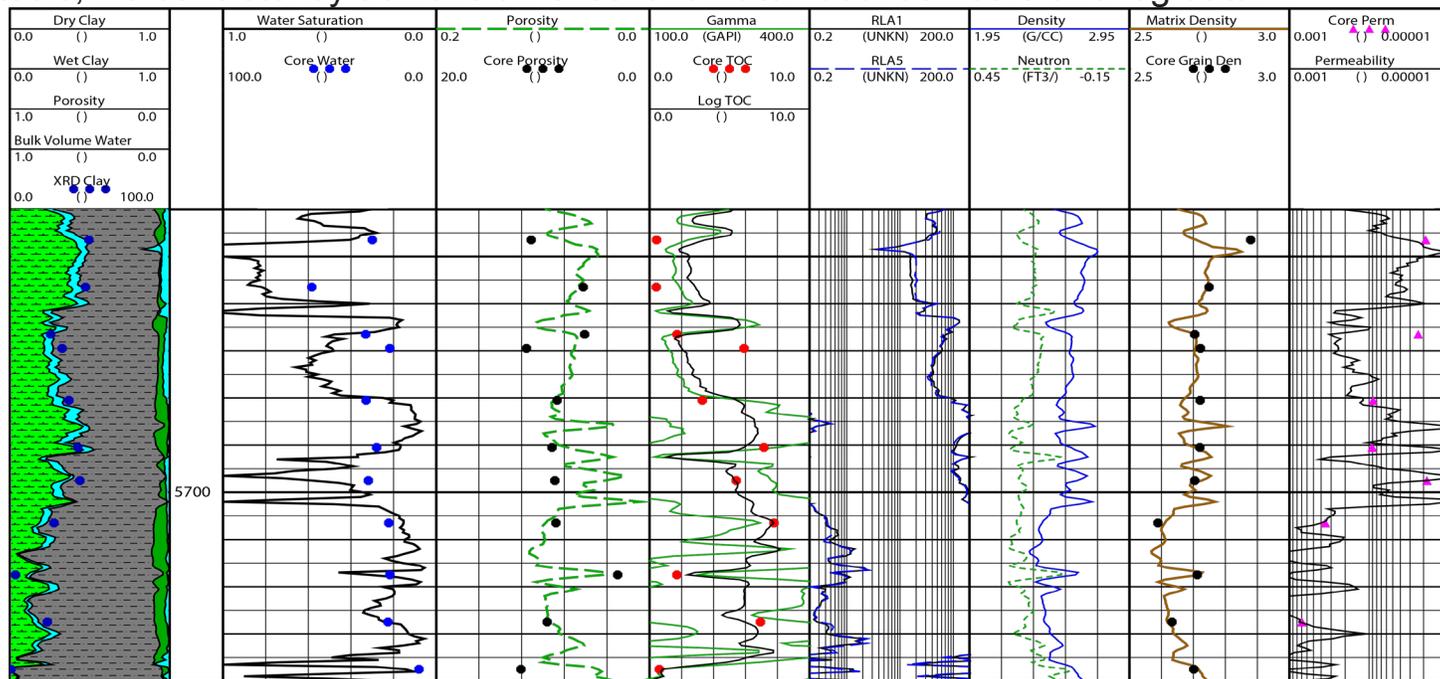


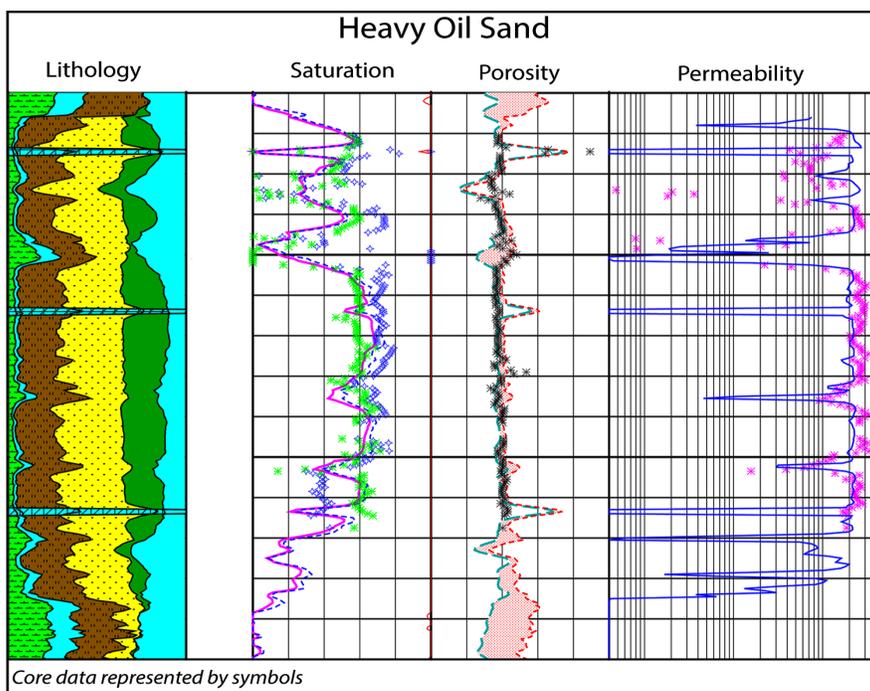
## Matching Core and Log Data

The basis for every field study is the match between core and log analysis results, validating the petrophysical model and the data for simulation and reserves. The model must also use the same parameters for all wells in the field. PayZone utilizes core data to calibrate the models and displays the match of results to core. With Payzone's methods and tools, we consistently achieve an excellent match between core and log data.



