in barrels.

Petro-Hunt
22312; Fort Berthold 148-94-28A-331H; Gregory Buttes; NWNE 28-148N-94W; 2SEC; Dunn, horizontal; 20,729; 11/19/2012; 452 bbl
20825; Williams and Larson Trust 157-100-8D-5-1H; Marmor; SESE 8-157N-100W; 2SEC; Williams, horizontal; 19,690; 12/27/2012; 50 bbl

Whiting Oil and Gas
23273; Froehlich 34-9PH; Bell; SWSE 9-139N-99W; 2SEC; Stark, horizontal; 18,360; 9/14/2012; 426 bbl
23330; Samuelson 23-32; Wildcat; NESW 32-142N-105W; SW; Golden Valley, directional; 12,516; 12/3/2012; 195 bbl

Zenergy
23210; Cayko 22-27H; Dore; NENW 22-151N-104W; 2SEC; McKenzie, horizontal; 20,109; 1/10/2013; 923 bbl
21747; Hanson 34-27H; Dublin; LOT3 3-157N-100W; 2SEC; Williams, horizontal; 20,765; 12/13/2012; 685 bbl

IPs for ND wells released from tight-hole status

Continental Resources
21981; Alpha 1-14H; Camp; SENE 14-152N-100W; 4SEC; McKenzie, horizontal; 19,509; 1/25/2013; 377 bbl
21983; Alpha 2-14H; Camp; SENE 14-152N-100W; 4SEC; McKenzie, horizontal; 19,523; 2/23/2013; 504 bbl
22935; Salem 3-6H; Dollar Joe; NWNW 6-155N-97W; 2SEC; Williams, horizontal; 20,912; 12/31/2012; 695 bbl

Enerplus Resources
21752; Beluga 149-93-06B-05-3H; Gregory Buttes; LOT5 6-148N-93W; 2SEC; Dunn, horizontal; 20,345; 2/8/2013; 656 bbl

Hess
22684; En-Jeffrey A-155-94- 2734H-2; Alkali Creek; SWSE 22-155N-94W; 4SEC; Mountrail, horizontal; 21,368; 2/15/2013; 689 bbl

Murex Petroleum
22898; Karen Michelle 13-24H; Stanley; NWNE 13-155N-91W; 3SEC; Mountrail, horizontal; 19,220; 2/27/2013; 462 bbl

Oasis Petroleum
22252; Delta 6093 34-15H; Gros Ventre; NESE 15-160N-93W; 2SEC; Burke, horizontal; 18,897; 12/11/2012; 603 bbl

QEP Energy
22194; Moberg 13-17/16H; Grail; SWSW 17-149N-95W; 2SEC; McKenzie, horizontal; 20,840; 2/8/2013; 1,248 bbl

Whiting Oil and Gas
24241; Anderson 41-7; Sanish; NENE 7-154N-92W; 2SEC; Mountrail, horizontal; 19,883; 1/30/2013; 1,609 bbl

—Compiled by Ashley Lindly

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● DRILLING & COMPLETION

Montana oil activity report, March 1-7

Abbreviations & parameters

With a few exceptions, such as the Heath shale play in the central part of the state, the Montana weekly oil activity report includes horizontal well activity in the Bakken petroleum system in the eastern/northeastern part of the state within the Williston Basin. It also includes what is referred to as the South Alberta Bakken fairway in northwestern/west-central Montana, which is at least 175 miles long (north-south) and 50 miles wide (east-west), extending from southern Alberta, where the formation is generally referred to as the Exshaw, southwards through Montana's Glacier, Toole, Pondera, Teton and Lewis & Clark counties. The Southern Alberta Bakken, under evaluation by several oil companies, is not part of the Williston Basin.

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

BHL: bottomhole location
BOPD: barrels of oil per day
BWPD: barrels of water per day
IP: initial production
MCFPD: thousand cubic feet per day
PBHL: probable bottomhole location
SHL: surface hole location
TD: total depth

COMPILED BY DARRYL L. FLOWERS

For Petroleum News Bakken

New locations — horizontal wells

Continental Resources Inc. was green lighted for seven wells in Richland County. The wells are: the Rognas-Barbara HSU, with an SHL at SE SE 28-25N-55E (260 FSL/440 FEL) and a PBHL of 20,105 feet at NW NW 22-25N-55E (200 FNL/200 FWL); the Prevost-Mondalin HSU, with an SHL at SW SW 15-23N-56E (230 FSL/397 FWL) and a PBHL of 20,297 feet at WL NW 10-23N-56E (200 FNL/0 FWL); the Lucille-Reimann HSU, with an SHL at SW SW 14-23N-55E (300 FSL/328 FWL) and a PBHL of 20,685 at SE SE 27-23N-55E (200 FSL/400 FEL); the Larry 1-28H, with an SHL at NW NE 28-23N-53E (305 FNL/1910 FEL) and a PBHL of 13,988 feet at SW SE 28-23N-53E (200 FSL/1980 FEL); the Goss 3-35H, with an SHL at SW SE 35-24N-54E (300

FSL/2500 FEL) and a PBHL of 19,993 feet at NE NW 26-24N-54E (200 FNL/2640 FEL); the Ardelle-Staci HSU, with an SHL at SW SW 14-23N-55E (300 FSL/283 FWL) and a PBHL of 19,938 feet at WL NW 11-23N-55E (200 FNL/0 FWL) and the Alice-Thomas HSU, with an SHL at SW SW 15-23N-56E (230 FSL/352 FWL) and a PBHL of 20,746 feet at WL SW 27-23N-56E (200 FSL/0 FWL).

All the Continental wells will target the Bakken formation.

New laterals or extensions, existing horizontal wells

In Richland County, Slawson Exploration Co. Inc. was issued permits for two wells. The Rascal 1-18H has an

SHL at SE SE 18-23N-53E (350 FSL/650 FEL) and a PBHL of 13,553 at SW SW 18-23N-53E (750 FSL/250 FWL); the Rover 1-20H has an SHL at NW NW 20-23N-53E (300 FNL/660 FWL) and a PBHL of 13,493 feet at SW SW 20-23N-53E (700 FSL/700 FWL). Both wells will target the Bakken formation.

Completions

In Fergus County, Petroshale Energy LLC reported the completion of two wells. The Padre 1A has an SHL at SW NW 4-14N-17E (1881 FNL/950 FWL) and a TD of 2,460 feet. The second well, the Arrowhead 1A is located at SW NW 34-15N-16E (1800 FNL/652 FWL). Both wells tap into the Heath formation.

In Judith Basin County, Petroshale

reported the completion of the Reese 1A, located at SW SE 19-14N-15E (949 FSL/1789 FEL).

In Richland County, Continental Resources Inc. filed a completion report for the Belleza 1-12H, with an SHL at NE NW 12-23N-53E (180 FNL/1980 FWL) and a BHL of 13,894 feet at SE SW 12-23N-53E (669 FSL/1963 FWL). The reported IP was 557 BOPD, 366 MCFPD and 358 BWPD. The well produces from the Bakken formation.

In Richland County, Whiting Oil and Gas Corp. reported the completion of the Palmer 24-21-1H. The well has an SHL at SE SW 21-26N-57E (280 FSL/2140 FWL) and a BHL of 20,793 feet at NW NW 16-26N-57E (244 FNL/658 FWL).

see **MT ACTIVITY** page 11



North Dakota well operator transfers

March 4 – 8, 2013

LEGEND

Date of well operator transfer

Well(s) transferred from

Well(s) transferred to

NDIC well file number — well name — well type — pool — field — IP (initial production) test date — IP oil rate in barrels — location — county

March 5, 2013

From: Denbury Onshore LLC

To: XTO Energy Inc. (ExxonMobil)

22669 - Magpie 44-30H, horizontal, Duperow, Magpie, n/a, n/a, SESE 30-144N-100W, Billings Co.

15064 - Porcupine Ridge11-2H, horizontal, Madison, Bear Creek, 2/2/2001, 621 bbl, NWNW 2-147N-9 W, Dunn Co.

09037 - Fettig 1, vertical, Madison, Squaw Creek, 9/9/1988, 94 bbl, SESE 21-149N-94W, McKenzie Co.

March 7, 2013

From: Newfield Production Co.

To: Murex Petroleum Corp.

14089 - Cox 14-12H, horizontal, Red River B, Cedar Hills, 10/20/1996, 137 bbl, SWSW 12-131N-105W, Bowman Co.

March 8, 2013

From: Columbus Energy Corp.

To: Mesa Oil Services LLC

07041 - Sanders SWD #1, vertical, Duperow, Charbonneau, 2/25/1980, 75 bbl, NWSW 4-149N-102W, McKenzie Co.

