APPENDIX F
SUMMARY OF FIGURES

This appendix provides a full list of figures produced in an effort to validate the ability to characterize the anomalous rate increase observed in field data. Organization of this appendix follows a similar pattern as the main body. The dimensionless rate plot will be followed by the dimensionless rate derivative, dimensionless cumulative production and time-normalized dimensionless cumulative rate for each parameter, for each time-dependent model, per flow regime. The author notes, all values of the τ -parameter will equal $\tau = 0.01$ unless otherwise stated.

F.1 Power-Law Flow Relation

Power-Law Flow Relation with Cumulative Exponential Time-Dependent Skin

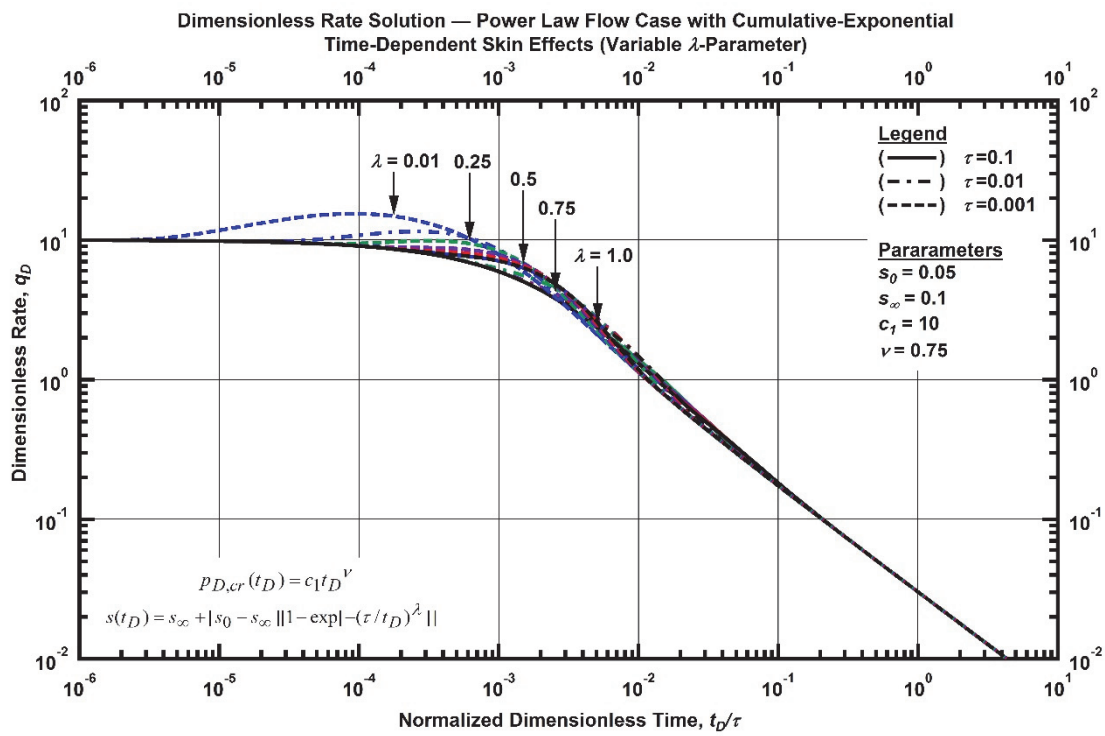

Figure F. 1 —Log-log plot (constant pressure dimensionless rate solution) for the power-law flow model combined with the cumulative-exponential time-dependent skin effects for select values of λ-parameter.

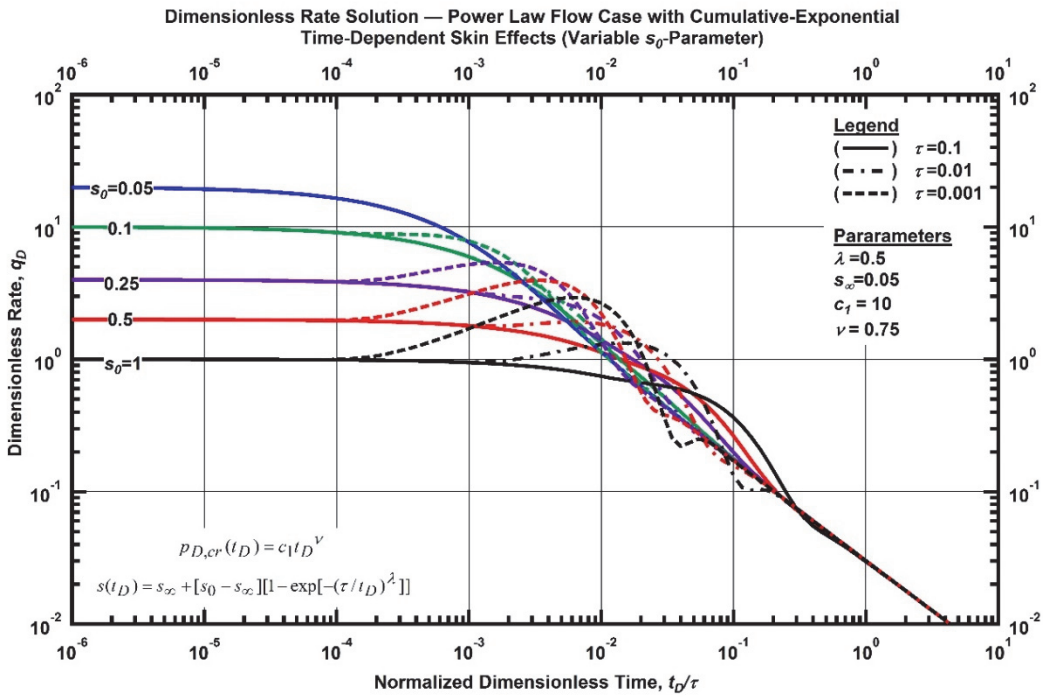

Figure F. 2 —Log-log plot (constant pressure dimensionless rate solution) for the power law flow model combined with the cumulative-exponential time-dependent skin effects for select values of s_0-parameter.

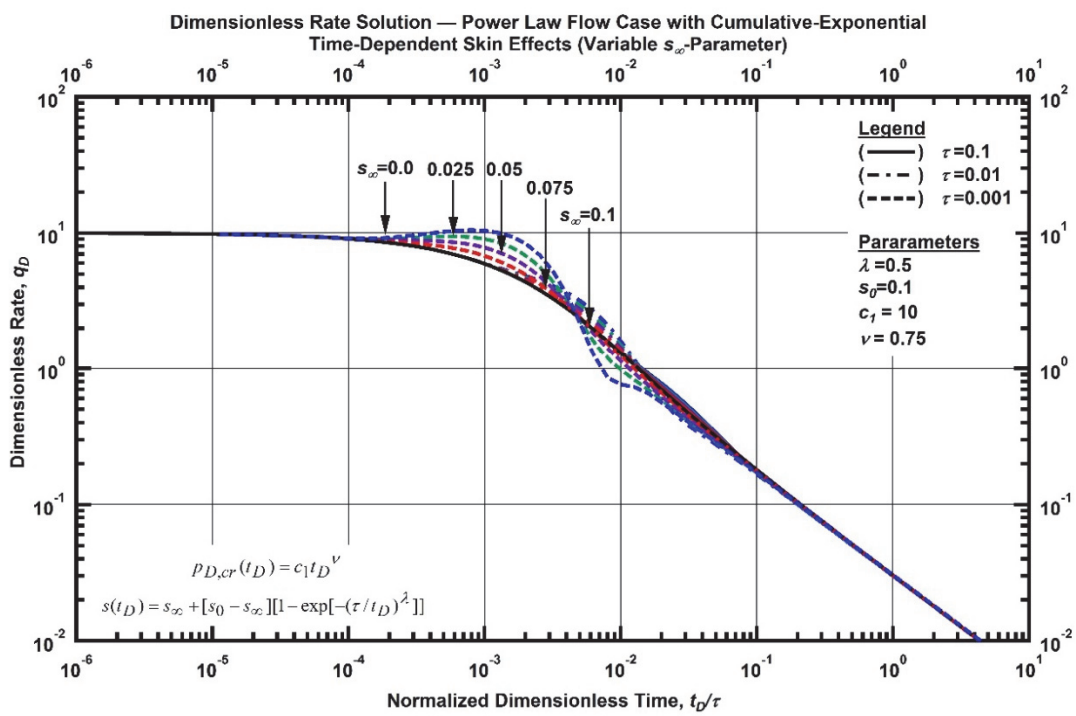

Figure F. 3 —Log-log plot (constant pressure dimensionless rate solution) for the power law flow model combined with the cumulative-exponential time-dependent skin effects for select values of s_∞-parameter.

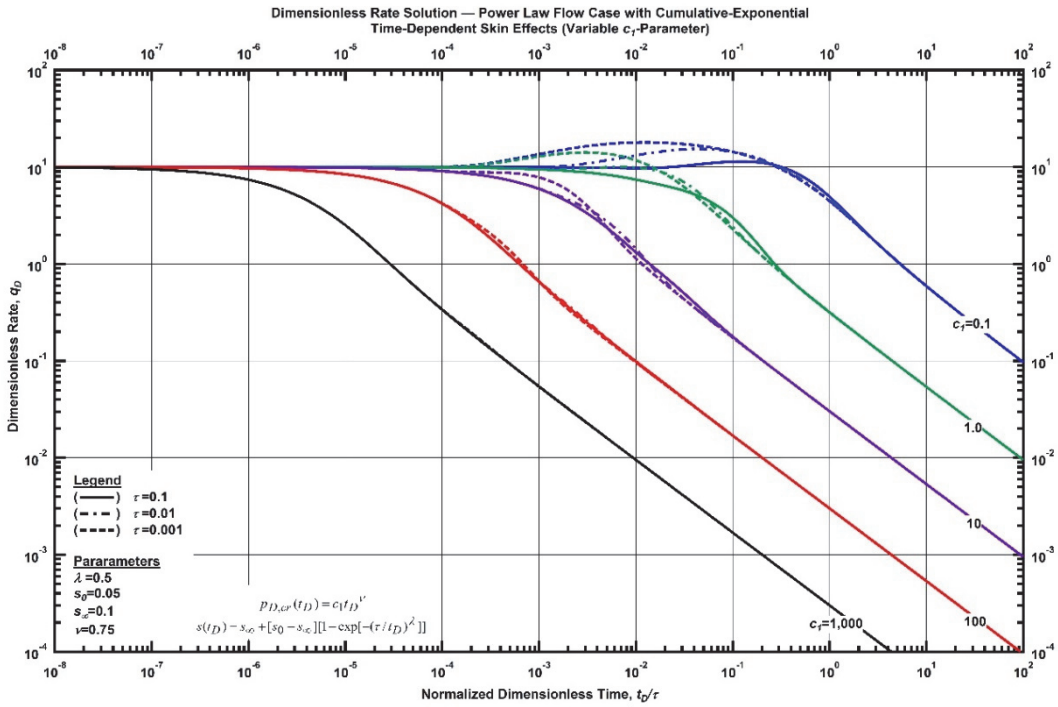

Figure F. 4 —Log-log plot (constant pressure dimensionless rate solution) for the power law flow model combined with the cumulative-exponential time-dependent skin effects for select values of c_1-parameter.

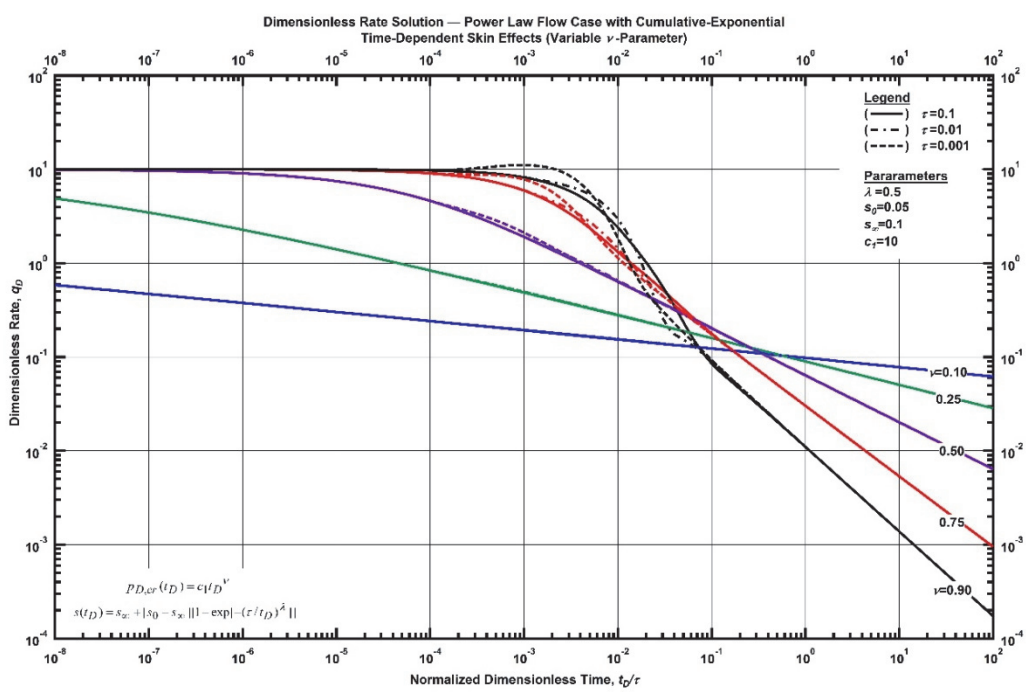

Figure F. 5 —Log-log plot (constant pressure dimensionless rate solution) for the power law flow model combined with the cumulative-exponential time-dependent skin effects for select values of ν-parameter.

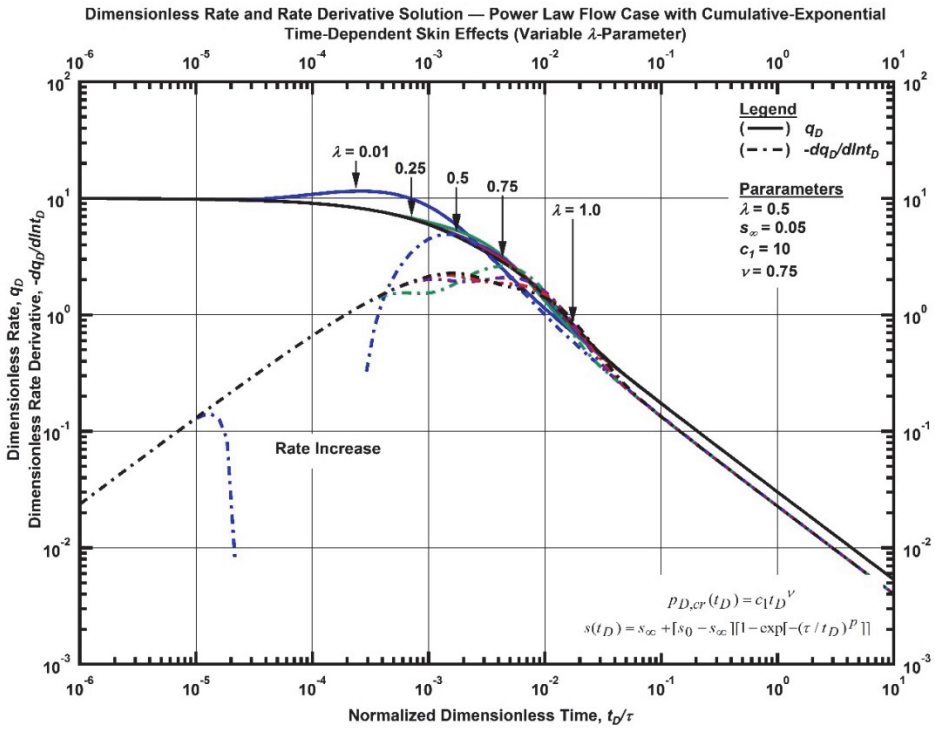

Figure F. 6 —Log-log plot (constant pressure dimensionless rate derivative solution) for the power-law flow model combined with the cumulative-exponential time-dependent skin effects for select values of λ-parameter.

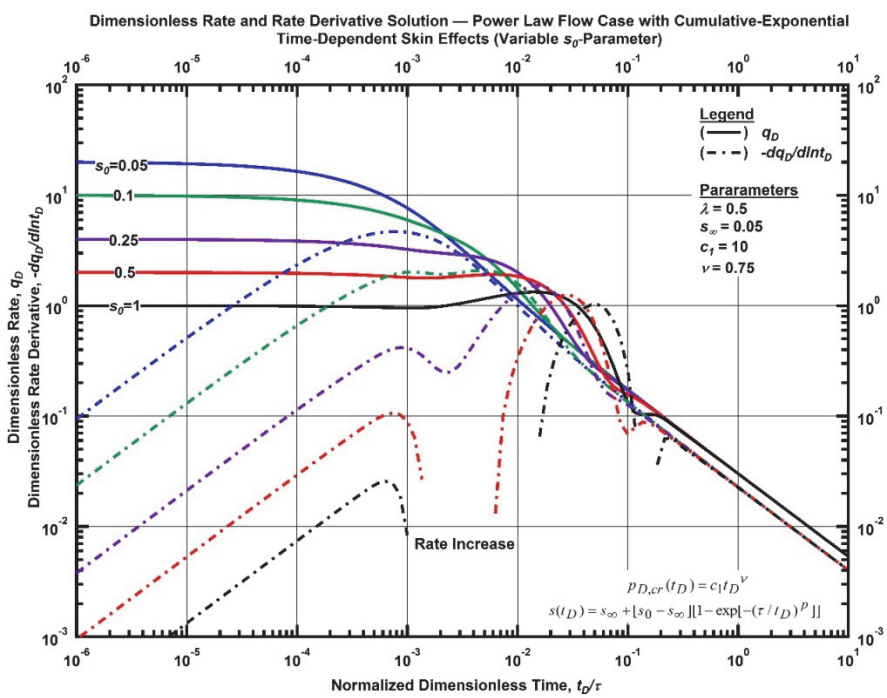

Figure F. 7 —Log-log plot (constant pressure dimensionless rate derivative solution) for the power law flow model combined with the cumulative-exponential time-dependent skin effects for select values of s_0-parameter.

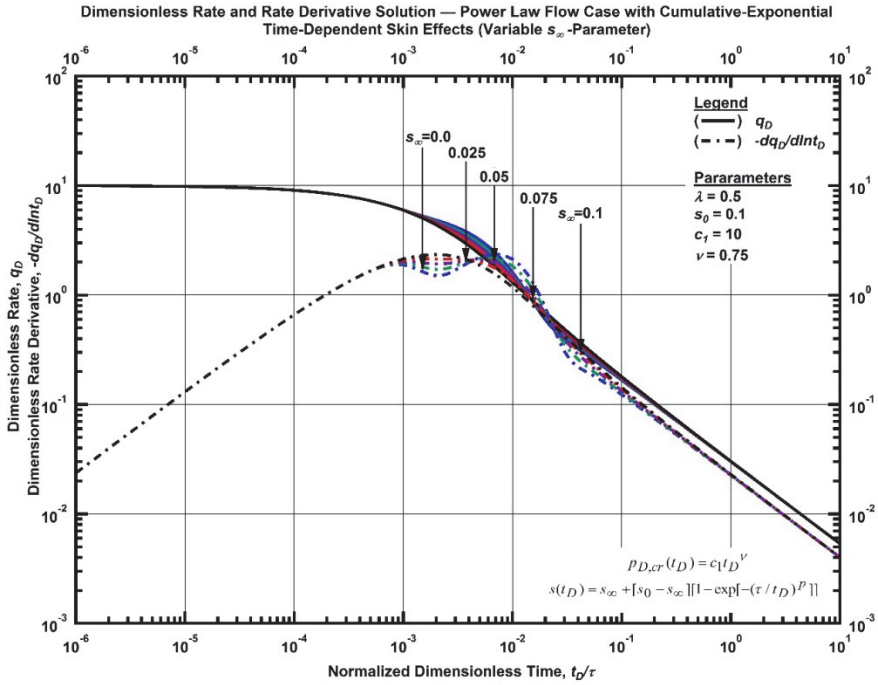

Figure F. 8 —Log-log plot (constant pressure dimensionless rate derivative solution) for the power law flow model combined with the cumulative-exponential time-dependent skin effects for select values of s_∞-parameter.

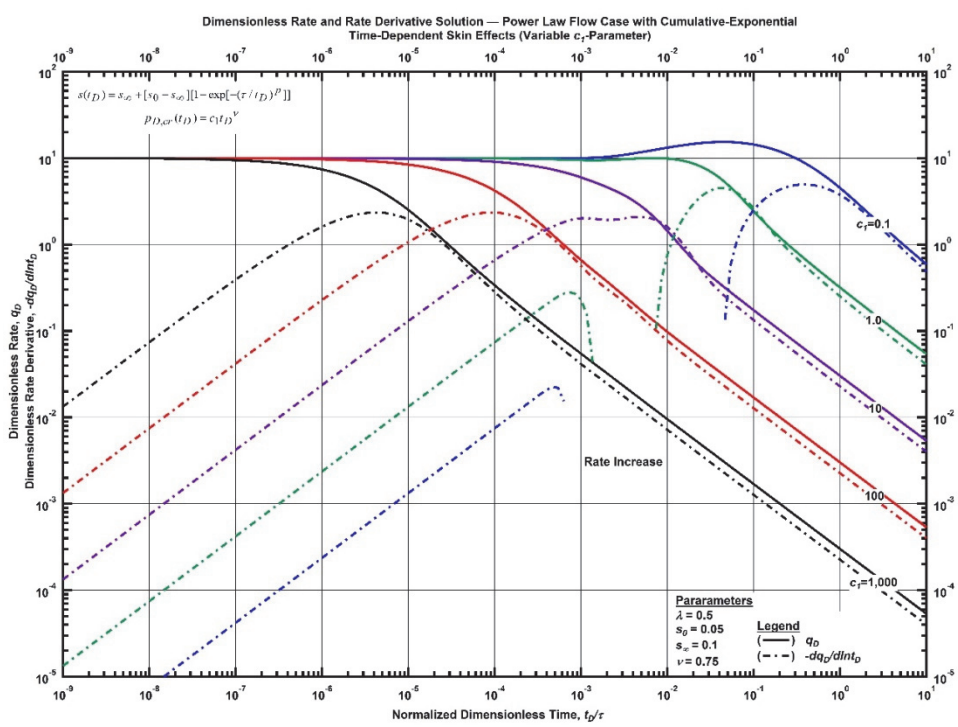

Figure F. 9 —Log-log plot (constant pressure dimensionless rate derivative solution) for the power law flow model combined with the cumulative-exponential time-dependent skin effects for select values of c_1-parameter.

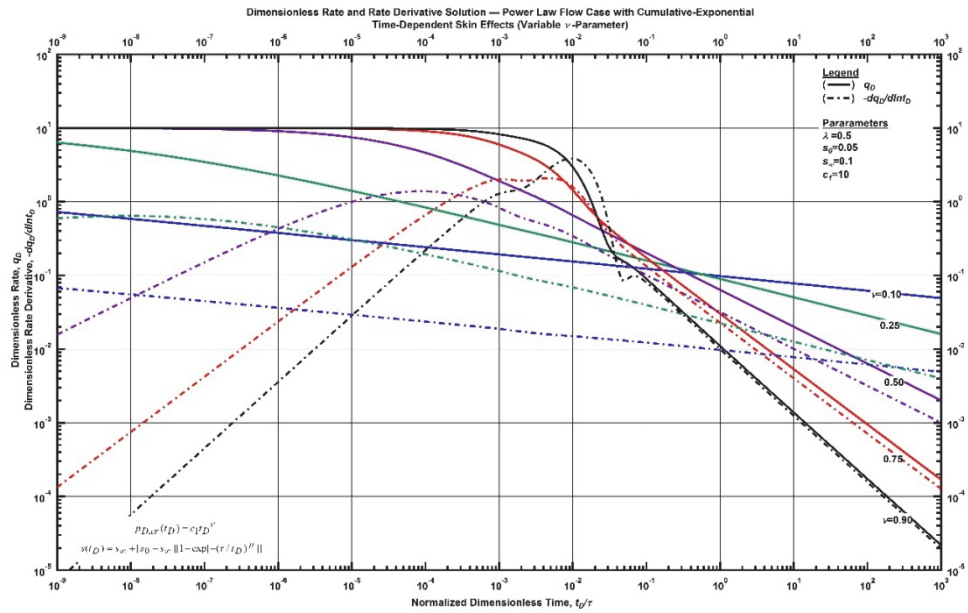

Figure F. 10 — Log-log plot (constant pressure dimensionless rate derivative solution) for the power law flow model combined with the cumulative-exponential time-dependent skin effects for select values of ν-parameter.

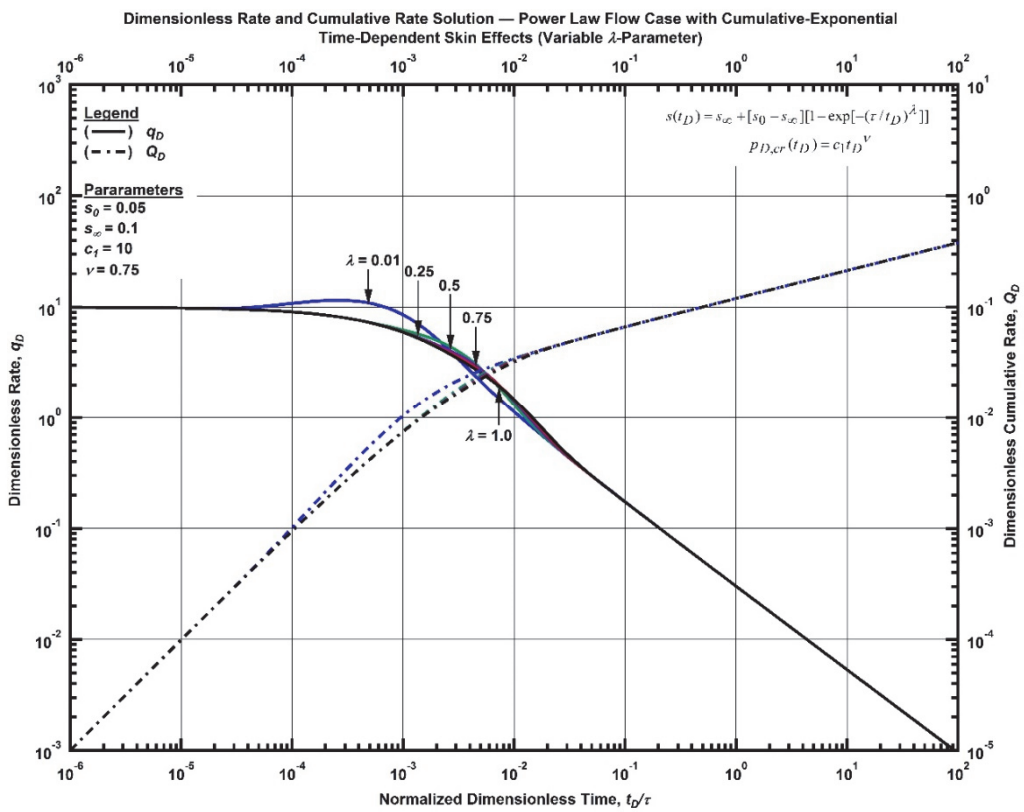

Figure F. 11 — Log-log plot (constant pressure dimensionless cumulative production solution) for the power-law flow model combined with the cumulative-exponential time-dependent skin effects for select values of λ-parameter.

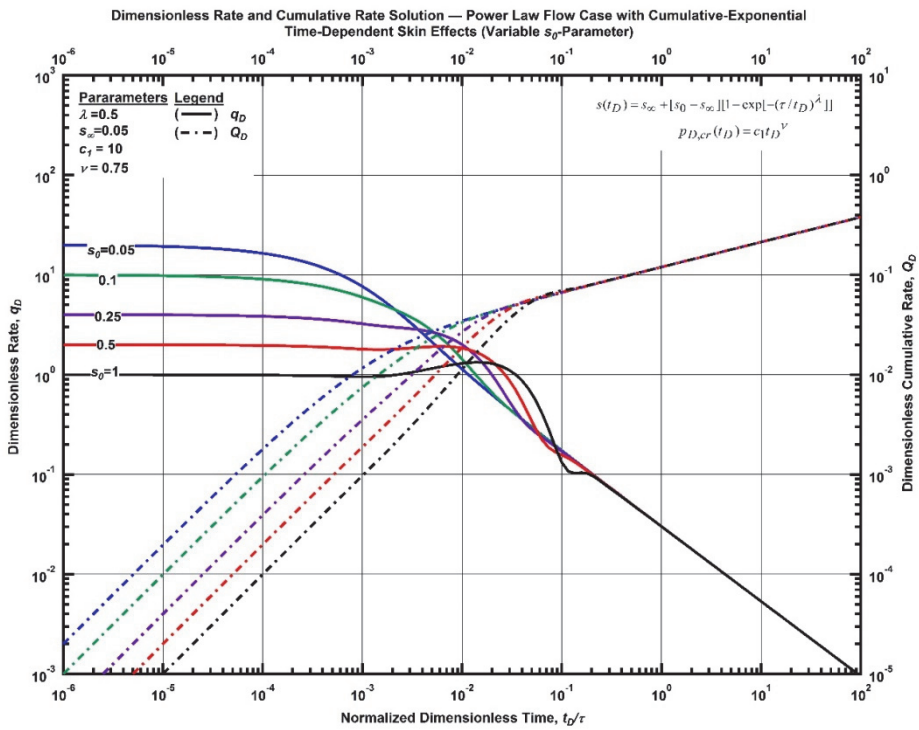

Figure F. 12 — Log-log plot (constant pressure dimensionless cumulative production solution) for the power law flow model combined with the cumulative-exponential time-dependent skin effects for select values of s_0-parameter.

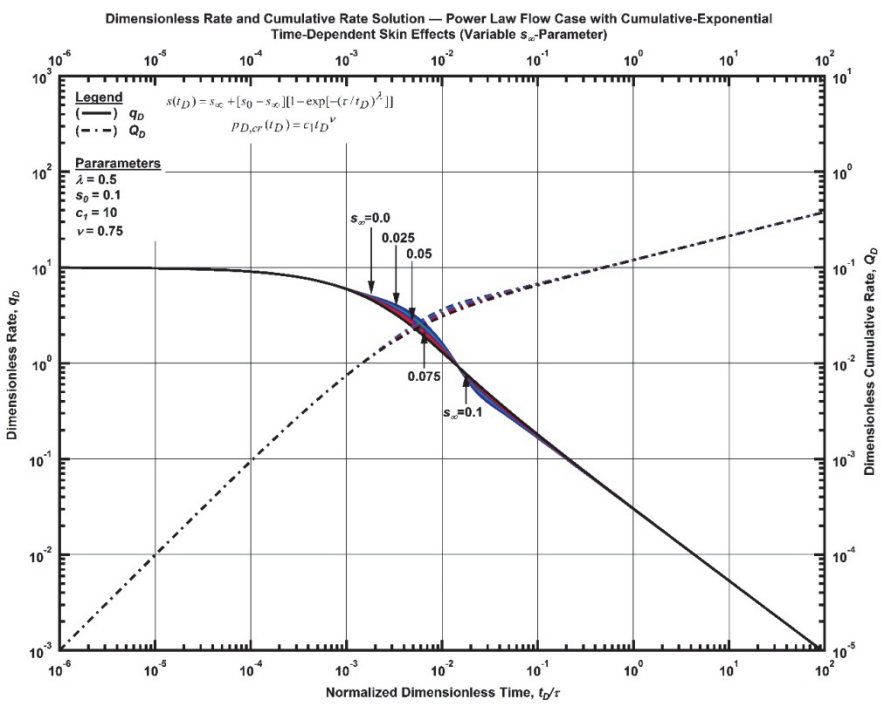

Figure F. 13 — Log-log plot (constant pressure dimensionless cumulative production solution) for the power law flow model combined with the cumulative-exponential time-dependent skin effects for select values of s_∞-parameter.

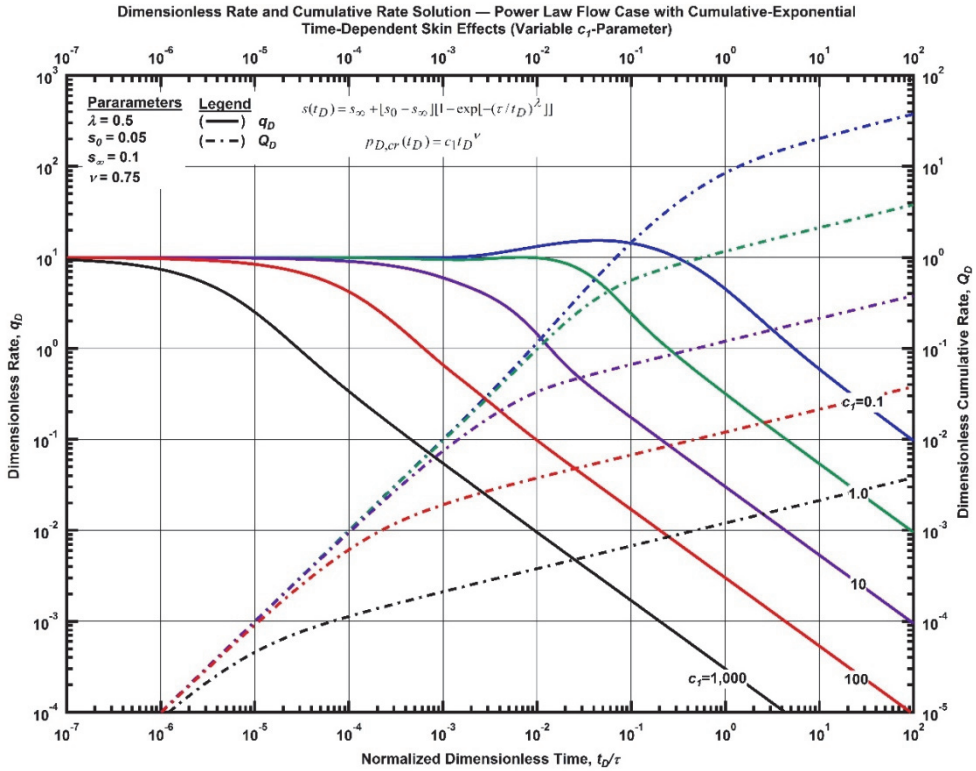

Figure F. 14 — Log-log plot (constant pressure dimensionless cumulative production solution) for the power law flow model combined with the cumulative-exponential time-dependent skin effects for select values of c_1-parameter.

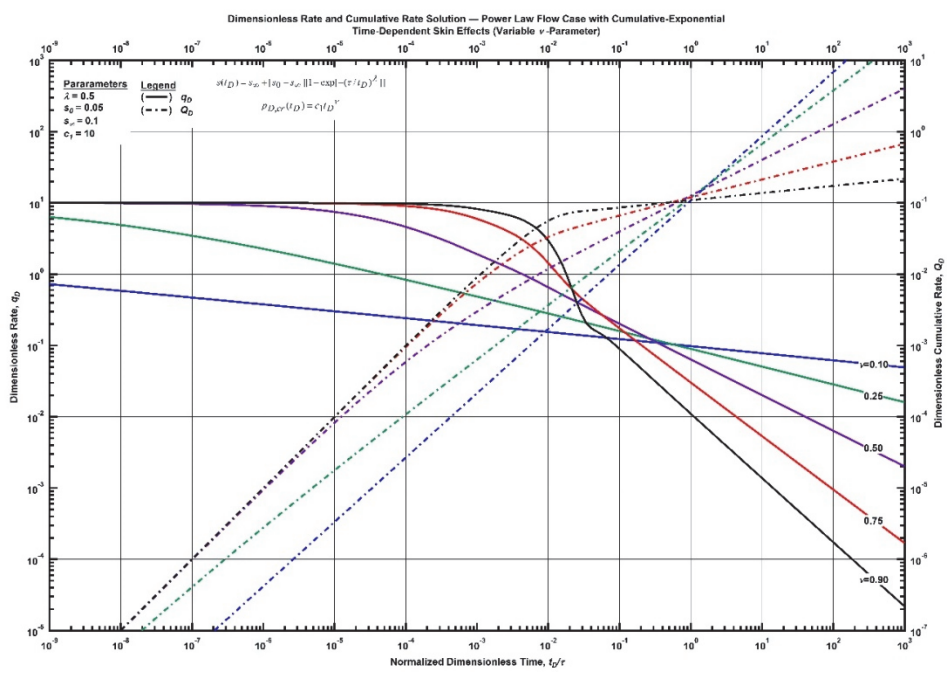

Figure F. 15 — Log-log plot (constant pressure dimensionless cumulative production solution) for the power law flow model combined with the cumulative-exponential time-dependent skin effects for select values of ν-parameter.

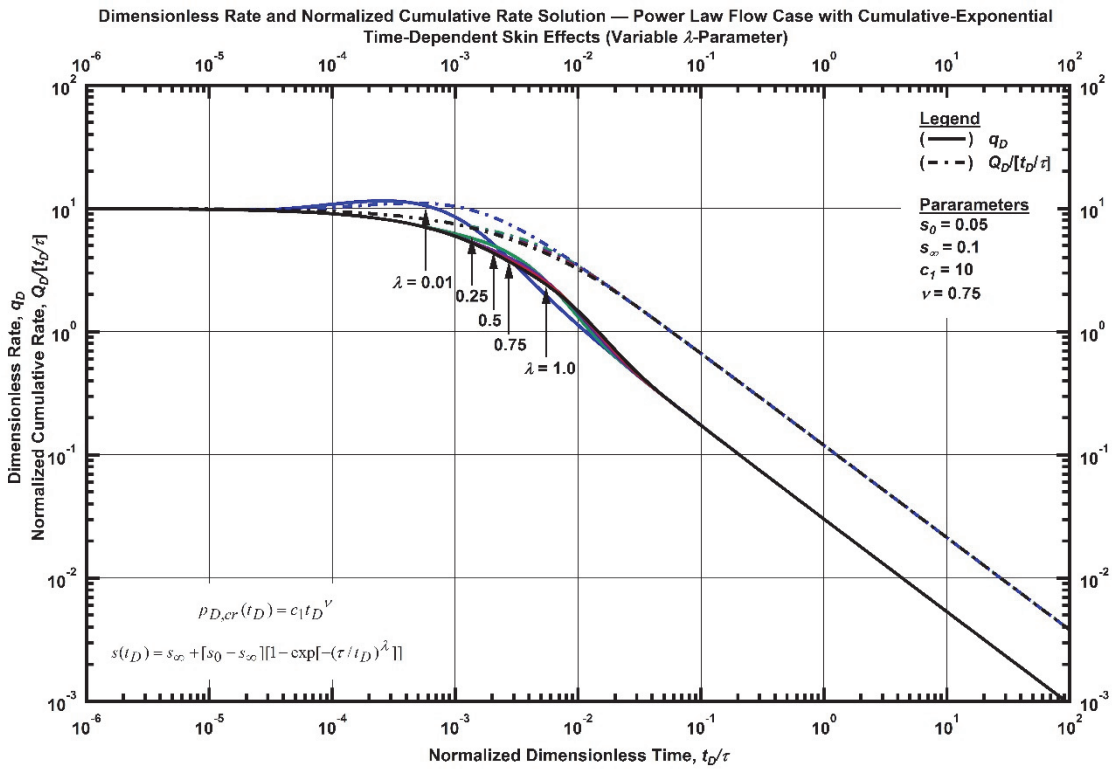

Figure F. 16—Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the power-law flow model combined with the cumulative-exponential time-dependent skin effects for select values of λ-parameter.

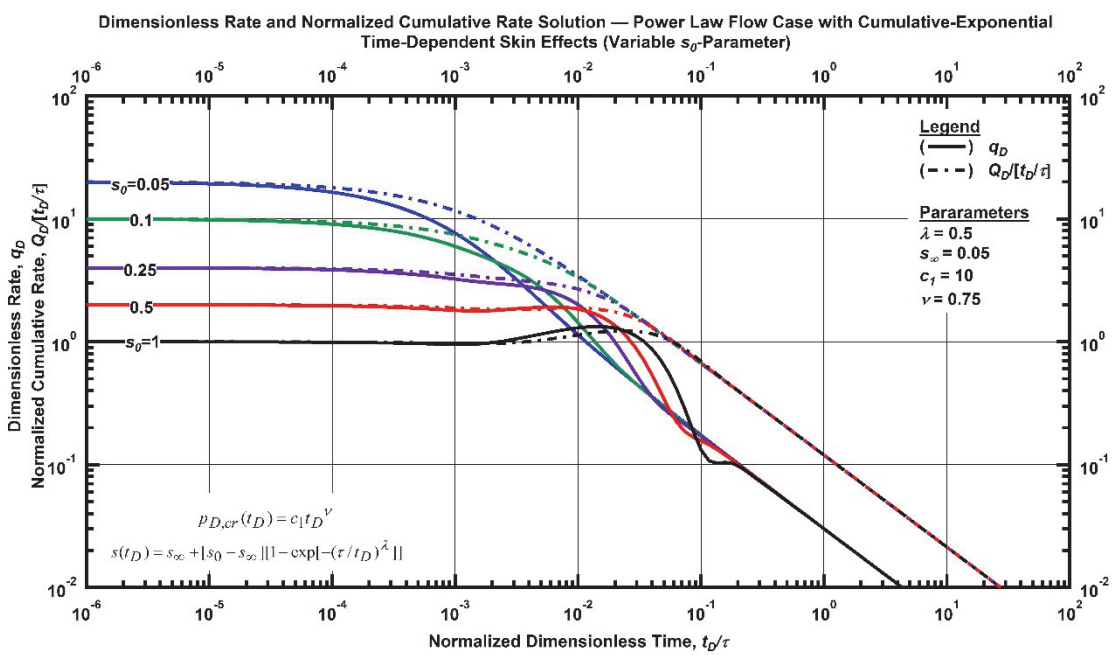

Figure F. 17—Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the power law flow model combined with the cumulative-exponential time-dependent skin effects for select values of s_0-parameter.

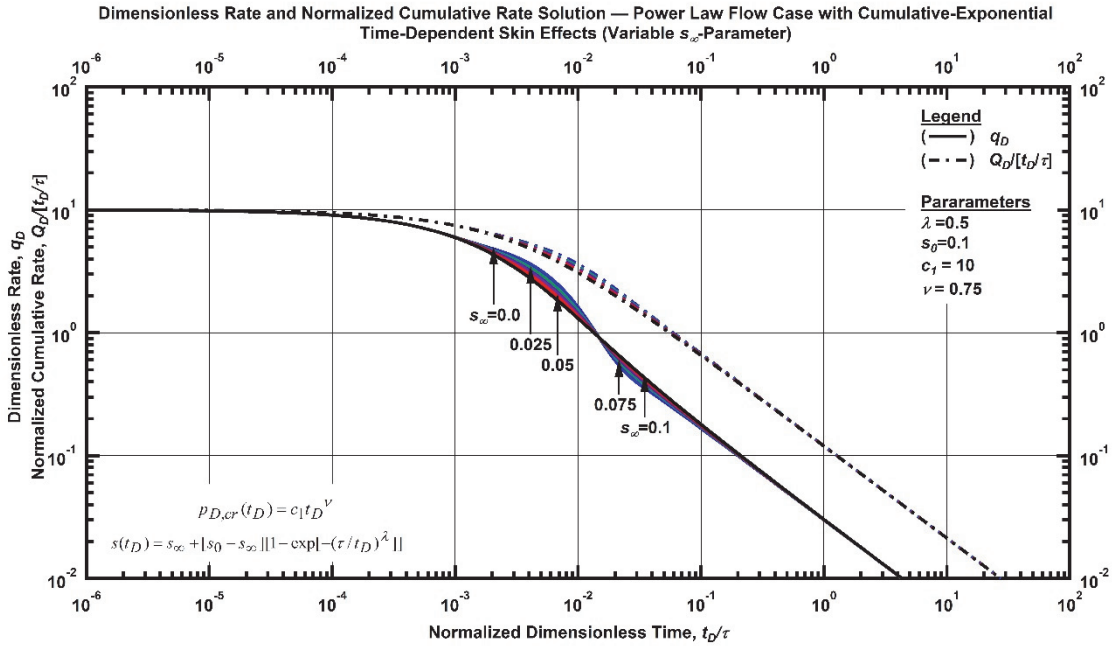

Figure F. 18 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the power law flow model combined with the cumulative-exponential time-dependent skin effects for select values of s_∞-parameter.

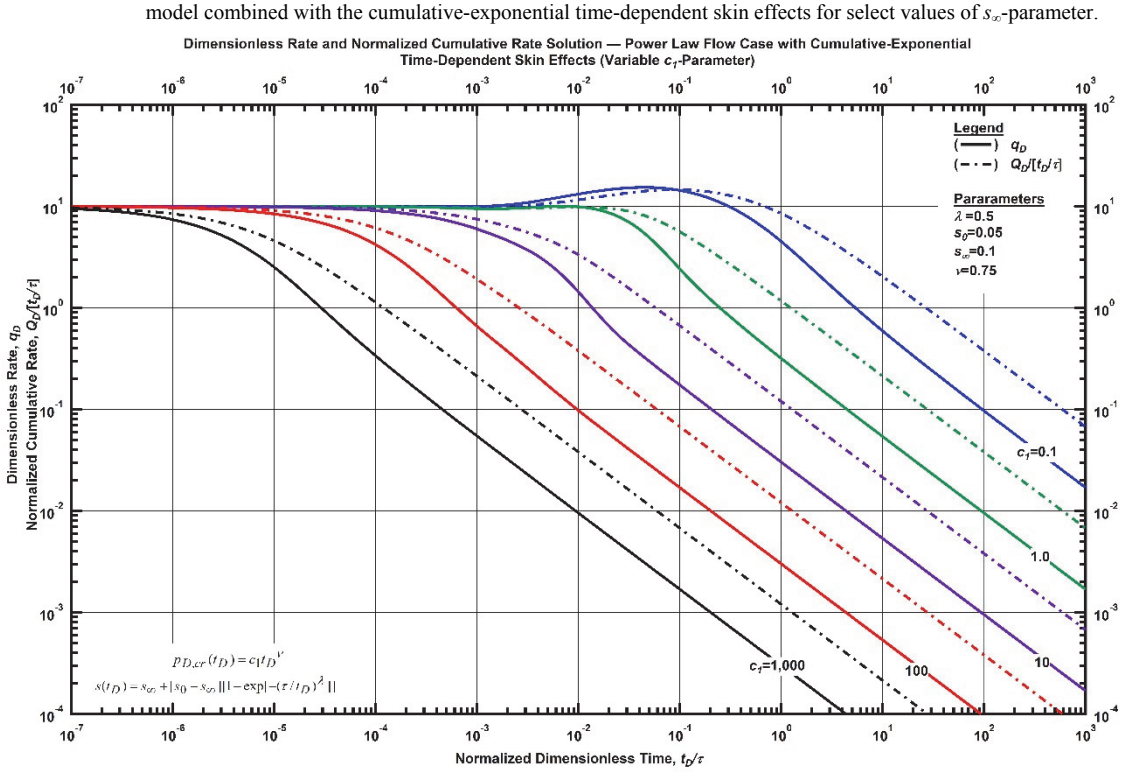

Figure F. 19 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the power law flow model combined with the cumulative-exponential time-dependent skin effects for select values of c_1-parameter.

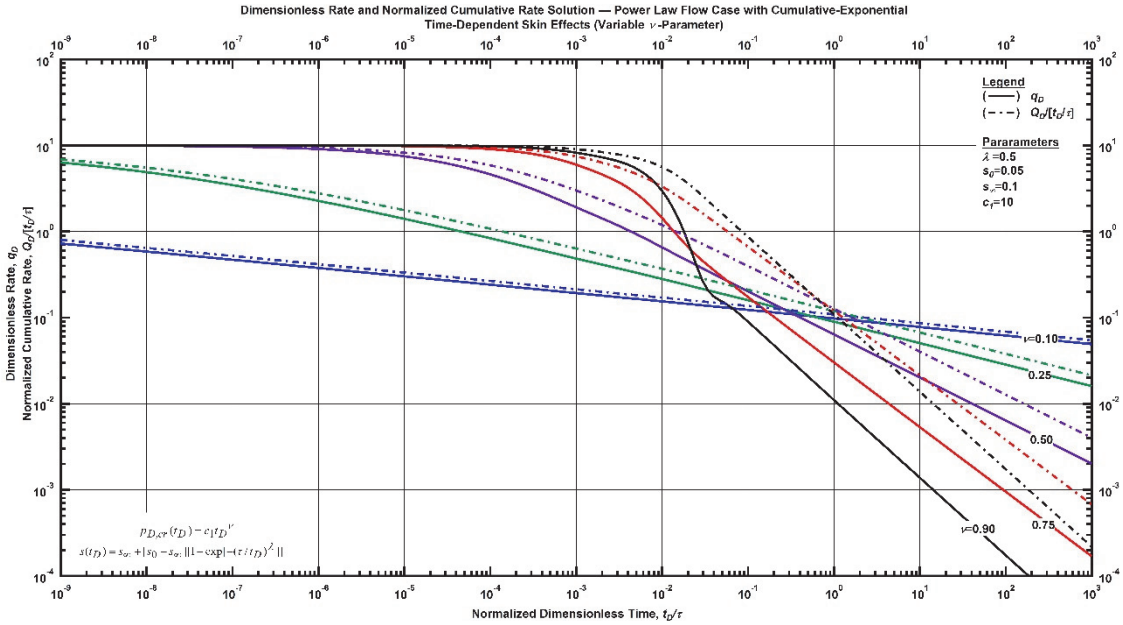

Figure F. 20 — Log-log plot (constant pressure dimensionless rate solution) for the power law flow model combined with the cumulative-exponential time-dependent skin effects for select values of ν-parameter.

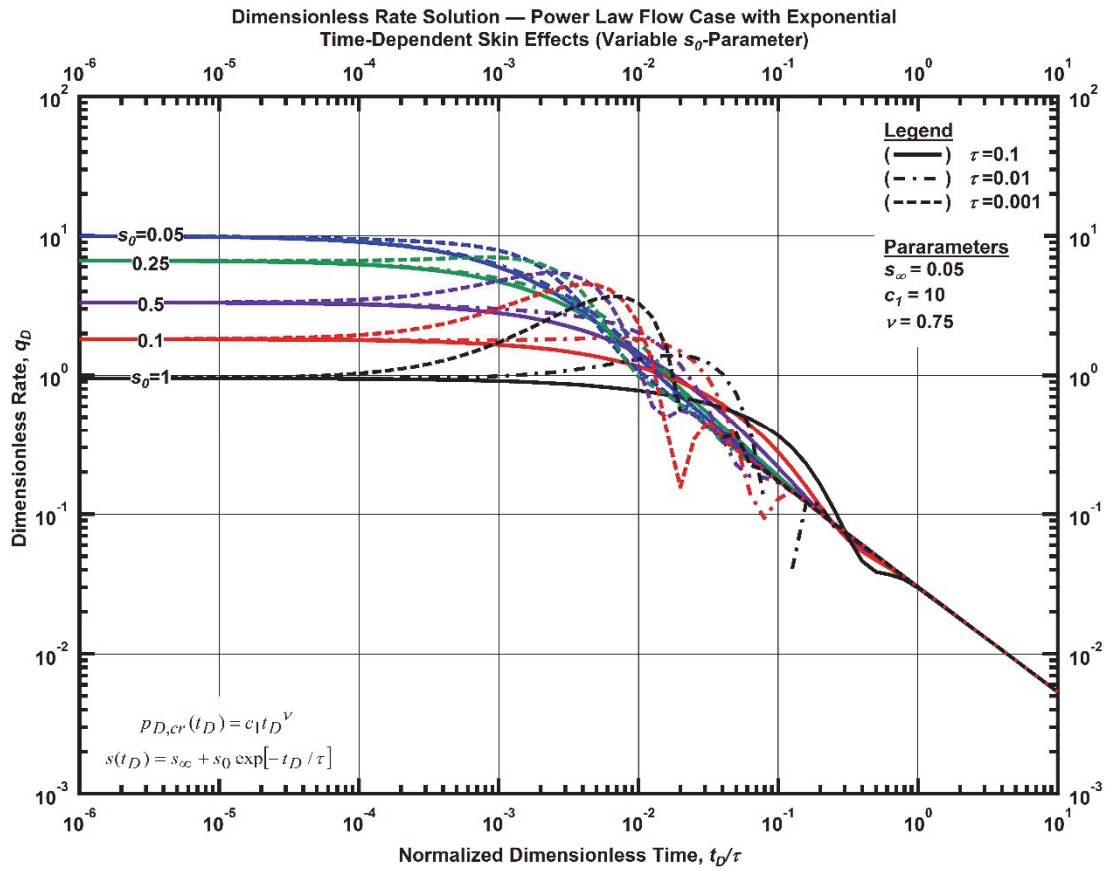

Figure F. 21 — Log-log plot (constant pressure dimensionless rate solution) for the power law flow model combined with the exponential time-dependent skin effects for select values of s_0-parameter.

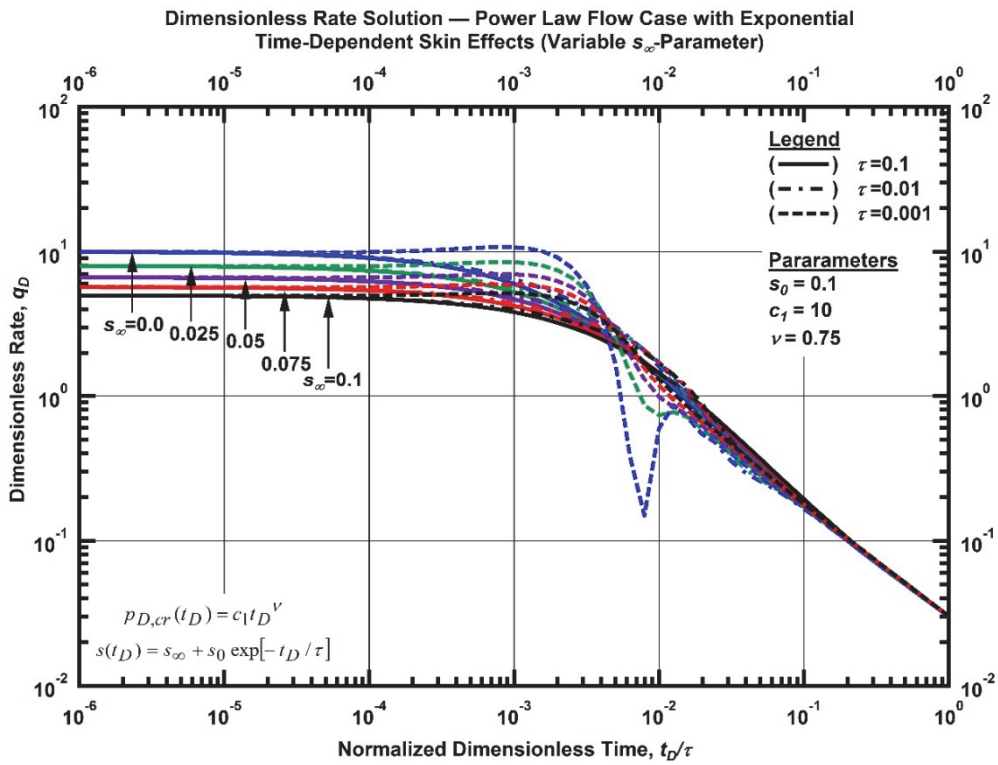

Figure F. 22 — Log-log plot (constant pressure dimensionless rate solution) for the power law flow model combined with the exponential time-dependent skin effects for select values of s_∞-parameter.

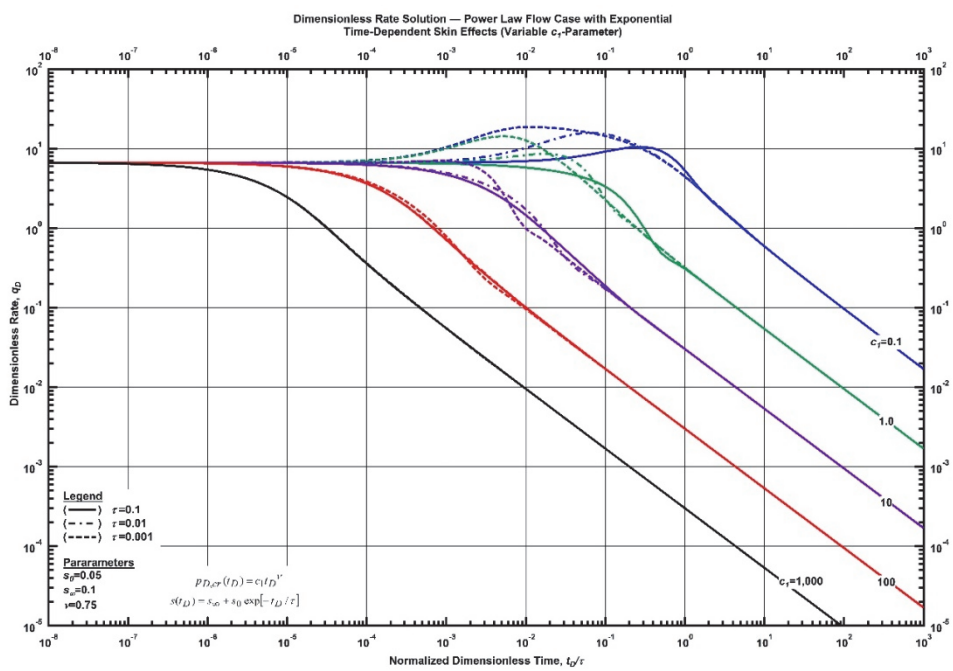

Figure F. 23 — Log-log plot (constant pressure dimensionless rate solution) for the power law flow model combined with the exponential time-dependent skin effects for select values of c_1-parameter.

