

Mercury Injection Capillary Pressure Analysis
Core I.D. 70, A-25-E/94-P-16, 1145.92m

In situ Klinkenberg Permeability = 1.51 md
In situ Porosity = 9.7 %

| 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 | 98.0 | 2.0 | 0.000 | 0.2 | 0.3 | 0.0 | 100.0 | 0.0 | 100.0 | -5.0 |
| 22.8 | 65 | 97.7 | 0.4 | 0.000 | 0.3 | 0.4 | 0.0 | 27.1 | 0.0 | 91.8 | -6.7 |
| 29.6 | 50 | 95.7 | 1.9 | 0.000 | 0.4 | 0.6 | 0.1 | 26.9 | 0.0 | 90.4 | -6.4 |
| 37.9 | 39 | 94.2 | 1.5 | 0.000 | 0.5 | 0.7 | 0.2 | 25.7 | 0.0 | 83.1 | -5.3 |
| 49.6 | 30 | 93.8 | 0.5 | 0.000 | 0.7 | 0.9 | 0.4 | 24.9 | 0.0 | 77.7 | -4.7 |
| 64.1 | 23 | 92.8 | 1.0 | 0.000 | 0.9 | 1.2 | 0.5 | 24.6 | 0.0 | 76.0 | -4.6 |
| 82.7 | 18 | 92.6 | 0.2 | 0.000 | 1.1 | 1.6 | 0.7 | 24.1 | 0.0 | 72.7 | -4.3 |
| 107 | 14 | 92.0 | 0.5 | 0.000 | 1.5 | 2.0 | 0.7 | 23.9 | 0.0 | 71.9 | -4.3 |
| 138 | 11 | 90.5 | 1.5 | 0.000 | 1.9 | 2.6 | 0.8 | 23.6 | 0.0 | 70.2 | -4.1 |
| 172 | 8.6 | 87.3 | 3.2 | 0.001 | 2.4 | 3.4 | 1.1 | 22.8 | 0.0 | 65.3 | -3.8 |
| 241 | 6.1 | 83.5 | 3.8 | 0.002 | 3.0 | 4.3 | 2.1 | 21.1 | 0.0 | 55.9 | -3.2 |
| 310 | 4.8 | 75.6 | 7.9 | 0.003 | 4 | 6 | 3.4 | 19.2 | 0.1 | 46.2 | -2.7 |
| 379 | 3.9 | 71.2 | 4.4 | 0.005 | 5 | 8 | 7.5 | 15.4 | 0.5 | 30.0 | -1.8 |
| 517 | 2.9 | 63.8 | 7.3 | 0.008 | 7 | 9 | 10.5 | 13.5 | 0.9 | 23.1 | -1.4 |
| 655 | 2.3 | 56.4 | 7.4 | 0.012 | 9 | 13 | 16.5 | 10.7 | 2.2 | 14.4 | -0.8 |
| 827 | 1.8 | 45.4 | 11.0 | 0.019 | 12 | 16 | 24.0 | 8.1 | 4.6 | 8.3 | -0.3 |
| 1,034 | 1.4 | 39.9 | 5.6 | 0.016 | 15 | 20 | 37.6 | 5.0 | 11.3 | 3.1 | 0.6 |
| 1,379 | 1.1 | 31.8 | 8.1 | 0.025 | 18 | 26 | 45.7 | 3.7 | 16.7 | 1.7 | 1.0 |
| 1,793 | 0.82 | 27.9 | 3.9 | 0.030 | 24 | 34 | 58.8 | 2.1 | 27.7 | 0.6 | 1.7 |
| 2,413 | 0.61 | 23.7 | 4.2 | 0.038 | 32 | 44 | 65.6 | 1.5 | 34.6 | 0.3 | 2.1 |
| 2,965 | 0.50 | 21.7 | 2.0 | 0.043 | 42 | 60 | 73.6 | 1.0 | 43.4 | 0.1 | 2.5 |
| 3,792 | 0.39 | 19.3 | 2.4 | 0.050 | 52 | 73 | 77.4 | 0.8 | 48.1 | 0.1 | 2.8 |
| 4,999 | 0.30 | 17.5 | 1.8 | 0.057 | 67 | 94 | 82.3 | 0.6 | 54.3 | 0.0 | 3.1 |
| 6,378 | 0.23 | 16.5 | 1.0 | 0.062 | 88 | 124 | 86.0 | 0.4 | 59.3 | 0.0 | 3.4 |
| 8,274 | 0.18 | 15.0 | 1.4 | 0.071 | 112 | 158 | 88.1 | 0.4 | 62.2 | 0.0 | 3.6 |
| 10,687 | 0.14 | 13.8 | 1.2 | 0.081 | 146 | 205 | 91.1 | 0.3 | 66.6 | 0.0 | 3.9 |
| 13,790 | 0.11 | 13.1 | 0.7 | 0.089 | 188 | 264 | 93.7 | 0.2 | 70.4 | 0.0 | 4.2 |
| 17,927 | 0.08 | 11.4 | 1.7 | 0.113 | 243 | 341 | 95.3 | 0.2 | 72.8 | 0.0 | 4.3 |
| 23,098 | 0.06 | 10.4 | 1.0 | 0.131 | 315 | 443 | 99.1 | 0.1 | 78.8 | 0.0 | 4.9 |
| 29,649 | 0.05 | 9.0 | 1.4 | 0.163 | 406 | 571 | 100.0 | 0.1 | 82.5 | 0.0 | 5.2 |
| 38,267 | 0.04 | 7.7 | 1.3 | 0.201 | 521 | 733 | 100.0 | 0.0 | 87.7 | 0.0 | 5.9 |
| 49,644 | 0.03 | 6.6 | 1.1 | 0.245 | 673 | 946 | 100.0 | 0.0 | 92.7 | 0.0 | 6.9 |
| 64,124 | 0.02 | 6.0 | 0.6 | 0.276 | 873 | 1227 | 100.0 | 0.0 | 97.4 | 0.0 | 8.7 |
| | | | | | 1128 | 1585 | 100.0 | 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 *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 = 6.0 6.0 %
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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