Note: The information in this chart was compiled by Petroleum News Bakken from the online daily activity reports of the North Dakota Industrial Commission, or NDIC. The operator names in this report are as they appear in State of North Dakota records, even though some of the companies, or their Bakken assets, might have been purchased by other companies. XTO Energy, for example, is now a subsidiary of ExxonMobil.



Bakken producers' stock prices

Closing prices as of March 13, along with those from previous Wednesday

Company	Exchange	Symbol	Closing price	Previous Wed.
Abraxas Petroleum Corp.	NASDAQ	AXAS	\$2.16	\$2.09
Arsenal Energy USA, Inc.	TSE	AEI	\$0.50	\$0.52
Baytex Energy Corp.	NYSE	BTE	\$42.74	\$42.21
Brigham Exploration Co. (Statoil)	NYSE	STO	\$24.61	\$24.90
Burlington Resources Co. (ConocoPhillips)	NYSE	COP	\$58.78	\$58.00
Continental Resources, Inc.	NYSE	CLR	\$90.25	\$88.40
Crescent Point Energy Corp.	TSE	CPG	\$38.94	\$38.70
Enerplus Resources USA Corp.	NYSE	ERF	\$14.29	\$13.77
EOG Resources, Inc.	NYSE	EOG	\$129.88	\$125.60
Fidelity Exploration and Production (MDU)	NYSE	MDU	\$24.54	\$24.60
G3 Operating LLC (Halcon Resources Corp.)	NYSE	HK	\$7.13	\$6.55
GMX Resources, Inc.	NYSE	GMXR	\$3.11	\$2.49
Hess Corp.	NYSE	HES	\$71.69	\$69.49
Kodiak Oil and Gas (USA), Inc.	NYSE	KOG	\$9.39	\$9.09
Legacy Reserves Operating LP	NASDAQ	LGCY	\$26.19	\$26.00
Marathon Oil Co.	NYSE	MRO	\$34.37	\$32.75
Newfield Production Co.	NYSE	NFX	\$23.84	\$23.15
Oasis Petroleum Inc.	NYSE	OAS	\$38.23	\$37.16
OXY USA (Occidental Petroleum Corp.)	NYSE	OXY	\$83.28	\$81.89
QEP Energy Co.	NYSE	QEP	\$31.77	\$29.82
Resolute (Resolute Energy Corp.)	NYSE	REN	\$10.90	\$9.99
Samson Resources Co. (KKR & Co.)	NYSE	KKR	\$19.63	\$18.85
SM Energy Co.	NYSE	SM	\$56.61	\$57.06
Triangle USA Petroleum Corp.	NYSE	TPLM	\$7.01	\$6.47
Whiting Oil and Gas Corp.	NYSE	WLL	\$50.92	\$48.61
WPX Energy Inc.	NYSE	WPX	\$16.00	\$15.14
XTO Energy Inc. (ExxonMobil)	NYSE	XOM	\$89.26	\$89.56



Looking for a rig report?

Montana

Drilling Ahead at www.drillingahead.com/USARigReport offers a U.S. Drilling Rig Report that includes Montana.

North Dakota

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

Saskatchewan

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

Manitoba

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



PHOTO COURTESY CONTINENTAL RESOURCES



January 2013

Montana Bakken oil production by company

The information below is derived from State of Montana production reports and separated out by company. Note this is oil produced by wells operated by these companies; it does not identify the percentage of Bakken petroleum system oil, including Three Forks, which is actually owned by the company, so it might differ from what each company reports. It also does not include oil production from wells operated by others, in which these companies might hold an interest. The daily average was derived from dividing the total production by the number of days in January. The operator names used in this report are as they appear in State of Montana records, even though some of the companies or their Bakken assets might have been purchased by other companies. Also, three companies had not yet reported their January production — one likely because it reported zero output in December. The December production for the other two was included, and noted with a date.

LEGEND

Company
Field — pool — county — barrels of oil per month
Daily average in barrels of oil

Average Montana daily Bakken oil production in January: 29,659.4 barrels					
Abraxas Petroleum Corp. (12/31) Lane – Bakken – Richland	2.1	Epworth – Bakken – Richland	0	Slawson Exploration Company Inc. Elm Coulee – Bakken – Richland	63,751
Burlington Resources (ConocoPhillips) Elm Coulee – Bakken – Richland	39,389	Girard – Bakken – Richland	156	Daily average: 2,056.5	
Daily average: 1,270.6		Mustang – Bakken – Richland	329	SM Energy Co. Elm Coulee – Bakken – Richland	731
Charger Resources, LLC Elm Coulee – Bakken – Richland	2,740	Putnam – Bakken – Richland	10	Brorson – Mission Canyon, Bakken – Richland	386
Daily average: 88.4		Spring Lake – Bakken – Richland	327	Brorson, South – Bakken – Richland	0
Continental Resources Inc. Elm Coulee – Bakken – Richland	309,235	Three Buttes – Bakken – Richland	0	Brorson, South – Mission Canyon, Bakken – Richland	849
Elm Coulee, Northeast – Bakken – Richland	17,675	Daily average: 6,225.6		Mustang – Bakken – Richland	104
Elm Coulee – Three Forks – Richland	136	EOG Resources, Inc. Elm Coulee – Bakken – Richland	29,307	Putnam – Mission Canyon, Bakken – Richland	107
Elm Coulee, Northeast – Three Forks	753	Daily average: 945.4		Vaux – Mission Canyon, Bakken – Richland	436
Wildcat Richland – Bakken – Richland	0	Fidelity Exploration & Production Co. Elm Coulee – Bakken – Richland	5,288	Daily average: 84.3	
Daily average: 10,574.2		Elm Coulee – Three Forks – Richland	520	Taq North USA Inc. (12/30) Johnson Lake – Bakken – Sheridan	0
Earthstone Energy Spring Lake, West – Bakken – Richland	157	Daily average: 187.4		Daily average: 0	
Vaux – Madison/Bakken – Richland	411	Newfield Production Co. Elm Coulee – Bakken – Richland	19,715	Vaalco Energy USA (12/300 Salt Lake – Bakken – Sheridan	532
Daily average: 18.3		Daily average: 636		Daily average: 17.2	
Enerplus Resources USA Corp. Charlie Creek – Bakken – Richland	163	Oasis Petroleum North America LLC Elm Coulee – Bakken – Richland	346	XTO Energy Inc. (ExxonMobil) Elm Coulee – Bakken – Richland	192,339
Elm Coulee – Bakken – Richland	192,009	Elm Coulee – Northeast – Bakken – Richland	39,065	Daily average: 6,204.5	
		Daily average: 1,271			
		Sinclair Oil & Gas Co. Elm Coulee – Bakken – Richland	2,420		
		Daily average: 78.1			



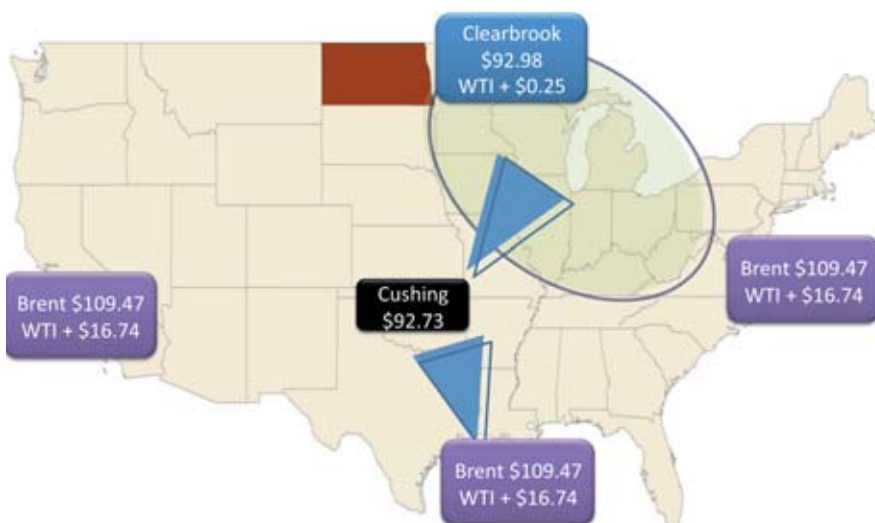
North Dakota Pipeline Authority

Monthly update March 15, 2013

MONTH	ND	E. MT*	SD	TOTAL
January	546,547	59,878	4,915	611,341
February	558,558	62,022	4,891	625,471
March	577,478	60,485	4,776	642,739
April	609,503	64,329	4,725	678,557
May	639,981	63,882	4,941	708,804
June	664,618	61,290	4,864	730,772
July	676,249	65,889	4,743	746,880
August	701,409	67,500	4,645	773,554
September	729,248	68,645	4,640	802,533
October	749,212	71,885	4,561	825,658
November	735,062	70,927	4,647	810,636
December	770,111	69,366	4,379	843,855

