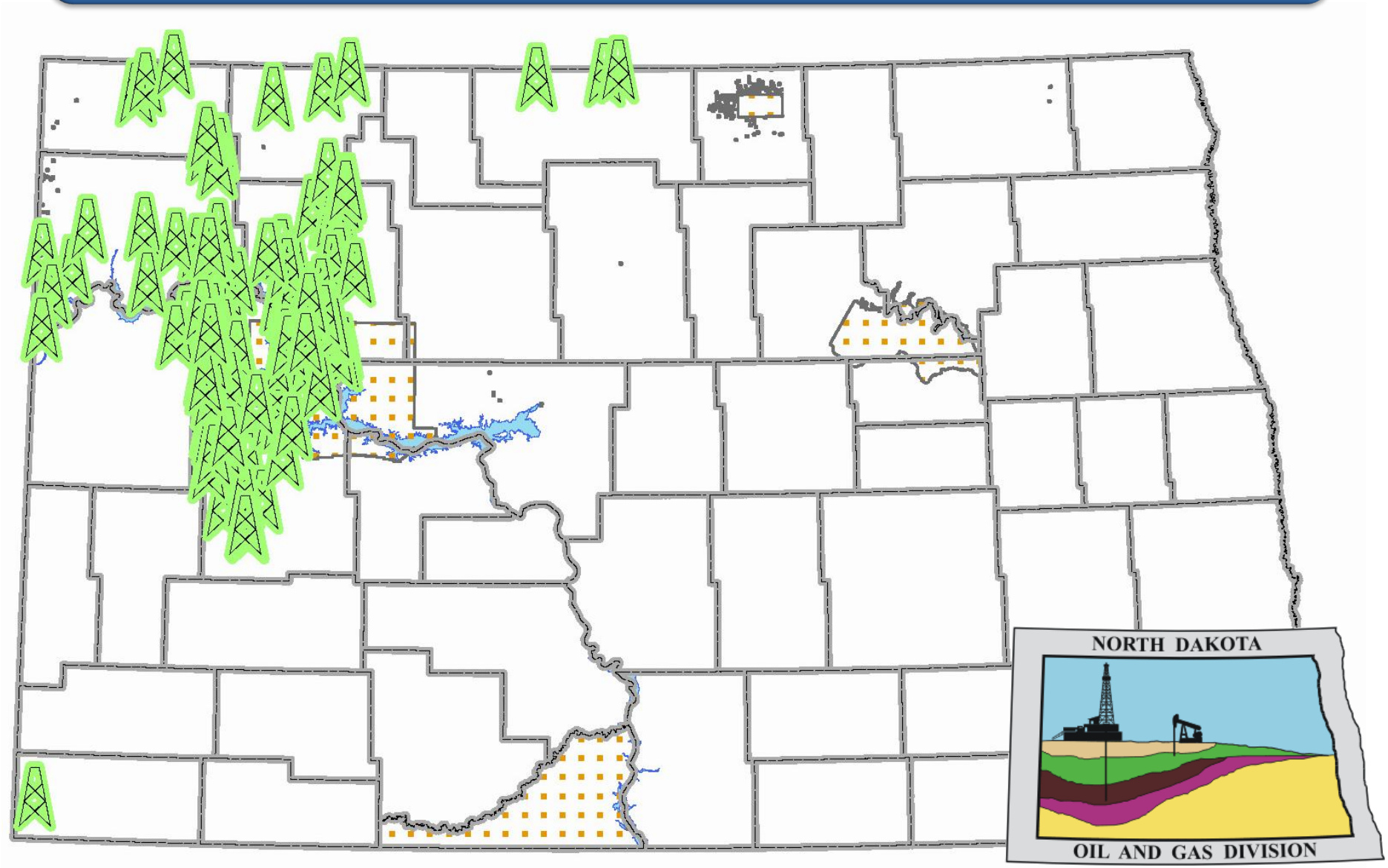
North Dakota Pipeline Authority

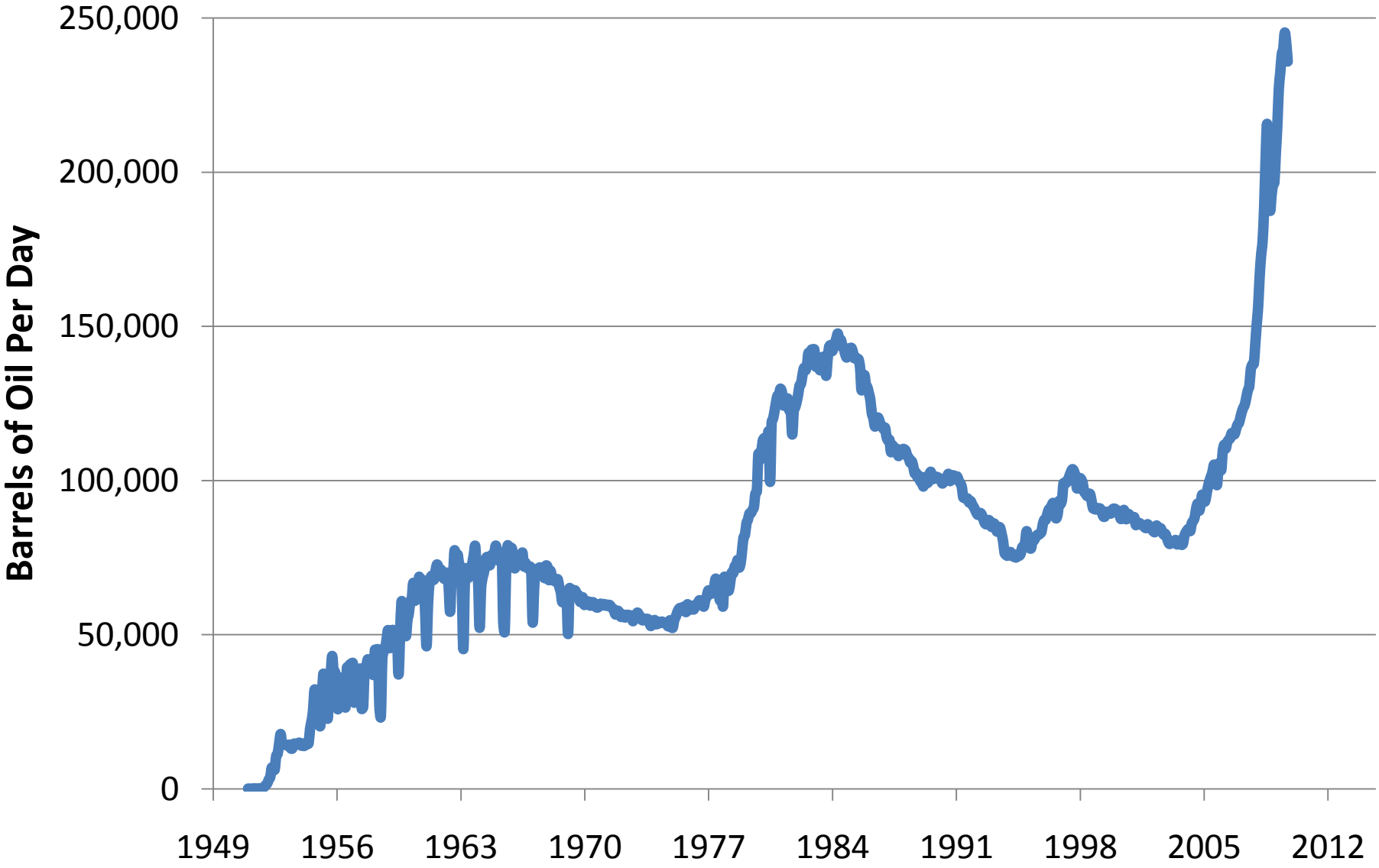
Energy Development and Transmission Committee

March 17, 2010

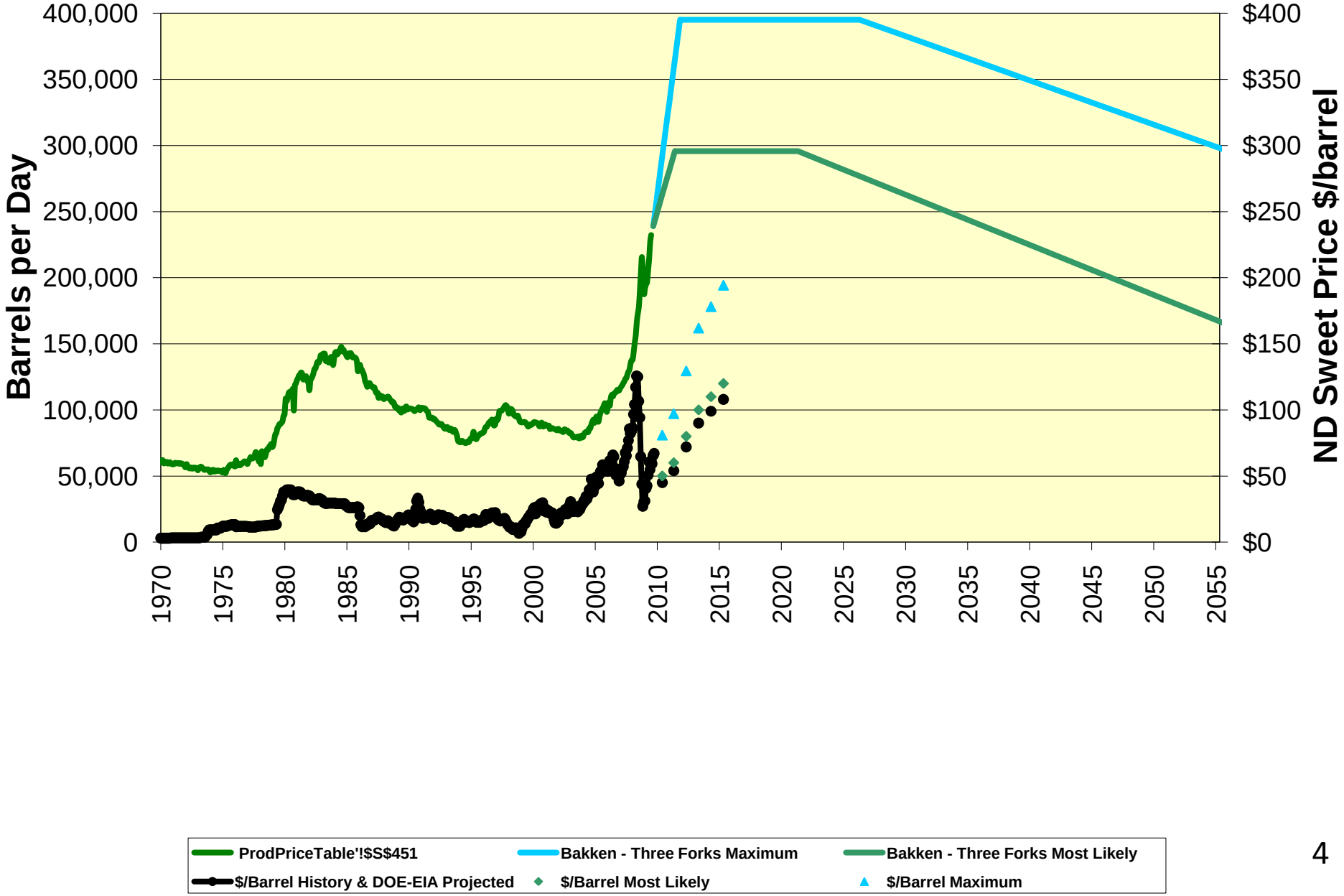
March 16, 2010: 102 Active Drilling Rigs



