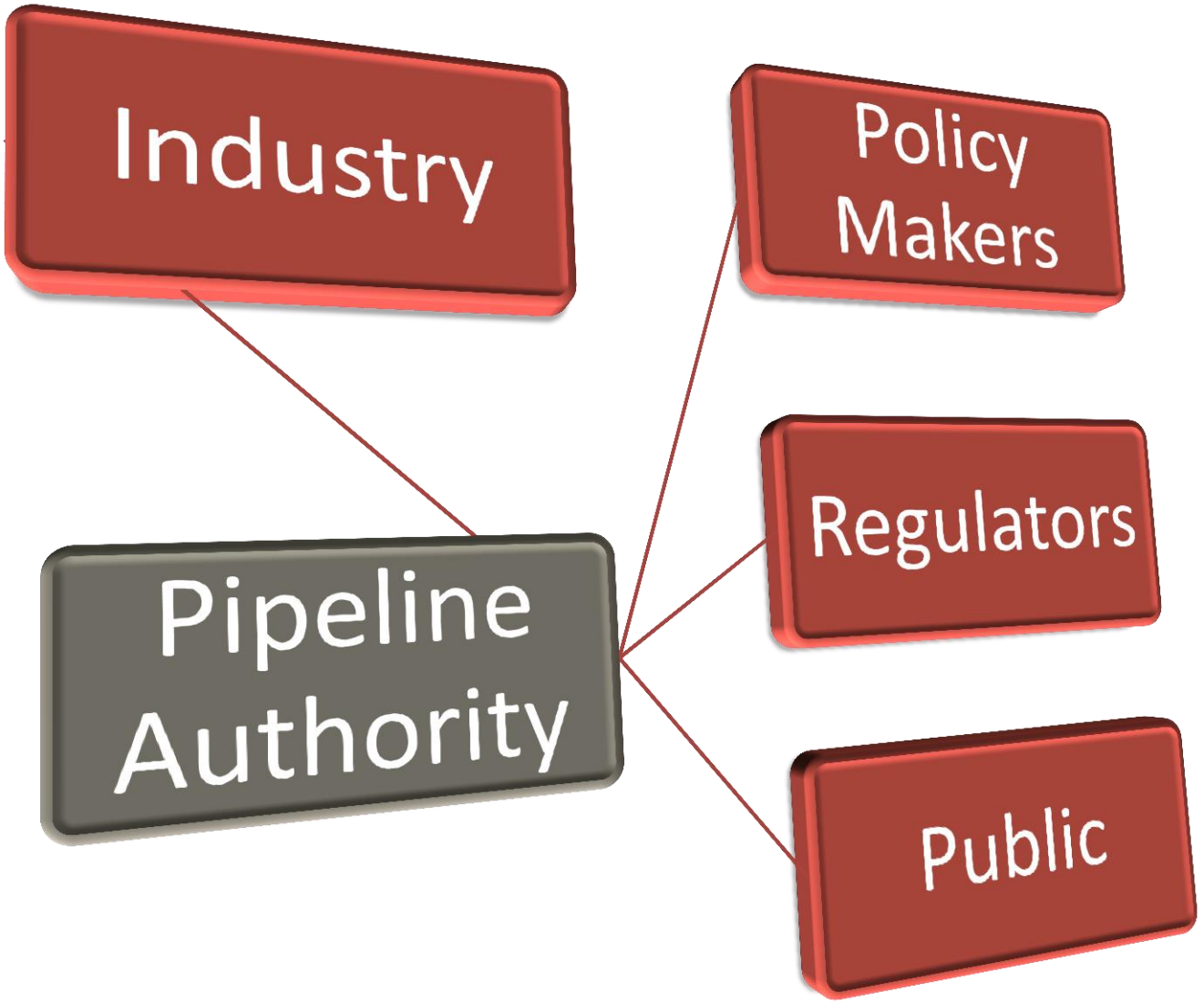
Platts Rockies Oil & Gas

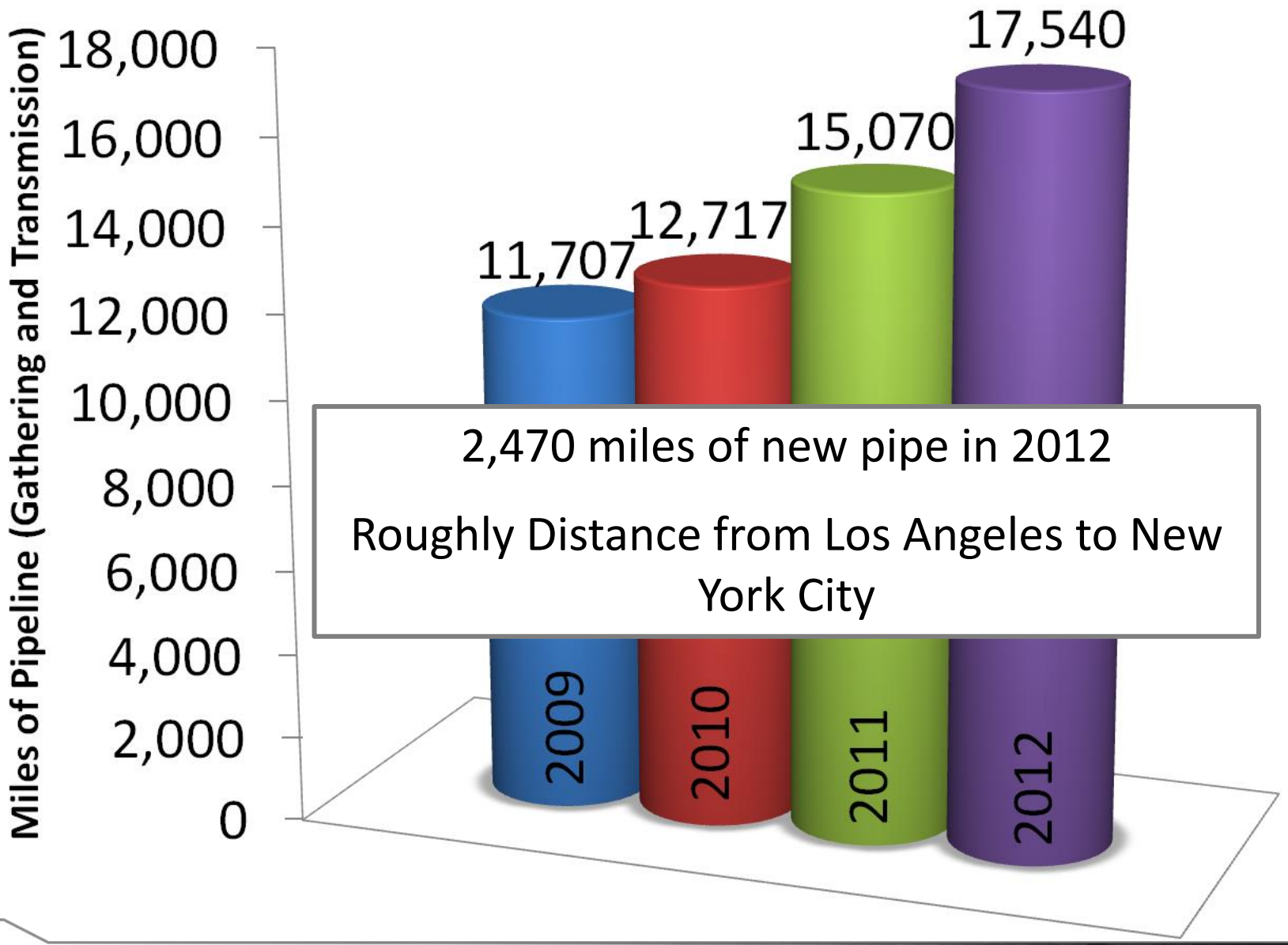
North Dakota Pipeline Authority

Justin J. Kringstad

April 14, 2014 – Denver, CO


Industry
Policy Makers
Pipeline Authority
Regulators
Public

North Dakota Pipeline Miles



Crude Oil

Understanding production potential

Understanding current transportation dynamics and potential transportation constraints

Understanding current and future market conditions

Crude Oil

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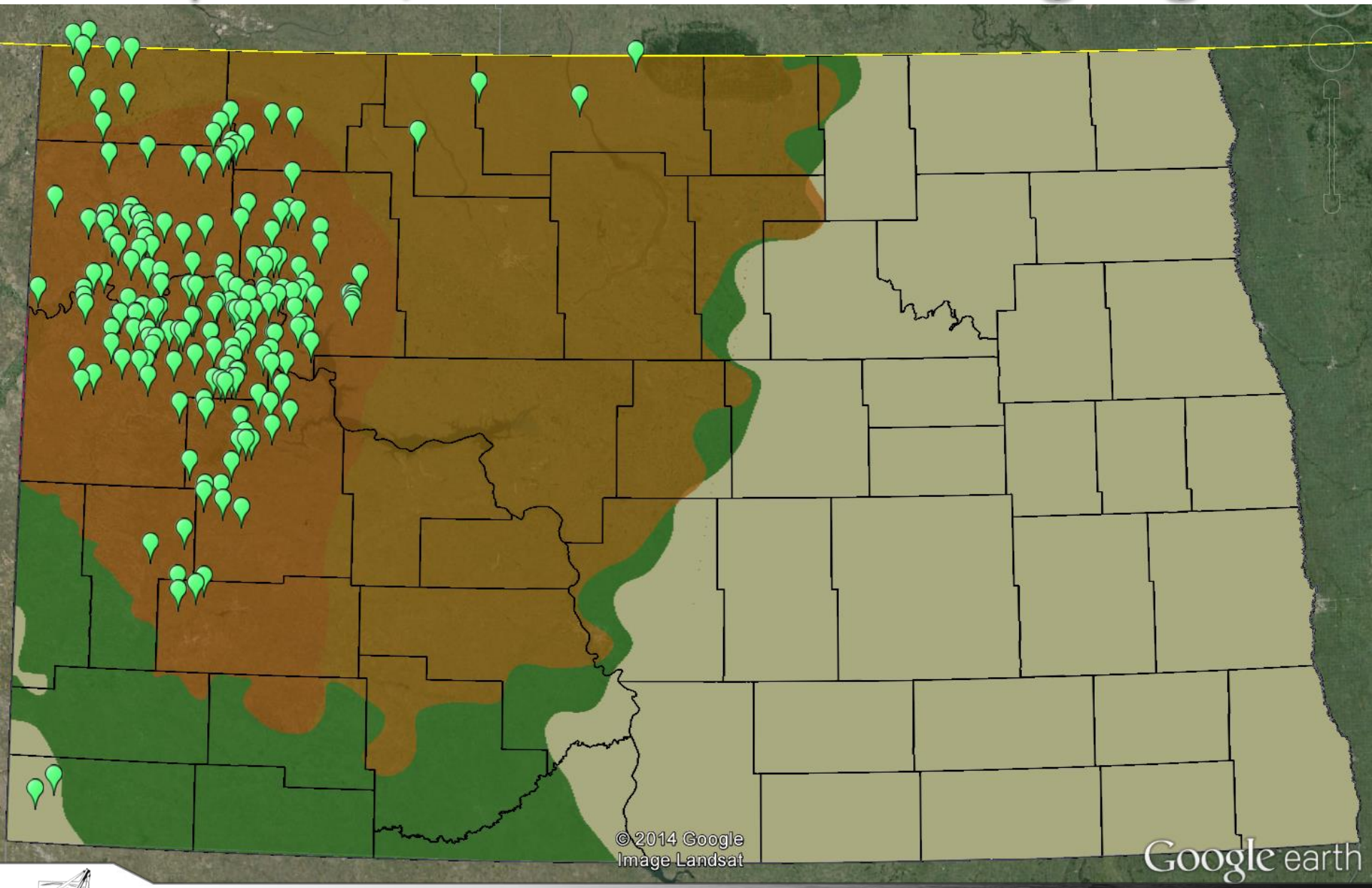
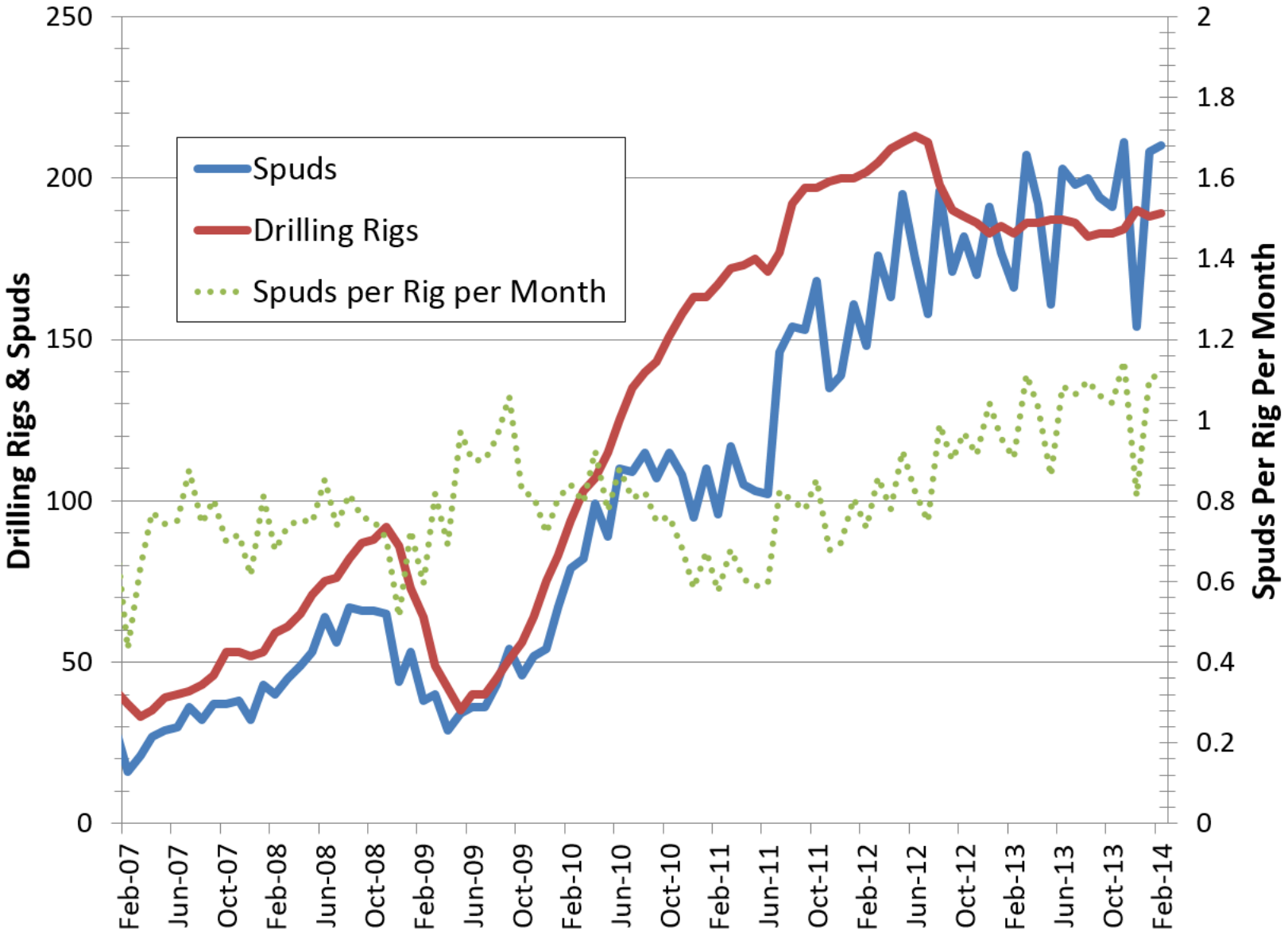
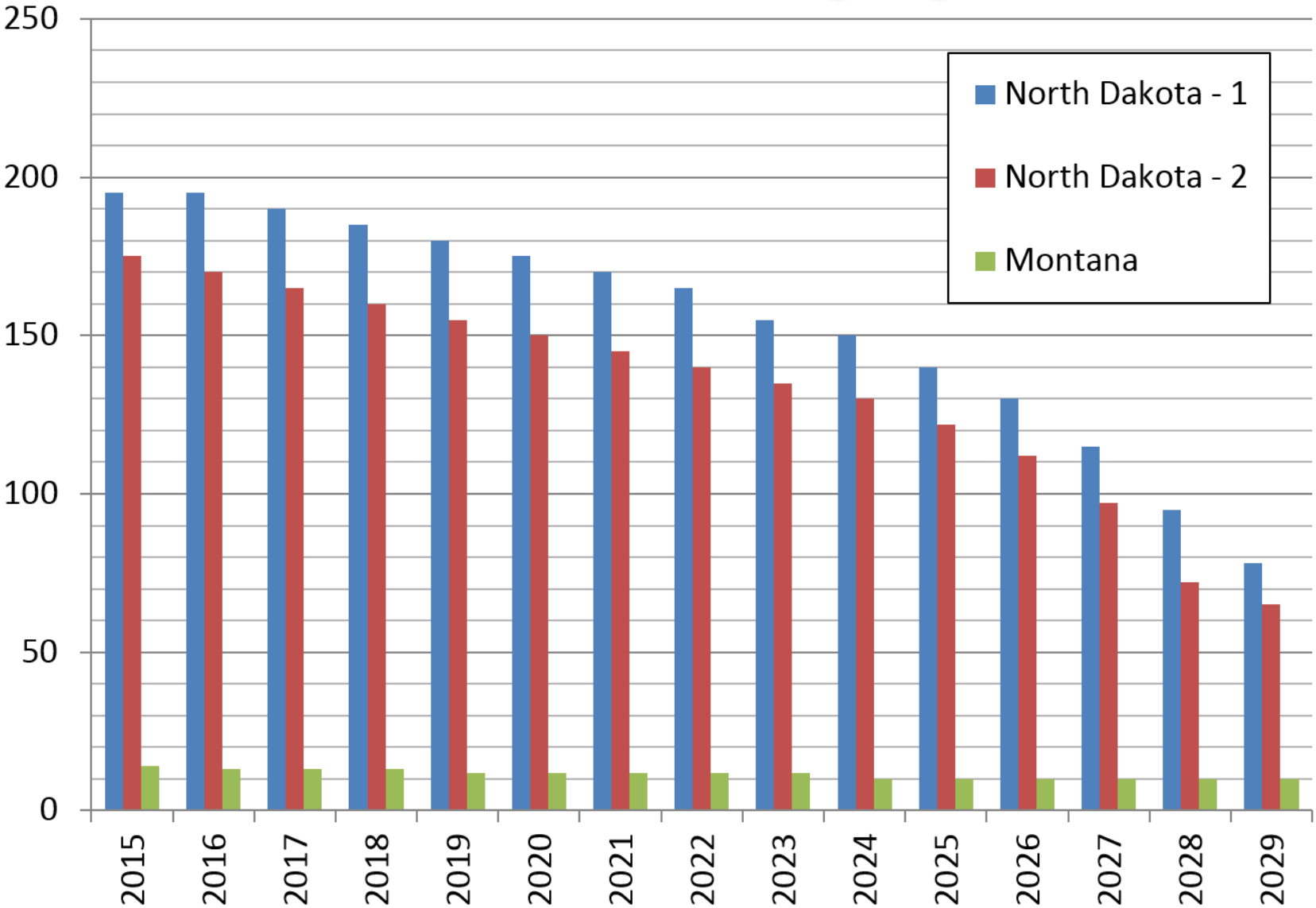
April 10, 2014 – 189 Drilling Rigs