MONTH	ND	E. MT*	SD	TOTAL
January	738,022			--
February				--
March				--
April				--
May				--
June				--
July				--
August				--
September				--
October				--
November				--
December				--

Crude Oil Prices – March 14, 2013



North Dakota Pipeline Miles



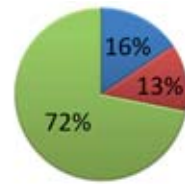
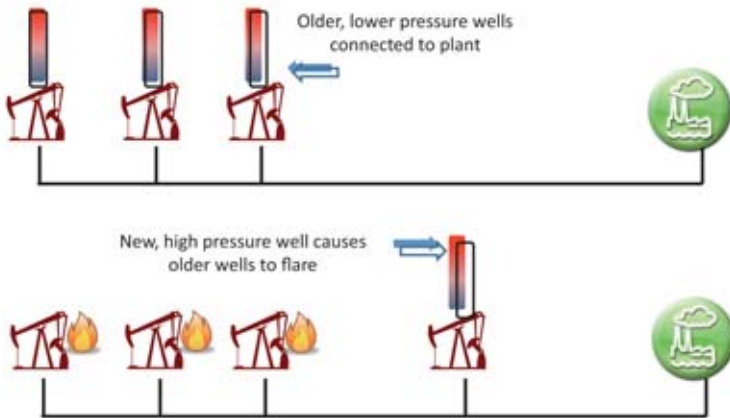
Petroleum News
Bakken

North Dakota Pipeline Authority

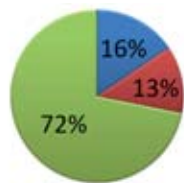
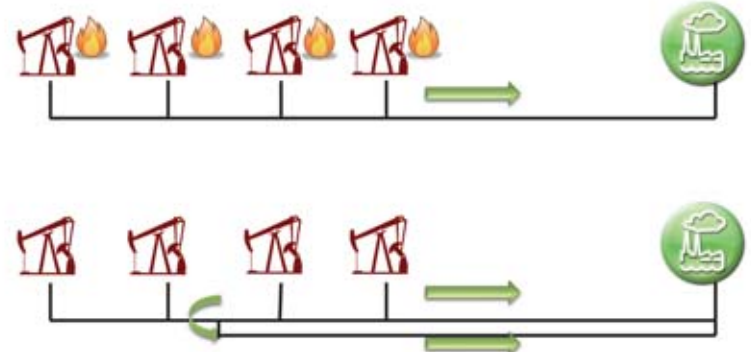
Monthly update March 15, 2013



Capturing the 13% Additional Compression



Capturing the 13% Looping Existing Pipelines



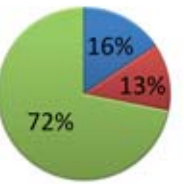
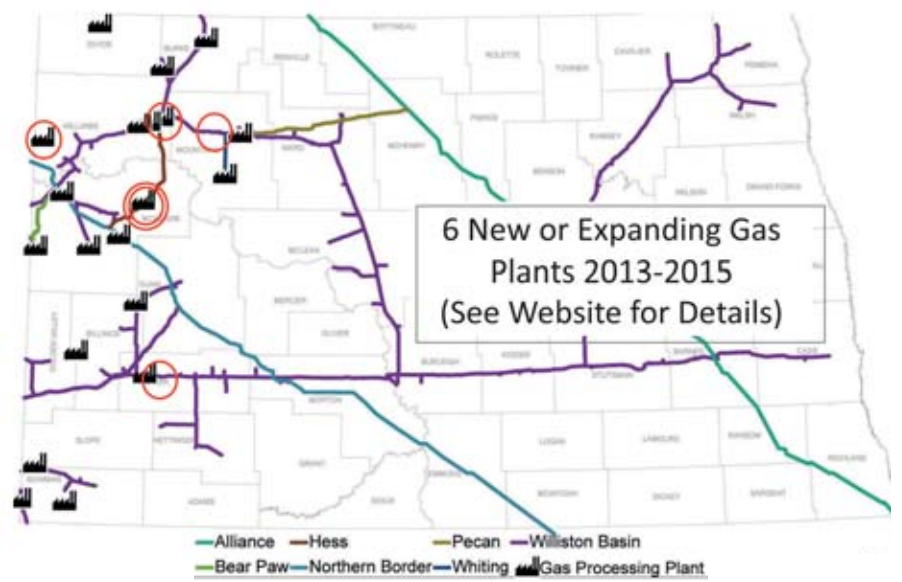
Capturing the 13% Frequent Pigging

NGL buildup in gathering pipelines reduces area for gas to flow

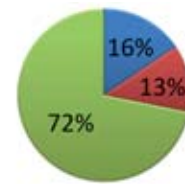
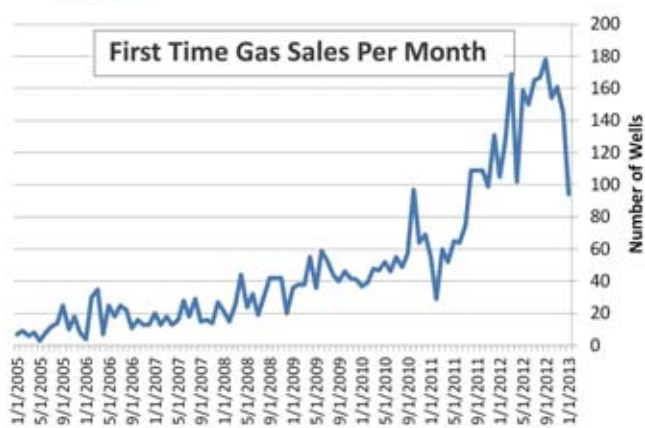


More of an issue in winter months due to lower ground temperature causing more liquids to drop out

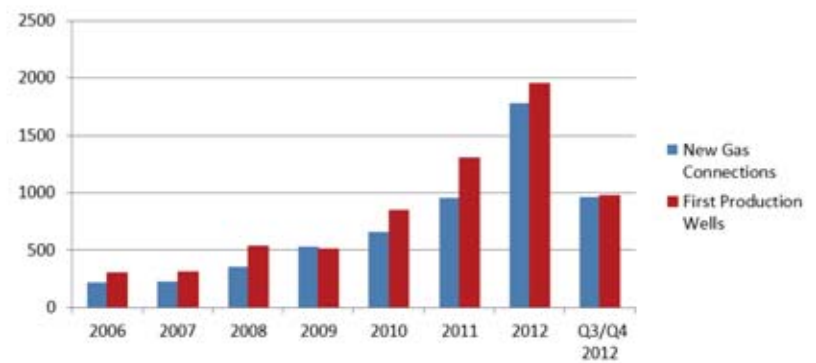
ND Natural Gas Processing



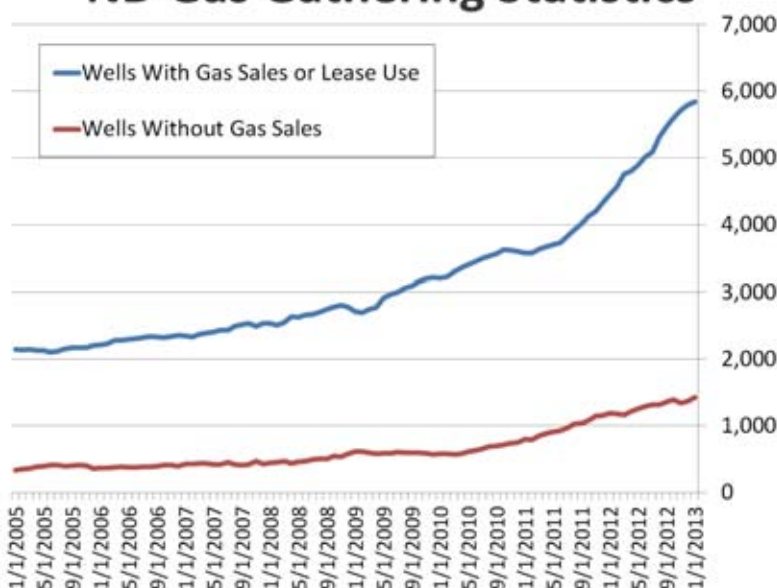
Capturing the 16% Faster Well Connections



