Beyond the Traditional Rig Count with Drillinginfo

How Drillinginfo is Revolutionizing Rig Intelligence with Real Time Data on the U.S. Rig Fleet

Rig Counts

Rig counts have long been used to assess the overall health of the oil & gas industry and predict future production. Several companies publish rig counts, but because these counts are released only weekly and provide limited details on rig location and well type, they are insufficient indicators of actual activity and future production.

The Drillinginfo daily rig count provides both increased transparency and increased accuracy compared with other industry rig counts. Through the DI Rig Analytics product, Drillinginfo has applied analysis to the rig data it collects, enabling users to go beyond tracking the number of U.S. rigs, to also track the number of new horizontal and vertical wells spud each month and which new wells have reported production over time.

> "The real-time data provided in DI Rig Analytics is a valuable tool for operators, drillers, oilfield services, and financial analysts."

Drillinginfo provides this level of coverage and granularity by tracking daily locations of U.S. rigs, with the majority tracked via GPS units located on the rigs. The data are augmented with reports from drilling contractors and production and permit data from state agencies. The Drillinginfo rig count also has expanded U.S. coverage compared with other published rig counts, including non-core areas, small, regional drillers, and rigs drilling wells other than oil and gas wells. The result is a daily view of active[1] rigs categorized by wellbore trajectory, rig class, product type, permitted depth, permitted formation, operator, and driller, among other characteristics.

Leveraging the Data in DI Rig Analytics

The unique data provided in DI Rig Analytics is a valuable tool for operators, drillers, oilfield service companies, and financial analysts. The ability to track well starts and uncover correlations in rig and permit data allows customers to make informed decisions based on intelligence that is not available in other traditional rig counts. In this paper, we will highlight three differentiating insights available through DI Rig Analytics and discuss the free Drillinginfo Index rig count.

All Rigs Are Not Created Equal

While rig counts have been tracked for decades, there are several reasons why a simple weekly rig count is no

1 Drillinginfo considers a rig "active" if it is on a permitted location.

longer sufficient to gauge productivity of the rig fleet:

1. Rig efficiency varies greatly, requiring estimates of how the rig count actually translates into the number of new wells drilled each month
2. Rigs drilling horizontal versus vertical wells impact future production differently
3. Operators are drilling but not completing wells

Drillinginfo overcomes these rig count shortcomings by combining proprietary rig information with data on permits and production to ensure customers have the most accurate and current rig information available on the market. Instead of simply tracking the number of rigs and their general locations, customers have access to granular details on rig movements, efficiencies, and newly spud wells that help predict future production.

Track Rig Efficiency

Knowing the number of rigs in the field does not neatly translate into estimating future production. As most traditional rig counts do not track the movements of an individual rig, it is impossible to know how long a rig remains at a given site drilling a single well or whether a single rig is quickly moving from site to site drilling multiple wells.

Because Drillinginfo tracks rigs via GPS units, the movements of individual wells can be recorded and visualized on a map. Customers can understand not just the size of the active fleet, but also its efficiency, and predict future trends in the number of wells being drilled.

This information can be found in the Metrics Map tab of the DI Rig Analytics product. The map displays all historic and active rigs, their respective operators and drillers, the number of wells drilled by an operator or driller, average movement in miles between drilling sites, and average permitted depth of wells being drilled. In addition to filtering by individual rig, customers can filter by operator or driller to understand the efficiency of a particular company's rig fleet or by trajectory to view the number of horizontal versus vertical wells being drilled (**Fig. 1**).

Monitor a Leading Indicator: New Well Starts

Tracking rig movements over time provides information about rig fleet efficiency. By also having information about the number, location and trajectory of new well starts, customers can determine the likely future productivity of those wells. New well starts,[2] shown in **Figure 2**, captures both efficiencies and activity into a single metric, and is a leading indicator of future oil supply because it can be tracked months in advance of production being reported.