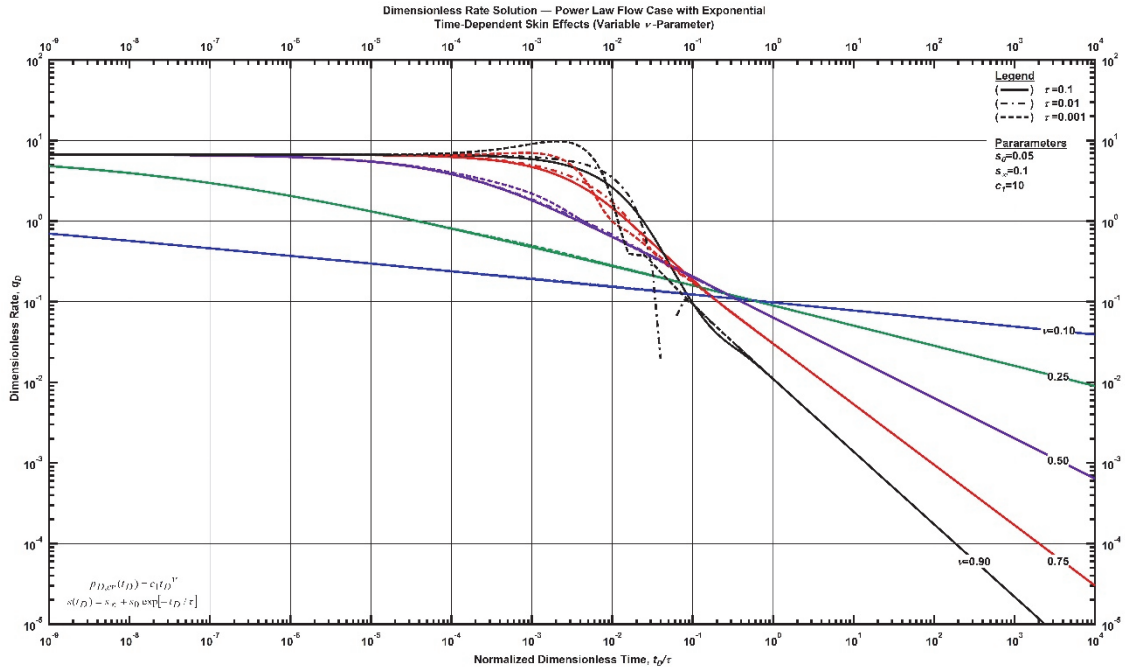

Figure F. 24 — Log-log plot (constant pressure dimensionless rate solution) for the power law flow model combined with the exponential time-dependent skin effects for select values of ν-parameter.

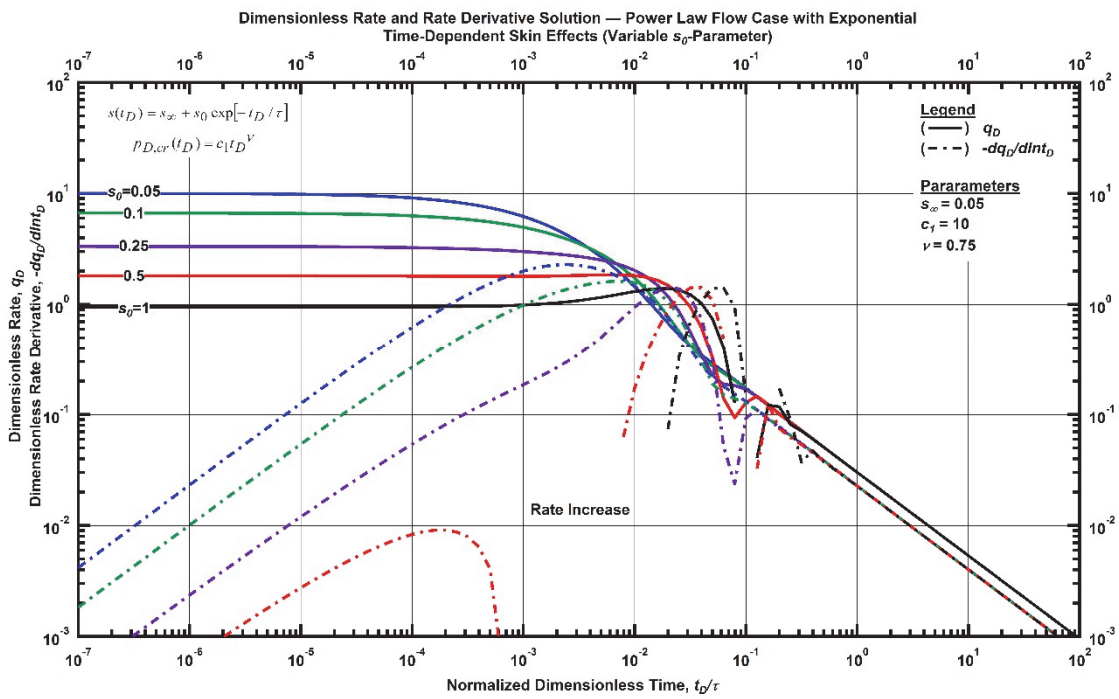

Figure F. 25 — Log-log plot (constant pressure dimensionless rate derivative solution) for the power law flow model combined with the exponential time-dependent skin effects for select values of s_0-parameter.

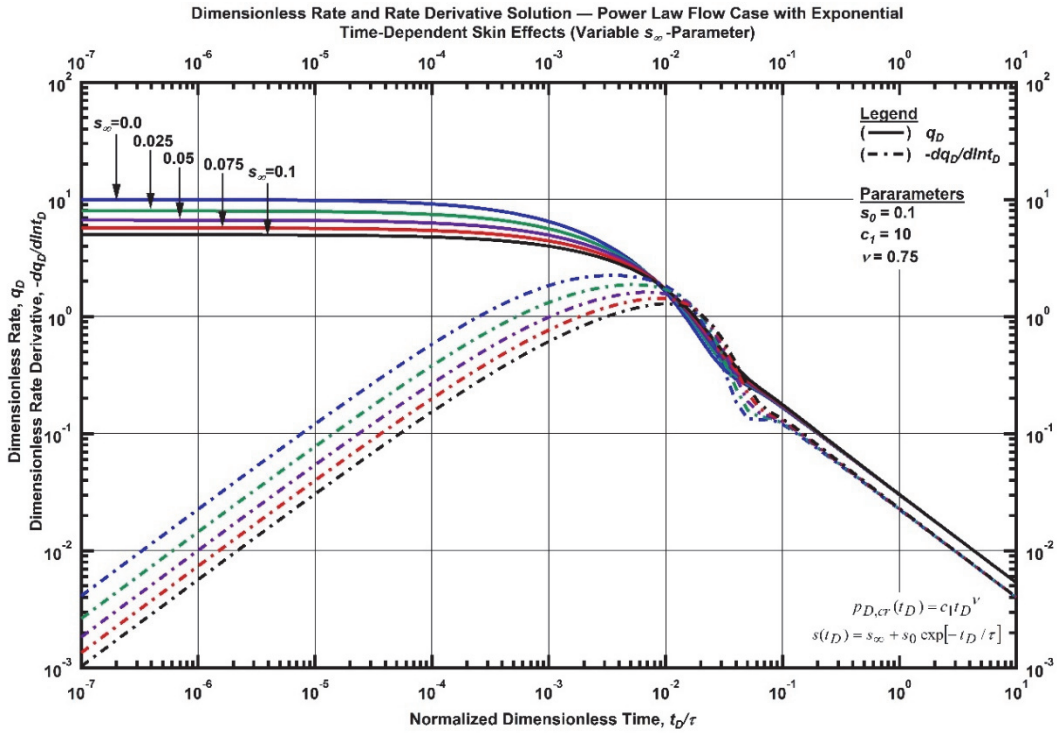

Figure F. 26—Log-log plot (constant pressure dimensionless rate derivative solution) for the power law flow model combined with the exponential time-dependent skin effects for select values of s_∞-parameter.

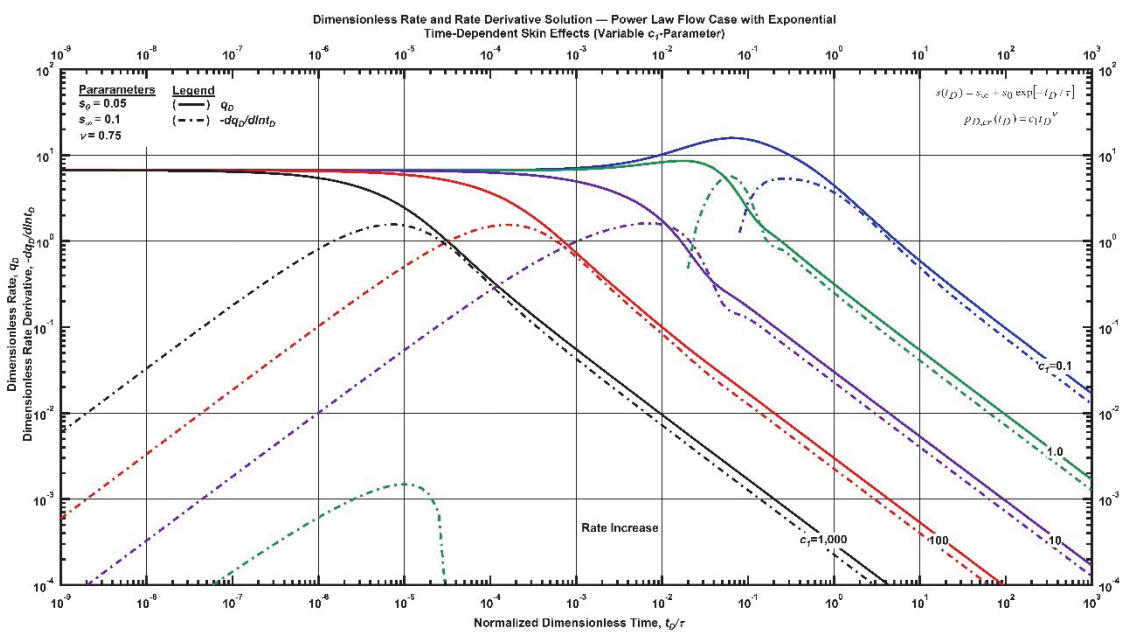

Figure F. 27—Log-log plot (constant pressure dimensionless rate derivative solution) for the power law flow model combined with the exponential time-dependent skin effects for select values of c_1-parameter.

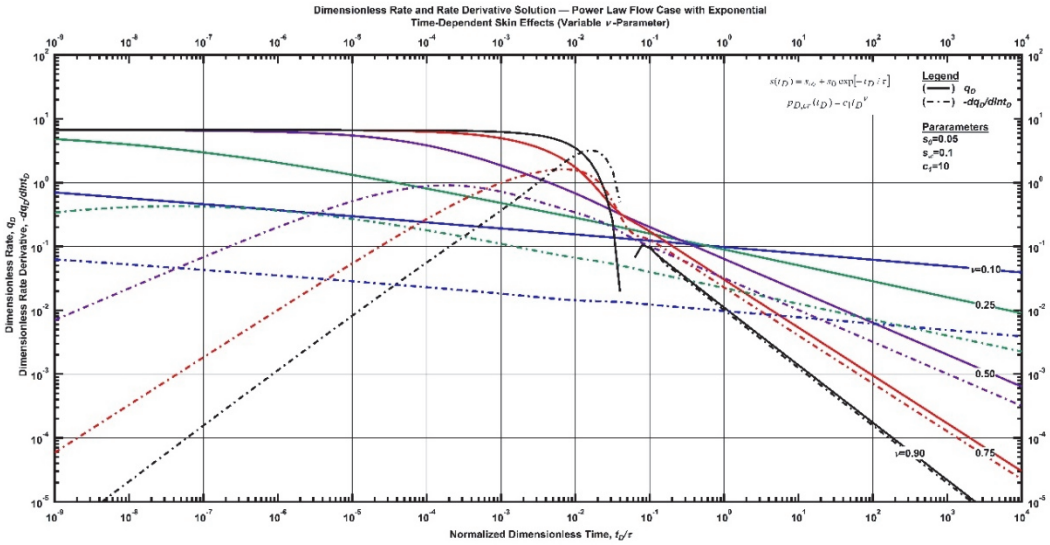

Figure F. 28 — Log-log plot (constant pressure dimensionless rate derivative solution) for the power law flow model combined with the exponential time-dependent skin effects for select values of ν-parameter.

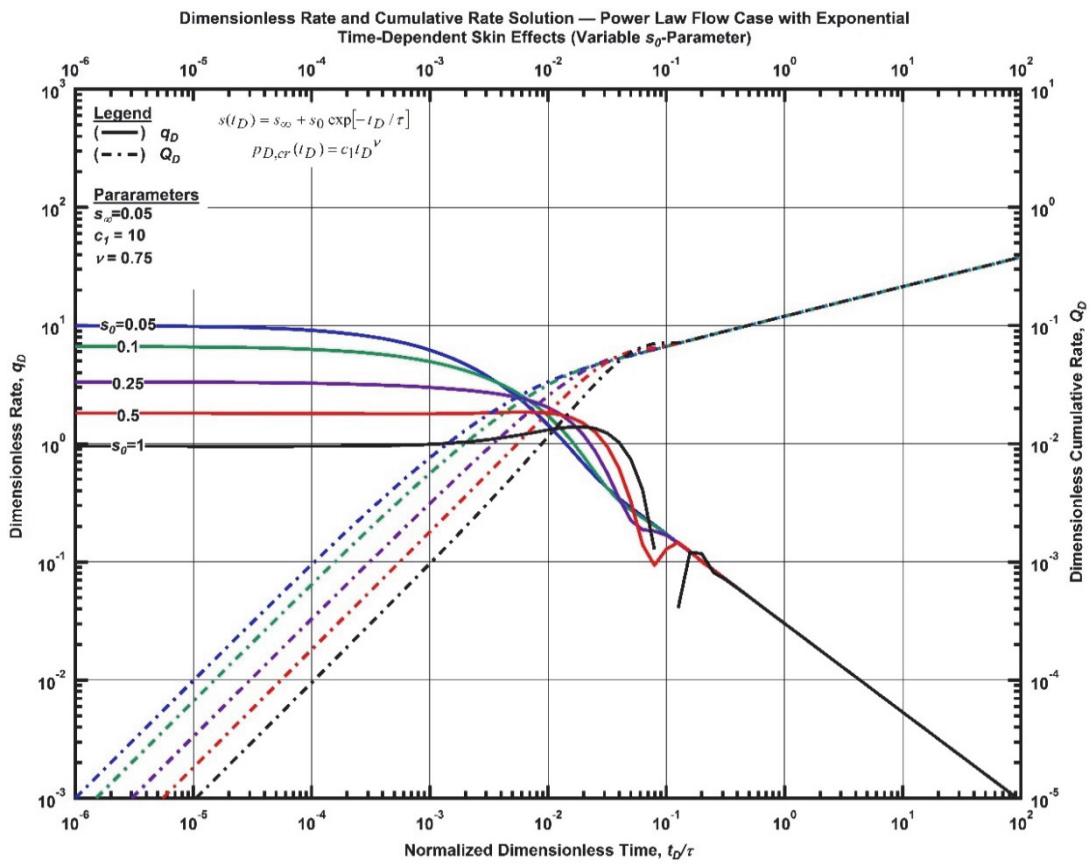

Figure F. 29 — Log-log plot (constant pressure dimensionless cumulative production solution) for the power law flow model combined with the exponential time-dependent skin effects for select values of s_0-parameter.

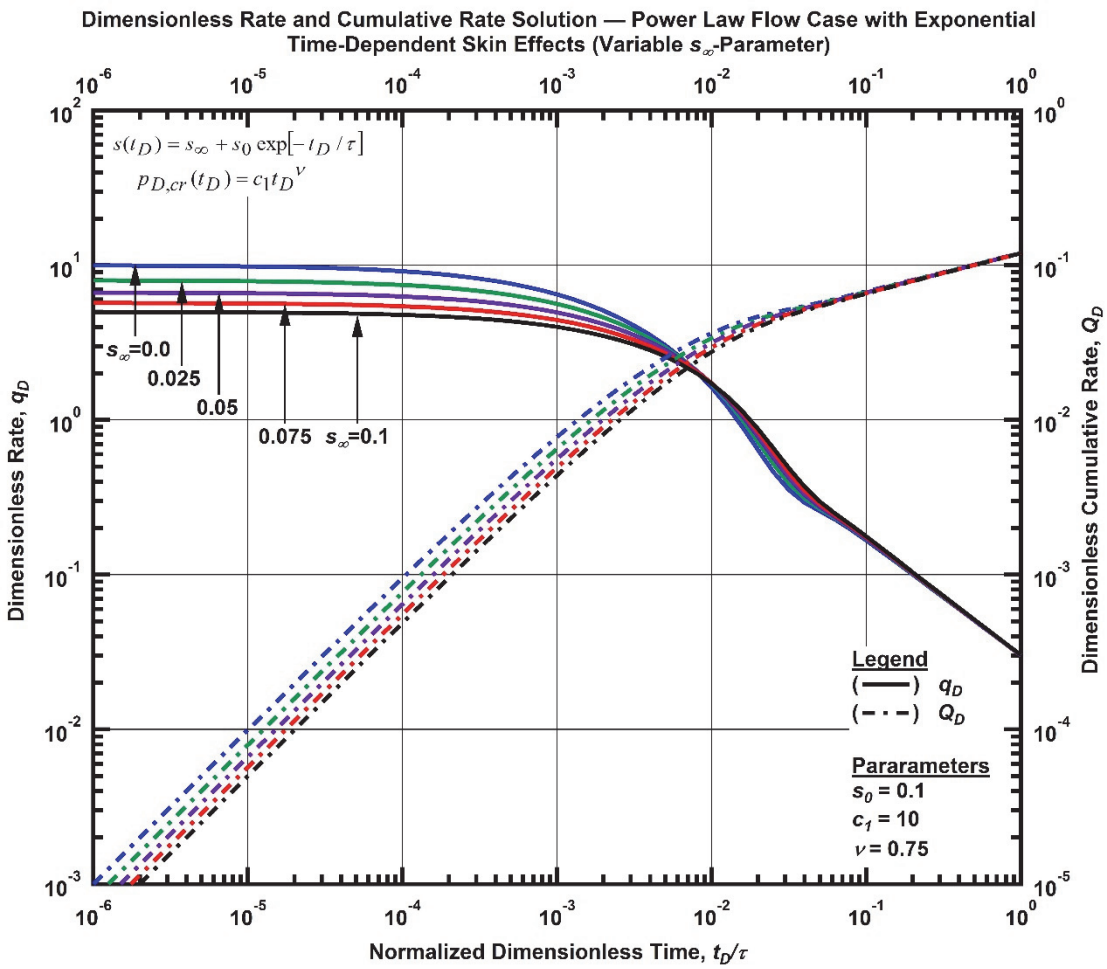

Figure F. 30 — Log-log plot (constant pressure dimensionless cumulative production solution) for the power law flow model combined with the exponential time-dependent skin effects for select values of s_∞-parameter.

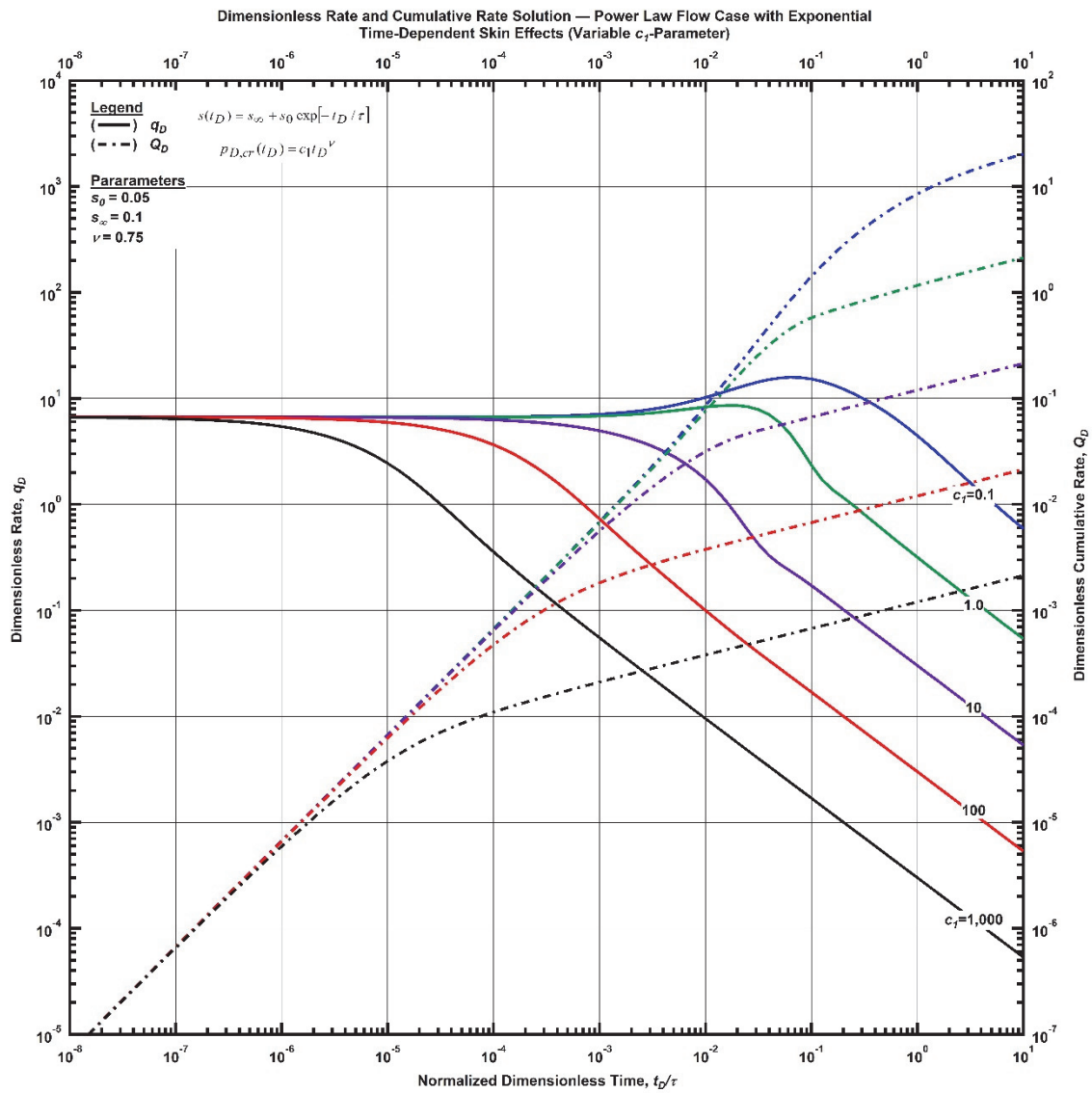

Figure F. 31 — Log-log plot (constant pressure dimensionless cumulative production solution) for the power law flow model combined with the exponential time-dependent skin effects for select values of c_1-parameter.

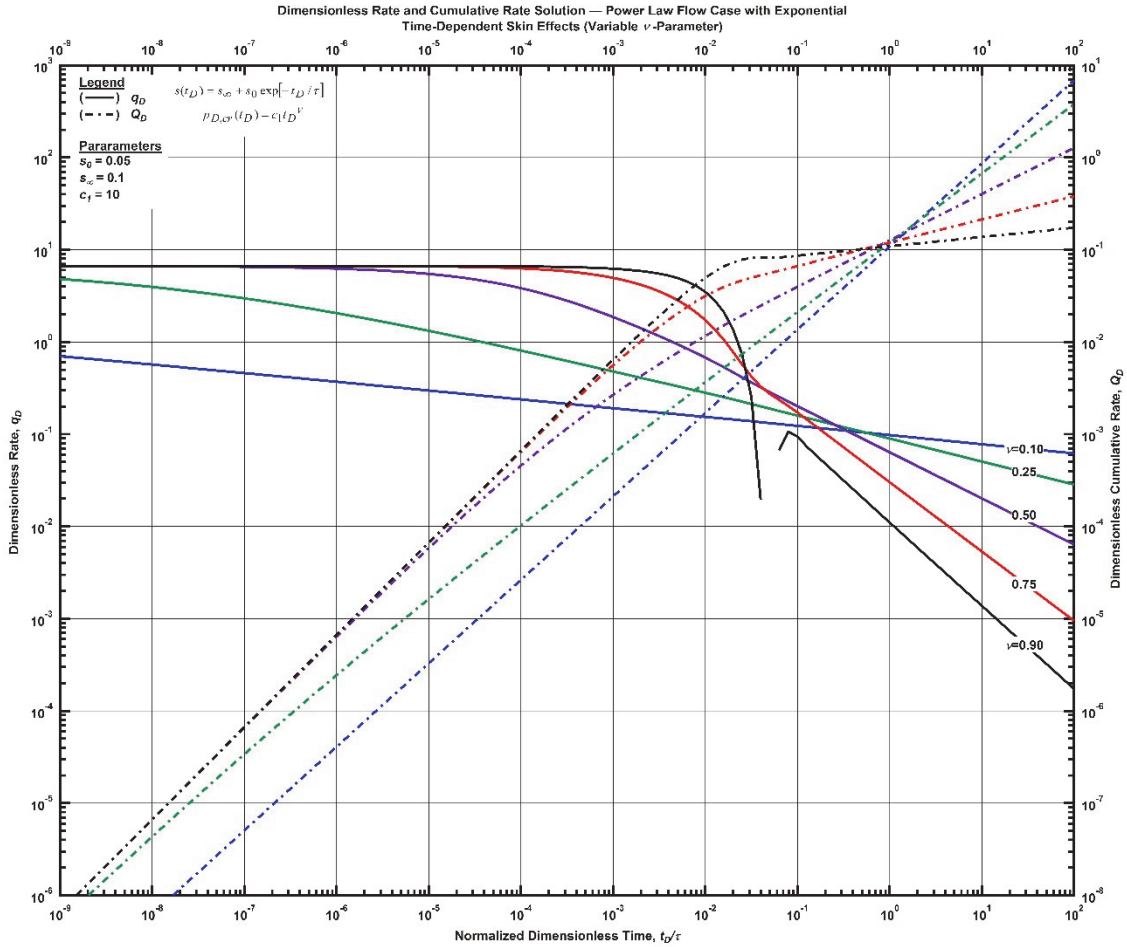

Figure F. 32 — Log-log plot (constant pressure dimensionless cumulative production solution) for the power law flow model combined with the exponential time-dependent skin effects for select values of ν-parameter.

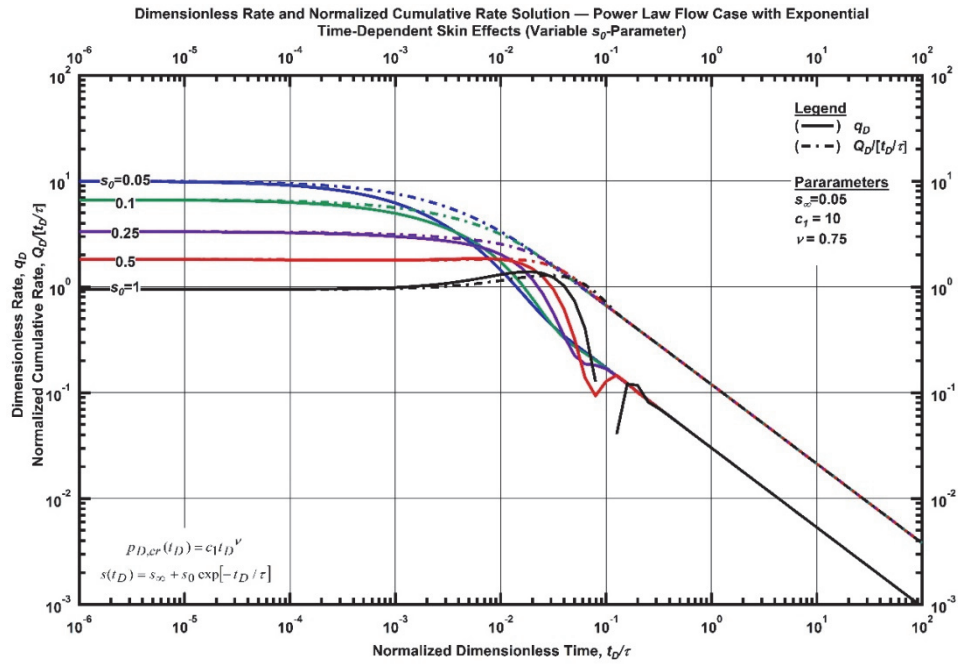

Figure F. 33 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the power law flow model combined with the exponential time-dependent skin effects for select values of s_0-parameter.

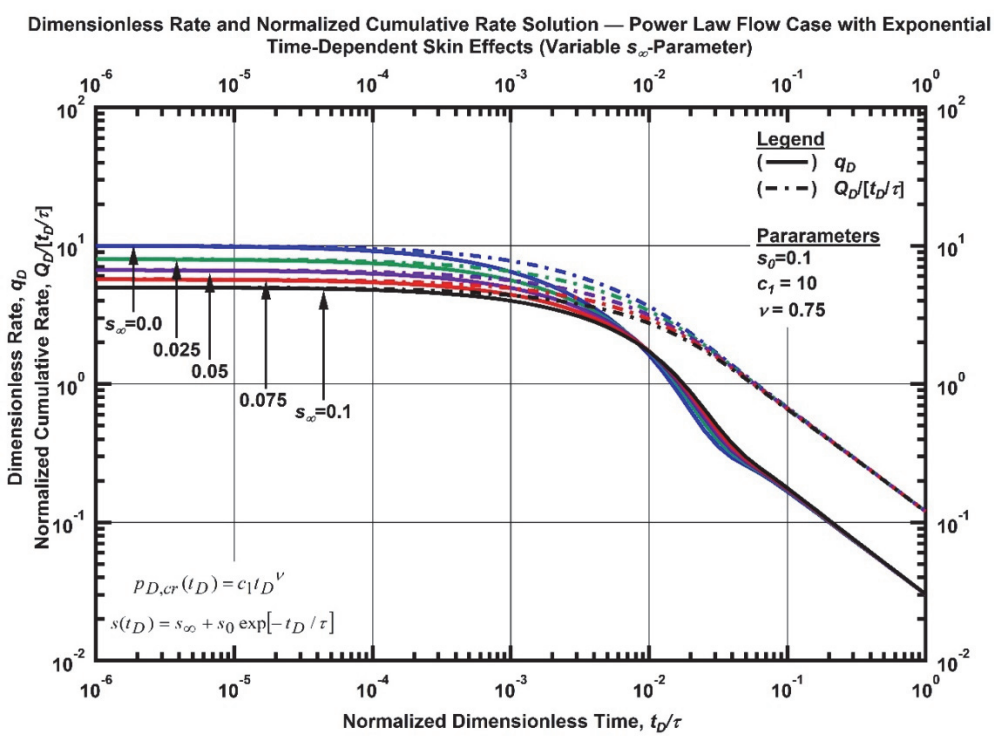

Figure F. 34 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the power law flow model combined with the exponential time-dependent skin effects for select values of s_∞-parameter.

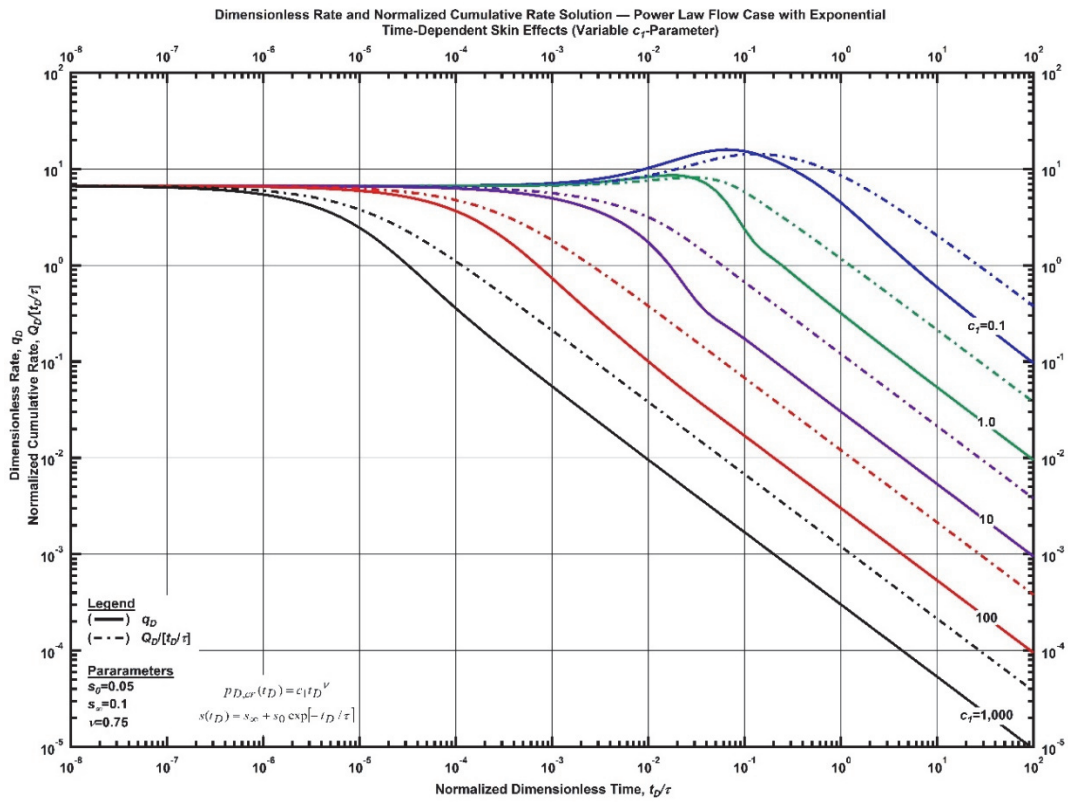

Figure F. 35 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the power law flow model combined with the exponential time-dependent skin effects for select values of c_1-parameter.

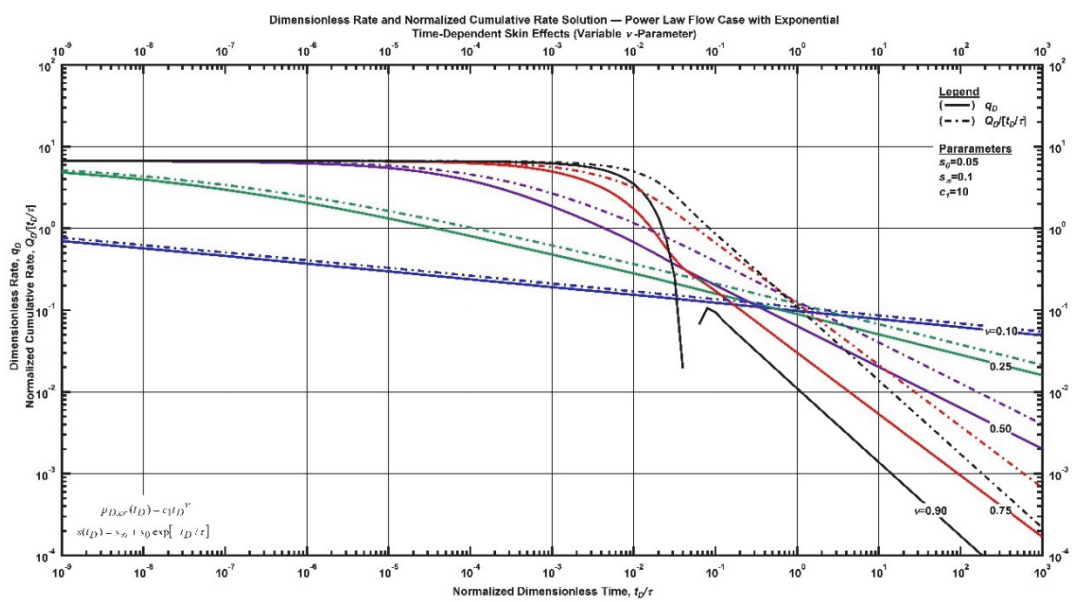

Figure F. 36 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the power law flow model combined with the exponential time-dependent skin effects for select values of ν-parameter.

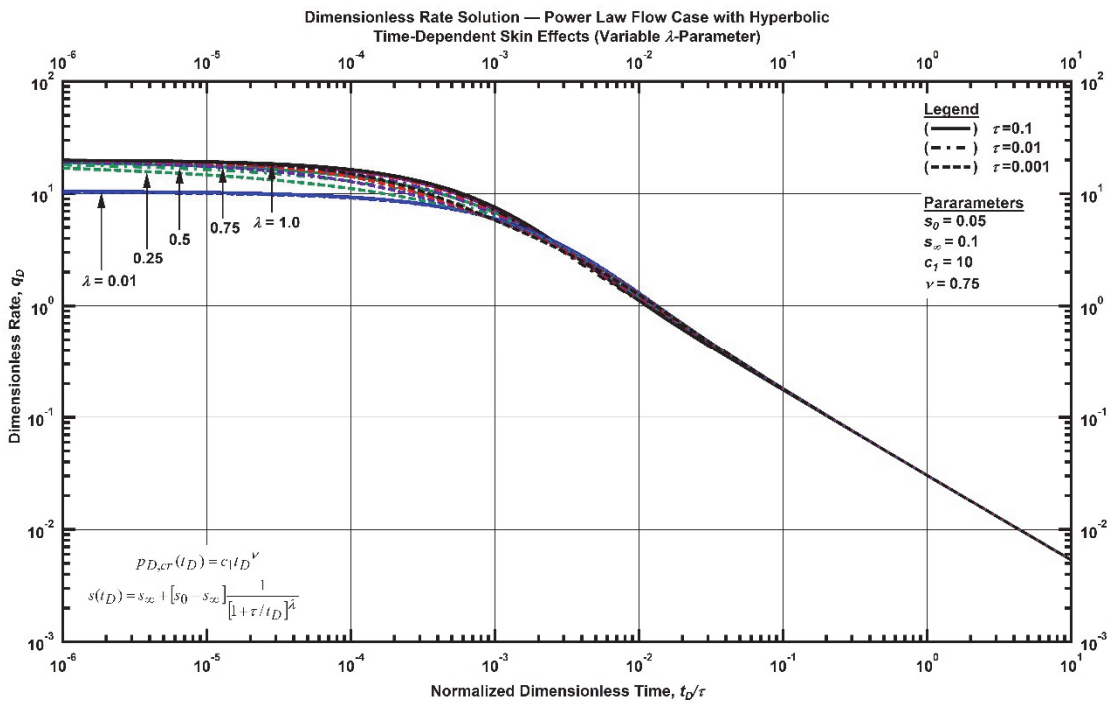

Figure F. 37—Log-log plot (constant pressure dimensionless rate solution) for the power law flow model combined with the hyperbolic time-dependent skin effects for select values of λ-parameter.

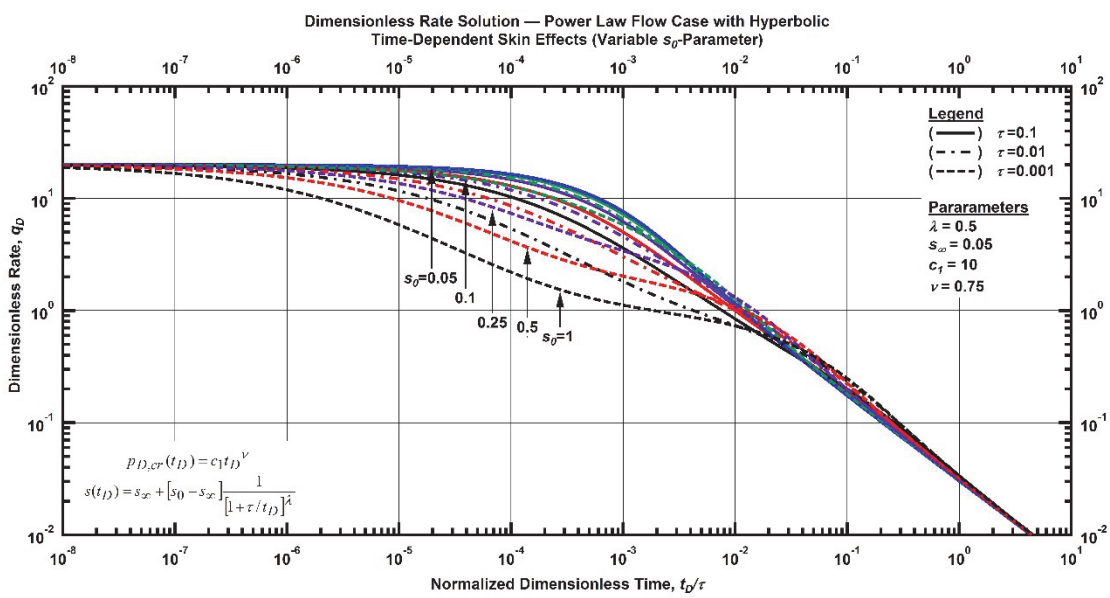

Figure F. 38—Log-log plot (constant pressure dimensionless rate solution) for the power law flow model combined with the hyperbolic time-dependent skin effects for select values of s_0-parameter.

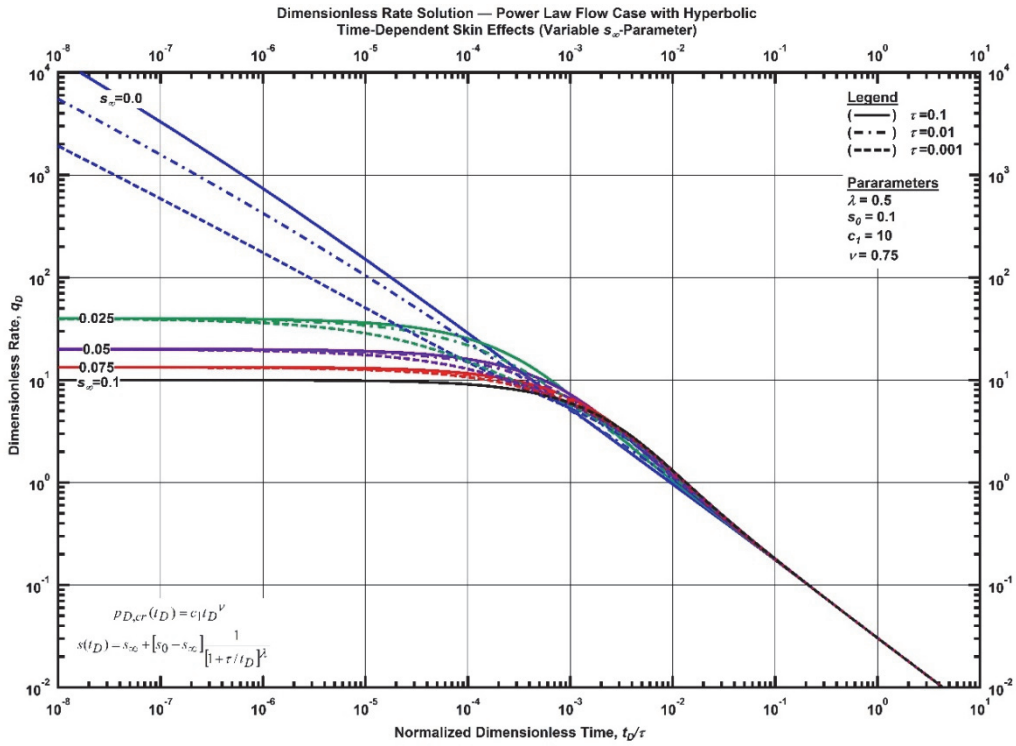

Figure F. 39—Log-log plot (constant pressure dimensionless rate solution) for the power law flow model combined with the hyperbolic time-dependent skin effects for select values of s_∞-parameter.

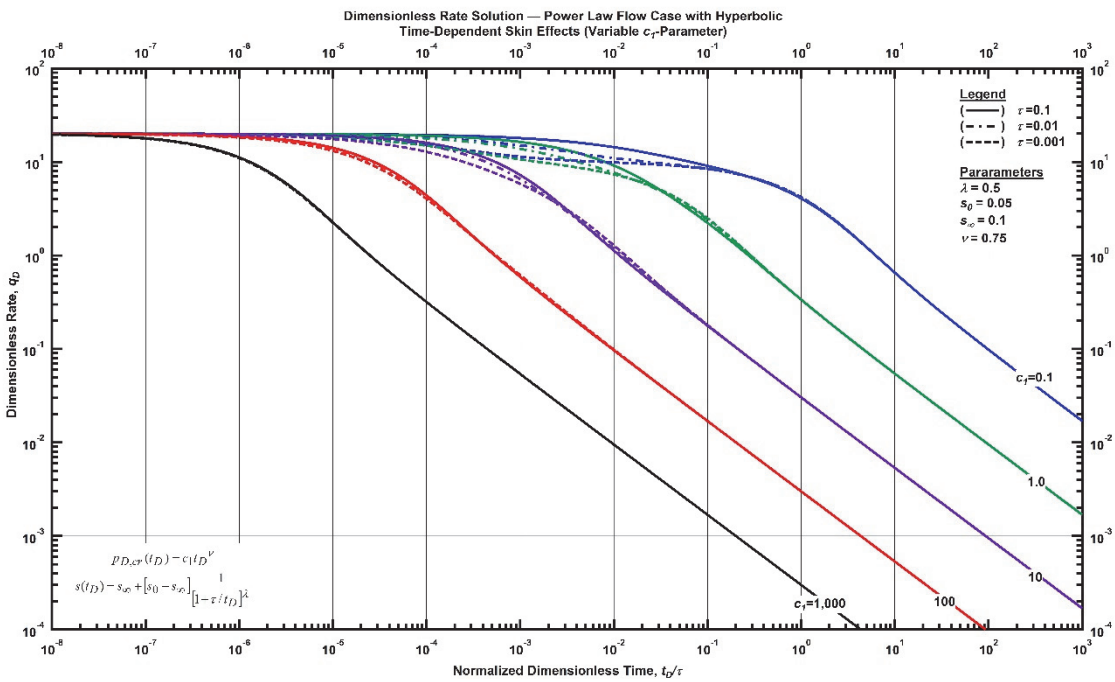

Figure F. 40—Log-log plot (constant pressure dimensionless rate solution) for the power law flow model combined with the hyperbolic time-dependent skin effects for select values of c_1-parameter.

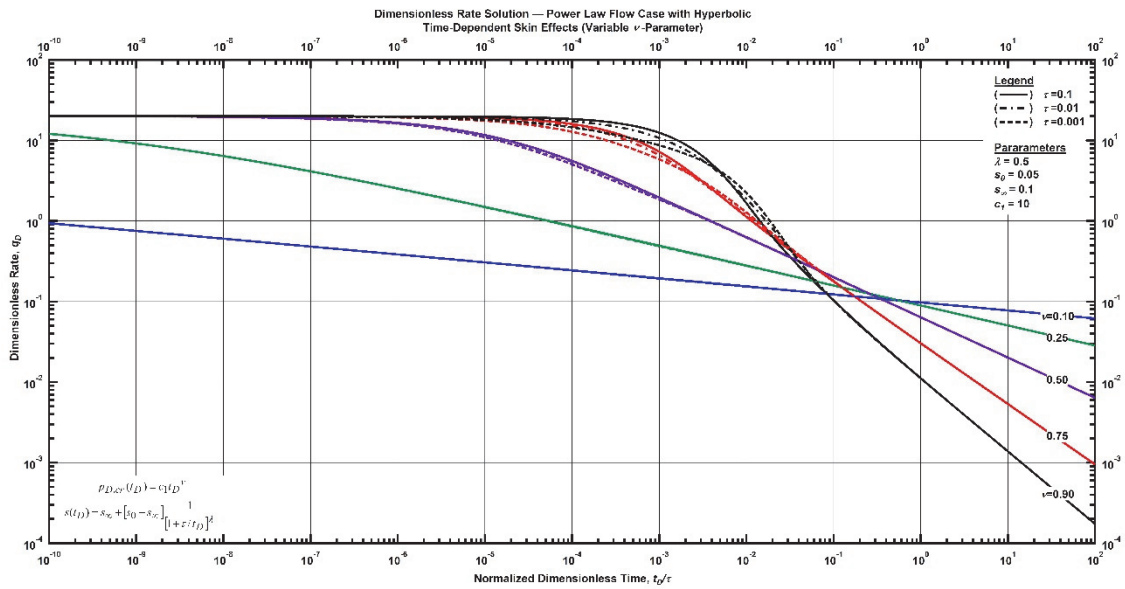

Figure F. 41 — Log-log plot (constant pressure dimensionless rate solution) for the power law flow model combined with the hyperbolic time-dependent skin effects for select values of ν-parameter.

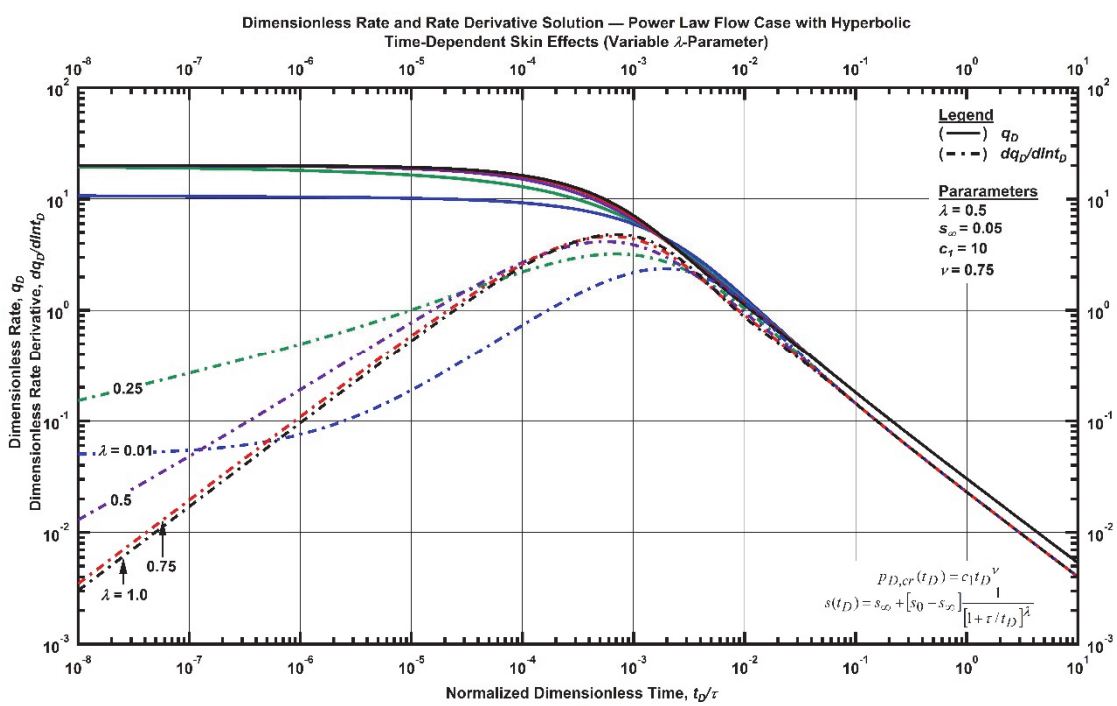

Figure F. 42 — Log-log plot (constant pressure dimensionless derivative rate solution) for the power law flow model combined with the hyperbolic time-dependent skin effects for select values of λ-parameter.

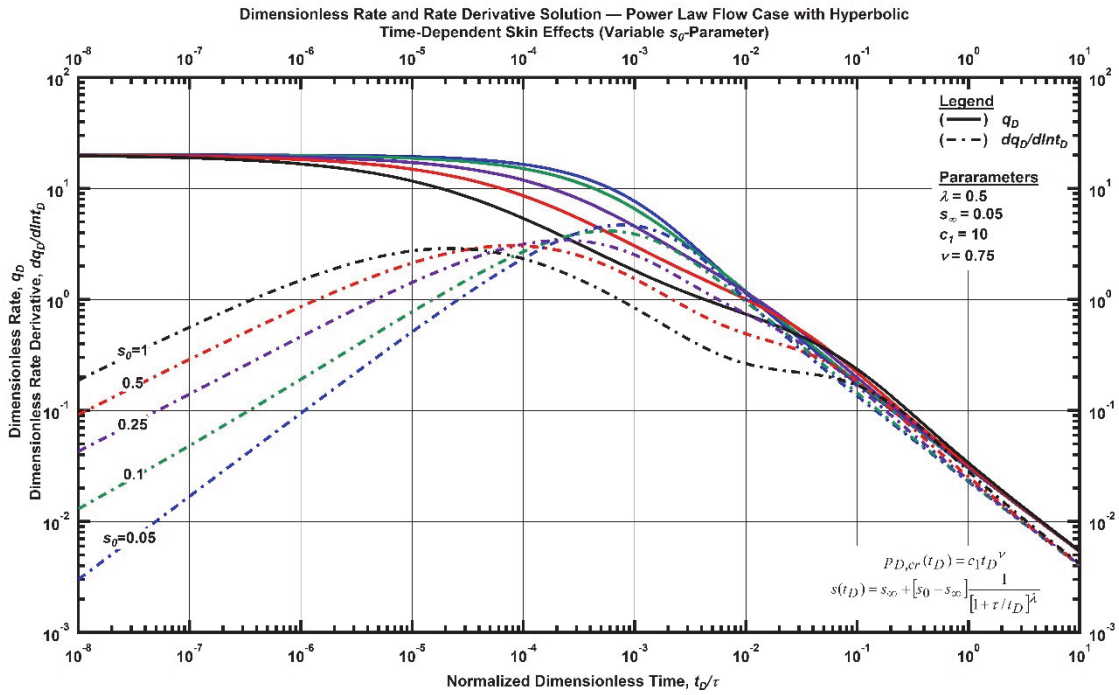

Figure F. 43 — Log-log plot (constant pressure dimensionless derivative rate solution) for the power law flow model combined with the hyperbolic time-dependent skin effects for select values of s_0-parameter.

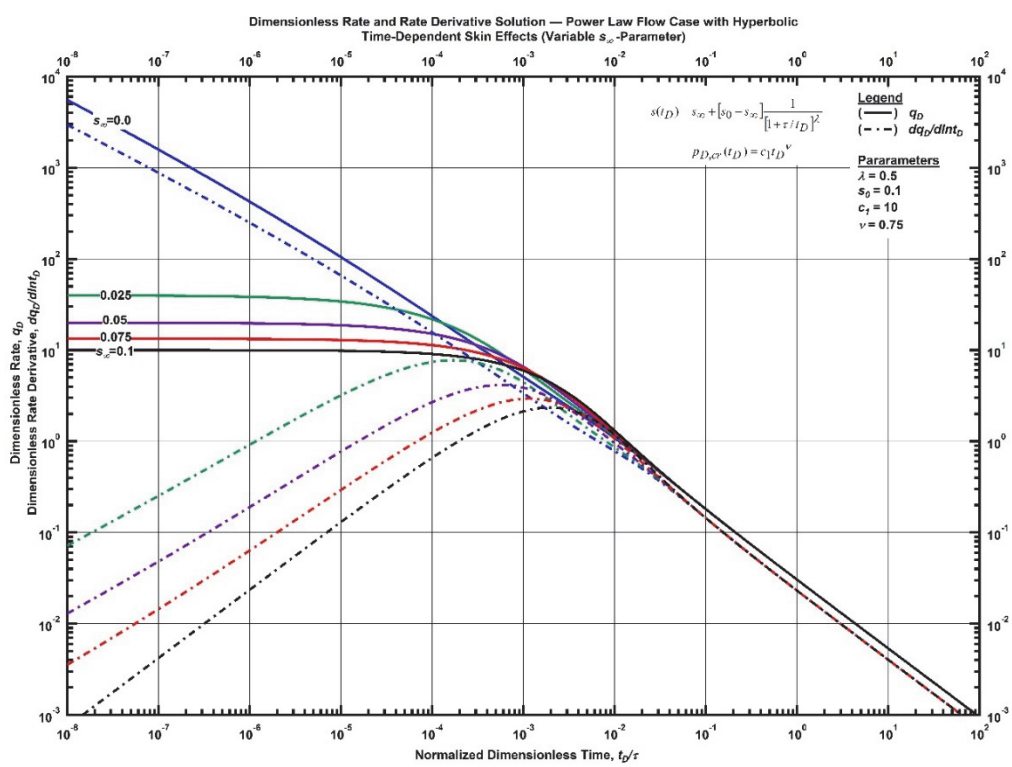

Figure F. 44 — Log-log plot (constant pressure dimensionless derivative rate solution) for the power law flow model combined with the hyperbolic time-dependent skin effects for select values of s_∞-parameter.