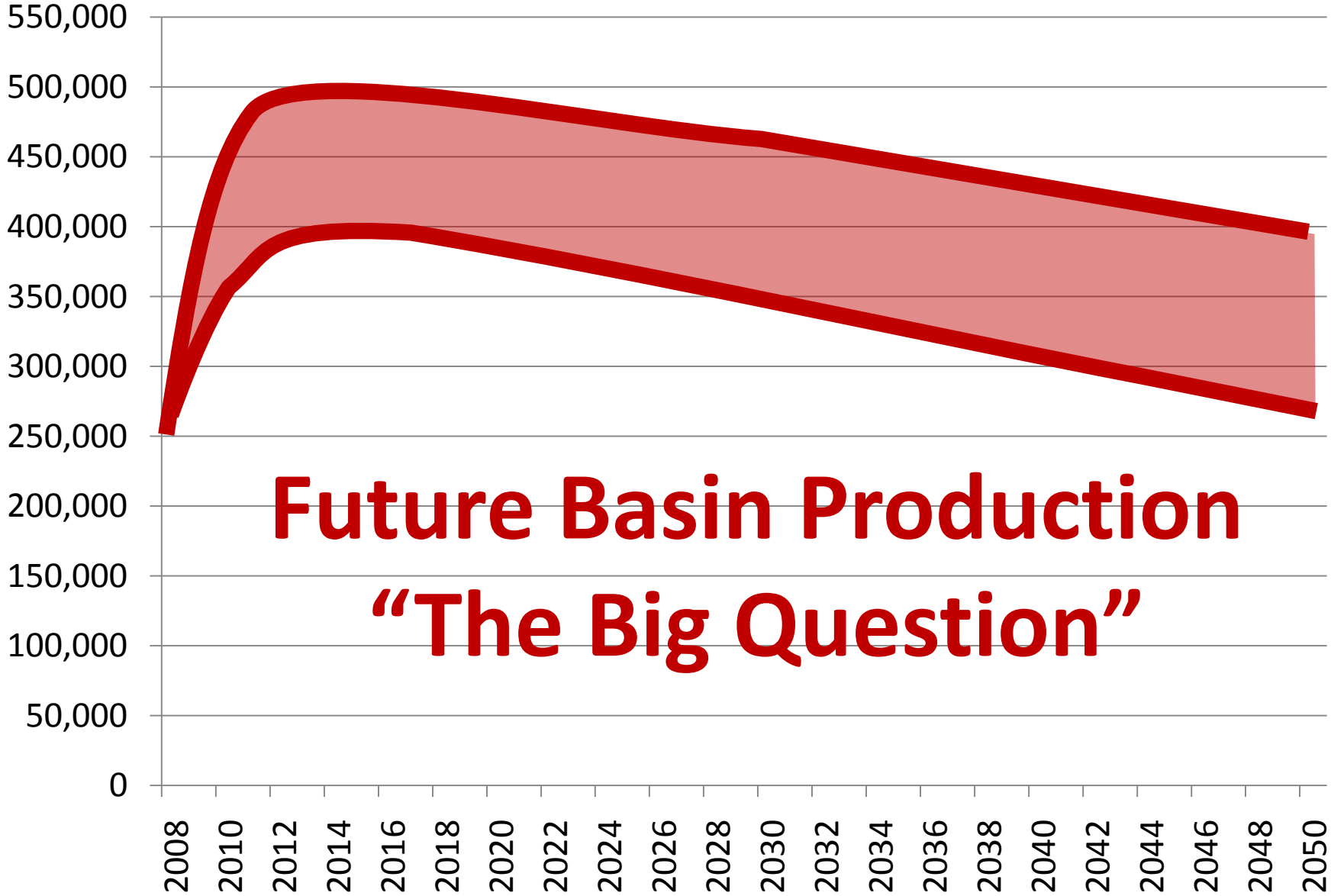
North Dakota Crude Oil



North Dakota Oil Production and Price

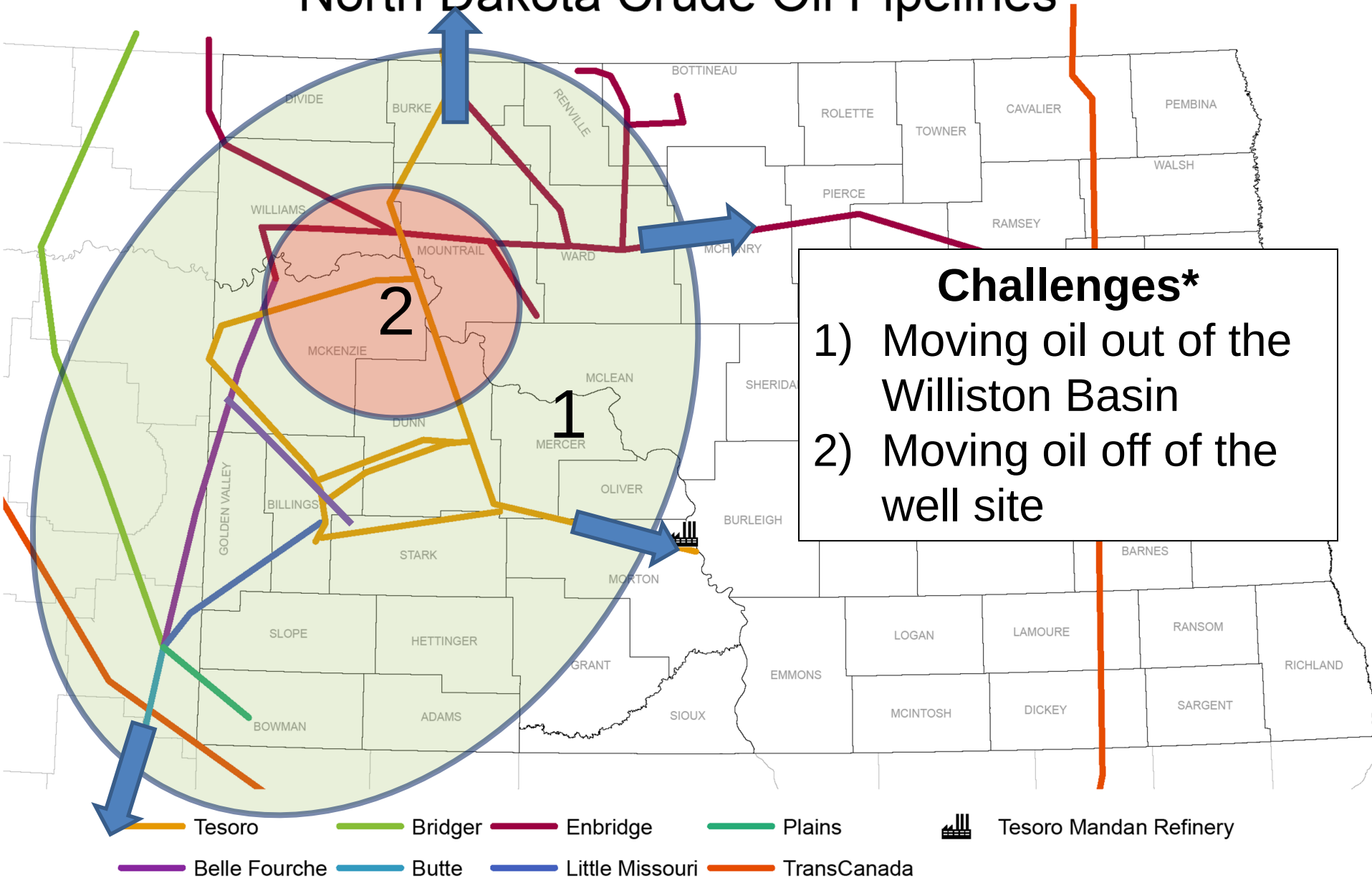


Williston Basin Production* & Export Capacity



*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

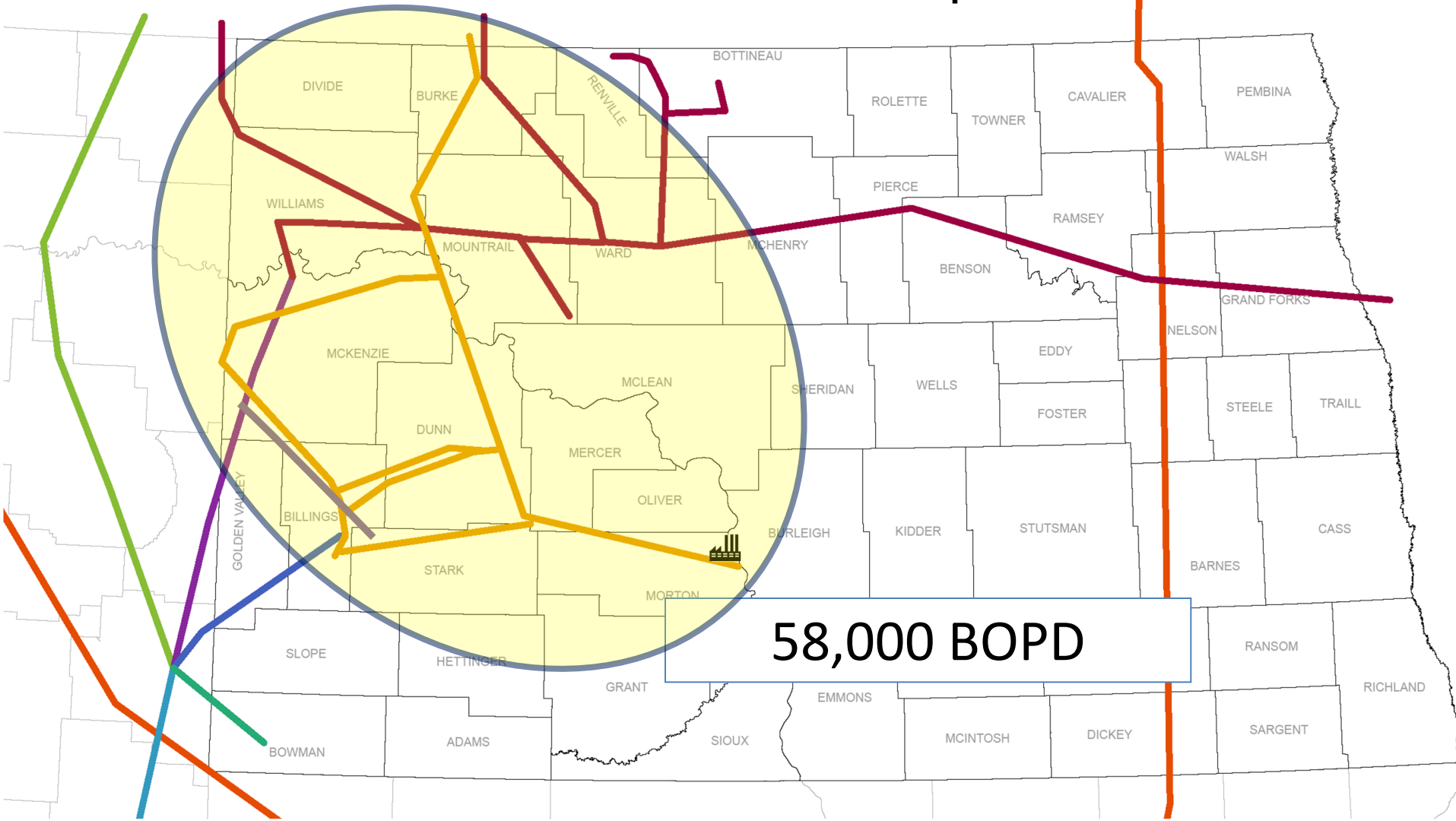


Challenges*

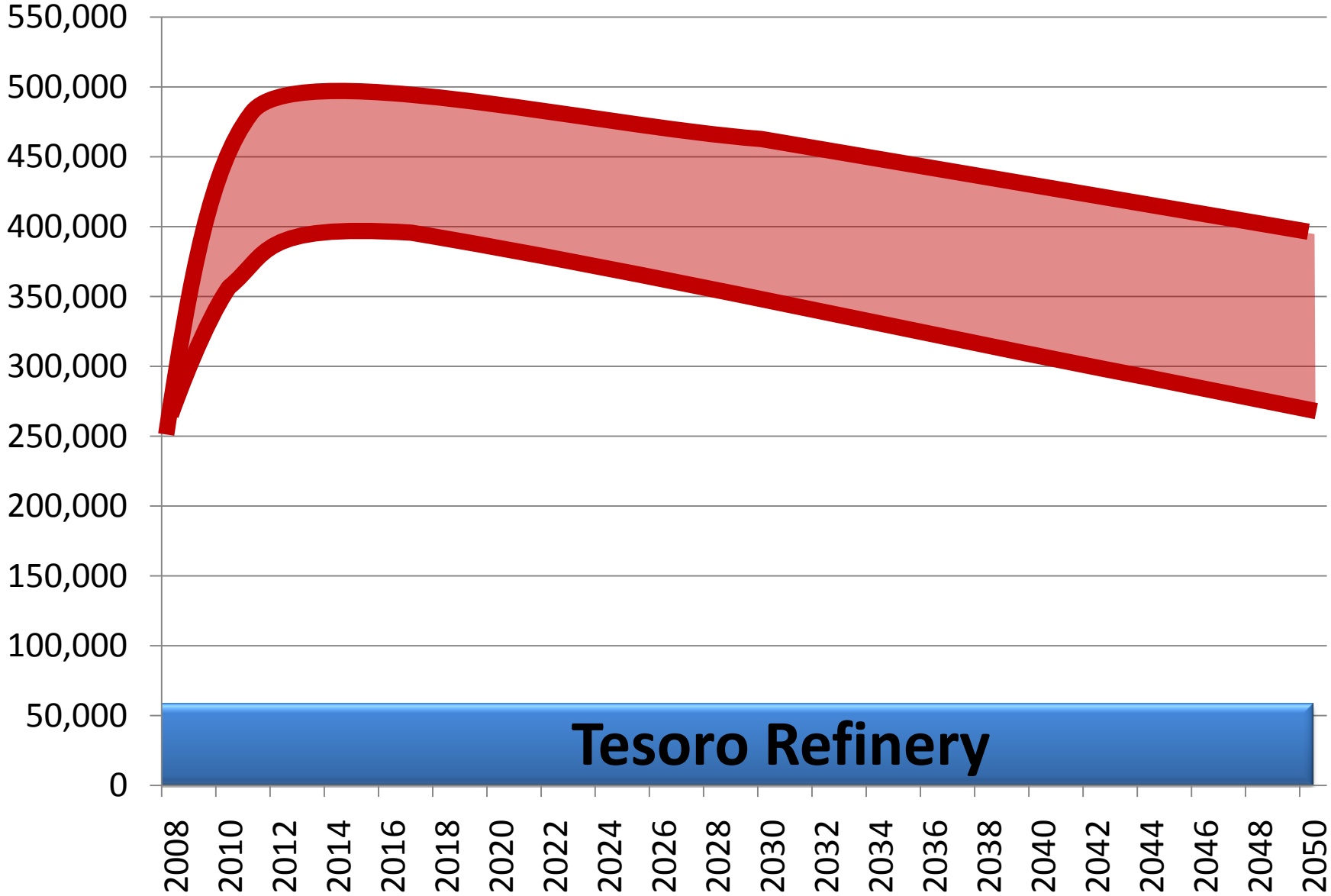
1) Moving oil out of the Williston Basin
2) Moving oil off of the well site

*Modified from Bridger and Belle Fourche Pipelines

North Dakota Crude Oil Pipelines



Williston Basin Production* & Export Capacity



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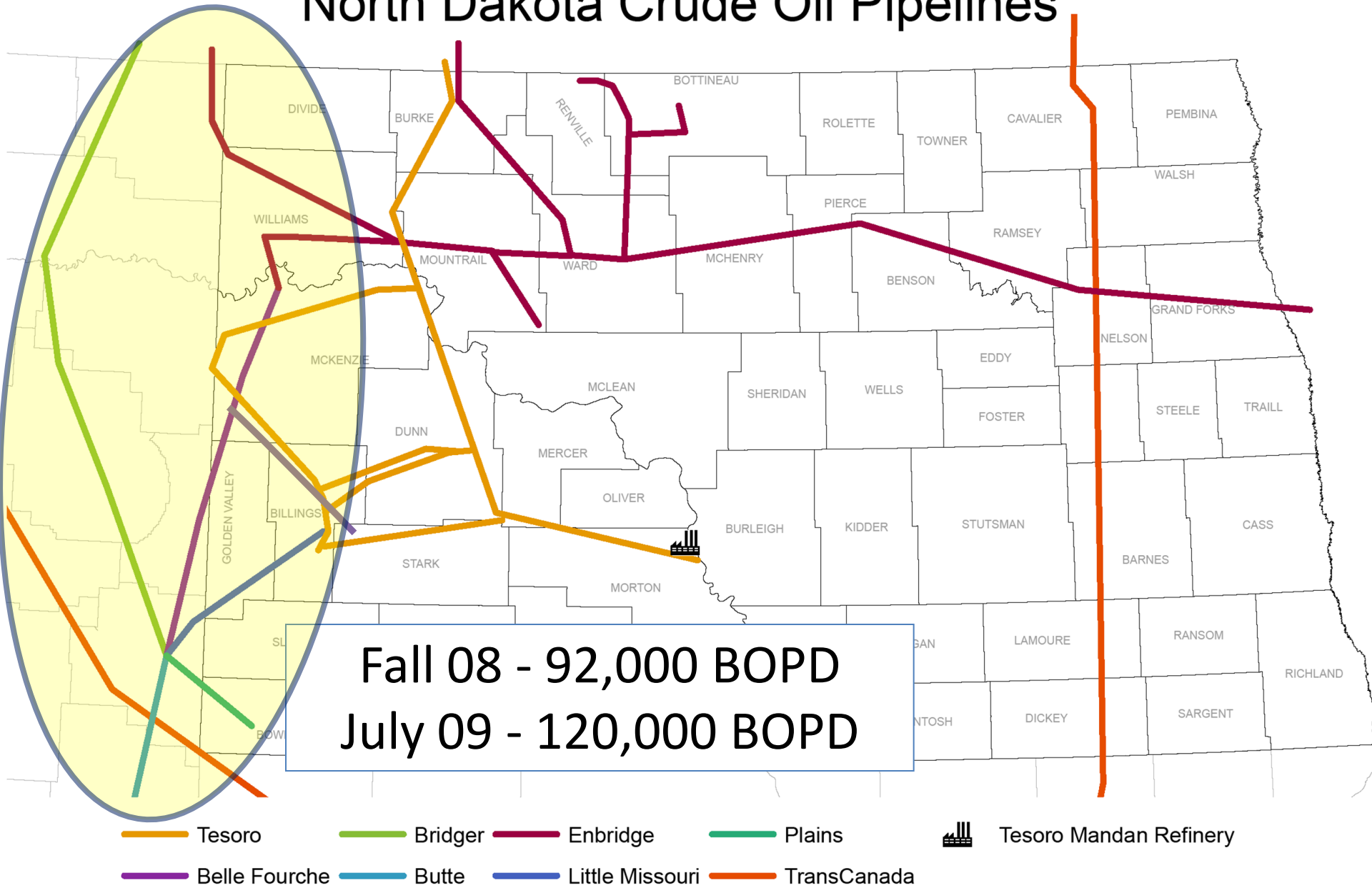
North Dakota Crude Oil Pipelines

