



Petroleum Data Workshop 2019

May 14, 2019



2019 Oklahoma Petroleum Data Workshop

Speakers Abstracts

May 14, 2019

8:00-9:00am

Welcome and PPDM Update

Trudy Curtis (Professional Petroleum Data Management Association)

Short Biography:

Trudy is the Chief Executive Officer of the Professional Petroleum Data Management (PPDM) Association, the global Not-For-Profit society focused on data management best practices and standards and data management as a professional discipline. Based in Calgary, Canada, Curtis has nearly four decades of years of experience in the industry and is known around the world for her outspoken advocacy data as a strategic asset, and its management as a core business function.

After receiving a BSc. from the University of Calgary in 1978, Curtis went to work in the Oil and Gas industry. In 1996, she joined the PPDM Association as architect, CIO and ultimately CEO of PPDM Association. Curtis is leading the way to the emergence of data management as a global discipline, the creation and industry adoption of data management standards and best practices, the development of professional development and certification programs for data managers, and the professionalism of data management in the petroleum industry. In addition to her role as CEO of the PPDM Association, Curtis is co-founder of the Standards Leadership Council.

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*9:00-9:05am*

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9:05-9:10am

TBD (Keynote Presentation)

TBD (TBD)

Description of Presentation:



Petroleum Data Workshop 2019

May 14, 2019



Short Biography:

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*9:50- 10:00am*

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10:20- 10:50am

Well Planning Efficiencies Gained Through Combining Business Process Analysis and Data Management Principals

Kevin Brunel (Devon Energy) & Robert Best (Infosys)

Description of Presentation:

In the current era of multi-well pad drilling and stacked plays, having accurate and timely data and efficient interdisciplinary collaboration is paramount for efficiency. This presentation covers the transformation of Devon’s well planning process from one of manual steps involving hardcopies, paper documents and phone calls to one where multiple wells could be planned at one time in a collaborative environment with the key people being involved at the right time all with the best available data. This was facilitated by leveraging Business Process Modeling and Data Management principals.

Short Biography:

Kevin’s career in data management and data-driven software application development spans more than two decades. As a consultant, he spent several years providing business analysis, project management, and solution delivery management services to companies in the oil and gas industry, including ConocoPhillips/Phillips 66, Williams, Great White, and others.

In early 2013, Kevin entered Devon Energy as a business analyst with Noah Consulting, kicking off the Engineering Data Management program. He joined Devon as a full-time employee later that year, and soon spearheaded the deployment of our Business Process Management practice, as Supervisor, BPM. In early 2016, Kevin took over the Geosciences Data Management teams, and is currently leading this diverse group in maturing Devon’s Subsurface Data Management organization.

Robert has spent over 25 years in the upstream oil & gas software and Information Management consulting areas in a variety of roles. His oil & gas career began with the co-founding of Neuralog – a technology and service provider for E&P data capture. While serving as President, Neuralog steadily grew its customer base worldwide and developed operations in the US, Venezuela, Ecuador and Mexico. Robert currently serves as the Chairman of PPDM, an Association that promotes data standards, professional certification and a community of practice. Robert’s career at Noah Consulting and Infosys has been

focused on working with oil and gas companies to improve their operations by leveraging data and optimized processes.

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*10:50- 11:20am*

**A Practical Journey Towards Business Transformation**  
**Chevy Thomason (Stonebridge Consulting)**

**Description of Presentation:**

Business transformation in the digital revolution is largely the same as in previous era-defining revolutions. It describes a journey, not a destination. It involves people, culture, process, and technology. What's unique, however, is encompassed in the word "digital," in the advent of information converted into binary digital form. In short, it's about the data—and by extension, it's about data management.

In truth, data management is the foundation in any organization's transformational journey in the digital revolution. And this is especially truth for the oil and gas industry, which has been slow to fully embrace data-driven innovation. Until now, that is, when digital transformation is the hot marketing buzzword in oil and gas.

Given the centrality of data in the digital revolution, oil and gas data management professionals play an integral role in laying the data foundation for true business transformation. In this session, attendees will learn how to advise management on creating a business transformation plan. Key takeaways:

- Using a structured framework for building a data-centric business transformation plan as a living organizational program
- How to build a data-centric strategic roadmap; including steps in executing the plan, the importance of driving a data-centric culture, and the essential components for ensuring sustainment
- Use case illustrating how data management is driving business transformation today at oil and gas companies

**Short Biography:**

Chevy Thomason is a Principal Consultant at Stonebridge Consulting, a provider of business advisory and technology services for the oil and gas industry. Chevy has 15+ years of data management experience in the oil and gas industry, working both for an operator and consulting company. In his current role, he specializes in developing Data Management strategies and plans to aid companies in a successful transformational journey.

