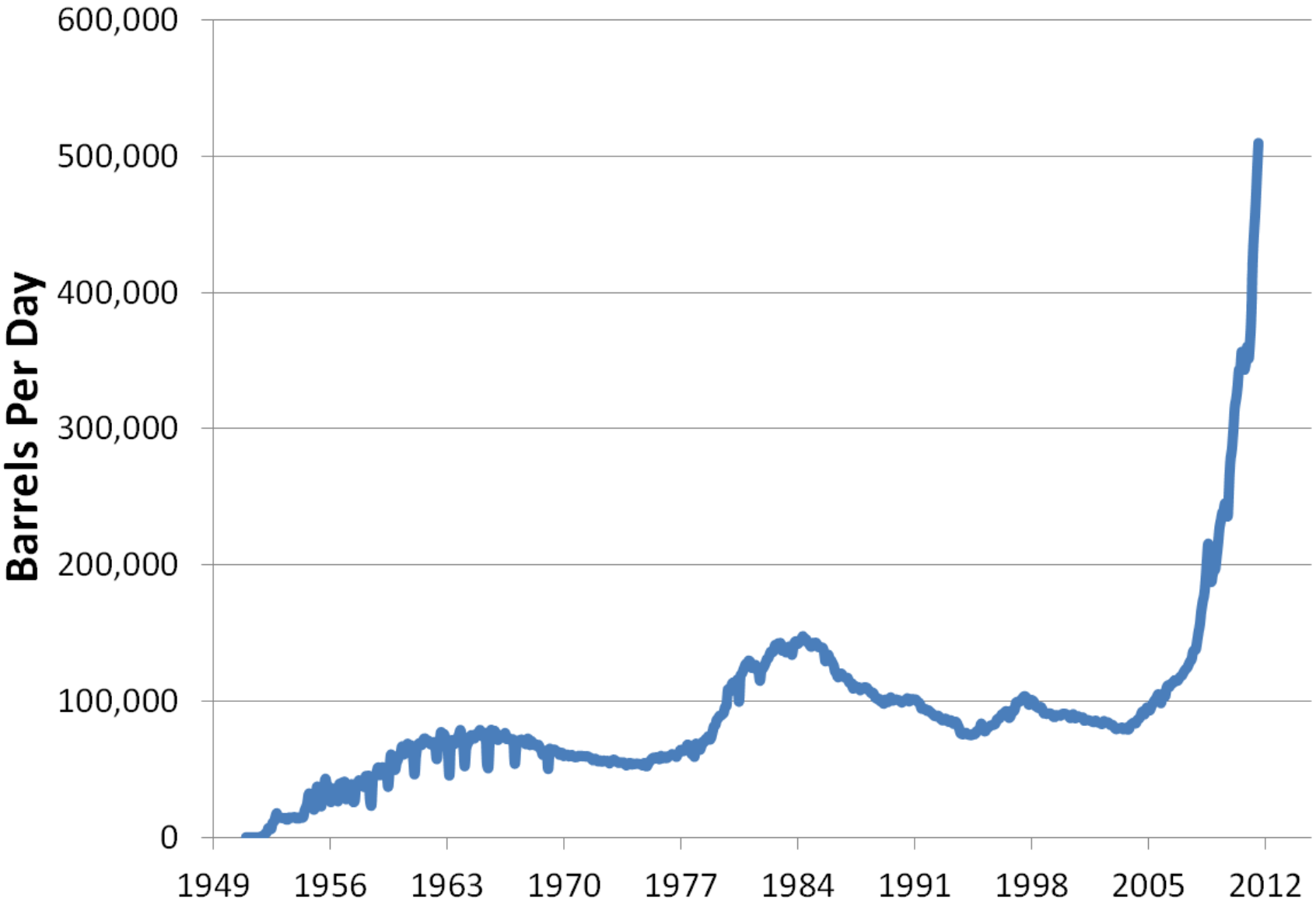
North Dakota Pipeline Authority

ND Oil & Gas Research Council

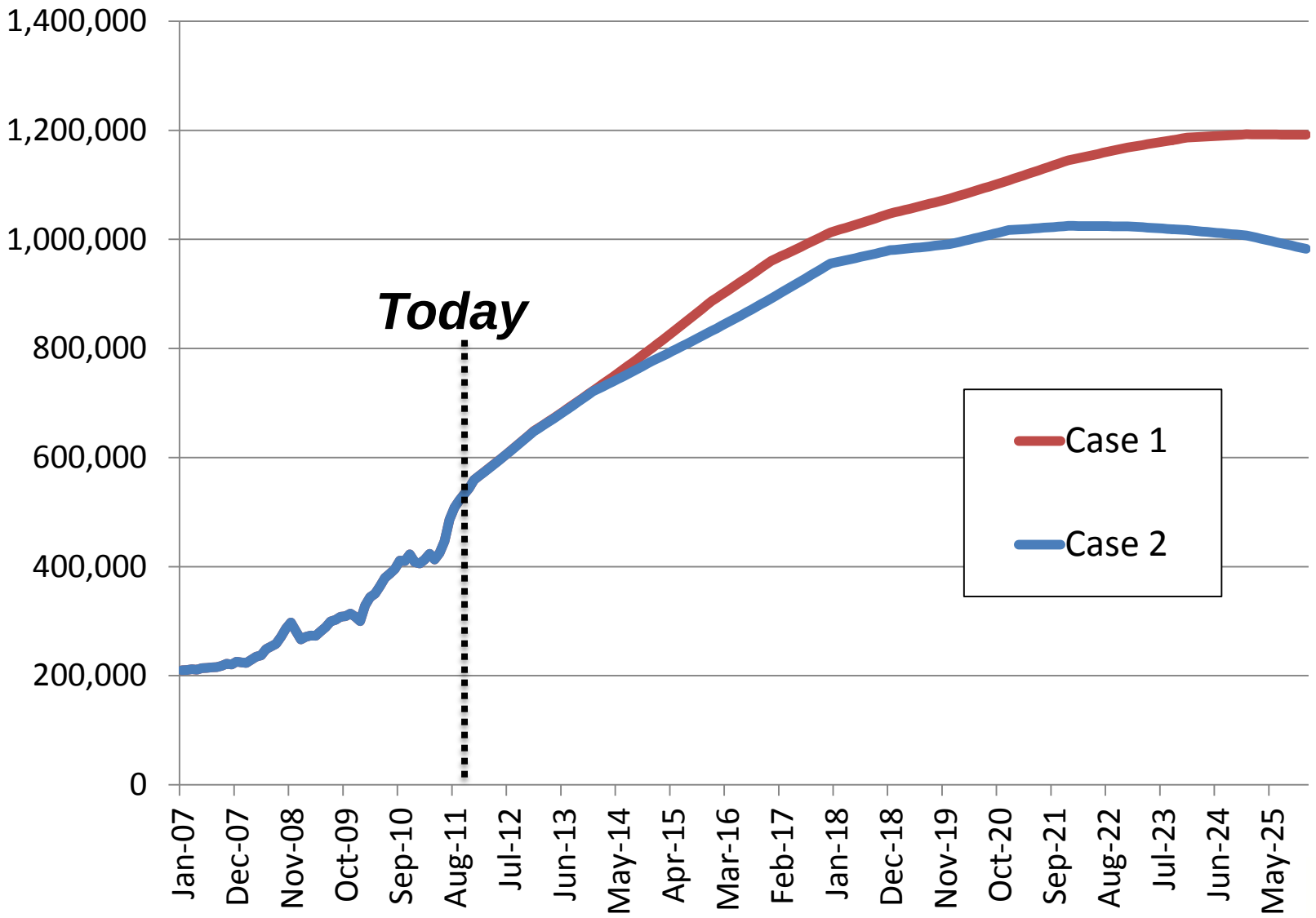
Justin J. Kringstad

January 24, 2012

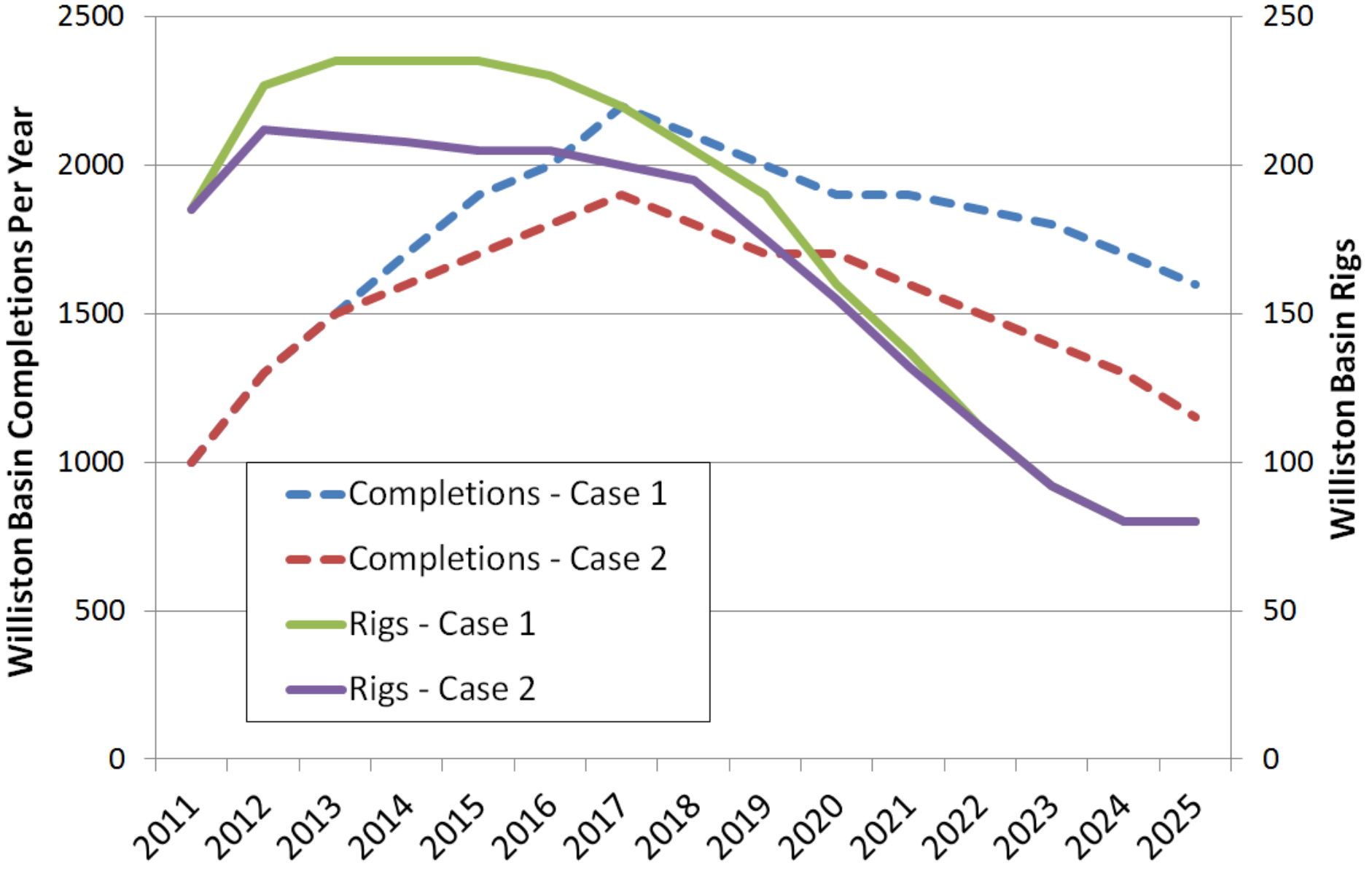
North Dakota Crude Oil



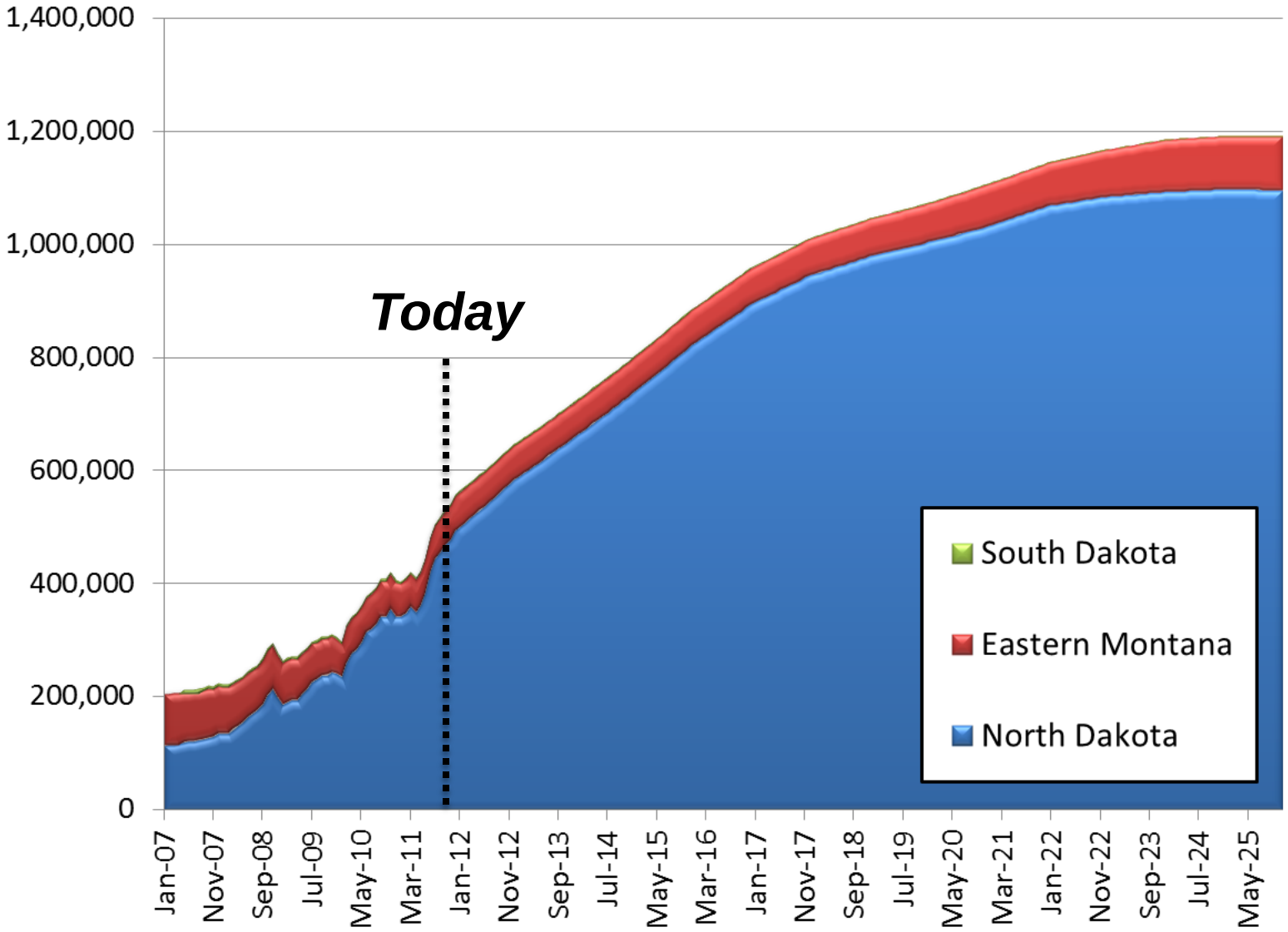
Forecasting Williston Basin Oil Production, BOPD



