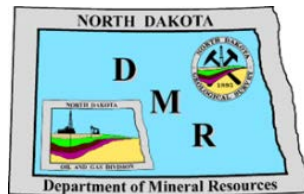


NORTH DAKOTA DEPARTMENT OF MINERAL RESOURCES: OIL & GAS 2019

April 2, 2019 | Williston API



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PRODUCING WELLS

DRILLING RIGS

PRODUCTION

INNOVATION

PRICE-RIGS-WELLS-JOBS PROJECTION

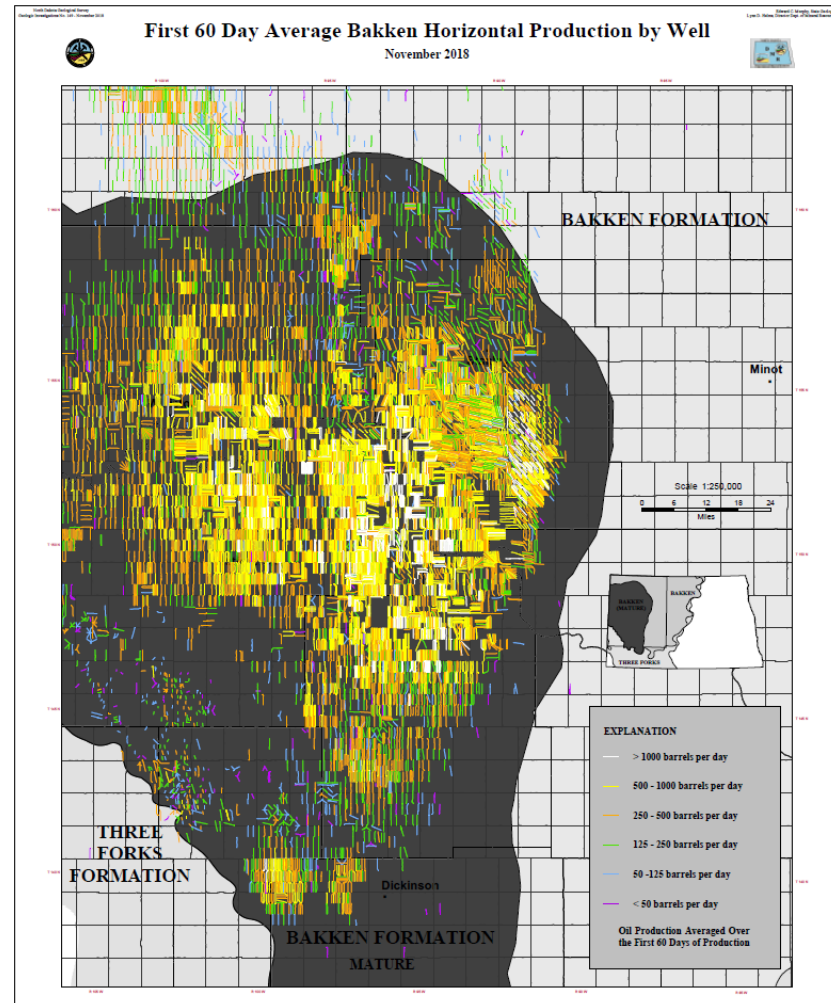
2019 LEGISLATURE - REGULATORY

DMR RULE CHANGES

Wells



Active	15,397
Conventional	1,706
Bakken/Three Forks	13,691
Inactive	1,517
>\$50 for 90 days Jan 2019	
Waiting on Completion	867
+\$55 for 90 days Feb 2019	
Permitted	1,880
+\$60 for 90 days	
Increase Density	13,948
Approved 03/31/19	
Total	33,609
Estimated Final	
\$60/BO = 60-70rigs = 20Yr	= 40,000 wells
\$80/BO = 70-80rigs = 70Yr	= 85,000 wells