ND Drilling Stats

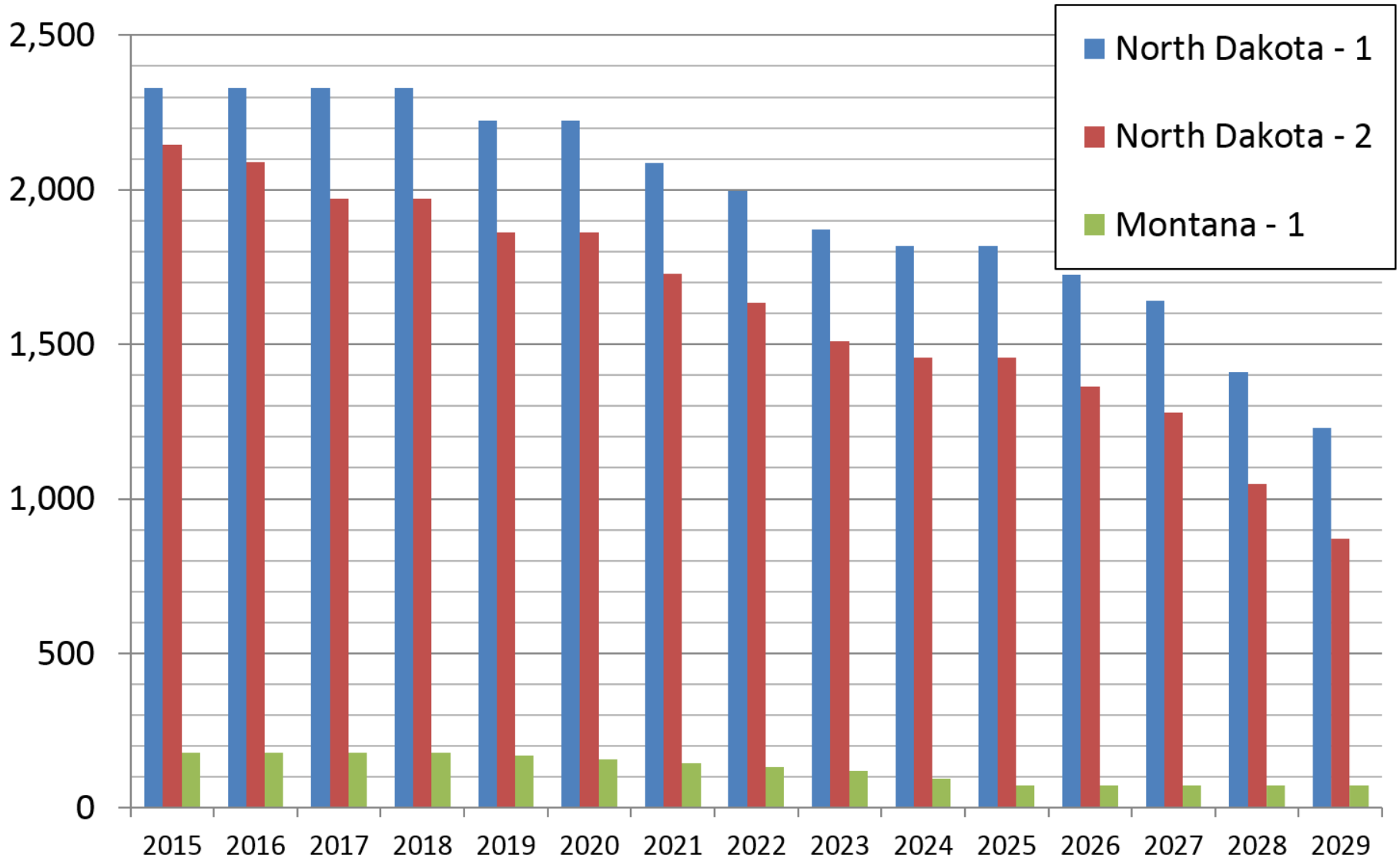


Forecasted Drilling Rigs



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

Forecasted New Wells



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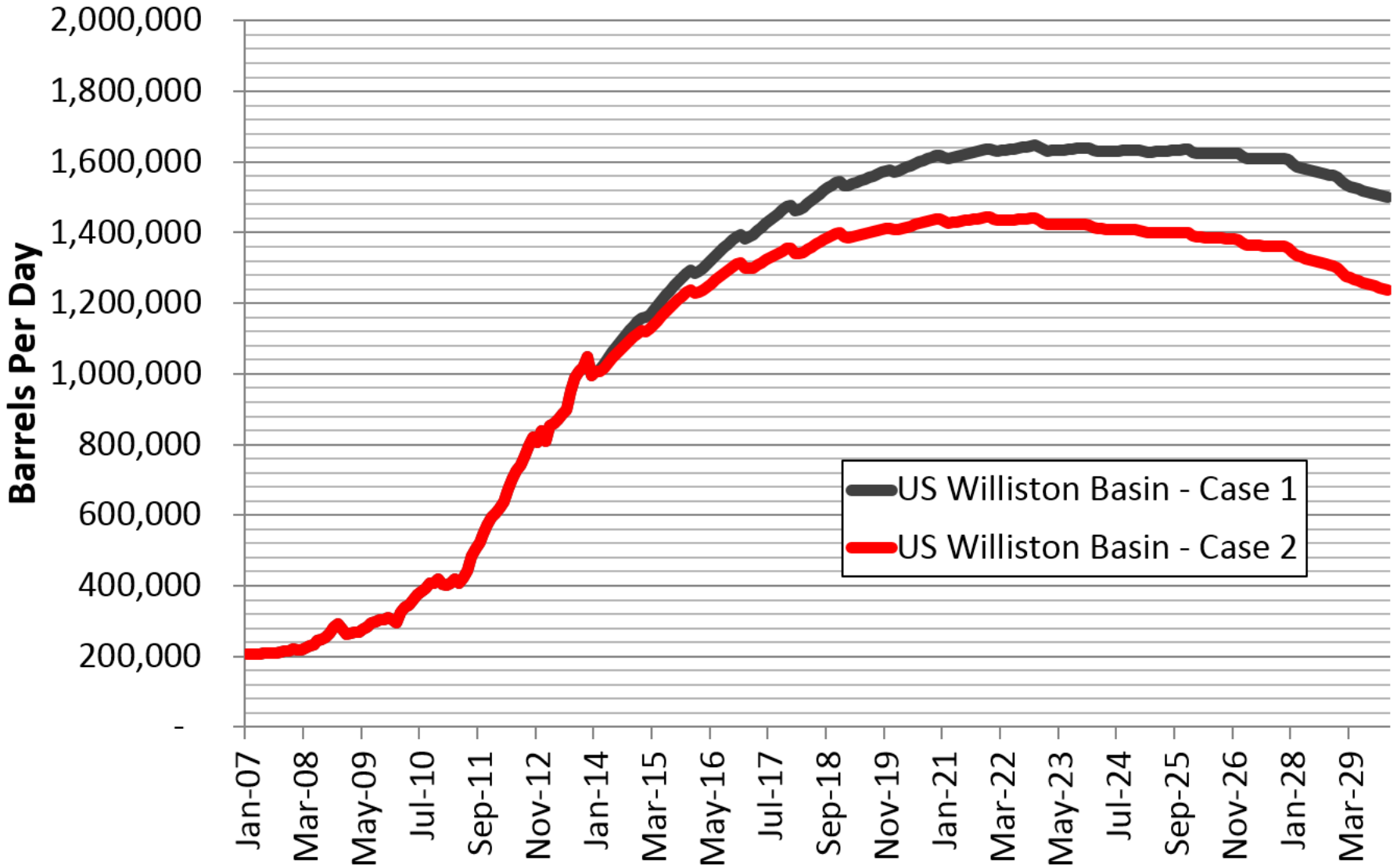
Forecasting Williston Basin Oil Production, BOPD



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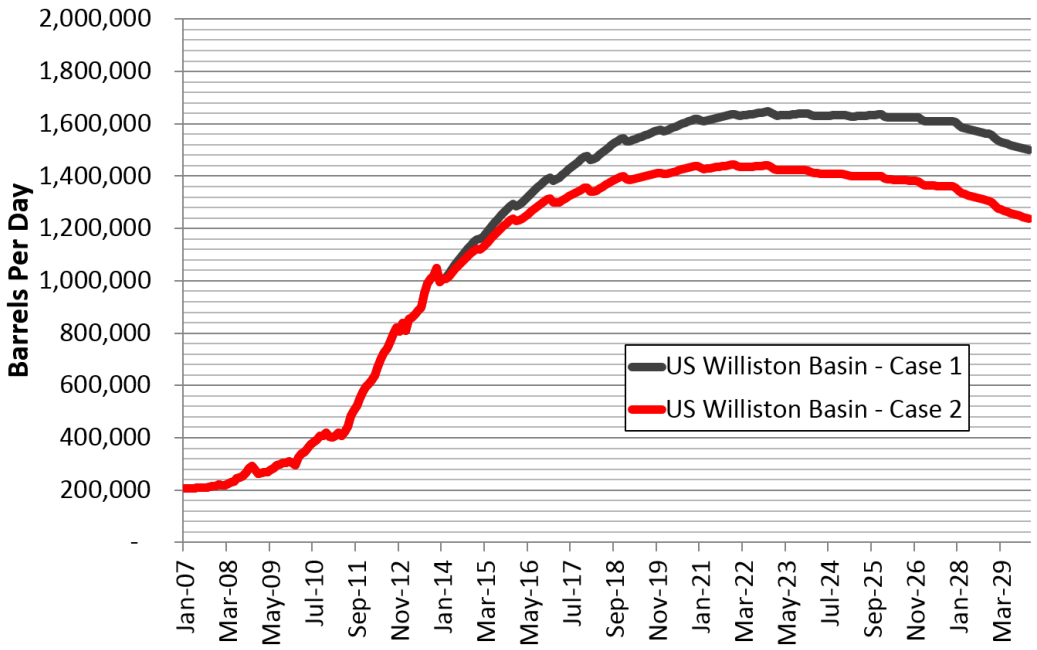
Forecasting Challenges



