

# **Indications of Isolated Pressure Cells Within the Atokan Granite Wash in the Texas Panhandle Utilizing Hydrocarbon Responses**

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With the advent of new and improved drilling and completion technologies a renewed interest in historical fields has generated much activity in many Mid-Continent areas. One in particular is the Granite Wash play of western Oklahoma and the Texas panhandle. Recently, some operators have reentered this play utilizing the new drilling and interpretive technologies with great success. A review of relevant literature and production records, and, information gained from recent industry seminars, indicate that some of these wells are quite prolific producers.

A review of hydrocarbon well logs, e-logs, and production data from the Texas panhandle was conducted to determine if a pattern of hydrocarbon signatures along with e-log data could be related to favorable production results. The study was focused mainly in Hemphill and Roberts counties in the Texas panhandle since there is a large amount of data available for this particular research. It soon became apparent from the data that, in some instances, highly localized isolated pressure cells existed in some of the target zones, mainly the Atokan Granite Wash. An review of the electric log data showed that the interpretation of the data may have been clouded by the variable mineral composition of the zones in question.

The presence of these isolated pressure cells were all preceded by elevated hydrocarbon responses well above the actual penetration of the granite wash zones. In this study, the author will attempt to show how to apply real time interpretation methods to hydrocarbon well logs, while drilling, to anticipate these isolated pressure cells contained within the Atokan granite wash interval.