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11:20-11:50am

A Digital Journey: The Transformation of the Oil & Gas Industry

Steve Cooper (EnergyIQ)

Description of Presentation:

It is apparent to everyone within the oil and gas industry that there are significant changes underway being driven by the need to operate more efficiently with fewer people. A catalyst for this change has been the application of digital technology where a focus on data science and analytics has resulted in a real and significant improvement to overall business performance. While big data and analytics gets most of the attention, this is just one aspect of a broader movement that is popularly referred to as the Digital Transformation.

Over the last 12 months, the author has undertaken an extensive initiative to understand the key business and technology trends that are driving the oil and gas industry. Analyzing these trends has provided insight as to how they will impact oil and gas companies and how companies can adopt best practices to compete effectively in the future. Within these trends lies a story that is of interest to our entire industry.

In this presentation, the author addresses the following questions:

- What lessons have been learned from digital initiatives of the past?
- What are the key trends shaping industry today?
- What are the key components of a Digital Transformation strategy?

Based upon comprehensive research and analysis, the author makes the case that most companies do not realize the expected benefits from Digital Transformation initiatives because they do not take the time to build a solid digital foundation based upon data management best practices. The presentation provides a review of the data management best practices that successful companies are applying to lay the foundation for an effective Digital Transformation strategy.

Short Biography:

Steve Cooper is the founder, President and CEO of EnergyIQ, a recognized leader in the oil & gas data management arena headquartered in Denver, Colorado. As part of EnergyIQ, he has developed a sophisticated Well Master Data Management platform that supports critical decision-making at many oil and gas companies today. He started EnergyIQ in early 2008 after 14 years at Petroleum Information (later IHS) with 5 years spent as the CIO. He is a past Chief Communications Officer and Board Member with the PPDM Association. Additionally, he has served on the Board of Directors for two publicly-traded gold mining companies.

Steve holds a Ph.D. in Automated Mine Surveying & Planning, Nottingham University, England and Bachelor's Degree in Mining Engineering from Nottingham University, England. He worked in several soft and hard rock mines upon graduating, but switched to the petroleum industry shortly thereafter, taking a number of classes at the Colorado School of Mines.



Petroleum Data Workshop 2019

May 14, 2019



Steve has been published in numerous journals and has presented at industry conferences on subjects including data quality, governance, master data management, analytics and visualization. Recently, Steve joined the Data Analytics advisory board at Denver University and is an occasional contributor at the Colorado School of Mines.

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*11:50-12:00pm*

**Sponsor Spotlight- TBD**

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1:00-1:30pm

Empowering the Visualization of PPDM Data

Victor Vela (INT)

Description of Presentation:

Data visualization and discovery are becoming essential to business transformation in the petroleum industry. The digital revolution requires access to information that’s visually compelling and intuitive to broaden the effects of examination and analysis. Professional Petroleum Data Management (PPDM) provides development and dissemination of best practices and standards, enabling full collaboration throughout the industry. The right data visualization unlocks tremendous value, empowering users and allowing them to interact with information in an individualized way that resonates across the enterprise. This session will focus on new ways and technologies for users to interact with PPDM data from a web browser: review and QC data the moment it is uploaded, and build complex analysis dashboards that include log data, trajectories, 2D and 3D displays, Well schematics, perforations, lithology, production, and more.

Short Biography:

Victor Vela has worked in the oil and gas industry for 17 years for companies like Weatherford and Baker Hughes. He spent the last 12 years in data visualization, transmission, aggregation, and storage in various areas of the industry. Currently a Senior Project Manager at INT, Victor has led both development and product support teams in this field. Recently, he led the implementation and deployment of INT’s IVAAP platform to provide visualization of the PPDM database for a customer in Mexico.

