



HALLIBURTON
100 YEARS

Louisiana Oil and Gas Symposium

Michael Schexnailder

Technical Manager, Gulf of Mexico

Halliburton in Louisiana, since 1936

Employees: 2,143

Locations: 37



The Halliburton Approach to Improving Well Economics

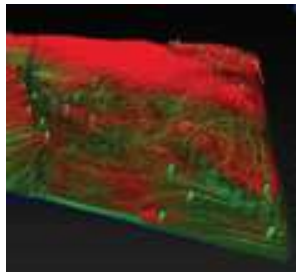
Increase
Drilling and
Completion
Optimization



Reduce
Supply
Chain Cost



Improve
Operating
Efficiency



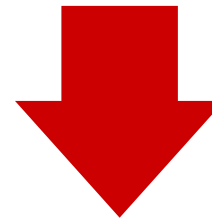
Subsurface
Insight to Drill
Better Wells

+



Custom Chemistry
to Increase
Production

=



**COST
PER
BARREL**

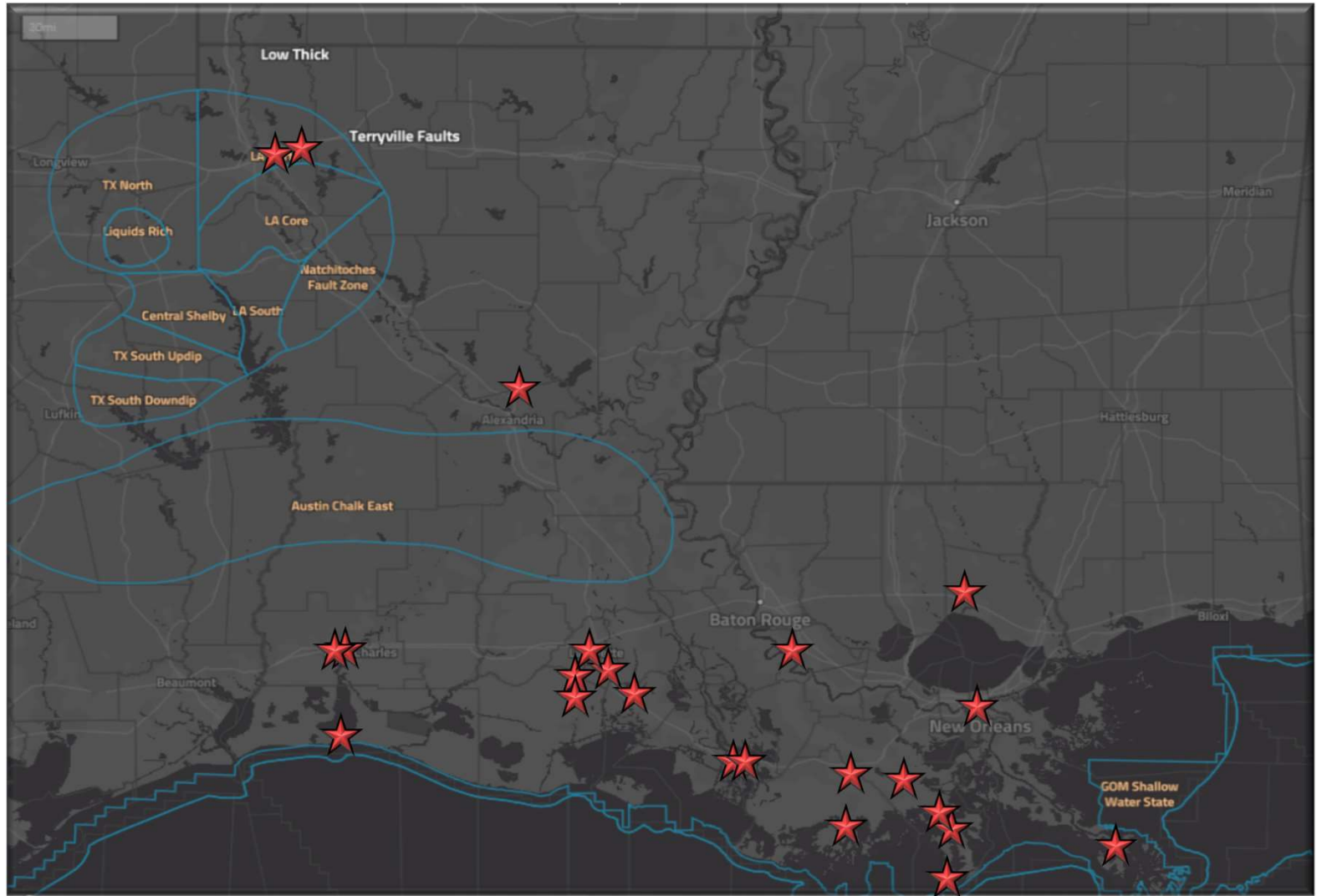
37 Locations

The Trends:

