

Baird Conference Call



Justin J Kringstad

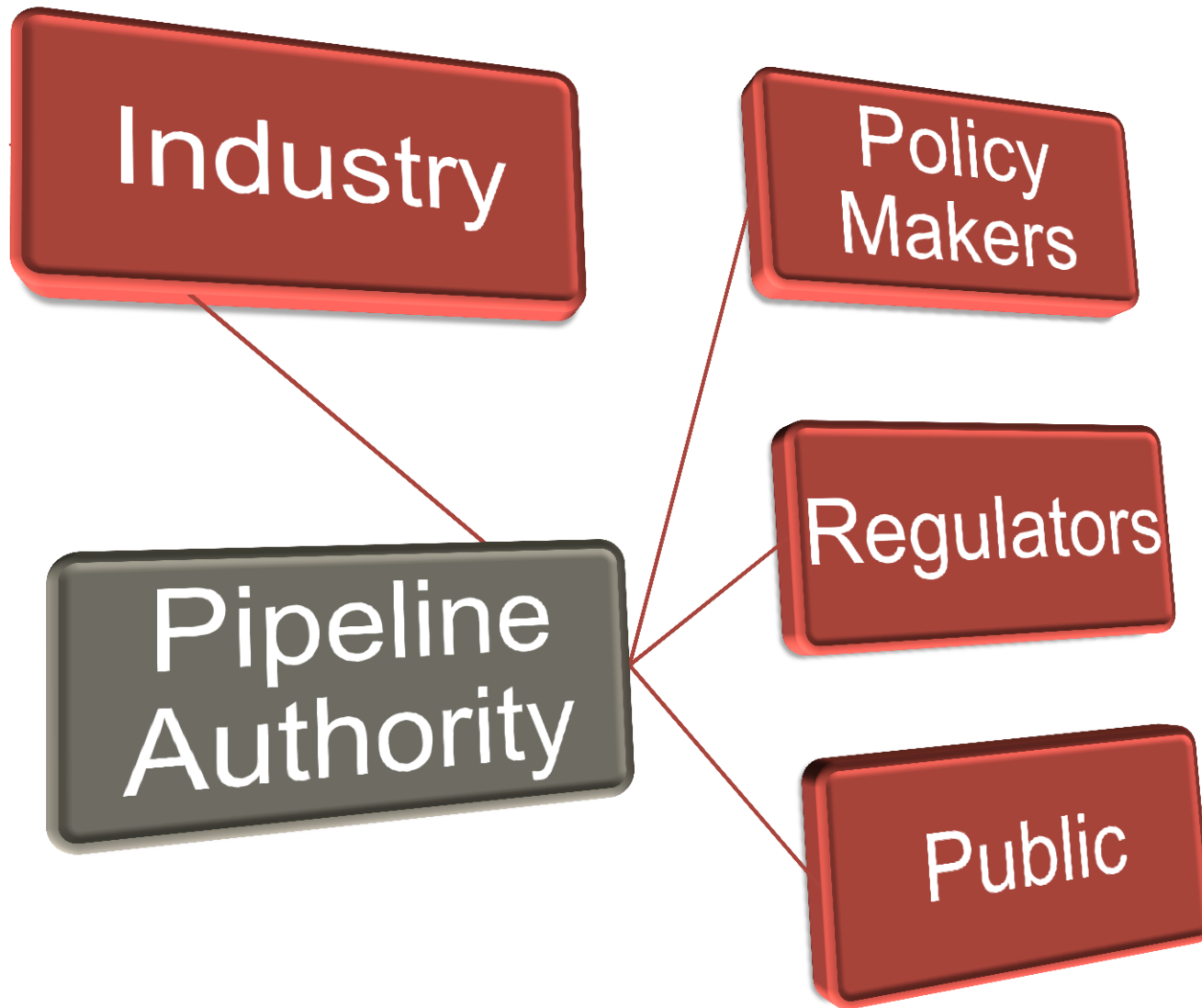
Geological Engineer

Director

North Dakota Pipeline Authority

December 21, 2015





Presentation Outline

- Understanding current and future oil production
 - Activity
 - Forecasts
 - Drilling economics
- Williston Basin oil transportation dynamics
 - Interstate oil movements
 - Intrastate oil movements
- North Dakota natural gas production
 - Flaring and gas capture
 - NGL Outlook

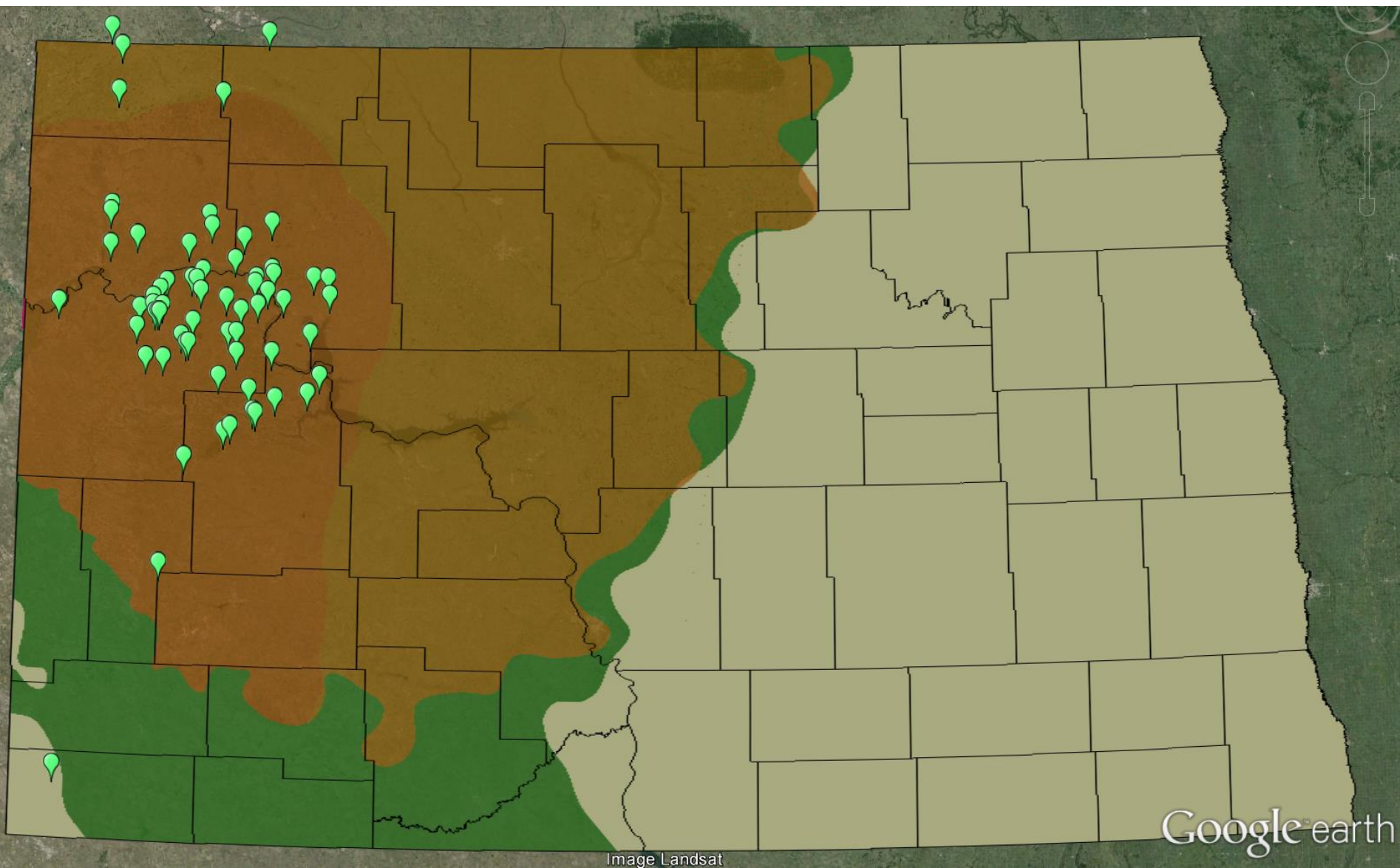


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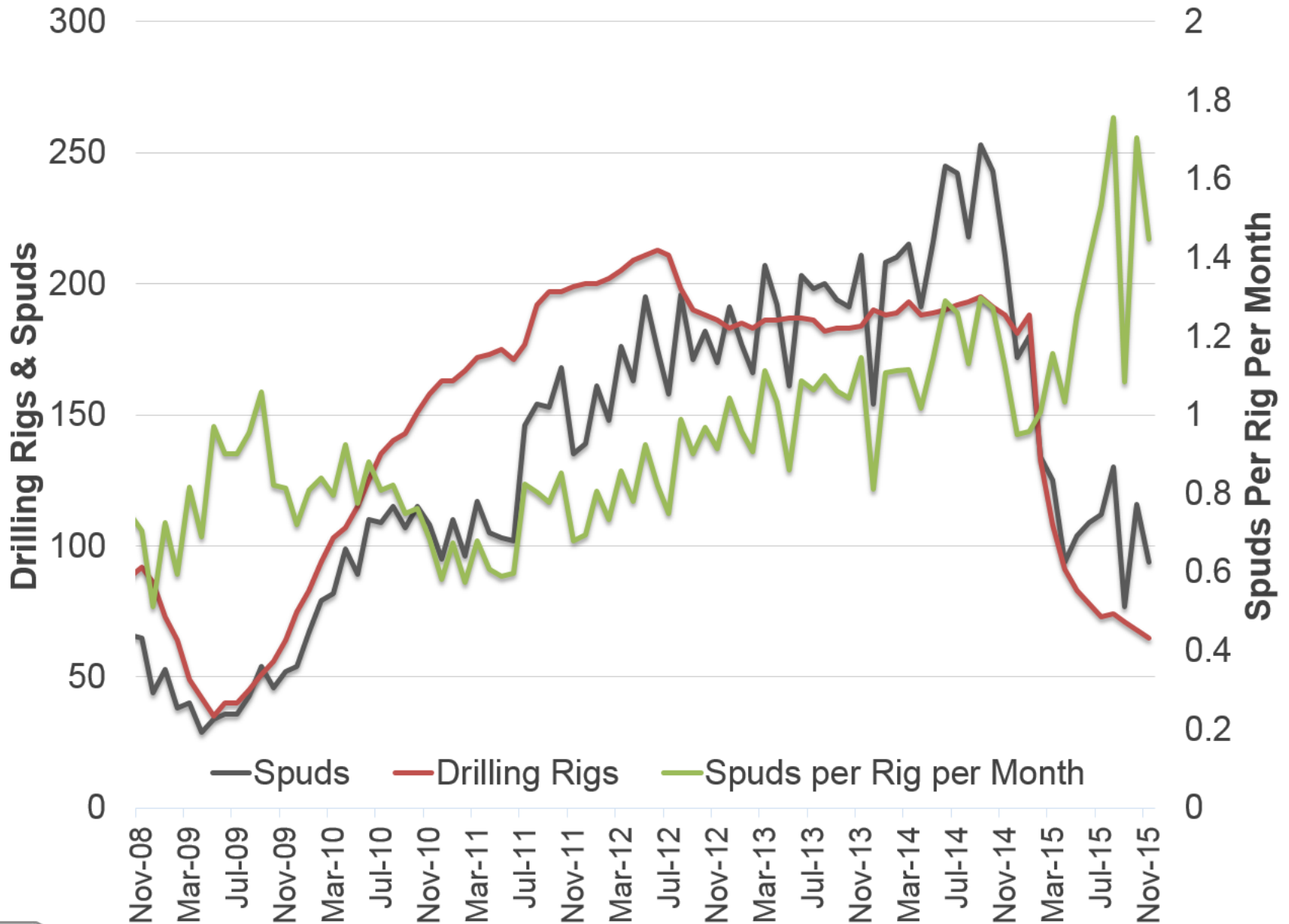
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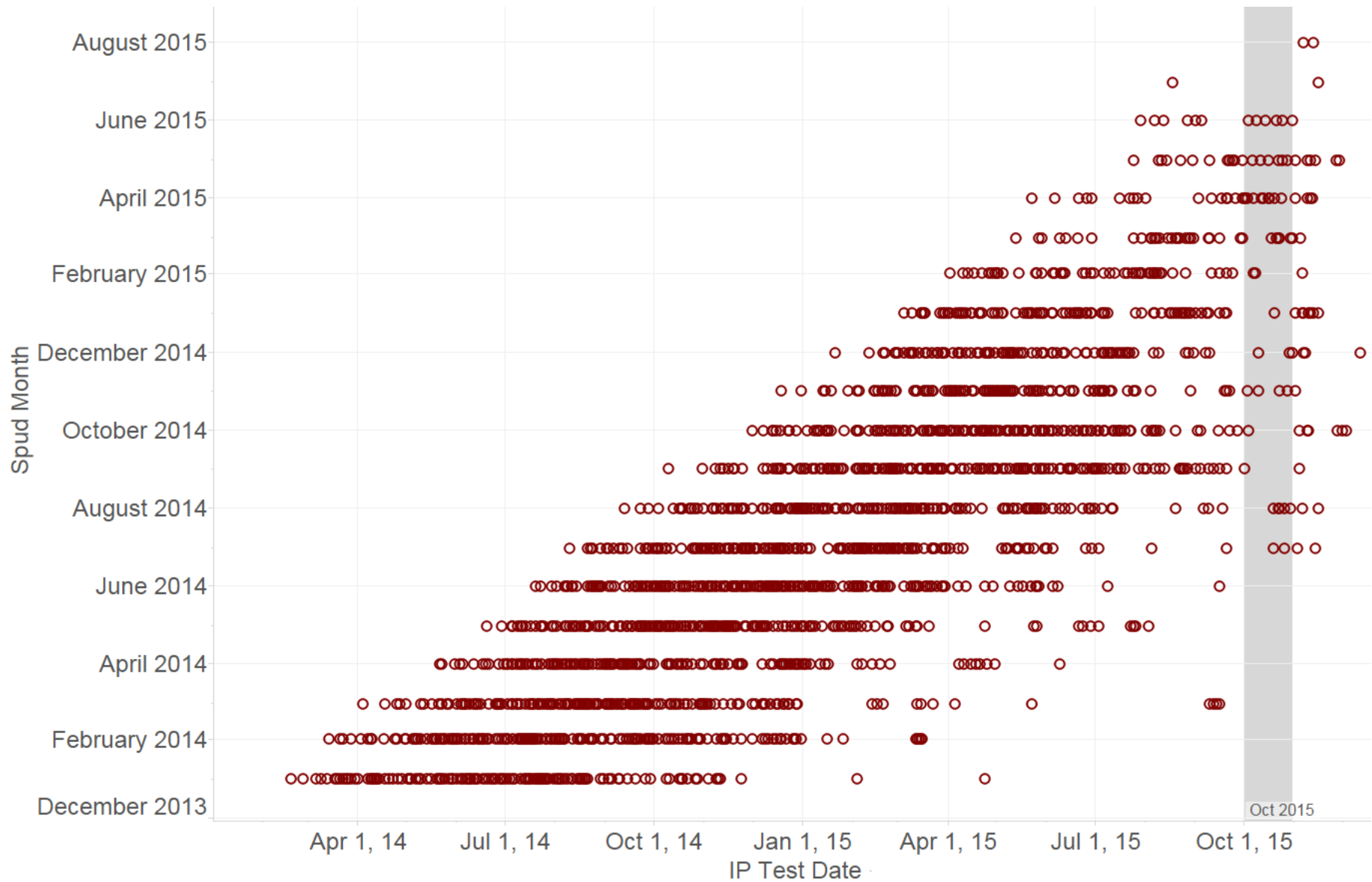
North Dakota Drilling Activity



