

Petroleum news

BAKKEN



page 3 Volker named Wildcatter of the Year
by Western Energy Alliance

Vol. 1, No. 12 • www.PetroleumNewsBakken.com

A semi-monthly newspaper for industry and government

October 7, 2012

Enbridge questions Bakken output

Market Access Summary

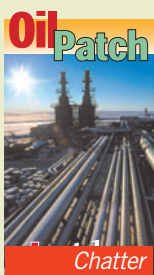


Enbridge is not going to shape the expansion of its pipeline strategy around sky-high forecasts of incremental growth in Bakken production and is cool to the idea of shipping those volumes to the Cushing, Okla. hub, the company's liquids pipelines President Steve Wuori said at Enbridge's annual investor day Oct. 3.

Chesapeake dumps Williston; Seven drill 65% of Bakken wells

Up until late August or early September, the operations page on Chesapeake Energy's website listed the Williston Basin as a major liquids-rich play for the big independent. We know because Petroleum News Bakken writer, Mike Ellerd, and editor, Kay Cashman, were using the site to research Chesapeake's current activities in the basin.

Several calls and emails over the last few



see OIL PATCH CHATTER page 12

Northern's Gilbertson retires

In an unexpected announcement, Northern Oil and Gas said Oct. 1 that President Ryan Gilbertson would be retiring immediately to pursue a range of personal interests.

Through a consulting agreement announced the same day, Northern said Gilbertson, 36, would continue to advise the company's board of directors through October 2014.

Northern said Gilbertson resigned to have more time for other interests, including "charitable activities and various business opportunities."

In a statement, Gilbertson said, "After careful consideration,

see GILBERTSON page 15



RYAN GILBERTSON

Eagle Ford oil production topped 310,000 b/d in July

The Eagle Ford shale formation of southern Texas produced 310,370 barrels per day of oil in July, according to Texas Railroad Commission preliminary statistics.

That's up from a revised count of 309,979 bpd in June, and 120,532 bpd in July 2011.

Fields that make up the Eagle Ford produced 51,676 bpd of condensate and 1.21 billion cubic feet a day of natural gas in July.

Texas produced a total of 1.9 million bpd in June, the highest monthly level since April 1991, according to the U.S. Energy Department.

The Railroad Commission oversees oil and gas drilling in

see EAGLE FORD page 12

EXPLORATION & EVALUATION

Tapping Bakken shale

PetroShale, Slawson tout successful results from Upper Bakken wells

By MIKE ELLERD

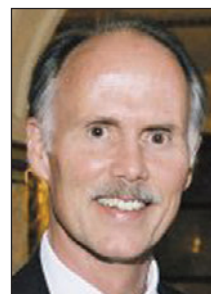
For Petroleum News Bakken

Almost all of the oil production from the Williston Basin's Bakken petroleum system comes from two non-shale, tight sand reservoirs — the Middle Bakken and, to a lesser extent, from the Three Forks.

But PetroShale's Sept. 27 announcement about successful results from four stimulated horizontal test wells that its partner, operator Slawson Exploration, completed in the Upper Bakken shale, could change all that.



JOHN FAIR



STEVE SONNENBERG

PetroShale said.

The wells are in a 40,000-acre area of mutual interest, or AMI, in the Mondak play in Richland County, Montana. Test results confirm that not

Instead of referring to the Bakken as a "non-shale shale play," the Bakken might honestly be able to produce a significant amount of oil from one of its primary source rocks, the Upper Bakken shale. Core samples indicate there could be as much as 30 million barrels of oil in place per section of land,

see WELL RESULTS page 15

FINANCE & ECONOMY

No longer laughing stock

Unconventional light oil plays and fertilizer spark Saskatchewan growth

By GARY PARK

For Petroleum News Bakken

There was once a sick wisecrack that the rest of Canada used to pin on Saskatchewan during the 1970s and 1980s when the farm-based economy was in a tailspin and residents flooded west into boom-time Alberta.

"Would the last person to leave Saskatchewan please turn out the lights," the line went.

Not anymore.

With a population just a tick over 1 million, Saskatchewan added another 20,100 jobs in



TIM MCMILLAN

August, dropping its unemployment rate to 4.4 percent — tied with Alberta for the lowest in Canada and well below the national average of 7.3 percent.

Energy Minister Tim McMillan — who is reveling in the rapid growth of Saskatchewan's unconventional light oil plays and its expanding fertilizer industry tied to potash — said the job numbers reinforce his government's message that Saskatchewan is a "place of opportunity."

But the steady rise in oil production to 460,000 barrels per day from 432,000 bpd a year ago is

see SASKATCHEWAN page 19

GOVERNMENT

It's official: SD out

Governor's study shows SD's oil potential is well below that of neighboring ND

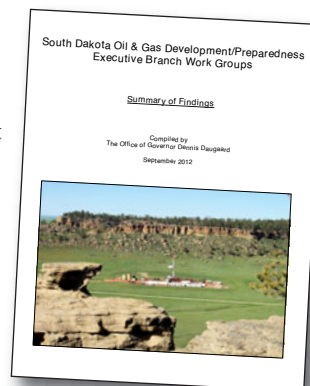
By RAY TYSON

Petroleum News Bakken

The state of South Dakota has put a damper on the hopes and dreams of explorers, concluding in a major study that because North Dakota's prolific Bakken formation does not extend into South Dakota, potential oil development is likely far less than its northern neighbor.

The report, compiled by the office of Gov. Dennis Daugaard, was released in late September in response to widespread speculation that South Dakota is on the cusp of a North Dakota-type oil boom.

The governor specifically had two teams of



state officials studying South Dakota's potential and what the state should do to prepare for any growth. Results closely parallel conclusions of industry authorities that participated in this year's Black Hills Bakken Conference in Spearfish, S.D. (See story on Page 13 of May 20, 2012, edition of Petroleum News Bakken.)

The Bakken petroleum system, with the advent of horizontal drilling and hydraulic fracturing, has rapidly escalated into a world-class play, with technically recoverable reserves of 3-4.3 billion barrels of oil,

see SD OIL POTENTIAL page 18

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Petroleum News Bakken

ON THE COVER

Tapping Bakken shale

PetroShale, Slawson tout successful results from Upper Bakken wells



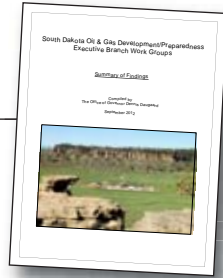
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No longer laughing stock

Unconventional light oil plays and fertilizer spark Saskatchewan growth

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PEOPLE

Volker named 'Wildcatter of the Year'

Whiting Petroleum's top executive receives prestigious award from Western Energy Alliance; praise Volker's contributions to ND

PETROLEUM NEWS BAKKEN

Trade association Western Energy Alliance has crowned Bakken icon James J. Volker with its prestigious "Wildcatter of the Year" award for 2012.

Volker is the chairman, president and chief operating officer of Denver, Colo.-based Whiting Petroleum Co., an E&P independent and major player in the Rocky Mountain region.

Volker joined Whiting just two years after its inception in 1981. Over the past nine years, he has grown Whiting's oil production to a more than four-fold increase, steering the company into becoming the third largest oil producer in North Dakota.



JAMES J. VOLKER

At over 7,000 barrels of oil equivalent per day, Whiting's Tarpon prospect has the highest initial production rate of any well drilled into the Bakken formation on the U.S. side of the Williston Basin. The company operates and owns interests in every Rocky Mountain producing state.

Volker received the award during Western Energy Alliance's annual Wildcatter of the Year Gala on Sept. 22 at the Hyatt Regency Convention Center in Denver. More than 750 industry and community leaders attended the event.

Former White House Press Secretary and political analyst Dana Perino delivered the keynote speech, which focused on Volker's contribution to North Dakota's massive increase in oil production. North Dakota is now the second largest oil producing state behind Texas.

Achievements applauded

Tim Wigley, president of Western Energy Alliance, applauded Volker and his achievements.

"The Western oil and natural gas industry, and the nation, owe a debt of gratitude to wildcatters like Jim Volker," he said. "Jim Volker epitomizes what private sector investment in a pro-business state can do to revive our economy and help drive a budget surplus. Thanks to leaders like Jim, North Dakota has become a model that local, state and federal policymakers strive to replicate in other energy-rich areas throughout the country."

The title Wildcatter of the Year is reserved for the most elite leaders in the Western oil and natural gas industry whose entrepreneurial spirit and exploratory work in new fields have contributed significantly to America's energy security and the betterment of society.

Nominations for Wildcatter of the Year are based specifically on the contributions and accomplishments of an industry individual, particularly one with a successful longtime oil and natural gas exploration and production record in the Western United States; has a community service background; and supports industry activ-

ities and organizations.

Volker is a member of the board of directors of the Colorado Historical Society and personally donated two of the bronze statues that greet visitors who enter the museum.

Charitable contributions matched

Under his direction, contributions to charities from Whiting employees are matched by the company up to a total of \$2,500 per employee, and the company vigorously supports the Food Bank of Rockies and cancer awareness, including The Race for the Cure.

Whiting has endowed the Leeds School of Business at the University of Colorado with \$250,000 to establish a computer science facility and contributed over \$200,000 to the Colorado School of Mines to help fund the Petroleum Geology and Engineering departments.

Whiting has donated over \$350,000 to the North Dakota Heritage Center.

And through his involvement at the North Dakota Petroleum Council, Volker jointly leads an initiative to develop education programs in North Dakota schools focusing on oil and natural gas safety issues.

Western Energy Alliance, founded in 1974 as the Independent Petroleum Association of Mountain States, is a non-profit trade association representing more than 400 companies engaged in all aspects of exploration and production of oil and natural gas in the West. ●

PEOPLE

NDU receives \$10 million gift from Hamm

Another \$4M to come from NDIC research program; will name school the Harold Hamm School of Geology and Geological Engineering

PETROLEUM NEWS BAKKEN

Bakken pioneer Harold Hamm and the E&P independent he oversees, Oklahoma-based Continental Resources, have contributed \$10 million of \$14 million to a program that "will greatly enhance" the University of North Dakota's efforts in petroleum geology and related fields, the university said.



HAROLD HAMM

The recent announcement also included the naming of the Harold Hamm School of Geology and Geological Engineering in the UND College of Engineering and Mines.

Another \$4 million will be provided by the North Dakota Industrial Commission-Oil and Gas Research Program.

"With the discovery of the world's largest oil field in more than 40 years, Continental Resources and North Dakota are changing the world," Hamm said.

"The Bakken play is one of the primary fields making North American energy independence a reality, releasing us from the grip of foreign oil and serving as a model for unconventional oil production worldwide. Establishing the School of Geology and Geological Engineering is a vital commitment to continuing North Dakota's national and global leadership in energy."

Largest gift from non-alumnus

The \$10 million contribution from Hamm and Continental Resources is the largest-ever gift to UND from someone who is not an alumnus of the university, UND President Robert Kelley said.

"This is a perfect model of private dollars and public resources working together for maximum benefit," he added. "The combined funding will enhance the education of future petroleum geologists and engineers, which is key to the ongoing development of the Williston Basin and the nation's petroleum resources."

Hesham El-Rewini, dean of the UND College of Engineering and Mines, said an essential part of the

UND College of Engineering and Mines will be to highlight the importance of geology and geological engineering in the state, not only in terms of North Dakota's financial well being, but also in terms of employment within the state.

"The school will help attract high quality faculty members and the best and brightest students to North Dakota," he said. "Our goal is to produce future generations of petroleum geologists and engineers who can contribute to building a better world through professional service and research for safe, reliable, and affordable energy production."

Enhancing research

El-Rewini said the school also aims to increase the research efforts currently conducted by faculty members and students in petroleum related fields, "which will create new opportunities for collaboration with industry in North Dakota and elsewhere."

The \$10 million private gift from Harold Hamm and

see **HAMM GIFT** page 4

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MOVING HYDROCARBONS

Bridger starts Berthold shipments

Dallas-based Bridger Logistics, through its wholly owned subsidiary Bridge Transfer Services, has enlarged its role as a rail transporter of crude by moving an initial shipment of Bakken crude oil by unit train in late September.

The company said that, as the original and primary shipper from the Enbridge Rail (North Dakota) rail facility at Berthold, it will ship unit trains of one a week or 10,000 barrels per day until the end of its first phase.

Bridger will then continue to transport crude volumes as the exclusive shipper of the newly constructed facility until the second phase becomes operational in the first quarter of 2013.

Bridger Chairman and Chief Executive Officer James Ballengee said in a statement that partnership with Enbridge is "a key part of our integrated midstream strategy."

"If offers our logistics customers greater access to premium markets, it gives Enbridge the commitment they need to make these important investments in infrastructure and it provides Bridger's customers in North Dakota with another way to export the ever increasing production in the Bakken."

Bridger currently provides flow assurance to its customers for more than 100,000 bpd of crude through five Bridger subsidiaries and its Southern Energy Transportation affiliate.

—GARY PARK

FINANCE & ECONOMY

Canadian firms beat path to Bakken

By GARY PARK

For Petroleum News Bakken

The Bakken in North Dakota is a boon for Canadian service companies who floundered through a soggy spring and are reeling from the drilling downturn in dry gas plays.

But it's not a free pass for the sector, given that many of the Canadian firms trailed well behind their U.S. peers in chasing business.

The realities were laid out in plain language by Trican Well Service during a second-quarter conference call, when company officials said stiff competition among pumping companies had taken a toll on rates for equipment in North Dakota.

Chief Executive Officer Dale Dusterhoft said Trican would sooner, as a last resort, rack equipment rather than renting it out at fire-sale prices.

Other Canadian companies are not yet considering such drastic measures, even though the United States is reported to have an oversupply of pumping equipment.

Demand lively

Brian Purdy, oilfield services analyst for Global Hunter Securities, said demand in the oil-weighted basins is lively enough to add pumping capacity without any immediate fear of over-supply in the Bakken and Texas Permian basin.

However, he cautioned that rates for pumping equipment are tapering off, even in oil-oriented basins, and could put the squeeze on profit margins.

Doug Ramsey, chief executive officer at Calfrac Well Services, said that, despite talk among pumping companies, there is no evidence yet that every U.S. frac company has moved into North Dakota.

