# Utilization of Perforation Inflow Diagnostics (PID) to Help Characterize Tight Gas Formations – Pre Frac.

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**Abstract**

The principle completion process for low permeability (tight gas) wells is hydraulic fracturing. The industry however is facing a number of issues when completing these tight gas wells. The presentation will address some of these challenges and present a novel pre-frac closed chamber testing procedure to help characterize the formation by determining insitu-permeability, reservoir pressure, and wellbore skin.

Perforation Inflow Diagnostic (PID) testing is an extension (and specialization) of the closed chamber testing method. The method is specifically applied to tight gas wells and is used to analyze the pressure response immediately after perforating a zone of interest. PID testing is a safe, green, and cost-effective technique for evaluating pre-frac reservoir parameters Field examples of the PID method in tight gas reservoirs will be presented together with observations made from the interpretation of these tests in identifying by-passed pay, multi-layered reservoirs and identification of filtrate inflow

The pupose of this paper will be to demonsrtate that PID testing is prefered over mini-frac testing and plays an important role in linking petrophysical “static” analysis to a more “dynamic” analysis that provides reservoir pressure