

Fruitland Coal Increased Density Pilot Project

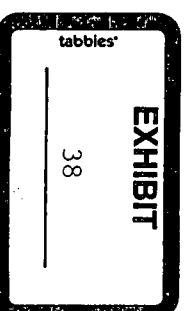
Gas in Place Estimates are Conservative

- Uses Low Side Gas Content from Composite As Received Isotherms as discussed earlier
- Based on density cut-off of 2.0 g/cc
 - Low quality coals above 2.0 g/cc hold gas^{3,4,5}
- Current isotherm data based on pure methane
 - Produced gas from Pilot Project Area composed of methane, carbon dioxide, ethane, propane and other 'heavies'
 - Other components have higher sorption affinity than methane
 - Isotherms based on pure methane are conservative (next graph)
- Gas in place estimates based on 0.4 psi per foot initial reservoir pressure
 - Actual original pressures could be higher
 - Pressure gradients above 0.4 psi per foot have been documented in parts of the San Juan Basin⁶

3. Mavor, M. and Nelson, C.R., October 1997, Coalbed Reservoir Gas-in-Place Analysis: Gas Research Institute Reference No. GRI-97/0263
4. Close, J., Woolverton, S., Swainson, K., 1997, Non-Fairway, Underpressured Fruitland Coal Resource Characterization Study, Southern San Juan Basin, New Mexico, presented at the 1997 International Coalbed Methane Symposium at the University of Alabama, Tuscaloosa, May 12-16
5. Lamarre, R. A., Pratt, T. J., February, 2002, Reservoir Characterization Study: Calculation of Gas-in-Place in Ferron Coals at Drunkard's Wash Unit, Carbon and Emery Counties, Utah, The Mountain Geologist, Vol. 39, No 2, April 2002, pp. 41-51
6. Kaiser, W. R., Swartz, T. E., and Hawkins, G. J., Hydrologic Framework of the Fruitland Formation, San Juan Basin, Bureau of Economic Geology

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NMOCD Presentation



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