

Spring 2016

BASIN BITS

The Official Publication of the North Dakota Association of Oil & Gas Producing Counties

Haulin' the Bakken



Leadership: The Power of Perspective

Remaining Successful in Uncertain Times

BakkenU: Energizing Through Education

Mining for Millennials: Recruiting the Next Generation

**COMPLIMENTARY
PLEASE TAKE ONE!**

PROVEN FOR OVER 45 YEARS

Wanzek's history of **BUILDING STRONG** is due to our
Construction Excellence, Exceptional Services and Outstanding Teams.

For more information on
**Midstream Oil & Gas
Construction or
Oil Field Services**
call **701.282.6171**



EMPLOYEES WANT IT. AND YOU CAN GET IT.

(AT A RATE THAT MIGHT SURPRISE YOU).

It starts with **BLUE**



Nicole Wolla
Dickinson • 701-715-9028



Emmy Handeland
Williston • 701-715-9012



Derek Van Dyke
Minot • 701-858-5019



Ryan Hartje
Bismarck • 701-255-5562



Katie Veidel
Bismarck • 701-255-5565



ND

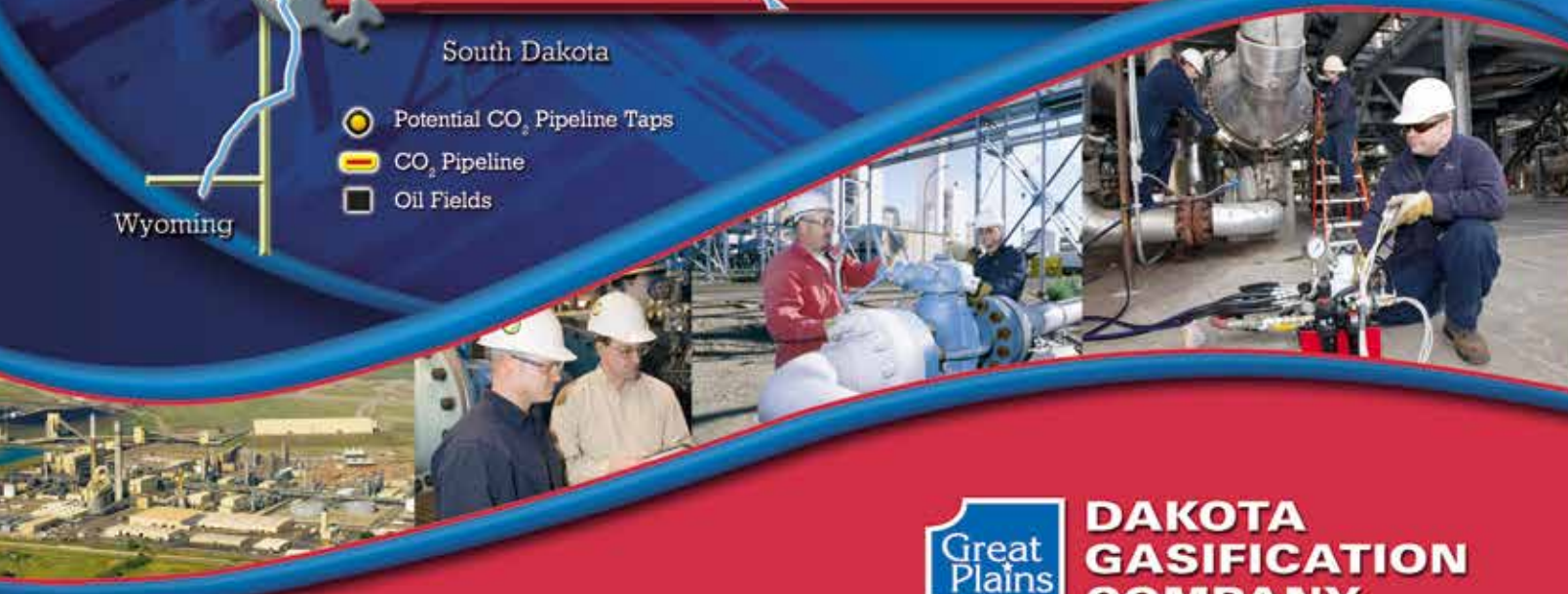
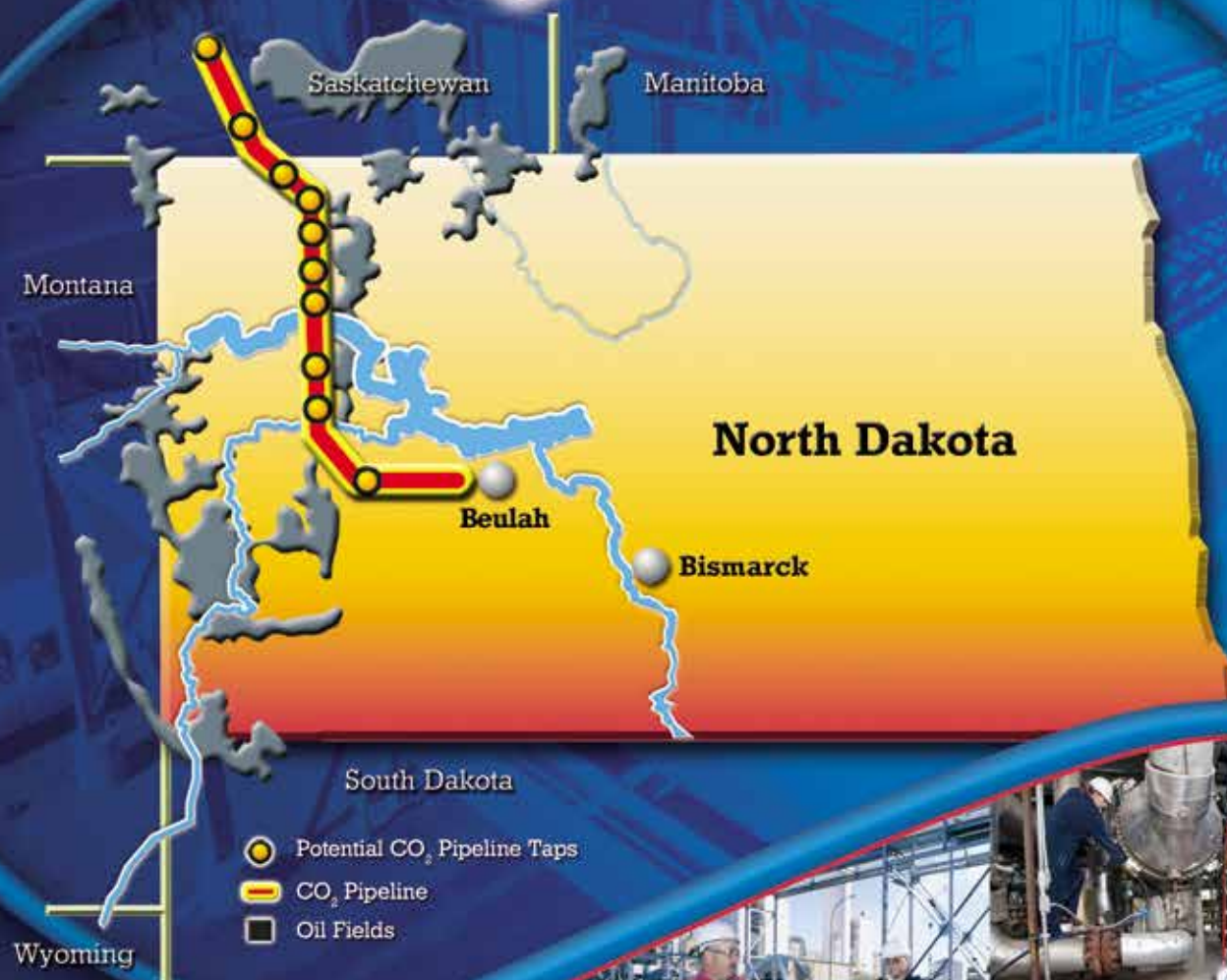
Blue Cross Blue Shield of North Dakota is an independent licensee of the Blue Cross & Blue Shield Association

Contact one of our agents for help
building a competitive and affordable
employee benefit plan.

©2014 Blue Cross & Blue Shield of North Dakota

CO₂

TAP INTO THE FUTURE



Contact:
Steven Liebelt
Vice President of Marketing and Sales
sliebelt@bepc.com 701-557-4418



RESPONSIBLE CARE[®]
OUR COMMITMENT TO SUSTAINABILITY



**DAKOTA
GASIFICATION
COMPANY**

A BASIN ELECTRIC POWER
COOPERATIVE SUBSIDIARY

DAKOTAGAS.COM

Table of Contents



BASIN BITS

Basin Bits is Printed for:

The North Dakota Association of Oil & Gas Producing Counties

Association Office

859 Senior Avenue,
Dickinson, ND 58601
www.ndenergy.org

Vicky Steiner, Executive Director

Tel: (701) 290-1339 (cell)
Email: vsteiner@ndsupernet.com

Printed by:

Matrix Group Publishing Inc.
Please return undeliverable addresses to:
5605 Riggins Court, Second Floor
PO Box 41270
Reno, NV 89504
Toll-free: (866) 999-1299
Toll-free fax: (866) 244-2544
www.matrixgroupinc.net

President & CEO

Jack Andress

Operations Manager

Shoshana Weinberg
sweinberg@matrixgroupinc.net

Publishers

Peter Schulz
Jessica Potter

Editor-in-Chief

Shannon Savory
ssavory@matrixgroupinc.net

Editor

Alexandra Walld
awalld@matrixgroupinc.net

Finance/Administration

Pat Andress, Nathan Redekop, Lloyd Weinberg
accounting@matrixgroupinc.net

Director of Circulation & Distribution

Lloyd Weinberg
distribution@matrixgroupinc.net

Sales Manager

Neil Gottfred

Account Executives

Bonnie Petrovsky, Brian MacIntyre, Cathy Ditchburn,
Colleen Bell, Deborah Iversen, Frank Kenyeres, Jeff Cash,
Jim Hamilton, Kevin Richards, Lynne Chernin, Mallory
Owens, Renée Kent, Rick Kuzie, Rob Allan, Rob Gibson,
Shalynn Ramsden, Taneesha Daiken

Advertising Design

James Robinson

Layout & Design

Cody Chomiak

©2016 Matrix Group Publishing Inc. All rights reserved.
Contents may not be reproduced by any means, in
whole or in part, without prior written permission of the
publisher. The opinions expressed in this publication are
not necessarily those of Matrix Group Publishing Inc.

OPENING REMARKS

- 7 From the Desk of the North Dakota Association of Oil & Gas Producing Counties' President
- 11 From the Desk of the North Dakota Association of Oil & Gas Producing Counties' Executive Director
- 14 From the Desk of the North Dakota Department of Mineral Resources
- 32 Paving the Way for Tomorrow: A Wrap-Up of Road Projects
- 35 In Perfect Harmony
- 38 Building Bakken Infrastructure: The New Normal
- 40 Power-Up: Using Natural Gas for Electric Generation
- 42 It All STEMs from Education
- 44 Mining for Millennials: Recruiting the Next Generation
- 46 Legislative Line: Spending Outdoor Heritage Fund Dollars

SPECIAL SECTION

- 19 Bakken Forward: The 24th Williston Basin Petroleum Conference

A CLOSER LOOK

- 22 Leadership: The Power of Perspective

FEATURES

- 26 Remaining Successful in Uncertain Times
- 28 BakkenU: Energizing Through Education

IN THE SPOTLIGHT

- 48 AE2S: Helping the Bakken Grow through Extreme Client Service

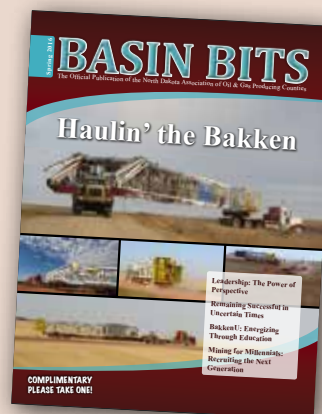
NDAOGPC NEWS

- 50 Regional Roundup
- 51 Tools of the Trade
- 53 The Bakken Top 20

BUYER'S DIRECTORY

On the cover: This issue's cover features heavy haul trucks moving oil rig derricks in and around the Bakken field of North Dakota. The state is studying the possibility of harmonizing truck weight and size with other states in the Western States Transportation Alliance. Learn more by reading *In Perfect Harmony* on page 35.

Photo credit: All photos shown on the cover were taken by Stephen Nowers/Cruz Energy Services. Learn more about Cruz Energy Services at www.cruzenergyservices.com. All photos have been printed with permission.

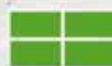




Building a Strong America[®]

Our legacy of Building a Strong America[®] began in 1924 when we brought energy to farm communities on the Montana-North Dakota border. Headquartered in Bismarck, North Dakota, today we operate in 48 states, providing products and services related to energy, construction and transportation infrastructure. We power homes, businesses and industry with electricity and natural gas. We connect homes, factories, offices and stores with pipelines and wiring. We keep our country moving by building and maintaining the transportation network of roads, highways and airports. We are your resources for today and tomorrow.

1200 W. Century Ave., Bismarck, N.D. | www.MDU.com

 **MDU RESOURCES**
GROUP, INC.

From the Desk of the North Dakota Association of Oil & Gas Producing Counties' President



Daryl Dukart

President

North Dakota Association of Oil & Gas Producing Counties

...western counties are still producing oil at a reasonable rate. As North Dakota agriculture is moving into a lower commodity price value structure... I still see oil and gas as North Dakota's cash cow.

Hello! I am Daryl Dukart, your new North Dakota Association of Oil & Gas Producing Counties board chairman. My wife, Reyne, and I have ranched in the Dunn County area for over 40 years, working for businesses in the area and then owning our own ranch near Dunn Center.

We raised three children—Johnnie Rae, Cody, and Heidi—here in Dunn County, and they have elected to remain on the western side of our great state. As grandparents to seven wonderful grandchildren, we are fortunate we do not have to spend a lot of time on the road visiting them at their homes, schools, 4-H, Future Farmers of America (FFA) or sporting events.

I would like to share a little about myself and some of my public service background. I started back in the 1970s and '80s as a board member with the West Dunn Fire District Board, the North Dakota Hereford Association, and the North Dakota Pork Producers Council, and I also spent 25 years as a 4-H leader.

During the '90s, I served on the local FFA advisory board, the St. Joseph's Catholic Church Financial Council and the Killdeer Public School Board, and that time was the start of some of my more interesting years of experience working with state leaders.

From 2000 to 2015, I served on several boards or state task forces, including:

- The State Board of Animal Health;
- The North Dakota Pork Producers Council;
- The Cloverdale Growers Alliance Cooperative; and
- The Dunn County Farm Bureau Board.

Currently, I serve on many boards, including:

- The Dunn County Energy Development Organization;
- The North Dakota Association of Oil & Gas Producing Counties (NDAOGPC);
- The Pipelines Task Force;
- Dunn County (Commissioner);
- Vision West North Dakota;
- The Killdeer Area Ambulance Service;
- The North Dakota Association of Counties;
- The National Association of Counties;
- The Northern Ag Development Corporation; and
- The Cloverdale Growers Alliance Cooperative (Manager).

Now, I will move on to the business of the North Dakota Association of Oil & Gas Producing Counties (NDAOGPC) and what is happening within the organization. Oil values have been depressed for some time, and the recovery of this commodity, along with many other agriculture commodity prices, does not appear to be in the near future.

We continue to hear the need for funding in the western counties. These areas are still dealing with oil activity and slower growth. With today's performance of drilling rigs and a large number of wells which have not been completed or fracked for full production, the demands for continued infrastructure development is very important in western North Dakota and across the balance of the state.

As we leave behind the years that saw dollars pouring out of the faucet and move

ABOUT THE NORTH DAKOTA ASSOCIATION OF OIL & GAS PRODUCING COUNTIES

The North Dakota Association of Oil & Gas Producing Counties (NDAOGPC) is the trusted and unified voice for the betterment of the citizens of North Dakota and the membership of the NDAOGPC.

THANK YOU TO THE NDAOGPC 2016 EXECUTIVE COMMITTEE FOR SERVING WESTERN NORTH DAKOTA!

President: Daryl Dukart, Dunn County

Past President: Supt. Steve Holen, McKenzie County Public School District

Bradley Rinas, Coal Conversion Counties

Dan Brosz, Past President, Bowman County

Douglas Nordby, McKenzie County

Trudy Ruland, Mountrail County

John Phillips, Coal Conversion Counties

Ken Callahan, City of Williston

Shawn Kessel, City of Dickinson

Supt. Gary Wilz, Killdeer Public School District

Supt. Jason Kersten, Bottineau Public School District

Association Office

859 Senior Avenue,
Dickinson, ND 58601
www.ndenergy.org

Vicky Steiner, Executive Director
Tel: (701) 290-1339 (cell)
Email: vsteiner@ndsupernet.com

toward years that see those oil dollars drip, drip, dripping from the same faucet, we all have to look back and agree that this was a great time in history for North Dakota. We built financial reserves, new friendships, refurbished many small rural towns, nurtured a number of new businesses, aided in the progress of some major large cities, and gained a young healthy population for the labor growth cycle pool of our state.

One thing some of us might be missing is that western counties are still producing oil at a reasonable rate. As North Dakota agriculture is moving into a lower commodity price value structure, which will impact our whole state in a greater way than the lack of oil revenue tax dollars, we seem to be hearing a lot about it in the media lately.

I still see oil and gas as North Dakota's cash cow. The importance of taking care of our infrastructure needs to continue to enjoy the long-term returns from oil and gas development in our great state!

The NDAOGPC will be studying different areas of cost versus revenue in rural towns, larger cities, and rural counties over the next few months. This will help us analyze and determine the gaps for western North Dakota cities and counties. It will help us provide enhanced information

for the 2017 legislative process regarding how funds have changed counties, cities, and small rural communities, and how these funds may continue to support the new infrastructure that has now been put in place without large increases in property tax dollars.

The association is also moving away from hand-written truck permits to electronic-issued ones and is launching a new website map design, which will help truckers figure out load routes; you can go to our website, www.ndenergy.org, and find the AWTY U-map. These changes took effect March 1, 2016.

As I travel across North Dakota and the U.S., I often think of the resources provided by the last two legislative sessions; how they changed the western portion of our state and—really—all of North Dakota. Presently, we tend to focus on the western side, but I see many worthy things that have happened, and are still happening, all across North Dakota and our entire nation, as a result of the role the Bakken plays.