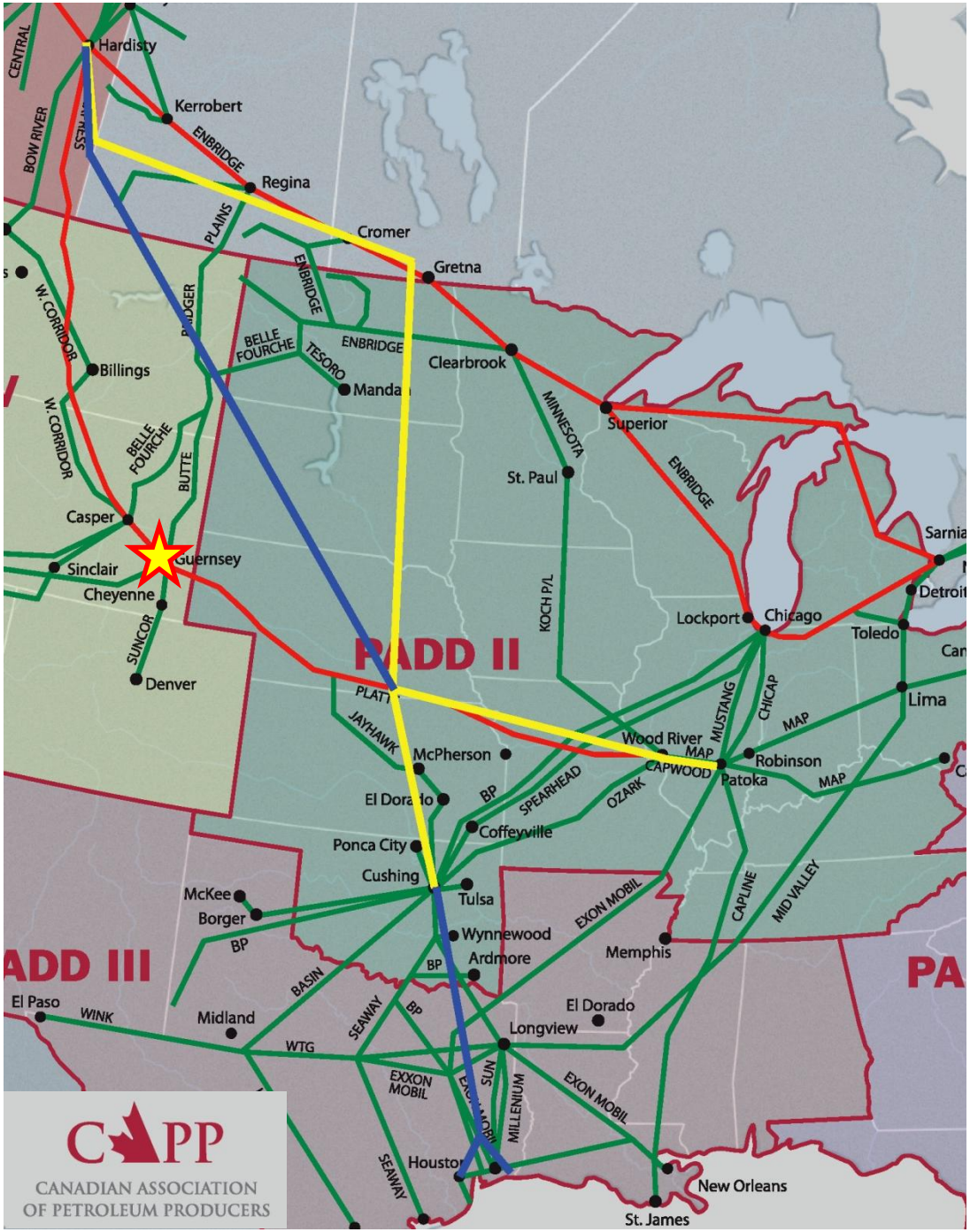


Anticipated drop in congestion at the Guernsey, WY hub

Keystone
Q2 2010

Alberta Clipper
April 2010

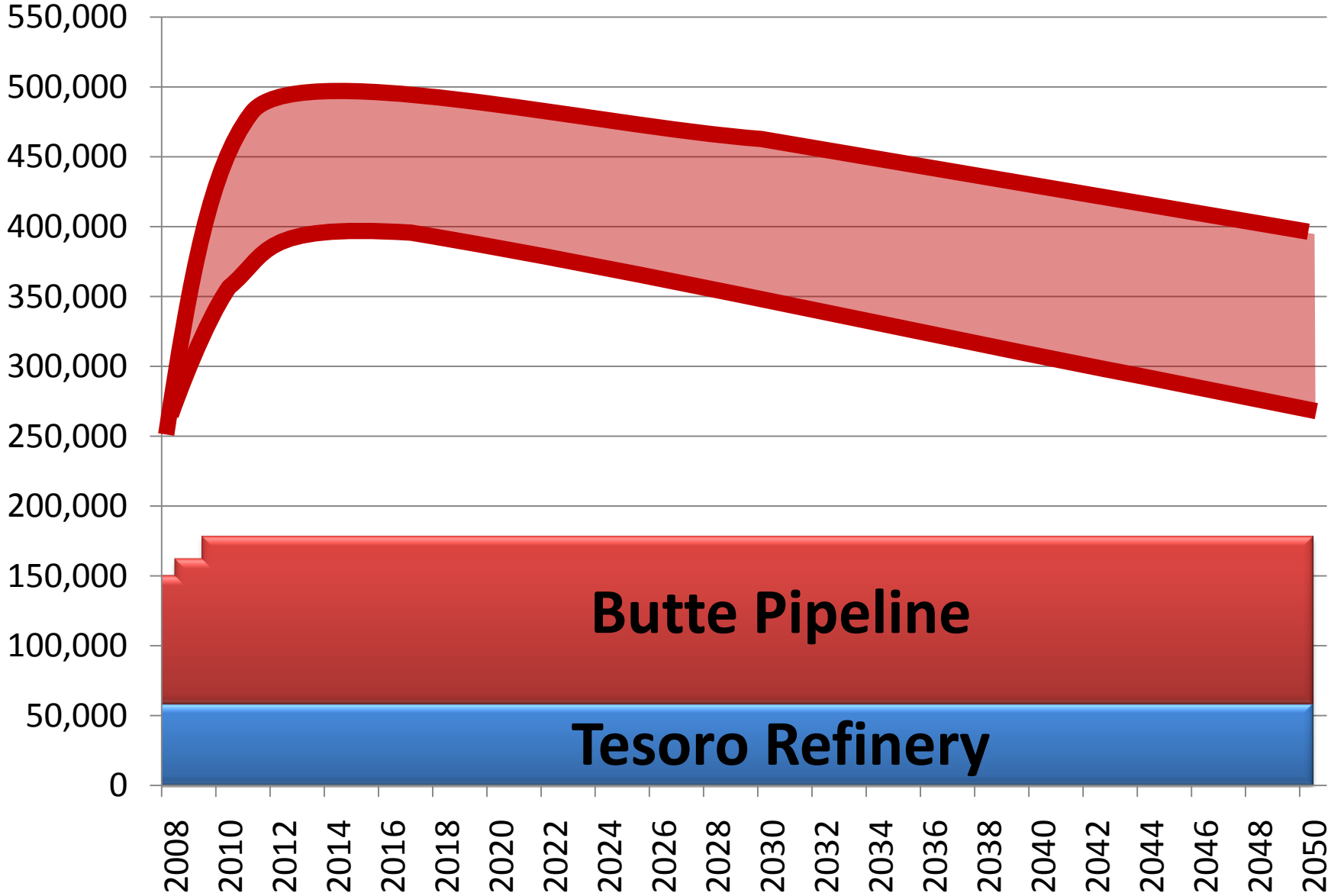
Keystone XL
2012



CAPP
CANADIAN ASSOCIATION OF PETROLEUM PRODUCERS

Map Modified From Original
Source: CAPP

Williston Basin Production* & Export Capacity



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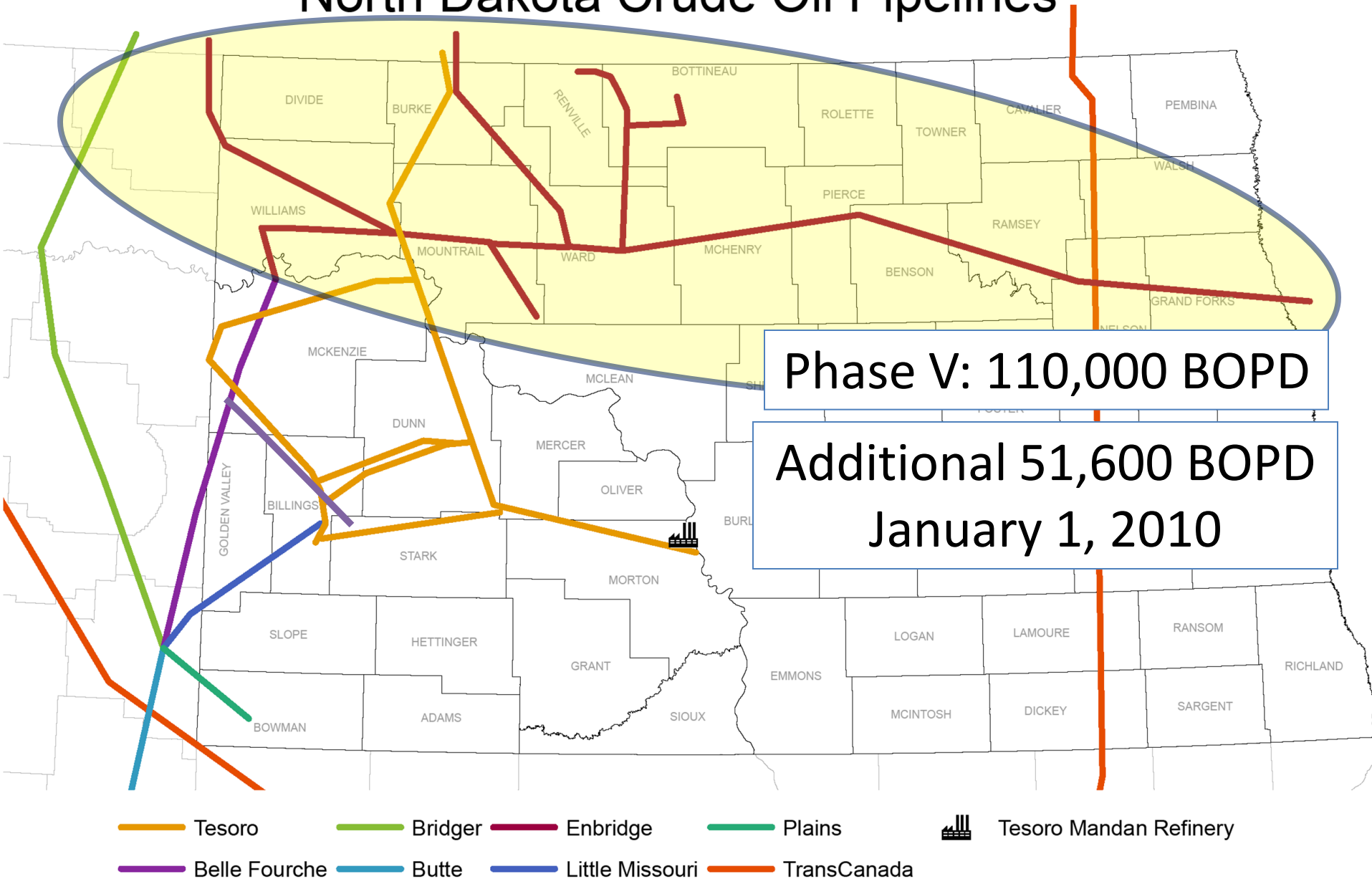
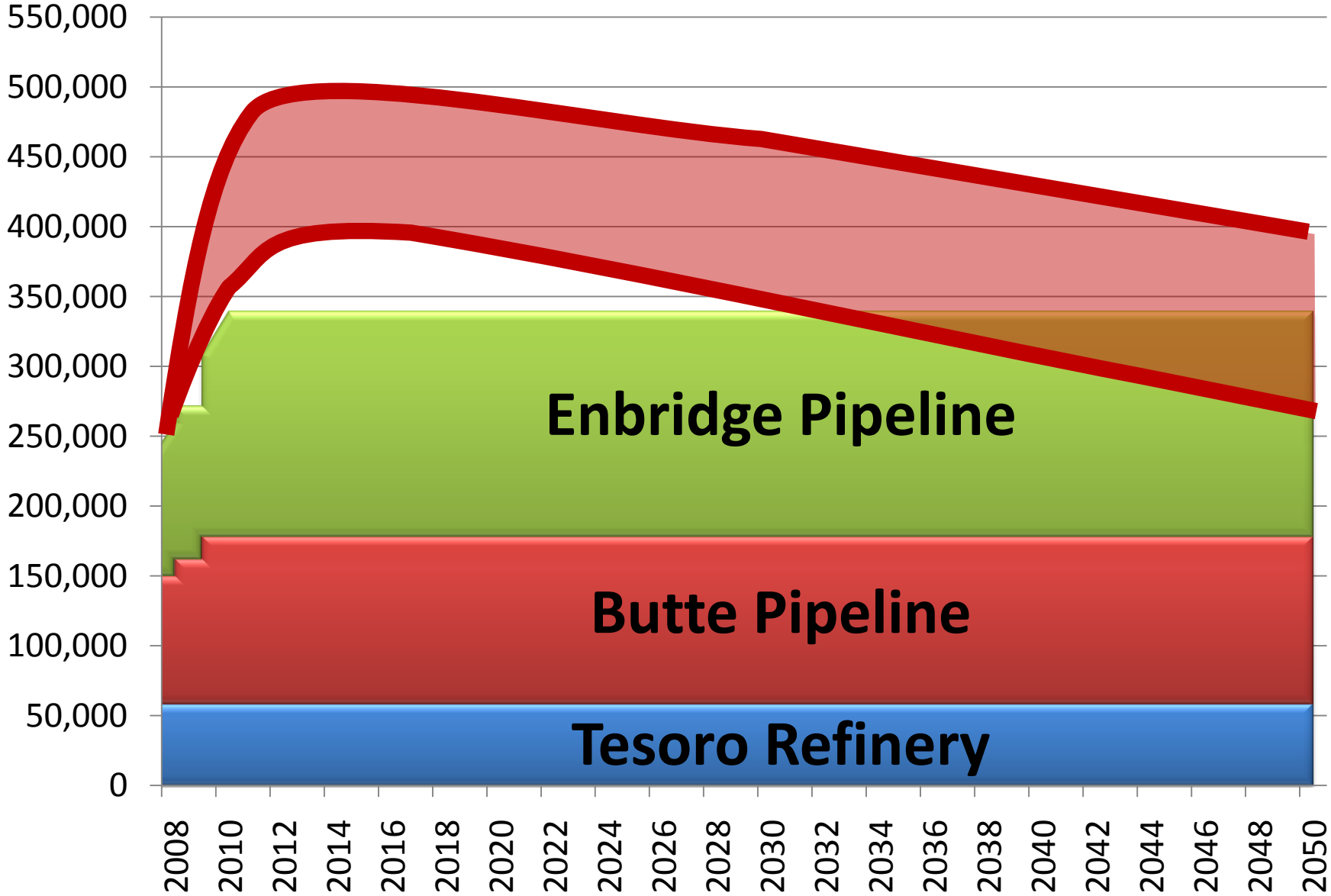
North Dakota Crude Oil Pipelines



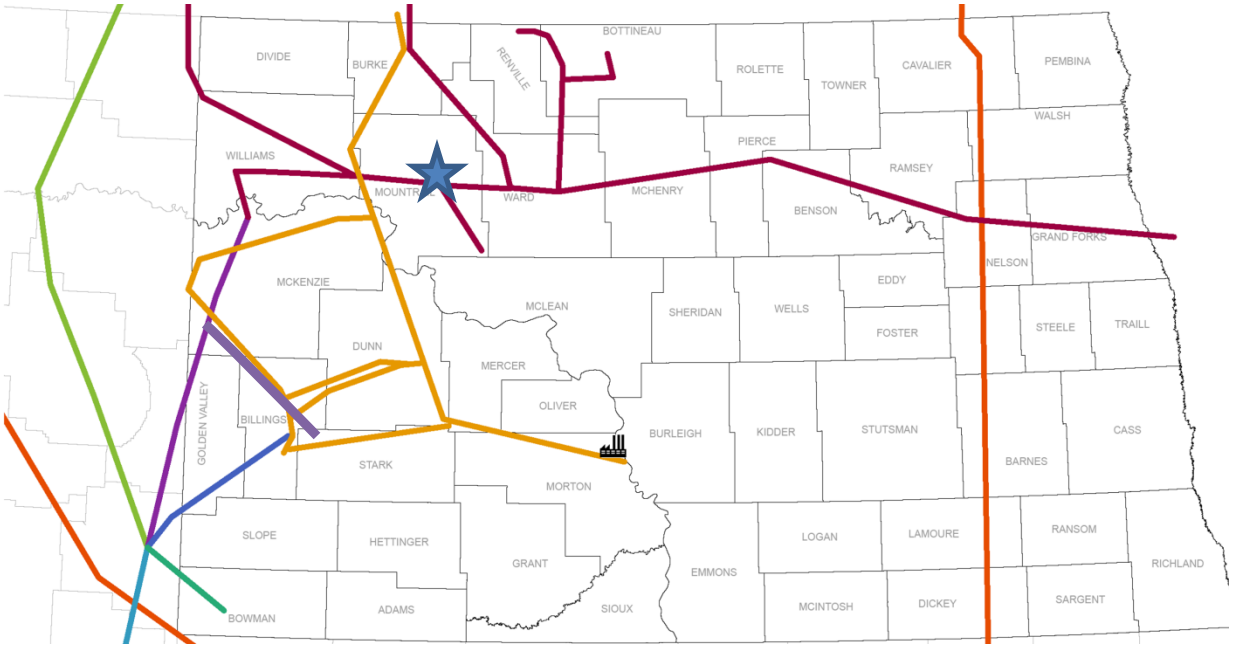
Williston Basin Production* & Export Capacity



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

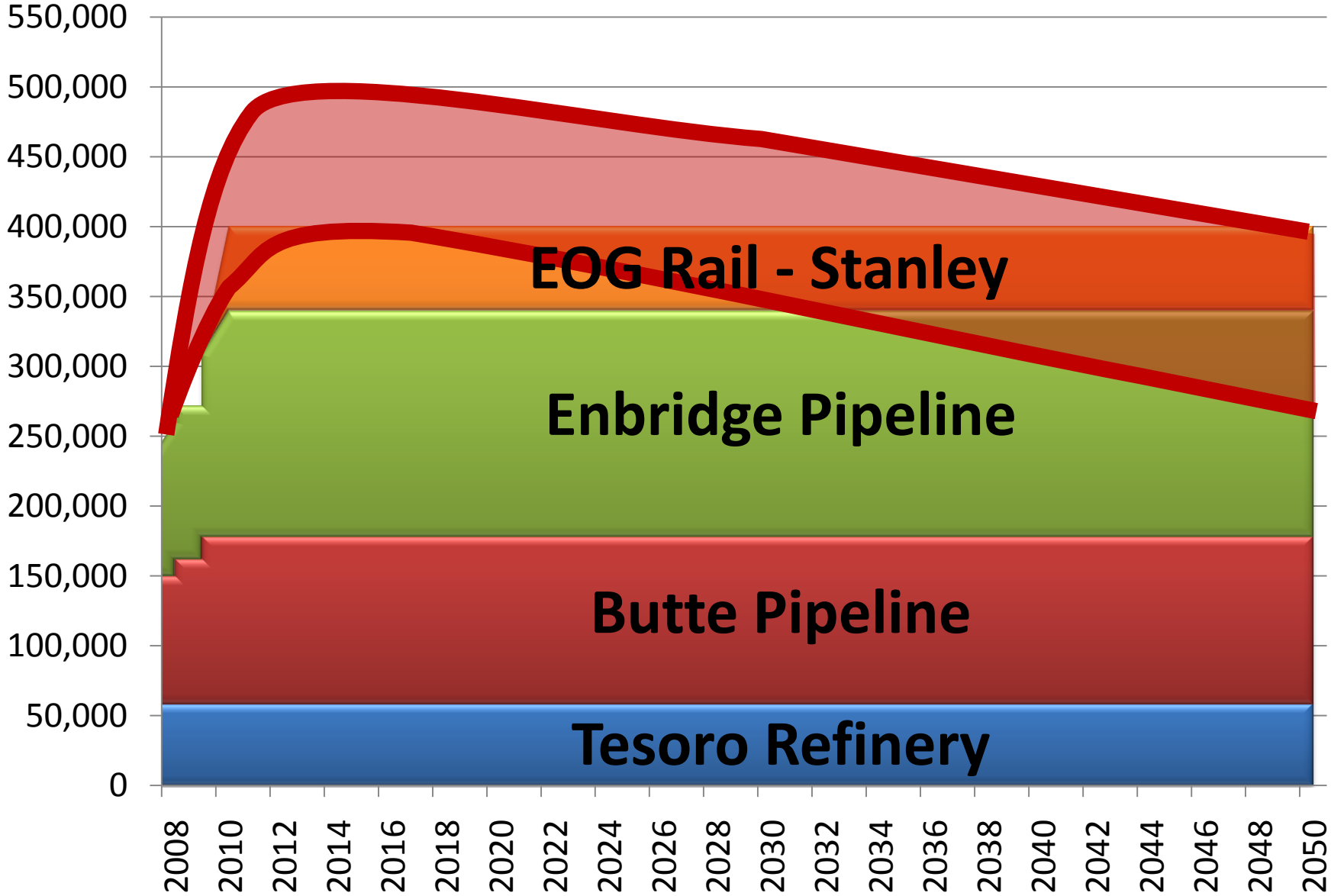
EOG Rail Facility Details

- New facility at Stanley, ND
- Two 60,000 bbl tanks constructed
- First Unit Train Departed Dec 31, 2009