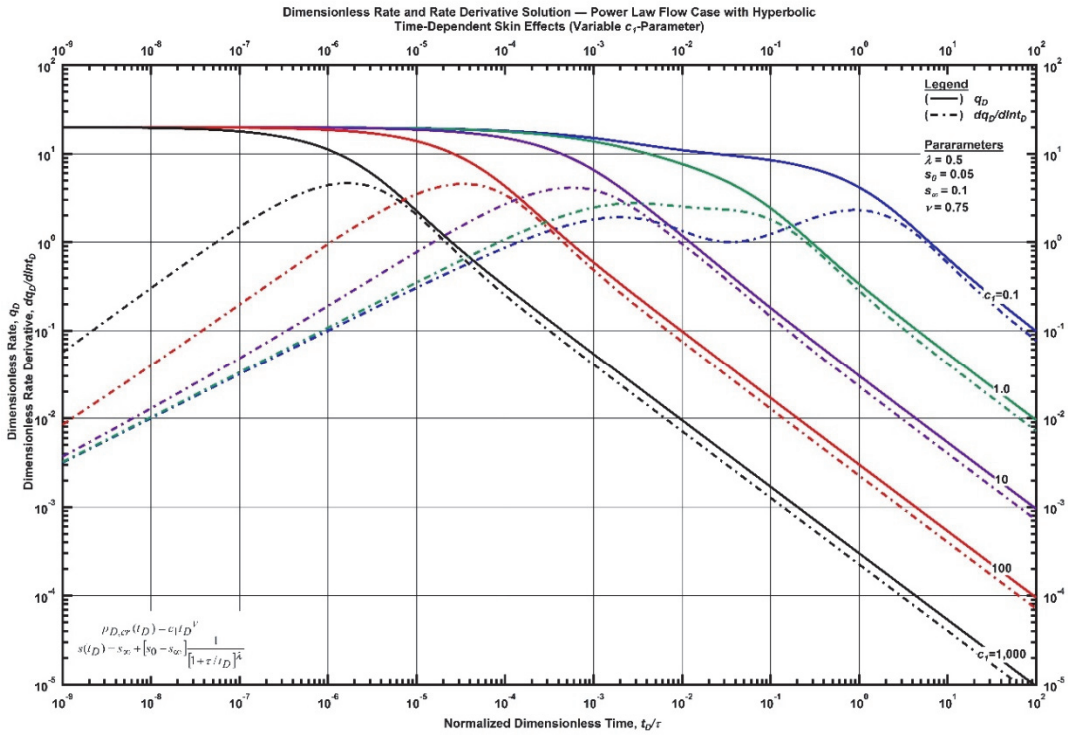

Figure F. 45 — Log-log plot (constant pressure dimensionless derivative rate solution) for the power law flow model combined with the hyperbolic time-dependent skin effects for select values of c_1-parameter.

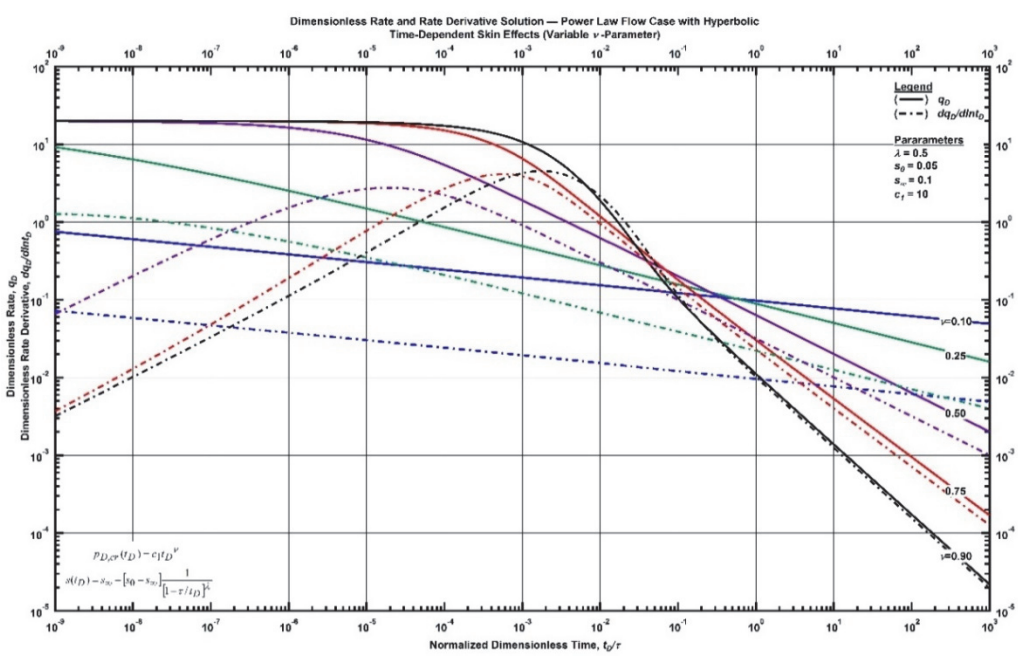

Figure F. 46 — Log-log plot (constant pressure dimensionless derivative rate solution) for the power law flow model combined with the hyperbolic time-dependent skin effects for select values of ν-parameter.

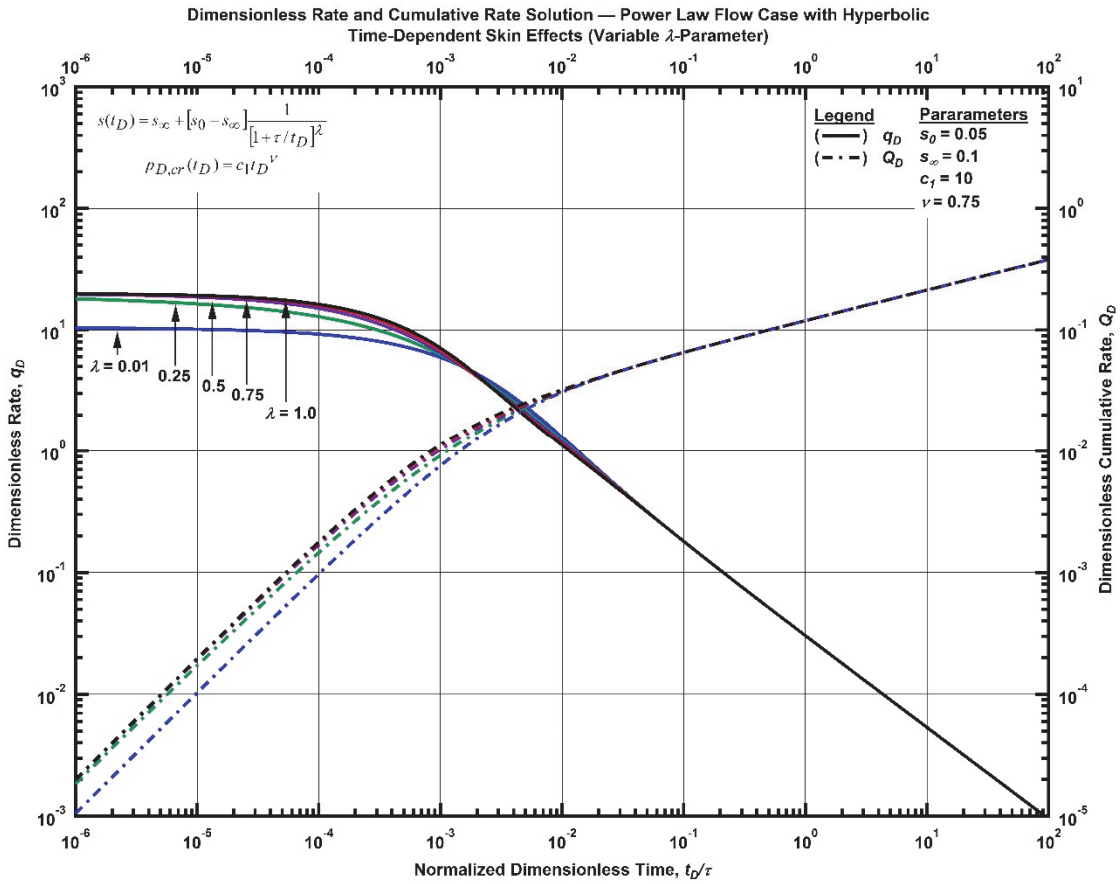

Figure F. 47 — Log-log plot (constant pressure dimensionless cumulative production solution) for the power law flow model combined with the hyperbolic time-dependent skin effects for select values of λ-parameter.

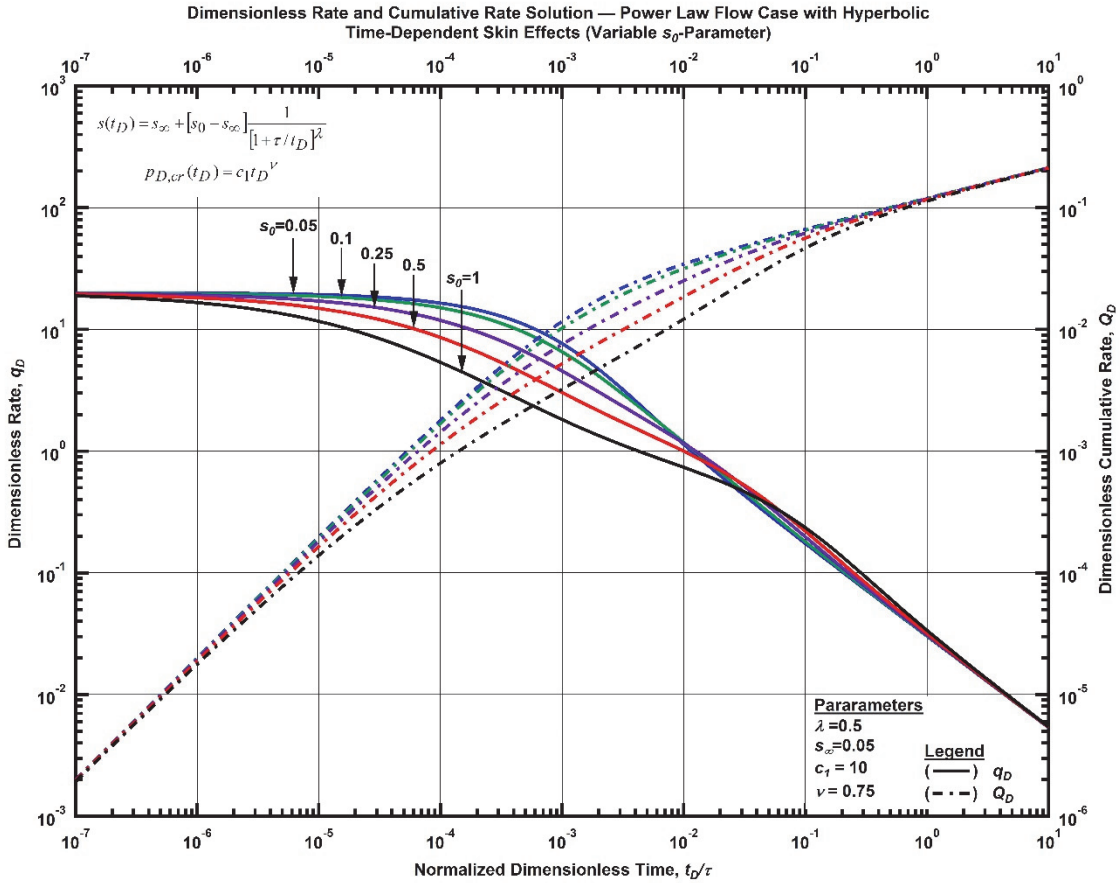

Figure F. 48 — Log-log plot (constant pressure dimensionless cumulative production solution) for the power law flow model combined with the hyperbolic time-dependent skin effects for select values of s_0-parameter.

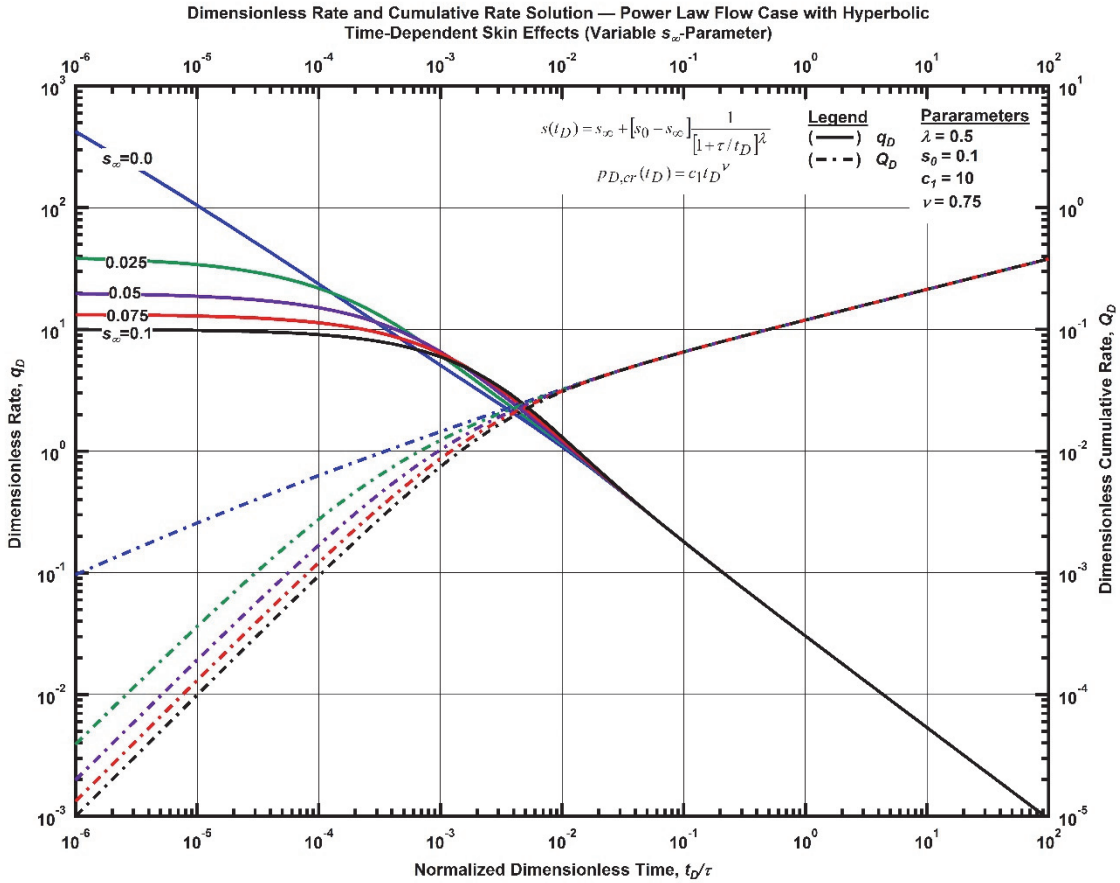

Figure F. 49 — Log-log plot (constant pressure dimensionless cumulative production solution) for the power law flow model combined with the hyperbolic time-dependent skin effects for select values of s_∞-parameter.

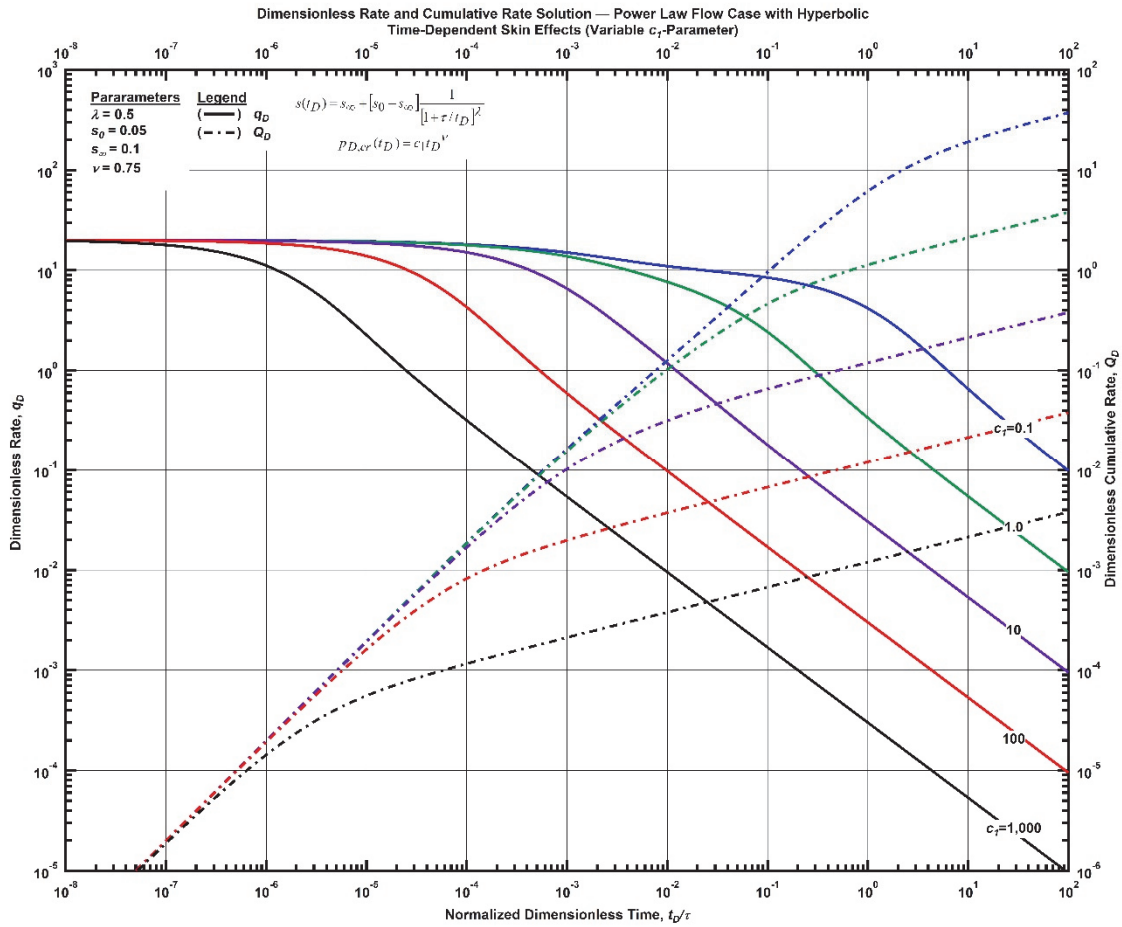

Figure F. 50 — Log-log plot (constant pressure dimensionless cumulative production solution) for the power law flow model combined with the hyperbolic time-dependent skin effects for select values of c_1-parameter.

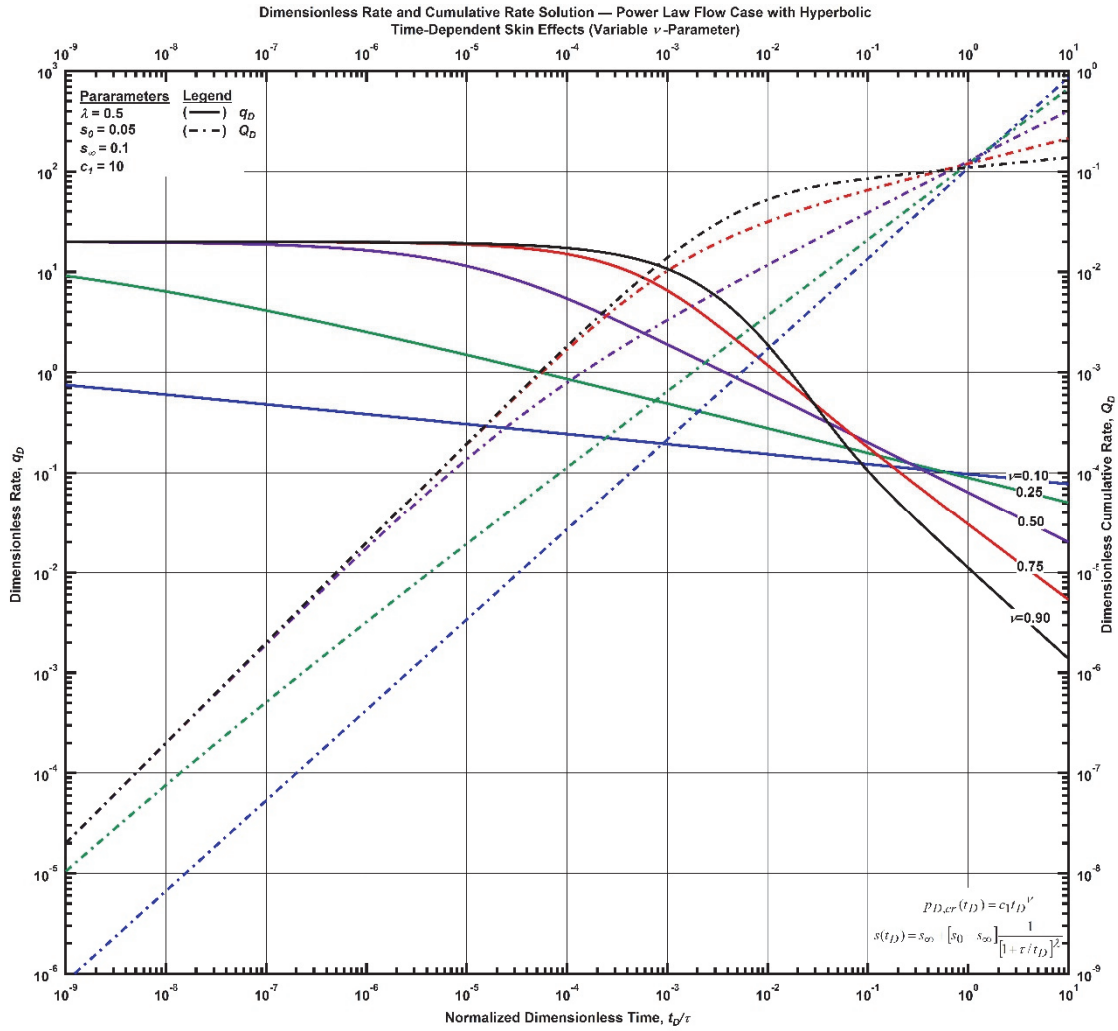

Figure F. 51 — Log-log plot (constant pressure dimensionless cumulative production solution) for the power law flow model combined with the hyperbolic time-dependent skin effects for select values of ν-parameter.

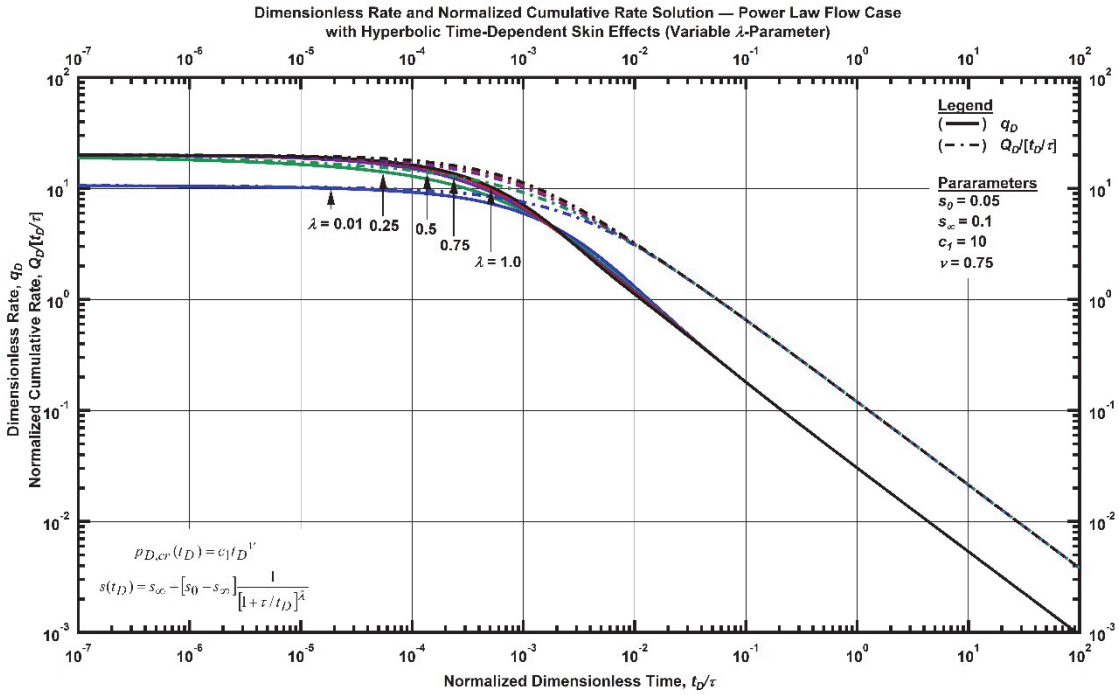

Figure F. 52 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the power law flow model combined with the hyperbolic time-dependent skin effects for select values of λ-parameter.

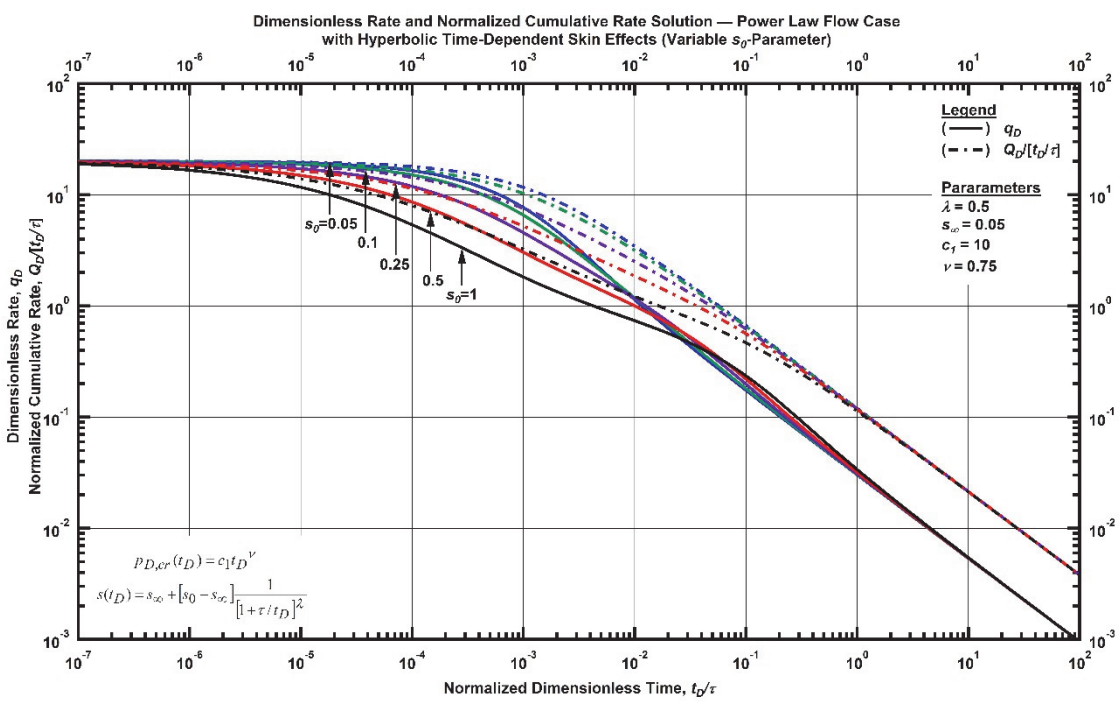

Figure F. 53 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the power law flow model combined with the hyperbolic time-dependent skin effects for select values of s_0-parameter.

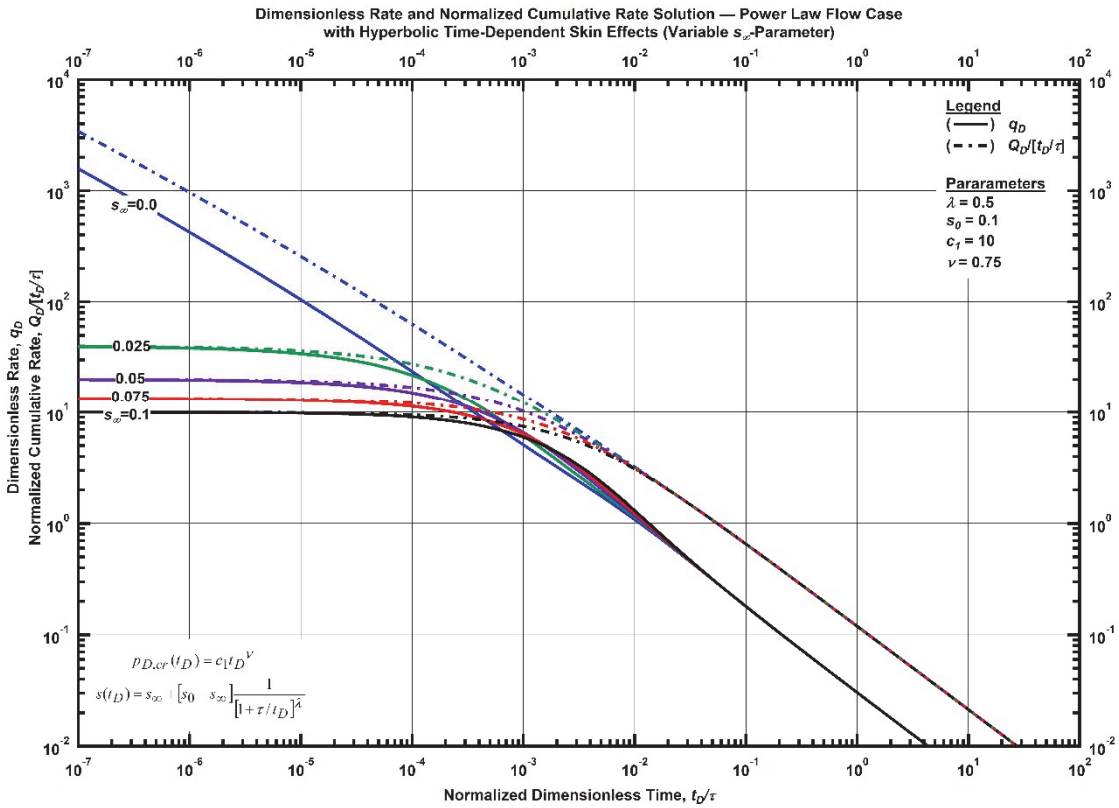

Figure F. 54 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the power law flow model combined with the hyperbolic time-dependent skin effects for select values of s_∞-parameter.

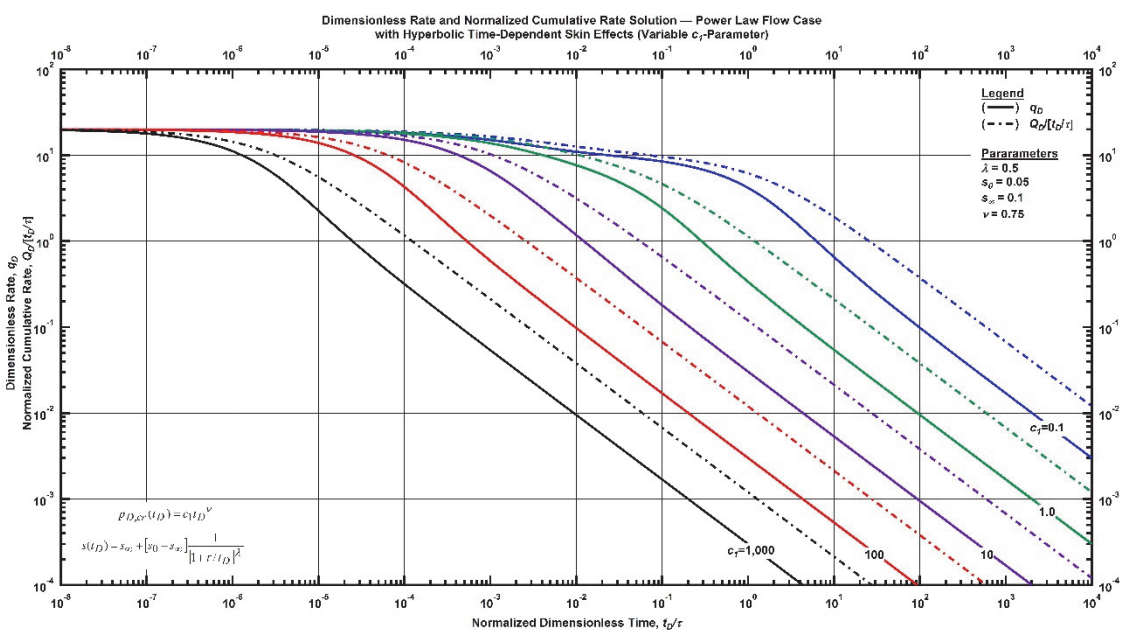

Figure F. 55 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the power law flow model combined with the hyperbolic time-dependent skin effects for select values of c_1-parameter.

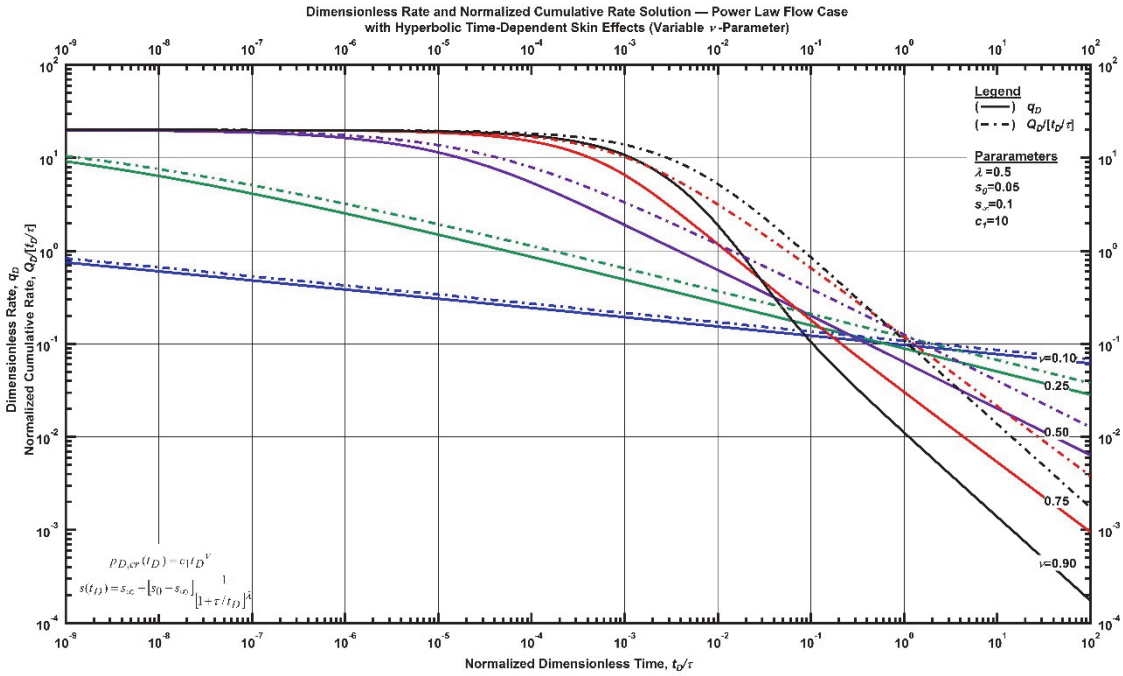

Figure F. 56—Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the power law flow model combined with the hyperbolic time-dependent skin effects for select values of ν-parameter.

Power-Law Flow Relation with Time-Dependent Wellbore Storage

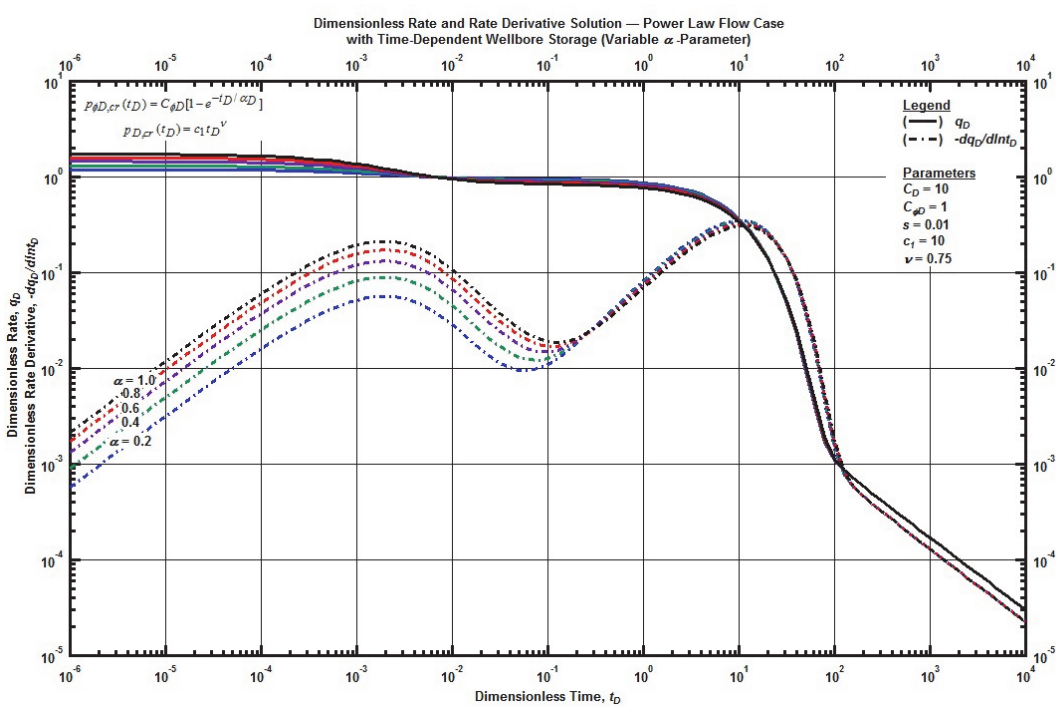

Figure F. 57—Log-log plot (constant pressure dimensionless rate solution) for the power law flow model combined with the time-dependent wellbore storage for select values of α-parameter.

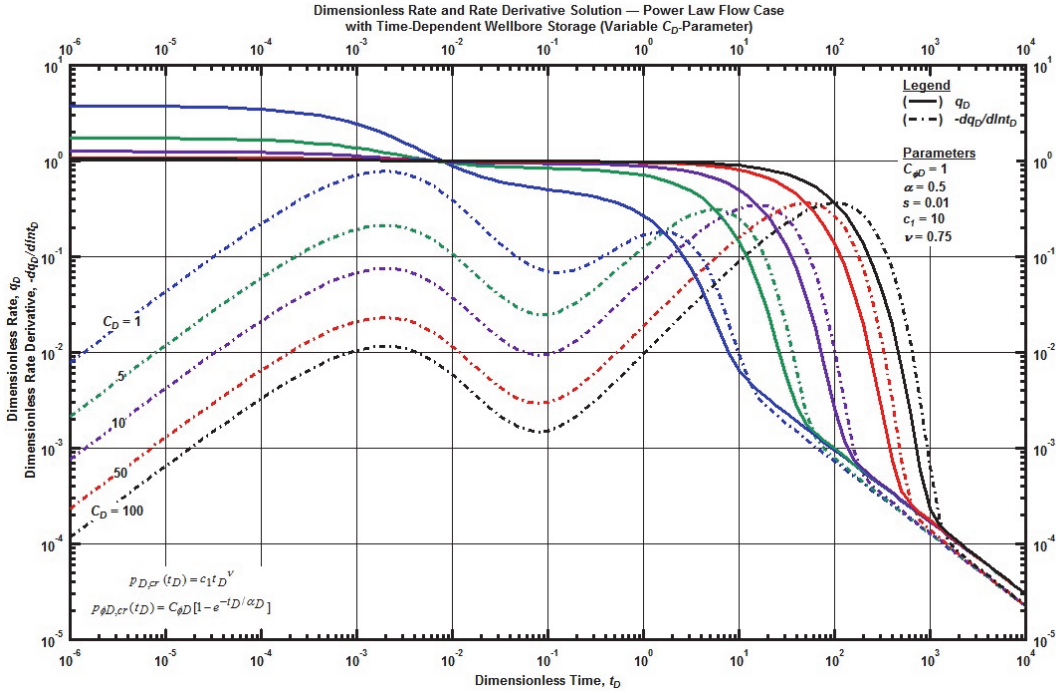

Figure F. 58—Log-log plot (constant pressure dimensionless rate solution) for the power law flow model combined with the time-dependent wellbore storage for select values of the dimensionless wellbore storage constant.

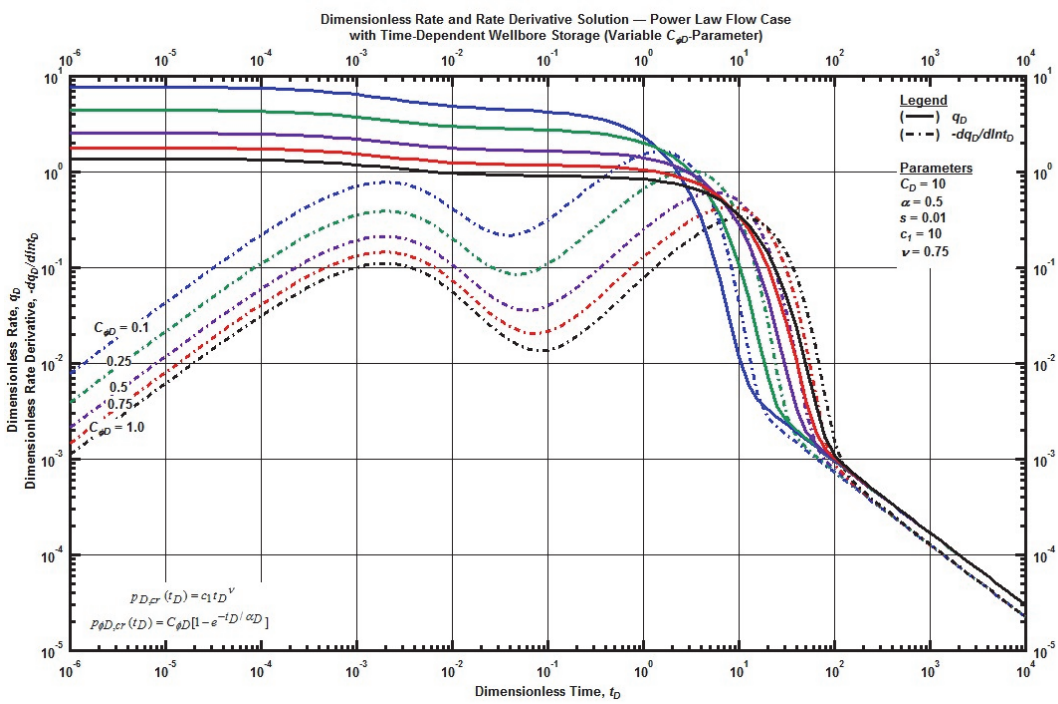

Figure F. 59 — Log-log plot (constant pressure dimensionless rate solution) for the power law flow model combined with the time-dependent wellbore storage for select values phase redistribution constant.

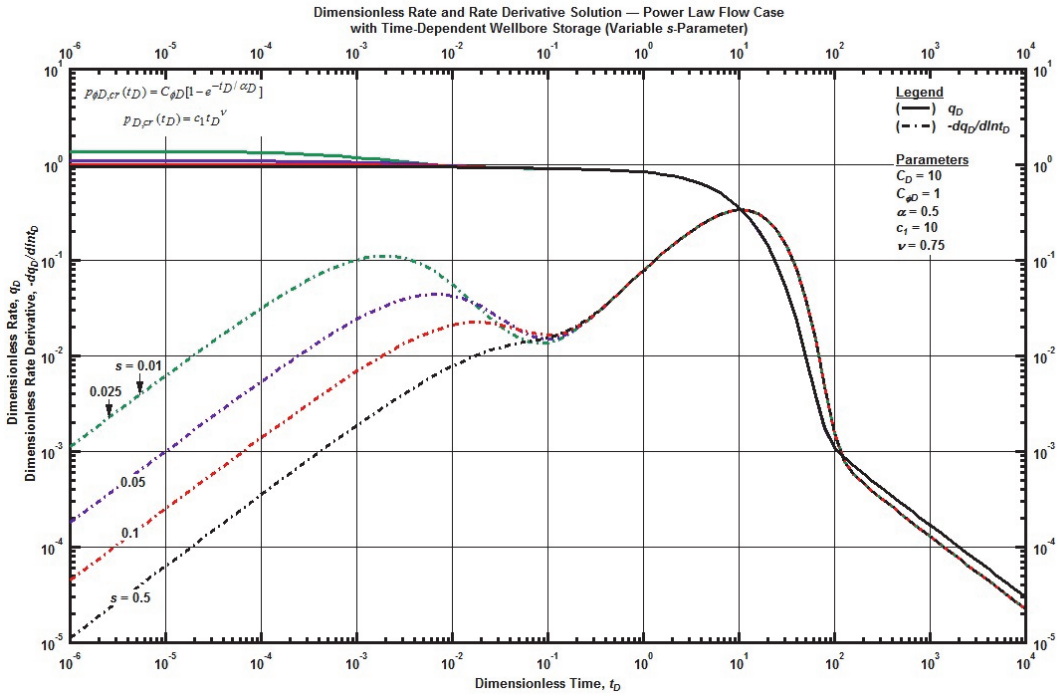

Figure F. 60 — Log-log plot (constant pressure dimensionless rate solution) for the power law flow model combined with the time-dependent wellbore storage for select dimensionless constant skin factor.

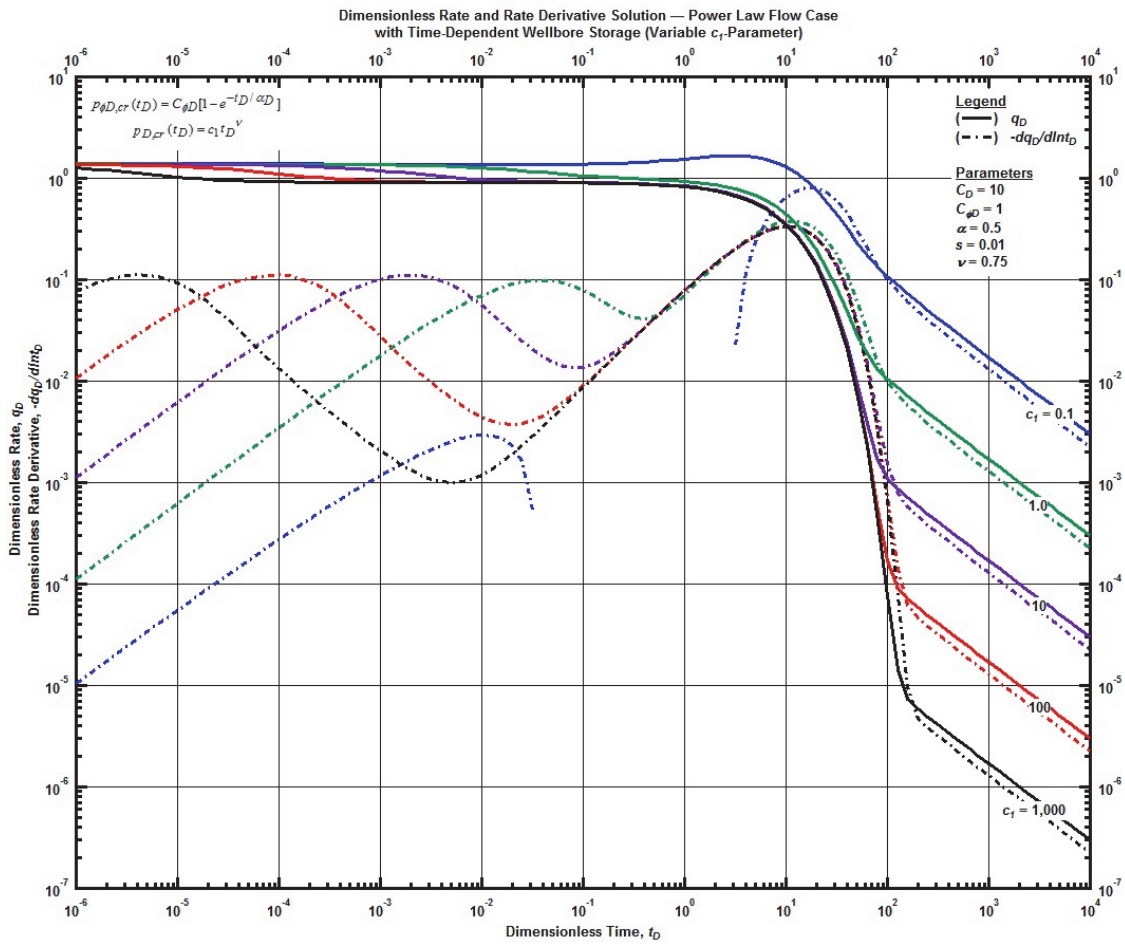

Figure F. 61 — Log-log plot (constant pressure dimensionless rate solution) for the power law flow model combined with the time-dependent wellbore storage for select values of c_1-parameter.

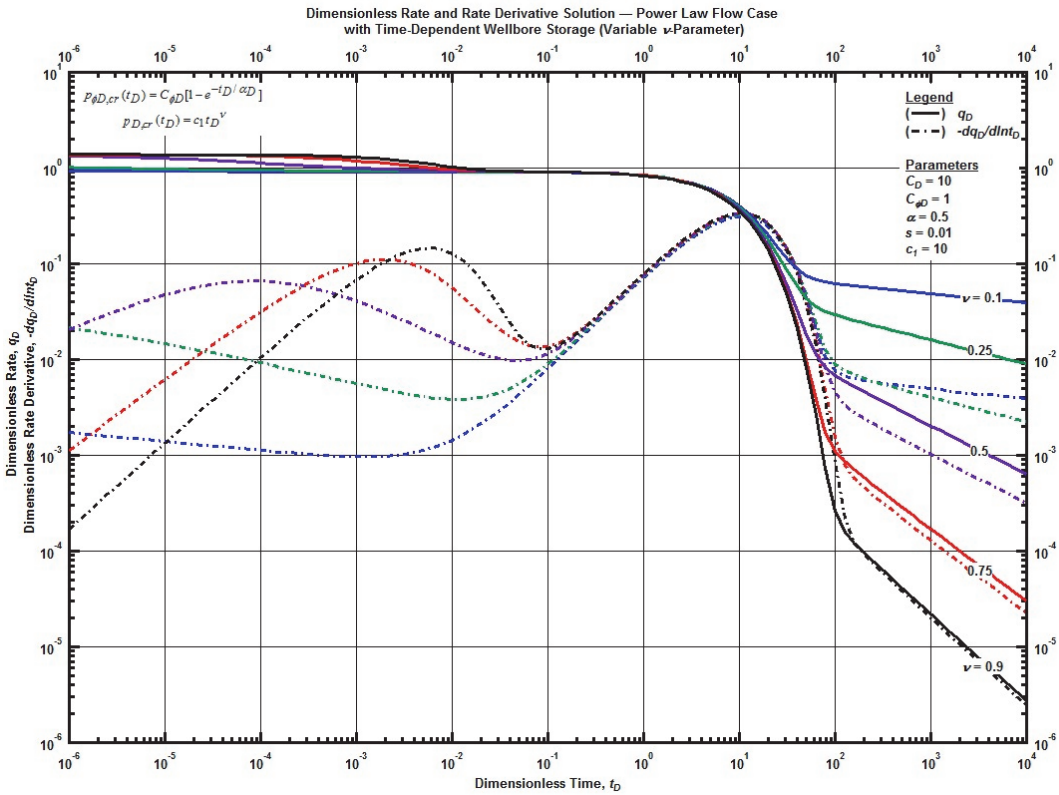

Figure F. 62 — Log-log plot (constant pressure dimensionless rate solution) for the power law flow model combined with the time-dependent wellbore storage for select values of ν-parameter.

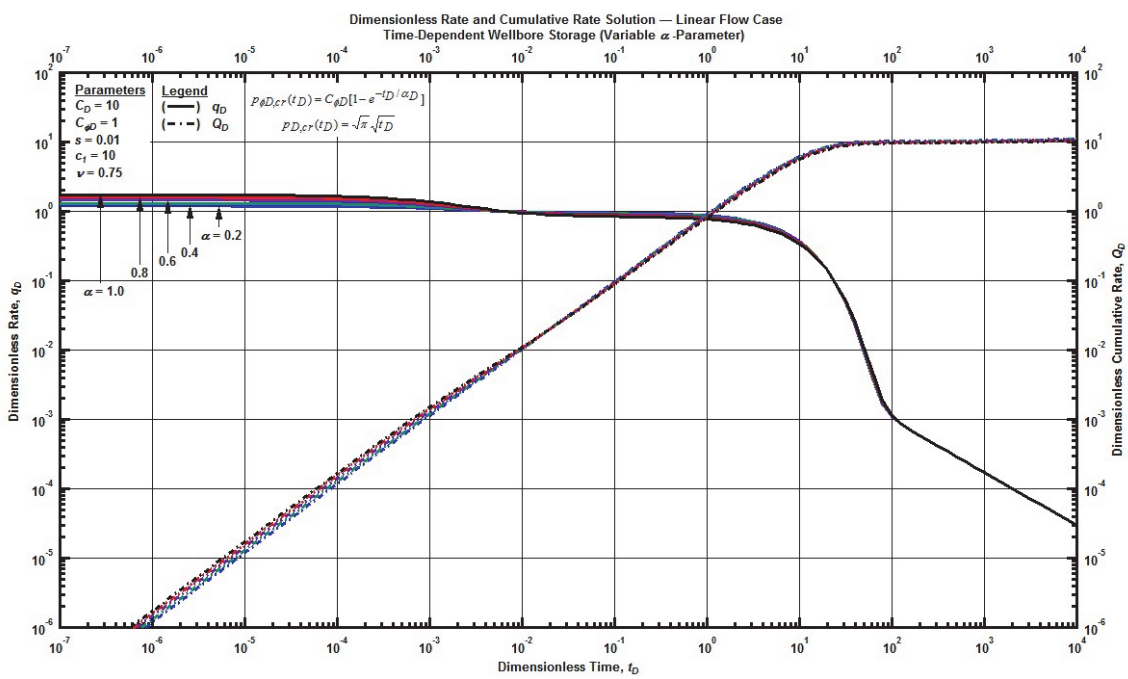

Figure F. 63 — Log-log plot (constant pressure dimensionless cumulative production solution) for the power law flow model combined with the time-dependent wellbore storage for select values of α-parameter.

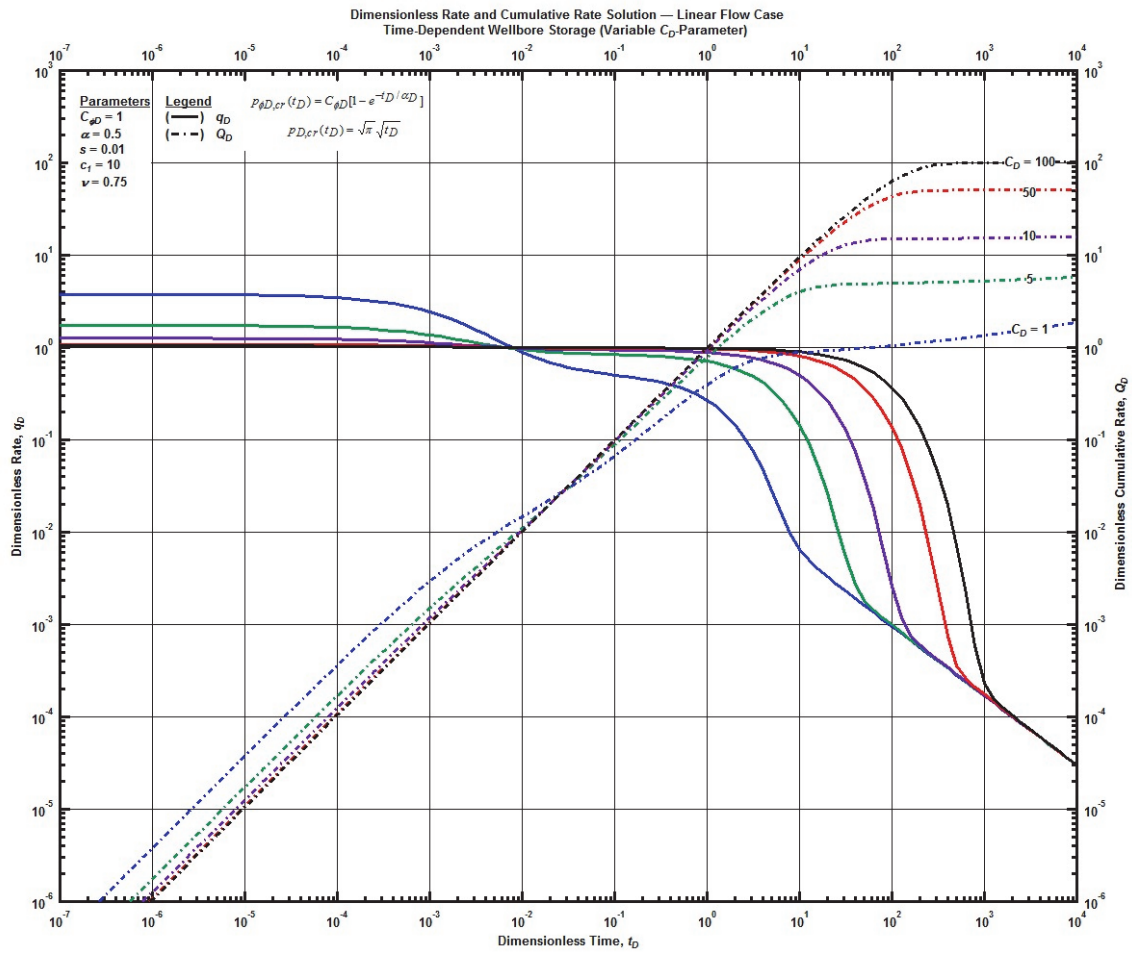

Figure F. 64 — Log-log plot (constant pressure dimensionless cumulative production solution) for the power law flow model combined with the time-dependent wellbore storage for select values of the dimensionless wellbore storage constant.

