# **North Dakota Pipeline Authority**



Annual Report July 1, 2012 – June 30, 2013

Industrial Commission of North Dakota
Governor Jack Dalrymple, Chairman
Attorney General Wayne Stenehjem
Agriculture Commissioner Doug Goehring

# North Dakota Pipeline Authority Annual Report July 1, 2012 – June 30, 2013

#### Overview

At the request of the North Dakota Industrial Commission, the Sixtieth Legislature passed House Bill 1128 authorizing the North Dakota Pipeline Authority. It was signed into law on April 11, 2007. The statutory mission of the Pipeline Authority is "to diversify and expand the North Dakota economy by facilitating development of pipeline facilities to support the production, transportation, and utilization of North Dakota energy-related commodities, thereby increasing employment, stimulating economic activity, augmenting sources of tax revenue, fostering economic stability and improving the State's economy". As established by the Legislature the Pipeline Authority is a builder of last resort, meaning private business would have the first opportunity to invest in and/or build additional needed pipeline infrastructure.

By law the Pipeline Authority membership is comprised of the members of the North Dakota Industrial Commission. Upon the recommendation of the Oil and Gas Research Council, the Industrial Commission authorized the expenditure of up to \$300,000 during the 2011-2013 biennium for the Pipeline Authority with funding being made available from the Oil and Gas Research Fund. On August 1, 2008 the Industrial Commission named Justin J. Kringstad, a consultant, to serve as Director of the North Dakota Pipeline Authority and contracted with him for his services. The North Dakota Pipeline Authority Director works closely with Lynn Helms, Department of Mineral Resources Director, Ron Ness, North Dakota Petroleum Council President and Karlene Fine, Industrial Commission Executive Director. The Pipeline Authority has no other staff and receives no direct General Fund appropriation. The Pipeline Authority Director reports to the Industrial Commission and the Oil and Gas Research Council on a regular basis.

#### **Statutory Authority**

Statutory authority for the Pipeline Authority is found in Chapter 54-17.7 of the North Dakota Century Code. Section 54-17.7-04 N.D.C.C. delineates the powers of the Authority including: 1) making grants or loans or to borrow money; 2) to issue up to \$800 million in revenue bonds; 3) enter into lease-sale contracts; 4) own, purchase, lease, rent and dispose of pipeline facilities or the right to capacity in any pipeline system or systems within or without the State of North Dakota; 5) enter into contracts to construct, maintain and operate pipeline facilities; 6) investigate, plan, prioritize and propose transportation corridors; and 7) participate in regional pipeline organizations.

Before the Pipeline Authority may exercise its power to construct pipeline facilities, it must follow a process defined by statute to ensure public participation and comment. In particular, the Pipeline Authority must publish a notice describing the need for the pipeline project. Entities interested in constructing the facilities or furnishing services to satisfy the identified needs have 180 days to respond by filing a notice of intent. If the Pipeline Authority receives a notice of intent from an interested entity, it may not exercise its powers to construct unless the Authority makes a finding that doing so would be in the public interest. In making such a finding, the Pipeline Authority shall consider the economic impact to the state, economic feasibility, technical performance, reliability, past performance, and the likelihood of successful completion and ongoing operation.

#### **Summary of Activities**

As has been the case for the last several years, the 2012-2013 timeframe was filled with many exciting new developments for producers in the oilfields of North Dakota. The addition of new drilling rigs and advances in drilling and completion techniques have taken North Dakota oil production to record highs. During the past year, the Pipeline Authority has been fully engaged in continuing efforts to convert production and development information into oil and natural gas transportation solutions. One of the most effective methods used during the year was to work alongside industry to produce crude oil production forecasts to quantify future pipeline needs and timeframes. Pipeline companies are conservative by nature and these forecasting exercises proved to be very beneficial in adding the confidence needed to move forward with expansion project planning.

During the year the Pipeline Authority contacted, met with, and shared information with numerous interested parties including the following:

Enbridge Pipeline

TransCanada Bear

**WBI** Energy

True Companies

Vantage Pipeline

**ONEOK** 

Alliance Pipeline

Northern Border Pipeline

Ottertail Power

GE

Hart Energy

**Dakota Gasification** 

**BENTEK Energy** 

**Expansion Energy** 

Sequent Energy

Langan Engineering

Stanford University

**Hess Corporation** 

Tracker Energy

BakkenLink Pipeline

Stat Oil

Tesoro

**Aux Sable Liquid Products** 

Vortex FLOW

**Dakota Prairie Refining** 

**BNSF Railway** 

**Basin Electric** 

**Dakota Oil Processing** 

**KLJ** Engineering

Plains All American

**Houston Engineering** 

Canadian Institute

**Blaise Energy** 

In addition the Pipeline Authority worked with a number of state and federal agencies to gather information and provide expertise on pipeline issues. Those agencies and entities included:

North Dakota Public Service Commission
North Dakota Transmission Authority
North Dakota Oil and Gas Division
North Dakota Governor's Office
Canadian Consulate
North Dakota State University
Bank of North Dakota
US Energy Information Administration

North Dakota Department of Commerce Energy and Environmental Research Center North Dakota Department of Transportation Federal Rail Administration North Dakota Tax Department Wyoming Pipeline Authority EmPower North Dakota Commission

The Director of the Pipeline Authority also worked with the following trade associations/groups:

North Dakota Petroleum Council Energy Policy Research Foundation Environmental Defense Fund Upper Great Plains Transportation Institute

As noted above, the Pipeline Authority has been facilitating discussions between governmental agencies and companies interested in expanding North Dakota's pipeline infrastructure.

In addition, the Director of the Pipeline Authority provided information to citizens and news media on issues related to pipelines.

#### **Natural Gas Study**

On March 19, 2012, BENTEK Energy was commissioned by the North Dakota Pipeline Authority to perform a study of future natural gas production and long haul interstate pipeline systems servicing the Williston Basin. The study, completed on July 25, 2012, was commissioned to assist the State and industry in planning for the future and to provide technical insight to all interested parties.