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*1:30-2:00pm*

**Digitizing Wells to Generate Real-Time Data, Analytics, and Optimize Completions**

**Brett Chell (Cold Bore Technology)**

# OKLAHOMA CITY

## Petroleum Data Workshop 2019

May 14, 2019



### **Description of Presentation:**

For many years, the drilling industry has been correlating multiple data sources in real-time so the drillers can determine how to drill the well, in addition to generating actual time log data that enables appropriate payment transactions. However, this is not the case for completions, which has fallen behind in utilizing multiple data sources, and sensor-driven and time log data to support tracking, analytics and payment transactions. Generally, disparate completions data is still being collected individually and submitted to the producer for review post-completions operation rather than in real-time. This type of data collection results in missing and or broken streams of data that cannot be used properly to evaluate and or modify project, engineering or safety processes – especially in real-time. Data which cannot be used correctly creates ineffective employees and time management. With onshore completions operations costing on average USD \$5-10K per hour, it is critical to account for every second of the operation and to understand what is occurring, the duration, and the cause and effect. The first digital completions recorder and operating system known as SmartPAD is presented. It is a remote system, that enables access and visibility of the operations data and work flow overview, in real-time. It normalizes the different data types from various service companies (coil, wireline, frac, flowback, etc.) and displays this data in real-time, on a dashboard, so it can be instantly monitored. Collected data sources are auto-populated into programs such as WellView and there is a frac engineering software overlay. Every second of the completions operations is recorded and time-stamped along with the detailed context necessary for a complete understanding of the chronological chain of events. This enables comprehensive tracking of both Productivity Efficiency Gains (PEG), Scheduled Operations and Non-Productive Time (NPT) - all critical aspects to track and identify. When all time, data, and operational changes are tracked to the second, a new opportunity arises for the companies working onsite. And the challenge of different service company data formats onsite will no longer be an issue so operators can now modify and create new processes based on the correlation of their data. Customer Case A: More Detailed Understanding In the past, operators have not been able to collect completions data on a granular level. They have had to group many different processes into a larger category as they were unable to track each of the different smaller processes and related details. Being able to classify Productive, Scheduled Operations and Non-Productive Time down to the second is now changing how they are labeling their time blocks. One of the largest US operators in the Permian Basin, is using the system and is now able to create more specific categories for individual operations which helps them identify, track, analyze and better understand occurrences. They can now look back at their timeline in chronological order to see how one event affects the next, which was not possible before. Customer Case B: Real-time Insight into Fracing Operations One instance of the benefit of having the valve positions tracked occurred with a client recently when a wireline unit had left a set of perforating guns downhole. The wireline had the appearance of being cut and it was assumed by the crew that it had occurred as a result of the wellhead valve closing on it. Our client was able to look back at that exact time frame in the SmartPad system data and determine that the valves had not actually been moved at all, that the valve was still open, and that the tools had been mistakenly left downhole by another cause. Customer Case C: Optimizing Engineering Processes and Reducing Time Tracking and reducing well switch time is a universal goal of many operators. On multi-well pads during fracking operations many time-consuming well switches are made to keep operations running continuously.

# OKLAHOMA CITY

## Petroleum Data Workshop 2019

May 14, 2019



Because so much time is spent during a fracking program on well switches, it is extremely important to track it in order to help reduce the amount of time required to switch over well operations. One of our clients who is an operator in the Duvernay in Alberta, needed to understand exactly how much time they were spending on well switches, rather than relying on estimated time spent and personnel manually timing them. After using the system on many consecutive wells and pads, they discovered that their well switches were often taking up to 45 minutes or more which was 2-3 times longer than expected and much more costly. They needed to reduce this time and by tracking all their processes and associated time they identified inefficiencies in their programs and determined how and where they could improve. As a result, they were able to reduce their average switch time down to an unprecedented 12 minutes, which collectively, has saved them hundreds of thousands of dollars in that one process improvement alone. Customer Case D: Safety: An operator, avoided a potential catastrophe recently when they had a situation where two rig hands were using a hammer and pipe wrench to try and open a valve that they mistakenly thought was frozen shut. There was an attached pump line, which was presumed closed, and not under pressure. However, the valve was not frozen shut and alarmingly, it was actually in use with more than 6,000 pounds of pressure! Due to the real-time valve position and pressure display with SmartPAD system, the foreman was able to quickly identify that that the valve was fully pressurized, and he immediately alerted the personnel to cease activity and evacuate the hot zone. The real-time data display created visibility and helped avoid a possible serious incident. In conclusion, the most significant benefit of this system is moving the completions operations from generalized, manual and subjective data capture to granular and automated data collection which will provide analytics and reporting that are generated by the system in real-time. This will help optimize unconventional completions operations, reduce costs and increase visibility and safety.

### Short Biography:

Brett Chell is President and Co-Founder of Cold Bore Technology. He has many years of international experience in the oil & gas industry and specializes in developing “disruptive technologies”, new processes, equipment and software systems for the drilling and completions sectors. Having started in the field working on drilling rigs, Brett’s background is routed in practical deployment and creating solutions that are focused on real world practicality that reduce workload, infrastructure and cost. He has co-founded and raised capital for several different industry startups.