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


Williston Basin Completions Per Year
Williston Basin Rigs
2500
2000
1500
1000
500
0
250
200
150
100
50
0
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
Completions - Case 1
Completions - Case 2
Rigs - Case 1
Rigs - Case 2

Forecasting Williston Basin Oil Production, BOPD



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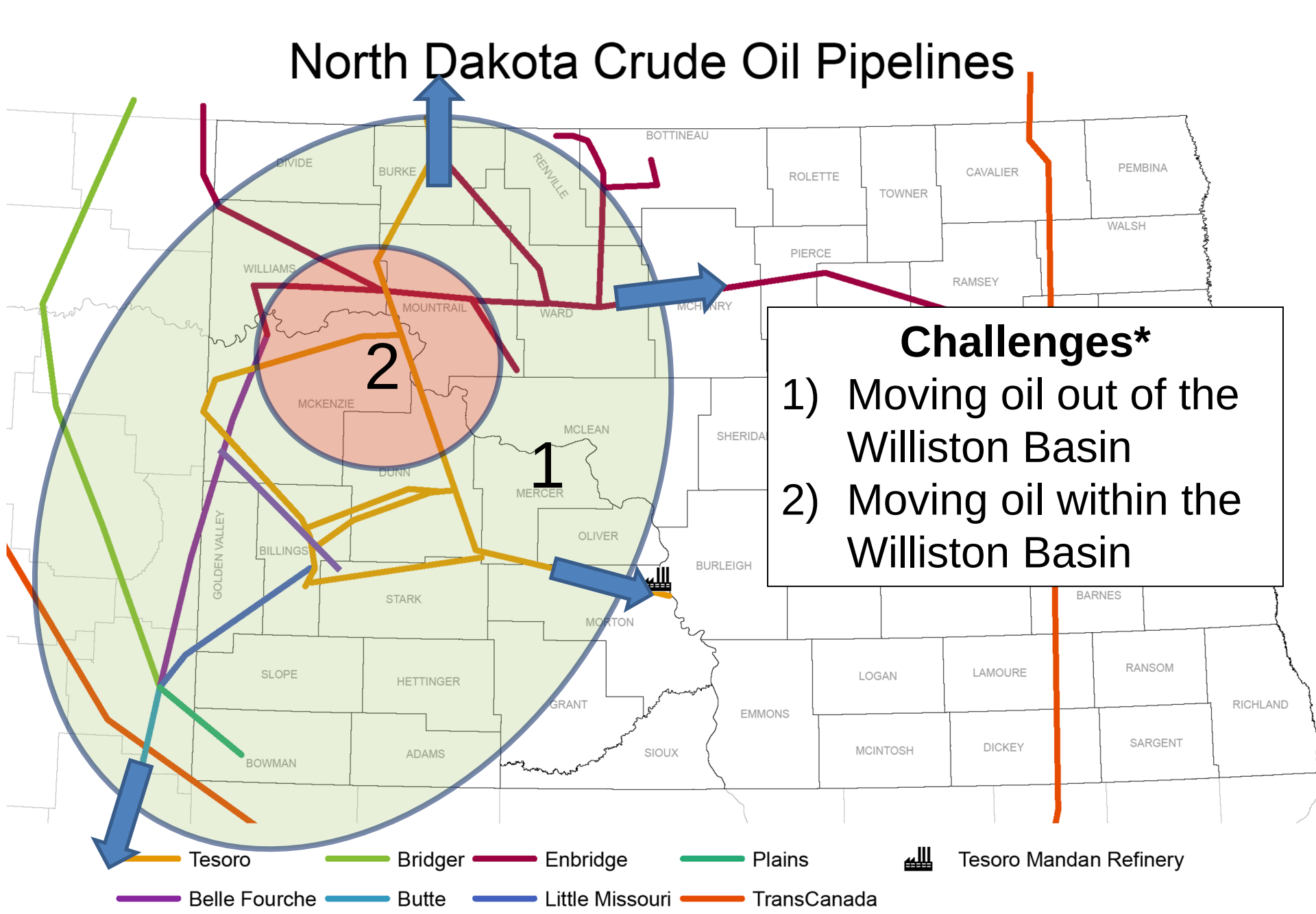
North Dakota Crude Oil Pipelines

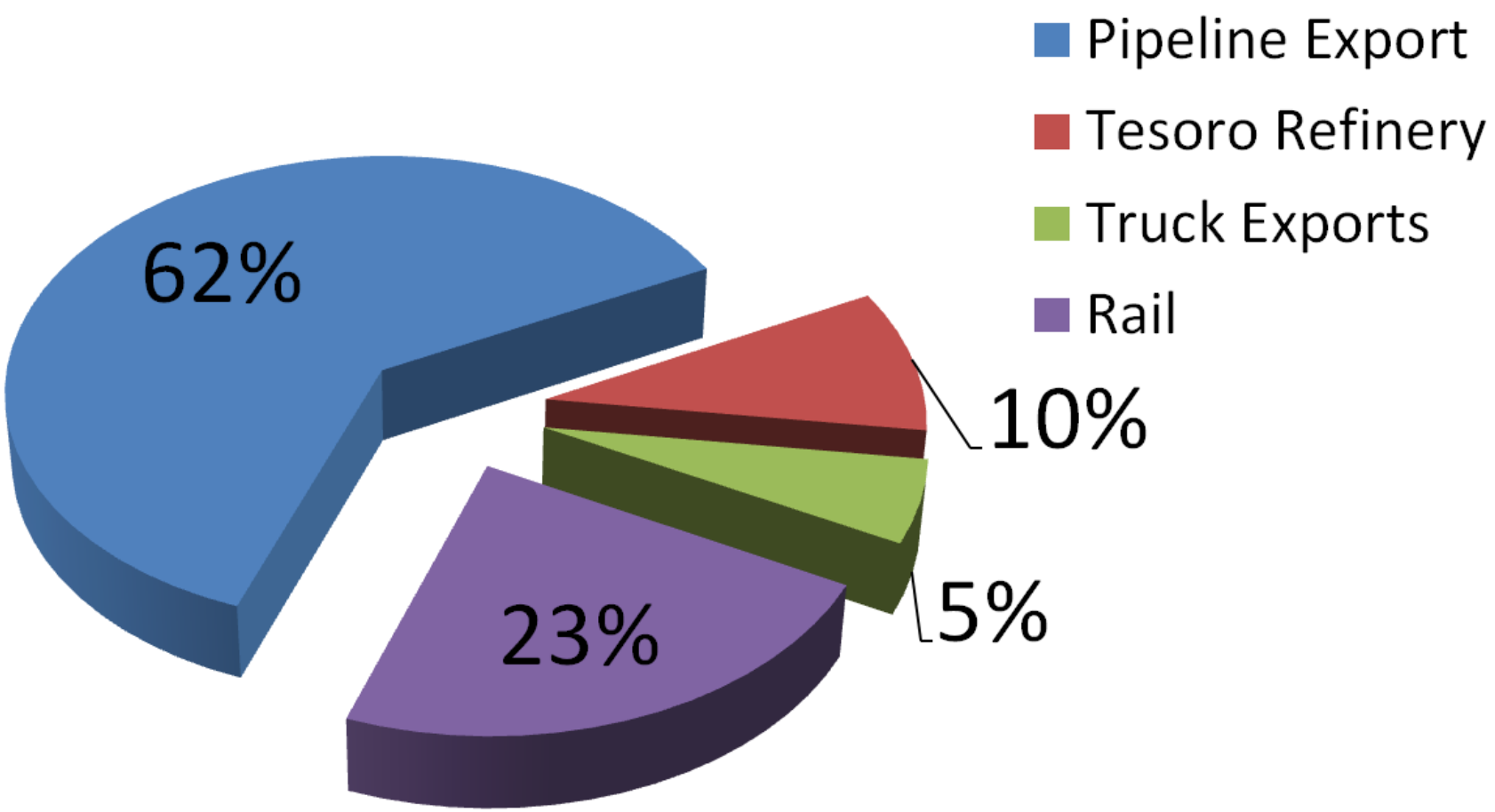


Challenges*

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

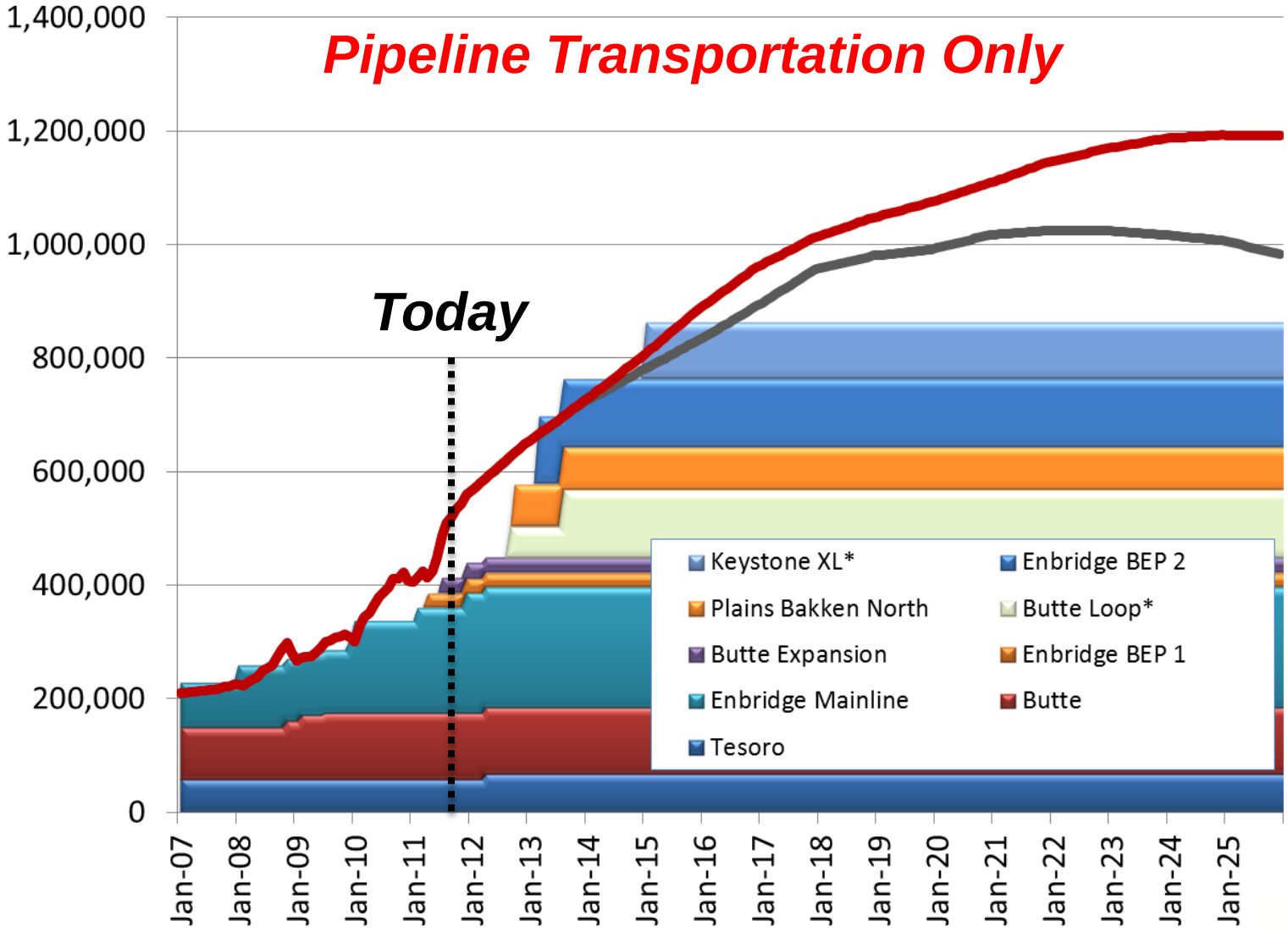
*Modified from Bridger and Belle Fourche Pipelines