Images Provided By:
EOG Resources

Williston Basin Production* & Export Capacity



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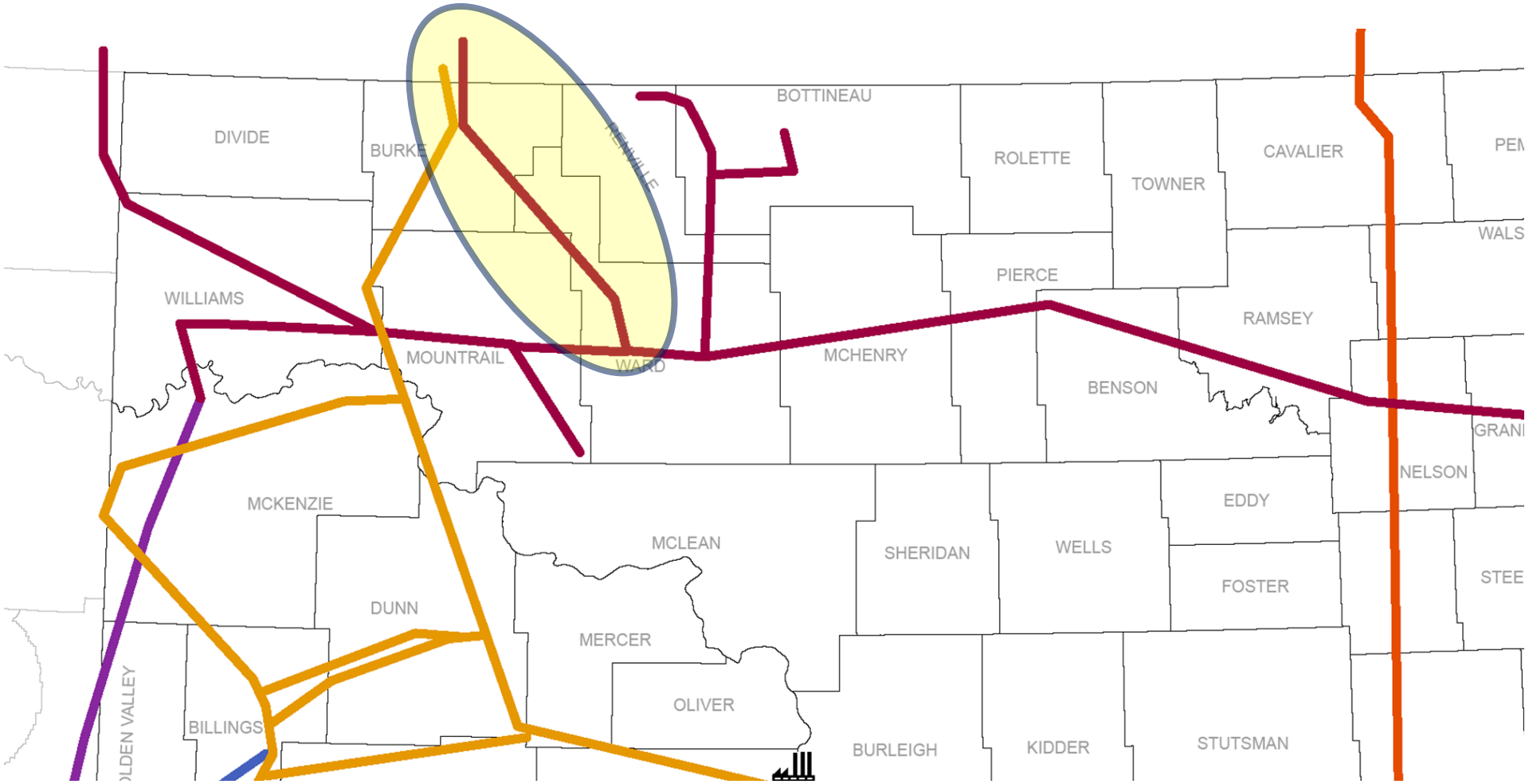
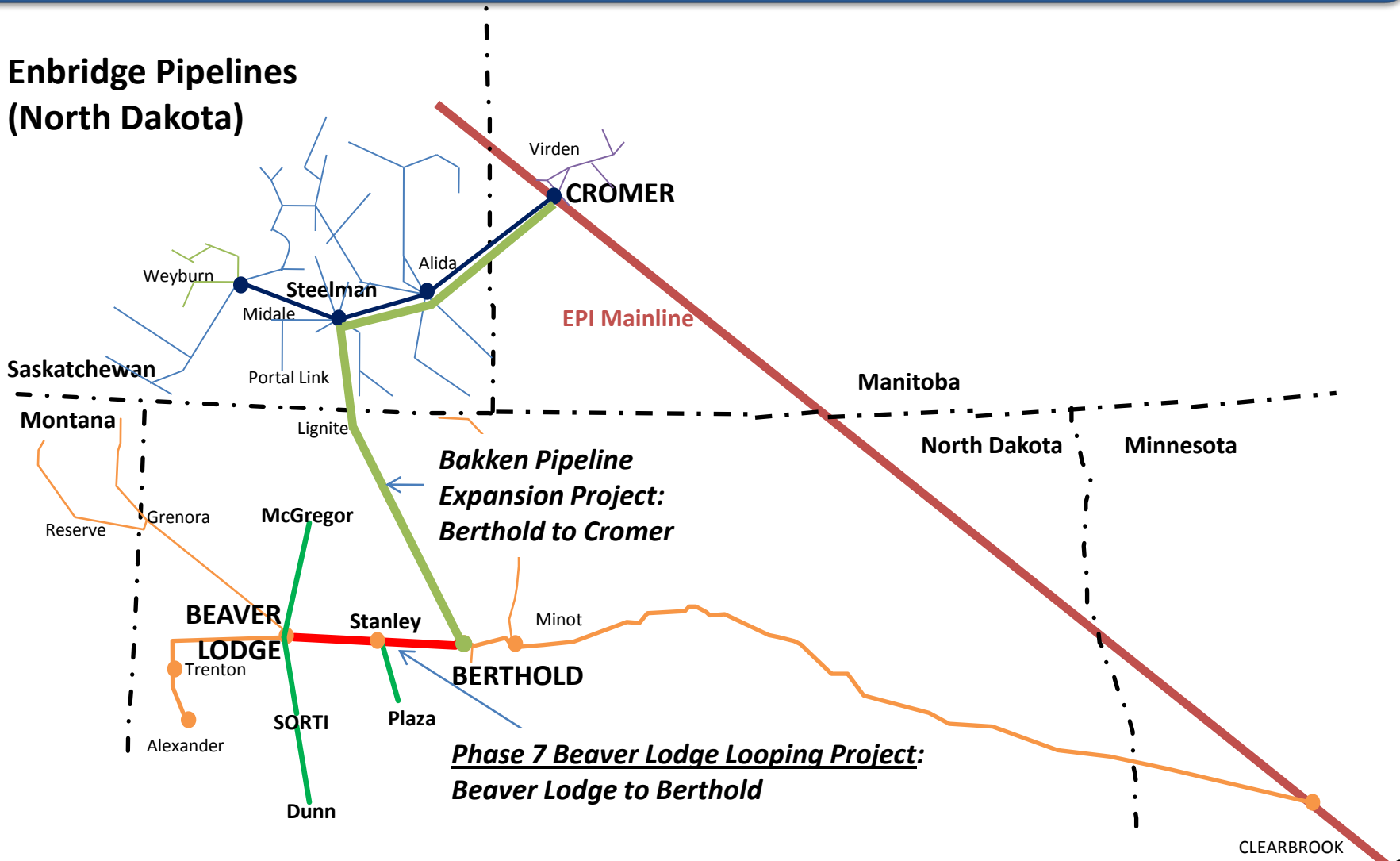
Several Exciting Developments For Post 2010 Crude Oil Transport

- Enbridge BPEP
- Kinder Morgan Bakken Crude Project
- Keystone Interconnect Feasibility Study
- Unit Train Development
- Others Still Looking at Opportunities

Enbridge BPEP
(Bakken Pipeline Expansion Project)



Potential Bakken Pipeline Expansion

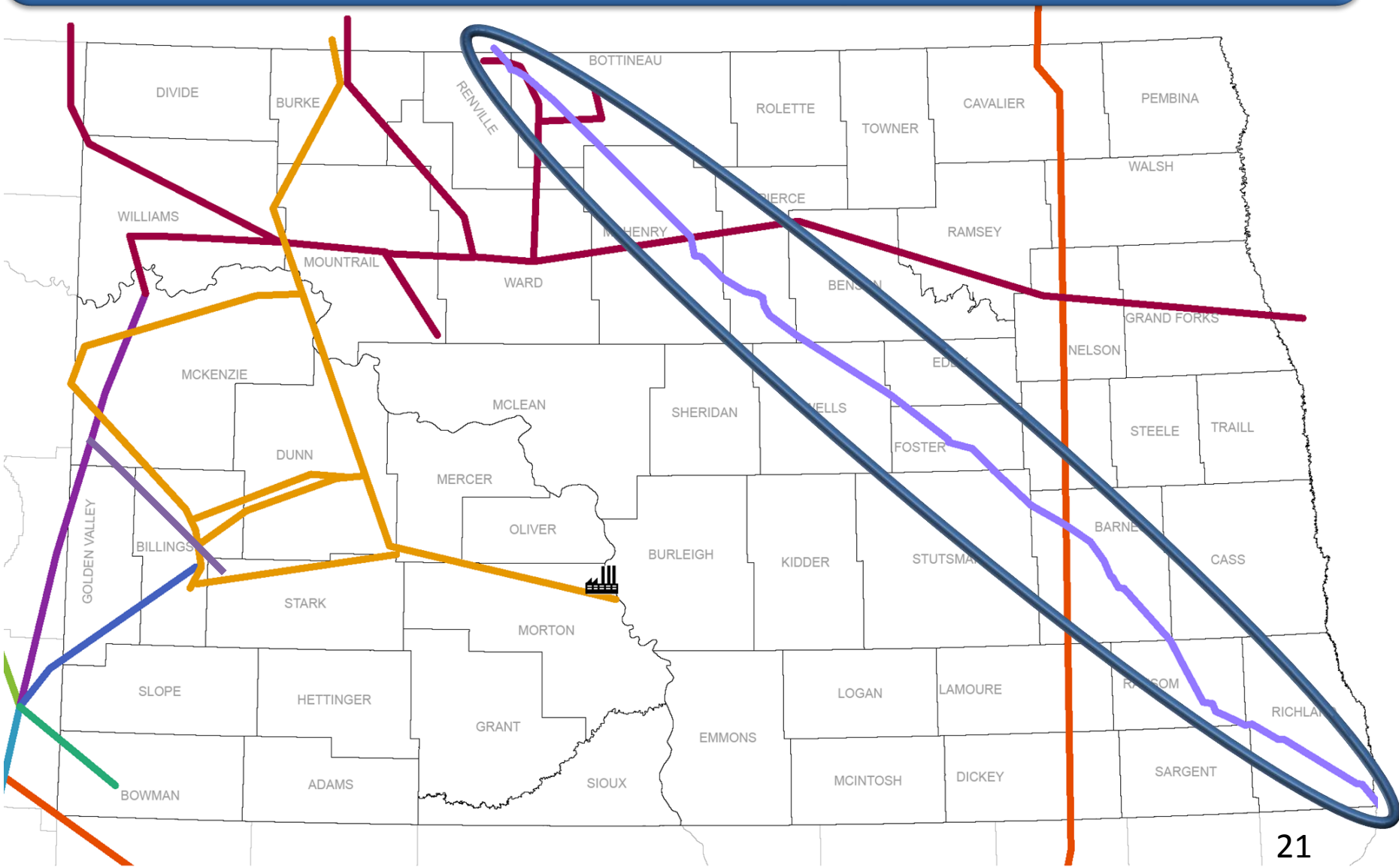


EPND Phase 7 Gathering Projects: SORTI, Dunn, Plaza and McGregor

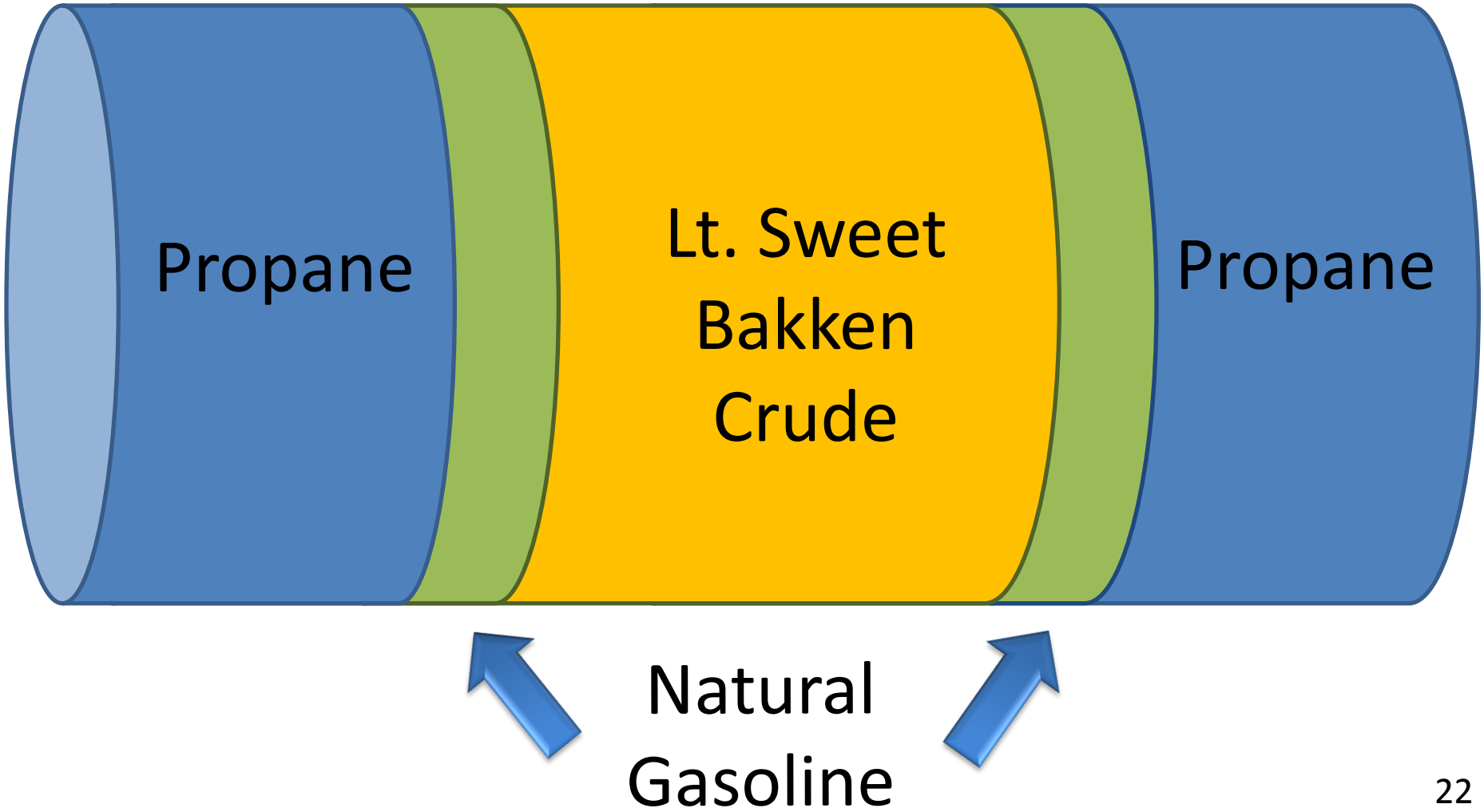
Enbridge BPEP Details

- Project out for non-binding indications of interest from potential shippers
- Gathering pipelines could be in-service Q3 2011
- Beaver Lodge looping could provide up to 115,000+ BOPD into Cromer, MB by Q3 2012