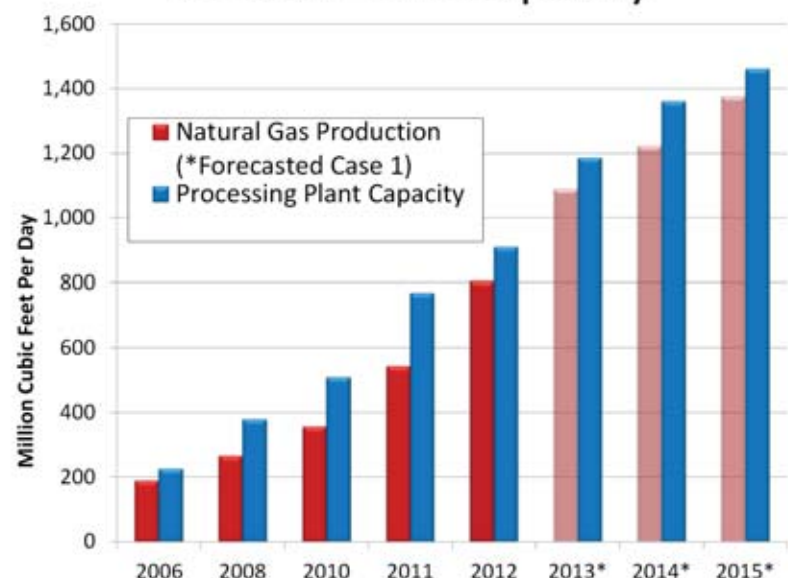
Capturing the 16% Faster Well Connections



ND Gas Gathering Statistics



ND Gas Plant Capacity



continued from page 8

MT ACTIVITY

The Bakken well reported an IP of 353 BOPD, 276 MCFPD and 1,236 BWPD.

In Roosevelt County, Samson Oil and Gas USA Montana Inc. reported the completion of the Gretel II 12 KA 3, with an SHL at SE SE 22-28N-53E (858 FSL/1094 FEL) and two laterals with two BHLs: 14,769 feet at NW SE 26-28N-53E (1776 FSL/1798 FEL) and 15,555 feet at SE SE 26-28N-53E (1248 FSL/1231 FEL). Both laterals tap into the Bakken formation. The reported IP was 7 BOPD and 263 BWPD.

In Roosevelt County, Oasis Petroleum North America LLC reported the completion of three wells. The Catherine 2759 12-17H has an SHL at NE NW 17-27N-59E (230 FNL/2440 FWL) and a BHL of 20,650 feet at NE NW 5-27N-59E (299 FNL/2388 FWL). The Bakken formation well reported an IP of 247 BOPD, 19 MCFPD and 923 BWPD. The Lester Federal 2759 12-17H has an SHL at NE NW 17-27N-59E (230 FNL/2340 FWL)

and a BHL of 20,205 feet at SE SW 20-27N-59E (295 FSL/2287 FWL). The Bakken formation well turned in an IP of 1,173 BOPD, 806 MCFPD and 5,415 BWPD. The Ring Federal 2858 44-34H, with an SHL at SE SE 34-28N-58E (970 FSL/210 FEL) and a BHL of 20,160 feet at NW SW 33-28N-58E (1939 FSL/303 FWL), turned in an IP of 2,060 BOPD, 1,614 MCFPD and 4,956 BWPD. The well produces from the Bakken formation.

In Sheridan County, TAQA North USA Inc. reported the completion of two wells. The Ward 11-5H, with an SHL at SW NW 11-37N-57E (1750 FNL/230 FWL) and BHLs of 8,377 feet at SW NW 11-37N-57E (1972 FNL/988 FWL) and 11,930 feet at NE NW 11-37N-57E (2094 FNL/703 FEL) reported an IP of 38 BOPD, 12 MCFPD and 251 BWPD. The Hellegaard 9-12H #2 has an SHL at NW SW 9-37N-57E (2080 FSL/215 FWL) and a BHL of 11,875 feet at NE SE 9-37N-57E (1916 FSL/705 FEL). The well turned in an IP of 17 BOPD and 158 BWPD. Both TAQA wells produce from the Bakken formation. ●

continued from page 1

UPPER SHALE

movement of the rigs into the core over in North Dakota,” Reger said. “So it’s an exciting play for us with Slawson.”

Thus far in that venture, he said operator Slawson has drilled approximately 20 wells in the area of mutual interest, or AMI, which consists of approximately 20,000 acres on the southwestern edge of the Elm Coulee field. Slawson has a 76 percent working interest in the AMI; Northern has the remaining 24 percent.

“The program is slightly different than our typical Bakken and Three Forks development drilling,” Reger said. “We’re targeting the upper shale on that southwest edge of the Elm Coulee field where the middle member is no longer present. We are drilling short laterals in 640-acre spacing units.”

The laterals, he said, are approximately 5,000 feet in length, and “we’re using 20 stages sliding sleeves with white sand.”

The wells are coming in at under \$5 million each, according to Reger, and have estimated ultimate recoveries, or EURs, in the range of 350,000 to 400,000 barrels of oil.

Dual-lateral recently completed

Slawson recently completed a dual-lateral well in the NW Big Sky AMI at a cost of approximately \$8 million, amounting to approximately \$4 million per lateral, Reger said.

Slawson, he said, will complete one lateral, flow it back, shut it in and isolate it, then complete the other lateral in the same way. Once both laterals are complete Slawson will then comingle the

production.

Slawson plans to drill approximately four wells per spacing unit.

“So Slawson continues to innovate, not just from a drilling and completion standpoint but they’re also innovating from a cost efficiency standpoint.”

Northern’s North Dakota interests

Most of Northern’s Bakken petroleum system acreage is in North Dakota and is concentrated in the Peninsula area in southern Mountrail County and in northern McKenzie County.

Reger said Slawson and EOG have recently moved into the Peninsula area, where, he said, “Northern has generated a lot of production growth over the last few years.”

In northern McKenzie County the company holds some 23,000 acres, where it shares interests with Whiting, ConocoPhillips and Continental.

He said Northern has a 17.4 percent working interest in Whiting’s Tarpon wells that have produced some of the highest oil initial production, or IP, rates in the Williston Basin (see related side brief on page 1).

In addition, Northern has just over a 7 percent working interest in ConocoPhillips’ Corral Creek field in Dunn County, where, Reger said, Northern has some of its highest EURs in its Bakken interests (see related story on top of page 1).

Northern Oil and Gas is a non-operating Bakken interest holder with approximately 180,000 net mineral acres in North Dakota and Montana

—MIKE ELLERD

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continued from page 1

IP RATE WELLS

well yielded 4,971 barrels of oil in the first 24 hours of production along with 11.45 million cubic feet of natural gas and 1,701 barrels of water under a flowing pressure of 1,917 pounds per square inch. The well is set at a depth of 10,907 feet with a single lateral of 10,003 feet into the Bakken formation that was completed with a 30-stage frack.

Whiting’s Tarpon Federal 21-4H well comes in third with an IP rate of 4,815 barrels of oil, 13,163 million cubic feet of natural gas, and 1,617 barrels of water under a flowing pressure of 1,300 psi. It is set at a depth of 10,816 feet with a single lateral extending 10,061 feet into the Bakken formation. It was also completed with 30 frack stages. The Tarpon Federal 21-4H well was tested in October 2011.

The third Tarpon well is Whiting’s Tarpon Federal 21-4-1H well, but it had a far lower IP rate of 1,384 barrels of oil in its first 24 hours and approximately 3.5 million cubic feet of natural gas. That well was tested in late December 2012.

Oil most important in IP rates

The state of North Dakota evaluates well production based on separate oil, gas and water volumes and does not look at performance in terms of barrels of oil equivalent, which includes gas. And when the agency discusses high-performing IP wells with the public, the high value commodity, oil, is first noted.

However, if the performance of these top three producing wells is evaluated on a barrel of oil equivalent basis rather than strictly on how many barrels of oil were produced in the first 24 hours, the top ranking changes.

Using a conversion factor of 1 boe equals 6,000 cubic feet of gas, Petroleum News Bakken calculated IP rates for these top three wells on a boe basis. That calculation moves Whiting’s Tarpon Federal 21-2H well from third to first place with an IP rate of approximately 7,008 boe per day. In second place is Whiting’s Tarpon Federal 21-4-3H well with an IP rate of 6,878 boe, followed by ConocoPhillips’ Brazos 24-34H well with an IP rate of 6,755 boe.

—MIKE ELLERD

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continued from page 1

RECORD WELL

per day is, to the best of anyone's knowledge in the division, the highest IP ever seen in North Dakota.

2012 Product mix

ConocoPhillips' 2012 average daily Lower 48 production was 457,000 barrels of oil equivalent per day, of which only 5 percent or 25,000 boepd came from the Bakken. However, the Bakken production had the highest liquids content of the Lower 48 unconventional plays at 88 percent, compared to the overall Lower 48 average liquids content of 46 percent.