PRODUCING WELLS

DRILLING RIGS

PRODUCTION

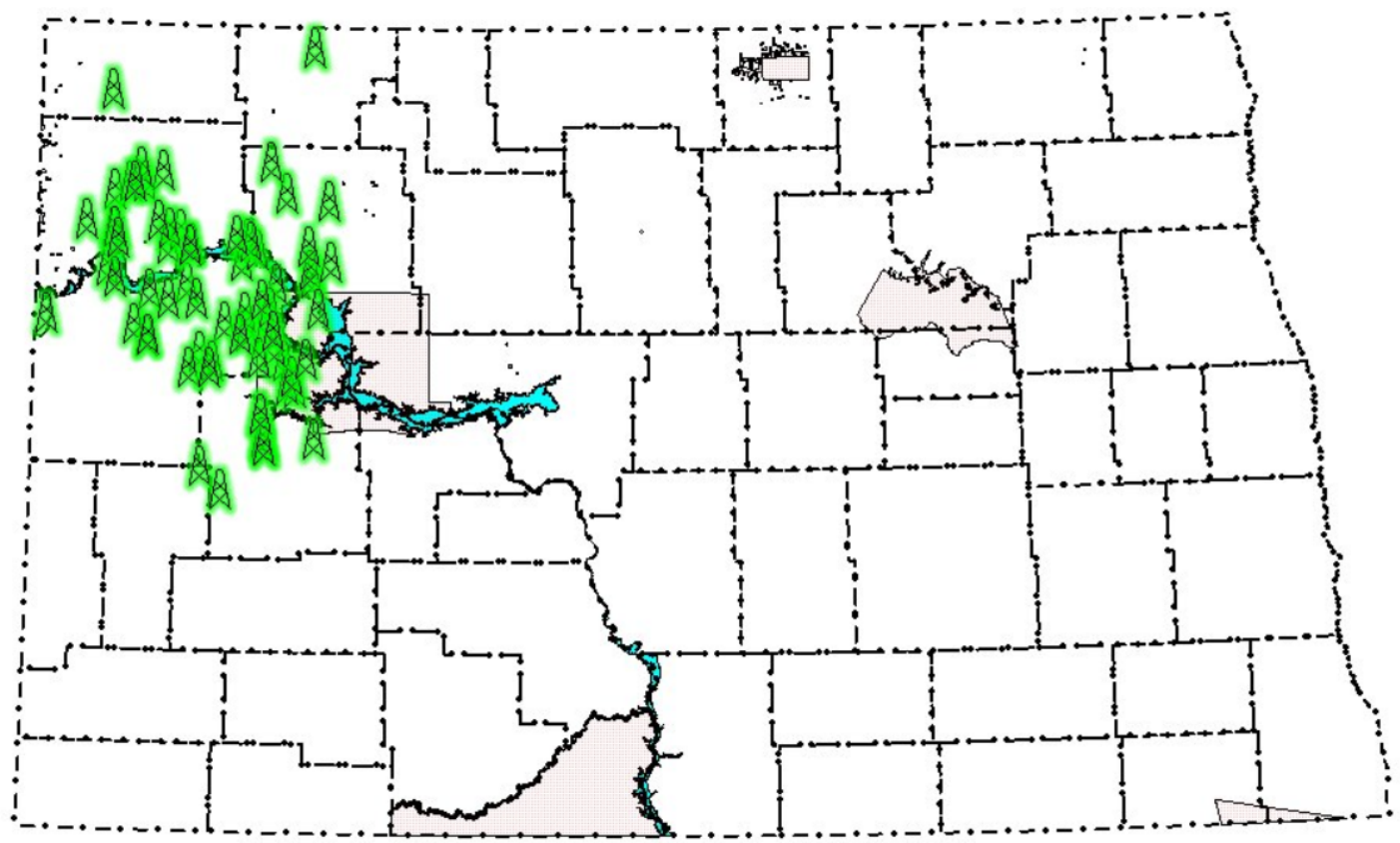
INNOVATION

PRICE-RIGS-WELLS-JOBS PROJECTION

2019 LEGISLATURE - REGULATORY

DMR RULE CHANGES

- Legend / Layers
- Overview Map
- View Entire State
- Previous View
- Clear Selection
- Search
- Create PDF
- Zoom In
- Zoom Out
- Pan
- Rect Identify
- Select Object
- Buffer
- Distance
- Find Well
- Find Field / Unit
- Find Section
- Browser Settings Suggest