Kinder Morgan Bakken Crude Project



Kinder Morgan Bakken Crude Project



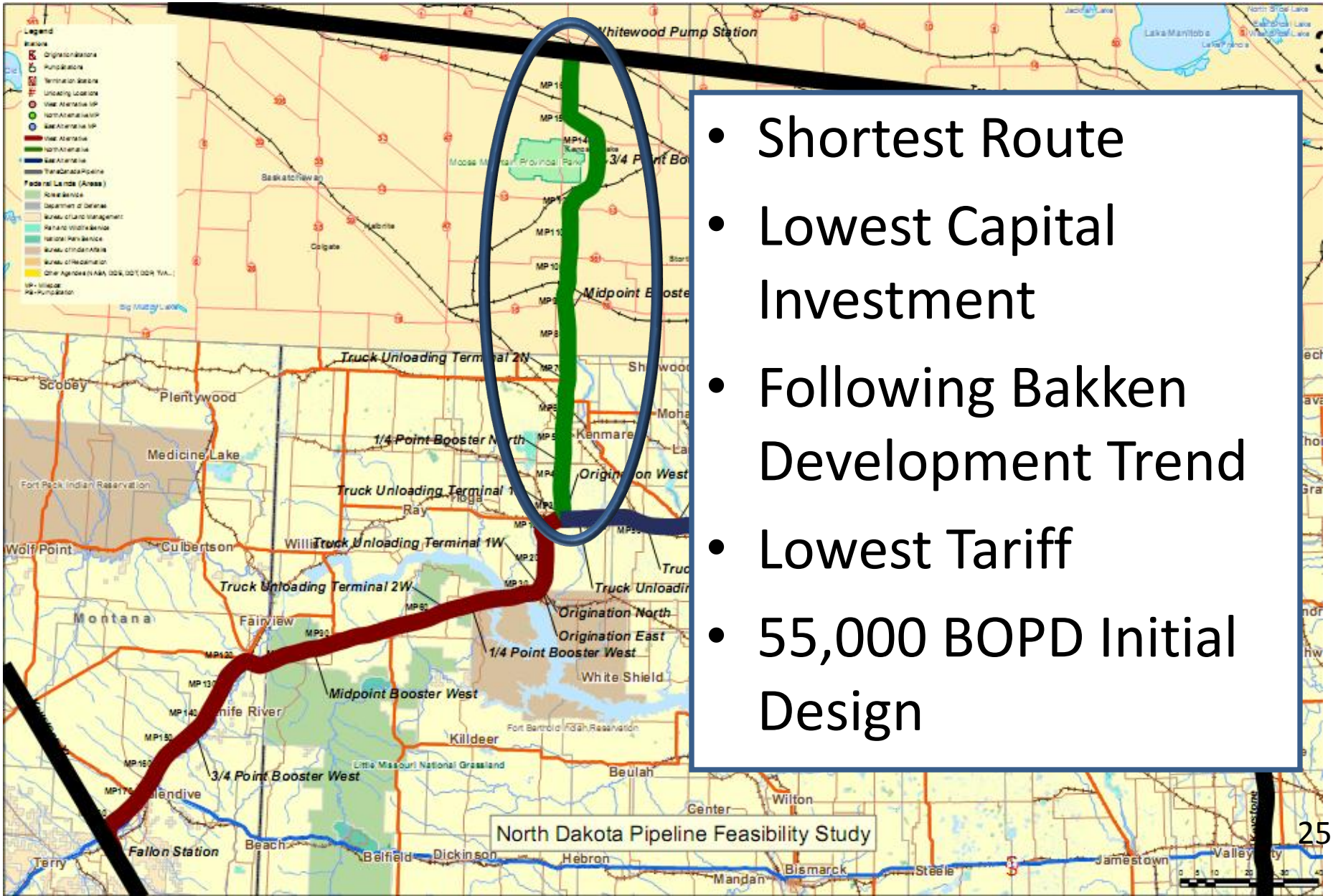
Kinder Morgan Bakken Crude Project

KINDER MORGAN

Keystone Pipelines

Image: www.transcanada.com/keystone/kxl.html

Keystone Interconnect Study



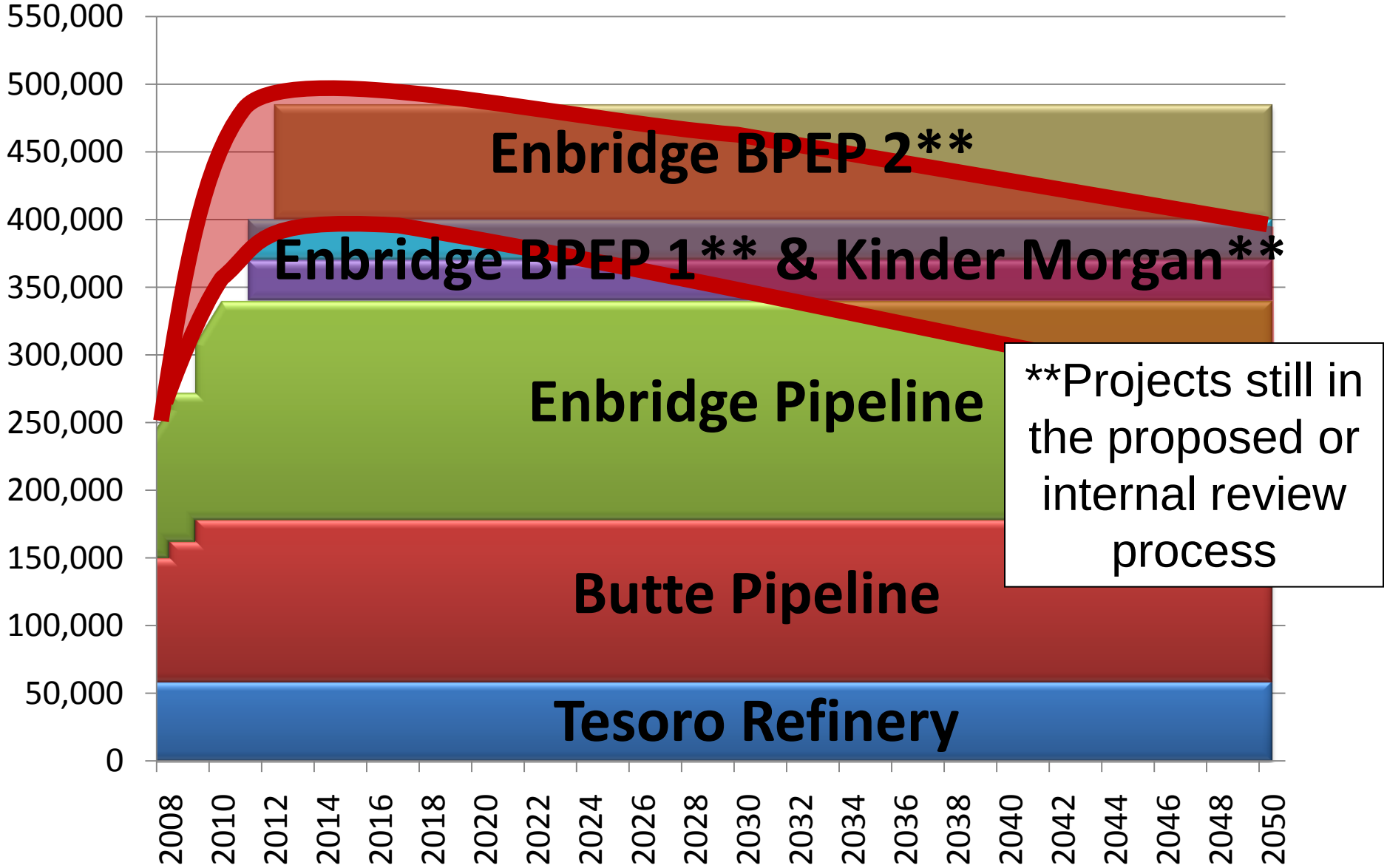
- Shortest Route
- Lowest Capital Investment
- Following Bakken Development Trend
- Lowest Tariff
- 55,000 BOPD Initial Design

Study Overview

Route	North		East		West	
Pipeline Length	169 Miles		240 Miles		188 Miles	
System	10”	12”	10”	12”	10”	12”
System Capital Cost (Millions)	$195	$199	$242	$252	$210	$215
Pipeline Cost/Mi	$602M	$698M	$621M	$715M	$615M	$707M
Ops Cost ($/bbl)	$0.26	$0.19	$0.31	$0.21	$0.26	$0.21
Tariff @ 15% IRR ($/BBL)	$4.24	$4.22	$5.25	$5.32	$4.59	$4.57
Interface Volume*	18.5MBBL		10.9MBBL		20.8MBBL	

*Interface Volume per Batch Shipped on TransCanada/Keystone Pipelines

Williston Basin Production* & Export Capacity



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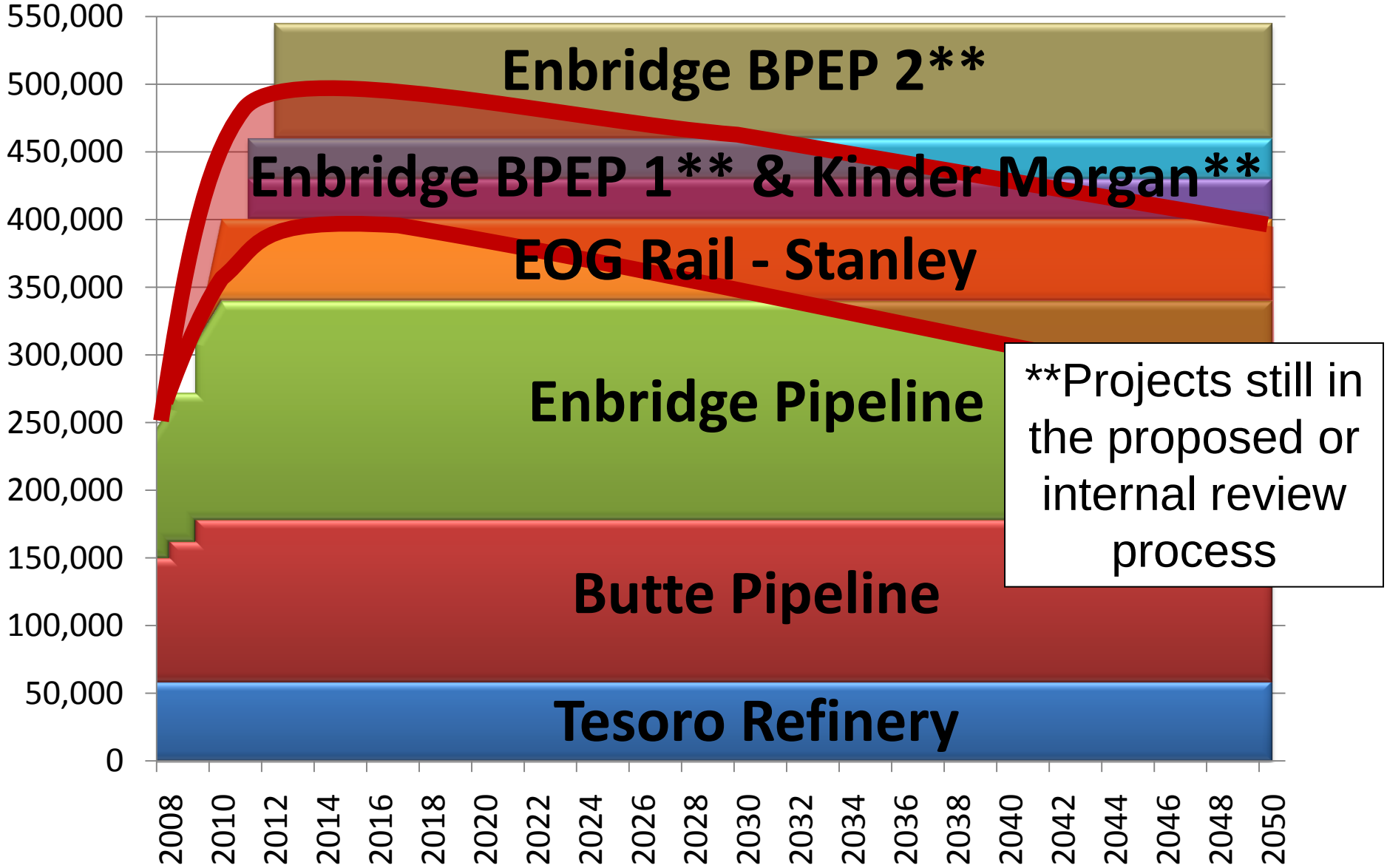
Williston Basin Production* & Export Capacity



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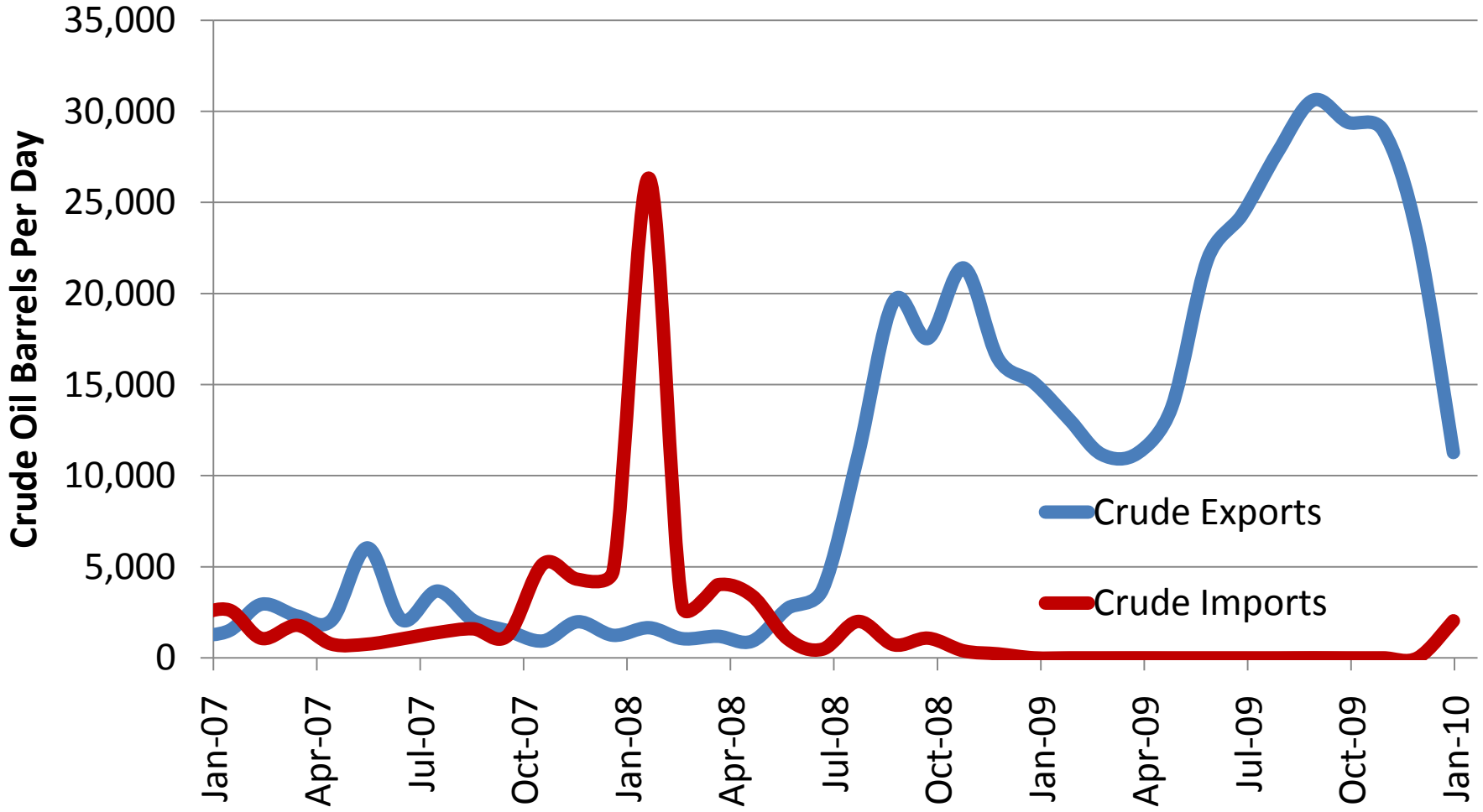
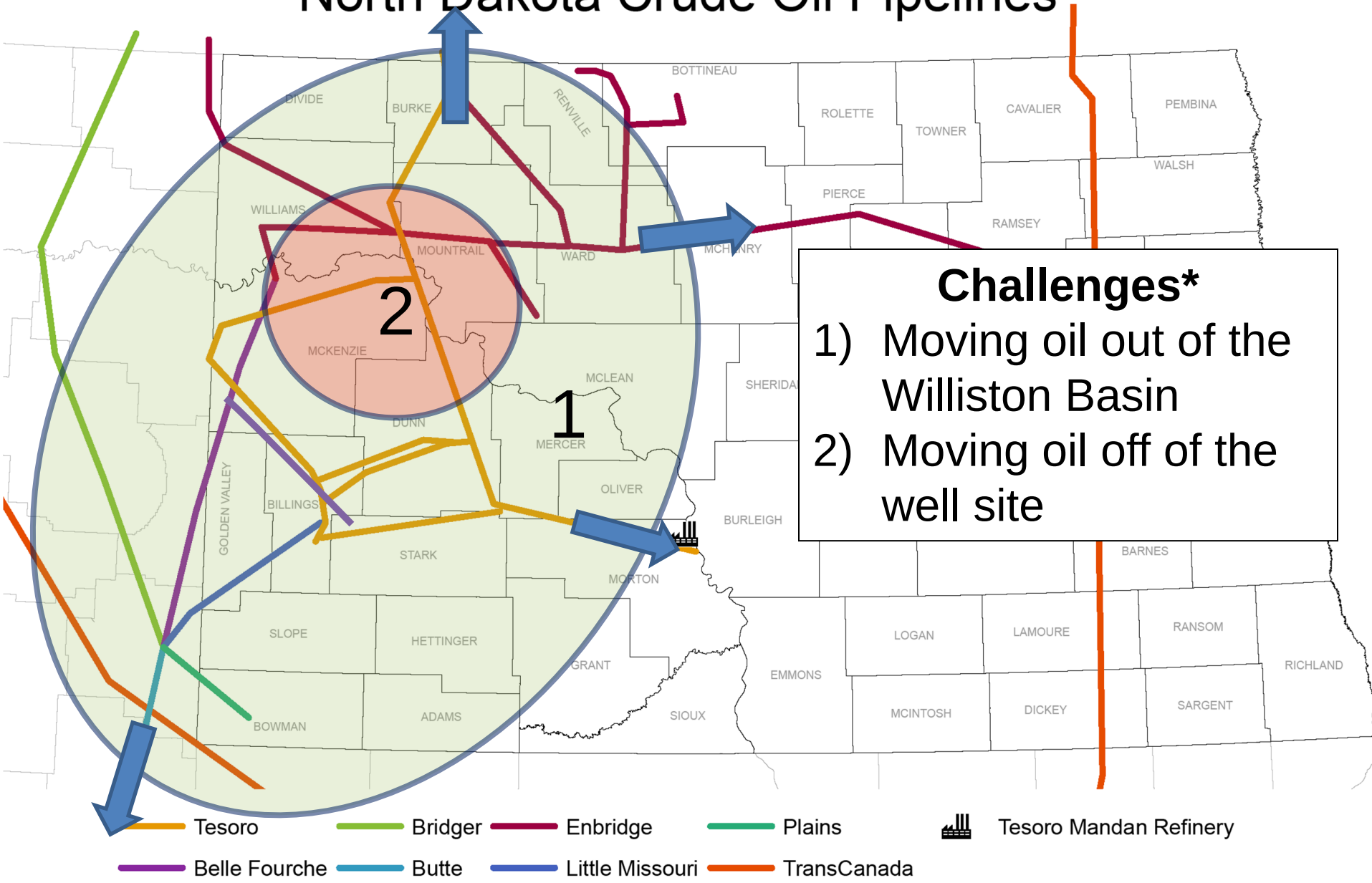
North Dakota Truck Imports/Exports



Information collected through the United States International Trade Commission's *Interactive Tariff and Trade DataWeb*