Current Model

-Approx. 30,000 New Wells Out to Dec 2029

-Average EUR Roughly 400,000 BBLS

-Average First Month Production of 347 BOPD

Ongoing Considerations

-Increased Density Drilling

-Drilling Efficiencies

-Improving Completion Techniques

-Productivity of the Lower Three Forks

-Eastern Montana Success

Long Term Considerations

-EOR Opportunities

-Pricing

-Competition

-Additional Williston Basin Plays

Crude Oil

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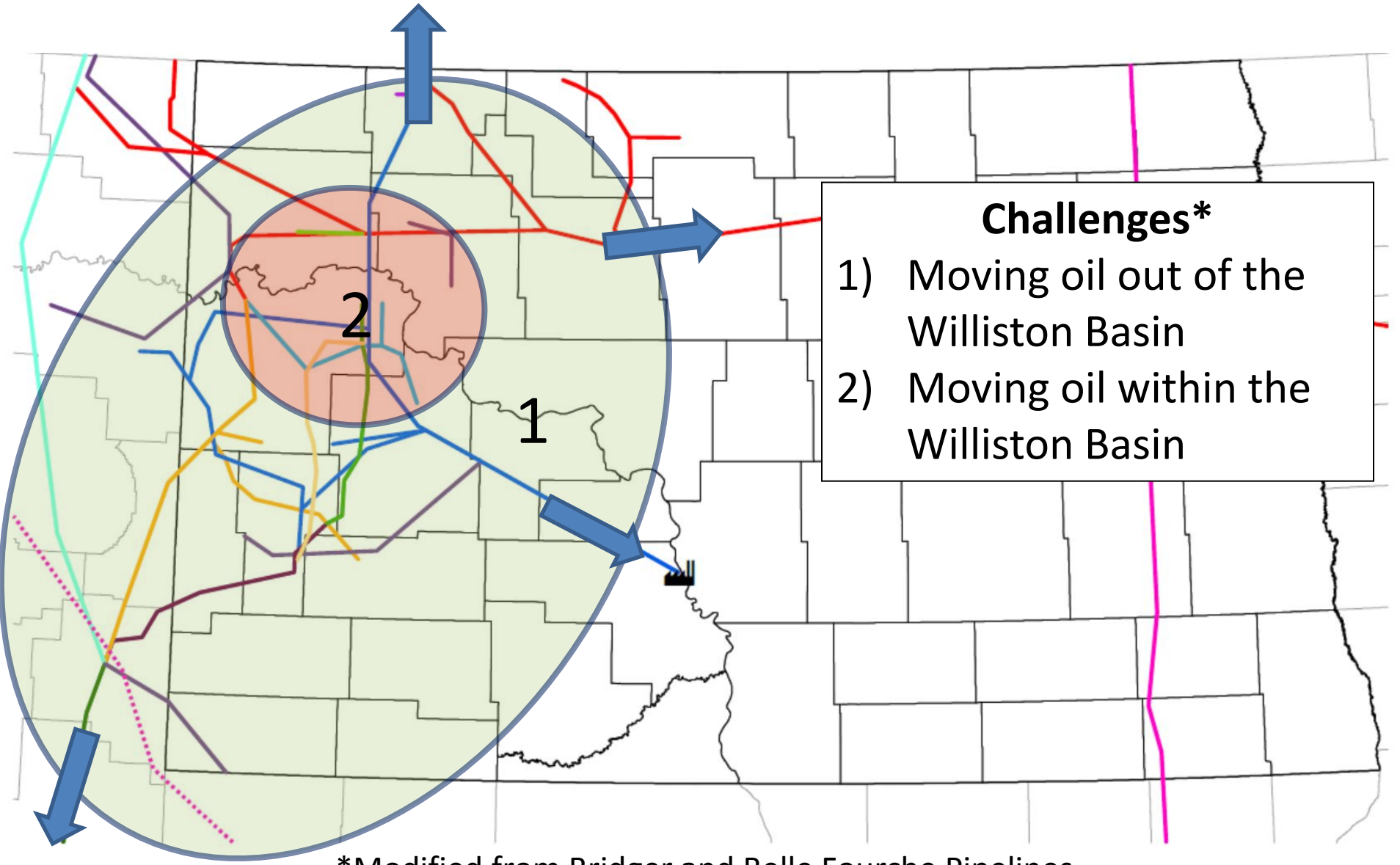
North Dakota Crude Oil Pipelines

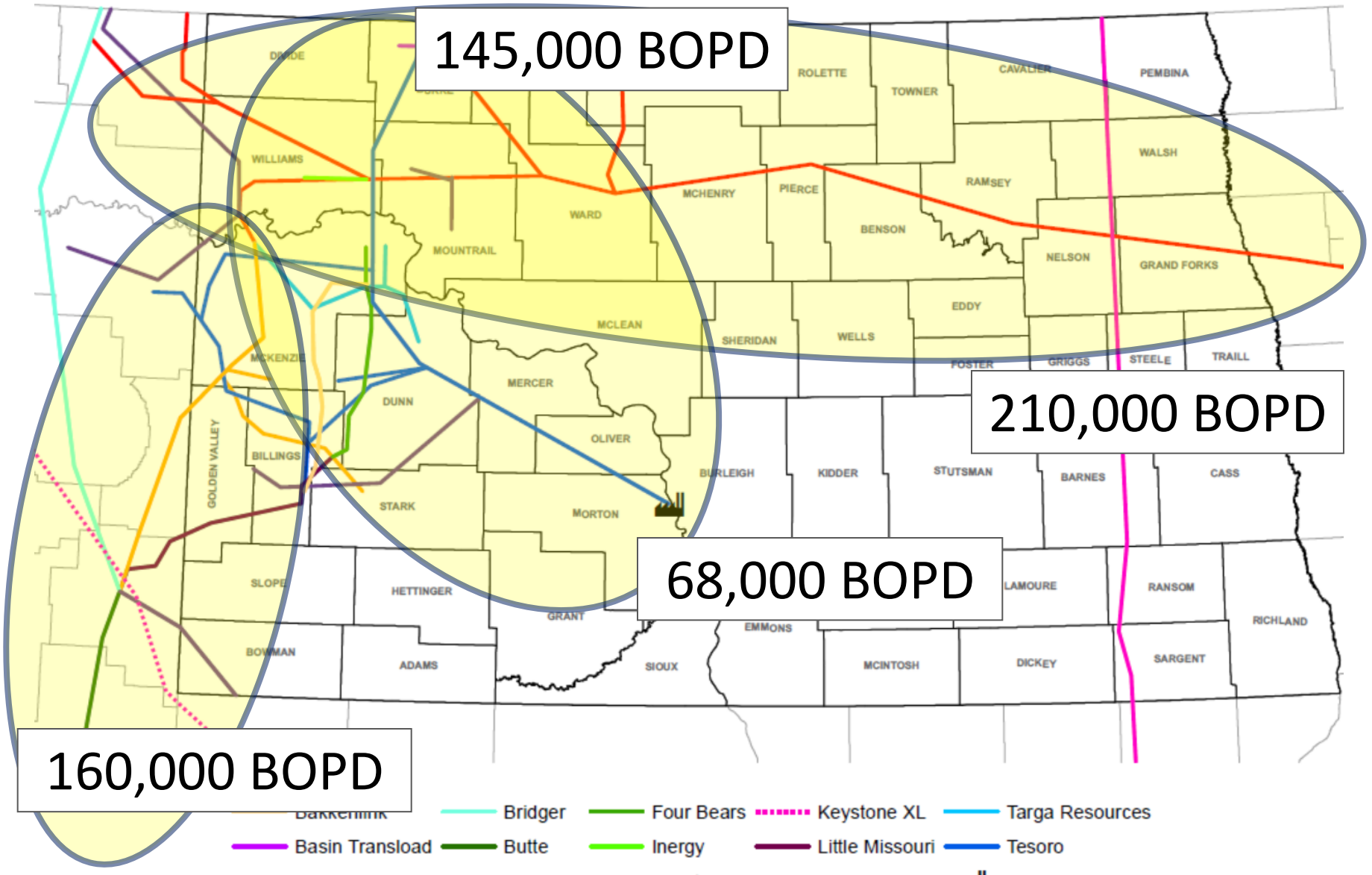


Challenges*

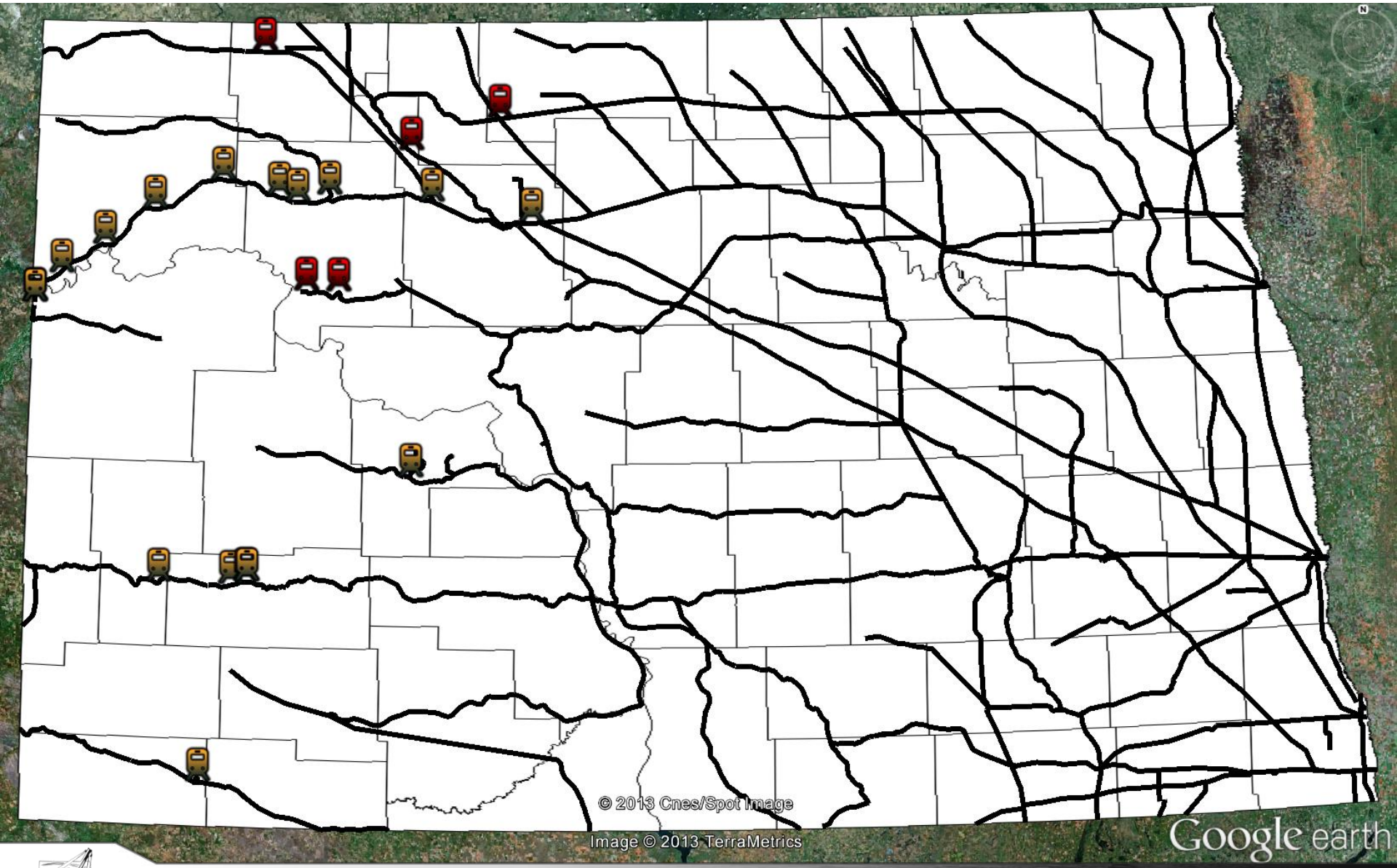
1) Moving oil out of the Williston Basin
2) Moving oil within the Williston Basin