Williston Basin Oil Transportation



November 2011 Estimates

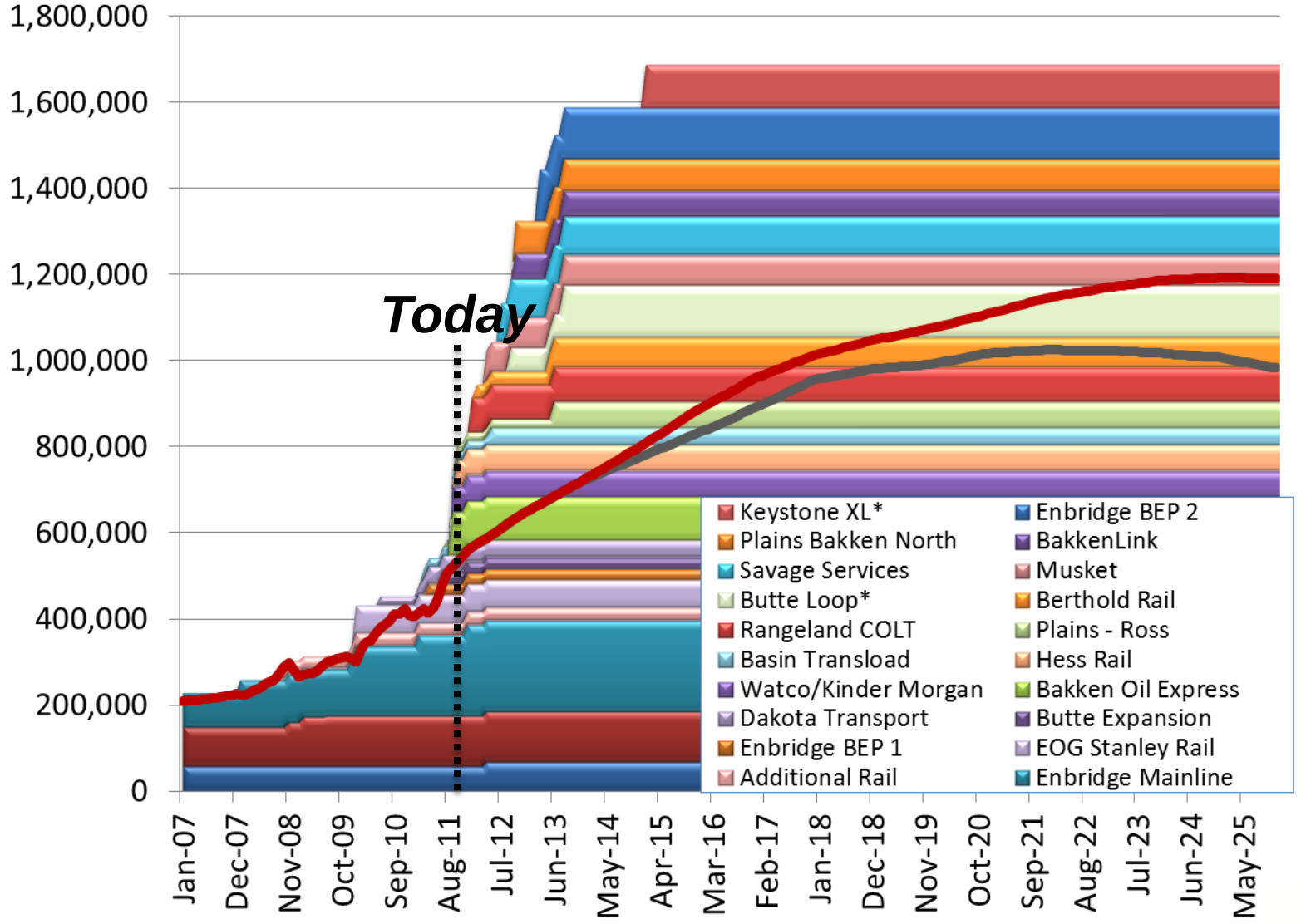
Williston Basin Oil Production & Export Capacity, BOPD



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

*Projects still in the proposed or internal review process

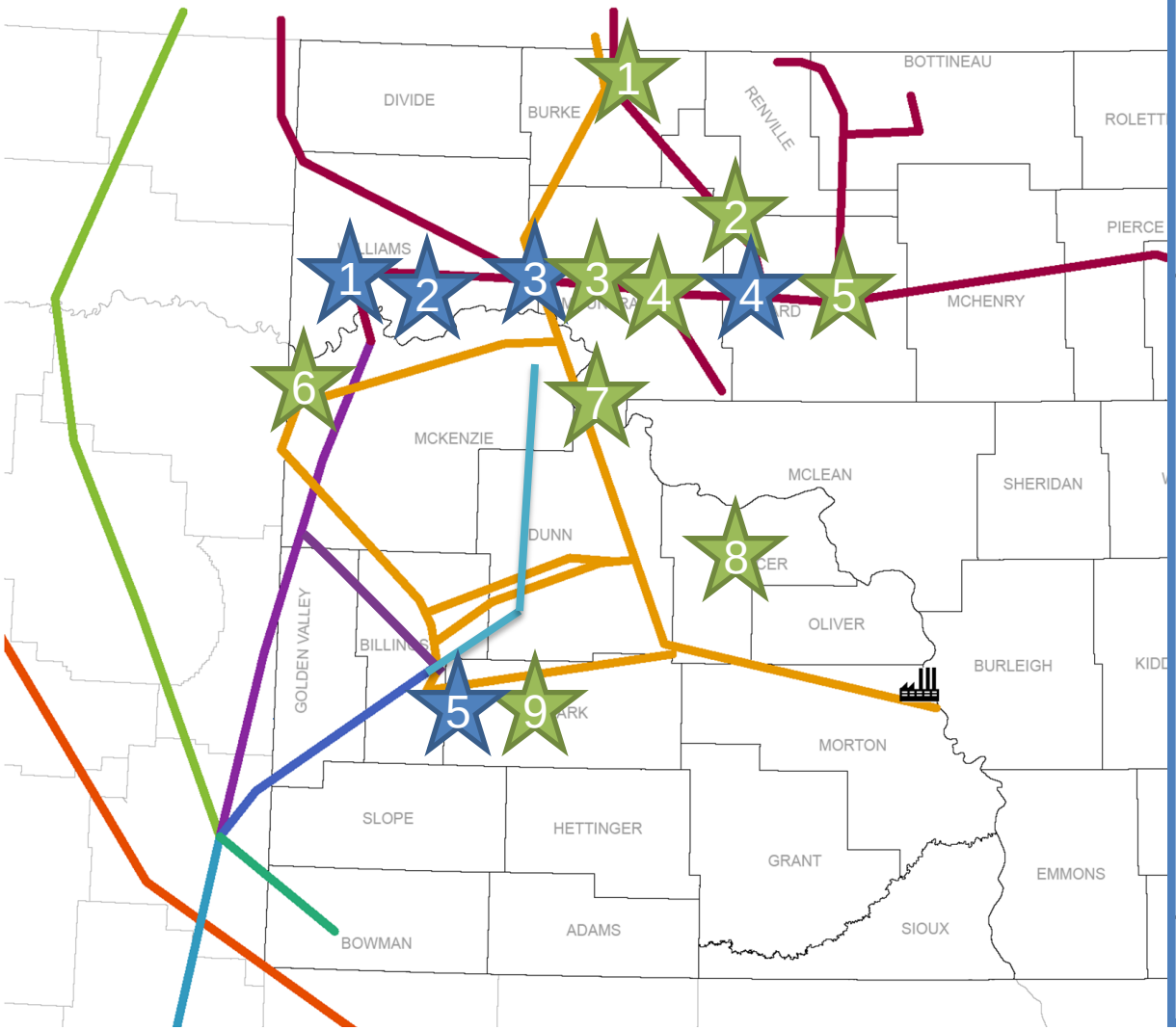
Williston Basin Oil Production & Export Capacity, BOPD



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

*Projects still in the proposed or internal review process

Existing & Planned Rail Locations



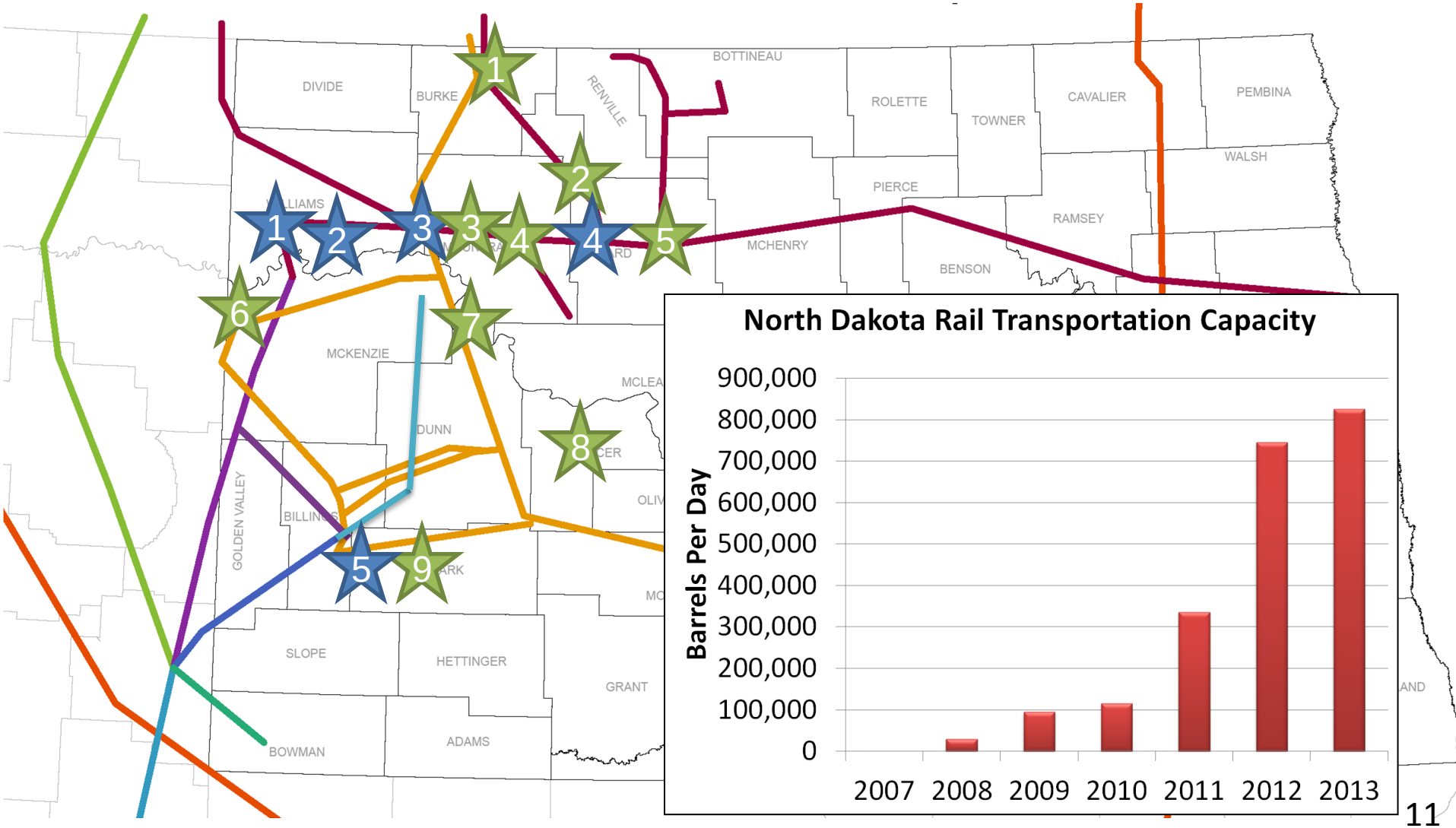
Existing

1) Stampede
2) Donnybrook
3) Ross – Plains
4) Stanley – EOG
5) Minot – ND Port Services
6) Dore
7) New Town – Dakota Transport Solutions
8) Zap – Basin Transload
9) Dickinson – BOE

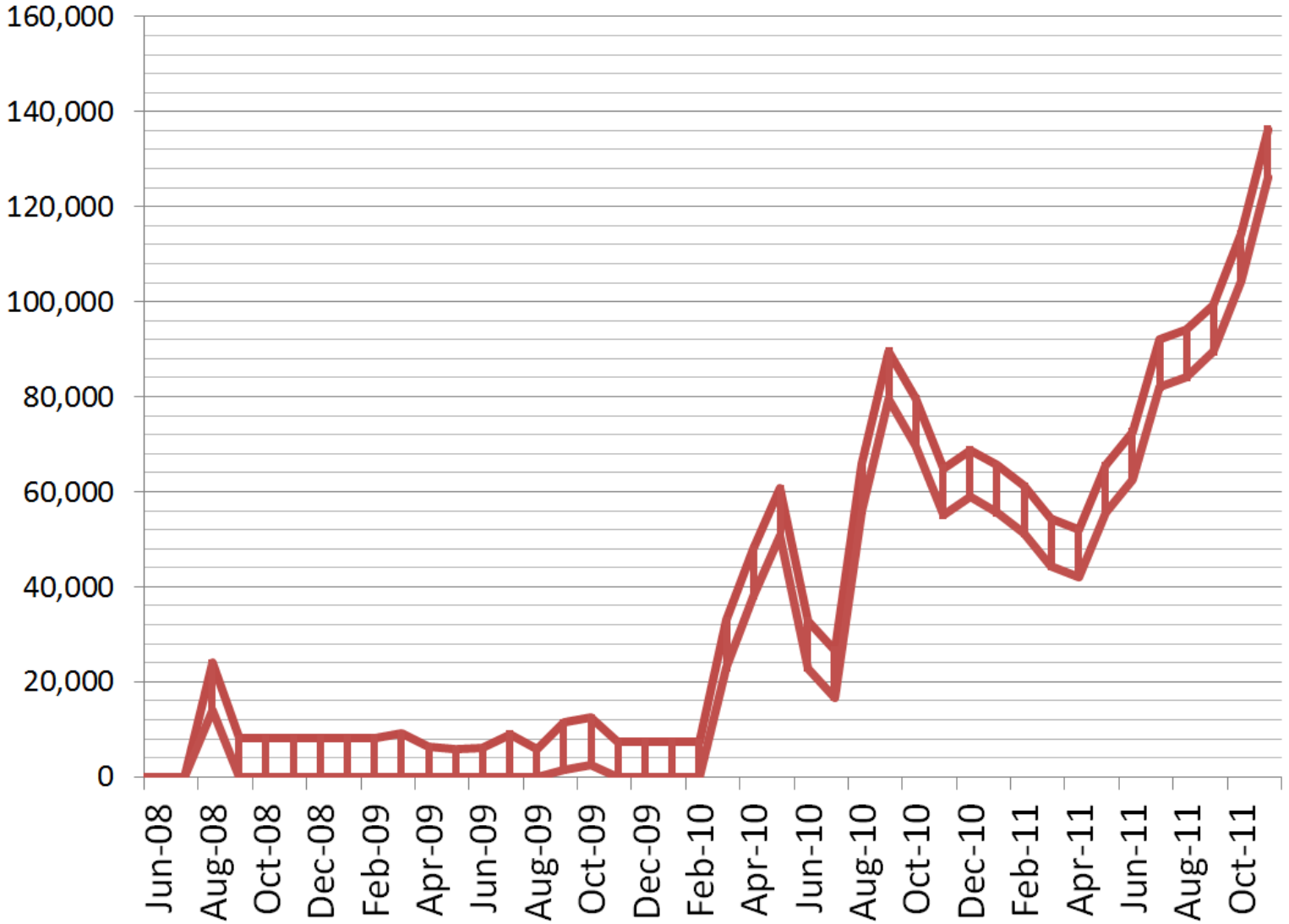
Planned

1) Trenton – Savage
2) Epping – Rangeland
3) Tioga – Hess
4) Berthold – Enbridge
5) Fryburg – Great Northern

