

On the cusp of Europe's new legislation to regulate shale plays, **Fred Kunzinger**, senior principal and upstream subject-matter expert for Noah Consulting, discussed how an operator's data can become a true asset to unconventional operations.

In Haugesund, Norway at the ECIM E&P Data and Information Management Conference and at Digital Energy Journal's Using Analytics to Improve Production Conference in Aberdeen, Scotland, Fred impressed upon attendees why now is the time for companies considering European shale plays to assess data management strategies and ask — are they doing the right things and are they doing them the right way. If you were not in Western Europe to hear Fred first hand, here is a Q&A with him about his presentation.

Q: There are a lot of politics and disparaging opinions about unconventional drilling in Europe. What was it like tackling an aspect of such a touchy subject?

A: The first thing I noted was that unconventional drilling is nothing new. In 1694, the British Crown issued a patent to "extract and make great quantities of pitch, tarr, and oyle out of a sort of stone." Fast forward to the 1830's and commercial production of lamp oil from shale oil was done in France. In 1851, commercial oil production from Torbanite (boghead coal) was done in Scotland. I shared those facts along with some European reservoir statistics in comparison to the US.

But, I was not there to discuss politics. In the midst of awaiting the outcome of regulations for unconventional drilling, European operators run the risk of making the management of critical data an afterthought. That was my focus. Now is the time to assess how to augment data management strategies to meet the unique needs of emerging shale plays.

Q: What's the biggest risk operators entering shale for the first time will have in leveraging data as a key asset to drive decisions that improve the bottom line?

A: In short, they run the risk of the "ctrl+A" or "select all" method to data management. There is a big chance that those who have established data management practices and processes for conventional investments may have a false sense of security in applying the same approaches to managing unconventional data. The challenges of drilling more wells to meet growing production targets in an unconventional drilling factory model, mean that what is good today, may not be good enough for tomorrow. The question that all operators must consistently ask is, "are we doing the right things, and are we doing them the right way?"

Q: So what is the key challenge for conventional companies looking to enter the shale market?

A: The biggest challenge operators face in shale is the accelerated speed of business. Think about an assembly line scenario. While the assembly line was institutionalized by Henry Ford a little more than 100 years ago, it is just now making its mark on the oil and gas industry because a standardized, manufacturing process is needed to optimize profitability. Historically in offshore, data about dates, the time gaps between them, and the causes of those gaps has been neglected or not treated as important. In the Shale Assembly Line, accurately collecting this information and making it available for analytical and standardization use becomes the basis for optimization throughout the entire well lifecycle.

In shale, the time from spud to first oil is so short that managing the process is a real issue. Shale wells tend to lose 2/3 of their production in the first 2 years versus offshore wells, which routinely produce for 30 years. So for shale operators, time is a value asset. By incrementally decreasing the number of drilling days while at the same time improving the number of production days, a company can make a real difference on the bottom line. For example, assuming 30 wells are drilled per month, understanding the time it takes between the well being completed and put online, then reducing this time by 2 days per well could result in a company gaining 720 more production days per year. Some companies drill over 1000 wells a year in shale plays – so multiplying the increased production of just 2 days for wells that produce \$8 million can increase the bottom line by \$44 million. That does not account for the reduction in cost when the drilling process itself optimized!

Q: With the number of wells, the drilled footage, and production all on the rise, how are information requirements changing?

A: This is two-fold. First, the amount of data being generated is increasing exponentially. This is challenging for any company that is relying on manual processes for managing that data. You just can't hire enough people to manually manage the data volumes. Second, just cataloging and storing the data is not good enough. In order to optimize your processes, increase your yields, and reduce your costs, you need to manage the data holistically across the enterprise. Good analytical capabilities are critical. To have good analytics, you need quality data mastered across functional systems and governance to provide sustainability that ensures the solution not only meets the business' needs, but also supports the business as it grows.

Q: You noted the difference in managing unconventional data. Are there any commonalities for upstream processes?

A: Trusted well header data is required for all upstream core processes — reserves reporting, drilling operations, integrated reservoir management, production optimization, field material management and maintenance, production revenue accounting, regulatory compliance, annual report and lease management. Without trusted well header potential value will not be realized.

The challenge with well header data is that it takes on a new meaning for each functional group that handles it in the enterprise. With all the different hands touching, naming, storing and integrating well header data, it's hard to know what is correct. The need for a single version of truth becomes critical for safe, efficient operations.

Q: You wrapped up your presentation with how right-time and real-time analytics fuel predictive analysis and business transformation. What are the key benefits for companies that have analytics as an organizational capability, not just a single tool or approach?

A: With the advent of the Shale Factory Model, upstream companies are embracing LEAN processes fully for the first time. This is all about optimizing your processes, bringing the time — and therefore costs — down while increasing productivity.

There is a saying that you can't improve what you can't measure. Analytics need to become as common as Microsoft Office products. Building a dashboard may solve one problem, but putting all three key analytical capabilities into the hands of the business will solve many problems.

Key Analytics

1. Standard business monitoring "what wells are shut in" type of analytics
2. Spatial analytics that can be applied to supply chain issues with product delivery and removal from the well sites
3. Predictive analytics that allows a person to move forward more intelligently

Q: Any last words for shale newcomers?

A: I can't emphasize enough — your analytical capabilities are worthless if the processes are based on missing, incorrect or old data.

About the Speaker:



Fred Kunzinger is a Senior Principal and Upstream Subject Matter Expert with Noah Consulting. Prior to joining Noah in the summer of 2012, Fred retired from Hess Corporation where he worked for nearly 23 years with postings in Tulsa, London and Houston with his most recent position being that of Senior Manager for Global Data Management. He has been a PPDM Board member for over five years and formerly served as the association's Chairman of the Board.

Fred has a B.S. in geology from Notre Dame and an M.S. in geology from Old Dominion. Previous positions included time with Phillips Petroleum as well as the Defense Mapping Agency (a predecessor to the Geospatial Intelligence Agency). In 2011, Fred was a recipient of the Upstream Data Management Cornerstone Award at the 15th International Conference on Petroleum Data Integration, Data and Information Management, and has presented papers at the PPDM and PNEC Conferences as well as the Keynote at the 2011 TGS GeoForum in Houston. In his spare time, Fred enjoys golf and working with Habitat for Humanity.