CENTENNIAL

# Oil Macro Perspective
# Likely U.S. Production Trends

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# Items Where There's No Disagreement

- 2013-2017 global oil demand has surpassed to the upside every year for 5 years – 1.7 MMBD in 2017
- A major determinant of future oil prices is the rate of US oil growth
- 2017 YOY US oil growth has been lower than expected 500 MBD vs early predictions of ~650 MBD YOY
- US production has been essentially flat for 9 of the past 13 months
- YTD US petroleum inventories have only built 6.2 MMB vs. 5 year average of 52.2 MMB

# Mark's Perspective – 2018+ US Oil Growth

- Currently a minority opinion
- Even in a constructive oil price environment, 2018+ US oil growth will be more tepid than most people are predicting
- Reasons for tepid growth:

  Primary:

  - Lack of remaining Tier 1 geologic quality drilling locations in the Eagle Ford and Bakken

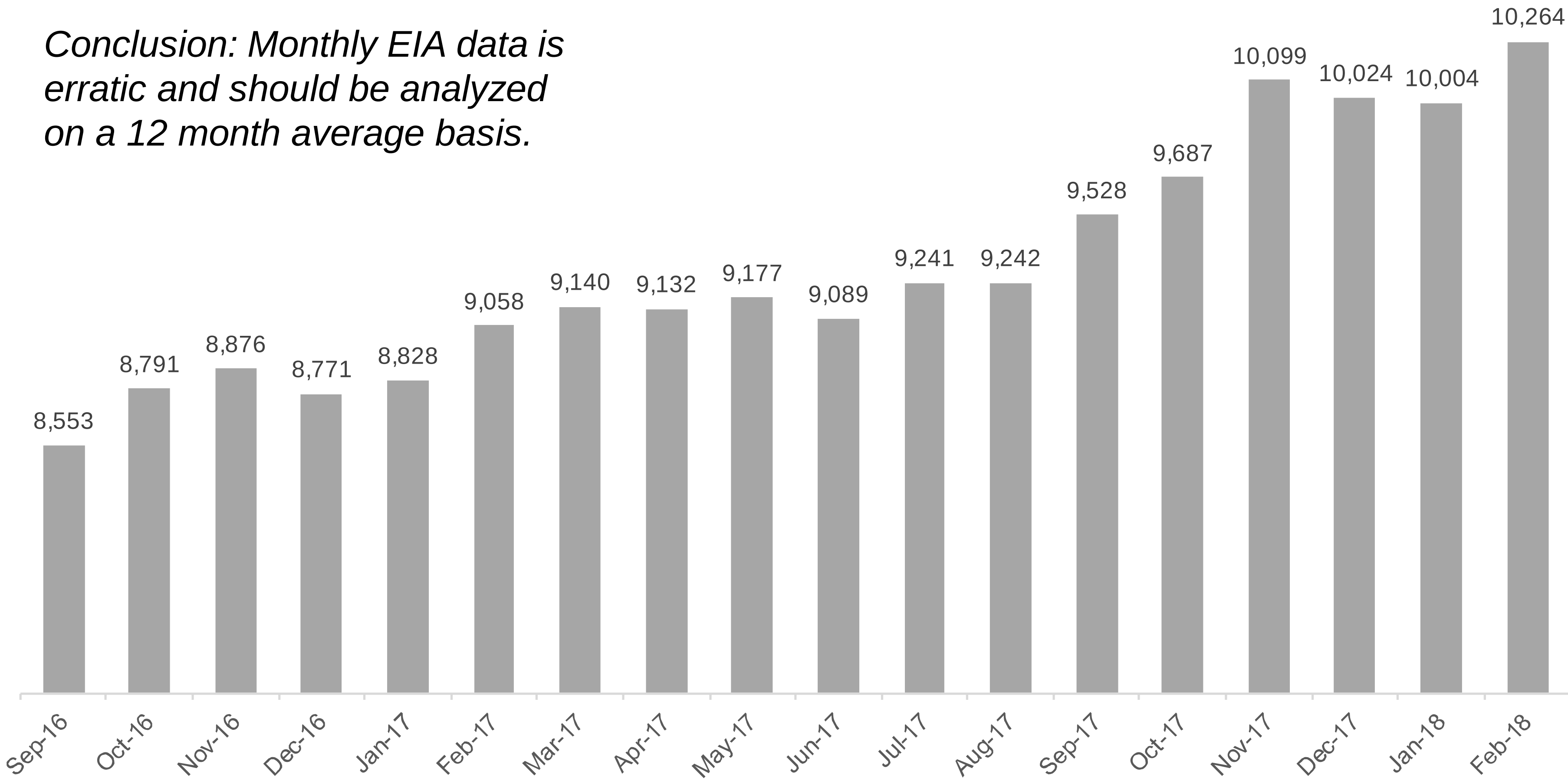
  Secondary:

  - GOM growth stopping in 2019
  - No new substantial resource plays to augment the Bakken and Eagle Ford (Scoop/Stack, Niobrara are localized combo plays)
  - Value over volume discipline among independents

# Total US Crude Production Has Been Essentially Flat For 9 of the Past 13 Months

**US Crude Production (MBPD)**

*Conclusion: Monthly EIA data is erratic and should be analyzed on a 12 month average basis.*



# Growth Prediction

- In a constructive oil price environment, total 2018 US oil growth will be ~950 MBD/yr. vs EIA/IEA predictions of 1.3/1.4 MMBD/yr and global demand growth of 1.6 – 1.8 MMBD/yr.
- 2019 total US oil growth will likely be ~850 MBD/yr.

# Basis For This Prediction

- EIA monthly data is telling us something
- The GOM turnaround is inevitable
- A large portion of the Tier I Eagle Ford and Bakken acreage has already been drilled – approximately 70%
- There's a steep drop-off in oil output/well between Tier 1 and Tier 2 geologic quality
- Completion technology improvements can't cure bad rock

# What to Expect In 2018+ In A Constructive Oil Price Environment

- The Eagle Ford is unlikely to grow from present levels unless oil prices increase to $80+
- The Bakken will only grow 100 MBD from current levels unless oil prices increase to $80+
- The Permian will be the only substantial US growth driver – and its growth won't reach the high side predictions
- The GOM YOY growth will end in late 2018, then multi-year declines will begin

# Conclusions

- US oil production will grow, but less than currently predicted
    - Corollary: WTI will have to be very high to stimulate US growth of 1.2 - 1.5 MMBD/yr.

- Even so, by 2019 the US will be essentially tied with Russia and Saudi Arabia as the world's biggest oil producer

- Groupthink regarding shale's effect on "short cycle time" is overstated

- Expect a very tight global oil S/D when the market concludes that US shale isn't the "Big Bad Wolf" that it used to be

# 2018 Items to Monitor

- EIA Monthly Data
  - Expect ~950 MBD/yr. 2018 growth rate and ~850 MBD 2019 rate
  - Expect monthly US data to be erratic – need to annualize
- E&P's repositioning away from Eagle Ford, Bakken, Scoop and Stack
- E&P's 2018 US oil growth forecasts
- Hints of slowdowns in rates of shale completion improvements
- Changes in shale downspacing and Permian multizone assumptions (parent/child issues)

# Centennial Resource Development, Inc.

- Unhedged, oil weighted Delaware Basin pure-play
- Quality acreage position
- One of the highest debt-adjusted oil growth CAGR
- Best mid-cap shale development technical team
- Conservative management
- Very low debt
- Focus on GAAP ROE’s / ROCE’s