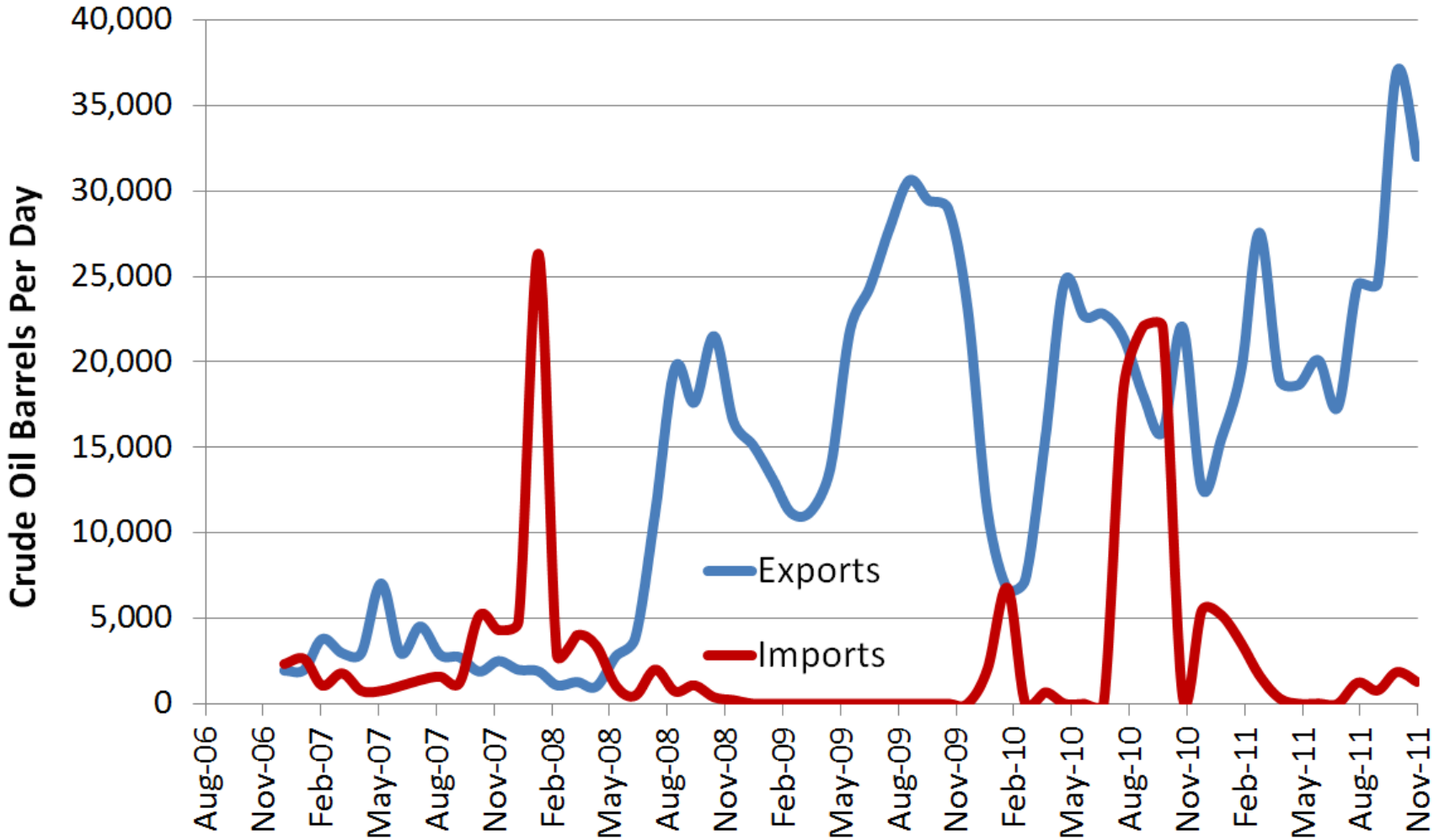
Existing & Planned Rail Locations



High-Low Rail Estimate, BOPD



Williston Basin Truck Imports/Exports

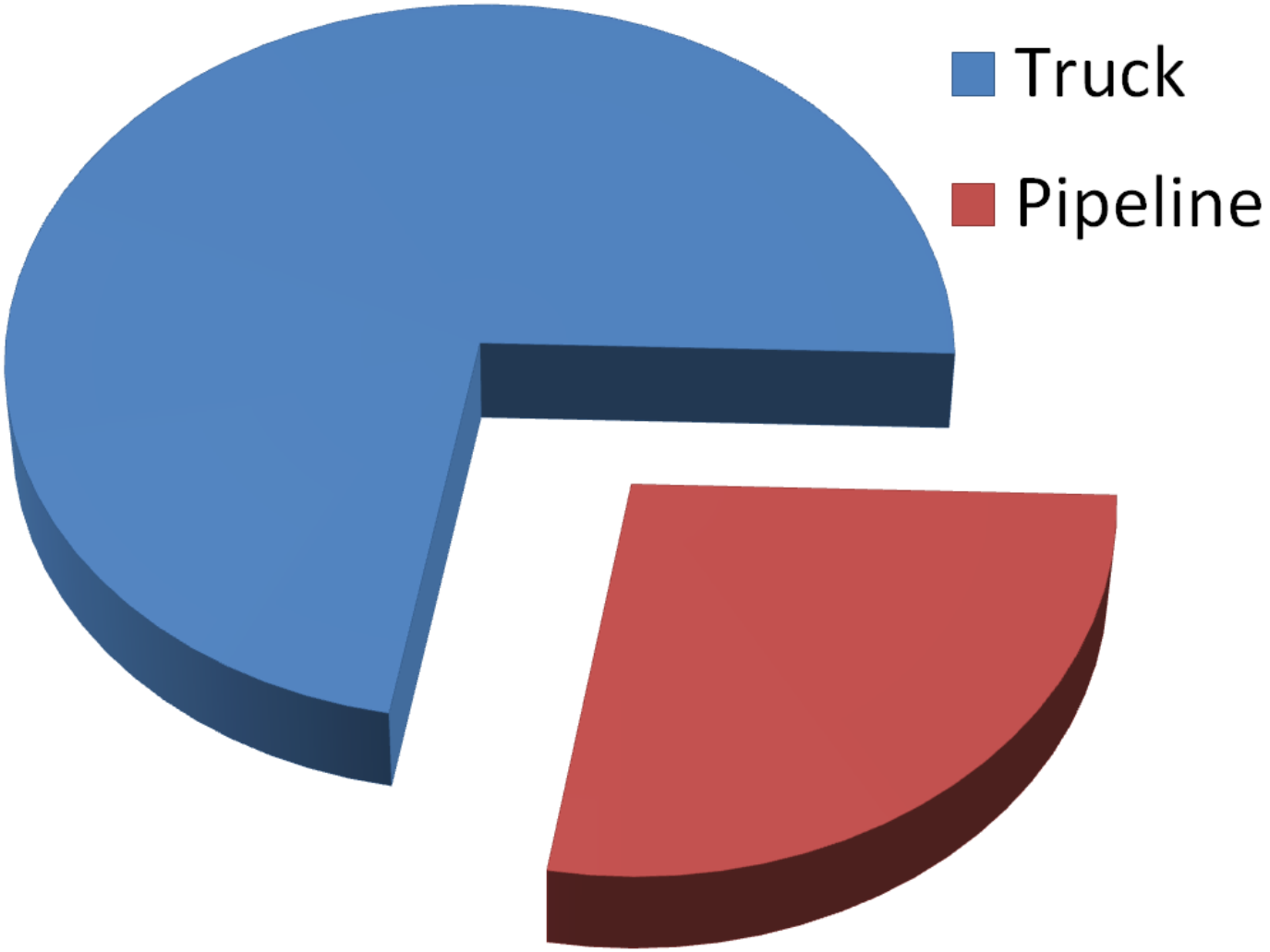


Information collected through the United States International Trade Commission's *Interactive Tariff and Trade DataWeb*