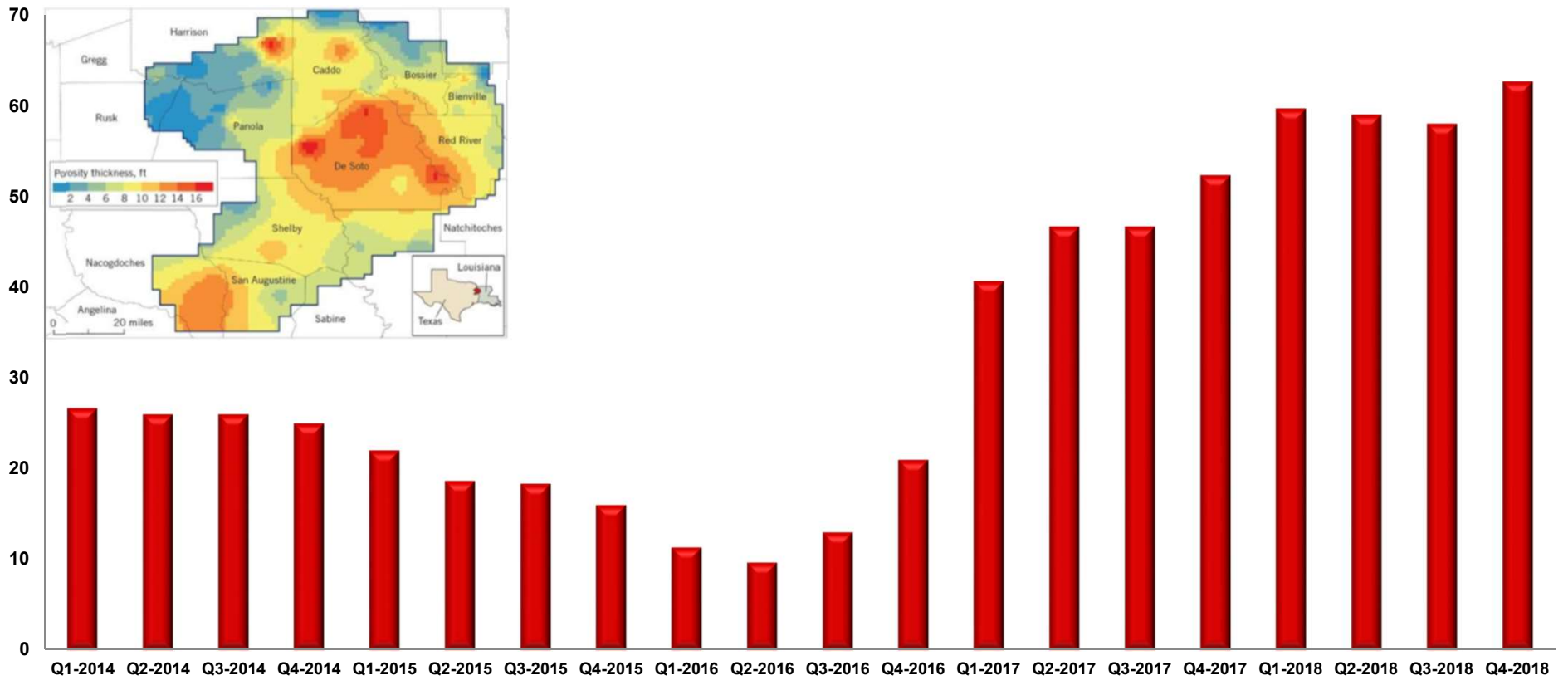
Haynesville Shale

Austin Chalk

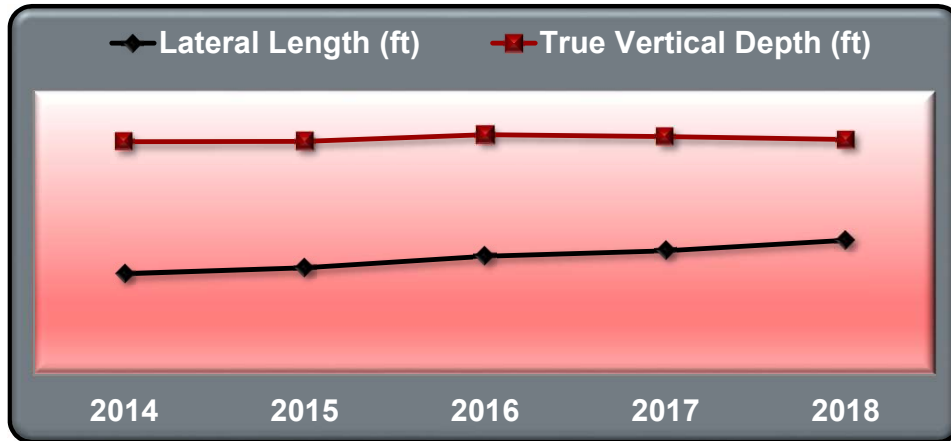
Gulf of Mexico



Haynesville: Rig Based Activity

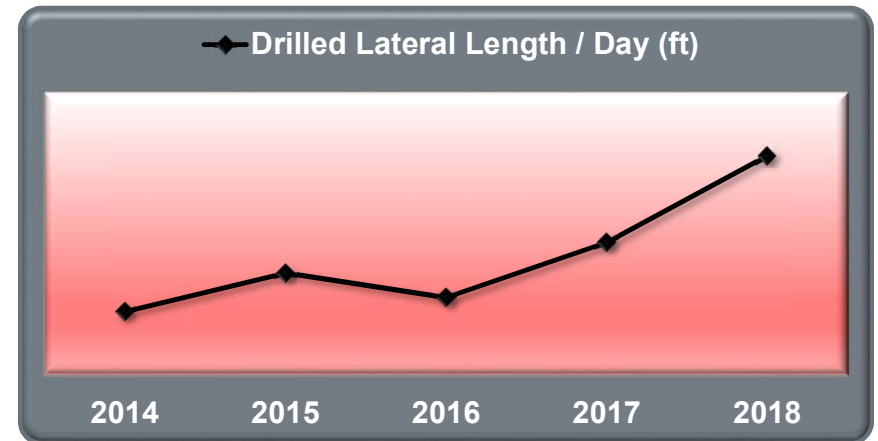


Haynesville: Drilling Activity



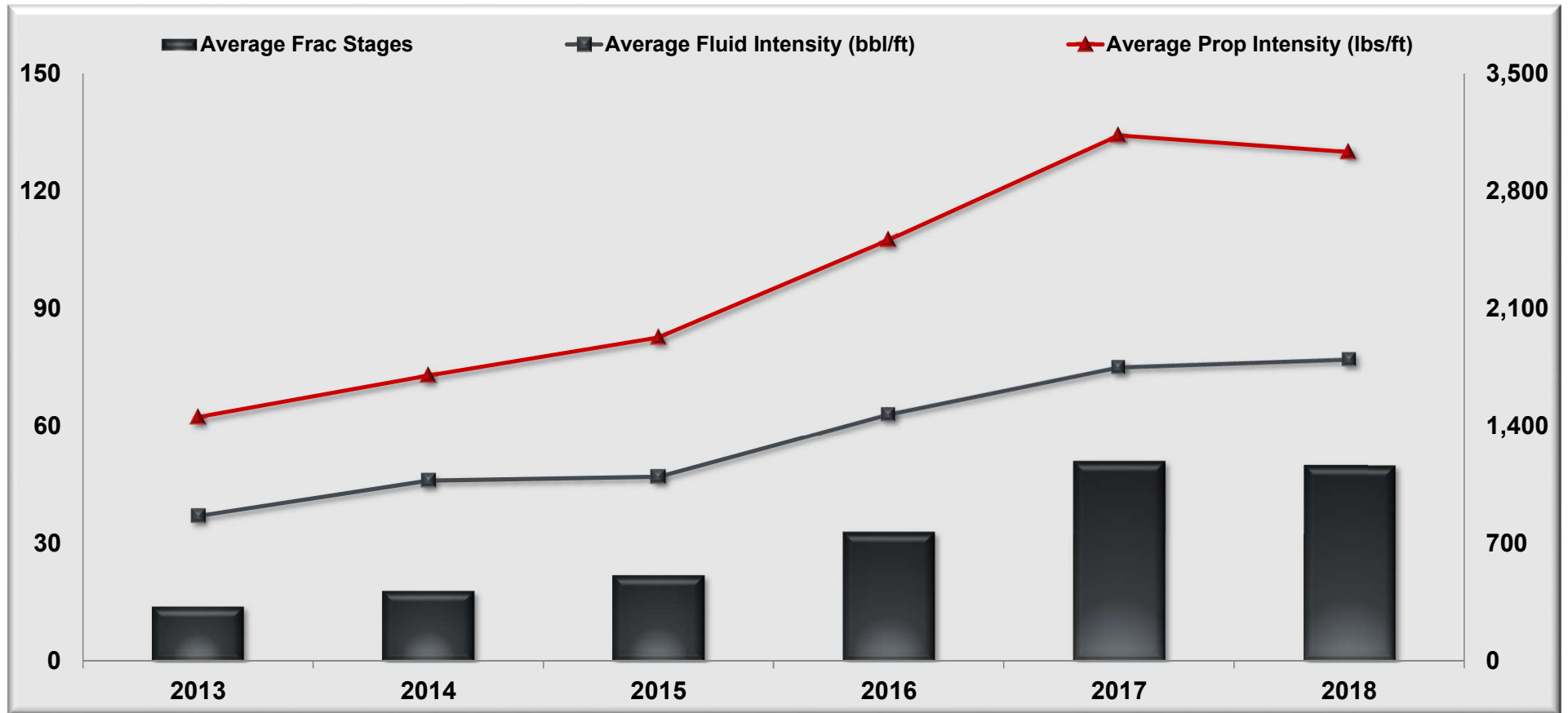
+0% True Vertical Depth
 +33% Lateral Length
 +11% Measured Depth

