

Mercury Injection Capillary Pressure Analysis
Core I.D. 149, C-32-G/94-P-10, 1143.84m

In situ Klinkenberg Permeability = 7.86 md
In situ Porosity = 11.5 %

| 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 | 99.8 | 0.2 | 0.000 | 0.2 | 0.3 | 0.0 | 100.0 | 0.0 | 100.0 | -5.0 |
| 22.8 | 65 | 99.4 | 0.4 | 0.000 | 0.4 | 0.6 | 0.0 | 28.9 | 0.0 | 99.2 | -5.0 |
| 29.6 | 50 | 99.1 | 0.3 | 0.000 | 0.5 | 0.7 | 0.0 | 28.7 | 0.0 | 97.7 | -5.0 |
| 37.9 | 39 | 98.6 | 0.5 | 0.000 | 0.7 | 0.9 | 0.0 | 28.5 | 0.0 | 96.3 | -5.0 |
| 49.6 | 30 | 98.5 | 0.1 | 0.000 | 0.9 | 1.2 | 0.0 | 28.2 | 0.0 | 94.3 | -5.0 |
| 64.1 | 23 | 98.1 | 0.4 | 0.000 | 1.1 | 1.6 | 0.0 | 28.2 | 0.0 | 94.1 | -5.0 |
| 82.7 | 18 | 98.0 | 0.1 | 0.000 | 1.5 | 2.0 | 0.0 | 27.9 | 0.0 | 92.5 | -6.8 |
| 107 | 14 | 97.4 | 0.6 | 0.000 | 1.9 | 2.6 | 0.1 | 27.8 | 0.0 | 92.0 | -6.7 |
| 138 | 11 | 96.9 | 0.6 | 0.000 | 2.4 | 3.4 | 0.1 | 27.5 | 0.0 | 89.8 | -6.3 |
| 172 | 8.6 | 95.8 | 1.1 | 0.000 | 3.0 | 4.3 | 0.2 | 27.2 | 0.0 | 87.7 | -5.9 |
| 241 | 6.1 | 87.6 | 8.2 | 0.003 | 4 | 6 | 1.9 | 26.5 | 0.0 | 83.5 | -5.3 |
| 310 | 4.8 | 77.6 | 10.0 | 0.006 | 5 | 8 | 6.3 | 22.0 | 0.0 | 57.7 | -3.3 |
| 379 | 3.9 | 70.3 | 7.4 | 0.010 | 7 | 9 | 11.2 | 17.1 | 0.3 | 34.8 | -2.1 |
| 517 | 2.9 | 60.5 | 9.8 | 0.016 | 9 | 13 | 19.7 | 13.9 | 0.9 | 22.9 | -1.4 |
| 655 | 2.3 | 52.2 | 8.3 | 0.022 | 12 | 16 | 28.9 | 10.1 | 2.8 | 12.2 | -0.6 |
| 827 | 1.8 | 34.9 | 17.2 | 0.039 | 15 | 20 | 53.4 | 7.4 | 6.0 | 6.5 | 0.0 |
| 1,034 | 1.4 | 27.5 | 7.4 | 0.031 | 18 | 26 | 66.3 | 3.1 | 20.6 | 1.1 | 1.3 |
| 1,379 | 1.1 | 21.7 | 5.8 | 0.041 | 24 | 34 | 77.4 | 1.8 | 31.7 | 0.4 | 1.9 |
| 1,793 | 0.82 | 18.3 | 3.5 | 0.048 | 32 | 44 | 84.4 | 1.0 | 43.1 | 0.1 | 2.5 |
| 2,413 | 0.61 | 15.5 | 2.7 | 0.056 | 42 | 60 | 90.1 | 0.7 | 51.3 | 0.1 | 3.0 |
| 2,965 | 0.50 | 14.1 | 1.4 | 0.061 | 52 | 73 | 93.1 | 0.5 | 58.5 | 0.0 | 3.4 |
| 3,792 | 0.39 | 12.7 | 1.4 | 0.067 | 67 | 94 | 96.2 | 0.4 | 62.5 | 0.0 | 3.6 |
| 4,999 | 0.30 | 11.3 | 1.4 | 0.076 | 88 | 124 | 99.3 | 0.3 | 66.7 | 0.0 | 3.9 |
| 6,378 | 0.23 | 10.1 | 1.2 | 0.085 | 112 | 158 | 102.0 | 0.2 | 71.2 | 0.0 | 4.2 |
| 8,274 | 0.18 | 9.3 | 0.8 | 0.093 | 146 | 205 | 103.9 | 0.1 | 75.0 | 0.0 | 4.5 |
| 10,687 | 0.14 | 7.8 | 1.5 | 0.112 | 188 | 264 | 107.3 | 0.1 | 77.9 | 0.0 | 4.8 |
| 13,790 | 0.11 | 7.1 | 0.7 | 0.122 | 243 | 341 | 108.8 | 0.1 | 83.0 | 0.0 | 5.3 |
| 17,927 | 0.08 | 6.3 | 0.8 | 0.140 | 315 | 443 | 110.8 | 0.0 | 85.4 | 0.0 | 5.6 |
| 23,098 | 0.06 | 5.7 | 0.6 | 0.157 | 406 | 571 | 112.2 | 0.0 | 88.4 | 0.0 | 6.0 |
| 29,649 | 0.05 | 4.9 | 0.8 | 0.185 | 521 | 733 | 114.2 | 0.0 | 90.8 | 0.0 | 6.5 |
| 38,267 | 0.04 | 4.5 | 0.4 | 0.202 | 673 | 946 | 115.1 | 0.0 | 94.0 | 0.0 | 7.2 |
| 49,644 | 0.03 | 3.7 | 0.8 | 0.248 | 873 | 1227 | 117.0 | 0.0 | 95.5 | 0.0 | 7.7 |
| 64,124 | 0.02 | 3.4 | 0.3 | 0.273 | 1128 | 1585 | 117.8 | 0.0 | 98.7 | 0.0 | 9.9 |
| | | | | | | | | 100.0 | 0.0 | 100.0 | 15.0 |

All Hg calculations assume air-mercury T=484 dyne/cm, contact angle=140deg.
Oil/Gas-Brine Pc assumes *in situ* 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 = 3.4 3.4 %
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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