North Dakota Drilling Activity

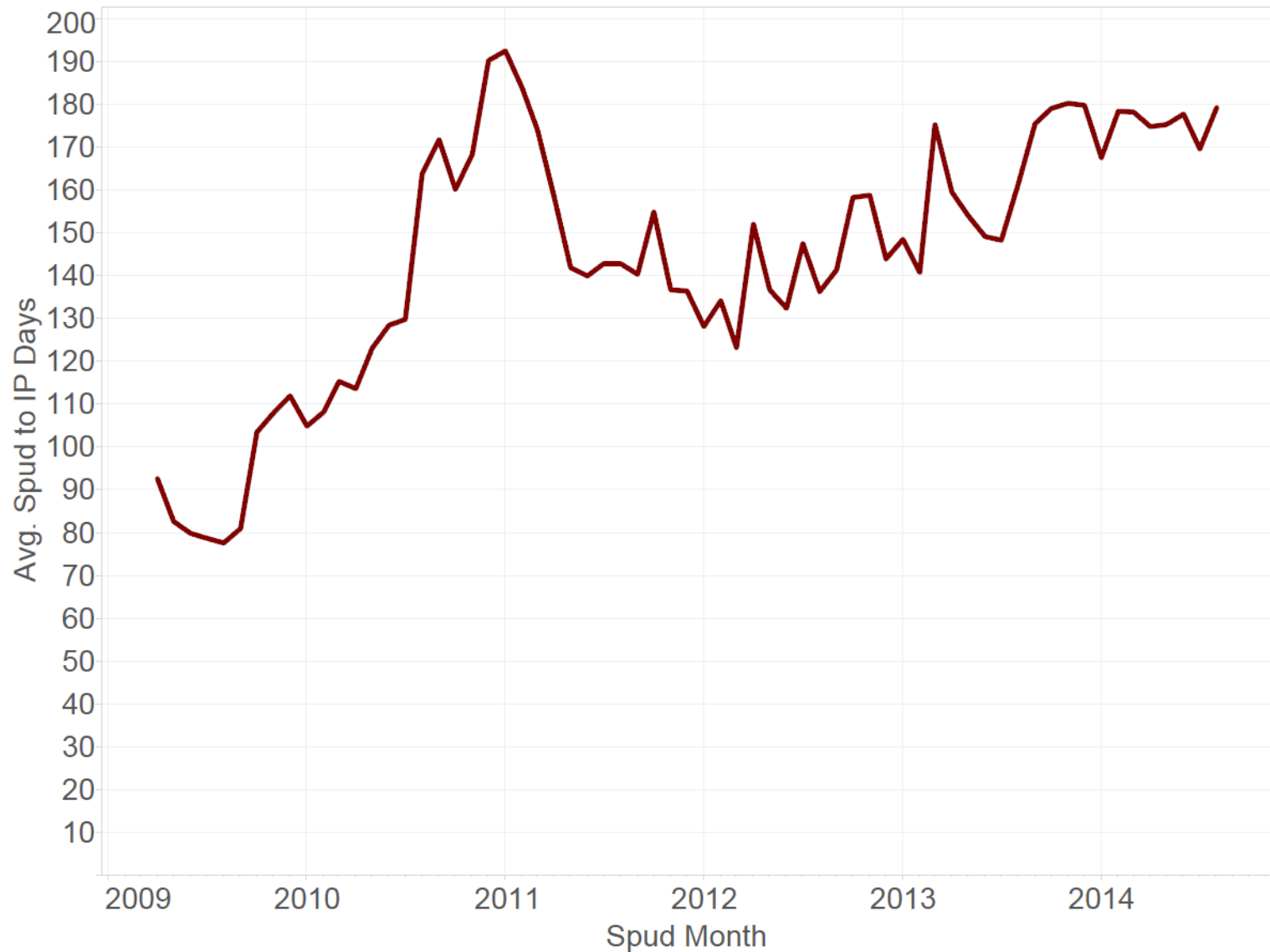


North Dakota Drilling & Completions

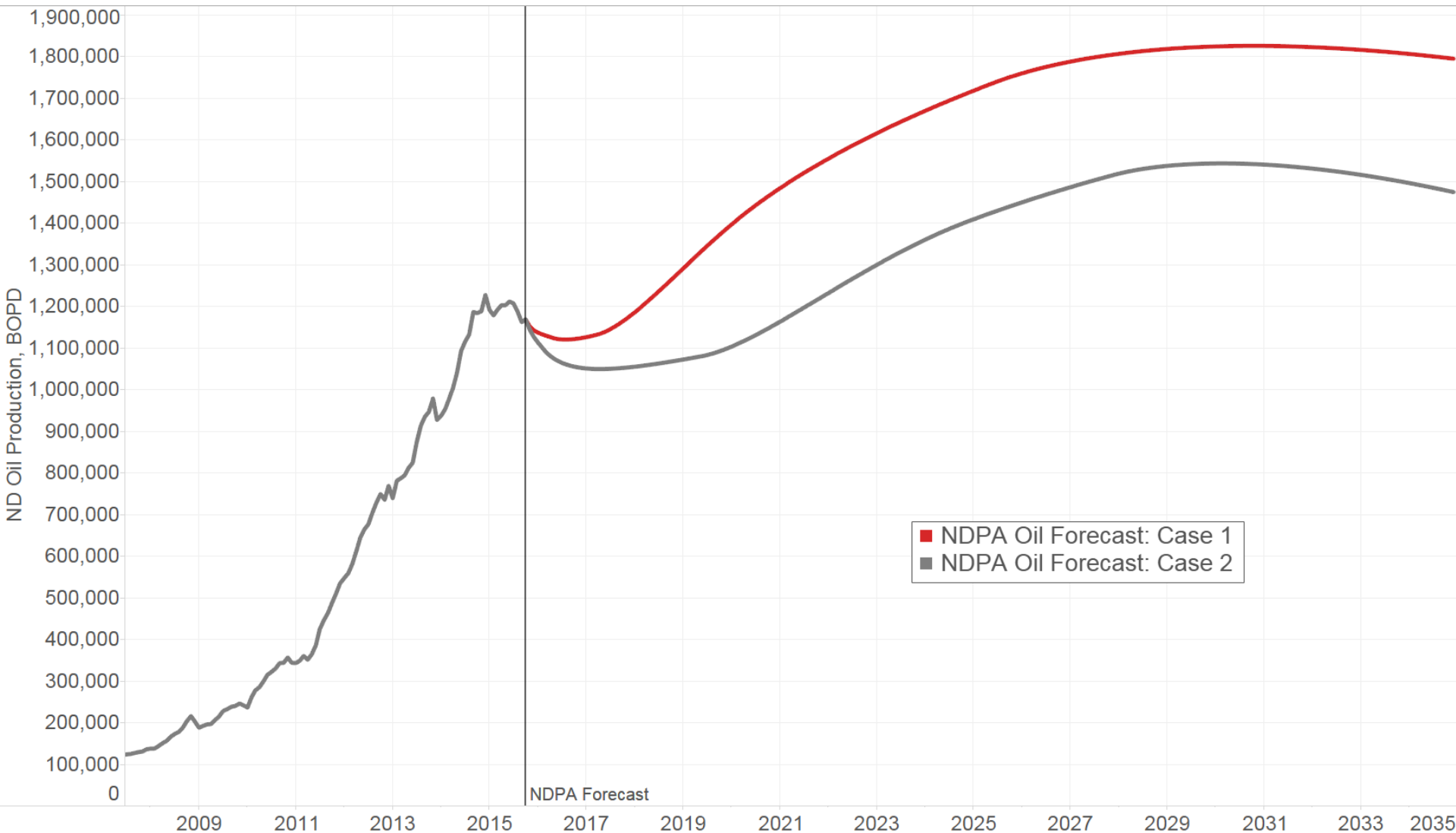


Understanding Current Production Dynamics

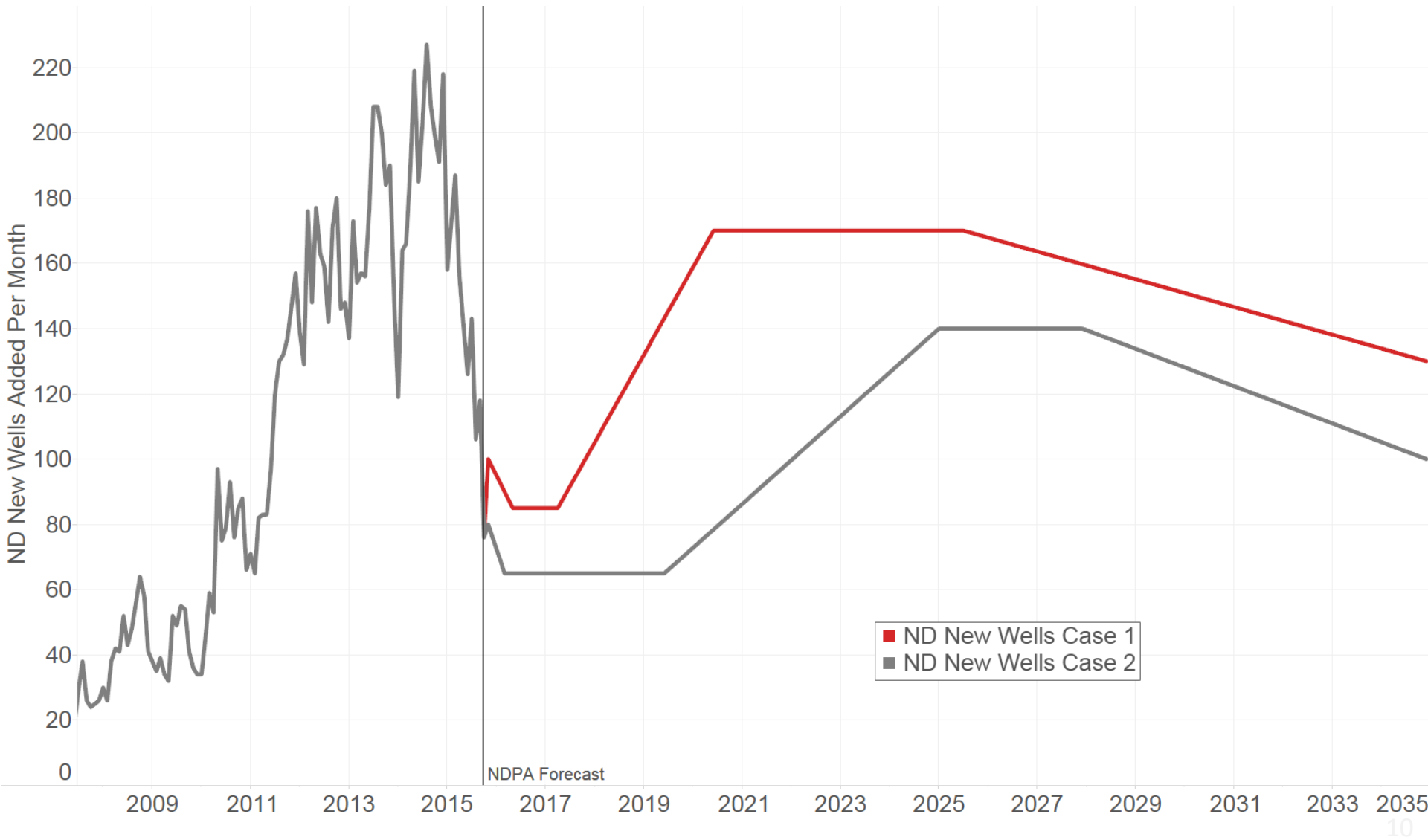
Non-Confidential Spud to Initial Production Timeline



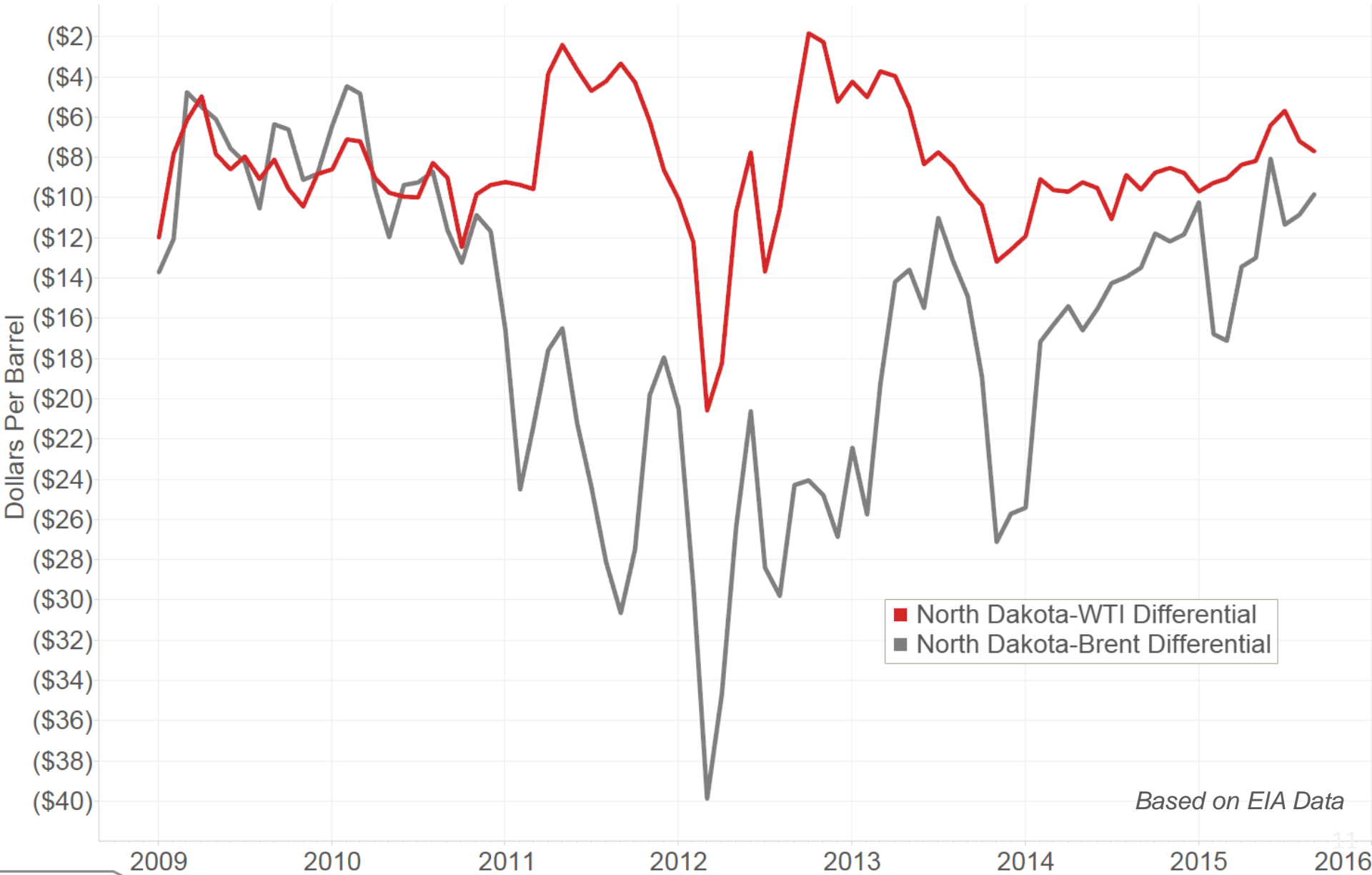
North Dakota Oil Production Forecast



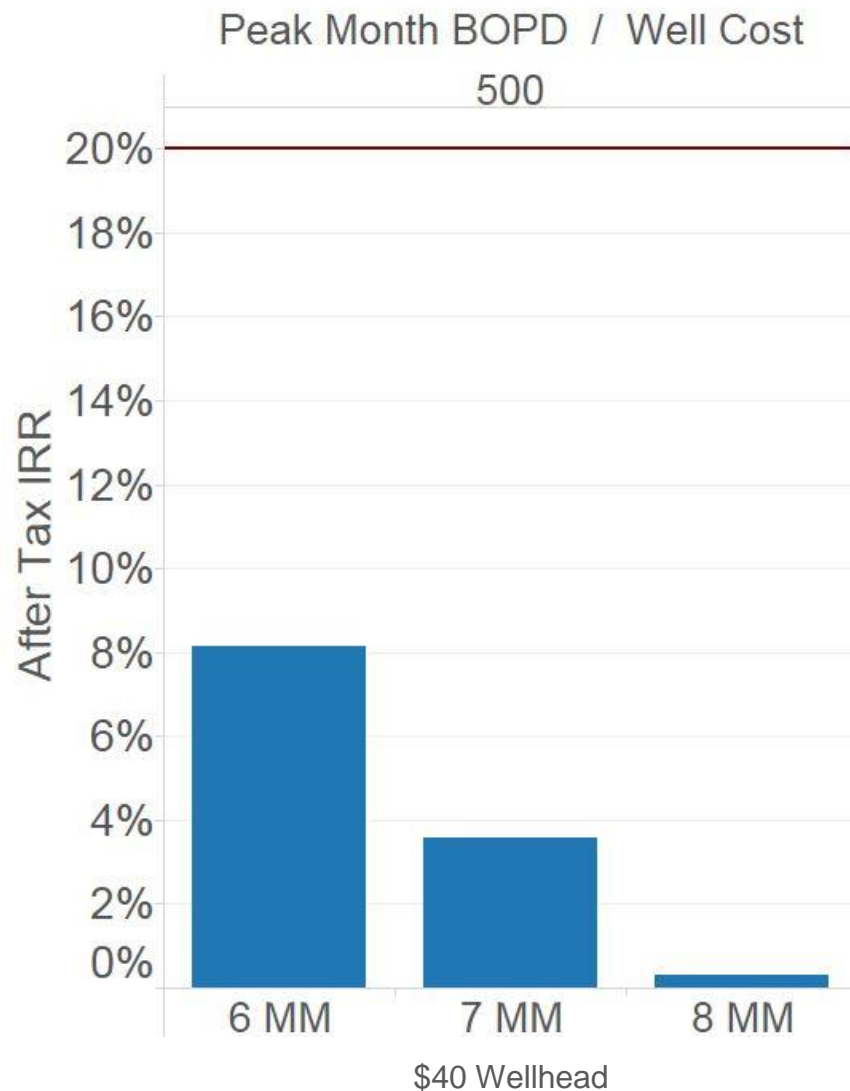
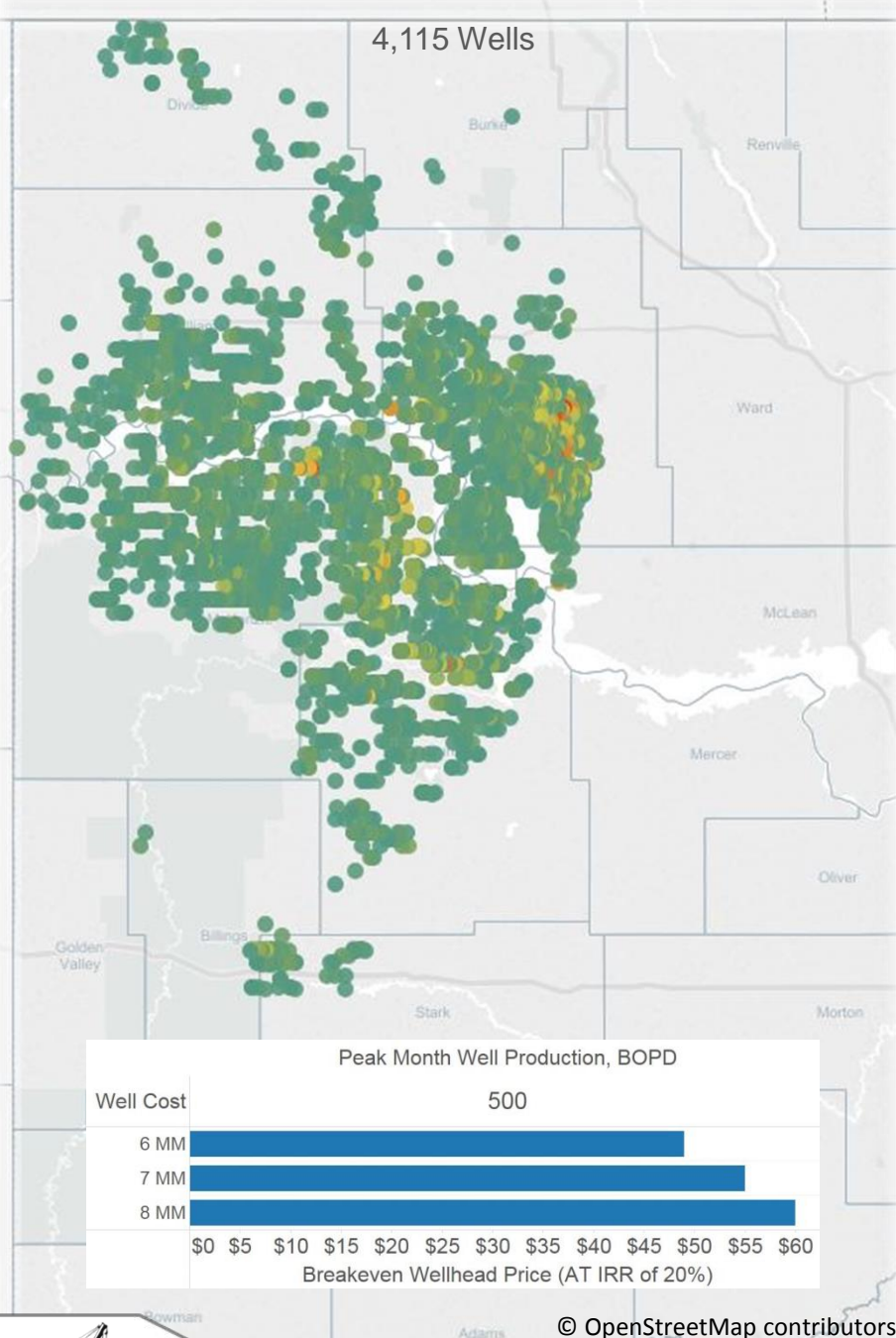
North Dakota Forecast Activity Assumptions