Of the company's 25,000 boepd 2012 Bakken production 22,000 boepd were liquids and 3,000 boepd were natural gas (17 million cfpd). Second in Lower 48 liquids content was the company's Eagle Ford production of 70,000 boepd that had 56,000 boepd of liquids and 14,000 boepd of natural gas (85 million cfpd) for a liquids content of 80 percent. That was followed in third place by the company's Permian Basin production of 51,000 boepd consisting of 33,000 boepd liquids and 19,000 boepd natural gas (111 million cfpd) for a liquids content of 64 percent.

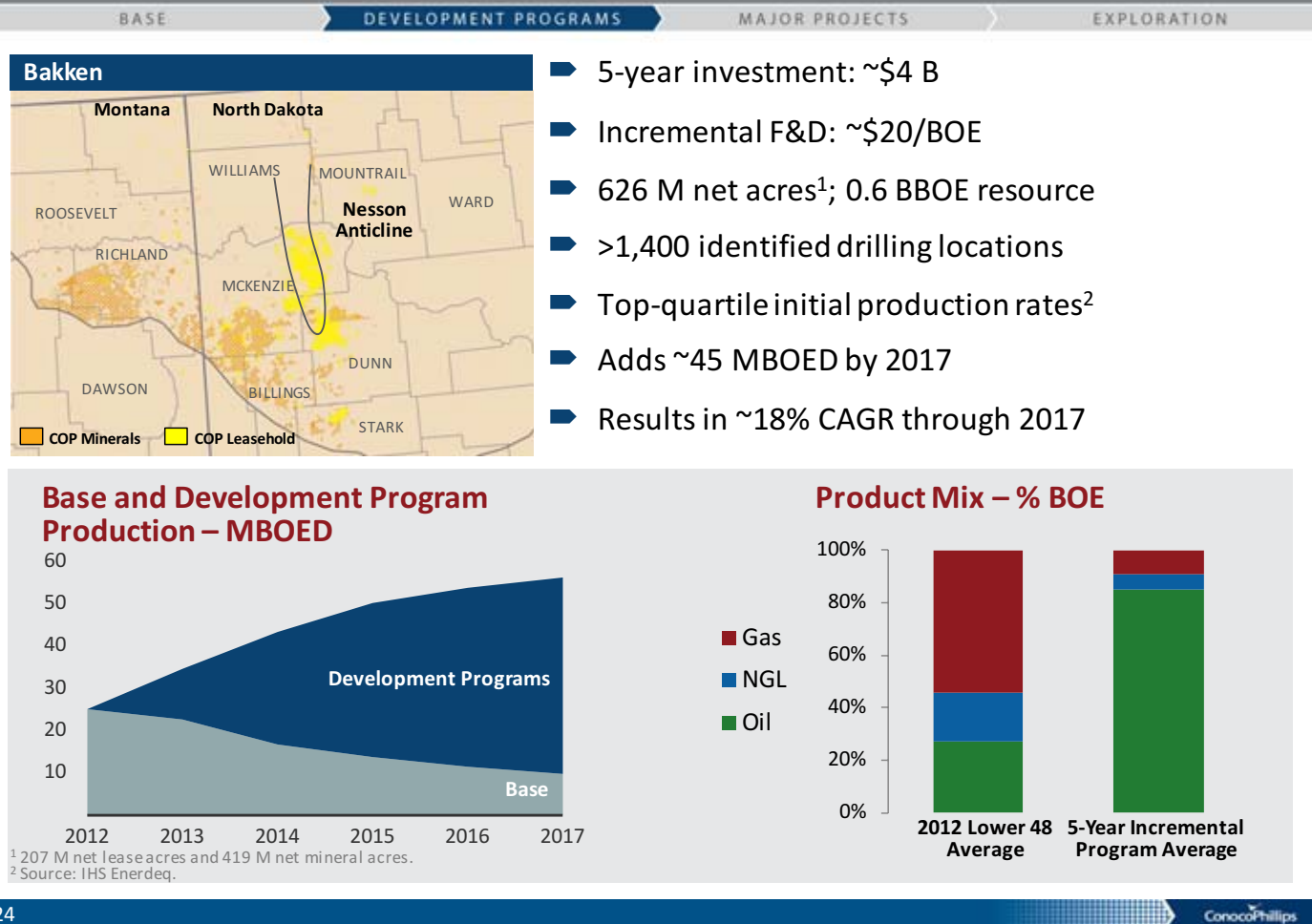
The Eagle Ford, Permian and Bakken make up ConocoPhillips' three major plays in the Lower 48.

2012 Bakken production

In the fourth quarter of 2012, ConocoPhillips' average daily Williston Basin production was 24,000 boepd, down approximately 17 percent from the third quarter production of 29,000 boepd and essentially unchanged from its first quarter production.

For the year, the company's average daily Bakken production of 25,000 boepd was a 44 percent increase over its 2011

Bakken: Growth from Development in Heart of Trend



Bakken production.

At the end of 2012, ConocoPhillips had a working interest in 187 Bakken wells, 68 of which were net company wells. According to North Dakota Oil and Gas Division records, ConocoPhillips, listed in that data base as Burlington Resources, brought a total of 44 wells online in 2012, 32 of which are in McKenzie County and the remaining 12 in Dunn County.

The 32 McKenzie County wells that went online in 2012 had IPs ranging from the record high of 5,130 boepd for the Brazos 24-34H well to 962 boepd. The sec-

ond highest IP ConocoPhillips well in McKenzie County behind the Brazos 24-34H well was 3,591 boepd.

Collectively, all 32 of the McKenzie County wells had an average 24-hour IP of 1,204 boepd. The remaining 12 wells that went into production in 2012 are in Dunn County. Those 12 wells had IPs ranging from 2,846 boepd to 130 boepd with an average of 1,476 boepd.

As of March 13, Oil and Gas Division files indicate that ConocoPhillips had a total of 96 wells on confidential status. Sixty-five of those confidential wells are in McKenzie County, 30 are in Dunn County and one is in Stark County.

Future plans for the Bakken

Since splitting away from its downstream Phillips 66 operations in May 2012, ConocoPhillips says it is emerging as a totally focused exploration and production company dedicated to organic growth. To that end, the company is planning to invest approximately \$16 billion in capital expenditures over the next five years across its global operations, and \$4 billion of that \$16 billion, one quarter, are earmarked for the Bakken. That works out to an average of some \$800 million a year that the company is planning to funnel into the Williston Basin through 2017.

In the company's first investor analyst meeting since becoming what it calls a "new independent," Chairman and Chief Executive Officer Ryan Lance spoke on March 1 about the company's growth plan, saying "it is about organically growing this company, growing the production, growing the margins, growing the cash flows and growing the returns."

ConocoPhillips holds 626,000 net acres in the Williston Basin, 200,000 of which are "right on top of the Nesson Anticline," according to the company's exploration and production executive vice president, Matt Fox. In addition, Fox said, the company has 400,000 mineral acres that have unconventional development potential.

Fox went on to say that the company is planning to add 45,000 boepd to its Bakken production by 2017, which is an 18 percent compound annual growth rate for the company's Bakken assets. The company reports incremental finding and development cost for its Bakken production of approximately \$20 per boe. ConocoPhillips' Williston Basin holdings are in Mountrail, Williams, McKenzie,

According to Alison Ritter, public information officer for the North Dakota Industrial Commission's Department of Mineral Resources Oil and Gas Division, that 24-hour initial production, or IP, rate of 5,130 barrels of oil per day is, to the best of anyone's knowledge in the division, the highest IP ever seen in North Dakota.

Dunn, Golden Valley, Billings and Stark counties in North Dakota; and in Richland and Roosevelt counties in Montana.

Regarding resources, Fox said the company has more than 1,400 identified drilling locations and 600 million boe of resource in the Bakken, and to date he said ConocoPhillips has only "booked" about 90 million boe. "There's a lot of growth remaining in our Bakken position."

At the end of 2012, the company had nine rigs drilling in the Williston Basin, up from the six it had in the basin in 2011. For 2013, it plans to add at least one and possibly two drill rigs to its current rig fleet.

ConocoPhillips has not yet set a target for the number of wells it will drill in 2013.

The global ConocoPhillips

World-wide, ConocoPhillips identifies five "significant" areas where it is ramping up operations between 2012 and 2017. Those areas are the Canadian oil sands, Europe, Malaysia, the Australia-Pacific liquid natural gas play, commonly known as APLNG, and the Lower 48. Of those five areas, the Lower 48 is where the company's "development programs" are and where it sees its highest production and margin growth. In 2012, ConocoPhillips saw global average daily production of 1.58 million boepd, but by 2017 it wants to see that production increase to 1.9 million boepd.