+45% Drilled Lateral Ft / Day
 Longer Laterals
 Secondary Acreage

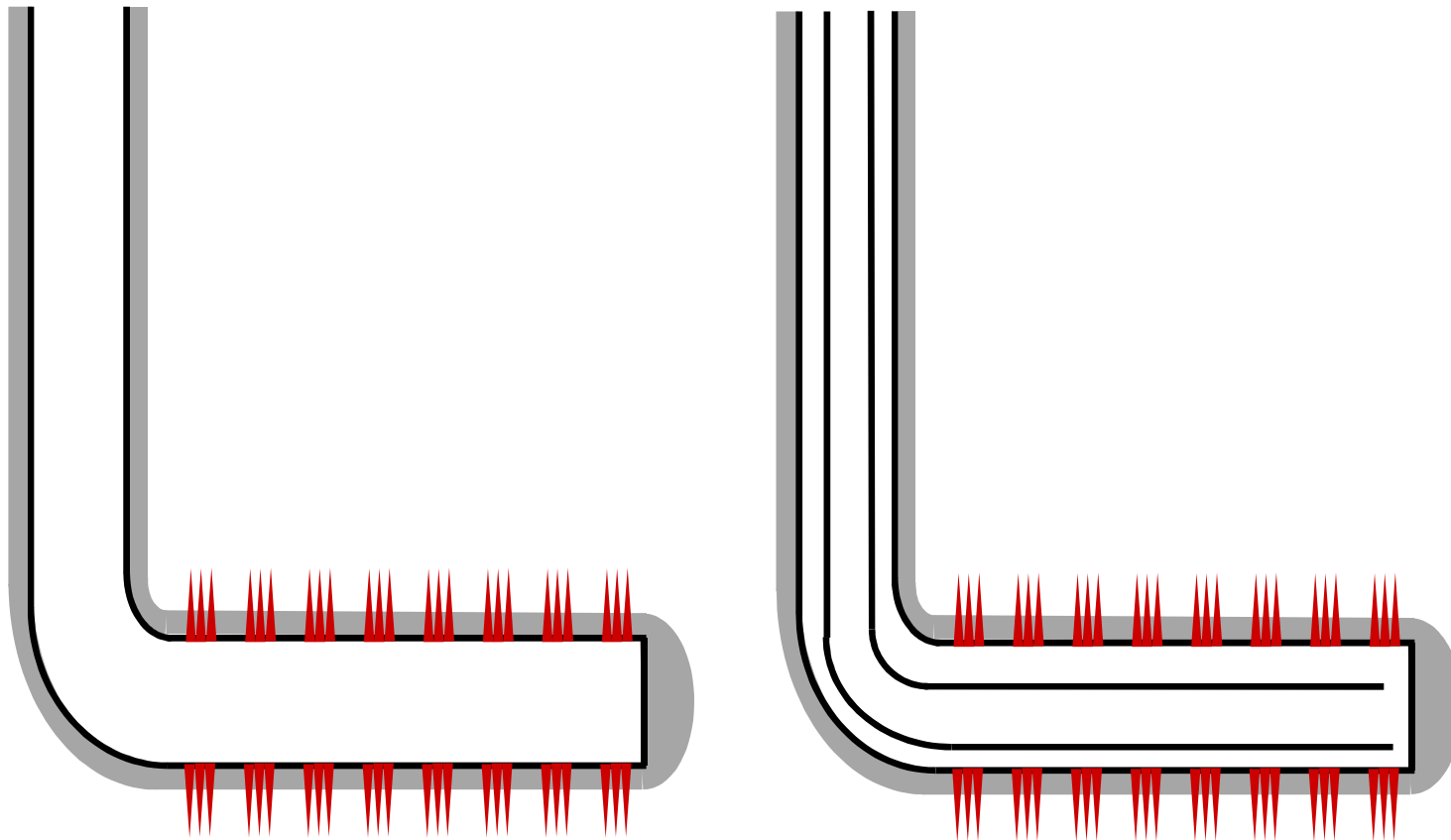


Source: raw data provided by RSEG
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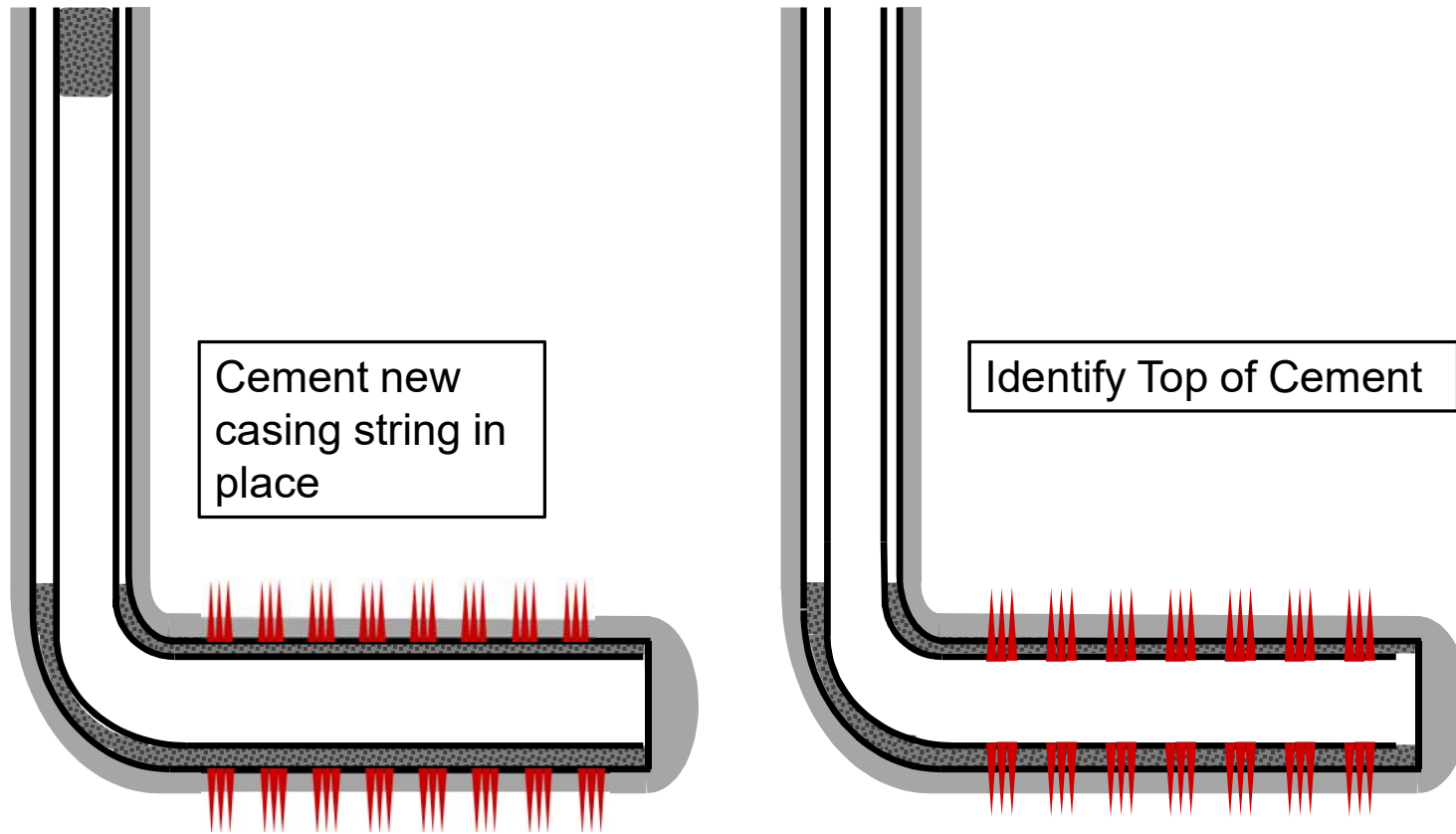
Haynesville: Completions Based Activity



