



LibertyMVA (Big Data Statistics)

Liberty Engineering Solution

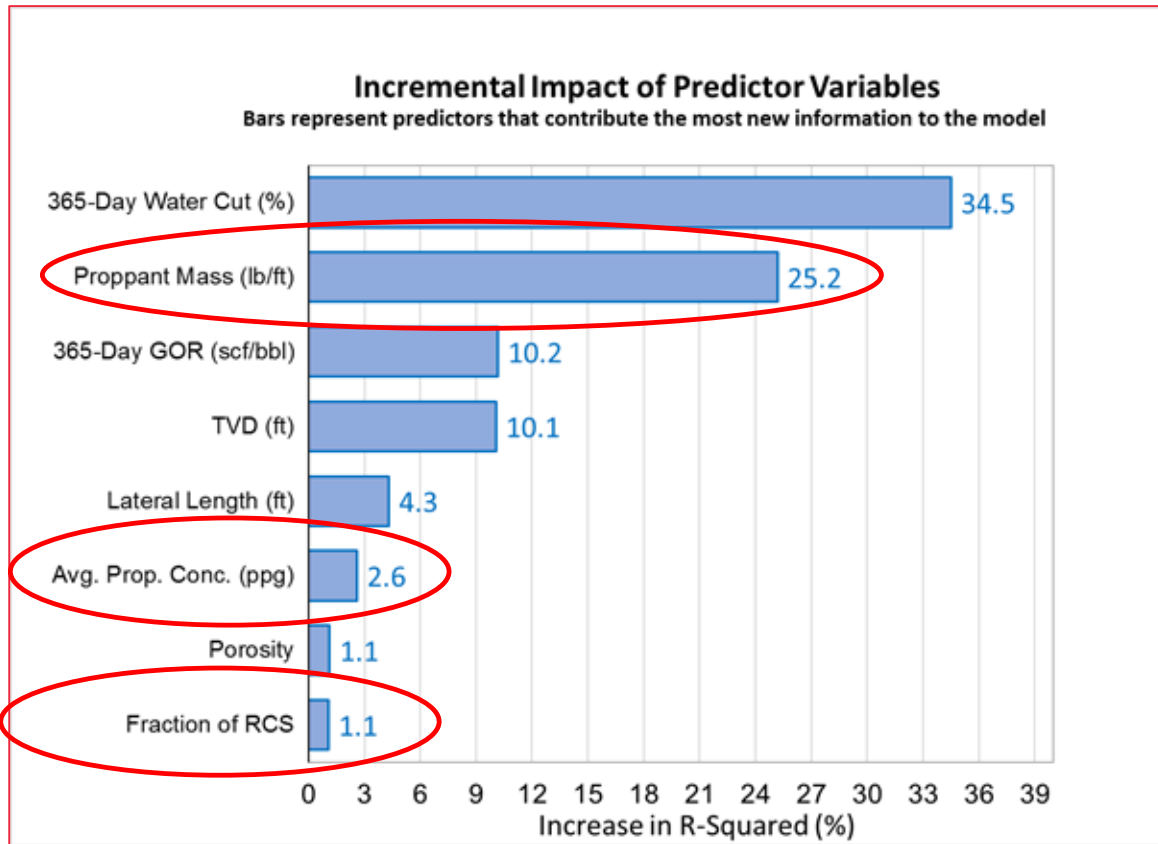


Liberty's Approach to Big Data Statistics

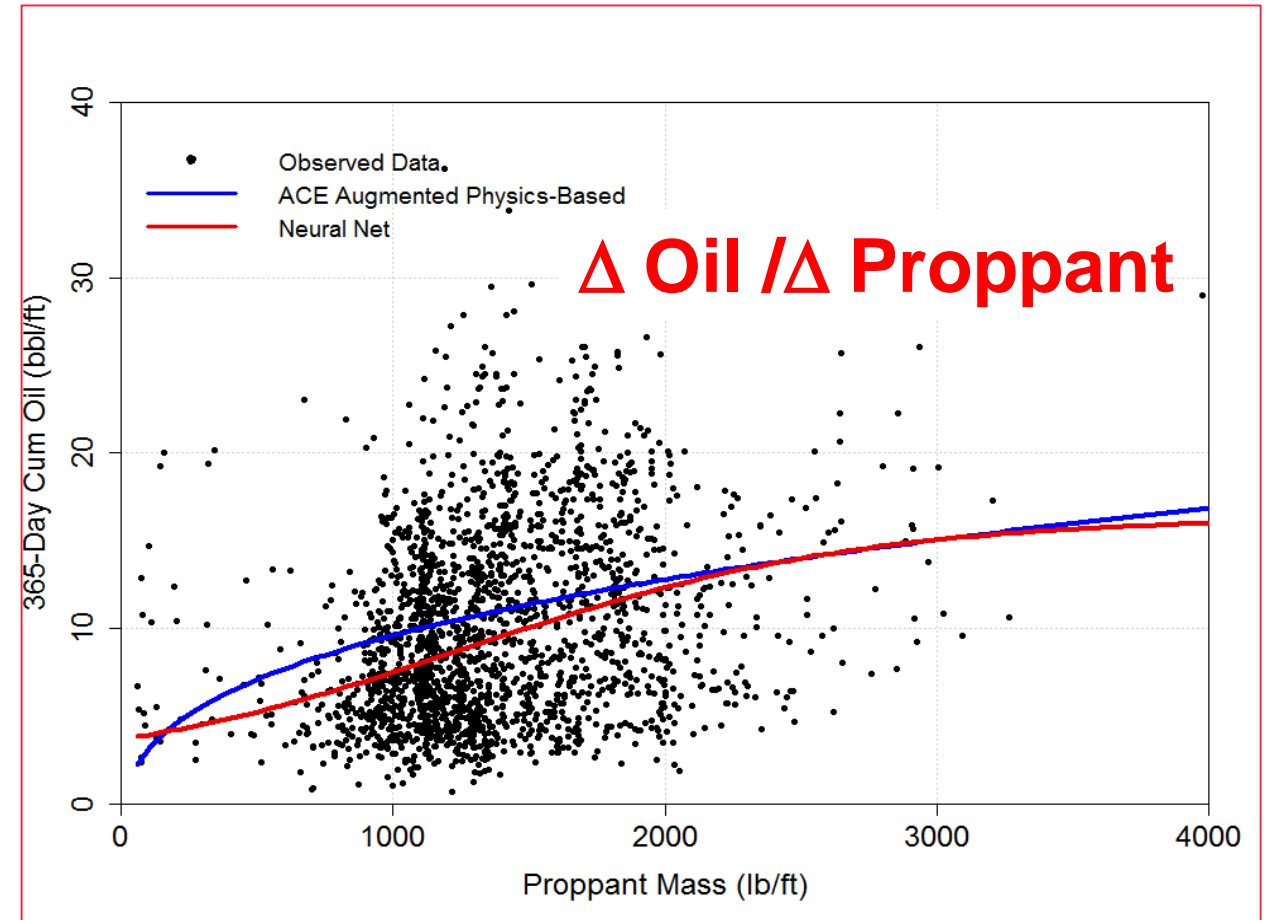
- Liberty has extensive completion, production and reservoir databases developed from public and proprietary data.
- Evaluate the complex relationships between well performance and completion parameters we can control and optimize.
- Liberty's statistical MVA tools:
 - Multiple linear regression including non-linear physics-based parameter transformations
 - Alternating Conditional Expectations (ACE) method (non-linear relationships)
 - Neural Networks (Data-Driven)

Value of MVA

What's Driving Production?



Quantitative Predictions!





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