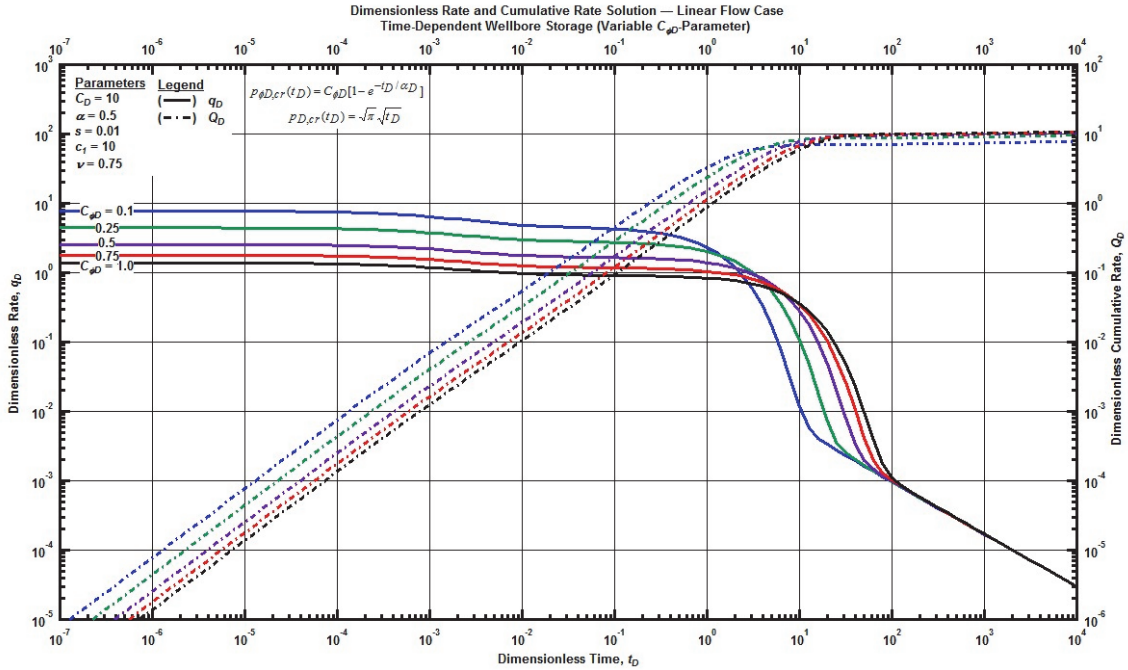

Figure F. 65 — Log-log plot (constant pressure dimensionless cumulative production solution) for the power law flow model combined with the time-dependent wellbore storage for select values phase redistribution constant.

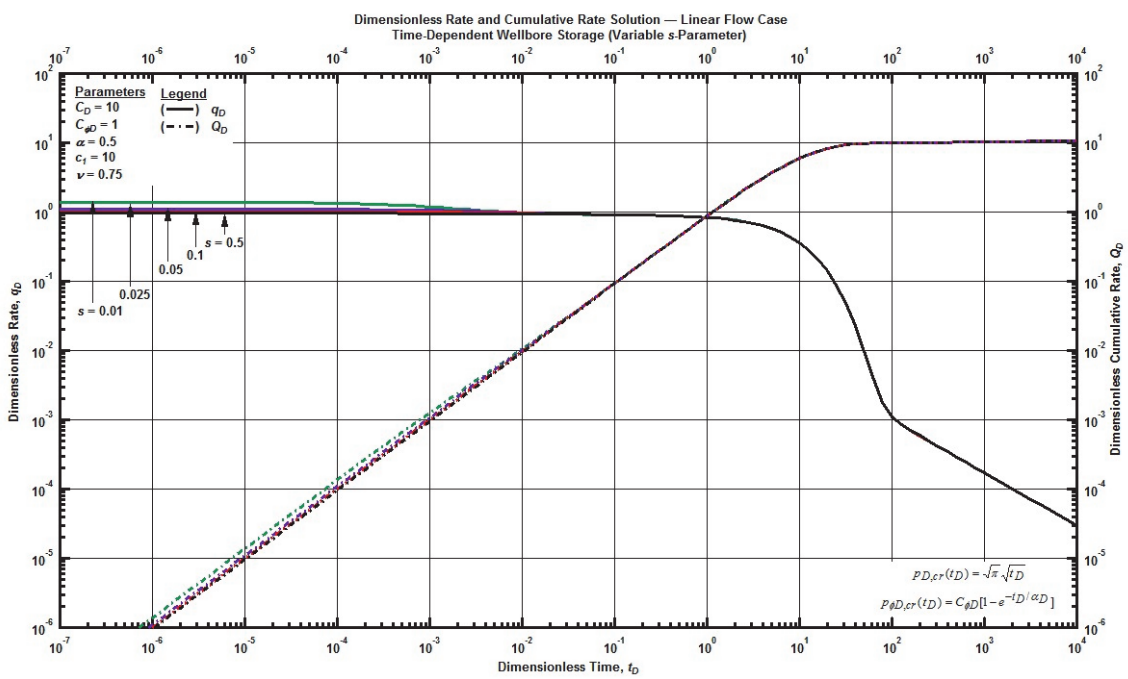

Figure F. 66 — Log-log plot (constant pressure dimensionless cumulative production solution) for the power law flow model combined with the time-dependent wellbore storage for select dimensionless constant skin factor.

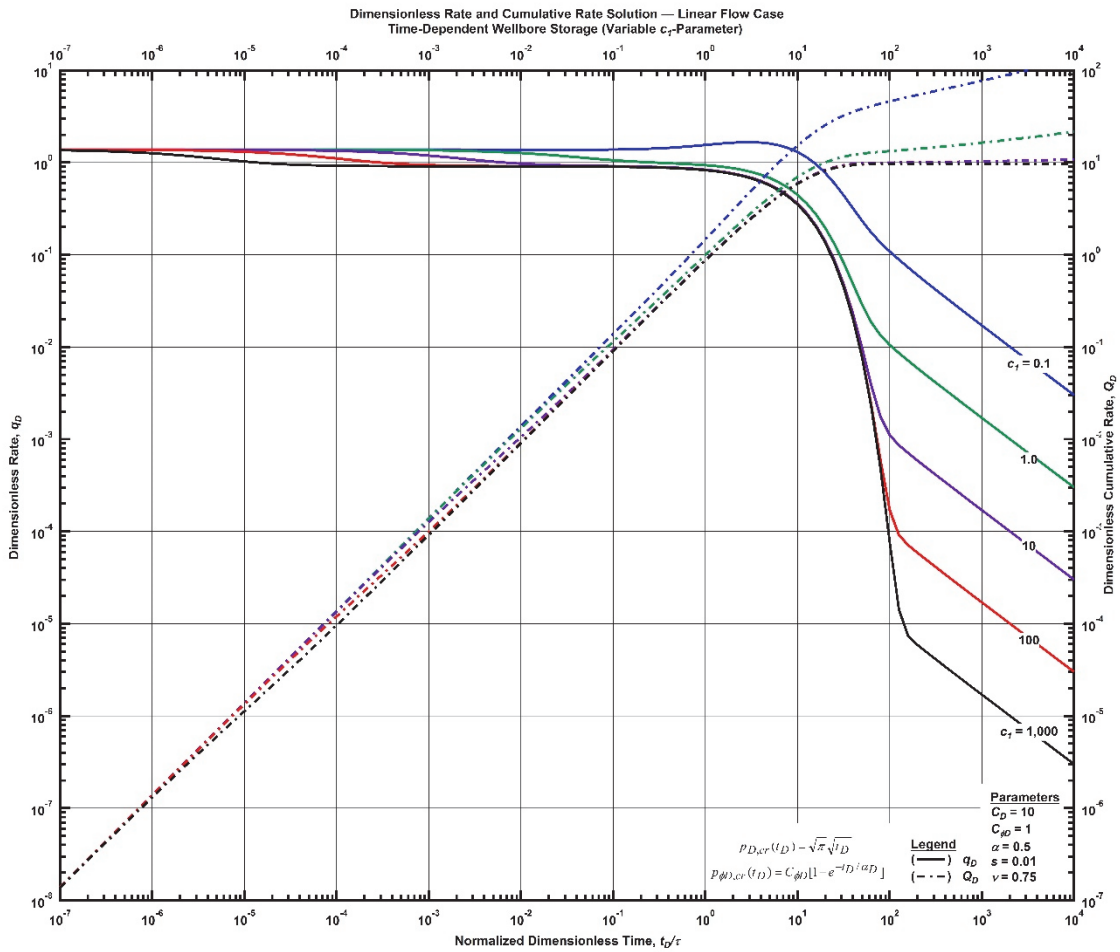

Figure F. 67 — Log-log plot (constant pressure dimensionless cumulative production solution) for the power law flow model combined with the time-dependent wellbore storage for select values of c_1-parameter.

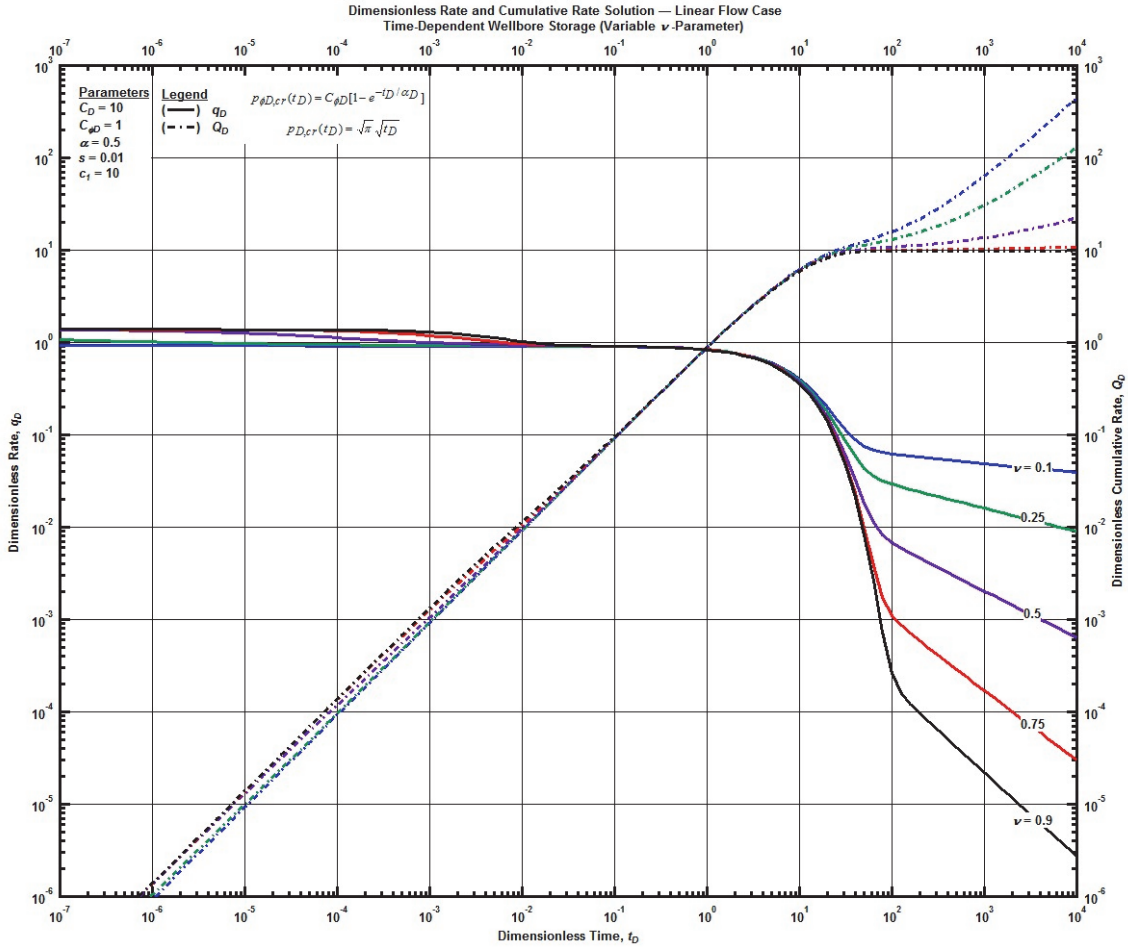

Figure F. 68 — Log-log plot (constant pressure dimensionless cumulative production solution) for the power law flow model combined with the time-dependent wellbore storage for select values of ν-parameter.

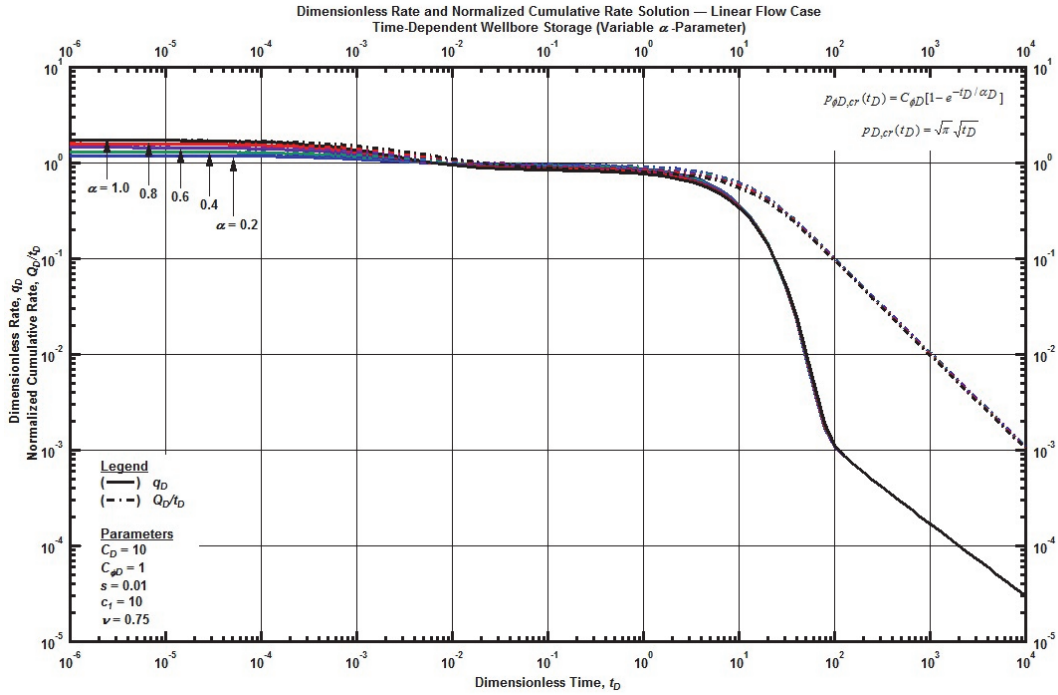

Figure F. 69—Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the power law flow model combined with the time-dependent wellbore storage for select values of α-parameter.

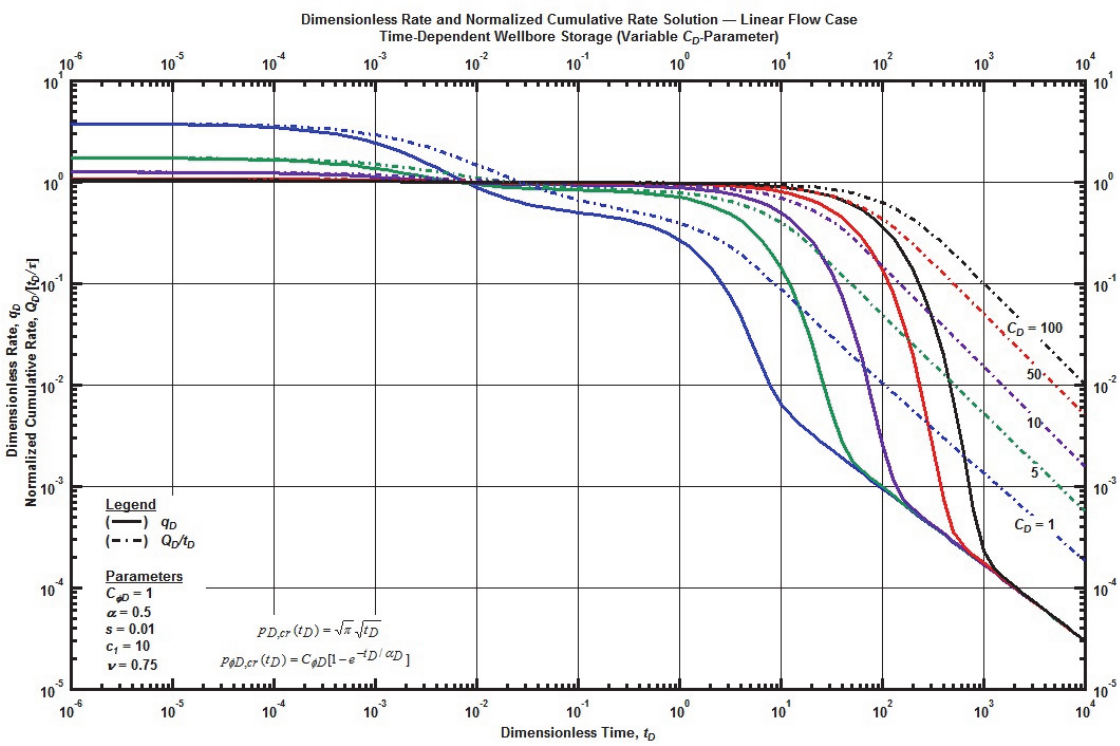

Figure F. 70—Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the power law flow model combined with the time-dependent wellbore storage for select values of the dimensionless wellbore storage constant.

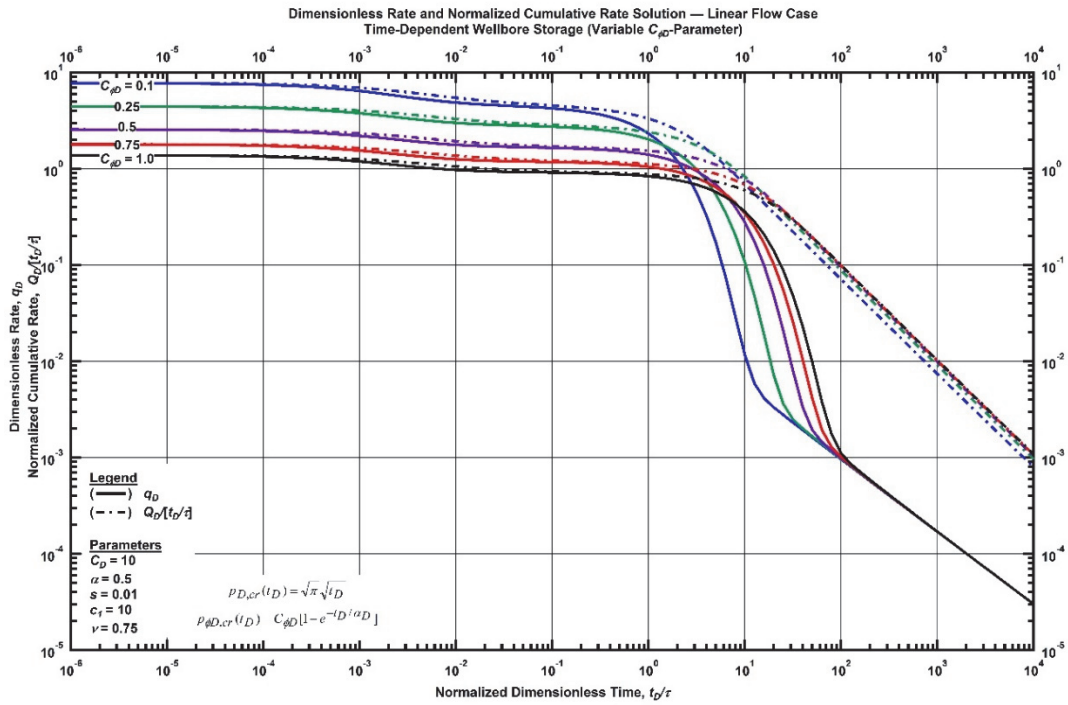

Figure F. 71 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the power law flow model combined with the time-dependent wellbore storage for select values phase redistribution constant.

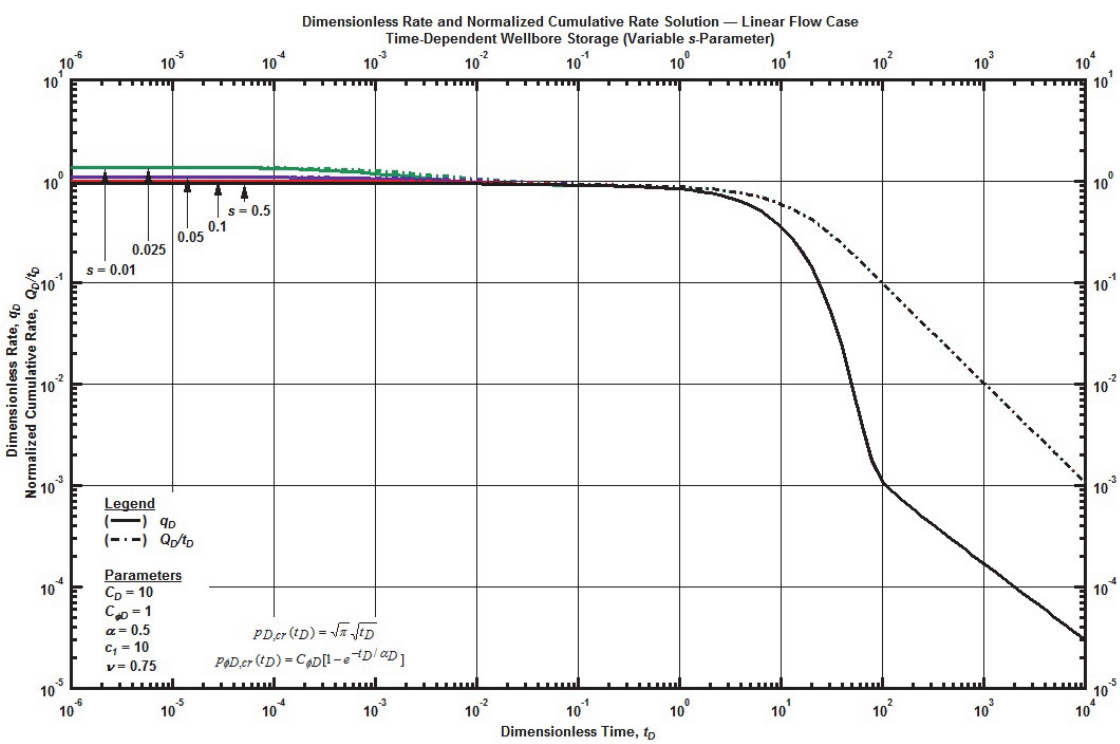

Figure F. 72 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the power law flow model combined with the time-dependent wellbore storage for select dimensionless constant skin factor.

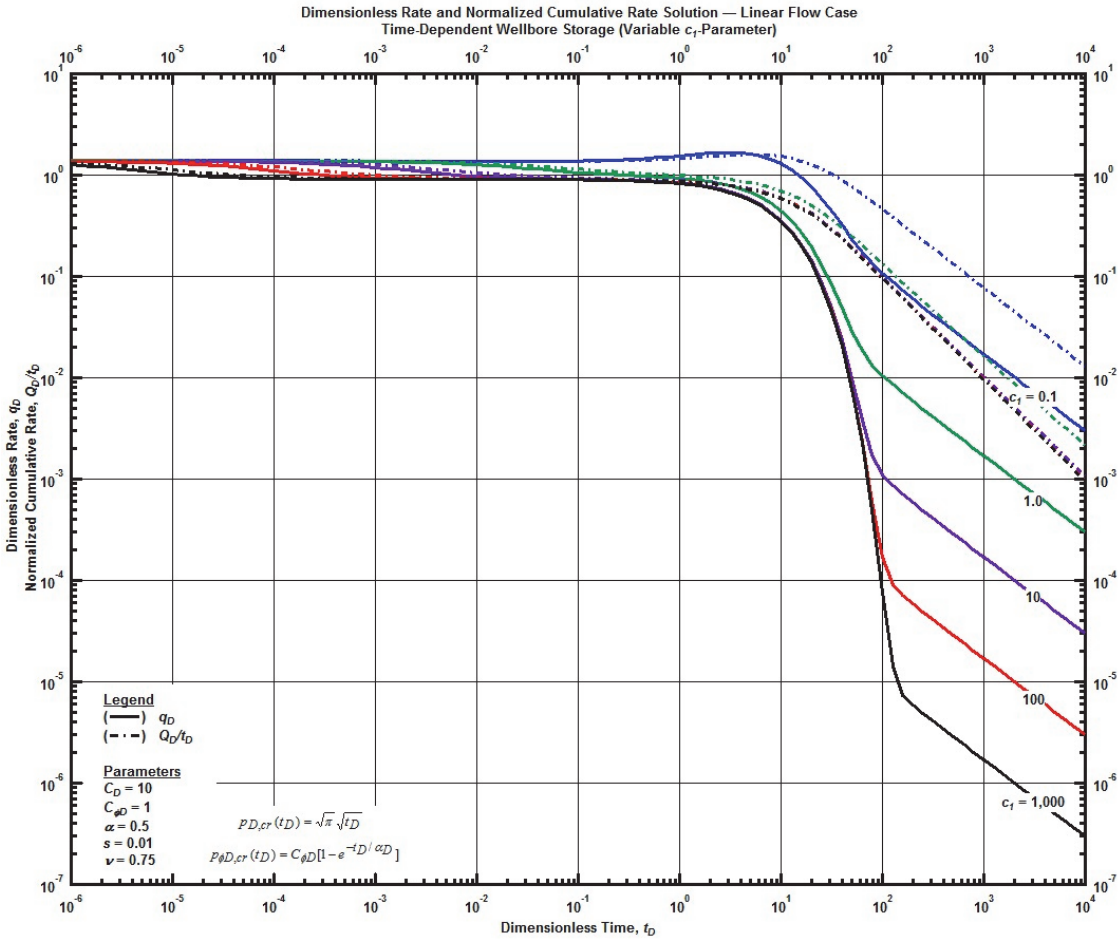

Figure F. 73 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the power law flow model combined with the time-dependent wellbore storage for select values of c_1-parameter.

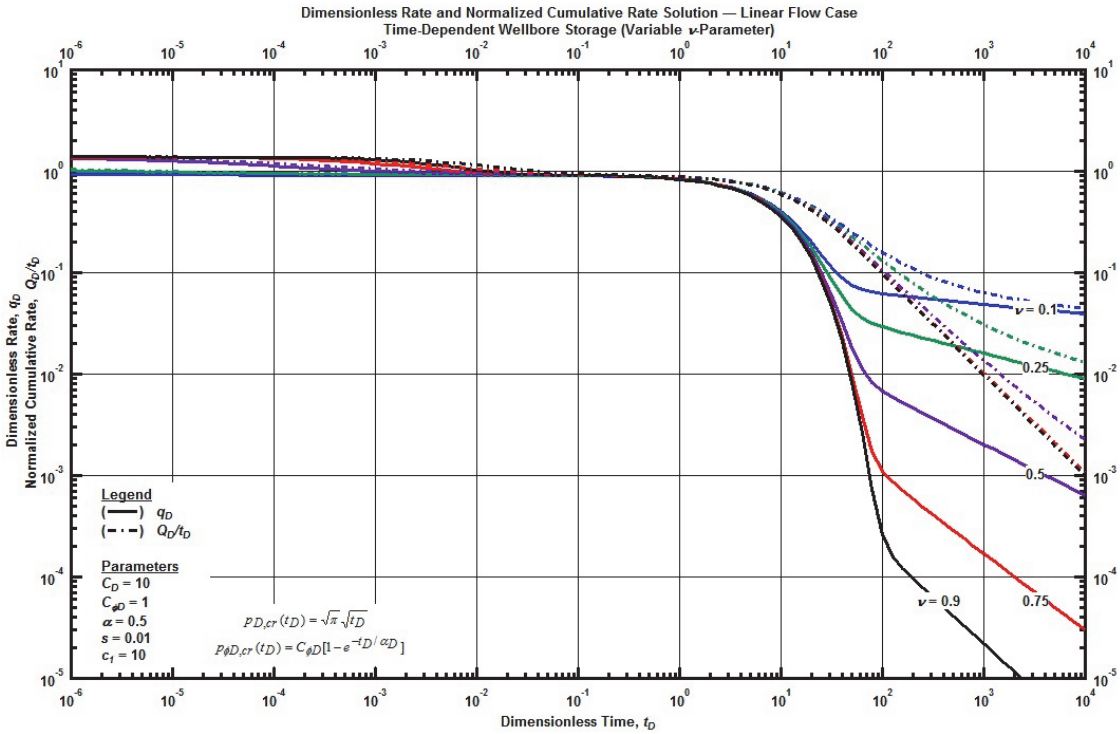

Figure F. 74 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the power law flow model combined with the time-dependent wellbore storage for select values of ν-parameter.

F.2 Linear Flow Relation

Linear Flow Relation with Cumulative-Exponential Time-Dependent Skin

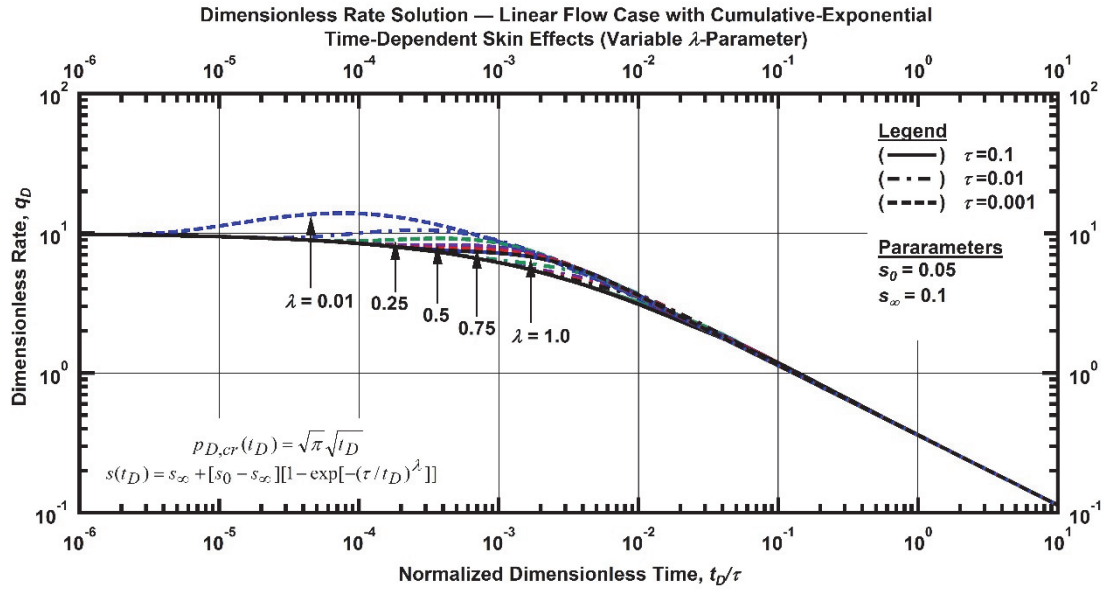

Figure F. 75 — Log-log plot (constant pressure dimensionless rate solution) for the linear flow model combined with the cumulative-exponential time-dependent for select values of λ-parameter.

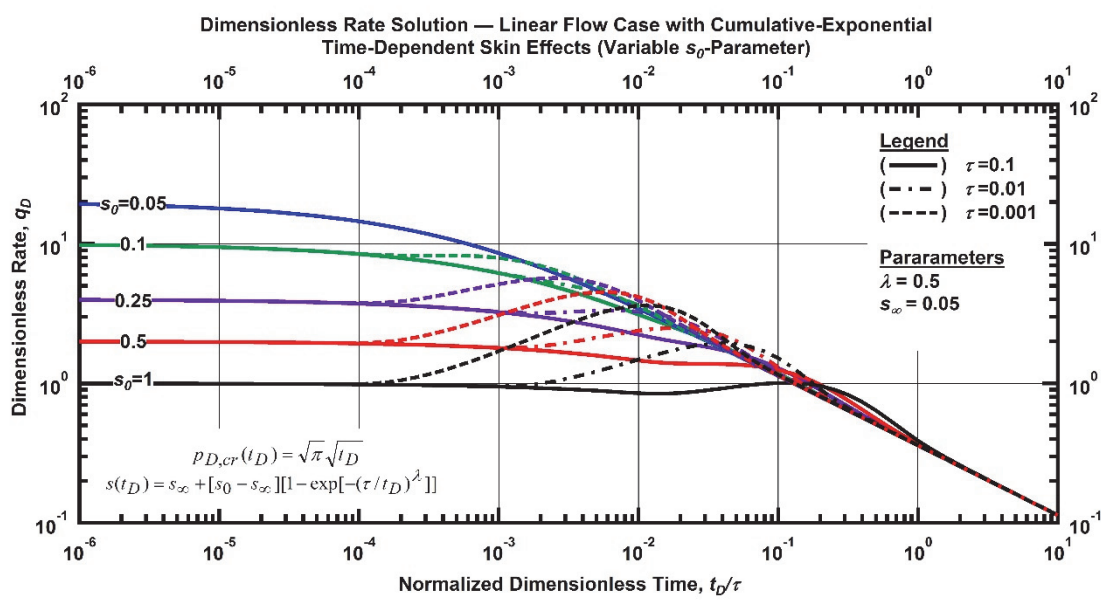

Figure F. 76 — Log-log plot (constant pressure dimensionless rate solution) for the linear flow model combined with the cumulative-exponential time-dependent for select values of s_0-parameter.

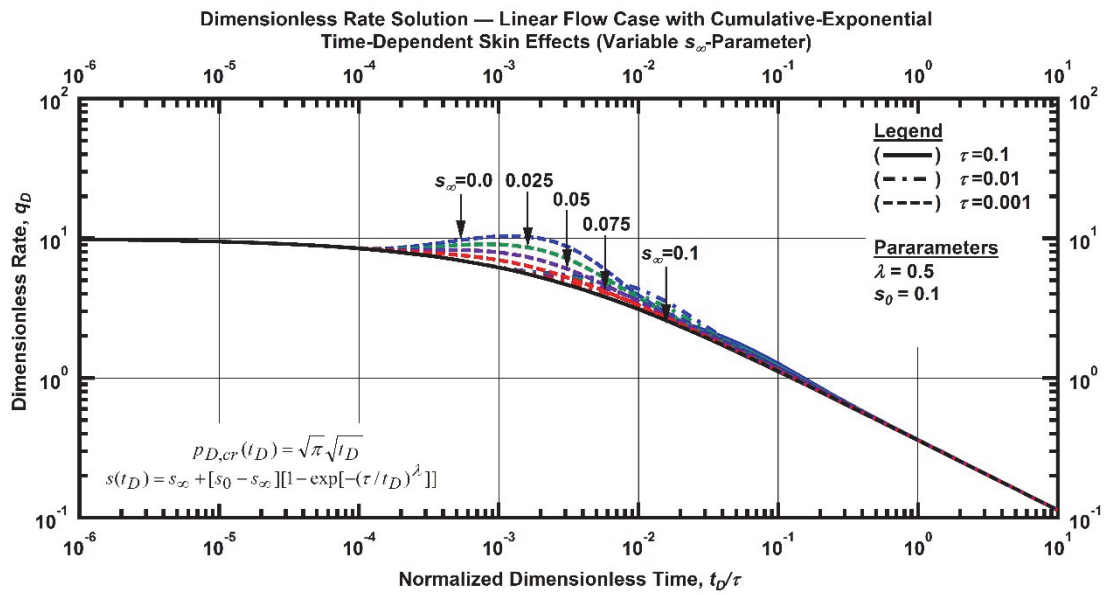

Figure F. 77 — Log-log plot (constant pressure dimensionless rate solution) for the linear flow model combined with the cumulative-exponential time-dependent for select values of s_∞-parameter.

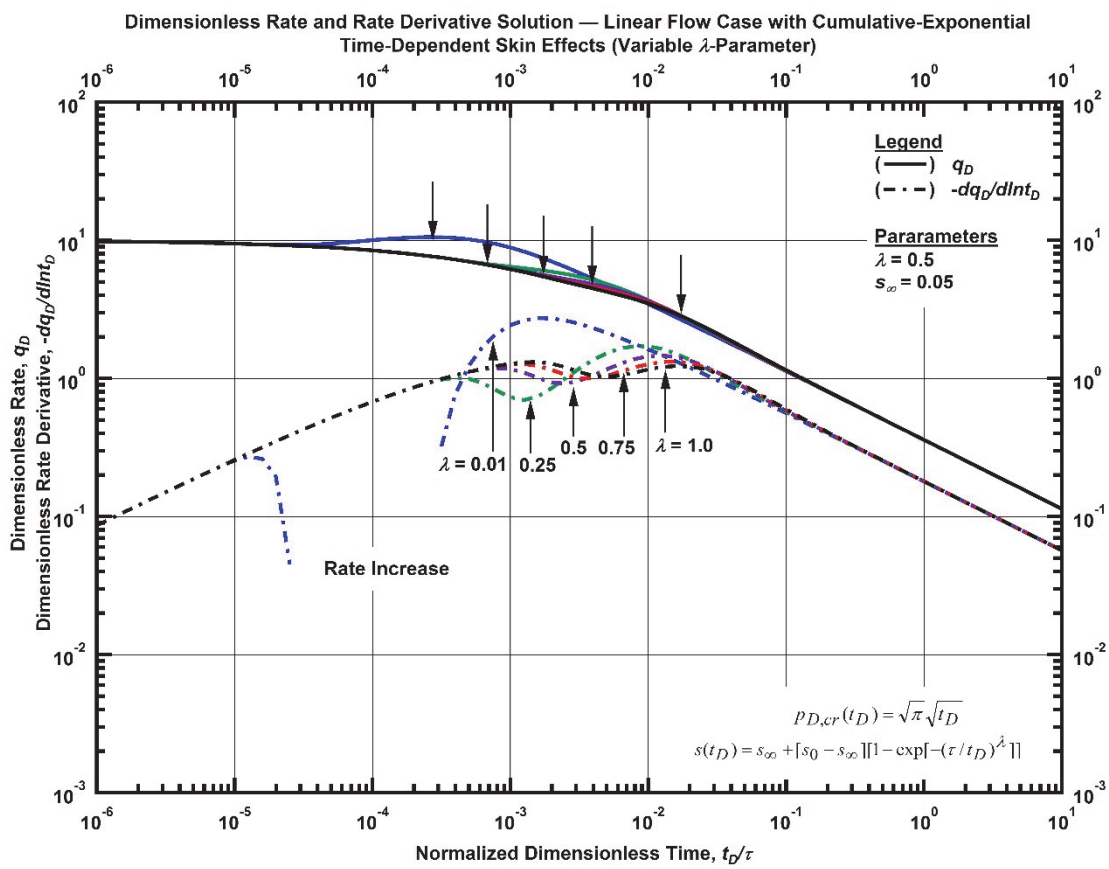

Figure F. 78 — Log-log plot (constant pressure dimensionless rate derivative solution) for the linear flow model combined with the cumulative-exponential time-dependent for select values of λ-parameter.

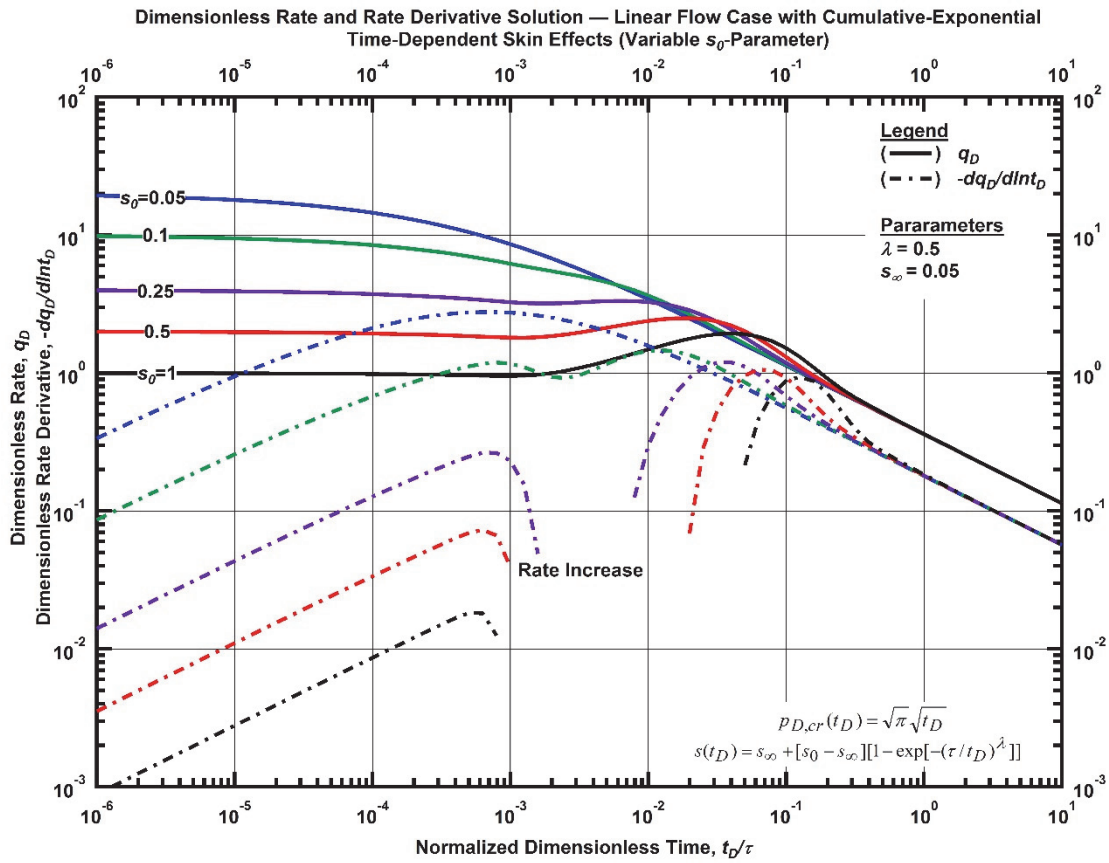

Figure F. 79 — Log-log plot (constant pressure dimensionless derivative rate solution) for the linear flow model combined with the cumulative-exponential time-dependent for select values of s_0-parameter.

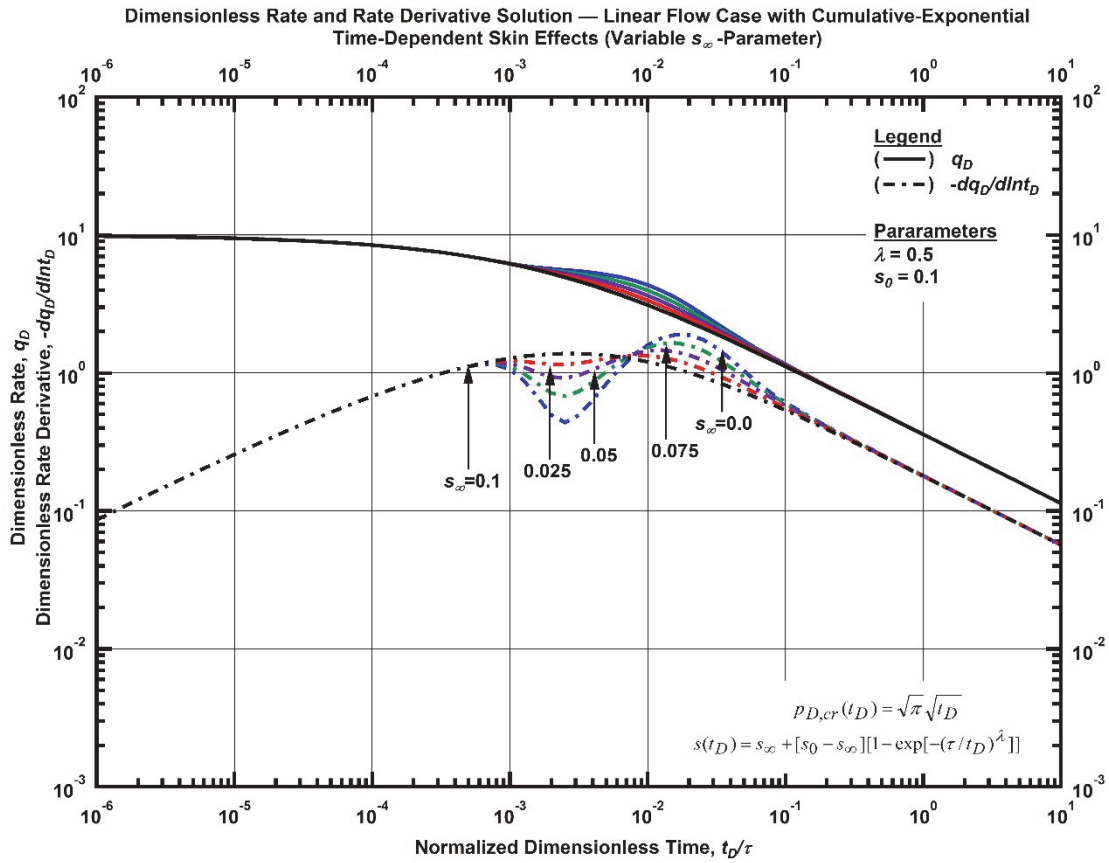

Figure F. 80 — Log-log plot (constant pressure dimensionless derivative rate solution) for the linear flow model combined with the cumulative-exponential time-dependent for select values of s_∞-parameter.

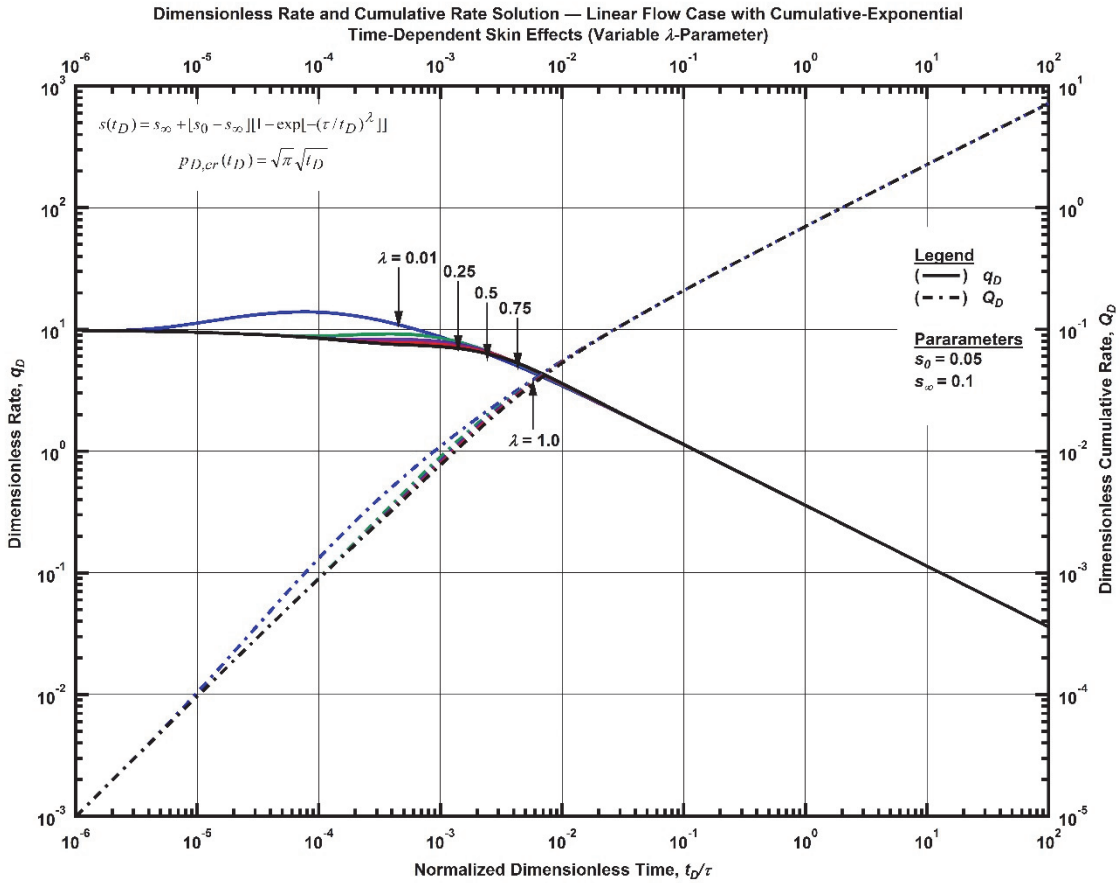

Figure F. 81 — Log-log plot (constant pressure dimensionless cumulative production solution) for the linear flow model combined with the cumulative-exponential time-dependent for select values of λ-parameter.

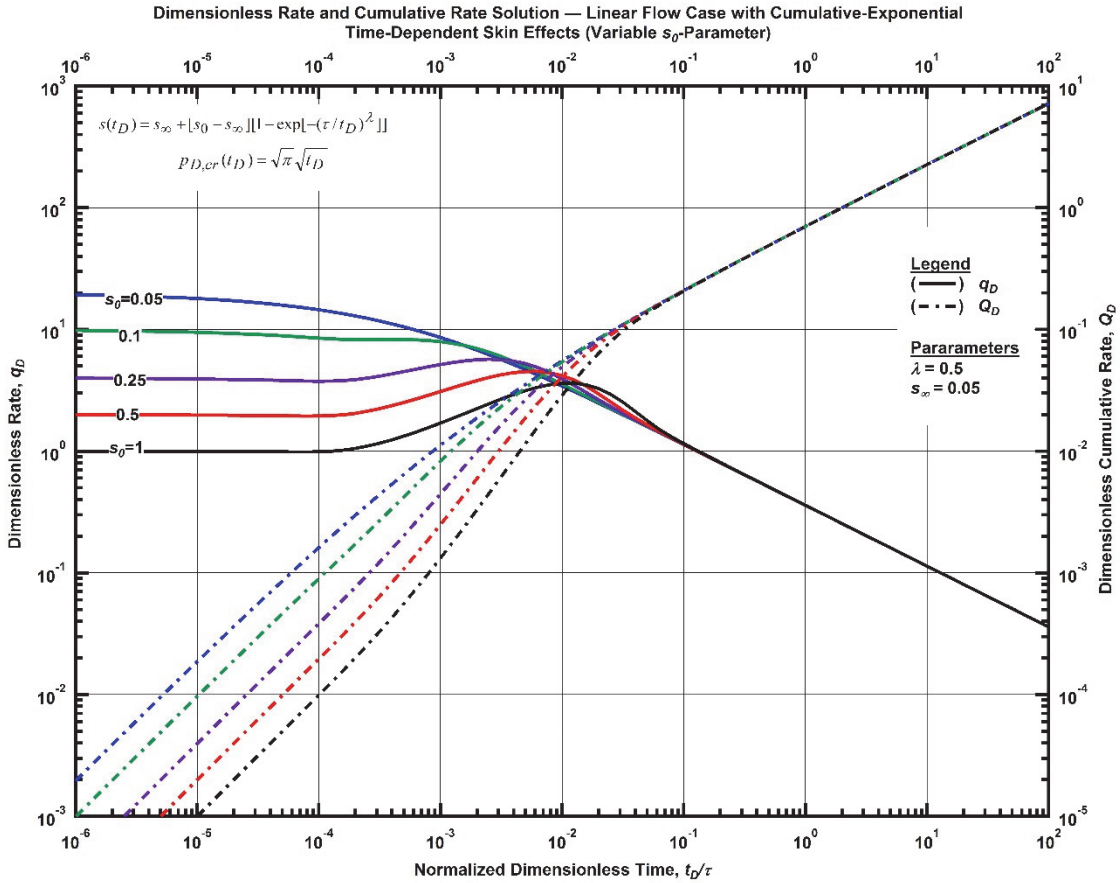

Figure F. 82—Log-log plot (constant pressure dimensionless cumulative production solution) for the linear flow model combined with the cumulative-exponential time-dependent for select values of s_0-parameter.

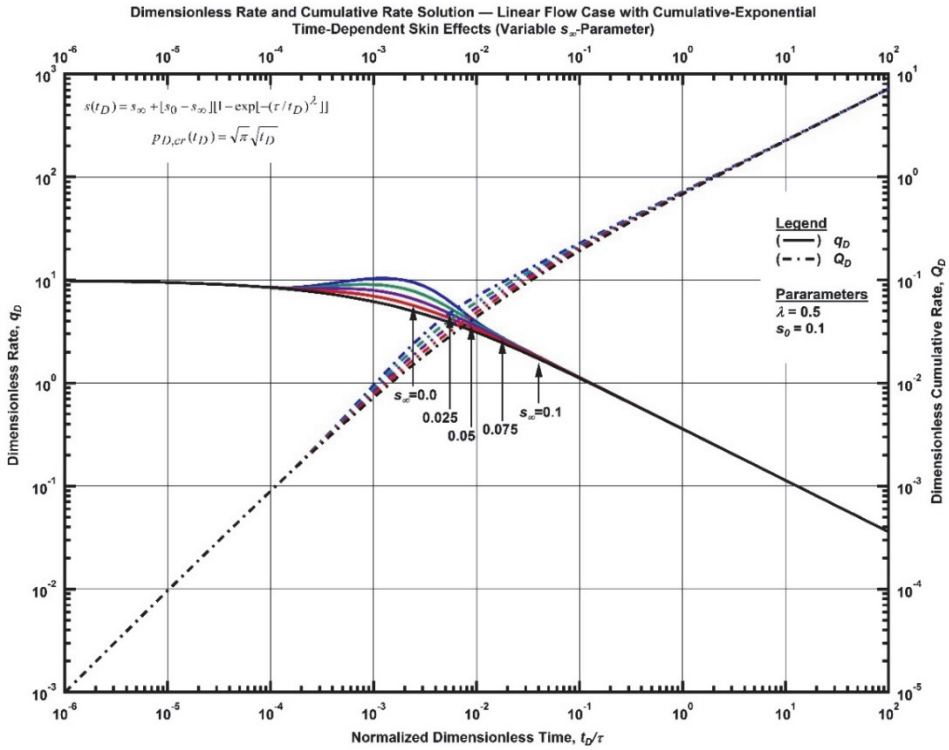

Figure F. 83 — Log-log plot (constant pressure dimensionless cumulative production solution) for the linear flow model combined with the cumulative-exponential time-dependent for select values of s_∞-parameter.

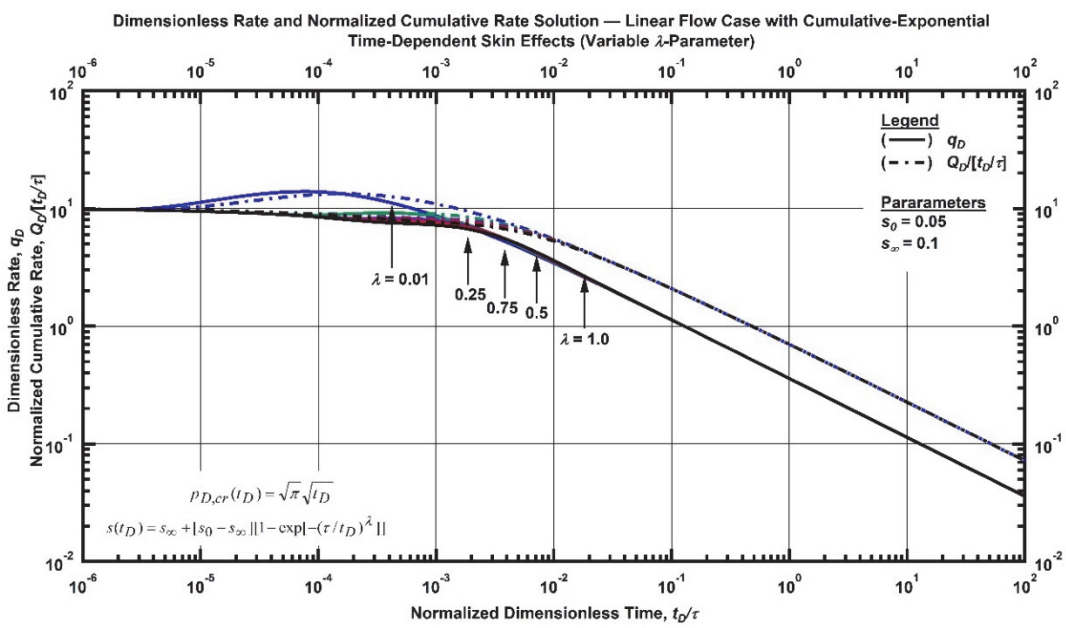

Figure F. 84 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the linear flow model combined with the cumulative-exponential time-dependent for select values of λ-parameter.

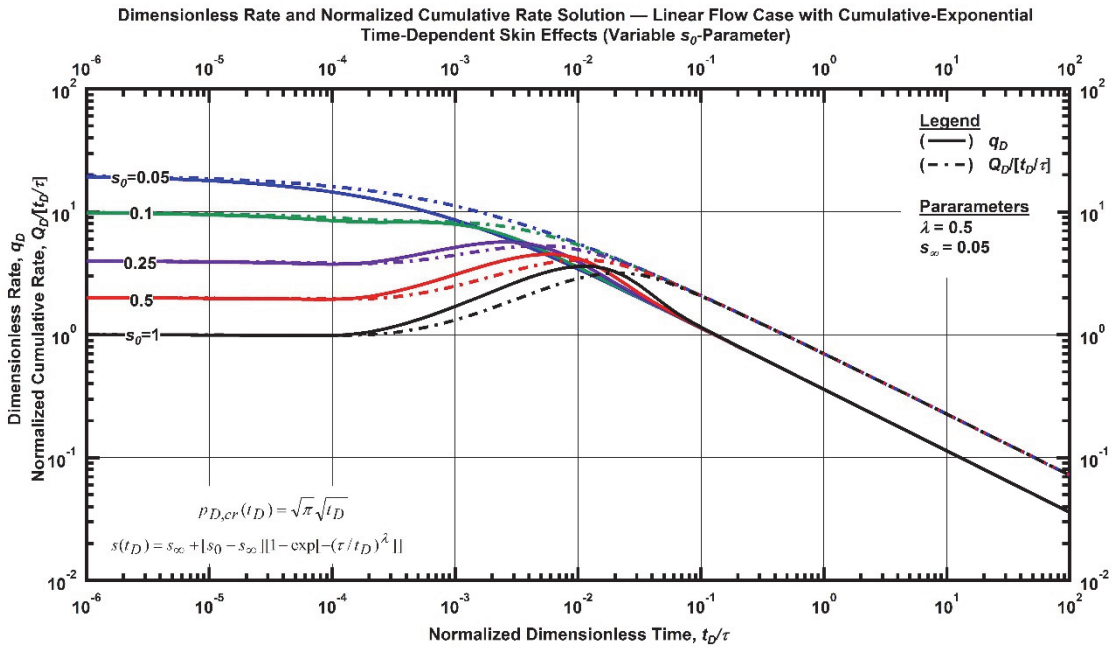

Figure F. 85 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the linear flow model combined with the cumulative-exponential time-dependent for select values of s_0-parameter.