Rig Location is now the Active Layer



Rigs - 65

or: 659.4202514953738

PRODUCING WELLS

DRILLING RIGS

PRODUCTION

INNOVATION

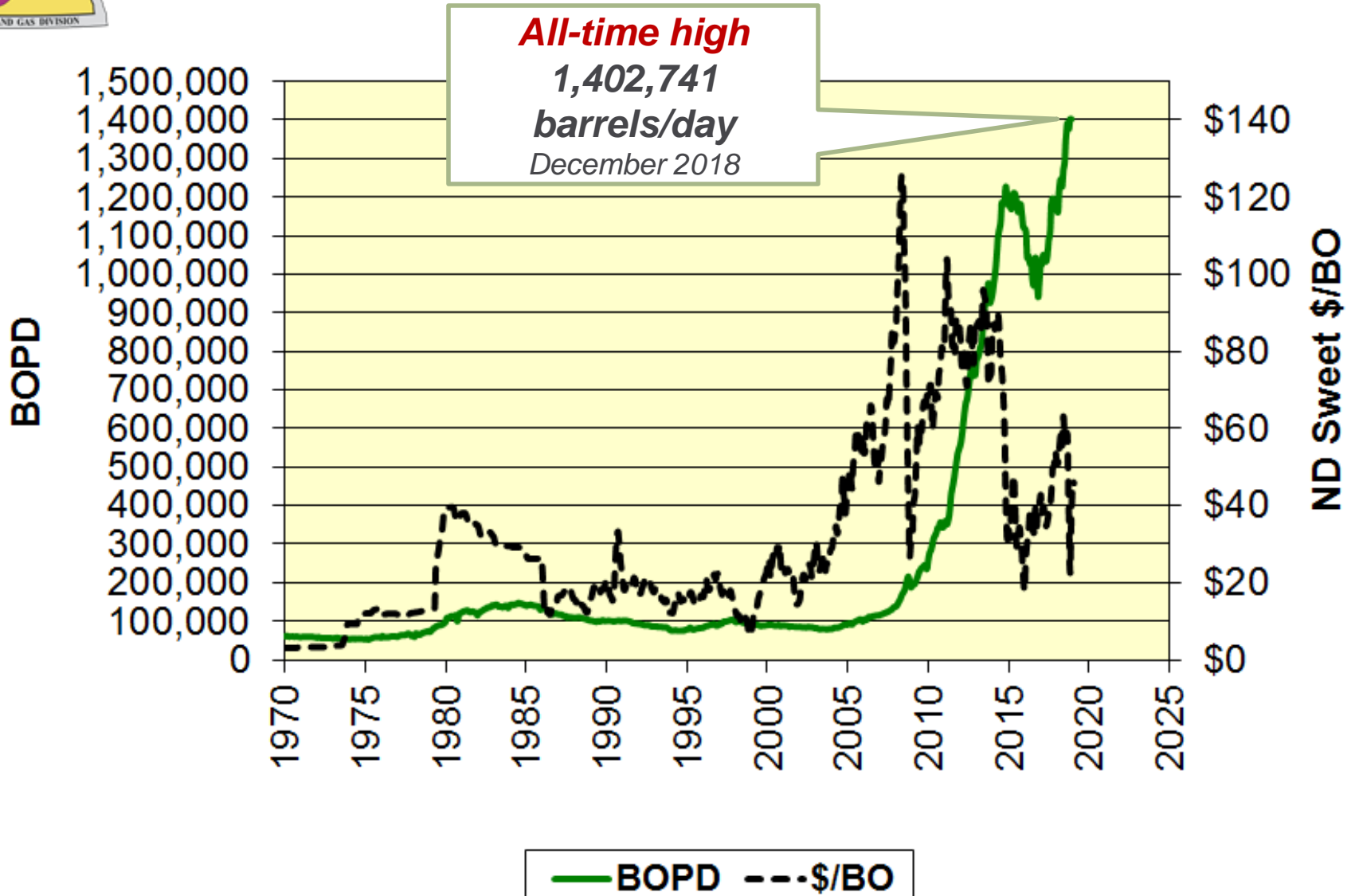
PRICE-RIGS-WELLS-JOBS PROJECTION

2019 LEGISLATURE - REGULATORY

DMR RULE CHANGES

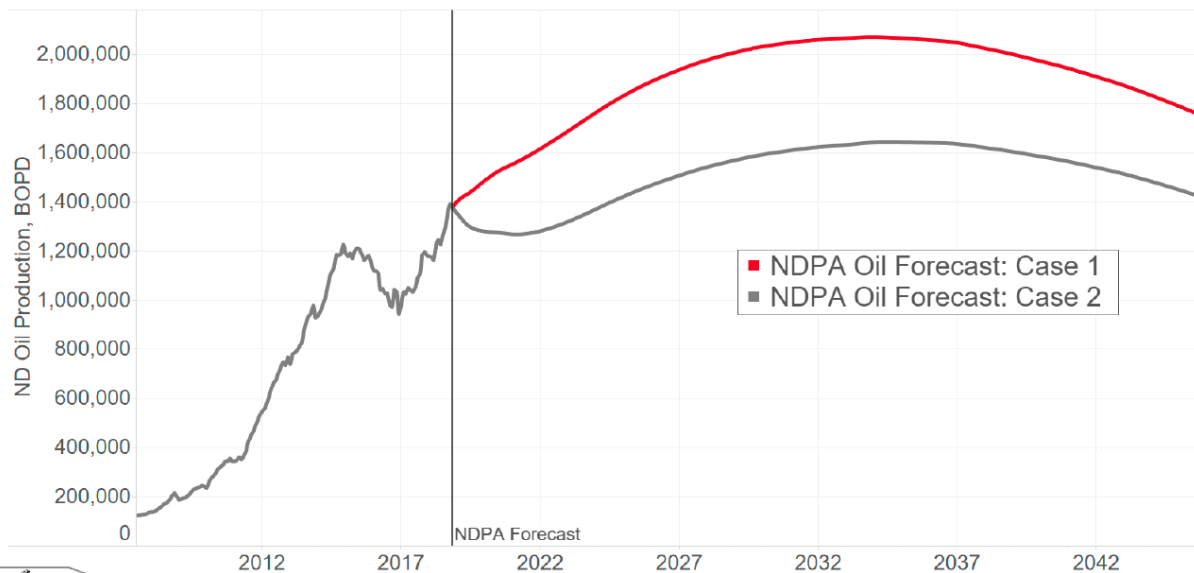


North Dakota Daily Oil Produced and Price



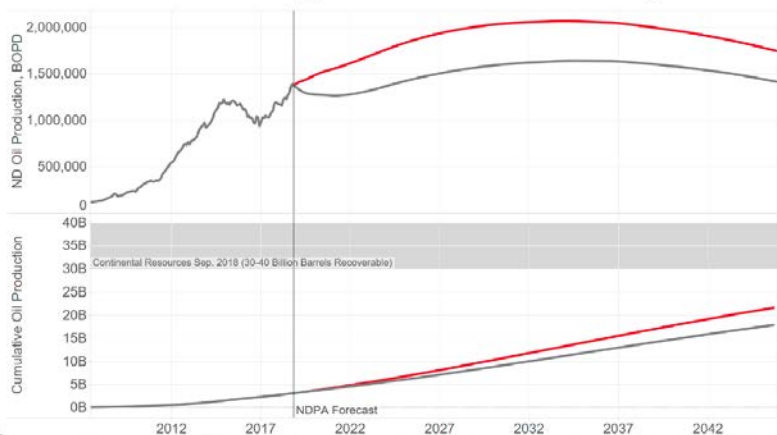
North Dakota Oil Production Forecast

Assumes Current Technology – Enhanced Oil Recovery Not Included



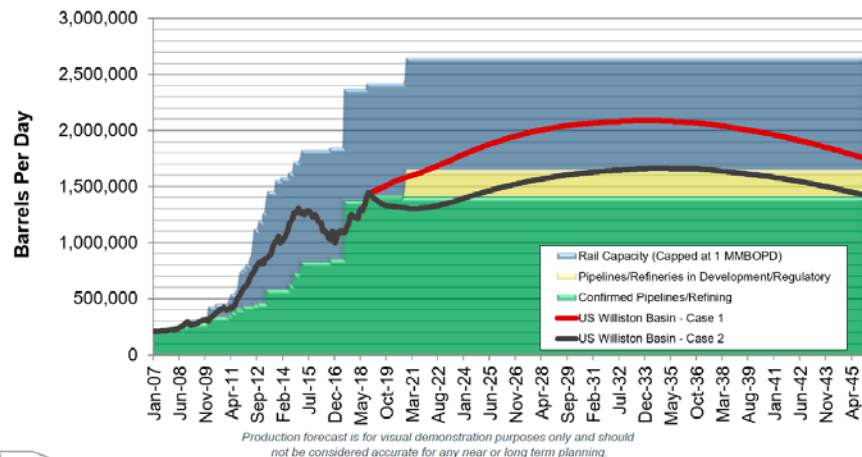
North Dakota Oil Production Forecast

Assumes Current Technology – Enhanced Oil Recovery Not Included



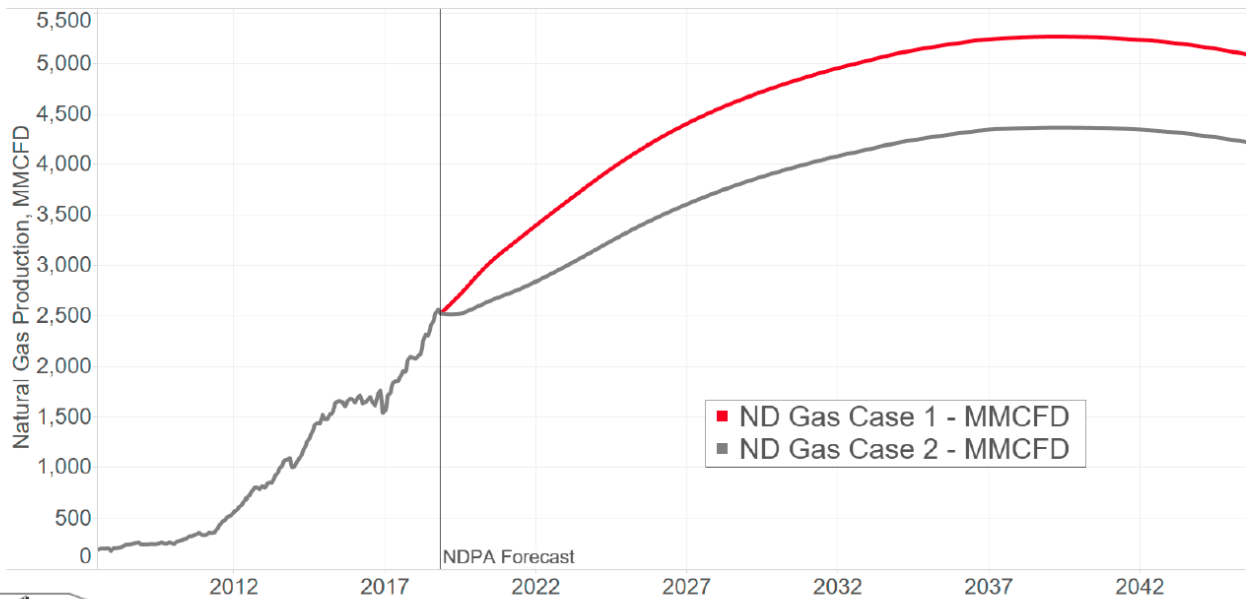