*Modified from Bridger and Belle Fourche Pipelines

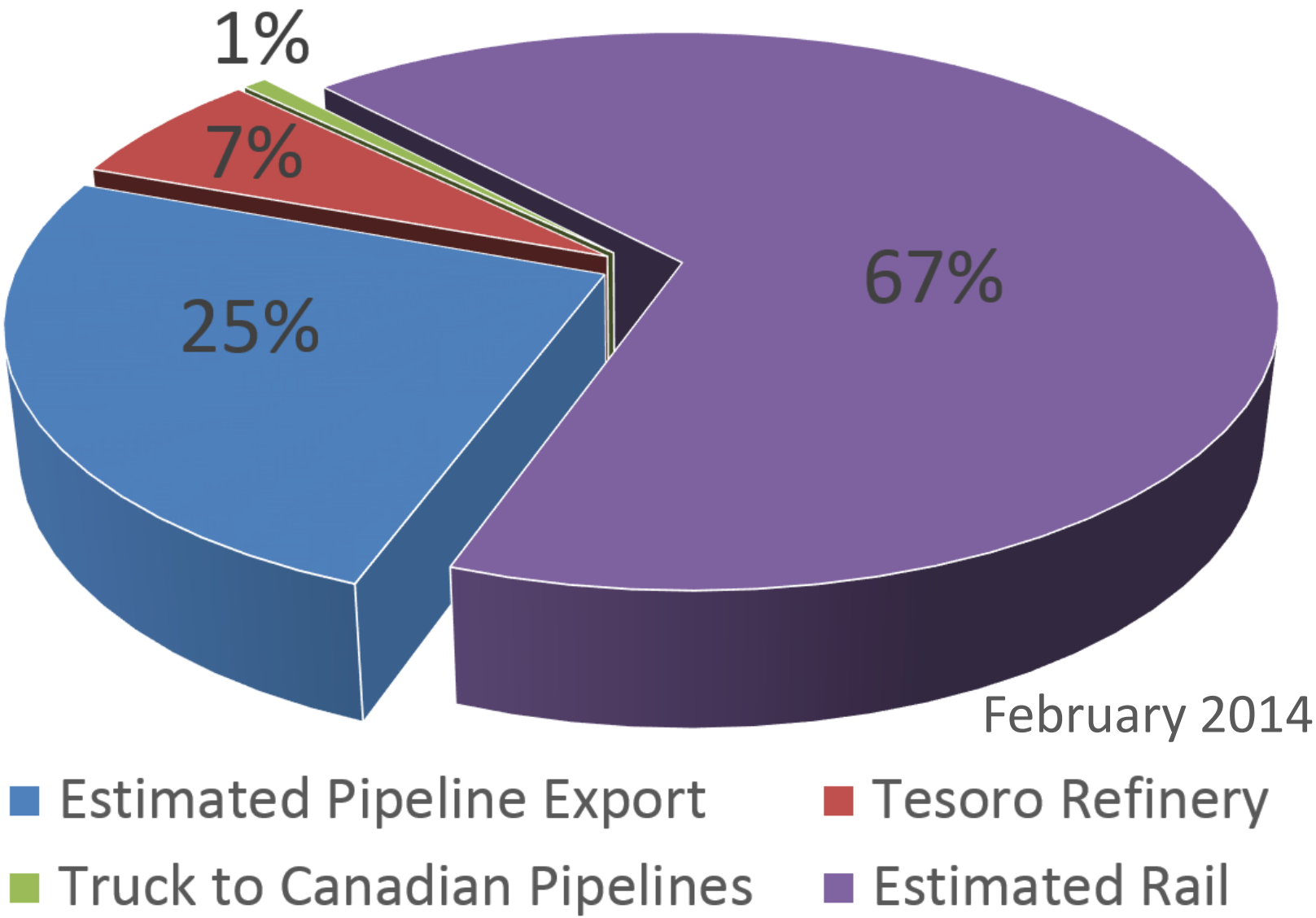
North Dakota Crude Oil Pipelines



Oil Loading Rail Facilities



Estimated Williston Basin Oil Transportation



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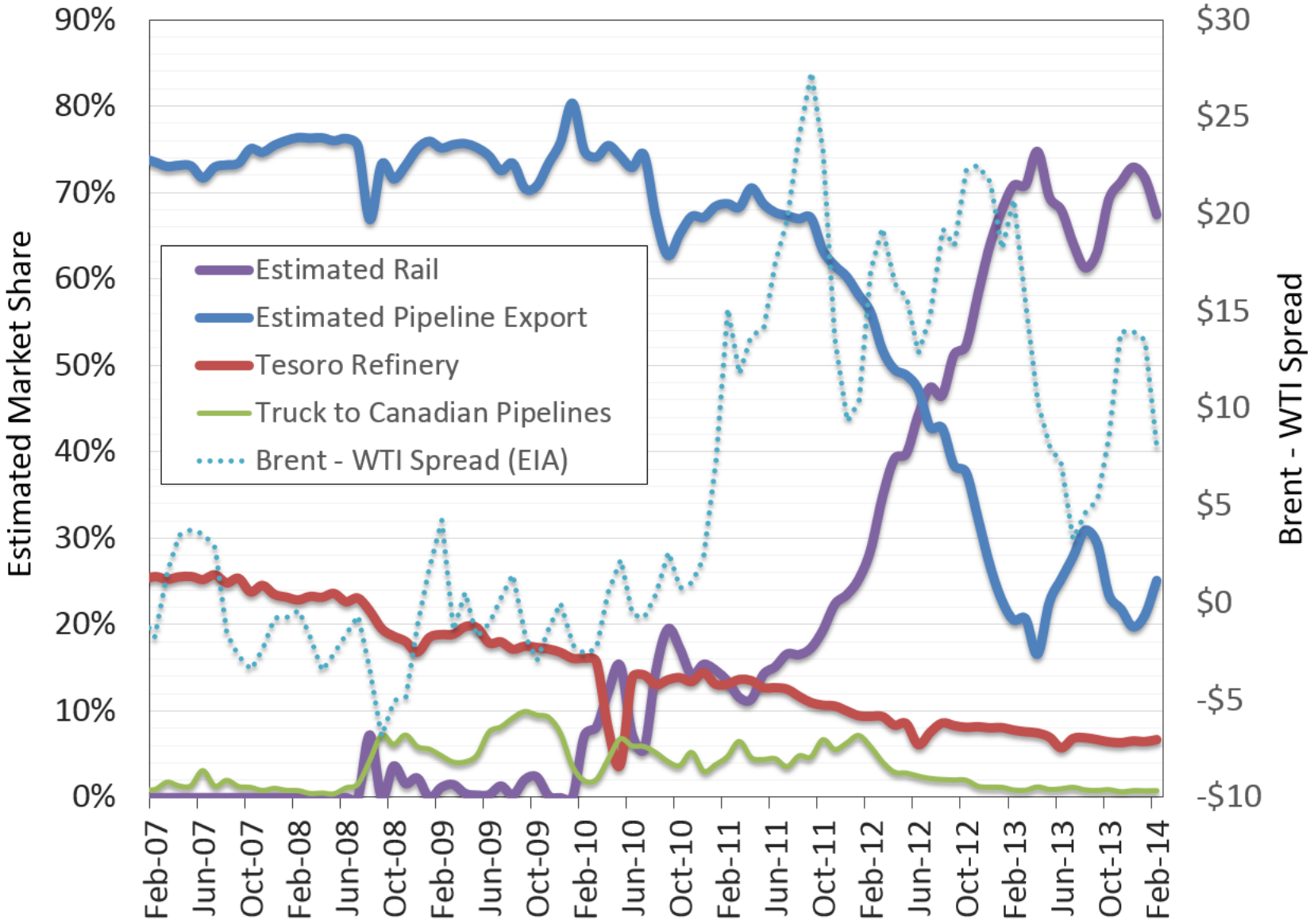

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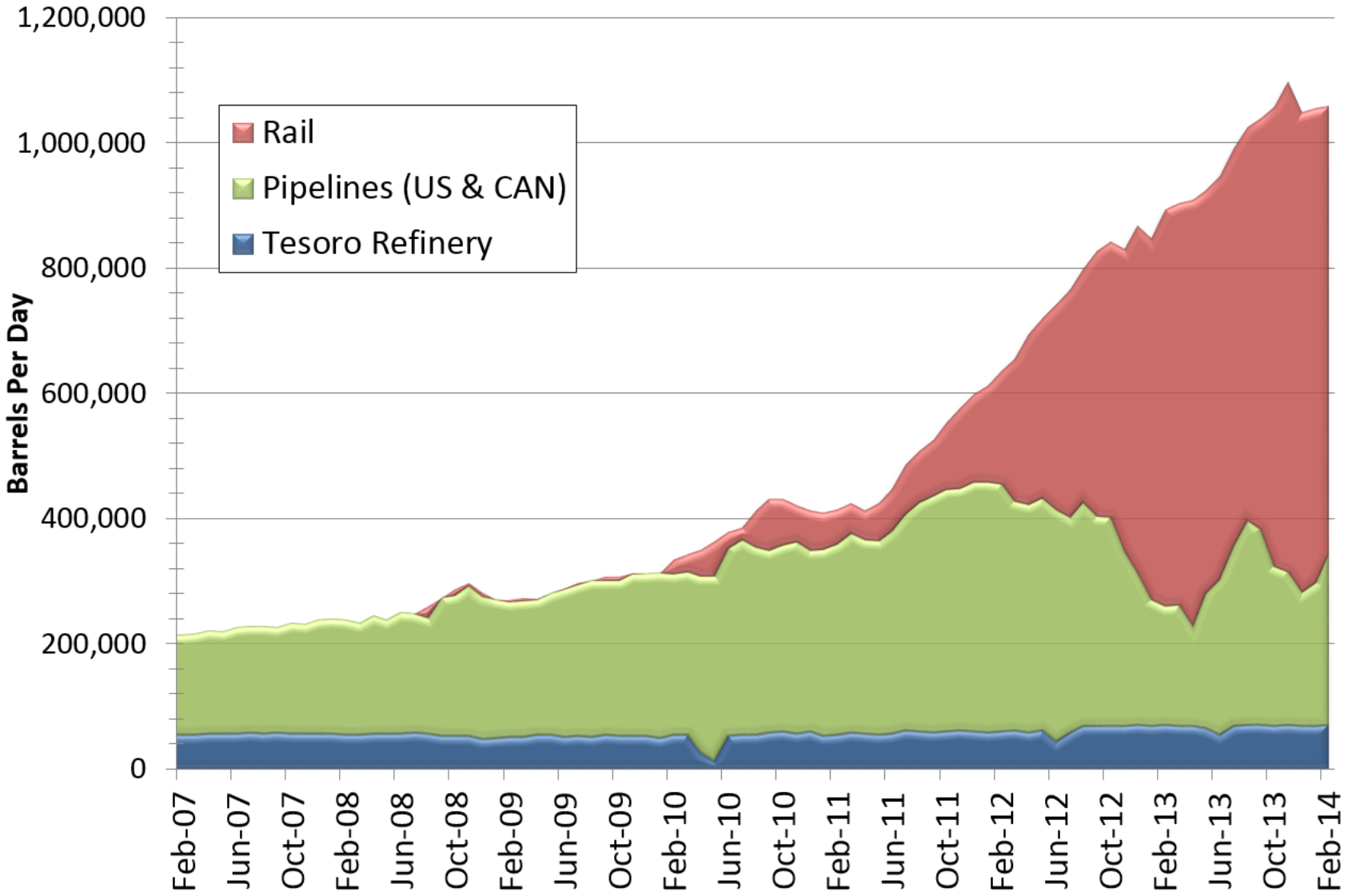
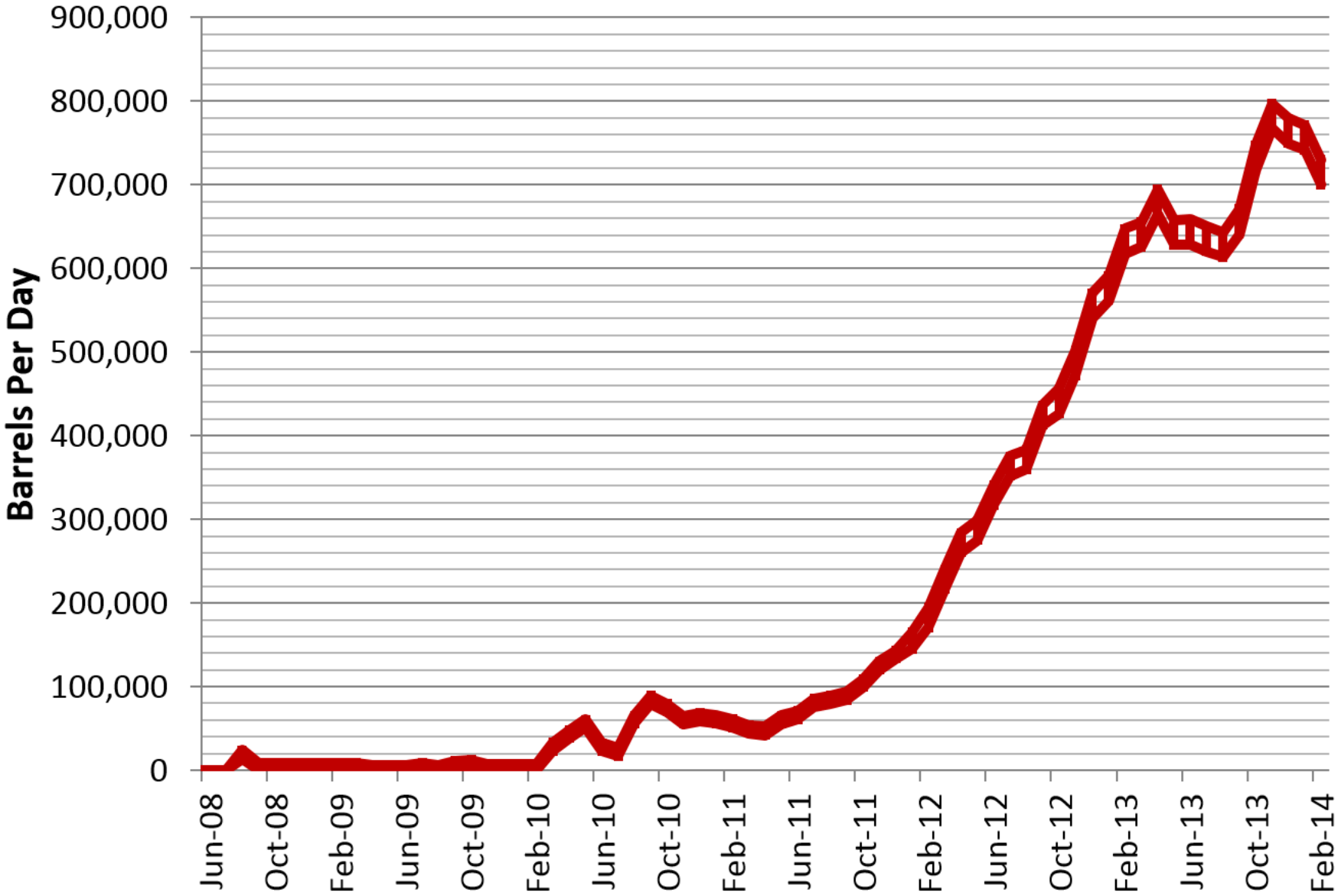
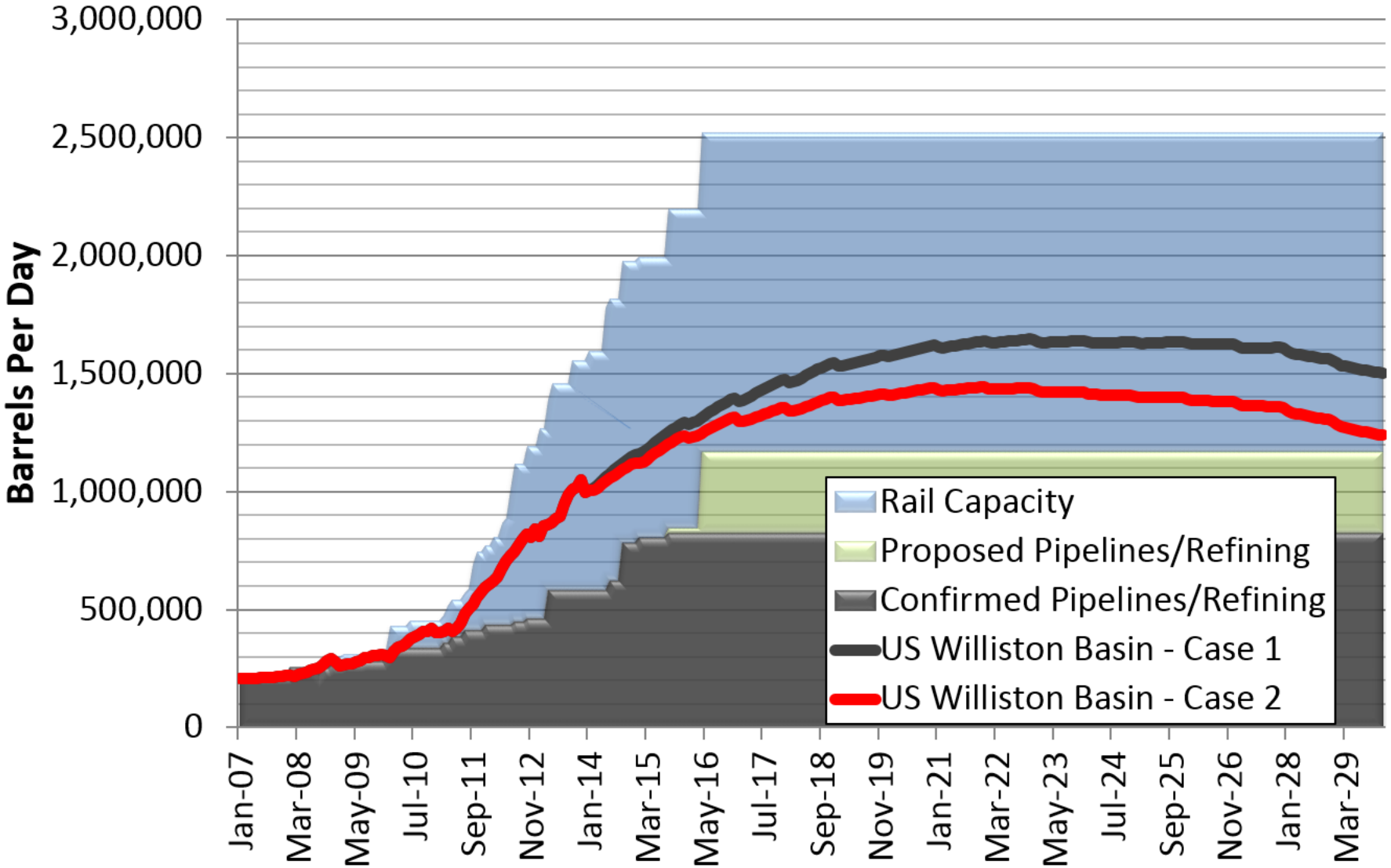