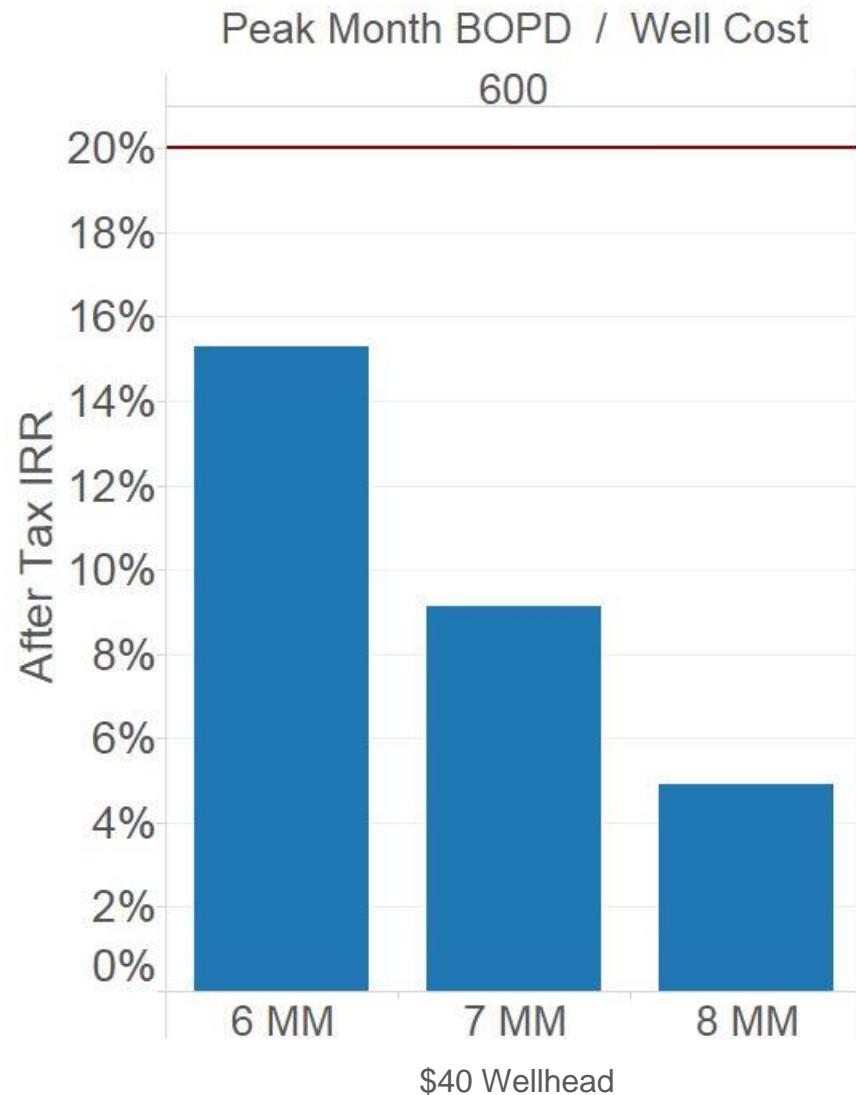
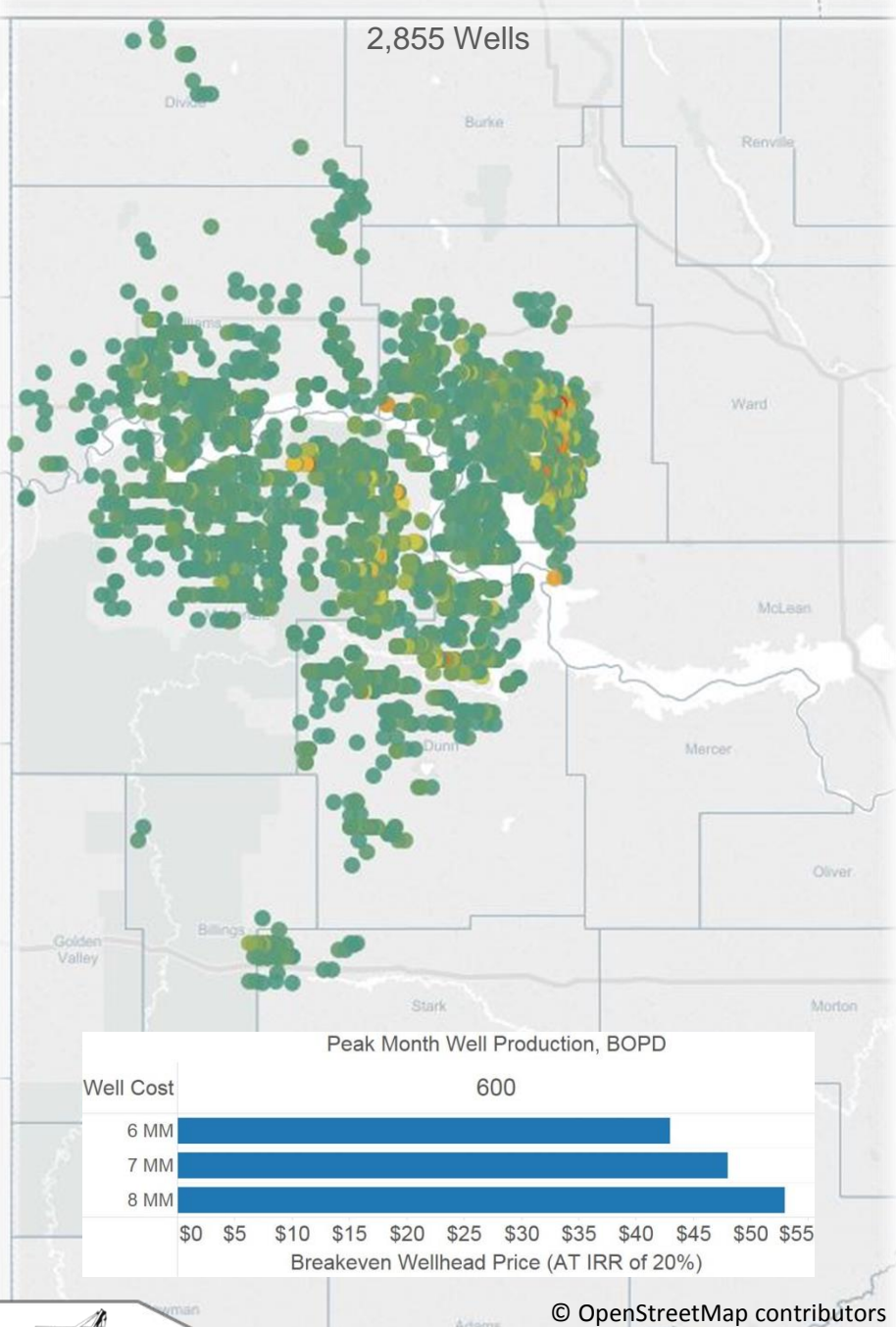
North Dakota Oil Differential



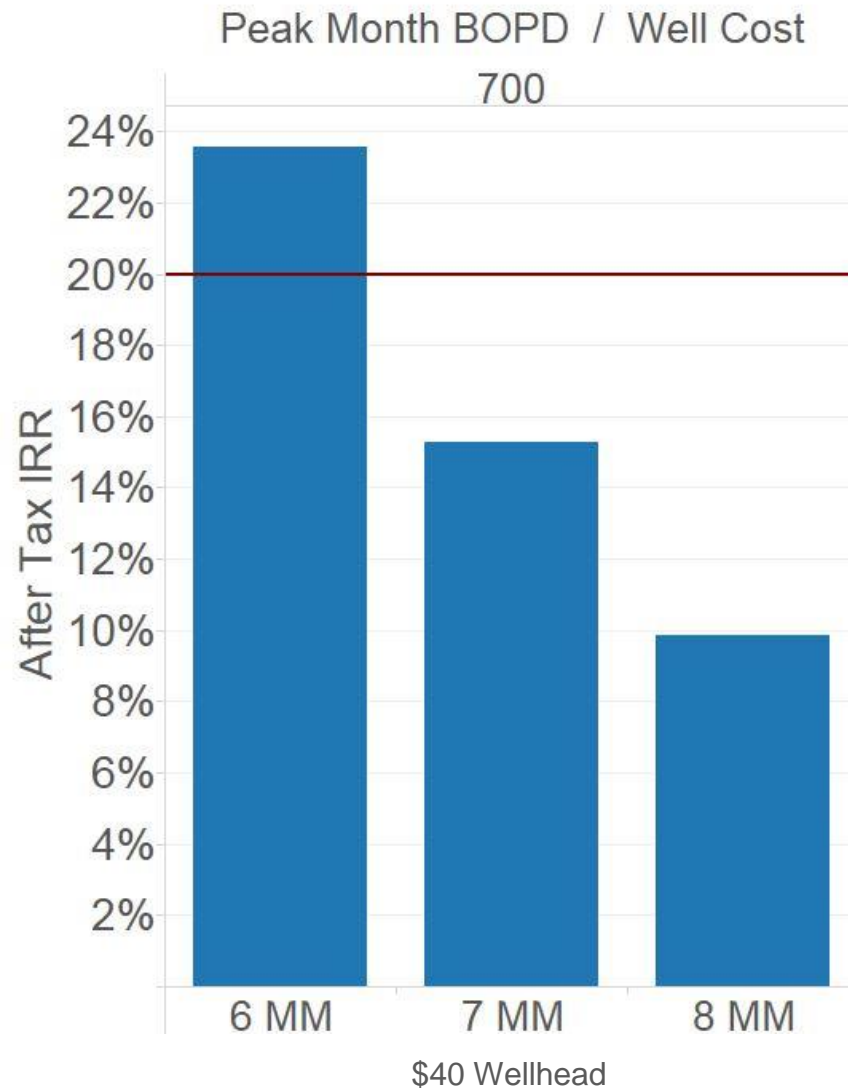
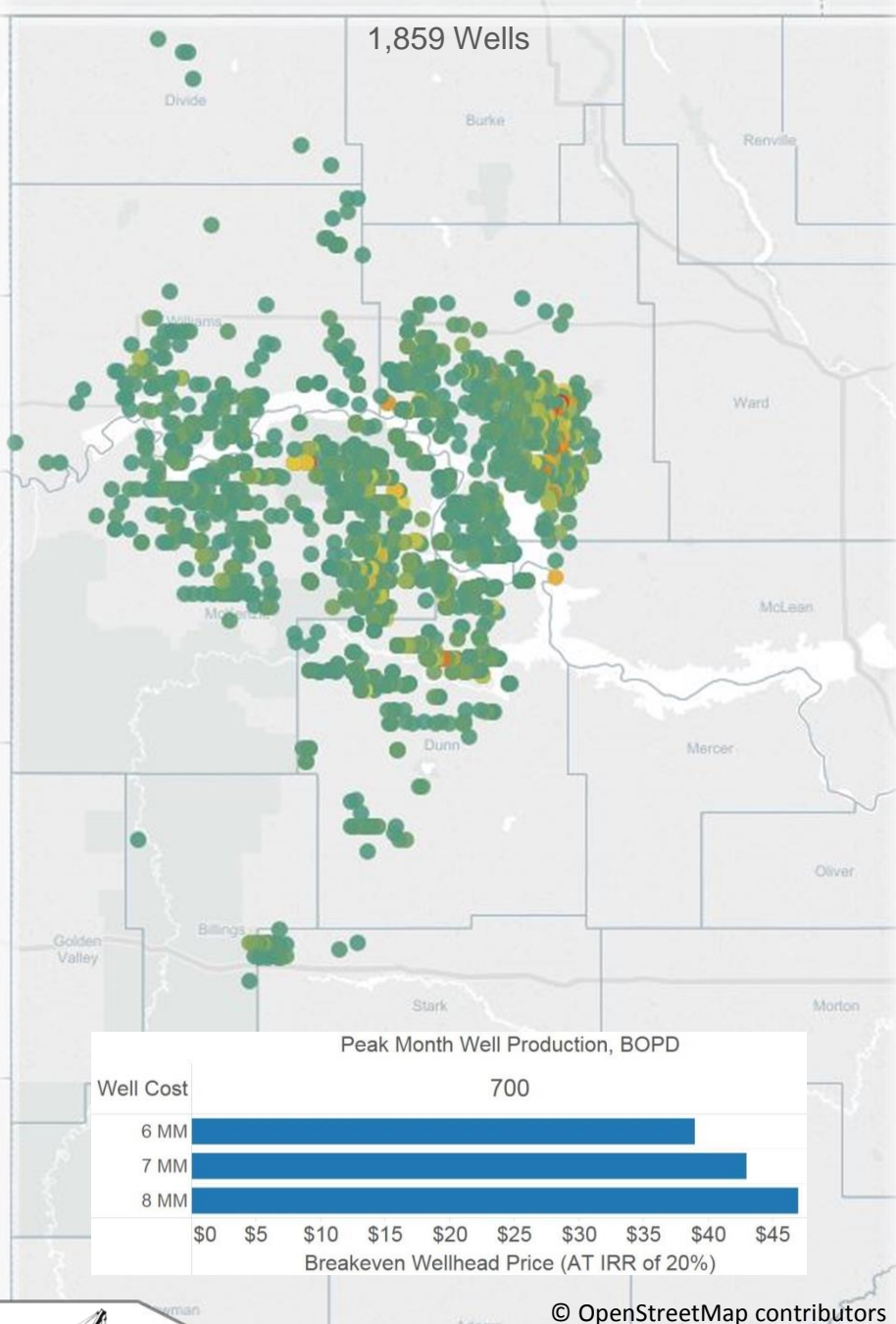
Peak Month Minimum 500 BOPD