North Dakota Crude Oil Pipelines

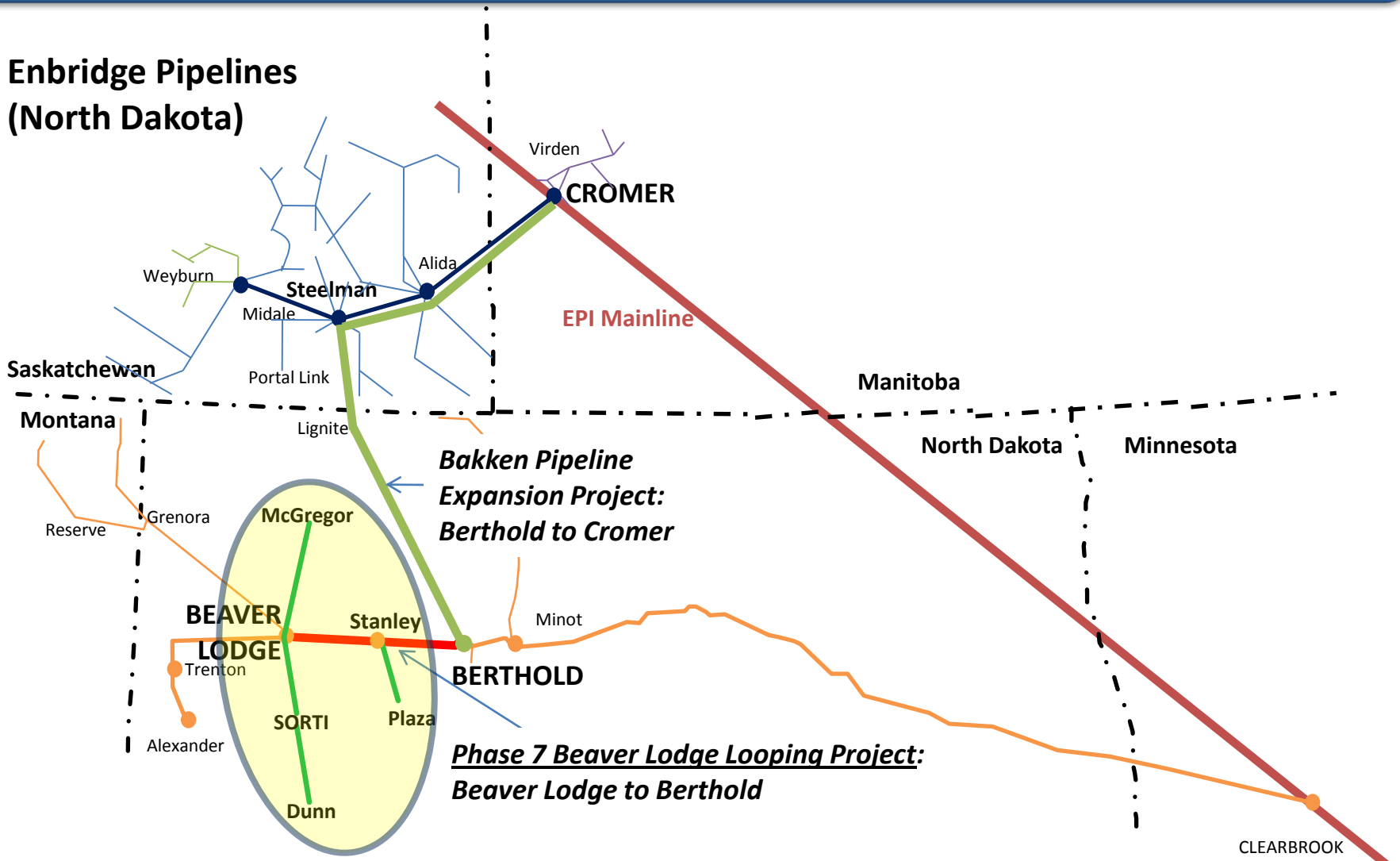


Challenges*

1) Moving oil out of the Williston Basin
2) Moving oil off of the well site

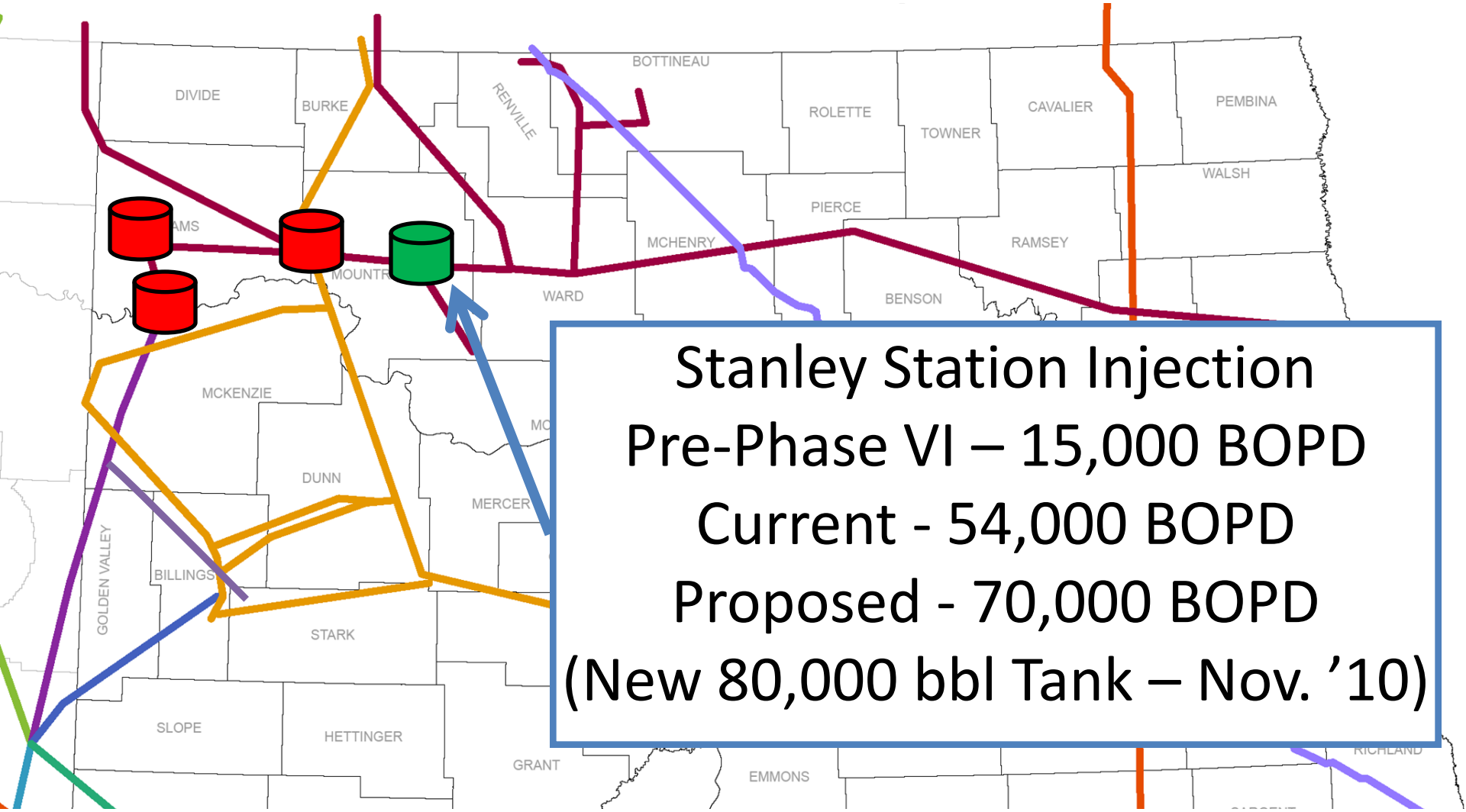
*Modified from Bridger and Belle Fourche Pipelines

Enbridge Proposed Phase 7 Gathering



EPND Phase 7 Gathering Projects: SORTI, Dunn, Plaza and McGregor

Enbridge Stanley Injection Project



Stanley Station Injection

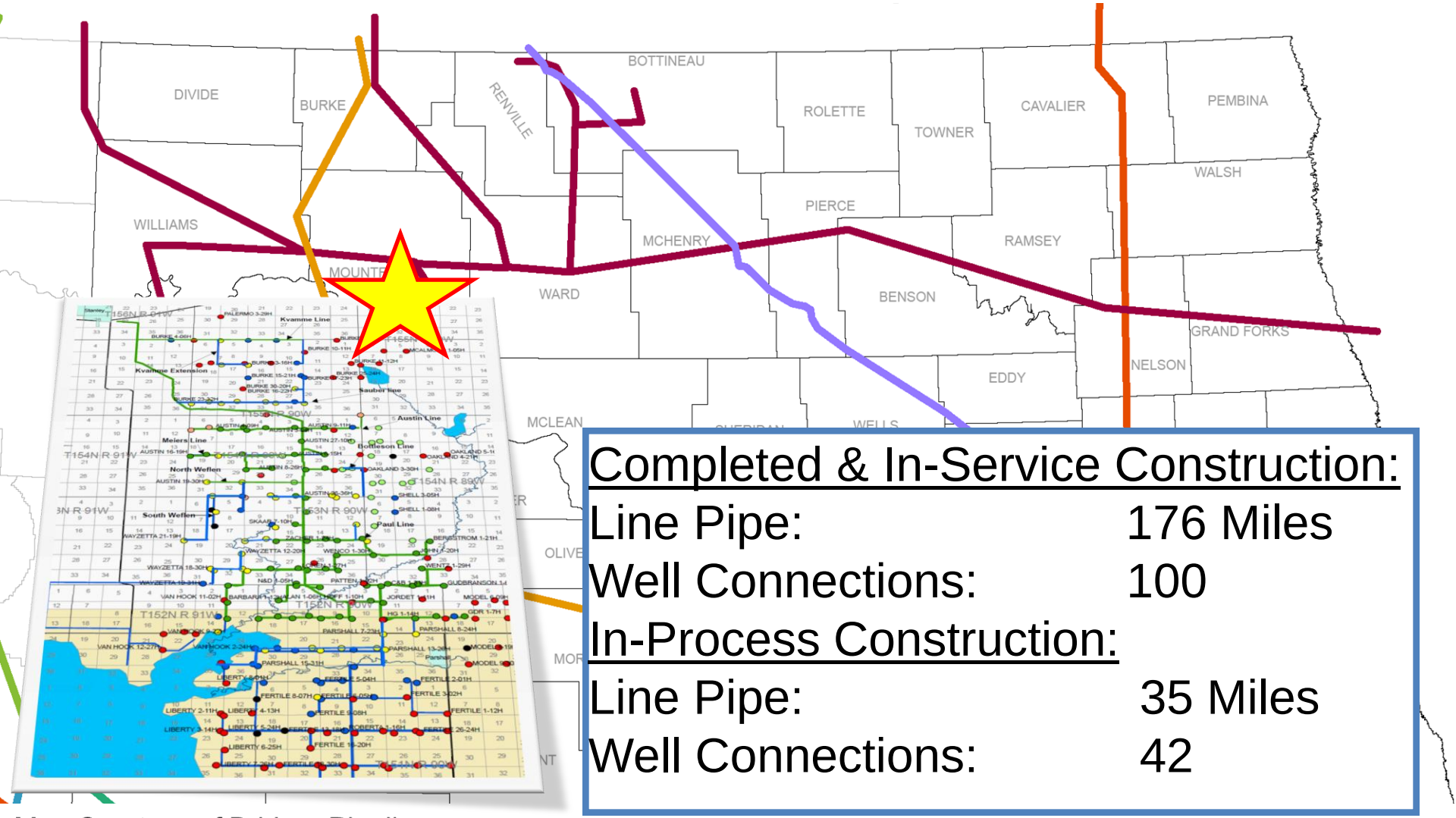
Pre-Phase VI – 15,000 BOPD

Current - 54,000 BOPD

Proposed - 70,000 BOPD

(New 80,000 bbl Tank – Nov. ’10)

Bridger Pipeline's Parshall Gathering Expansions



Completed & In-Service Construction:

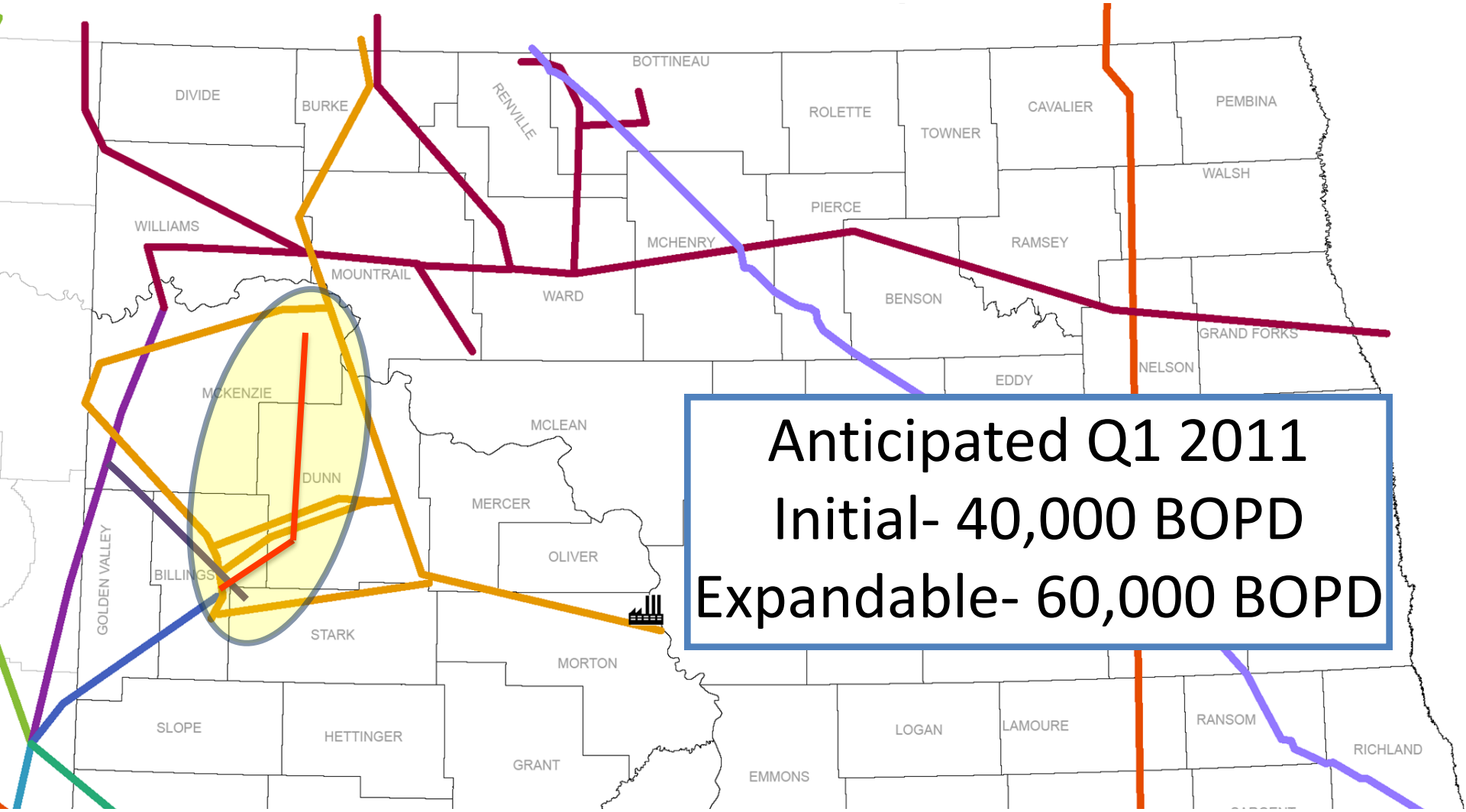
Line Pipe:	176 Miles
Well Connections:	100

In-Process Construction:

Line Pipe:	35 Miles
Well Connections:	42

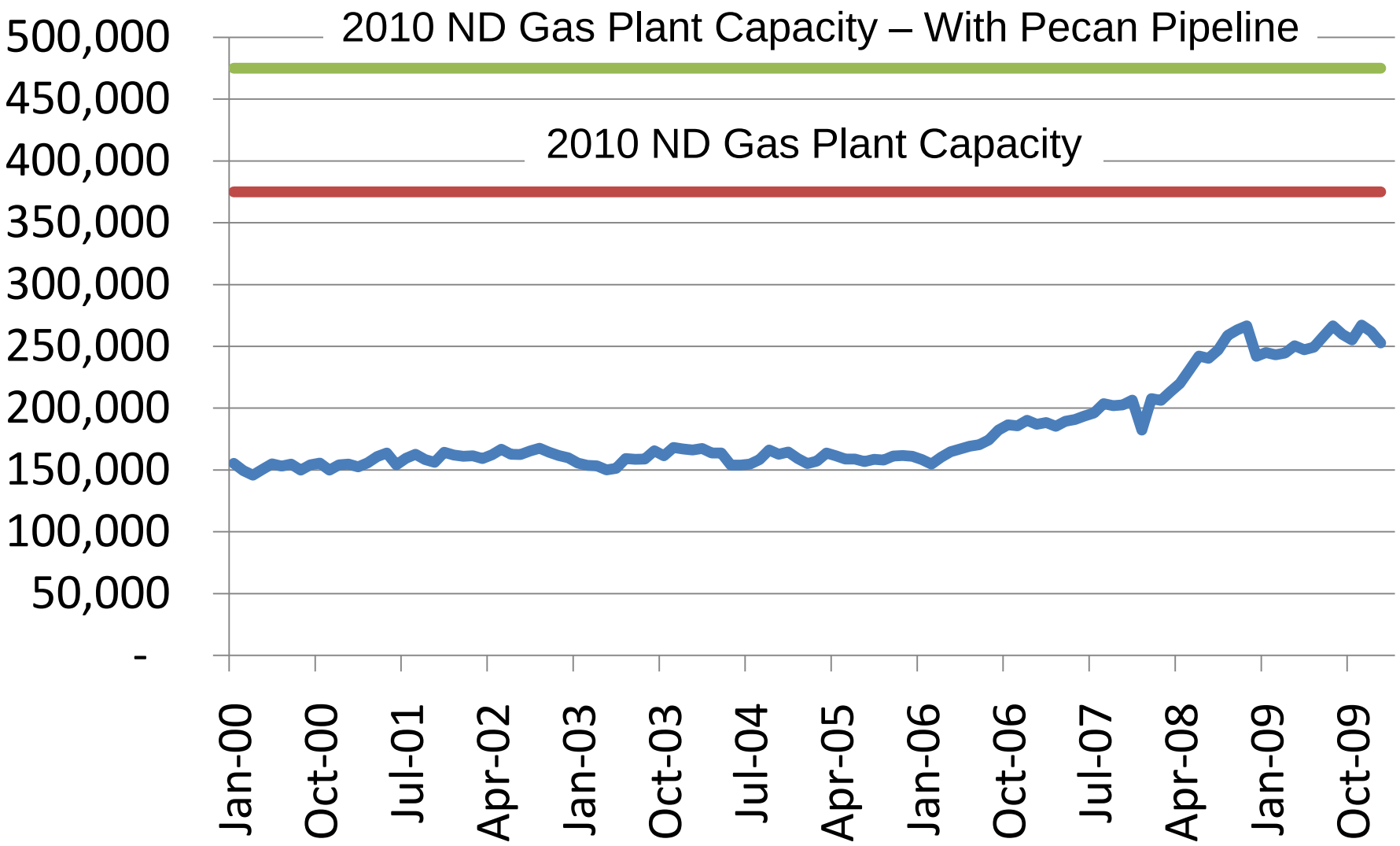
Map Courtesy of Bridger Pipeline

Four Bears Pipeline

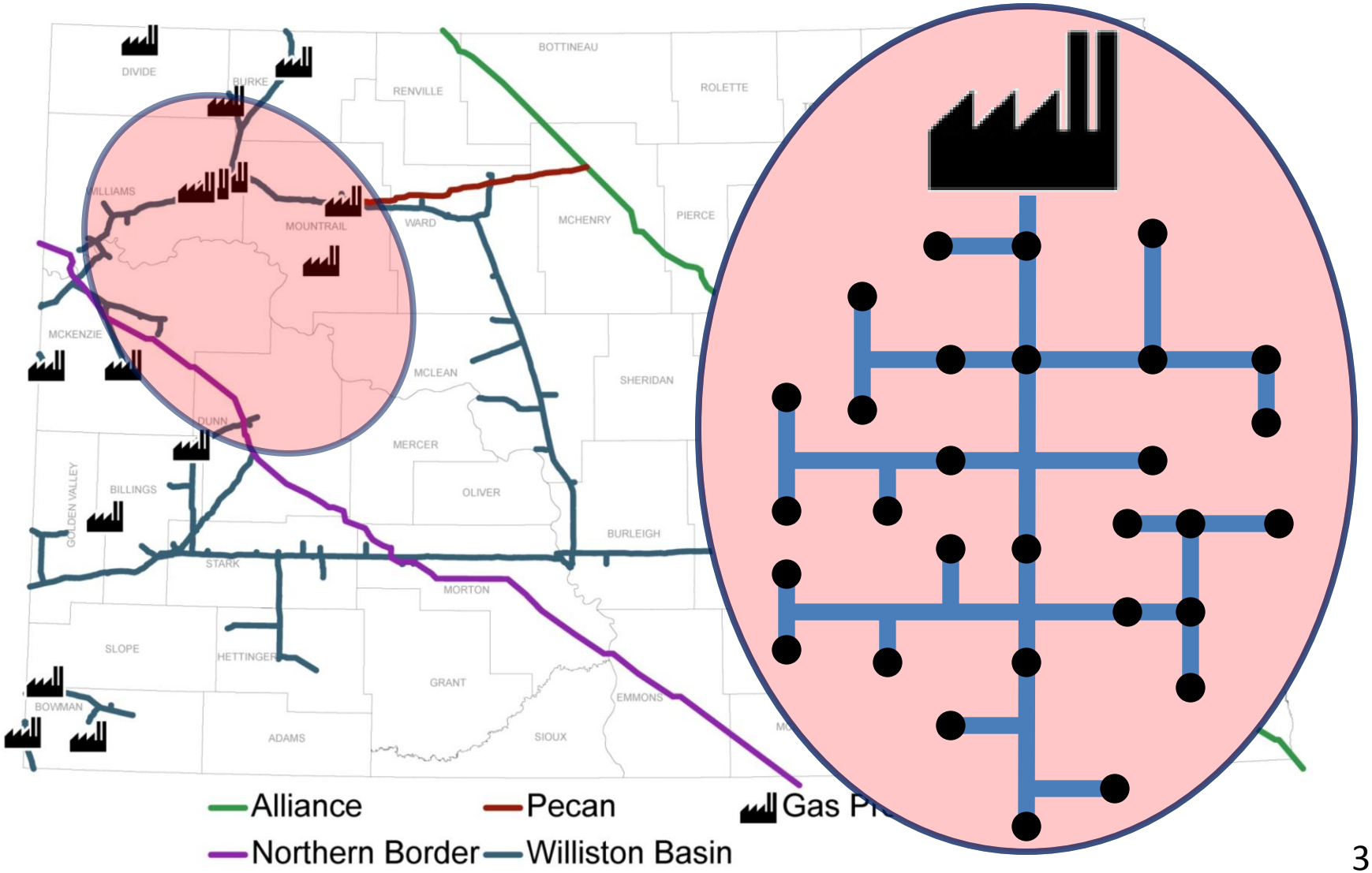


Natural Gas Projects

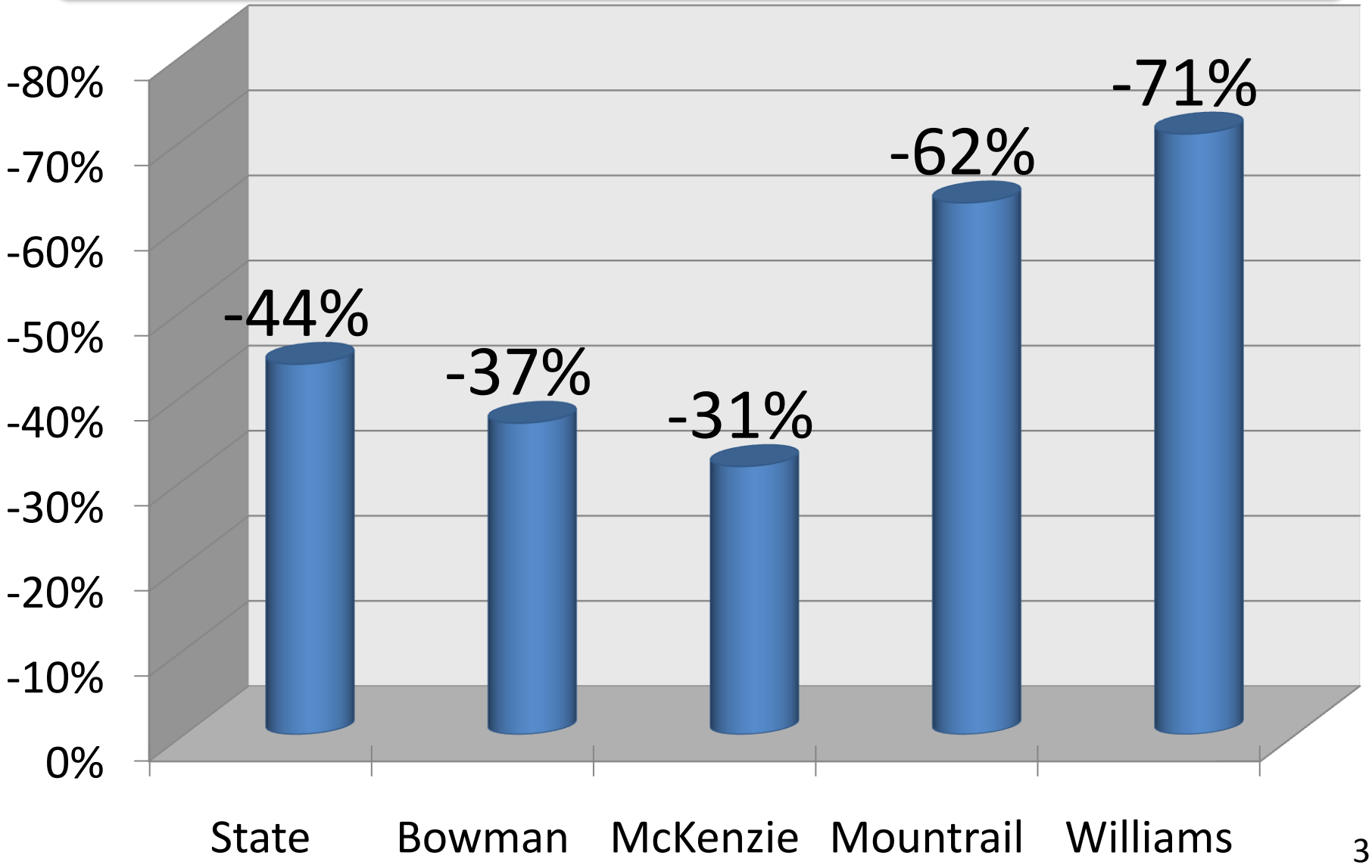
ND Natural Gas Production, MCFD

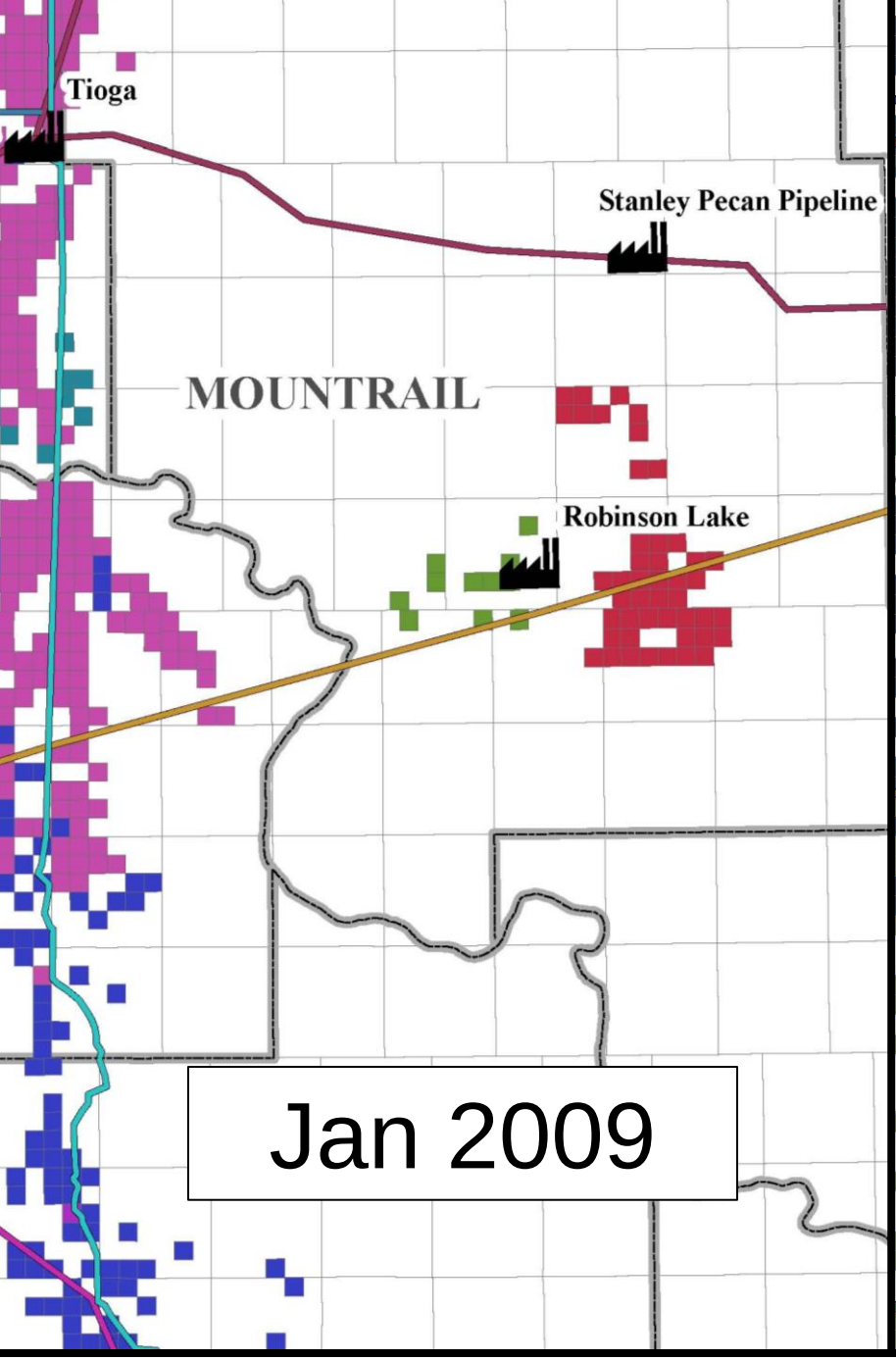


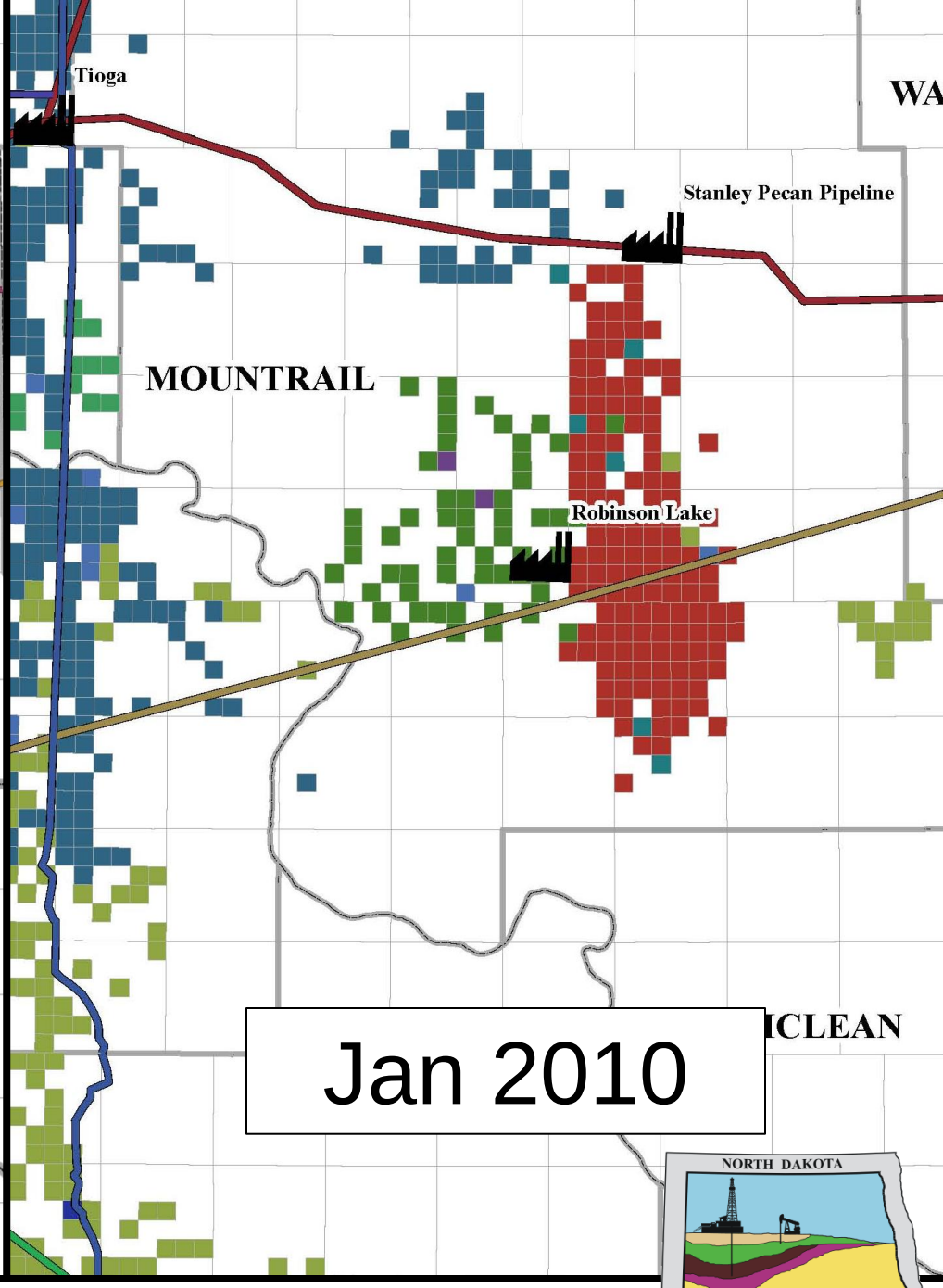
Natural Gas Challenges

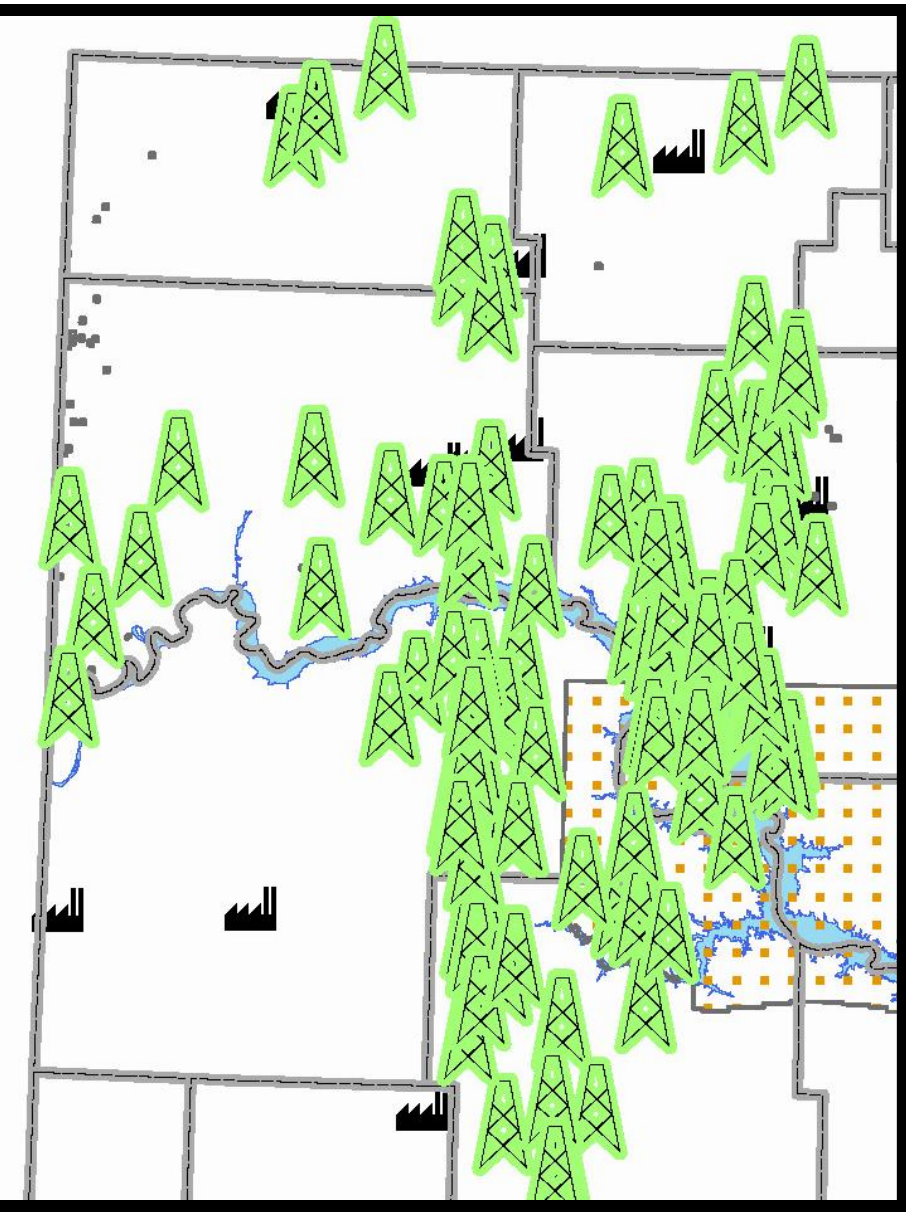


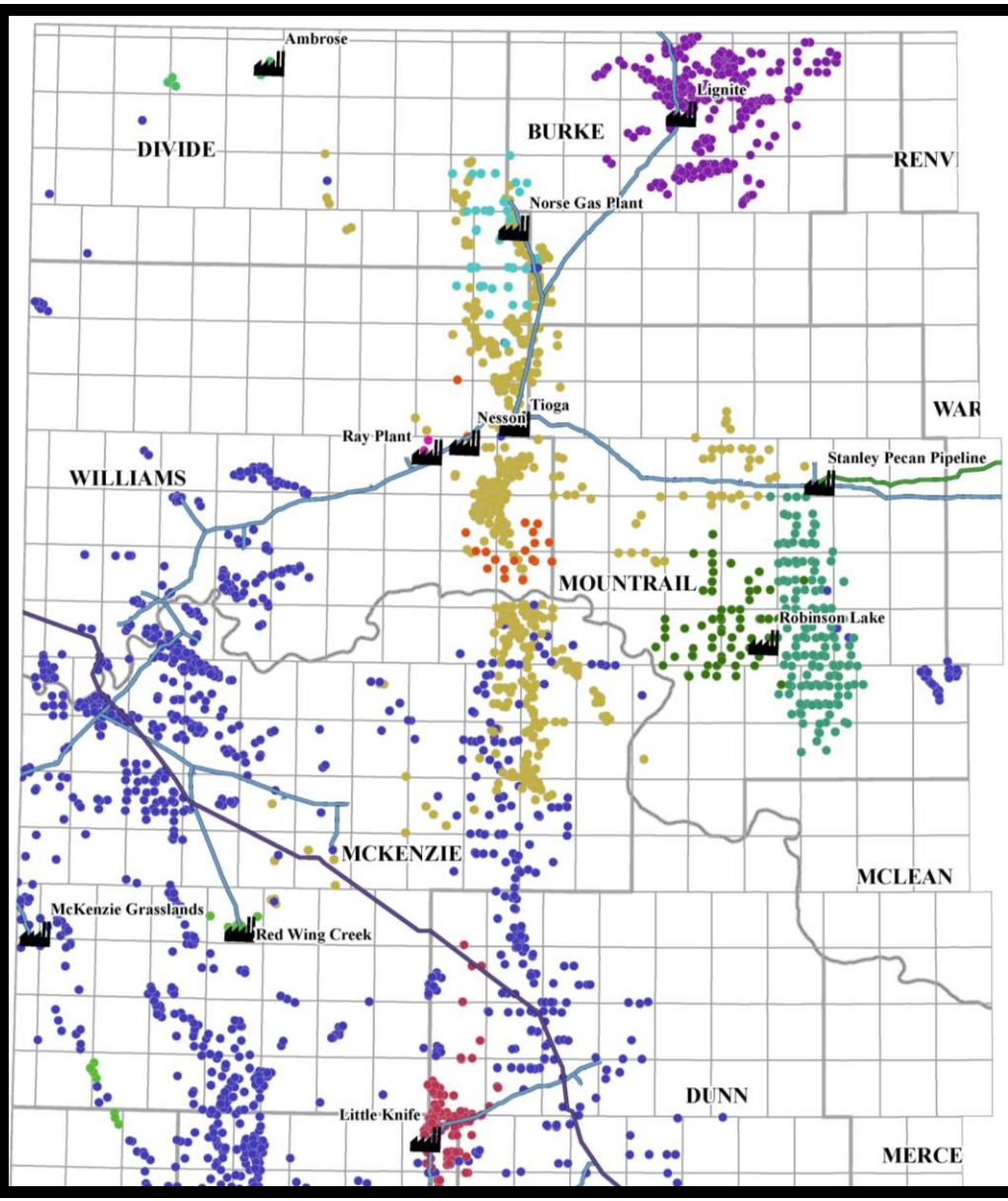
Flaring Reduction Dec. 08- Dec. 09



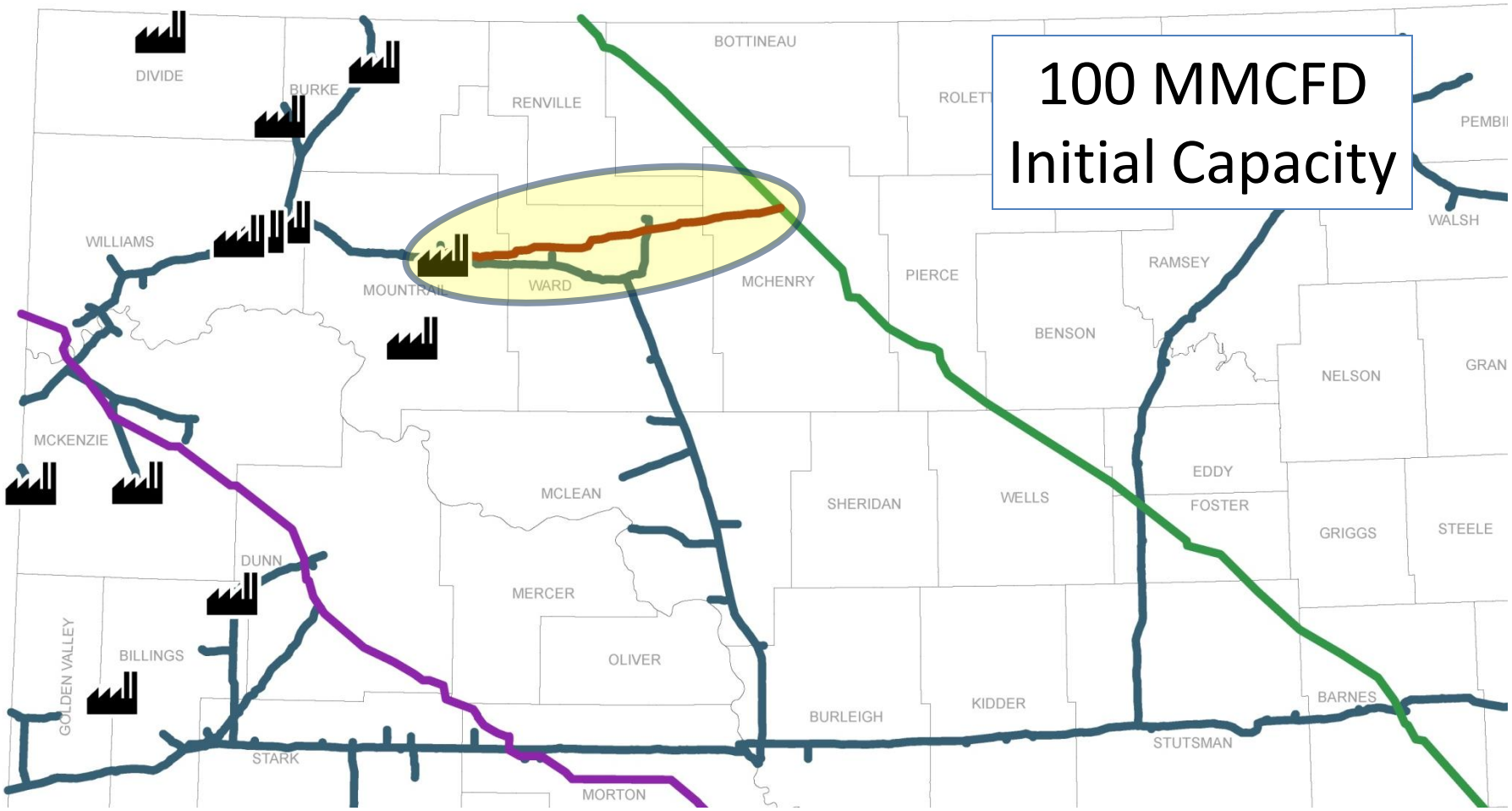

Tioga
Stanley Pecan Pipeline
MOUNTRAIL
Robinson Lake
Jan 2009


Tioga
WA
Stanley Pecan Pipeline
MOUNTRAIL
Robinson Lake
ICLEAN
Jan 2010
NORTH DAKOTA
OIL AND GAS DIVISION

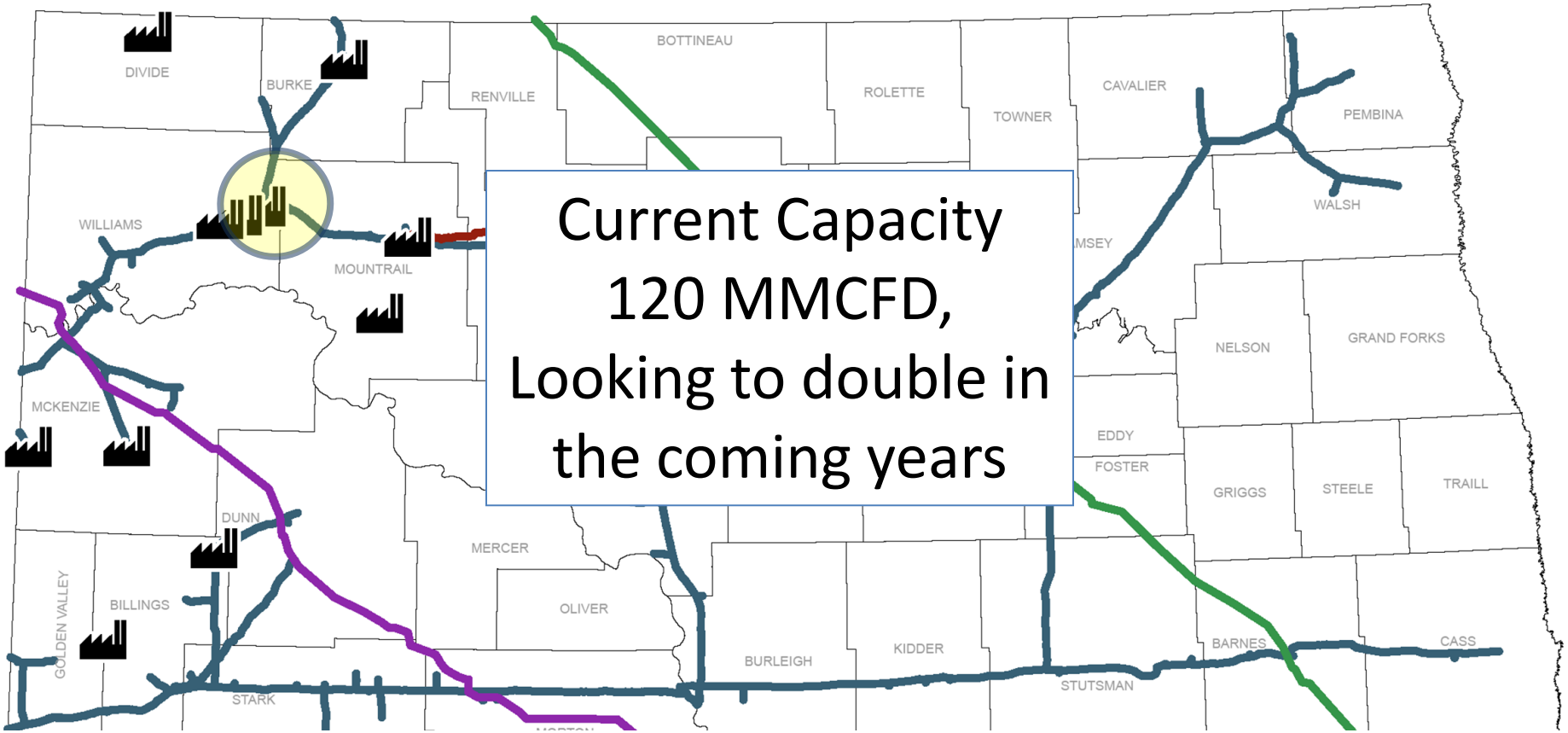



Ambrose
Lignite
BURKE
DIVIDE
RENV
Norse Gas Plant
Tioga
Nesson
WAR
Ray Plant
Stanley Pecan Pipeline
WILLIAMS
MOUNTRAIL
Robinson Lake
MCKENZIE
MCLEAN
McKenzie Grasslands
Red Wing Creek
DUNN
Little Knife
MERCE

Pecan's Prairie Rose Pipeline



Hess Tioga Gas Plant Expansion



Current Capacity
120 MMCFD,
Looking to double in
the coming years

INDUSTRIAL COMMISSION OF NORTH DAKOTA
NORTH DAKOTA PIPELINE AUTHORITY
Governor **John Hoeven**
Attorney General **Wayne Stenehjem**
Agriculture Commissioner **Doug Goehring**
Director **Justin J. Kringstad**

The Pipeline Publication

Keeping North Dakota Connected

Volume II Issue IV - December 2009

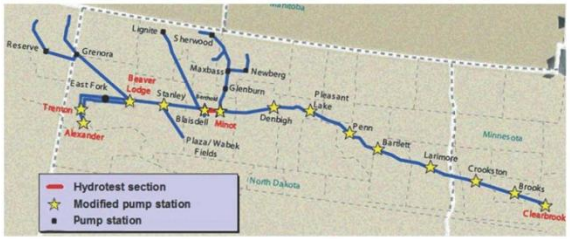
Greetings

Season's Greetings from the North Dakota Pipeline Authority! While the temperature in North Dakota is dropping fast, the activity in North Dakota's oilfields is heating up. With more rigs moving into the basin, improved well completion techniques, and quicker spud to spud times, North Dakota petroleum production is expected to grow for many years to come. Along with the growing crude oil production, several exciting transportation expansion projects are very near completion, with many more in the works. For additional project information, past newsletters, maps, reports, and more please visit the Pipeline Authority website, **www.pipeline.nd.gov.**

Enbridge Phase VI Expansion Update

The much anticipated Enbridge Phase VI Expansion is nearly complete. Scheduled to be in service on January 1, 2010, the expansion will increase Enbridge's mainline capacity to Clearbrook, MN from 110,000 barrels per day (BOPD) to 161,600 BOPD. Once complete, Enbridge North Dakota will have more than doubled its 2007 system capacity of 80,000 BOPD.

More good news is that Enbridge has no intentions of stopping at 161,600 BOPD and is actively working to gain support from interested shippers for the proposed Portal Reversal Expansion Project or PREP. As proposed, PREP would allow Enbridge to transport an additional 30,000 BOPD by 2011 and up to an additional 115,000 BOPD by 2013.



Details of Enbridge's Phase VI Expansion.
Source: Enbridge Pipelines LLC - www.enbridge-expansion.com

North Dakota Statistics

	Aug-09	Sept-09	Oct-09
Average Daily Oil Production, BOPD	232,355	238,265	239,067
Average Daily Gas Production, MMCFD	266.66	259.76	253.04
Wells Producing	4,545	4,579	4,606
Average Rig Count	45	51	56