I would like to thank Steven Holen for serving as the NDAOGPC chairman for the past two years and I look forward to what the next years bring for our state and our country. 

MEET NEW MEMBER MERIDIAN ENERGY GROUP INC.

Meridian Energy Group Inc. is the North Dakota Association of Oil & Gas Producing Counties' newest associate member.

The company has proposed the Davis Refinery, which would convert 55,000 barrels per stream day into refined products. It would be built on 620 acres just outside of Belfield, ND.

Meridian hopes to break ground on this project in the first half of 2016. Pending permit and regulatory approvals, the refinery would be up and running sometime in 2018. It would be the state's third refinery.

As part of the proposed plans, the company also hopes to build a crude oil feedstock offloading and refined fuels uploading terminal.

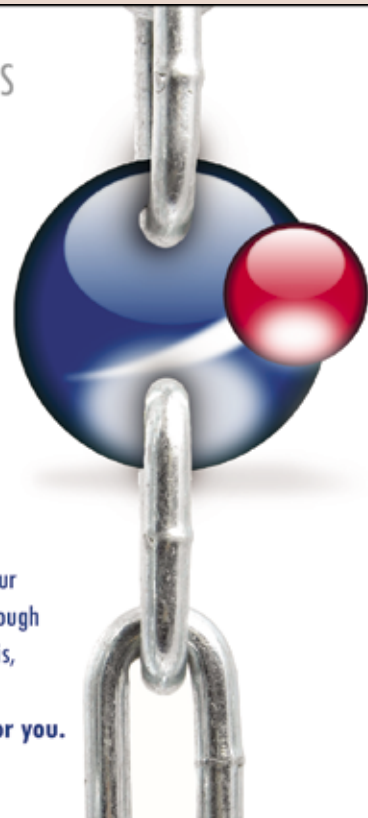
Keep an eye out for the Fall 2016 edition of *Basin Bits*, which will be released in September and will give readers an in-depth update on the association's newest member and this exciting project.

NORTH DAKOTA
CITY HALL FINANCIAL SERVICES
www.AE2SNexus.com

AE2S NEXUS

The Financial Link

City and County Auditors and Finance Directors are expected to do more with less. AE2S Nexus professionals understand the challenges these positions face first hand. Our staff includes experienced City Auditors and Finance Professionals who have been through numerous budgeting and reporting processes, special assessments, utility rate analysis, and infrastructure financing. **Call Shawn Gaddie, PE at 701-746-8087 or email Shawn.Gaddie@ae2s.com to put our experience and expertise to work for you.**



City Hall Financial Services | Utility Rate Analysis | Project Funding/Financing | Development & Administration | Economic Development | Asset Management

Diamond Shelters

www.DiamondShelters.net

*Options
Unlimited*

15' to 38' wide Single Hoop & 19' to 160' wide Welded Truss



optional
**POWDER
COATED
TOUGH**

Diamond Shelters

CDN TOLL FREE 1-888-240-5066 1-204-348-2144
USA TOLL FREE 1-888-204-2102 1-204-348-2733

info@DiamondShelters.net www.DiamondShelters.net

Whittemouth, MB.





BORING DOESN'T LIVE HERE. WE WON'T EVEN GIVE IT OUR ADDRESS.

Bismarck-Mandan delivers family-friendly discoveries around every turn. Take in the new Heritage Center on the capitol grounds. Test your game at our seven golf courses. There's hiking, biking and fishing on the Missouri River. And tempting choices of locally grown restaurants, a nice blend of one-of-a-kind shopping and national retailers, and our wide variety of lodging options will delight every family member. Make your plans at discoverbismarckmandan.com.

**BISMARCK-MANDAN
NORTH DAKOTA**

Pack higher expectations.

From the Desk of the North Dakota Association of Oil & Gas Producing Counties' Executive Director



Vicky Steiner
Executive Director
North Dakota Association of
Oil & Gas Producing Counties
North Dakota House Representative
for District 37, Dickinson, ND

North Dakota's future is so bright despite the downturn. The industry knows how to pull oil from the ground with great efficiency... They have chosen to leave the oil in the ground until the economics makes sense.

Earlier this spring, I saw several thousand Canadian geese standing and squatting on an icy bay near Beulah, ND. Cold winds whipped fiercely across the frozen water, pushing snow across them as they dropped their heads to shield themselves as best they could.

It struck me how migratory birds can live in all kinds of weather, especially the North Dakota wind. They certainly hunker down and wait, knowing that the sunny days are coming. They wait for the ice to melt, knowing it's just a matter of time. Even in the harsh wind, I saw a couple of geese waddling up the bank, the wind pushing their feathers up in the opposite direction. The male pecked on top of a pile of rocks, as if to tell his lady companion, this will be a fine nest someday.

In similar fashion, I see western North Dakotans taking in the lower oil price and going on about their lives. There is no way to sugarcoat it. People have lost their jobs this past winter. All types people, all types of jobs.

My niece had worked for a major trucking company for a couple of years. She found herself unemployed just weeks after purchasing her first home. She said there are lots of jobs for teachers or nurses, but not so many for an up-and-coming professional truck dispatcher.

She's a survivor who put some money away, just in case. She's confident she'll

find something in the next couple of months. With oil prices predicted to raise by 2018, she may have to hunker down for 18 months.

The state of North Dakota had some rainy day funds it has tapped to make up the unexpected drop in oil prices. Western county, city and school governments started making adjustments last fall and they

will continue to do so. The "surge" money in Senate Bill 2103 created much opportunity to catch up, and its investment will pay off long into the future. Some of the Energy Impact funds are not expected to fill in its bucket completely, so awards were suspended.

At the North Dakota Association of Oil & Gas Producing Counties (NDAOGPC),





Pressure Washers



www.HotsyND.com



#1 Pressure Washer in North America

Hotsy Understands The Oil & Gas Industry

Downtime due to equipment failures means you're losing money. Protect your investment by cleaning your equipment regularly.

Oil & Gas Industry Professionals Have Been Choosing Hotsy Since 1973

Hotsy is the brand leader...

- Industrial grade high-pressure washers
- Best warranties in the industry
- Hot or cold pressure washers
- Over 100 models available
- Portable or stationary units
- Durable and rugged
- Powder-coated paint resists corrosion
- Removes caked-on dirt, grease and grime
- Full line of specialized detergents available



WATER BLAST
MANUFACTURING LP



EDMONTON, AB
16712 - 118 Ave. NW
Edmonton, AB T5V 1P7
www.hotsyAB.com
Toll Free: 800-328-1555

CALGARY, AB
3611 - 60 Ave. SE
Calgary, AB T2C 2E5
www.hotsyAB.com
Toll Free: 800-717-8101

RED DEER, AB
#8, 7419 - 50th (Gaetz) Ave.
Red Deer, AB T4P 1M5
www.hotsyAB.com
Toll Free: 877-468-7973

GRANDE PRAIRIE, AB
109, 10101 - 108 Street
Grande Prairie, AB T8V 3X9
www.hotsyAB.com
Toll Free: 800-320-8848

LETHBRIDGE, AB
Bay 1, 4002 - 9 Ave. N
Lethbridge, AB T1H 6T8
www.hotsyAB.com
Toll Free: 877-303-3394

LANGLEY, BC
#112, 20575 Langley By-Pass
Langley, BC V3A 5E8
www.hotsyBC.com
Toll Free: 888-532-7021

ESTEVAN, SK
1112 - 5 St.
Estevan, SK S4A 0Z4
www.hotsySK.com
Toll Free: 855-634-8727

BISMARCK, ND
Unit E, 2805 East Morrison Avenue
Bismarck, ND 58504
www.hotsyND.com
Toll Free: 800-279-0172

WILLISTON, ND
406 8th Ave. E
Williston, ND 58801
www.hotsyND.com
Toll Free: 877-803-3913

Connect with
**Hotsy Water Blast
Manufacturing**



we use funds generated by the administration of the uniform county truck permit system to hire research data. Those funds were down 50 percent in one year. We'll make do with what we can, and when it turns around, we'll start gathering data again. The NDAOGPC executive committee has invested about \$100,000 in a five-city study for Williston, Dickinson, Watford, Stanley and Killdeer. This study will be released in July 2016. It will quantify a six-year look at how these cities will grow with new populations under various oil price benchmarks and how their revenues and debt levels react to the scenarios.

A workforce study recently showed that only 20 percent of the exploration crew employees planned to make western North Dakota a permanent home. While the private market builds hotels and apartments, city planning and zoning committees struggle to keep the ratio of single-family homes in the mix, so that families can put down roots. Crew camps offer a valuable option at certain stages of rapid growth. My least favorite of the housing options, I must admit, are the RV campers with plywood bottoms that scatter under tree rows haphazardly across pastures.

There are still new restaurants launching, new hotels opening their doors and homes under construction. It may not at the same speed or quantity as previously, but communities continue to move forward. In Dickinson, we have doubled the number of hotel rooms and we have an estimated 50 percent occupancy rate of all the hotels. We still have activity in the hub cities, but not at the same rate.

North Dakota's future is so bright despite the downturn. The industry knows how to pull oil from the ground with great efficiency. They have their leases, they have their paperwork filled out, and they have hunkered down. They have chosen to leave the oil in the ground until the economics makes sense. Will they be patient and take it out slowly? I don't know for sure, but I doubt it. The oil industry is an efficient money machine and usually they make hay when the sun shines.

With the weather giving timed rains and sun, North Dakota's agriculture economy will turn around when commodity prices rebound as well. We have the soil and the knowledge on how to create bushels of return. Farmers know what it means to hunker down. They have grain bins and root cellars. Both of my grandmas were farmer's

wives. My maternal grandmother planted a huge vegetable garden, canning all kinds of pickled wonders. It might pain her today, if she were still alive, to see none of her grandchildren grow little finger-sized cucumbers in home gardens. That's what you do to survive in North Dakota. She always offered homemade pickles at her lunch table, with molasses cookies for dessert.

Unfortunately, experts say this downturn is likely not the last one our western counties will face. This oilfield is the largest in the world, according to our state director, and it will produce until 2050. During that time, the price of oil will rise and fall.

Our challenge is take this opportunity and make the best of both the rise and fall of the oil price.

Western communities have learned from the past nine years of Bakken oil development. We have learned from our neighbors, and we understand more about how to keep those things about our home that we love. As we move forward, just like those geese standing on the ice and pecking at the rocks as they wait for spring, we will find our way through this lull. When the economy warms up, we will be back in the sun. 



2016

MBI Energy Services

Proudly serving the
Williston Basin since 1979



From the Desk of the North Dakota Department of Mineral Resources

Underground Gathering Pipelines: Building a Regulatory Program

...the Division estimates there will be over 36,000 miles of gathering pipelines in the state; enough to completely circle the Earth one-and-a-half times. Those numbers, alone, underscore the need for the state to develop a robust underground gathering pipeline regulatory program.



Kevin Connors
Pipeline Program Supervisor
North Dakota Industrial Commission
Department of Mineral Resources
Oil and Gas Division

As oil development grows in North Dakota, so has the need for underground gathering pipelines and the rules to regulate them. A series of pipeline spills, coupled with vast networks of pipelines and the need for future pipelines, has led to the creation of the first underground gathering pipeline program in North Dakota.

In 2013, the North Dakota Legislature gave the North Dakota Industrial Commission's Oil and Gas Division (Division) the authority to regulate underground gathering pipelines. The authority was somewhat limited, giving the Division the ability to require information relating to the location and description of underground gathering pipelines installed after August 1, 2011.

In early 2015, high volume pipeline spills pushed the Legislature to consider expanding the Division's jurisdiction over gathering pipelines. Expansion was achieved through House Bill (HB) 1358 and the subsequent formation of the Division's pipeline program.

Before one can understand what House Bill 1358 does, it is important to understand what underground gathering pipeline systems are. These systems are designed or intended to transfer crude oil, gas, or produced water from a production facility for disposal, storage, or sale purposes. A good analogy is

that these pipelines could be considered the "city streets" of a pipeline network. In North Dakota, these "city streets" are regulated by the Oil and Gas Division, whereas the larger, "highway/interstate-type" pipelines are regulated by the Public Service Commission.

The Division estimates roughly 12,700 miles of gathering pipelines existed in the state prior to August 2011. Part of the 2013 statutory authority included a mandate to develop and maintain a confidential database of gathering pipelines in the state. Since then, the database has grown to contain nearly 11,200 pipeline miles. At full development, the Division estimates there will be over 36,000 miles of gathering pipelines in the state; enough to completely circle the Earth one-and-a-half times. Those numbers, alone, underscore the need for the state to develop a robust underground gathering pipeline regulatory program. The goal of the pipeline program is to improve underground gathering pipeline safety and integrity, and promote the safe transportation of fluids.

Starting a regulatory program from the ground up can be looked at much like constructing a building. You need blueprints, a foundation, a structure, and a façade in order to build a building or establish a program that regulates the entire lifecycle of a pipeline. The "blueprints" of the pipeline program are

modeled after the Oil and Gas Division's already rigorous approach to regulation, enforcement, and inspection.

The "foundation" for the pipeline program began in 2013, with HB 1333 and the creation of section 38-08-26 in the North Dakota Century Code. This jurisdiction was expanded with HB 1358, which created section 38-08-27 of the North Dakota Century Code. Among other things, the bill directed the Energy and Environment Research Center (EERC) to conduct a Phase I analysis of crude oil and produced water gathering pipelines and perform a Phase II pilot demonstration project. The EERC study identified several areas in which regulatory improvement is needed and made key recommendations for the Division to consider during administrative rulemaking. The EERC study, HB 1333, and HB 1358 provide the solid "foundation" necessary to begin developing a regulatory program.

Once the foundation was in place, the rules and regulations that make up the "structure," or act as the external frame of the program, can be assembled. The short-term goal of the program is to develop amendments to existing rules and create new regulations that are necessary, cost-effective, and feasible.

The Division is currently proposing amendments to existing rules and the

adoption of new rules, with the hope of having final rules in place between October 1, 2016 and January 1, 2017. The proposed rules relate to HB 1358 and key recommendations made in the EERC study. For example, HB 1358 provided the ability to now require a bond on all crude oil and produced water underground gathering pipelines. Bonding is crucial—not only if a company chooses to walk away from responsibility for a pipeline, but it also gives the Division the ability to track the responsible party for a pipeline throughout its life until the pipeline is properly abandoned and final reclamation is complete.

HB1358 also requires the use of independent inspectors, and the EERC study recommends those independent inspectors be responsible for ensuring the pipeline manufacturer's specifications are followed during pipeline construction.

After all regulatory changes are together, we come to the “façade” of our building, which is influenced by the statutes and regulations. This consists of regulatory interpretation, future policies and guidelines, and enforcement and inspection protocols.

As the rule adoption process proceeds, the Division will continue hiring staff to enforce the regulatory program. The pipeline program already includes a program supervisor,

administrative assistant, GIS technician, and three pipeline field inspectors. When fully staffed, the pipeline program will also include a database administrator in Bismarck, ND, and one additional pipeline inspector in each of the Division's three field offices.

As the pipeline program is fully assembled, the focus will be on reducing the number of spills through the best form of spill prevention: proper installation. The second phase of the program will focus on monitoring and leak detection, along with with effective spill response to lessen the severity of spills. Phase II of the EERC study will evaluate the best available technologies for pipeline leak detection and monitoring systems. The results of Phase II will contribute to a better understanding of these technologies and determine the feasibility and cost-effectiveness of requiring leak detection and monitoring on underground gathering pipelines.

The story doesn't end there; just like a building project doesn't end when an initial façade is in place. The newly created pipeline program within the Division is in a unique position to truly make a difference for the future of North Dakota by providing for continuous regulatory improvements.

GET TO KNOW OUR EXPERT KEVIN C. CONNORS

On October 1, 2015, Kevin Connors started as the pipeline program supervisor of the North Dakota Industrial Commission's Oil & Gas Division. The pipeline program supervisor position was newly established during the 2015 Legislative session.

Kevin has primary responsibility for creating a new regulatory program focused on underground gathering pipelines. In addition to his role as pipeline program supervisor, Kevin has also been the carbon capture and storage supervisor since July 2011.

Kevin worked as the underground injection control supervisor from 2013 to 2015. He began working for the State of North Dakota as a field inspector in the Williston District office before transferring to the Bismarck office in 2011.

Prior to coming to work for the State Government, Kevin worked as a well site geologist in the Williston Basin. He earned his Bachelor of Science degree in Geology from the University of Montana.

GREAT CREWS. GREAT EXPERIENCE. WE KNOW PIPELINES.

Oil. Gas. Water. Whatever your pipeline construction needs, Loenbro can handle it.

Top energy companies have turned to Loenbro for more than a decade to complete projects of all sizes. We have the talent, the technology and the track record to ensure a successful pipeline project—whether the work is in a refinery, at a remote pumping facility or on the rolling prairie.

Loenbro offers the same high performance across all our divisions:

- Industrial Insulation
- Inspection Services
- Oilfield Services
- Industrial Construction
- Fabrication
- Pipeline

WE ARE LOENBRO. WE GET THE JOB DONE.

Contact us for more information about projects we can do for you.



LOENBRO
LEADING THE CHANGE

1900 32nd Ave NE | Black Eagle, MT 59414
(406) 453-1542

LOENBRO.COM

**NO MATCH
FOR THIS
PATCH.**

carharttFR.com



**NOBODY SELLS MORE
CARHARTT
FLAME RESISTANT CLOTHING.**

carhartt 
FR



WILLISTON WATFORD CITY MINOT DEVILS LAKE JAMESTOWN GRAFTON GRAND FORKS

CARTOON CORNER



Brooke Schreiber, www.brookeschreiber.com

Heavy Equipment, Processing & Warehouse Storage Buildings.



Why choose Britespan™ Building Systems

- Widest product line in the industry
- Engineered structures up to 200' wide to ANY length
- Building solutions for any need, any size, and any height requirement
- Portable, temporary and permanent building solutions
- Low environmental impact
- Rapid installs, even in remote areas
- Complete project management from concept to completion



BRITESPAN™
BUILDING SYSTEMS INC

1.800.407.5846
www.britespanbuildings.com

BAKKEN FORWARD: THE 24TH WILLISTON BASIN PETROLEUM CONFERENCE

May 24-26, 2016 | Bismarck Event Center | Bismarck, North Dakota

The North Dakota Petroleum Council, the North Dakota Department of Mineral Resources, and the Government of Saskatchewan – Ministry of the Economy are hosting the 2016 Williston Basin Petroleum Conference at the Bismarck Event Center. Bakken CEOs and industry leaders from across North America will discuss emerging technologies and development impacts, and with a special keynote address from one of the most successful college football coaches of all time, Lou Holtz, you will not want to miss this event!

