ProTechnics

COMPLETION® PROFILER

COMPLETION **PROFILER**® is the industry's premier production profiling service, designed to perform in post- stimulation environments, providing the most accurate analysis of completion performance.

COMPLETION **PROFILER** is extremely effective in :

- **Quantifying Multi-Phase Production Down to the Perforation Cluster**
- **Identifying Near-Wellbore Skin Damage, Fracture Conductivity Reduction**
- **Correlating Production Performance to Completion Effectiveness and Reservoir Rock Quality**
- **Evaluating Completion Mechanics, Design, and Execution**
- **Measure the Effects of Horizontal Wellbore Placement, Lateral Length and Inclination**
- **Determining the Effects of Liquid Loading (Water Hold-Up) and Flow Regime in Vertical and Horizontal Wellbores**
- **Identifying Re-Completion Opportunities**

COMPLETION **PROFILER** is comprised of multiple memory based sensors that are used to measure producing fluid properties and velocities. These data are then sent to our Houston Technology Center where , mathematical modeling software and proprietary algorithms along with dedicated analysts with more than 90 years combined experience produce the industry's most accurate quantitative profile.

COMPLETION **PROFILER** provides unique benefits: .

- **Multi-Phase Analysis (Gas, Oil and Water)**
- **Proprietary Spinner Design for Adverse Conditions**
  - **Post-Stimulation High Sand/Debris Environments**
  - **Low Velocity Flow Conditions**
- **Mass Flow Rate (Temperature) Profile Analysis**
  - **Improves Accuracy Resolved to the Perforation/Cluster Level**
  - **Quantifiable Water Profile in Low Flow Rate Conditions**
  - **Evaluate Near-Wellbore Skin Damage Effects**

To provide a more comprehensive evaluation of post-fracture production performance, COMPLETION **PROFILER** is commonly run in combination with the SPECTRA**SCAN**®service to validate stimulation effectiveness. SPECTRA**CHEM**® tracer service is also utilized to correlate zonal flowback efficiency to the measured production profile.

COMPLETION **PROFILER**'s rugged design ensures reliable operation in temperatures up to 350° F (176° C) and operates in pressures up to 20,000 psi (137,896 Kpa).