Customers can dig deeper into productivity within the Well Starts Through Time tab by filtering by drilling trajectory to see how the total number of well starts per month is broken down between horizontal and vertical wells. **Figure 3** shows the same well starts chart as in **Figure 2**, but colored by trajectory.

As oil prices have fallen, the composition of wellbore trajectories has shifted more heavily to horizontal wells. Using other Drillinginfo tools, customers can build curves by trajectory for wells in each play, and apply those type curves to the new wells to forecast future production.

2 Drillinginfo defines a well start as when the rig first shows up on the permit location.

Identify Drilled but Not Producing Wells

While understanding the number of new well starts and their productivity potential is useful, many of those drilled wells will remain uncompleted in low price markets. Identifying the number of horizontal and vertical wells that have been drilled, but are currently not producing, is relevant for predicting future production.

The Production Status filter on the Well Starts Through Time tab tracks wells where the rig left at least six months ago, but there is still no reported production. Customers can visualize the number of drilled but not producing wells as a proxy for wells that have not yet been completed. For example, **Figure 4** shows new well starts in the Bakken from March 2014 through December 2015, colored by production status.

After filtering down to just the wells with no production after six months, these can be further sorted by county, operator, trajectory, etc. In addition, the well data can be exported for a more comprehensive assessment of location, operator, depth, and other details.

DI Index: The Next Generation in Rig Counts

As this paper has established, traditional rig counts do not provide enough data to make accurate predictions about future production. DI Rig Analytics delivers detailed data and analysis that allow users to answer in-depth questions and make long-term predictions. The Drillinginfo Index is Drillinginfo's snapshot overview of this analysis.

Released monthly, the Index reports newly drilled wells and newly issued permits over the previous month, as well as rig count. It also predicts peak production for the newly drilled wells. Using the same proprietary collection method and analysis applied to rig data in DI Rig Analytics, the Drillinginfo Index is a summary of the oil and gas landscape that can be used to make accurate estimates of future production. Freely available, the Drillinginfo Index can be accessed at http://diindex.drillinginfo.com/ by subscribers, analysts, media, and others.

Conclusion

All rigs are not created equal, which means traditional weekly rig counts are insufficient to gauge industry health and forecast production. Through daily GPS tracking of the U.S. rig fleet, Drillinginfo provides an up-to-date, comprehensive snapshot of industry activity. With the additional permit and production data included in DI Rig Analytics and summarized in the Drillinginfo Index, customers can go beyond simple rig counts to track new well starts by trajectory and predict future production.