CEMENTED CASING-IN-CASING METHODOLOGY

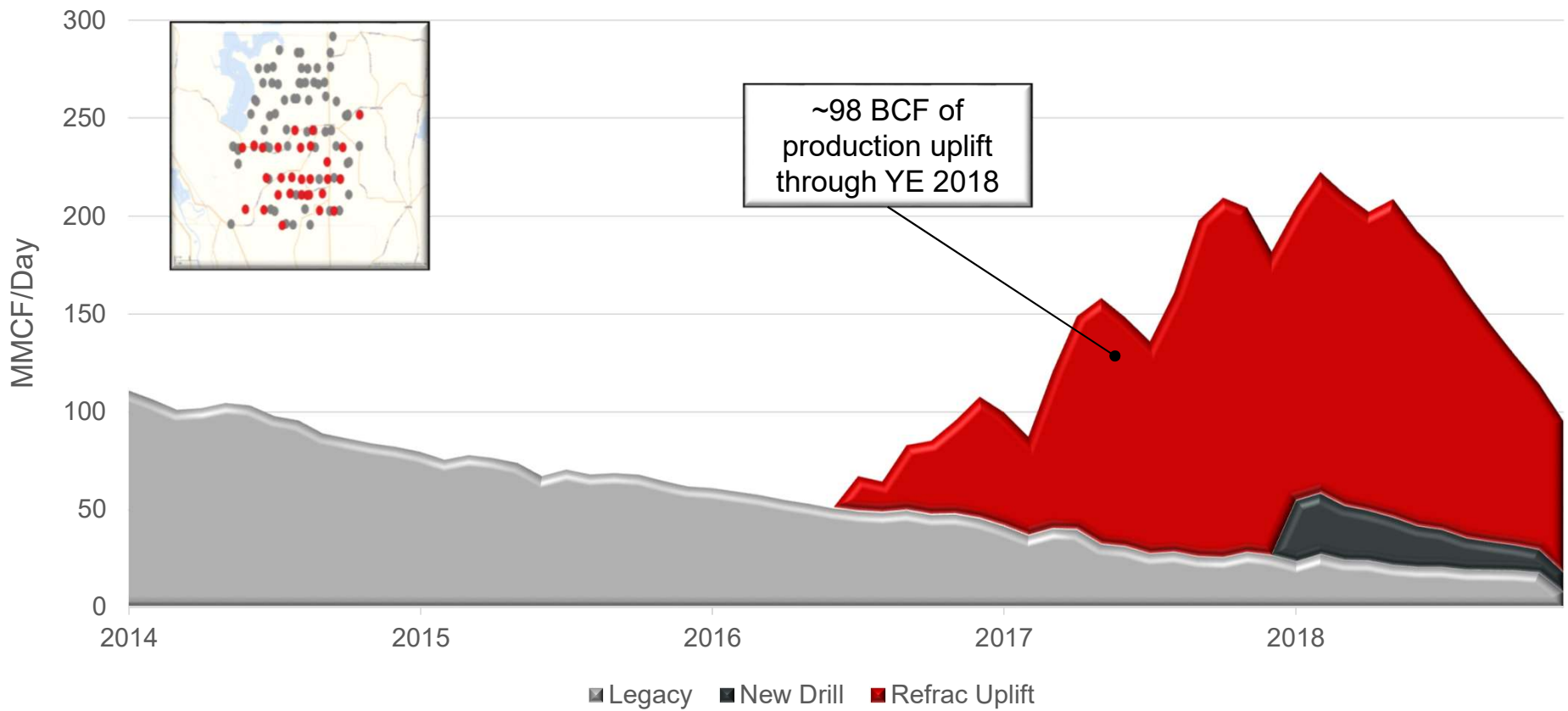


CEMENTED CASING-IN-CASING METHODOLOGY

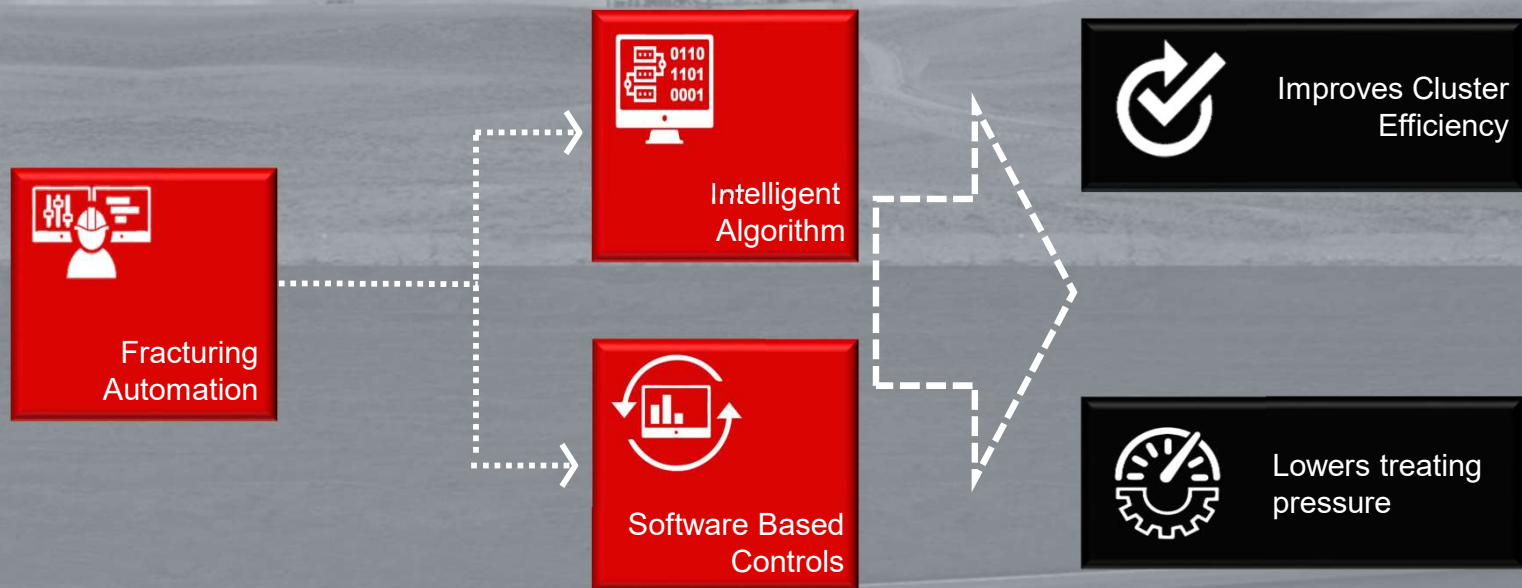