He said that partly reflects the impact on equipment of the state's extreme weather conditions and the shortage of labor, suggesting there could be a thinning of the ranks among companies that don't have the necessary technology and are not focused on quality.

About 60 percent to 70 percent of Calfrac's work in North Dakota is under long-term contracts, which affords some shelter from the effects of a crowded market, Ramsey said.

Extended spring breakup

Because of the extended spring breakup in Western Canada, 20 compa-

nies reported year-over-year declines in second quarter net income, with Trican off C\$81 million and Calfrac down C\$24 million.

For the first half of the year, Secure Energy Services revenues were up C\$340 million from the same period of 2011 and Calfrac increased C\$203 million, while Precision Drilling posted an increase of C\$47.4 million in profits for the six months.

Precision has moved rigs from U.S. and Western Canadian gas plays to North Dakota in recent months and now has 21 drilling and 10 service rigs in the state.

To protect itself, Precision does not move rigs until it has lined up customers, so is not affected by a rig oversupply in the spot market.

The company also said it has been fortunate that its labor force has moved with the rigs.

Ken Mullen, president and chief operating officer of Savanna Energy Services, told a second-quarter conference call that his company increased its well-servicing business in North Dakota to 12 rigs and, because the state was not hit by the same spring weather as Western Canada, was able to thrive.

He said the Bakken unit has "generated very strong results and we anticipate transferring another workover rig to this base in the second half of 2012."

Lack of workers

Packers Plus Energy Services President Dan Themig concedes the lack of workers has been a "tremendous challenge," although there has been an improvement in the past year and the outlook is even more encouraging as the state prepares for sustained drilling activity over a long period.

Secure acquired two North Dakota disposal wells in the Bakken for US\$30 million and plans to use them to handle oil and solid waste, along with produced and flowback water.

The company is counting on investing another US\$30 million-US\$50 million in the market.

In addition, Secure has operated Marquis-Alliance Energy Group as a subsidiary to make and distribute drilling fluids, with U.S. companies taking 80 percent of its business, and Canadian firms accounting for the rest. ●

Contact Gary Park through publisher@petroleumnews.com

continued from page 3

HAMM GIFT

Continental Resources Inc. will be made available over the next four years, and the endowment portion will continue to return funding on an ongoing basis.

Of the \$10 million private gift, \$3.75 million will be set aside for an endowed professor of petroleum geology, \$3.75 million for an endowed professor of petroleum engineering, \$675,000 for salaries and benefits for the two endowed professor positions, \$1.33 million for endowed leadership scholarships and \$500,000 for a high resolution virtual core library.

"With the discovery of the world's largest oil field in more than 40 years, Continental Resources and North Dakota are changing the world."

—Harold Hamm, chairman, CEO, Continental Resources

Of the \$4 million state contribution, \$1.5 million will go to equipment to establish advanced laboratories, \$1.5 million for the high resolution virtual core library, \$720,000 for student scholarships and graduate assistantships, and \$280,000 for a "students experience fund." ●

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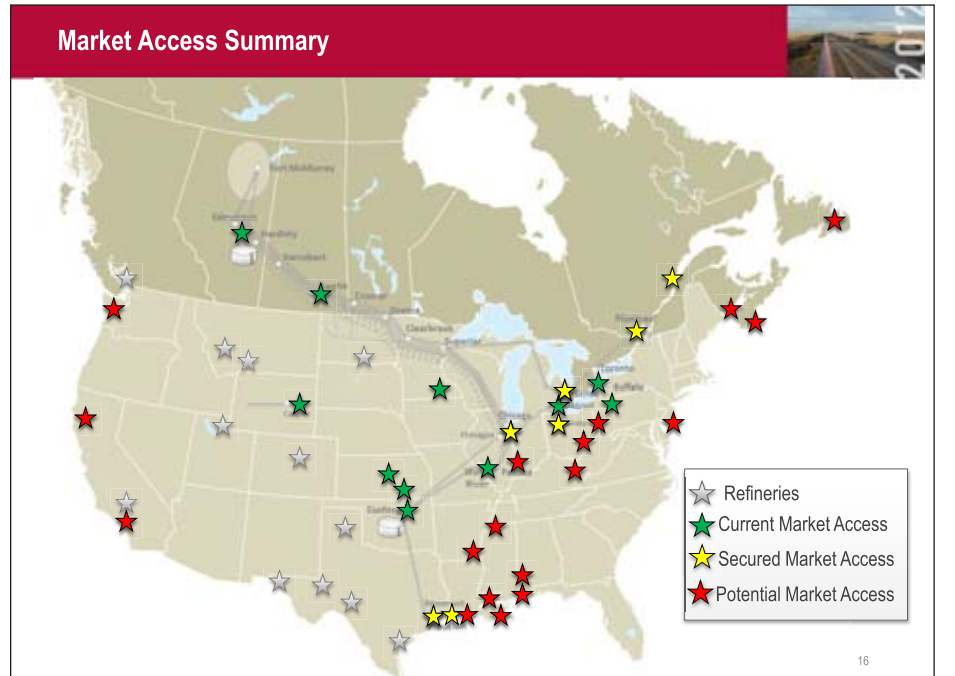
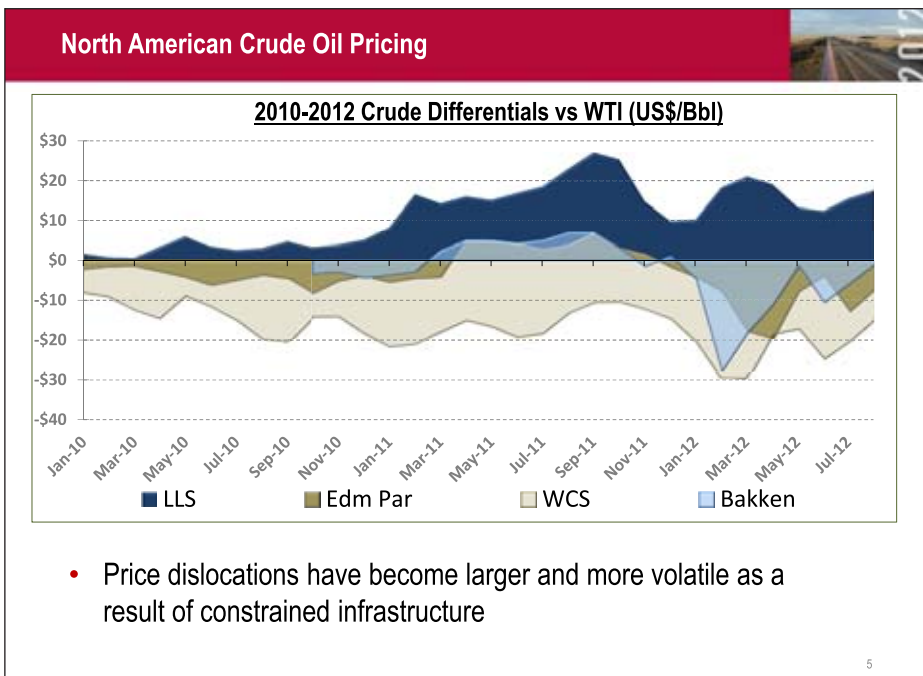
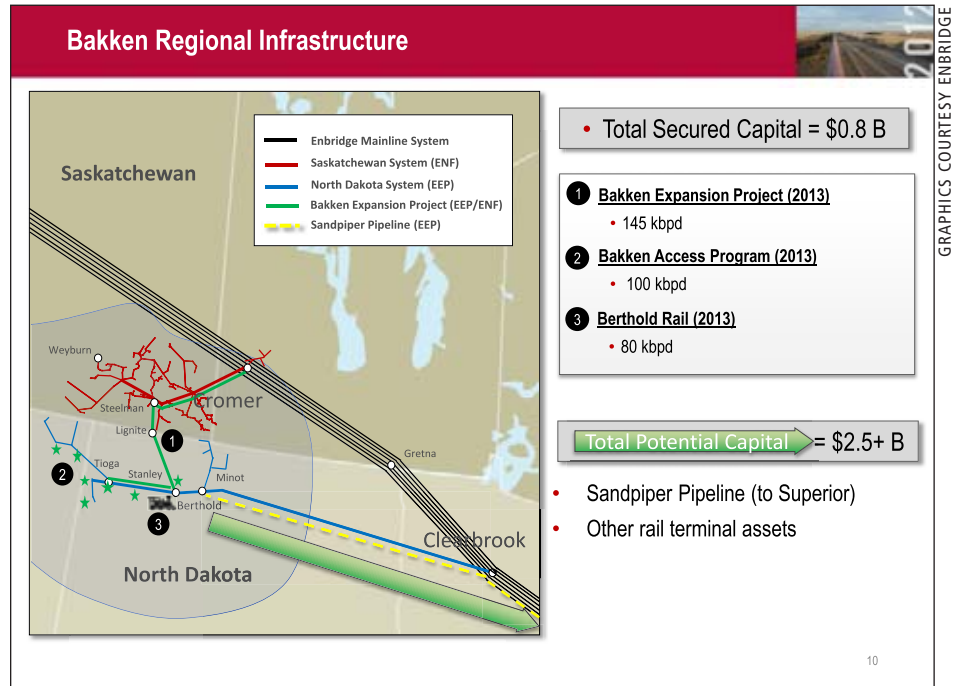
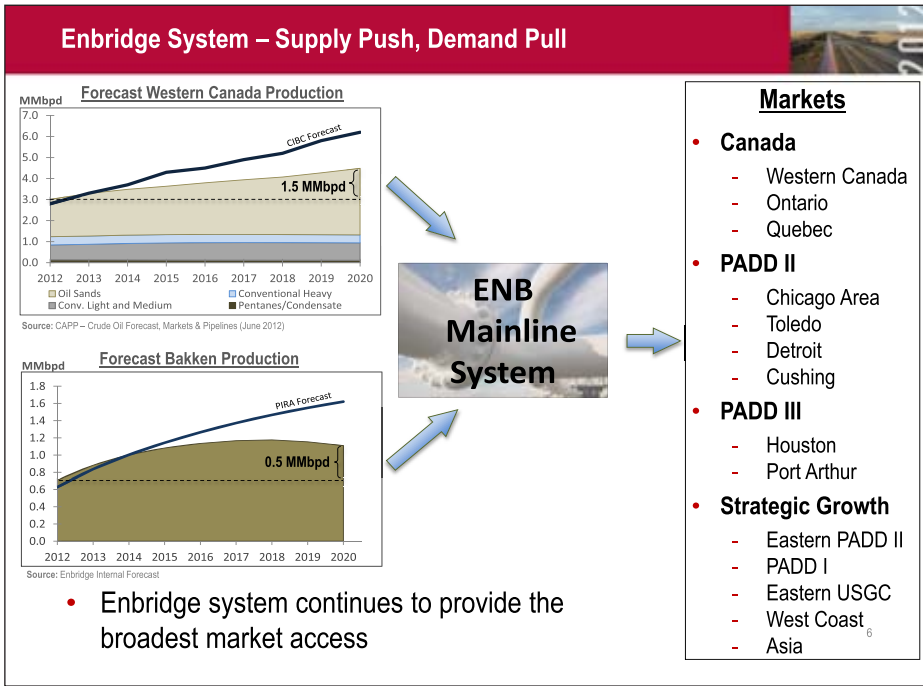
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MOVING HYDROCARBONS

Enbridge questions Bakken numbers

By GARY PARK

For Petroleum News Bakken

Enbridge is not going to shape the expansion of its pipeline strategy around sky-high forecasts of incremental growth in Bakken production and is cool to the idea of shipping those volumes to the Cushing, Okla., hub, the company's liquids pipelines President Steve Wuori said at an investor day Oct. 3.

While conceding that as little as two years ago no one in Enbridge saw the explosive growth in light crude output from the Bakken and Western Canada, he said Enbridge is taking a more "muted" view of general forecasts that Bakken volumes could rise "hundreds of thousands" of barrels a day to 1.2 million bpd.

"We have no intention of building pipe capacity" to meet that target "because the business does fluctuate."

"If you look at production growth profiles, our view is that we should not be trying to attack the top of the curve. Our view is to compete for the core that's going to be there for a long time to come," Wuori said.

He said top-of-the-curve forecasts could turn out to be "whimsical," while core barrels, which might currently be moving by rail, "should be movable to pipelines with better economics and market access."

Although Enbridge does not want to trail the field in providing new pipeline capacity "we are very much hoping that the production profile that will emerge (for the Bakken) will rely not so much on hope, but on what appears to be certainty," he said.

Falling US crude demand

Wuori also emphasized that pipeline

planning should be measured against a backdrop of falling United States crude demand, which Enbridge estimates could drop to about 14.5 million bpd in 2020 from 16 million bpd in 2010.

"It's an open question whether that will happen," given that the answer is tied so strongly to the almost total elimination of imports from outside North America by 2020, he said.

But, for now, Enbridge is counting heavily on its C\$3.1 billion Eastern Access program, which consists of five projects to deliver 750,000 bpd of Bakken and Western Canadian light crude to refineries in Eastern Canada and the eastern PADD II market.

It is also gauging interest through an open season from potential shippers for its Sandpiper project from North Dakota to

Superior, Wis., and startup in the first half of 2015, but Wuori would not confirm reports of capacity in the range of 325,000-350,000 bpd ahead of a formal announcement.

He said there is certainly a market for light crude on the East Coast and Philadelphia, which is "why we are seeing

see BAKKEN NUMBERS page 6

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MOVING HYDROCARBONS

Pipeline go-ahead for Williston gas

Alliance Pipeline, which operates a 2,300 mile natural gas pipeline from Western Canada to the Chicago market hub, has regulatory approval to pick up gas from the Williston basin.

The U.S. Federal Energy Regulatory Commission gave the green light for Alliance's proposed 80-mile, 12-inch diameter Tioga Lateral pipeline to connect gas production to the Alliance mainline in North Dakota. The lateral has approved capacity of 106.5 million cubic feet per day, underpinned by a contract with Hess Corp. to carry 61.5 million cubic feet per day, and is expandable based on shipper demand.

The scheduled in-service timing for the new line is summer 2013.

Mike McGonagill, senior vice president and chief operating officer for Alliance, said the pipeline will "help address North Dakota's need for natural gas transportation infrastructure."