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2:00-2:30pm

Pioneer Natural Resources’ Digital Journey: The Road to Master Data Management
Bryan Sagebiel (Pioneer Natural Resources) & Brandon Schroeder (EnergyIQ)

Description of Presentation:

Pioneer is a data-driven decision-making organization that is making better, faster decisions throughout the organization based on high quality, consistent, & comprehensive well data. The data management

OKLAHOMA CITY

Petroleum Data Workshop 2019

May 14, 2019



team has completed the initial implementation of a central hub for key well data, synchronized across key applications to support data-driven decisions. Ultimately, this solution will serve as a central Well Master & Master Data Management solution. In this presentation, we will discuss the system implementation which sets the foundation for Master Data Management & a full Well Master. We will discuss challenges that were addressed with the new solution to integrate, blend, & manage various data types from multiple data sources, providing the business with a single version of the 'best' information. We will present lessons learned, & talk about the high-level view to the long-term roadmap that will leverage this foundation throughout the transformation journey we have undertaken.

Short Biography:

Bryan Sagebiel, Senior Data Management Specialist for Pioneer, has over 30 years of IT and data experience including over 23 years in the oil and gas industry working in and with IT, Construction, Geophysics, Geology, Engineering, Drilling and to establish well data standards and data governance.

Brandon Schroeder, VP Business Development at EnergyIQ, has over 20 years of proven results in enterprise software driving business growth, managing the product lifecycle and leading technical teams.

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*2:50-3:20pm*

### **Digital Transformation Drives Broader Collaboration Through Data Exchange**

**Jay Hollingsworth (Energistics)**

### Description of Presentation:

Significant efficiencies will accompany the digitalization of E&P activity in the form of a broader sharing of data among stakeholders. This will involve real-time data streaming from the oilfield, shared digital subsurface models, and petabytes of historical data that can inform future planning and decisions. While the cloud will provide data proximity, it will not remedy the current heterogeneity of storage formats and proprietary repositories across which data is spread, or the inefficiencies of on-on-one data connections across systems. Data exchange must adhere to format and transfer protocol standards to achieve the necessary efficiency and completeness of data transfers. The presentation will discuss a pilot project that connected 6 different software platforms across 2 different cloud instances, and the lessons learnt notably in the realm of the interconnectivity of knowledge workers and data experts who would collaborate across different organizations in different locations.

### Short Biography:

Jay is CTO for Energistics. He has a BS plus post-graduate studies in Chemical Engineering at Tulane and graduated in Computer Science at University of Texas. His career in technical computing started with 20 years at Mobil Oil, responsible for the FINDER data store and engineering applications. He was in Landmark's data modeling group before settling at Schlumberger running the data modeling group and Seabed database technology. After Schlumberger, he was an Industry Principal at Oracle.

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3:30-4:00pm

Business Transformation in the Digital Revolution

Jason McManus (BIS)

Description of Presentation:

The digital revolution empowers a new kind of business transformation. This transformation is caused by fear of disruption and by the emergence of practical, intelligent software. But the allure of magical unicorns often gets in the way. And if it feels like you're an oil barge instead of a speedboat, that's not so bad.

How we measure success is done in a variety of way, such as newly enabled leading indicators. Organizations are taking advantage of modern intelligence software and capabilities are able to monitor and analyze events that precede financial metrics and outcomes. Another method is operational excellence, transformation isn't whack-a-mole. And finally the balance and understanding of experimentation vs implementation.

Currently there are three transformation topics in Oil and Gas, How artificial intelligence is being used to process gas marketing contracts, why artificial intelligence isn't a good fit for drilling and completion report data. And the deep dive into natural language processing on unstructured natural language documents like land and lease records.

There needs to be three commitments businesses need to make to ensure successful business transformation such as laying the proper groundwork, developing a sense of purpose and finally build upon existing change activities. While this transformation is occurring, there are three strategic goals to keep in mind:

- Why transformation?
- What is transforming?
- How is transformation going to occur?

Short Biography:

Jason McManus has been providing positive business impact through technology solutions since 1997. He is a recognized expert in strategy, architecture, and implementation of high-performance data warehousing and big data solutions.

Jason's focus is centered on driving revenue creation with data innovations in prescriptive analytics, digital transformation, enterprise data modernization, big data platforms, data engineering, and intelligence generation.

Current Vice President of Strategic Alliances for BIS, Jason speaks at events across the US and is responsible for forming successful of partnerships with other software manufacturers and vendors.

OKLAHOMA CITY

Petroleum Data Workshop 2019

May 14, 2019



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*4:00-4:15pm*

**Closing Remarks**

**Trudy Curtis (PPDM Association)**

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