#### **Industry and Public Communications Activities**

#### **Pipeline Publication**

The Pipeline Authority continues the practice of issuing its quarterly newsletter, *Pipeline Publication*. The newsletter is designed to keep North Dakota policy makers and involved parties informed on current issues in the pipeline industry. Four newsletters (Appendix A) were published during the 2012-2013 fiscal year.

#### **Pipeline Authority Websites**

In an effort to provide industry and public users with the most timely and complete set of information, the Pipeline Authority continues to update the agency websites as new information becomes available. The websites allows the Authority to provide users with current Williston Basin oil production data, maps, news, publications, basic pipeline information, pipeline safety information, and links to pipeline mapping systems.

#### Webinars

During the 2012-2013 fiscal year, the Pipeline Authority produced four webinar events. The webinar events covered natural gas utilization, flaring reduction technologies, petroleum transportation, and market dynamics. The events are free to attend and are available for replay on the Pipeline Authority website.

#### **Pipeline Presentations**

Over the past year, the Pipeline Authority has had the opportunity to present at a variety of industry and public events. A few of those events included:

NDPC Annual Meeting Kiwanis International

Legislative Committee Hearings NDPC Teachers Education Seminar

NDPC CookFest Events Leadership Bismarck-Mandan

Minot Chamber of Commerce Lions Club
Midwestern Association of State Departments of Agriculture

Slides from major presentations can be found on www.northdakotapipelines.com

#### Williston Basin Pipeline Infrastructure

For reference, a series of North Dakota pipeline maps can be found in Appendix B

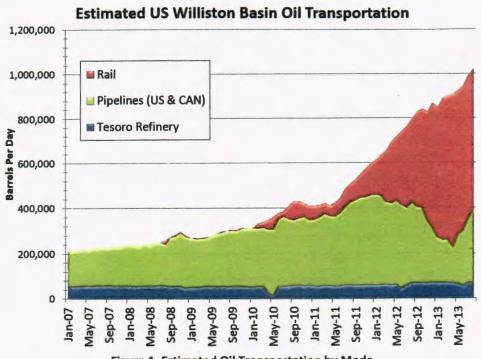


Figure 1. Estimated Oil Transportation by Mode

#### **Crude Oil Pipeline and Rail Transportation**

Enbridge Pipelines North Dakota: Having completed several expansion projects over the past number of years, Enbridge now has the capacity to move 355,000 BOPD on its pipeline system to Clearbrook, MN. Enbridge completed their work to expand north bound capacity of 145,000 BOPD in early 2013 for the larger scale "Bakken Expansion Project". Oil using the northbound route navigates the Enbridge Saskatchewan system to an interconnect with the Enbridge Mainline at Cromer, MB. Once on the Mainline system, the Williston Basin oil quickly reenters the Unites States and meets east bound Enbridge oil at Clearbrook, MN.

Enbridge is currently working on further expansion of their Williston Basin system with the "Sandpiper" project. If constructed, the Sandpiper pipeline could move 225,000 BOPD to markets around the US.

**Bridger, Belle Fourche, and Butte Pipelines:** Bridger and Belle Fourche pipelines operate as intra-basin pipeline systems moving oil to several pipeline interconnects or rail facilities in the Williston Basin. One such pipeline interconnect is with the Butte Pipeline near Baker, MT. The Butte pipeline currently has the capacity to move 160,000 BOPD to Guernsey, WY. In Guernsey, WY, the oil is transported to Wood River, IL on the Spectra Platte Pipeline.

A 110,000 BOPD expansion of the pipeline system south of Baker, MT is being developed through a joint venture with Tallgrass Pony Express Pipeline. The current timeline of the project targets August 2014 for startup.

Pending regulatory approval, the Bridger, Belle Fourche, and Butte Pipelines will also deliver up to 100,000 BOPD to the Keystone XL pipeline near Baker, MT.

Quintana BakkenLink: After announcing plans in 2010 to offer a pipeline system from the Williston Basin connecting to the Keystone XL Pipeline in Eastern Montana, BakkenLink has altered their current project scope. Now in service, the BakkenLink system collects crude oil from various locations south of Lake Sakakawea along its route and delivers the oil to a new rail facility located near Fryburg, ND. BakkenLink will continue to monitor shipper interest to expand the pipeline to an interconnect with the Keystone XL Pipeline near Baker, MT.

Plains All American Pipeline: In November 2010, Plains All American Pipeline (Plains) announced plans to construct a new 103 mile, 12 inch, pipeline from Trenton, ND to an interconnect with the existing Wascana Pipeline at the United States-Canada border in Northeast Montana. The 75,000 BOPD pipeline is constructed, but working on commercial agreements before startup.

**TransCanada BakkenLink:** On September 13, 2010, TransCanada launched a successful open season for Bakken producers interested in accessing TransCanada's proposed Keystone XL pipeline project in eastern Montana. The proposed 100,000 BOPD interconnect would be located near Baker, MT and would require new pumps and tanks to accommodate the Bakken oil. Third party shippers, such as True Companies or Quintana's BakkenLink, would be necessary to move the crude to the Baker facility. After regulatory approval, an updated project timeline will be provided.

**Tesoro Mandan Refinery:** During the summer of 2012, Tesoro Corporation completed plans to add an additional 10,000 BOPD of refining capacity to its 58,000 BOPD Mandan refinery. The Mandan refinery, built in 1954 by Standard Oil, is North Dakota's only operational refinery. The refinery receives its light sweet feedstock though a network of pipelines in the Williston Basin. Products generated at the refinery are distributed directly from a truck rack at the facility or through the NuStar North Pipeline to Eastern North Dakota and Minnesota.

A map of North Dakota crude oil gathering can be found in Appendix C

Rail Loading Facilities: The transportation of crude oil by rail car has played a key role in moving growing volumes of crude oil from the Williston Basin to markets around the United States and Canada. Figure 2 shows the estimated volume of oil moved by rail out of North Dakota. Maps, capacities, and additional information on the various facilities can be found on the Pipeline Authority websites.