PROACTIVE

EFFICIENT

COMPETITIVE

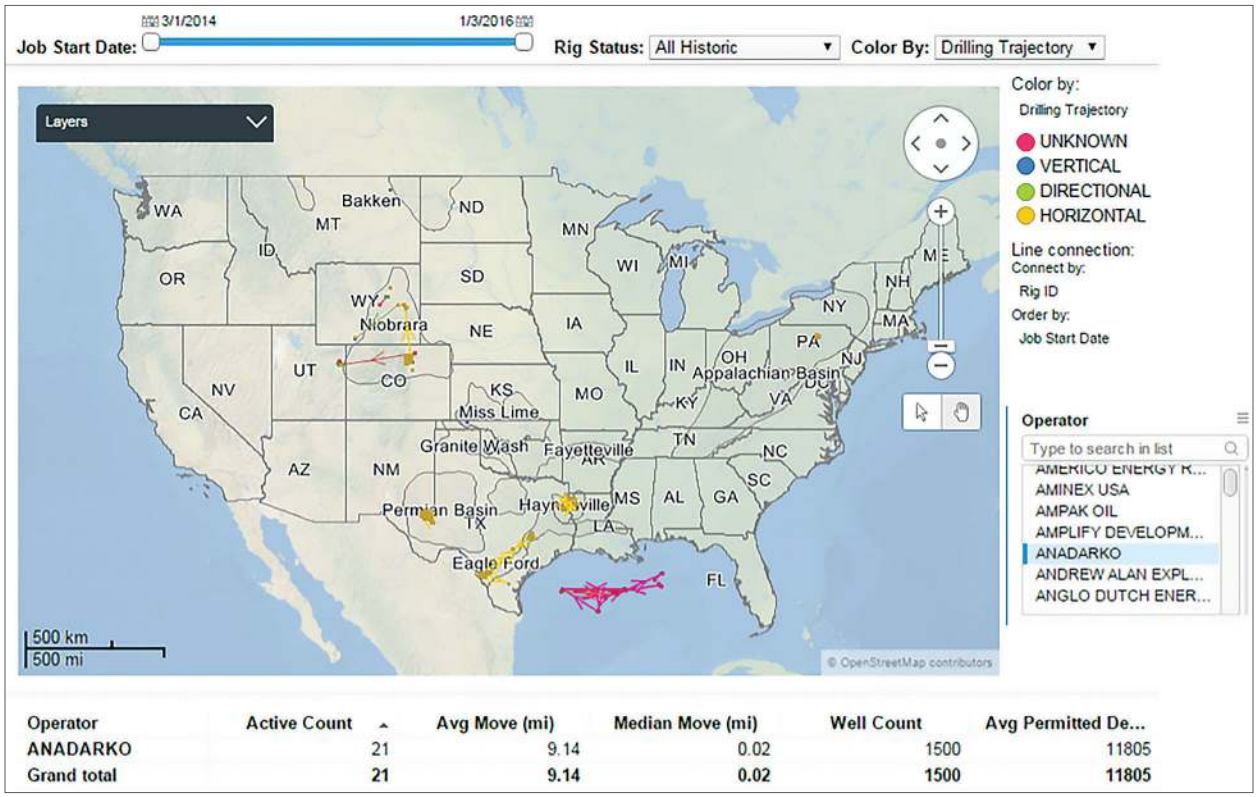
By monitoring the market, Drillinginfo continuously delivers innovative oil & gas solutions that enable our customers to sustain a competitive advantage in any environment.

Drillinginfo customers constantly perform above the rest because they are able to be more efficient and more proactive than the competition.

