

The Future of Sand Control Technology

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Extreme Completion Environments

With extreme conditions come higher costs and greater risks

- Deepwater environments greater than 10,000 ft.
- Well depths greater than 30,000 ft
- Formation pressures greater than 20,000 PSI
- Bottomhole temperatures greater than 400°F
- Extended reaches greater than 10,000 ft



Focus on the Reservoir

- Reservoir connectivity
- Reservoir stimulation
- Maximizing production

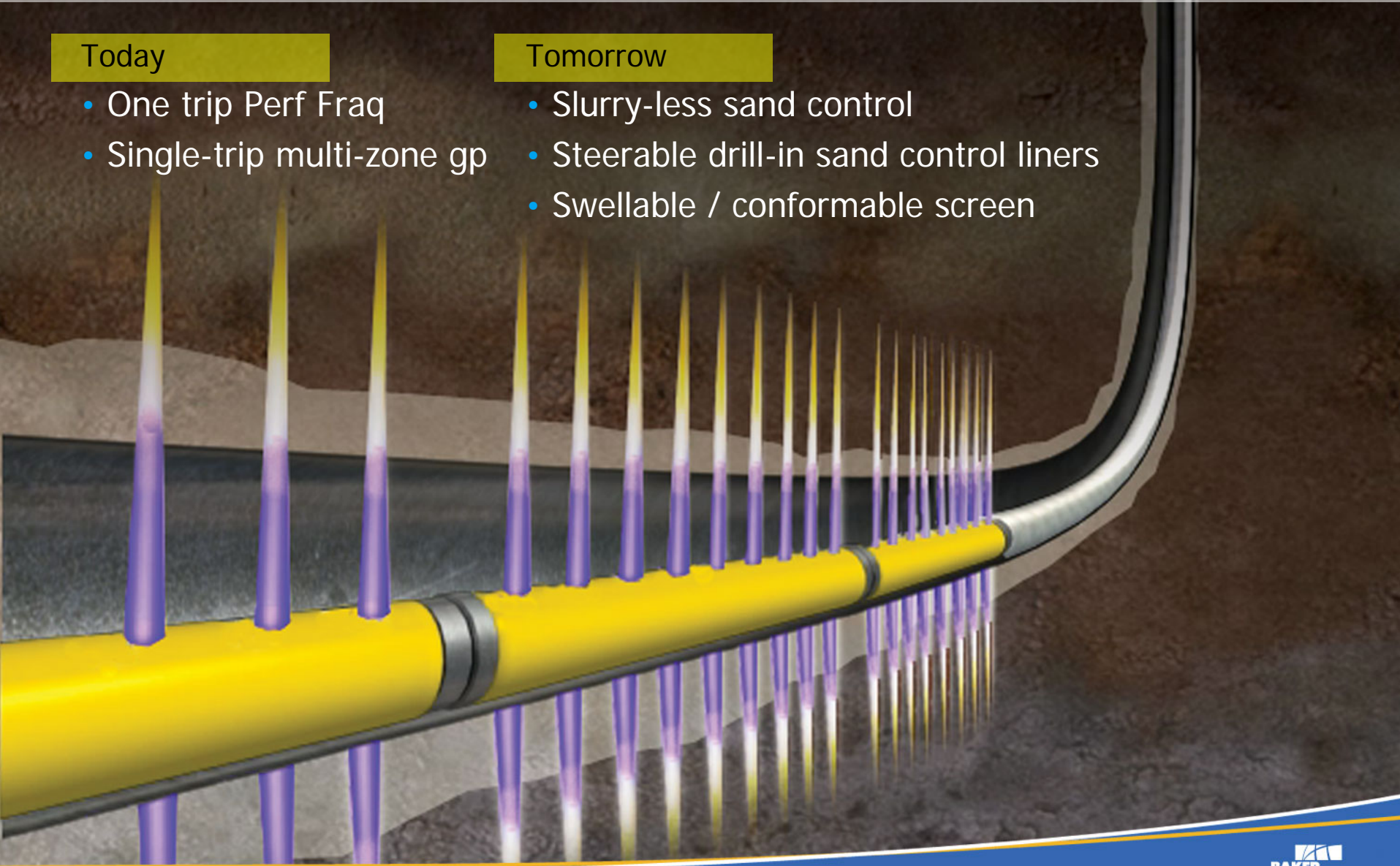
Technology to Reduce Operating Expenses

Today

- One trip Perf Frac
- Single-trip multi-zone gp

Tomorrow

- Slurry-less sand control
- Steerable drill-in sand control liners
- Swellable / conformable screen



Remote, "Smart" Operations

Today

- Programmable or function "on command" downhole tools

Tomorrow

- Downhole tools communicating status to surface
- 2-way downhole communication information during sand control treatment
- 2-way communication during production: life of field approach to sand management
 - Water / gas shut off, in-situ, in the reservoir
 - Reservoir monitoring and smart production optimization
 - Smart, on-command, intervention-less chemical injection treatment

Tomorrow Starts Today

