

Mercury Injection Capillary Pressure Analysis
Core I.D. 123, C-92-J/94-P-10, 1167.33m

In situ Klinkenberg Permeability = 0.0329 md
In situ Porosity = 6.9 %

| 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 | 99.2 | 0.8 | 0.000 | 0.2 | 0.3 | 0.0 | 100.0 | 0.0 | 100.0 | -5.0 |
| 22.8 | 65 | 98.6 | 0.6 | 0.000 | 0.3 | 0.4 | 0.0 | 26.7 | 0.0 | 96.6 | -5.0 |
| 29.6 | 50 | 98.6 | 0.0 | 0.000 | 0.4 | 0.6 | 0.0 | 26.3 | 0.0 | 94.1 | -5.0 |
| 37.9 | 39 | 98.6 | 0.0 | 0.000 | 0.5 | 0.7 | 0.0 | 26.3 | 0.0 | 94.1 | -5.0 |
| 49.6 | 30 | 98.6 | 0.0 | 0.000 | 0.7 | 0.9 | 0.0 | 26.3 | 0.0 | 94.1 | -5.0 |
| 64.1 | 23 | 98.6 | 0.0 | 0.000 | 0.9 | 1.2 | 0.0 | 26.3 | 0.0 | 94.1 | -5.0 |
| 82.7 | 18 | 98.6 | 0.0 | 0.000 | 1.1 | 1.6 | 0.0 | 26.3 | 0.0 | 94.1 | -5.0 |
| 107 | 14 | 98.6 | 0.0 | 0.000 | 1.5 | 2.0 | 0.0 | 26.3 | 0.0 | 94.1 | -5.0 |
| 138 | 11 | 98.6 | 0.0 | 0.000 | 1.9 | 2.6 | 0.0 | 26.3 | 0.0 | 94.1 | -5.0 |
| 172 | 8.6 | 98.6 | 0.0 | 0.000 | 2.4 | 3.4 | 0.0 | 26.3 | 0.0 | 94.1 | -5.0 |
| 241 | 6.1 | 98.6 | 0.0 | 0.000 | 3.0 | 4.3 | 0.0 | 26.3 | 0.0 | 94.1 | -5.0 |
| 310 | 4.8 | 97.5 | 1.1 | 0.000 | 4 | 6 | 0.0 | 26.3 | 0.0 | 94.1 | -5.0 |
| 379 | 3.9 | 96.8 | 0.7 | 0.000 | 5 | 8 | 0.1 | 25.6 | 0.0 | 89.5 | -6.2 |
| 517 | 2.9 | 94.9 | 1.9 | 0.001 | 7 | 9 | 0.1 | 25.2 | 0.0 | 86.6 | -5.7 |
| 655 | 2.3 | 93.0 | 1.9 | 0.002 | 9 | 13 | 0.3 | 24.1 | 0.0 | 79.3 | -4.9 |
| 827 | 1.8 | 85.1 | 7.9 | 0.006 | 12 | 16 | 0.6 | 23.1 | 0.0 | 72.5 | -4.3 |
| 1,034 | 1.4 | 82.2 | 2.9 | 0.004 | 15 | 20 | 2.8 | 18.9 | 0.1 | 48.6 | -2.8 |
| 1,379 | 1.1 | 77.6 | 4.7 | 0.008 | 18 | 26 | 4.0 | 17.4 | 0.1 | 41.6 | -2.4 |
| 1,793 | 0.82 | 69.5 | 8.1 | 0.018 | 24 | 34 | 6.4 | 15.3 | 0.4 | 31.9 | -1.9 |
| 2,413 | 0.61 | 56.3 | 13.1 | 0.039 | 32 | 44 | 11.8 | 11.8 | 1.3 | 19.2 | -1.2 |
| 2,965 | 0.50 | 48.0 | 8.3 | 0.056 | 42 | 60 | 24.1 | 7.2 | 5.5 | 7.1 | -0.1 |
| 3,792 | 0.39 | 40.0 | 8.0 | 0.076 | 52 | 73 | 34.1 | 4.9 | 11.0 | 3.2 | 0.5 |
| 4,999 | 0.30 | 36.4 | 3.6 | 0.089 | 67 | 94 | 45.4 | 3.0 | 19.5 | 1.3 | 1.2 |
| 6,378 | 0.23 | 33.2 | 3.2 | 0.102 | 88 | 124 | 51.1 | 2.4 | 24.6 | 0.8 | 1.5 |
| 8,274 | 0.18 | 29.7 | 3.5 | 0.122 | 112 | 158 | 56.3 | 1.8 | 30.0 | 0.5 | 1.8 |
| 10,687 | 0.14 | 25.8 | 3.9 | 0.150 | 146 | 205 | 62.4 | 1.3 | 36.8 | 0.2 | 2.2 |
| 13,790 | 0.11 | 21.9 | 3.9 | 0.186 | 188 | 264 | 69.5 | 0.9 | 45.5 | 0.1 | 2.7 |
| 17,927 | 0.08 | 18.8 | 3.1 | 0.223 | 243 | 341 | 77.0 | 0.5 | 55.9 | 0.0 | 3.2 |
| 23,098 | 0.06 | 16.5 | 2.3 | 0.259 | 315 | 443 | 83.2 | 0.3 | 65.3 | 0.0 | 3.8 |
| 29,649 | 0.05 | 14.2 | 2.3 | 0.305 | 406 | 571 | 87.9 | 0.2 | 73.0 | 0.0 | 4.3 |
| 38,267 | 0.04 | 12.5 | 1.7 | 0.349 | 521 | 733 | 92.8 | 0.1 | 81.4 | 0.0 | 5.1 |
| 49,644 | 0.03 | 11.1 | 1.5 | 0.398 | 673 | 946 | 96.6 | 0.0 | 88.0 | 0.0 | 6.0 |
| 64,124 | 0.02 | 9.7 | 1.4 | 0.457 | 873 | 1227 | 99.8 | 0.0 | 94.1 | 0.0 | 7.3 |
| | | | | | 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 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 = 9.7 %
Sorw assumed for relative permeability = 0 %
In situ Gas/Oil & Brine Density (g/cc)= 0.043/0.80 1.045 g/cc

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