With this diversity, and in the face of an ever uncertain future, Lance says ConocoPhillips is well positioned going forward. "We are not reliant on one product, one geography, one geology to succeed as a company, and we think that's an important competitive advantage in this business today." ●

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continued from page 1

NEW FORMATION

Previous 'Silt' drilling failed

Whiting said it previously attempted to drill into the Lower Bakken Silt but ran into difficulties when the drill bit got stuck in the formation.

"So our approach here is essentially to drill both above it in the Middle Bakken and below it in the Three Forks and essentially frack simultaneously to develop this zone," Mark Williams, Whiting's senior vice president of exploration and development, told analysts March 4 at the Raymond James Institutional Investors Conference in Orlando, Florida.

"It represents a tremendous resource for us as we go forward in developing this," he added.

He told analysts that Whiting's field strategy is now focused on opportunities for two types of development: finding new zones to exploit, such as the Lower Bakken Silt, and increasing the density of wells on existing production.

Whiting's Pronghorn Sand discovery

Whiting, a noted explorer and a major Williston Basin producer, is generally credited with discovery of the highly productive Pronghorn Sand zone in southern North Dakota, at the company's Pronghorn prospect in Stark County. The zone lies above the Three Forks and below the Lower Bakken Silt.

This year the company also is targeting its Pronghorn and Hidden Bench fields, along with its flagship Sanish field in Mountrail County, with well-density programs, in an effort to strengthen production.

Sanish, one of the first Middle Bakken discoveries in the basin, alone represents nearly 40 percent of Whiting's total production; and, by spacing wells closer together, the company believes it may be able to boost the oil recovery rate 15-17 percent from its current 10-11 percent.

Sanish well-density project

To this end Whiting plans to initiate a pilot well-density program at Sanish during the first half of 2013. If successful, the company said, this could add an additional three Middle Bakken locations per 1,280-acre spacing unit. The company also plans to refracture several wells in the field this year.

At Pronghorn, Whiting plans to drill six Pronghorn Sand wells per 1,280-acre spacing unit, which is up from the company's initial plan of three wells per spacing unit.

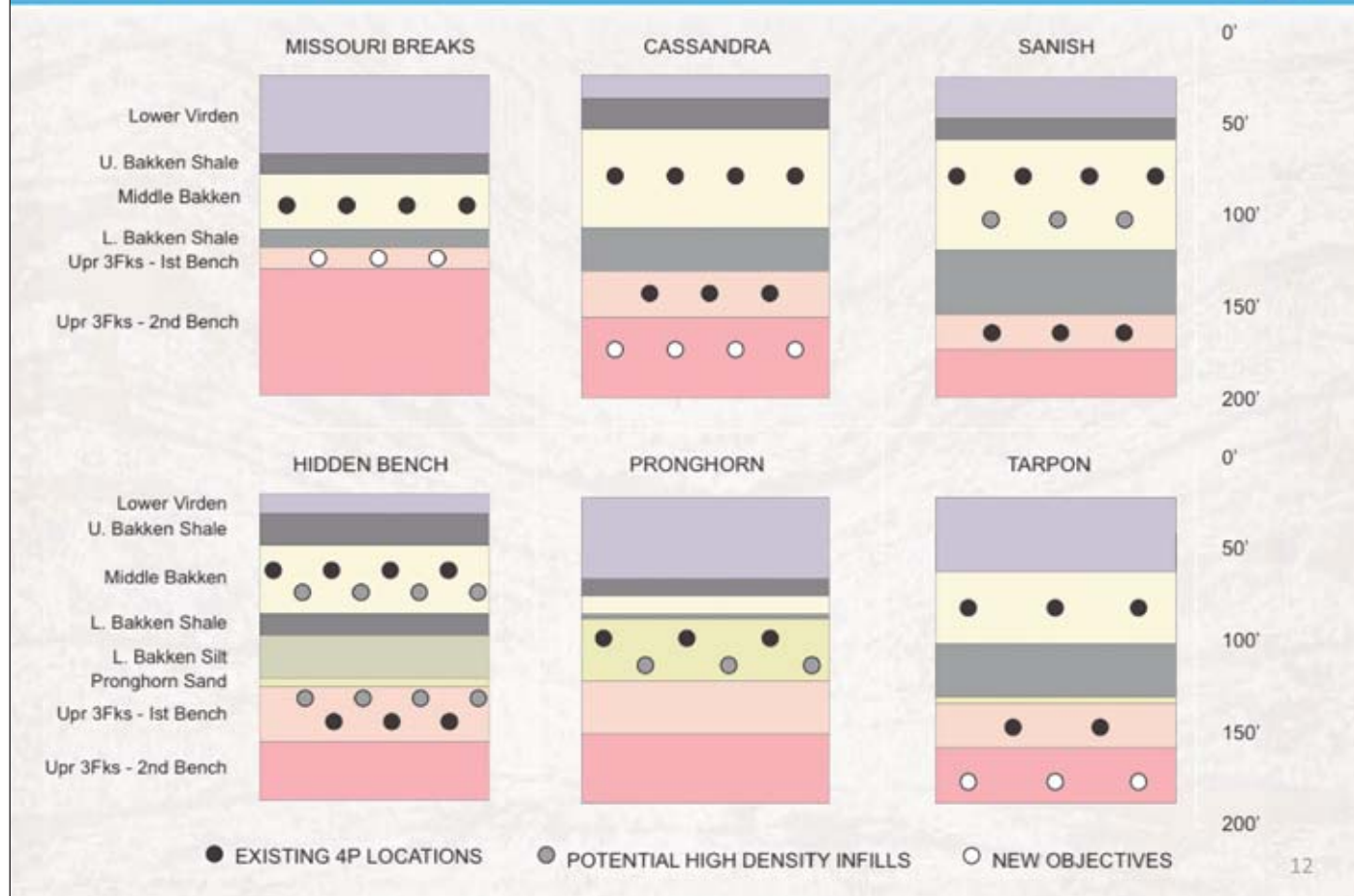
"At Hidden Bench ... we have the opportunity not only to do higher (well) density, but to develop that Lower Bakken Silt zone," Williams said.

Production up 22 percent

Meanwhile, Whiting reported record total production of 82,540 barrels of oil equivalent per day in 2012, an increase of 22 percent over output of 67,890 boe per day in 2011. However, when adding back the 4,500 boe per day of production that was conveyed to the Whiting USA Trust II in March 2012, the company's overall production in 2012 was up 28 percent over 2011.

Seventy-three percent of Whiting's total production comes from the Rocky Mountain region, with more than 60 percent coming from the Bakken, Pronghorn Sand and Three Forks formations in the Williston Basin. According to a report published by Petroleum News Bakken, derived from per-pool output published by the North Dakota Industrial Commission, at 66,155.7 barrels per day Whiting-operated wells produced the most oil in

Williston Basin Primary and Prospective Drilling Plan by Area



Whiting said it identified the zone through extensive core sampling, which "demonstrated high oil in place and may significantly increase reserves in this area."

December, although the company came in second to Continental Resources on the amount of oil it owned from December production in North Dakota.

"The development of the fields we discovered in 2011, such as Pronghorn, Hidden Bench, Tarpon and Redtail, generated excellent results in 2012," said Volker.

Pronghorn's 'exceptional' results

The Pronghorn and Lewis & Clark prospects, located in the southern Williston Basin and encompassing 262,974 net acres, had average fourth-quarter 2012 production of 13,430 boe per day, a 10 percent increase over the 12,190 boe per day in the third quarter. In the Pronghorn field alone, Whiting said it experienced "exceptional" drilling results

in the fourth quarter, including eight wells with 24-hour initial production rates exceeding 2,000 boe per day.

Western Williston Basin, which in addition to Hidden Bench includes the Tarpon, Missouri Breaks and Cassandra prospects, represents a total of 183,508 gross (114,732 net) acres. Production from this region averaged 5,120 boe per day in the fourth quarter, a hefty 47 percent increase over the 3,485 boe per day average in the third quarter.

Whiting noted that Tarpon produced the third highest well flow rate (Federal 21-4-3H) in the history of the Williston Basin — 6,879 boe per day from the Middle Bakken interval. The company also began pad drilling at Tarpon with immediate plans to drill three wells off each pad.

At Missouri Breaks, located in McKenzie County and Richland County, Montana, Whiting said it drilled successful wells on the western, eastern and southern portions of its acreage totaling 95,928 gross acres (66,095 net). In late October, Whiting completed the Amber Elizabeth 9-4H in the Middle Bakken flowing 1,315

boe per day. This was the first well drilled in the eastern portion of Missouri Breaks, the company noted.