He said that moving Williston basin gas to market will also help reduce flaring and provide direct environmental and economic benefits to North Dakotans.

McGonagill said the major milestone will enable Alliance to further align with market and customer needs, while "capitalizing on our unique ability to ship liquids-rich natural gas" to the natural gas liquids and fractionation facility near Chicago owned by Aux Sable Liquid Products.

Alliance, based on results of an open season, continues to pursue the potential for obtaining additional commitments for firm capacity on Tioga Lateral.

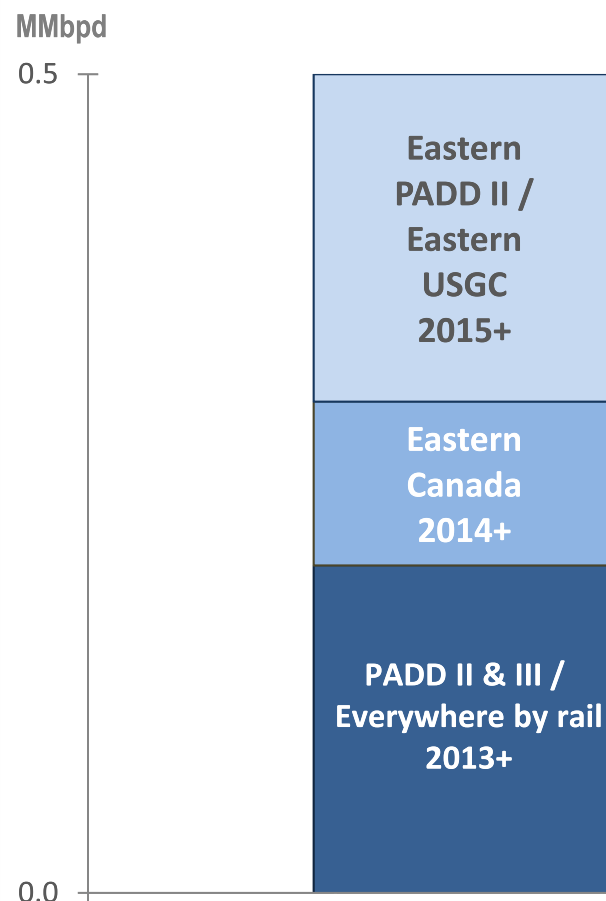
The proposed pipeline is designed to traverse the counties of Williams, Mountrail, Burke and Renville.

Enbridge Income Fund and Fort Chicago Partners are 50-50 owners of Alliance, which came on stream more than a decade ago and has capacity to deliver 1.6 billion cubic feet per day from northern British Columbia and Alberta to the U.S. Midwest.

—GARY PARK

Light Crude Oil Fundamentals

Bakken Crude Growth Disposition



Source: Enbridge Internal Forecast



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continued from page 5

BAKKEN NUMBERS

rail doing so much shipping."

Competition at Cushing

But Enbridge does not believe incremental Bakken barrels should be destined for Cushing "where they will have to fight" for market share with Permian, Niobrara, Mississippian, Canadian and other barrels.

"We don't think that simply getting more Bakken production to Cushing is the right price move for producers," Wuori said.

He said Enbridge's pipeline planning is underpinned by secure refining or producer commitments.

In that context, Wuori offered a blunt assessment of rival TransCanada's proposal to convert part of its underutilized natural gas Mainline from Alberta to Eastern Canada to carry up to 900,000 bpd of Western Canadian and U.S. crude to refineries in Ontario and Quebec, with a possible extension to Atlantic Canada.

He questioned the risks involved in "building a speculative pipeline just on the notion that hitting tidewater is a good thing," and challenged the idea of a bullet line that would extend from Alberta to Ontario without passing close to any other markets.

Wuori said Enbridge's main crude oil pipeline from Alberta is close to Minneapolis and Chicago refineries and provides the option of access the Gulf Coast and eastern PADD II refineries.

As a pipeline company, Enbridge believes it needs secured contracts for a minimum of 10 years "to make sure the capital you deploy is not left hanging if price differentials swing wildly in one direction or the other," he said.

In response to Enbridge's position, Justin Kringstad, director of the North Dakota Pipeline Authority, said the follow-

"I agree with Enbridge's outlook of expanding export pipeline capacity to handle the bulk of future production, while leaving the peak production to be moved by more flexible methods, such as rail. How large the region's pipeline infrastructure should be in order to handle the base production is open for debate and production forecast's such as ours will continue to be adjusted as technology and markets change."

— Justin Kringstad

ing in an Oct. 3 email to Petroleum News Bakken: "To start, let me say that Enbridge has been a first-class operator in the state of North Dakota and we could not be more excited about their past and potential expansions to ensure production from this region is moved safely to markets around the US. Whether building hotels or pipelines, no business wants their investment to be utilized for a short-term peak. I agree with Enbridge's outlook of expanding export pipeline capacity to handle the bulk of future production, while leaving the peak production to be moved by more flexible methods, such as rail. How large the region's pipeline infrastructure should be in order to handle the base production is open for debate and production forecast's such as ours will continue to be adjusted as technology and markets change. I think Enbridge is positioning themselves well in the Williston Basin with major expansion plans such as the Sandpiper Pipeline and the Berthold rail facility. I believe in the long term, this combination of pipeline and rail will work very well for Enbridge and the North Dakota petroleum industry as a whole."●

Contact Gary Park through publisher@petroleumnews.com

MOVING HYDROCARBONS

Bakken Express open season under way

Oneok accepting TSAs on its first venture into crude transmission; Barcas sues, claims it helped Oneok with shipper commitments

By MIKE ELLERD

For Petroleum News Bakken

Oneok Partners began an open season on its proposed Bakken Express crude pipeline on Sept. 21; it will remain open until Nov. 20. The open season provides potential crude oil shippers an opportunity to secure committed transport volumes on the Bakken Express, which is a proposed 1,300 mile crude pipeline beginning at multiple gathering points in the Bakken play in North Dakota and Montana and extending to Cushing, Okla.

Oneok said the maximum total shipping volumes will not exceed 90 percent of the pipeline capacity, with the remaining 10 percent being reserved for uncommitted shippers. The Bakken Express pipeline will have an initial capacity of 200,000 barrels per day.

Potential shippers can obtain a transportation service agreement, a TSA, form directly from Oneok. "Potential shippers desiring firm service at the applicable rate are requested to execute and submit a completed and signed TSA to Oneok on or before Nov. 20," Oneok said in its open season notice.

Oneok said it is also filing an initial, uncommitted rate for transportation service with the Federal Energy Regulatory Commission. The committed rate will be higher than the uncommitted rate.

Oneok said in a statement that con-

struction is expected to begin in early 2014 and to be in service by mid-2015. Oneok's government relations manager Mick Urban told the North Dakota Governor's Pipeline Summit in June that the Bakken Express project is expected to cost between \$1.5 billion and \$1.8 billion.

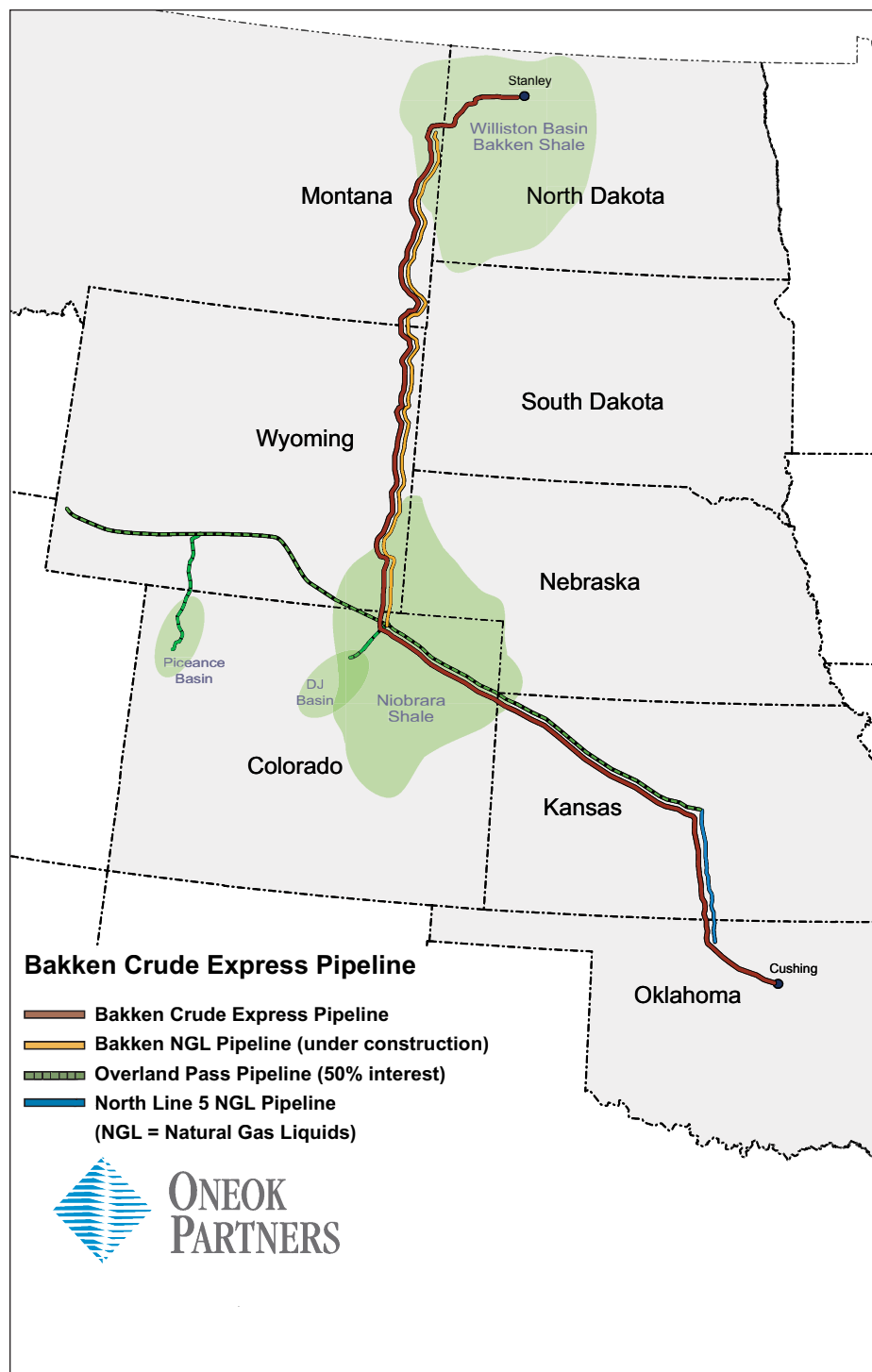
Barcas lawsuit

On Sept. 24, just after Oneok announced the Bakken Express open season, Barcas LLC, a Houston-based oil-field service company, filed suit against Oneok Partners in Tulsa District Court, claiming Oneok failed to compensate Barcas for assisting Oneok in securing commitments from potential shippers for the pipeline.

As reported by Tulsa World, the complaint alleges that because of Oneok's lack of experience with crude oil transmission it partnered with Barcas through a letter of agreement, and after Barcas contacted a number of potential shippers, Oneok did not provide those potential shippers with TSAs. The suit seeks more than \$10 million in damages.

In a statement provided to Petroleum News Bakken, Oneok said it has "reviewed the petition, denies all allegations of breach of contract or wrongdoing, and will vigorously defend the lawsuit." ●

Contact Mike Ellerd
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FINANCE & ECONOMY

DeeThree boosts output target

Having hit its year-end production target with four months left in 2012, Alberta Bakken player DeeThree Exploration kept up the tempo in September, pulling together a C\$90 million revolving demand and entering a bought deal with a syndicate of underwriters for C\$20 million.

It also announced a second hike in its 2012 capital budget to C\$110 million from C\$82 million and an initial C\$57 million.

As well, DeeThree boosted its per-barrel operating netback to C\$30.86 in the second quarter, up 25 percent from the first quarter.

The company said its bought-deal agreement with six underwriters, co-led by Macquarie Capital Markets Canada, Cormack Securities and Raymond James, involves the purchase of 2.73 million shares at C\$5.50 per common share and 770,000 shares of the company on a "flow-through" basis at C\$6.50 per share.

Replaces existing facility

DeeThree also granted the underwriters an over-allotment option to increase the size of the offering by purchasing from treasury an additional 409,500 common shares on the same terms with the right to exercise the option at any time within 30 days of the offering closing on or about Oct. 18.

The company said the proceeds will be used to fund ongoing capital spending and for general corporate purposes.

The new credit facility is intended to replace DeeThree's existing C\$60 million facility and will give the company the financial resources to accelerate the development and exploitation of its Lethbridge Alberta Bakken and Brazeau Belly River property in central Alberta.

Those two properties drove significant production increases early in the third quarter, enabling DeeThree to hit its 2012 exit target of 5,000 barrels of oil equivalent per day and allowed it to raise that goal to 6,000 boe per day (76 percent oil and natural gas liquids).

The company said it expects to end 2012 with net debt of C\$60 million-C\$65 million.

—GARY PARK

It also announced a second hike in its 2012 capital budget to C\$110 million from C\$82 million and an initial C\$57 million.

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• FINANCE & ECONOMY

Partners needed to speed development

By GARY PARK

For Petroleum News Bakken

Having invested about C\$11 million to date on acquiring exploration rights, gathering seismic data and drilling wells, Calgary-based Sundance Energy Corp. is now seeking additional financing and possible joint ventures to develop its lands on 12 First Nations in Alberta and Saskatchewan.

The company currently has accumulated 100,000 gross and net acres in southern Saskatchewan and 18,000 net acres in central Alberta, keeping its primary focus on light oil prospects.

The bulk of its holdings are in the key Bakken, Torquay and Shaunavon plays in Saskatchewan, where PetroBakken Energy and Crescent Point Energy are among the active participants.

But Sundance conceded in a late September press release that it lacks the working capital to fully develop its assets.

"Although we are disappointed with the market reaction to our operational activities to date, we are extremely excited about the lands that we have accumulated rights to and the delineation work that we have completed," said company president and chief executive officer Jeff Standen.

He said Sundance strongly believes that its First Nations permits "have the potential to be significant oil and gas production projects."

