



# DIVERSIFIED

## WELL LOGGING, LLC

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# Hot or Not?

Which of these wells is a hot prospect and which is not?

To be honest, prior to getting production results, there is very little certainty.

Statistically, even wells in the same target will have drilled differently, will have variable stimulation performance, and variable production.

The problem: Geology. Gaps in knowledge. The excessive cost of filling those gaps.

**Diversified Well Logging suggests that there is a better way.**

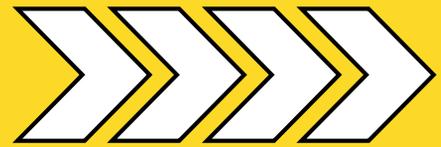
A way to quantitatively analyze every sample on every well filling gaps in knowledge.

A way to provide that data reliably and economically.

**SURFACE MEASUREMENT  
WHILE DRILLING™** 

# Hybrid Mud Logging

## Surface Measurement While Drilling (SMWD)



### UNCONVENTIONAL CHALLENGES

- Variable ROP in the 'same' formation
- Variable hole stability in the 'same' formation
- Uncertainty of being in the correct target zone
- Variable stimulation performance between wells
- Variable production between wells
- Well spacing and 'Parent/Child' well interference

### OVERCOMING THE CHALLENGES

For all of these challenges there is one overriding solution; the acquisition of more geological data to better understand what is happening. Data for geologic and A.I. modelling, well correlation, trend observation, and well planning.

### CURRENT SOLUTIONS

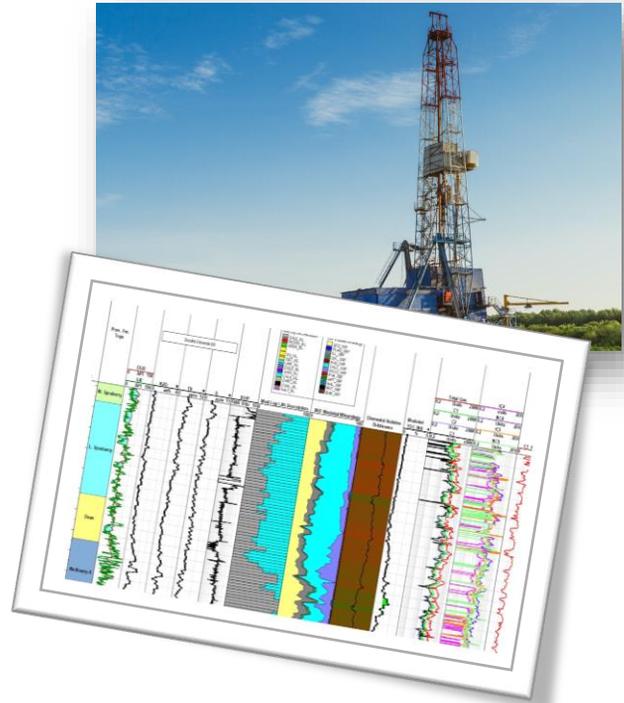
- Seismic – poor resolution for geosteering
- MWD – limited geologic value through GR
- LWD – expensive with risk of tool loss
- Wireline – costly with limited use in horizontals
- Coring – excellent data but costly and slow
- Mud Logging – qualitative data only but economical

### ACCEPTING THE STATUS QUO?

The current solutions are either inadequate for in-depth, field-wide analysis or are far too expensive in today's cost-challenged environment to be used extensively. But is accepting the status quo the only answer?

### THE DIVERSIFIED SOLUTION

- Hybrid Mud Logging
- A Surface Measurement While Drilling service
- A true step change in sample processing
- Quantitative rock data for every sample
- Quantitative data for every well
- Quantitative data for the very best price
- Realtime geological certainty
- The end of unconventional challenges
- No more accepting the status quo



## Hybrid Mud Logging Delivers

- Quantitative elemental XRF data – consistent and comparable data from well to well
- Reliably modelled lithology as standard – no more subjective %'s and descriptions
- Digital images of rock samples – images taken pre-analysis
- Up to fifty samples caught and analyzed with XRF per day
- Realtime total gas and chromatograph data as standard
- Digital twice daily reports and logs
- Reduction in personnel onsite (compared to full onsite XRF/Mudlogging)
- Reduction in HSE risk