Estimated ND Rail Export Volumes



Williston Basin Oil Production & Export Capacity, BOPD



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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: 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

- Open Season Successful: 155,000 BOPD Committed
- 225,000 BOPD ND Capacity to Clearbrook, MN (24”)
- 375,000 BOPD Clearbrook, MN to Superior, WI (30”)
- In-service Date: Q1 2016

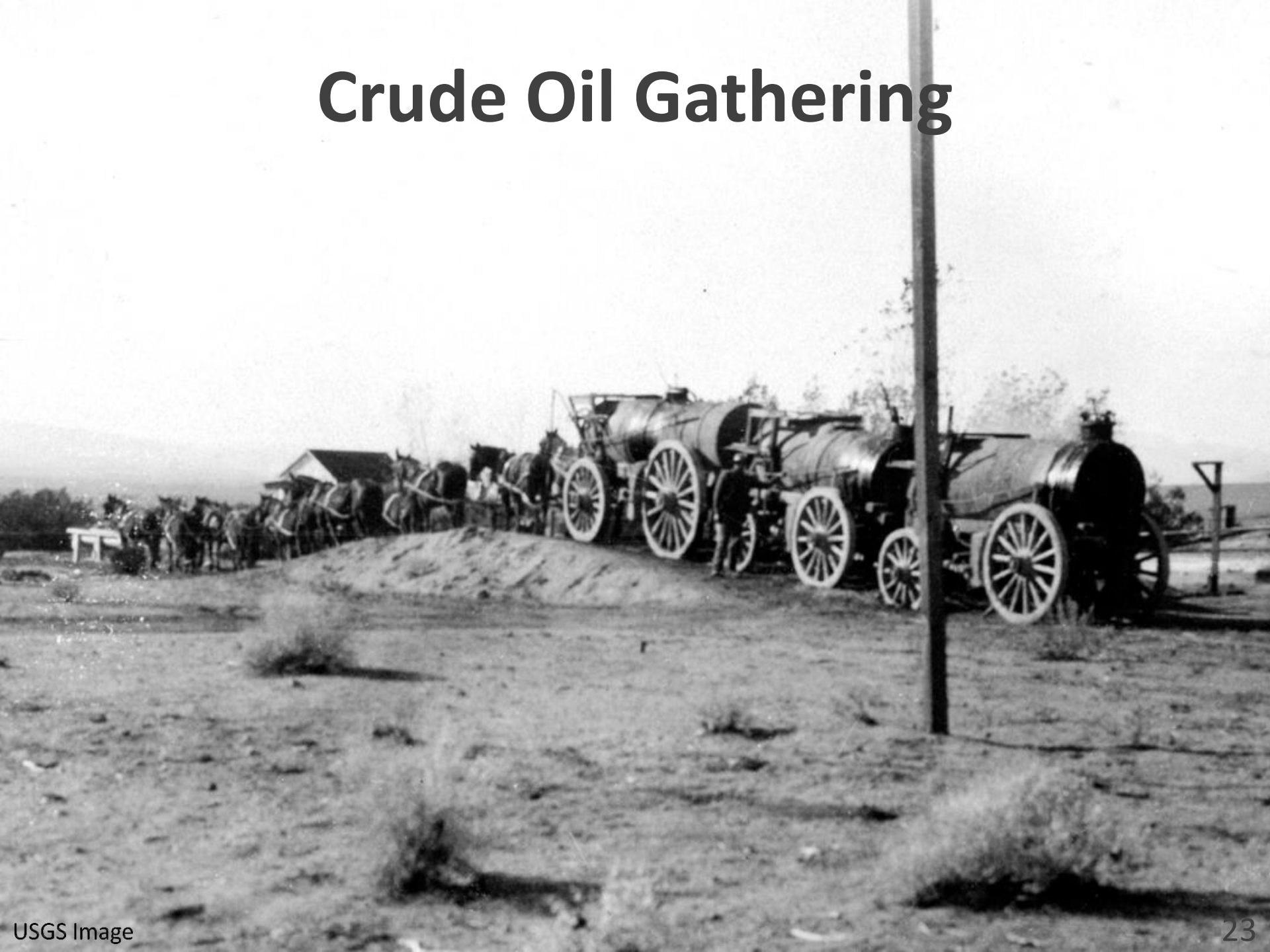
TransCanada Keystone XL

- Up to 100,000 BOPD
- Timeline Uncertain

Energy Transfer Partners

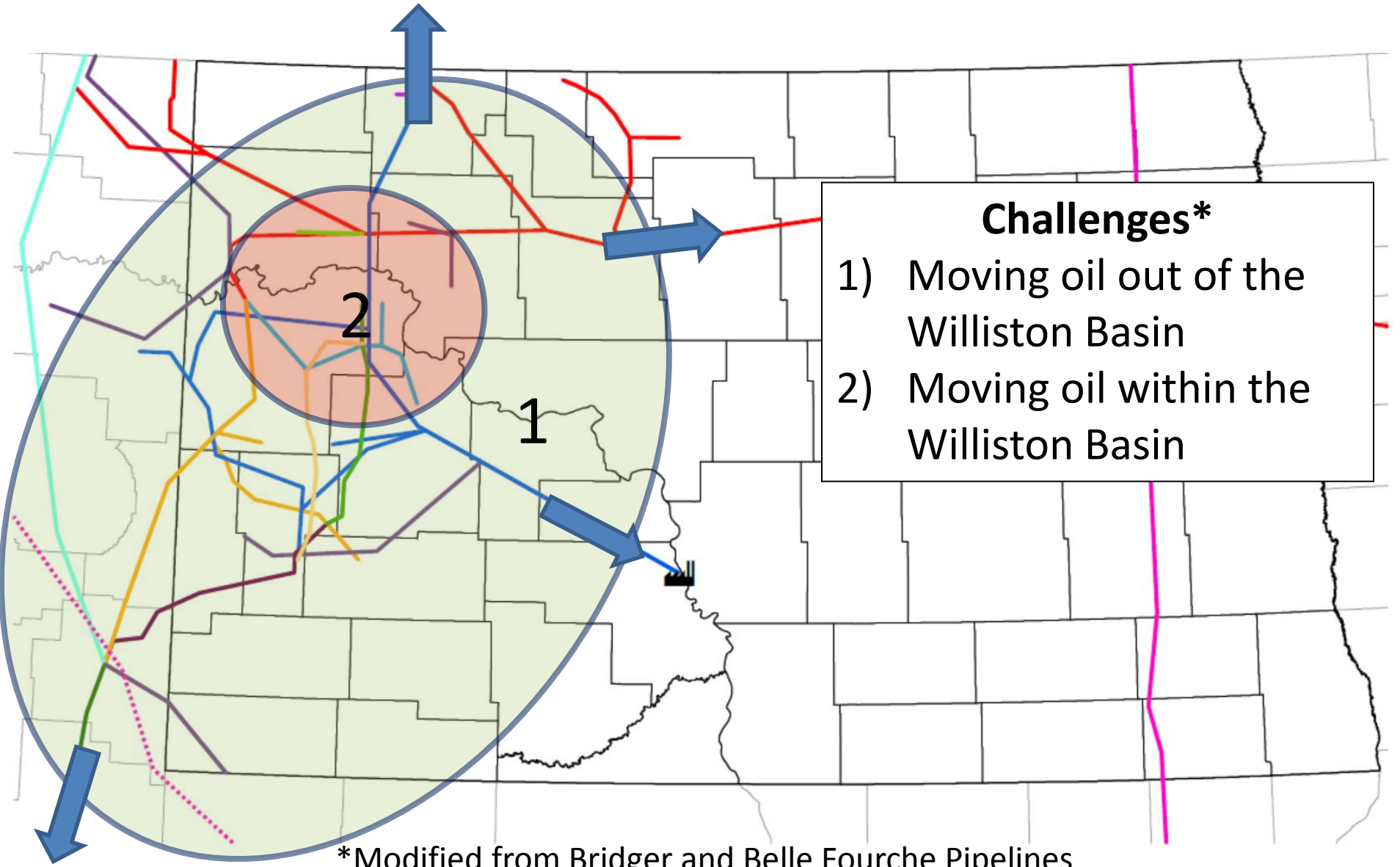
- Binding Open Season Launched March 12, 2014
- Project Details Unavailable

Crude Oil Gathering



USGS Image

North Dakota Crude Oil Pipelines



Challenges*

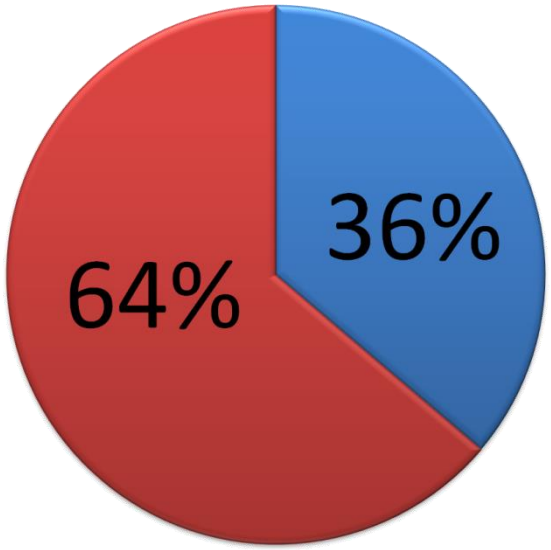
1) Moving oil out of the Williston Basin
2) Moving oil within the Williston Basin