Williston Basin Oil Production & Export Capacity, BOPD

Assumes Current Technology – Enhanced Oil Recovery Not Included



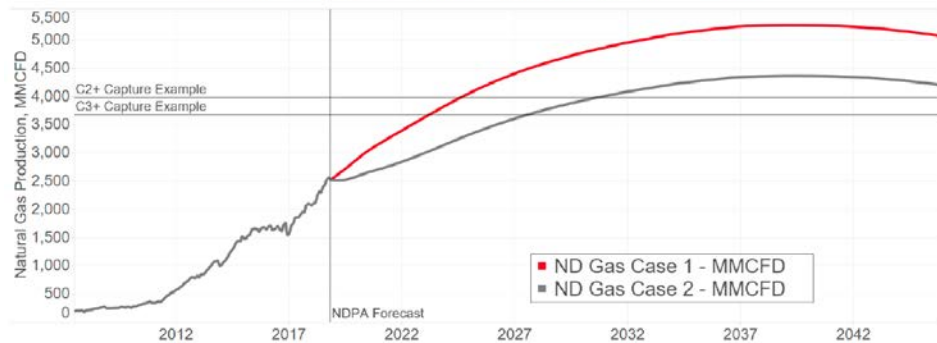
NDPA North Dakota Gas Production Forecast

Assumes Current Technology – Enhanced Oil Recovery Not Included



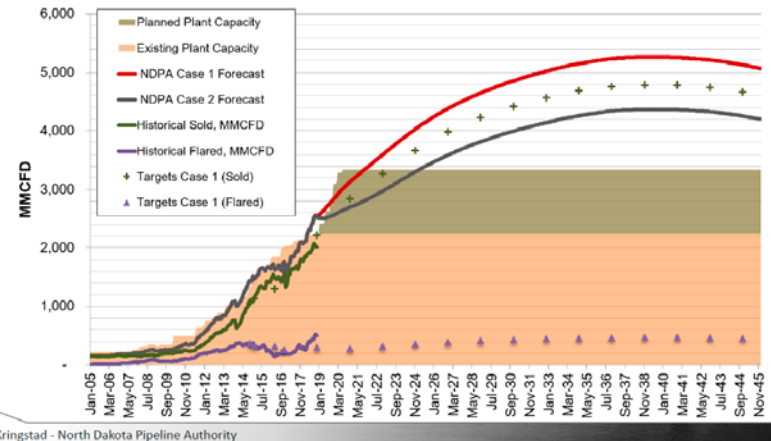
Simplified Example NB Calculations

Conclusion: **IE** no other gas export options open and all other deliveries on other pipelines stay static, ND gas production could increase 1.15-1.45 BCFD (from Nov-18) before Northern Border is 100% Bakken production. **BTU management becomes increasingly important for Bakken residue gas.**