Bienville Parish Refrac Wedge Production

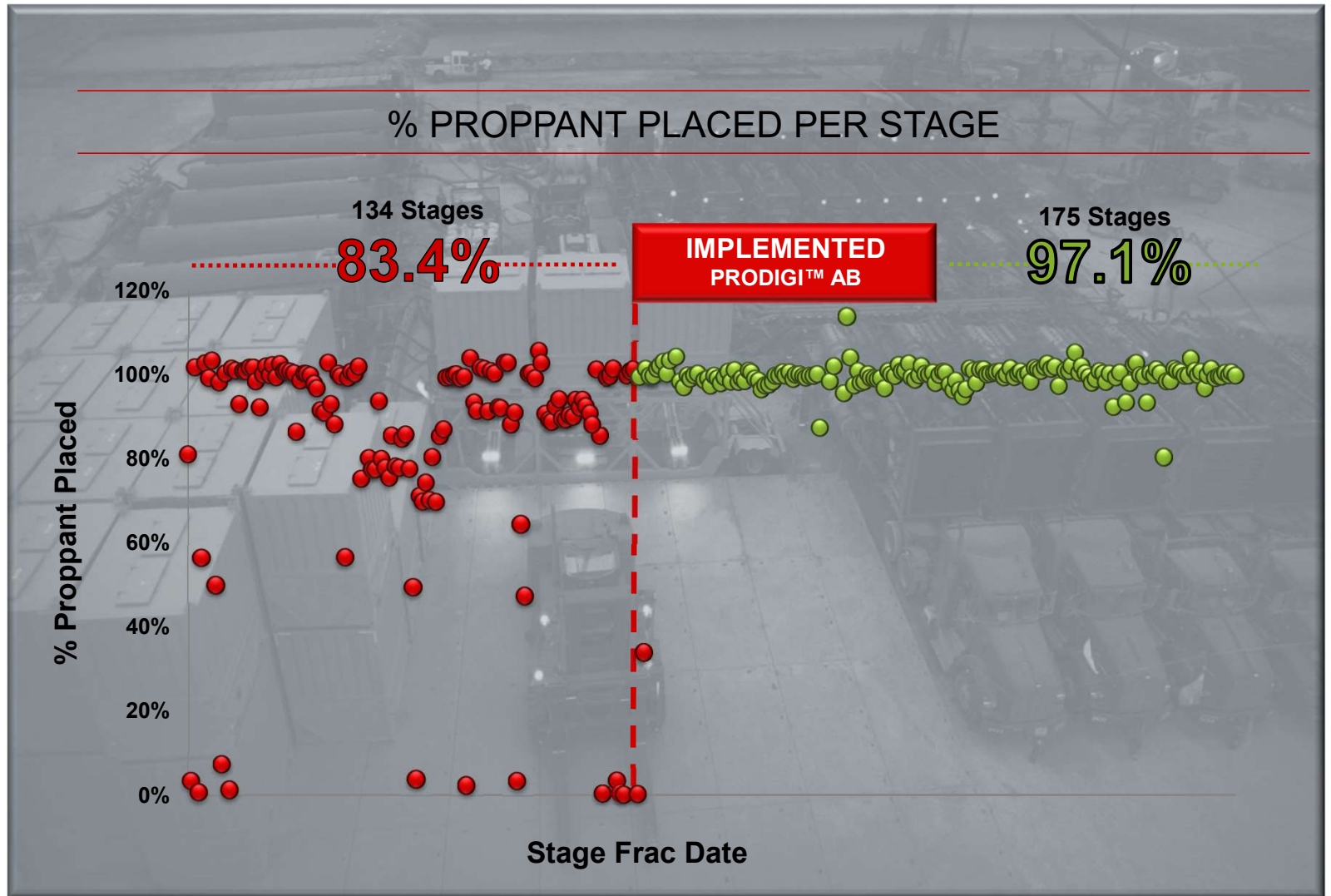
Casing-in-Casing Refracs on 38 of 133 Legacy Haynesville Wells