A map of North Dakota oil rail loading facilities can be found in Appendix D

### **Estimated North Dakota Rail Export Volumes**

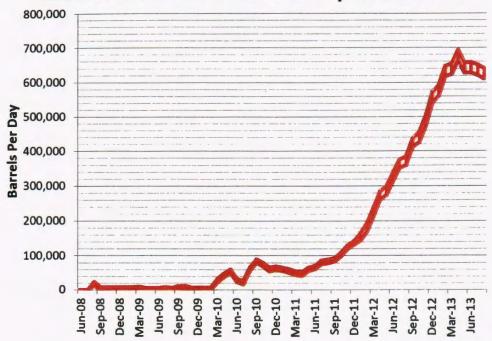


Figure 2. Estimated outbound crude oil rail shipments.

#### **Natural Gas Pipelines**

Alliance Pipeline: The Alliance Pipeline is a high pressure, large diameter natural gas pipeline that originates in British Colombia, Canada and terminates at the Aux Sable gas processing plant near Chicago, IL. The Alliance Pipeline transports "dense gas" or gas that still contains high BTU natural gas liquids, such as propane and butane. In February 2010, the Alliance Pipeline began transporting rich natural gas from North Dakota via a new interconnect with the Prairie Rose Pipeline near Bantry, ND. The 36 inch diameter United States portion of the pipeline has a certified capacity of 1.513 billion cubic feet per day (BCFD). The Alliance Pipeline has one North Dakota delivery point in Hankinson.

In response to growing natural gas production, Alliance Pipeline announced plans on June 22, 2011, to construct a new, 80 mile, natural gas pipeline from the Hess Gas Plant in Tioga, ND to an interconnection point near Sherwood, ND. Once operational, the new "Tioga Lateral Pipeline" will have the ability to deliver liquids rich, high BTU, natural gas to Chicago, IL for further processing and transportation. The pipeline is scheduled to be placed in service late-2013, with the capacity to transport 126 MMCFD.

**Northern Border:** The Northern Border Pipeline, owned by TC Pipelines and ONEOK Partners, is a 1,249 mile pipeline originating at the Port of Morgan in Montana and terminating near North Hayden, Indiana. The pipeline has a system receipt capacity of 2.37 BCFD, a large portion of which is supplied with Canadian natural gas through a receipt point with the Foothills Pipeline at the Port of Morgan. The 42 inch diameter Northern Border Pipeline receives gas deliveries at a total of 11 receipt points in the Williston Basin with nine of those points for North Dakota gas supply.

WBI Energy Transmission: Formerly known as Williston Basin Interstate Pipeline Co., WBI Energy Transmission operates more than 3,700 miles of natural gas transmission pipelines throughout North Dakota, Montana, Wyoming, and South Dakota. This network of pipelines plays a vital role in North Dakota's natural gas industry. It contains twelve interconnecting points with other regional pipelines and can also deliver natural gas to local distribution companies or natural gas storage fields. Well positioned throughout western North Dakota, the Williston Basin Interstate Pipeline has been able to expand its operating capabilities to meet growing production volumes.

On May 30, 2013, WBI Energy proposed a natural gas pipeline stretching from western North Dakota to western Minnesota where it would connect with Viking Gas Transmission Company's pipeline system. The proposed pipeline is still in the business development phase and more information will be released as it becomes available.

**Aux Sable:** In June 2011, Aux Sable announced the acquisition of the Prairie Rose Pipeline and condensate recovery facility near Stanley, ND. Originally constructed by Pecan Pipeline, the 75 mile, 12 inch system went into service February 2010 and has the capability to transport over 100 MMCFD of unprocessed natural gas from Mountrail County to an interconnect with the Alliance Pipeline near Bantry, ND.

**Bison Pipeline:** TransCanada placed the 302 mile, 30 inch Bison Pipeline into service in early 2011. The pipeline was built to connect natural gas production in the Powder River Basin of Wyoming to the Northern Border Pipeline in Morton County North Dakota. The pipeline has an initial capacity of 407 MMCFD and could be expanded to 1 BCFD.

#### **Natural Gas Liquids Pipelines**

ONEOK Bakken NGL Pipeline: On July 26, 2010, ONEOK Partners announced plans to construct a new 12 inch natural gas liquids pipeline capable of moving 60,000 BPD from existing and planned facilities in the Williston Basin to an interconnect with the Overland Pass Pipeline near Cheyenne, WY. The new "Bakken NGL Pipeline" was built to address the high volumes of natural gas liquids that are extracted from the rich Bakken gas during processing. The pipeline operates as a Y-grade system, with product fractionation taking place in Bushton, KS. ONEOK announced completion of the pipeline in April 2013 and plans to expand capacity to 135,000 BOPD during the second half of 2014.

Vantage Pipeline: On July 15, 2010, Mistral Energy announced a new 430 mile liquid ethane pipeline from Tioga, ND to Empress, AB. With an initial capacity of 40,000-65,000 BPD, the new "Vantage Pipeline" will be built to address the high concentration of ethane found in North Dakota's natural gas. Projected to be in service during the fourth quarter of 2013, the pipeline will be constructed of 10 inch pipe. Currently, the majority of North Dakota's ethane is being left in the natural gas stream after it leaves the gas processing plant.

#### **Carbon Dioxide Pipelines**

North Dakota continues to have only one carbon dioxide pipeline in service. The Dakota Gasification Company's, 12-14 inch, 205 mile pipeline went into service in 2000 and transports roughly 150 MMCFD of carbon dioxide to oilfields near Weyburn, SK.

The Pipeline Authority continues to work with interested parties on the development of new carbon dioxide pipelines for capture and sequestration, as well as enhanced oil recovery operations. The Pipeline Authority is an active member of the Plains CO<sub>2</sub> Reduction Partnership through the Energy and Environmental Research Center in Grand Forks, ND.

#### **Natural Gas Processing**

For reference, a North Dakota Gas Processing and Transportation map can be found in Appendix E

#### **New or Expanding Natural Gas Plants**

Due to the vast footprint of the Bakken resource, natural gas gathering and processing operators in North Dakota have faced difficult challenges in the past to keep pace with an ever growing fleet of drilling rigs. Despite the daunting task, industry is rising up to reap the great economic reward contained in the rich Bakken gas.