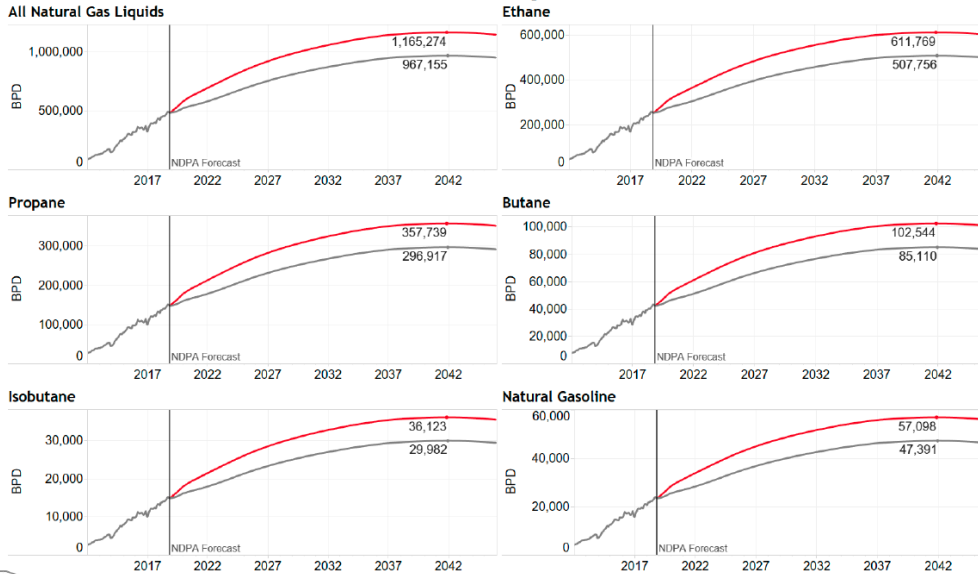


Solving the Flaring Challenge

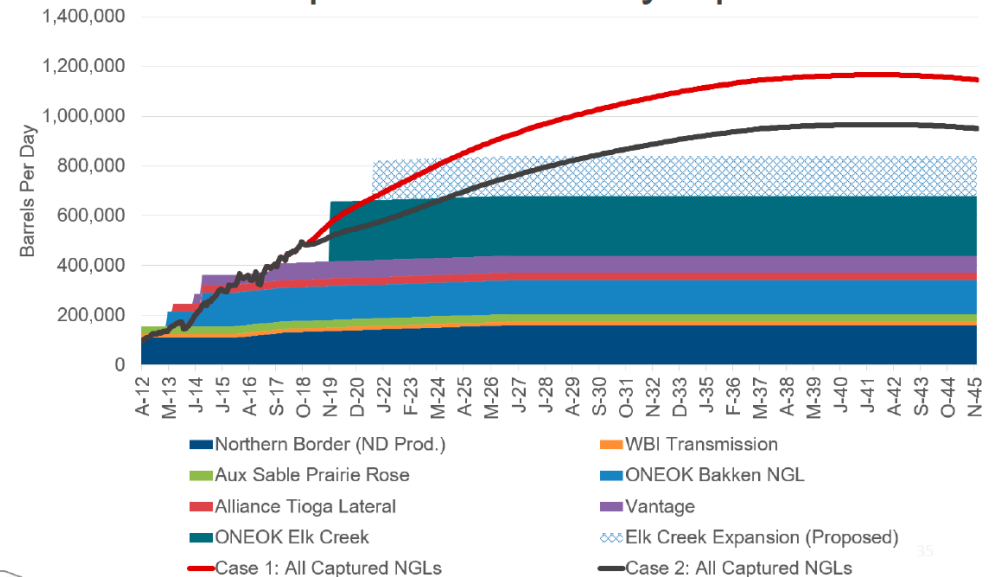
Assumes Current Technology – Enhanced Oil Recovery Not Included