Learn more at www.drillinginfo.com

drillinginfo
better, faster decisions

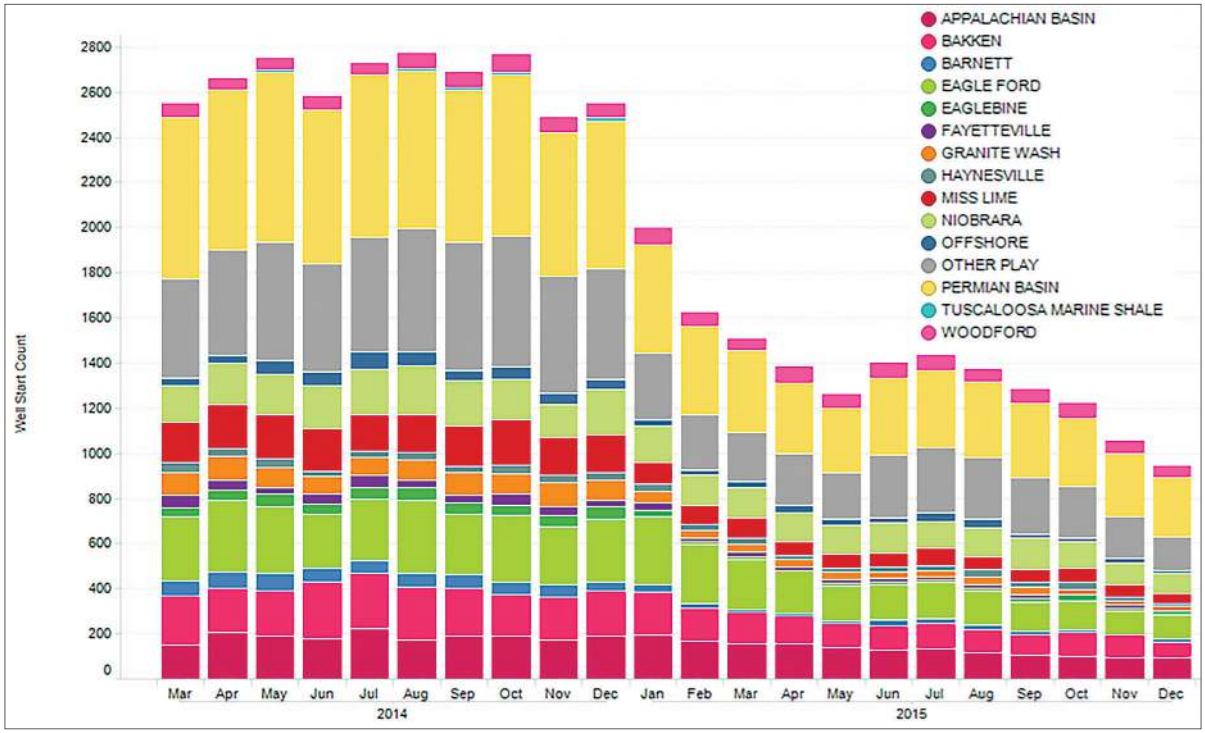
Figure 1



Operator	Active Count	Avg Move (mi)	Median Move (mi)	Well Count	Avg Permitted De...
ANADARKO	21	9.14	0.02	1500	11805
Grand total	21	9.14	0.02	1500	11805

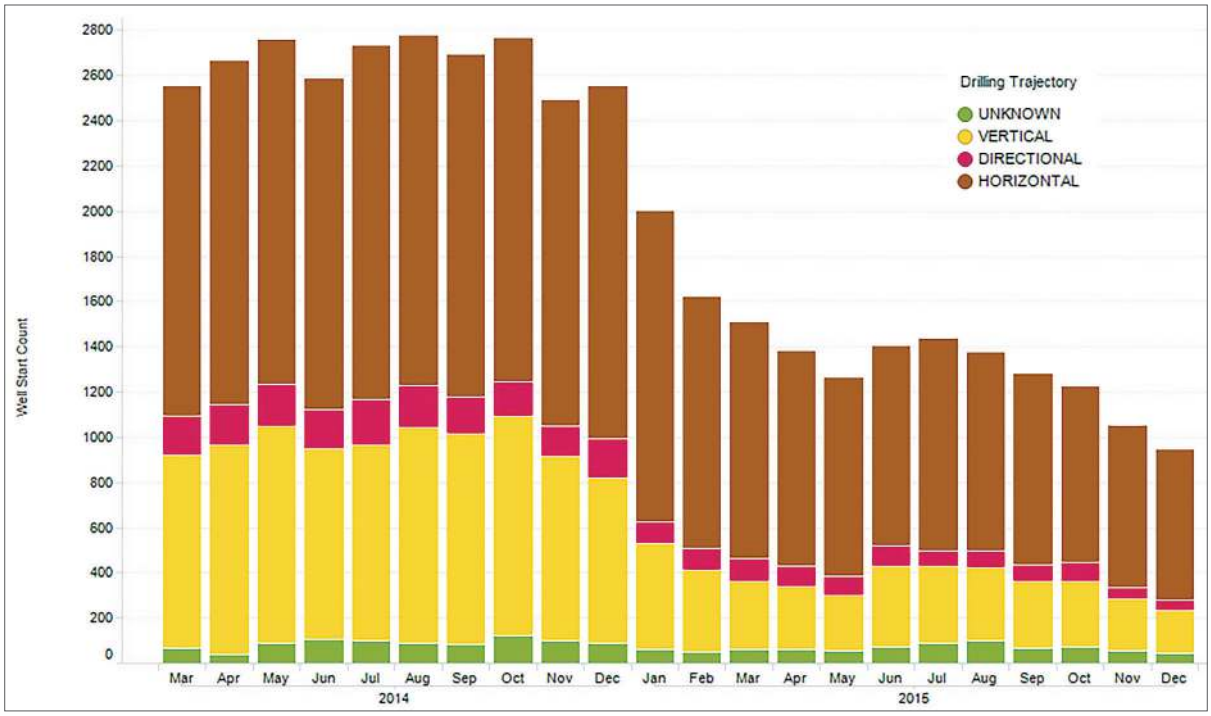
Map view of all historic rigs associated with a single operator, Anadarko, and their movements, number of wells drilled, average distance moved, and wellbore trajectory from March 1, 2014 to January 3, 2016.

