

## SIMULATED PVT ANALYSIS VS. PVT ANALYSIS

Pressure Volume Temperature (PVT) analysis provides precise data on the behaviors and properties of oil and gas from an existing well or reservoir. This data is used by engineers to calculate the flow properties of reservoir fluids, estimate production volumes of the various petroleum products, and determine the best extraction method to optimize recovery of the products. And while this data is a very necessary component in determining production strategies, a physical PVT analysis is expensive and time consuming—costing as much as \$40,000 and taking several months to complete.

When PVT measurements are not feasible or practical due to time and cost constraints, PVT simulation is frequently used to fill the gap. Simulated PVT tests rely on well-established equation of state to model reservoir fluids and is a very cost-effective and efficient way to estimate reservoir fluid composition. Costing less than 10% of a physical PVT analysis, a simulated PVT analysis can be performed in less than two weeks.

The process begins with collection of pressurized gas and liquid samples from the first stage of separation, along with the required production data. Extended compositional analyses are performed in the laboratory and the production and analytical data is then input into a PVT simulation program for data modeling at the desired conditions. A variety of reporting options are available, including:

- Constant Mass Expansion (CME)
- Constant Volume Depletion (CVD)
- Differential Liberation (DL)
- Separator Tests
- Other PVT reports

SPL recommends the use of simulated PVT data for regulatory well classification, to aid in the design of production equipment, and in reservoir management. For more information on how you can save time and revenue by utilizing simulated PVT analysis, contact our technical experts today at 877-775-5227.