But the company's challenge is to "prudently" manage its capital structure by balancing the continuing analysis and development of the rights.

Confidential discussions

Sundance said it has entered into a number of confidentiality agreements and discussions are taking place with various industry operators regarding farm-in terms and conditions.

In the meantime, the company said it has sufficient working capital to maintain its operations for "several

months," but is not in a position to undertake development of the properties, or to drill two well permits by Dec. 31, although it is hopeful the commitment dates can be extended.

Sundance said that 3-D seismic has identified numerous multi-formation drilling locations in southern Saskatchewan, where it hopes to drill an additional test well to further evaluate the light oil potential in the Bakken, Lodgepole, Torquay and Birdbear formations.

The intention is to drill the test well with a partner that owns potash rights below the targeted oil and gas formations to provide the data needed for unconventional drilling development.

A well in the Muskowekwan area of southeastern Saskatchewan has established hydrocarbons in multiple formations that may be developable using unconventional drilling and fracturing techniques, Sundance said. ●

Contact Gary Park through publisher@petroleumnews.com

• MOVING HYDROCARBONS

US Atlantic Coast refiners turn to rail

By GARY PARK

For Petroleum News Bakken

A multi-pronged strategy is rapidly taking shape as railroads, refineries and producers accelerate plans to get crude from the Bakken to the U.S. Atlantic Coast.

In the process there is disagreement over concerns that stumbling blocks on rail networks could stall deliveries to the chagrin of refiners, with some shipments already falling a few days behind schedule, with the prospect of worse to come over the next two years if railroads embark on expansions at the same time.

Denis Smith, a vice president at BNSF Railway, said that staging all of the planned trains will be a challenge.

His own company, with 10 originating terminals in the Bakken and Williston basin, expects to spend almost \$200 million this year on rail infrastructure, including yards, tracks and ties in Montana and North Dakota.

Andrew Lipow of the consulting firm Lipow Oil Associates underscores the rapid evolution of rail into what he terms "virtual pipelines."

He estimated that over the next year the Bakken region will develop 1 million barrels per day of rail takeaway capacity — 200,000 bpd more than his most recent target — and unloading capacity on the East Coast will be at least 600,000 bpd, 260,000 bpd more than the previous estimate.

Anthony Hatch, with ABH Consulting, said this pace of



development could result in bottlenecks along the railroad supply chain, possibly causing hitches at destination terminals, on rail tracks or in filling orders for railcars.

Other developments

In other developments reported by Platts Oilgram News:

- Philadelphia Energy Solutions, jointly owned by Carlyle and Sunoco Logistics, is laying more rail tracks at its 330,000 bpd Philadelphia refinery facility, in anticipation of receiving 55 percent of its feedstock from the

Midcontinent, compared with its historic deliveries of 100 percent from the Atlantic basin.

The company's Chief Executive Officer Phil Rinaldi said the refinery will gradually ramp up its Bakken deliveries to 140,000-180,000 bpd from its current 20,000 bpd, noting that Atlantic crudes have become a "little bit detached from the economics of this region" at a time when there is a "terrific preponderance" of available crude from the Midcontinent, especially the Bakken.

Shipments from that region could grow to two unit trains a day by the end of 2013 from the current two to three trains a month.

Rinaldi said his company will also count on increased crude deliveries from other domestic sources such as the Eagle Ford.

He has also indicated that Philadelphia Energy Solutions may be forced to buy railcars to avoid high lease rates.

- PBF Energy's Delaware City refinery is adding to its railroad trackage and is expected to process larger volumes of heavy Western Canadian crude because of its 54,000 bpd of coking capacity at the 190,000 bpd facility, although the company is keeping tight-lipped on its plans until it files for an initial public offering.

However, PBF has leased 2,400 rail cars ahead of its major Bakken deliveries. ●

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• FINANCE & ECONOMY

QEP closes deal with two sellers

More deals: For \$2.5 million U.S. Energy increases its working interest in 23 drilling units to about 5%; Enerlex is selling

By RAY TYSON

Petroleum News Bakken

E&P subsidiaries of Black Hills Corp. of Rapid City, S.D., and Unit Corp. of Tulsa, Okla., in deals involving multiple sellers and \$1.38 billion in total acquired assets, have closed the sale of their portions of Bakken-Three Forks properties in North Dakota's Williston Basin to Denver, Colo.-based QEP Resources.

Meanwhile, U.S. Energy Corp. of Riverton, Wyo., said it agreed to acquire a Bakken-Three Forks asset package from an undisclosed seller; and Enerlex Inc., of Dallas, Texas, said it retained Energy Spectrum Advisors Inc., to sell Bakken-Three Forks overriding royalty interest properties in North Dakota.

QEP's acquired properties, primarily made up of a contiguous block of acreage located in Williams and McKenzie counties, are situated just 12 miles west of the company's existing core acreage. The properties are largely held by production, fully delineated and characterized by strong well results.

Additional 10,500 boe

The acquisition, involving all sellers, will provide QEP with an additional 10,500 barrels of oil equivalent per day of production and proved and probable reserves amounting to about 125 million barrels of oil equivalent. Roughly 27,600 net acres came with the deal, which are predominantly fee simple mineral leases.

The Black Hills' properties sold to QEP amounts to about \$243 million of the \$1.38 billion in total sales, or 85 percent of Black Hills' Bakken-Three Forks shale assets.

"The sale of these Williston Basin assets will enable us to strengthen our balance sheet by reducing debt and enhancing our ability to fund planned growth projects," said David R. Emery, chairman, president and chief executive officer of Black Hills.

As of the end of the second quarter, net year-to-date production from Black Hills properties totaled about 149,000 barrels of oil and 171,000 cubic feet of natural gas. Total proved reserves for the properties, as of Dec. 31, 2011, were 2.2 million barrels of oil and 3.4 billion cubic feet of natural gas.

Unit Corp.'s said it also closed on the previously announced agreement to sell its interest in Bakken properties to QEP, noting proceeds at closing were \$228 million.

"This is a strategic divestiture of certain of our non-core properties," said Larry D. Pinkston, Unit's president and chief executive officer. "The proceeds from this sale of properties will be applied against bank debt, enhancing our overall liquidity for future growth opportunities."

The estimated proved reserves of Unit's divested properties were 5.7 million barrels of oil equivalent, while the second quarter average daily production for these properties was 1,044 barrels of oil equivalent per day. The properties total 4,756 net acres, representing roughly 35 percent of the company's total acreage in the Bakken play.

Undisclosed seller

U.S. Energy Corp. said it entered into

Under the agreement, U.S. Energy acquired working interests in 23 drilling units for \$2.5 million with an estimated 307,000 barrels of oil equivalent in proved reserves.

a purchase and sale agreement with an undisclosed seller to acquire interests in producing Bakken and Three Forks formation wells and related acreage in McKenzie, Williams and Mountrail counties.

Under the agreement, U.S. Energy acquired working interests in 23 drilling units for \$2.5 million with an estimated 307,000 barrels of oil equivalent in proved reserves. Its working interest in the drilling units averages 1.45 percent and ranges from less than 1 percent to about 5 percent. There are currently 27

gross producing wells in the acreage. Twenty-five are producing from the Bakken formation and two are producing from the Three Forks formation.

All acreage is currently held by production and produces about 47 barrels of oil equivalent per day net to U.S. Energy. There is the potential for U.S. Energy to participate in an additional 135 gross wells from the Bakken and Three Forks formations

"This acquisition increases our proved reserves significantly at accretive value and ... adds stabilized production to our bottom line," said Keith Larsen, U.S. Energy's chief executive officer.


Enerlex' sale package, located in Mountrail and Burke counties, includes more than 360 producing Bakken and Three Forks wells with a historical annual month average net cash flow of

\$121,609. Enerlex well count has increased 60 percent from January 2011 to August 2012. Top operators include Whiting Oil & Gas, Fidelity Exploration & Production, Oasis Petroleum, Hess, Murex Petroleum and EOG Resources, with an average peak monthly production across all Enerlex interest wells of 556 barrels per day.

Substantial upside exists with additional drilling locations in the Bakken and the Three Forks formations, Enerlex said, adding that properties include an overriding royalty interest in over 240 sections in Mountrail and Burke counties.









A data room will be available through Oct. 19. Bid date is Oct. 24, the company said. ●

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Montana weekly oil activity reports, Sept. 14–27

COMPILED By DARRYL L. FLOWERS

For Petroleum News Bakken

With few exceptions, Petroleum News Bakken's Montana weekly oil activity report focuses on the horizontal well activity in the eastern, northeastern and northwestern part of the state, where the geologic targets are repeatable plays that are either part of the Bakken petroleum system or somehow related to it.

The counties included in this coverage are Glacier, Toole, Pondera and Teton counties in northwest Montana, and Daniels, Dawson, Fallon, Garfield, McCone, Prairie, Richland, Roosevelt, Sheridan, Valley and Wibaux counties in the east and northeast part of the state. Although Petroleum News Bakken has begun to report on fledgling industry activities in the Heath shale of central Montana, that area is not included in this report.

Abbreviations

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

Week of 9/14 to 9/20

New locations — horizontal wells

In Richland County, Fidelity Exploration & Production Co. was greenlighted for the McCurdy 41-33H. The well has a SHL at NE NE 33-22N-57E (562 FNL/708 FEL), and a PBHL at 14,472 feet (SE SE 33-22N-57E (250 FSL/708 FEL)). The target formation is the Bakken.

In Roosevelt County, two wells were approved; both are Bakken wells. EOG Resources Inc. was approved for the Snake Creek 1-2128H. The SHL is at NE

NW 21-29N-58E (301 FNL/1418 FWL), while the PBHL is at 20,120 feet (SE SW 28-29N-58E (200 FSL/1420 FWL)). Oasis Petroleum North America LLC won approval for the B & RT 2958 13-25H, with its SHL at NW NE 25-29N-58E (250 FNL/2100 FEL) and the PBHL at 20,894 feet (NW NE 13-29N-58E (200 FNL/2480 FEL)).

Re-issued locations

Slawson Exploration Co. Inc. was granted a permit for the Drifter 1-10H, with a SHL at SE SE 10-23N-52E (190 FSL/900 FEL) and a PBHL of 13,961 feet (NE NE 10-23N-52E (250 FNL/735 FEL)). The well will tap into the Bakken formation.

Completions

In Roosevelt County, EOG Resources Inc. reported the completion of the Diamond 2-3625H. The well has a SHL location of SE SE 36-29N-56E (640 FSL/640 FEL) and a BHL at 19,120 feet

(NE NE 25-29N-56E (710 FNL/1161 FEL)). The Bakken well turned in an IP of 240 BOPD, 118 MCFPD and 1,152 BWPD.

Week of 9/21 to 9/27

New locations — horizontal wells

Two Continental Resources Inc. wells were greenlighted for Richland County. The Alex 1-7H, with a SHL at SE SW 7-26N-55E (260 FSL/1620 FWL) and a PBHL of 19,777 feet at NE NW 6-26N-55E (200 FNL/1980 FWL) and the Lazy D 3X-4H, with a SHL at NE NW 4-23N-54E (495 FNL/2040 FWL) and a PBHL of 19,697 feet at C S2 9-23N-54E (200 FSL/2640 FEL). Both wells will target the Bakken system.

Three wells were approved in Roosevelt County; all three wells will be aiming for the Bakken.

Brigham Oil & Gas LP will be drilling the Christopher 25-36 1H, with an SHL at NW NE 25-28N-56E (390 FNL/1587 FEL) and a PBHL of 19,720 at SW SE 36-28N-56E (250 FSL/1740 FEL).

Oasis Petroleum North America LLC was approved for the M&M T 2958 13-26H, with a SHL at NW NE 26-29N-58E (205 FNL/1770 FEL) and a PBHL of 20,965 feet at NW NE 14-29N-59E (200 FSL/2435 FEL).

EOG Resources, Inc. was issued a permit for the Highline 3-0508H, with a SHL at NE NW 5-29N-59E (230 FNL/1800 FWL) and a PBHL of 20,429 feet at SE SW 8-29N-59E (200 FSL/1800 FWL).

Completions

In Richland County, Fidelity Exploration & Production Co. wrapped up the Edam 15-22H. The Bakken System well has an SHL at NE NW 15-21N-57E (250 FNL/1349 FWL) and a BHL of 15,502 feet at NE NW 22-21N-57E (457 FNL/1378 FWL). The well reported an IP of 22 BOPD and 184 BWPD.

Oasis Petroleum North America LLC reported the completion of the Signal Butte Fed. 2758 43-9H in Roosevelt County. The well's SHL is at SW SE 9-27N-58E (190 FSL/2170 FEL), with a BHL of 20,077 feet at NW NE 4-27N-58E (310 FNL/2195 FEL). The Bakken well reported an IP of 952 BOPD, 1,019 MCFPD and 1,556 BWPD. ●

Darryl L. Flowers, a contributor to Petroleum News Bakken, is the publisher of the Sun Times in Fairfield, Mont., www.fairfieldsuntimes.com, and can be reached at publisher@fairfieldsuntimes.com.

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MOVING HYDROCARBONS

A new Bakken midstream player

Triangle Petroleum and First Reserve Corporation form Caliber Midstream partnership; already building pipeline

By MIKE ELLERD

For Petroleum News Bakken

On Oct. 1, Denver-based Triangle Petroleum Corp. said it is forming a new midstream joint venture with First Reserve Corp. that will provide transportation and processing services for oil, gas and water in the Williston Basin of North Dakota and Montana.

The new joint venture, known as Caliber Midstream Partners LP, will be based in Denver. Initial capital for the joint venture consists of \$150 million of equity commitments from First Reserve and \$30 million from Triangle.

The location of the processing facility, just south of Rawson, will include a gas processing plant, oil-water separator, and salt water disposal well.

Caliber is currently constructing a pipeline gathering system and central processing facility west of Watford City near Alexander in McKenzie County, N.D., in what Mike Grijalva of Triangle calls a "\$100 million comprehensive package at the well head."

