

# i-Trace CEM

The i-Trace™ CEM is a wireless passive intelligence system for production data collection and analysis. The i-Trace CEM is the result of a cooperation between NOV and RESMAN. Wireless reservoir surveillance technology obtains reservoir data over time without risky interventions or costly modifications to the completion hardware.

The simple design consists of a protective carrier that is made up as part of the completion string, strategically spaced across the zone of interest and activated by proven ball-drop technology. When contacted by the target fluid (oil or water) and exposed to flow, the RESMAN Intelligent Tracers™ are designed to mark production with a unique chemical signature. The unique chemical signature from each downhole location flows to the surface, where production fluid samples are collected and analyzed.

A range of oil, water, and gas intelligent tracers are available, and each system design is specific for each application. The design is based on downhole conditions, including downhole fluids, temperature, flow rate, and monitoring objectives. The i-Trace CEM is compatible with cemented liner completions using plug-and-perf or our i-Frac™ cemented sleeve system. For plug-and-perf completions, one ball size accommodates all carriers. In cemented completions with the i-Frac CEM, a specific ball size is required for each corresponding stage.

## Applications

- Wireless reservoir surveillance for cemented plug-and-perf completions, or with i-Frac CEM stimulation sleeve technology
- Assist in allocating production by zone and identifying what flows where and how much
- Improve field development by updating field models
- Monitor well performance: verify investment of long/complex drilling
- Evaluate reservoir drainage patterns
- Determine where formation water is produced and optimizing the recovery
- Verify completion hardware integrity such as valves and packers



## Features

- Tracer system is protected during installation and cementing operations
- Designed to match the liner specifications for the planned completion
- Available in standard service material or high alloys as required, according to completion design
- Run as part of the completion with pre-installed oil, water, or gas intelligent tracer systems
- Simple and robust design

## Benefits

- Reservoir monitoring over time allows the knowledge into how much production is coming from each monitored section of the well for up to five years
- Reduced risk and operating time: no cables, connections, or well intervention required
- Cost efficiency: there is no additional rig time, no additional personnel onsite, no intervention and no deferred production
- HSE friendly: no radiation or harmful chemicals are used
- Compatible with water disposal

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