

Mercury Injection Capillary Pressure Analysis
Core I.D. 143, B-50-I/94-P-10, 1139.89m

In situ Klinkenberg Permeability = 0.0106 md
In situ Porosity = 5.6 %

| Mercury Injection Capillary Pressure (kPa) | Approx. Pore Entry Diameter (um) | Cumulative Wetting Phase Saturation (% pore vol) | Pore Size Distribution Frequency | Cumulative Surface Area (m2/g) | Approx. Gas-Water Height Above Free Water Level (m) | Approx. Oil-Water Height Above Free Water Level (m) | Honarpour <i>et al.</i> Imbibition Carbonate | | Corey Calculated | | |
|--|----------------------------------|--|----------------------------------|--------------------------------|---|---|--|---------------------------------|--------------------------------------|---------------------------------|-----------------------------|
| | | | | | | | Oil Relative Permeability (%) | Water Relative Permeability (%) | Oil or Gas Relative Permeability (%) | Water Relative Permeability (%) | Log Oil/Brine Kro/Krw Ratio |
| 13.8 | 107 | 100.0 | 0.0 | 0.000 | 0.0 | 0.0 | 0.0 | 100.0 | 0.0 | 100.0 | -5.0 |
| 17.2 | 86 | 100.0 | 0.0 | 0.000 | 0.2 | 0.3 | 0.0 | 100.0 | 0.0 | 100.0 | -5.0 |
| 22.8 | 65 | 100.0 | 0.0 | 0.000 | 0.3 | 0.4 | 0.0 | 100.0 | 0.0 | 100.0 | -5.0 |
| 29.6 | 50 | 100.0 | 0.0 | 0.000 | 0.4 | 0.6 | 0.0 | 100.0 | 0.0 | 100.0 | -5.0 |
| 37.9 | 39 | 100.0 | 0.0 | 0.000 | 0.5 | 0.7 | 0.0 | 100.0 | 0.0 | 100.0 | -5.0 |
| 49.6 | 30 | 100.0 | 0.0 | 0.000 | 0.7 | 0.9 | 0.0 | 100.0 | 0.0 | 100.0 | -5.0 |
| 64.1 | 23 | 100.0 | 0.0 | 0.000 | 0.9 | 1.2 | 0.0 | 100.0 | 0.0 | 100.0 | -5.0 |
| 82.7 | 18 | 100.0 | 0.0 | 0.000 | 1.1 | 1.6 | 0.0 | 100.0 | 0.0 | 100.0 | -5.0 |
| 107 | 14 | 100.0 | 0.0 | 0.000 | 1.5 | 2.0 | 0.0 | 100.0 | 0.0 | 100.0 | -5.0 |
| 138 | 11 | 100.0 | 0.0 | 0.000 | 1.9 | 2.6 | 0.0 | 100.0 | 0.0 | 100.0 | -5.0 |
| 172 | 8.6 | 100.0 | 0.0 | 0.000 | 2.4 | 3.4 | 0.0 | 100.0 | 0.0 | 100.0 | -5.0 |
| 241 | 6.1 | 100.0 | 0.0 | 0.000 | 3.0 | 4.3 | 0.0 | 100.0 | 0.0 | 100.0 | -5.0 |
| 310 | 4.8 | 100.0 | 0.0 | 0.000 | 4 | 6 | 0.0 | 100.0 | 0.0 | 100.0 | -5.0 |
| 379 | 3.9 | 100.0 | 0.0 | 0.000 | 5 | 8 | 0.0 | 100.0 | 0.0 | 100.0 | -5.0 |
