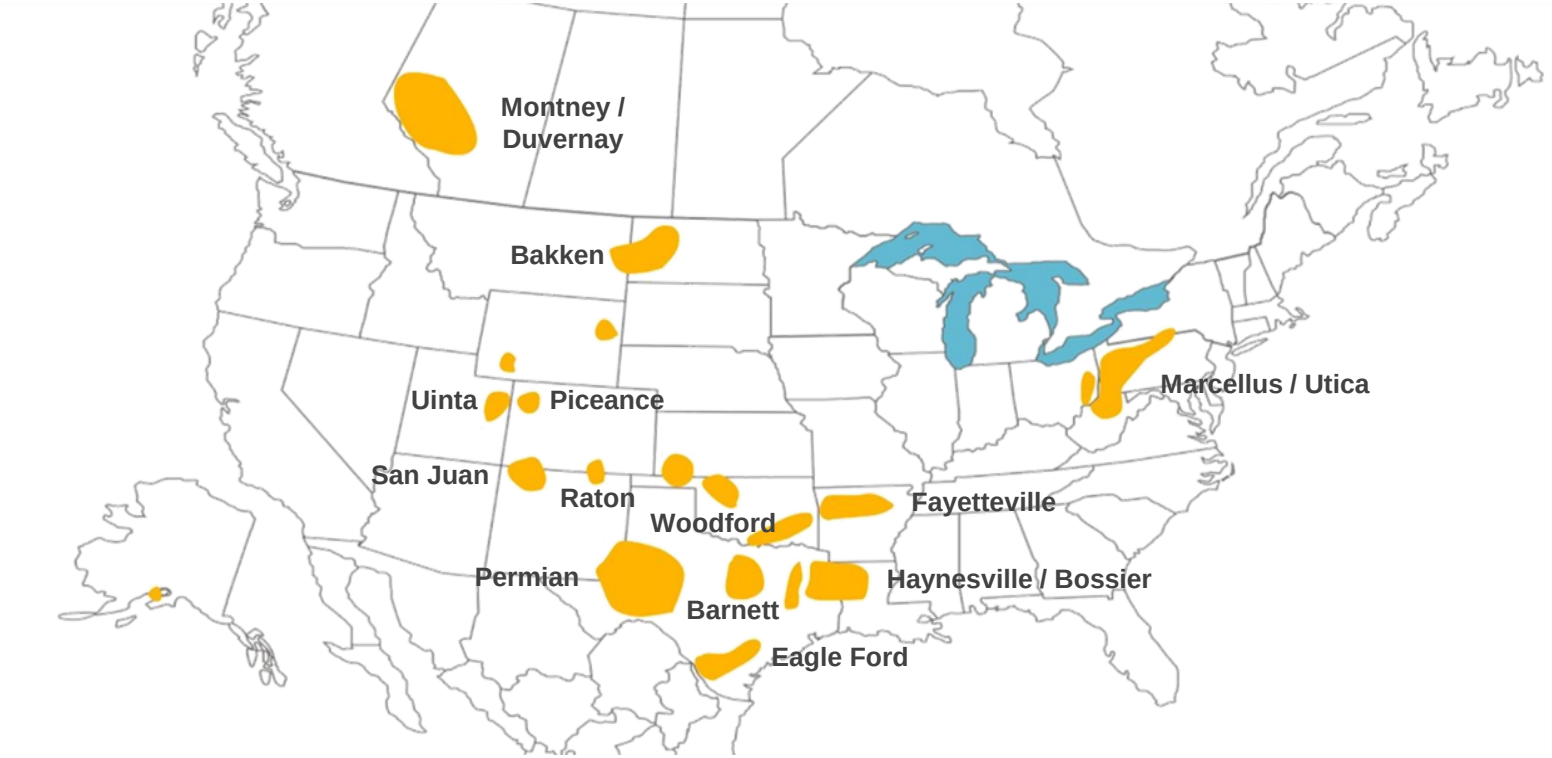
BLM Onshore Order –Venting and Flaring
October 2015

XTO Energy Overview



XTO at a Glance

- Subsidiary of ExxonMobil Corporation
- Founded in 1986 in Fort Worth, Texas
- Over 5,000 employees
- 8 Divisions across the US, Canada, & Argentina
- USA's leading oil and natural gas producer
- Large unconventional portfolio

An **ExxonMobil** Subsidiary

Onshore Development predominantly Non-Federal
Significant opportunities on Federal Lands