As of December 16, 2009, there are 77 active rigs in North Dakota.

Prairie Rose Pipeline Nears Completion

An unexpected construction specification change has delayed the startup of the Pecan Prairie Rose Pipeline until Mid-January, 2010. The new 75 mile, 12 inch pipeline is designed to transport up to 80 million cubic feet of unprocessed natural gas per day from Mountrail County to an interconnect with the Alliance Pipeline near Towner, ND.

Proposed Baker Storage Enhancement

Williston Basin Interstate Pipeline Company is developing a project to increase firm deliverability from its Baker gas storage field in eastern Montana. With current firm storage withdrawal rates of 115 million cubic feet per day (MMCFD), Williston Basin sees an opportunity to add an additional 125 MMCFD of firm withdrawal capacity, which would more than double the firm withdrawal rate from Baker. Along with the gas storage field upgrades, Williston Basin is planning a pipeline expansion to transport the increased, firm storage volumes to an interconnect with the Northern Border Pipeline in North Dakota. The project has a proposed in-service date of 2012 and an open season is expected in January 2010.

Source: Williston Basin Interstate Pipeline Co.

Natural Gas Storage Explained

During the mid 1900's, natural gas grew in popularity as a winter heating fuel. As a result, natural gas markets began experiencing seasonal demand swings that needed be managed using underground storage operations. Depleted natural gas fields are most often targeted for storage due to existing infrastructure and reservoir knowledge. During the summer months when demand is low, natural gas is injected into storage and when demand increases in the winter months, natural gas is withdrawn for consumer use.

ND Pipeline Authority
State Capitol 14th Floor • 600 E. Boulevard Ave. Dept. 405 • Bismarck, ND 58505-0840
Phone: (701) 220-6227 • Fax: (701) 328-2820
E-mail: jjkringstad@gmail.com • www.pipeline.nd.gov

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

INDUSTRIAL COMMISSION OF NORTH DAKOTA

NORTH DAKOTA PIPELINE AUTHORITY

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811 Know what's **below.** **Call** before you dig.

» ABOUT PIPELINES

"**Pipelines are really the energy lifelines of almost every daily activity.** Pipelines play a role in everyone's lives and are essential to the nation's industries. Yet few people are aware of the work done by the country's 200,000-mile petroleum pipeline network that delivers the products that are integral parts of America's economy. It is a network that delivers the nation's crude oil and petroleum products (such as gasoline, jet fuel, home heating oil) reliably, safely, efficiently, and economically." ~ Pipeline 101

To learn more about pipeline operations, safety, construction, and more, please visit:

pipeline 101

Supply Line Video

• Video provided by **AOPL** » www.aopl.org

AOPL Association of Oil Pipe Lines

Thank You!

North Dakota Pipeline Authority

600 E. Boulevard Ave. Dept. 405
Bismarck, ND 58505-0840

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Fax: (701)328-2820
E-mail: jjkringstad@gmail.com

Website:

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