



dig
Dolan Integration Group

Geochemistry for Energy

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Hydrocarbon Gas Composition and Stable Isotopes Data and Interpretation

Job #: 15020413
Lab #: DIG-007177
Client: KP Kauffman
Sample Name: Wagner A2

Analytical Report



Job #: 15020413
 Lab #: DIG-007177
 Client: KP Kauffman
 Sample Name: Wagner A2
 Date Sampled: 02/27/15
 Time Sampled:
 Sample Description: Production Gas
 Sampling Notes:
 Date Received:
 Date Analyzed: 03/12/15
 Date Reported: 03/20/15
 Comments:

Measured Values:	Measured ppm	Analyte mol % ^a	HC mol %	$\delta^{13}\text{C}$ ‰ VPDB	δD ‰ VSMOW	Comments
Nitrogen (N ₂)			-	-	-	
Oxygen + Argon (O ₂ +Ar)			-	-	-	
Carbon Dioxide (CO ₂)			-	-	-	
Helium (He)			-	-	-	
Hydrogen (H ₂)			-	-	-	
Methane (CH ₄)		63.60	65.59	-55.9	-242	
Ethane (C ₂ H ₆)		11.00	11.34	-35.2	na	
Propane (C ₃ H ₈)		11.80	12.17	-31.7	na	
iso-Butane (C ₄ H ₁₀)		2.00	2.06	-33.5	na	
n-Butane (C ₄ H ₁₀)		4.80	4.95	-30.1	na	
iso-Pentane (C ₅ H ₁₂)		1.20	1.24	-29.9	na	
n-Pentane (C ₅ H ₁₂)		1.40	1.44	-30.1	na	
Hexanes + (C ₆ H ₁₄)		1.16	1.20	na	na	

Calculated Values:	
Total HCs (ppm)	0
Gas Wetness (mol % C ₂ +/C ₁ +))	34.41
C ₁ /(C ₂ +C ₃) (mol/mol)	3

^a Analyte concentrations normalized to 100% (Mol. % is approximately equal to Vol. %)

HC= Hydrocarbons

nd = not detected

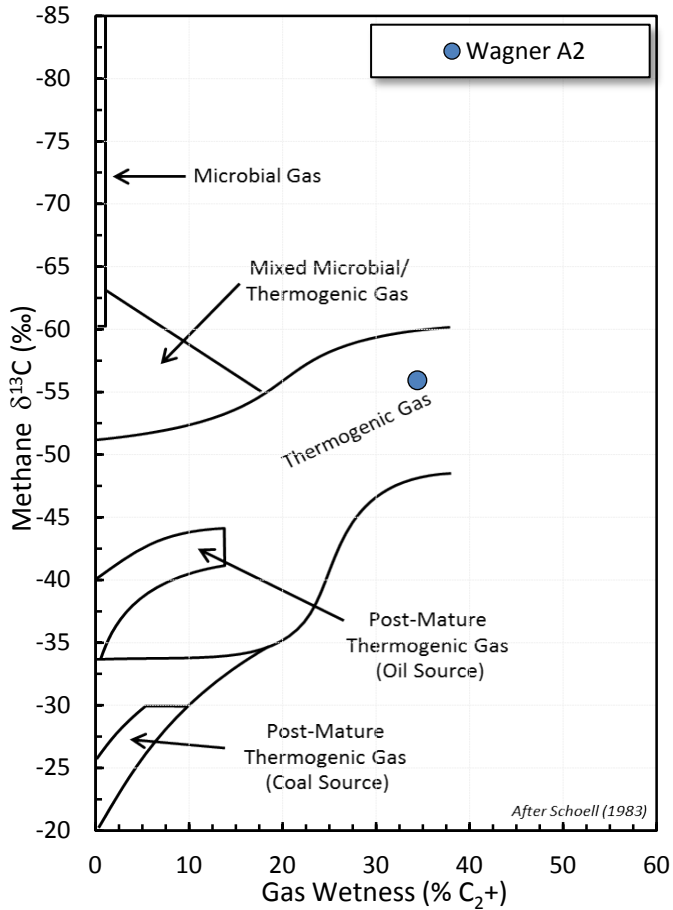
na = not analyzed

Stable isotope results based on multi-point laboratory calibration

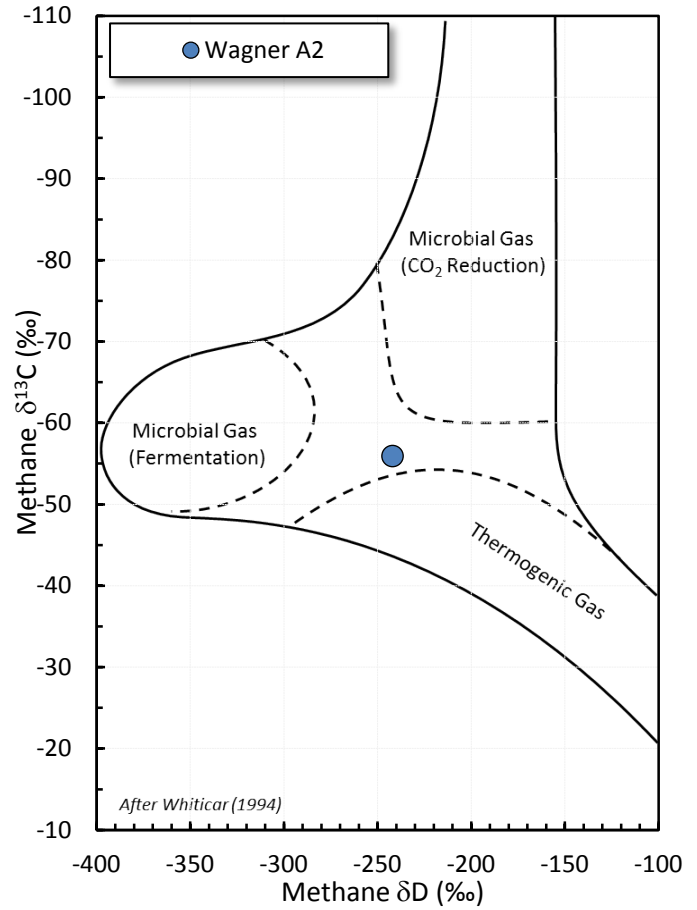
Error $\delta^{13}\text{C}$ < 0.5 ‰

Error δD < 5.0 ‰

Methane vs Gas Wetness Genetic Classification



Methane $\delta^{13}\text{C}$ vs δD Genetic Classification Plot



Methane $\delta^{13}\text{C}$ vs $\text{C}_1/(\text{C}_2+\text{C}_3)$ Genetic Classification Plot

