Sponsor: Artificial Lift R&D Council ([www.alrdc.com](http://www.alrdc.com))

Event: Gas Lift Workshop

Location: Houston, Texas

Date: June 7-11, 2021

Type of Doc: Abstract

Title: **Electric Gas Lift Using Existing Side Pocket Mandrels – Is It Possible?**

Objectives/Scope

**Conventional gas lift valves placed on the exterior of the tubing string to unload and operate well production began use in the oil patch in the 1930s. In the 1950s, Side Pocket Mandrels were developed to permit valve placement within the tubing so that changes could be made by through-tubing intervention rather than a well workover. In the 2000s, many proposed to add downhole sensing and flow control to gas lift wells and success has recently been realized with the development of tubing-conveyed valves equipped with an electrical umbilical to the surface. Like conventional valves, these electric gas lift valves (eGLVs) are placed on the tubing exterior and conveyed into the well during the completion installation. Most needs for intervention have been eliminated, being ideal for remote and inaccessible areas or in high deviation wells where slickline is not practical.**

Methods/Procedures/Processes

There are still some drawbacks for tubing-conveyed eGLVs, namely 1) any failure requires a workover to repair, and 2) existing infrastructure cannot be utilized. Wireless pressure pulse telemetry and downhole power generation can be very space efficient compared to other wireless approaches. Other miniaturization techniques could be employed to design an e-GLV to fit a standard Side Pocket Mandrel. Such a product would enable a “best of all worlds” eGLV solution for the gas lift industry.

Results/Observations/Conclusions

A wireless gas lift valve should be developed that can fit in a standard side pocket mandrel. The wireless eGLV would minimize intervention, enable remote adjustments, increase lifting optimization, and be retrofittable to existing gas lift infrastructure.

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Brett Bouldin joined WINS in March 2020 as Director of Marketing and Business Development. He has a BS Engineering degree from Texas A&M University and 38 years of experience in the downhole oil and gas business. Brett spent the last ten years with Saudi Aramco Upstream Research and led many innovative production technology developments. Prior to that he was co-founder and Chief Engineer at WellDynamics, which was acquired by Halliburton in 2008. Brett has published numerous scientific articles and papers and is inventor on 49 granted patents.