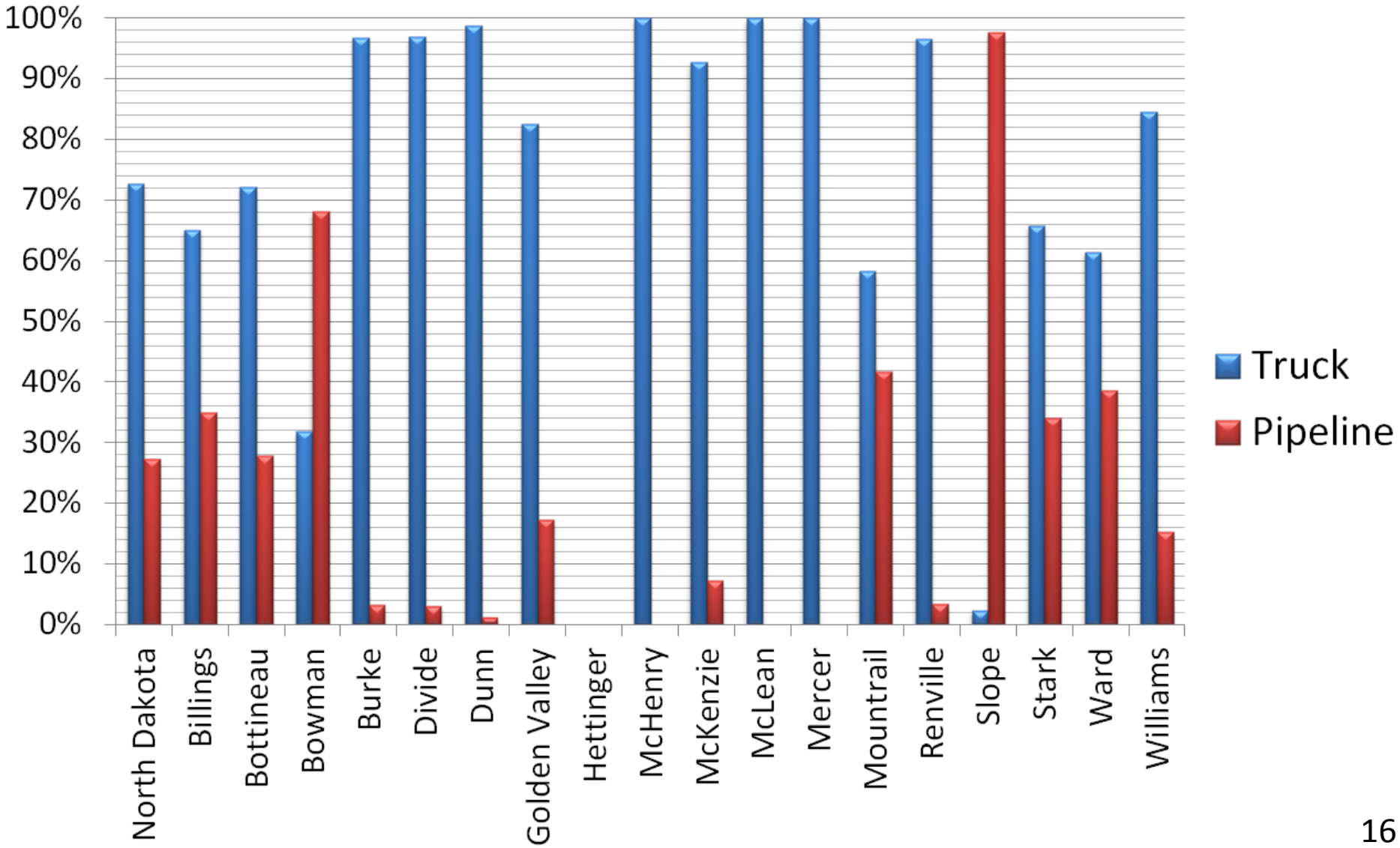
North Dakota Crude Gathering

USGS Image

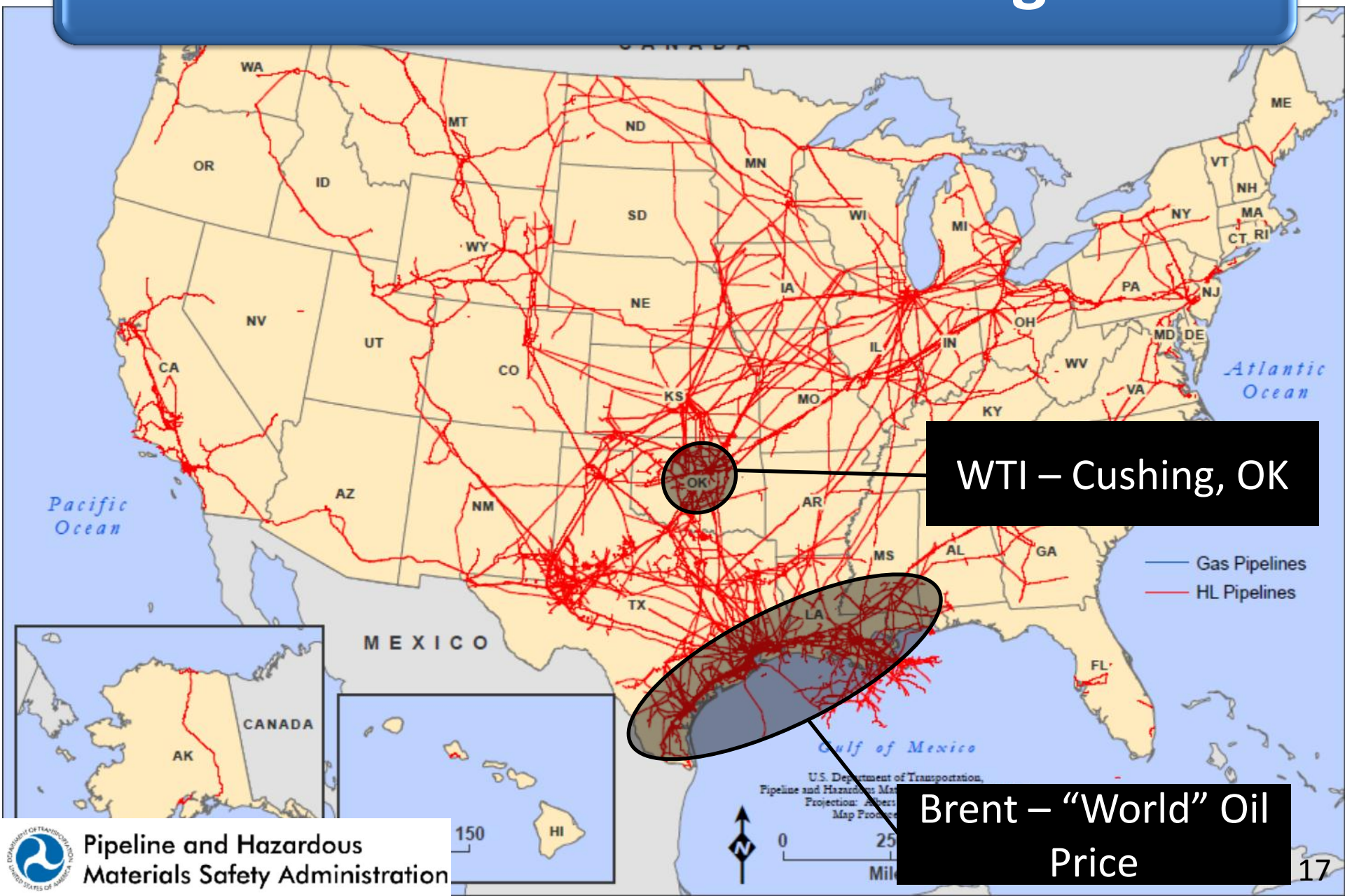
North Dakota Crude Gathering



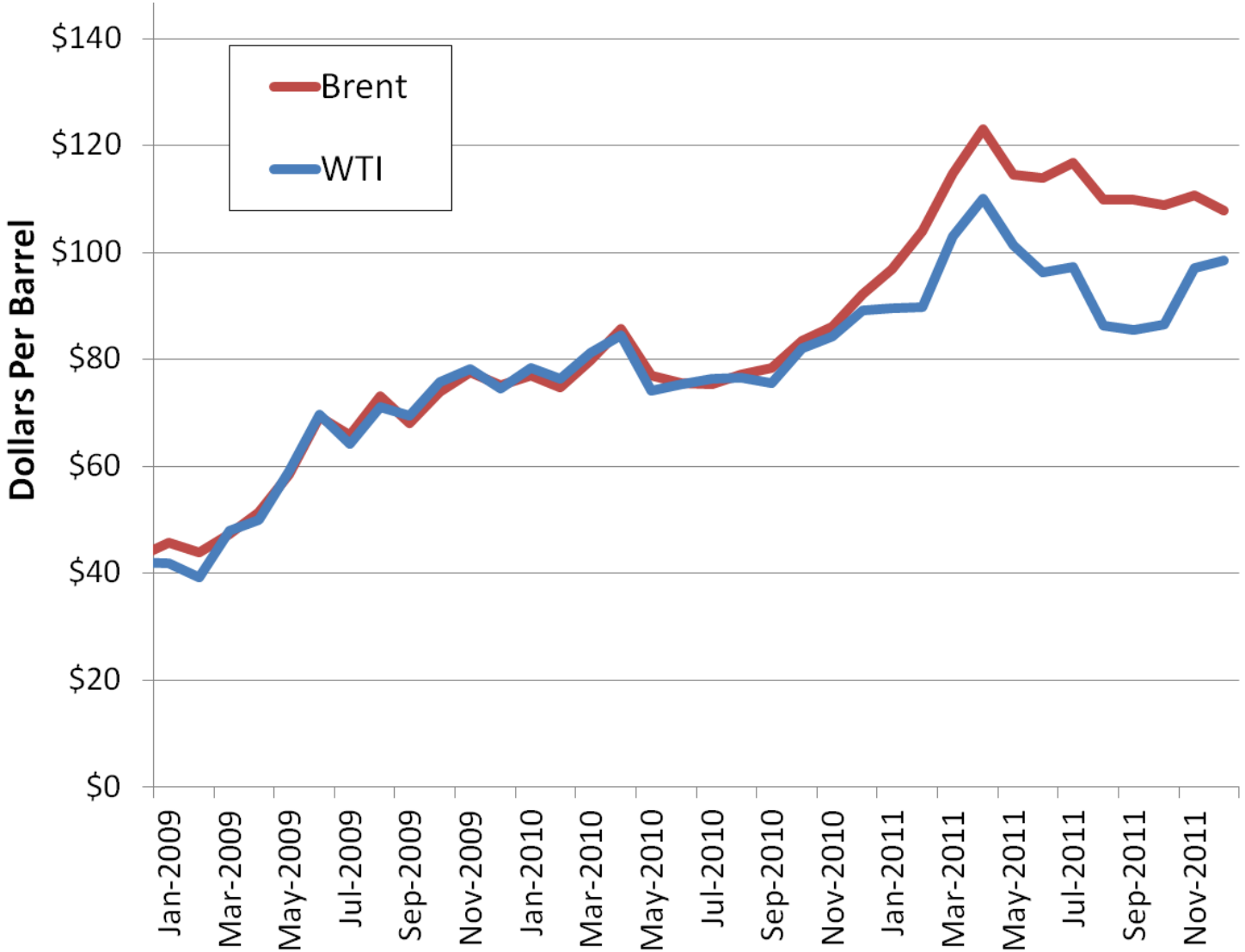
Crude Gathering By County



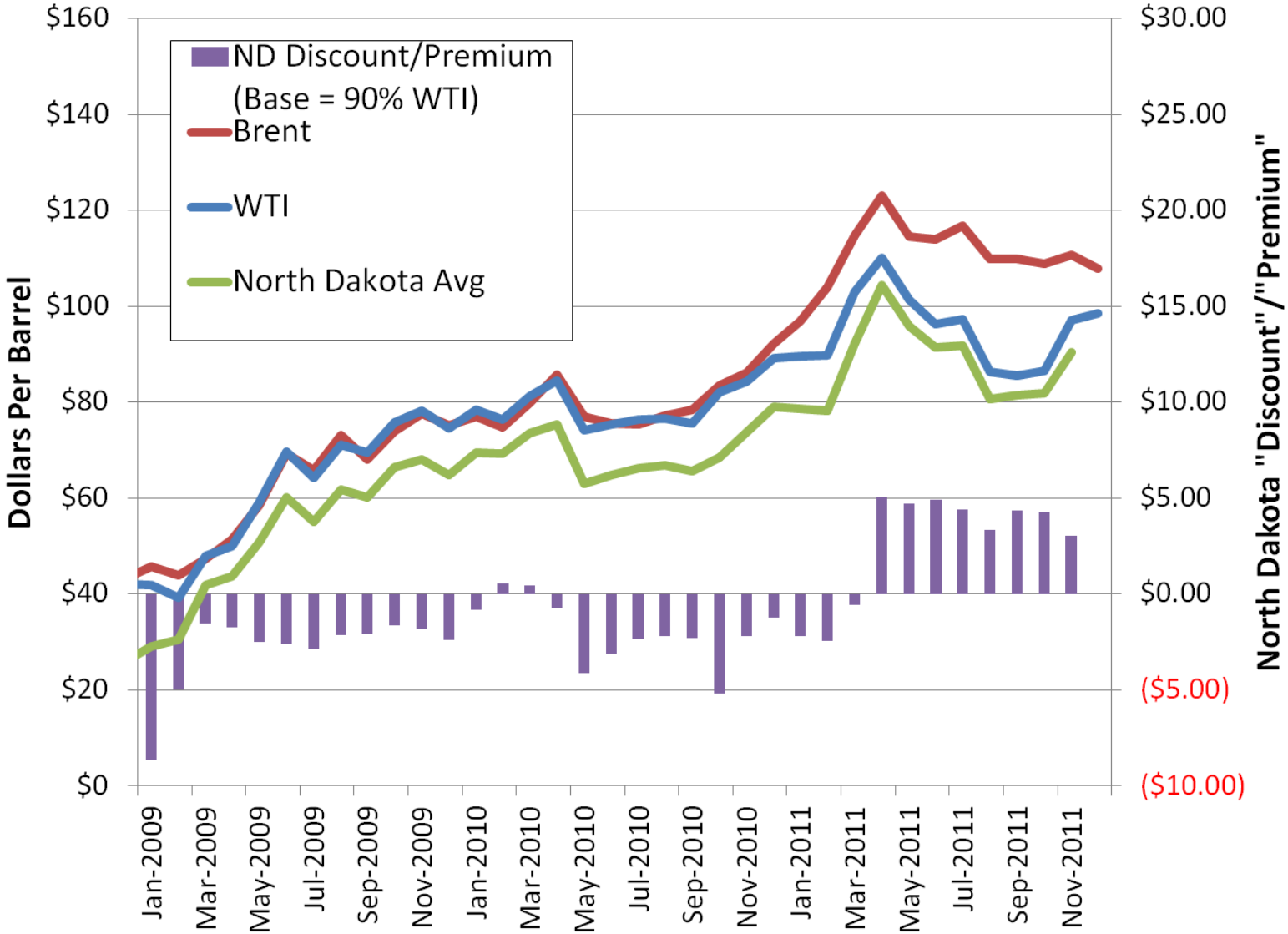
Brent-WTI Crude Pricing



Brent-WTI Crude Pricing

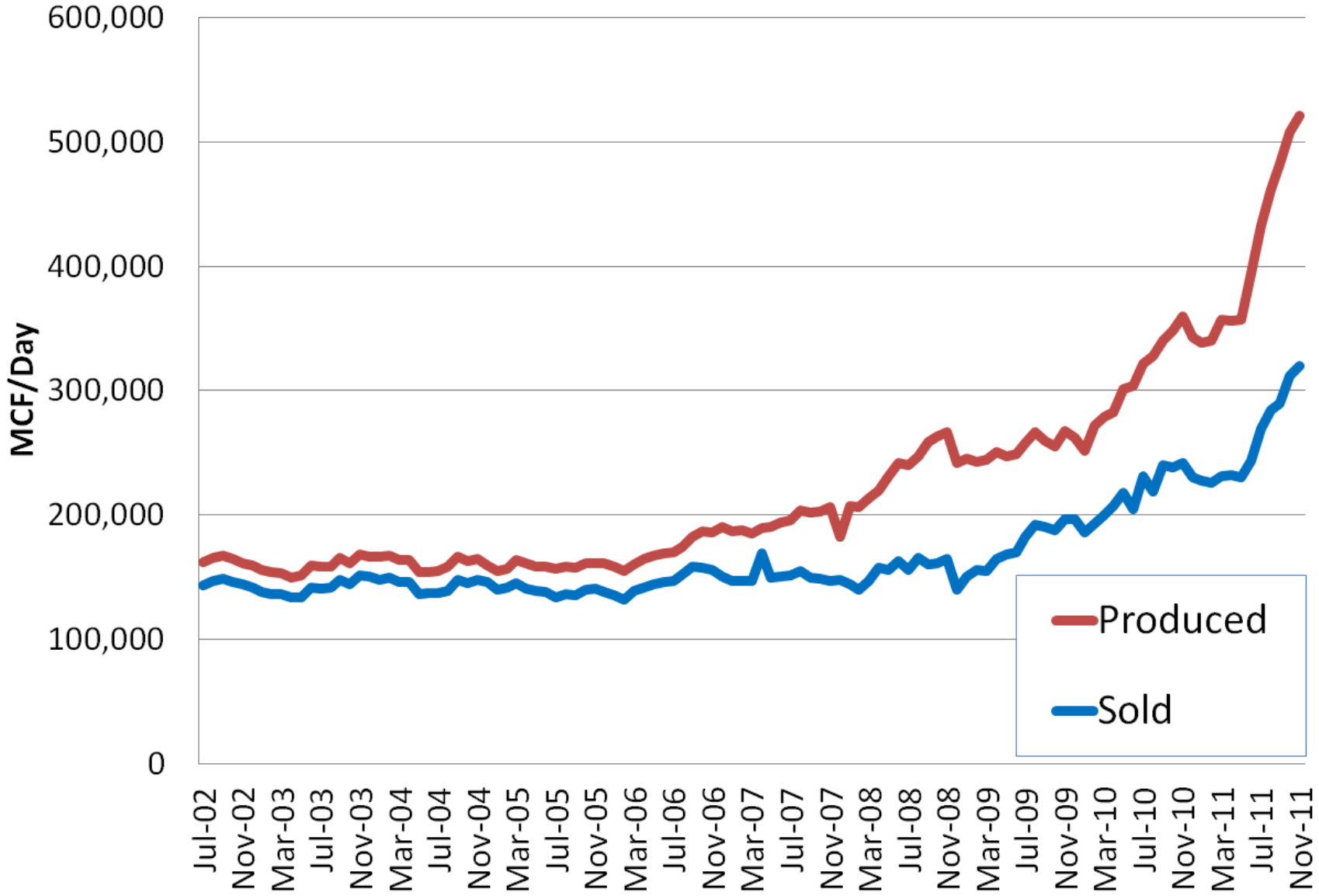