| 517 | 2.9 | 98.5 | 1.5 | 0.000 | 7 | 9 | 0.0 | 100.0 | 0.0 | 100.0 | -5.0 |
| 655 | 2.3 | 96.3 | 2.3 | 0.001 | 9 | 13 | 0.0 | 25.4 | 0.0 | 93.5 | -5.0 |
| 827 | 1.8 | 92.2 | 4.1 | 0.003 | 12 | 16 | 0.2 | 24.1 | 0.0 | 84.1 | -5.4 |
| 1,034 | 1.4 | 88.9 | 3.3 | 0.003 | 15 | 20 | 0.8 | 21.8 | 0.0 | 69.0 | -4.0 |
| 1,379 | 1.1 | 72.0 | 17.0 | 0.016 | 18 | 26 | 1.5 | 20.0 | 0.0 | 58.3 | -3.4 |
| 1,793 | 0.82 | 59.3 | 12.7 | 0.028 | 24 | 34 | 9.9 | 12.1 | 1.0 | 21.4 | -1.3 |
| 2,413 | 0.61 | 48.0 | 11.3 | 0.043 | 32 | 44 | 20.9 | 7.5 | 4.7 | 8.2 | -0.2 |
| 2,965 | 0.50 | 41.7 | 6.2 | 0.053 | 42 | 60 | 34.2 | 4.3 | 12.4 | 2.7 | 0.7 |
| 3,792 | 0.39 | 37.8 | 3.9 | 0.061 | 52 | 73 | 42.9 | 2.9 | 19.5 | 1.3 | 1.2 |
| 4,999 | 0.30 | 33.2 | 4.6 | 0.073 | 67 | 94 | 48.9 | 2.2 | 25.4 | 0.7 | 1.6 |
| 6,378 | 0.23 | 30.4 | 2.8 | 0.082 | 88 | 124 | 56.3 | 1.5 | 33.7 | 0.3 | 2.0 |
| 8,274 | 0.18 | 27.9 | 2.5 | 0.094 | 112 | 158 | 61.1 | 1.1 | 39.7 | 0.2 | 2.3 |
| 10,687 | 0.14 | 25.6 | 2.3 | 0.107 | 146 | 205 | 65.6 | 0.8 | 45.8 | 0.1 | 2.7 |
| 13,790 | 0.11 | 22.7 | 2.9 | 0.128 | 188 | 264 | 69.9 | 0.6 | 52.0 | 0.1 | 3.0 |
| 17,927 | 0.08 | 20.4 | 2.3 | 0.151 | 243 | 341 | 75.4 | 0.4 | 60.5 | 0.0 | 3.5 |
| 23,098 | 0.06 | 18.4 | 2.0 | 0.175 | 315 | 443 | 80.0 | 0.2 | 68.0 | 0.0 | 4.0 |
| 29,649 | 0.05 | 16.6 | 1.8 | 0.204 | 406 | 571 | 84.0 | 0.1 | 75.0 | 0.0 | 4.5 |
| 38,267 | 0.04 | 15.1 | 1.5 | 0.235 | 521 | 733 | 87.7 | 0.1 | 81.8 | 0.0 | 5.2 |
| 49,644 | 0.03 | 13.4 | 1.7 | 0.282 | 673 | 946 | 91.0 | 0.0 | 88.0 | 0.0 | 6.0 |
| 64,124 | 0.02 | 12.4 | 1.0 | 0.317 | 873 | 1227 | 94.7 | 0.0 | 95.5 | 0.0 | 7.7 |
| | | | | | 1128 | 1585 | 97.0 | 0.0 | 100.0 | 0.0 | 15.0 |

All Hg calculations assume air-mercury T=484 dyne/cm, contact angle=140deg.
Oil/Gas-Brine Pc assumes insitu o/g-brine Tcos0= 64.0000 22.0000 dynes/cm
Oil/gas-Brine height assumes o/g density gradient = 0.4212 7.8360 kPa/m
Oil/gas-Brine height assumes brine density gradient = 10.2358 10.2358 kPa/m
Swi assumed for relative permeability = 12.4 12.4 %
Sorw assumed for relative permeability = 0 0 %
In situ Gas/Oil & Brine Density (g/cc)= 0.043/0.80 1.045 g/cc

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