*Modified from Bridger and Belle Fourche Pipelines

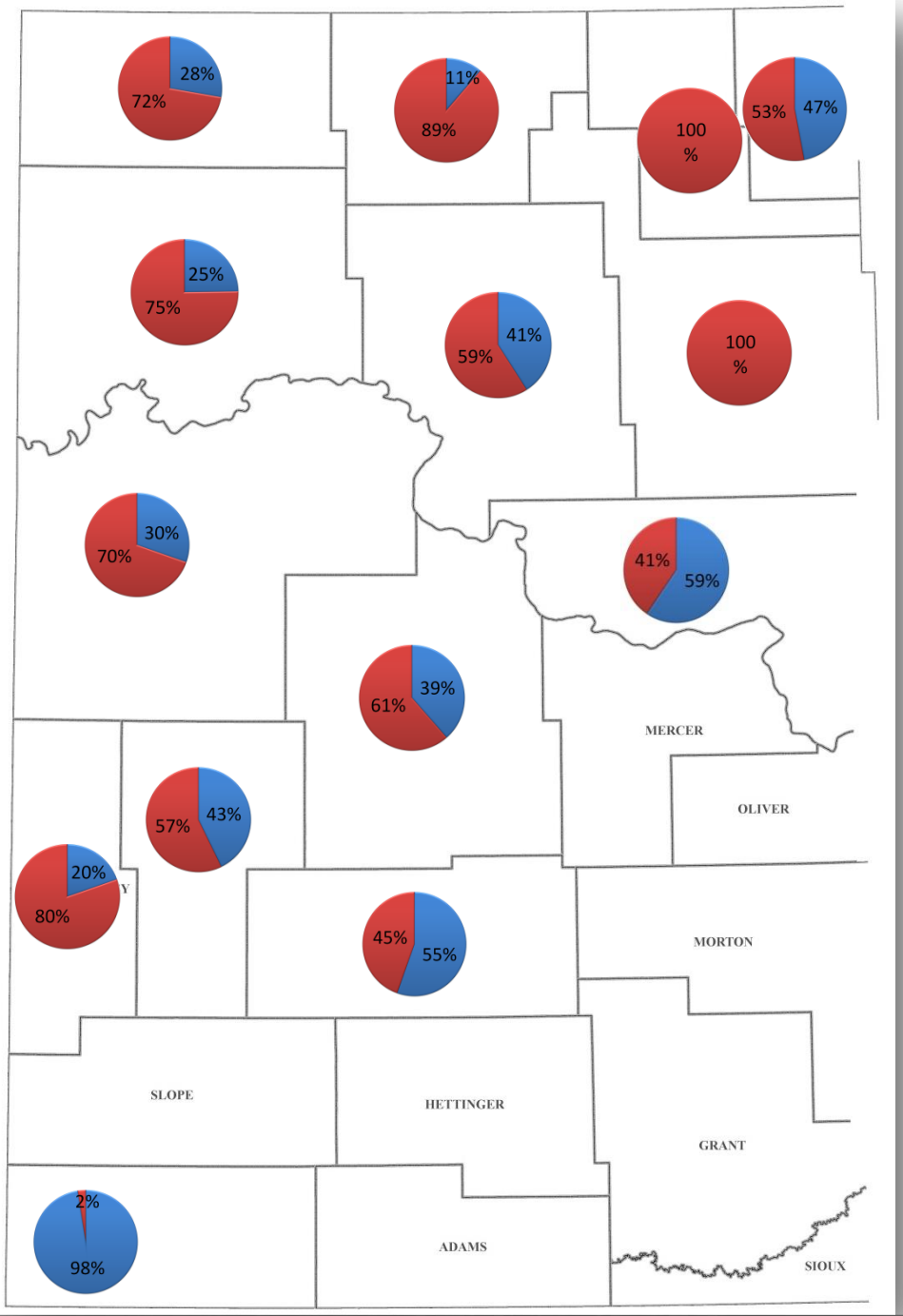
ND Crude Oil Gathering

Red – Trucked

Blue – Pipeline



All ND Production

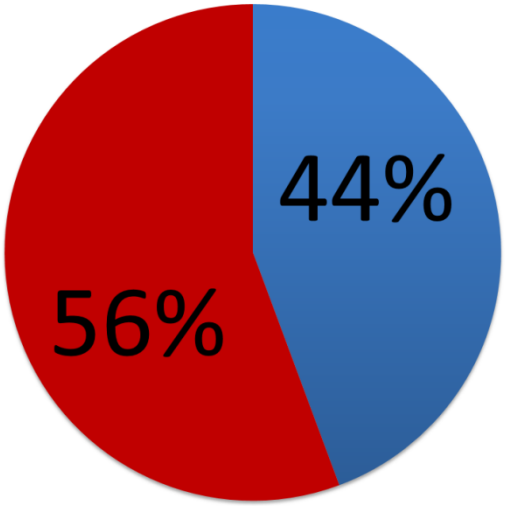


Sep 2012 Estimates – Some data incomplete or unavailable

ND Oil Gathering

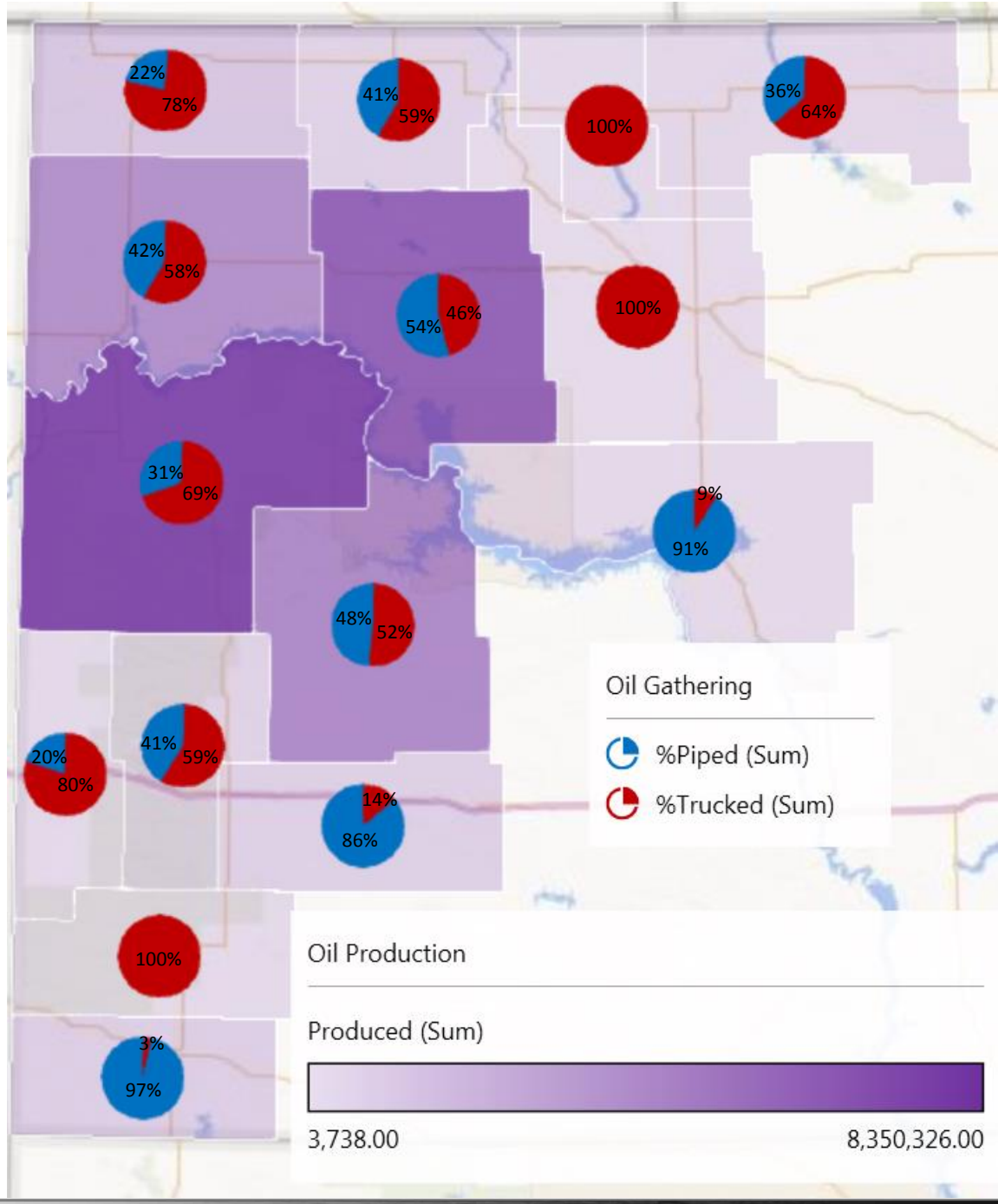
Red – Trucked

Blue – Pipeline

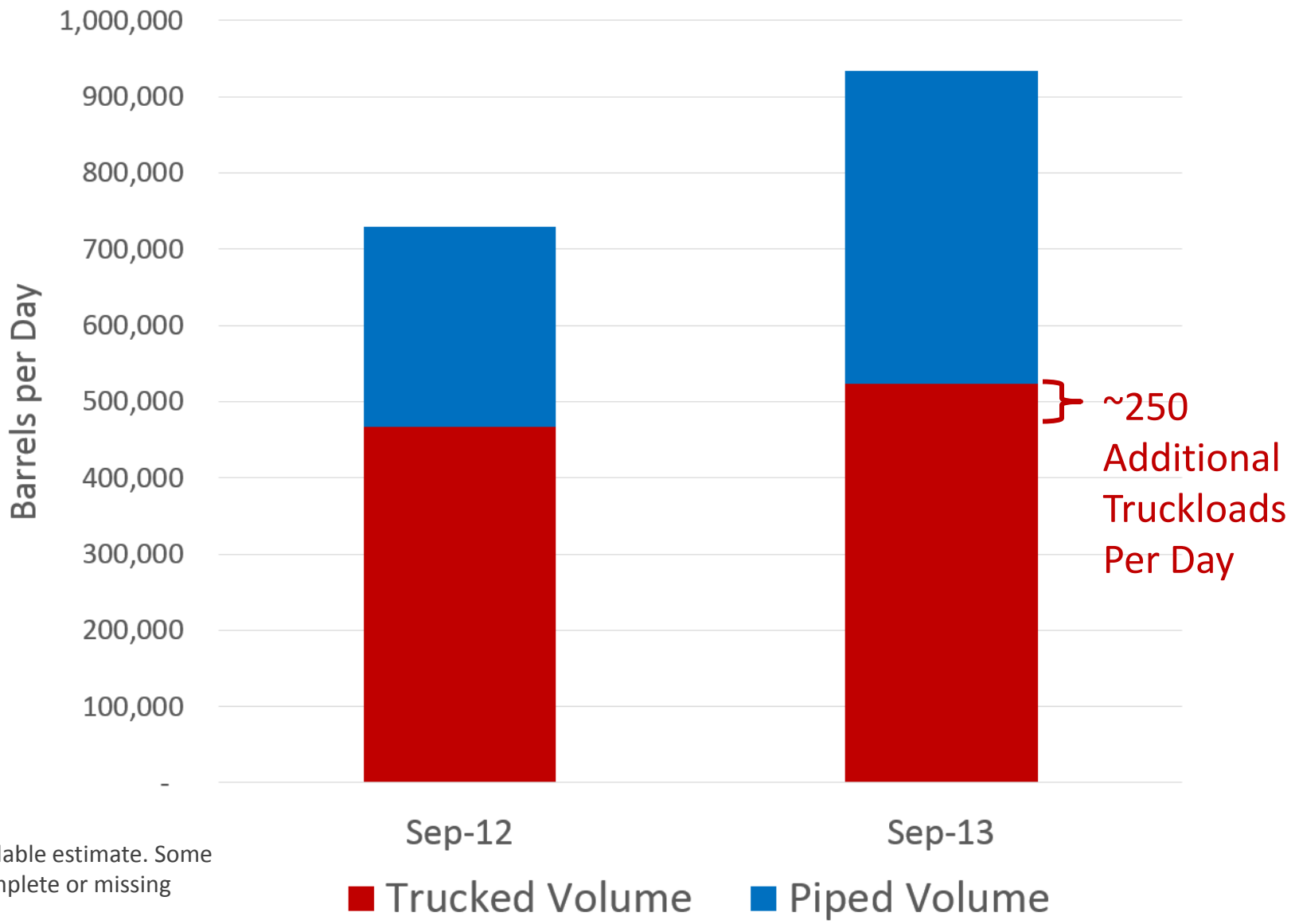


All ND Production

Sep 2013 Estimates
Some data incomplete or unavailable

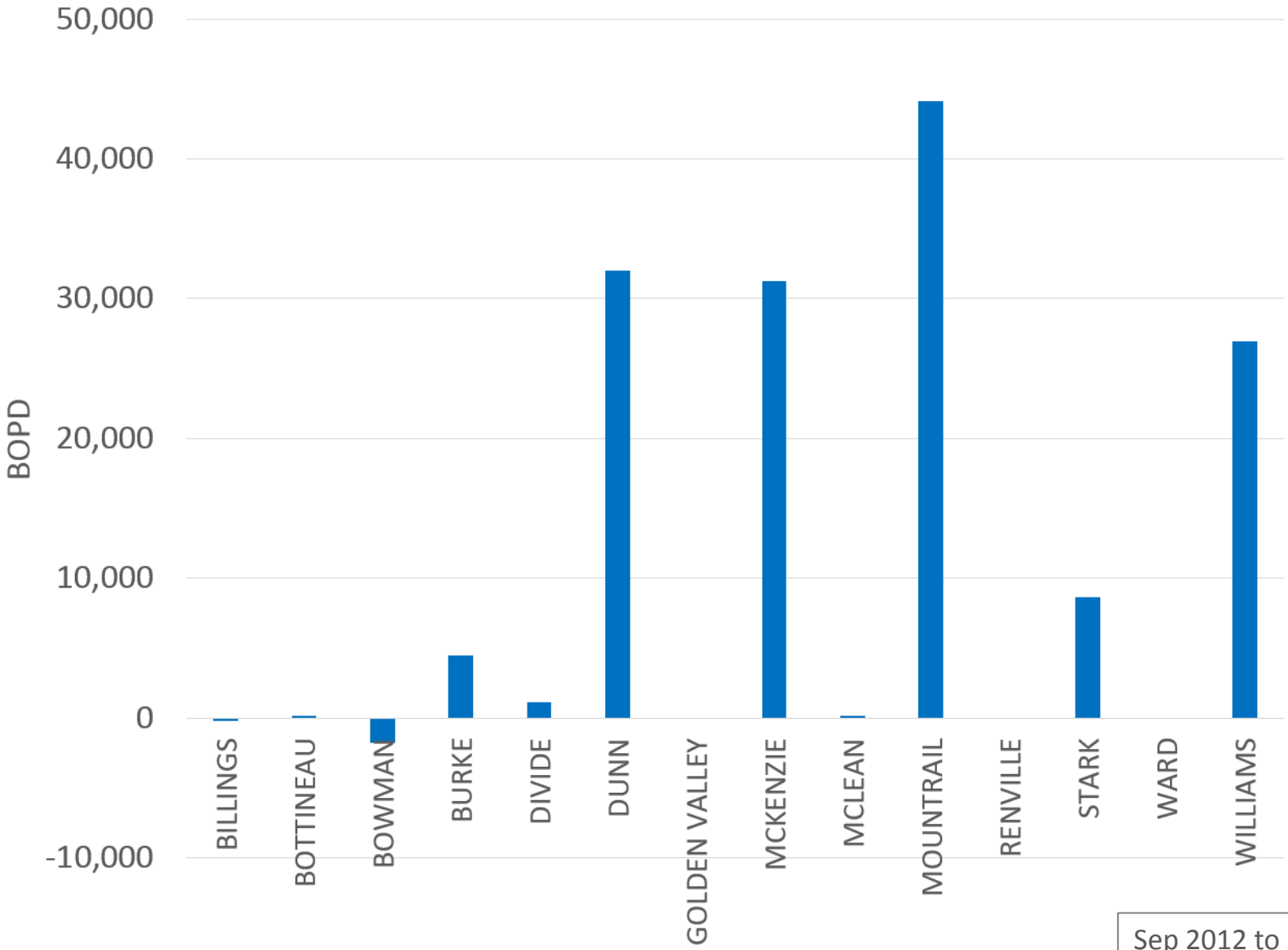


Year-Over-Year Oil Gathering Changes*



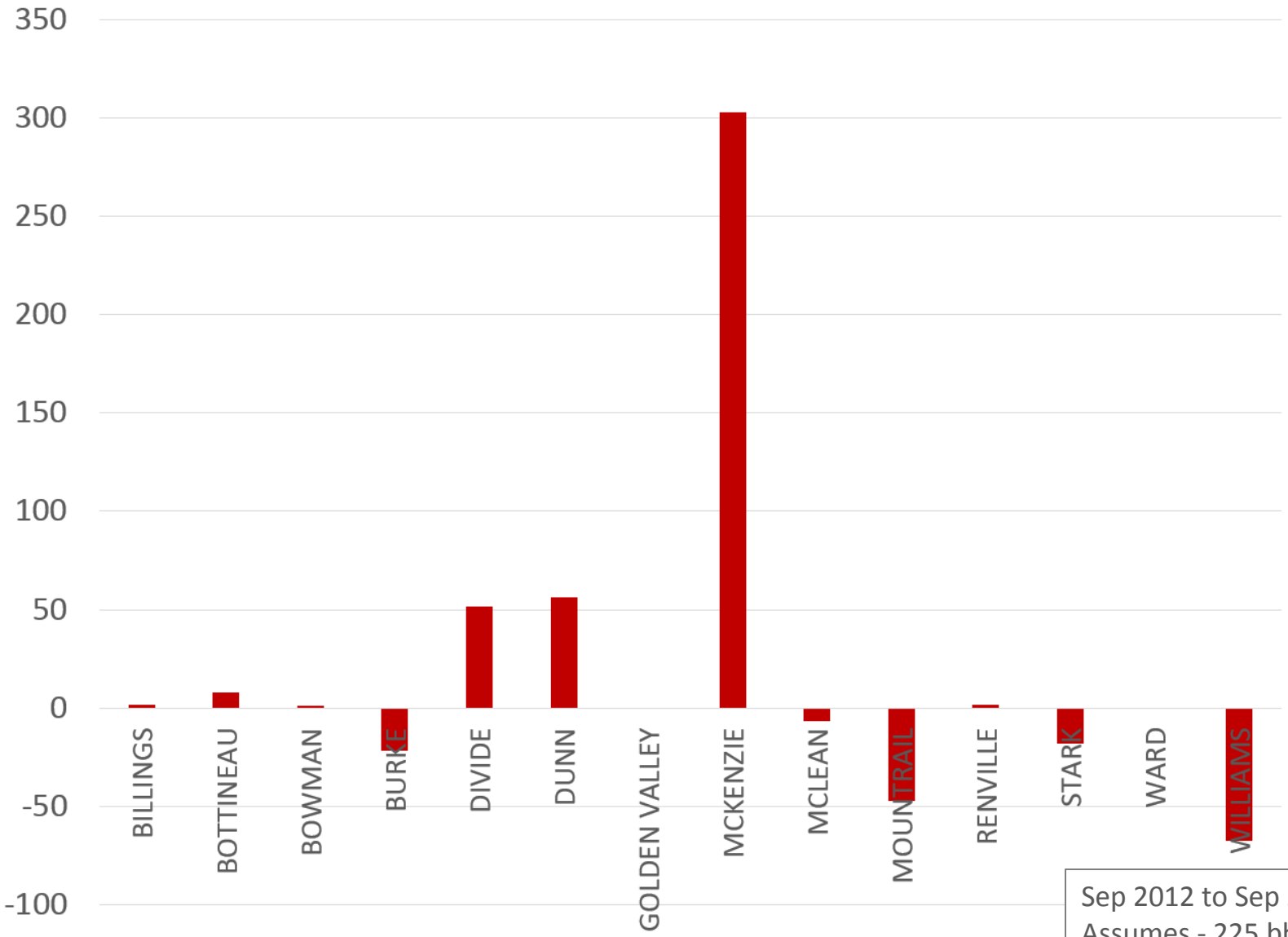