MONDAY, MAY 23		
7:00 a.m.	Exhibitor set-up opens (set-up closes at 7:00 p.m.)	Exhibit Hall/Outdoor Exhibits
TUESDAY, MAY 24		
7:00 a.m.	Exhibitor set-up opens	Exhibit Hall/Outdoor Exhibits
10:00 a.m.	Conference registration opens	Upper Level Lobby
Red River/Bakken/Three Forks/Inyan Kara Workshops • Pre-registration is required (\$125/person)		
9:00 a.m. - 12:00 p.m.	North Dakota Geological Survey <i>Lunch is provided by LIUNA North Dakota at their outdoor exhibitor booth</i>	Oak, Maple, Birch, Cottonwood & Linden Rooms
Investing Forward – Strike Point: When is it Time? Session Chairs: Kathy Neset, Neset Consulting Services; and Eric Dillé, EOG Resources, Inc.		Exhibit Hall D
1:30 p.m.	Andrew McGeorge, Monday Properties	Exhibit Hall D
1:50 p.m.	TBD	Exhibit Hall D
2:10 p.m.	Panel: Jim Arthaud, MBI Energy; Ernie Graham, Graham Development; and TBD	Exhibit Hall D
3:00 p.m.	Expo opens	Visit Expo/Outdoor Exhibits
Williston Basin Roundup Moderator: North Dakota Lieutenant Governor Drew Wrigley (invited)		Exhibit Hall D
3:45 p.m.	Melinda Yurkowski, Saskatchewan Ministry of the Economy; Jim Peterson, Montana Board of Oil & Gas Conservation; Keith Lowdon, Manitoba Innovation, Energy & Mines; Bruce Hicks, North Dakota Department of Mineral Resources	Exhibit Hall D
Bakken Transportation & Value-Added Bakken Session Chairs: Steve McNally, Hess Corp.; and Blu Hulsey, Continental Resources		Meeting Rooms 101 & 102
1:00 p.m.	Justin Kringstad, North Dakota Pipeline Authority	Meeting Rooms 101 & 102
1:20 p.m.	Joey Mahmoud, Energy Transfer Partners: Dakota Access Pipeline	Meeting Rooms 101 & 102
1:40 p.m.	Mark Glaze, Aggreko LLC; and Randy Hull, Prometheus Energy: Bakken LNG Powers Bakken Midstream	Meeting Rooms 101 & 102
2:00 p.m.	TBD: North American Liquids & Gas Supply Markets	Meeting Rooms 101 & 102
2:20 p.m.	EcoVapor Recovery Systems: Tank Emission Capture with Oxygen Removal for WPX Energy	Meeting Rooms 101 & 102
2:40 p.m.	Break	Visit Expo/Outdoor Exhibits
3:00 p.m.	TBD	Meeting Rooms 101 & 102
3:15 p.m.	TBD	Meeting Rooms 101 & 102
3:35 p.m.	TBD	Meeting Rooms 101 & 102
Pipelines, Reclamation & Safety Session Chairs: North Dakota Public Service Commissioner Brian Kalk; Tad True, True Companies		Meeting Rooms 103, 104, & 105
1:30 p.m.	Jay Almlie, Energy & Environmental Research Center: A Clear Picture on Liquid Gathering Pipelines in North Dakota	Meeting Rooms 103, 104, & 105
1:50 p.m.	Robbie McDonough, Crestwood Energy Partners: Gathering Systems	Meeting Rooms 103, 104, & 105
2:10 p.m.	Dustin Anderson, Oasis Petroleum: Salt-Water Remediation via Electrokinetics	Meeting Rooms 103, 104, & 105
2:30 p.m.	Phillip Archer, Whiting Petroleum Corp.: Whiting's Pipeline Monitoring and Line Locating Strategy	Meeting Rooms 103, 104, & 105
2:50 p.m.	Break	Visit Expo/Outdoor Exhibits
3:05 p.m.	Dick Vande Bossche, OneOK: Winter Contractor Reclamation	Meeting Rooms 103, 104, & 105
3:25 p.m.	Jody Kubitz, Cardno, Inc.: Navigating Risk Associated with Crude Oil and Produced Water Releases	Meeting Rooms 101 & 102
5:00 p.m. - 7:30 p.m.	Ice Breaker (BBQ provided by Halliburton and hosted bar from 5:00 p.m. - 6:30 p.m.)	Exhibit Halls A, B & C
WEDNESDAY, MAY 25		
7:00 a.m.	Exhibitor set-up opens/Expo opens (muffins, fruit, juice, and coffee provided)	Upper Level Lobby
Morning Session		Exhibit Hall D
8:00 a.m.	Ron Ness, North Dakota Petroleum Council; and Bismarck Mayor Mike Seminary: Welcome	Exhibit Hall D
8:20 a.m.	North Dakota Governor Jack Dalrymple (invited)	Exhibit Hall D
8:30 a.m.	Jamshed Merchant, Canada's Consul General	Exhibit Hall D
8:40 a.m.	Lynn Helms, North Dakota Department of Mineral Resources: Bakken Forward	Exhibit Hall D
9:00 a.m.	Jim Volker, Whiting Petroleum Corp.: The Bakken at Current Oil Prices	Exhibit Hall D
9:20 a.m.	Break	Visit Expo/Outdoor Exhibits
10:30 a.m.	U.S. Senator John Hoeven (video); and U.S. Senator Heidi Heitkamp (video): Bakken World Markets & Impacts	Exhibit Hall D
10:40 a.m.	Neel Kashkari, Federal Reserve Bank Minneapolis	Exhibit Hall D



Edward Jones congratulates Financial Advisor Troy Nelson, one of *Barron's* "Top 1,200 Financial Advisors."

That's impressive.

But even more impressive is how
Troy puts his experience to work
for *you*.



Troy Nelson

Edward Jones Financial Advisor

1701 Burnt Boat Drive
Bismarck, ND 58503

701-255-1196

troy.nelson@edwardjones.com

Troy has been named No. 1 in North Dakota for the
4th year in a row.

Barron's "Top 1,200 Financial Advisors" Feb. 23, 2015. Barron's Top 1,200 criteria based on assets under management, revenue produced for the firm, regulatory record, quality of practice, philanthropic work and more. The rating is not indicative of the financial advisor's future performance. Neither Edward Jones nor its financial advisors pay a fee to Barron's in exchange for the rating. Barron's is a registered trademark of Dow Jones & Co.

www.edwardjones.com

Member SIPC

TAL-7212B-A

Edward Jones[®]
MAKING SENSE OF INVESTING

11:00 a.m.	Dave Dunlevy, Caterpillar Oil & Gas: Outlook from a Supplier's Perspective	Exhibit Hall D
12:00 p.m. - 1:20 p.m.	Luncheon Keynote (Lunch available in exhibit hall) Don Hrap, ConocoPhillips: Keynote Address (Introduction by North Dakota Attorney General Wayne Stenehjem)	Exhibit Hall D
Regulatory & Environment Session Chairs: Kari Cutting, North Dakota Petroleum Council; and Zac Weis, Marathon Oil Company		Exhibit Hall D
1:30 p.m.	Jamie Connell, Bureau of Land Management Montana/Dakotas (invited)	Exhibit Hall D
2:00 p.m.	Joel Noyes, Hess Corp.: Bakken Upstream Air Task Force	Exhibit Hall D
2:20 p.m.	Shaun McGrath, EPA Region 8	Exhibit Hall D
2:40 p.m.	Jim Semerad, North Dakota Department of Health: Division of Air Quality	Exhibit Hall D
3:00 p.m.	Break	Visit Expo/Outdoor Exhibits
3:15 p.m.	Kipton Wills, U.S. Department of Transportation: Pipeline and Hazardous Materials Safety Administration	Exhibit Hall D
3:35 p.m.	Tim Wigley, Western Energy Alliance	Exhibit Hall D
3:55 p.m.	Joe Bowen, USA Energy Corp.: Simplified Hazmat Disposal	Exhibit Hall D
Williston Basin Geology Session Chairs: Ed Murphy, North Dakota Geological Survey; and Melinda Yurkowski, Saskatchewan Ministry of the Economy		Meeting Rooms 101 & 102
1:30 p.m.	Mark McDonald, North Dakota Geological Survey: Temperature Profiles in the Williston Basin of North Dakota	Meeting Rooms 101 & 102
2:00 p.m.	Steve Nordeng, UND Geology and Geological Engineering: Activation Energy Data in the Bakken Petroleum System	Meeting Rooms 101 & 102
2:30 p.m.	Jeff Bader, North Dakota Geological Survey: Salt-Water Disposal into the Dakota Group in Western North Dakota	Meeting Rooms 101 & 102
3:00 p.m.	Break	Visit Expo/Outdoor Exhibits
3:15 p.m.	Melinda Yurkowski and Gavin Jensen, Saskatchewan Ministry of the Economy: The Industrial Mineral in Brines and Helium Gas Potential in Saskatchewan	Meeting Rooms 101 & 102
3:45 p.m.	Tim Nesheim, North Dakota Geological Survey: Organic-Rich Source Beds in the Red River Formation	Meeting Rooms 101 & 102
4:15 p.m.	Wes Peck, Energy & Environmental Research Center: Identification of Residual Oil Zones in the Williston Basin	Meeting Rooms 101 & 102
Bakken Optimization Session Chairs: John Harju, Energy and Environmental Research Center; and Lynn Helms, North Dakota Department of Mineral Resources		Meeting Rooms 103, 104 & 105
1:30 p.m.	Todd Hoffman, Montana Tech: CO ₂ EOR: Elm Coulee Study	Meeting Rooms 103, 104 & 105
1:55 p.m.	Dr. Conrad Ayasse, IOR Canada Ltd.: Fracture Flooding	Meeting Rooms 103, 104 & 105
2:15 p.m.	Bakken Hydraulic Fracture Stimulation Panel: Kumar Ramurthy, Halliburton: Bakken Refracs; Neha Sahdev, Halliburton: Fiber Coil Evaluation of Bakken Fracture Simulation; and Natalia Heaton, Schlumberger Well Services: Application of Diversion Technique in Williston Basin	Meeting Rooms 103, 104 & 105
3:00 p.m.	Break	Visit Expo/Outdoor Exhibits
3:15 p.m.	David Hodges, Zavanna LLC: Maximizing Bakken Production with Gas Lift – Springbrook Bakken Project	Meeting Rooms 103, 104 & 105
3:35 p.m.	Mark Lenko, Canadian Discovery Ltd.: Multivariate Statistical Analysis of Bakken Completions: Aiming for Optimal Design	Meeting Rooms 103, 104 & 105
4:00 p.m.	Break	Visit Expo/Outdoor Exhibits
4:30 p.m. - 7:00 p.m.	Expo & Social (hors d'oeuvres and hosted bar from 5:00 p.m. - 6:30 p.m.)	Exhibit Halls A, B & C
7:00 p.m. - 10:00 p.m.	Social Gathering (sponsored by the North Dakota Oil PAC; minimum \$25 donation at door)	Ramkota Hotel, Dakota Ballroom
THURSDAY, MAY 26		
7:00 a.m.	Conference registration opens	Upper Level Lobby
7:30 a.m.	Expo opens (muffins, fruit, juice, and coffee provided)	Upper Level Lobby
Morning Session		Exhibit Hall D
8:00 a.m.	Perry Pearce, ConocoPhillips: Welcome	Exhibit Hall D
8:05 a.m.	Congressman Kevin Cramer (video)	Exhibit Hall D
8:10 a.m.	Landowner Relations, North Dakota Agriculture Commissioner Doug Goehring (invited)	Exhibit Hall D
8:20 a.m.	Jay Ottoson, SM Energy: Telling Our Story: A Strategic Imperative	Exhibit Hall D
8:40 a.m.	Gerbert Schoonman, Hess Corp.: Bakken Efficiencies	Exhibit Hall D
9:05 a.m.	Rick Muncrief, WPX Energy: Permian vs. Bakken Unique Aspects	Exhibit Hall D
9:30 a.m.	John Gerdes, KLR Group: Oil Markets & Price Outlook	Exhibit Hall D
10:00 a.m. - 11:00 a.m.	Break	Visit Expo/Outdoor Exhibits
11:00 a.m.	TBD	Exhibit Hall D
11:45 a.m. - 12:45 p.m.	Lou Holtz: Coaching When it Counts (Introduction by Mark Johnsrud, Nuverra Environmental Solutions) Conference adjourns	Exhibit Hall D <i>*Note: Lunch is on your own; there will not be food at the Civic Center.</i>

**Agenda is subject to change but is up-to-date as of publication of this magazine. Please check the latest version on the WBPC website, www.wbpcnd.org.*



Leadership: The Power of Perspective

Three methods for leading through hard times

By Drew Kozub

When the oil and gas industry ebbs and flows, there are three ways companies react.

The first group copes by battening down the hatches, bracing themselves and hanging on to everything they've got so they don't lose ground. The second group doesn't know how to survive in this new environment and sadly doesn't make it through an economic downturn. But a few companies somehow manage to not only persevere through tough times, but actually emerge better, stronger, and bigger.

What's the difference between these companies that are faced with the exact same conditions but end up with wildly different futures? It all comes down to leadership.

In order to thrive as a leader, a person needs to look at all leadership perspectives, but only focus on one that truly resonates with their own core values. This is the belief of Bob Upgren, co-founder and CEO of Cross Training Inc., one of the largest sports and leadership organizations in the country. Upgren believes that with the right approach, you and your company can see unprecedented growth, make your way through adversity, and perform tremendously.

"Leadership is not a checklist mentality," says Upgren. "Truly great leaders embody the principles they adhere to. It's simply who they are. It's a delicate balance between learning these principles from others while still maintaining your authenticity."

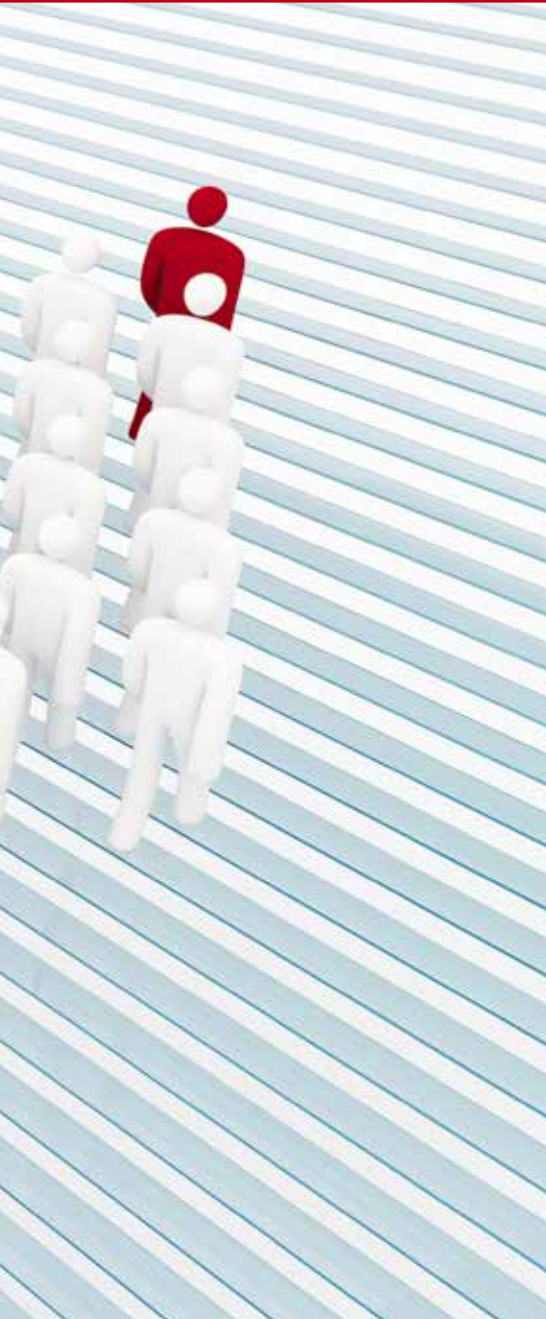
WHAT LEADERSHIP STYLE WORKS FOR YOU?

Upgren says there is no secret "bag of tricks" that leaders can simply root through and pull out the perfect tool when the time comes. Instead, he believes there are two kinds of leaders and that they fall into one of two categories.

"There are simply people who manage and seek to control others, and there are individuals whose primary purpose is to empower their people," says Upgren. "The first produces a rigid, slow-moving organization, while the second holds the potential for exponential growth because it is not dependent upon the star quality of one person."

The power of perspective is crucial when discovering a leadership style that works for you. There are three common approaches

to leadership, and by understanding what they are and learning from them, you can use this information to gain the power to lead your team through the best and worst of times.



...as strong leaders, we have to learn to do less and trust our teams to do more... delegate authority.

THE EMPOWERING LEADER

A strong leader learns to do things faster by empowering other people. Teams are encouraged as they master new skills. As they learn new skills, they become more confident. When confidence grows, tasks are done faster, therefore improving the output of the entire team.

The most limiting leadership perspective is to try and do everything yourself, and this is a common pitfall of people who are new to a leadership role. Not because they're bad at what they do, but because *doing* is what has produced the best results for them in the past.

"Most leaders default to the mindset of, 'I must do it myself,' because in large part, it was this perspective that produced their past success," says Upgren. "However, what brings a person into a position of leadership and what ultimately makes them successful moving forward are often two different mindsets. Great leaders don't strive to 'do it themselves' and gain a hoard of followers. Truly great leaders adopt the mindset of, 'We must do it together,' and strive to mentor a team of fellow leaders."

By guiding a team of leaders, rather than dragging a team of followers, better results are achieved and leaders have more time for future planning rather than micro-managing the tasks at-hand.

THE TRUSTING LEADER

We now know that, as strong leaders, we have to learn to do less and trust our teams to do more. This means we should start

delegating tasks in order to be effective leaders, right? Close! The answer is actually not to delegate tasks but to delegate authority.

"Several key benefits are produced when a leader delegates authority instead of simply assigning tasks to team members," says Upgren.

"First, they gain the respect of the team. Most individuals usually hunger for the opportunity to be included in the growth of the company. Trusting them with authority lends evidence that the leader has an interest not only in the growth of the company but in the development and advancement of the team, as well."