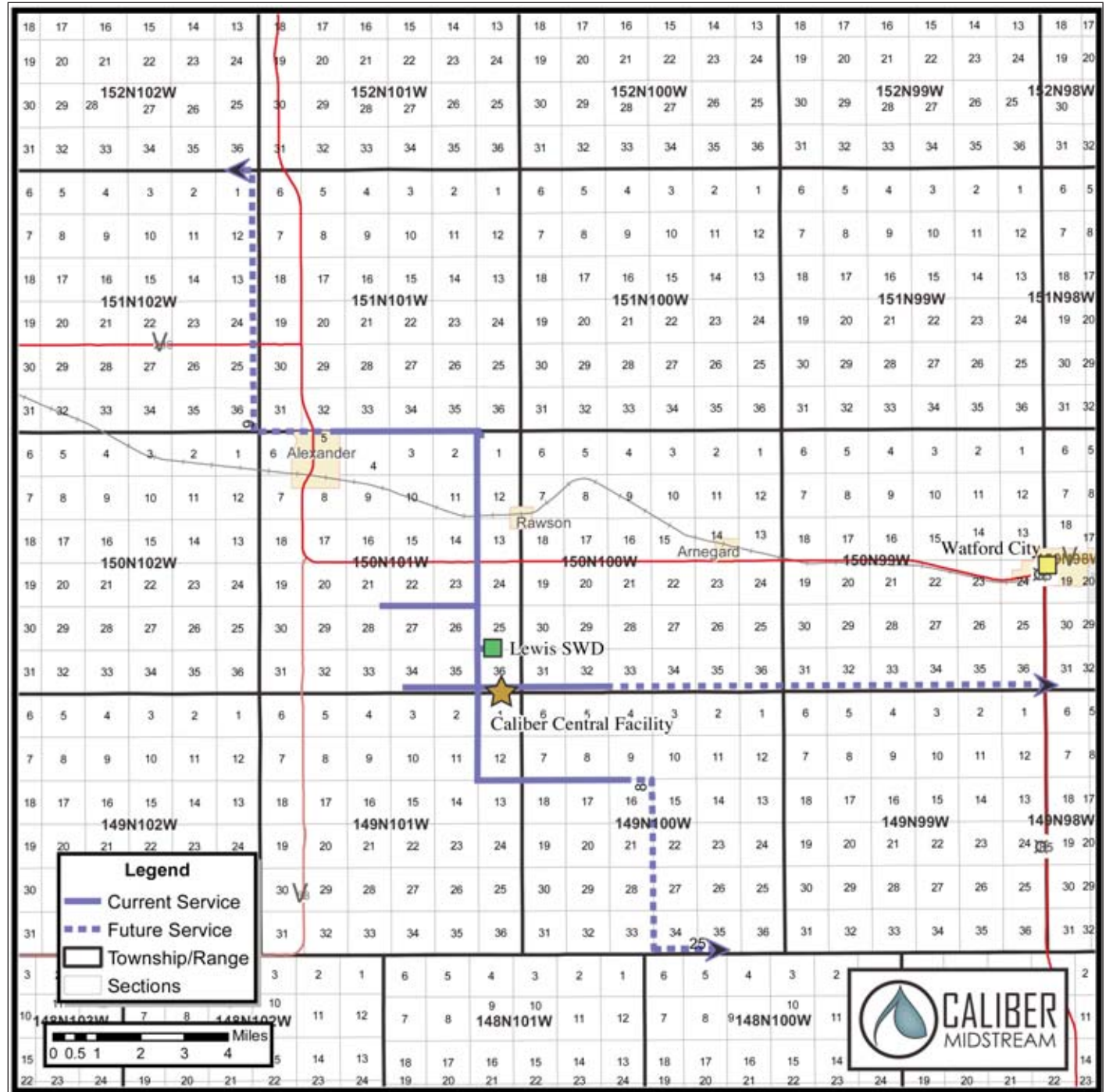
The pipeline system will gather crude oil, natural gas, and produced and flow back water. The pipeline system will also connect to the Western Area Water Supply system to provide fresh water for fracking operations. It will also provide for transfer of crude oil to trunk line service. This pipeline system will have capacities of 10,000 barrels of oil and 15 million cubic feet of natural gas per day.

The location of the processing facility, just south of Rawson, will include a gas processing plant, oil-water separator, and salt water disposal well.

Trenching under way

Grijalva told Petroleum News Bakken that all of the rights of way for the pipeline system have been secured and trenching is under way. He said the components of the processing facility are modular and are currently on order and will be installed in phases. The salt water disposal will be operational by December with the other components coming on line next year. Caliber, Grijalva added, is planning to have all components of the pipeline system and central processing facility in operation by August 2013.

Future plans for Caliber include pipeline expansion into other counties of North Dakota and Montana to meet producer gathering and processing needs, with a focus on reducing drilling and completion costs as well as environmen-



tal impacts.

Triangle Petroleum is a growth oriented energy company with a focus on developing the Bakken and Three Forks formations in the Williston Basin, and has acquired approximately 86,000 net acres in the basin.

Triangle is also a majority owner of

Rock Pile Energy Services, a hydraulic fracturing firm, also based in Denver but focused on the Williston Basin with a local office in Dickinson.

Triangle's joint venture partner, First Reserve, is a leading global investment firm dedicated to the energy industry. First Reserve has over \$23 billion of

raised capital since inception in 1983 with offices in North America, Europe and Asia.

The Caliber Midstream website is up and running at www.calibermidstream.com.

Contact Mike Ellerd at mellerd@petroleumnewsbakken.com

continued from page 1

EAGLE FORD

the state. It collects monthly production reports from sites on which it permits drilling.

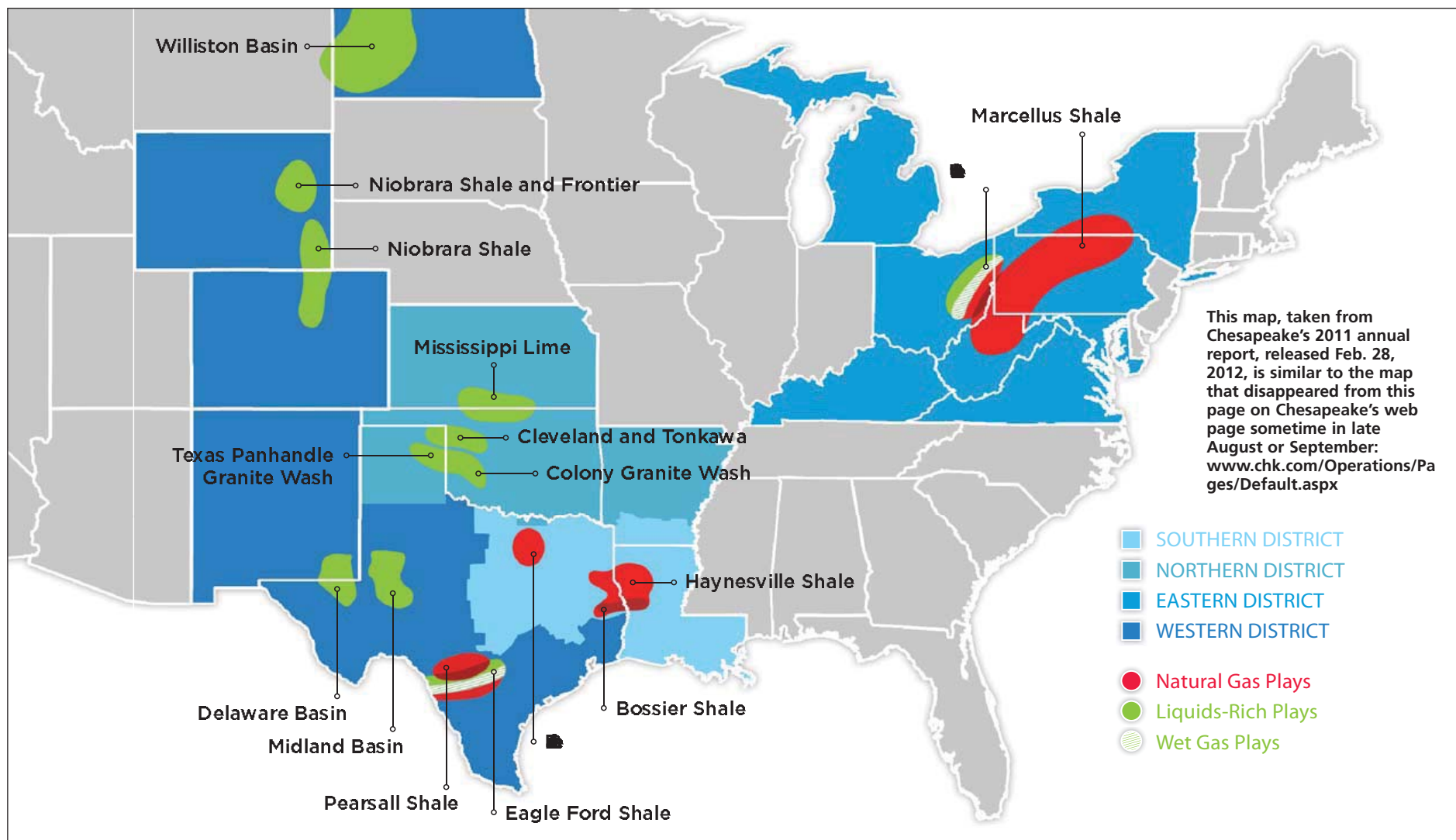
The commission updates the data on its website once a month. Those updates typically change as revised, corrected or late reports are received. In September, for example, preliminary data showed June's Eagle Ford production at 283,292 bpd.

—PETROLEUM NEWS BAKKEN

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continued from page 1

OIL PATCH CHATTER

weeks to Chesapeake's media relations folks about the status of the company's Williston Basin, yielded a single response: "We are not operating any drilling rigs in the Bakken."

What we do know is this:

- Although the company has been aggressively selling assets elsewhere, there has been no announcement about it putting its Williston Basin 400,000 to 500,000 net acres up for sale. (The numbers come from 2012 presentations made by Aubrey K. McClendon, Chesapeake's chief executive officer.)

- On July 29, 2011, McClendon said the company would likely seek a joint venture partner for the Williston Basin, but Chesapeake had two other areas, the Mississippian and the Utica — that were "more urgent" and "more important" to bring in a partner because the company had paid a lot more for its acreage there: "Maybe a year from now or so, we'll be

File No.	API No.	Well Type	Well Status	Status Date	DTD	Location	Well Name	Field	County	Pool	Spud Date
21143	3308900647	OG	IA	12/13/2011	20269	SESE 21-137-97	SCHOCH 21-137-97 A 1H	WILDCAT	STARK	BTF	8/27/2011
21139	3308900646	OG	A	11/27/2011	19630	NENE 30-138-95	ZENT 30-138-95 A 1H	WILDCAT	STARK	BTF	8/28/2011
21135	3308900645	OG	DRL	10/28/2011		NWNE 26-138-97	DECKER 26-138-97 A 1H	WILDCAT	STARK	BTF	10/28/2011
21681	3308900658	OG	DRL	11/10/2011		NWNW 30-138-97	KOSTENKO 30-138-97 A 1H	WILDCAT	STARK	BTF	11/10/2011
21885	3308900660	OG	DRL	12/30/2011	20100	NWNW 26-138-98	GRENZ 26-138-98 A 1H	WILDCAT	STARK	BTF	12/30/2011
21734	3303300308	OG	DRL	12/20/2011	18844	SWSW 12-138-104	OLSON 12-139-104 A 1H	WILDCAT	GOLDEN VALLEY	BTF	12/20/2011

IA - inactive (shot-in)
 A - Active, producing
 DRL - has been drilled but not producing
 BTF - Bakken/Three Forks

All operated by Chesapeake Operating, Inc.

working on a Williston solution. ... Our acreage was acquired at a very attractive price up there (North Dakota). So we really don't have an overwhelming need to de-risk it like when we go into the Utica and spend a \$1.5 billion to \$2 billion. That's a significant risk for shareholders. ... In a play like the Williston, we just haven't spent that much money yet."

- In an investor earnings conference call in May, McClendon said of its Williston leases, which are/were on the fringe of the Bakken petroleum system, "We're still working our Williston

acreage. It doesn't look like it's going to work for the Bakken or the Three Forks, but we've got some other ideas there. So I haven't given up. ... We're getting ready to complete a well in another formation."

- In a December article, Reuters reported that Crystal Lake Resources emerged in North Dakota and began buying leases in Hettinger County for Chesapeake. Hettinger County Clerk Sylvia Gion told PN Bakken in a recent interview that Crystal Lake started leasing in that county last fall and was there about six months but suddenly pulled out in late January or

early February. Gion said some of the landowners were paid but others were not. She has not heard anything of Crystal Lake since they left the county last year. These were the lease rejections that the Bismarck Tribune reported on in a Feb. 7 article by Lauren Donovan, "Chesapeake Energy pulling back, won't honor lease agreements," that suggests Chesapeake might not have a lot of leases to sell.

- Chesapeake has also pulled the Williston Basin from its investor presentations.

Adjacent to this article is a chart of the six wells Chesapeake has drilled in the basin as of Oct. 4, and their status. Note, only one produced any oil to date and that's Stark County well ZENT 30-138-95 A 1H, which has yielded less than 3,000 total barrels of oil since its December start-up.

The company drilled a number of vertical wells in the 1990s.

Seven companies drilling 65% of Bakken wells

Seven E&P companies will account for about 65 percent of Bakken drilling in North Dakota this year, Lynn Helms told attendees of the annual meeting of the North Dakota Petroleum Council Sept. 20. Helms is the director of North Dakota's Department of Mineral Resources and Oil and Gas Division.

In order from largest to smallest producer, the seven companies are Continental Resources, Hess, Whiting Petroleum, Statoil/Brigham, Oasis Petroleum, Marathon and EOG Resources. ●

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Operational improvements pay off for GMX

Shifts gears on completion techniques: Uses oil based mud during entire drilling op, switches to plug and perf vs sliding sleeve

PETROLEUM NEWS BAKKEN

Operational improvements in several North Dakota counties are beginning to pay off for GMX Resources Inc., including the use of completion techniques that produced an impressive peak flow rate of 1,673 barrels of oil equivalent per day from the Basaraba 34-35-1H production well.

"In our second quarter conference call, we outlined a number of operational improvements that we expected to implement over the next few wells," GMXR President Michael J. Rohleder said. "These changes included using oil base mud during the entire drilling operation, switching to plug and perforated completions versus sliding sleeve, using more proppant and using ceramic proppant in the mix."