Figure 2



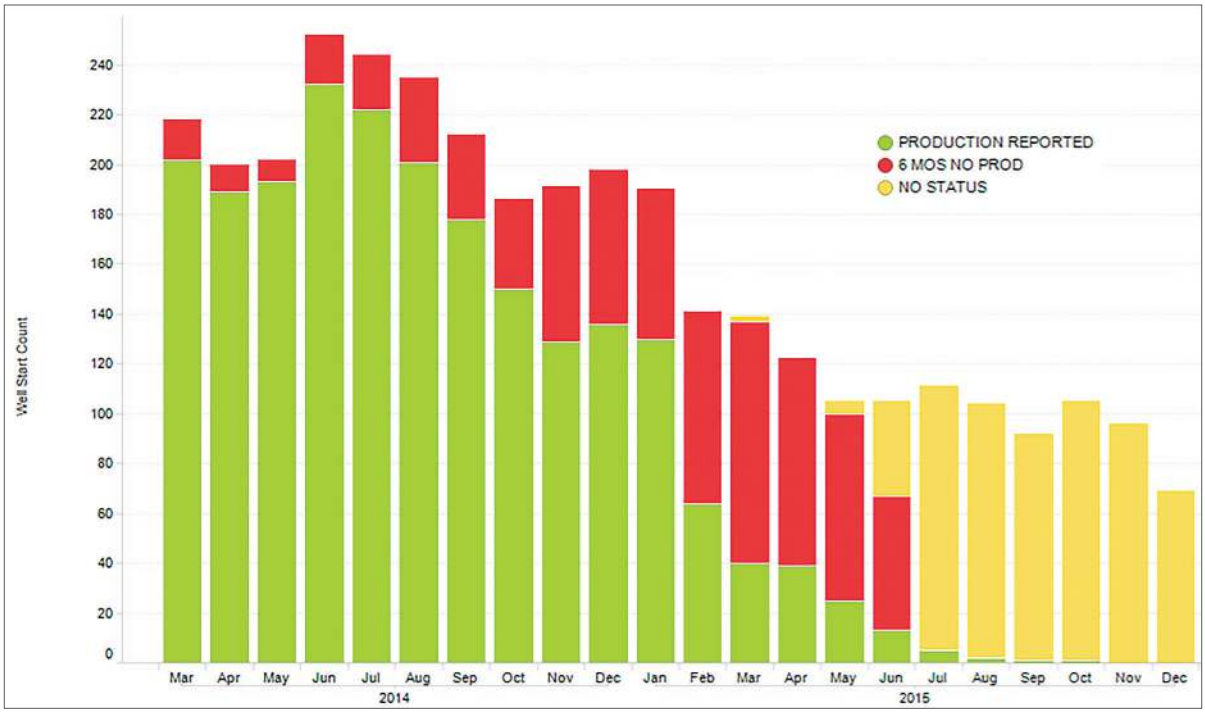
New Well Starts, March 2014–December 2015, colored by play.

Figure 3



New Wells Starts, March 2014–December 2015, colored by wellbore trajectory.

Figure 4



New Well Starts in the Bakken, March 2014–December 2015. Red bars indicate wells with no reported production, although the rig left at least 6 months ago.