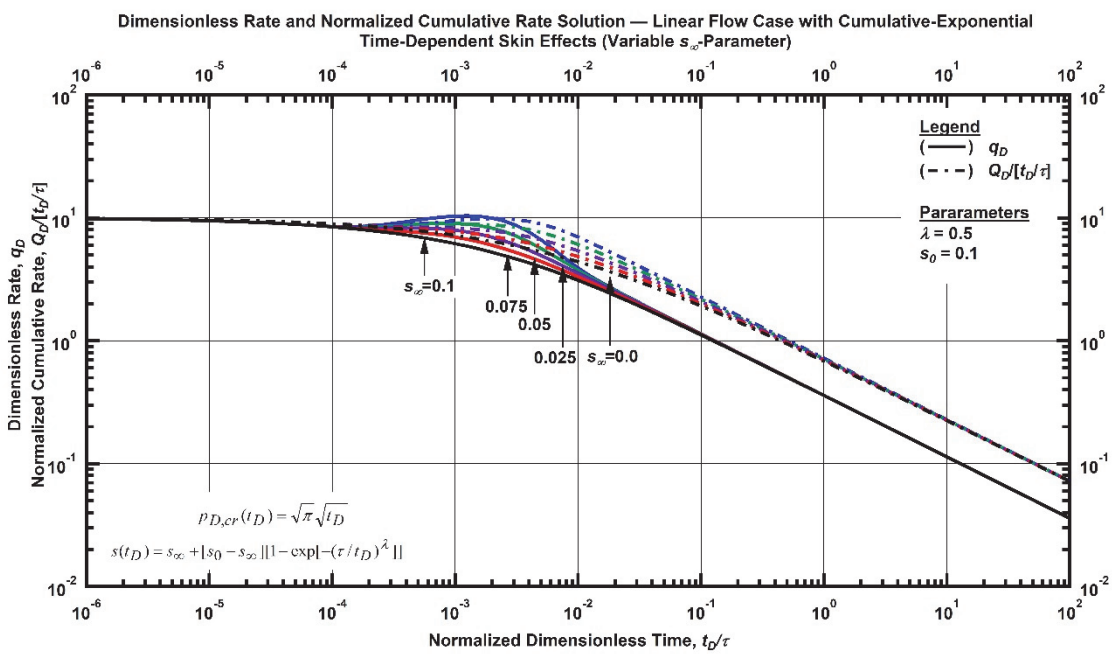

Figure F. 86 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the linear flow model combined with the cumulative-exponential time-dependent for select values of s_∞-parameter.

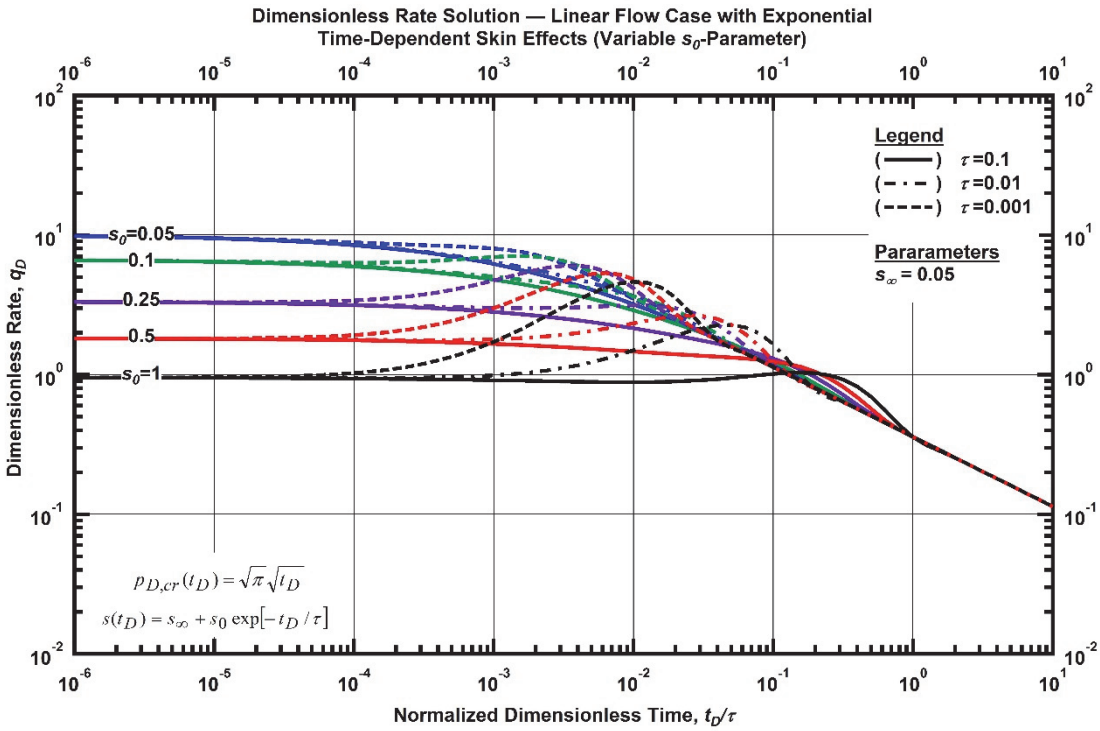

Figure F. 87 — Log-log plot (constant pressure dimensionless rate solution) for the linear flow model combined with the exponential time-dependent for select values of s_0-parameter.

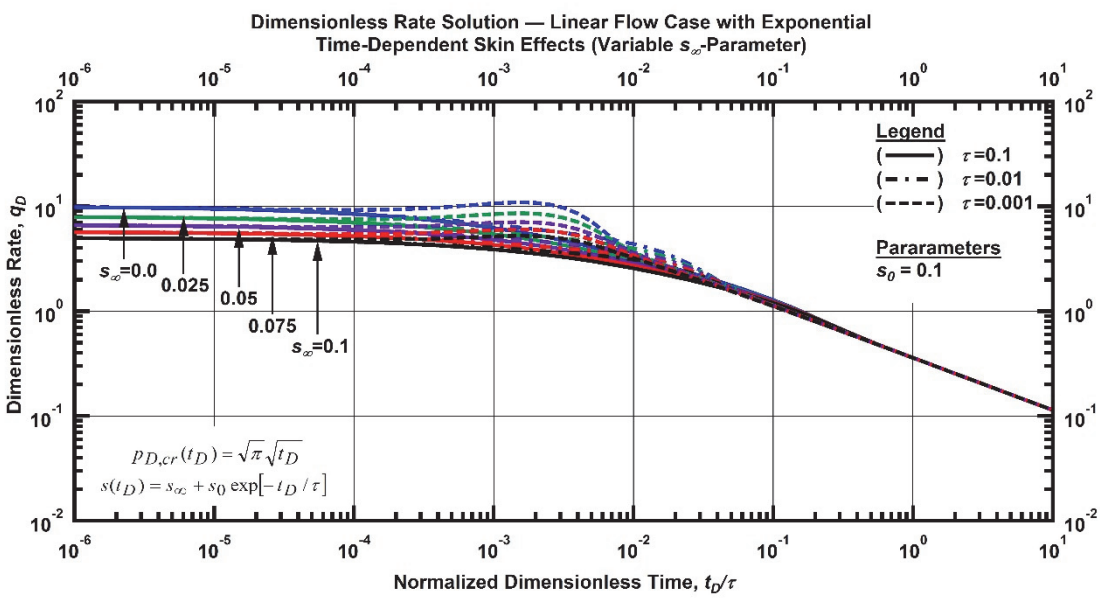

Figure F. 88 — Log-log plot (constant pressure dimensionless rate solution) for the linear flow model combined with the exponential time-dependent for select values of s_∞-parameter.

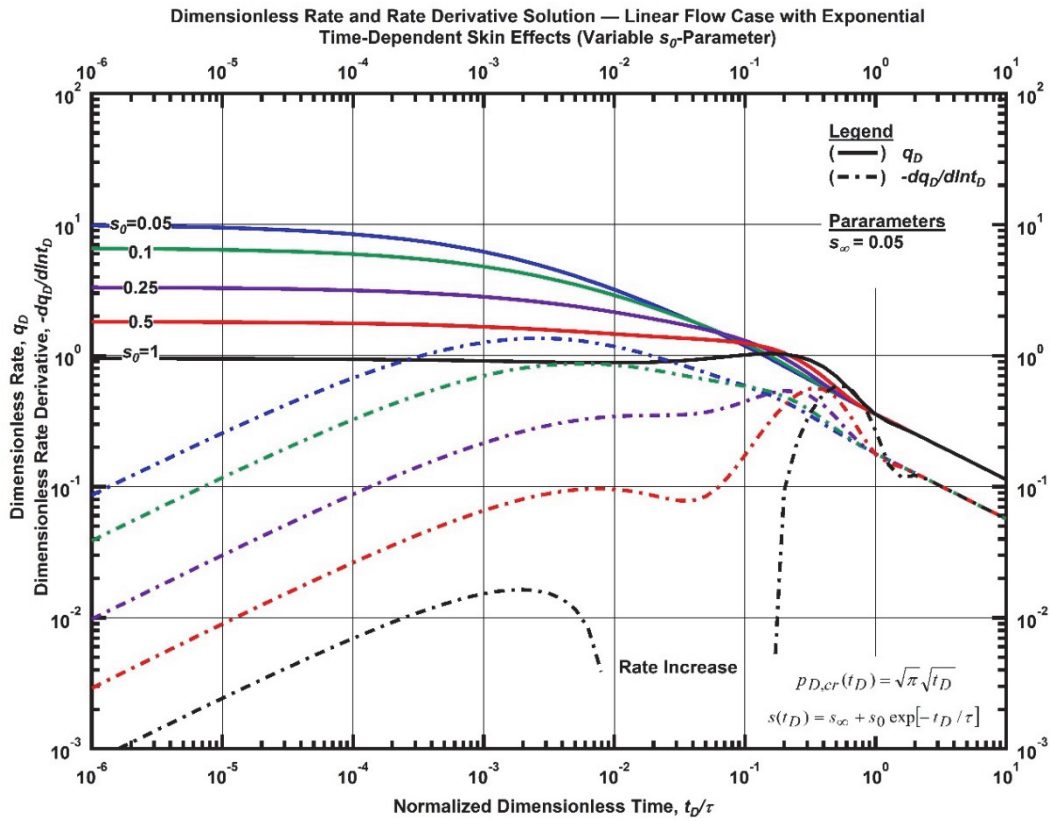

Figure F. 89—Log-log plot (constant pressure dimensionless rate derivative solution) for the linear flow model combined with the exponential time-dependent for select values of s_0-parameter.

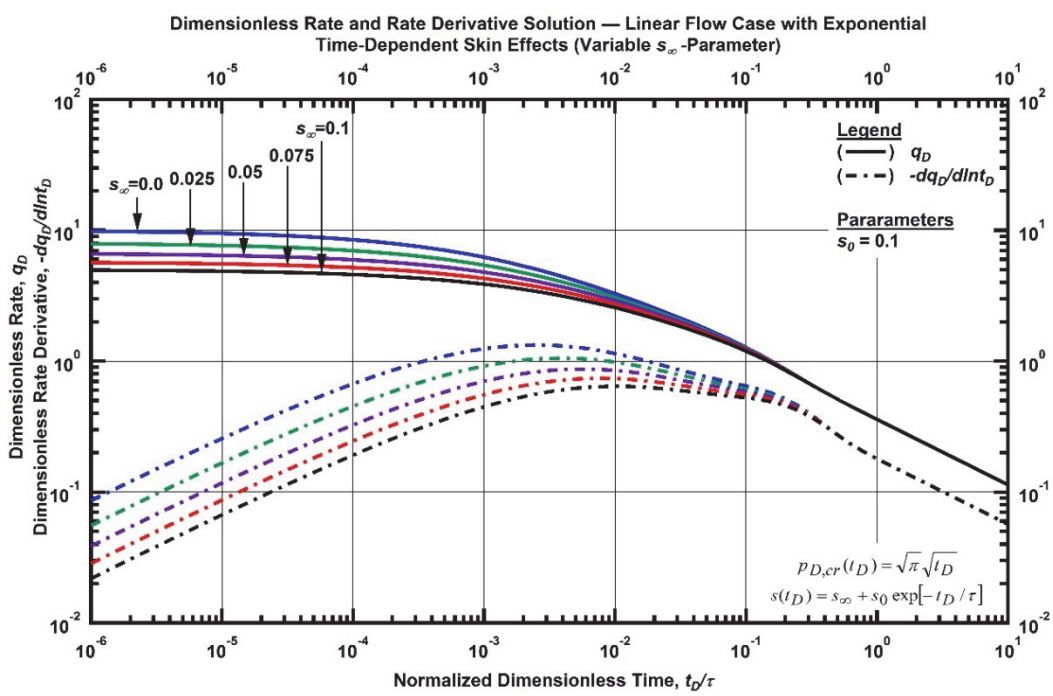

Figure F. 90 — Log-log plot (constant pressure dimensionless rate derivative solution) for the linear flow model combined with the exponential time-dependent for select values of s_∞-parameter.

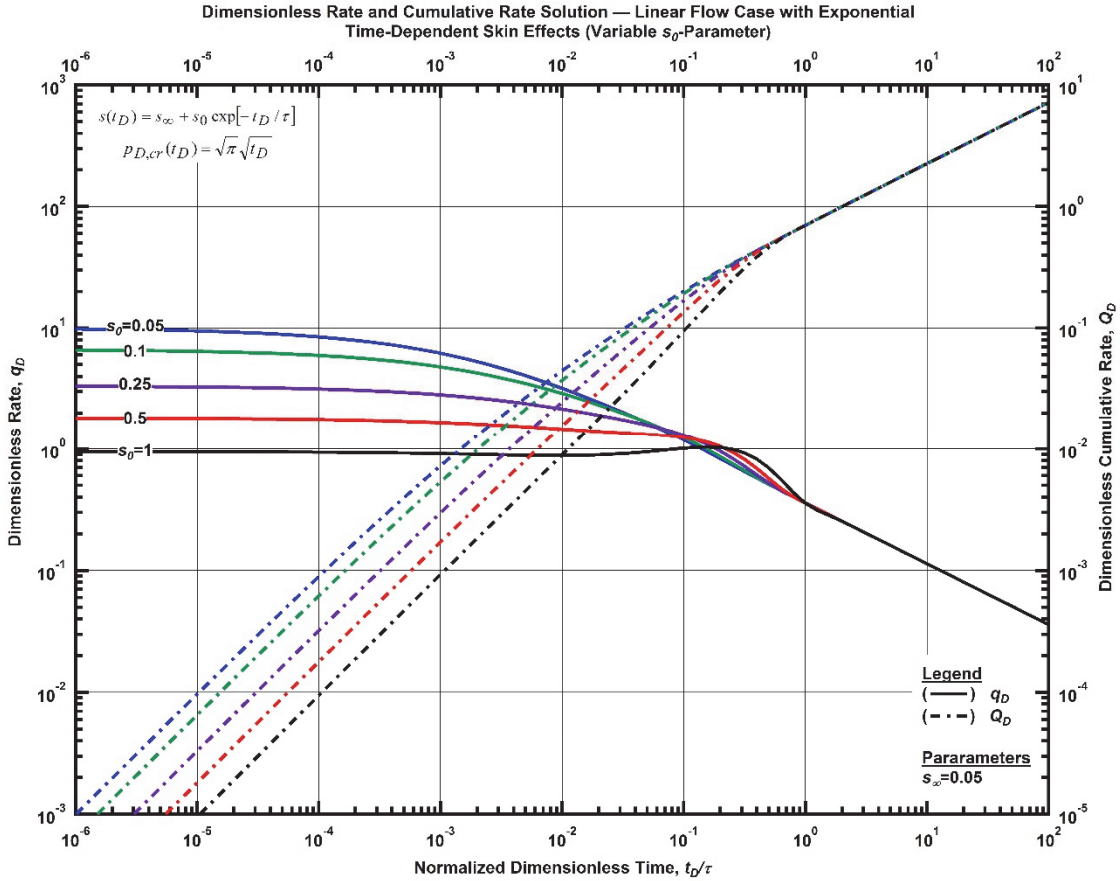

Figure F. 91 — Log-log plot (constant pressure dimensionless cumulative production solution) for the linear flow model combined with the exponential time-dependent for select values of s_0-parameter.

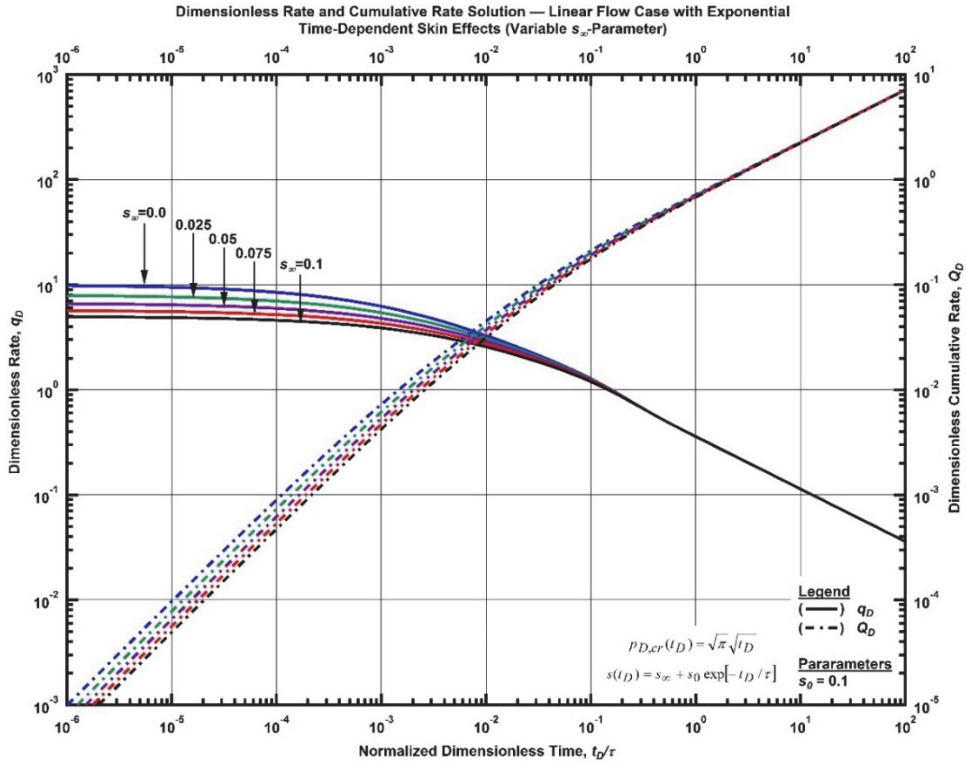

Figure F. 92 — Log-log plot (constant pressure dimensionless cumulative production solution) for the linear flow model combined with the exponential time-dependent for select values of s_∞-parameter.

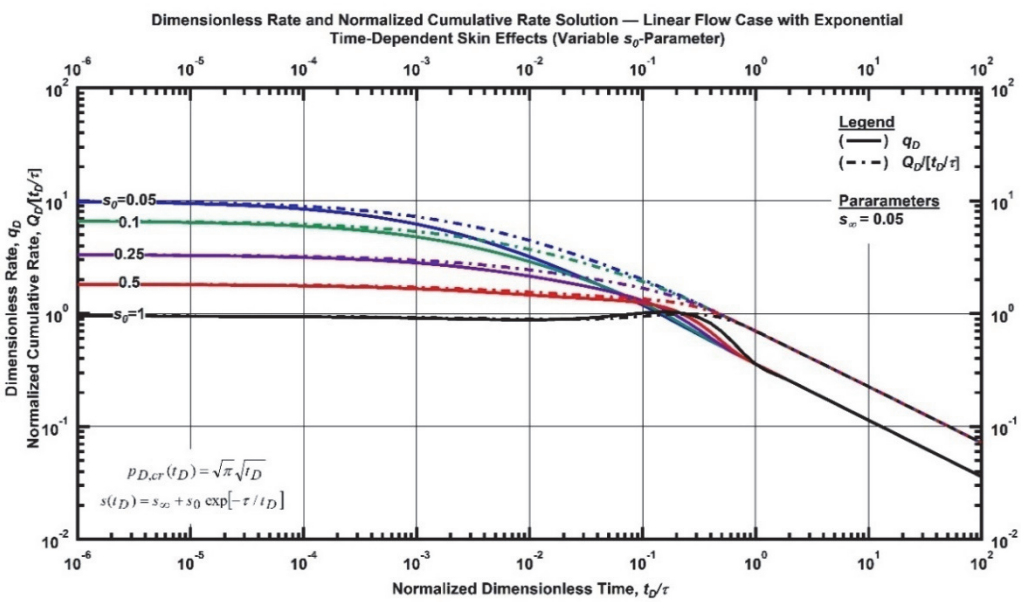

Figure F. 93 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the linear flow model combined with the exponential time-dependent for select values of s_0-parameter.

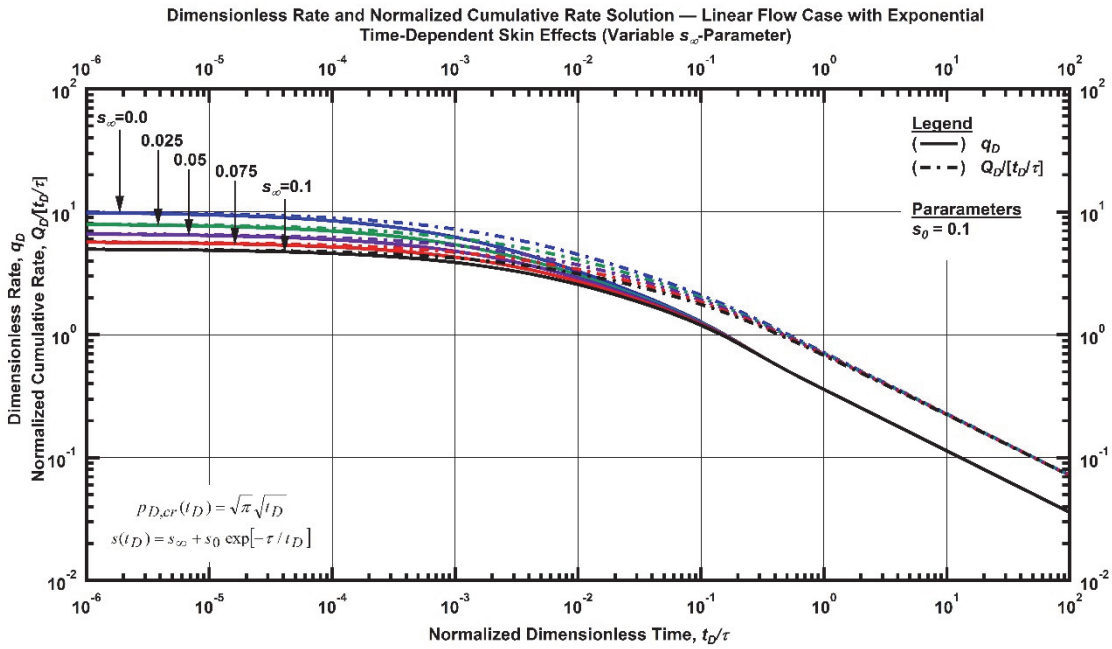

Figure F. 94 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the linear flow model combined with the exponential time-dependent for select values of s_∞-parameter.

Linear Flow Relation with Hyperbolic Time-Dependent Skin Effects

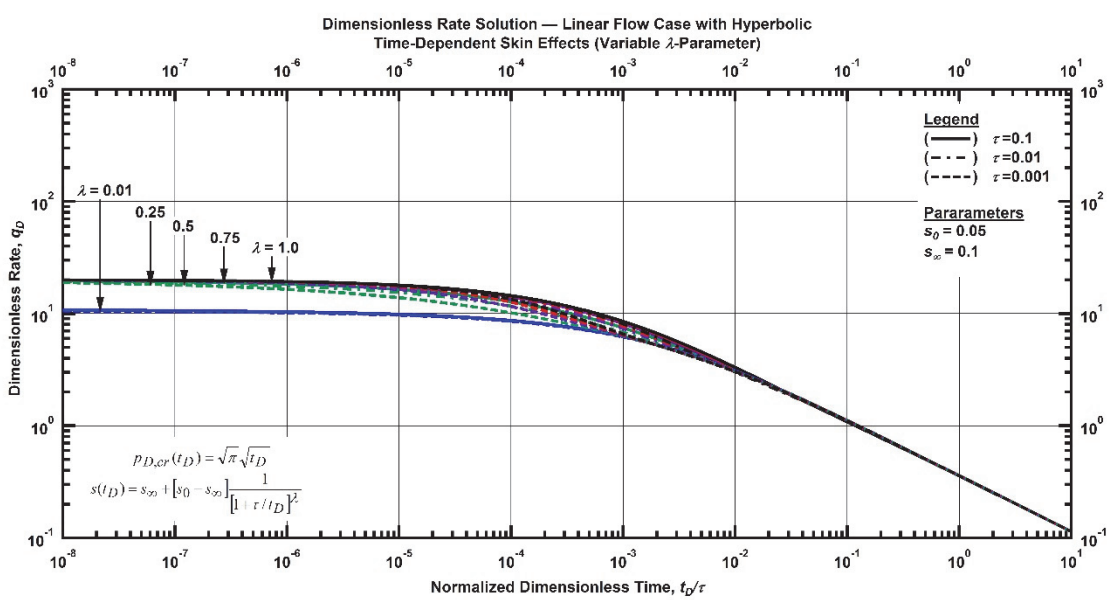

Figure F. 95 — Log-log plot (constant pressure dimensionless rate solution) for the linear flow model combined with the hyperbolic time-dependent for select values of λ-parameter.

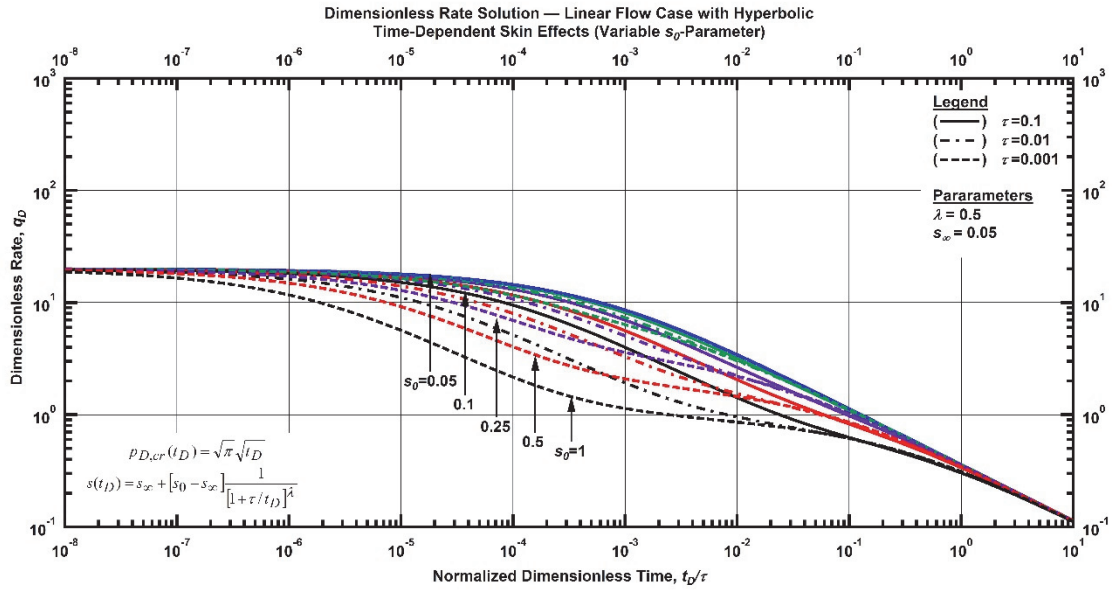

Figure F. 96 — Log-log plot (constant pressure dimensionless rate solution) for the linear flow model combined with the hyperbolic time-dependent for select values of s_0-parameter.

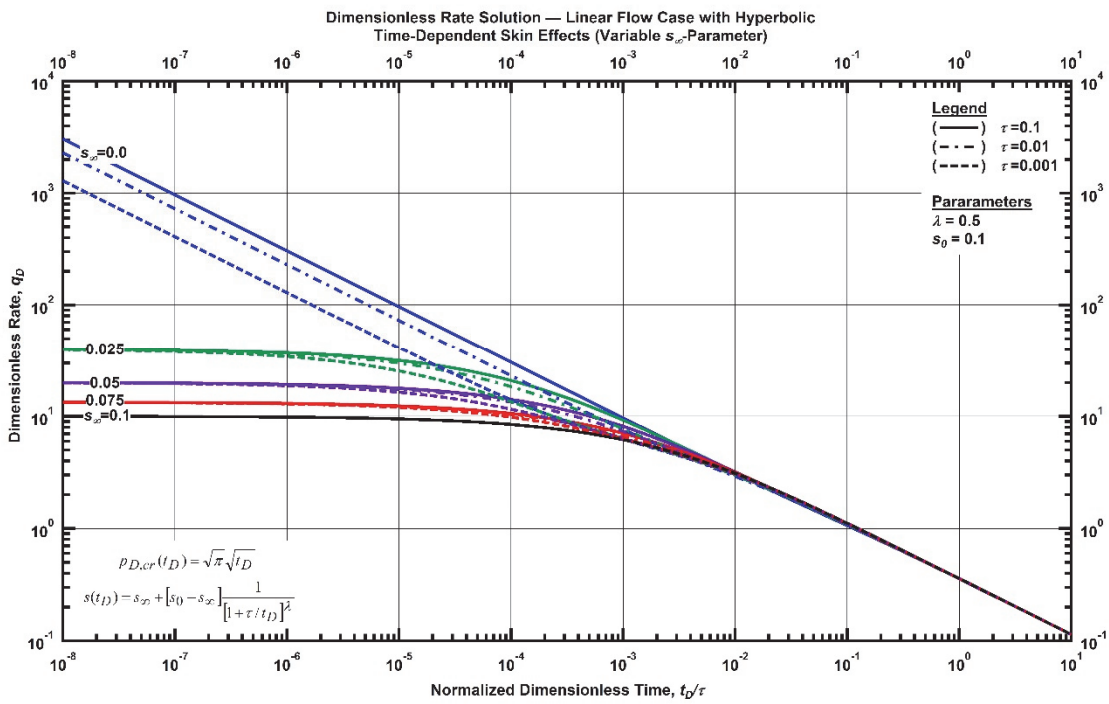

Figure F. 97 — Log-log plot (constant pressure dimensionless rate solution) for the linear flow model combined with the hyperbolic time-dependent for select values of s_∞-parameter.

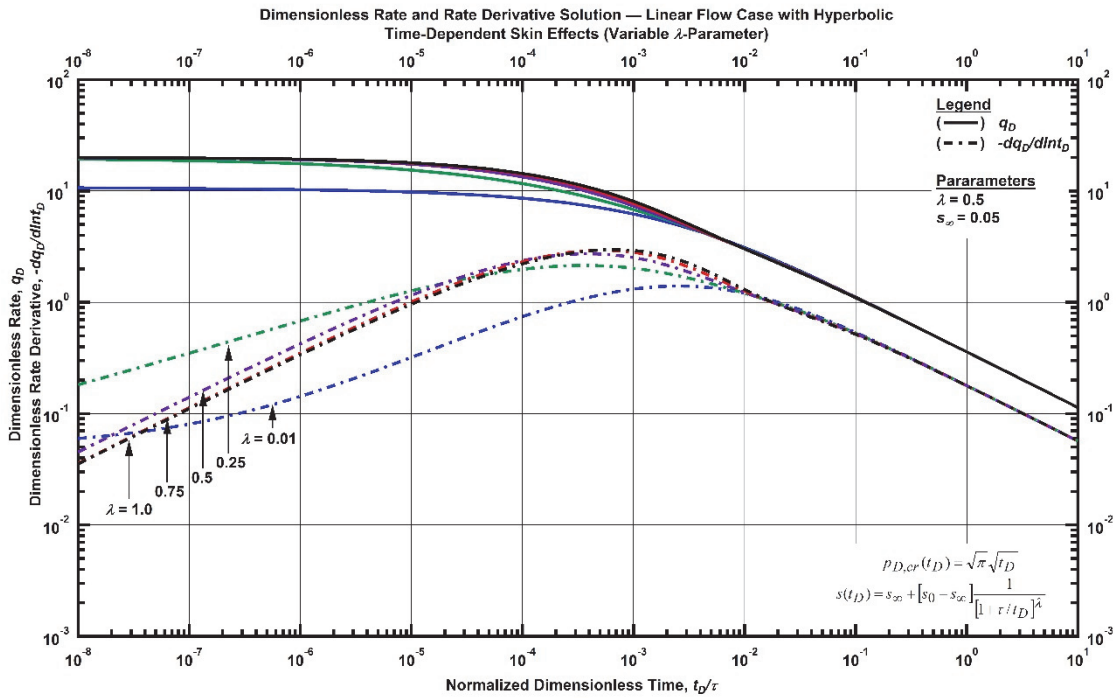

Figure F. 98—Log-log plot (constant pressure dimensionless rate derivative solution) for the linear flow model combined with the hyperbolic time-dependent for select values of λ-parameter.

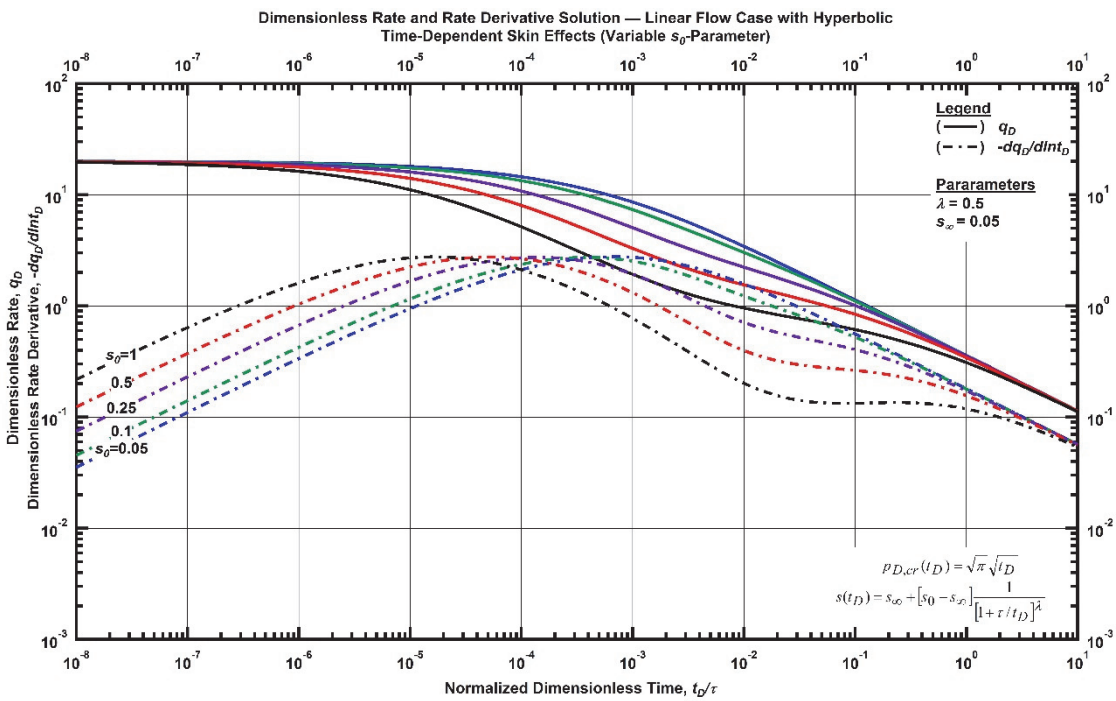

Figure F. 99—Log-log plot (constant pressure dimensionless rate derivative solution) for the linear flow model combined with the hyperbolic time-dependent for select values of s_0-parameter.

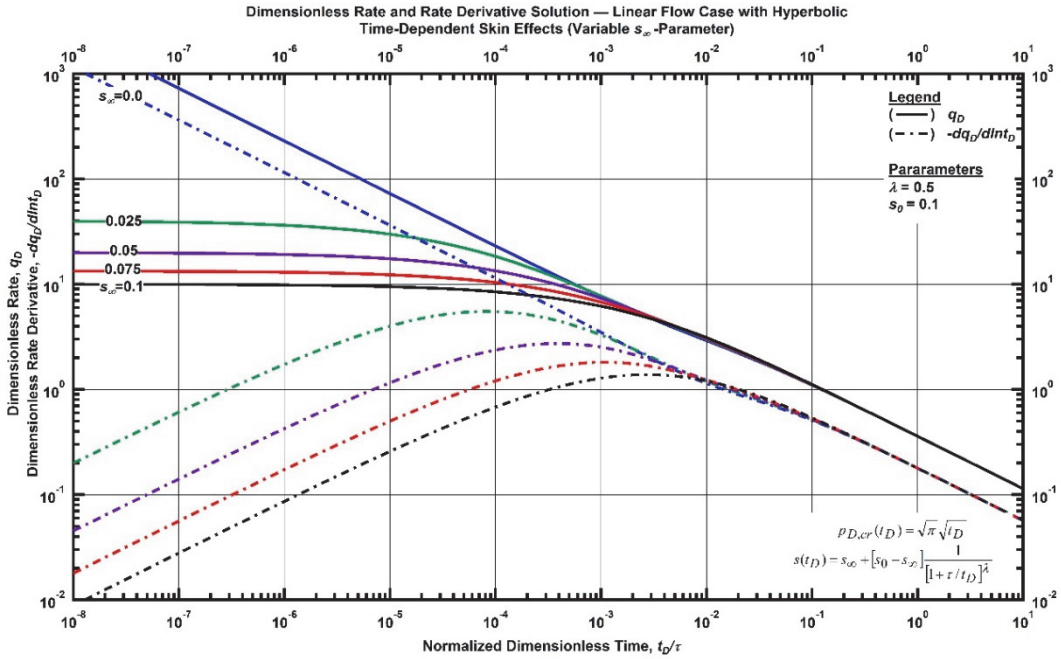

Figure F. 100 — Log-log plot (constant pressure dimensionless rate derivative solution) for the linear flow model combined with the hyperbolic time-dependent for select values of s_∞-parameter.

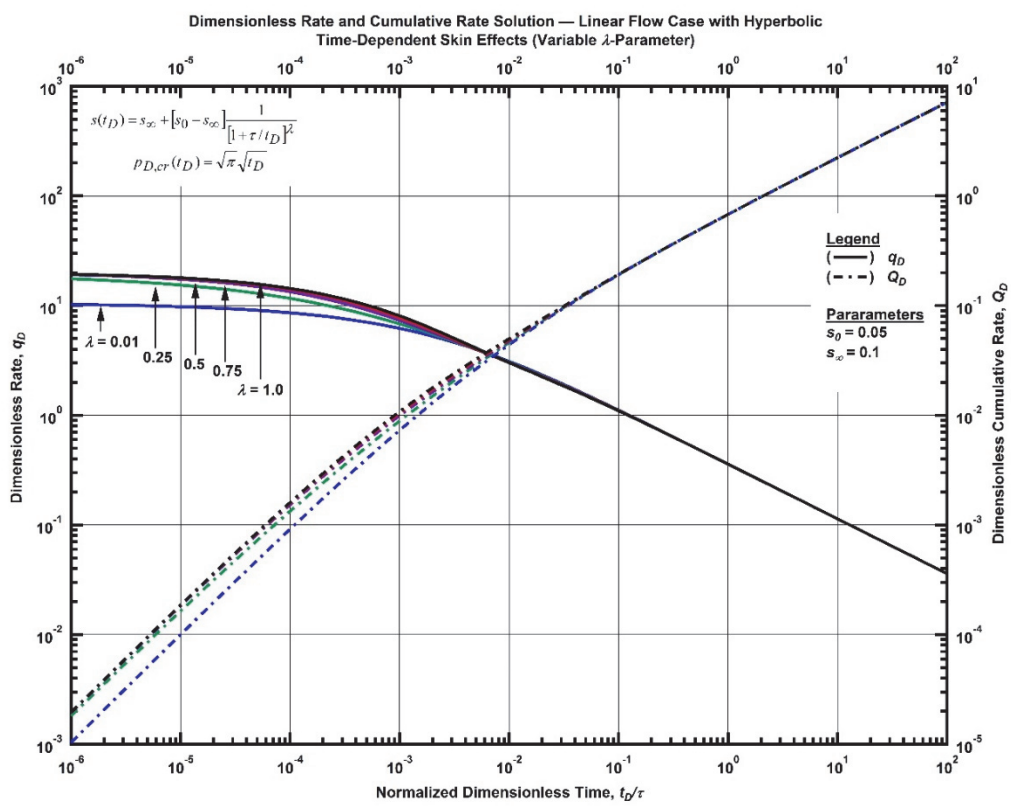

Figure F. 101 — Log-log plot (constant pressure dimensionless cumulative production solution) for the linear flow model combined with the hyperbolic time-dependent for select values of λ-parameter.

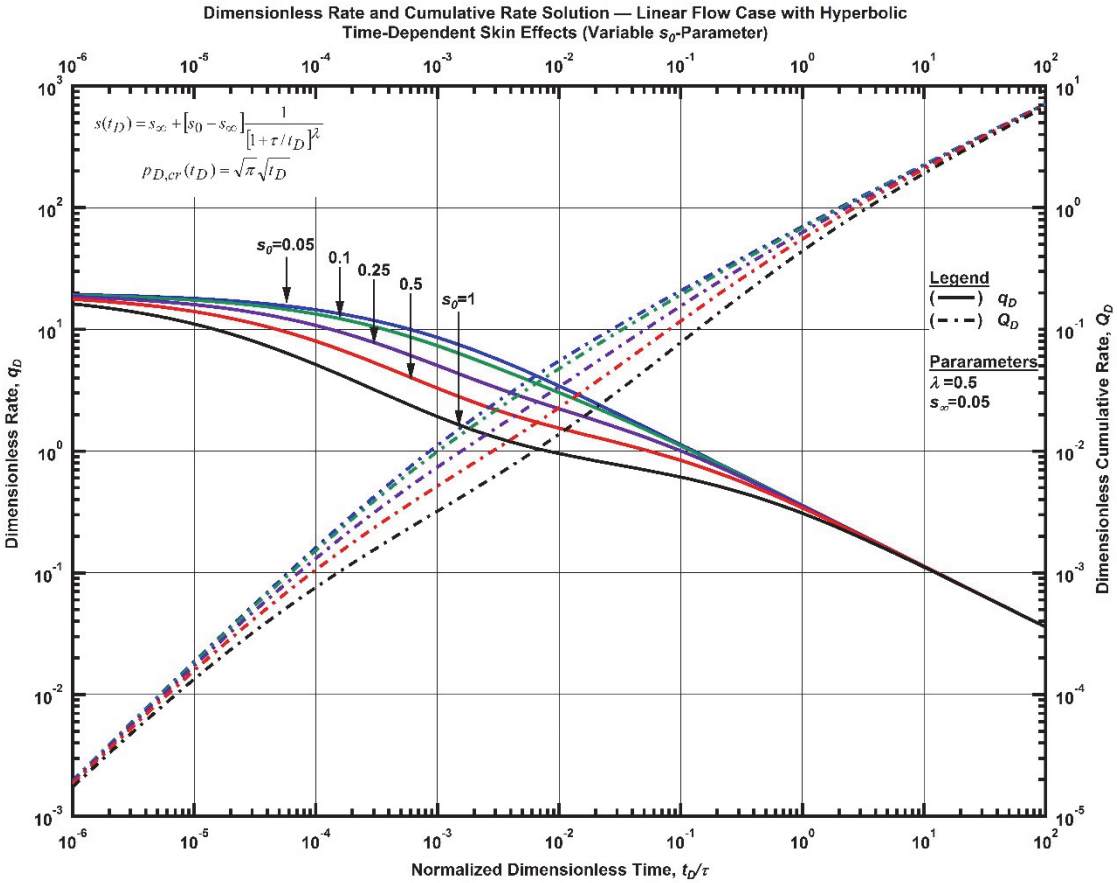

Figure F. 102 — Log-log plot (constant pressure dimensionless cumulative production solution) for the linear flow model combined with the hyperbolic time-dependent for select values of s_0-parameter.

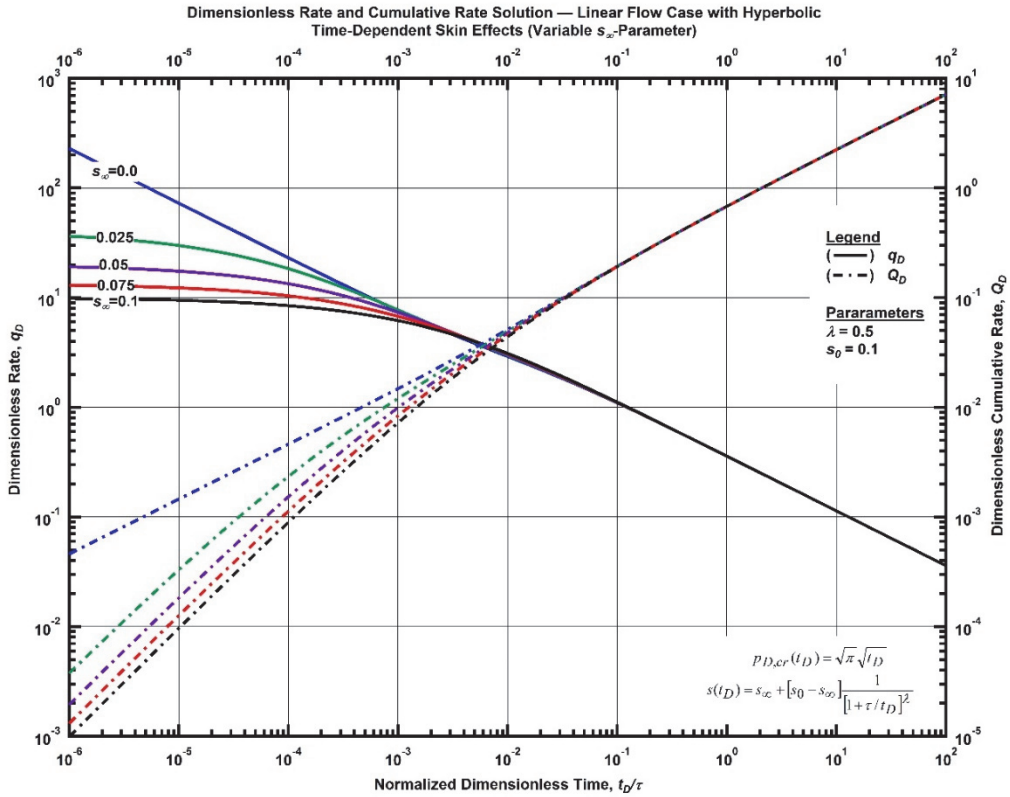

Figure F. 103 — Log-log plot (constant pressure dimensionless cumulative production solution) for the linear flow model combined with the hyperbolic time-dependent for select values of s_∞-parameter.

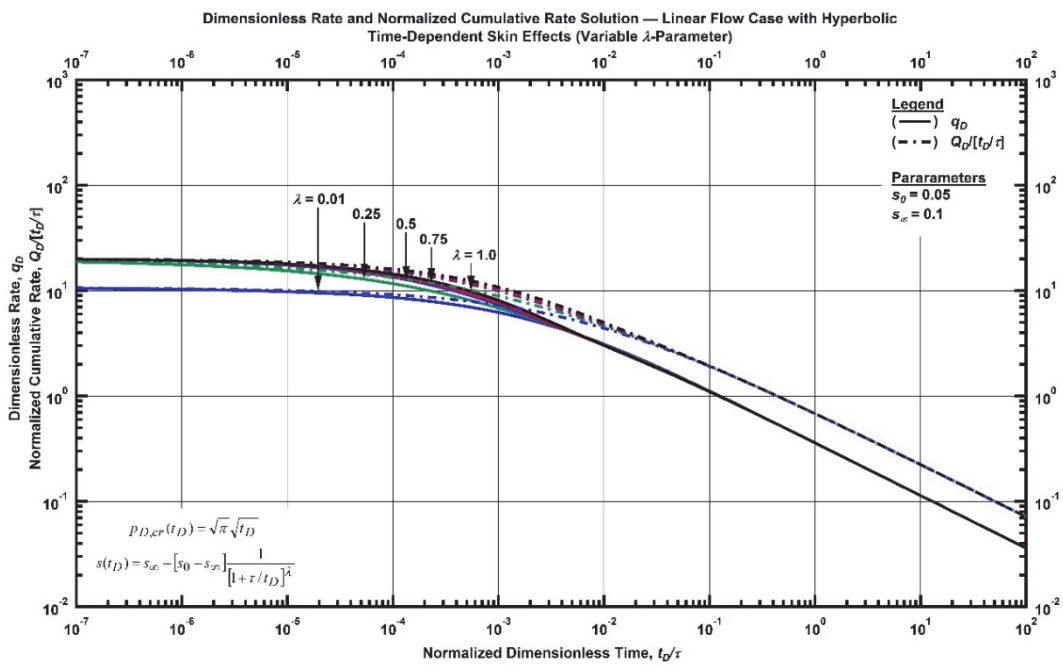

Figure F. 104 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the linear flow model combined with the hyperbolic time-dependent for select values of λ-parameter.

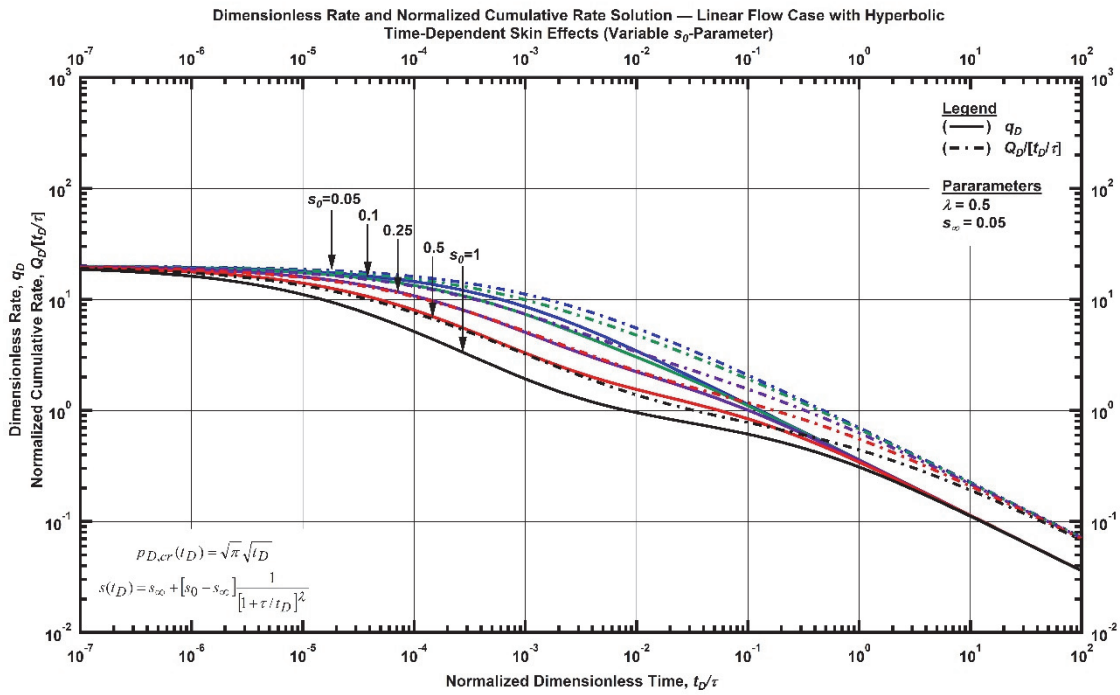

Figure F. 105 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the linear flow model combined with the hyperbolic time-dependent for select values of s_0-parameter.

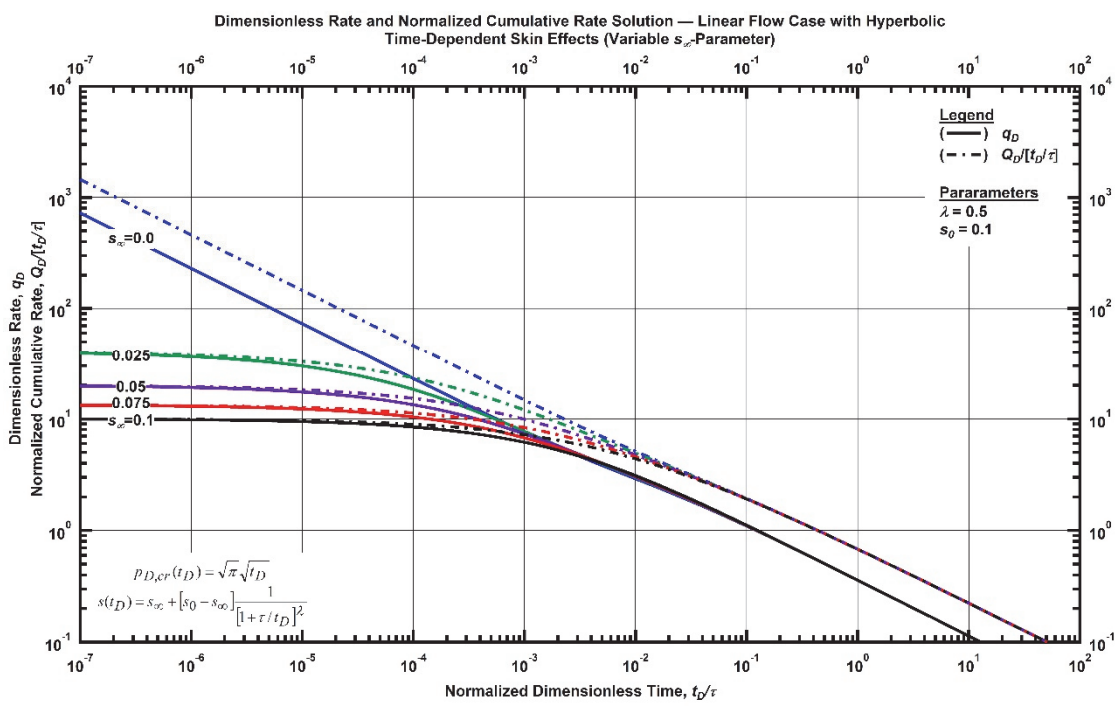

Figure F. 106 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the linear flow model combined with the hyperbolic time-dependent for select values of s_∞-parameter.

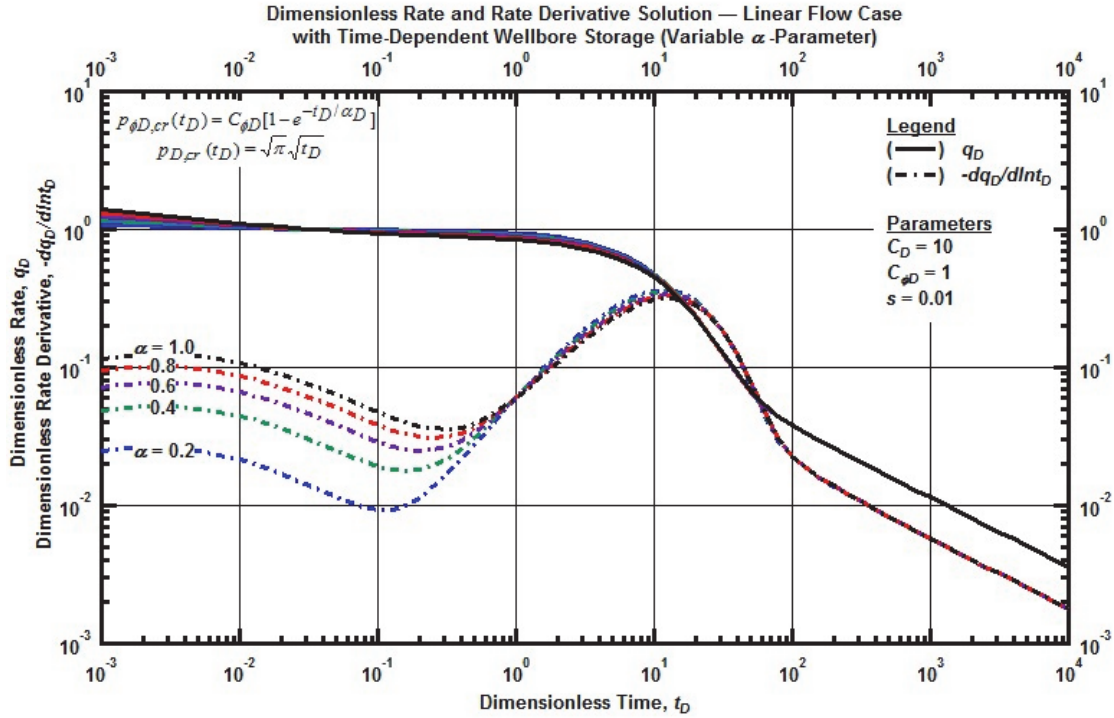

Figure F. 107 — Log-log plot (constant pressure dimensionless rate solution) for the linear flow model combined with the time-dependent wellbore storage for select values of α-parameter.

