

22 JULY 2019



PREMIER
OILFIELD GROUP

HIGHLIGHTS FROM THE
2019 SPE WORKSHOP ON APPLIED DATA SCIENCE

MATT BELL
CEO

THE OIL & GAS INDUSTRY IS CHANGING RAPIDLY...
... AND IT'S ALL ABOUT DATA

DEVELOPMENT DECISIONS ARE BEING MADE DIFFERENTLY

Empirical
Tests with
the Drill Bit



Simple,
Single Well
Simulations



Complex,
Multi-Well
Simulations



Multi-
Disciplinary
Modeling



Massive Data
Sets + Data
Science

THEN

NOW

OIL AND GAS COMPANIES EXPECT CONSISTENT, RELEVANT DATA THAT IS EASY TO ACCESS AND APPLY



Consistent
Measurements



Timely
Delivery



Readily
Accessible



Expert
Interpretation



Immediate
Value

At Premier Oilfield Group,
**we believe the data-driven
oil and gas industry is here.**

Generating and sharing consistent, relevant data
from rock and fluid samples is key to more efficient
and more effective field development.



DATA GENERATION

Consistent, reliable data produced by world-class analytical laboratories, skilled technicians, efficient workflows, rapid measurement techniques, and quality assurance



DATA AGGREGATION & LICENSING

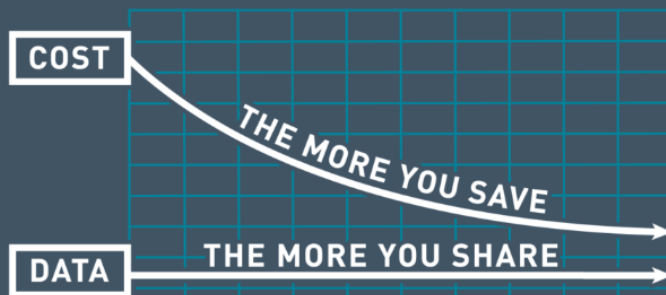
Extensive library of data and models produced from a unique physical sample collection, and made accessible via our GIS-based eCommerce platform, datastak™ (with preferred pricing for members and donors)



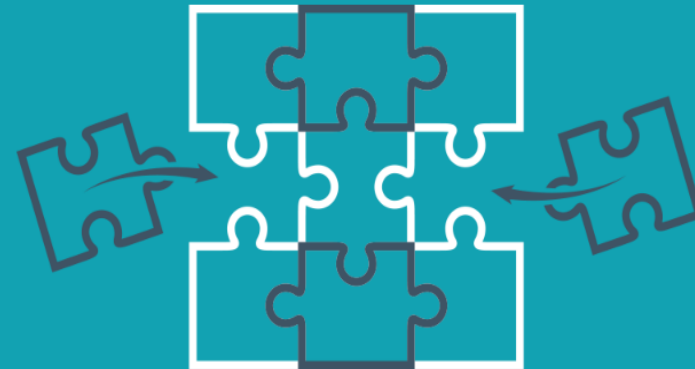
DATA ANALYSIS & INTERPRETATION

Expert consultancy across all domains of rock and fluid science, providing bespoke solutions from seismic to simulation, including field development planning and multi-client collaboration space projects for data sharing and crowd funding.