This approach also contributes to building a strong culture in the workplace. Employees are more invested in the outcome of projects, since they have some skin in the game. Investment leads to commitment, and over time, a loyal team of "doers" is created, instead of a passive group of followers. Upgren says an additional indirect—but important—benefit results when leaders take this approach.

"The second benefit of 'authority giving' is that it has the potential to create a vacuum for the leader to think; a space for them to strategize about the future and vision of the organization," says Upgren.

"Team members secure the present, while the leader defines the future."

When you delegate tasks instead of authority, you're not actually giving your team member control of a task; you're controlling them through the task. It will limit how they use their time to perform their daily activities. It can change their approach to an assignment if they feel it is not 'theirs' but is 'yours.'

Ultimately, when you delegate authority instead of tasks, it makes your teammates feel taller, not smaller. This is an important thing to observe as a leader; whether people feel taller or smaller after working with you.

If you're running a team of people who feel small, they're less likely to take action and responsibility, but when you build up a teammate and they leave a discussion with you feeling taller, they're confident, they're happier with what they do (even if it means more work), and will do a better job because you not only gave them the authority to oversee a task, you showed them you believe in their ability to see it through.

THE INNOVATIVE LEADER

Innovation is the distinguishing factor between a leader and a follower. In order to innovate, you need to give yourself the space to remove yourself from the day-to-day tasks so that you can focus on the future. Upgren calls this "margin" and he encourages leaders to create margin in their day to focus on the future vision of the organization.

"Without margin, leaders have a strong tendency to manage and micro-manage the day-to-day happenings of the organization, never addressing the future path of the organization," says Upgren.

"A pilot is a good example. A good pilot will check-in with the crew, maintenance and any other individual before departure, making sure everything is in order. Then, they will focus on charting the course of the journey and forecasting the weather."

Margin gives leaders the space to think and, ultimately, forecast short- and long-term destination points for the organization.

If this means saying "no" to 100 really good ideas and **focusing** on one really great idea and seeing it to fruition, this is the type of call a good leader will make.

CHOOSE YOUR PATH

Which of the three companies do you want to be a part of? The one that battens down the hatches and weathers the storm, the one that is washed away, or the one that emerges stronger than ever?

If you choose one of the three leadership approaches, you can make it through adversity and be more resilient for whatever comes next. However, it is crucial to only use one of these approaches. If you try all three, you'll probably not succeed.

Decide which one resonates with you the most: the empowering leader, the trusting leader, or the innovative leader. Put one of these perspectives into action

today and you will see growth. Growth in your team. Growth in your company. Growth in yourself. 

GET TO KNOW OUR EXPERTS BOB UPGREN



Bob Upgren is one of the most in-demand speakers on creativity and innovation in education and business. He has spoken and consulted for many

prominent brands in the world, including Disney, GM, Microsoft, the NBA, Verizon Wireless, the Make a Wish Foundation, and Sharp Electronics, to name a few.

Upgren has also become one of the most trusted voices in the educational world, working with hundreds of thousands of educators from the top school districts in the U.S. and Canada as well as the largest youth associations in North America.

If you want a fresh take on leadership, he is your go-to guy.

ENROLL NOW

NDSU NORTH DAKOTA STATE UNIVERSITY

ONLINE

Learn More

701.231.7938 | jody.bohn.baldock@ndsu.edu
www.ndsu.edu/transportation/

NDSU UPPER GREAT PLAINS TRANSPORTATION INSTITUTE



Master's degree programs

- Managerial Logistics
- Transportation & Urban Systems

Certificate programs

- Transportation & Urban Systems
- Transportation Leadership



I AM

A HUSBAND. A DAD. A HUNTER.
A FISHERMAN. A VOLUNTEER.
A MENTOR. A CIVIL ENGINEER.
ACKERMAN-ESTVOLD.

Meet Steve. He's a smart, forward-thinking civil engineer. But we know there's more to Steve than project management and hydraulic calculations. He's a dad you may pass on the road, taking his kids to school. He's a hunter that assesses the land while vying for the next big buck. So when Steve designs a roadway or plans the next utility lift station, he's not only envisioning your future, he's building his.

Would you like to be a part of building your community? View our job listings at www.ackerman-estvold.com



G & A Enterprises, Inc.

Built With Integrity



Extended Flowback & Pumping

Extended Flow-back Crews Contract Pumping Crews

**Sidney MT 59270
(406) 433-2648**

**Email: info@gaenterprises.biz
www.gaenterprises.biz**



Remaining Successful in Uncertain Times

By Maxine Herr

Oil prices may be low and the global economy may be weak, but the oil industry doesn't need to hit the panic button, according to a survey of global energy executives.

In January, Norway-based DNV GL, a technical adviser to the industry, released a report that showed a majority of leading oil and gas officials feel the industry is repeating its mistakes of former downturns with budget-slashing and widespread layoffs. They see the quick cutbacks as short-sighted, and some say energy companies should focus on efficiencies, increased collaboration and more standardization.

Scott McNally, current consulting advisor to BP and former advisor to the State of North Dakota, agrees these are the critical pieces that will keep U.S. oil

production high despite low oil prices and rig counts.

"Rig efficiencies are only one part of the story," he says. "There are two other parts: one is increasing production per well, and the other is decreasing costs per well."

Operators in North Dakota have streamlined drilling and completion methods, resulting in lower costs. They have also optimized frac stages, proppant selection, volumes and pressure to provide the kind of improvements that allowed the state to maintain production of over a million barrels of oil per day from year-end 2014 to year-end 2015, despite rig counts dropping from 181 to 64 over the same period.

"These two things combined—decreasing costs and increasing production—will continue to lower the average price per barrel and allow us to produce more oil at a lower cost than before," says McNally.

As far as standardization goes, he says Bakken wells are now mass produced,

making them more streamlined and efficient than ever before.

"A Bakken well is almost like a Ford F-150," explains McNally. "Pickup trucks may have a different color or style, but they are mass produced and all have the same frame, same radiator, same doorhandles, etc."

COMPANIES PULL BACK

Two of North Dakota's largest operators announced steep cuts earlier this year, which has the federal government predicting a 700,000 barrels-per-day drop nationwide by the end of the year.

Hess Corp. plans to spend 40 percent less than last year, while Continental Resources slashed 66 percent from its 2016 capital budget, citing a need for \$37 per barrel oil to post a profit. Continental has plans to cut oil production by 10 percent, or approximately 200,000 barrels of oil equivalent per day. A week prior to Continental's announcement,

“Rig efficiencies are only one part of the story. There are two other parts: one is increasing production per well, and the other is decreasing costs per well.”

the state's Department of Mineral Resources director, Lynn Helms, told Dickinson city leaders that Bakken oil production is likely to drop below a million barrels of oil per day by the end of 2017 at current oil prices. But if prices can crawl closer to \$40 a barrel, the state can sustain its rig count and the million barrel mark. He told the Interim Energy Development and Transmission Committee in early February that he believes oil prices will start to rebound based on the lifting of sanctions with Iran.

“Oil companies are pessimistic about prices in 2016 but are more optimistic in 2017,” says Helms.

“If prices rebound to \$70 a barrel in 2017, we expect to see the industry overcompensate to catch up,” he continues. “There could be 200 rigs back in North Dakota in 2020.”

McNally says technology is improving, which is lowering capital costs and increasing oil production. He believes prices are likely to stay in the low to middle price range through 2018, given the current supply and demand outlook. As low prices bring budget cuts, the industry is inevitably left to cancel marginal projects and new drilling. Innovation comes to a screeching halt as well, and some claim history has proven that the cycles of innovation do not move quickly.

“Major breakthroughs in oil extraction require long lead times, and there doesn't seem to be anything but marginal improvements in some existing techniques in prospect for many years to come,” says Kurt Cobb, contributor to www.oilprice.com.

CHANGING THE GAME

However, McNally sees some techniques on the horizon that could have a significant impact on oil production. Carbon dioxide flooding continues to be highly studied for its viability within the Bakken, but McNally is focused on what he calls “well percolation.”

“After several years of production, because of the low permeability, the pressure differential between the rock matrix and the fracture space is still several thousand per square inch,” he explains.

“Even after the well has declined significantly, there still exists an enormous pressure driving force, which presents an opportunity.”

That opportunity could translate into a replenishment of oil into the fracture space in which the well could be reopened at close to original initial production levels.

McNally and his team assisted the industry in 2015 by building a production simulator that estimates Bakken oil production as a function of prices. Now, he has begun a project to do the same thing for all other major shale plays in the U.S.

“This will give us a better idea of U.S. oil production and import levels at different price points going forward,” he says.

MISLEADING RIG COUNTS

While rig efficiency has certainly improved in recent years, McNally says rig count is not the best measurement of drilling, since a variety of rig types are used on a well site numerous times.

“In practice, one rig does not drill one well,” explains McNally. “Rather, a smaller “spudding” rig will come onto a pad to spud and drill a dozen or more wells to a shallow depth and set surface casing, but will then be dismantled and moved off-site.

“Then, a big rig will come on-site to complete drilling to total depth. The big rig may then move off-site and a completions rig may come on-site. In some cases, a workover rig may come on-site after the completions rig.”

Not every company will operate this way, but it is possible that up to four rigs could work on any given well, making calculating rig efficiency much more complex, he says. Department of Mineral Resources spokesperson Alison Ritter says her office only tallies “spud” rigs and big rigs in its daily rig count. But whether it's one rig or four, drilling a well requires a lot of capital. Once they are completed and producing, wells actually cost very little to operate, which means infrastructure to service existing wells needs to continue, says McNally.

“Getting caught up on infrastructure needs is a smart thing to do,” he says. “Many of the temporary workarounds are costly and inefficient when compared to permanent infrastructure installments. Building out infrastructure to meet the current needs will be a good thing for the state, and for the industry,” he continues. “Additionally, significant levels of oil production will be around for decades here, and these investments will eventually pay off.”

GET TO KNOW OUR EXPERT SCOTT MCNALLY



Scott McNally is currently a consulting advisor to BP, where he focuses on productivity modeling of U.S. Shale under-price uncertainty. He recently served as consulting advisor to the State of North Dakota, while acting as a research assistant at the Center on Global Energy Policy at Columbia University and as a teaching fellow and research assistant at Harvard University.

His recent research focus includes supply and demand projections and the geopolitics of North American oil and gas production, as well as the optimization of energy systems and productivity characterization of shale oil. Scott has previously worked at the U.S. Department of Energy (ARPA-E), the White House Council on Environmental Quality, Shell Oil Company, and Austin Energy.



TRIVIA TIME

WORKERS COMPENSATION

A number of workers compensation claims in the Bakken may reflect current job trends. From June 2014 to June 2015, claims increased in oil well servicing jobs, while oil and gas employee claims decreased, as did drilling employee claims and oil-related trucking employee claims. This indicates a shift from producing, drilling and rig servicing activity to oil well servicing activity.

Source: www.bismarcktribune.com/bakken/oil-industry-workers-seek-unemployment-benefits/article_bc583e0c-7c8e-5013-ad2fea7f7051d4c2.html



Energizing Through Education

By Paul Adair

In spite of a recent agreement by Saudi Arabia to freeze oil production to January levels of about 10.2 million barrels per day, the price of oil is still artificially low; \$25 per barrel less than where it sat just last year. This apparent willingness of certain OPEC nations to achieve a devastating victory over competing oil markets is viewed by some as a shot across the bow against American oil production and signals a heating up in the energy-based Cold War between the U.S. and OPEC.

As the price of oil hovers around 10-year lows, some U.S. producers are finding the process of extracting oil from rich shale formations in the Bakken to be too unprofitable and are closing shop or curtailing production, which results in a growing number of unemployed oil patch workers.

But where many see only a crisis, others envision opportunity.

North Dakota University System (NDUS) Chancellor Dr. Mark Hagerott has his roots firmly planted in North Dakota. Although he often moved around throughout his career with the Navy, spending years trying to keep oil lines to the Middle East open, he is a fourth generation North Dakotan whose family still farms in the state, with Bakken pipeline under their land, since 1952.

"I've spent so much of my life just trying to keep the flow of oil moving elsewhere, it's

"No oil workers should hang their head and think they have failed. These workers have done the state of North Dakota a great service...they did incredibly well building up this industry and there is a place for them..."

nice that we now pump some from here at home in North Dakota," says Hagerott. "And when the wind is blowing through the grain, I sometimes get the sensation that I'm once again at sea."

Hagerott was first aware of the seriousness of the looming situation in the Bakken through conversation with various North Dakota industry and community leaders, many of whom were witnessing the beginnings of a mass migration away from the oil patch last summer.

"The dramatic fall in the price of oil is doing some serious collateral damage to our human capital," says Hagerott. "In the end, the real casualty of this economic war on oil

will potentially be the loss of the experience and expertise found in the state's oil patch workforce."

The Bakken U: Energizing Through Education initiative hopes to lower these casualties by taking advantage of the slowdown in exploration and production and offering energy workers the opportunity to increase their education and training at one of the NDUS's 11 North Dakota college and university sites.

"No oil workers should hang their head and think they have failed," says Hagerott. "These workers have done the state of North Dakota a great service and they need to be told they did incredibly well building up this industry and that there is a place for them in

the colleges and universities that are part of the Bakken U initiative.”

Bakken U focuses primarily on the universities and colleges in western North Dakota to keep oil workers living and learning close to the Bakken until oil production inevitably rebounds. There are an additional six institutions in North Dakota that enable students who begin their education in western colleges and universities to further their studies in a more eastern region of the state, if they prefer.

“The Bakken U initiative wants oil workers to stay in our state and go back to school so that when the oil economy turns around, they have more options before them,” says Hagerott.

“We look for the man or woman who wants to work in the oil patch, goes to school for a couple of years to receive their certificate, goes back to the oil patch, and then obtains their degree before heading back once again to work in the oil patch, better trained and educated than when they started.”

Bakken U was established in three phases. Beginning in mid-2015, NDUS developed a website as part of Phase One to act as an

information portal to help encourage energy workers and better educate them about the retraining process.

Phase Two was devoted to approaching partners and establishing a scholarship mechanism to help oil workers avoid the financial hardship of returning to post-secondary schooling, particularly if they were left unemployed by the oil patch.

“We had an outpouring of some very qualified applicants, which was exactly what we knew we would receive,” says Hagerott. “We had many deserving former college students with good grades, excellent work records, and a great need.”

Phase Three is ongoing and looks at combining the curricula across the eleven campuses, like joint programs or collective programming, and ensuring all credits match up.

As a military man, Hagerott can see parallels between the goals of Bakken U and the war effort of the Second World War, during which the U.S. was able to gain the upper-hand over its enemies by supporting human capital through a policy of rest, refitting, and retraining; a policy that can be used during this downturn in oil production, which is brought on by another kind of war—one currently waged by certain international oil producers against the U.S. and its energy interests.

“Using this analogy, North Dakota can bounce back because of our technology and our commitment to our energy workforce,” says Hagerott. “Bakken U just wants to do its part by ensuring our workforce sticks around to see the jobs return.”



GET TO KNOW OUR EXPERT DR. MARK HAGEROTT



Dr. Mark Hagerott has held the position of Chancellor at the North Dakota University System since April 30, 2015. Most recently, he served as the senior civilian and deputy director of the Center for Cyber Security Studies at the Naval Academy and served on the Defense Science Board study of unmanned systems during the summer of 2015.

A certified naval nuclear engineer in power generation and distribution, Hagerott moved to a career in higher education in 2005. He has conducted research and writing about the evolution of technology, education, and changes in career and the workplace.

Hagerott holds a Bachelor of Science degree from the U.S. Naval Academy, a Master of Arts degree in political science and economics from Oxford University, where he attended as a Rhodes Scholar, and a Ph.D. in history from the University of Maryland. He has also served as a White House Fellow.

ENROLL AT BAKKEN U TODAY!

Bakken U extends its reach across the entire state of North Dakota, with programs available through these educational institutions:

- Bismarck State College
- Dakota College at Bottineau
- Dickinson State University
- Lake Region State College
- Mayville State University
- Minot State University
- North Dakota State College of Science
- North Dakota State University
- University of North Dakota
- Valley City State University
- Williston State College

Learn more at <http://bakkenu.ndus.edu>.



VEIT IS RIGHT

SERVING THE OIL/GAS AND INDUSTRIAL MARKETS
EARTHWORK • UTILITIES • FOUNDATIONS • DEMOLITION



VEIT

Bismarck, ND • Minot, ND • Minneapolis, MN • Duluth, MN • VeitUSA.com

Setting the Standard for Solids Control since 1927



**Hutchison Hayes
Separation Inc.**



Since 1927, Hutchison Hayes has been a dedicated partner to the oil and gas industry. We offer sales of new decanter centrifuges, reconditioned decanter centrifuges, and rental decanter systems.

From our manufacturing facility in Houston, Texas, we supply quality spare parts and full service repairs for all manufacturers and models of centrifuges.

- New Decaners
- Reconditioned Decaners
- Decanter Rentals
- Centrifuge Spare Parts
- Field Service
- Technical Support
- Shop Repair for all Manufacturers Models

Contact Us at www.Hutch-Hayes.com (800) 441-4850



Receptive partners. Responsible planning. Reliable engineering. These qualities are absolute in the oilfield. KLJ remains the leader in engineering, planning and surveying. kljeng.com



TRIVIA TIME

EMPLOYMENT RATES IN THE BAKKEN

In December 2015, North Dakota was announced to have the lowest unemployment rate—2.7 percent—of any state in the USA.

In the same month, 4,000 jobs were lost because of declining activity in the Bakken Shale Play, making it the state with the fastest declining employment rate.

Layoffs in the industry are expected to continue for the first six months of 2016, as companies work to reduce costs while the price of oil remains low.

Source: www.bakken.com/news/id/251879/nd-boasts-lowest-unemployment-rate-highest-percentage-of-jobs-loss-in-the-us

UNEMPLOYED IN THE BAKKEN

The number of people seeking unemployment payment benefits has risen in North Dakota, as layoffs in the oil industry continue.

Some of the recently unemployed workers are speculated to be taking advantage of an increase in construction jobs related to increased infrastructure funding by the state legislature for oil and gas producing counties. Others are returning to their home states.