Table 1. U.S. Crude Oil Production: Federal and Non-Federal Areas FY2010-FY2014

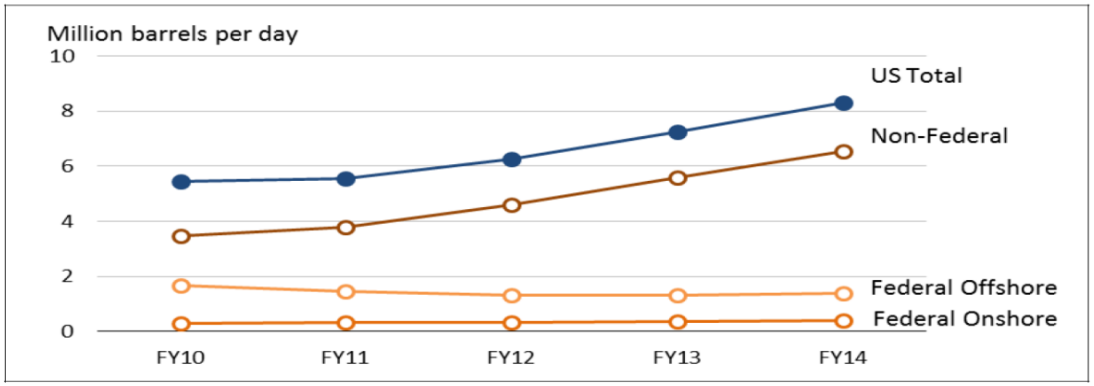
(Barrels per day)

Fiscal Year	U.S. Total	Non-Federal	Total Federal (% of U.S. Total)	Federal Offshore	Federal Onshore
2014	8,324,000	6,545,000	1,779,000 (21.4)	1,372,400	406,200
2013	7,261,200	5,583,300	1,677,900 (23)	1,303,300	374,600
2012	6,249,000	4,603,500	1,645,500 (26.3)	1,302,800	342,700
2011	5,550,200	3,775,700	1,774,400 (32)	1,454,300	320,100
2010	5,446,500	3,466,300	1,980,200 (36.4)	1,685,200	295,000

Source: Federal data obtained from the Office of Natural Resources Revenue (ONRR) Statistics, as of January 5, 2015, http://www.onrr.gov (using sales year data), March 2015.

Figure 1. U.S. Crude Oil Production: Federal and Non-Federal Areas, FY2010-2014

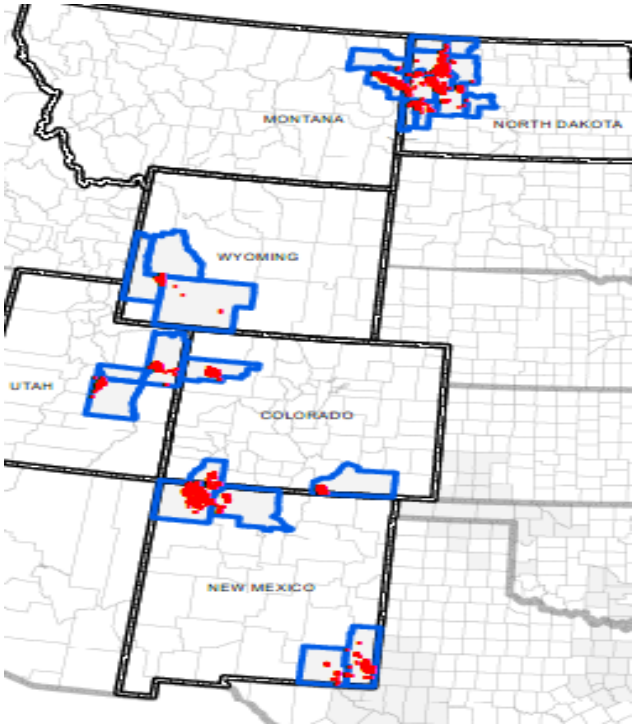
Million barrels per day (Mb/d)



Source: Federal data obtained from ONRR Statistics, http://www.onrr.gov (using sales year data). Non-federal from EIA. Figure created by CRS.