North Dakota Captured* NGL's



NGL Pipeline Takeaway Options



PRODUCING WELLS

DRILLING RIGS

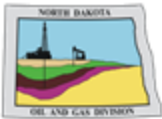
PRODUCTION

INNOVATION

PRICE-RIGS-WELLS-JOBS PROJECTION

2019 LEGISLATURE - REGULATORY

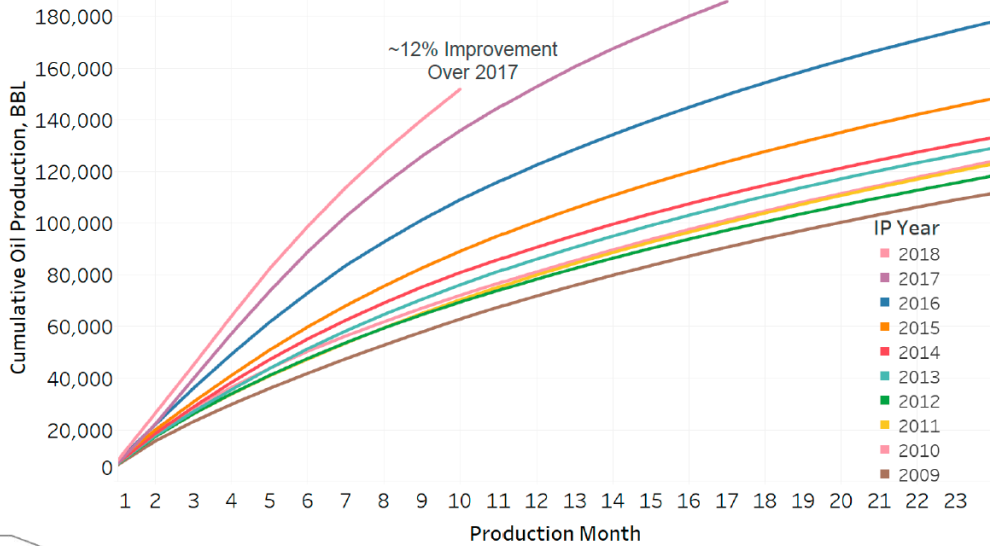
DMR RULE CHANGES



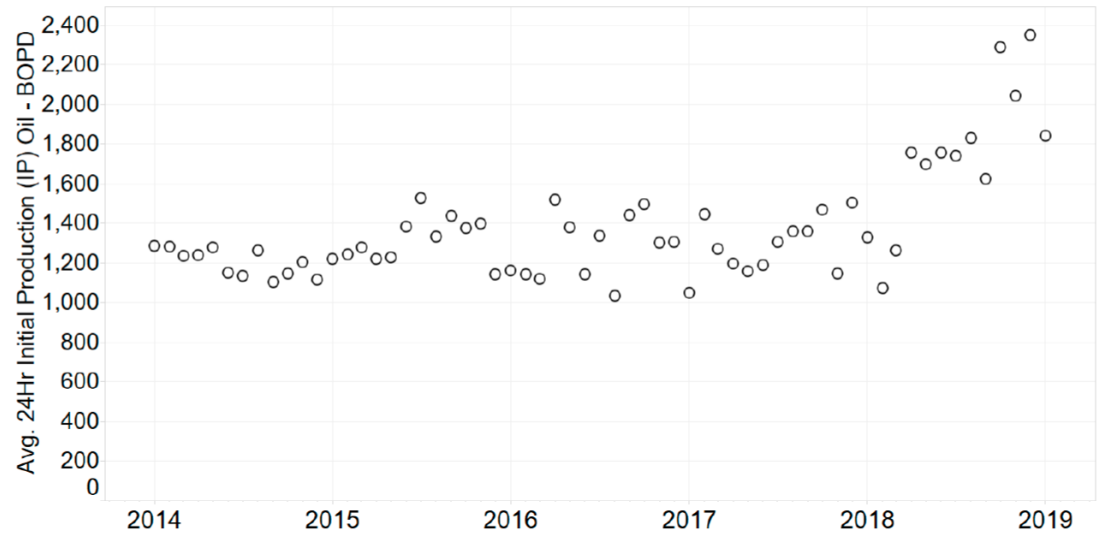
North Dakota Average Monthly Rig Count



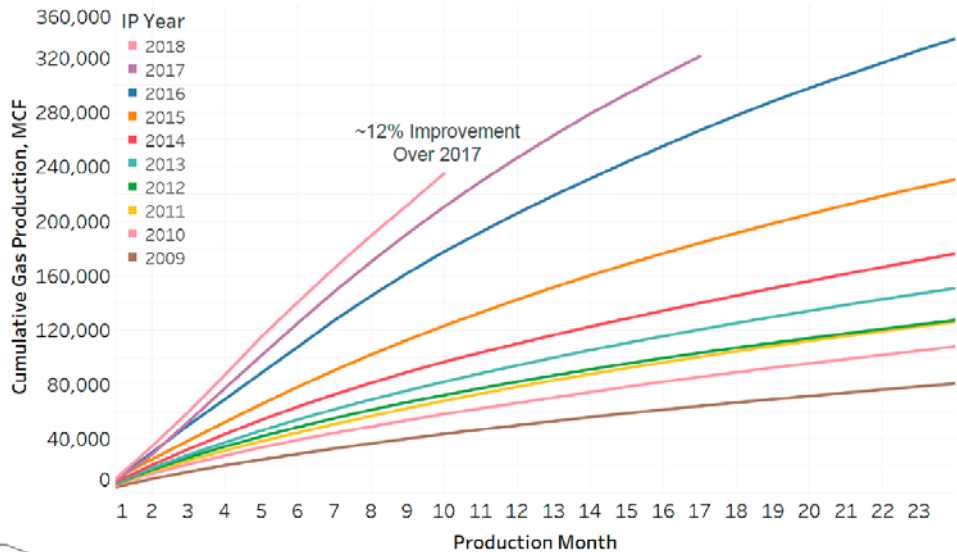
Statewide Oil Performance



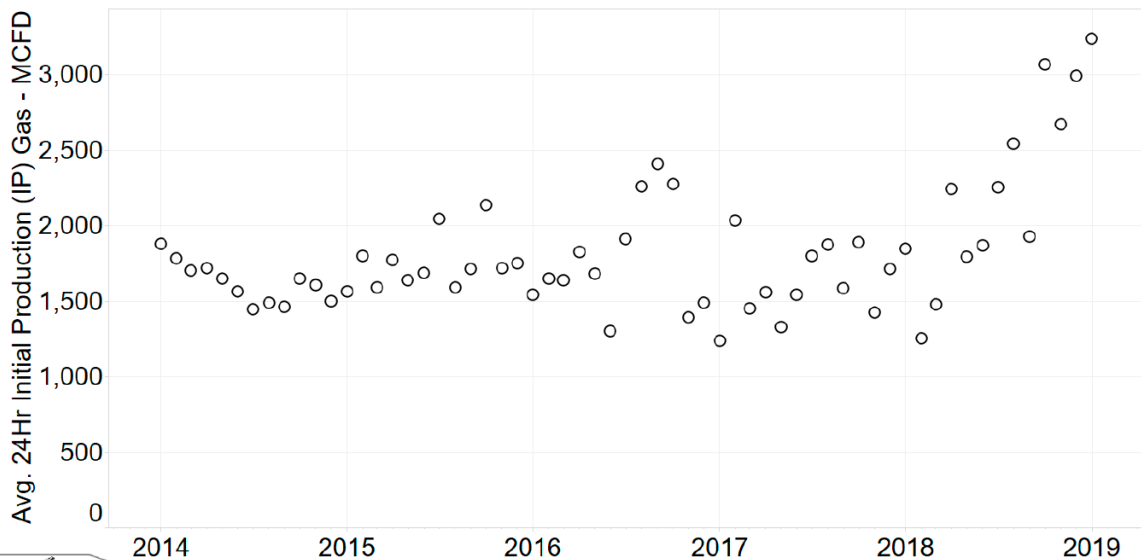
Statewide Initial Oil Production Rates – 24hr