Source: www.bismarcktribune.com/bakken/oil-industry-workers-seek-unemployment-benefits/article_bc583e0c-7c8e-5013-ad2f-ea7f7051d4c2.html

Your Truck & Fleet Headquarters



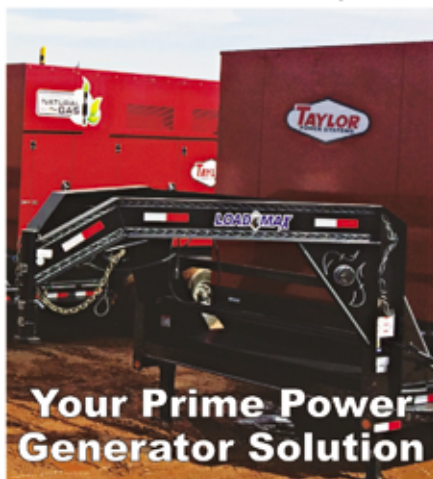
1801 2nd Avenue West, Williston, ND 58801
Phone: 701-577-2927

Hours of Operation Sales | Service | Parts

Sunday Closed
Monday 8AM to 6PM
Tuesday 8AM to 6PM
Wednesday 8AM to 6PM
Thursday 8AM to 6PM
Friday 8AM to 6PM
Saturday 9AM to 5PM

www.murphymotors.com

Extreme Quality for Extreme Conditions.



Your Prime Power
Generator Solution



20KW - 1.2 Meg Well Gas
Contact: Reed Nicholas
rnicholas@taylorpower.com
601-965-9873 • 1-800-748-9980
www.taylorpower.com

FAITH - VISION - WORK



Paving the Way for Tomorrow:

A Wrap-Up of Road Projects

By Maxine Herr

When operators began to crank up oil production in western North Dakota several years ago, one of the most noticeable changes for state residents was the overwhelming increase of truck traffic. Immediately, plans began to form to build bypasses to pull all those trucks away from Main Street, and to beef up existing roads to handle the impact of heavy loads.

Jane Berger, a programming engineer for the North Dakota Department of Transportation (NDDOT) says the shift was dramatic within her office, as the agency was forced to work quickly to remedy the situation.

"Constructing new sections of roadway wasn't typically happening in the past. We were largely in a preservation mode," says Berger. "Many of the roads that existed in western North Dakota were never built to handle the amount of traffic they saw when the oil happened."

One of the agency's greatest achievements, she says, was the speed in which critical projects were completed, especially based on the size and scope of the projects. With new roadway proposed to run through land owned by a variety of entities, gaining federal, state and local approvals was a challenge to overcome.

"There were many different phases and part of it was the environmental process," says Berger. "We really worked cooperatively with partners, and I think everybody recognized the need, and the desire was there to move quickly."

With trucks carrying everything from water to large pipelines, the type of traffic has caused the NDDOT to change the way it builds its roadways.

In 2015, approximately \$615 million was spent state-wide on road construction projects. For comparison, \$410 million was spent in 2010 and the program doubled in 2014, with \$820 million spent, says Berger. The NDDOT expects 2016 to also sport a hefty price tag, as bids come in to start more projects at the first sign of spring. In western North Dakota, alone, over a dozen projects are slated for completion.

2016 PROJECTS

As far as new construction, the NDDOT will construct a permanent bypass northwest

of Dickinson, ND this summer. But several projects in western North Dakota will consist of reconstruction and widening roads, including Highway 200 from US Highway 85 to state Highway 22 at Killdeer, ND, inevitably creating some slower traffic through central Dunn and Mercer counties. A small stretch of Highway 49 from the Mercer/Morton County Line to Beulah, ND will see reconstruction and widening, as well. Farther north, work will be done to widen Highway 23 running east and west to US Highway 83. On the west end of this project, the NDDOT will construct a roundabout at Keene Corner.

Highway 58, near the Montana border southwest of Williston, will be widened from Highway 200 to Highway 1804. South of this area, the state will pave and widen Highway 200 from the Yellowstone Bridge to the junction of US Highway 85. East of Williston, Highway 1804 from County Road 9 to 131 Avenue Northwest will be widened into a five-lane road. Intersection improvements on US Highway 2 in Williston will also receive attention at 9th Avenue West, 42nd Street, and 58th Street Southwest. The NDDOT will widen US Highway 85B in Watford City to three lanes, from the junction of Highway 23 north to Highway 23A, to service the city's new school.

Motorists can expect construction along Interstate 94, heading westbound from the Missouri River to 11 miles east of the state line. Paving and structure replacements are also slated for eastbound and westbound lanes along the interstate between Belfield and South Heart, ND.

To round out western North Dakota construction, travelers will encounter paving projects between Minot and the Minot Air Force Base along US Highway 83. Though the Williston Northeast Truck Reliever Route, a project to alleviate truck traffic within Williston by connecting Highway 1804 to US 2/85 and the Northwest Truck Reliever Route, which was completed in October, is proposed to begin this year, NDDOT spokesperson Jamie Olson says it is not currently included in the list of projects due to open public comment periods.

THE BENEFIT OF BYPASSES

Road construction has been fast and furious in oil-impacted areas, and perhaps

the most welcomed projects were bypasses built around Dickinson, Watford City, Alexander, Williston, New Town and Killdeer.

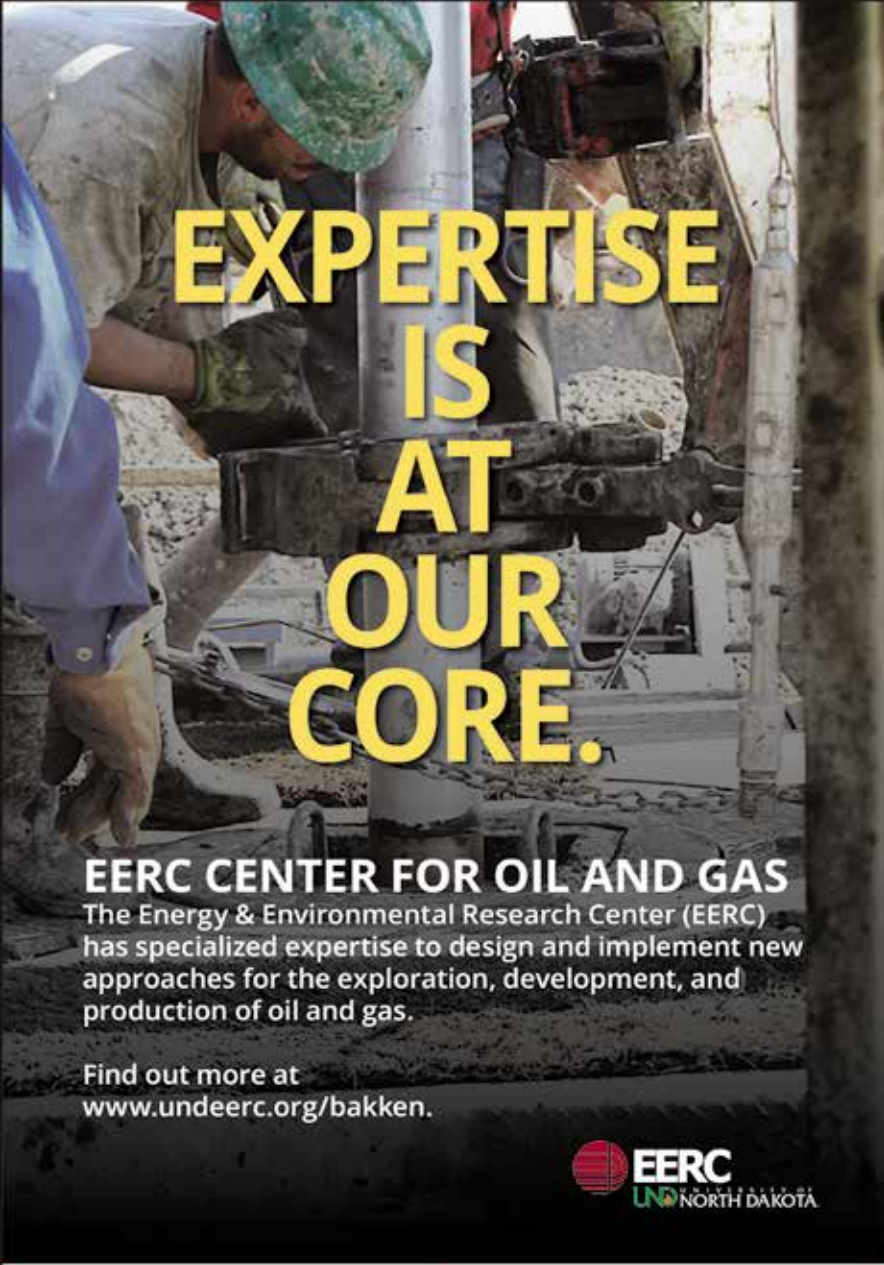
"They provided mobility for the true traffic on those roadways but [the work] also improves the quality of life for the people in the communities the bypasses were built around," says Berger.

The volume of traffic has only been one piece of the struggle for motorists, though. With trucks carrying everything from water to large pipelines, the type of traffic has caused the NDDOT to change the way it builds its roadways.

"It definitely has a much greater impact on the pavement structure than car traffic does," says Berger. "We do design roadways for traffic loadings we expect to see there, but one of the challenges was the rapid growth. We had to quickly adjust our projections to account for the growth that occurred and assume that growth would continue in the future."

While low oil prices may be slowing down other activities within the state's oil industry, the construction program isn't one of them.

"It might not be as dramatic as it was initially," says Berger, "but there are still a lot of needs."

EXPERTISE IS AT OUR CORE.

EERC CENTER FOR OIL AND GAS
The Energy & Environmental Research Center (EERC) has specialized expertise to design and implement new approaches for the exploration, development, and production of oil and gas.

Find out more at
www.undeerc.org/bakken.

 **EERC**
UNIVERSITY OF NORTH DAKOTA

www.undeerc.org

GET TO KNOW OUR EXPERT JANE BERGER



Jane Berger is the programming division director for the North Dakota Department of Transportation. She is a registered professional civil engineer and has 15 years' experience at the DOT, with a background in traffic operations and pavement management. Berger is a North Dakota native and a graduate of North Dakota State University.

CARTOON CORNER

Montana is doing it, so we thought we'd look at it, too.



Brooke Schreiber, www.brookeschreiber.com

In Perfect Harmony



Cruz Energy Services heavy haul trucks moving oil rig derricks in and around the Bakken field of North Dakota. Photo taken by Stephen Nowers, Cruz Energy Services, www.cruzenergyservices.com.

By Paul Adair

Beginning in the fall of 2015, the *Truck Size and Weight Study* commissioned by the North Dakota Department of Transportation and the Upper Great Plains Transportation Institute is currently assessing the potential benefits and impacts of harmonizing truck size and weight regulations between North Dakota and several of its neighboring states, including South Dakota and Minnesota, and up into Canada.

The study will analyze currently legal truck configurations across North Dakota and then consider a number of scenarios, including changes that would allow the operation of 129,000-pound, double-trailer trucks. In addition, the use of double-trailer combinations and tridem-drive and spread-axle tractor semi-trailer trucks will be examined in the study, as will spring-load restriction issues.

Currently, regulations regarding vehicle configurations, truck size, and load weights vary widely across state lines, based on federal legislation passed 25 years ago. These old regulations locked an individual state's commercial truck envelope limit formulas at what they were in 1991. The legislation is referred to as the Intermodal Surface Transportation Efficiency Act (ISTEA) freeze, an arbitrary number that has resulted in state regulations' limiting weights to vary by as much as 30 percent.

"At the time of the 1991 ISTEA freeze, the legislation basically said, 'Where your state is at right now, in terms of weight allowance, is where you are going to have to remain,'" says Jay Hicks, executive director at Western States Transportation Alliance (WSTA).

"However, modern technology has obviously moved forward in the last quarter-century and what we are seeing now is more highway infrastructure being built with advanced standards to allow for increased weights. But we really can't do anything about it because of that freeze that was set way back in 1991."

The results of the *Truck Size and Weight Study* will help to determine the benefits and costs associated with harmonization for existing and possible new truck configurations. The primary benefits include maximizing freight movement in the most productive and safe manner possible, cutting mobile source emissions, reducing overall fuel consumption, and reducing traffic congestion by as much as 15 percent.

The NDDOT says determining the extent of these benefits will serve as the starting point for a more comprehensive analysis of any economic impacts, considering the effects of cost savings on economic productivity in North Dakota and other benefits for major industry groups.

The WSTA has been consulted as part of the study's mandate, and the alliance will use the findings to further its long-term goal of pursuing commercial vehicle harmonization throughout the western states it represents. The WSTA believes harmonization will have a direct bearing on transportation productivity and recognizes the effect it would have on the environment and the western U.S. transportation system, should it be achieved.

"We don't have the money to greatly expand the system, so we need to expand the system's ability to safely produce more," says Hicks.

"This is where common size and weight limits come in. With harmonization, a shipper in North Dakota can load a truck and send it to Oregon or Arizona, knowing the truck load and size are legal in all the states it will drive through, and we could safely haul more and have fewer commercial vehicles putting a strain on our system."

Regardless of what the study recommends, there are still challenges in adopting harmonization throughout the western states. Even though freight projections show that transportation industry resources will be stretched well into the future, there is concern about pitting highway transport against rail and dividing the share of the available freight market.

There is also the fear of the unknown and a natural resistance to change that will need to be overcome, which is going to be important to assure stakeholders that their safety concerns will be addressed and promote that harmonization is good for the transport industry.

"The WSTA has had a vision for over 25 years of bringing uniformity and efficiency to highway transportation in the western states," says Hicks. "Ultimately, harmonization helps make it a little easier for our companies to provide more reliability for freight. Uniformity will bring about greater productivity for the system and benefits those who have a stake in the delivery of goods and services."

The *Truck Size and Weight Study* will be releasing a draft of its findings in May. 

GET TO KNOW OUR EXPERT JAY HICKS



Jay Hicks has been with the Western States Transportation Alliance since 2009, assisting the previous executive director in many roles before being named executive director himself in 2015. Hicks hopes to continue the organization's goal of uniformity on transportation-related efficiencies throughout the west.

He has over a decade of experience lobbying in the Colorado General Assembly and has been part of the lobbying firm Hicks & Associates since 2003. He holds a Bachelor of Marketing degree from the University of Northern Colorado.



- Community and Environmental Planning
- Civil, Structural, and Water Resource Engineering
- Transportation Planning and Traffic Studies
- Parks, Trails, and Streetscapes
- Site Development
- Right of Way, Acquisition, and Appraisal
- Construction Administration and Surveying



ENGINEERS
PLANNERS
DESIGNERS

Offices in Bismarck, Fargo, and Minot
www.srfconsulting.com

NLB Solutions

TestJet™: Fast, reliable hydrostatic testing

Reduce pressure testing downtime with the TestJet™ from NLB. It's a fast-fill (up to 21 gpm) hydrostatic unit that tests up to 15,000 psi. The rugged NLB pump is easy to operate and maintain, with overspeed shut-off and surge control.

Check out a TestJet today. For more information, call **800-441-5059**.



*The Leader in High-Pressure
Water Jet Technology*

29830 Beck Road, Wixom, MI 48393 • (248) 624-5555
www.nlbcorp.com • e-mail: nlbmktg@nlbusa.com

A C C E S S

FAST

CONVENIENT



North Dakota Records Information Network

COST-EFFECTIVE

SUBSCRIBE TODAY

% High Plains Technology
1351 Page Drive, Ste. 106 Fargo, North Dakota 58103
Phone: 701.364.1280 Fax: 701.271.1557
www.ndrin.com

NORTH DAKOTA

The fastest, easiest and most cost-effective way to retrieve land records in North Dakota.



Ulteig

GETTING YOU
WHERE YOU
NEED TO GO
SINCE 1944.

Learn more about our
services and dedication to
providing quality solutions at
www.ulteig.com



NO FLAME. NO FUMES. NO FUSS.
CLEAN - SAFE - HEAT

Industry Leading Flameless Heaters



Safety
Simplicity
Durability
Reliability

P: (605) 498-1050 | E: rkoopmann@thermdynamics.com
www.thermdynamics.com

Building Bakken Infrastructure:

The New Normal



By Jason Spiess

In May of 2012, Dickinson Mayor Dennis Johnson appeared on Building the Bakken Radio and took pride in explaining how the city was debt free. Chalk it up to years of conservative balancing, smart saving and savvy spending. One year later, Johnson addressed the North Dakota oil and gas producing counties, alerting them that the city had gone from debt-free to overburdened in one year.

Since then, record oil productions, billions in state spending dollars and nomadic workers impacted by low oil prices have shifted the market and, therefore, projects and communities. Over the last two years, communities have continued to evolve and develop new cultures and landscapes.

"Dickinson, today, is in a slightly different place than it was a year ago. We use that as our comparison, our measuring stick," says Shawn Kessel, Dickinson city administrator. "It is a slower pace, our economic activity has slowed. There are a lot of people within the city who are thankful for that; others are not. So, we are adjusting to a new normal." The new normal is impacting residents, apartments, retail, and commerce, according to Kessel.

1 Construction is underway on Dickinson Hills Shopping Center, an 85-acre retail, commercial, office and multi-family development situated on the Dickinson Business Loop and I-94, across from the \$100-plus million St. Joseph Hospital and the new \$40-plus million Sanford Health clinic.

2 Dakota Prairie Refining, completed in May 2015, is the first new refinery to be built in the U.S. in over 30 years.

3 Breaking ground at the site of the Sakakawea Medical Center, which, upon its expected completion this fall, will replace the one that was built 45 years ago.



"We dealt with one percent unemployment for many years in a row. You go from a high wage environment with lots of turnover," says Kessel. "People had the ability to move between jobs on a whim and, oftentimes, make more money every time they did that."

This mass behavior can have serious economic and social impacts on local communities. How communities adjust and prepare to go from debt-free to millions-in-the-hole is easy and done quite a bit. Vicky Steiner, executive

director of the North Dakota Association of Oil & Gas Producing Counties (NDAOGPC), sees first-hand how groups working together can become more efficient and intelligent when developing infrastructure.

"The Upper Great Plains Transportation study was the first time I think people really started to understand what was happening and the rate of change," says Steiner.

She explains how the speed can impact the local communities over both the short- and long-term.

"If the rate of change is really fast, rapid and high, your local subdivisions are underwater and swimming," says Steiner.

"That was really our catalyst and the state does their own study now and Upper Great Plains does all the county roads statewide. So that started that."

The data, adds Steiner, allows the county to tell the story to the governor's office and justify budgetary considerations.

"It isn't so much a story as it is a research project where they can actually see the data," she says. The NDAOGPC is working on a new study, which incorporates five core Bakken cities and is due out in June 2016. The study will incorporate new data and numbers.

"Do we have gaps between the infrastructure being built to accommodate the populations that Lynn Helms is saying," asks Steiner. "Given certain benchmark oil prices, the population will be this much because that is how many people you need to work that amount of wells. And those people have to live somewhere."