North Dakota currently has twenty natural gas processing/conditioning plants operating, with the capability to process roughly 1,000 MMCFD. Six new or expanded plants are expected in the next several years and will add up to roughly 450 MMCFD of processing capacity (Figure 3). A detailed breakdown of the existing and proposed facilities can be found on the Pipeline Authority website.

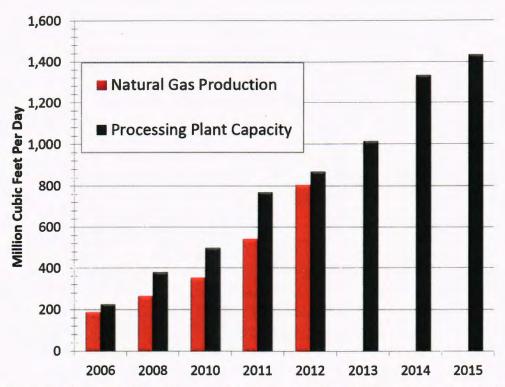


Figure 3. North Dakota natural gas processing plant intake capacity and wellhead natural gas production

#### **Planned Activities**

Over the past year, the Pipeline Authority has continued to experience great success by working with industry to quantify future crude oil and natural gas production in order to provide the assurance needed to move forward with various expansion projects. The forecasted oil production levels have continued to rise and will require continuous updating and review over the next year as technology advances and market prices fluctuate. The Pipeline Authority will continue to utilize new and existing development information to gain a deeper understanding of the crude oil, natural gas, and carbon dioxide pipeline needs in Williston Basin.

Industry and public information distribution will continue with the use of a quarterly newsletter, presentations, webinar events, and agency websites. The Pipeline Authority will continue to conduct information presentations to public audiences, legislative groups, and industry representatives at various events throughout the coming year.

#### APPENDIX A

North Dakota Pipeline Authority's Pipeline Publication Newsletter



#### INDUSTRIAL COMMISSION OF NORTH DAKOTA

#### NORTH DAKOTA PIPELINE AUTHORITY

Governor Jack Dalrymple
Attorney General Wayne Stenehjem
Agriculture Commissioner Doug Goehring
Director Justin J. Kringstad

# The Pipeline Publication

Keeping North Dakota Connected

Volume V Issue I - June 2012

### New Website Launched

A new website has been launched by the Pipeline Authority for the purpose of more efficiently making data, presentations, and updates available to interested parties. For convenience, the site is hosted as a blog by WordPress and can be found at the following address: www.ndpipelines.wordpress.com. The original Pipeline Authority website will remain active, but will contain static information about the agency. As always, feedback on how to improve agency communications is appreciated.

### **ONEOK Bakken Pipeline**

In early April, ONEOK Partners announced plans to invest an additional \$1.5-\$1.8 billion in a new 1,300 mile pipeline that would run from Stanley, ND to Cushing, OK. The "Bakken Express" pipeline could be completed in early 2015 and carry up to 200,000 BOPD.

ONEOK will be holding an open season later this summer or fall in order to obtain additional shipper support for the project.

### Governor's Pipeline Summit

On June 14, 2012, Governor Dalrymple hosted the "Governor's Pipeline Summit" in Bismarck in an effort to educate the general public and industry about future investments in North Dakota's petroleum pipeline and processing infrastructure. The summit also focused on how the industry can continue to strengthen relationships with landowners in western North Dakota, while minimizing disruption to the varied land uses in the region.

Executives from eight of North Dakota's major pipeline companies took part in the event which was open to the public and broadcast live over the internet. A replay of the three hour event will be available on the Governor's website (http://governor.nd.gov/).

### Enbridge Sandpiper Project

Earlier this year, Enbridge Pipelines began publicly discussing the proposed "Sandpiper Pipeline" project. The proposed project would provide service for 225,000-325,000 BOPD from western North Dakota to the Enbridge terminal in Superior, WI. The 20" or 24" pipeline could be placed in service by 2015.

Enbridge is also moving forward on additional expansion projects to reduce congestion in northern PADD II by expanding access to the east coast and gulf coast.

North Dakota Production Numbers

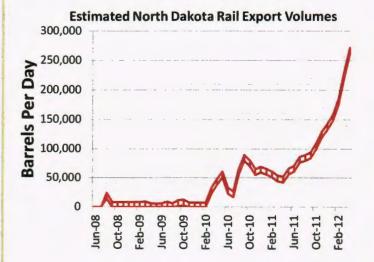
	Feb-12	Mar-12	Apr-12
Average Daily Oil Production, BOPD	558,584	577,491	609,394
Average Daily Gas Production, MMCFD	600.4	622.7	650.7
Average Rig Count	202	205	209

As of June 27 2012, there are 214 active rigs in North Dakota.

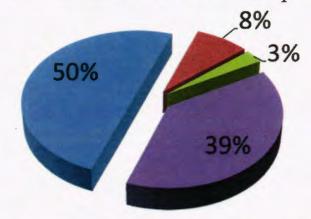
#### Rail Volumes Continue to Grow

In April 2012, it is estimated that rail transportation accounted for around 265,000 BOPD, or 39% of all crude oil movements from the US Williston Basin. With no major oil pipeline expansions scheduled until late 2012, this percentage will continue to grow, with volumes potentially reaching 350,000 BOPD or higher by year end.

There are currently seventeen rail loading facilities in western North Dakota and two more under construction.



### Williston Basin Crude Oil Transportation



■ Pipeline Export

■ Tesoro Refinery

■ Truck to Canadian Pipelines
■ Estimated Rail

April 2012 Figures



### **Pipeline Factoid**

In 2007, the US portion of the Williston Basin only had the pipeline capacity to handle up to 230,000 BOPD. Currently, there are pipeline expansion plans and proposals that could transport close to 1.6 million BOPD from the Williston Basin. Learn more at ndpipelines.wordpress.com/oil-transportation-table/



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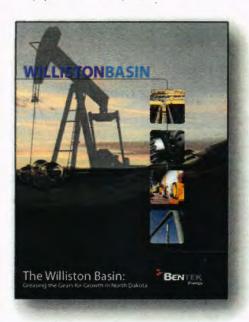
The Pipeline Publication

Keeping North Dakota Connected

Volume V Issue II - October 2012

### **BENTEK Report Released**

On July 25, 2012, the Pipeline Authority published the final results from the BENTEK Energy natural gas production and transportation study. The full report is available for free download at the following Pipeline Authority website: www.ndpipelines.wordpress.com.