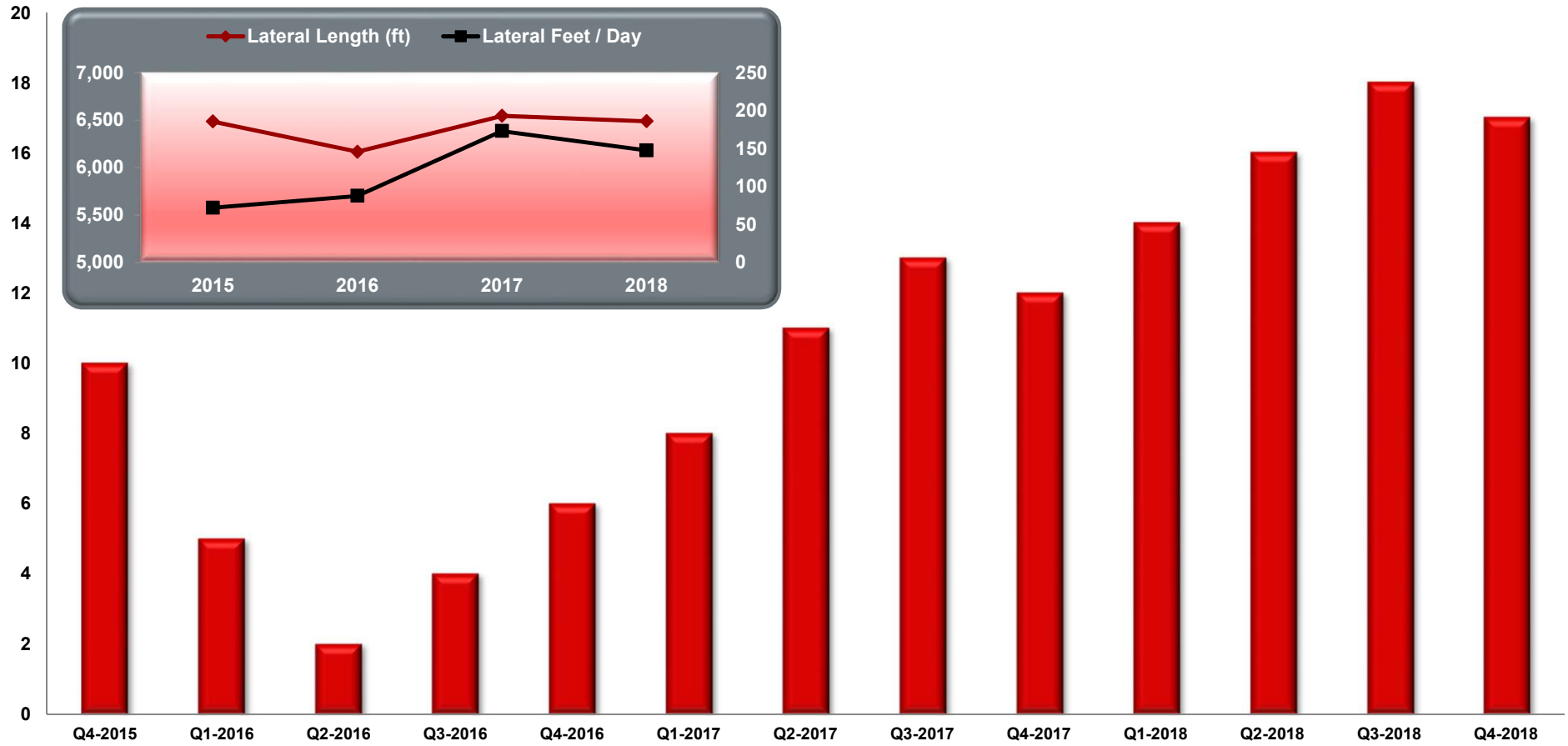
Intelligent Fracturing Prodigi™ AB



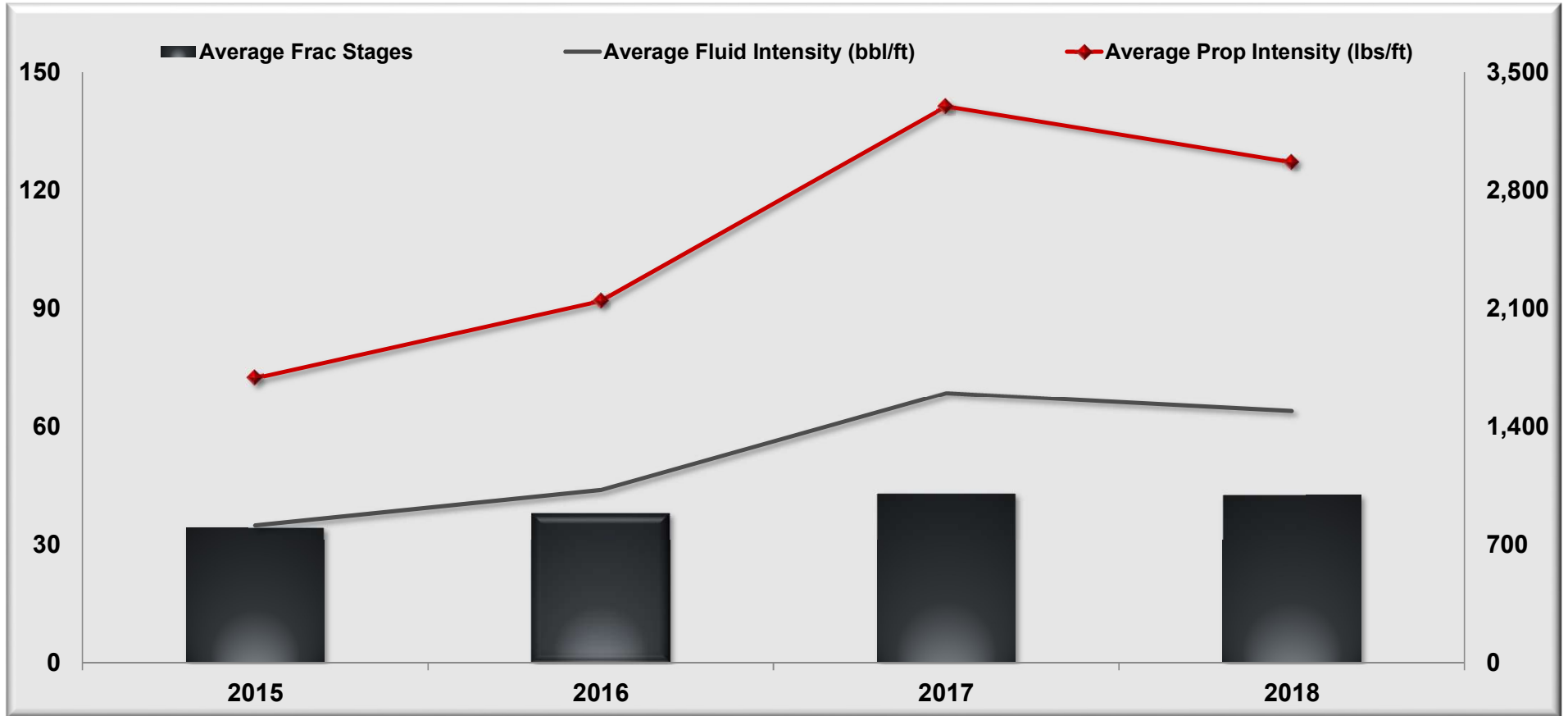
Prodigi™ AB Case Study



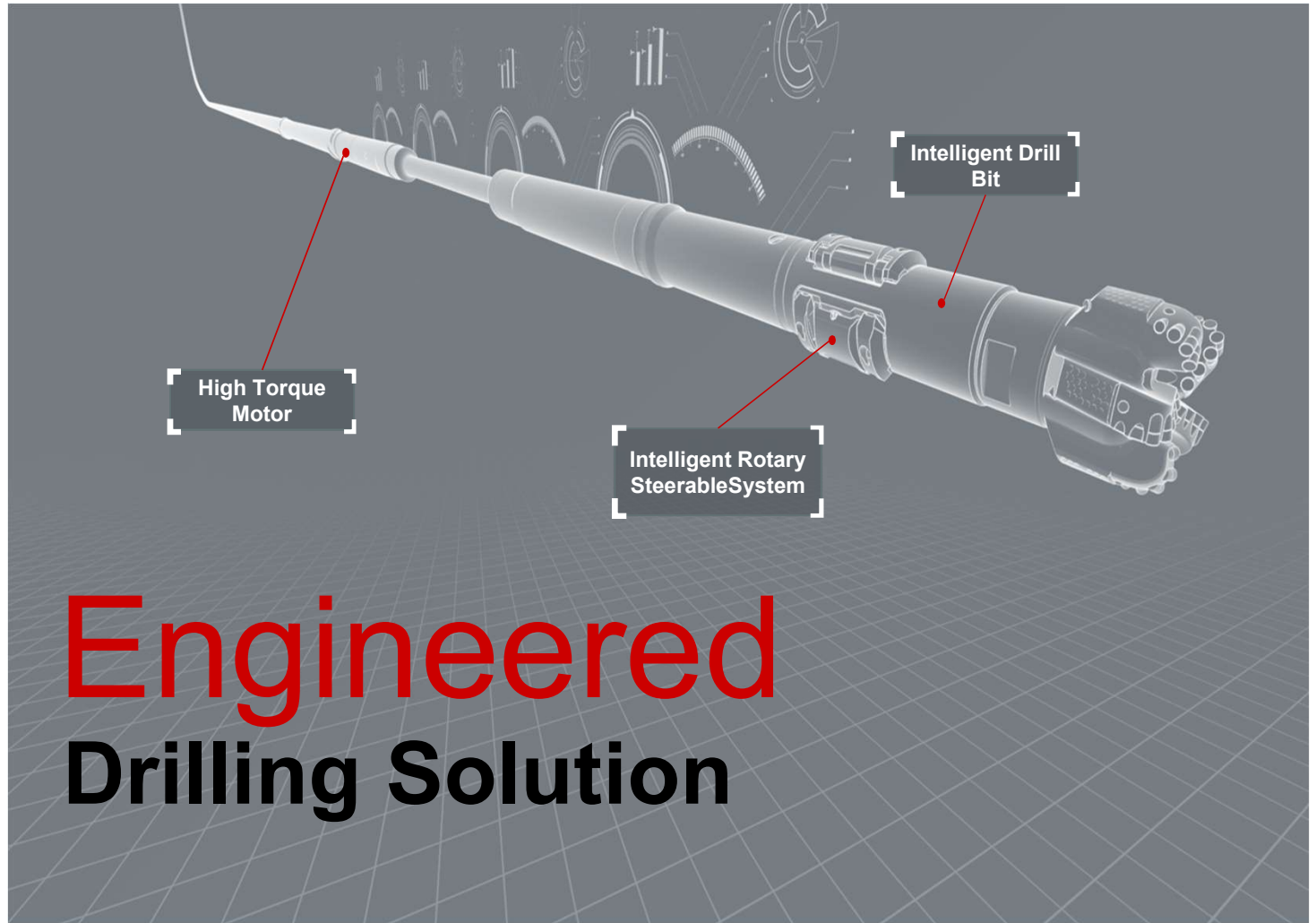
Austin Chalk: Rig Based Activity



Austin Chalk: Completions Based Activity