Steiner said determining how much infrastructure to build, and where to build it, is critical to the state's future.

"How do we build enough infrastructure—but not too much? We want to get as efficient as we can and that's why we are doing certain benchmarks at certain oil prices and a six-year window rather than a two-year window."

Attempting to predict future populations and oil prices is extremely difficult and Steiner understands workers and families cannot bounce around. However, low oil prices do eventually turn into high or moderate oil prices.

"We still are going to have to be ready when oil prices turn around," says Steiner. "They know the oil is in the ground, and I believe they are going to be coming back for it."

Steiner points out there are still companies producing oil in the Bakken's "sweet

spot" but that those wells will not produce forever.

"Those wells are their high producers, so they can get their cash running through," she says. "The 400-a-day barrels are the ones that come into play when you have a high oil price."

Ultimately, the people and the state have to plan for an industry that is predicted by price and politics. This is a new experience for most in the state. Flashes have been seen on a minor level with agriculture. But the level of geopolitics and price volatility is off the chart. There are multiple crops to plant in case of low corn and soy prices, and the agrarian state has never had to worry about Iran or North Korea planting wheat or sugar beets.

"There are different patterns of development," says Steiner, "and we just have to accept the International Oil Price will determine where they go and when they go."

Infrastructure projects cost money, and without economic activity or political power, the local oil and gas communities tend to pick up the check. This cycle in energy prices appears to be different. Kessel, who is intimately involved with the city's budget, sees new industries emerging to diversify the western North Dakota economies beyond oil and gas.

"The other thing we've noticed is our manufacturing base has really been able to take advantage of the workforce that has been laid off," says Kessel. "In some circumstances, those people who were working in the oilfields and were laid off and were so inclined applied for open manufacturing positions in Dickinson."

Dickinson now has three or four major manufacturers that distribute products nationally and they are all expanding, says Kessel, which helps keep people around rather than searching elsewhere for other opportunities.

"They are really taking advantage of that workforce they found so difficult to

find a year ago. They are now there," he says. "They don't have to contract out services; they don't have to purchase buildings or a workforce in another community. They are finding that in Dickinson again."

Even though there is lower economic activity overall, and although it is a new environment, it isn't a bad environment.

"Our investment into quality of life has really paid off in people deciding to stick around. They certainly have the mobility to go wherever they choose in today's world, and they can go wherever the job market is hot. But many are choosing to stay in Dickinson."

Evidence to this fact is the high birth-rate oil and gas producing counties continue to record. In preparation, Watford City just opened a new school and Dickinson is in the process of building a new middle school.

"The iron is already up with hopes of being open and functional by 2017. We are excited about all that," says Kessel. "Residents and/or people are selecting our community as a great place to live and work. For us, it seems like we are on the right path."

GET TO KNOW OUR EXPERT JASON SPIESS

Jason Spiess is an award-winning journalist, talk show host, publisher and executive producer. Spiess is a North Dakota native and North Dakota State University graduate.

Currently, Spiess creates multimedia content for newspapers, magazines and online news services, and he is the host of *Building the Bakken*, *MonDak OilField Review* and *Coffee & Capitalism Radio*. Spiess is also the author of *The Crude Life eBook* series.

For more information or to contact Spiess, email jason@buildingthebakken.com.

Your Full-Service Heavy Construction and Aggregate Equipment Dealer



Sales ▲ Rental ▲ Parts ▲ Service

www.genequip.com

Fargo, Bismarck, Minot, Williston, ND | Shakopee, MN | Sioux Falls, SD | Regina, SK | Winnipeg, MB | 800-437-2924

Power Up:

Using Natural Gas for Electric Generation

By Jason Spiess

In the fall of 2014, Federal Energy Regulatory Commissioner Tony Clark predicted natural gas would be a “game changer” in the world of energy. Those were \$100 oil days when companies were investing and spending; now, we are hovering around \$30.

Natural gas has showed signs of branching away from oil by demonstrating an anomaly in the market by dropping in price when oil went up. Now that oil is down in price from that anomaly period, gas may have created more of a separation from crude oil.

“Natural gas really cannot get much lower than it is already,” says Clark. “It is being produced in certain regions of the country—the Marcellus—at less than \$3, which is dirt cheap gas and it is still being produced.”

Clark agrees with the recent natural gas observation and added this is a relatively new phenomenon to the market.

“The interesting thing now is you can’t talk about electricity without talking about natural gas. And you can’t talk about natural gas without talking about electricity,” says Clark. “At this point, those markets are intertwined. In fact, for the first time in April of this year, natural gas produced more electric generation across the country than coal did. For the first time in history, over 35 percent of electricity is now produced by gas.”

Clark says this trend is not an energy takeover, but rather a collaborative opportunity for coal and technology. Clark knows first-hand how Steffes Corp. is paving the path as a leader in energy efficiency.



Steffes Corp. is paving the path as a leader in energy efficiency by introducing technology that allows water heaters to interact with the grid in real-time, ramping up or down at the exact time the grid needs it the most.

“The grid is getting much smarter,” says Clark. “One of the things we talked about this morning was some of the work being done right here in North Dakota at Steffes Corp., which makes furnaces, water heaters, and uses technology to integrate those furnaces and water heaters with the grid themselves using, really, just a broadband connection.”

In Philadelphia, PA, PJM, the world’s largest grid operator, has a Steffes Corp. water heater on display. According to FERC’s website, PJM Interconnection is a regional transmission organization that coordinates the movement of wholesale electricity in all or parts of 13 states and the District of Columbia, an area that includes more than 51 million people.

“Basically, that technology is one that typifies where we can move as a country, in terms of getting the grid smarter and operating it in a better way,” says Clark.

“That particular technology they were demonstrating allows the water heater to interact with the grid in real-time, ramping up or down at the exact time the grid needs it the most.”

The water heaters Clark refers to are called Hydro Plus, according to Jim Deichert, vice-president of grid solutions and automation at Steffes Corp.

“We are calling our water heater the Hydro Plus,” says Deichert. “While it provides consumers with all the hot water they need, it has the ability to provide very valuable service related to the management of power supply and demand.”

The Steffes Hydro Plus water heater is a “smart” water heater with a computerized control and communication system, he adds.

“This provides utilities the ability to regulate the operation of individual and groups of water heaters, according to the

needs of the electric grid," says Deichert. "For example, during times when renewable energy is available, these Hydro Plus water heaters can be signaled to store energy that can later be released when this energy resource isn't available. Many refer to these systems as smart Thermal Batteries."

In addition, Deichert says the industry considers the product to be a grid-interactive electric thermal storage (GETS) system.

According to Clark, these types of technologies are creating a more efficient energy grid and will be good for consumers in the end.

"This is going to take some time to develop," says Clark. "But from a FERC standpoint, we need to make sure we have the market rules right, so those types of technologies can take place and innovative companies in North Dakota, like Steffes Corp., can take advantage."

Increased technologies aid smart grid integration, and North Dakota is one of the leading states, due to its fracking and regulatory responsibilities. Clark says these movements in the energy world have changed the industry for the foreseeable future.

Shawn Kessel, Dickinson city administrator, has seen the recent growth of Steffes occur right before his eyes. He says Steffes not only distributes products across the U.S., but is "a very dynamic company with a product line that goes well beyond the oil-fields, with major manufacturers like Arctic Cat and others." Kessel adds that their ability to understand technology is intuitively innovative.

"Paul Steffes, the gentleman who founded Steffes, is just a real outside-the-box thinker and an intelligent guy who puts his intellect to work on solving problems in trying to make life better through the inventions the company produces and markets," says Kessel, "including water heaters that use off-peak

power to keep water warm, which lowers everyone's cost. It's catching on. They have been using them in Canada to a great degree, and it is now catching on in the U.S., as well."

Companies like Steffes are extremely important to local communities, especially communities in Western North Dakota, Kessel adds.

"[Steffes] proves that our economy is dynamic and that we are not just a one-trick pony, so to speak, and that Dickinson will continue to be healthy. Of course, we are looking for some balance in the oil, rather than a spigot that turns on and off."

Deichert attributes experience, cooperation and collaboration with Steffes' long-standing success and ability to understand energy evolution.

"For the past 30 years, we have been manufacturing and selling Electric Thermal Storage (ETS) space heating systems," says Deichert.

"In doing so, we have worked closely with over 200 utilities across North America, helping them develop electric rates and marketing programs for use of this product. Through the use of ETS systems, utilities have been able to manage their electric loads, reducing their costs and allowing them to pass those savings on to their consumers."



Distributors, Inc.

P.O. Box 295, Argo, Illinois 60501
Telephone: 708-361-2300 Fax: 708-361-2352

For all your Office, Lunchroom and Janitorial Needs.

Your one-stop source for all your office and paper supplies, furniture and equipment, lunchroom and janitorial supplies & more.



Call for your free catalog: 708-361-2300

or

Email Request to: bldest@sbcglobal.net

Visit our website: www.bldistributors.net



Free Dock Delivery on all orders.

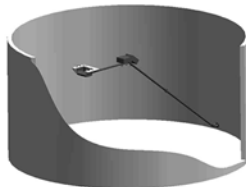
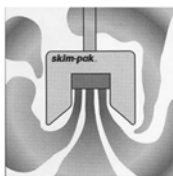
GET TO KNOW OUR EXPERT JASON SPIESS

Jason Spiess is an award-winning journalist, talk show host, publisher and executive producer. Spiess is a North Dakota native and North Dakota State University graduate.

Currently, Spiess creates multimedia content for newspapers, magazines and online news services, and he is the host of *Building the Bakken*, *MonDak OilField Review* and *Coffee & Capitalism Radio*. Spiess is also the author of *The Crude Life eBook* series.

For more information or to contact Spiess, email jason@buildingthebakken.com.

skim-pak™ LLC



Skim-pak skimmers are "flow-controlled" weir skimmers.

The weir automatically adjusts to the flow being drawn from the system.

Draw slowly and create a thin skim cut, increase flow and take a thicker cut.

No manual adjustments. Custom-made swivel joints to ensure easy rotation. Entire system can be constructed from 304SS, 316SS, 625SS or 2205SS. Over 200 systems installed in the last 20 years.

Also available: ABS plastic skimmers for rapid spill response.

The only skimmer system you should trust in your tank.

Skimpak LLC
215 W. Franklin St. #209
Monterey, CA 93940
831-920-1470
www.skimpak.com
sales@skimpak.com

It All *STEMs* from Education



By Andrea Danelak

Attracting women to STEM (science, technology, engineering and math) careers continues to be an ongoing challenge across the country. Some of the biggest factors include education, exposure and expectations, all of which play a significant role in preventing women—and minorities—from pursuing careers in these fields.

From kindergarten onward, education can shape opinions and knowledge of the opportunities available in STEM fields.

“Many things can happen early in a woman’s life that can discourage her from pursuing a STEM career,” says Dr. Sharon Mosher, dean of the Jackson School of Geosciences at The University of Texas at Austin, who spoke on the subject during a panel

discussion at the Women’s Global Leadership Conference in Energy in October 2015. “One of the biggest obstacles is found at the grade-school level, as many teachers who don’t have any sort of STEM background don’t emphasize those topics.”

“Students without access to high-performing teachers or children in schools without access to higher-level STEM classes are automatically excluded, not based on potential capability, but on educational opportunities,” says Paula McCann Harris, director of global social responsibility programs and Schlumberger Excellence in Educational Development (SEED) at Schlumberger. “As educational systems are realizing STEM is not just science and math but that engineering and technology must also be taught, we will see a change.”

Though more STEM programs are being made available to students, STEM careers and majors require significant planning through the formative years, according to Harris, who also participated in the panel discussion in October.

“Kids can’t just decide as seniors in high school to major in engineering or computer science. It takes nudging to enroll in high-level classes, including pre-calculus or advanced placement courses,” she says. “We must start early, introducing kids to the fun and excitement of STEM careers, then we must push the advantages and continue the support through college.”

A related barrier is the absence of exposure to STEM careers.

“Exposure can mean being exposed to role models or people who you know and relate to who have been successful in these lines of careers,” says Harris. “Smart kids with potential will tend to go with the known. STEM careers miss out on a lot of talent because our audience has not been exposed to our industries.”

“In terms of the geosciences, for instance, we find very few people actually know a geoscientist because they just aren’t exposed to them,” adds Mosher. “Doctors, pharmacists, nurses—people interact with people in those fields and recognize them as career paths, whereas if you don’t see it, you don’t even know it exists.”

Sometimes, exposure can come from surprising places.

“There was a huge spike in students who studied forensic sciences due to a popular TV show a few years ago, and same with

Societal or cultural expectations can also affect the decision to pursue a career in a STEM field...some women are apprehensive about making their careers a priority.

mathematics due to another show,” says Mosher. “These types of shows emphasize ‘cool’ jobs that have an impact.”

Societal or cultural expectations can also affect the decision to pursue a career in a STEM field. Mosher has met some women who are apprehensive about making their careers a priority. However, careers in a STEM field often allow for a lot of flexibility in having a career and raising a family—a benefit that needs more promotion, she says.

“Once women perceive they can have a family and a career, these jobs become more attractive.”

Both Mosher and Harris emphasize the need for schools and companies to bring in women and minorities working in STEM fields to talk about their jobs, which may help alleviate some of the stereotypes that are still around today.

“Sometimes, girls will hear people—even teachers—say discouraging things like, ‘Girls aren’t good at this,’ or, ‘I was never good at math.’ If students hear teachers say that girls

aren’t good at certain things, that will have an impact,” says Mosher.

“If students are in the classroom environment where boys are encouraged to think, build and problem-solve and girls are not, we will continue to see a large gap,” adds Harris. “If minorities from lower socioeconomic families are not being encouraged...we will continue to see the gap in women and minorities in STEM careers.”

Thanks to the efforts of advocates like Mosher and Harris, there is a greater awareness of these barriers, but there is still a long road ahead.

“I know things have changed over my career, in terms of those stereotypes,” says Mosher. “The more women who go into STEM careers and talk about them, the more likely these stereotypes will continue to change.”

Harris agrees. “As more women and minorities trickle into these careers, they must work hard to encourage others and let them know there are opportunities for people who look just like you in STEM careers.” 

GET TO KNOW OUR EXPERTS

DR. SHARON MOSHER



Dr. Sharon Mosher was appointed dean of the Jackson School of Geosciences at the University of Texas at Austin in 2009. She previously served as chair of the Jackson

School’s Department of Geological Sciences and has been a full professor since 1990, specializing in structural geology and tectonics.



PAULA MCCANN HARRIS

Paula Harris is the director of global social responsibility programs and

SEED (Schlumberger Excellence in Educational Development) at Schlumberger. In her 28-year career with the company, Harris has held a variety of positions, serving in the social responsibility role for the last seven years.



WallworkTM TRUCK CENTERS

FARGO • BISMARCK • MINOT
WILLISTON • FERGUS FALLS • DICKINSON

250+ Trucks & Trailers Ready for Purchase

11.9 Million in Parts Inventory on Hand

60+ Diesel Technicians throughout North Dakota

Two Heavy Truck Body Shops (Fargo and Bismarck)

Going the Extra Mile to Keep Your Trucks Rolling

wallworktrucks.com • 800-937-3003



By Drew Kozub

The great crew change is coming. Many of the senior workers in the oil and gas industry have held their roles for several years—some, their entire careers. As this group is preparing for and retiring over the next decade or so, it will leave the oil and gas industry in a unique position that will see Millennials entering the workforce, and eventually being the largest demographic working in the oil and gas industry.

As this change happens (and it's already begun), it is crucial to recognize that the value system of the former generation will retire with them. This leaves our industry in an unfamiliar position, trying to figure out how to create a work environment that will be appealing to the next generation of workers.

When the old crew punches out for the last time, will the oil and gas industry be able to create an environment that will be enticing to a new generation of leaders?

GENERATIONAL DIVIDE

Understanding the factors that are changing workforce leadership and dynamics is something Mark Breslin knows very well. At 26, Breslin became CEO of the Engineering

and Utility Contractors Association (now United Contractors) and stayed there for more than 25 years.

Today, he coaches major companies in workforce development, preparing industry associations and leaders for transitioning through major economic, societal, and ideological shifts with his company Breslin Strategies.

Breslin identifies four main generations in society today: Traditionals, born before 1946; Baby Boomers, born between 1946 and 1965; Generation Xers, born from 1966 to 1980; and Millennials (also called Gen Y), born from 1981 to 2000.

As Baby Boomers retire, this creates space for Generation Xers to move up. However, we're faced with a growing problem. Baby Boomers are retiring in greater numbers than there are Generation Xers to fill their roles.

"Gen Xers get the greatest opportunity in history and they only get it once," explains Breslin, saying the oil and gas industry will see millions of qualified workers retiring soon.

"Gen X will be the leaders of this industry, but there are not enough of them to fill the need as early as we need."

That means there is a massive opportunity for Millennials to take senior roles in the oil and gas industry very soon. This is good

news from a company-building perspective, because training the next generation at your company means you'll have more working years with employees before they're ready for retirement. However, in order to retain the next generation of workers, companies have to change their work environment to fit their new employees—not the other way around.

"The old-school oil and gas culture was one of 'proving' oneself by enduring a lot of tough treatment," says Breslin. "This was a way people earned respect. Gen X and Gen Y do not respond to this at all. In fact, they would rather change jobs than work in a non-cooperative and non supportive environment. This is very tough for Baby Boomer supervisors to adapt to."

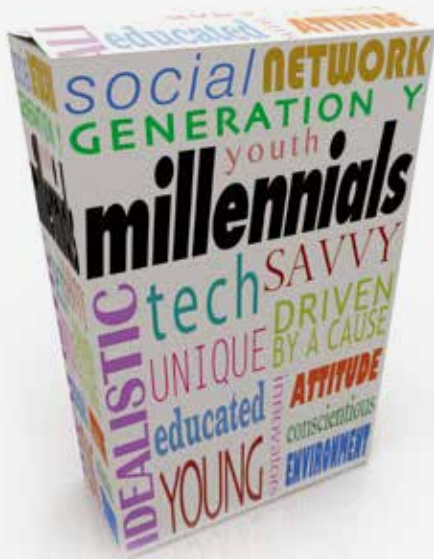
GENERATIONAL DIFFERENCES

Our work culture currently runs on the Baby Boomer value system, worth ethic, and work environment, says Breslin, and that needs to change with this generational shift.

