

Abstract Submitted  
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**Correlations of Positron Annihilation Spectroscopy with TOC, XRF and XRD for Barnett Shale Core** FNU AMEENA, HELGE ALSLEBEN, C.A. QUARLES, Texas Christian University — Measurements are reported of both positron lifetime and Doppler broadening parameters on 14 samples of Barnett shale core selected from 196 samples ranging from depths of 6107 to 6402 feet. The Barnett shale core was taken from EOG well Two-O-Five 2H located in Johnson county. The selected samples are dark clay-rich mudstone consisting of fine grained clay minerals. The samples are varied in shape, typically a few inches long and about 1/2 inch in width and thickness, and are representative of the predominant facies in the core. X-ray fluorescence (XRF), X-ray diffraction (XRD), petrographic analysis and geochemical analysis of total organic carbon (TOC) were already available for each of the selected samples. Correlations between the S parameter and the average positron lifetime and the TOC, XRF and XRD parameters will be discussed. The observed correlations suggest that positron spectroscopy may be a useful tool in characterizing shale.

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