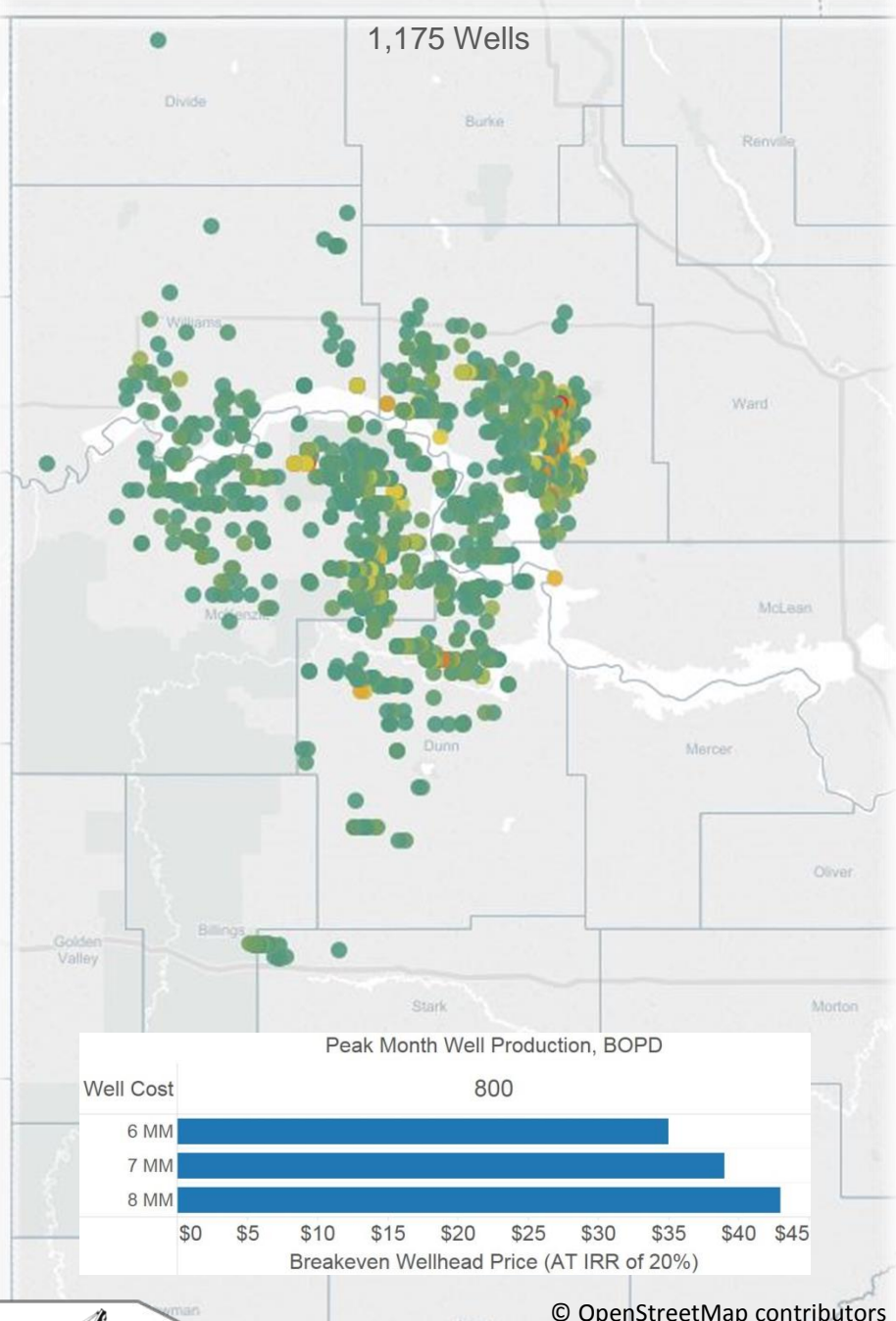
Peak Month Minimum 600 BOPD



Peak Month Minimum 700 BOPD

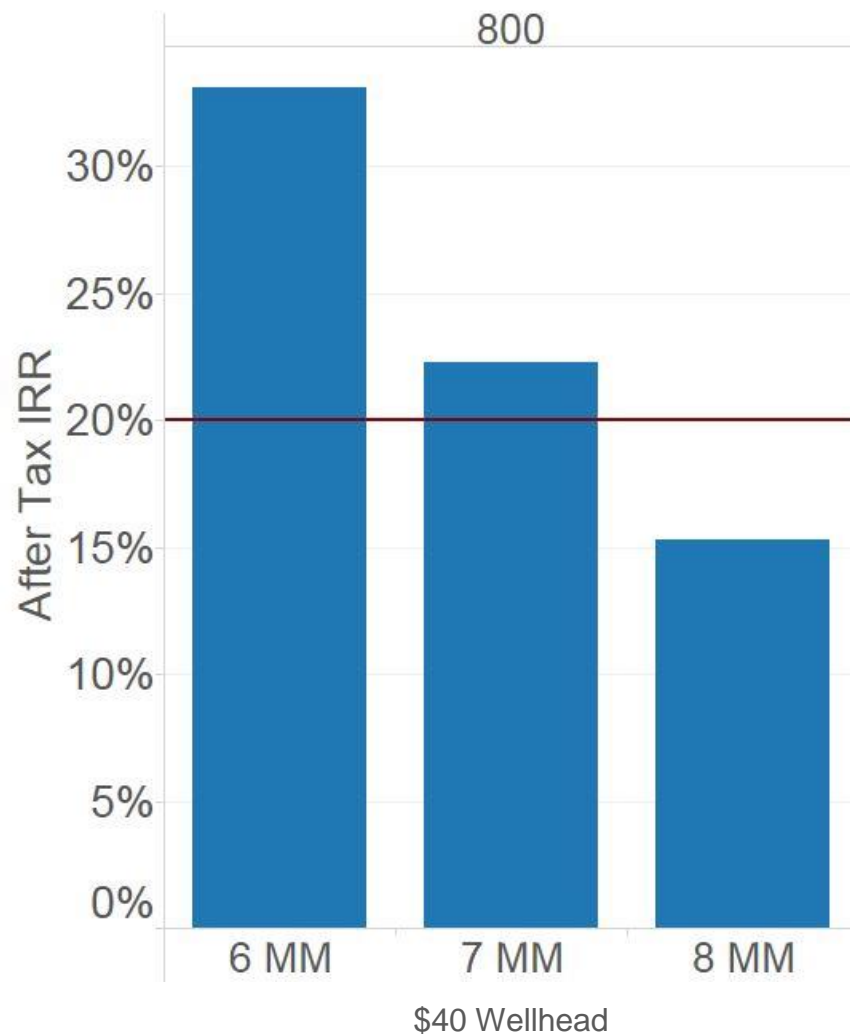


Peak Month Minimum 800 BOPD

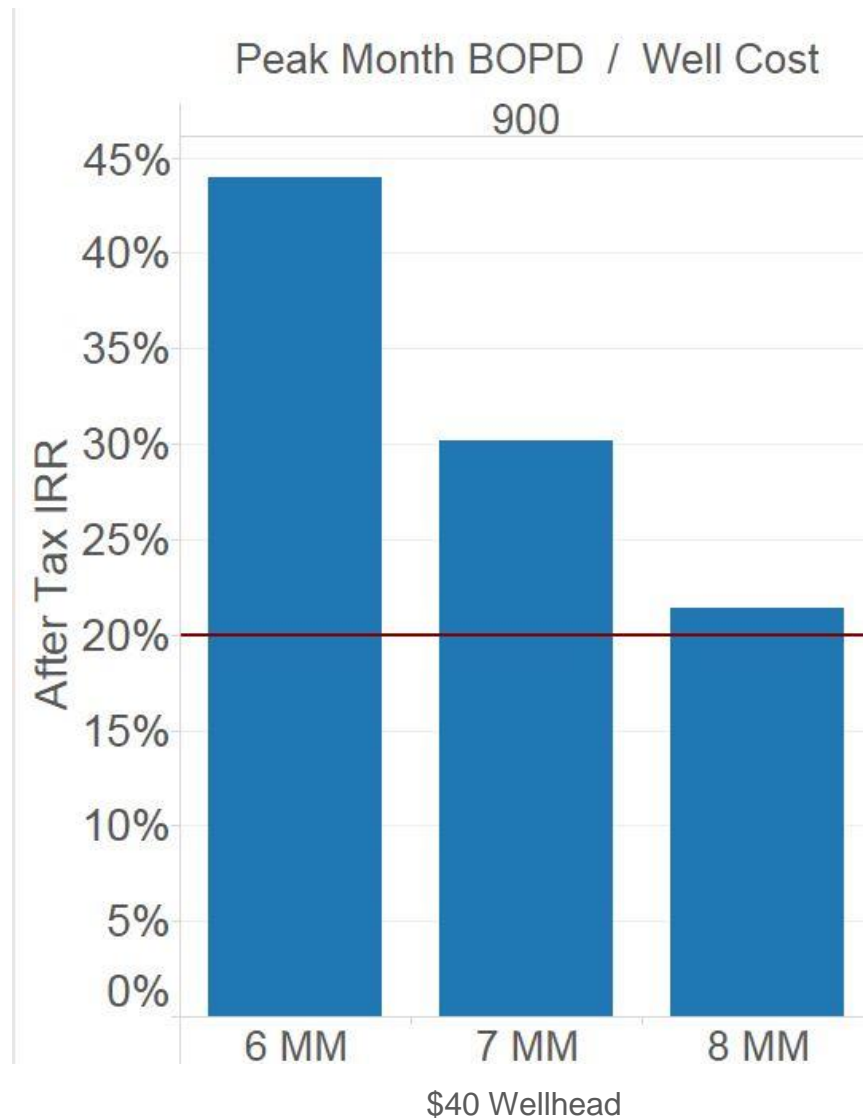
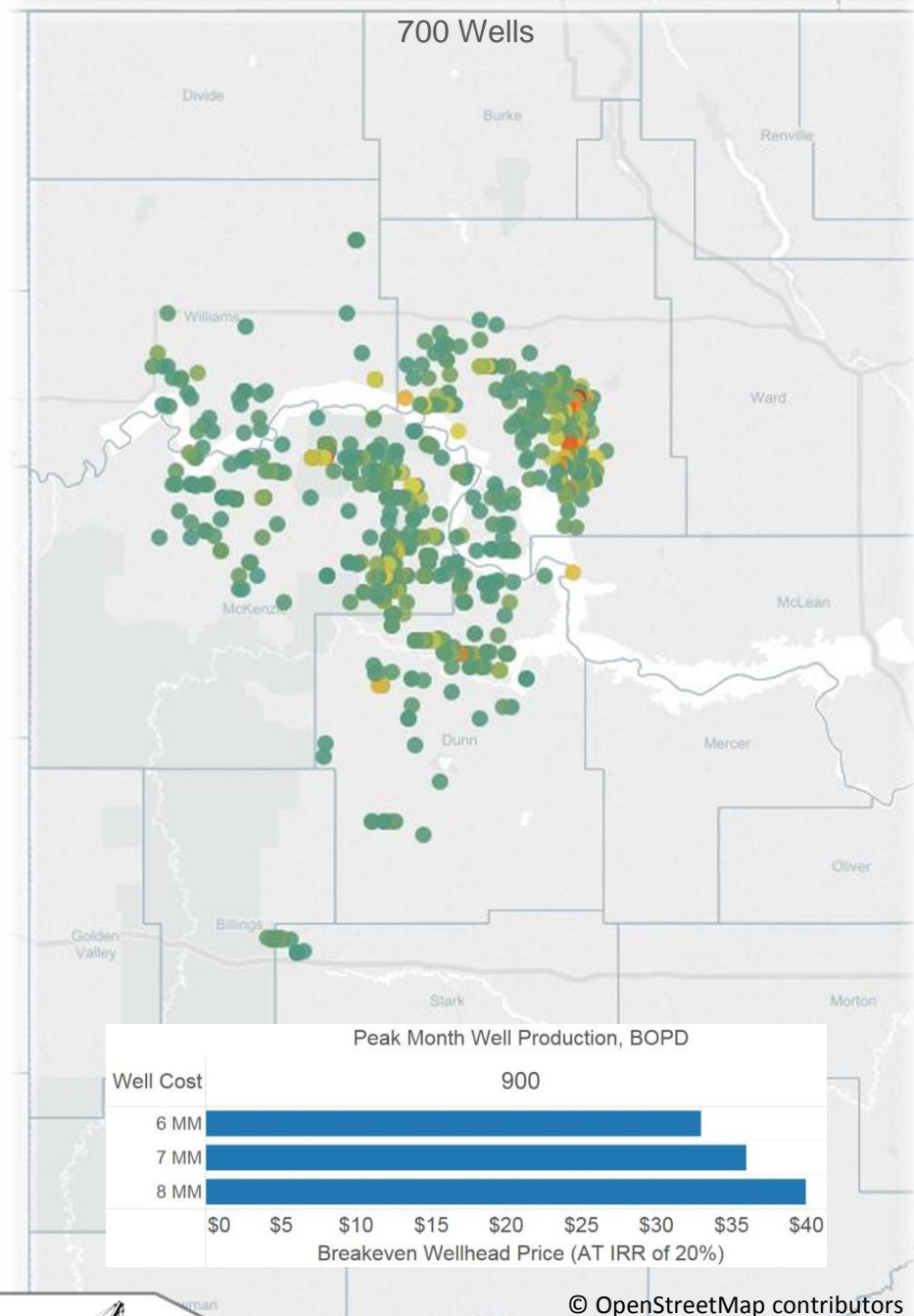


Peak Month BOPD / Well Cost

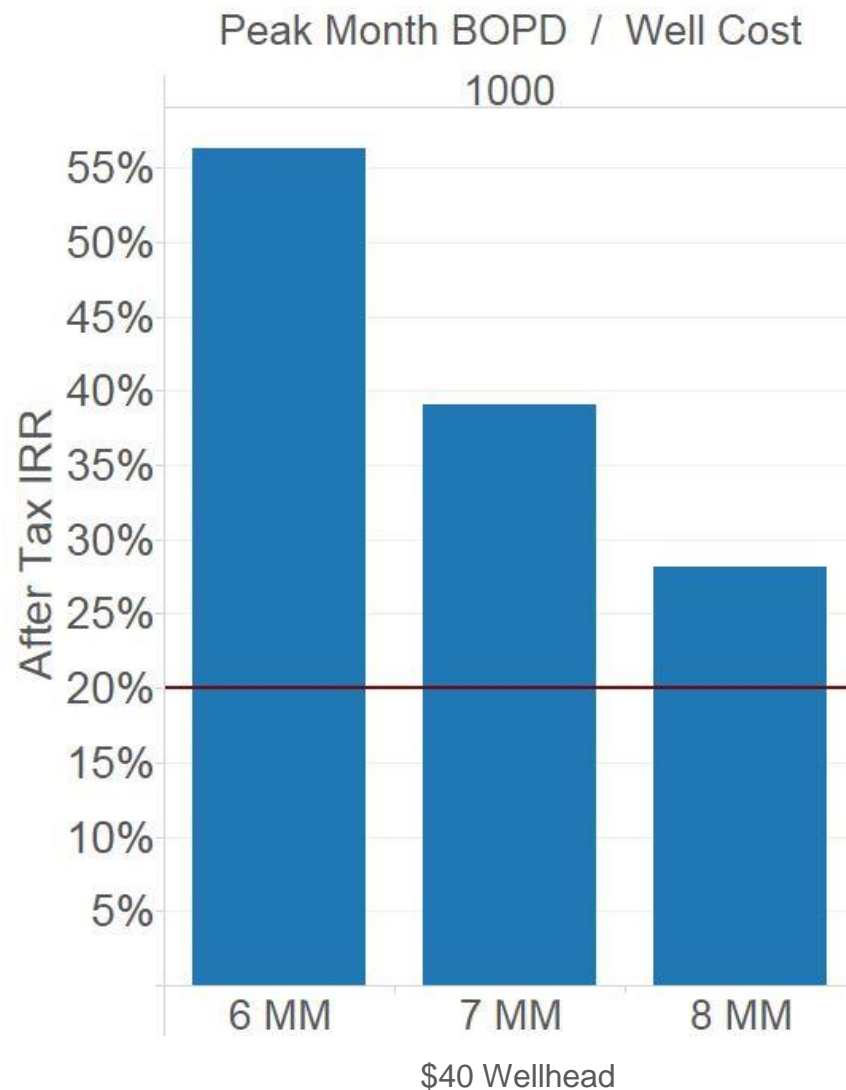
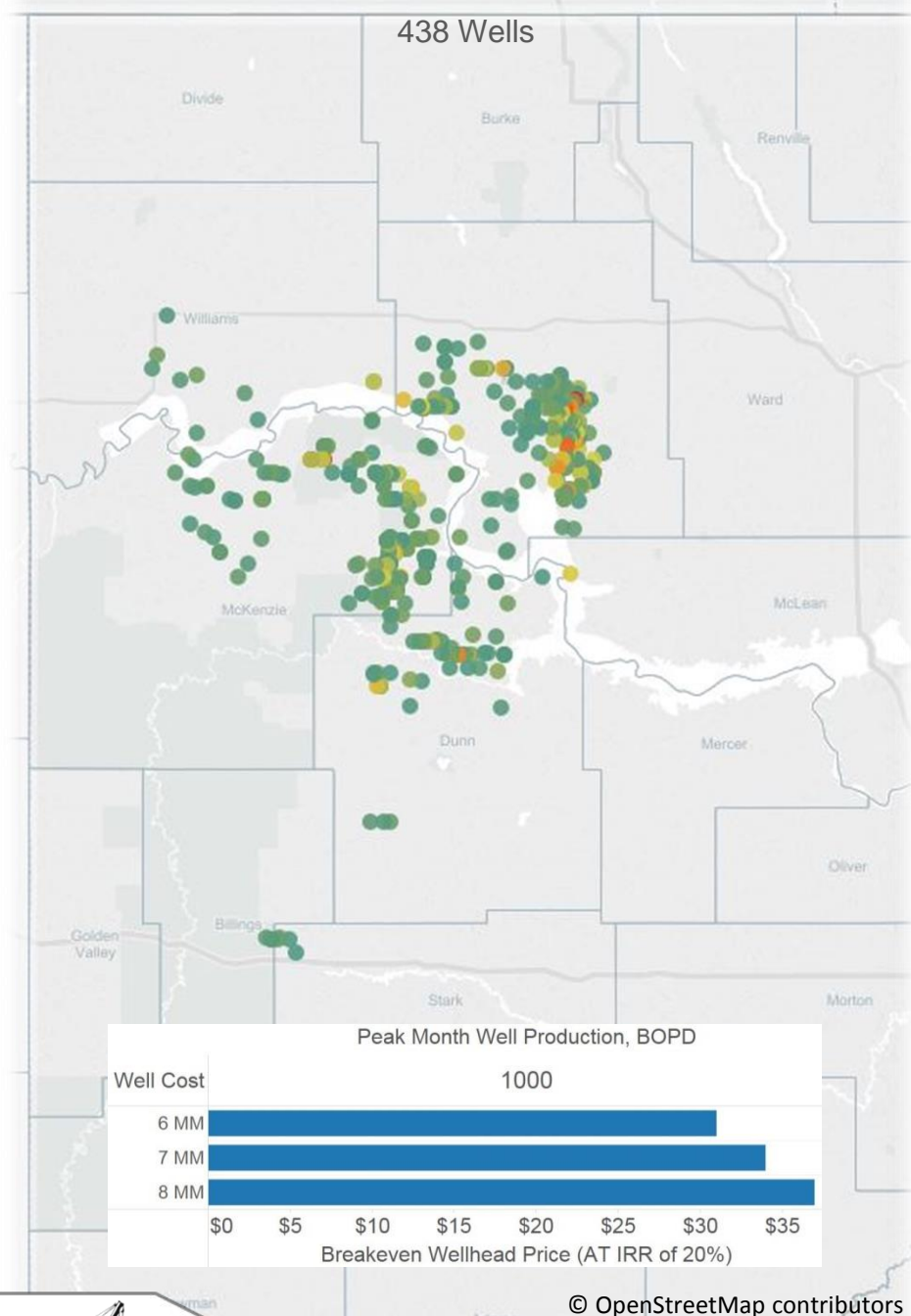
800



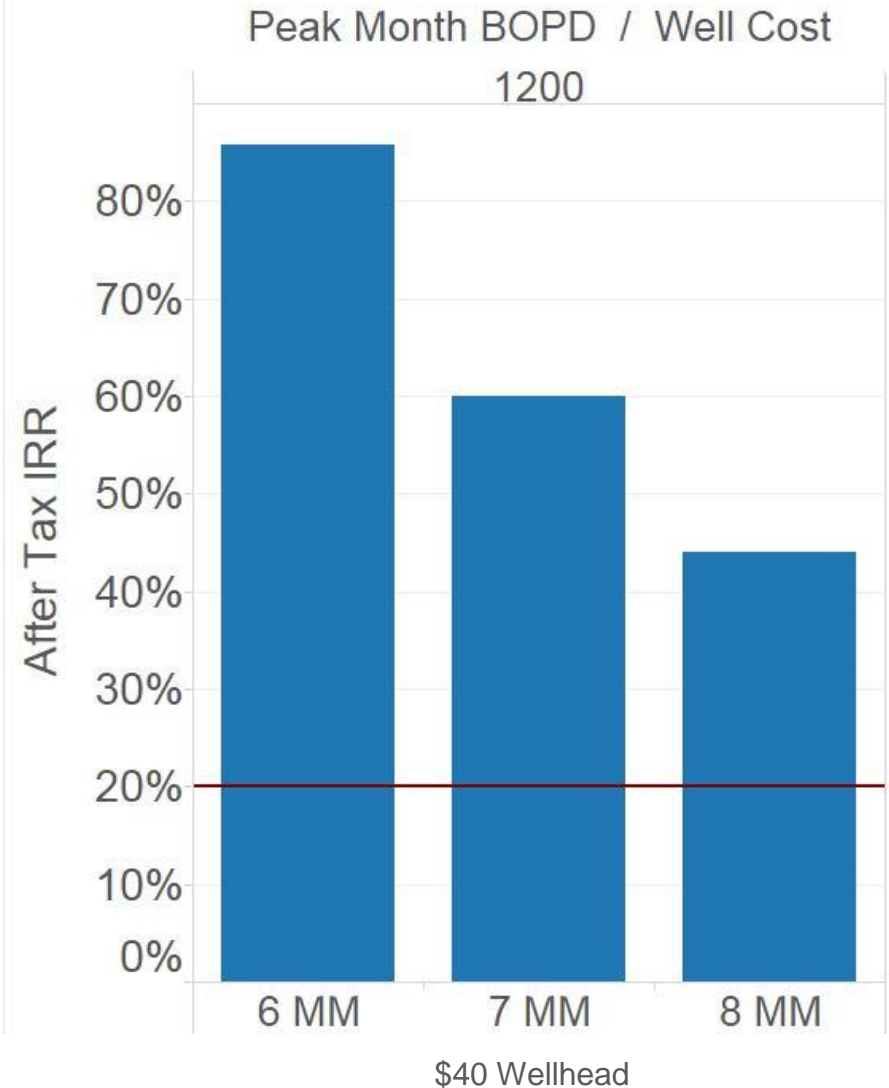
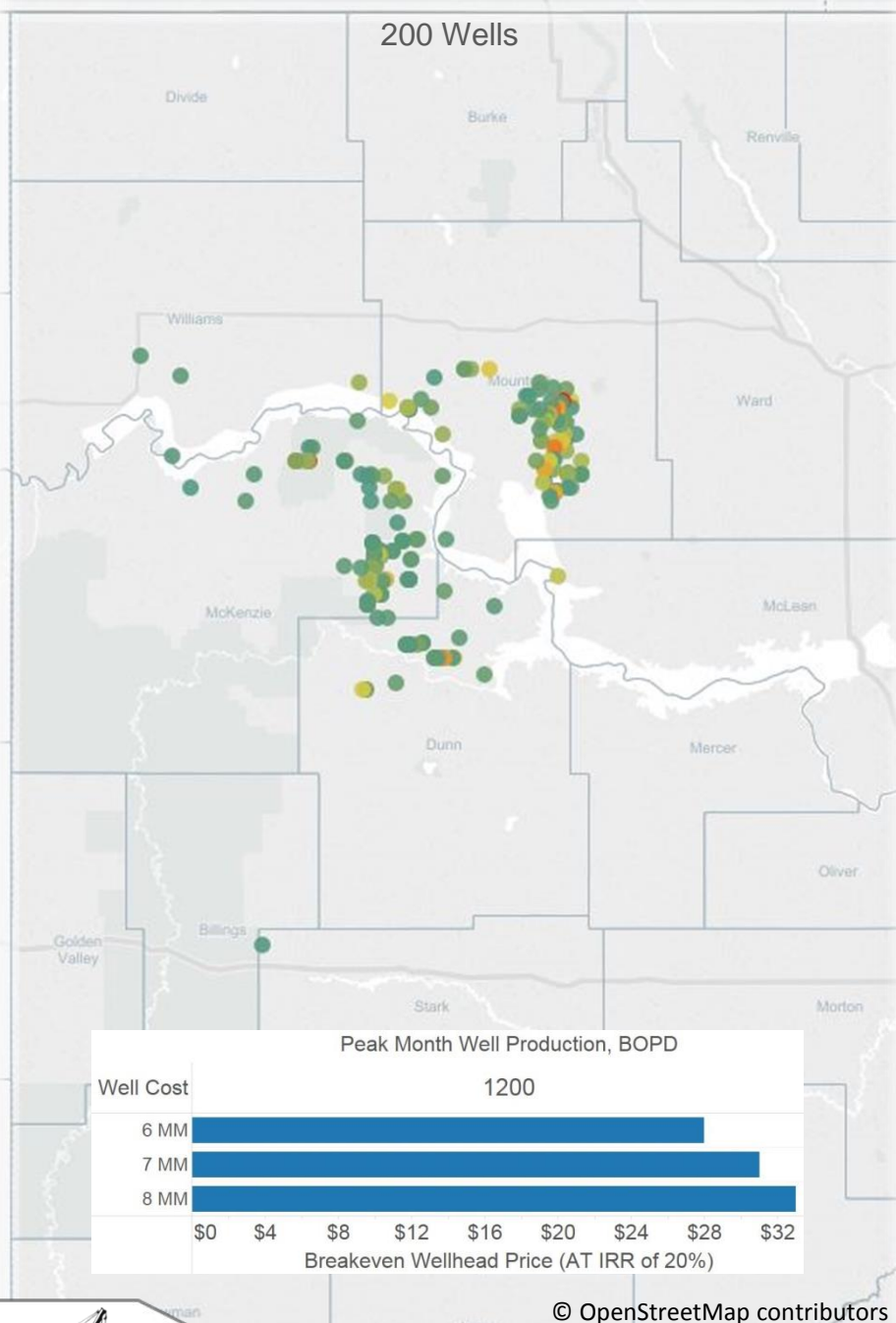
Peak Month Minimum 900 BOPD



