

Mike Gunningham SPE Papers – Link: <https://www.onepetro.org/>

<p>36888-MS SPE Conference Paper</p>	<p>Selective Sand Consolidation Technique using a Pin- Point Injection Packer</p>	<p>1996</p>	<p>Gunningham, M., Nwogbe, P.C., Kool, H., Freeman, A.</p>	<p>Nigeria's onshore hydrocarbon-bearing reservoirs are characterized by relatively thin sands with intermittent shale breaks. These deltoid sandstone bodies are mostly unconsolidated and often have high permeabilities. Sand-consolidation techniques are widely used to prevent potential sand problems in the well completions. Because of the permeability distribution in the thin-bedded sandstone reservoirs, the maximum interval length that can be treated is limited. The intermittent shale breaks are mostly of stochastic nature and potential cross-layer flow is possible. As a cost-effective alternative to conventional gravel packing, resin-based selective sand consolidation techniques have been successfully introduced.</p> <p>The objective of a resin-based selective sand consolidation (SCON) job is to inject the resin materials into a predefined interval. A downhole toolstring was designed which incorporates a pin-point injection packer. This pin-point injection packer is a retrievable, hookwall-type packer that has two sets of packer elements with a minimum spacing of 1 ft in between (this spacing can be extended to whatever length is required). A flow port below the top packer element allows for injecting fluids into the formation interval straddled by the packer elements. An unlimited number of intervals can be treated effectively in a single run, because the operator can isolate selective intervals.</p> <p>A variety of downhole toolstring designs has been developed to fit particular well situation. Both annulus pressure operated tools and mechanically operated tools can be used in typical SCON toolstrings. To eliminate an extra perforating run, a SCON toolstring can be designed to incorporate tubing-conveyed guns. SCON jobs were introduced in Nigeria in 1992, and many successful jobs have been completed since then. The versatility of the pin-point injection packer in combination with a variety of downhole tools allows for easy adaptation of the SCON toolstring to specific well conditions.</p>
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