Source: Congressional Research Service- U.S. Crude Oil and Natural Gas Production in Federal and Non-Federal Areas - April 3, 2015

XTO Western Leasehold

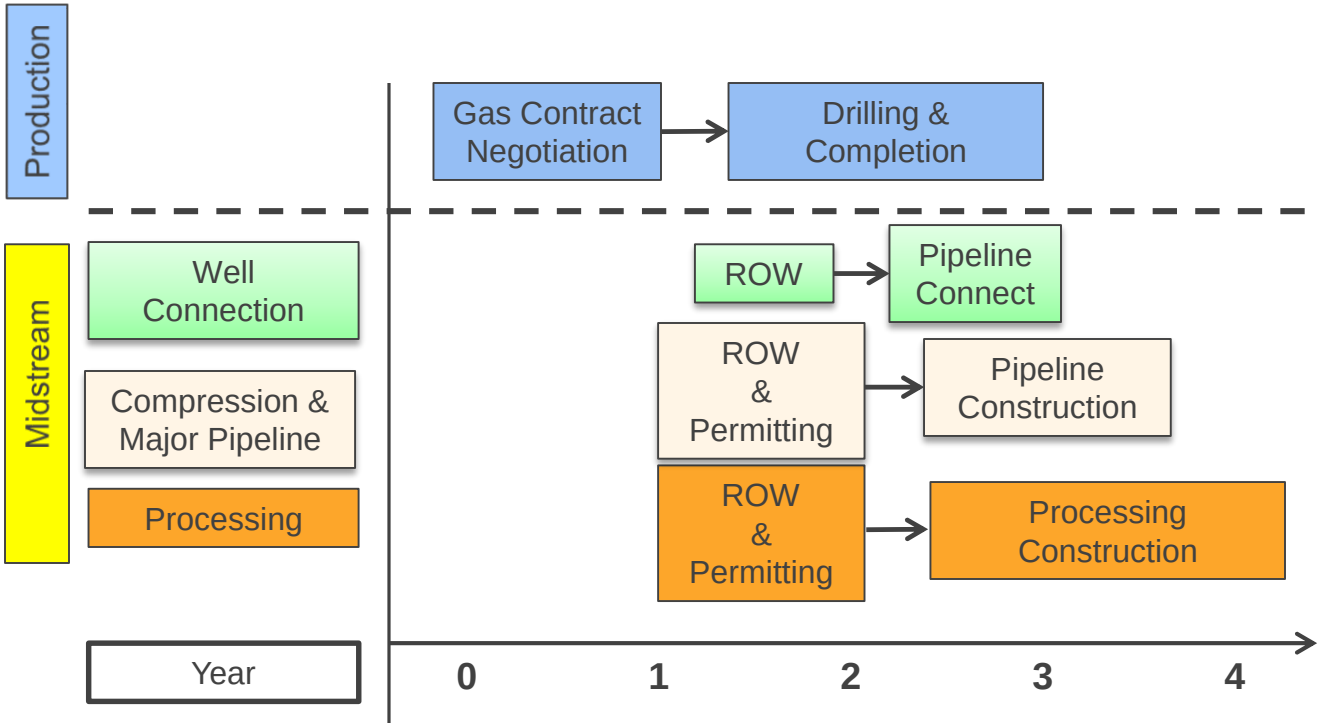


- XTO operates ~7700 wells in MT, ND, WY, UT, CO, NM and tribal lands.
- 655 employees; ~$20 million royalties (2014).
- ~1 million acres on federal land

An **ExxonMobil** Subsidiary

Production and Midstream are separate businesses

- Production Companies maximize profitability through the cost effective development and monetization of hydrocarbons.
- Midstream Companies maximize profitability by transporting and processing hydrocarbons through infrastructure that aggregates production from multiple sources to take advantage of scale resulting in lower cost of service to production companies



Midstream construction complexity drives cost and lead time

Conceptual Timeline varies significantly based on regulations, operating environment, and scope (bolt-on or greenfield)