*Best available estimate. Some data incomplete or missing

Estimated YOY Oil Gathering Change



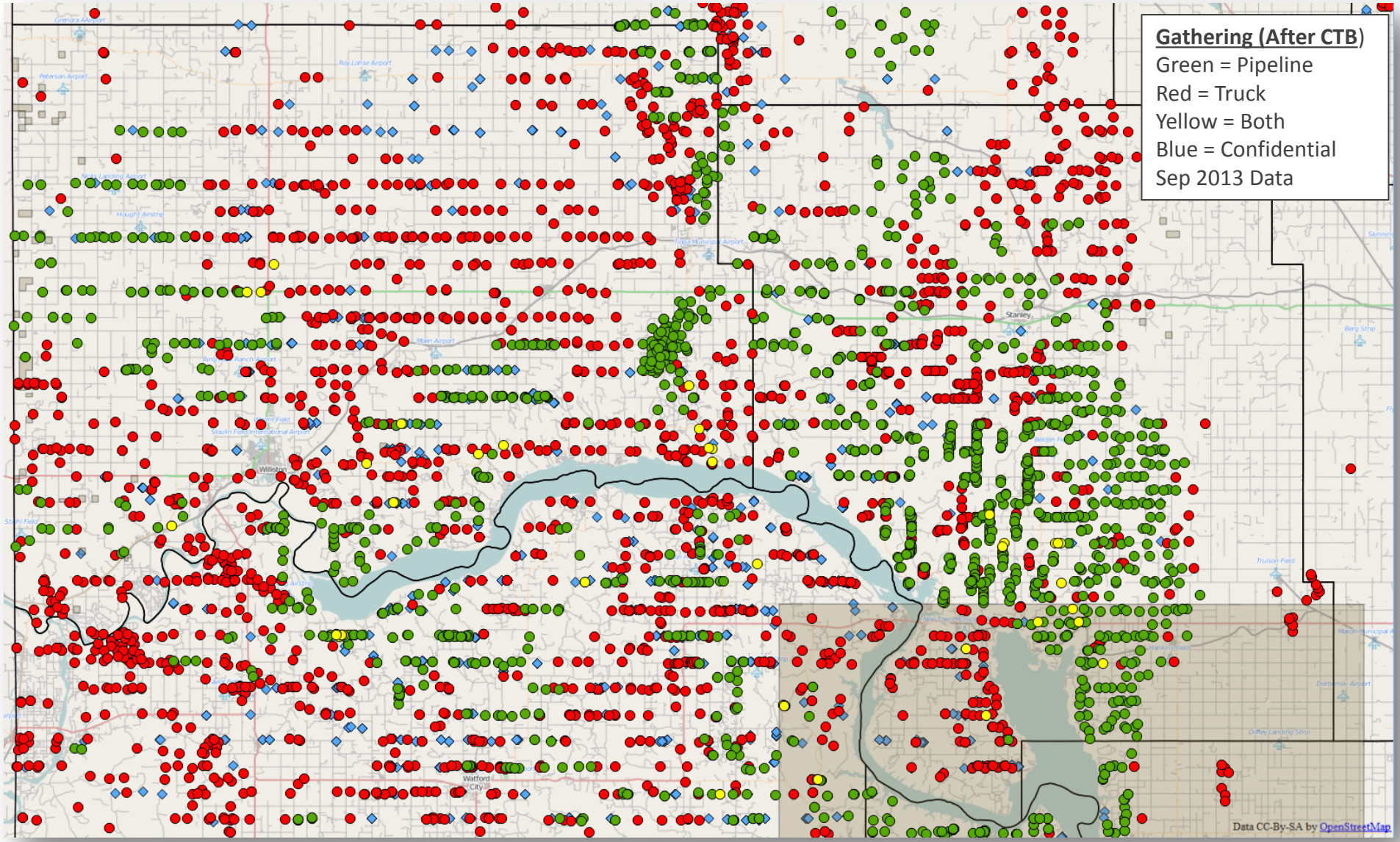
Sep 2012 to Sep 2013

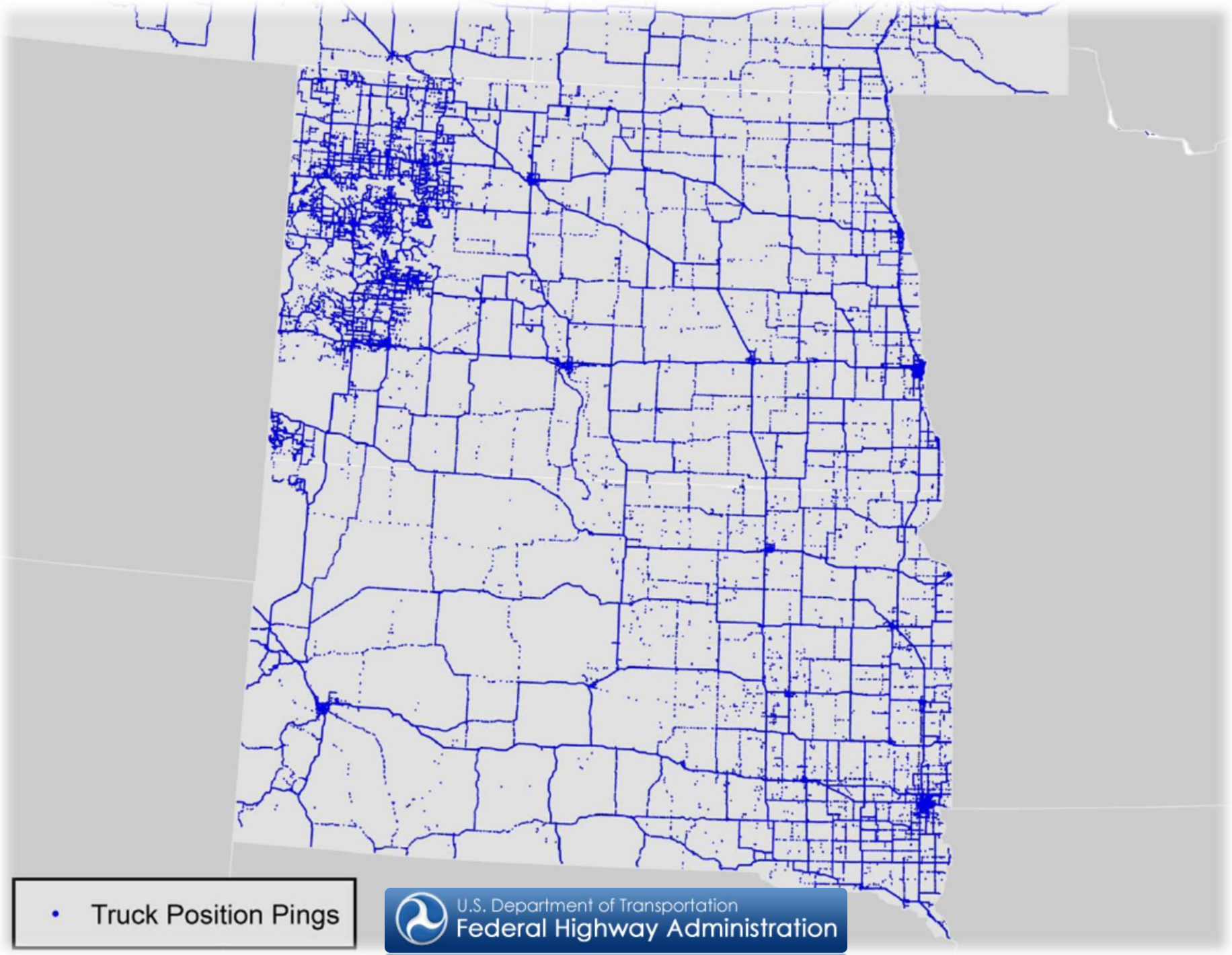
Estimated YOY Daily Truckload Change

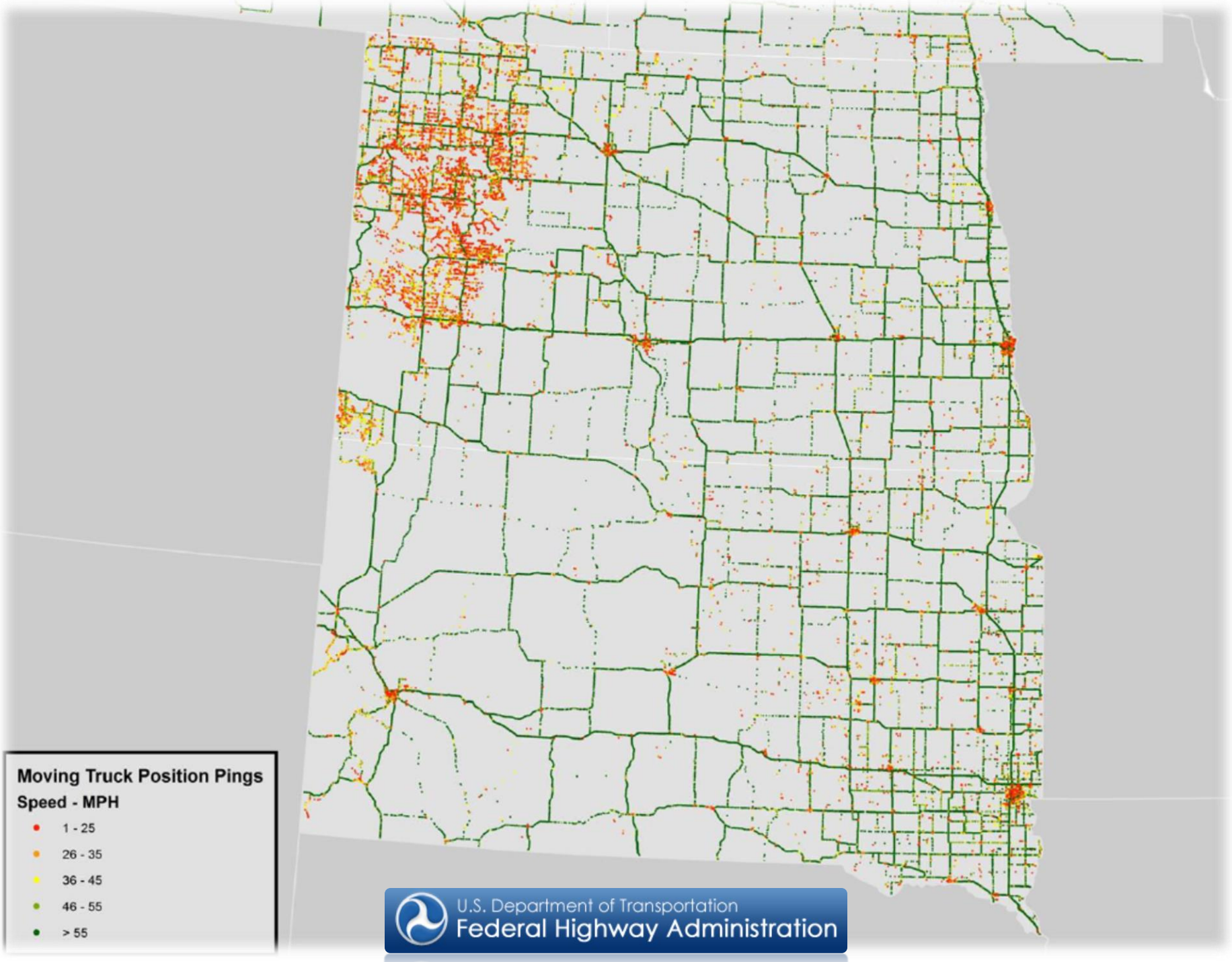


Sep 2012 to Sep 2013
Assumes - 225 bbls/truck

Closer Look at Gathering Type




Truck Position Pings
U.S. Department of Transportation
Federal Highway Administration


Moving Truck Position Pings
Speed - MPH
1 - 25
26 - 35
36 - 45
46 - 55
> 55
U.S. Department of Transportation
Federal Highway Administration