Statewide Gas Performance



Statewide Initial Gas Production Rate: 24hr



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DRILLING RIGS

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INNOVATION

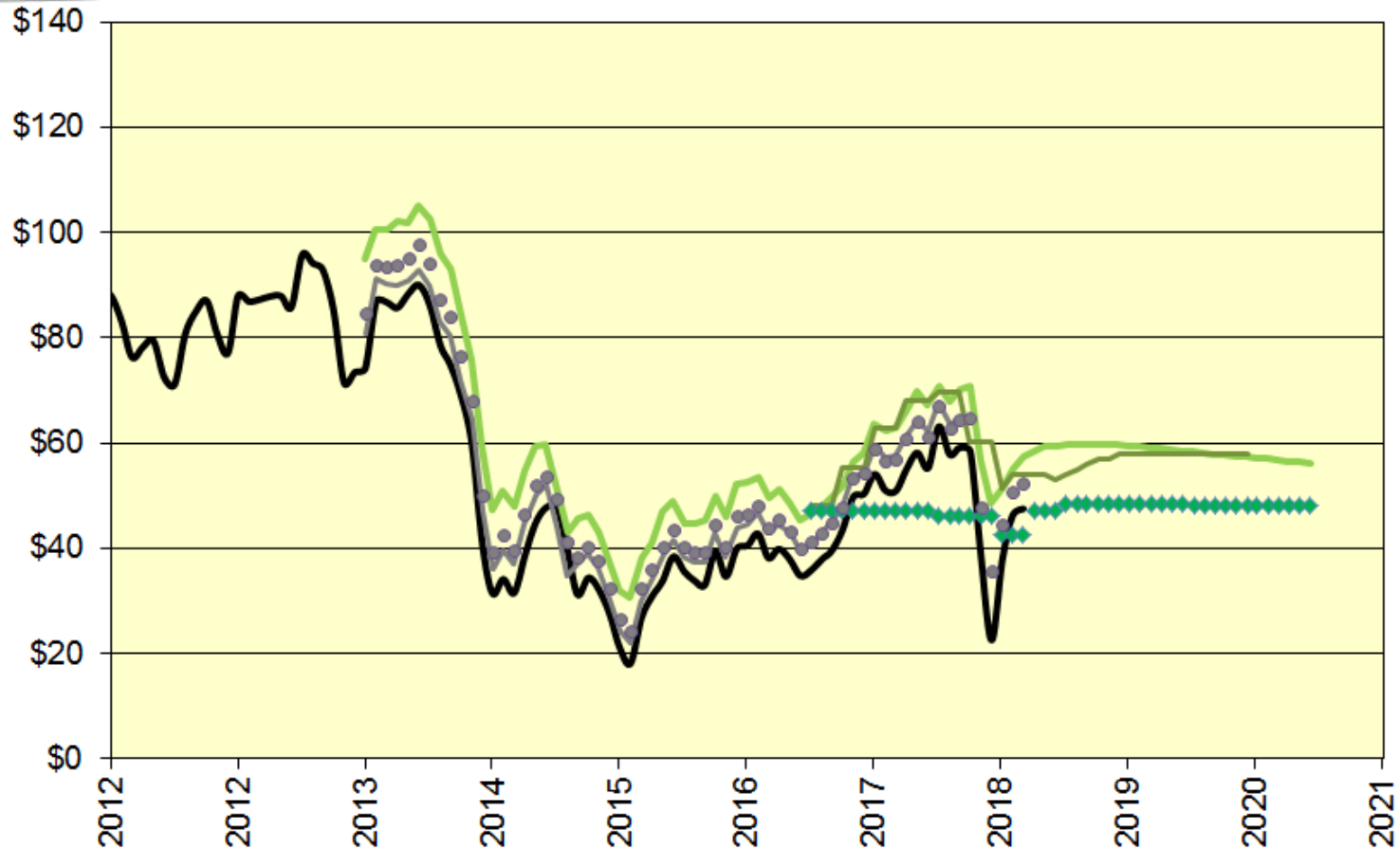
PRICE-RIGS-WELLS-JOBS PROJECTION

2019 LEGISLATURE - REGULATORY

DMR RULE CHANGES

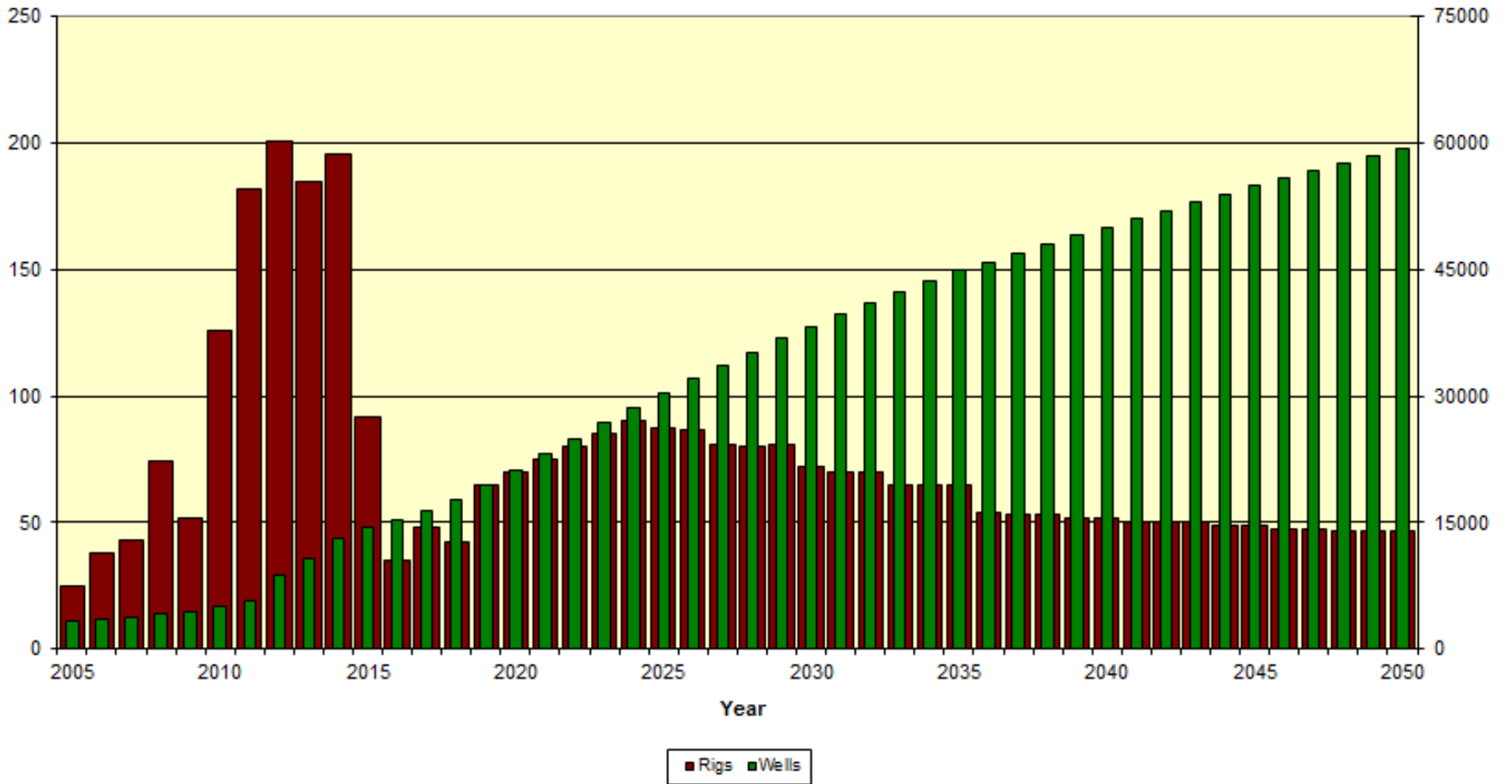


North Dakota Oil Price

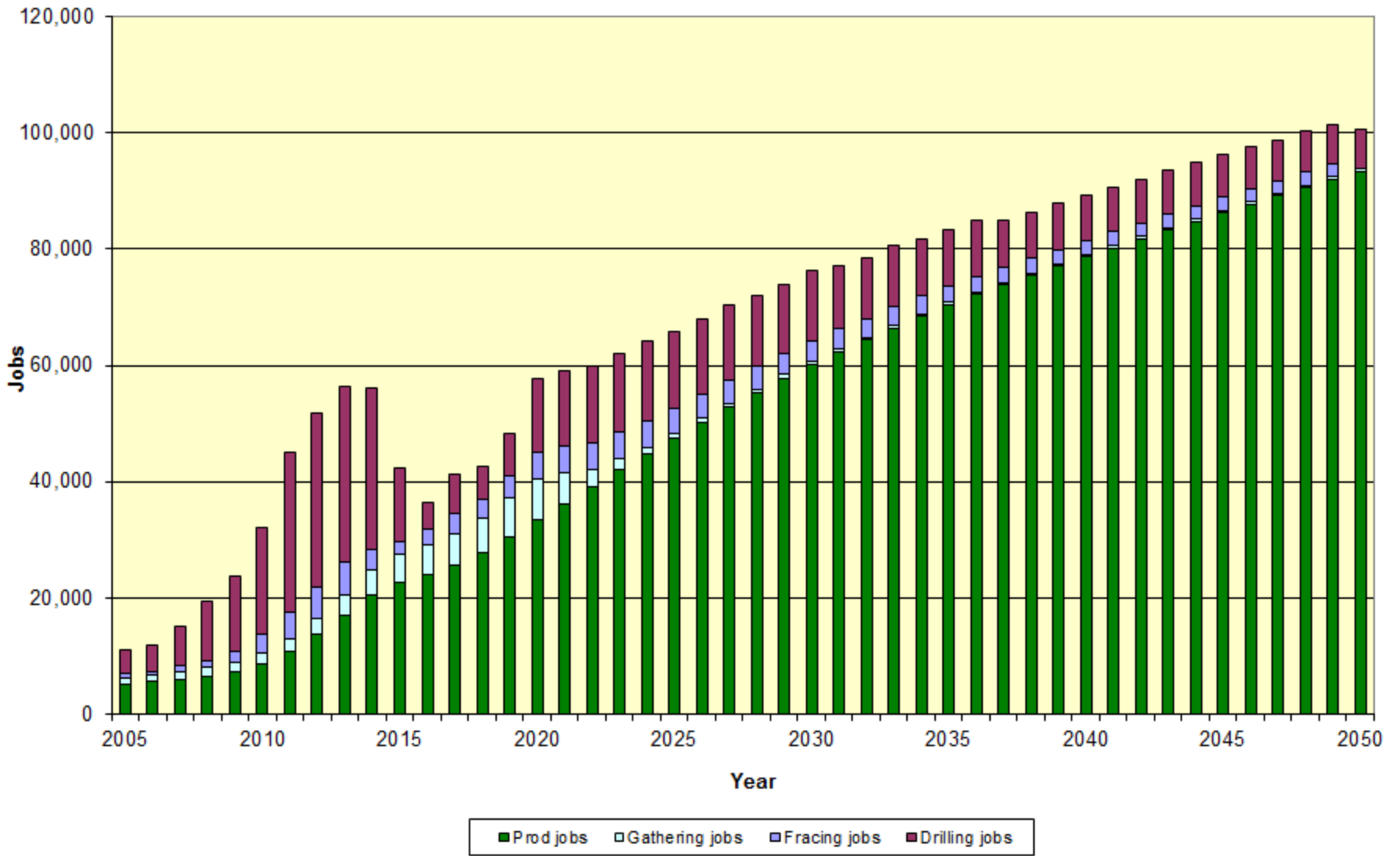


— \$/Barrel ND Sweet History ◆ Revenue Forecast — \$/Barrel WTI — ND Actual Tax Dept ● Avg NDSweet & WTI — EIA - STEO

North Dakota Rigs and Wells



North Dakota Oil Industry Jobs



PRODUCING WELLS

DRILLING RIGS

PRODUCTION

INNOVATION

PRICE-RIGS-WELLS-JOBS PROJECTION

2019 LEGISLATURE - REGULATORY

DMR RULE CHANGES

HB 1383 & SB 2261 Mitigation

HB 1480 Flared Gas Solutions - failed 13:33

HCR 3013 Spacing and Pooling = Eminent Domain - failed 8:33

SB 2211 Trust Lands OHWM Ownership Determination

SB 2332 Increased Flaring Restrictions - failed 15:32

SCR 4010 Royalty Deductions Study - passed

HB 1014 DMR Budget

HB 1290 Prohibit Entry & Search of Buildings and Land – failed 4:43

HB 1439 Extraction Tax Incentive for Captured CO2

SB 2037 High Level Radioactive Waste – conference committee

SB 2123 DMR Confiscation Authority - enacted

SB 2344 Pore Space - conference committee

PRODUCING WELLS

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PRICE-RIGS-WELLS-JOBS PROJECTION

2019 LEGISLATURE - REGULATORY

DMR RULE CHANGES

Royalty Statement Changes Effective 7/1/2019

Public Hearings August 2019

Effective April 2020

Bonding

Idle Wells

Slurry Injection

Ownership Interest Information Statements

Produced Gas Storage

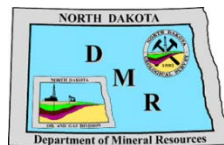
**NORTH DAKOTA
DEPARTMENT OF MINERAL RESOURCES**

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Bismarck, ND 58505**

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