#### **Natural Gas Production**

The primary study objective regarding natural gas production was to investigate the relationship between the crude oil and natural gas production from a typical Bakken well over time. This relationship is known in the petroleum industry as gas-oil-ratio (GOR). The study concluded that over time, the GOR of a typical well is expected to increase as the reservoir pressure is reduced due to petroleum production. In other words, the overall oil and natural gas will decline as the well ages; however, the natural gas production is not expected to decline as quickly in the long term. This seemingly small difference between the oil and natural gas decline rates has major implications for the overall natural gas production from the region when you figure in the number of wells it will take to fully develop the Bakken resource.

Using data obtained from the study, the Pipeline Authority has recently released a natural gas forecast that estimates North Dakota could be producing 2.0-2.4 billion cubic feet of natural gas each day in the late 2020's. This is up from North Dakota's current natural gas production of roughly 0.72 billion cubic feet per day. North Dakota can expect to see continued investment in local natural gas gathering and processing in order to handle the expected increase in production.

#### **Natural Gas Transportation**

The second key component of the study was to look at the current interstate natural gas pipeline system and its capability to handle growing natural gas volumes from the region. The ability for North Dakota to export natural gas to consumers in the midcontinent is currently made possible by two major pipeline systems, Northern Border and Alliance.

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	May-12	June-12	July-12
Average Daily Oil Production, BOPD	643,123	664,618	674,067
Average Daily Gas Production, MMCFD	675.7	699.9	718.8
Average Rig Count	211	213	211

As of September 28, 2012, there are 189 active rigs in North Dakota.

### **BENTEK Report Released**

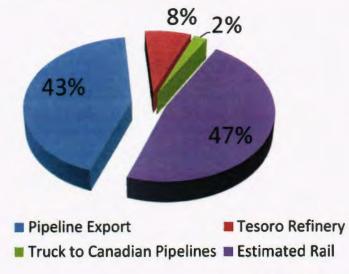
#### Natural Gas Transportation (continued)

Both of these large pipeline systems originate in western Canada and pick up North Dakota natural gas at various interconnecting locations in the state. North Dakota must compete on price with natural gas production from Canada, Montana, and Wyoming in order to maintain access to these pipeline systems. BENTEK Energy believes that competition for pipeline space will intensify, but North Dakota natural gas production has economic advantages that will allow it to gain access to the pipeline networks over the long term.

#### NGL Content and Location

One unique factor of Bakken natural gas is its high content of natural gas liquids (NGL) such as ethane, propane, butane, and natural gasoline. In the past, NGL received relatively little attention in the Williston Basin. That could all change as natural gas volumes ramp up in the coming years and additional gas processing plants capable of handling the rich gas are constructed. Bakken natural gas is estimated to contain 8-12 gallons of NGL per thousand cubic feet of raw natural gas. Simple calculations would estimate the potential for 400,000-450,000 barrels per day of NGL production from North Dakota during the next decade. In order to fully realize this potential, continued investment in gathering pipelines and new processing plants will be required.

### Williston Basin Crude Oil Transportation



July 2012 Figures



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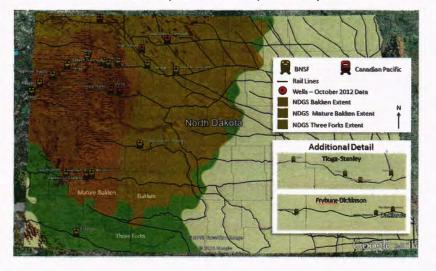
Volume V Issue III - January 2013

### New Rail Map Published

One of the biggest transportation stories of the past year has been the continued expansion of rail transportation of crude oil. Rail transportation accounted for 58% of all crude oil movements in November 2012, up from 22% a year earlier. While there are no certainties, all indications are that rail transportation to coastal refineries will continue to look economically attractive for at least several more years.

This month, the Pipeline Authority released a new map that indicates the locations of twenty-two crude oil loading facilities in North Dakota. The capabilities of the facilities range in size from a handful of tank cars to 100+ tank cars loaded per day. The map also includes an outline of the Bakken and Three Forks formations and all active wells from October 2012. The map is free to download on the "Maps" page of the Pipeline Authority website: www.northdakotapipelines.com

# North Dakota Crude Oil Rail Loading Facilities North Dakota Pipeline Authority — January 2013



### Guernsey, WY Rail Facility Planned

On January 29, 2013, Eighty-Eight Oil announced plans to construct a new 80,000 BOPD rail loading facility on BNSF's mainline near Guernsey, WY. Expected to be in service late 2013, the facility will service Bakken crude oil moving south on the Butte and Belle Fourche pipelines. Additional crude grades transported by pipeline to Guernsey will also be able to utilize the facility. The facility is planned to have three track loops and the capability to load two different quality crudes onto separate trains simultaneously.

North Dakota Production Numbers

	Sept-12	Oct-12	Nov-12
Average Daily Oil Production, BOPD	729,336	749,212	733,078
Average Daily Gas Production, MMCFD	796.9	797.8	782.7
Average Rig Count	190	188	186

As of January 29, 2013, there are 188 active rigs in North Dakota.

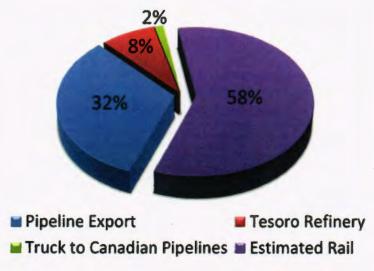
#### **ONEOK Announces New Gas Plant**

On January 17, 2013, ONEOK Partners announced plans to invest an additional \$465-500 million to capture and process North Dakota natural gas. The investment includes a new 100 million cubic feet per day (MMCFD) processing plant in McKenzie County that is slated to be in service in early 2015. Additional investments will be made to transport and fractionate the natural gas liquids further down the ONEOK supply chain. The announcement takes ONEOK's total natural gas and natural gas liquids investments to \$4.7-5.3 billion.