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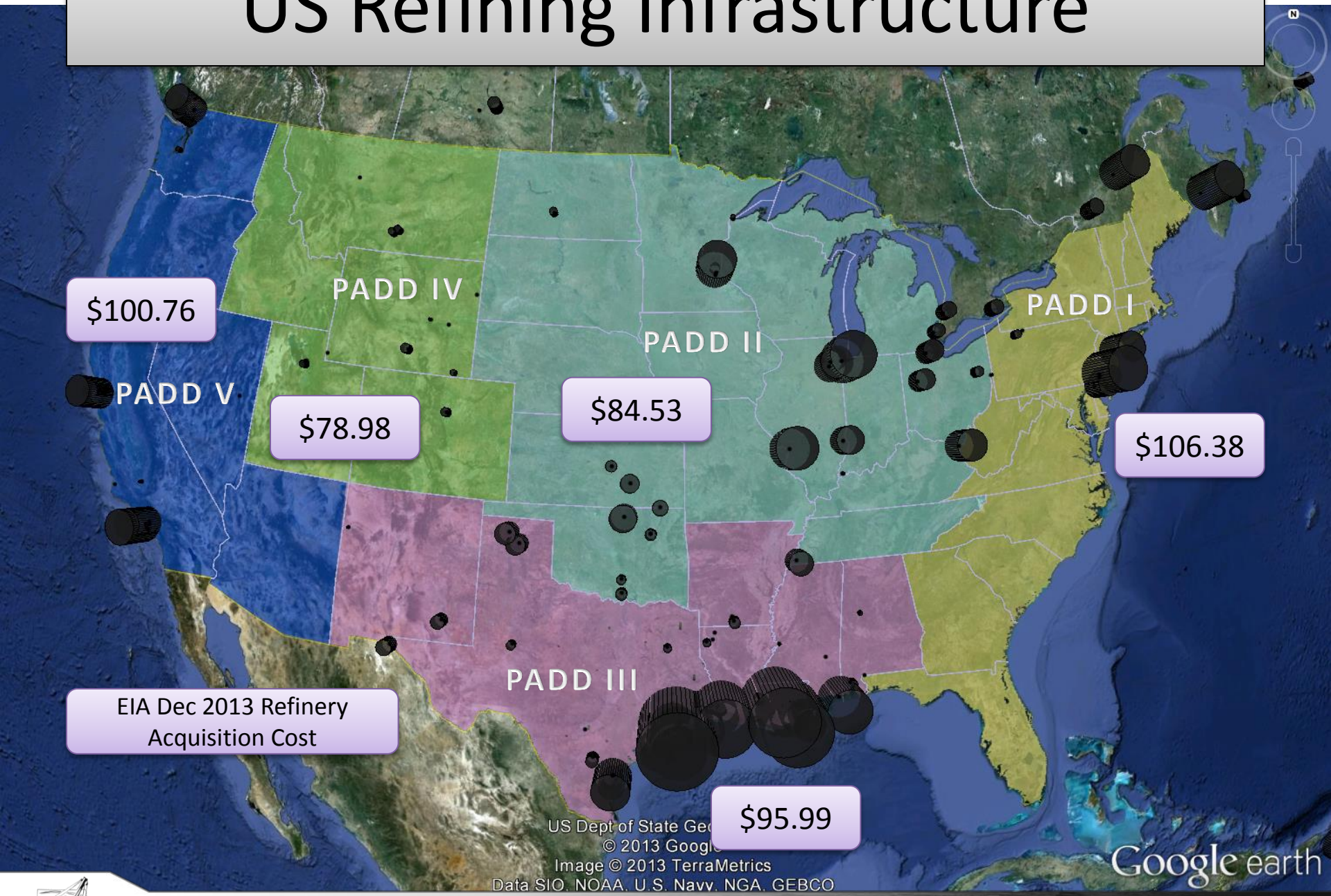
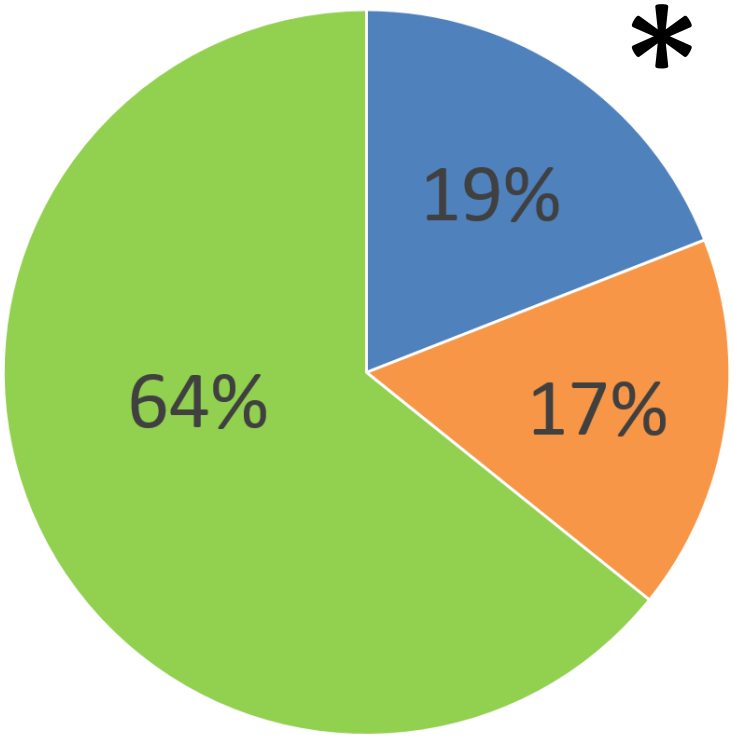
US Refining Infrastructure



Solving the Flaring Challenge



Statewide

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

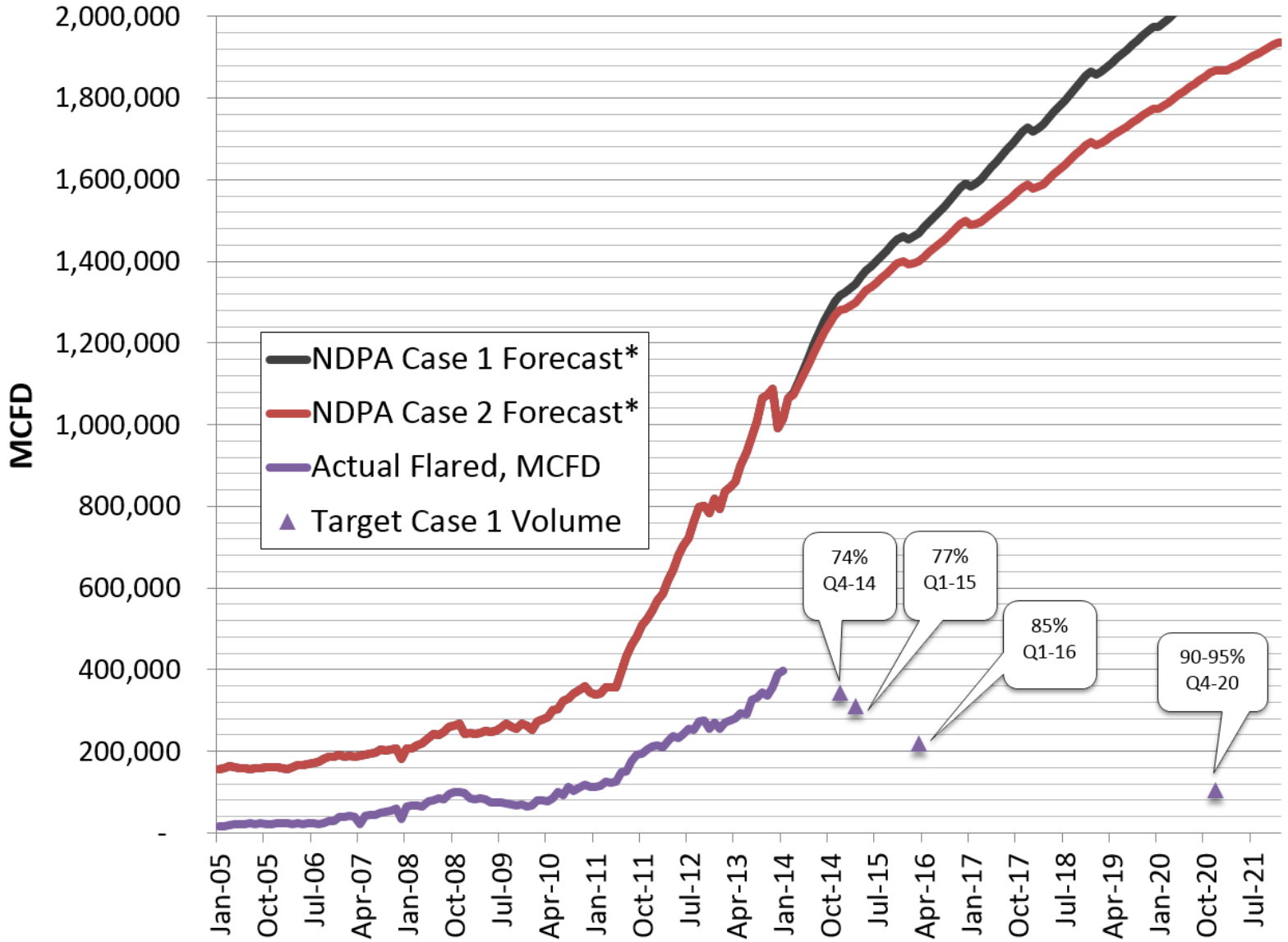
Simple Terms

Blue – Lack of pipelines
Orange – Challenges on existing infrastructure

February 2014 Data – Non-Confidential Wells

**Hess Tioga Gas Plant shut-in for 140 MMCFD expansion starting in November*

Solving the Flaring Challenge



New NDPA Natural Gas Report

NORTH DAKOTA NATURAL GAS

A DETAILED LOOK AT NATURAL GAS GATHERING

Published: October 22, 2013
Justin J. Kringstad, Director
North Dakota Pipeline Authority
Office: 701.220.6227
www.northdakotapipelines.com

NORTH DAKOTA NATURAL GAS

A DETAILED LOOK AT NATURAL GAS GATHERING

This report is designed to be a factual look at natural gas gathering, processing, and flaring in North Dakota.

The Bakken – Three Forks Formations

The Bakken/Three Forks (Bakken) is the largest oil field (in square miles) in North America. It underlies approximately 15,000+ square miles of North Dakota. The formation has been known about by geologists for decades, but it wasn't until 2006 when the use of horizontal drilling combined with hydraulic fracturing that the Bakken was considered to be an economic play.

The Bakken formation produces both crude oil and associated natural gas. Oil is the primary energy resource contained in Bakken wells and is the principal economic driver for energy producing companies.

Natural Gas Flaring

Flaring occurs when natural gas is burned on location due to a lack of gathering pipeline infrastructure or economic alternatives. Flaring of natural gas is a much safer and more environmentally friendly method of handling the natural gas than simply venting into the atmosphere. By flaring the gas, it converts the methane to carbon dioxide (CO_2) which has 20-25 times less impact on greenhouse gas emissions.

A gas gathering pipeline and processing plant are the conventional means to condition the natural gas for retail use. An economic analysis must be done to determine if it is even feasible to connect a well to an

FLARING REGULATION

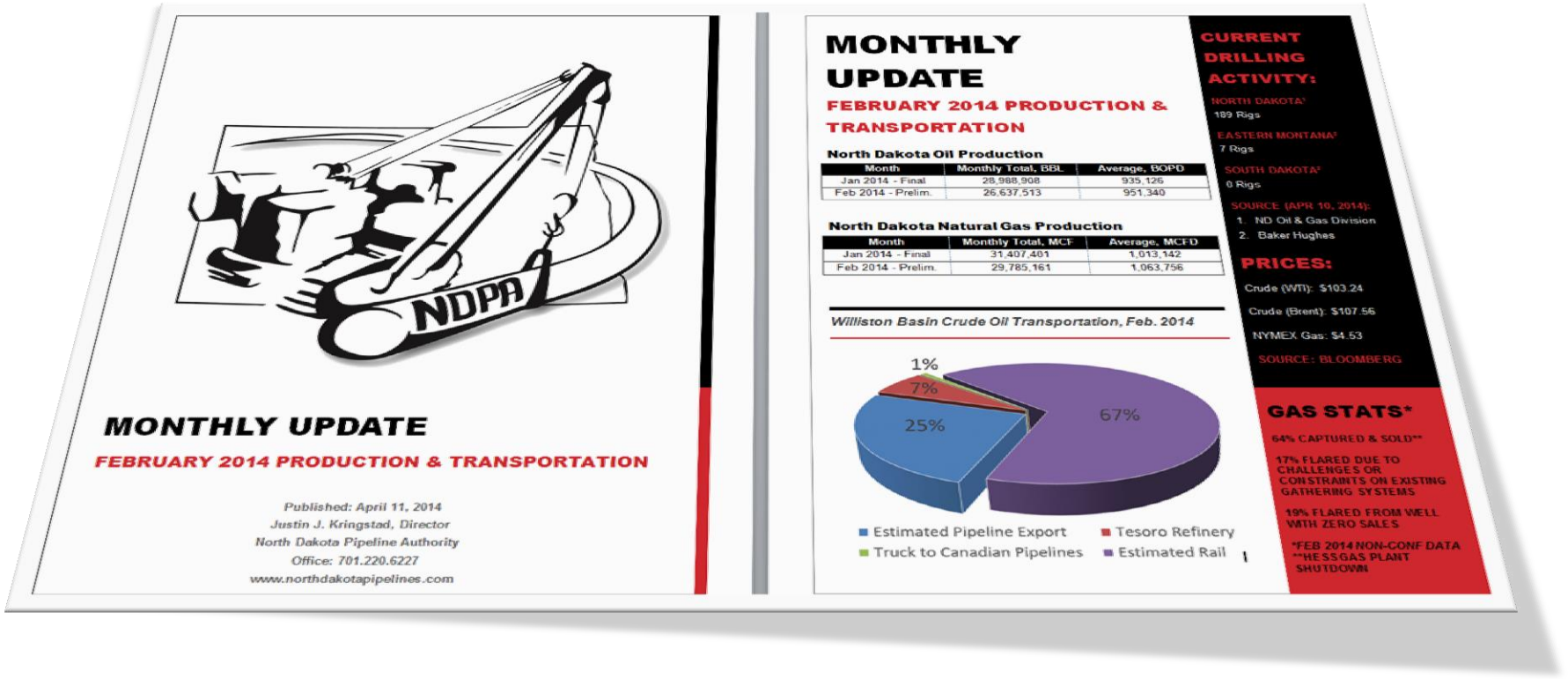
In an effort to conserve this resource and protect against waste, the Industrial Commission Oil and Gas Division, under the authority granted in section 38-08-04 of the North Dakota Century Code, implements and enforces rules and regulations to limit the production of oil produced from wells that are not yet connected to a gas-gathering system.

PRIMARY CHALLENGES

- *Size of resource*
- *Young age of development*
- *Harsh winter conditions*
- *Resource potential still being explored*

Strengthening Landowner Relations

NDPA Publications & Presentations



Visit: www.northdakotapipelines.com

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