Traditionalists came to North America looking for opportunity, doing whatever it took to provide, and working hard to get ahead. Boomers *are* what they do; one of the first questions they ask you is what you do for

Mining for Millennials: Recruiting the Next Generation





Do we really have a manpower shortage, or do we have a culture that takes Gen Xers and Millennials and grinds them up and spits them out, so they decide to do something else?

a skilled workforce; it's about creating an engaged one, which can be achieved by building a knowledgeable workforce.

CHANGING THE CULTURE

One path to engaging the next generation of oil and gas workers could be re-examining how we hire and train for vital, job-site roles. Breslin says establishing better credentials, training, and accountability for senior roles is not only going to retain the next generation of employees by creating advancement opportunities, but will also improve workplace dynamics.

"A much greater emphasis needs to occur at the level of superintendent, foreman, crew leader," says Breslin. "In an era where production and safety are paramount, these are not just basic blue collar jobs anymore. The professionalization of the oil and gas industry is here, and those who embrace it will see the performance metrics move."

Motivation is another driving factor in culture change. The three most powerful, sustainable workplace motivators (in descending order) include the following:

1. Praise and recognition unlock potential.
2. Participation in decision-making creates a better outcome.
3. Money and fair treatment drive performance (fair is more important than money).

THE KEY TO EVOLUTION

There are actions companies can take today to create an environment that will attract, retain, and advance the next generation of workers.

First, companies need to do a better job of explaining their corporate identities and values in a way that Gen X and especially Millennial professionals expect it. This means increasing their presence online. When young professionals are searching for jobs and researching a company to prepare for an interview, they will look at the company's website, LinkedIn page, YouTube channel, and more to get a sense of whether or not this is a place

they want to work. Your online presence isn't just there to impress clients; it creates a first impression for future employees.

When you bring new people onto your team from the Millennial generation, Breslin says it is important to immediately and clearly map expectations. Generally, professionals in this generation have an unrealistic view of their advancement schedule. Companies need to focus on establishing great communication schedules for feedback, addressing accountability and establishing benchmarks for measuring goals and achievements.

By understanding the values of Gen X and Millennial workers, companies can create roles and retool their corporate cultures so they can be an appealing workplace when recruiting, training, and retaining the next generation of workers in the oil and gas industry.

GET TO KNOW OUR EXPERT MARK BRESLIN



The driving force behind the transformation of workforce leadership is Mark Breslin of Breslin Strategies, one of the foremost speakers

in the nation on change management, workforce development and next-generation leadership training.

As a strategist, speaker and author of five best-selling books, Mark has spoken to over 300,000 people in the U.S., Canada and Caribbean Trade Zone. Clients include ConocoPhillips, INTEL, Irving Oil, Blue Cross, North Western Energy, Flint Hills Resources and many others.

His knowledge and strong understanding of workplace culture and performance are in high demand and keep him doing what he loves—changing lives and building leaders.

a living. This is the generation that formed today's culture in the oil and gas industry.

"You cannot take young people and plug them into this culture; they will not thrive," says Breslin. "Do we really have a manpower shortage, or do we have a culture that takes Gen Xers and Millennials and grinds them up and spits them out, so they decide to do something else?"

Breslin says Gen Xers want work/life balance. They are independent and not overly loyal to employers. They highly value ongoing learning and development, and money is not as important—for this group, talent flows to where it is valued most.

"They have strong technical skills and are ruled by accomplishment, not the clock," says Breslin. "They don't care what workplace rules are; they will work until midnight, if needed, to get something done. They are so good at what they do that it doesn't matter if they don't follow the rules."

As the future of our industry, Breslin says Millennials are confident, smart and well-educated; however, they desire constant feedback, which can lead their Baby Boomer bosses to wonder why they are always bothering them for feedback. When they don't receive feedback, Millennials wonder what they are doing wrong, which can lead to being unimpressed with authority. Millennials value teamwork and collective action, but work does not define them.

"Millennials are the best team players and collaborators in the history of the workplace. They have all this talent and ambition, but the problem is they have not learned to fail," says Breslin, explaining that when confronted with challenge, if the likelihood of failure is high, or if they do not feel engaged, Millennials will not work well.

Breslin stresses that the future the oil and gas industry is not only about creating



Legislative Line:

By Paul Adair

The Outdoor Heritage Fund was created in 2013 as a way for the state's oil industry to help give back to the environment; a fund established to invest into a number of state-wide conservation efforts and outdoor recreational practices. However, when the program was put into law, oil production across the Bakken was booming and the price of oil was sitting well over \$100 a barrel.

What a difference just a few years can make.

Recent forecasts suggest the price of oil will stand between \$25 and \$37 per barrel over the next 17 months, and oil production in North Dakota is expected to drop to 900,000 barrels per day. As the allocated amounts given to the Outdoor Heritage Fund are determined by a complex formula divvying up a small portion of the Gross Production Tax, a drop in the price and production of oil proportionately impacts the dollars going into the fund.

Spending Outdoor Heritage Fund Dollars

In 2013, the fund was provided approximately \$23.5 million by the Legislature to support over 80 projects across North Dakota. In the 2015-2017 biennium, the fund was set to receive approximately \$27 million, but as the price of oil entered a virtual free fall, a new forecast was called for by the state and the fund was slashed in half, receiving a new estimate of \$13.4 million. It should be noted that this estimate could be considered on the high side, and funding could still drop further as future forecasts are released.

This uncertainty in funding has resulted in the 12-member advisory board, which oversees

the Outdoor Heritage Fund, to more closely scrutinize and prioritize the grant applications put before them, looking at a stringent meeting of criterion and at how soon an applicant could deliver on their plans.

"When production drops, and then the price drops, it really is a double whammy for the Outdoor Heritage Fund," says Jim Melchior, chairman of the Outdoor Heritage Fund.

"So, in upcoming grant rounds—one was held in March and the next will be held in October—applicants should be aware the board needs to be even pickier about which applications receive grants. And even though

we might have some great applications, the funds just may not be there to award every deserving project.”

One of the major projects that moved forward in the last round of grant approvals was submitted by the North Dakota Association of Soil Conservation Districts (NDASCD), which was awarded \$2.05 million—over half of the total funds handed out in grants—to continue its statewide tree planting initiative, which was started two years earlier.

“The tree planting program turned out to be extremely popular throughout the state, and the NDASCD found the dollars being used faster than expected,” says Wade Moser, board member and former chairman for the Outdoor Heritage Fund.

“I don’t know if there was a county in North Dakota that didn’t make some kind of application through this program; a good example of what we call the best of the best, and something that everybody could use.”

At the other end of the spectrum, in terms of project size, a grant of just over \$26,000 was awarded to Delta Waterfowl of Bismarck, which plans to use the money to build 200 nesting houses to help enhance North Dakota’s duck population.

It is inevitable that the Outdoor Heritage Fund’s assets will fluctuate over time,

as world markets determine oil prices, but North Dakota should rest assured the fund itself is in little danger of disappearing while the appropriation law remains in effect. As long as there is production tax revenue being paid to the state, there will be money going into the fund and the mechanism for funding conservation will remain in place for when this economic downturn turns itself around.

“It is important to keep the funding available at some level,” says Melchior. “While I am sure there are definitely things on the legislature’s plate right now that may seem more essential than the Outdoor Heritage Fund, it is still imperative to put something back when you are taking mineral resources out of the ground. We should always strive to leave the environment in the same—or better—condition than when we first got here.”

GET TO KNOW OUR EXPERTS

JIM MELCHOIR

Jim Melchoir was born and raised on a farm and ranch near Richardton, ND. After graduating from high school, he moved to Bismarck to attend Bismarck Junior College and Mary College.

Melchoir worked at the North Dakota State School Land Department until 1975, when he joined the staff of the North American Coal Corporation, where he still works at a mine located south of Beulah, ND.

Melchoir was appointed by the Governor to represent the Lignite Energy Council as one of the 12 members of the Outdoor Heritage Fund Advisory Board.



WADE MOSER

Wade Moser was born and raised on a ranch in southwest North Dakota and he has spent his entire life in the state, aside from two years when he served in the U.S. Army. After almost 30 years as the executive vice-president of the North Dakota Stockmen’s Association, Moser retired and continued to ranch full-time. He was appointed as one of the 12 volunteers to the Outdoor Heritage Fund Advisory Board by the Governor.

Feel Valued.

Introducing the new way we go into everything that's going to make your stay even sweeter. You'll feel it as our best breakfast. And you'll see it in the personal care of our team members who use their individual styles of hospitality to make you feel extra special.

Hampton by Hilton

Hampton Inn & Suites by Hilton Minot Airport ND
1402 North Broadway, Minot, ND
701.838.3200

© 2014 Hilton Hotels Corporation

BALDWIN FILTERS

MORE THAN JUST HEAVY-DUTY. EVERY DUTY.

Baldwin filters are recognized worldwide as high quality, reliable and cost-effective products that are backed by an outstanding warranty.

When you use Baldwin, you can be confident that your equipment is benefiting from the very best in protection.

baldwinfilter.com

AE2S: Helping the Bakken Grow through Extreme Client Service

By Drew Kozub



ABOVE LEFT: AE2S-affiliated companies are experienced with the design, build and operation of freshwater pipelines systems for fracking and maintenance water, as well as produced water pipeline systems. ABOVE RIGHT: Advanced Engineering and Environmental Services Inc.'s corporate headquarters in Grand Forks, ND.

In order to grow and get ahead in any industry, a company needs to be prepared to overcome challenges and be poised for success in even the most stressful of circumstances, like the burgeoning boom that struck the Bakken in 2011. The knowledge that is needed to achieve such success in hectic situations truly comes with time and experience, and Advanced Engineering and Environmental Services Inc. (AE2S) has had plenty of each since its inception, so it was prepared to help the state ease its growing pains when it struck oil again.

AE2S will celebrate its 25th anniversary this October. When the company was founded in 1991 in Grand Forks, ND by Steve Burian, CEO, and Charlie Vein, president, they offered water engineering services exclusively. Today, the company has five divisions offering services to the oil and gas industry, construction management, and municipal

support, to name a few. Andrea Boe, business development director for AE2S Water Solutions, AE2S Industrial, AE2S Construction, and AE2S Operations, says a key driver to the company's growth was the reputation it developed, coming from the unique relationships it builds with clients.

"One of AE2S's hallmarks is extreme client service—basically, client service so outstanding that our clients come to think of us as an extension of their own staff," says Boe. "This has been particularly true in the Bakken region, where AE2S, AE2S Nexus, and AE2S Operations provide staff that serves as city engineers, city administrators and auditors, as well as water treatment plant operators."

The company has diversified and expanded since it launched in 1991. AE2S now has five affiliate companies employing over 330 employees with offices and construction shops throughout the Upper Midwest and Rocky Mountain regions. The flagship

company, AE2S, is a specialized civil/environmental consulting engineering firm focusing on water as the primary service (drinking water, wastewater and water resources). AE2S also offers surveying, mapping and geographic information systems, and public information/marketing expertise as well as engineering as stand-alone services or in support of ongoing services on large-scale projects.

AE2S has been working on the Western Area Water Supply Project in northwestern North Dakota since the project began. The public drinking water project will service the ever-growing population in this area. The Western Area Water Supply Authority contracts with AE2S for engineering and public information services. The project will provide water for an estimated 125,000 people in Burke, Divide, McKenzie, Mountrail, and Williams Counties by the year 2038.

In recent years, AE2S has diversified to include five branches extending from the



Andrea Boe, business development director for AE2S Water Solutions, AE2S Industrial, AE2S Construction, and AE2S Operations.

flagship company, AE2S, which provides infrastructure solutions for public entities. The divisions include AE2S Nexus, which is a registered municipal advisory firm and is focused on utility and infrastructure financial management, funding and financing, and municipal support services. AE2S Water Solutions and AE2S Industrial focus on infrastructure design for the oil and gas industry as well as other industries, such as food processing facilities. AE2S Construction

provides construction management services, instrumentation and control (I&C) and electrical installations, and has a service division. AE2S Operations provides operation optimization services and operators for municipal and industrial facilities and pipelines.

With expertise in the oil and gas industry, AE2S-affiliated companies are experienced with the design, build and operation of freshwater pipelines systems for fracking and maintenance water, as well as produced water pipeline systems. Boe says AE2S companies also provide quality inspection services—something many clients have come to rely on.

“With recent regulations focused on more stringent rules for pipeline construction, third-party inspection services are in high demand,” she says. “AE2S provides inspection services, full-scale automation and operations systems and reclamation services.”

Connecting with the vibrant, local mining industry in North Dakota is important to AE2S. Boe says the company’s membership to the North Dakota Association of Oil & Gas Producing Counties (NDAOGPC) has resulted in an important connection.

“We have found our membership is more than a membership; it is more of a relationship,” says Boe. “We find ourselves working collaboratively with the NDAOGPC on

projects, and have access to leaders and important information in the industry.”

As the company grows larger, it has not forgotten its roots. Being able to give back to the community is something AE2S takes a lot of pride in and the company seizes opportunities to contribute to advancing the opportunities available for people in North Dakota.

“AE2S’ leadership and employees believe getting involved and giving back to the communities in which we live and work is an important part of being good citizens,” says Boe. “As the company has grown, we have been fortunate to be able to provide sponsorships that benefit our communities. STEM (science, technology, engineering, and mathematics) education opportunities are particularly close to our hearts, since we’re an engineering firm.” 

FOR MORE INFORMATION

**Advanced Engineering and
Environmental Services Inc.**

Corporate Headquarters

4050 Garden View Drive, Suite 200

Grand Forks, ND 58201

Tel: (701) 746-8087

sanford.case@ae2s.com

www.ae2s.com



Regional Roundup

ENERGY IMPACT FUND RUNS SHORT: OPEN LETTER TO THE PUBLIC SUSPENSION OF UNCOMMITTED GRANT PROJECTS AND FUTURE GRANT ROUNDS

The revised state revenue forecast released on February 1, 2016 projects that the oil and gas impact grant fund will receive only \$28.6 million of the \$140 million as appropriated by the 2015 Legislature.

As a result of this shortfall, many awarded and anticipated grants will be deferred.

All grants in which the project has not started or obligations yet made by the grantee are suspended. This suspension is made with the understanding that an obligation still exists, reimbursement may occur when State funding becomes available. However, grantees should know Energy Impact funding may not be available for some time.

Additionally, consideration of all remaining grants for the 2015-2017 biennium have been postponed. While the Legislature earmarked many grant areas, that appropriation is based upon the availability of funds. If a grant has not been approved by the Land Board, there are no state funds formally committed. If funding becomes available, the grant schedule will be reconsidered.

We understand this unfortunate situation may affect your community's and agency's plans; however, these steps are necessary due to the significant reduction in available grant funds. Grant specific details will be provided in the coming days.

Your understanding is greatly appreciated!

Gerry Fisher

Administrator, Energy Infrastructure and Impact Office
North Dakota Department of Trust Lands
(701) 328-1947, gcfisher@nd.gov

Editor's note: Gerry Fisher, administrator, EIIO, says the state budget will be re-evaluated in mid-summer and if there are additional funds available, the grant status could change.

His office made about 250 phone calls to see about the status of grants as his office waits for the funding from the Oil and Gas Gross Production Tax.

MEDICAL SERVICES ADVANCE IN RURAL WESTERN NORTH DAKOTA

Hettinger County is the latest region to get affordable access to emergency medical air transportation. Valley Med Flight flies out of Bismarck and Dickinson, ND. Its main base is in Grand Forks and it also operates in Sidney and Williston.

Until this winter, air ambulance service was so expensive that most residents could not afford it. Now, Hettinger County Commission has voted to subscribe to the service, which will lower patients' costs. Membership is paid for from the county's general fund. In the June election, residents will vote whether to use sales tax to pay for it in the future.

The McKenzie County Healthcare System is also growing in size and services. Thanks to a University of North Dakota (UND) program, the hospital will provide surgical services next month. Providing surgeons is a big part of the challenge, and the Rural Surgery Support Program from UND helps to provide surgeons.

At first, the McKenzie County Healthcare surgery services will provide minor surgical procedures such as for wounds. It will also provide consultation for area residents who are considering a surgery provided elsewhere.

By 2018, the new expanded McKenzie County Hospital will include greater surgical services. Work on the new hospital expansion will begin this spring and will include at least two surgical suites.

IOWA APPROVES DAKOTA ACCESS PIPELINE

The Iowa Utilities Board gave its approval for the Dakota Access Pipeline to cross the state of Iowa. The ruling in mid-March follows a lengthy review process. In the end, regulators said the pipeline serves a greater public good. Regulators in Illinois, South Dakota and North Dakota have already approved the pipeline; Iowa was the final regulatory hurdle to cross. The approval opens the way for construction to begin.

The pipeline will carry about half of the state's daily crude output, an estimated half-million barrels of Bakken Crude to Illinois from Stanley, ND. The project could lower the cost of oil production in North Dakota by reducing transportation costs and help companies here weather lower crude prices.

Nearly 300 Iowa landowners refuse to allow the pipeline to cross their land. They protested the Iowa decision immediately.

WILLISTON COMMISSION VOTES TO PROTECT HOUSING INVESTORS

Williston's investment in hotels and housing took priority over temporary man camps at the most recent discussion and vote on the topic of phasing out man camps in the Williston area.

A compromise plan to slow down the closure of man camps was defeated this week. The compromise would have allowed a phase-out of camps lasting, in some cases, until 2019. The Williston City Commission voted to maintain the July 2016 closure date.

Private investors made large investments in apartments and hotels in Williston at the peak of the most recent oil activity. As activity slowed, workers moved out and the occupancy of hotels and apartments dwindled. Meanwhile, man camps were also losing occupancy but still filled a role for temporary housing.

A 3-2 vote by the commission maintained the 2016 closing to protect local investments and hasten the ultimate closure of temporary man camps.

Tools of the Trade



MILLER FILLS MARKET GAP WITH RELEASE OF NEW TIER 4 FINAL WELDER/GENERATOR

Released by Miller Electric Mfg. Co., the Big Blue 600 Pro welder/generator replaces the popular Tier 4 Interim Big Blue 500 with an even more powerful EPA Tier 4 Final-compliant engine. Designed for the U.S. market, this new 600 amp machine tackles tough jobs that require high output for welding, gouging and auxiliary power.

Behind the power is Kubota's new V2403 turbocharged four-cylinder industrial liquid-cooled engine. Rated at 48.9 horsepower, this model is ideal for heavy industrial applications including construction, structural steel, mining maintenance, pipe welding, and maintenance and repair rigs.