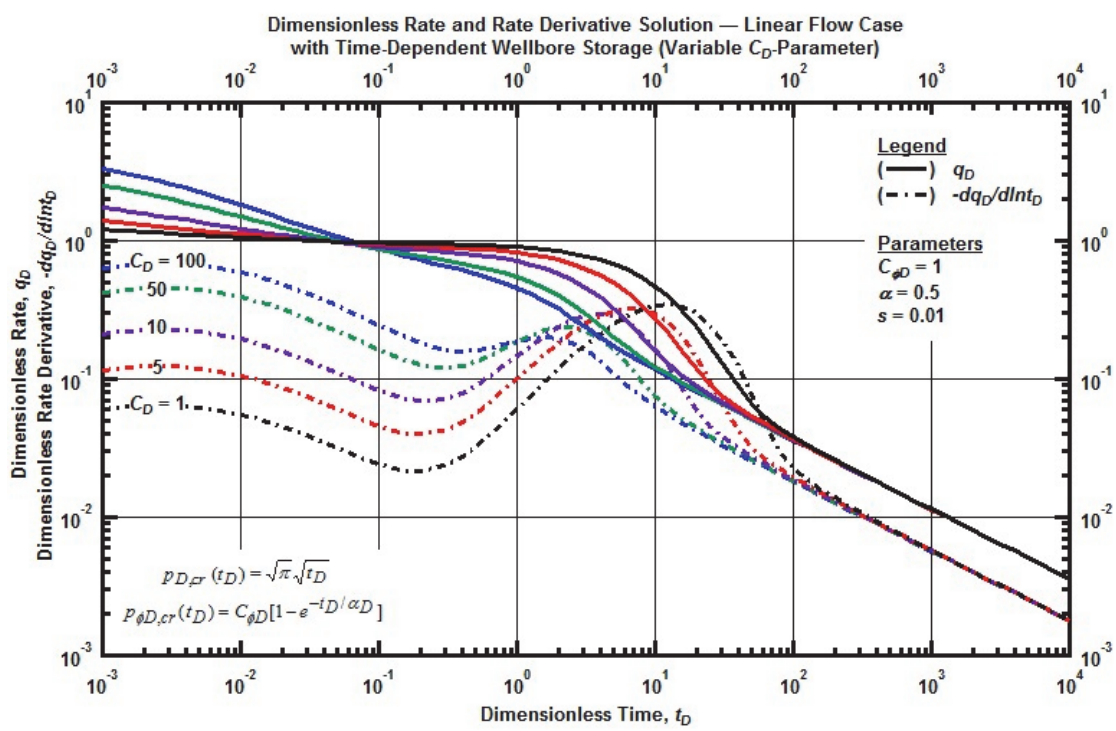

Figure F. 108 — Log-log plot (constant pressure dimensionless rate solution) for the linear flow model combined with the time-dependent wellbore storage for select values of the dimensionless wellbore storage constant.

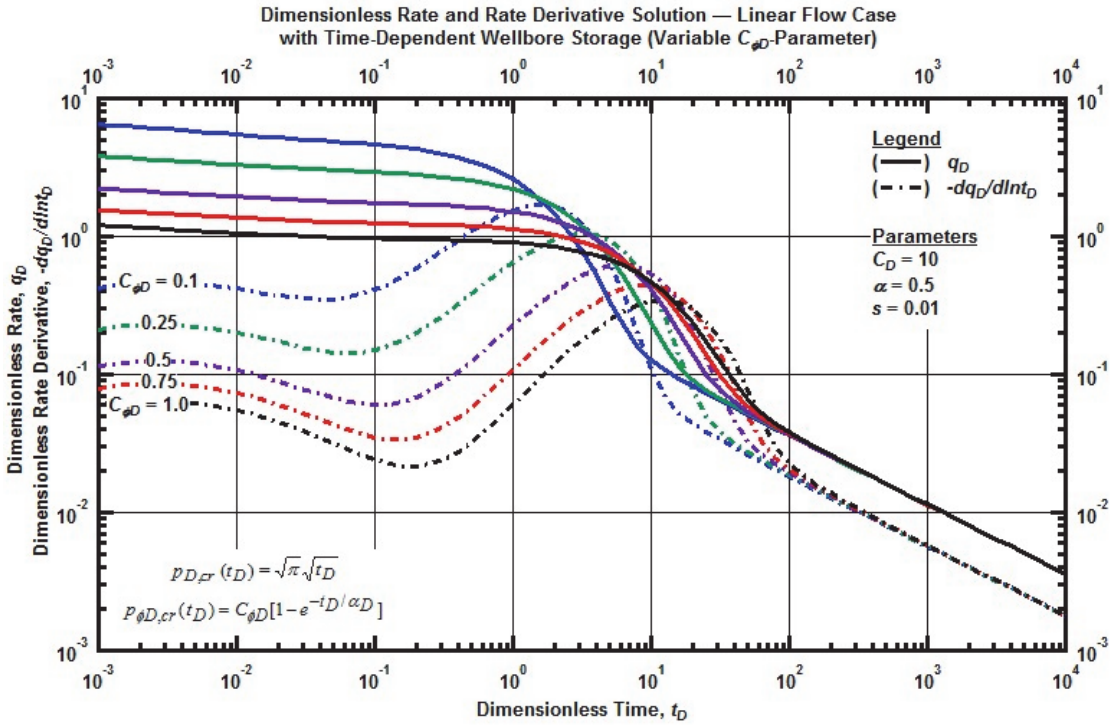

Figure F. 109 — Log-log plot (constant pressure dimensionless rate solution) for the linear flow model combined with the time-dependent wellbore storage for select values phase redistribution constant.

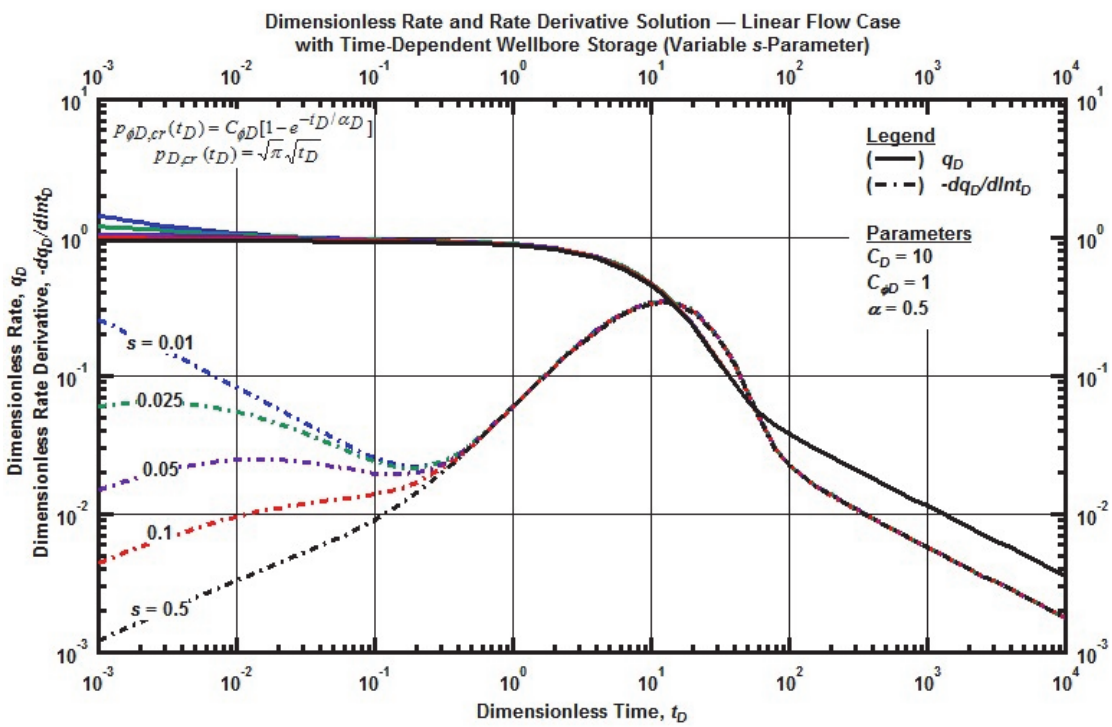

Figure F. 110 — Log-log plot (constant pressure dimensionless rate solution) for the linear flow model combined with the time-dependent wellbore storage for select dimensionless constant skin factor.

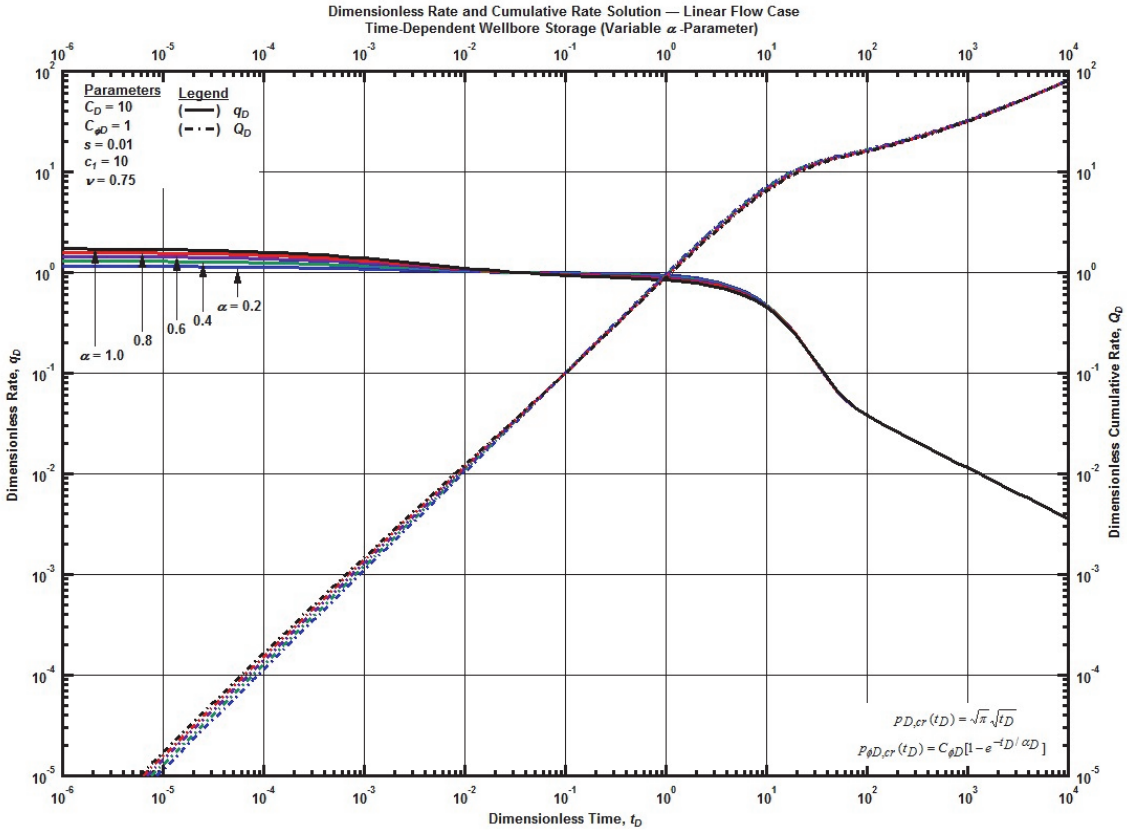

Figure F. 111 — Log-log plot (constant pressure dimensionless cumulative production solution) for the linear flow model combined with the time-dependent wellbore storage for select values of α-parameter.

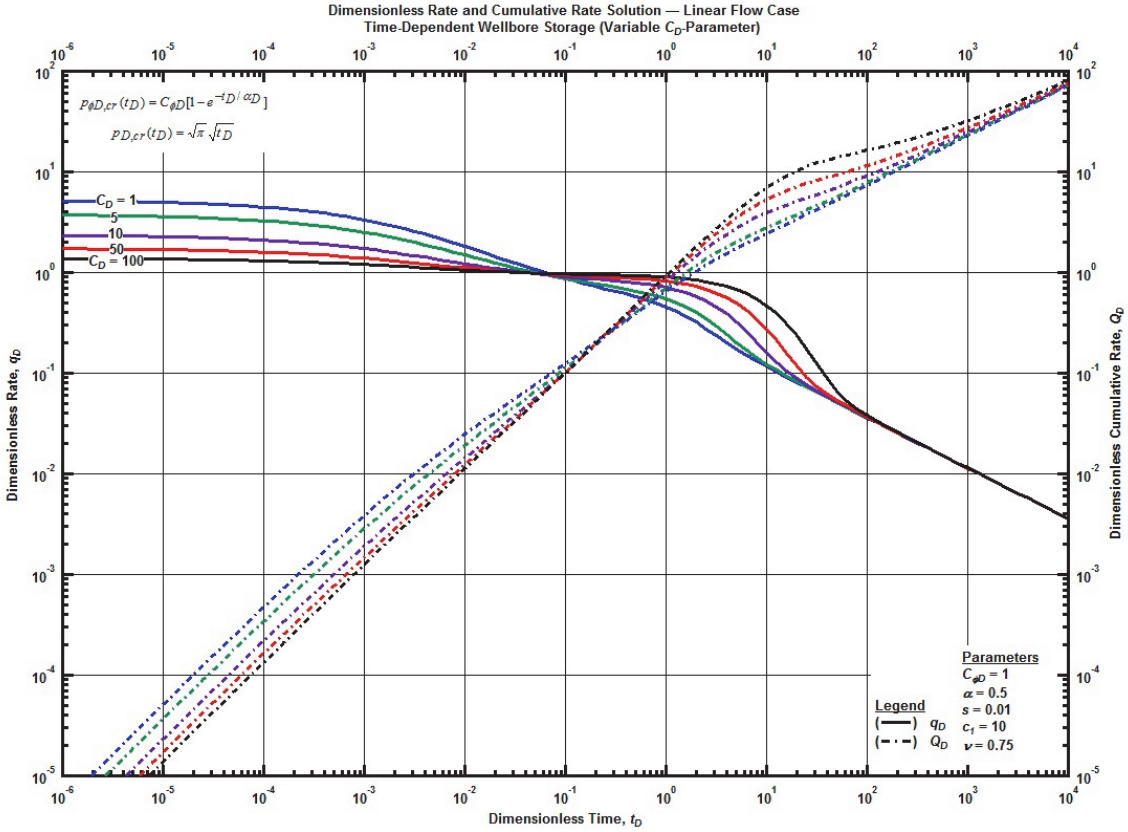

Figure F. 112 — Log-log plot (constant pressure dimensionless cumulative production solution) for the linear flow model combined with the time-dependent wellbore storage for select values of the dimensionless wellbore storage constant.

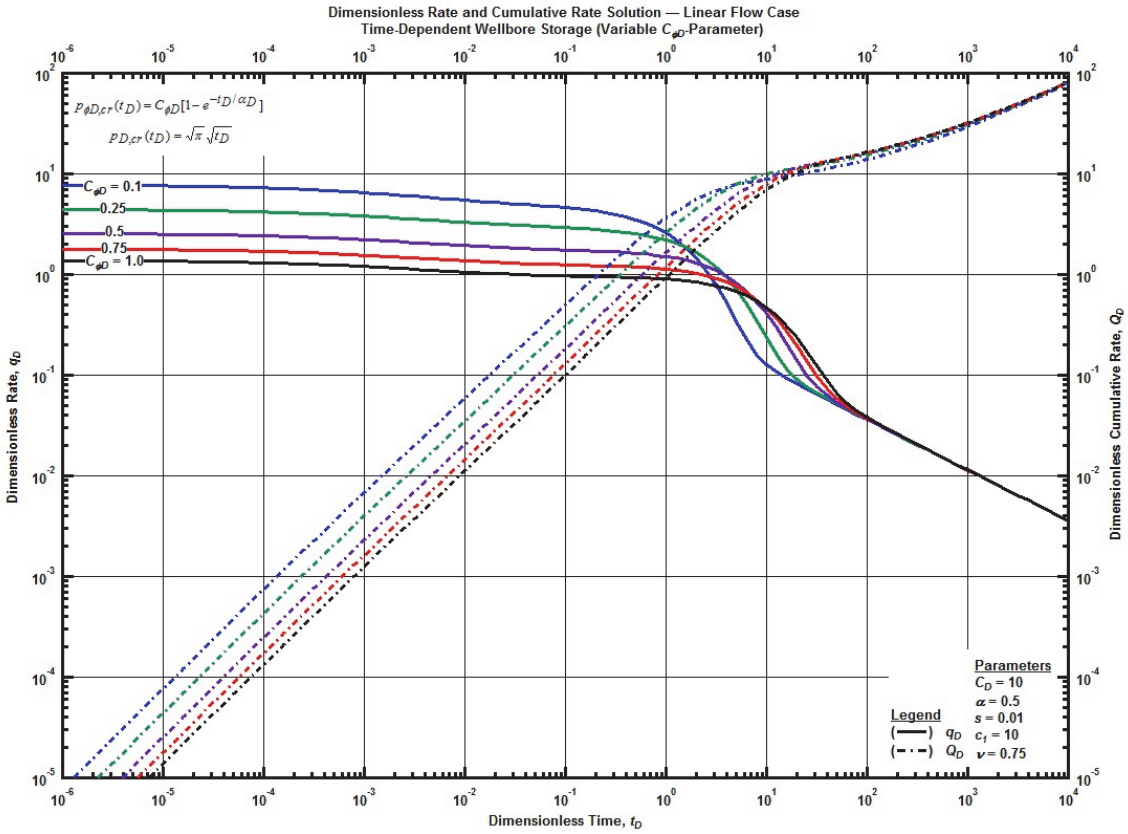

Figure F. 113 — Log-log plot (constant pressure dimensionless cumulative production solution) for the linear flow model combined with the time-dependent wellbore storage for select values phase redistribution constant.

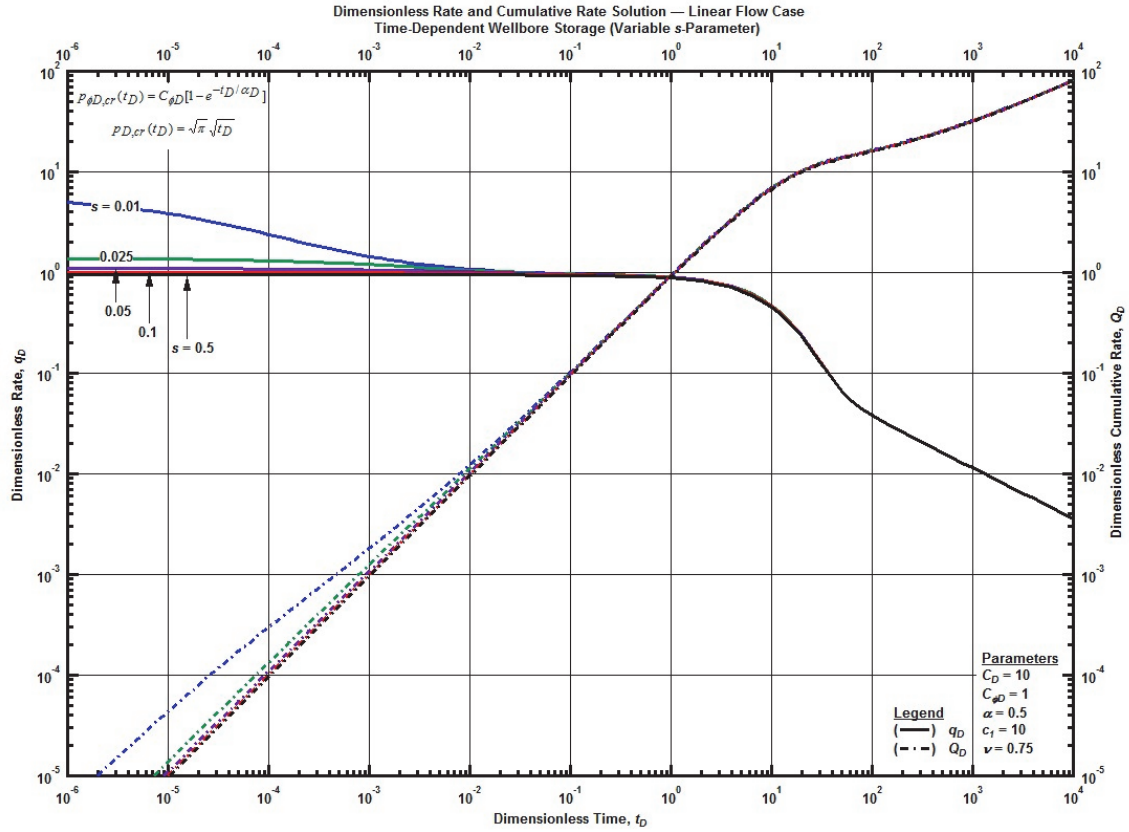

Figure F. 114 — Log-log plot (constant pressure dimensionless cumulative production solution) for the linear flow model combined with the time-dependent wellbore storage for select dimensionless constant skin factor.

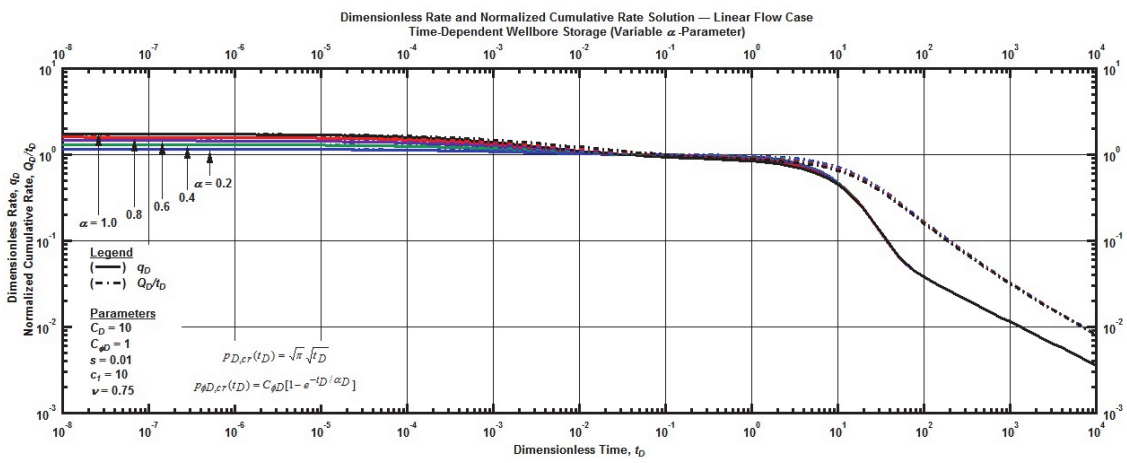

Figure F. 115 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the linear flow model combined with the time-dependent wellbore storage for select values of α-parameter.

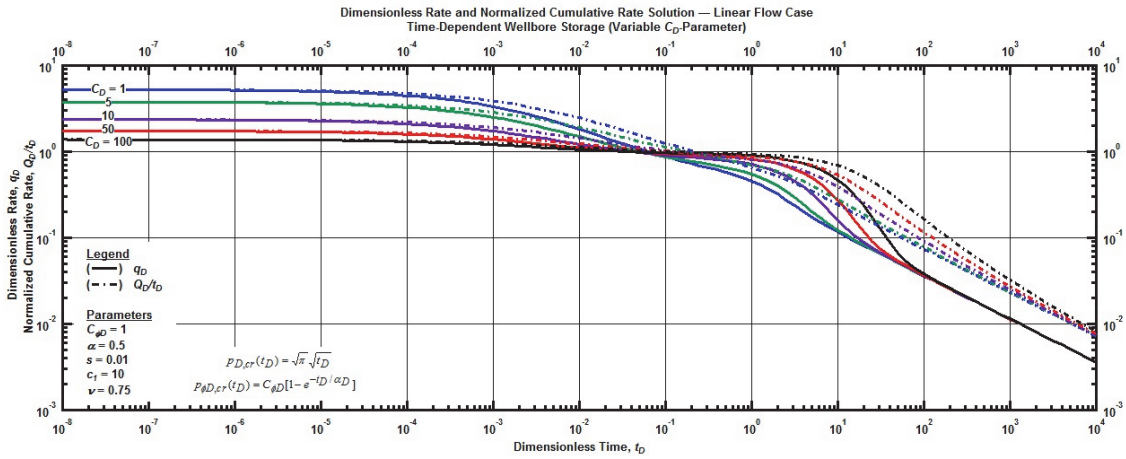

Figure F. 116 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the linear flow model combined with the time-dependent wellbore storage for select values of the dimensionless wellbore storage constant.

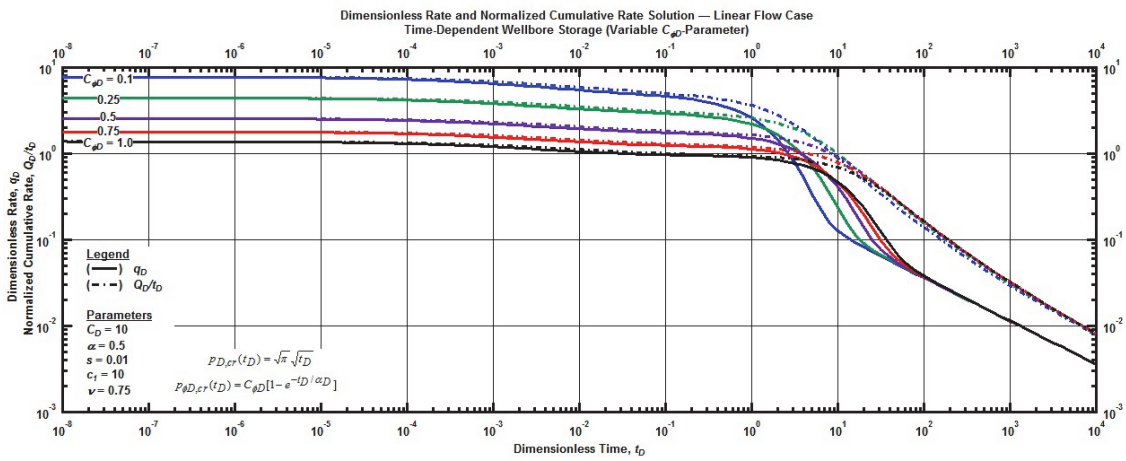

Figure F. 117 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the linear flow model combined with the time-dependent wellbore storage for select values phase redistribution constant.

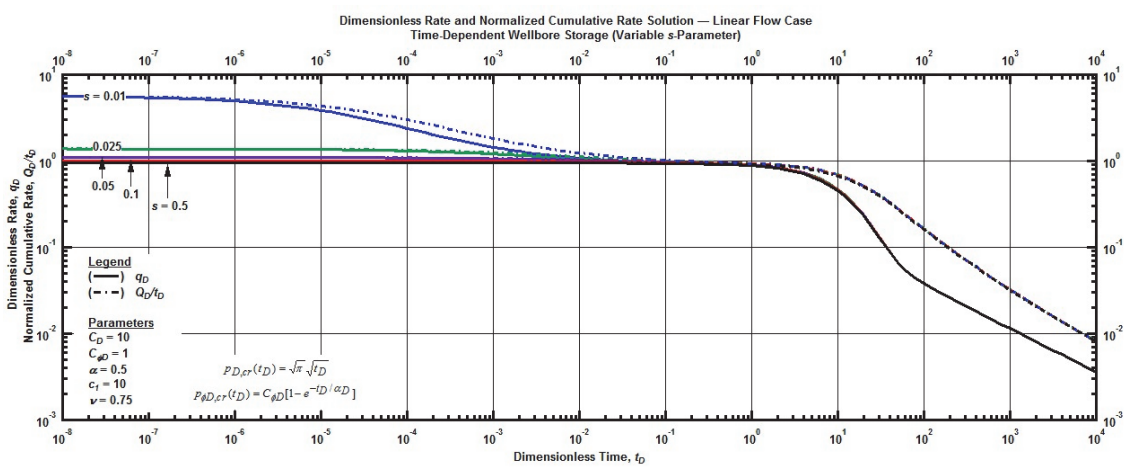

Figure F. 118 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the linear flow model combined with the time-dependent wellbore storage for select dimensionless constant skin factor.

Linear Flow Regime with Time-Dependent Wellbore Storage and Cumulative-Exponential Skin Effects

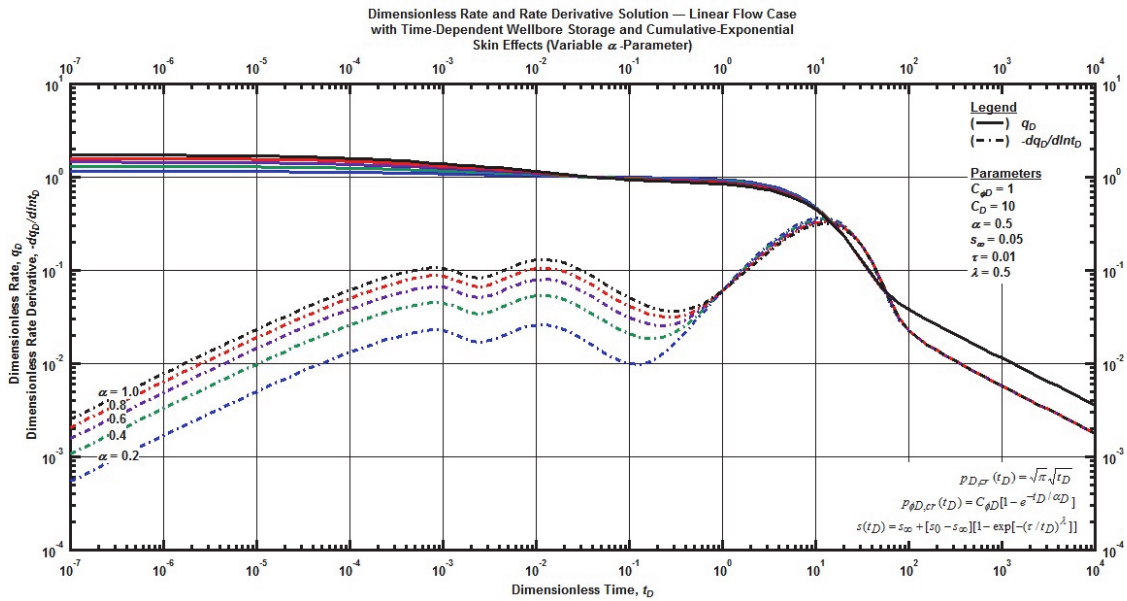

Figure F. 119 — Log-log plot (constant pressure dimensionless rate solution) for the bilinear flow model combined with the time-dependent wellbore storage and cumulative-exponential skin effects for select values of α-parameter.

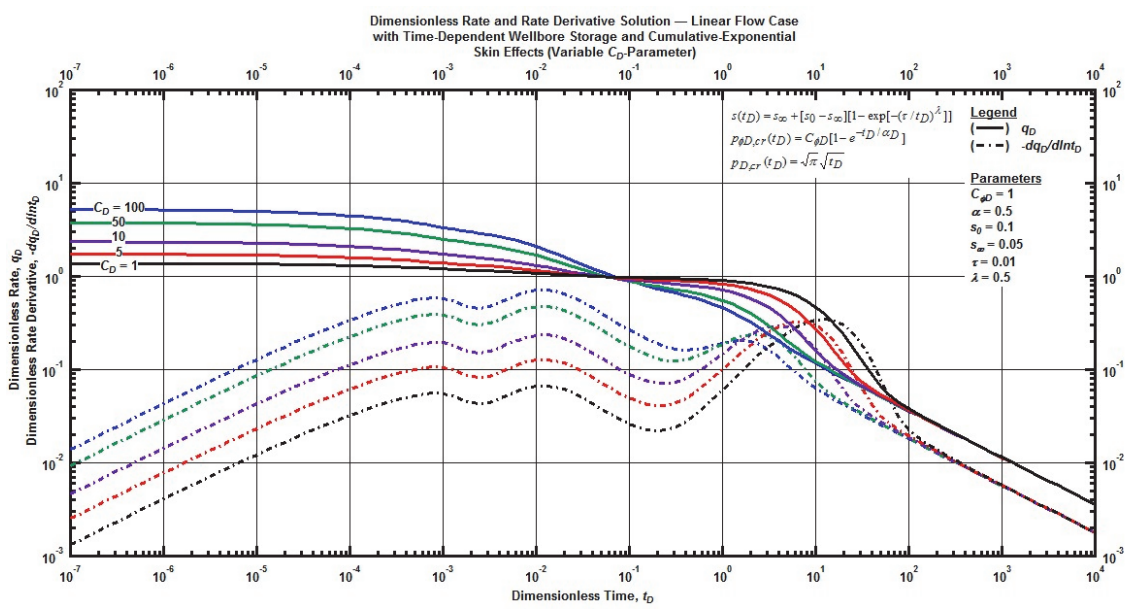

Figure F. 120 — Log-log plot (constant pressure dimensionless rate solution) for the bilinear flow model combined with the time-dependent wellbore storage and cumulative-exponential skin effects for select values of the dimensionless wellbore storage constant.

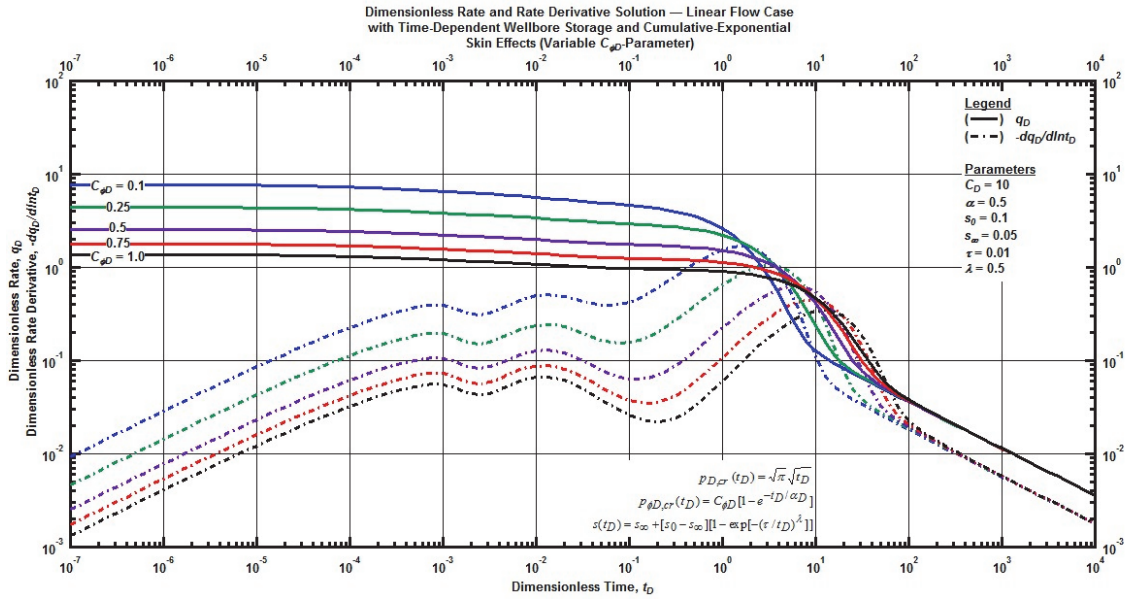

Figure F. 121 — Log-log plot (constant pressure dimensionless rate solution) for the bilinear flow model combined with the time-dependent wellbore storage and cumulative-exponential skin effects for select values phase redistribution constant.

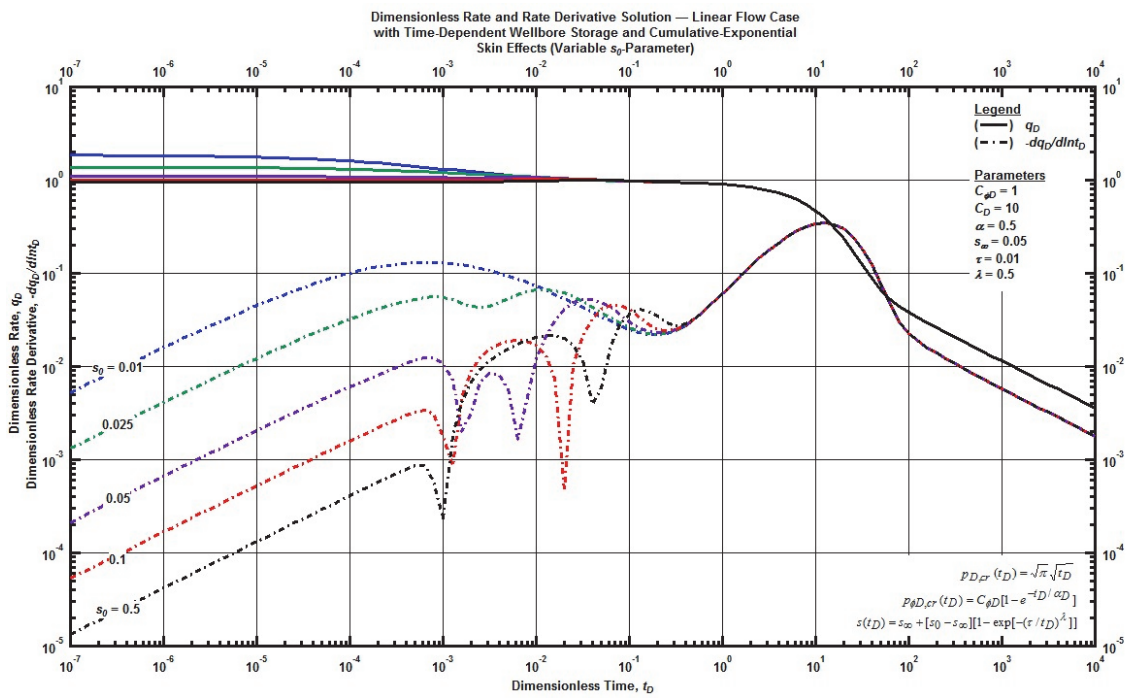

Figure F. 122 — Log-log plot (constant pressure dimensionless rate solution) for the bilinear flow model combined with the time-dependent wellbore storage and cumulative-exponential skin effects for select values of s_0-parameter.

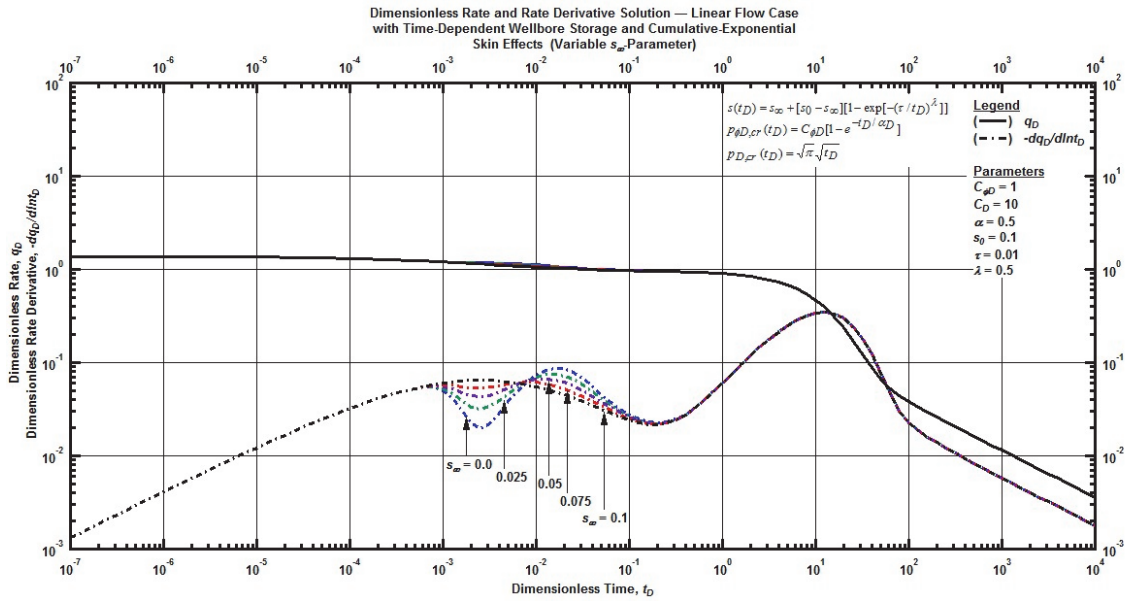

Figure F. 123 — Log-log plot (constant pressure dimensionless rate solution) for the bilinear flow model combined with the time-dependent wellbore storage and cumulative-exponential skin effects for select values of s_∞-parameter.

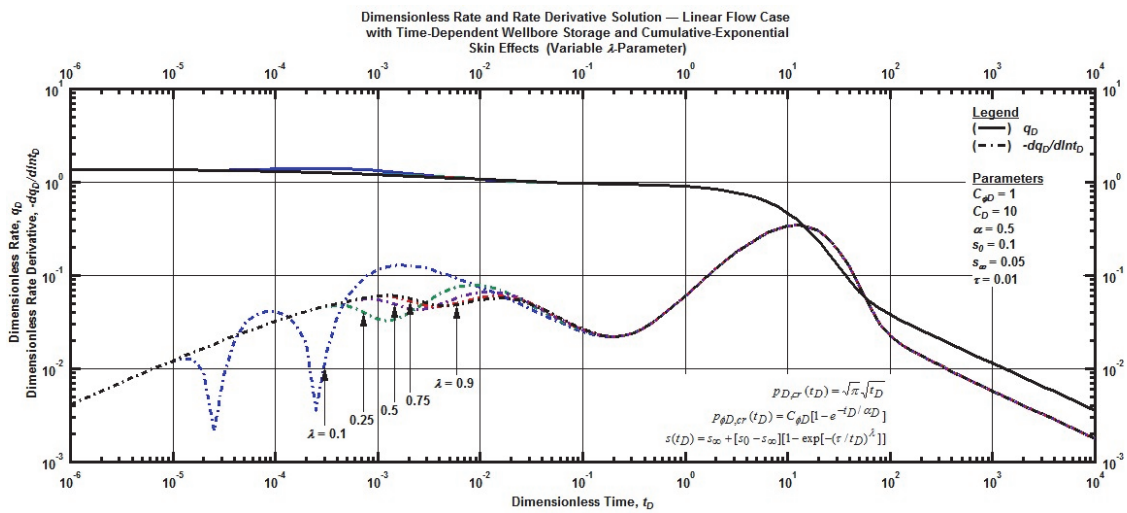

Figure F. 124 — Log-log plot (constant pressure dimensionless rate solution) for the bilinear flow model combined with the time-dependent wellbore storage and cumulative-exponential skin effects for select values of λ-parameter.

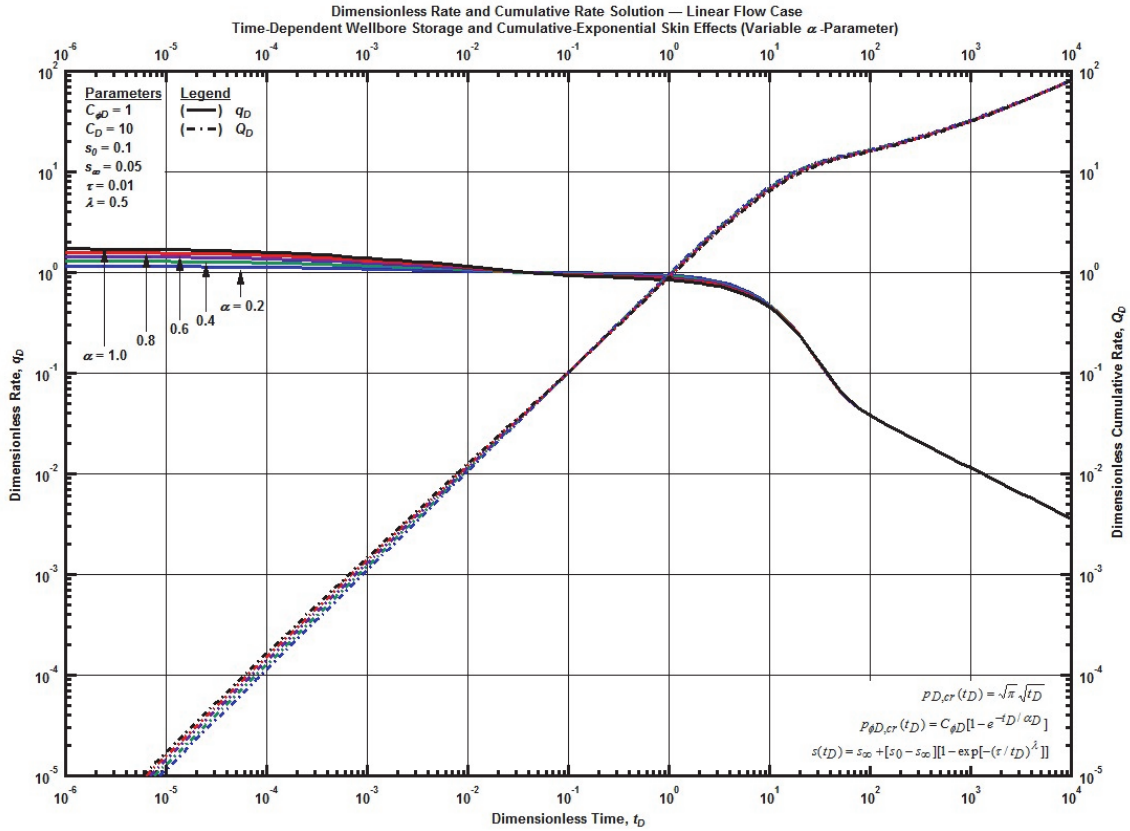

Figure F. 125 — Log-log plot (constant pressure dimensionless cumulative production solution) for the bilinear flow model combined with the time-dependent wellbore storage and cumulative-exponential skin effects for select values of α-parameter.

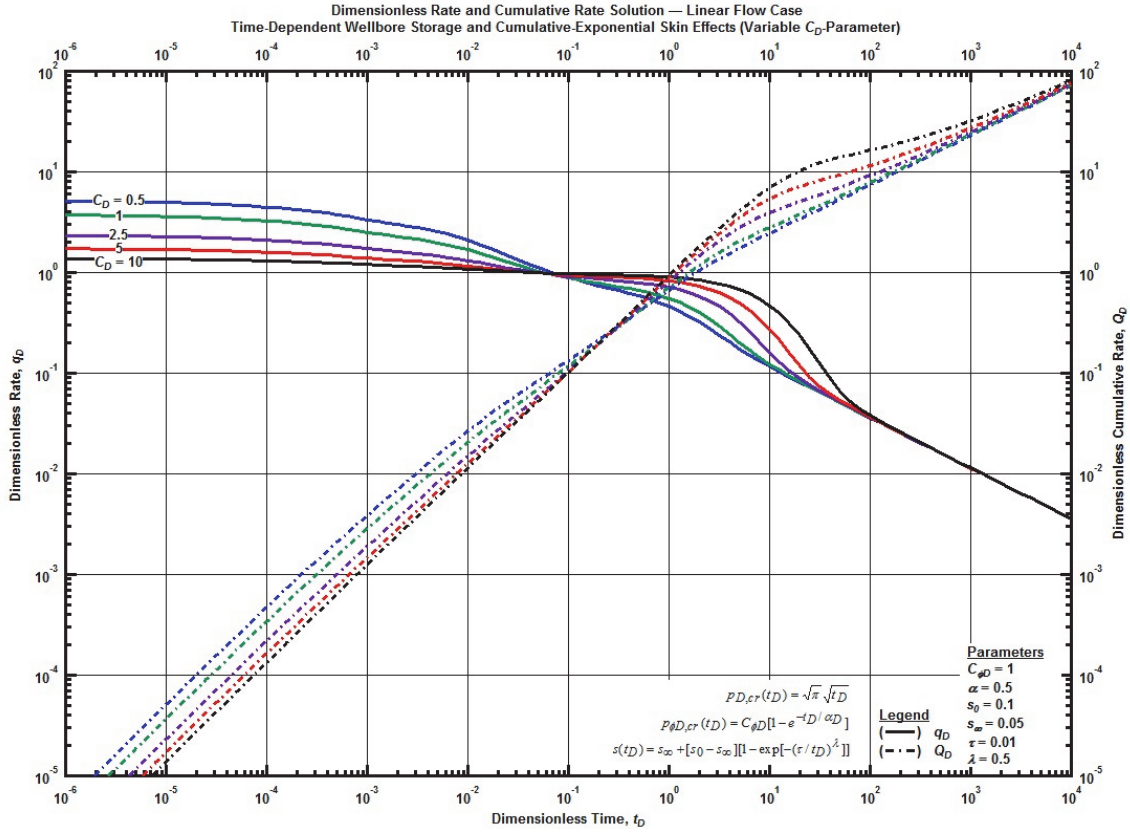

Figure F. 126 — Log-log plot (constant pressure dimensionless cumulative production solution) for the bilinear flow model combined with the time-dependent wellbore storage and cumulative-exponential skin effects for select values of the dimensionless wellbore storage constant.

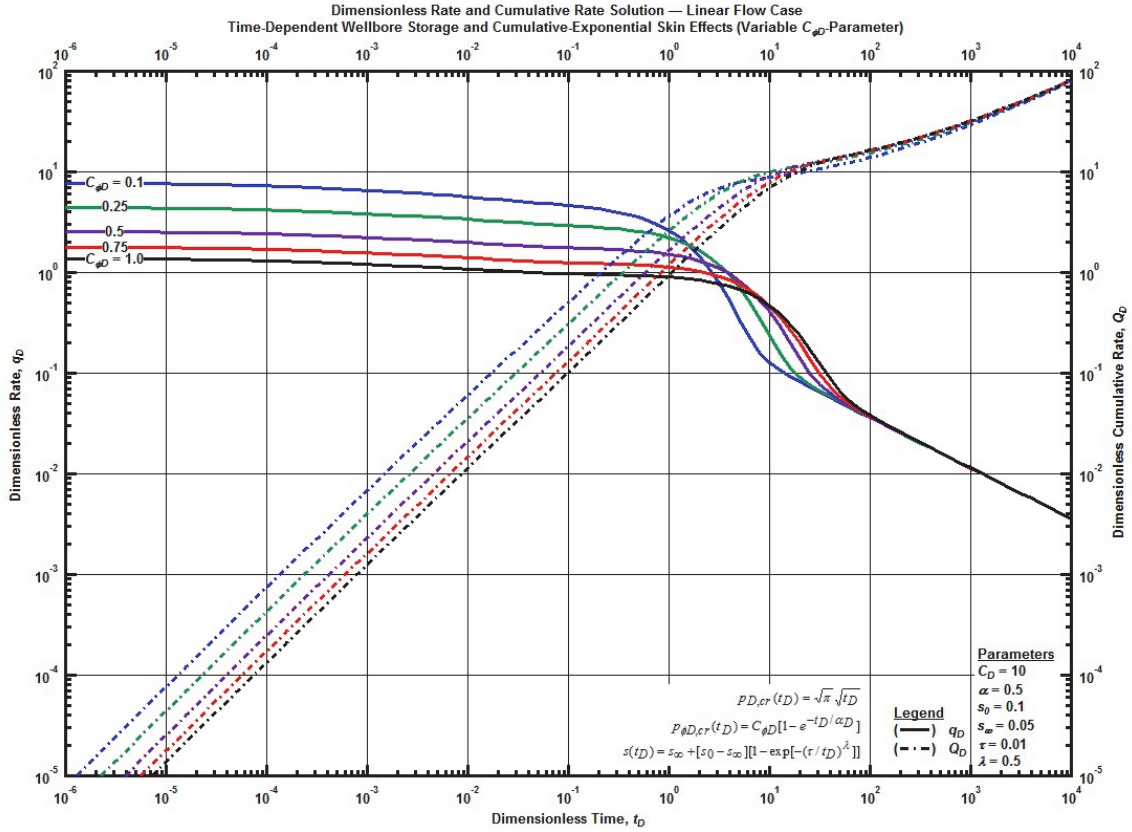

Figure F. 127 — Log-log plot (constant pressure dimensionless cumulative production solution) for the bilinear flow model combined with the time-dependent wellbore storage and cumulative-exponential skin effects for select values phase redistribution constant.

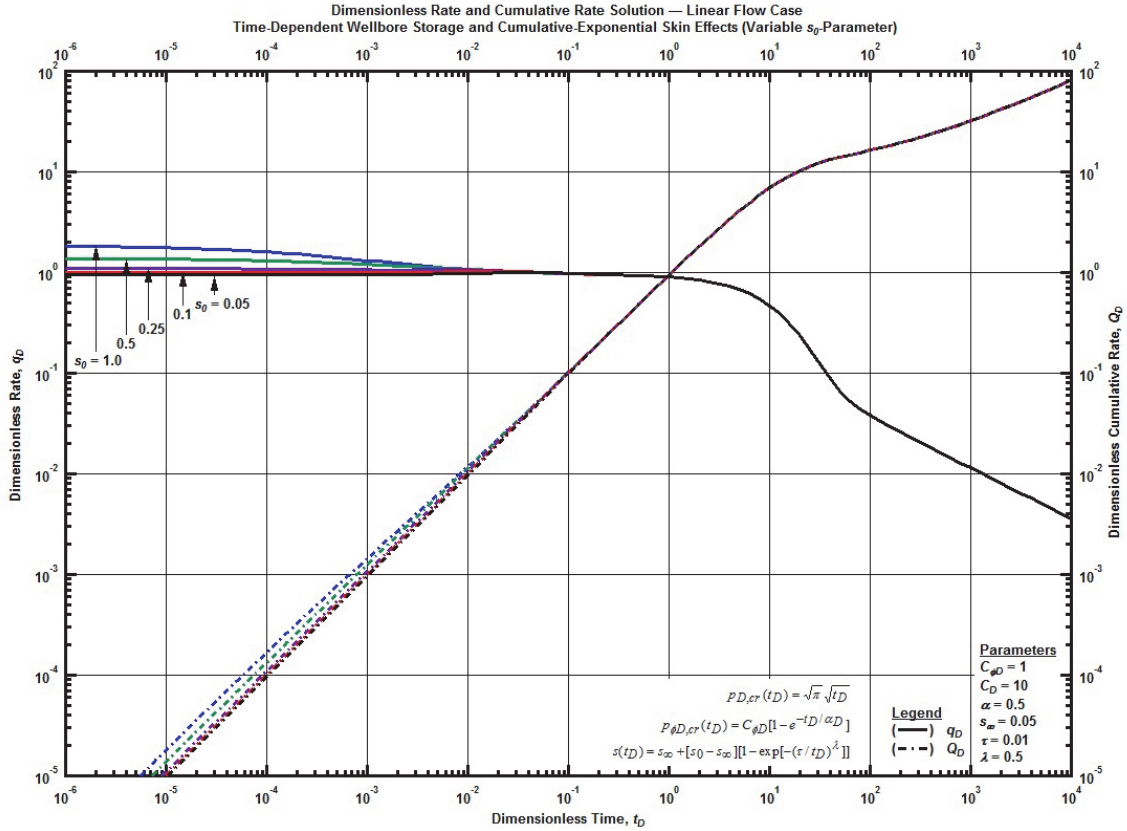

Figure F. 128 — Log-log plot (constant pressure dimensionless cumulative production solution) for the bilinear flow model combined with the time-dependent wellbore storage and cumulative-exponential skin effects for select values of s_0-parameter.

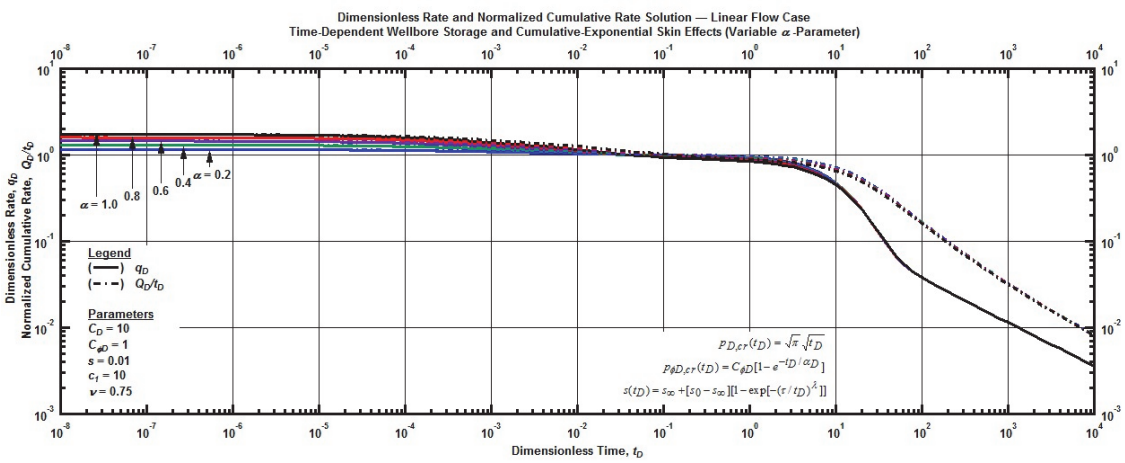

Figure F. 129 — Log-log plot (constant pressure dimensionless cumulative production solution) for the bilinear flow model combined with the time-dependent wellbore storage and cumulative-exponential skin effects for select values of α-parameter.