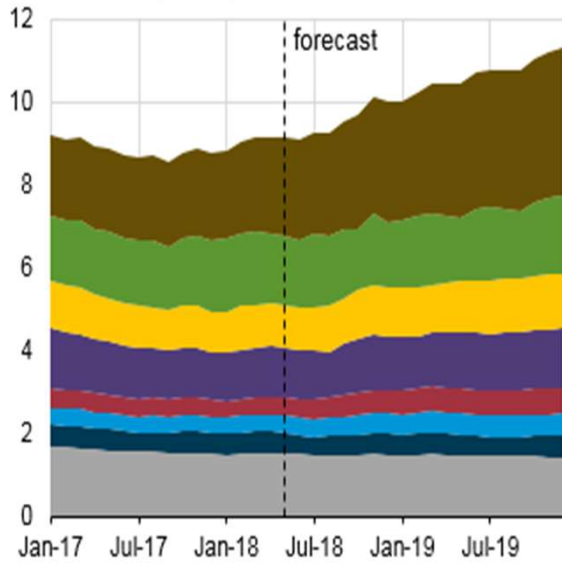


- Reduce Well Time
- Place Wells Accurately
- Improve Reliability

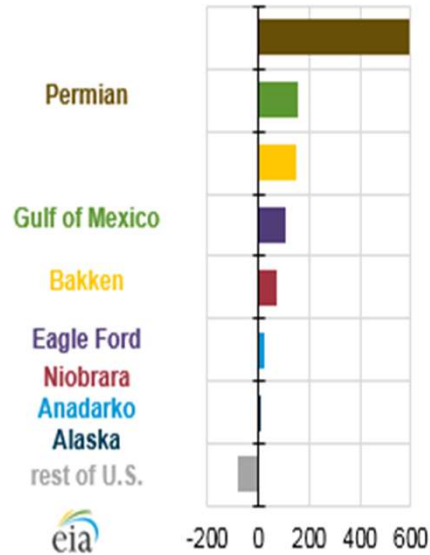


Gulf of Mexico

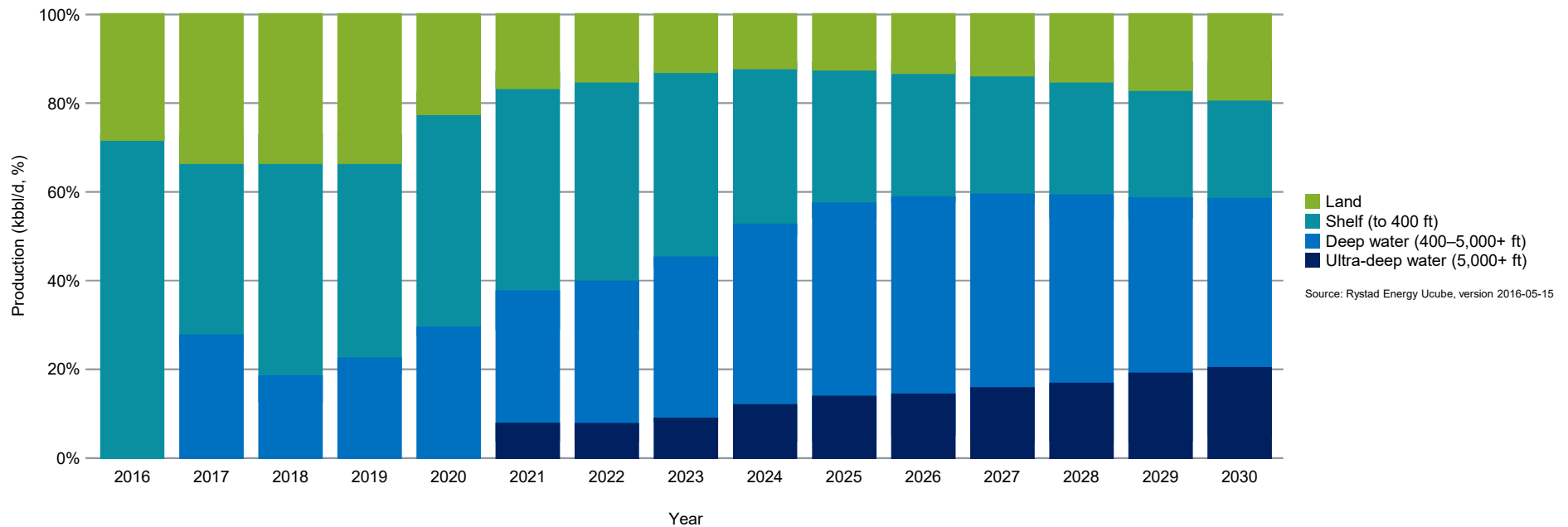
Monthly U.S. crude oil production (Jan 2017-Dec 2019)
million barrels per day