"The Big Blue 600 Pro provides several key upgrades from the previous model," says Ben Froland, product manager for Miller Electric Mfg. Co., "including improved arc characteristics, digital weld meters and display, and three-phase power available anytime—even while welding."

All models include a four-inch electronic engine display, which replaces the traditional cluster of analog gauges. This new display allows users to precisely monitor fuel level, engine hours, coolant temperature, oil pressure, battery voltage and engine RPM—all in one convenient location. In addition, the display also tracks oil change intervals and displays engine diagnostics for quick and easy servicing.

Another upgrade from previous models is the ability to use auxiliary power while welding. With up to 20,000 watts of continuous three-phase power, and up to 12,000 watts of continuous single-phase power, the unit is more than capable of running common jobsite tools and equipment, such as lights, grinders and even other plug-in inverter welders.

Standard features also include a 120-volt block heater and automatic glow plugs for cold-weather starting, tailorable arc control for SMAW and GMAW processes, and wireless hand remote compatibility so operators can work safer and faster up to 300 feet from the power source.

www.millerwelds.com

RELIABLE, WORRY-FREE MIXING WITH HEAVY-DUTY SPREAD BEARING DESIGN

NORD offers several variations of the VL heavy-duty spread bearing designs, all which have specific features and advantages based on the specific mixing and agitating application requirements.

The first variation, VL2, offers reinforced output shaft bearings with increased bearing distance. This spread bearing design accommodates for high overhung thrust loads and allows for longer bearing service life. Included with the VL2 design is a grease-fitting for the lower bearing and a removable plug to allow excess grease to purge from the bearing cavity.

The VL3 dry cavity design adds additional oil leak protective measures to the VL2 spread bearing design. NORD's Quadralip™ sealing system prevents oil from leaking from the gearbox into the VL2 flange. If oil does leak past the Quadralip™ seals, it flows down to an oil slinger mounted onto the shaft. As the shaft rotates, the oil will sling off into the dry cavity. A sight tube is provided in order to monitor the dry cavity.

The final variation is the VL4 heavy-duty drop bearing design with a drywell. This true drywell design provides the high capacity bearing design of the VL2/VL3 with the addition of a drywell. While most drywell designs simply have a small oil dam tube inside the gear unit, NORD's stationary oil dam tube extends vertically above the top of the gear unit housing. This provides a much higher degree of leak safety. Additionally, there is a sealing o-ring at the top of the oil dam for maximum protection.

www.nord.com



BEL-RAY INTRODUCES NEW HIGH TEMPERATURE NICKEL ANTI-SEIZE COMPOUND

Bel-Ray recently announced the release of its new Nickel Anti-Seize Compound, specially formulated for use in a wide range of heavy industrial applications, including steel mills, power generation, refineries, petrochemical processing and marine industries.

The Nickel Anti-Seize Compound is an aluminum complex grease that features high contents of nickel and graphite powders. It is free of any copper or soft reactive metals, making it ideal for use on stainless steel fasteners and fittings. A simple brush-on application, the Nickel Anti-Seize coats metal threads and components to prevent costly damage caused by galling, fretting and seizing.

Engineered to withstand the most extreme conditions, Bel-Ray Nickel Anti-Seize provides unmatched protection for metal equipment components and hardware against rust and corrosion, even under prolonged exposure to aggressive chemicals and temperatures of up to 2,400° F (1,315° C).

Bel-Ray Nickel Anti-Seize Compound also provides smoother, easier assembly and disassembly of metal fasteners and fittings during equipment maintenance and repair. When applied, the nickel compound lowers the coefficient of friction between threads and the turning torque required by as much as 15 percent.

www.belray.com



WILDEN® RELEASES ADVANCED™ HIGH PRESSURE METAL AODD PUMP MODELS WITH ENERGY-EFFICIENT PRO- FLO® SHIFT ADS

Wilden® is pleased to announce the release of two new 1-1/2-inch (38 mm) Advanced™ High Pressure Bolted Metal AODD Pump models that use the energy-efficient Pro-Flo® SHIFT Air Distribution System (ADS).

Using a bolted configuration to ensure total product containment, the new pumps feature redesigned liquid paths to reduce internal friction to maximize output and efficiency. They are shear-sensitive, dry-run capable, externally serviceable, completely submersible and comply with all CE and ATEX requirements.

The new, high-pressure pumps also come equipped with the innovative Wilden Pro-Flo SHIFT ADS. The Pro-Flo SHIFT incorporates a unique air control spool that automatically restricts the amount of air going into the pump during the latter part of each stroke, which eliminates over-filling of the air chamber and results in reduced air consumption. By optimizing air consumption, the Pro-Flo SHIFT lowers energy and operating costs, achieving up to 60 percent savings over competitive AODD pump technologies. Its robust design makes the Pro-Flo SHIFT ideal for use in harsh operating environments.

The two new, high-pressure pump models are the HS400S, which is available in aluminum, and the HS430S, which comes in stainless steel. The HS430S features an exact installation fit for easy replacement of many existing pumps including an exact bolt-down footprint and inlet/discharge connections.

Both pumps feature a maximum discharge pressure to 17.2 bar (250 psig). Maximum flow rates are 227 lpm (60 gpm) for the HS400S and 242 lpm (64 gpm) for the HS430S. Diaphragms are available in Wil-Flex™.

www.psgdover.com



TRIVIA TIME

EDUCATING FOR THE ENERGY FIELD

There are many great science, technology, engineering and mathematics (STEM) jobs in the oil and gas field, and several programs across the U.S. encouraging students to pursue that path.

The National Energy Education Development Project (NEED) has been working to increase education about the energy field for nearly 35 years. NEED helps students and teachers understand energy, which could lead them down the path to a career in the oil and gas sector.

The Independent Petroleum Association of America Education Center established five high school engineering, geosciences and leadership academies in Houston school districts. It claims to be having unprecedented success reigniting student interest in STEM fields.

The Energy Institute High School is the first of its kind. Students who enroll are prepared for careers in the energy field, with a focus on STEM subjects.

Source: www.ektinteractive.com/stem-education-programs-oil-gas



CavalierMeansBusiness
Come Home and Move Forward

Cavalier, located in Northeast North Dakota, is the perfect place for your next business expansion or relocation

**LEARN MORE AT
CAVALIERND.COM/ECON**

- | | |
|---------------------|---------------------------|
| ✓ Natural Gas | ✓ 1 GB Internet Available |
| ✓ Low Utilities | ✓ Personalized Service |
| ✓ Full Service City | ✓ Great Quality Of Life |



11121 30 M St SW
Dickinson, ND 58601
PH: 701-483-1393
FAX: 701-483-1394

COIL TUBING NITROGEN FLUID PUMPING



The Wilhelm Law Firm

Title Examinations, Aquisitions
Due Diligence, Civil Litigation
Major Oil Company Experience

Edward M. Wilhelm

North Dakota & Texas Licenses ewilhelm@wilhelmlaw.net

Jack M. Wilhelm

Texas, Louisiana, Illinois & Arkansas Licenses jwilhelm@wilhelmlaw.net

512-236-8400 512-236-8404 fax
1703 West Ave., Austin, TX 78701 | www.wilhelmlaw.net

THE BAKKEN TOP 20

The following are the top 20 oil and gas producers in North Dakota as of January 2016. The list, which shows the cumulative amount of oil and gas that the companies have produced in North Dakota in 2016, was provided by the North Dakota Department of Mineral Resources in March 2016.

As of mid-March 2016, there are 31 active rigs drilling in the North Dakota oil patch, according to the North Dakota Oil & Gas Division of the North Dakota Department of Mineral Resources. This number is down from 73 rigs in July, 78 in June, 83 in May and 91 rigs in April, and it is the lowest number since March 2007, when it was 33. The all-time high reached 218 on May 29, 2012. The biggest factor in the drop is falling oil prices.

The statewide rig count is down 85 percent from the high. Operators are more committed than ever to run fewer rigs as oil prices remain at very low levels, which is expected to last into the third quarter of 2016.

The number of producing wells in North Dakota, as of January 2016, is 13,129 (preliminary). The all-time high was achieved in October 2015, with 13,190 producing wells. Over 98 percent of drilling still targets the Bakken and Three Forks formations.

1. **Continental Resources, Inc.**
Oil production (2016): 4,116,424 bbls
Gas production (2016): 6,697,173 mcf
Tel: (405) 234-9000
Toll-Free: (800) 256-8955
Killdeer: (701) 764-6582
Rhame: (701) 279-6688
Tioga: (701) 664-3001
Web: www.contres.com
2. **Whiting Oil & Gas Corp.**
Oil production (2016): 3,754,387 bbls
Gas production (2016): 5,989,010 mcf
Tel: (303) 837-1661
Web: www.whiting.com
3. **Hess Bakken Investments II, LLC**
Oil production (2016): 3,089,206 bbls
Gas production (2016): 5,418,337 mcf
Tel: (713) 496-4000
Web: www.hess.com
4. **Burlington Resources Oil & Gas Co., LP**
Oil production (2016): 2,643,541 bbls
Gas production (2016): 4,079,068 mcf
Tel: (432) 688-6800
Web: www.br-inc.com
5. **XTO Energy Inc.**
Oil production (2016): 2,553,047 bbls
Gas production (2016): 4,419,897 mcf
Wells in production (2016): 648
Tel: (817) 870-2800
Toll-Free: (800) 299-2800
Web: www.xtoenergy.com
6. **Oasis Petroleum North America, LLC**
Oil production (2016): 1,713,964 bbls
Gas production (2016): 2,202,401 mcf
Tel: (281) 404-9500
Web: www.oasispetroleum.com
7. **Marathon Oil Co.**
Oil production (2016): 1,675,306 bbls
Gas production (2016): 1,599,914 mcf
Tel: (713) 629-6600
Web: www.marathonoil.com
8. **Statoil Oil & Gas, LP**
Oil production (2016): 1,547,643 bbls
Gas production (2016): 1,900,640 mcf
Tel: (512) 427-3300
Web: www.statoil.com
9. **EOG Resources, Inc.**
Oil production (2016): 1,472,141 bbls
Gas production (2016): 2,039,315 mcf
Tel: (713) 651-7000
Toll-Free: (877) 363-3647 (EOGR)
Web: www.eogresources.com
10. **QEP Energy Co.**
Oil production (2016): 1,431,512 bbls
Gas production (2016): 1,965,479 mcf
Tel: (303) 672-6900
Web: www.qepres.com
11. **HRC Operating, LLC**
Oil production (2016): 981,108 bbls
Gas production (2016): 1,025,491 mcf
Tel: (832) 538-0300
Web: www.halconresources.com
12. **WPX Energy Williston, LLC**
Oil production (2016): 958,418 bbls
Gas production (2016): 1,039,551 mcf
Tel: (701) 837-2900
Web: www.wpxenergy.com
13. **SM Energy Co.**
Oil production (2016): 770,136 bbls
Gas production (2016): 1,031,064 mcf
Tel: (406) 245-6248
Web: www.sm-energy.com
14. **Newfield Production Co.**
Oil production (2016): 730,745 bbls
Gas production (2016): 1,701,714 mcf
Tel: (281) 210-5100
Web: www.newfld.com
15. **Zavanna, LLC**
Oil production (2016): 643,802 bbls
Gas production (2016): 1,352,110 mcf
Tel: (303) 595-8004
Web: zavanna.com
16. **Petro Hunt, LLC**
Oil production (2016): 633,367 bbls
Gas production (2016): 1,368,894 mcf
Tel: (214) 880-8400
Charlson: (701) 675-2467
Web: www.petrohunt.com
17. **Enerplus Resources USA Corp.**
Oil production (2016): 567,302 bbls
Gas production (2016): 875,634 mcf
Tel: (701) 675-2135
Web: www.enerplus.com
18. **Slawson Exploration Co., Inc.**
Oil production (2016): 455,488 bbls
Gas production (2016): 450,573 mcf
Tel: (316) 263-3201
Web: www.slawsoncompanies.com/exploration.html
19. **Oxy USA Inc.**
Oil production (2016): 441,582 bbls
Gas production (2016): 306,822 mcf
Tel: (713) 215-7000
Web: www.oxy.com
20. **Triangle USA Petroleum Corp.**
Oil production (2016): 404,260 bbls
Gas production (2016): 522,608 mcf
Tel: (303) 260-7125
Web: www.trianglepetroleum.com

ADCOVACY GROUP

Williston Economic Development 49

CONSTRUCTION

Wanzek Construction..... IFC

CONVENTION & VISITORS BUREAU

Bismarck-Mandan
Convention & Visitors Bureau 10

COUNCILS

North Dakota Petroleum Council 56

**CRUDE OIL & WATER
HAULING**

MBI Energy Services 13

CUSTOM TRAILERS

Norbert's Manufacturing 54

**DIAMOND SHELTERS &
STRUCTURES**

Dueck's Mechanical Inc. 9

DISTRIBUTORS

B&L Distributors Inc. 41

ECONOMIC DEVELOPMENT

City of Cavalier –
Economic Development 52

EDUCATION

North Dakota State
University 24

**ENERGY PRODUCTION &
RESEARCH CENTER**

University of North Dakota
Energy & Environmental
Research Center 33

ENERGY SERVICES

Legend Energy Services LLC 52

ENGINEERS

Ackerman-Estvold 25
KLJ 30

**ENGINEERS, LAND SURVEYORS,
PLANNERS & CONSULTANTS**

AE2S Nexus 8
SRF Consulting Group 36
Ulteig Engineers & Land Surveyors..... 37

EQUIPMENT, PARTS, SUPPLIES & SALES

General Equipment & Supplies..... 39
Tractor & Equipment Co. IBC

FINANCIAL ADVISOR

Troy Nelson Edward Jones 20

FLAMELESS HEATERS

Therm Dynamics 37

FUELS, LUBRICANTS & FILTERS

Baldwin Filters 47

GAS & CHEMICAL MANUFACTURER

Dakota Gasification Company 4

**GENERAL CONTRACTORS &
TENSION FABRIC STRUCTURES**

Britespan Building Systems 18

GENERATORS

Taylor Power Systems Inc. 31

**HIGH-PRESSURE WATER JET
TECHNOLOGY**

NLB USA 36

HOTEL & MOTEL ACCOMMODATIONS

Hampton Inn & Suites,
Minot Airport 47

**INDUSTRIAL HIGH-PRESSURE
WASHERS**

Hotsy Blast Manufacturing LP 12

INSURANCE

Blue Cross Blue Shield of
North Dakota..... 3

**JANITORIAL EQUIPMENT
& SUPPLIES**

B&L Distributors Inc. 41

LAND RECORDS

North Dakota Recorders
Information Network..... 36

**NATURAL GAS TRANSMISSION,
ENERGY FIELD SERVICES,
PRODUCTION, CONCRETE
CONSTRUCTION**

MDU Resources..... 6

OFFICE FURNITURE & SUPPLIES

B&L Distributors Inc. 41

**OIL & GAS-FOCUSED LEGAL
SERVICES**

Wilhelm Law Firm 52

OIL COMPANY SERVICES

G&A Enterprises LLC..... 25

OIL SKIMMING EQUIPMENT

Skim-Pak LLC..... 41

**OILFIELD & SAFETY
CLOTHING**

Home of Economy 16

**PIPE MANUFACTURING &
INSPECTION SERVICE**

Loenbro 15

SOLIDS CONTROL EQUIPMENT

Hutchison Hayes..... 30

**SPECIALTY CONTRACTING & WASTE
MANAGEMENT**

Veit 29

**TRUCK & FLEET SALES, PARTS,
SERVICES & SUPPLIES**

Murphy Motors..... 31
Wallwork Truck Centers..... 43

NORBERT'S
Manufacturing

NORBERT'S THE LEADER IN
Custom Enclosed, Flatdeck & Utility Trailers for the Oilfield Industry.



**For Information on Doghouse & Boiler Trailers,
Please Call Factory Direct**
Norbert's Mfg. — Glenboro, MB Ph: (204) 827-2015
www.Norberts.com



Your Local Williston Cat® Dealer

Two Branches Providing Unrivaled Local Support
WHEN and WHERE You Need Us!



T&E WILLISTON WEST

1. Cat Parts and Service

- Full parts/service support for Cat machinery, Cat generators/engines, and Cat truck engines
- 24/7/365 on-call service
- 35+ service techs based in Williston with additional rotating technicians
- On-Site Scheduled Maintenance service
- 9,000+ parts line items warehoused in Williston
- Drop box delivery locations in Bainville, Sidney, Tioga, and Watford City
- 24/7/365 on-line parts ordering
- Now offering complimentary in-town delivery

2. Cat Machinery and Vocational Truck Sales

- Legendary Cat performance/reliability

Williston West
14078 West Front Street
701-572-8377



T&E WILLISTON NORTH

1. Equipment Rental

- Largest fleet in the Bakken!
- Cat heavy equipment
- Mobile generators to 2,000 kW
- Air compressors to 1,600 cfm
- Scissor and boom lifts
- Light towers
- Trench shoring
- Other preferred-brand products

2. Agricultural Equipment

- Ag sales, parts, and service for Gleaner, Challenger®, Ag-Chem™, Massey Ferguson, LEXION, and Seed Hawk

3. Cat Generator/Engine Sales

- Now offering wellhead generators!

Williston North
221 Niehenke Street
701-713-2100



T & E



AGRICULTURAL DIVISION

24TH ANNUAL
**WILLISTON
BASIN
PETROLEUM
CONFERENCE**

**MAY
24-26
2016**

BISMARCK, ND

Taking the

**BAKKEN
FORWARD**



**FEATURING KEYNOTE SPEAKER
COACH LOU HOLTZ
“COACHING WHEN IT COUNTS”**

**PLUS VISIT OUR MORE THAN
300 VENDOR BOOTHS AND
PRESENTATIONS ON WHAT'S
NEXT FOR THE BAKKEN FROM
50+ INDUSTRY AND REGULATORY
EXPERTS INCLUDING:**

BAKKEN LEADERSHIP



DON HRAP
PRESIDENT OF
LOWER 48
CONOCOPHILLIPS



JAY OTTOSON
PRESIDENT & CEO
SM ENERGY



JIM VOLKER
PRESIDENT & CEO
WHITING
PETROLEUM



RICK MUNCRIEF
PRESIDENT & CEO
WPX ENERGY



**GERBERT
SCHOONMAN**
VP, ONSHORE BAKKEN
HESS CORP

REGISTER AT WWW.WBPCND.COM



**NORTH DAKOTA
PETROLEUM
COUNCIL**



**Government
of
Saskatchewan**

