

2025 ALRDC Gas Lift Workshop

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Title:

The New Married to the Old: Surface Controlled Gas Lift *Through* a Side Pocket Mandrel

Abstract:

The 2025 ALRDC Gas Lift Forum's theme of "combining time-tested techniques with modern advancements to optimize performance and improve efficiency" could not be better exemplified than by combining the best of two worlds: the proven capabilities of a side pocket mandrel with the real-time control, versatility, and optimization of a cutting edge technology like surface controlled gas lift. This marriage of new and old technologies directs a surface controlled downhole valve's flow through a modified side pocket mandrel, opening a world of new opportunities to the operator. The modified side pocket mandrel is ported to the tubing, the annulus, and the surface controlled valve to provide functional porting arrangements ideal for each stage of the well's life cycle.

This presentation begins with a brief description of surface controlled gas lift, setting the stage for its functional integration with a side pocket mandrel. It then explains how the marriage of a side pocket mandrel with a surface controlled gas lift system offers a whole greater than the sum of its parts. The surface control system offers instant control while the side pocket mandrel provides functional adjustment as the well parameters change. Insert options include:

- Real time optimization through Surface Controlled Gas Lift Valve
- Surface controlled pilot valve
- Solids protection
- Conversion between checked and dual direction flow
- Contingency (gas lift valve, orifice, blocked)

For example, a gas lift valve might require debris protection during installation or at the onset of production. Then initial production might combine tubing and annulus

flow followed by gas lift up the annulus. A back check valve might eventually be required for tubing flow. Finally, a surface controlled piloted valve might be inserted providing the sudden gas inrush for plunger applications. A contingency insert can even be installed if a valve becomes blocked or held open. Each of these changes to the surface controlled gas lift functionality valve is a simple slickline run away.

2-3 Sentence Summary:

Adapting a field-proven Side Pocket Mandrel technology to operate in conjunction with cutting edge surface controlled gas lift epitomizes the 2025 ALRDC Gas Lift Workshop's theme of "combining time-tested techniques with modern advancements." This system provides the ability to control a gas lifted well from the surface, while offering additional functionality and contingencies via wireline.