SHARE THE COST

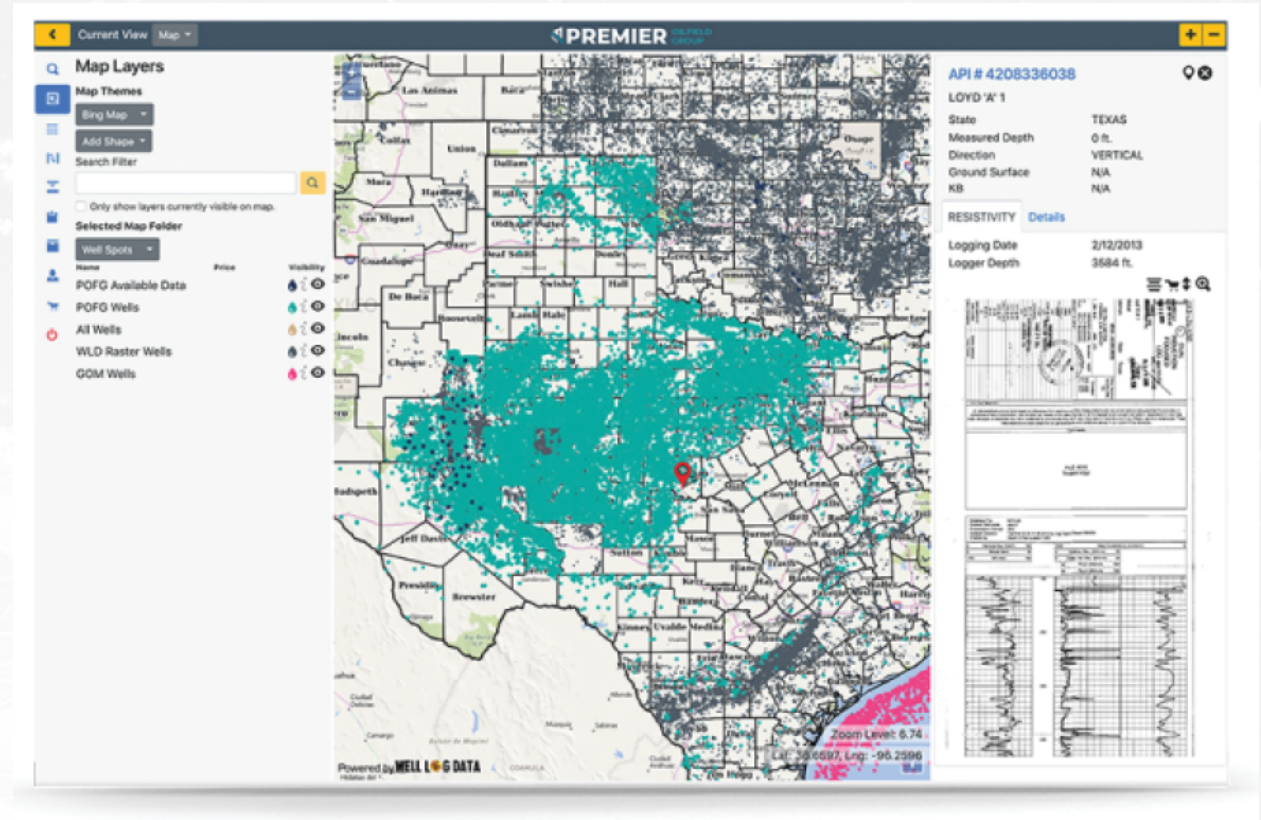


SHARE THE DATA



data[≡]takTM

Online Marketplace



Powered by **WELL LOG DATA**

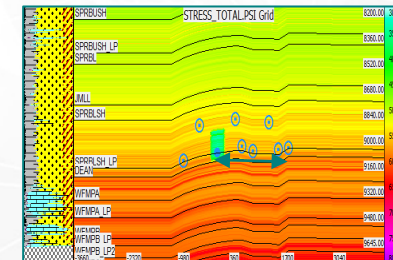
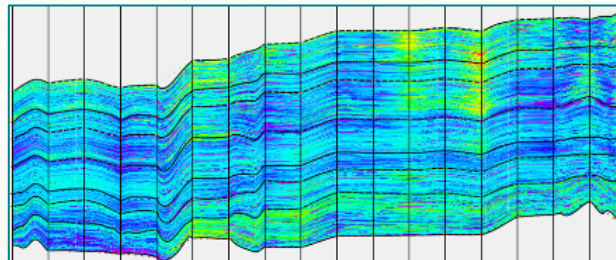


Shared Workspace Projects

Seismic
Logs
Cuttings
Core
PVT
Completion
Microseismic
Production



Petrophysics
Core analysis
Cuttings analysis
Geomodelling
Completion modeling
Reservoir simulation
History matching
Problem solving



Have an idea to share with us?

If you have a laboratory or data science concept or technology related to generating and sharing data from rocks and fluids that we might help you to commercialize, please contact: Matt.Bell@POFG.com



SPE Workshop: Applied Data Science and Novel Measurements for Unconventional Development