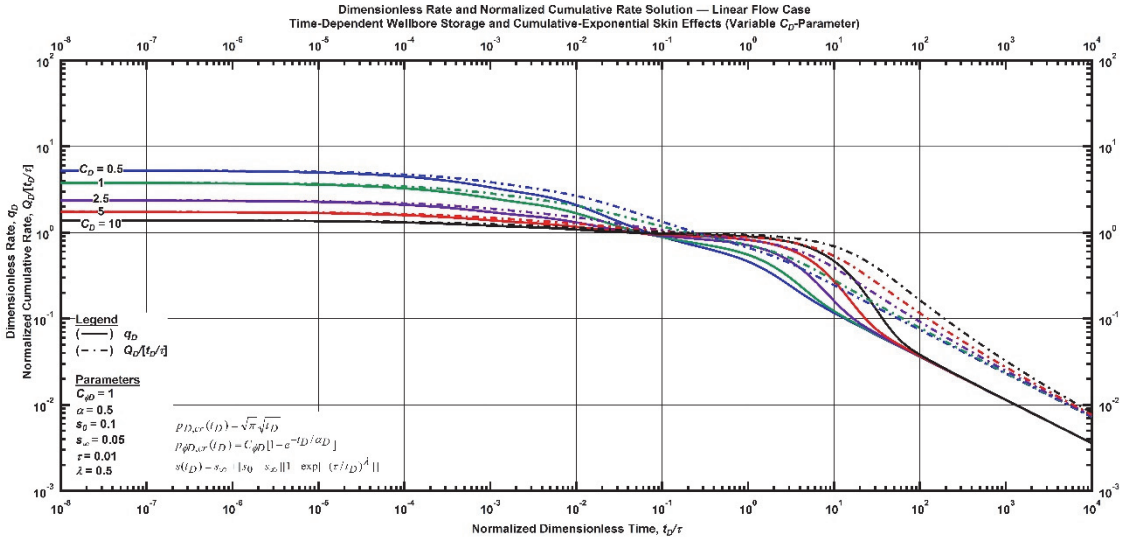

Figure F. 130 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the bilinear flow model combined with the time-dependent wellbore storage and cumulative-exponential skin effects for select values of the dimensionless wellbore storage constant.

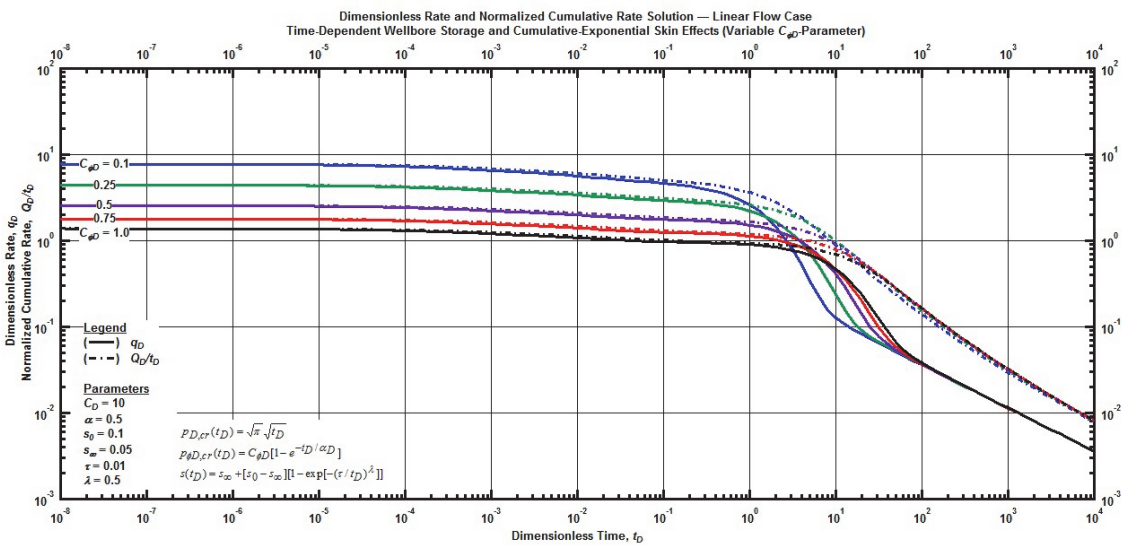

Figure F. 131 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the bilinear flow model combined with the time-dependent wellbore storage and cumulative-exponential skin effects for select values phase redistribution constant.

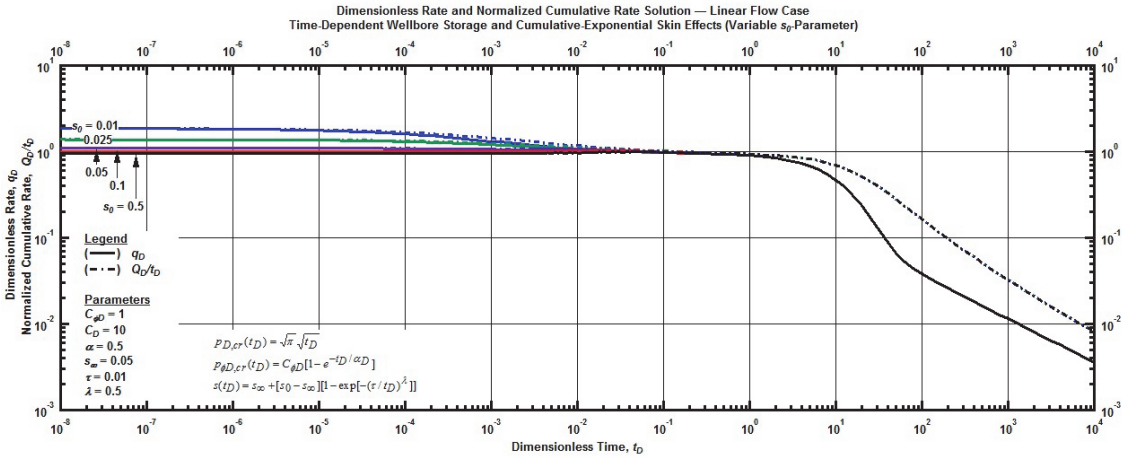

Figure F. 132 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the bilinear flow model combined with the time-dependent wellbore storage and cumulative-exponential skin effects for select values of s_0-parameter.

F.3 Bilinear Flow Relation

Bilinear Flow Relation with Cumulative-Exponential Time-Dependent Skin

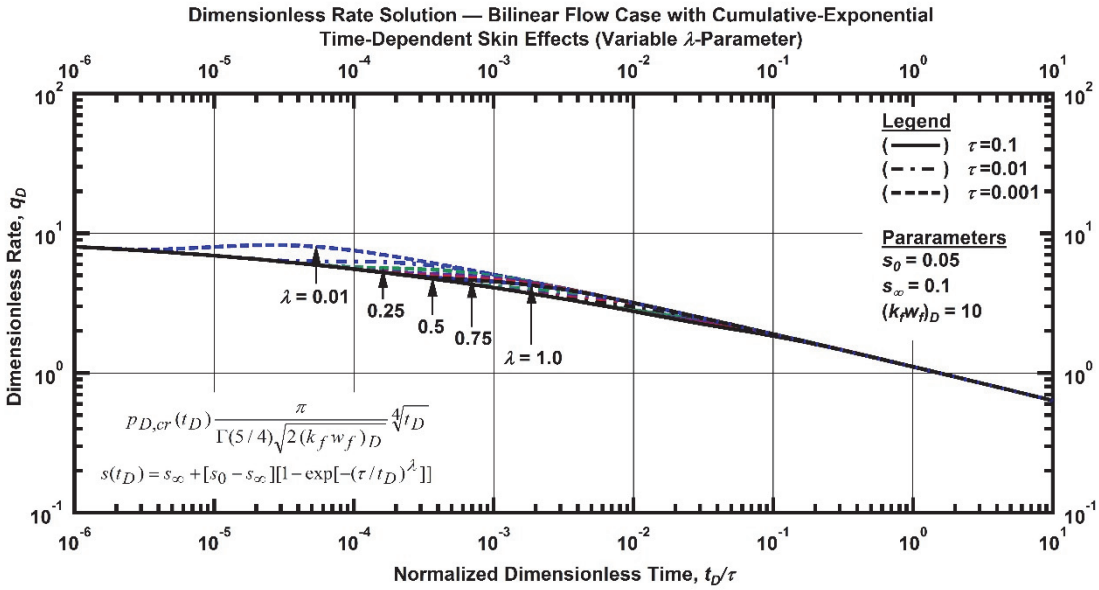

Figure F. 133 — Log-log plot (constant pressure dimensionless rate solution) for the bilinear flow model combined with the cumulative-exponential time-dependent for select values of λ-parameter.

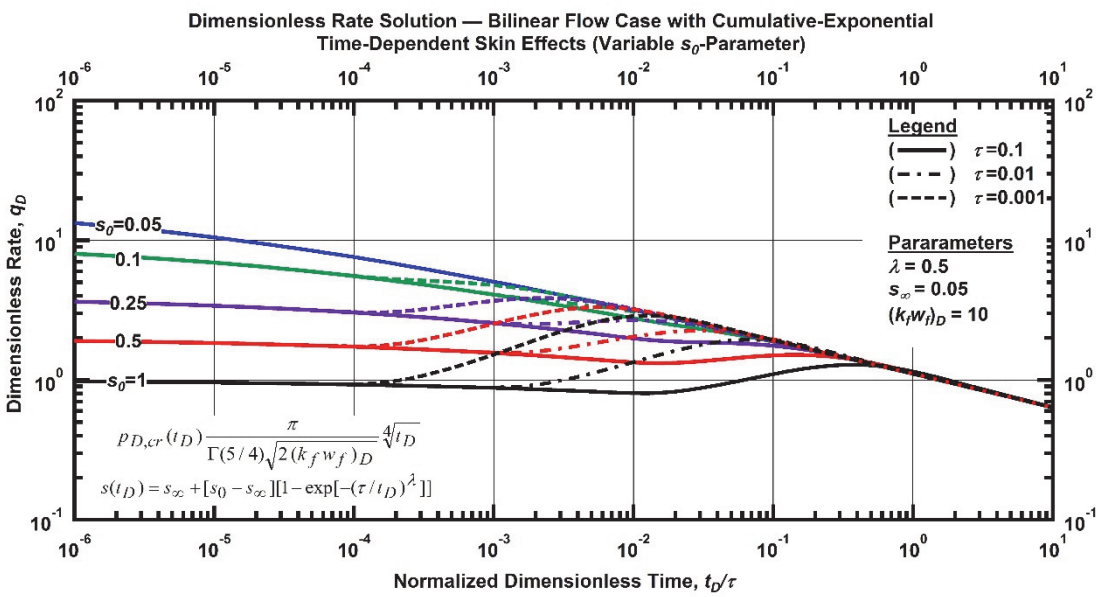

Figure F. 134 — Log-log plot (constant pressure dimensionless rate solution) for the bilinear flow model combined with the cumulative-exponential time-dependent for select values of s_0-parameter.

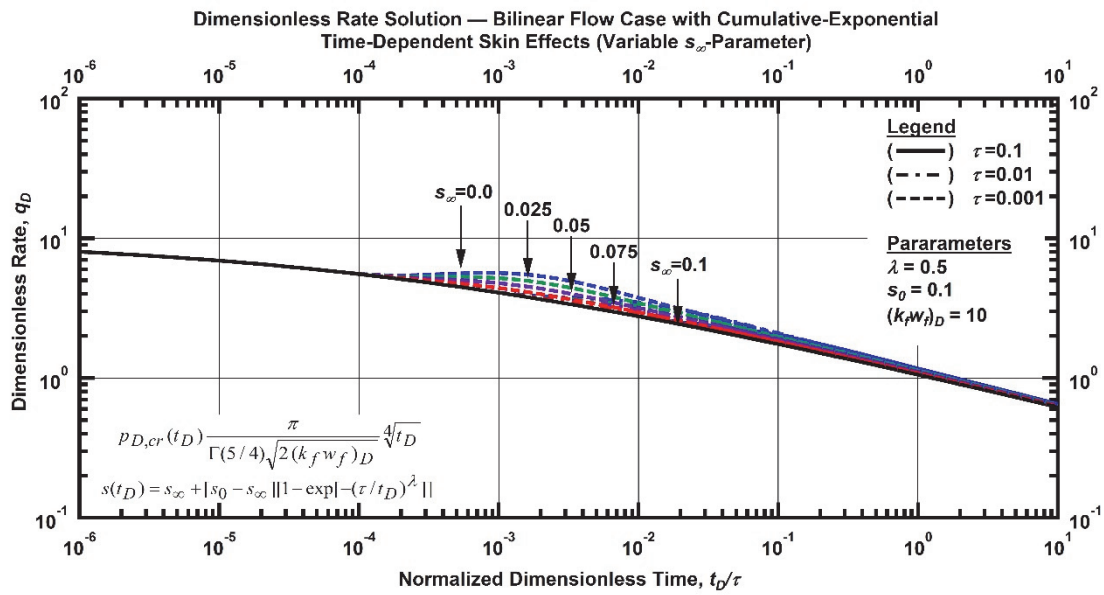

Figure F. 135 — Log-log plot (constant pressure dimensionless rate solution) for the bilinear flow model combined with the cumulative-exponential time-dependent for select values of s_∞-parameter.

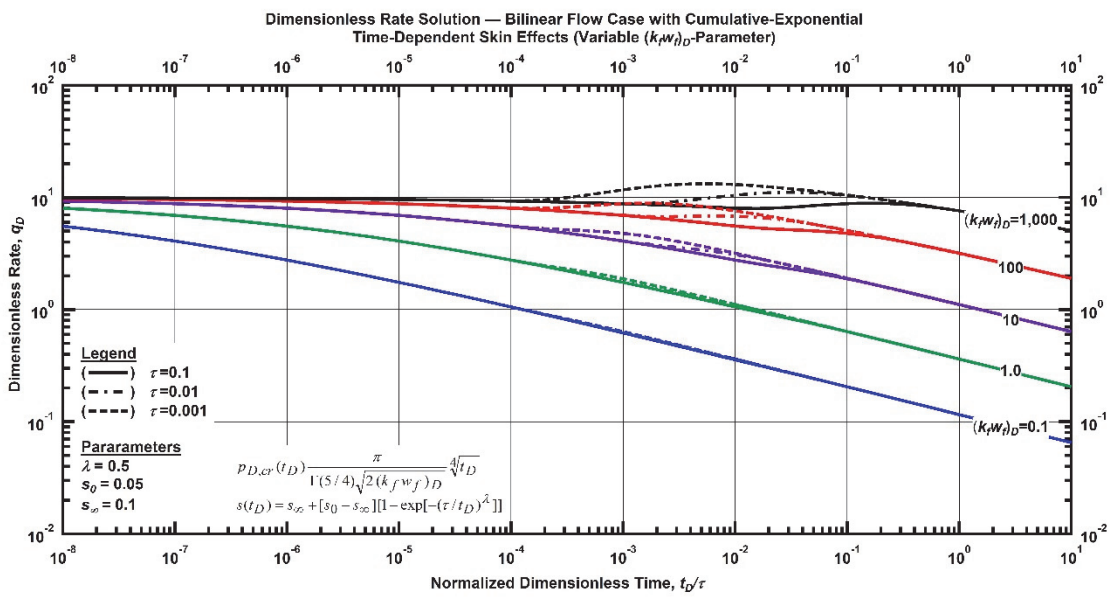

Figure F. 136 — Log-log plot (constant pressure dimensionless rate solution) for the bilinear flow model combined with the cumulative-exponential time-dependent for select values of dimensionless fracture conductivity.

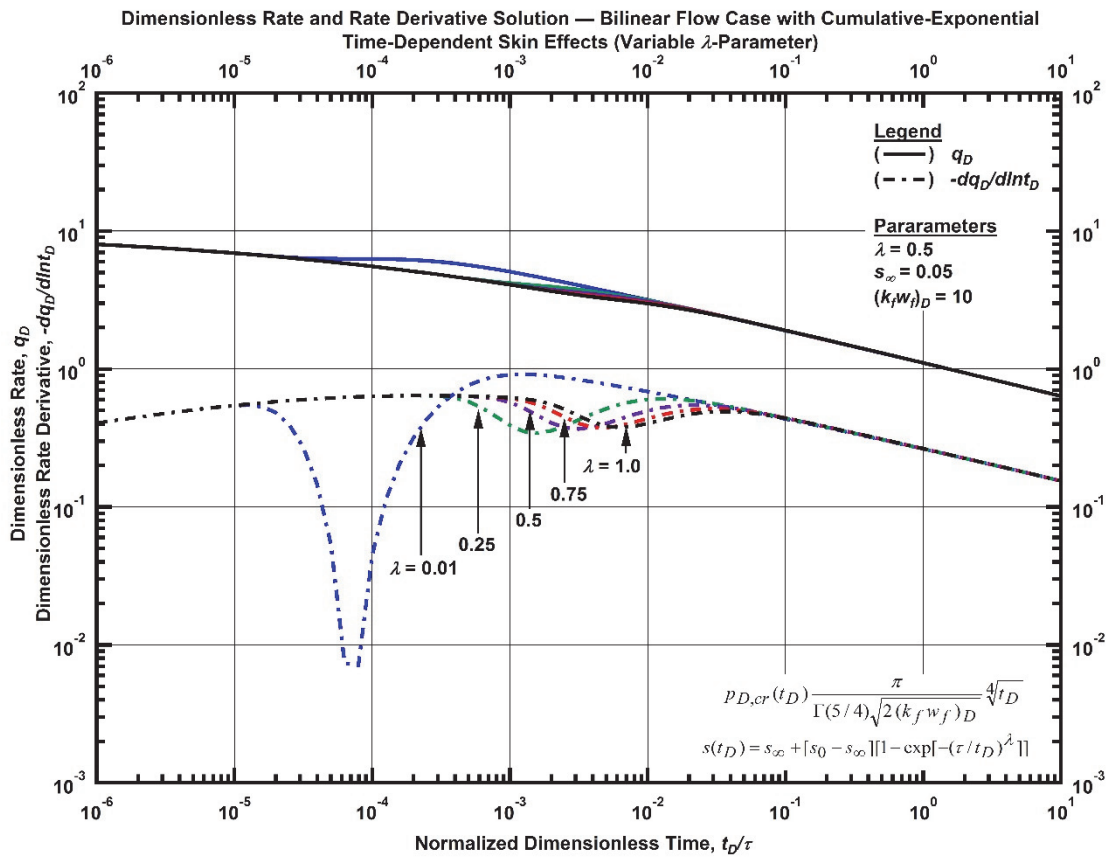

Figure F. 137 — Log-log plot (constant pressure dimensionless rate derivative solution) for the bilinear flow model combined with the cumulative-exponential time-dependent for select values of λ-parameter.

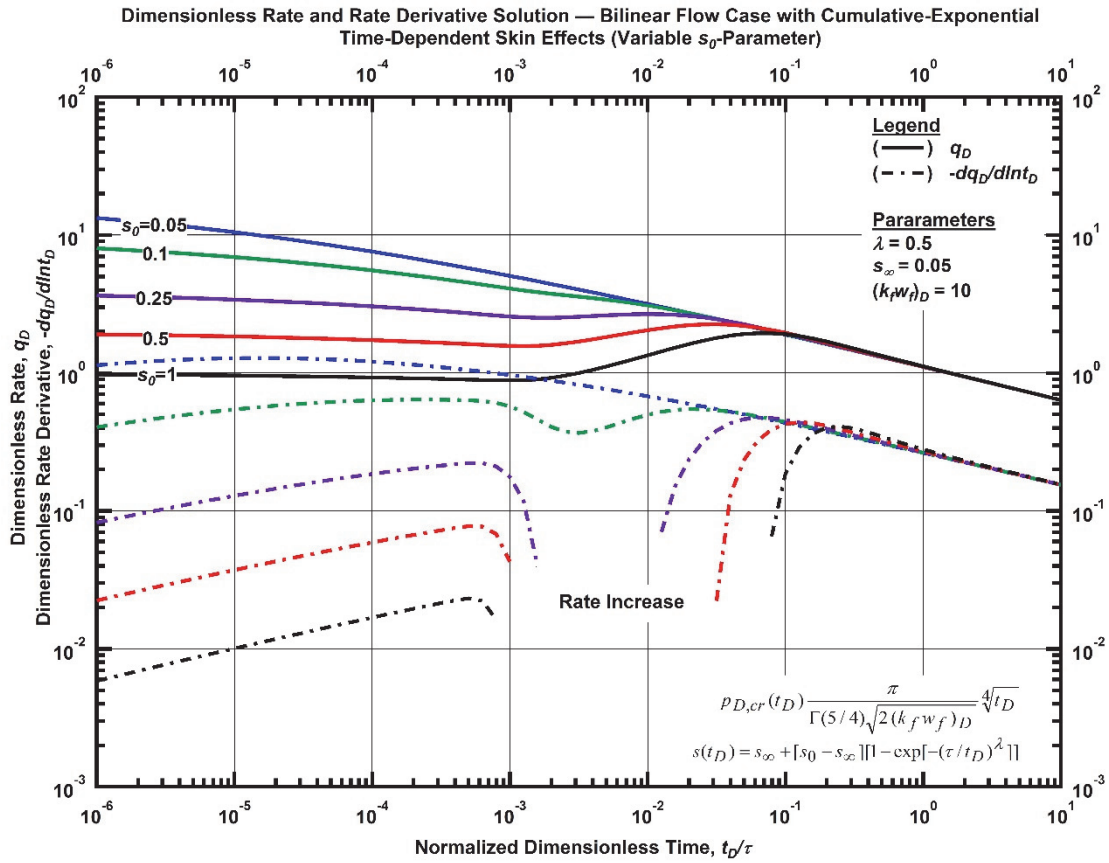

Figure F. 138 — Log-log plot (constant pressure dimensionless rate derivative solution) for the bilinear flow model combined with the cumulative-exponential time-dependent for select values of s_0-parameter.

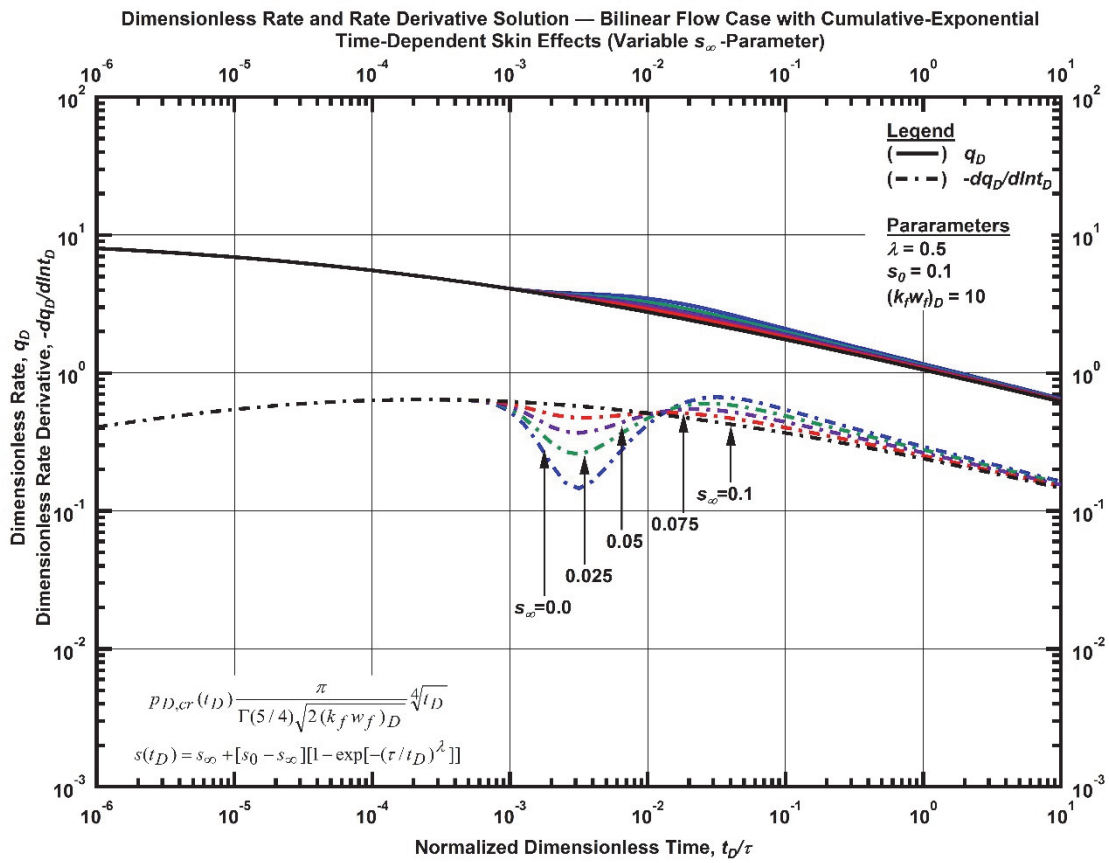

Figure F. 139 — Log-log plot (constant pressure dimensionless rate derivative solution) for the bilinear flow model combined with the cumulative-exponential time-dependent for select values of s_∞-parameter.

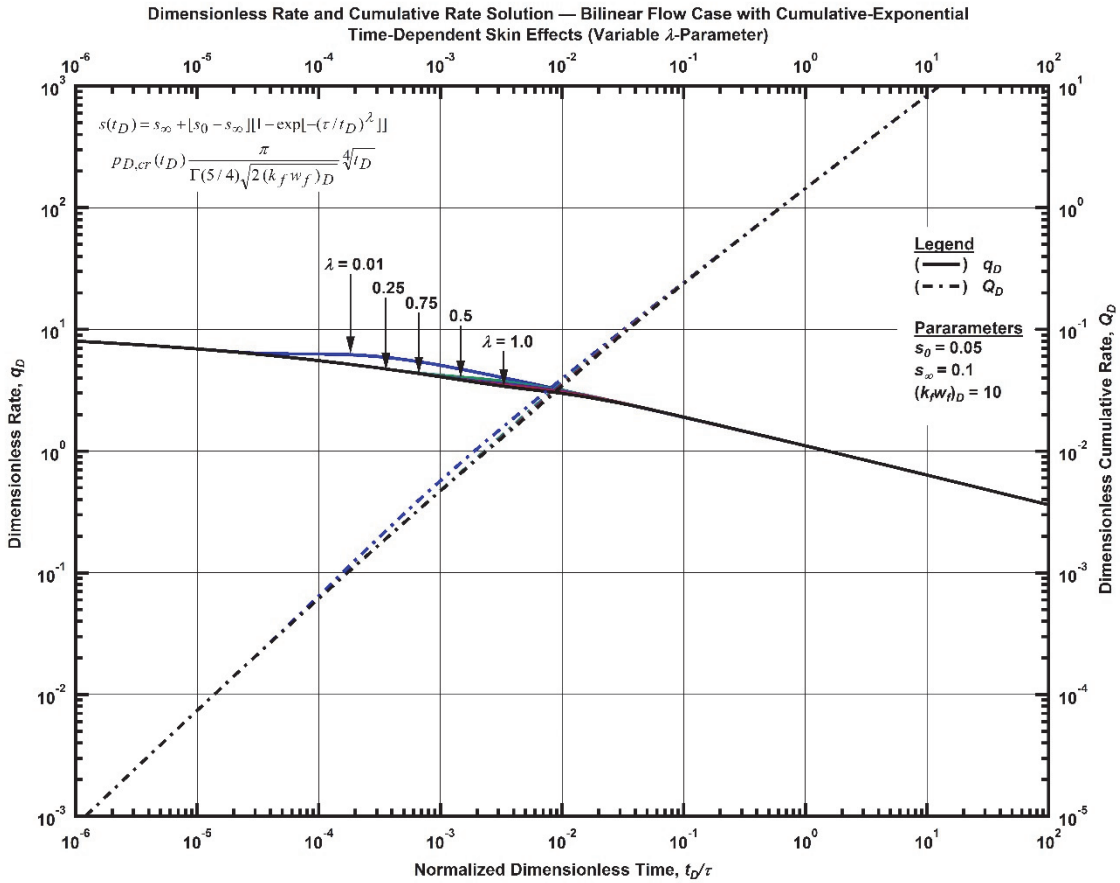

Figure F. 140 — Log-log plot (constant pressure dimensionless cumulative production solution) for the bilinear flow model combined with the cumulative-exponential time-dependent for select values of λ-parameter.

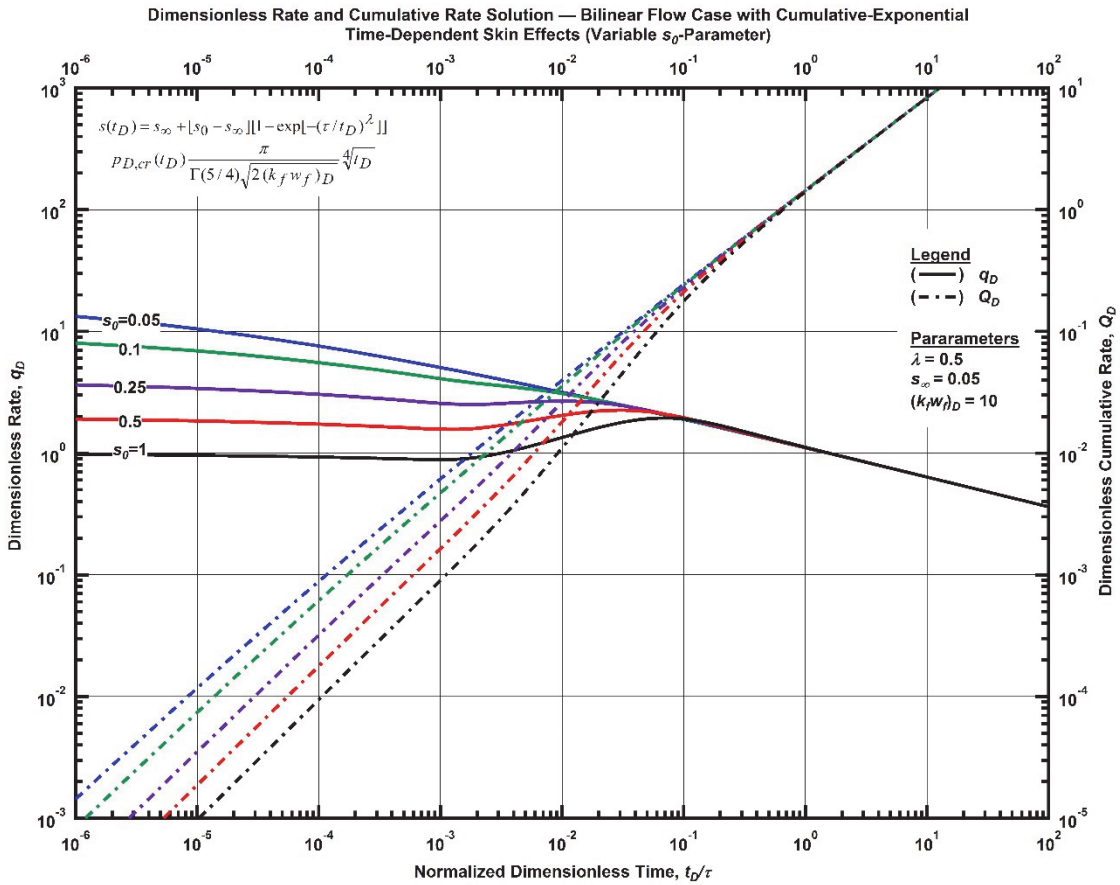

Figure F. 141 — Log-log plot (constant pressure dimensionless cumulative production solution) for the bilinear flow model combined with the cumulative-exponential time-dependent for select values of s_0-parameter.

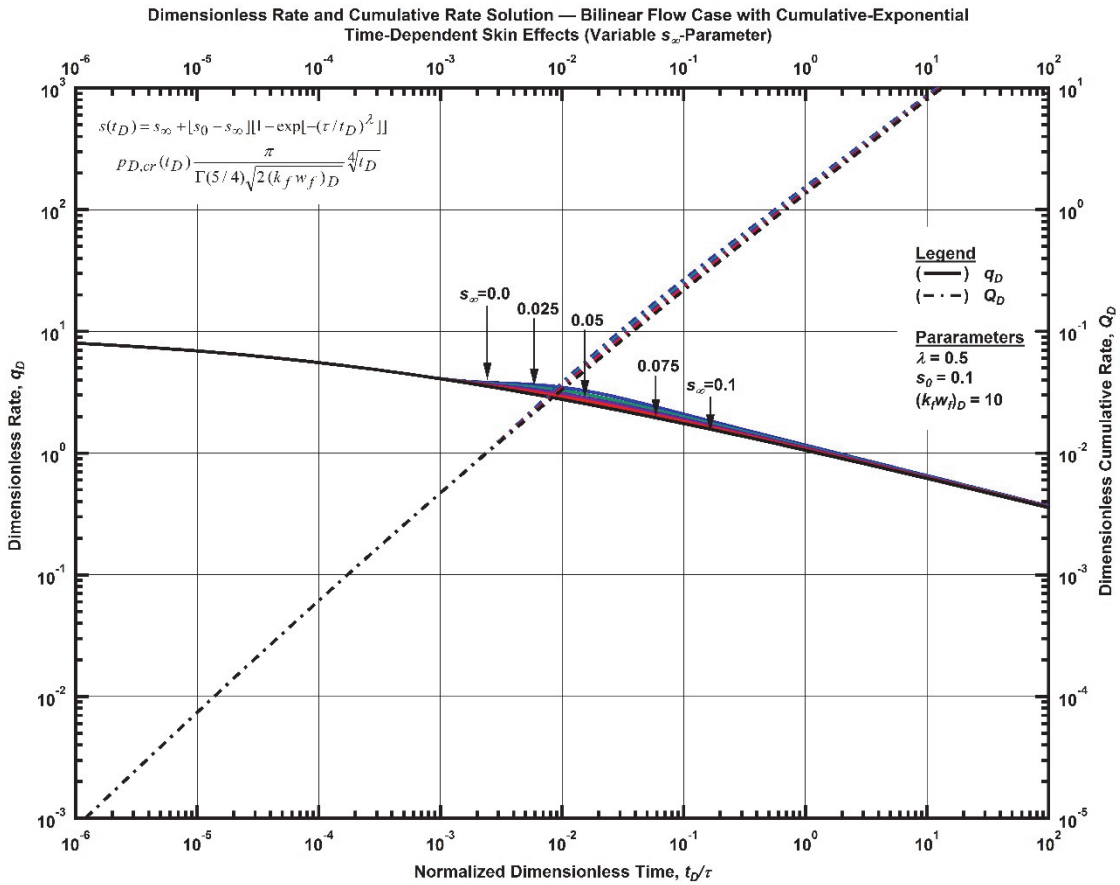

Figure F. 142 — Log-log plot (constant pressure dimensionless cumulative production solution) for the bilinear flow model combined with the cumulative-exponential time-dependent for select values of s_∞-parameter.

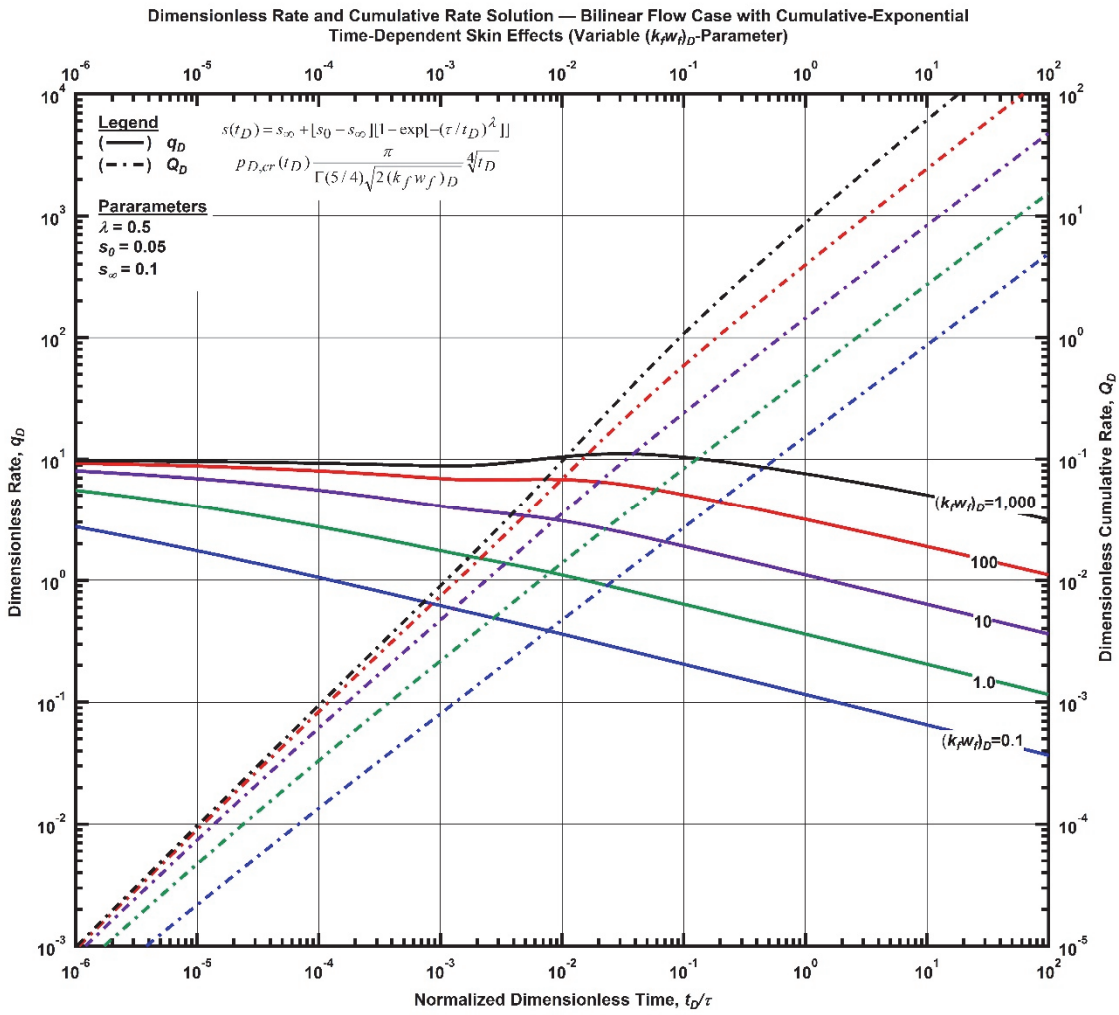

Figure F. 143 — Log-log plot (constant pressure dimensionless cumulative production solution) for the bilinear flow model combined with the cumulative-exponential time-dependent for select values of dimensionless fracture conductivity.

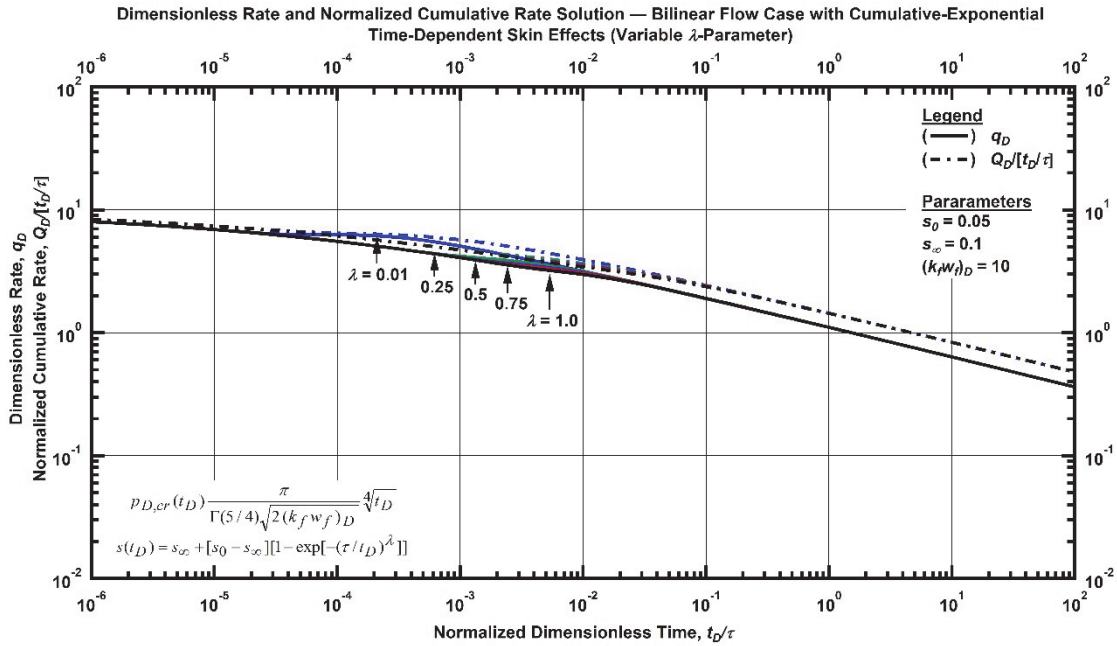

Figure F. 144 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the bilinear flow model combined with the cumulative-exponential time-dependent for select values of λ-parameter.

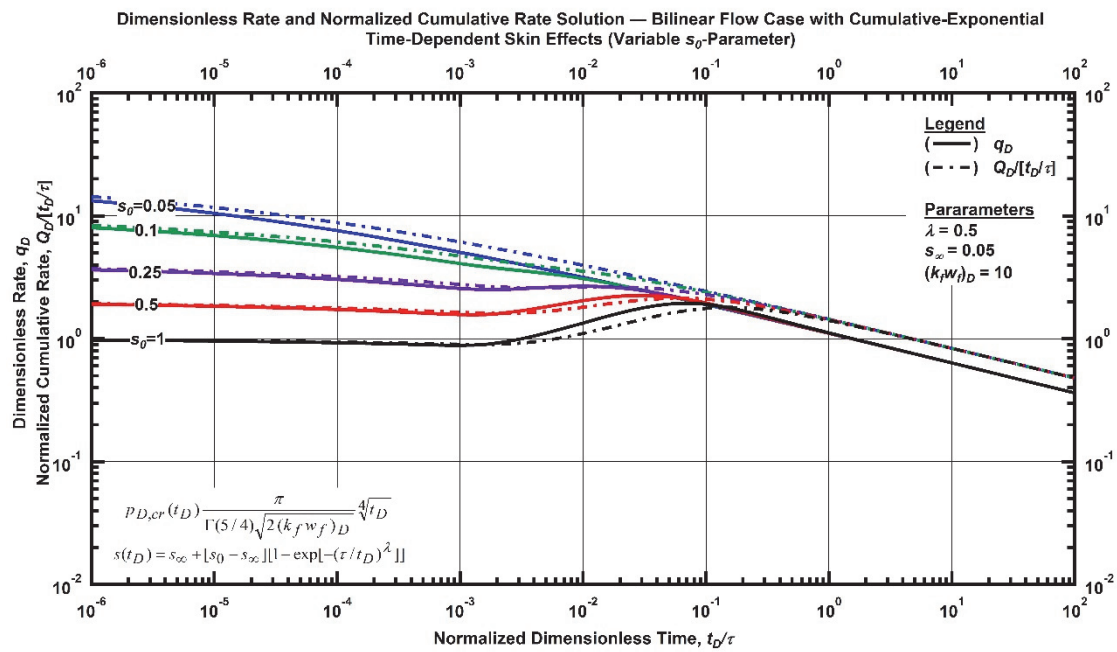

Figure F. 145 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the bilinear flow model combined with the cumulative-exponential time-dependent for select values of s_0-parameter.

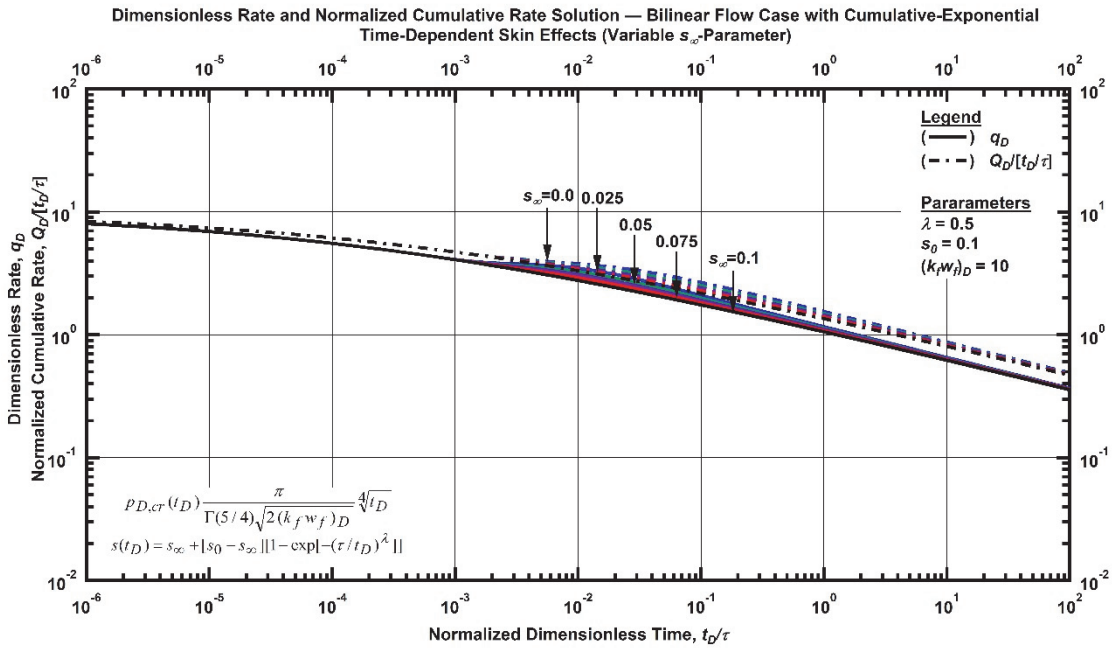

Figure F. 146 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the bilinear flow model combined with the cumulative-exponential time-dependent for select values of s_∞-parameter.

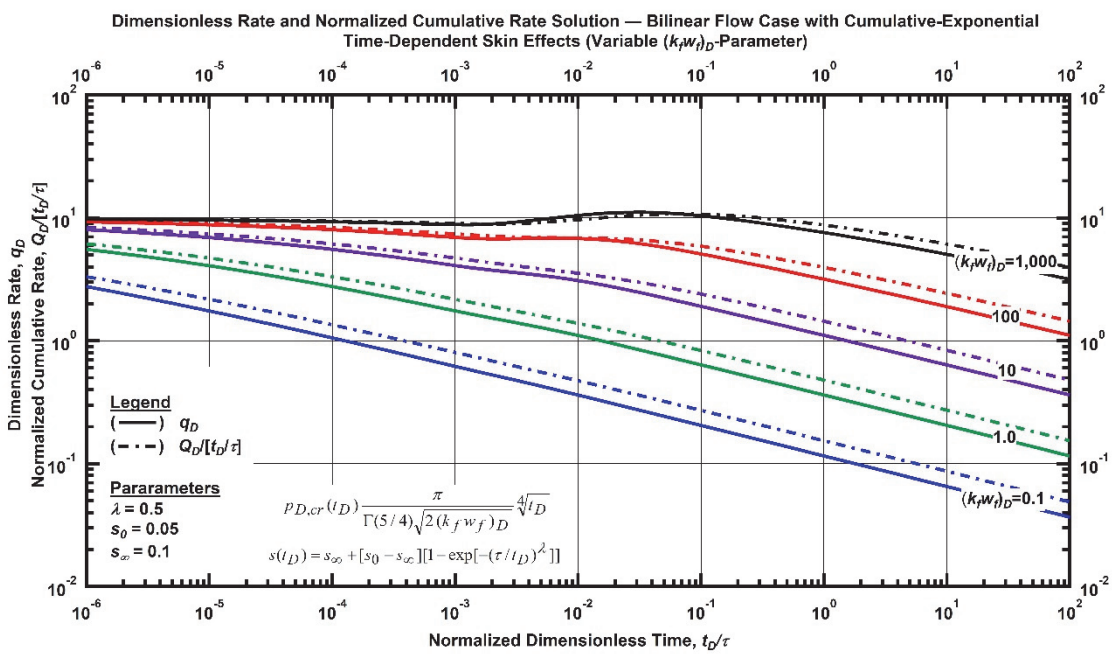

Figure F. 147 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the bilinear flow model combined with the cumulative-exponential time-dependent for select values of dimensionless fracture conductivity.

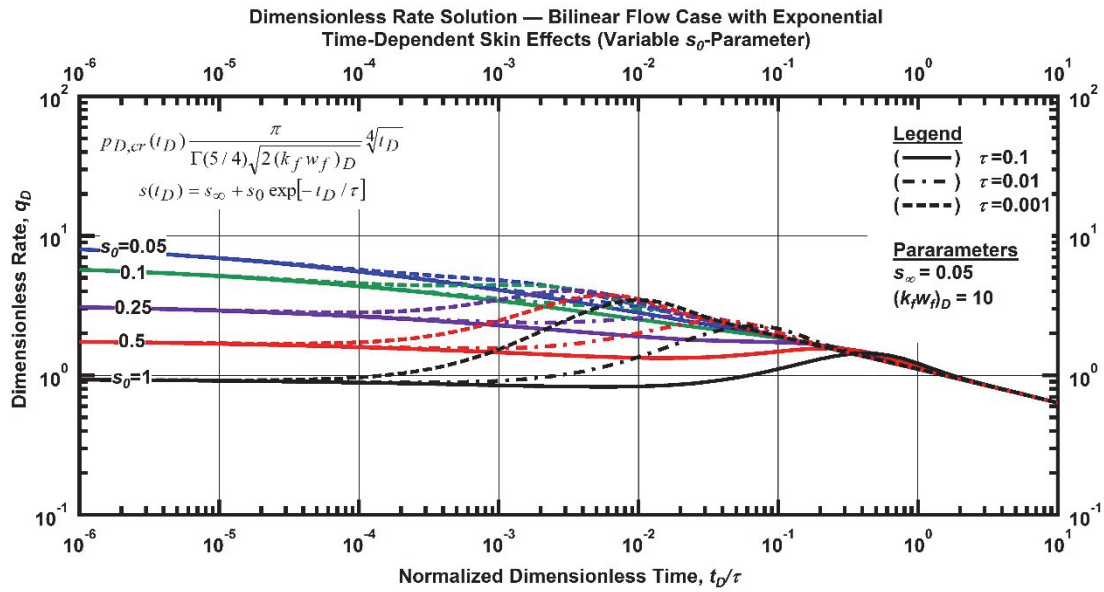

Figure F. 148 — Log-log plot (constant pressure dimensionless rate solution) for the bilinear flow model combined with the exponential time-dependent for select values of s_0-parameter.

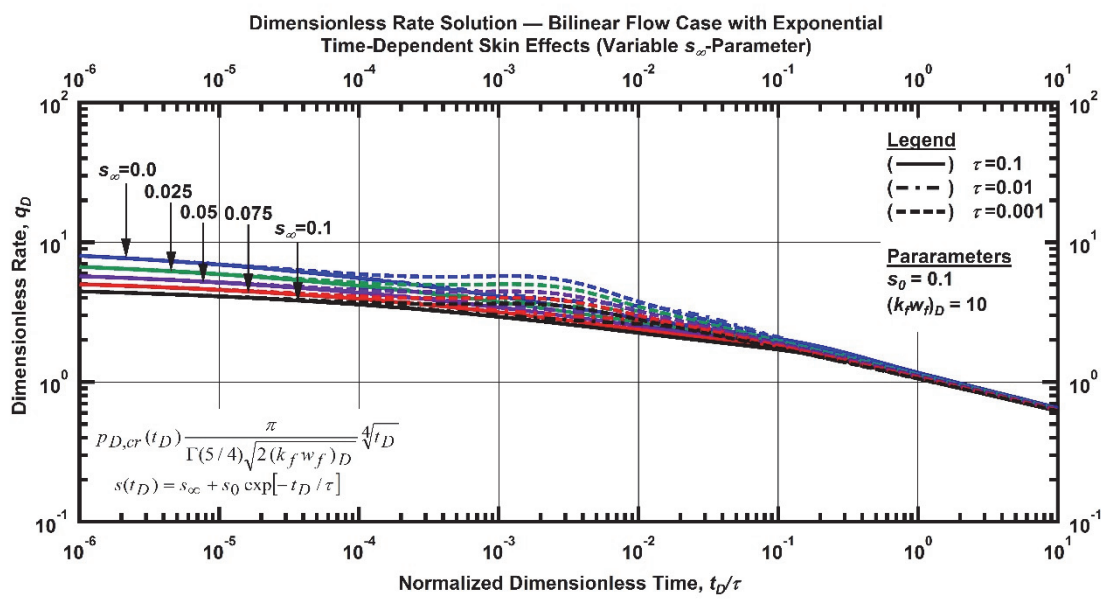

Figure F. 149 — Log-log plot (constant pressure dimensionless rate solution) for the bilinear flow model combined with the exponential time-dependent for select values of s_∞-parameter.

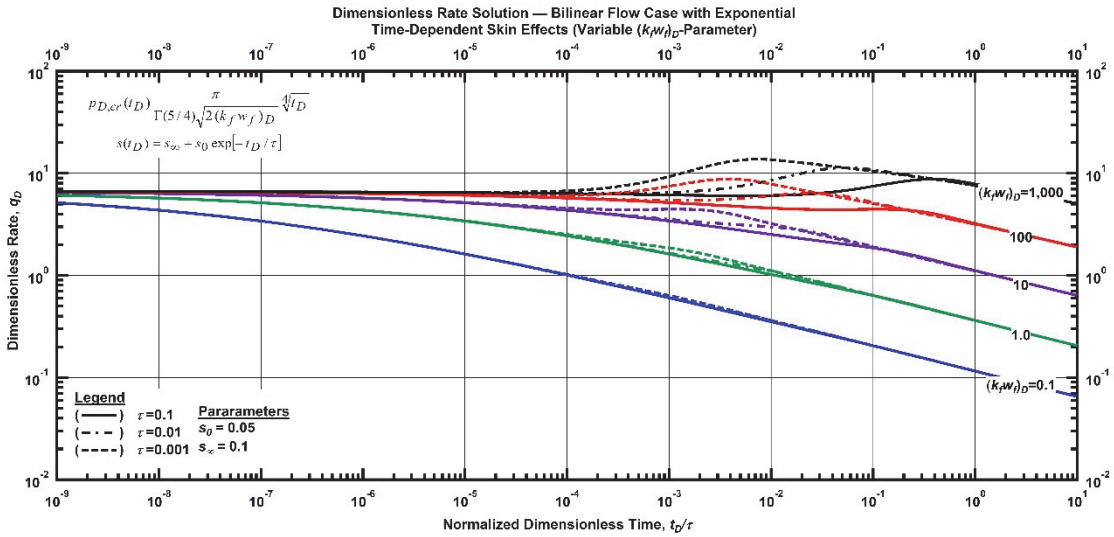

Figure F. 150 — Log-log plot (constant pressure dimensionless rate solution) for the bilinear flow model combined with the exponential time-dependent for select values of dimensionless fracture conductivity.

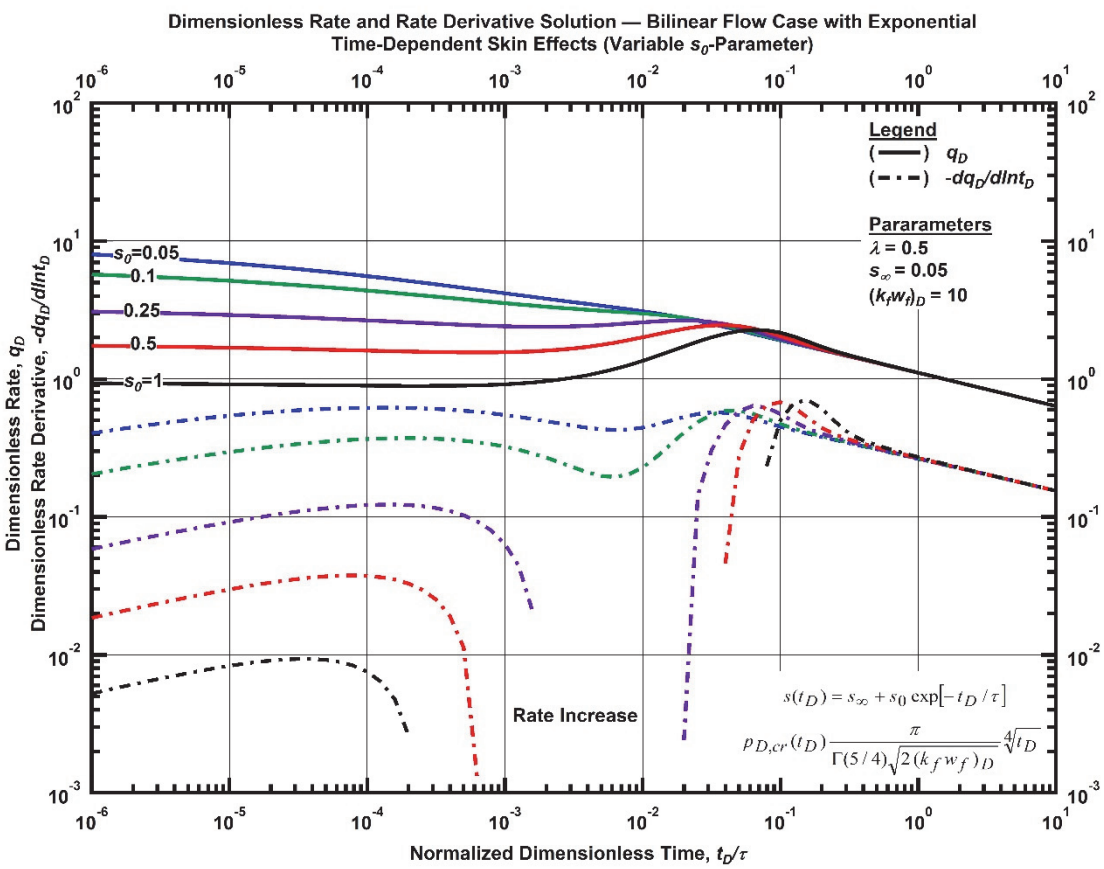

Figure F. 151 — Log-log plot (constant pressure dimensionless rate derivative solution) for the bilinear flow model combined with the exponential time-dependent for select values of s_0-parameter.