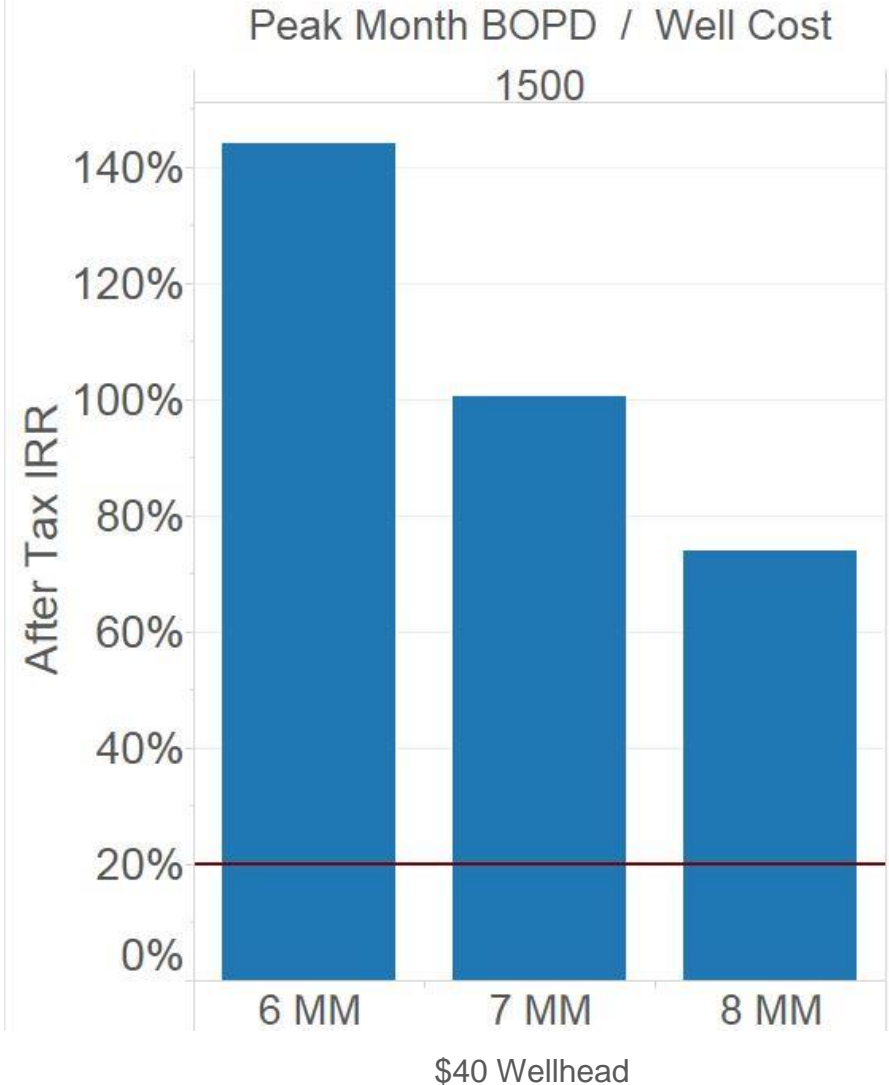
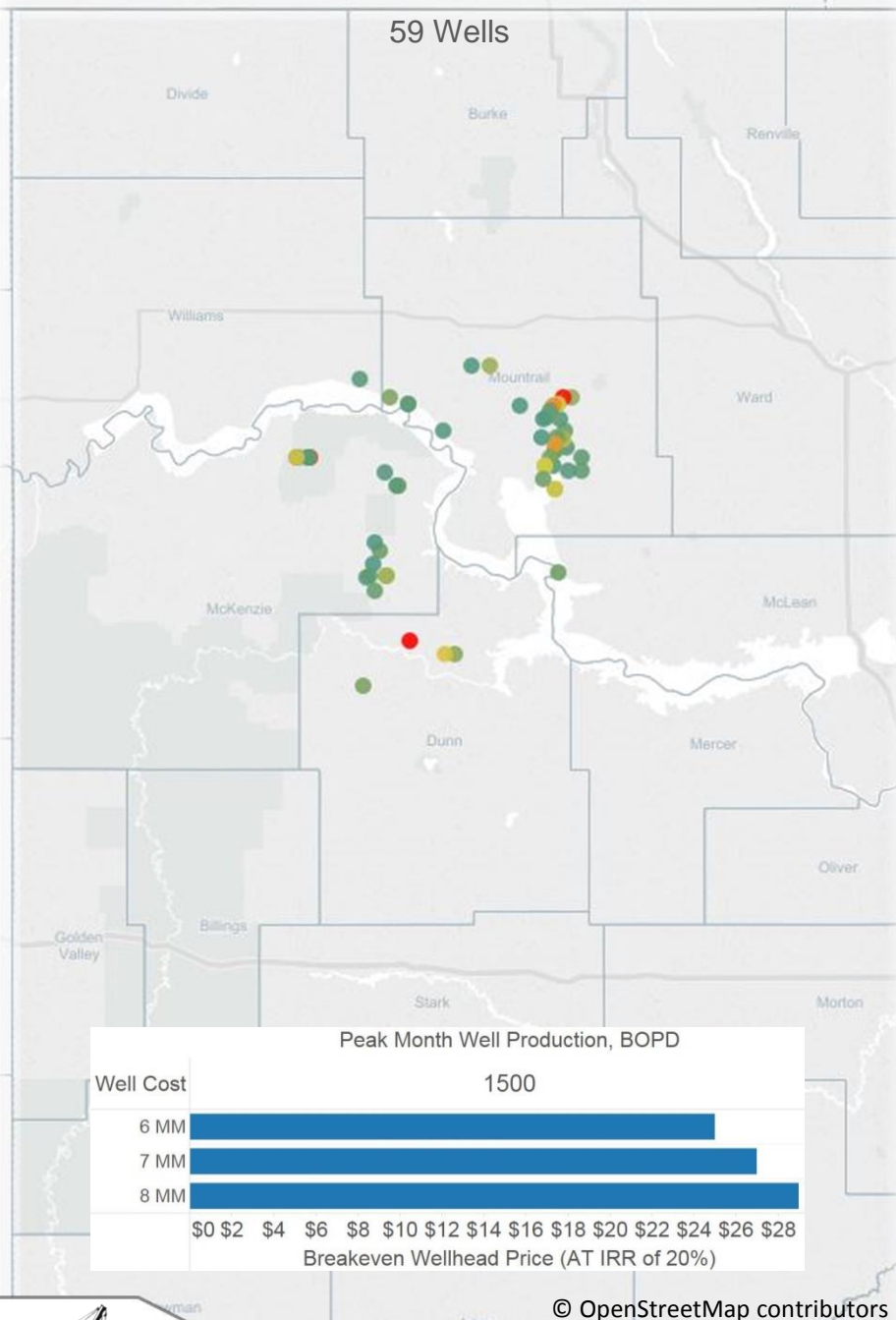
Peak Month Minimum 1,000 BOPD

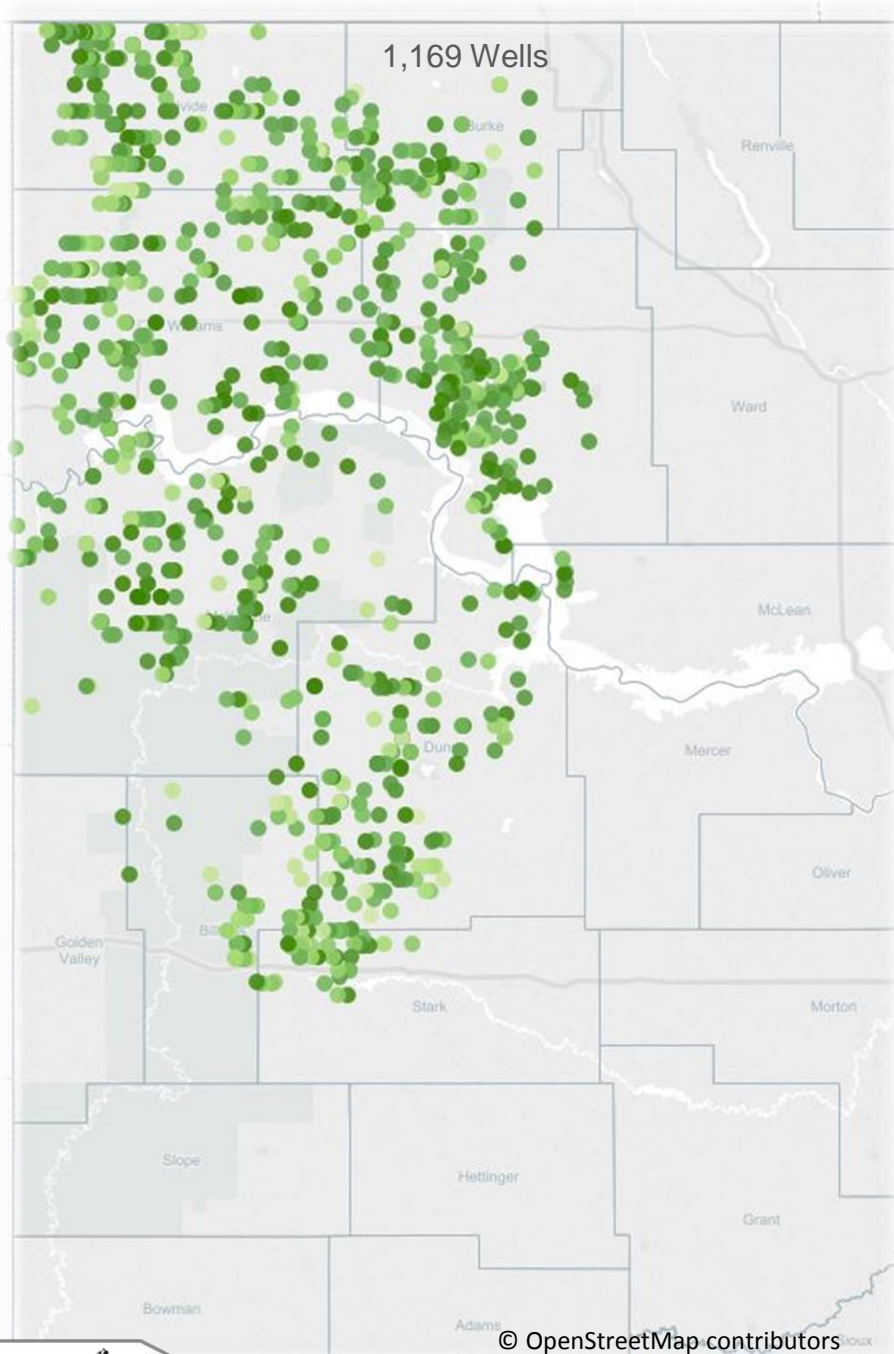


Peak Month Minimum 1,200 BOPD



Peak Month Minimum 1,500 BOPD





Peak Month: 100-300 BOPD*

*Low production wells also occur in areas deemed “Core” or “Hot Spot”.

Risk is still present in most areas.

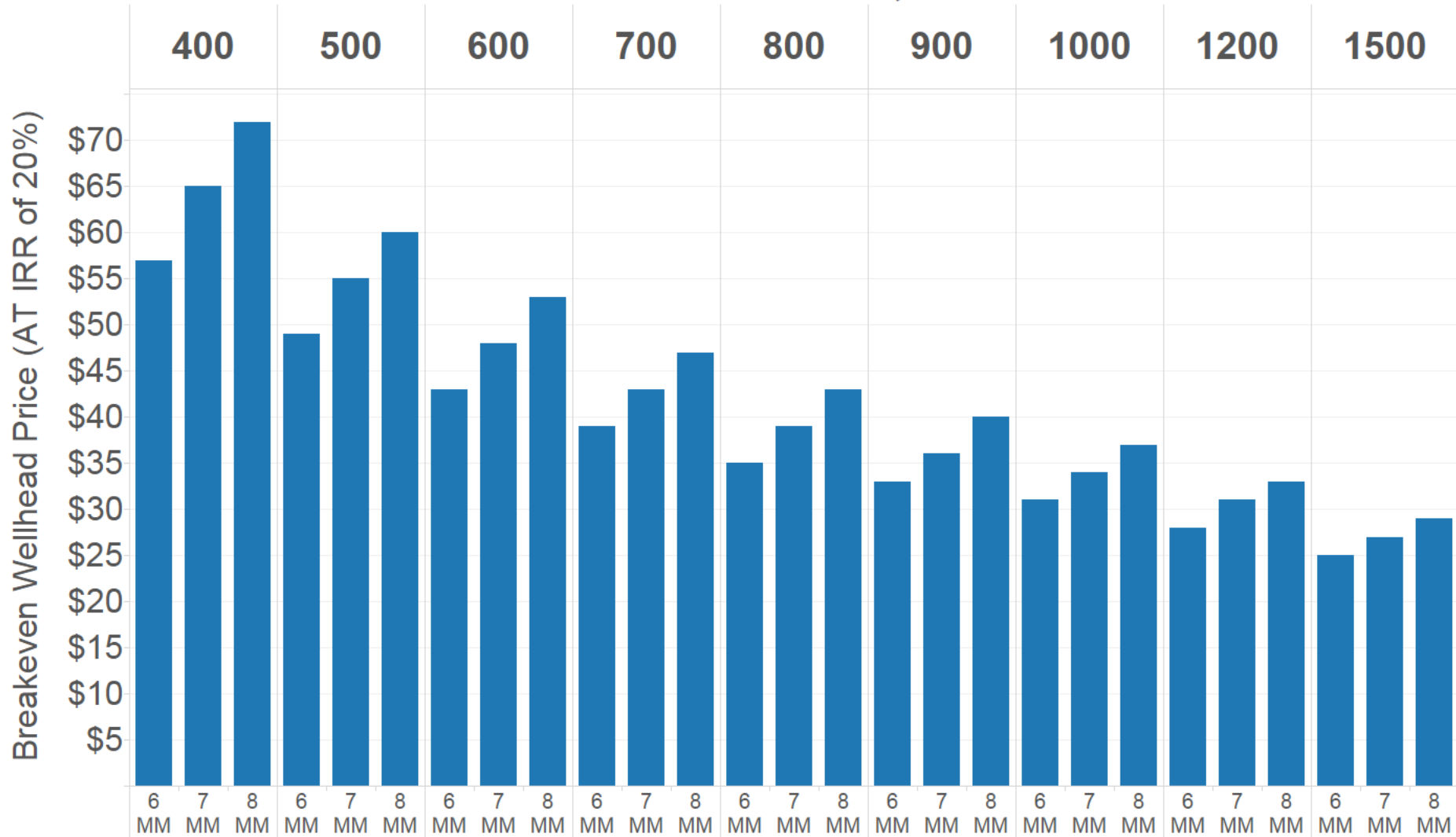
Mapped wells drilled
2012-2014

© OpenStreetMap contributors



Breakeven Summary

Peak Month Well Production, BOPD / Well Cost



Arguments

- Well economic assumptions too optimistic or conservative
 - Jump to lower or higher well performance footprints
- Some rigs are not drilling Bakken/Three Forks wells
 - No economics were run on wells in other formations