Brent-WTI-ND Crude Pricing

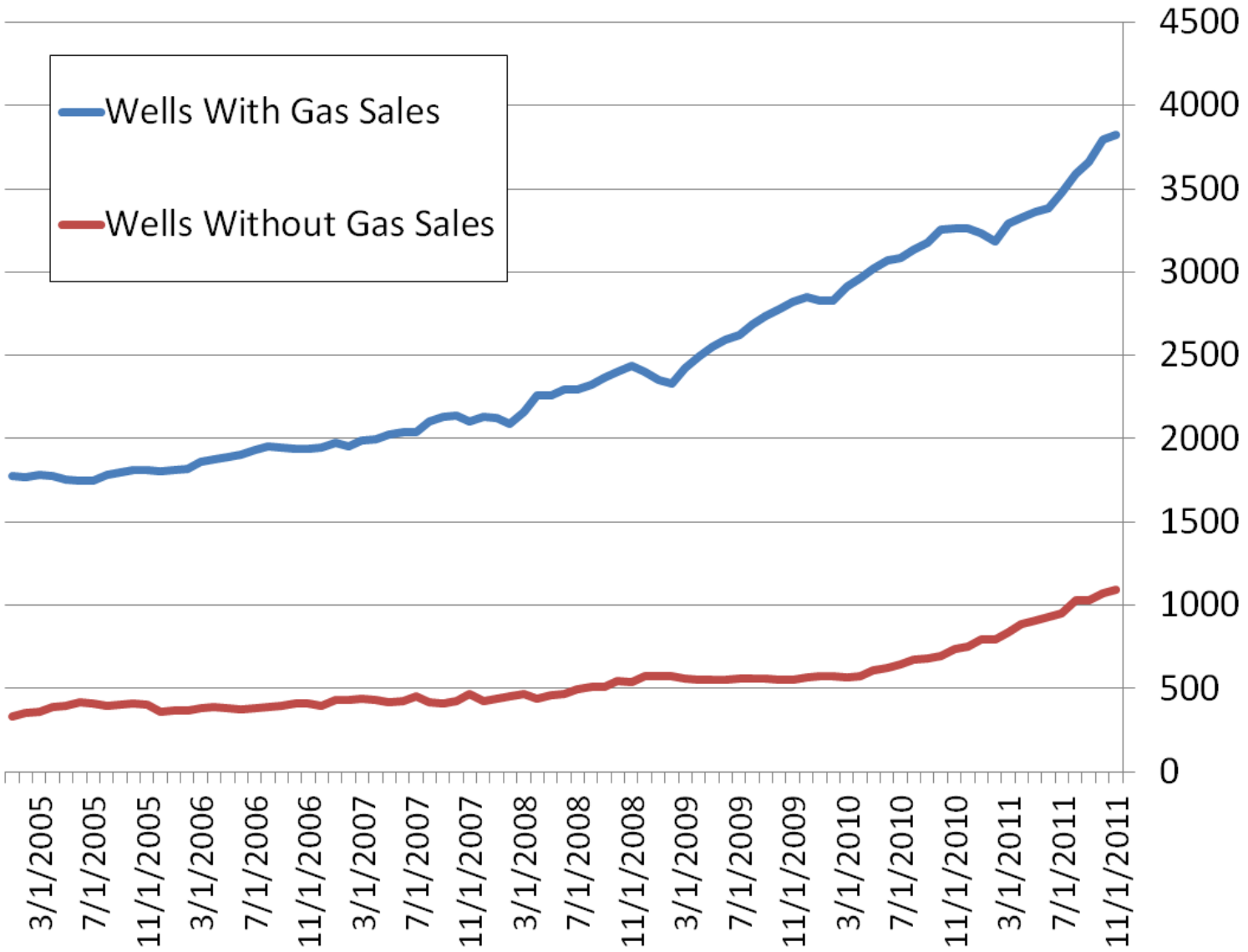


Natural Gas Projects

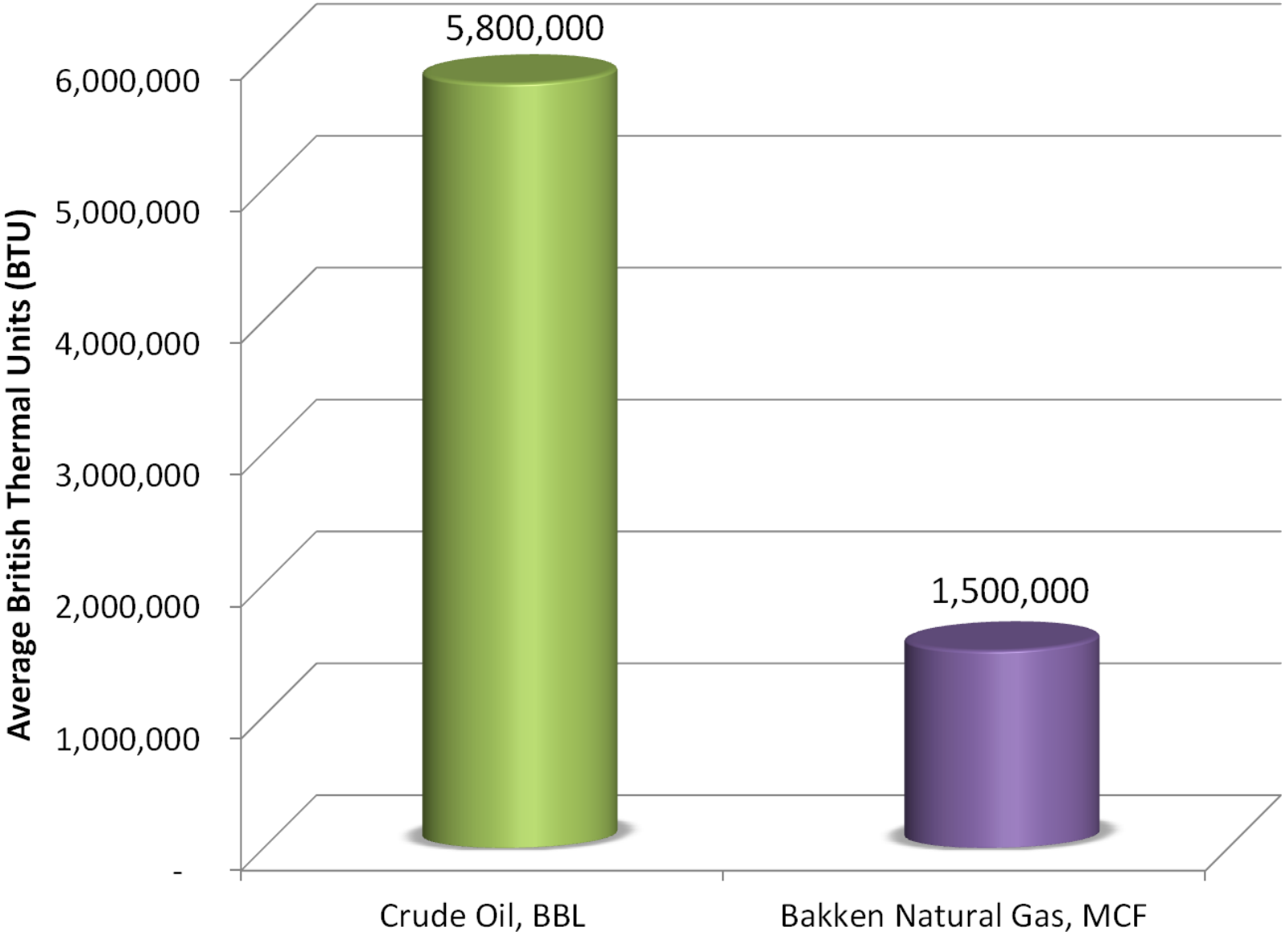
ND Gas Production



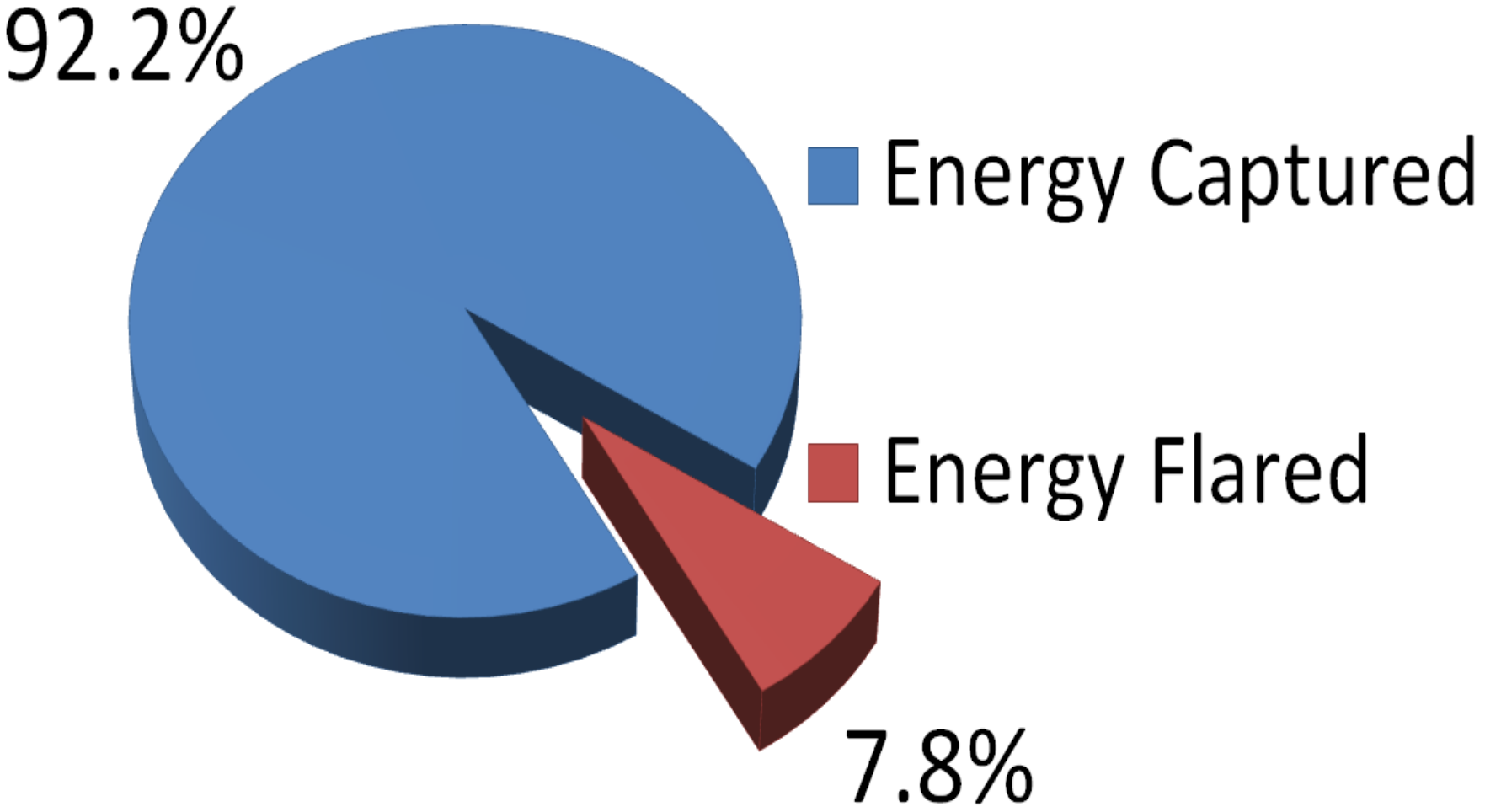
ND Gas Gathering Statistics



Bakken Resource Energy Content

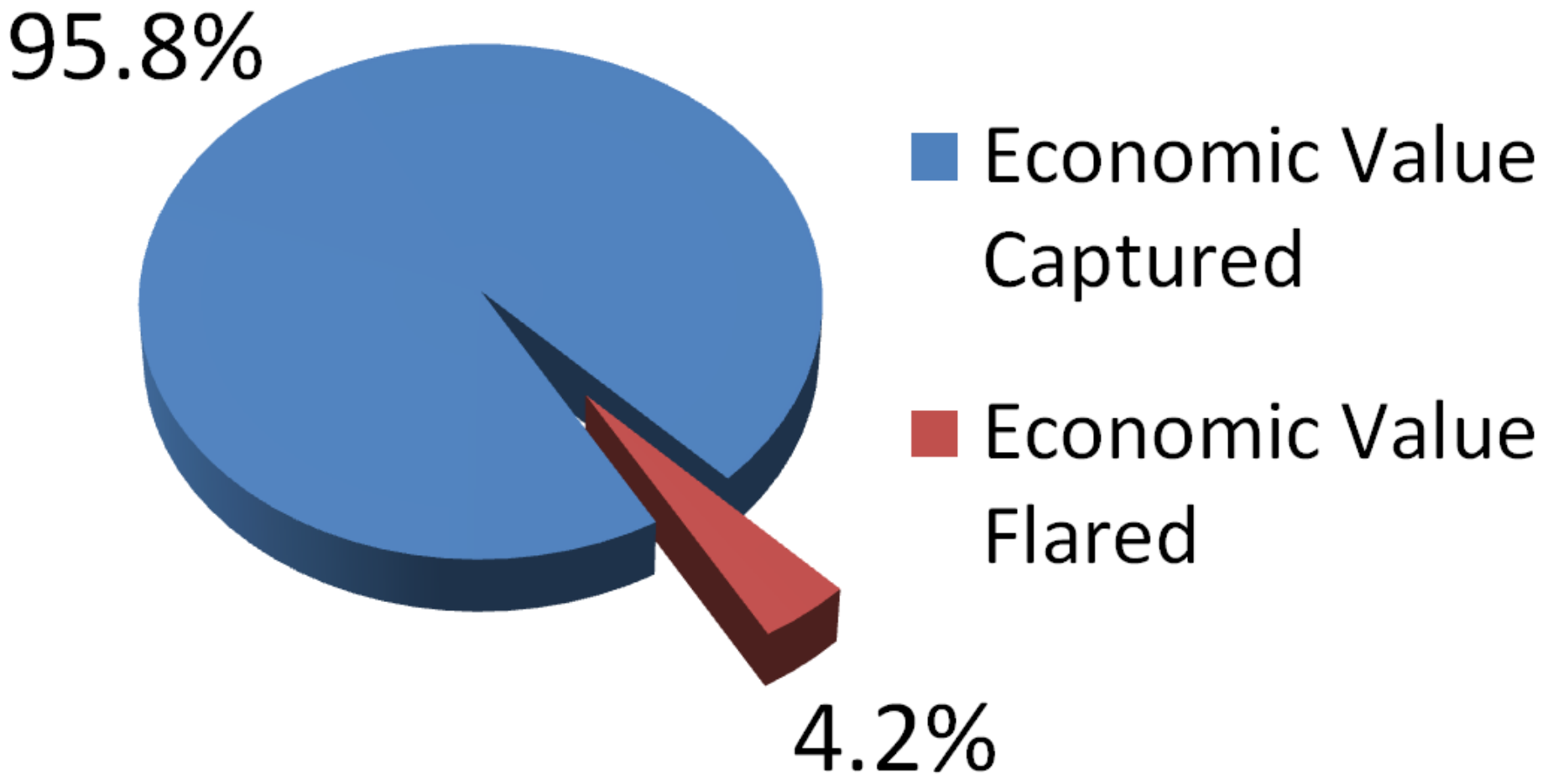


ND Oil & Gas Development Efficiency



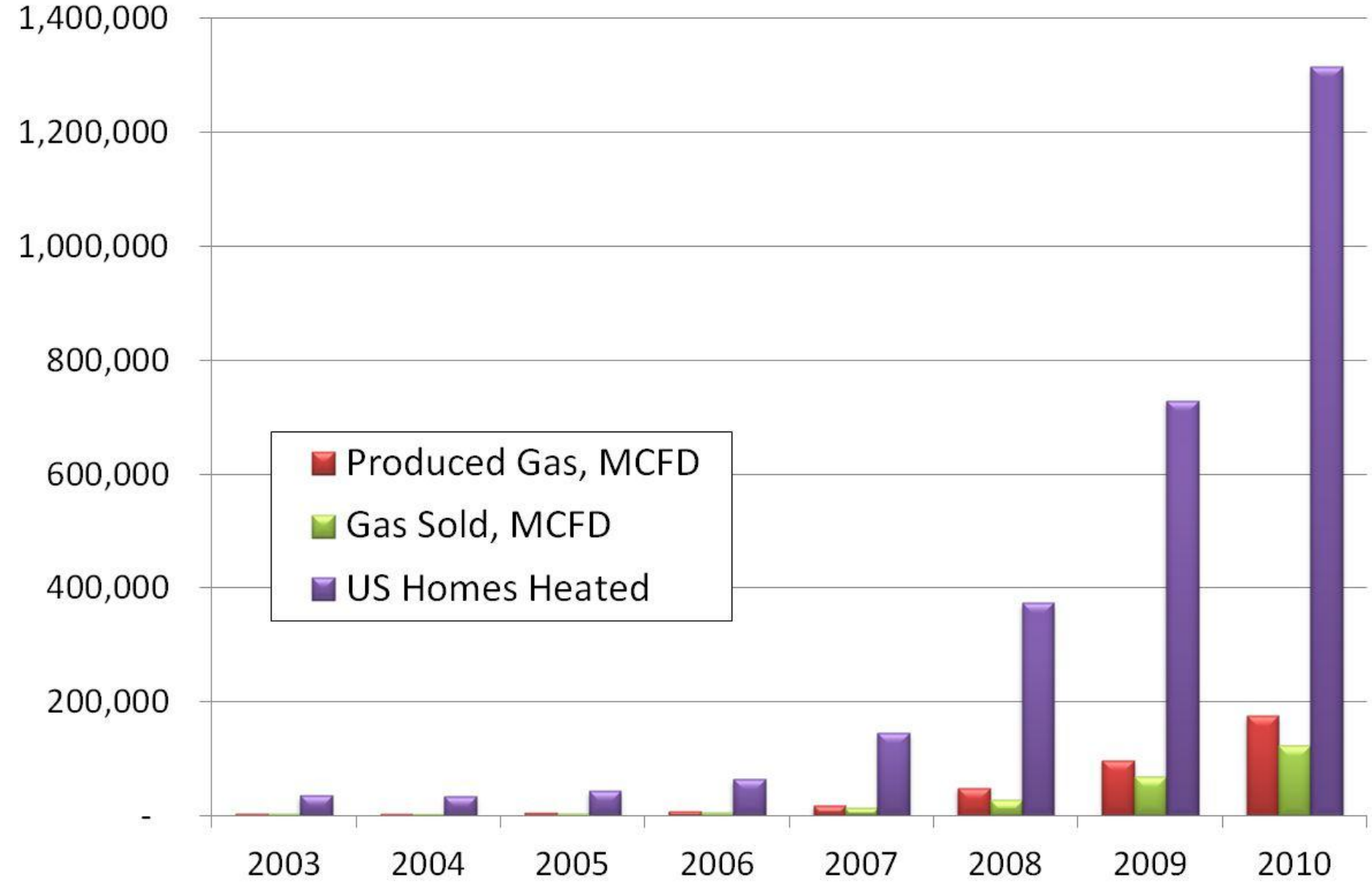
