**ALRDC 2021 Gas Lift Workshop**

**Troubleshooting Gas Lift wells using simultaneous acoustic surveys.**

**Abstract:**

**The number of Gas Lift systems have increased significantly along with unconventional wells, the need of understanding the performance and troubleshooting Gas Lift systems is now even more relevant for operators. Tubing-casing communication is one of the biggest issues and it can be identified from surface using a simple, quick, safe and effective simultaneous acoustic survey to find holes in tubing or leaky gas lift valves that are above the liquid level. Both wired and wireless acoustic equipment can be used to perform this acoustic analysis. Two guns with microphones are connected to the wellhead, one gun is connected to the tubing and the other gun to the casing-tubing annulus. One of the guns is used to release a pressure wave down the well either through casing or tubing (usually down the tubing) while the microphone on the other gun just listens for possible echoes from tubing-casing pressure communications (tubing holes and/or leaks). Using Wireless acoustic guns, both tubing and casing acoustic signals are recorded simultaneously. Overlaying tubing acoustic traces on top of casing acoustic traces facilitates the detection of pressure communication point(s) and improves the accuracy of its depth determination. This technique and analysis method is mainly applied to troubleshoot Gas Lift wells but it can actually be applied from Plunger lift wells to almost any type of well with casing-tubing configuration, that are not full of liquid.  Analysis of acoustic data along with wellbore schematics, valves design, plus teardown reports will verify the causes of pressure communications identified on various Gas Lift wells.**

## Personal Details

**From:** Gustavo Fernandez

**Company:** Echometer Company

**Email:** [Gustavo@echometer.com](mailto:Gustavo@echometer.com)

**Phone Number:** 9403869762

**Mailing Address:**  
5001 Ditto Ln - Wichita Falls, 76302  
TX - United States

## Presentation Details

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**Lead Author:** Gustavo Fernandez

**Co-Author:** Julio Haulcy