The Basaraba 34-35-1H is GMXR's first Middle Bakken well in Billings County. Located in Sections 26 and 35, Township 144 North Range 100 West, it was successfully fracture stimulated using a 39-stage plug and perforation completion, the company said, noting that it was the company's eighth operated well.

GMXR said the well was fracture stimulated with 25 percent more proppant, which was 44 percent white sand and 56 percent ceramic proppant. The flow rate was achieved using a 48/64-inch choke at 1,000 pound flowing casing pressure.

The plug and perforation completion was the first time GMXR used this completion procedure, which included cleaning out the lateral. The coiled tubing unit was released in late September after milling out 33 plugs and reaching a depth of 19,000 feet. The Basaraba, in which GMXR hold an 89 percent interest, has a five-day cumulative production of 4,375 barrels of oil equivalent, or an average of 875 barrels of oil equivalent per day, the company said.

The company's seventh operated well, Fairfield State 21-16-1H, is also located in Billings County, in Sections 16 and 21, Township 143 North Range 99 West.

During the sliding sleeve completion of the Three Forks the company screened out after the first four stages. The company said it was only able to complete less than 30 percent of the remainder of the lateral as a modified plug and perf design. The peak flow rate on the well was 177 boe. The Middle Bakken in pilot hole looked very good and will be the target of future development, GMXR said.

First with oil base mud

The Akovenko 24-34-2H, the first company well drilled with oil base mud, is located in Sections 27 and 34, Township 146 North, Range 99 West in McKenzie County. The well reached total depth in less than 30 days and drilling costs were \$4 million, in line with GMXR's estimate. Plug and perforation completion in the Middle Bakken is scheduled to begin in late October.

This ninth GMX operated well will be the first plug and perforated completion in McKenzie County in the Middle Bakken and the first completion in a lateral drilled with oil base mud, the company said.

The oil base mud used in this well drilled to a total depth of 20,997 feet with a horizontal lateral length of 9,341 feet should exhibit very little damage to the rock's natural permeability and porosity, the company said. The company has a 92 percent working interest in the well.

The south offset Akovenko 24-34-1H was drilled with water base mud, completed 30 stages with sliding sleeves and should provide a good contrast to the Akovenko 24-

"We will continue evaluating our drilling and completion practices with the goal of delivering the best rate of return possible on our Bakken development program."

—GMXR President Michael J. Rohleder

34-2H, the company said.

Tenth operated well

GMXR said it spud its tenth operated well, the Lange 44-31-2H, located in Sections 30 and 3, Township 147 North, Range 99 West in McKenzie County. The company has an 89 percent working interest in the well and will target the Middle Bakken with a proposed total depth of 21,261 feet and a lateral length of 9,587 feet. The well will be drilled with oil base mud and completed with a plug and perf completion. It will be drilled parallel to the

Lange 11-30-1H and provide another comparison similar to the Akovenko wells.

The company said it has elected to participate in the drilling of the Marsh 41-16PH (2 percent working interest), which is located in Sections 16 and 21, Township 140 North, Range 97 West in Stark County.

GMXR's Rohleder said that in its second quarter conference call, the company also discussed the need for post completion operational improvements that would address the significant pump downtime GMXR experienced into the third quarter by installing more reliable diesel powered electrical generators on the pumps in the regions where no electrical infrastructure exists, which is most of the company's core acreage.

Targeting Middle Bakken

"We also stated that from this point our drilling will target the Middle Bakken in McKenzie and Billings counties," he said,

noting the Basaraba 34-35-1H Middle Bakken well "that incorporates most of the aforementioned improvements and, based on the first five day production rate, has the potential to be our best producing well. It clearly demonstrates that the Middle Bakken with the right drilling and completion recipe can produce meaningful production and reserves."

However, Rohleder said the Fairfield State 21-16-1H was completed in the Three Forks and, as the company reported in its call, was unfortunately compromised and ultimately less than one-third of the lateral was able to be stimulated even after the company attempted to complete the process with a modified plug and perforation scheme.

"The early success we have seen with the Basaraba 34-35-1H and the log reports on the Fairfield State 21-16-1H showing simi-

see **GMX RESOURCES** page 15

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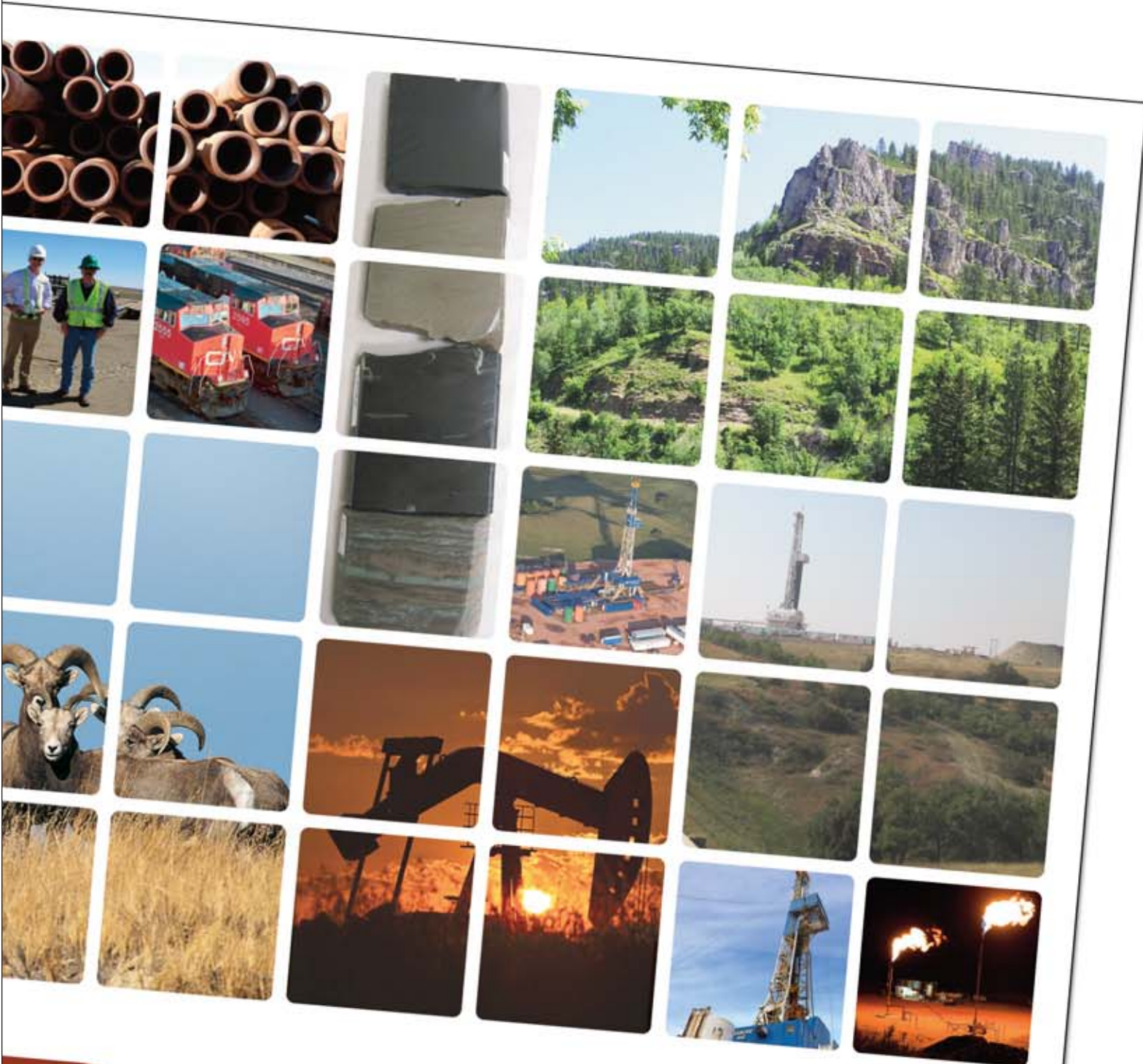
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OIL & GAS DIRECTORY

Vol. 1, No.1, Released November 2012

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WELL RESULTS

only is the upper shale member a rich source of Bakken crude, but also that oil from the area's shale can be successfully produced.

In a recent interview with Petroleum News Bakken, John Fair, chief executive officer of Denver-based PetroShale (US) Inc., described test results from the wells as "very positive" and said they "prove we can improve front end deliverability" from the Upper Bakken shale.

The four wells mark what PetroShale calls a "successful completion" of the partnership's appraisal of the AMI within the "Mondak shale play."

Slawson, the sixth largest oil producer in the Williston Bakken and the seventh largest private oil producer in America, holds a little less than an 80 percent working interest in the 40,000-acre Mondak AMI; PetroShale about 10 percent; and the balance is owned by private investors.

Approximately 75 percent of the Mondak AMI is in Montana with the remaining 25 percent in North Dakota.

Ninety-eight percent oil

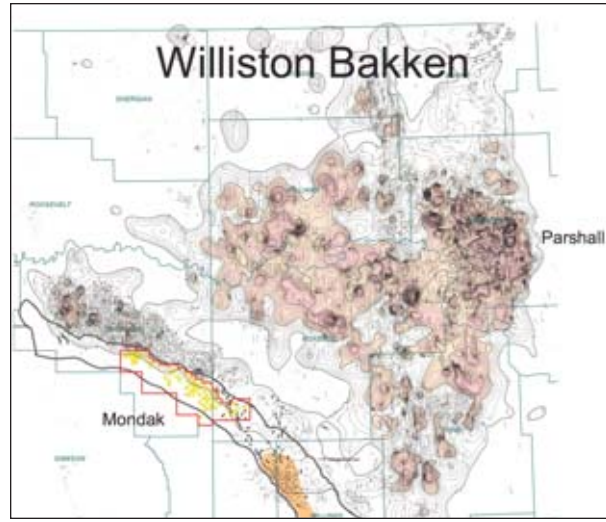
In the partnership's Sept. 27 announcement, PetroShale said different completion techniques were used in the first four test wells, which were about 10,500 feet deep with one-mile, stimulated (hydraulically fractured), laterals.

The Culverin well, in which the preferred technique was used, had a 24-hour initial production rate of 476 barrels per day flowing and is producing 200 barrels per day after 90 days of production.

One of the other wells, the Cleaver, had an initial production, or IP, flowing rate of 296 barrels per day, and the remaining two wells had on-pump IP rates of 312 and 316 barrels per day.

PetroShale said the production from the first four wells is 98 percent oil.

To date, early type-curves on the preferred completion method showed estimated ultimate recoveries, or EURs, analogous to those from un-stimulated wells that Slawson drilled in the Upper Bakken between 1994 and 2007, which averaged 730,000 barrels each.



PETROSHAILE

First six wells, IP or status

Well Name	IP Rates	(24 Hr BOPD)
Arrowhead	316	(on pump)
Dart	312	(on pump)
Culverin	476	(flowing rate)
Cleaver	296	(flowing rate)
Lasso	Flow back test under way	
Pilum	Waiting on completion	

to intercept large fractures. Although these wells had high IP rates, production quickly fell and the wells did not have large EURs.

Slawson then drilled a horizontal well on the edge of the Mondak play that initially produced in the range of 120 barrels per day, which Fair said was considered "ho hum," and Slawson moved to other plays, such as the Middle Bakken.

But as the well continued to produce, Slawson noted that it went hyperbolic very quickly and was producing a lot of oil with a very low decline. Once the well "hit curve," it declined at an annual rate of only 1 percent.

The production curve, according to Fair, shows that particular well, which was un-stimulated and completed on a very short lateral, will ultimately produce some 750,000 barrels of oil.

Then in 2007, Slawson drilled four more un-stimulated horizontal wells in an area adjacent to the Mondak. None of the four wells had high IPs, but the average EUR for those for wells was 738,000 barrels. None of the wells, Fair said, behaved like Middle Bakken wells in that they had low IPs, went hyperbolic very quickly, and then had very low declines. Two of those wells are expected to exceed 1 million barrels.

Upper Bakken shale world class source rock

According to Fair, Slawson then looked at the results of the un-stimulated wells and developed a theory about the Upper Bakken shale in what he called an "intriguing area at the south end of the Elm Coulee field." The Middle Bakken in this area, Fair said, becomes very tight

see WELL RESULTS page 17

"These new test wells in Mondak prove that the play is continuous. Now we are experimenting with completion techniques to increase the early stage deliverability," Fair said in the announcement.

"With these first five wells we have experimented with completion techniques and micro seismic data to hone in on the most efficient completion formula. The history of the Bakken tells us that completion techniques and economics continue to improve — field by field and year over year," he said.

The test results were very positive "and gave us critical data to help fine-tune the completions. This data also supports our original estimate of being able to get three wells per section, and probably more," Fair said.

Try, try and then try again

Almost all Bakken production thus far has been from the tight Middle Bakken reservoir, but as PetroShale said in its announcement, these new test wells are "noteworthy" because they were drilled into actual Bakken shale, or source rock.

Fair told PN Bakken that Slawson first started drilling into the upper shale member in the late 1980s and early 1990s when it drilled 22 horizontal un-stimulated, fracture-intercept wells into the shale in the Billings Nose field on laterals of 1,000 to 2,000 feet. This was in the early days of horizontal drilling and Slawson was trying

"I think it is great news for a great play."

—Colorado School of Mines Professor Steve Sonnenberg

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GMX RESOURCES

lar Middle Bakken like the Basaraba suggests that future development in the Middle Bakken within the Fairfield State unit should yield similar results," he said.

First well incorporating all changes

The Akovenko 24-34-2H well is GMXR's first well to incorporate all of the changes, "and will be another important data point in our effort to determine the best development protocol," Rohleder said.

He said the Lange 41-31-2H would also provide useful comparison information because it is being drilled parallel to the Lange 11-30-1H and will also incorporate all the improvements.

"We will continue evaluating our

drilling and completion practices with the goal of delivering the best rate of return possible on our Bakken development program," Rohleder said.

GMXR, in addition to the Williston Basin, owns production leases in another prolific U.S. oil resource play, the Denver Julesburg Basin targeting the Niobrara formation. The company also operates in the most productive natural gas basin in North America, the Haynesville Shale.