The log (above) shows our results for a Marcellus Shale well and the fit between the core data and the analytical model.

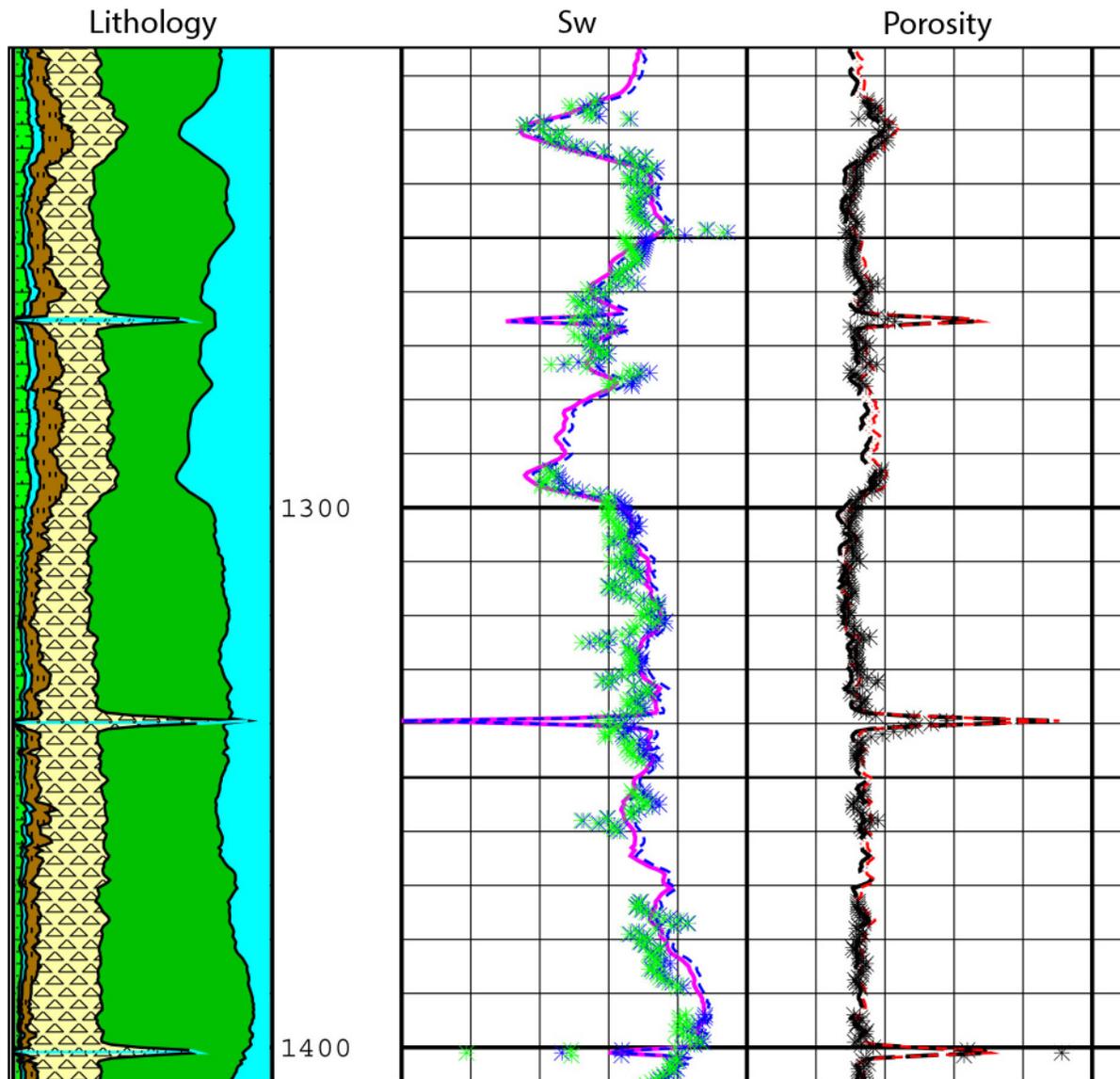
To the right is a log through a heavy oil zone, showing the comparison between our petrophysical results and core analysis data. The core data represents the in situ oil saturation because there was little to no flushing of the heavy oil by invasion. This reservoir has feldspathic sand with variable amounts of authigenic clay. Conventional shaly sand models fails to achieve this level of accuracy because their clay transforms are inadequate.



## Matching Core and Log Data

Well logs through siliceous rocks including diatomite, porcelanite, and related facies can be difficult to analyze, due to variable lithology and extreme changes in matrix density as the rocks are diagenetically altered. Below is an example of our analysis in a diatomite well showing a close fit between the analytical results and the core porosity and saturation.

### Diatomite Example



Core data represented by symbols