### US Williston Basin Oil Production - 2014

<table>
<thead>
<tr>
<th>MONTH</th>
<th>ND</th>
<th>Eastern MT*</th>
<th>SD</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>936,865</td>
<td>71,648</td>
<td>4,830</td>
<td>1,013,343</td>
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<tr>
<td>February</td>
<td>953,201</td>
<td>73,576</td>
<td>4,712</td>
<td>1,031,489</td>
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<tr>
<td>March</td>
<td>976,605</td>
<td>72,818</td>
<td>4,753</td>
<td>1,054,176</td>
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<tr>
<td>April</td>
<td>1,003,145</td>
<td>74,651</td>
<td>4,755</td>
<td>1,082,551</td>
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<tr>
<td>May</td>
<td>1,040,469</td>
<td>72,245</td>
<td>4,677</td>
<td>1,117,391</td>
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<tr>
<td>June</td>
<td>1,092,519</td>
<td>73,966</td>
<td>4,785</td>
<td>1,171,270</td>
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<tr>
<td>July</td>
<td>1,110,642</td>
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<td>--</td>
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<tr>
<td>August</td>
<td>--</td>
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<tr>
<td>September</td>
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<tr>
<td>October</td>
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<tr>
<td>November</td>
<td>--</td>
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<td>--</td>
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<tr>
<td>December</td>
<td>--</td>
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</tbody>
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Forecasting Williston Basin Oil Production, BOPD

Production forecast is for visual demonstration purposes only and should not be considered accurate for any near or long term planning.
Forecasting Challenges

Current Model (Case 1)
- Approx. 46,000 New Wells Out to Dec 2034
- Average EUR Roughly 342,000 BBLs
- Average First Month Production of 349 BOPD

Ongoing Considerations
- Increased Density Drilling
- Drilling Efficiencies
- Improving Completion Techniques
- Productivity of the Lower Three Forks
- Eastern Montana Success
- Flaring production Restrictions

Long Term Considerations
- EOR Opportunities
- Pricing
- Competition
- Additional Williston Basin Plays
Average Decline Curve for a Bakken Well

- ND Gas
- ND Oil

BOPD/MCFD vs. Production Month
Industry Comments

• “I still think we will reach 2 million barrels a day,” said Harold Hamm, CEO of Continental Resources at the Williston Basin Petroleum Conference. “I don’t think that’s over the top, folks.”

• “We’ve got a resource life here that’s 50 to 60 years,” said Tommy Nusz of Oasis. “It’s not your father’s oil boom anymore. This is going to be part of life in North Dakota for a long time.”

2,578 miles of new pipe in 2013
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

- 210,000 BOPD
- 145,000 BOPD
- 40,000 BOPD
- 68,000 BOPD
- 160,000 BOPD

North Dakota Crude Oil Pipelines Map

- JJ Kringstad - North Dakota Pipeline Authority
Oil Loading Rail Facilities
Estimated Williston Basin Oil Transportation

- Estimated Pipeline Export: 33%
- Tesoro Refinery: 6%
- Truck to Canadian Pipelines: 1%
- Estimated Rail: 60%

July 2014
Estimated Williston Basin Oil Transportation

Estimated Market Share

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

Brent - WTI Spread

$30
$25
$20
$15
$10
$5
$0
-$5
-$10

Estimated ND Rail Export Volumes

Barrels Per Day

Jul-09, Oct-09, Jan-10, Apr-10, Jul-10, Oct-10, Jan-11, Apr-11, Jul-11, Oct-11, Jan-12, Apr-12, Jul-12, Oct-12, Jan-13, Apr-13, Jul-13, Oct-13, Jan-14, Apr-14, Jul-14

JJ Kringstad - North Dakota Pipeline Authority
Estimated Williston Basin Oil Transportation

Barrels Per Day

- Rail
- Pipelines (US & CAN)
- Tesoro Refinery

JJ Kringstad - North Dakota Pipeline Authority
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Confirmed Pipeline Projects

**Butte Loop**
- In-service Date: Q3 2014
- 110,000 BOPD
- Service to Guernsey, WY

**Hiland Double H**
- In-service Date: Q4 2014
- 50,000 BOPD (Expandable up to 100,000 BOPD)
- Extended Open Season to April 16, 2014
- Service to Guernsey, WY

**Plains Bakken North**
- In-service Date: May 2014
- 40,000 BOPD (Expandable up to 70,000 BOPD)
- Movement North to Canadian Interconnect
Pipeline Projects In Business Development or Regulatory

North Dakota Pipeline Company Sandpiper
- 225,000 BOPD
- Route: ND to Clearbrook, MN, 24” Clearbrook to Superior, WI, 30”
- In-service Date: Q1 2016

Enterprise Pipeline
- 200,000-250,000 BOPD (Estimated ND Portion)
- Route: Stanley, ND to Cushing, OK 1,200 miles, 30”
- In-service Date: Q3 2017

TransCanada Keystone XL
- Up to 100,000 BOPD
- Timeline Uncertain

Energy Transfer Partners
- 320,000 BOPD
- Route: ND to Patoka, IL, 1,100 miles, 30”
- In-service Date: Q4 2016
North Dakota Pipeline Company LLC - formerly known as Enbridge Pipelines (North Dakota) LLC

- 225,000 BOPD ND Capacity to Clearbrook, MN (24”)
- 375,000 BOPD Clearbrook, MN to Superior, WI (30”)
- In-service Date: Q1 2016
- Project cost: $2.6 Billion
Energy Transfer Partners: Dakota Access

- Successful Open Season During the First Half of 2014
- 320,000 BOPD ND Capacity to Patoka, IL (30”)
- Expandable Up To 570,000 BOPD if Shipper Demand Exists
- In-service Date: Late 2016

Map Source: Energy Transfer Partners
Bakken to Cushing Pipeline

- Open Season Dates: September 4, 2014 – October 17, 2014
- 340,000 BOPD ND Capacity to Cushing, OK (30”)
- Estimated 200-250,000 BOPD Available for Williston Basin Crude Oil
- 1,200 Miles, All New Construction
- Proposed In-service Date: Q3 2017

Map Source: Enterprise Products Partners
Challenges*
1) Moving oil out of the Williston Basin
2) Moving oil within the Williston Basin

*Modified from Bridger and Belle Fourche Pipelines
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

JJ Kringstad - North Dakota Pipeline Authority
Year-Over-Year Oil Gathering Changes*

- Additional Truckloads Per Day: ~250

*Best available estimate. Some data incomplete or missing.

JJ Kringstad - North Dakota Pipeline Authority
Estimated YOY Daily Truckload Change

Sep 2012 to Sep 2013
Assumes - 225 bbls/truck
Cushing $92.97

Brent $97.95
WTI + $4.98

Crude Oil Prices – Sep. 12, 2014

JJ Kringstad - North Dakota Pipeline Authority
North Dakota Natural Gas Production

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North Dakota Natural Gas: Case 1
North Dakota Natural Gas: Case 2
Solving the Flaring Challenge

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

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

July 2014 Data – Non-Confidential Wells
Solving the Flaring Challenge

- Processing Needed
- ND Plant Capacity
- NDPA Case 1 Forecast*
- NDPA Case 2 Forecast*
- Historical Sold, MCFD
- Historical Flared, MCFD
- Targets Case 1 (Sold)
- Targets Case 1 (Flared)

90-95% Q4-20
85% Q1-16
77% Q1-15
74% Q4-14

MCFD
Capturing the 9% Faster Well Connections

- New Wells Selling Gas
- New Producing Wells

Number of Wells Per Month

JJ Kringstad - North Dakota Pipeline Authority
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