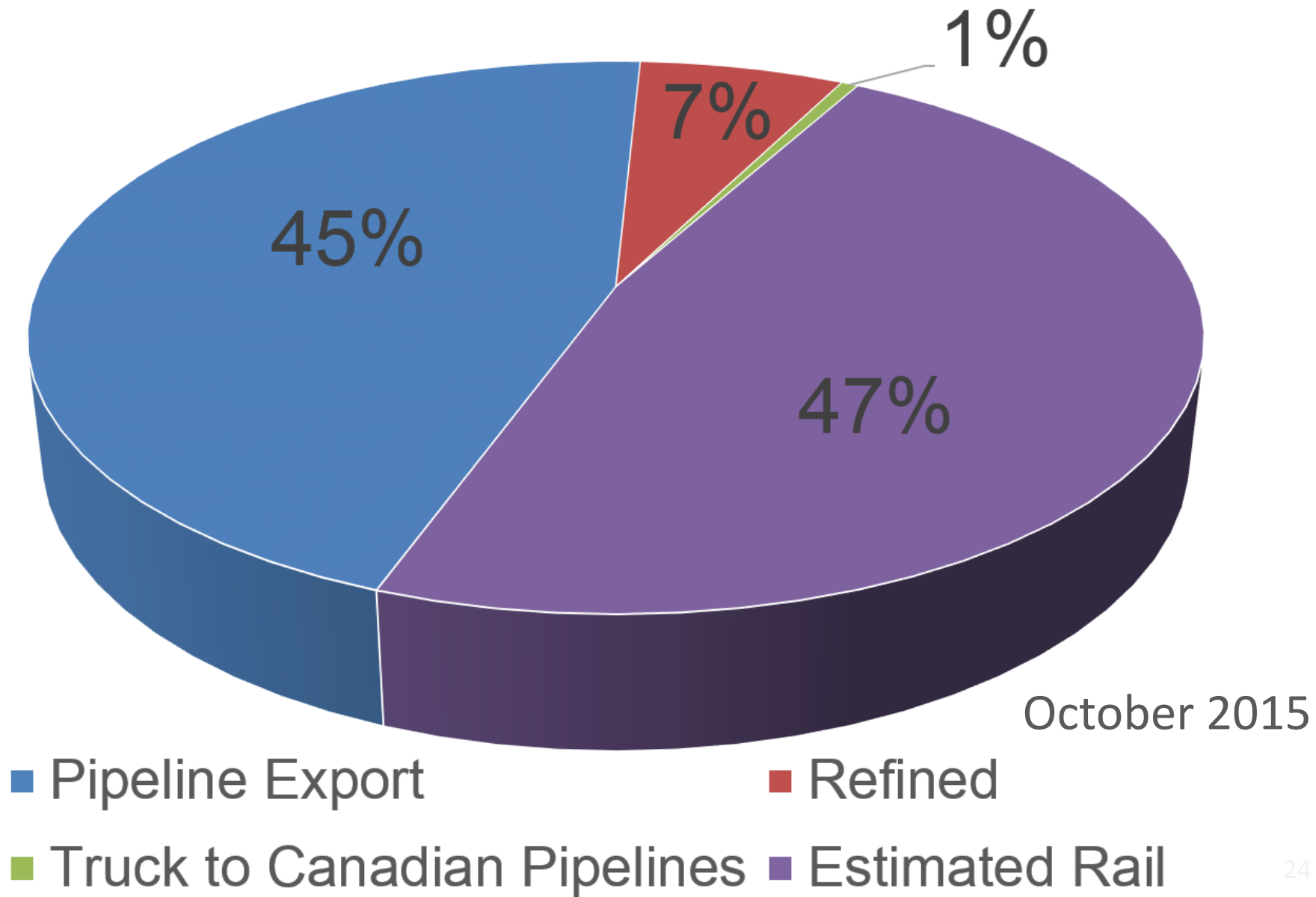


Presentation Outline

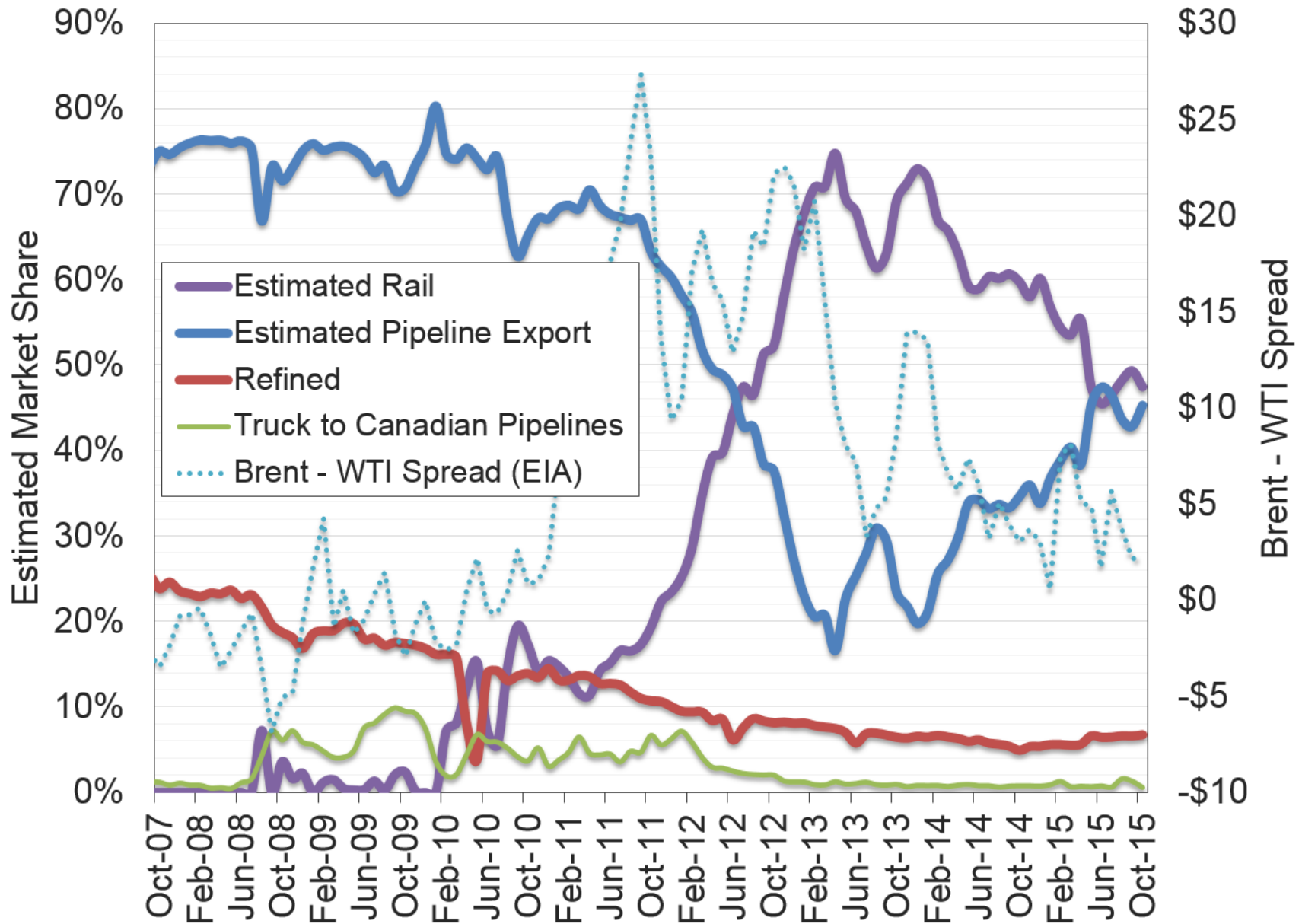
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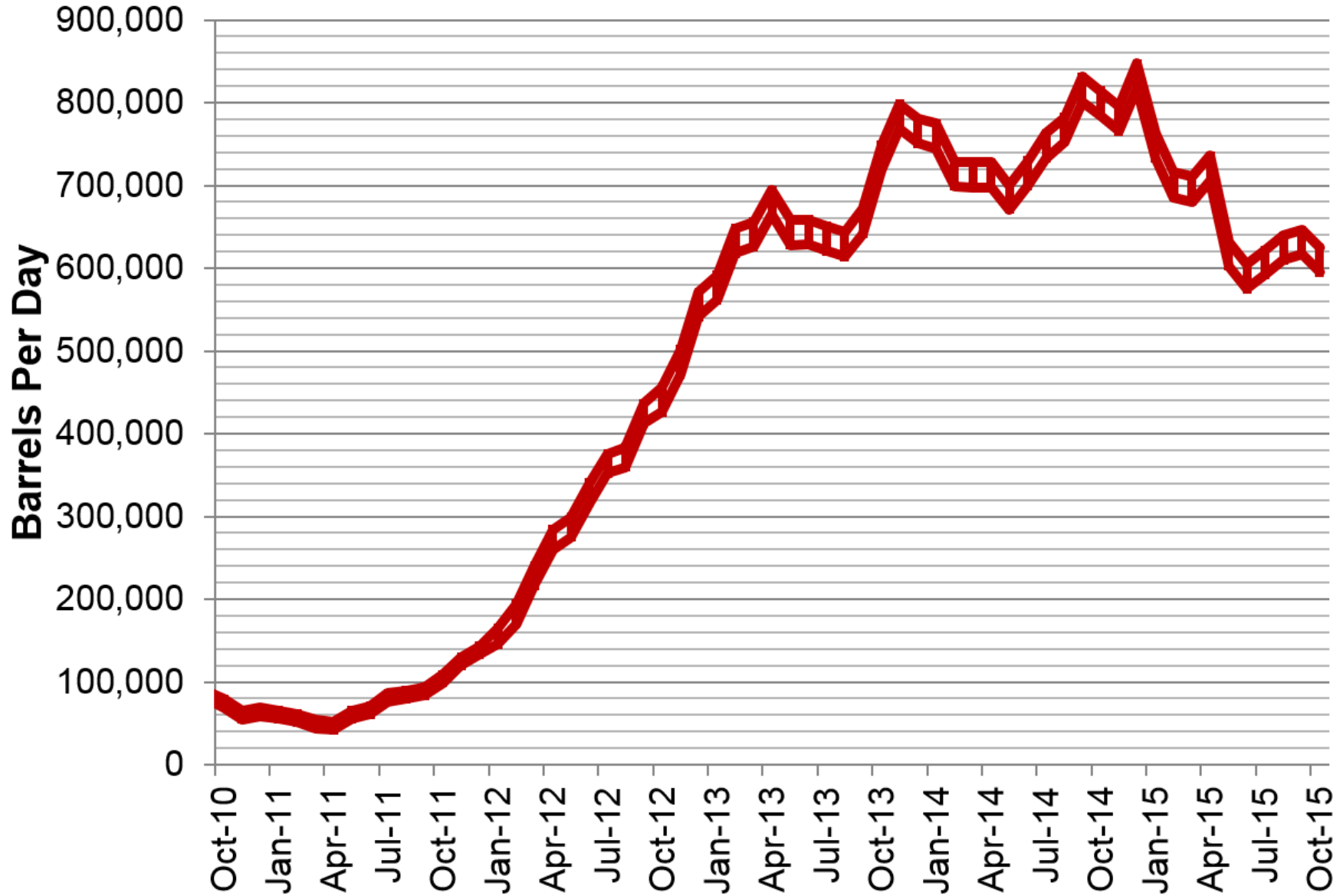
Estimated Williston Basin Oil Transportation



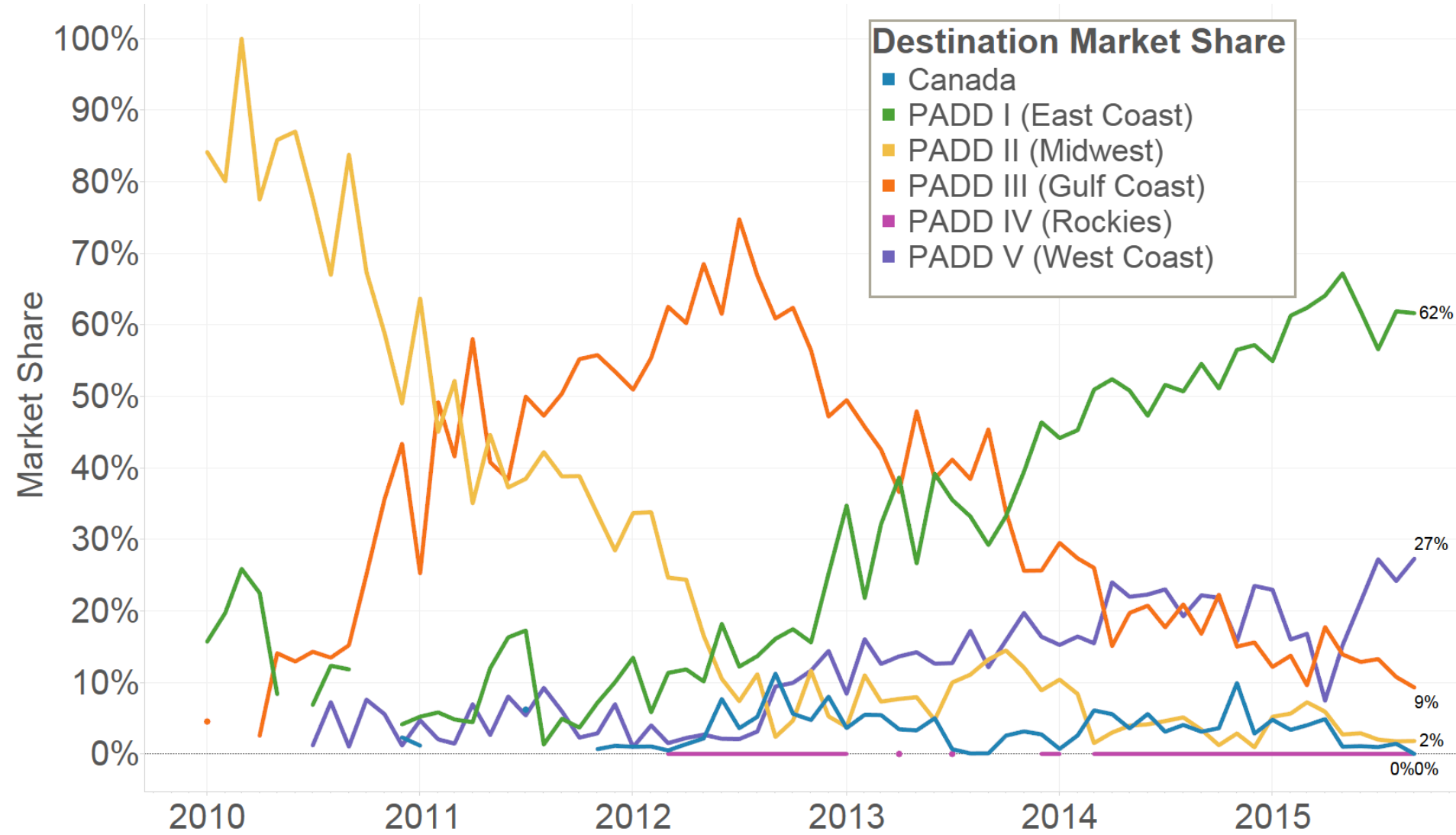
Estimated Williston Basin Oil Transportation



Estimated ND Rail Export Volumes



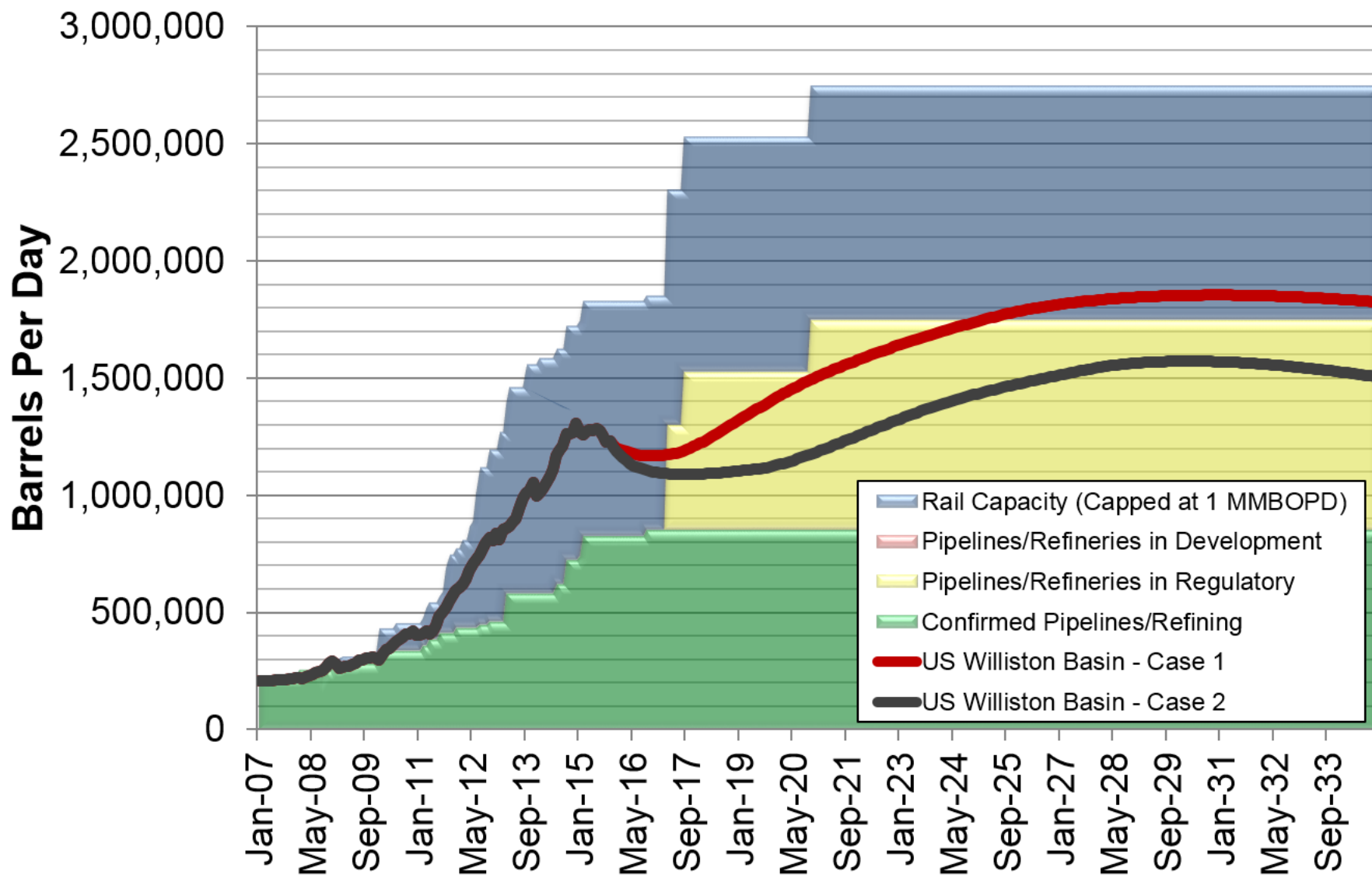
Rail Destinations Market Share (Sep 2015)



Data for Rail Destination Market Share Provided by the US Energy Information Administration



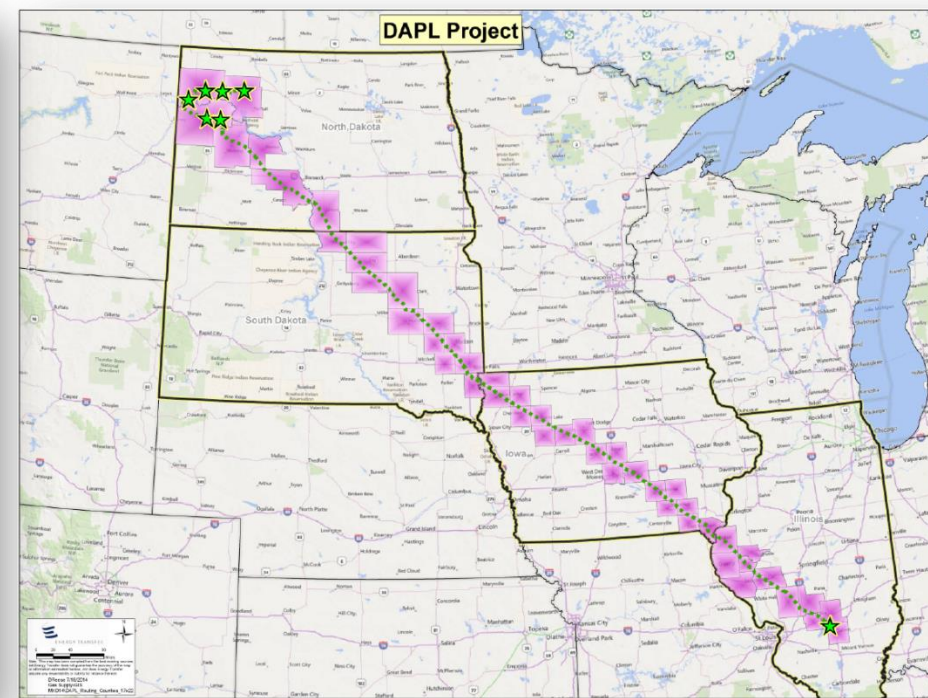
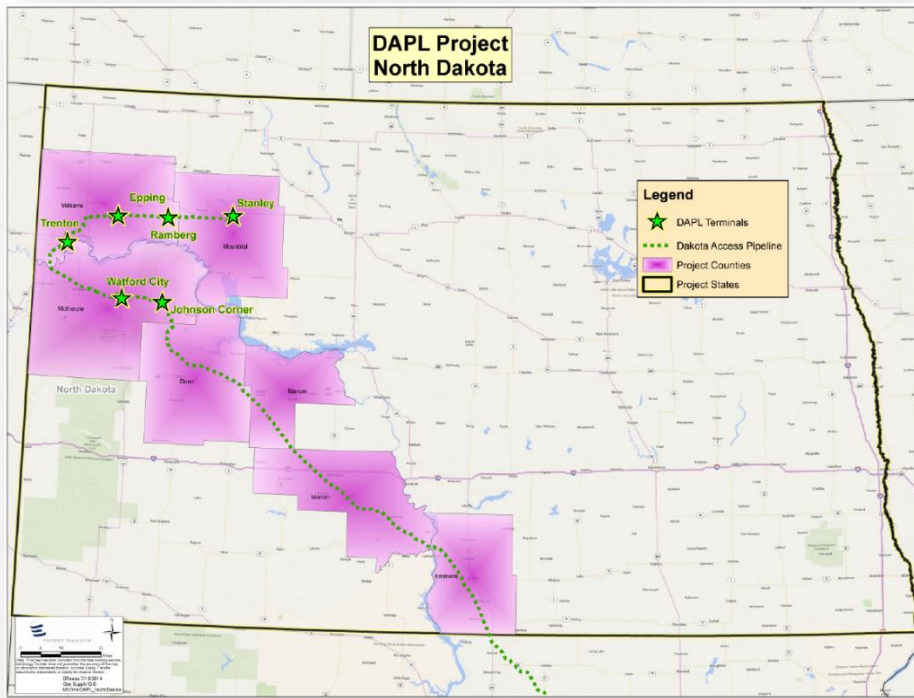
Williston Basin Oil Production & Export Capacity, BOPD