These three assets allow GMX Resources to have the flexibility to allocate capital across commodities and basins to achieve the highest risk-adjusted rate of return, the company said.

"These oil and gas resources provide us a robust inventory of high probability, repeatable, organic growth with over 700 net locations and an 18 year inventory of development," GMXR added. ●

continued from page 1

GILBERTSON

I have decided that the time has come to spend more time pursuing personal interests. I am grateful for all the experiences Northern Oil has given me and I am confident in the future of the company and the current team's ability to maximize shareholder value. I continue to be a substantial shareholder of Northern Oil and I look forward to providing perspective in my new role as a consultant to the board."

Northern said it did not plan to fill the vacant president position.

Along with CEO Michael Reger, Gilbertson helped launch the Minnesota-based company in 2006. Gilbertson served as chief financial officer before becoming president in 2010.


With 180,000 net acres in North Dakota and Montana, Northern claims to be the tenth largest leaseholder in the Bakken, where its operating partners produces 11,000 barrels of oil equivalent per day.

Marshall Carver of CapitalOne Southcoast told Upstream magazine online he sees the Gilbertson's departure as "a loss for the company based on his role in the company's growth."

Curtis Trimble of Global Hunter Securities called the move "peculiar," but downplayed the impact, saying Northern "has reached sufficient scale and retains sufficient managerial capacity to maintain the company's momentum despite his departure."

—ERIC LIDJI


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MIDSTREAM & DOWNSTREAM

RBN puts negative spin on Bakken gas

Information group identifies worst case scenario of long-term shortage of gas gathering, processing infrastructure' others disagree

By MIKE ELLERD

For Petroleum News Bakken

A recent report from RBN Energy, "Why Will Bakken Flaring Not Fade Away," assumes midstream pipeline gathering and processing companies and producers might not invest in sufficient gathering lines for natural gas production from the Bakken petroleum system. Even after all current planned gathering and processing projects are complete, which North Dakota officials put at the end of 2014, concerns exist about enough gathering capacity.

Currently, "there is considerable natural gas takeaway capacity in North Dakota via the Northern Border and Alliance (wet gas) interstate pipelines and WBI Energy Transmission," RBN report author Sandy Fielden said in the Sept. 6 release. "These pipelines provide delivery access to Midwest markets such as Chicago. The issue with associated gas in the Bakken is therefore not pipeline takeaway capacity but rather with the gathering pipeline infrastructure and gas processing capacity required to get wellhead gas processed and ready for shipping on the interstates."

Justin Kringstad, North Dakota Pipeline Authority's chief, agrees in part with RBN's assessment.

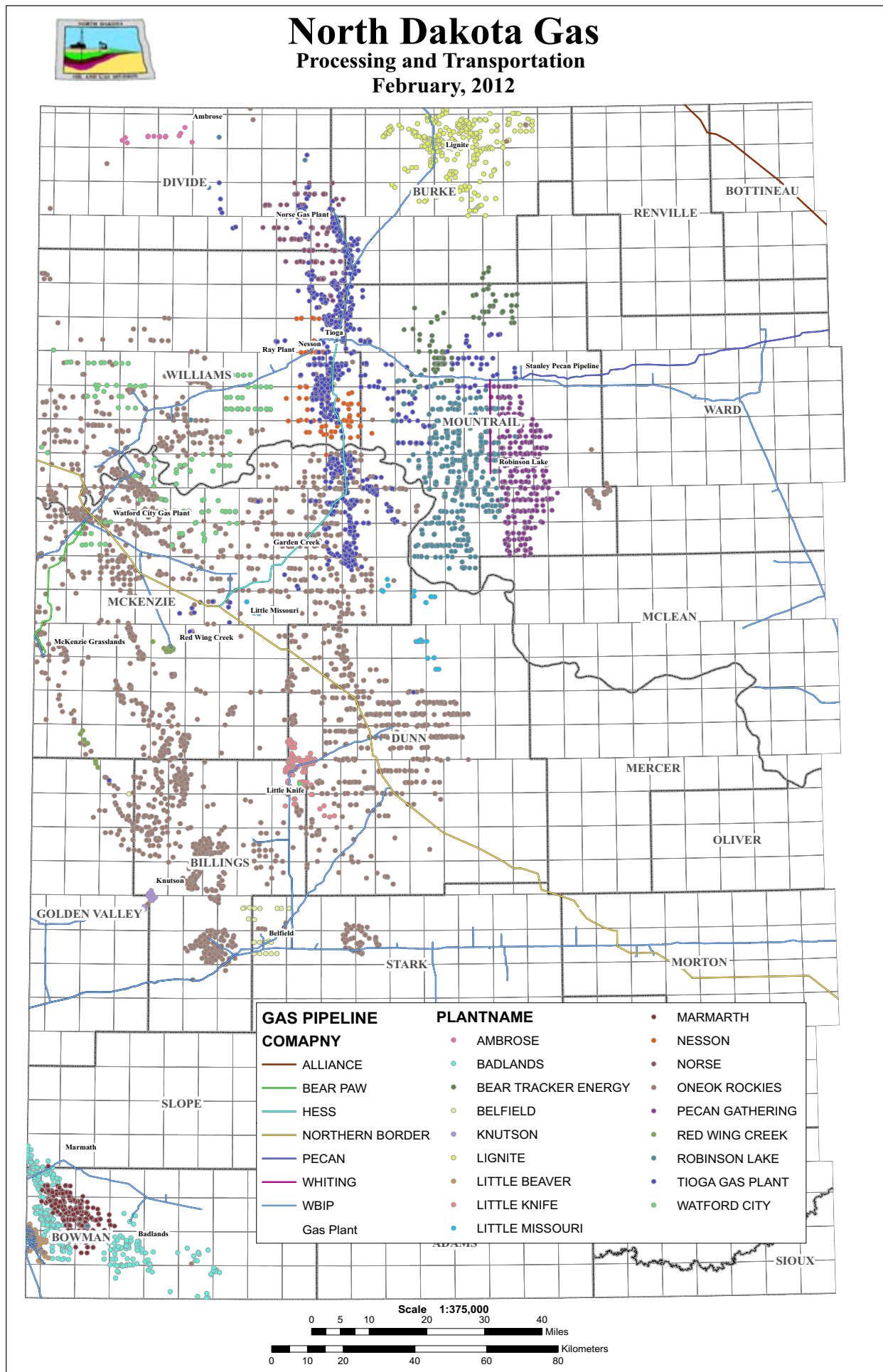
In a recent interview with Petroleum News Bakken, Kringstad said, "Yes, the biggest challenge is local gathering lines — getting wells connected to gas processing facilities and the major takeaway lines. But at the end of 2014, when the processing facilities that are planned should be complete ... if additional gas is being produced and development is robust we are going to see new investments beyond on the 2014 horizon. Industry is going to continue to step up. We will get additional capacity, gas plants for natural gas and associated liquids."

In some cases the producers such as Whiting and Hess are putting in their own gathering infrastructure, but typically gas gathering lines are built by third-party gas gathering and processing companies, such as Oneok, WBI Energy, Alliance and Saddle Butte.

Oneok's investments

Oneok, which is currently the largest operator of gathering and processing infrastructure in the Williston Basin, agrees that the takeaway capacity is sufficient and the shortage is with gathering and processing, but doesn't agree that demand for gathering and processing infrastructure won't be met. Brad Borrer with Oneok's media relations department recently told Petroleum News Bakken that as long as there is need for further infrastructure for gathering and processing, companies like Oneok will pursue that infrastructure "if it makes economic sense." Borrer said Oneok has been very active in the last year and a half in announcing new projects, and "we're confident the gas will be there to fill those projects as they come online." Because the Bakken is such a liquids-rich play, the processing is very important in

see BAKKEN GAS page 17



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Winter is coming!

continued from page 15

WELL RESULTS

and begins to pinch out, the lower Bakken shale has already pinched out, the Lodgepole above the Upper Bakken is very tight, and so is the Three Forks below the upper shale. The result, he said, is a world-class source rock with no place for the oil to go, which created in-situ fracturing that resulted in a reservoir.

The middle Bakken, where everyone is drilling, is the reservoir, Fair said, but the shale is the source rock. Cores show an oil column approximately 30 feet thick, he said, but the highest oil concentrations are in the four to seven feet of Upper Bakken shale.

He went on to say that PetroShale board member and petrochemist Daniel Jarvie describes the upper shale as a “coffee cup” where the kerogen conversion occurs and the oil spills over into the Middle Bakken, but the cup remains full. Fair said core samples indicate there could be up to 30 million barrels of oil in place per section.

“That’s a lot of oil,” he added.

In an article in the June 17 edition of PN Bakken, Colorado School of Mines professor Steve Sonnenberg touted the Upper Bakken shale.

“They are world class source rocks,” he said. “They currently average about 11 percent by weight organic carbon content.”

The test results were very positive “and gave us critical data to help fine-tune the completions. This data also supports our original estimate of being able to get three wells per section, and probably more.”

— John Fair

Applause from Sonnenberg

Sonnenberg, who has been encouraging oil companies to try to produce oil from shale source rocks in the Bakken system, was not surprised by PetroShale and Slawson’s recent test results, but he was “quite impressed,” and said the results “speak loudly.”

In an October interview with PN Bakken, Sonnenberg said the shales were a play in the past with the first vertical well in the Upper Bakken drilled in 1976 and the first horizontal well in 1987, but left behind in the Middle Bakken rush.

And now, he said, PetroShale and Slawson’s results “are actually showing that the shales are quite a viable play.”

In late May, Sonnenberg told attendees at the Bakken Tight Oil Congress in Denver that the source of the oil in the Middle Bakken reservoirs was organic-rich upper and lower Bakken shales, which were being mostly ignored by oil companies.

In the recent interview with PN Bakken, he said he was “quite encouraged” by the results that show some “fairly significant” EURs for the wells Slawson and its partners drilled.

People should be excited, he said. “I think part of this petroleum system that people are ignoring right now are the shales,” and added that he has been an advocate of the shales. “I think it is great news for a great play,” he said.

Slawson proved

Geologist Julie LeFever of the North Dakota Geological Survey also was not surprised by the Upper Bakken drilling results.

She told PN Bakken that she can remember when companies like Slawson were tapping into the upper shale in the late 1980s and 1990s. Slawson, she said, had some “pretty good success” and ended up with some “big wells,” although those wells were on short laterals, she noted.

But LeFever said there were problems drilling in the Upper Bakken. The shale, she said, was unstable and would collapse around drill strings, and “getting stuck was a big problem.”

It drove up costs, she said, because getting unstuck was time consuming.

But, she continued, Slawson proved it is able to get in

see **WELL RESULTS** page 19

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BAKKEN GAS

addition to gathering, he added.

“It’s an exciting time to be an operator of midstream assets in that region. We’re continuing to grow and take advantage of the needs that are there, and we’re looking forward to meeting the needs of producers,” Borrer told Petroleum News Bakken.

Oneok is currently investing between \$1.5 billion and \$1.8 billion in gas gathering and process in the Bakken, plus an additional \$595 million to \$730 million in Bakken NGL projects. The company has one gas processing plant in place with two others under construction and a fourth in the planning stages. The Garden Creek I plant is currently operating and the Stateline I plant will be in operation soon. The Garden Creek II and Stateline II plants will go into operation next year. Combined, these four plants will provide western North Dakota and eastern Montana with 400 million cubic feet per day capacity.

Oneok is also constructing its Bakken NGL pipeline which will carry natural gas liquids from the Bakken to the Overland Express pipeline in northern Colorado. That pipeline will have an initial capacity of 60,000 barrels of NGL per day with a potential expanded capacity of 110,000 barrels per day.

In late September Borrer told Petroleum News Bakken that companies like Oneok are investing billions of dollars to try to close the gap of time between when a well begins producing associated gas and when that gas can be gathered and processed. Borrer said when the Garden Creek I plant came online it resulted in an immediate and significant decrease in flaring activity, and he said Oneok expects to see similar flaring reductions when the remaining three plants come online.

The challenge for companies like Oneok, Borrer said, is keeping up with the growth in production. “It’s an ever growing climate up there and we’re always a step behind,” he said. “It will continue to be a game of catch up, but that is a game that we’re playing and one we’re gaining ground on.”

WBI Energy’s efforts

In 2011, WBI Energy built a gas pipeline connecting Oneok’s Garden Creek plant to the Northern Border

pipeline with a capacity of 80 million cubic feet per day, and this year is constructing a pipeline connecting Oneok’s Stateline plants to Northern Borders. WBI also expanded its Baker storage facility in 2011.

“Will there be less flaring five years from now in the Bakken? Absolutely, yes. Bakken producers and processors are aggressively building new processing facilities and new gathering pipeline at an unprecedented pace. The result will be less flaring even in the face of increasing natural gas production,” WBI Energy Vice President of Business Development Paul Hopfauf told Petroleum News Bakken Oct. 3.

“Perhaps when the Bakken is a more mature field, flaring may be greatly reduced. But, by all indications, additional pipeline infrastructure construction is well under way. However, the construction lag between initial production and midstream connection will always create some degree of flaring,” he said.

Other construction

Alliance Pipeline has received approval for its Tioga gas pipeline to take outfall from the Alliance and Hess plants at Tioga to the Alliance main pipeline near Sherwood. This pipeline will have a preliminary capacity of 106.5 million cubic feet per day and is designed to move both natural gas and NGLs (see related story on page 6 of this issue).

Saddle Butte Pipeline is building a gas and oil gathering system on the Fort Berthold reservation, and is doubling the capacity of its Little Missouri process plant near Watford City to 50 million cubic feet per day.

And Triangle Petroleum announced in late September a new joint venture with First Reserve Corp. forming Caliber Midstream Partners, which is building a new oil, gas and water gathering and processing system west of Watford City (see related story on page 11).

Construction logistics

The RBN Energy report said that another potential problem facing Bakken gas is the logistics associated with infrastructure construction, including the large size of the production areas, winter and spring working conditions, and workforce availability.

Justin Kringstad agrees with RBN in that the large production areas and harsh winter conditions are a challenge to con-

struction. He said freezing weather can pose real problems with trenching.

Brad Borrer said Oneok is fortunate in that his company has operated in the Williston Basin for years through what was then known as Bear Paw Energy, and that Oneok is used to working in harsh environments. Building out to some of the relatively isolated locations is not as much of a challenge for Oneok as it might be for some of its competitors, Borrer said. He agrees that winter weather conditions can slow work, but said it does not continue to be a big factor in operations once pipelines and plants are online.