#### Natural Gas Webinar Events

In November and December 2012, the Pipeline Authority hosted two webinar events to address natural gas flaring alternatives. The first event highlighted a recent natural gas utilization study performed by the Energy and Environmental Research Center in Grand Forks, ND. The December event was opened by Lynn Helms, Director of the ND Department of Mineral Resources, and presentations were made by the following companies: Alternative Gas Processing, Bakken Express, Beowulf N-Flex, Blaise Energy, Expansion Energy, G2G Solutions, LPP Combustion, and Wellhead Energy Systems. Replays and slides from both events are available at www.northdakotapipelines.com.

### Williston Basin Crude Oil Transportation



November 2012 Figures



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INDUSTRIAL COMMISSION OF NORTH DAKOTA

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ipeline Publication

Keeping North Dakota Connected

Volume V Issue IV- May 2013

### A Detailed Look at Gas Flaring

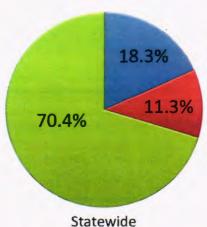
Many people are aware that North Dakota currently captures and sells roughly 70% of the natural gas it produces, while flaring the remaining 30%. However, many are not familiar with why flaring is necessary and what it is being done to address the challenge. The most daunting challenges include the sheer size, remoteness, and young age of the resource being developed. Comparing the Bakken to other mature producing regions of the US is difficult, since those regions have had decades to build the necessary infrastructure, while likely flaring much of their associated gas in their earlier life. With that said, North Dakota is seeing rapid investment of billions of dollars in new gas pipeline and processing infrastructure to capture this valuable resource. As the Bakken continues to mature, these midstream investments will ensure North Dakota is back in line with the other major producing regions of the US.

#### A Breakdown of North Dakota's Flaring

A detailed look at February's flaring reveals that only 18% of the gas is flared due to a lack of pipeline connections. The remaining 11% was flared from wells connected to gas gathering pipelines. While the 18% is being addressed with the build out of new pipeline systems, the 11% is being addressed by additional system compression, looping of existing pipelines, and frequent pigging operations to clear natural gas liquids that have accumulated at the bottom of the pipeline systems.

A new "Natural Gas Facts" webpage was recently created by the ND Oil & Gas Division and Pipeline Authority to explain in detail the current regulations and challenges associated with North Dakota natural gas production. The page can be found at: http://northdakotapipelines.com/natgasfacts/

### Solving the Flaring Challenge



GREEN - % of gas captured and sold Red - % flared from wells with at least one mcf sold.

Blue - % flared from zero sales wells

#### **Simple Terms**

Red - Challenges on existing infrastructure Blue - Lack of pipelines

Feb 2013 Data - Non-Confidential Wells

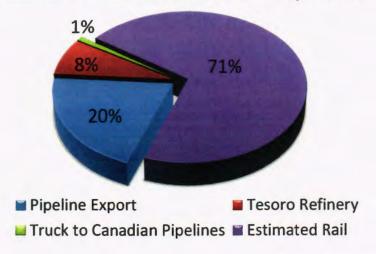
### **ONEOK Completes** Two Major Projects

On April 9, 2013, ONEOK Partners announced the completion of two major natural gas projects in the Williston Basin, ONEOK's "Bakken NGL Pipeline" is North Dakota's first dedicated natural gas liquids (NGL) pipeline and moves up to 60,000 BPD of NGLs south to mid-continent and Gulf Coast markets. ONEOK also announced completion of the Stateline II natural gas processing plant. This plant is located in western Williams County and has the capacity to process 100 million cubic feet per day (MMCFD).

### Transportation and Markets Webinar Replay Available

On March 8, 2013, Pipeline Authority Director Justin Kringstad and EPRINC analyst Trisha Curtis presented a comprehensive webinar event that focused on North Dakota oil and gas production trends and the current North American pricing and transportation dynamics. The video replay and slides are available at http://northdakotapipelines.com/webinars/

### **Estimated Williston Basin Oil Transportation**



February 2013 Figures



### **North Dakota Pipeline Authority**

State Capitol, 14th Floor 600 E. Boulevard Ave. Dept. 405 Bismarck, ND 58505-0840

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	Dec-12	Jan-13	Feb-13
Average Daily Oil Production, BOPD	768,885	737,963	779,096
Average Daily Gas Production, MMCFD	817.9	792.1	850.3
Average Rig Count	183	185	183

As of April 26, 2013, there are 188 active rigs in North Dakota.



### **North Dakota Pipeline Authority**

State Capitol 14th Floor • 600 E. Boulevard Ave. Dept. 405 Bismarck, ND 58505-0840