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



Energy Transfer Partners: Dakota Access

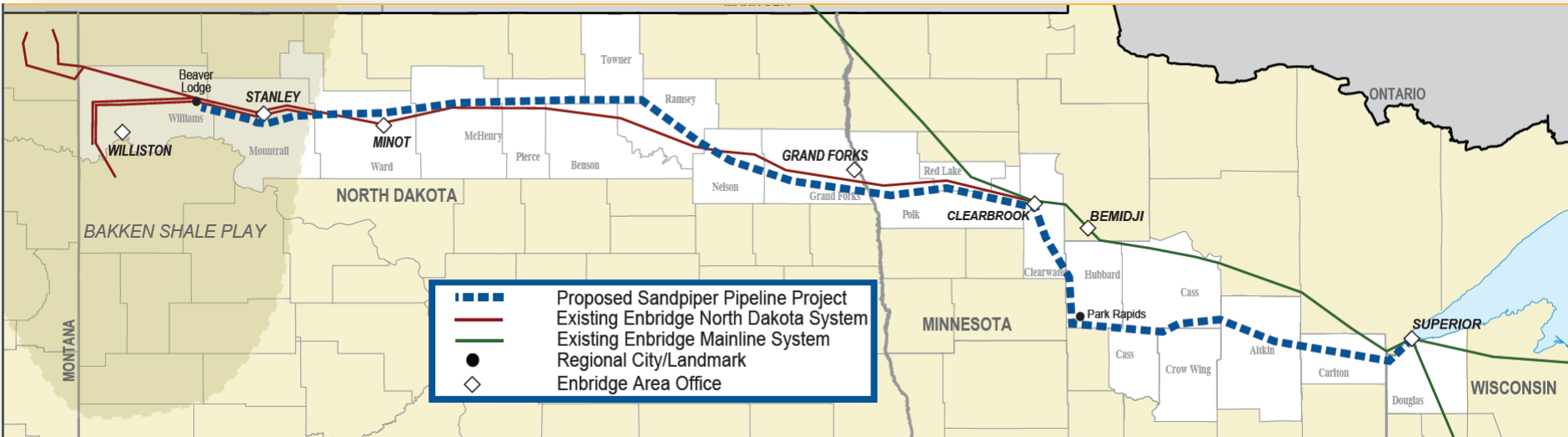


- Successful Open Season During the First Half of 2014
- 450,000 BOPD Capacity to Patoka, IL (30")
- Expandable Up To 570,000 BOPD if Shipper Demand Exists
- Target In-service Date: Late 2016

Map Source: Energy Transfer Partners



Sandpiper Pipeline



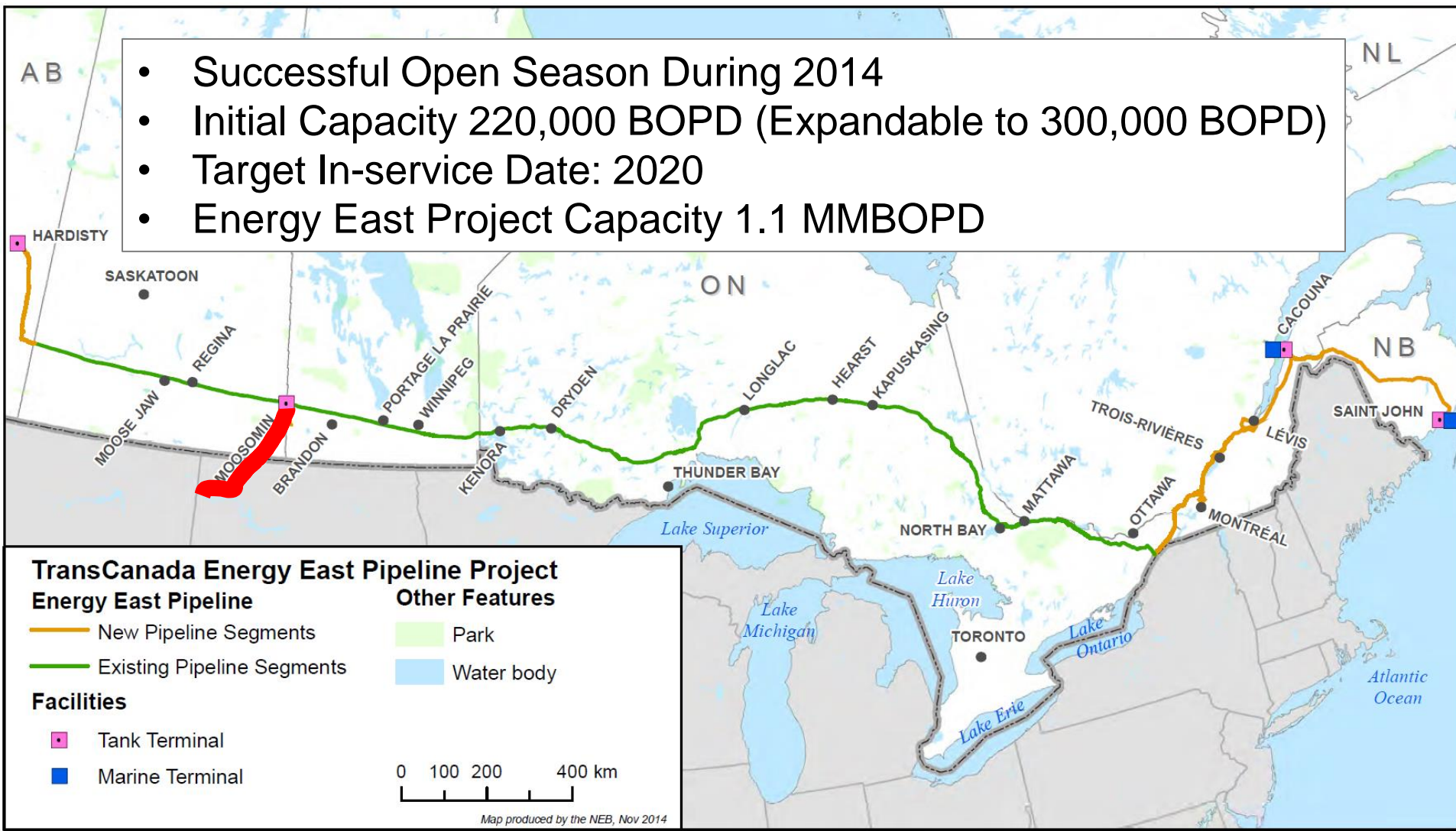
North Dakota Pipeline Company LLC - formerly known as Enbridge Pipelines (North Dakota) LLC

- Open Season Dates: November 26, 2013 – January 24, 2014
- 225,000 BOPD ND Capacity to Clearbrook, MN (24")
- 375,000 BOPD Clearbrook, MN to Superior, WI (30")
- Target In-service Date: 2017



TransCanada: Upland Pipeline

- Successful Open Season During 2014
- Initial Capacity 220,000 BOPD (Expandable to 300,000 BOPD)
- Target In-service Date: 2020
- Energy East Project Capacity 1.1 MMBOPD



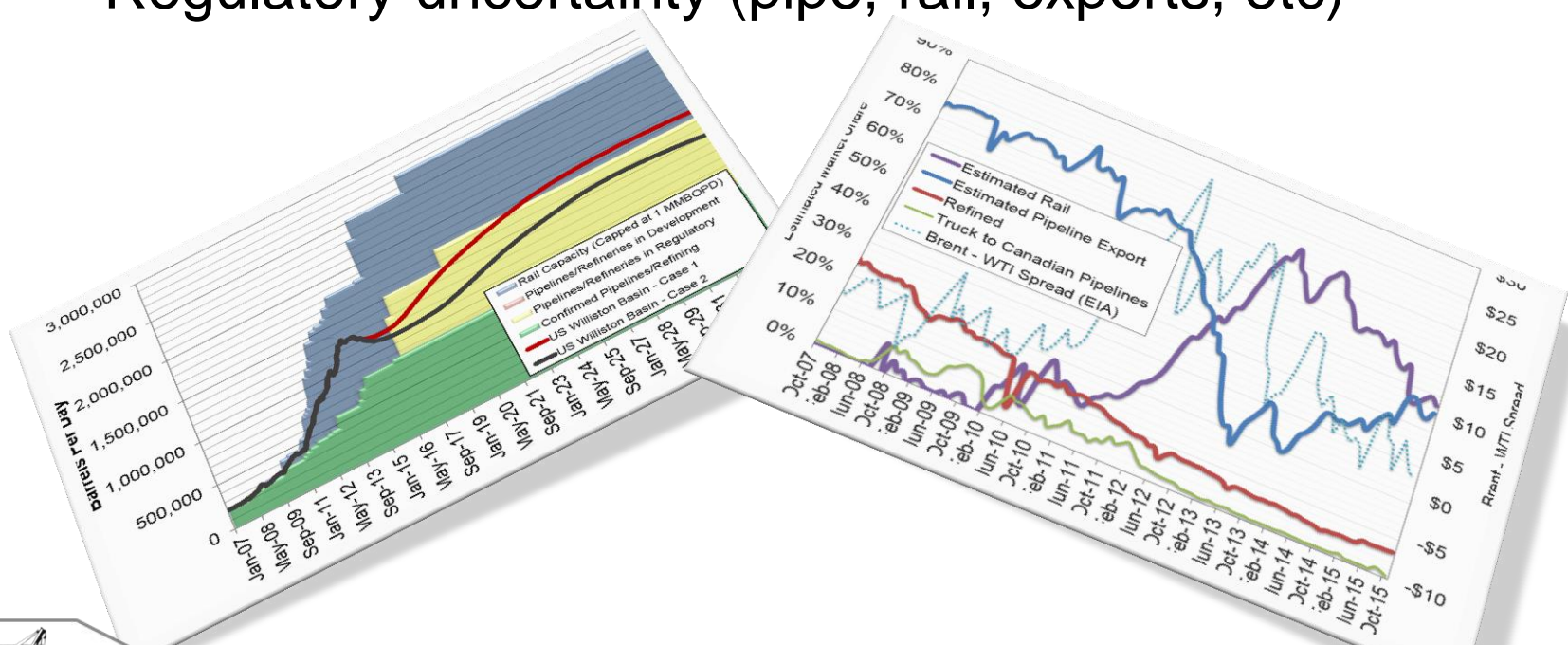
Map: NEB – NDPA Upland Addition



Forecasting Future Market Share is Difficult

Predicting how future oil production will move with any degree of confidence is difficult/impossible due to:

- Future oil production uncertainty
- Shifting market conditions
- Project commitments are unknown (pipe & rail)
- Regulatory uncertainty (pipe, rail, exports, etc)

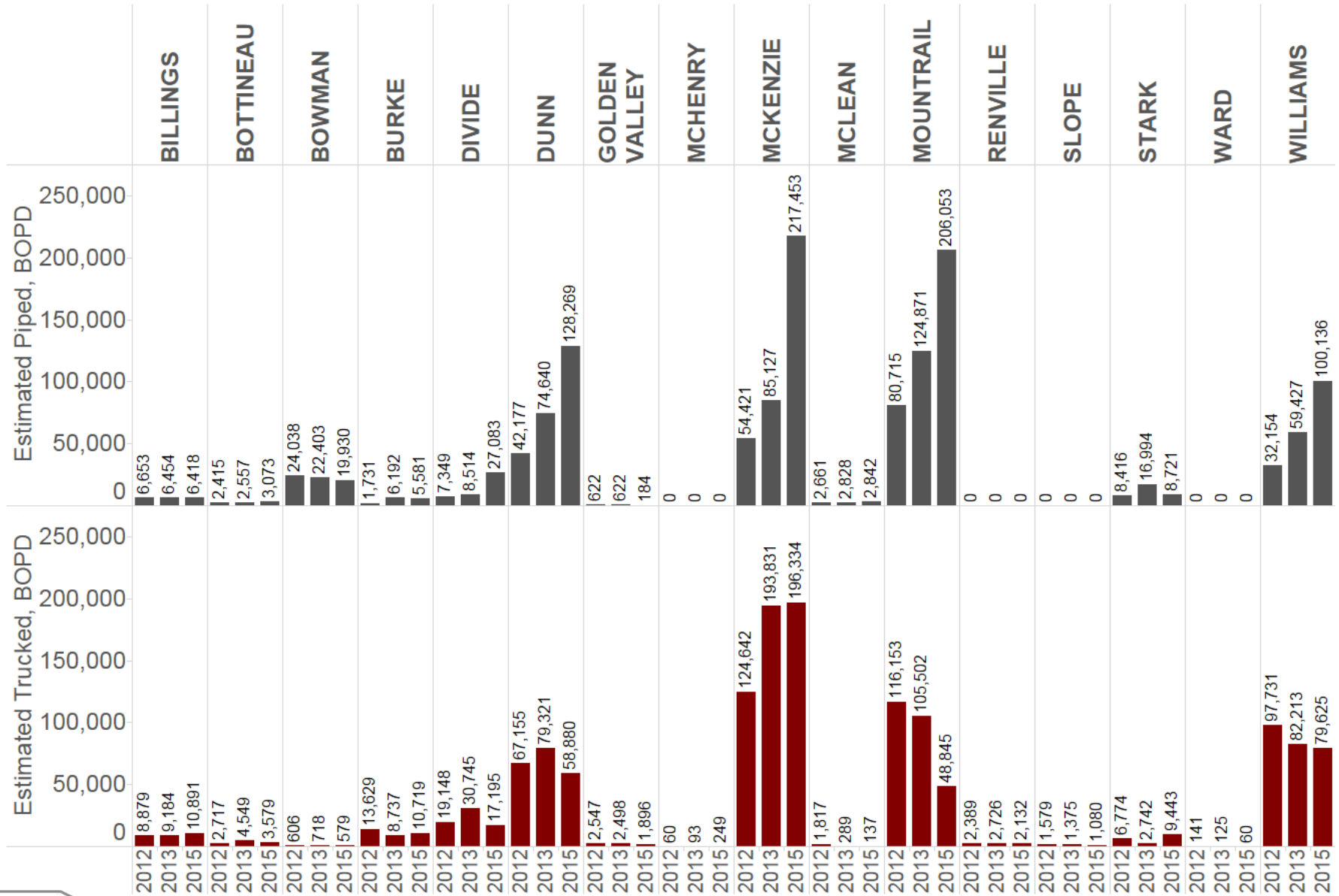


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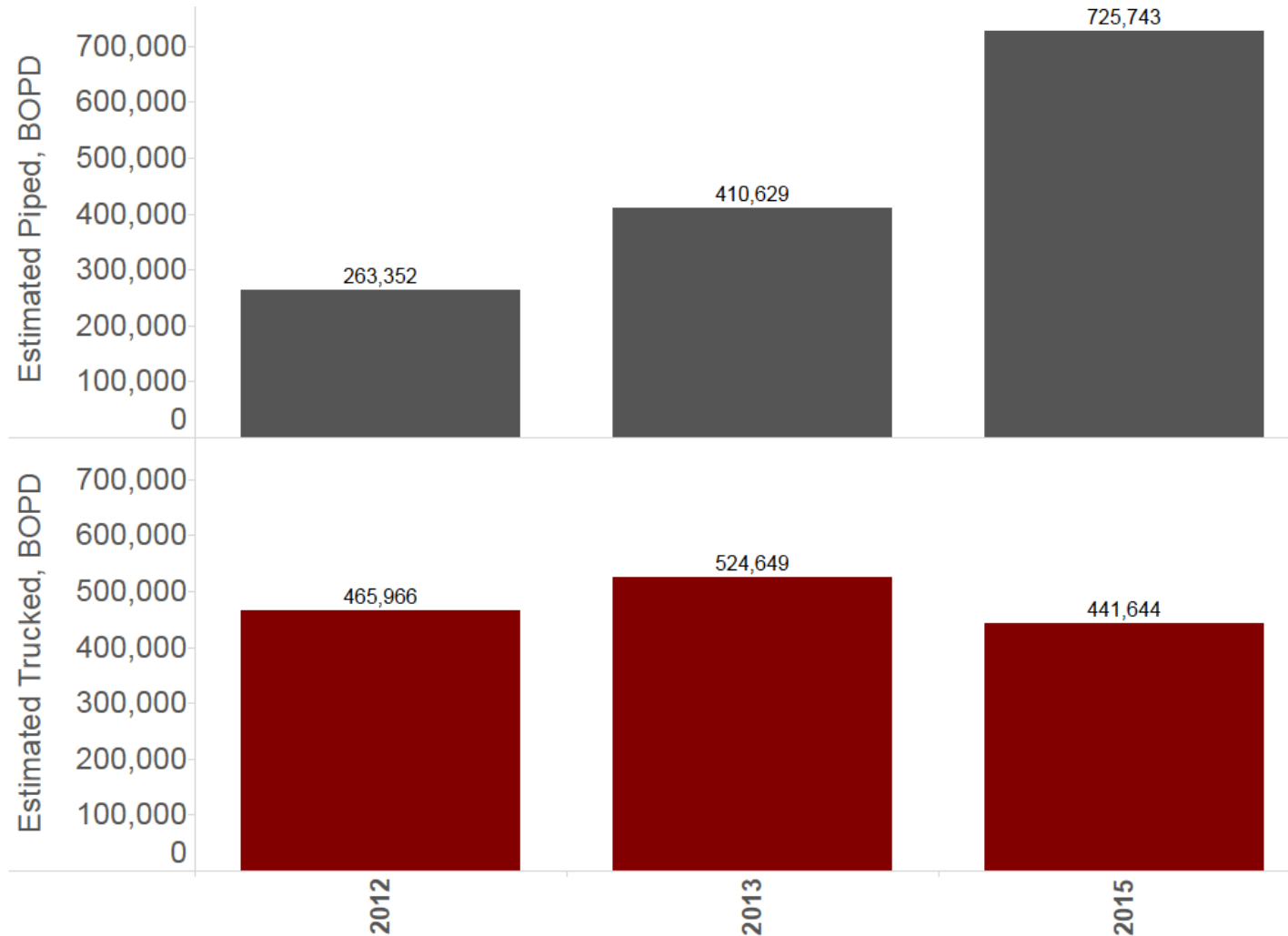