Sanish output jumps 40 percent

Net production from the Sanish field averaged 31,081 boe per day in 2012, a whopping 40 percent increase over 2011 levels, the company reported, adding that output was 32,590 boe per day in the fourth quarter, an increase of 4 percent over the third quarter's 31,400 boe per day. Whiting noted completion of the Fladeland 14-33H, which was completed in the Middle Bakken flowing 3,220 boe per day. This wing well's 7,279-foot lateral was fracked in a total of 22 stages.

Whiting said it identified more than 50 vertical Red River prospects at its Big Island play, consisting of 172,464 gross (122,389 net) acres in Golden Valley County, North Dakota, and Wibaux County, Montana. Additional 3-D seismic is being shot on the northwest portion of Big Island to identify any more prospect

see **NEW FORMATION** page 14



Larson Electronics releases PAR38 style LED light

Larson Electronics said March 4 that it has announced the release of a multi-mode capable LED light with remote control that is compatible with standard PAR38 style light fixtures. The LED18W-PAR38-RGB 18 Watt RGB LED PAR 38 Remote Control Light provides innovative control and operating options with remote control operation and multi-color output choices as well as the ability to produce flashing, dimming, and strobing effects.

The Larson Electronics LED18W-PAR38-RGB 18 watt RGB LED PAR 38 remote control light is an innovative addition to their extensive line of LED offerings that gives operators a wide range of operating choices as well as the ability to control the operation of the unit via a handheld remote control. This LED lamp features a PAR38 design which allows it to work with most standard light sockets, allowing users to simply unscrew and replace common outdoor floodlights and interior bulbs.

Operating features include a handheld remote control which allows the user to control all the functions and modes from up to 25 feet away, making this LED light ideal for installation in hard to reach areas. Functions include on/off control, the choice of 16 different light colors, and the ability to produce a constant on state, a fast or slow flash, strobing effects, color fade, and dimming. For more information visit www.larsonelectronics.com.



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NEW FORMATION

locations, the company said, noting that estimated ultimate recoveries for wells range from 200,000 boe to 300,000 boe. And the wells have an estimated completion costs per well of just \$3-\$3.5 million, the company said.

3-D shoot at Starbuck

The company also is conducting a 283-square-mile 3-D shoot at its Starbuck prospect to identify "seismic anomalies" in the Upper Red River "D" zone. The company holds 104,508 gross (92,277) acres in the Starbuck prospect, located in Roosevelt County, Montana.

Whiting development areas outside the Williston Basin include the Niobrara Redtail prospect in the Denver Julesberg Basin in Weld County, Colorado, and the Big Tex prospect in Pecos County, Texas. The company also operates enhanced oil recovery, or EOR, projects at the Postle field in Oklahoma and the North Ward Estes field in Texas, and maintains some production on the Gulf Coast and in Michigan.

Whiting reported proved reserves totaling 378.8 million boe, a 10 percent increase over 345.2 million boe of proved reserves at year-end 2011. This equates to 246 percent reserve replacement, or 74,331 boe in net reserves added. Adding back barrels conveyed to Whiting USA Trust II, proved reserves were actually up 13 percent.

Of the total proved reserves, an estimated 81.5 million boe were added through exploration and development activities, representing a 68 percent increase over the 48.6 million boe added from these activities in 2011, the company noted.

Capex hits \$2.1B in 2012

Whiting's capital expenditures totaled \$2.1 billion in 2012, or about \$212 million above its initial \$1.9 billion budget. The increase was attributed to a higher level of both operated and non-operated drilling activity. In total, the company completed 192.9 net wells during the year versus a projected 160 net wells.

Whiting's 2013 capital budget is \$2.2 billion, which the company expects to fund largely through operating activities, borrowing under its credit facility and "certain" unidentified oil and gas property divestitures. Of the total budget, \$1.9 billion is earmarked for exploration and development activities, \$108 million for land, \$178 million for facilities and \$150 million for well work and miscellaneous.

More than half of the capital budget, or \$1.142 billion, is for the "Northern

To this end Whiting plans to initiate a pilot well-density program at Sanish during the first half of 2013. If successful, the company said, this could add an additional three Middle Bakken locations per 1,280-acre spacing unit. The company also plans to refracture several wells in the field this year.

Rockies", which includes the western and southern Williston Basin, the Sanish field and Red River plays.

Based on this level of spending, Whiting forecasts company-wide production of 33.8 million boe for 2013, an increase of 12-to 16 percent over 2012 production of 30.2 million boe.

Whiting was operating a total of 24 drilling rigs on its properties as of Feb. 1. Twenty were located in the Williston Basin. Over the past three and a half year, the company said it has been able to reduce average drill times from 38 days to 18.5 days per well in the Sanish field and from 35 days to 17 days per well in other field throughout North Dakota.

"Drilling procedures are being modified to utilize pad drilling technologies to further reduce drilling time and costs per well," the company said.

Robust drilling inventory

Whiting projects a total inventory of 9,661 gross (4,503.2 net) potential future drilling locations, consisting of 7,556 gross (3,623.3 net) primary locations and 2,105 gross (879.9 net) prospective locations supported by successful exploration drilling or extensive geoscience. Of the total gross, 50 percent are located in the Williston Basin's Bakken and Three Forks plays and 25 percent in the company's Niobrara Redtail play in Colorado.

"At our 2013 pace of 175 net wells annually, this equates to 18 years of drilling from only our Williston Basin and Central Rockies locations and 26 years of drilling, including our prospective locations," Volker told analysts during presentation of Whiting's fourth quarter and year-end 2012 financial and operations report.

On the financial front, Whiting reported \$81.4 million in net income on \$577 million in revenues for the fourth quarter of 2012, compared to net income of \$62.6 million on \$400.4 million in revenues for the fourth quarter of 2011. The company posted full-year 2012 net income of \$413.1 million on \$2.2 billion in revenues, compared to \$490.6 million in net income on revenues of \$1.9 billion for full-year 2011. ●

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MONTANA RECORDS

December 2012 auction, the division sold leases on 6,482 acres in 29 tracts for an average price per acre of \$24.71.

Most of the leases offered in the March auction were in Fallon (1,440 acres), Dawson (3,194 acres), Richland (1,936 acres), Roosevelt (169 acres), Daniels (2,106 acres) and Valley (1,280 acres) counties, all in eastern and northeastern Montana. In addition, there were tracts in Musselshell County in central Montana (1,894), and on the Rocky Mountain Front in Glacier County in northwest Montana (720 acres).

Winning bids

The actual price per acre ranged from a high of \$2,225 that Pine Properties Inc. of Bismarck, N.D., paid for a 9.43-acre tract in Roosevelt County, to a low of \$1.50 per acre for tracts in Daniels, Dawson and Musselshell counties. Pine Properties also had the second highest bid of \$2,000 per acre for a 160-acre tract, also in Roosevelt County, which was the only other tract from that county in the March 5 auction.

The third highest bid was \$450 per acre that G-Sun LLC of Meeteetse, Wyo., paid for a 640-acre tract in Fallon County. All other average prices were less than \$100 per acre. The highest bid in the December auction was \$230 per acre for a 13.5 acre parcel in Richland County.

Four tracts totaling 1,425 acres in Daniels County did not receive any bids. Those four tracts had been nominated for the auction by the DNRC.

“While the interest in Daniels County was disappointing, we were pleased with the overall level of bidding on tracts in the Williston Basin,” DNRC Minerals Management bureau chief Monte Mason told Petroleum News Bakken.

Although Pine Properties was the high bidder in the March 5 auction, Zone Exploration of Billings, Mont., walked away with the most acreage, leasing 2,634 acres in Musselshell County. Kirby L. Dasinger of Sidney, Mont., picked up leases on a total of 1,283 acres in Daniels and Richland counties. Dallas-based Petro-Hunt and Billings-based Lonewolf Energy Inc. each leased a total of 1,280 acres in Valley and Dawson counties, respectively. Stewart Geological Inc., also of Billings, leased 1,274 acres in Dawson County. All other successful bidders leased between 80 and 681 acres each (see chart).

In perspective

In March 2012, the DNRC auctioned leases on 115,568 acres in 273 tracts for an average price of \$30.60 per acre. Three months later, the average price per acre in the DNRC’s June auction was \$19.07, and in September 2012 the average price per acre was \$32.84. The highest-ever average price per acre of \$89.64 was set in the DNRC’s September 2008 auction when 121,881 acres were sold in 262 tracts.

This year the March average was bolstered by the two tracts in Roosevelt County that together brought an average of \$2,012.52 per acre. “These two tracts are adjacent to recently completed Bakken wells in the Elm Coulee NE field, so we expected they would receive competitive bidding interest,” Mason told Petroleum News Bakken.