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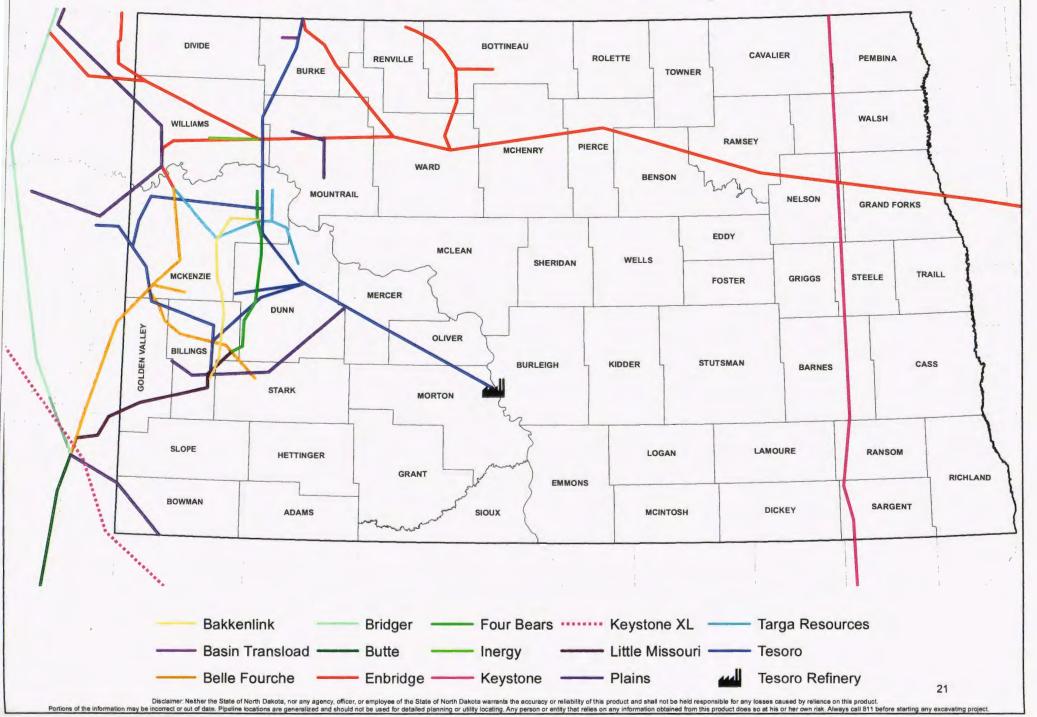
E-mail: jjkringstad@ndpipelines.com • www.pipeline.nd.gov

