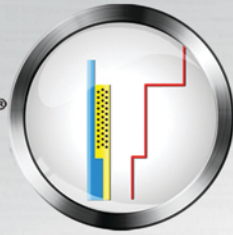


## PACKSCAN®



PACKSCAN® is a memory gamma-density logging service designed primarily for offshore operations. Combined with SPECTRASCAN® it is the industry's only tool capable of simultaneously evaluating the frac placement and annular pack quality in frac pack completions. PACKSCAN is also used in conventional sand control gravel pack operations both on and offshore.

PACKSCAN is effective in determining:

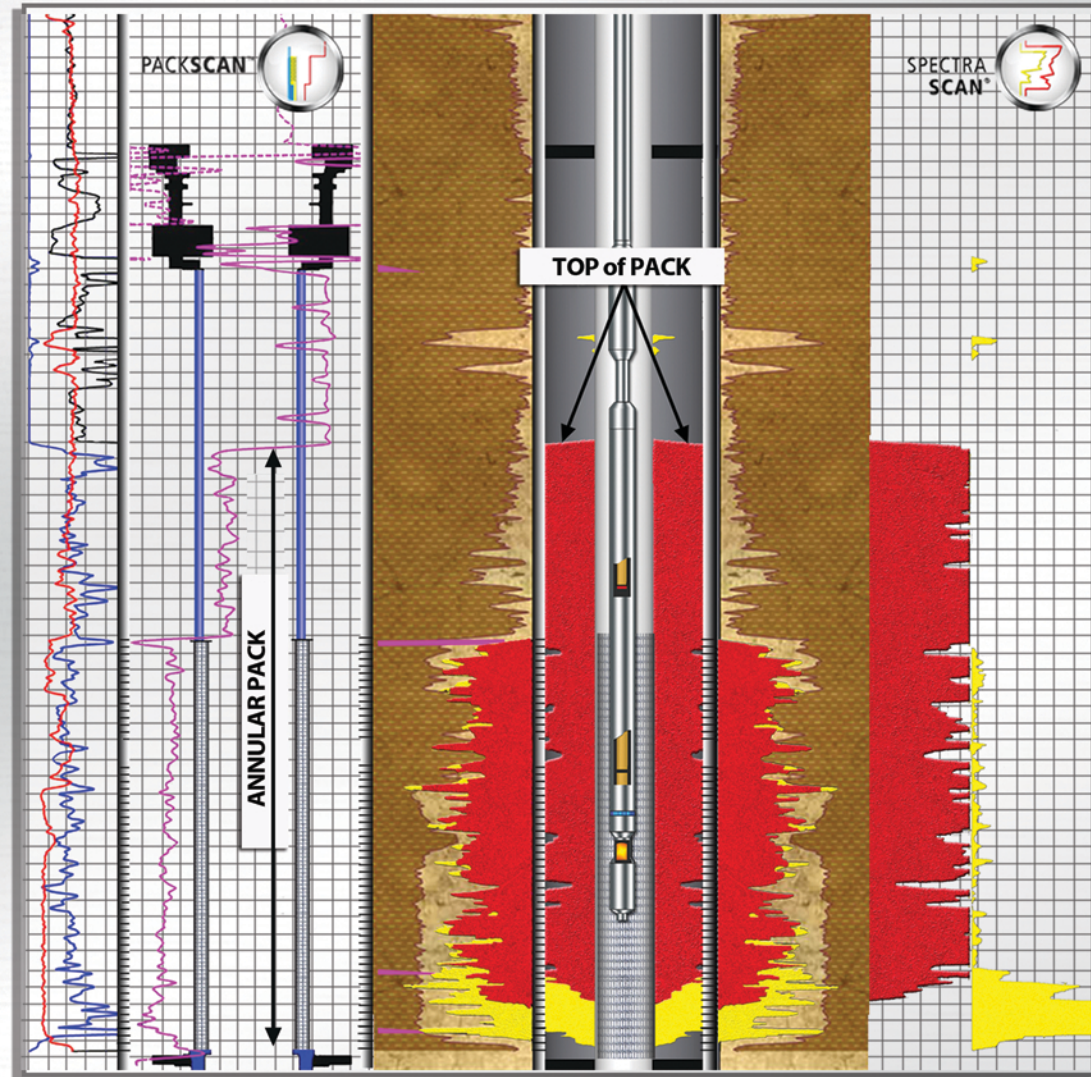
- **Annular Pack Competency**
  - Recognize Voids or "Holidays"
  - Identify Potential "Hot Spots" on Screen
- **Top of Annular Pack Above Screen**
- **Frac Placement Across All Targeted Intervals**
- **Cement integrity**
- **Zonal Isolation**
- **Hardware Failures**
- **Re-Completion Decisions**

PACKSCAN measures subtle changes in the bulk density of the annular region of the pack, which is used to identify the presence or lack of gravel in the annulus. PACKSCAN is the industry's only gamma-density instrument engineered and modeled to operate in the presence of proppant tracers.

PACKSCAN possesses the industry's longest downhole recording time (multiple days) to meet the demands of single-trip multi-zone completions. Multiple tool configurations provide optimum pack resolution in different size completions and are designed to operate at pressures up to 30,000 psi (20,700 kPa) and temperatures up to 300° F (149°C).

Using our patented washpipe conveyance method PACKSCAN data is acquired as the washpipe is extracted from the well.

- **Requiring No Rig Down Time**
- **Reduce Rig Costs**
- **Reduce Risk of Well Intervention**
- **Accelerate Time to Production**



PACKSCAN® has been awarded the Meritorious Award for Engineering Innovation

Hart's  
Petroleum Engineer  
INTERNATIONAL

