



Shale Core Analysis

		As received				Dry & Dean Stark Extracted Conditions ⁽²⁾				
Sample	Depth (ft)	Bulk Density (g/cc)	Matrix Permeability ⁽¹⁾ (mD)	Gas-filled Porosity (%)	Gas Saturation (%)	Grain Density (g/cc)	Matrix Permeability ⁽⁵⁾ (mD)	Porosity (%)	Oil Saturation ⁽³⁾ (%)	Water Saturation ⁽⁴⁾ (%)
1G	9421.20	2.632				2.788	1.53E-04	6.61		
2G	9430.70	2.630				2.779	1.74E-04	6.28		
3G	9442.00	2.737				2.768	1.13E-06	1.62		
4G	9448.00	2.619				2.778	2.66E-04	6.72		
5G	9453.00	2.600				2.773	2.12E-04	7.24		
6G	9458.60	2.617				2.779	2.11E-04	6.79		
7G	9462.00	2.652				2.778	5.33E-05	5.44		
8G	9470.60	2.665				2.781	5.19E-05	4.99		
9G	9481.30	2.657				2.788	5.62E-05	5.49		
10G	9490.60	2.659				2.773	3.05E-05	4.86		
11G	9502.00	2.559				2.736	2.66E-04	7.62		
12G	9511.10	2.594				2.729	1.07E-04	5.99		
13G	9521.60	2.582				2.747	2.56E-04	7.14		
14G	9530.40	2.654				2.742	1.46E-05	3.73		
15G	9541.40	2.671				2.742	4.57E-06	2.97		
16G	9552.70	2.690				2.763	2.51E-06	3.15		
17G	9561.80	2.657				2.781	1.12E-04	5.33		
18G	9571.90	2.665				2.735	4.33E-06	2.96		
19G	9580.10	2.582				2.709	9.55E-05	5.15		
20G	9588.00	2.576				2.729	5.36E-05	6.35		
21G	9601.60	2.582				2.753	4.18E-04	7.18		
22G	9615.60	2.687				2.724	2.96E-07	1.50		
23G	9633.50	2.682				2.761	1.36E-05	3.49		

Footnotes:

Shaded cells denote analysis not requested.

- (1) Matrix Permeability is an effective Kg determined from pressure decay results on the fresh, crushed, 20/35 mesh size equivalent sample.
(2) Dean Stark extracted sample (20/35 mesh size) dried at 110 °C. Porosity and saturations are relative to total interconnected pore space.
(3) Oil volume computed assuming an oil density of 0.8 g/cc
(4) Water volume corrected assuming a brine concentration of 30,000 ppm NaCl with an ambient density of 1.018 g/cc
(5) Matrix Permeability is an absolute Kg determined from pressure decay results on the clean and dry 20/35 mesh size equivalent sample.

Reference: "Development of Laboratory and Petrophysical Techniques for Evaluating Shale Reservoirs", GRI-95/0496, Gas Research Institute, April 1996