Evolution of Oil Gathering in ND

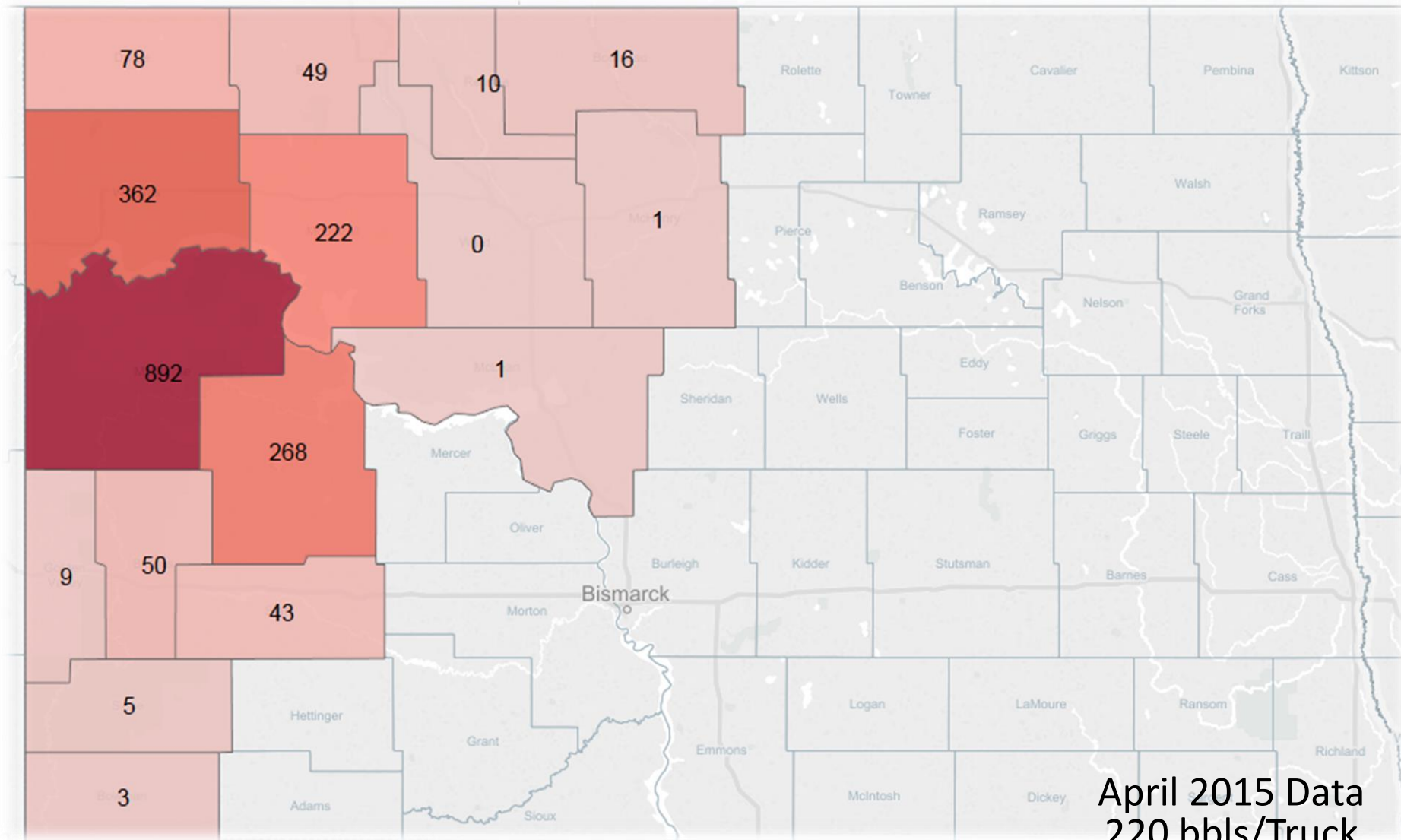


Evolution of Oil Gathering in ND

Statewide Totals



Estimated Loaded Oil Truckloads Per Day



April 2015 Data
220 bbls/Truck

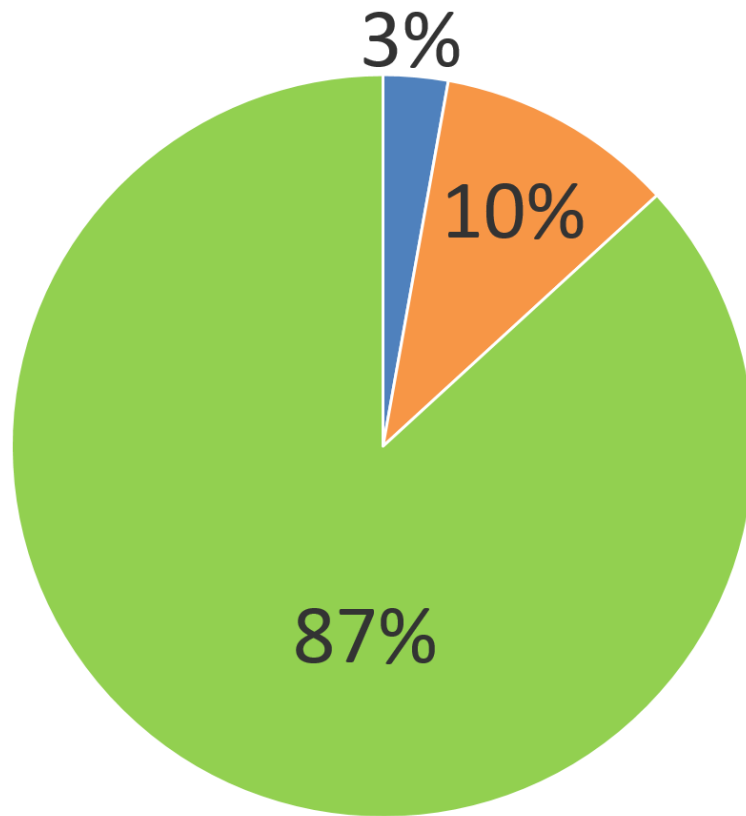


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Solving the Flaring Challenge



Statewide

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

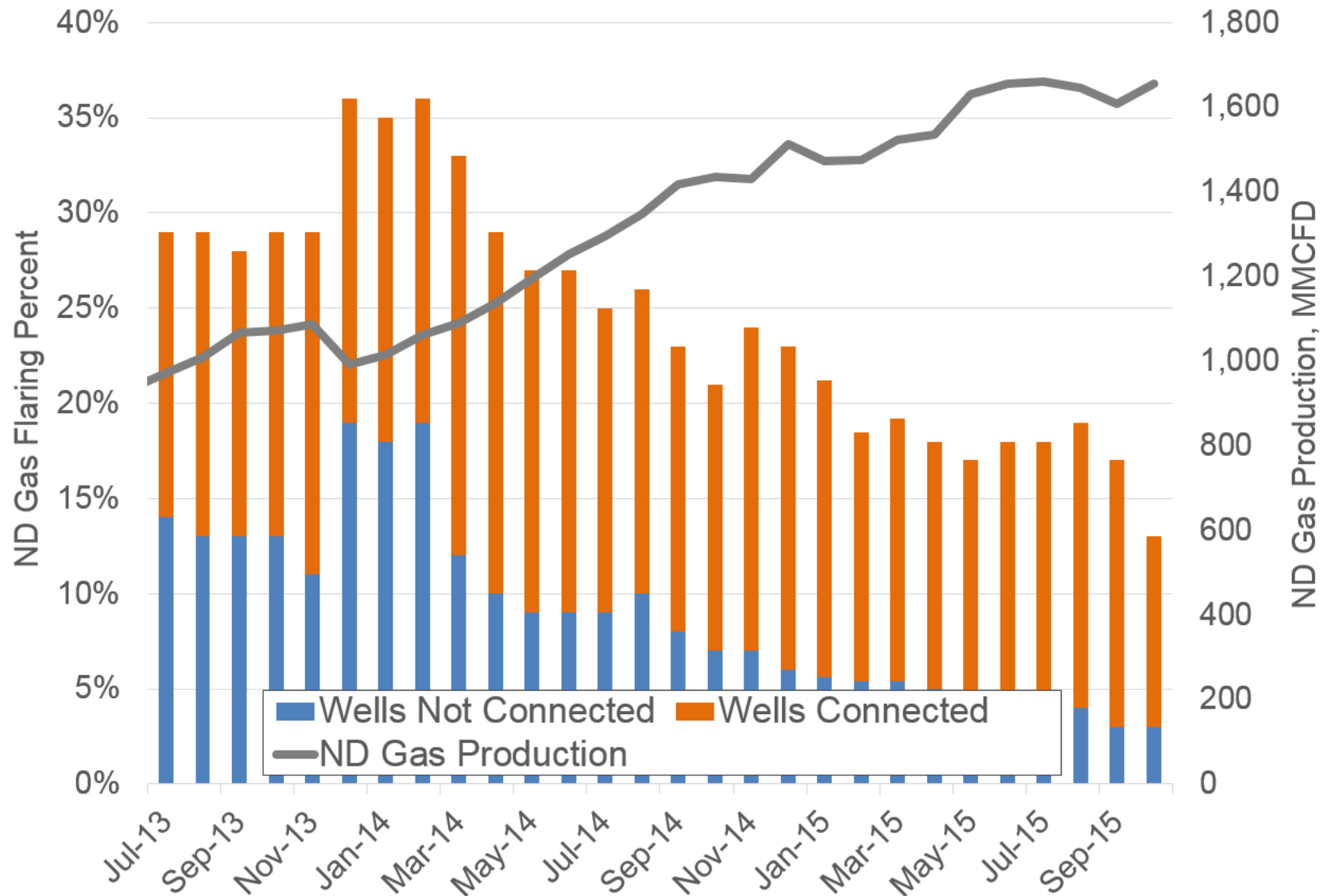
Simple Terms

Blue – Lack of pipelines
Orange – Challenges on existing infrastructure

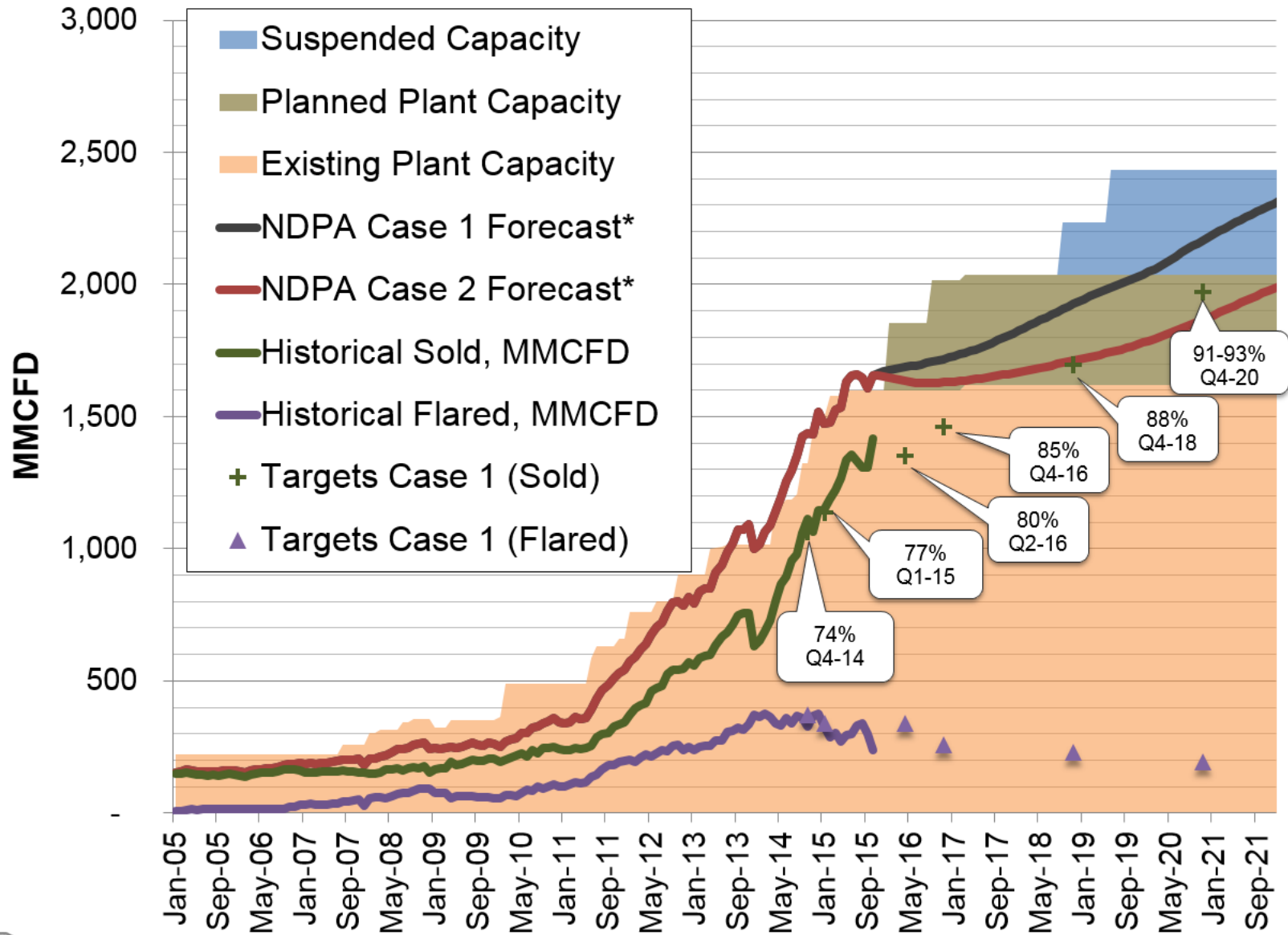
October 2015 Data – Non-Confidential Wells

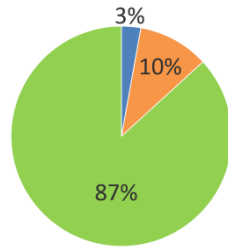


Solving the Flaring Challenge

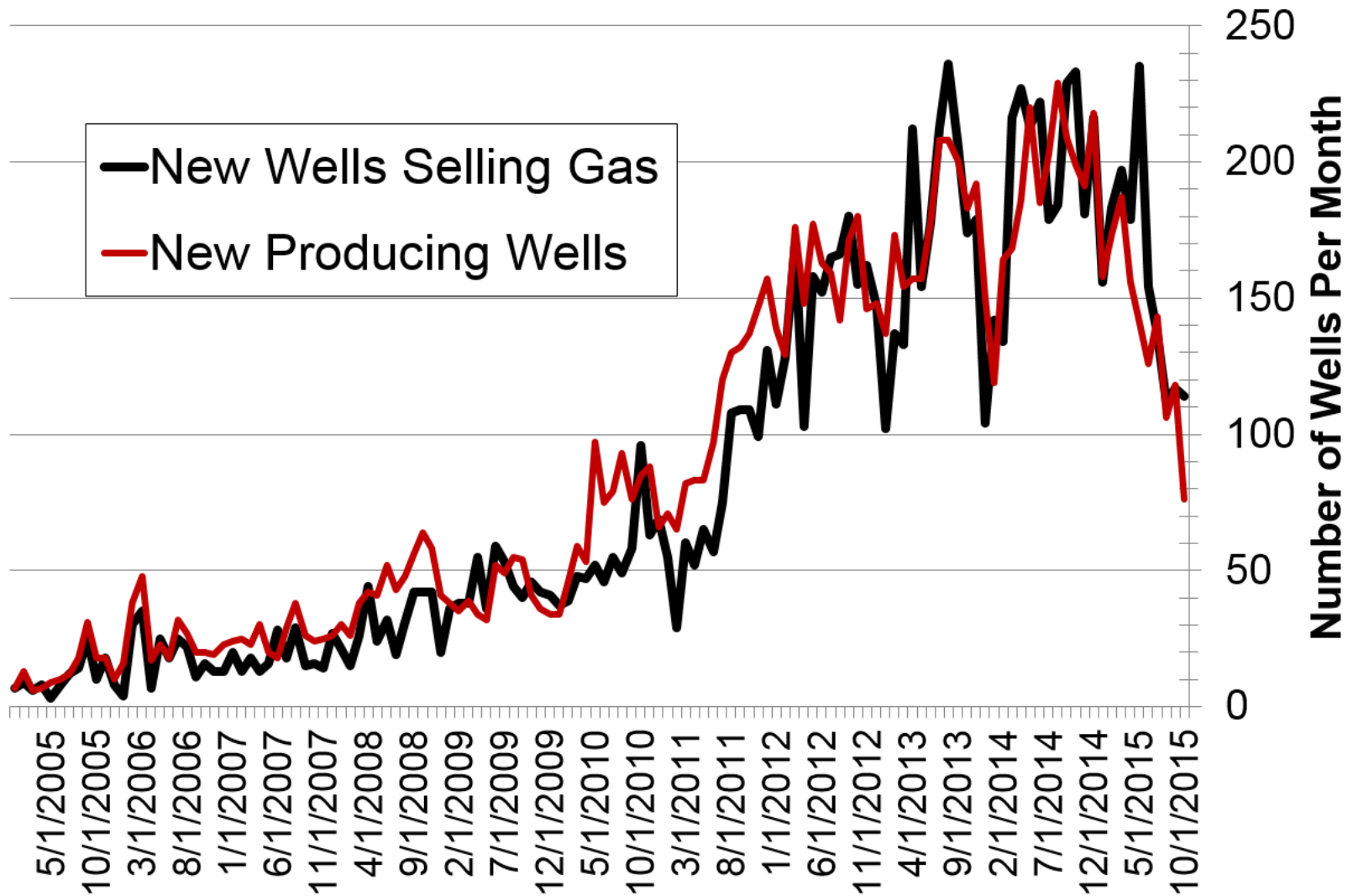


Solving the Flaring Challenge

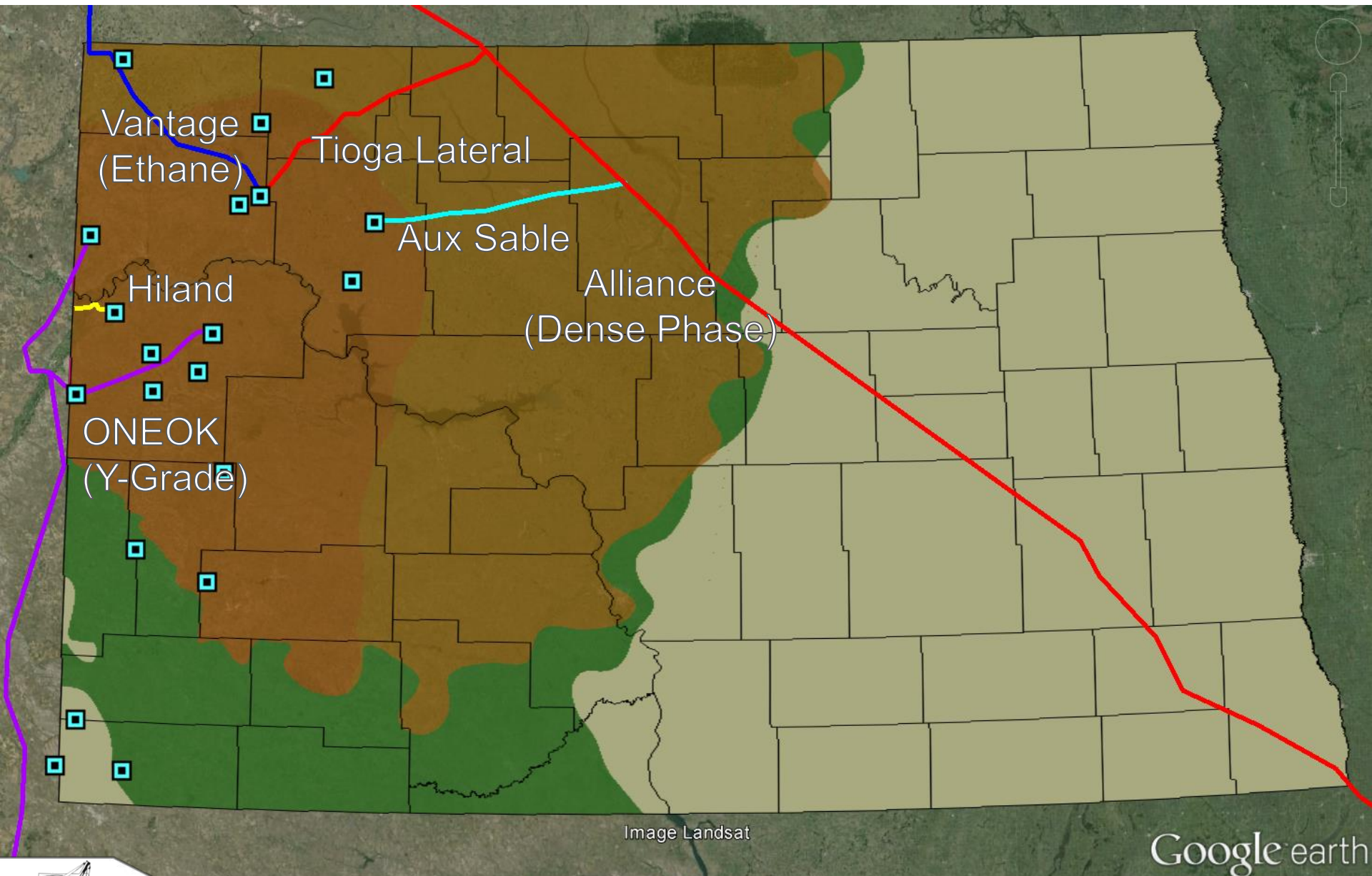




Capturing the 3% Faster Well Connections



NGL Pipeline Transportation



Contact Information

Justin J. Kringstad, Director
North Dakota Pipeline Authority

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

Phone: (701)220-6227

Fax: (701)328-2820

E-mail: jjkringstad@ndpipelines.com

Websites:

www.pipeline.nd.gov

www.northdakotapipelines.com



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