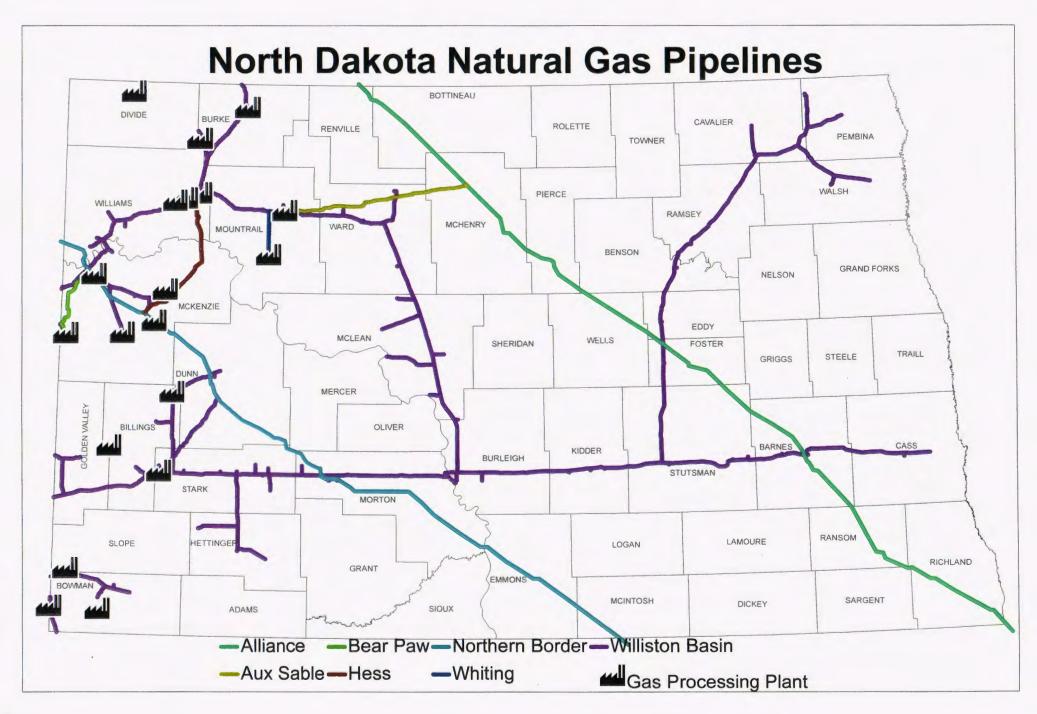


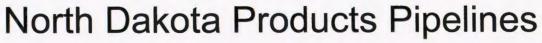
#### APPENDIX B

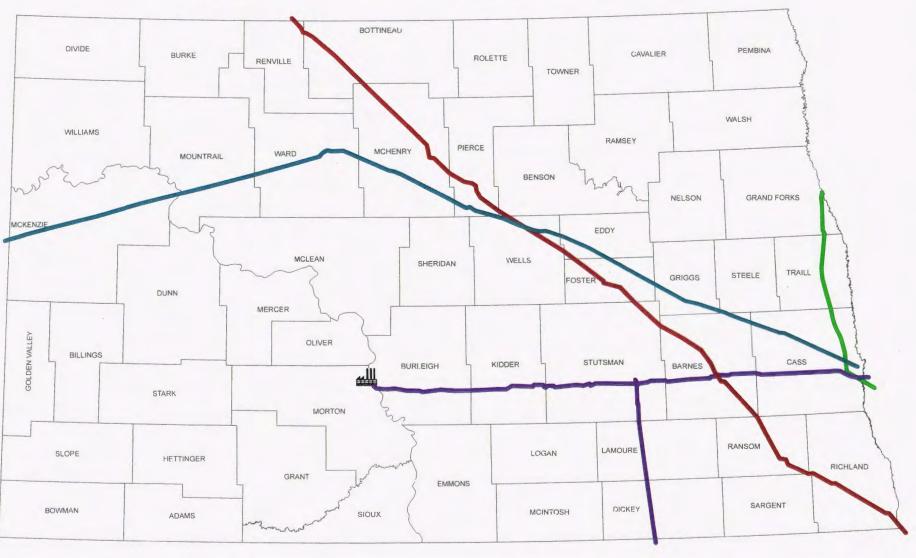
North Dakota Pipeline Maps

# North Dakota Crude Oil Pipelines









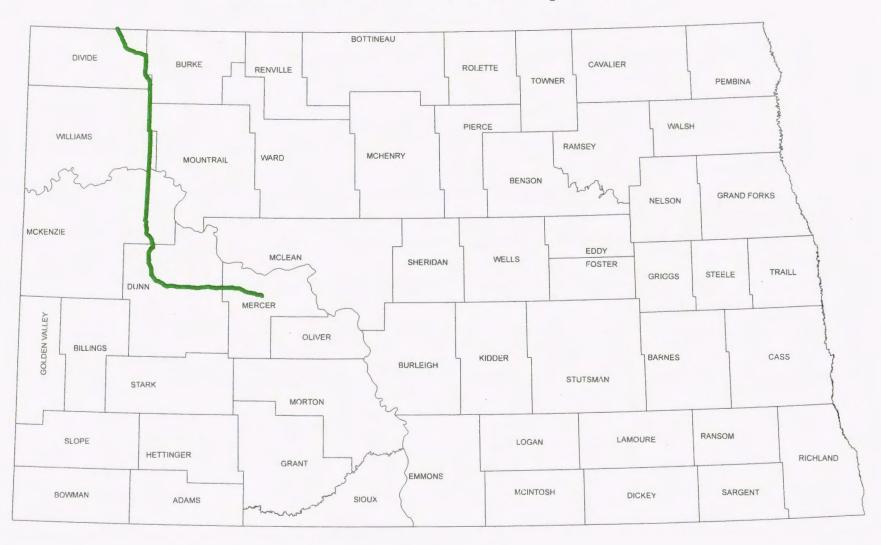
- Kinder Morgan Cochin - Propane

Cenex Pipeline LLC - Refined Products — Magellan Midstream Partners LP - Refined Products

Tesoro Mandan Refinery

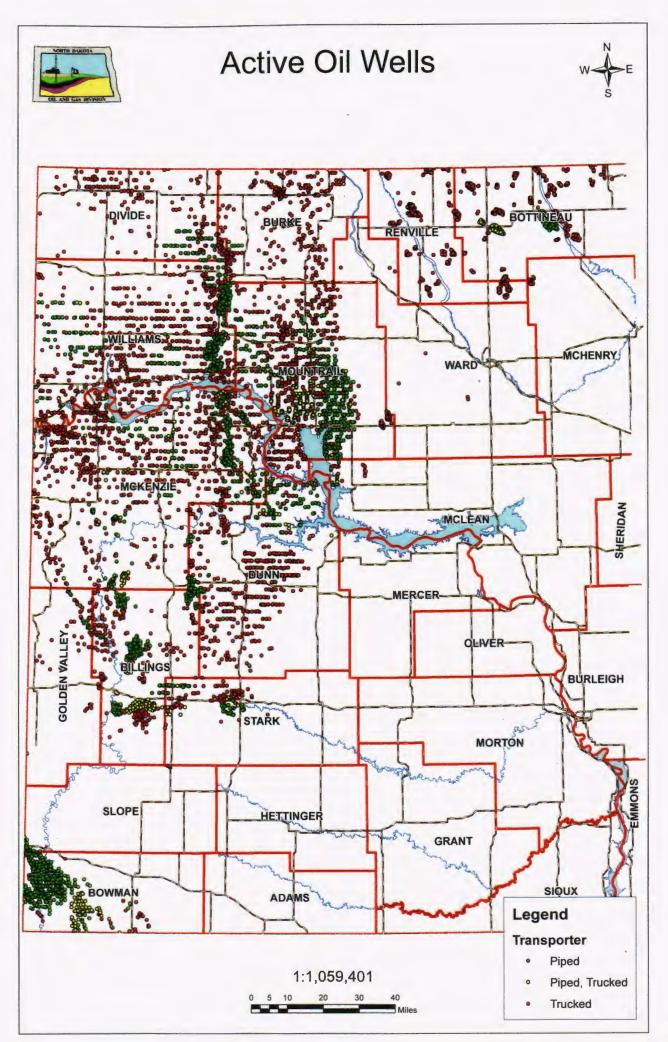
---- NuStar Energy - Refined Products

# North Dakota CO<sub>2</sub> Pipeline



### APPENDIX C

North Dakota Crude Oil Gathering Map

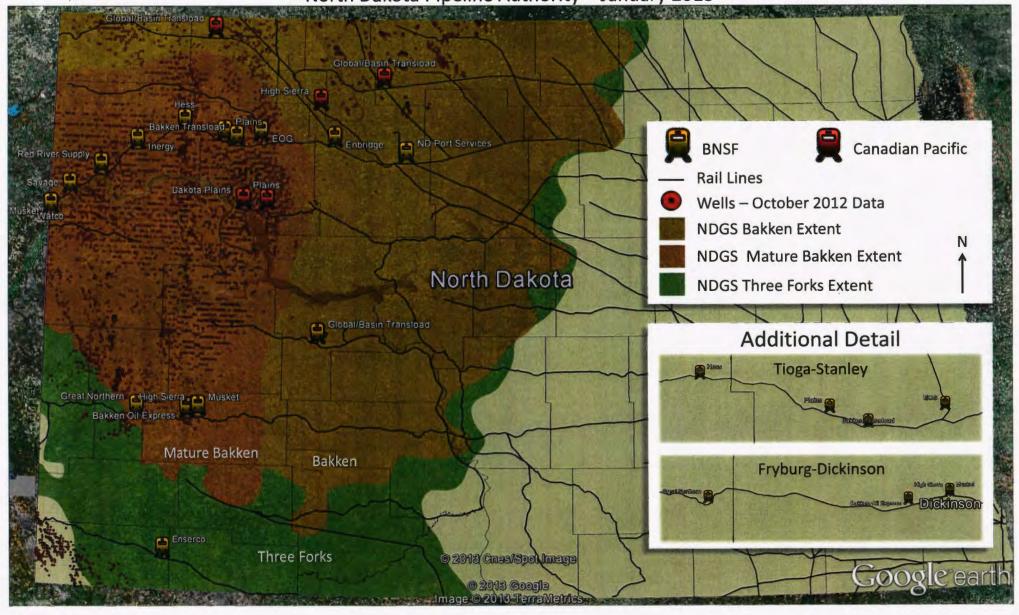


### APPENDIX D

North Dakota Crude Oil Rail Loading Map

# North Dakota Crude Oil Rail Loading Facilities

North Dakota Pipeline Authority – January 2013



### APPENDIX E

North Dakota Gas Processing and Transportation Map