September 2011 Data

ND Oil & Gas Development Efficiency



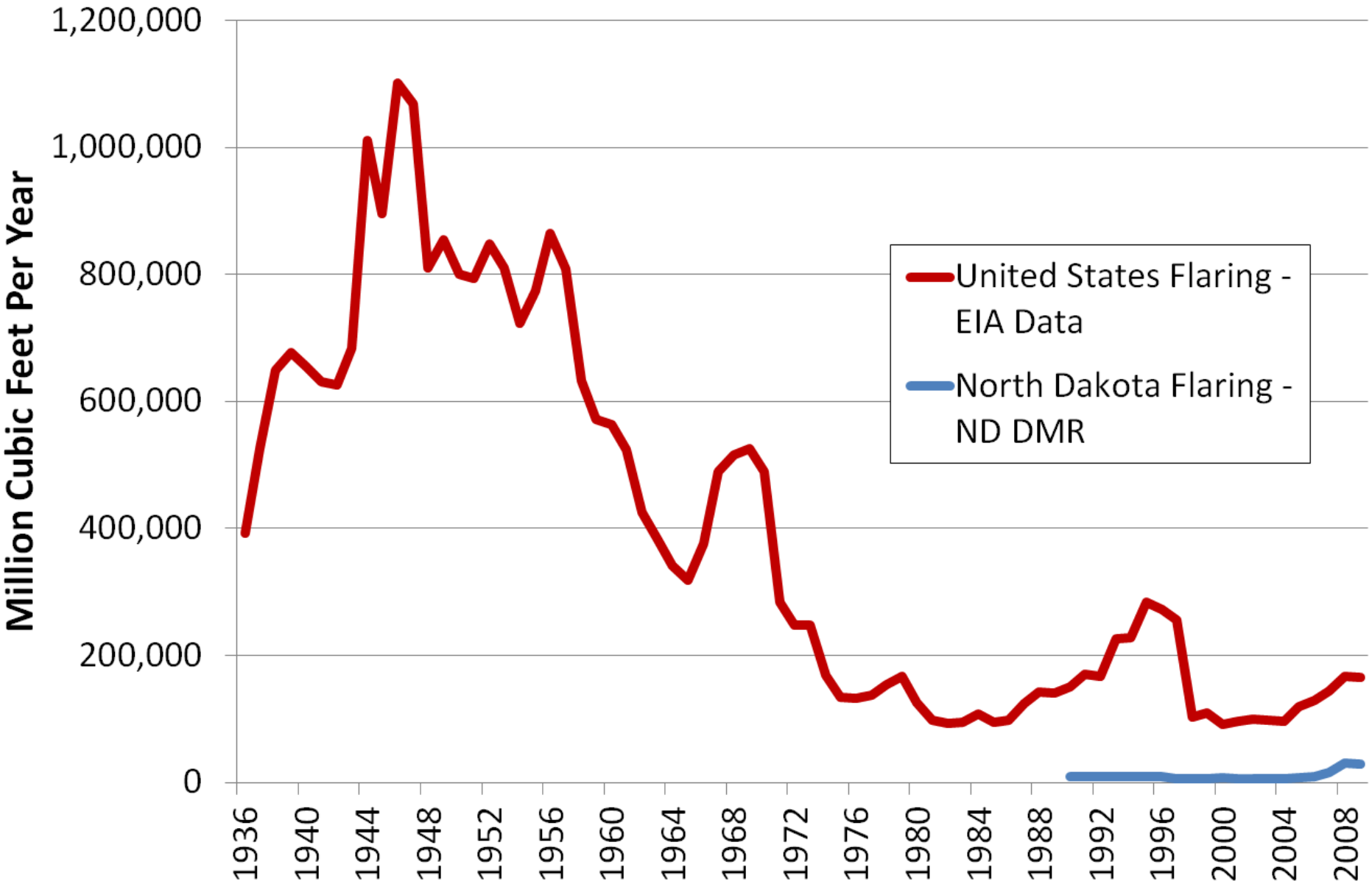
September 2011 Production Data, Oil Price of $81.38/bbl, Est. Natural Gas/NGL Wellhead Price of $10.00/MCF

Bakken & Three Forks Natural Gas



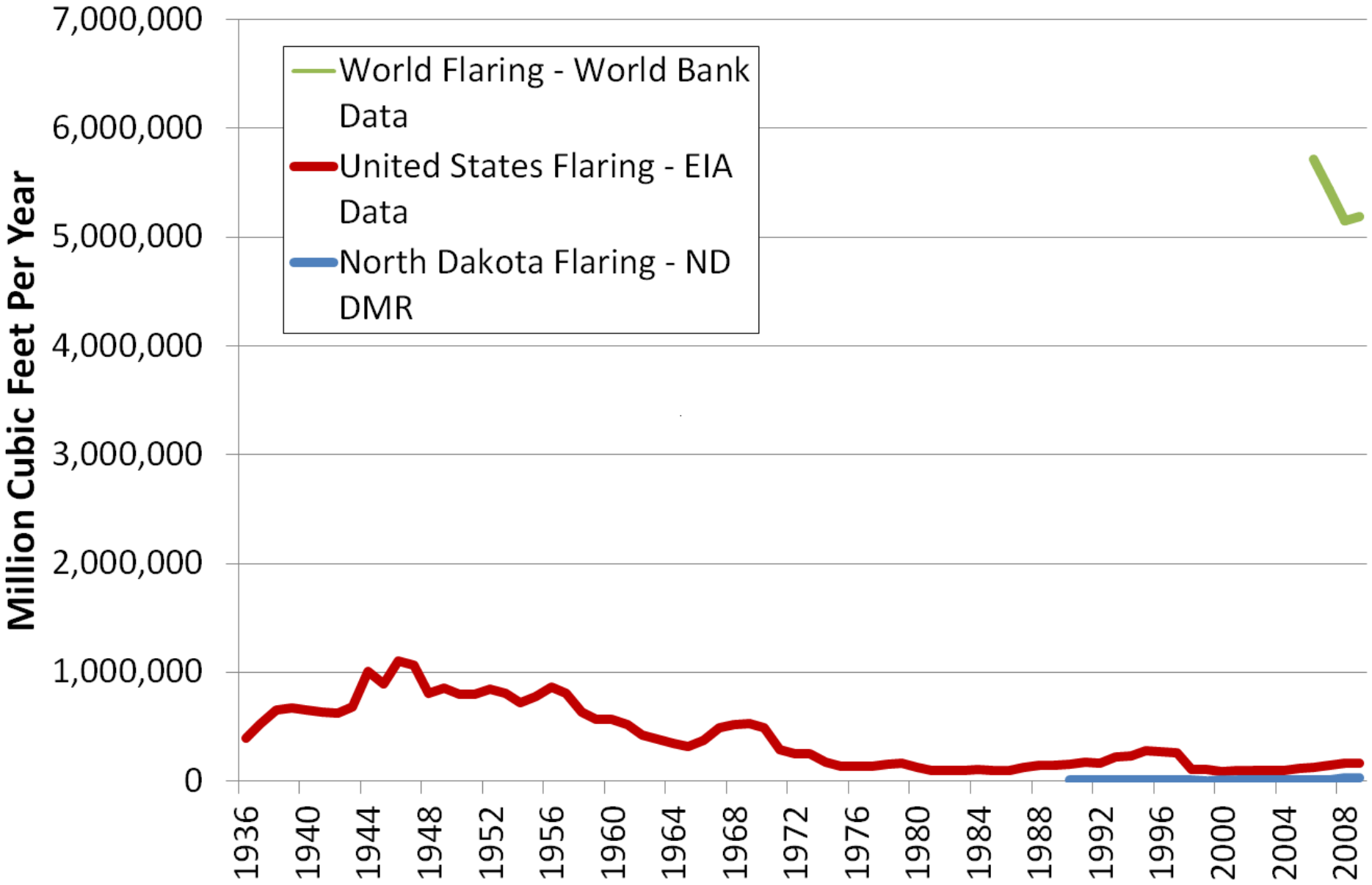
Assumes Avg Home Uses 72.4 Million BTU's Per Year - Source: AGA

