NDPC ROW Meeting
North Dakota Pipeline Authority
Justin J. Kringstad
March 26, 2014 - Tioga, ND
“The roads they traveled were generally poor, if they existed at all. Weather sometimes made even the shortest passage from the wellhead impossible. A dilemma arose concerning what to do with the blessedly continuous production of oil when the roads became hopelessly mired.”

It’s 1860’s Pennsylvania!

Excerpt from: Oil & Gas Pipelines in Nontechnical Language
North Dakota Pipeline Miles

2,470 miles of new pipe in 2012
Roughly Distance from Los Angeles to New York City
Production forecast is for visual demonstration purposes only and should not be considered accurate for any near or long term planning.
North Dakota Crude Oil Pipelines

Challenges*
1) Moving oil out of the Williston Basin
2) Moving oil within the Williston Basin

*Modified from Bridger and Belle Fourche Pipelines
North Dakota Crude Oil Pipelines

- 145,000 BOPD
- 210,000 BOPD
- 68,000 BOPD
- 160,000 BOPD
Oil Loading Rail Facilities
Estimated Williston Basin Oil Transportation

January 2014

- Estimated Pipeline Export: 21%
- Truck to Canadian Pipelines: 6%
- Tesoro Refinery: 1%
- Estimated Rail: 72%
Estimated Williston Basin Oil Transportation

- Estimated Rail
- Estimated Pipeline Export
- Tesoro Refinery
- Truck to Canadian Pipelines
- Brent - WTI Spread (EIA)

Jan-07 to Jan-14

$30
$25
$20
$15
$10
$5
$0
-$5
-$10
Estimated ND Rail Export Volumes

Barrels Per Day

May-08, Sep-08, Jan-09, May-09, Sep-09, Jan-10, May-10, Sep-10, Jan-11, May-11, Sep-11, Jan-12, May-12, Sep-12, Jan-13, May-13, Sep-13, Jan-14
Williston Basin Oil Production & Export Capacity, BOPD

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US Refining Infrastructure

EIA Dec 2013 Refinery Acquisition Cost

- PADD IV: $100.76
- PADD V: $78.98
- PADD II: $84.53
- PADD I: $106.38
- PADD III: $95.99
North Dakota Crude Oil Pipelines

Challenges*

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Crude Oil Gathering
ND Crude Oil Gathering

**Red** – Trucked

**Blue** – Pipeline

All ND Production

Sep 2012 Estimates – Some data incomplete or unavailable
ND Oil Gathering

**Red** – Trucked

**Blue** – Pipeline

All ND Production

Sep 2013 Estimates
Some data incomplete or unavailable

Oil Production

```
Produced (Sum)  
3.738.00
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Some data incomplete or unavailable

 JJ Kringstad - North Dakota Pipeline Authority
ND Oil Gathering

Red – Trucked
Blue – Pipeline

All ND Production

Sep 2013 Estimates
Some data incomplete or unavailable

Oil Gathering

%Piped (Sum)
%Trucked (Sum)

Oil Production

Produced (Sum)

3,738.00
8,350,326.00
Year-Over-Year Oil Gathering Changes*

*Best available estimate. Some data incomplete or missing

~250 Additional Truckloads Per Day
Estimated YOY Daily Truckload Change

Sep 2012 to Sep 2013
Assumes - 225 bbls/truck
Estimated YOY Oil Gathering Change

Sep 2012 to Sep 2013
Closer Look at Gathering Type

Gathering (After CTB)
- Green = Pipeline
- Red = Truck
- Yellow = Both
- Blue = Confidential

Sep 2013 Data
Closer Look at Gathering Type
Closer Look at Gathering Type

Gathering (After CTB)
- Green = Pipeline
- Red = Truck
- Yellow = Both
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- Sep 2013 Data
Closer Look at Gathering Type

Gathering (After CTB)
Green = Pipeline
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Sep 2013 Data

Data CC-By-SA by OpenStreetMap
Closer Look at Gathering Type

Gathering (After CTB)
Green = Pipeline
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Sep 2013 Data
North Dakota Natural Gas Production Forecast

Production forecast is for visual demonstration purposes only and should not be considered accurate for any near or long term planning.
Solving the Flaring Challenge

GREEN – % of gas captured and sold
Blue – % flared from zero sales wells
Orange – % flared from wells with at least one mcf sold.

Simple Terms
Blue – Lack of pipelines
Orange – Challenges on existing infrastructure

Statewide

January 2014 Data – Non-Confidential Wells

*Hess Tioga Gas Plant shut-in for 140 MMCFD expansion starting in November
Capturing the 18% Faster Well Connections

- New Wells Selling Gas
- New Producing Wells

*Weather Related & Gas Plant Shutdown
ND Gas Gathering Statistics

- Wells With Gas Sales or Lease Use
- Wells Without Gas Sales

Weather Related & Gas Plant Shutdown
Discussion Items

-Standardized Legal Forms or Info Sheets?
  -Goal: Save both parties time and money
  -Goal: Address common questions upfront

-Education Efforts
  -What general questions are out there?
  -Who is the audience and will they use it?

-Land Agent Best Practices and Standards

-Landowner Expectations
Contact Information

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