North Dakota Midstream Challenges

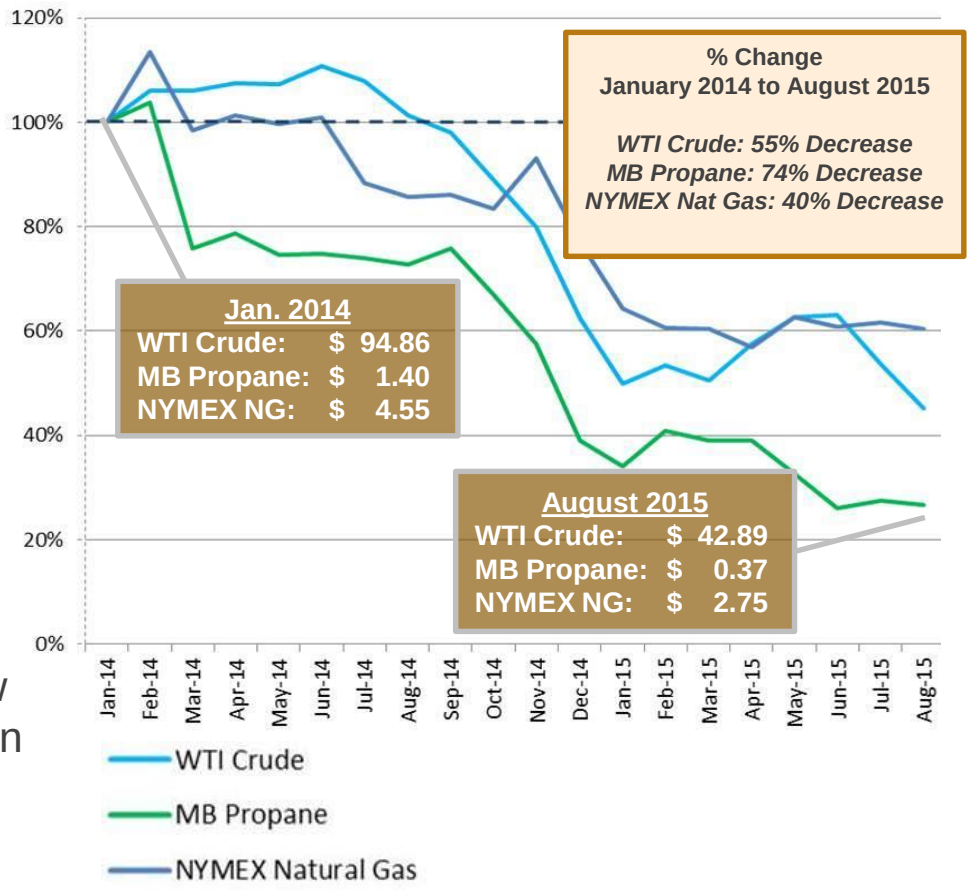
Changes since 2013

- Natural gas production exceeded forecast
- Improved completion techniques, resulting in higher initial and ultimate gas recovered
- Rigs moving to core oil areas with higher gas volume
- Better defined gas/oil ratios (GOR)
- Oil conditioning/stabilization requirements challenge gas sales due to lower pressures

Barriers

- Surface rights / limited eminent domain
- ROW delays push out of construction window
- ND Badlands topography; difficult construction
- Commodity Pricing
- Federal ROW and Permitting

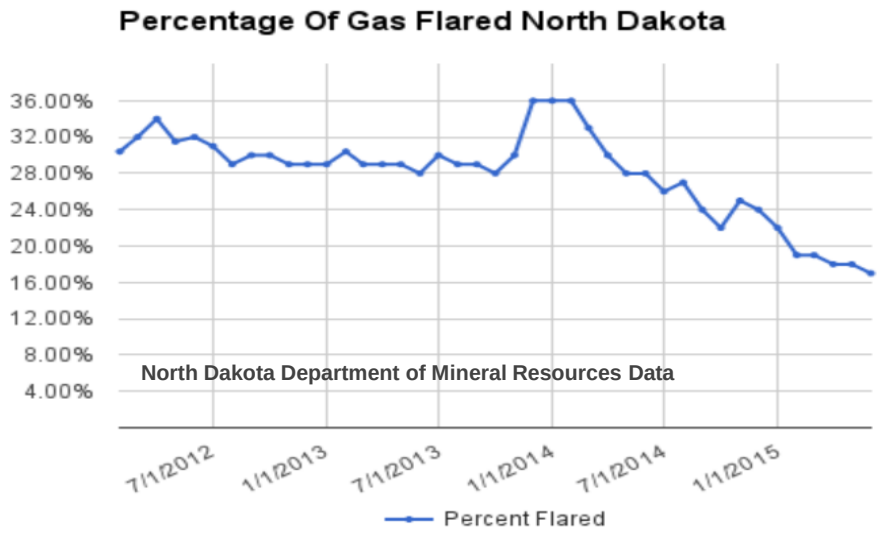
Commodity Pricing Decrease



North Dakota Flaring Improvement Status

North Dakota State Actions

- September 2013 – Governor initiates
- June 2014 - NDIC Adopted Field Order
  - Capture 74% by 4th Qtr. 2014
  - Capture 77% by 1st Qtr. 2015
  - Capture 85% by 1st Qtr. 2016
- September 2015
  - Capture 85% by Nov. 2016
  - Capture 88% by Nov. 2018
  - Capture 91%- 93% by Nov. 2020



Challenges:

- Landowners hold up significant gas capture.
- Federal ROW timelines are problematic
- 2 examples of pipeline projects delayed or canceled - 100 MMCFD (6% ND flaring)
  - Hess Hawkeye Pipeline ROW Approval
    - ROW requires multiple federal agencies, primarily BLM and USACE approval
    - 3+ years to get BLM approval
    - USACE approval still pending
  - ONEOK Lost Bridge Pipeline ROW
    - Spent 20 months trying to obtain USFS and Tribe ROW, finally cancelled
    - Now building new Dunn County natural gas plant – 3rd quarter 2016

Areas of Concern: BLM Flare and Vent Order

- Jurisdiction Concerns
- Overlap EPA's proposed rules, EPA's voluntary program
- BLM should avoid conflicting with existing State; strongly encourage MOUs and Ratification of State rules.
- Flaring should be deemed unavoidable where:
  - Production is tied into gathering.
  - Midstream delays are beyond the operator's control.
  - Longer negotiation periods due to lack of eminent domain.
  - Line/plant capacity issues, rapid expansion rig count.
  - Force majeure.
  - Curtailment unreasonable due to
    - Reservoir damage
    - Oil royalty discontinuation for gas capture reasons

State Rules	New Source	Existing Source
North Dakota Flaring Field Order	✓	✓
Colorado Methane Rule	✓	✓
WY VOC Sources in NA Areas		✓
Utah-Igniters, Pneumatics, Loading		✓

Public reports overstate benefits of rulemaking; inaccurate commodity considerations. Flared gas has no value if there is no market.

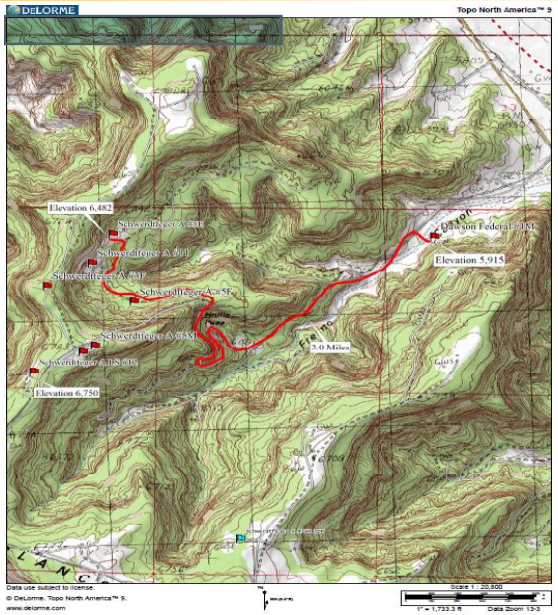
Production Leak Detection and Repair Issues

Western State federal lands characteristics

- Surface may be managed by multiple stakeholders.
- Pad locations are unmanned. Operators can be deployed from 50-100 miles away.
- Operators make rounds with significant amount of driving.
- Weather can make sites inaccessible (Winter, Fire Season, Wildlife seasons).
- Repair capabilities may require services that are dependent on availability of personnel and equipment.
- A blowdown required for repair may cause higher emissions than caused by a minor leak.

Key Issues for an effective Onshore Lands program

- Operators perform routine AVO observations and conduct find and fix repairs and document activity.
- Conduct annual gas imaging (IR camera) to detect emissions leaks with focus on ‘fat tail emissions’. Find and fix as needed.
- Fit-for-purpose monitoring and documentation. Maintain records on-site.
- If repair cannot be quickly completed by operator, then entered into maintenance system, documented and repaired.



Operator driving rounds: 3.1 miles in 30 minutes over steep terrain

Supportable Elements

Overall

- Preserve Beneficial Purposes (on-lease gas use) definition
- Avoid requirements to measure, control, or retrofit insignificant minor emitting sources or one-size fits all infeasible technology expectations (unloadings, plungers).
- Consideration of existing source cost impacts versus new sources; must be factored into cost-benefit analysis.

Gas flaring

- BLM should simply ratify existing state rules with MOUs.
- Maintain NTL4A Beneficial Purposes definition
- Maintain NTL4A quantification methods, indirect calculation (except that quantification should be percentage based, not hourly).
- Allow exception mechanisms, protect reservoir and EUR from harm, and maximize ultimate economic recovery – prior to consideration of production or flaring curtailment.

Existing Sources

- Participation in the following best practices allow exemption from quantification and royalty payment:
  - High bleed pneumatic controllers
  - Find, fix, record (routine AVO, annual gas imaging)
  - Manned well unloadings if not automated.