In terms of workforce issues, Borrer said construction has not been as much of an issue as finding fulltime staff to operate the plants once they are built. Oneok, he said, is looking internally at its recruiting practices and is promoting its relocation packages. The company is also recruiting outside North Dakota, ranging anywhere from Montana to Michigan. Borrer noted that Oneok is finding that people are willing to relocate for good paying jobs. ●

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Magnalight announces release of LED Golight

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SD OIL POTENTIAL

according to the latest U.S. Geological Survey estimates. The heart of the play is in western North Dakota, which has turned that state into the nation's second largest producer behind Texas.

Expansion excites South Dakotans

"The recent expansion of the North Dakota oil industry due to the development of the Bakken and other oil-bearing formations has generated a great deal of interest in the potential to develop South Dakota's oil and gas industry," the report says.

"While South Dakota has some potential for oil and gas development and is under explored, the modest level of past exploration conducted throughout the state appears to rule out the future discovery of a 'Bakken-sized' oil resource in South Dakota."

Moreover, the report adds, new exploration of northwest South Dakota — the most likely area for future development — may be delayed as operators pursue a "sure thing" in the North Dakota Bakken and other similar plays in Texas, Colorado and Ohio. Estimates on the duration of the Bakken development range from 10-to 20 years. And production from the fully developed fields will likely continue for decades more.

Study projects limited growth

The governor's study, released to a legislative panel, also concludes that South Dakota's oil production most likely will remain steady at the current level of 1.6 million barrels of oil a year. Even under the most optimistic scenario, which assumes extensive additional exploration, the state's annual production will rise only to 3.2 million barrels a decade from now and 6.5 million barrels after that. In contrast, North Dakota last year produced 152 million barrels of oil.

"We will never see the oil development and gas development that North Dakota has seen, but that doesn't mean we don't have potential," state geologist Derric Iles, a member of the governor's study group, told lawmakers. "I think we do stand to see some increase in oil and gas development in South Dakota."

Iles noted that while the Bakken doesn't extend into South Dakota, more oil could be discovered in the Red River Formation that currently produces South Dakota's oil in Harding County in the extreme northwest corner of the state. Two other formations, the Minnelusa and the Three Forks, also hold some promise, he pointed out. The Three Forks underlies the Bakken formation in North Dakota and is a major contributor to state production rates.

South Dakota is making drilling and other geological records available on the Internet to encourage companies to explore in South Dakota.

Rig count to remain low

In 2012, North Dakota has been averaging some 200 rigs, each drilling an average of one new oil well per month, while South Dakota currently has one such rig drilling about one new well per month. Under the most optimistic scenario developed during this study, in the next 15 years South Dakota will have, at most, six rigs each drilling an average of one new well per month. This "very optimistic" level of development, the report said, could result in about 480-720 direct private-sector jobs and as many as 72 new wells per year. In the most likely scenario, however, for the next 15 years South Dakota will continue to have one rig drilling about 12 new wells per year, employing about 80 people.

In addition to the governor's study, the

South Dakota Legislature appointed a committee that has been looking at whether any state laws dealing with oil and gas development should be changed.

Reports of the challenges in the North Dakota oil fields related to the oil boom — law enforcement, emergency services, housing, transportation, infrastructure, education and others — have led to questions about how South Dakota can prepare to address these issues as the North Dakota boom continues, and if South Dakota's oil and gas industry expands.

Providing services for industry

Lawmakers said South Dakota's best shot at development is to provide materials and services to North Dakota's oil industry. For example, some South Dakota companies are making prefabricated housing for workers in North Dakota's oil fields, and South Dakota might be able to supply sand for hydraulic fracturing.

In addition, many companies in North Dakota's oil patch want to set up support operations outside the oil fields to escape the high costs of housing and other services in the area.

"We could see a large boom in all the other industries that are related to the oil and gas business," said Rep. Roger Solum, R-Watertown, chairman of the Legislature's Oil and Gas Study Committee.

However, though most of the school districts in northwest South Dakota have room to accommodate a large increase in students, it's feared that increased drilling or other activities would stretch water supplies and law enforcement coverage. The legislative panel plans to meet again Oct. 30 to consider ideas for bills that might be introduced when 2013 legislative session opens in January.

Bonding may be increased

Lawmakers are considering raising bonding requirements companies must post to cover the cost of plugging of finished wells and restoring land disturbed by drilling. They also are looking at whether sales taxes are applied fairly to material and services used in the oil industry, and whether a mediation process should be set up to help resolve disputes between drillers and landowners.

While the governor's report discusses natural gas development and touches on it at various points, given the weak natural gas market and the readily available supplies in many areas, it focuses primarily on impacts related to oil development and preparedness.

As part of this effort, the governor's study group examined whether certain tax incentives or tax holidays would encourage additional oil exploration or development in South Dakota. Based on the experiences of surrounding states, evidence suggests that production and drilling tax deductions and incentives are ineffective at changing the location of oil production, the study says.

In addition to the potential for oil development and discussion of tax issues, the governor's study also examines issues related to housing, road infrastructure, emergency services, health care services, water and electrical systems, law enforcement, education, municipalities, counties, economic development and the environment.

Any future changes to state environmental regulations should not hinder South Dakota's potential for oil and gas development, the study says, noting: "Given the limited potential for a Bakken-size boom in South Dakota, preparedness efforts should largely focus on preparing northwest South Dakota communities for impacts related to North Dakota oil development." ●

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WELL RESULTS

and out of the Upper Bakken shale while at the same time keeping costs down.

It has been easier for companies to drill and hydraulically fracture the Middle Bakken reservoir with the idea that some of the fractures might reach the upper shale, noting there is debate as to how much fracturing in the Middle Bakken actually extends into the Upper Bakken.

To date Slawson has drilled more than 40 wells in the Upper Bakken shale, and according to Fair, Slawson is the only company with extensive experience in the formation, although he believes a few companies are now starting to look at exploiting it.

Montana Board of Oil and Gas Conservation records indicate that at least one company, Fidelity, is also looking to drill into the Upper Bakken in the Mondak area.

PetroShale conduit to capital markets

PetroShale was formed and named in March 2012 when Mondak Petroleum joined with Algonquin Oil and Gas.

PetroShale then partnered with Slawson in the Mondak AMI.

PetroShale's False Bakken option

In March, when PetroShale struck its deal with Slawson Exploration's Alameda Energy for an option to acquire a 10 percent non-operated working interest in approximately 37,300 acres of Mondak leases for \$14.9 million, PetroShale acquired a second option — this one to buy a 10 percent non-operated working interest in some 80,000 acres in the Montana counties of Dawson, Wibaux and Richland, the acreage collectively known by the partners as the "False Bakken leases."

The option was for nine months and as of the end of September, had not been exercised, per PetroShale (US) CEO John Fair.

At the same time, on March 12, Algonquin Oil and Gas Ltd. announced that it and Mondak Petroleum had merged, renaming the combined company PetroShale.

The False Bakken member is part of the Lower Lodgepole formation in the Bakken petroleum system (see adjacent chart).

According to the North Dakota Geological Survey, the False Bakken is a layer of thin black shale and organic-rich limestone that exist around the margin of the Williston basin. It is separated from the Upper Bakken shale by a dense, thin limestone.

—MIKE ELLERD

While Slawson is the operator, PetroShale is the conduit to capital markets, Fair said.

Through experience the partnership now knows what works and what doesn't, and according to Fair they have built a type curve they expect to improve upon.

"We've proven we can increase the front

end deliverability" he said, "and we think we can do it even more."

Encouraged by the positive Upper Bakken well results, Slawson is starting on a two-rig, two-wells-per-month program for the remainder of 2012.

In 2013, the rig count will increase to three rigs, and three wells per month.

PetroShale anticipates capital expenditures for its Mondak operations to be \$25 million next year, which put the total 2013 capex at around \$250 million.

Meanwhile, Slawson is working to reduce well costs.

Company President Todd Slawson said in the Sept. 27 announcement that Slawson has reduced the cost per well from \$6 million to under \$5 million, and costs are still decreasing.

Other prospective formations

"In addition to the Upper Bakken shale, Mondak is prospective in the Mission Canyon, Tyler, False Bakken and Red River formations," Slawson Vice President Craig Slawson said in the announcement. "The Mondak play has more than 200 well locations," he said.

Fair told PN Bakken that the Mission Canyon formation looks "intriguing with lots of fractures" that can be harvested horizontally. The Mission Canyon, he said, covers approximately 30-40 percent of the partnership's Mondak AMI. The partnership plans to test the Mission Canyon, Tyler and Red River formations in 2013. ●

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SASKATCHEWAN

also generating its share of strains — notably a shortage of skilled workers to meet the needs of a technology-driven petroleum industry and pipeline bottlenecks out of the province.

Pressures will build

And the pressures will build, McMillan acknowledged, as hydraulic fracturing and horizontal drilling are applied to formations beyond the established Bakken and Shaunavon plays to Viking in the west (an extension of the same formation in central Alberta) and Weyburn in the south.

He said the riches in Saskatchewan are almost limitless, with 45 billion barrels of oil-in-place and recovery rates that have surged to 60 percent from 5 percent only a few years ago.

The province's greatest hope is that TransCanada will get approval for its Keystone XL pipeline, offering 700,000 bpd of capacity from Alberta, through Saskatchewan to the Texas Gulf Coast — a vital link for Saskatchewan producers.

McMillan is also hopeful there will be enough backing for Enbridge to reverse its existing crude pipeline in Eastern Canada and for TransCanada to convert part of its main natural gas pipeline into a crude carrier.

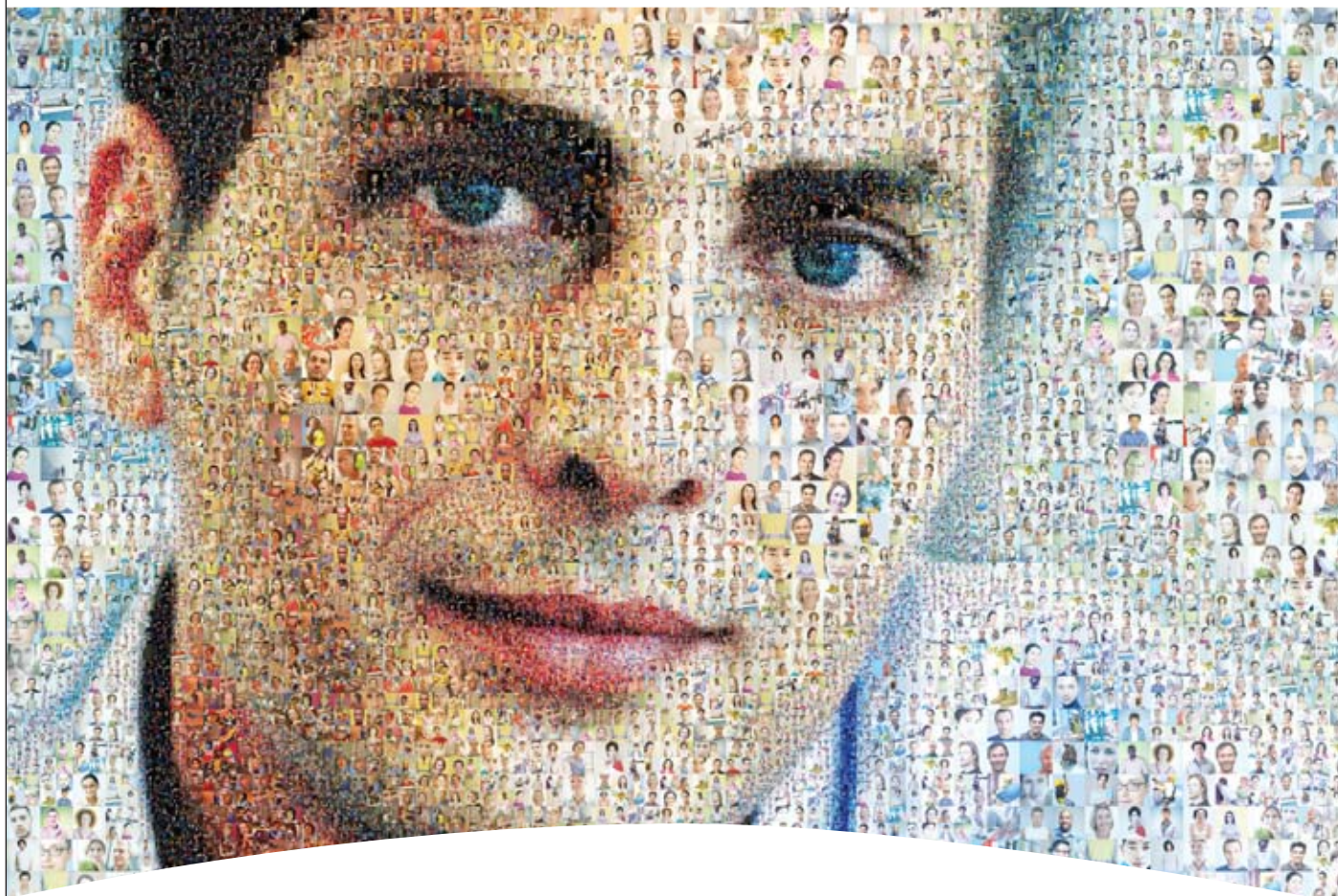
In the meantime, he said Saskatchewan is counting on solid bidding for exploration rights and a continued increase in drilling on top of last year's 3,528 wells, up 29 percent from 2010.

McMillan said his province has a "strong resource base and a regulatory structure and are open to investment from international oil companies," matching the external spending in potash and uranium mining.

He is also hopeful Saskatchewan will see spending on new refineries in addition to expansion of Consumers Cooperative Refineries facility which is due to increase capacity to 130,000 bpd by the end of 2012 from the current 100,000 bpd. ●

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New stores will be coming soon to western North Dakota! Construction has already begun on our new Williston and Dickinson facilities, with estimated completion dates late in 2012 or early in 2013. Both will be full service dealerships, offering parts, service and sales. These new stores will add 12 service bays and 25,000 sq. ft. of parts storage and display.



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