United States - North Dakota Natural Gas Flaring



Data: Most Recently Available US EIA Data and ND Department of Mineral Resources

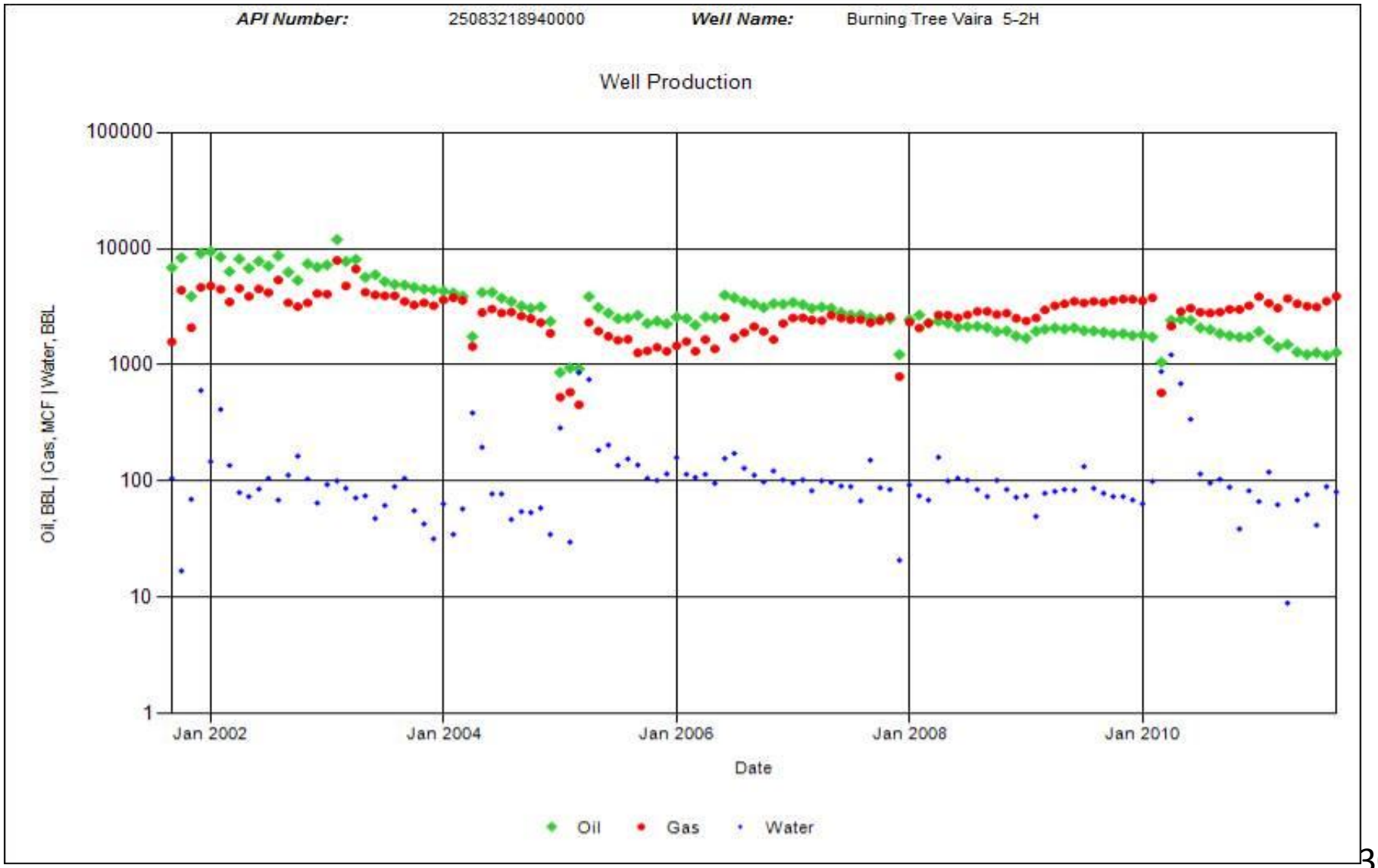
World Natural Gas Flaring



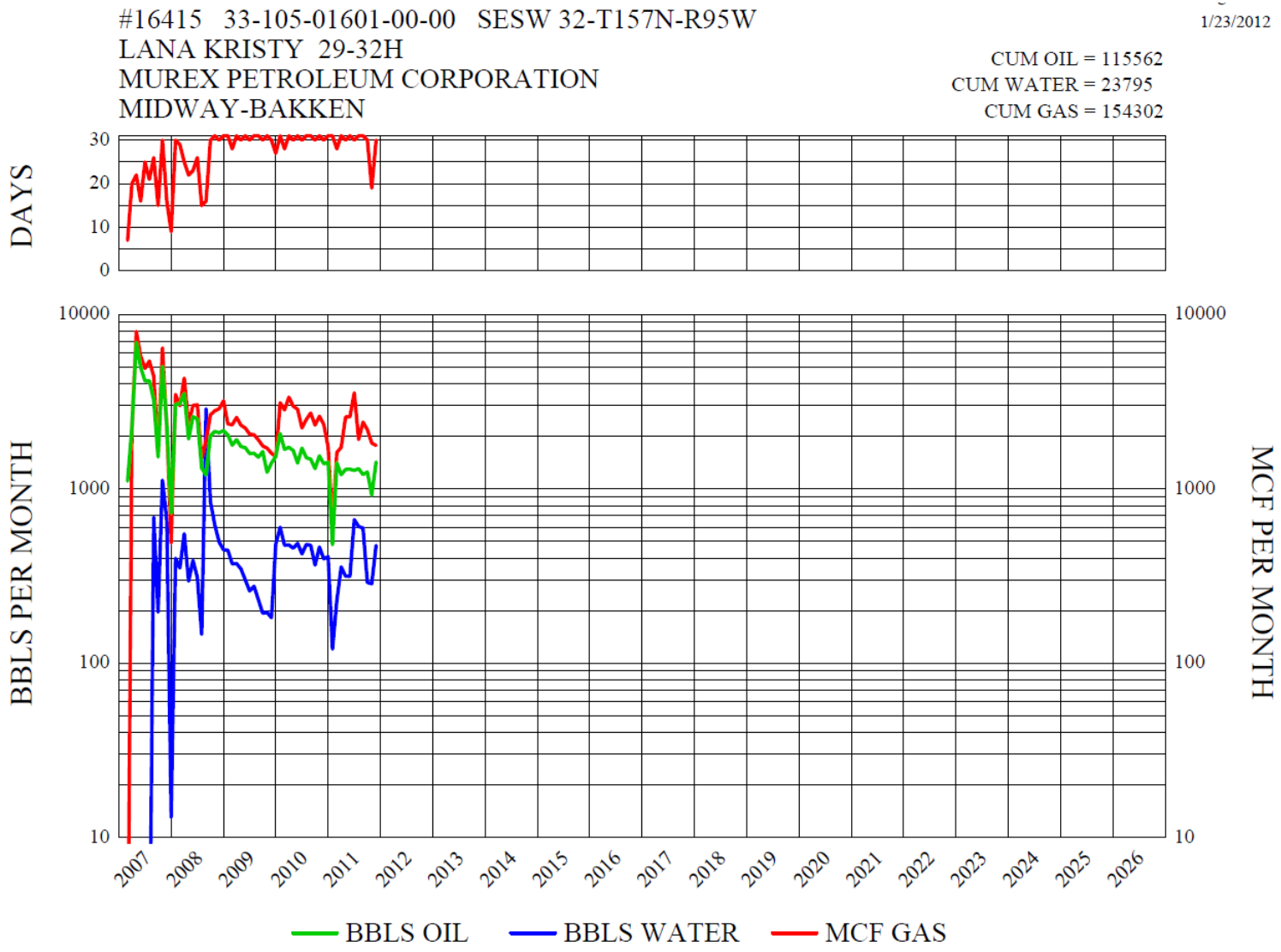
Data Source: World Bank, Most Recently Available US EIA Data, and ND Department of Mineral Resources

Natural Gas Study

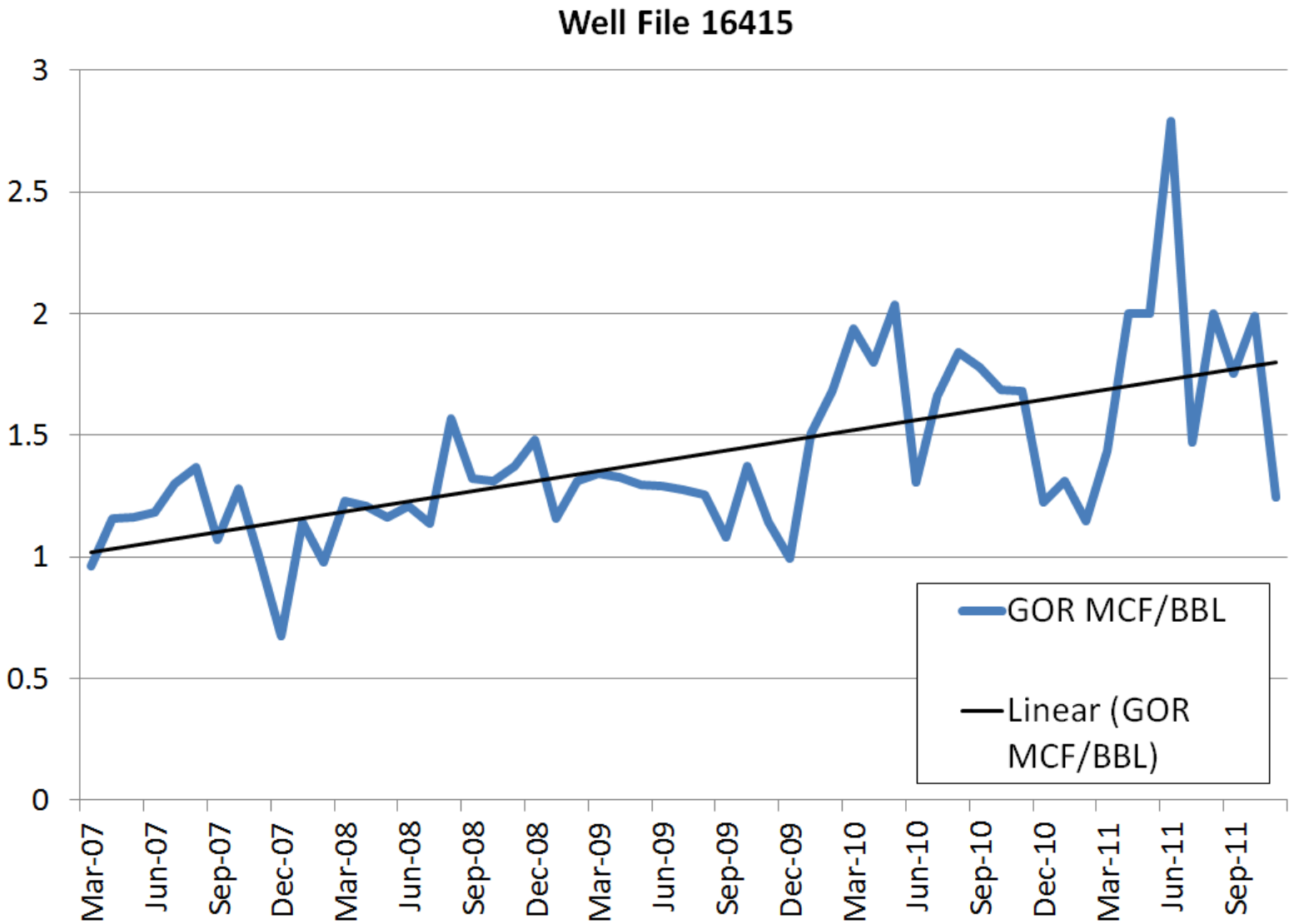
Elm Coulee Montana



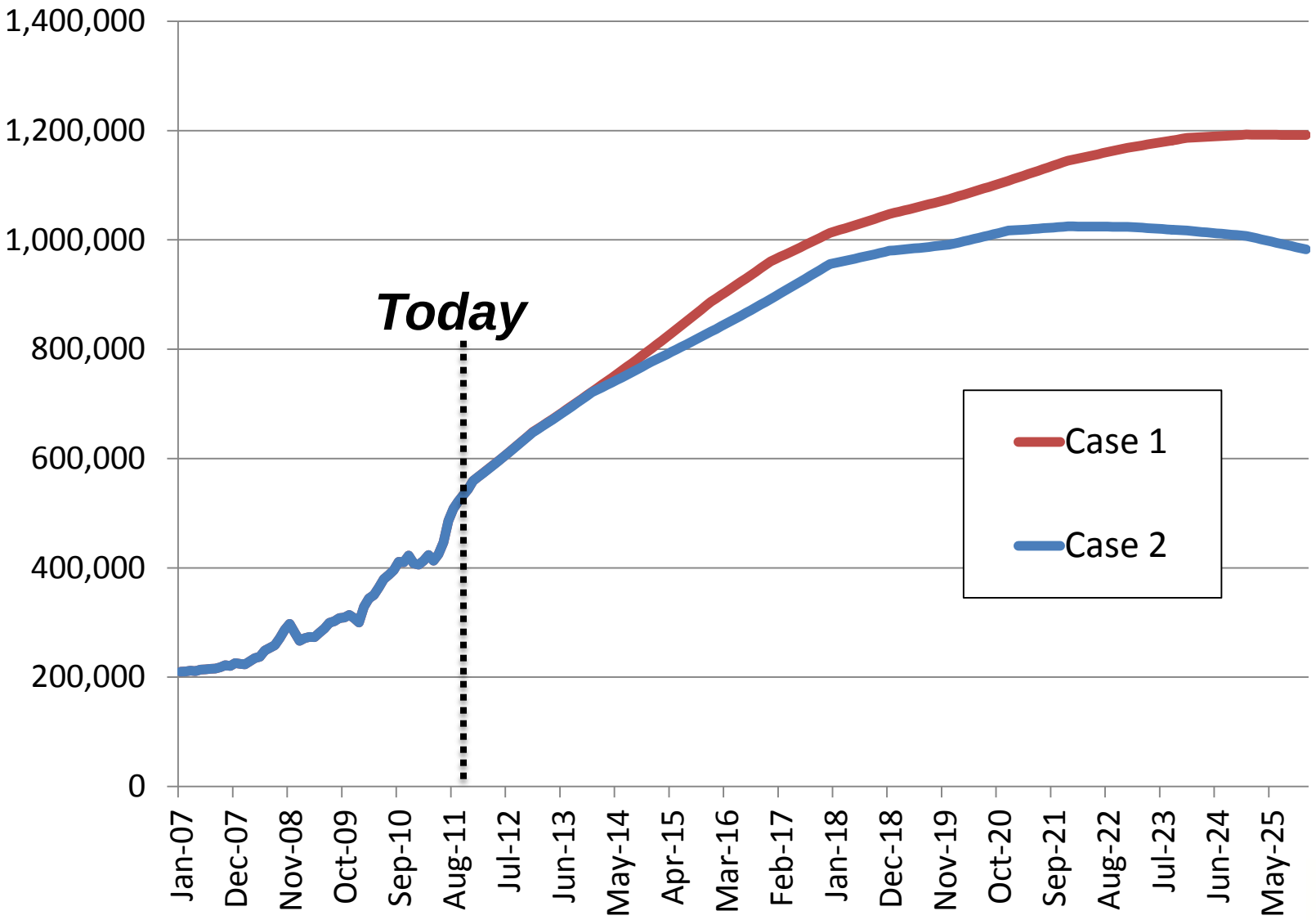
Midway Field North Dakota



Midway Field North Dakota



Forecasting Williston Basin Oil Production, BOPD



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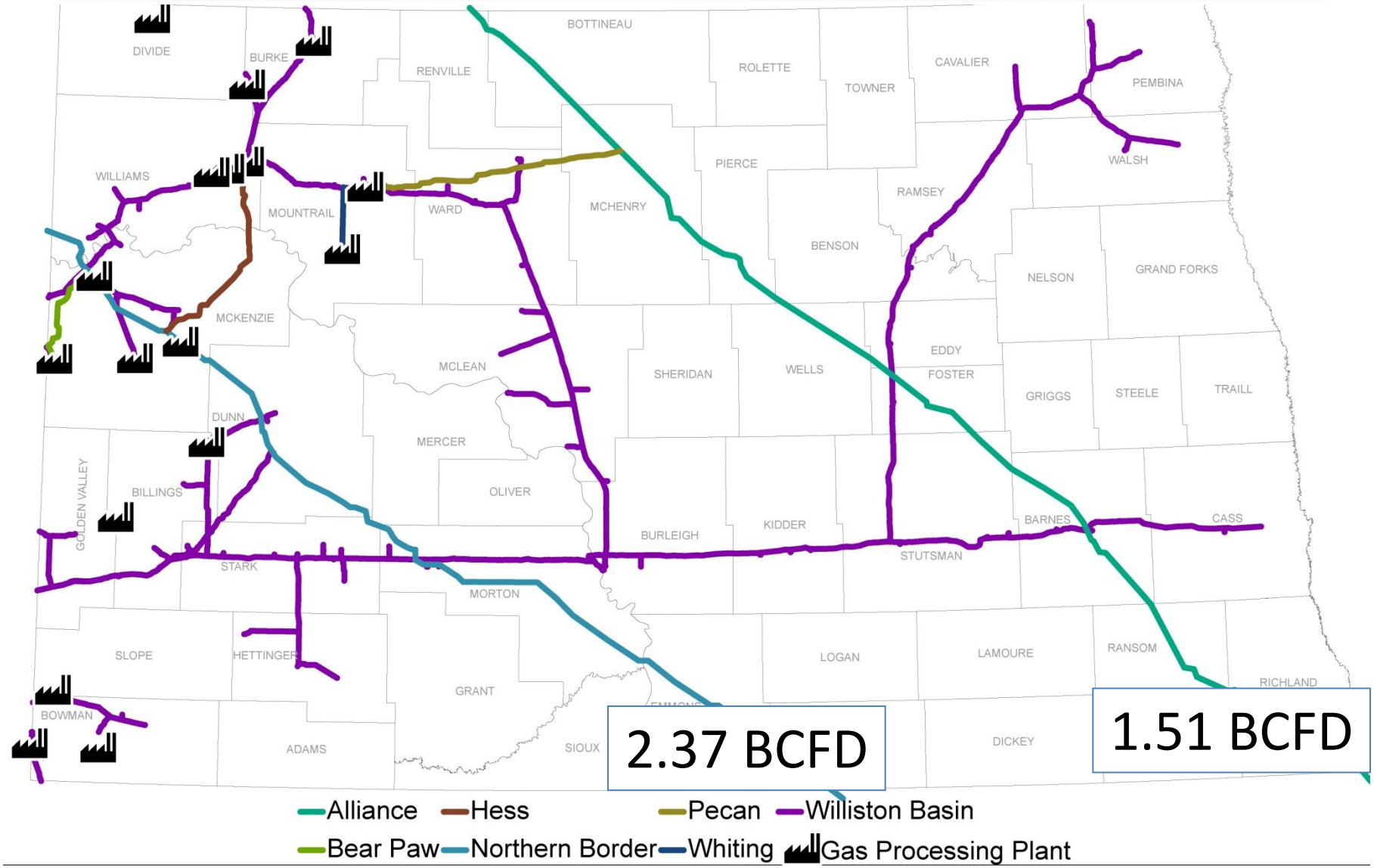
Gas Transmission Pipelines



Contact Information

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Website:
www.pipeline.nd.gov

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