One of these wells was an XTO Energy well that had an initial production rate, or IP, of 875 barrels of oil per day, and the other was a three-lateral Oasis Petroleum well that had an IP of 851 bopd. Both wells went into production in 2012.

DNRC data base records go back through 2002 and indicate the \$2,225 per acre that Pine Properties paid for the 9.43-



“These two tracts are adjacent to recently completed Bakken wells in the Elm Coulee NE field, so we expected they would receive competitive bidding interest.”

—Minerals Management bureau chief Monte Mason

acre lease in Roosevelt County in the March 2013 auction was the fifth highest actual price per acre received in DNRC auctions over that period. The highest price per acre paid in a lease auction through 2002 was \$5,100 per acre that Headington Oil of Dallas paid for a 2.37-acre lease in Richland County in June 2006. That was followed by a bid of \$4,000 per acre from Billings-based Sands Oil Co. for a 2.28-acre tract in Richland County in September 2005. The third and fourth highest actual bids were \$2,800 from North Dakota-based Diamond Resources for 640-acre tract in Roosevelt County in June 2011, and \$2,500 per acre bid from Brigham Oil and Gas L.P. (now Statoil) for a 234-acre lease in Roosevelt County in June 2011. ●

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March 5 Montana Department of Natural Resources and Conservation Oil and Gas Lease Auction Results
High bidders by price per acre

High Bidder	County	Tracts	Acres	Total Paid	Average Price per Acre
Pine Properties Inc., Bismarck, N.D.	Roosevelt	2	169.43	340,981.75	\$2,012.52
G-Sun LLC, Meeteetse, Wyo.	Fallon	1	640.00	288,000.00	\$450.00
Continental Resources Inc., Oklahoma City, Okla.	Richland	1	640.00	60,800.00	\$95.00
Stewart Geological Inc., Billings, Mont.	Richland	2	655.70	51,865.00	\$79.10
Keesun Corp., Cut Bank, Mont.	Glacier	1	640.00	32,000.00	\$50.00
Zone Exploration Inc., Billings, Mont.	Musselshell	4	2633.50	117,236.00	\$44.52
Kirby L. Dasinger, Sidney, Mont.	Richland	1	640.00	27,520.00	\$43.00
Stewart Geological Inc., Billings, Mont.	Dawson	2	1274.20	54,110.00	\$42.47
Kemmis Land Services Inc., Glendive, Mont.	Dawson	1	640.00	13,440.00	\$21.00
WPX Energy Williston LLC, Tulsa, Okla.	Daniels	2	680.90	8,041.35	\$11.81
Alameda Energy Inc., Wichita, Kan.	Fallon	1	160.00	1,760.00	\$11.00
Tommy C. Craighead, Ardmore, Okla.	Fallon	1	640.00	7,040.00	\$11.00
Lonewolf Energy Inc., Billings, Mont.	Dawson	2	1280.00	4,800.00	\$3.75
Anschutz Exploration Co., Denver, Colo.	Glacier	1	80.00	160.00	\$2.00
Petro-Hunt LLC, Dallas, Texas	Valley	2	1280.00	2,560.00	\$2.00
Kirby L. Dasinger, Sidney, Mont.	Daniels	1	642.60	963.90	\$1.50
No bid	Daniels	4	1424.68	0.00	\$0.00

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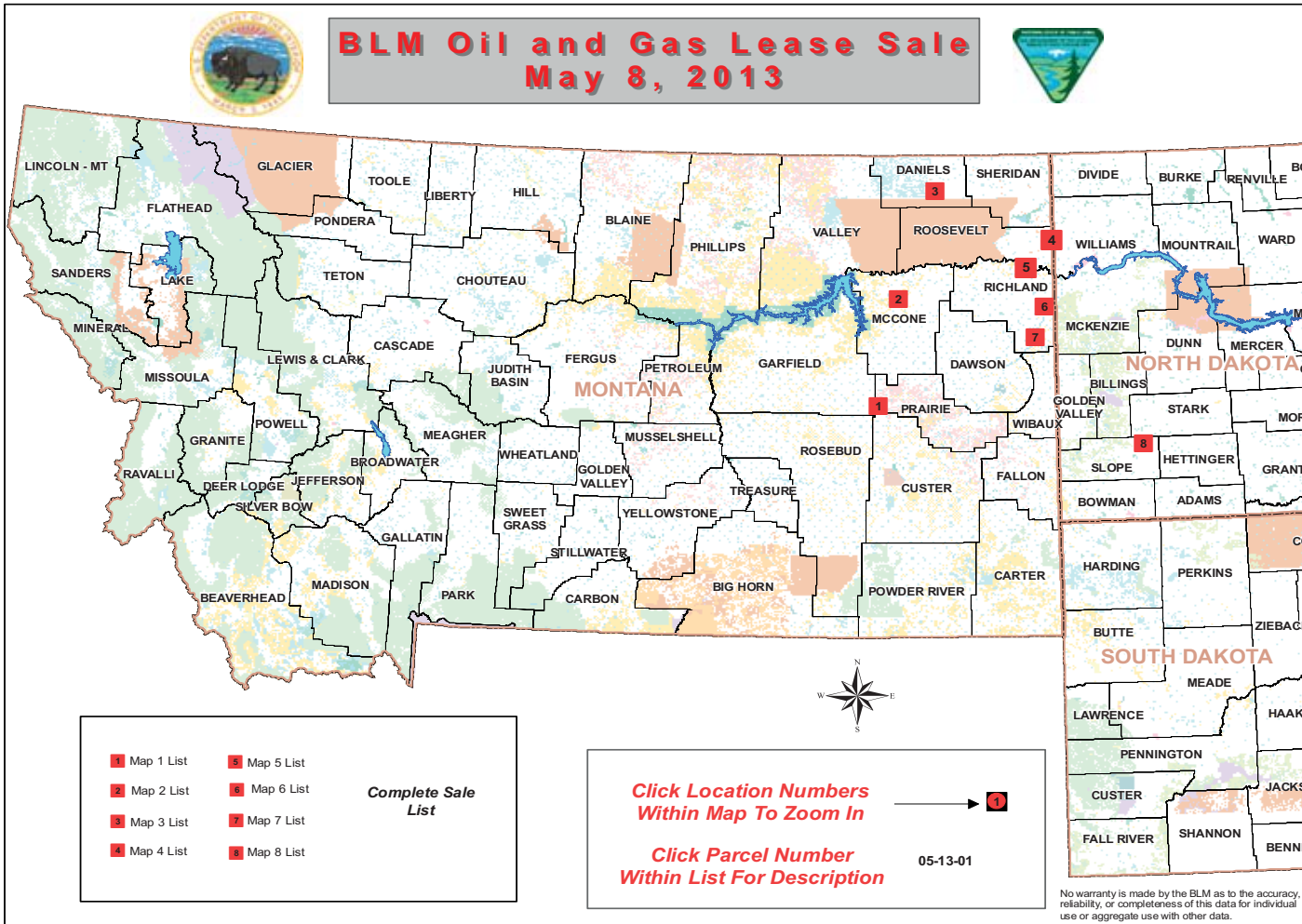
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Beaver Creek
ARCHAEOLOGY



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UPCOMING AUCTIONS

tracts. Most of the acreage, 92,310 acres or approximately 98 percent (194 tracts) in the May BLM auction are in eastern Montana, with the remaining 1,420 acres (four tracts) in North Dakota. The Montana tracts are in Daniels, Garfield, McCone, Prairie, Richland and Roosevelt counties. The four North Dakota tracts are in Slope County.

The next Montana DNRC sale is scheduled for June 4 and will be held in the Montana Department of Transportation auditorium in Helena beginning at 9:00 a.m. Nominations for the next DNRC sale close at 5:00 pm Mountain Daylight Time on March 19.

—MIKE ELLERD

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ENVIRONMENT



ND officials move sheep out of harm's way

Several sheep in the last few years have been killed by vehicles along Highway 85 in Theodore Roosevelt National Park.

North Dakota wildlife officials have moved a dozen bighorn sheep away from a well-traveled highway, with the help of a helicopter.

Game and Fish spokesman Randy Kreil says the bighorn sheep are "valuable animals to the public."

The Grand Forks Herald reports (<http://bit.ly/X0f64K>) that several sheep in the last few years have been killed by vehicles along Highway 85 in Theodore Roosevelt National Park.

Traffic on the highway has increased since the start of the oil boom.

North Dakota Game and Fish Department officials say the helicopter crew captured one ram, seven ewes and four lambs. The sheep were trailered to a release site and set free.

Game and Fish spokesman Randy Kreil says the bighorn sheep are "valuable animals to the public."

The helicopter crew was already in western North Dakota capturing mule deer for a study on the impact of oil development on the animals.

—THE ASSOCIATED PRESS

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