14 - 16 May 2019 | The Wigwam Resort | Phoenix, Arizona

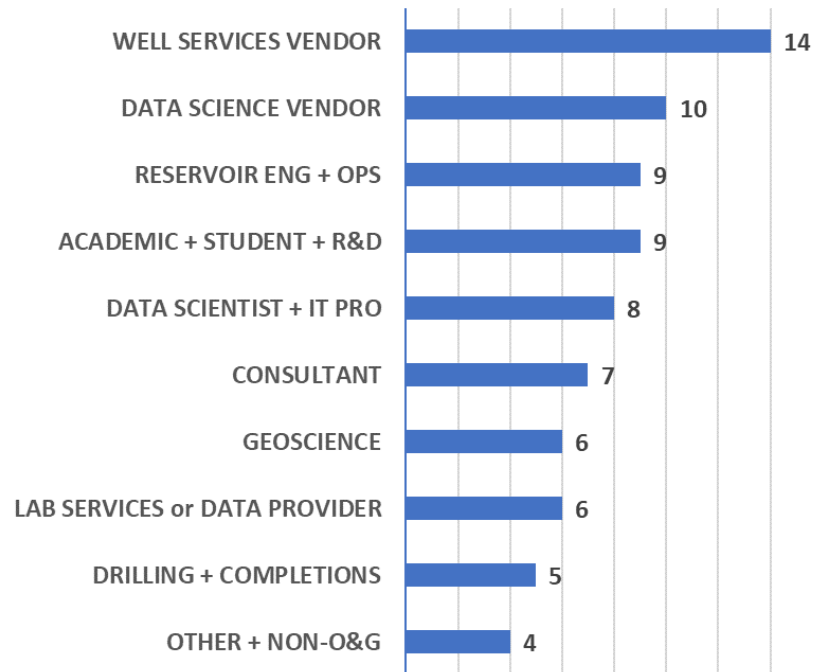
HIGHLIGHTS



Stats

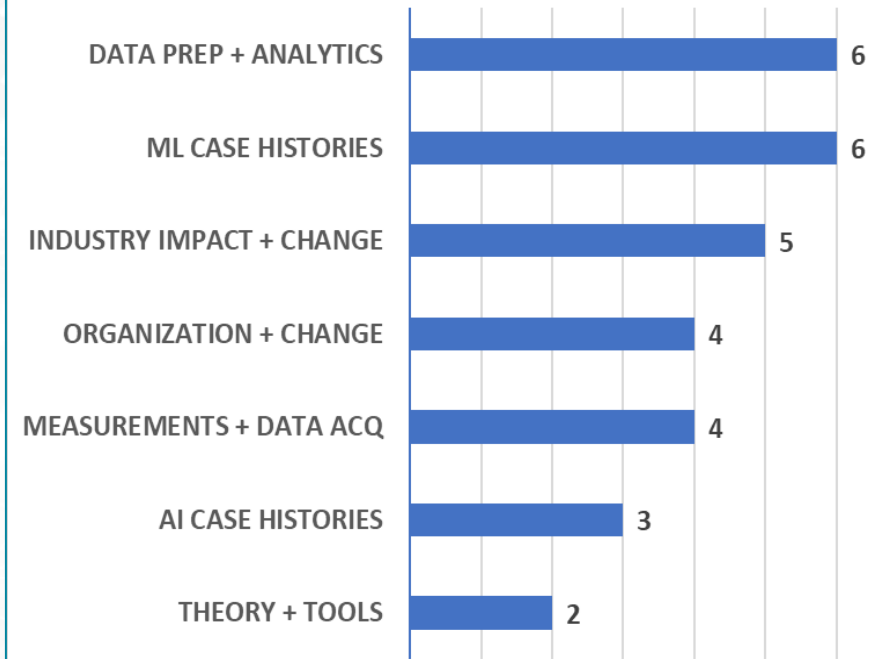
78 delegates

DELEGATE AFFILIATION



24 presentations + 1 panel
+ 3 round-table sessions

DISCUSSION TOPICS



Takeaway #1 **Start Small**

Too many projects aiming to “solve world hunger”

- Pick a small, well-defined problem
- Deliver quick wins and measurable value
- Build confidence, gain buy-in from skeptics
- Work up to tackling bigger challenges

Takeaway #2 **First, The Data**

85% of the challenge is to find enough, usable data

- Data needs to be organized and accessible
- Nomenclature / mnemonics need to be standardized
- Meta data / data provenance matters
- Massive amount of effort needed before AI/ML can be effective
- In some cases, forget the past and gather usable data from now on

Takeaway #3 Subsurface \neq Surface

Surface operations are prime for AI/ML applications

- Many opportunities to instrument and measure events at surface
 - Outcomes are readily interpreted, suitable for AI training
 - High density of measurements + frequent decisions/actions
- Subsurface is an entirely different beast!
 - Sparse data, uncertain outcomes, infrequent decisions
- Quick wins will come at surface, (even) bigger prizes from subsurface



Takeaway #4 **New Skills Needed**

Oil & gas needs to both build & partner on data science

- Need combination of traditional skills and data science
- Building everything in-house will be too slow
- However, external expertise & algorithms will need re-training
 - Silicon Valley isn't going to “ride in and save the industry”
- Unlike other industries, cannot always build digital O&G in parallel
 - e.g. eCommerce or eBank in parallel with brick-and-mortar store/branch
- Vendors focusing on providing toolkits for domain experts to use



Takeaway #5 Success Stories are Imminent

Very fluid, fast-moving space with early wins apparent

- Next year's workshop should showcase real value-add!
- Need to establish best practices specific to O&G workflows
- Get the hype under control and set realistic expectations
- Will open source or proprietary IP prove more successful?
 - Some companies already publishing their AI/ML algorithms



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SEE YOU AT BOOTH #143!



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