Projected change 2018-2019
thousand barrels per day

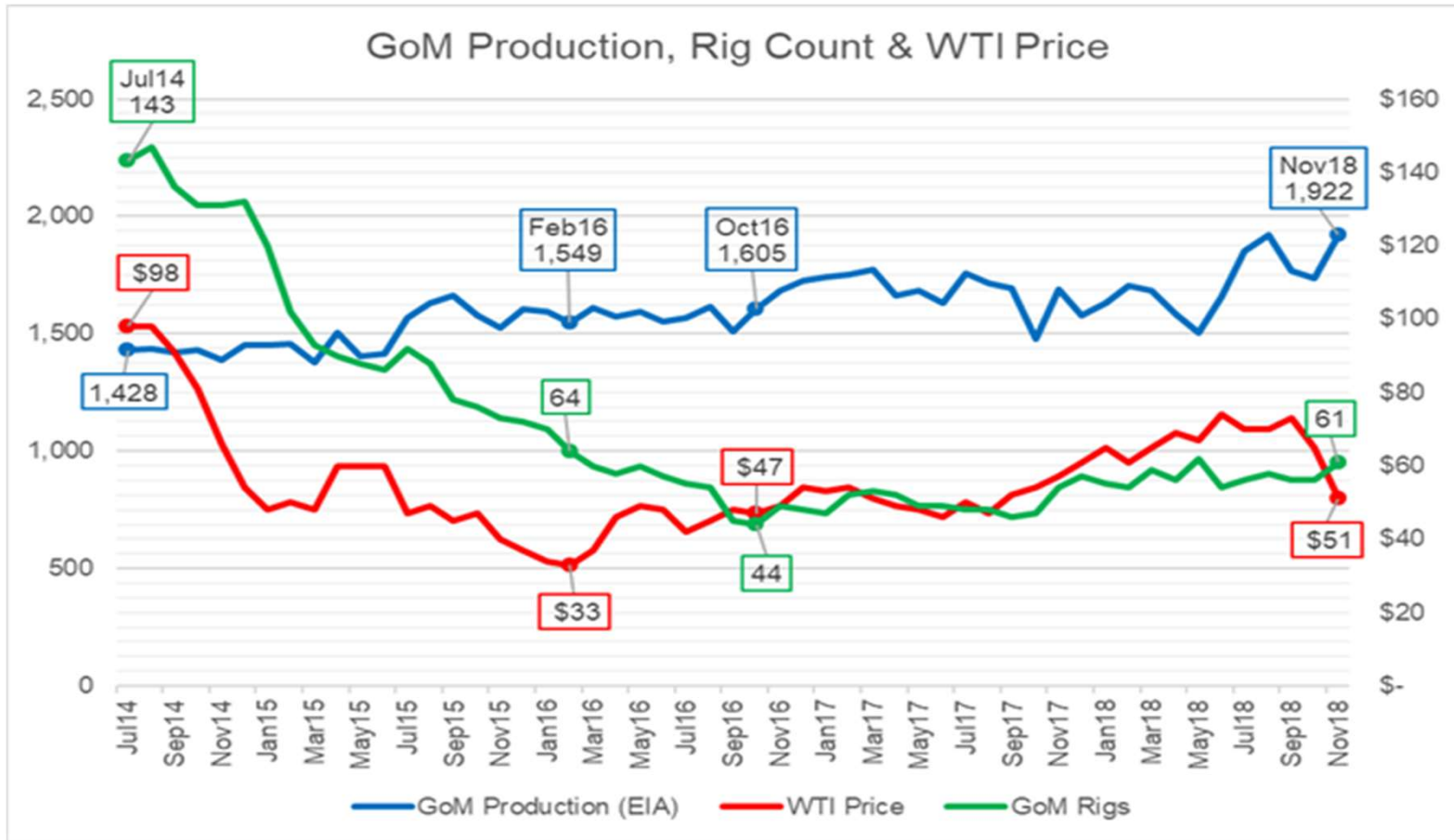


Deep Water will be a Large Contributor to New Supply Growth and Production in the Future



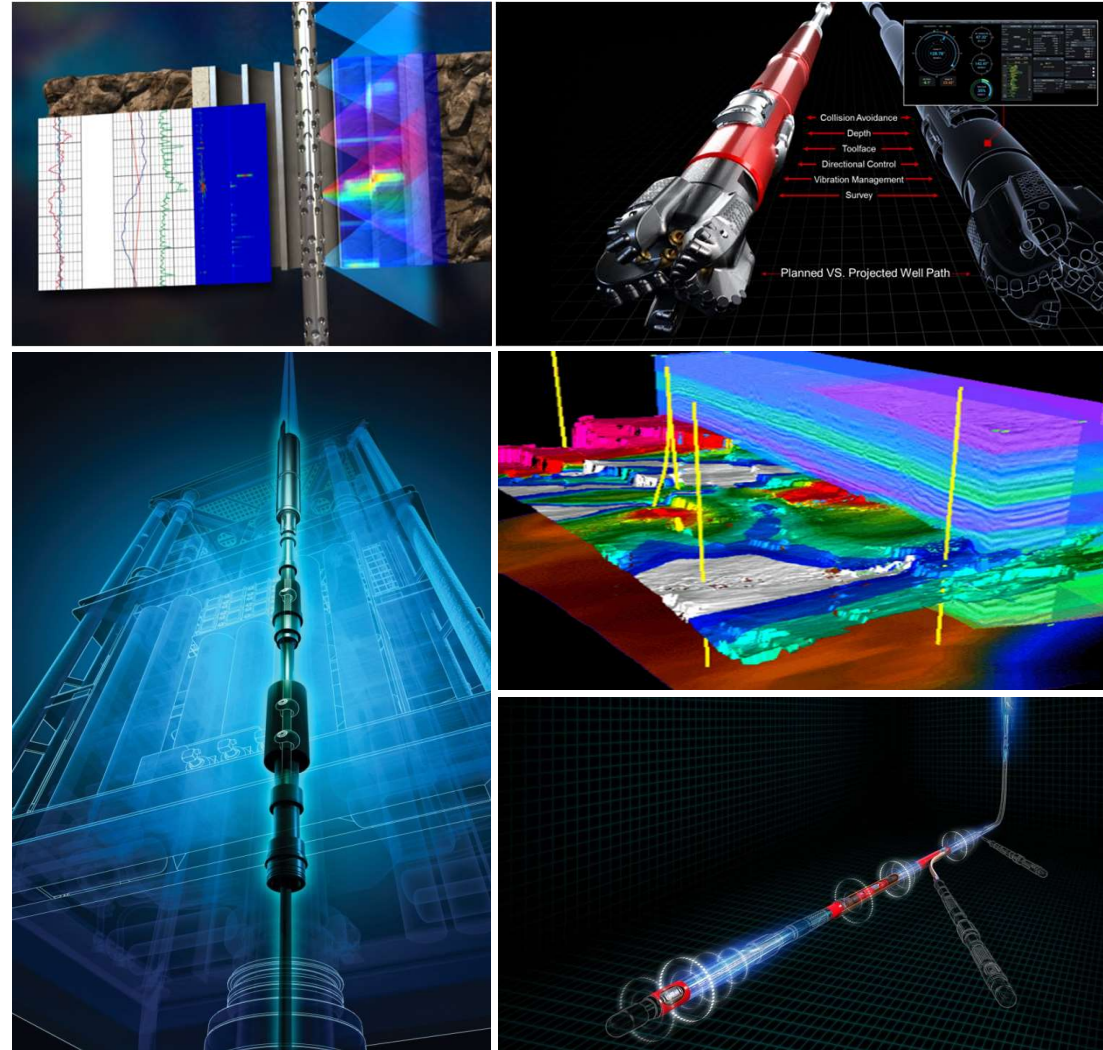
From 2016 to 2030, production will shift from shelf and land to deep and ultra-deep water.

Gulf of Mexico Outlook



Technology Outlook

- Automation advancement
 - Sensor / algorithm applications
 - Data analytics
 - Risk management
 - Predictive outcomes
- Subsea intervention effectiveness and efficiency
- HPHT (20K) requirements
- Reservoir understanding for smart management



THANK YOU

QUESTIONS Q&A ANSWERS HALLIBURTON THANK YOU