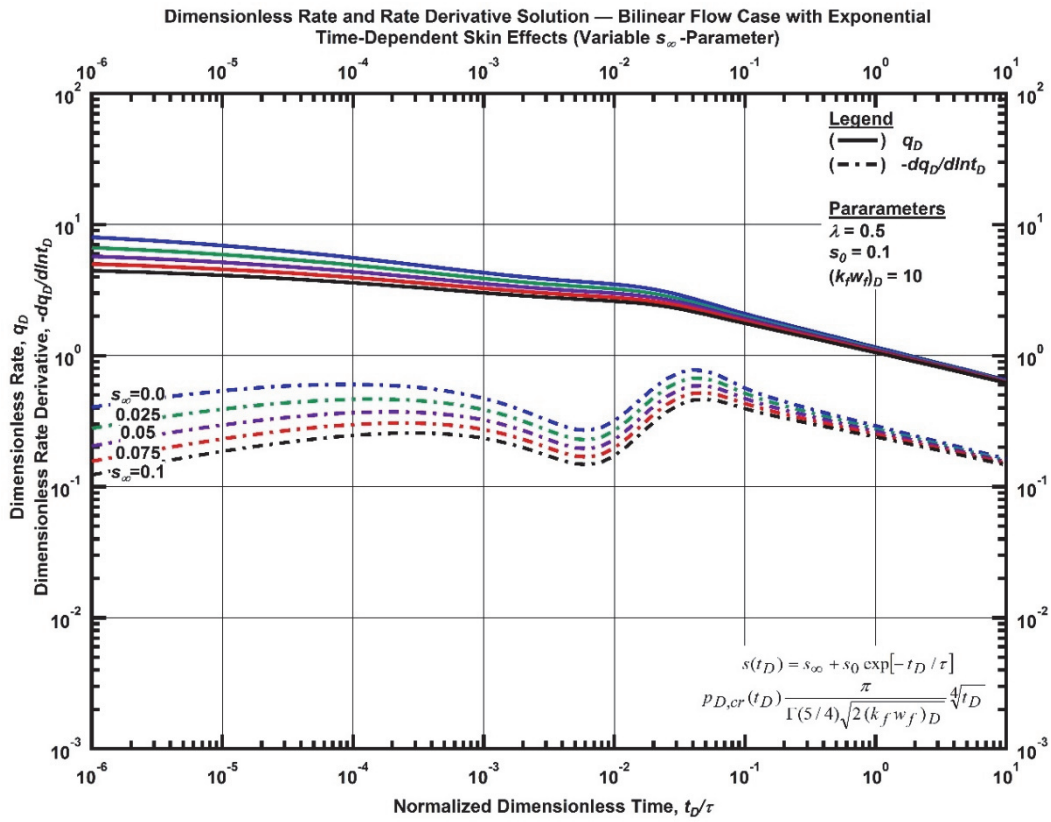

Figure F. 152 — Log-log plot (constant pressure dimensionless rate derivative solution) for the bilinear flow model combined with the exponential time-dependent for select values of s_∞-parameter.

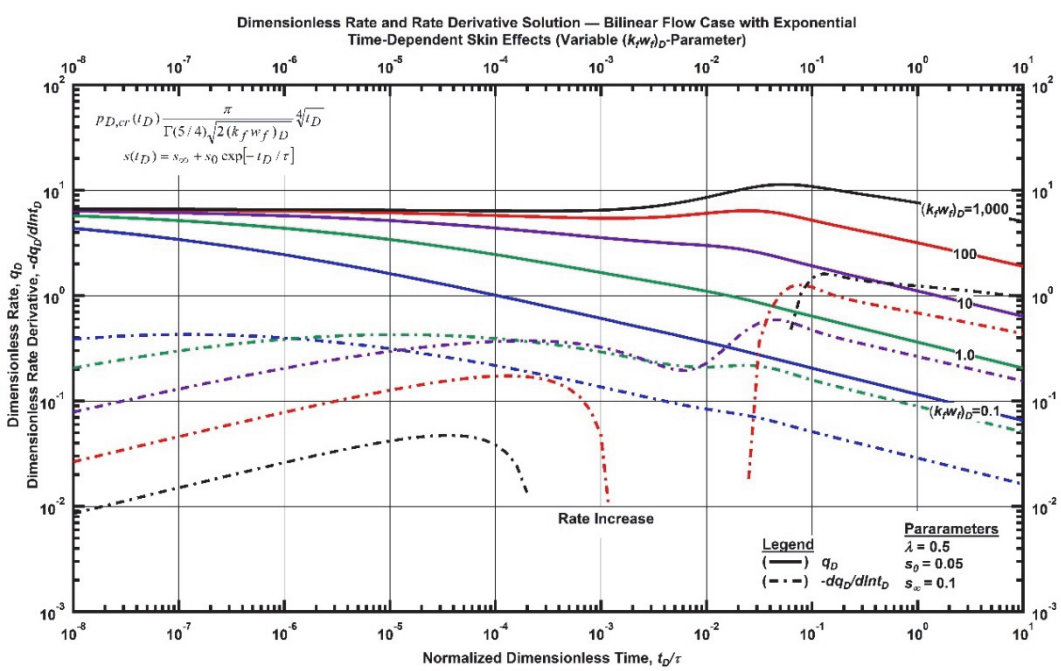

Figure F. 153 — Log-log plot (constant pressure dimensionless rate derivative solution) for the bilinear flow model combined with the exponential time-dependent for select values of dimensionless fracture conductivity.

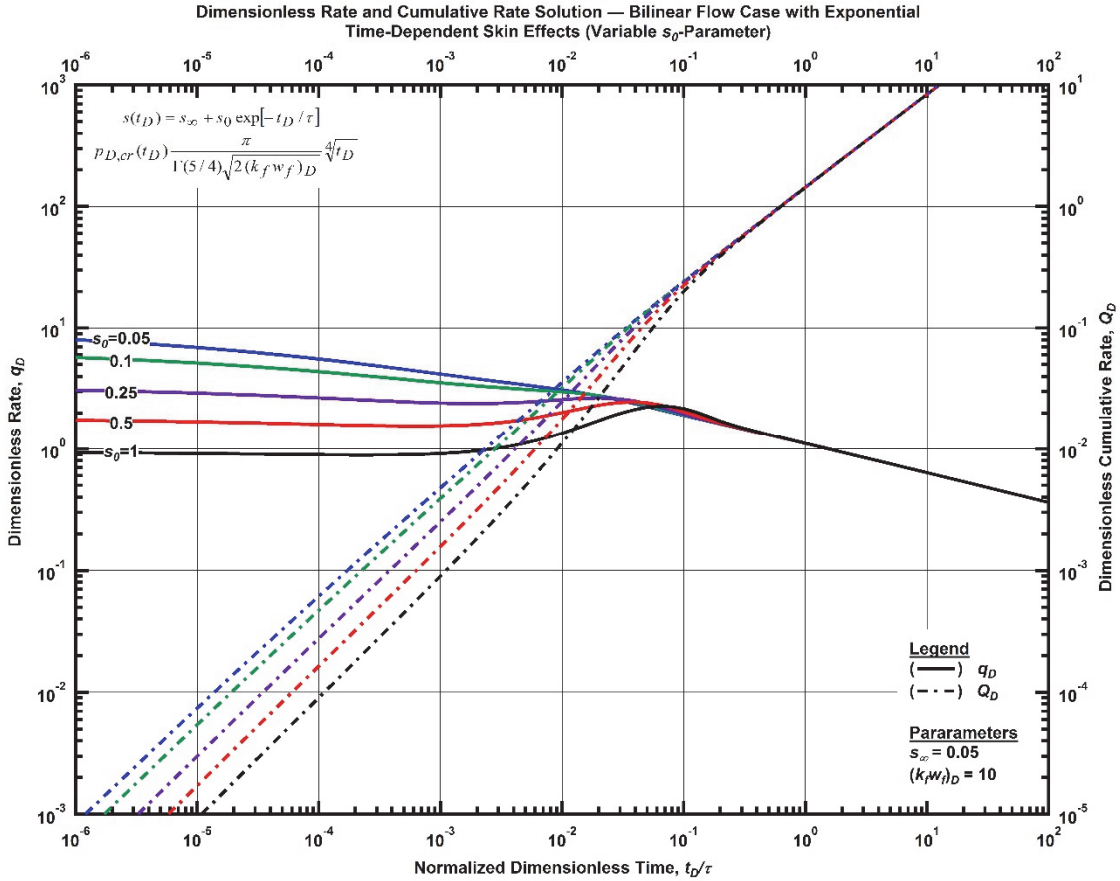

Figure F. 154 — Log-log plot (constant pressure dimensionless cumulative production solution) for the bilinear flow model combined with the exponential time-dependent for select values of s_0-parameter.

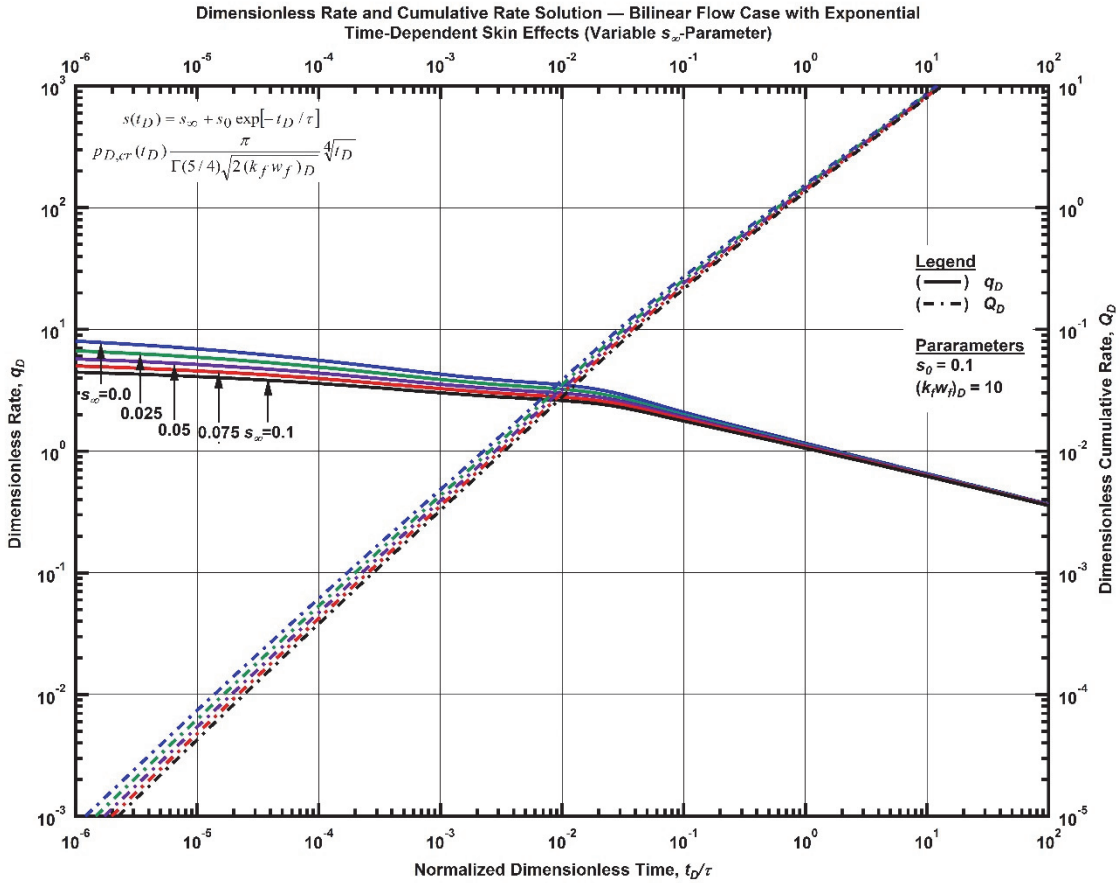

Figure F. 155 — Log-log plot (constant pressure dimensionless cumulative production solution) for the bilinear flow model combined with the exponential time-dependent for select values of s_∞-parameter.

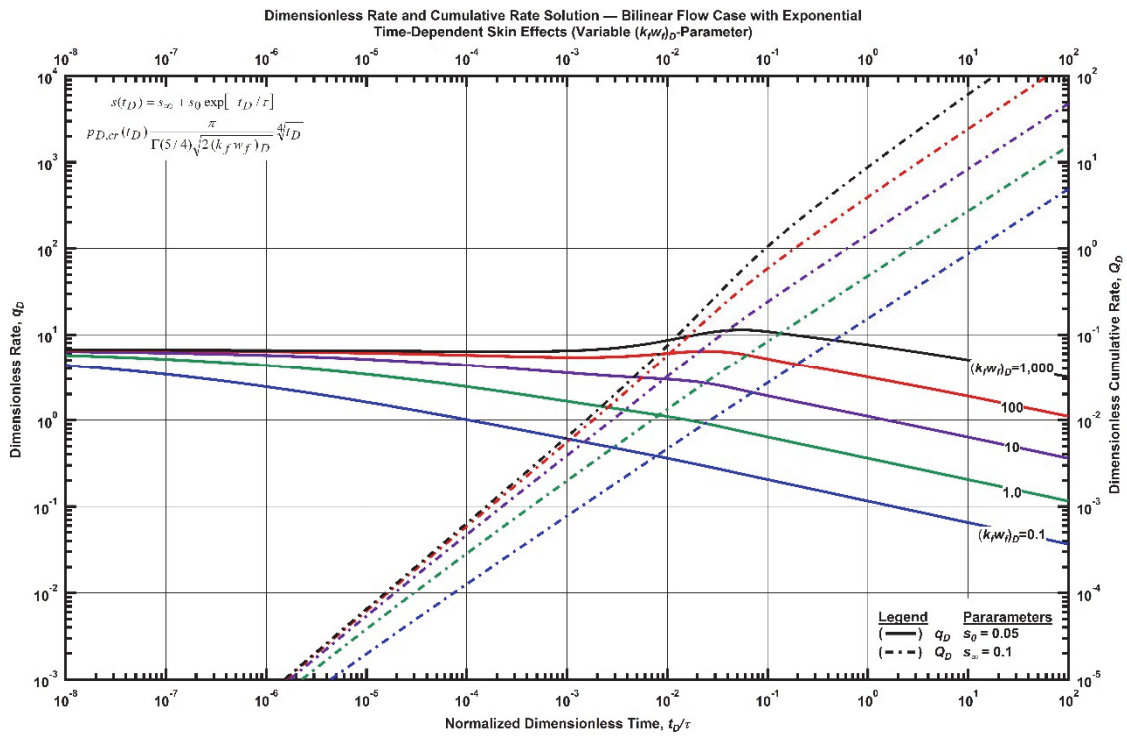

Figure F. 156 — Log-log plot (constant pressure dimensionless cumulative production solution) for the bilinear flow model combined with the exponential time-dependent for select values of dimensionless fracture conductivity.

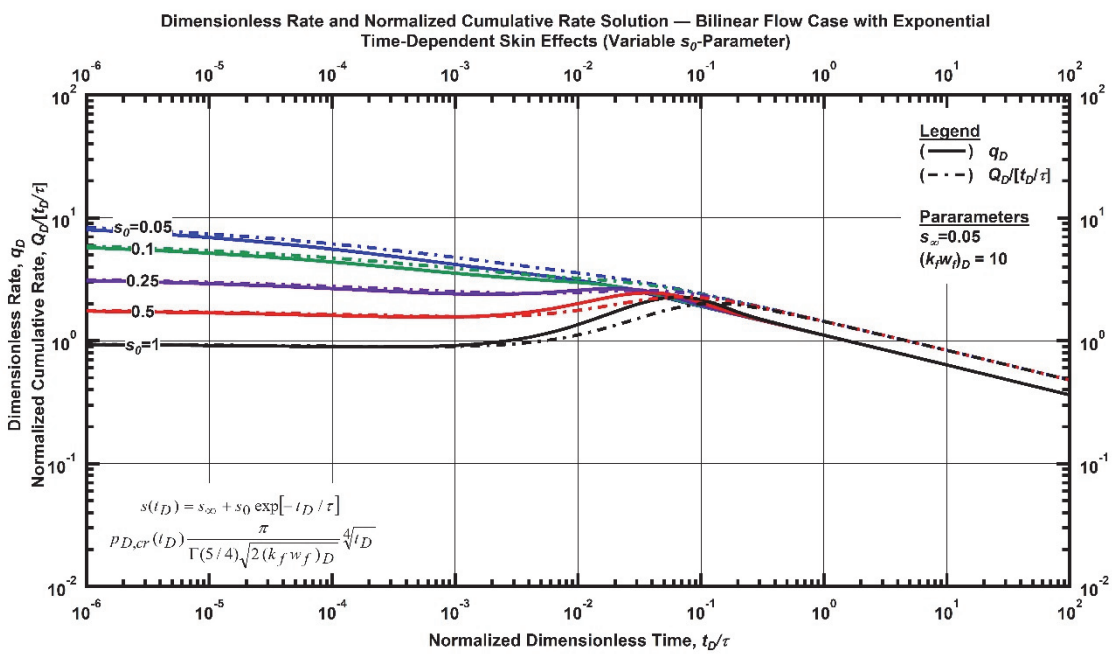

Figure F. 157 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the bilinear flow model combined with the exponential time-dependent for select values of s_0-parameter.

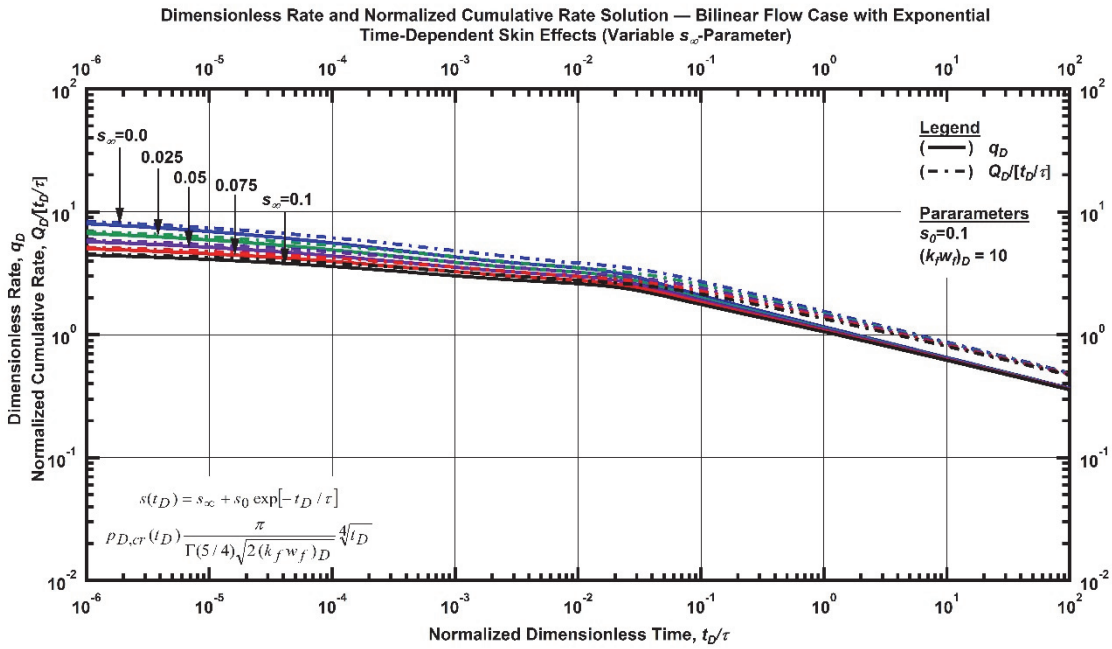

Figure F. 158 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the bilinear flow model combined with the exponential time-dependent for select values of s_∞-parameter.

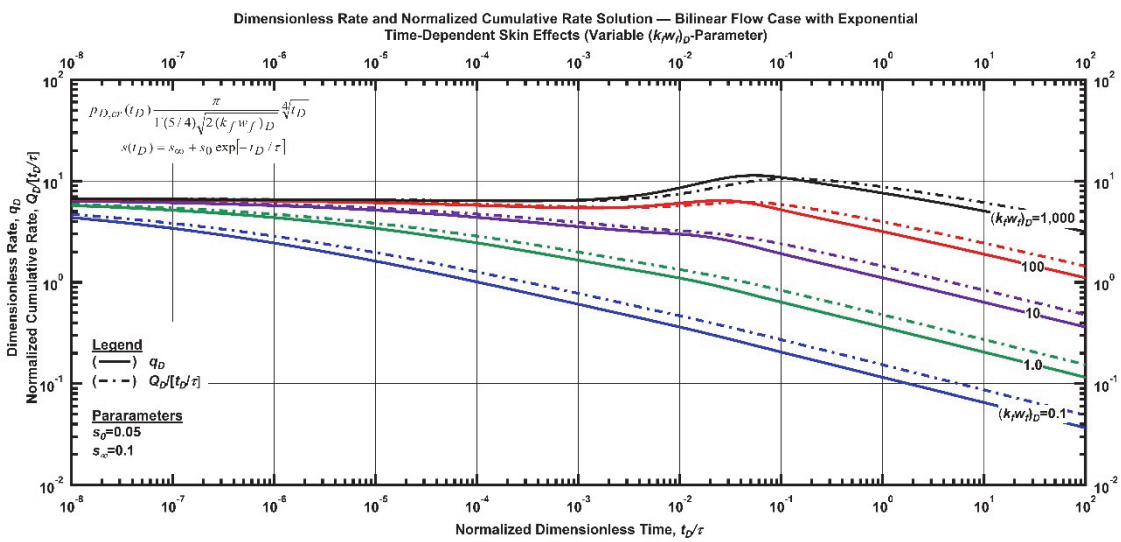

Figure F. 159 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the bilinear flow model combined with the exponential time-dependent for select values of dimensionless fracture conductivity.

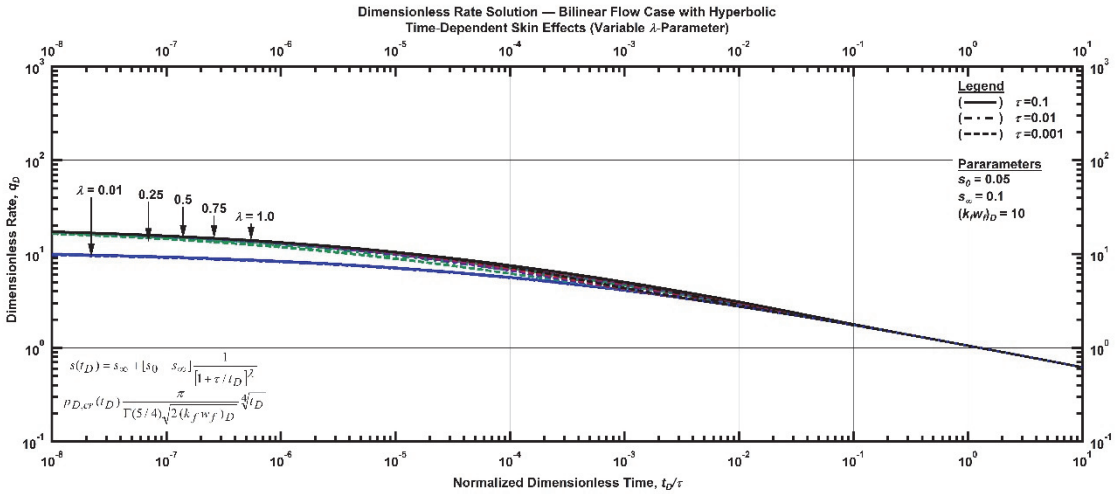

Figure F. 160 — Log-log plot (constant pressure dimensionless rate solution) for the bilinear flow model combined with the hyperbolic time-dependent for select values of λ-parameter.

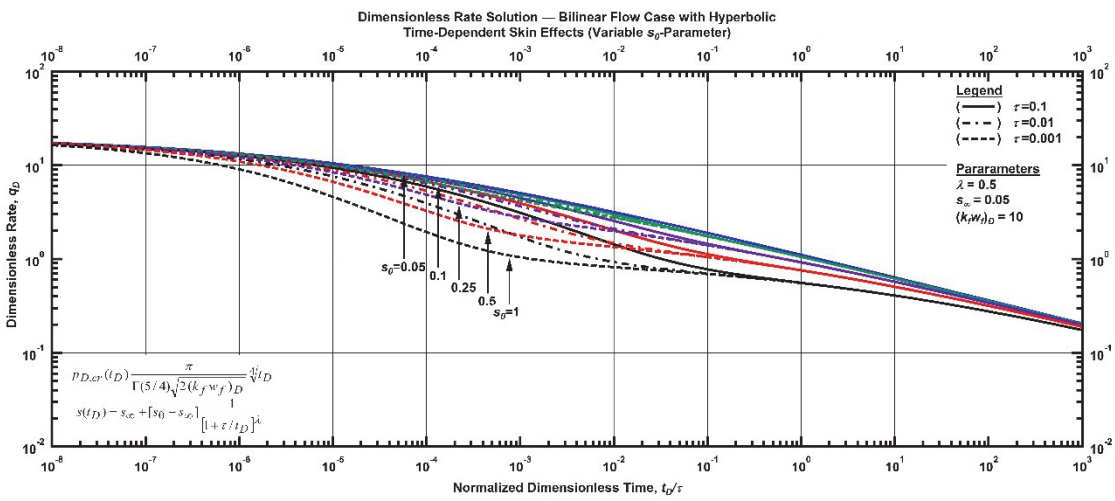

Figure F. 161 — Log-log plot (constant pressure dimensionless rate solution) for the bilinear flow model combined with the hyperbolic time-dependent for select values of s_0-parameter.

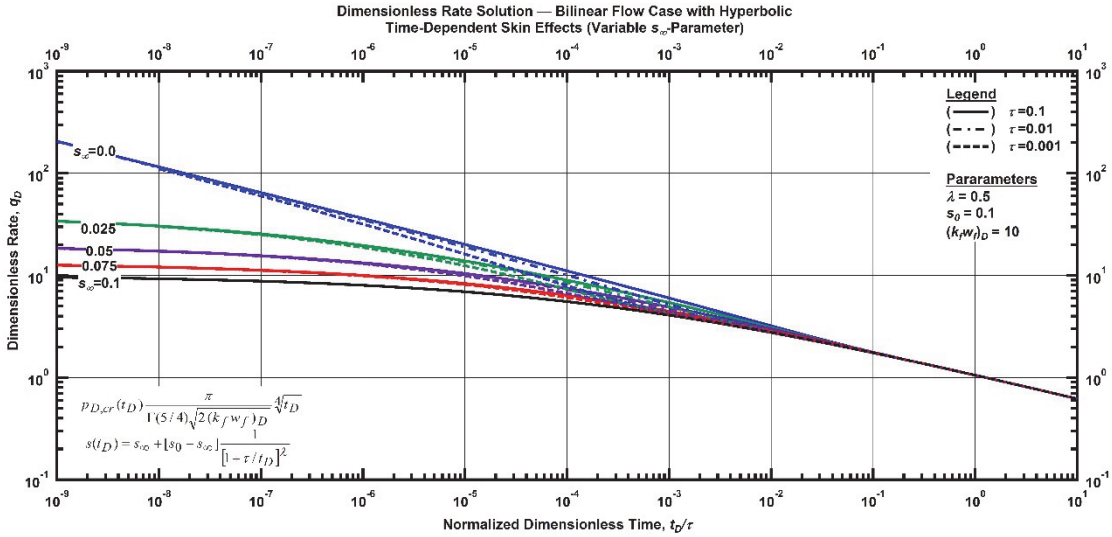

Figure F. 162 — Log-log plot (constant pressure dimensionless rate solution) for the bilinear flow model combined with the hyperbolic time-dependent for select values of s_∞-parameter.

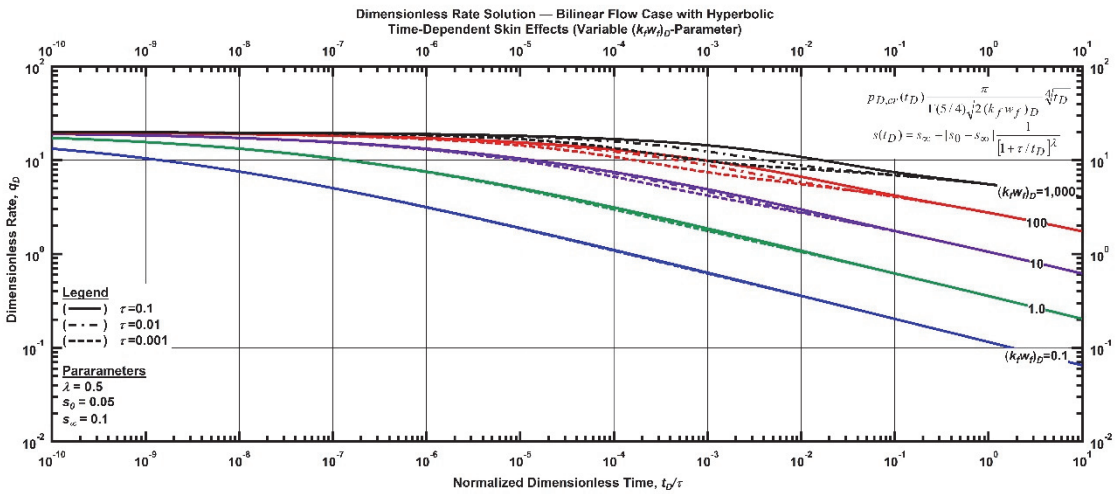

Figure F. 163 — Log-log plot (constant pressure dimensionless rate solution) for the bilinear flow model combined with the hyperbolic time-dependent for select values of dimensionless fracture conductivity.

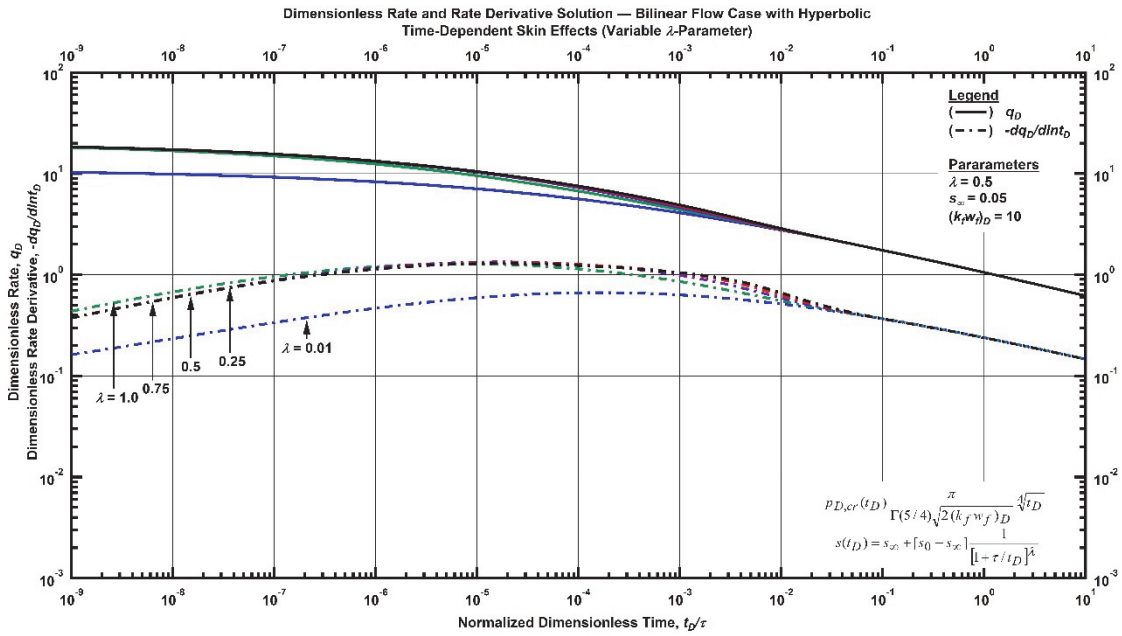

Figure F. 164 — Log-log plot (constant pressure dimensionless rate derivative solution) for the bilinear flow model combined with the hyperbolic time-dependent for select values of λ-parameter.

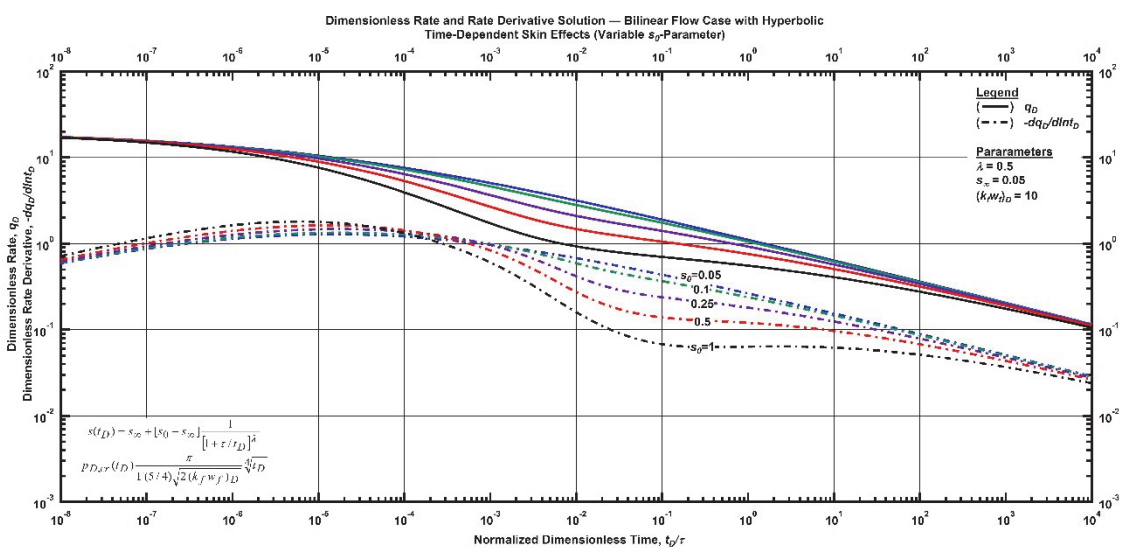

Figure F. 165 — Log-log plot (constant pressure dimensionless rate derivative solution) for the bilinear flow model combined with the hyperbolic time-dependent for select values of s_0-parameter.

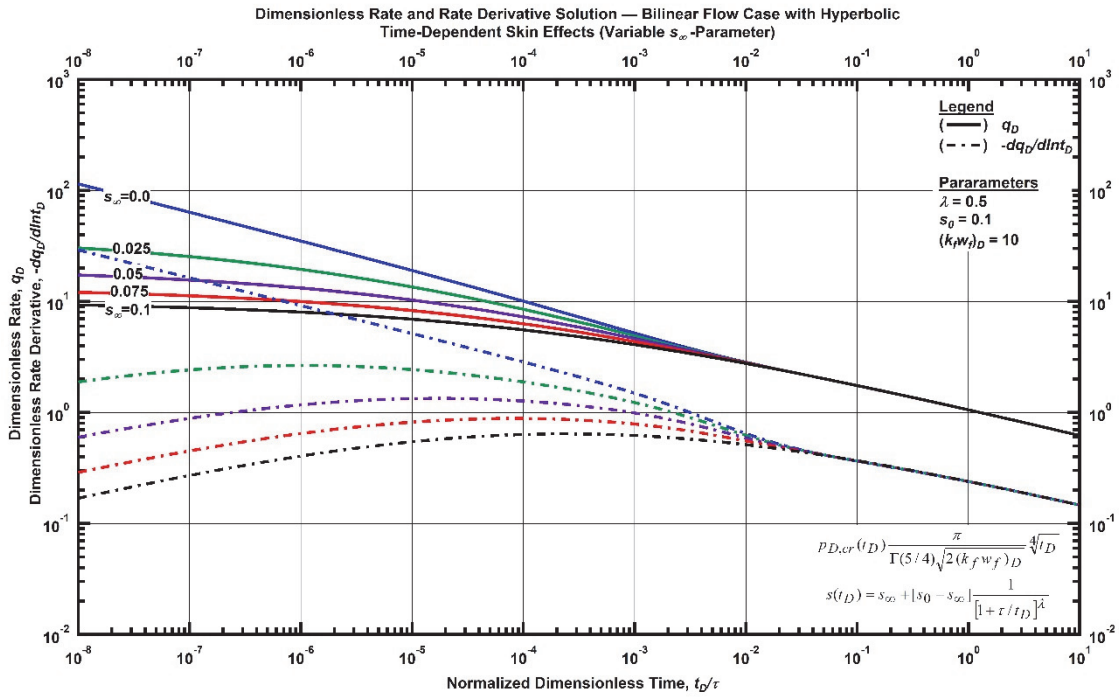

Figure F. 166 — Log-log plot (constant pressure dimensionless rate derivative solution) for the bilinear flow model combined with the hyperbolic time-dependent for select values of s_∞-parameter.

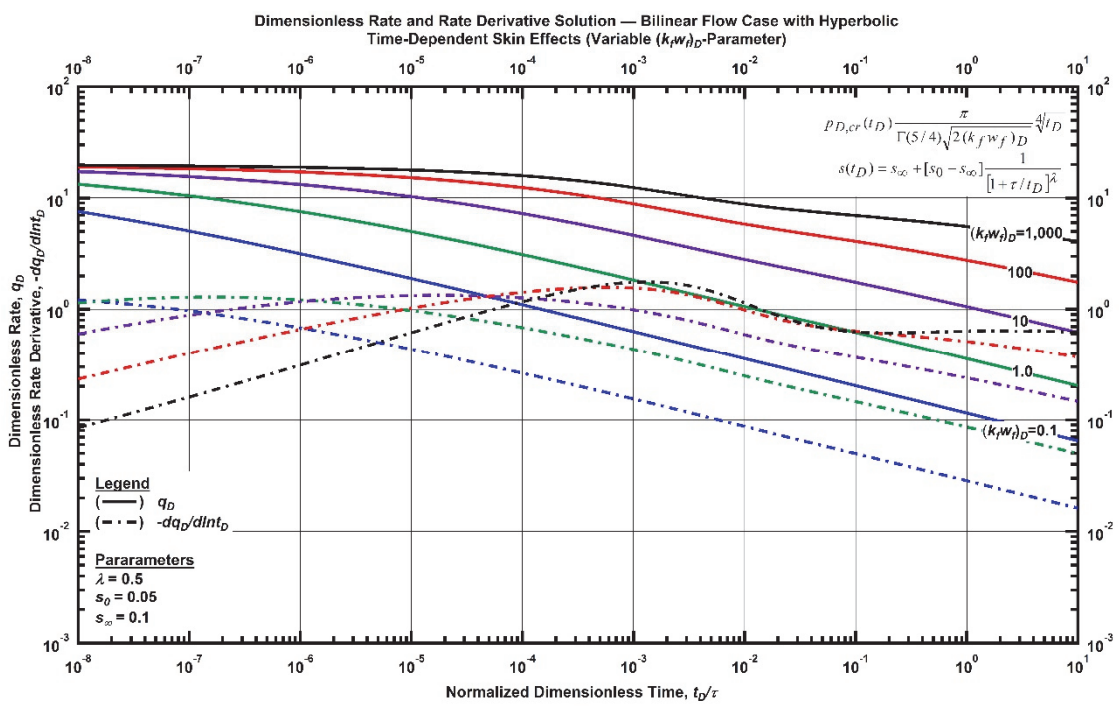

Figure F. 167 — Log-log plot (constant pressure dimensionless rate derivative solution) for the bilinear flow model combined with the hyperbolic time-dependent for select values of dimensionless fracture conductivity.

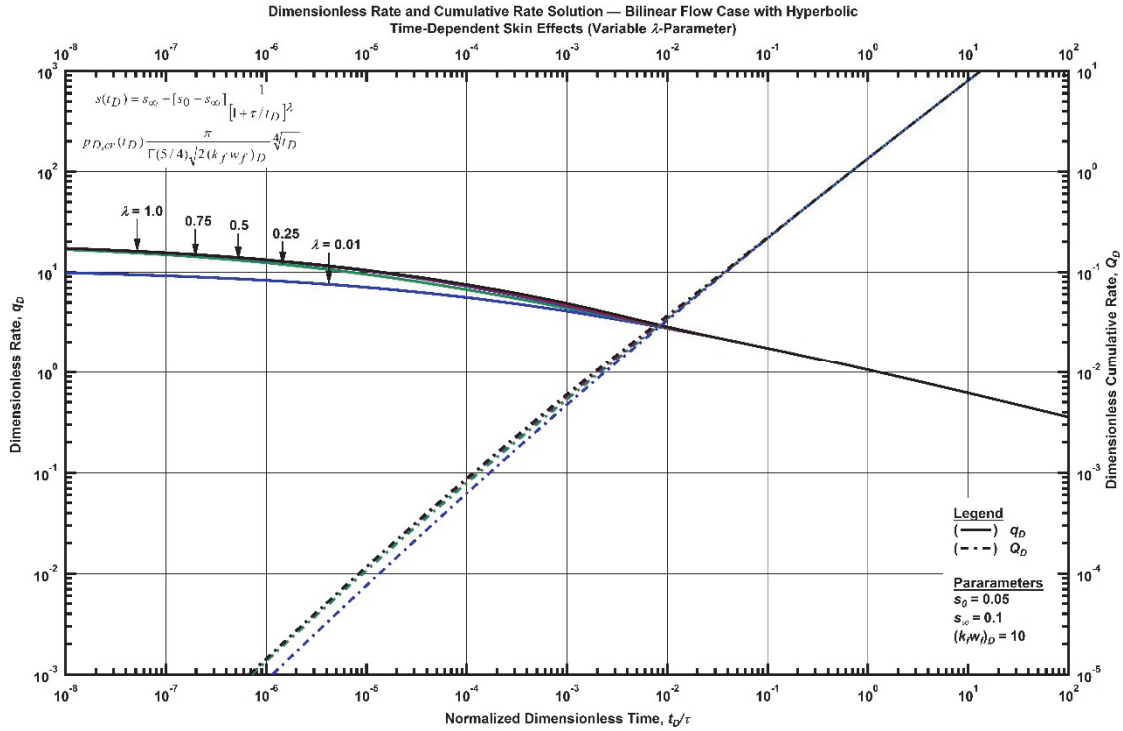

Figure F. 168 — Log-log plot (constant pressure dimensionless cumulative production solution) for the bilinear flow model combined with the hyperbolic time-dependent for select values of λ-parameter.

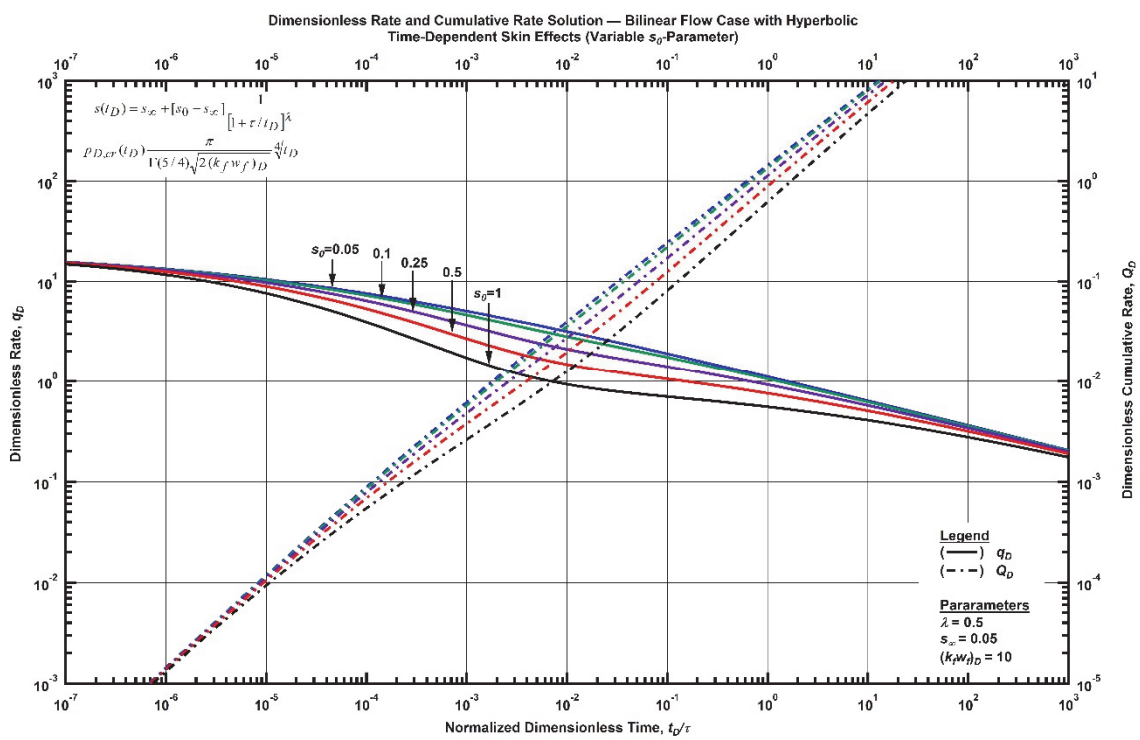

Figure F. 169 — Log-log plot (constant pressure dimensionless cumulative production solution) for the bilinear flow model combined with the hyperbolic time-dependent for select values of s_0-parameter.

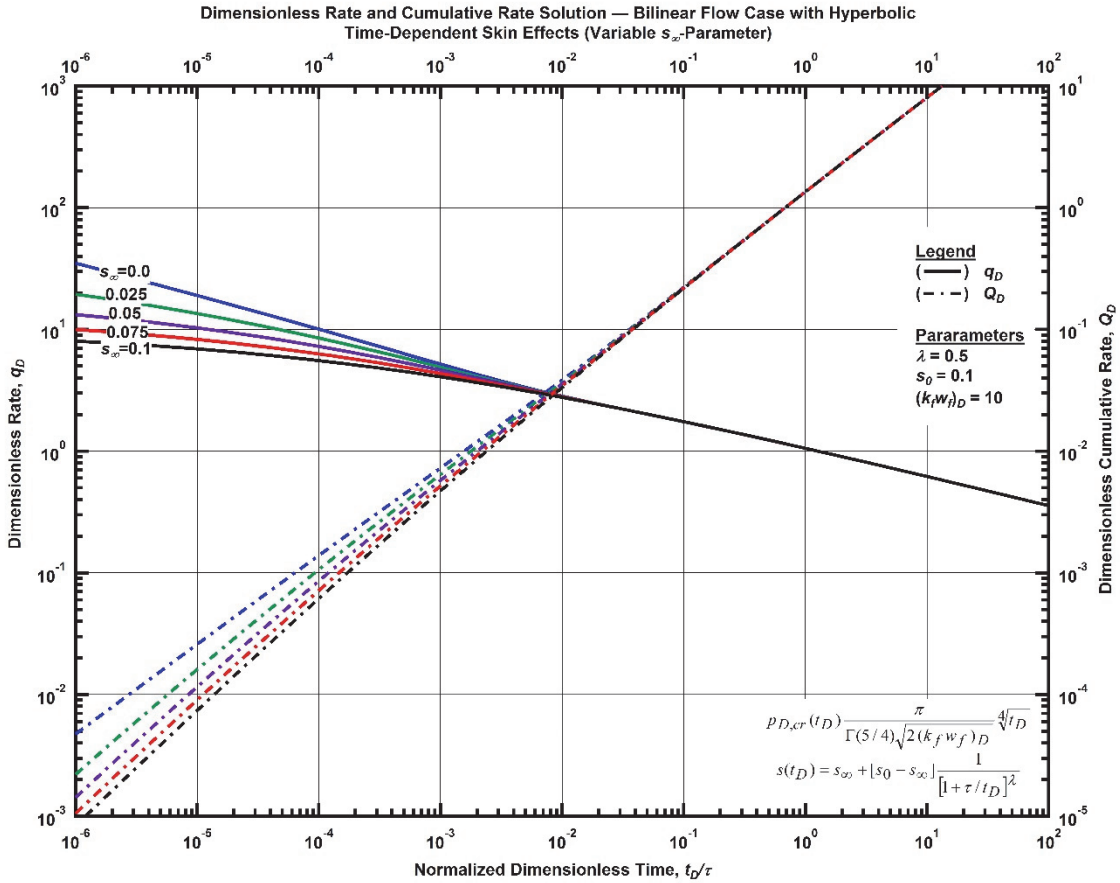

Figure F. 170 — Log-log plot (constant pressure dimensionless cumulative production solution) for the bilinear flow model combined with the hyperbolic time-dependent for select values of s_∞-parameter.

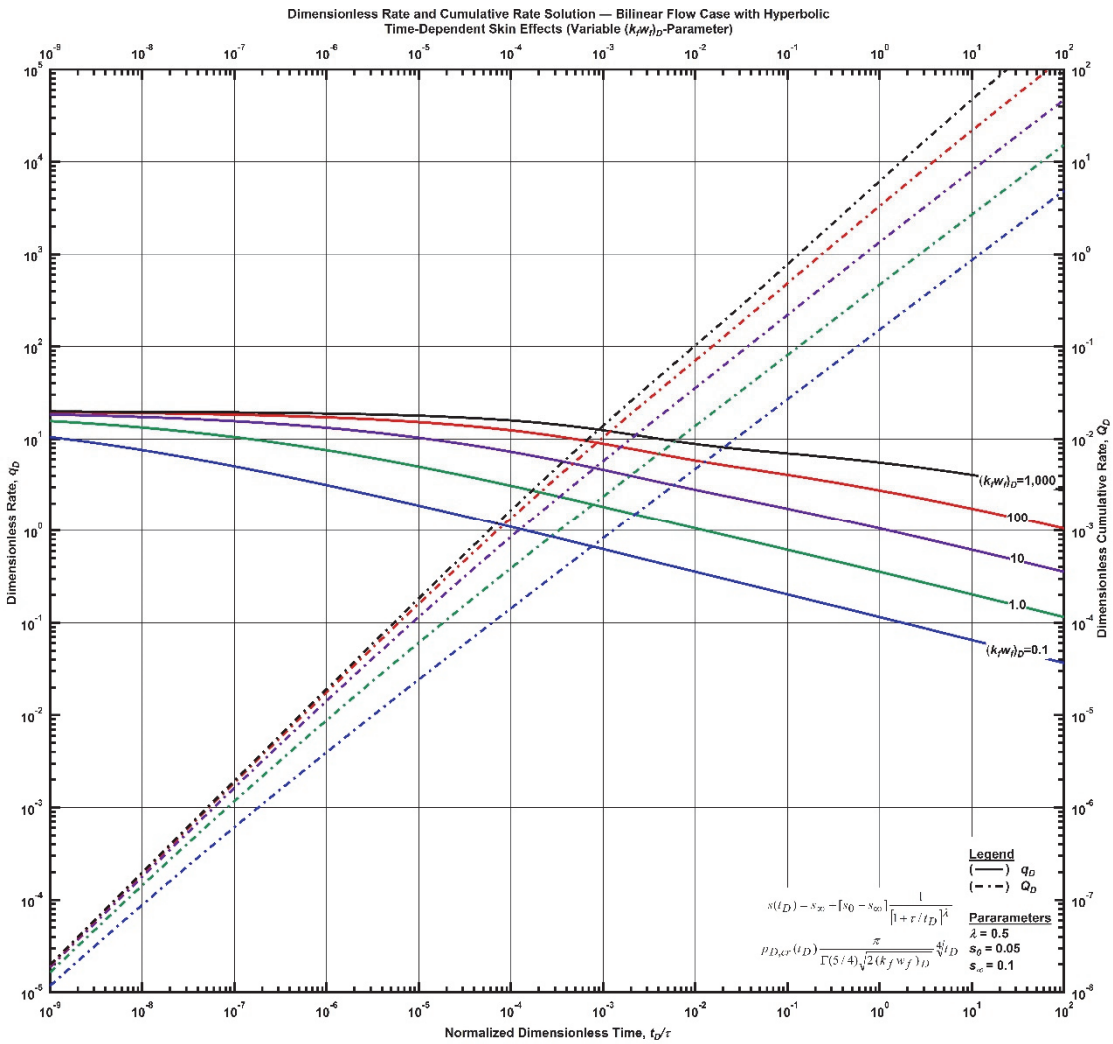

Figure F. 171 — Log-log plot (constant pressure dimensionless cumulative production solution) for the bilinear flow model combined with the hyperbolic time-dependent for select values of dimensionless fracture conductivity.

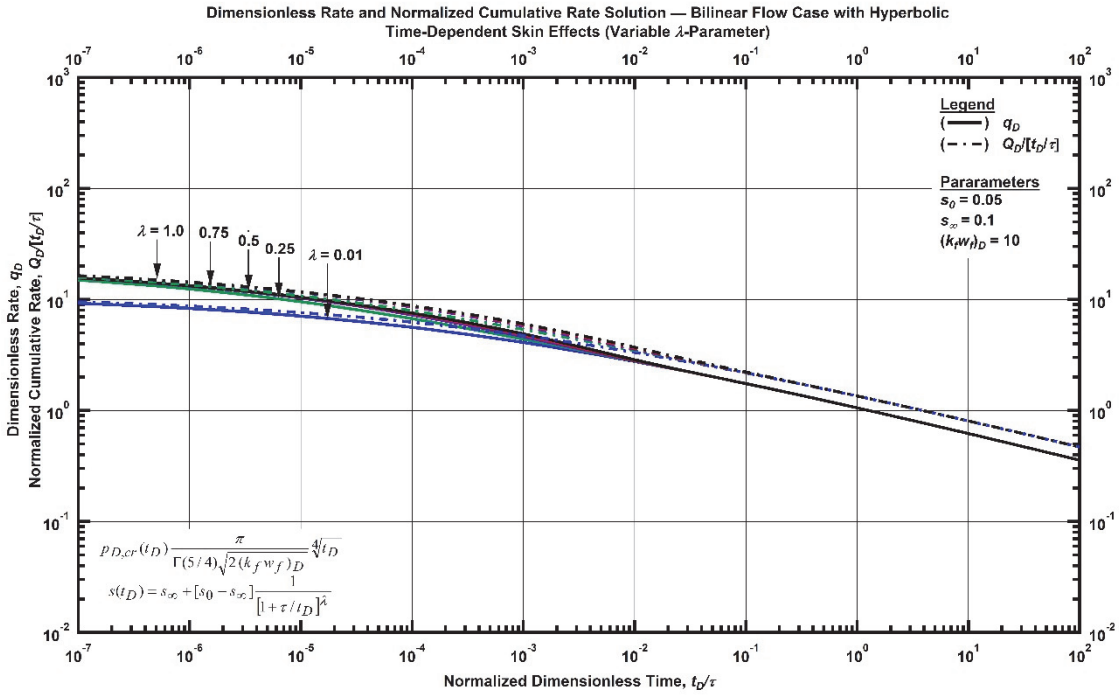

Figure F. 172 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the bilinear flow model combined with the hyperbolic time-dependent for select values of λ-parameter.

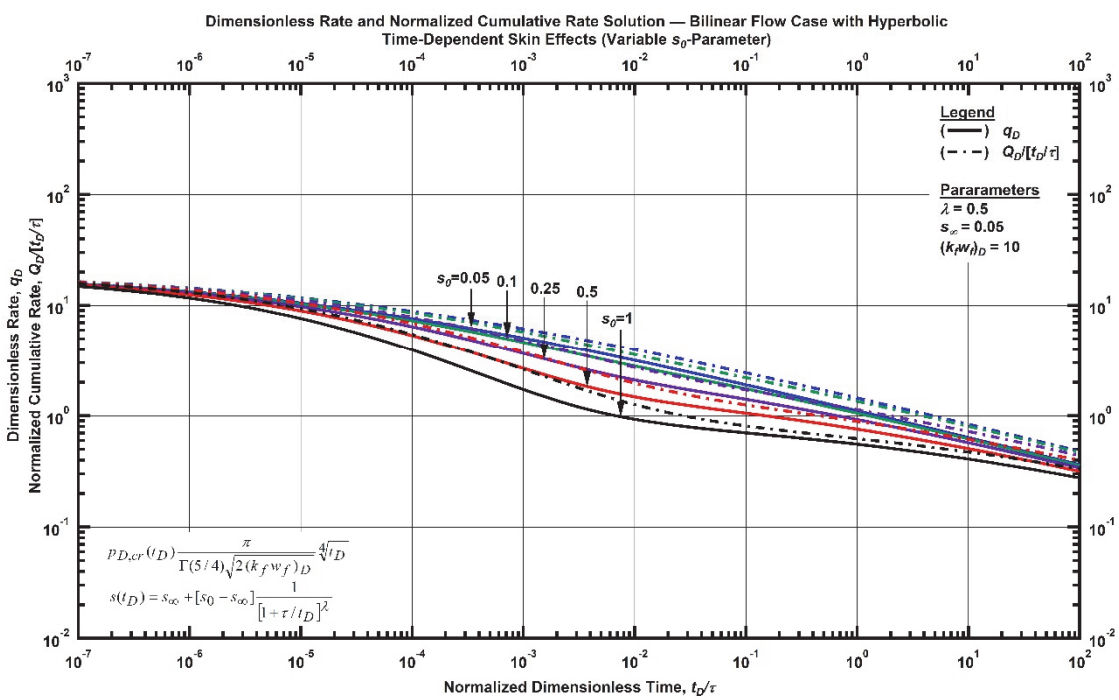

Figure F. 173 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the bilinear flow model combined with the hyperbolic time-dependent for select values of s_0-parameter.

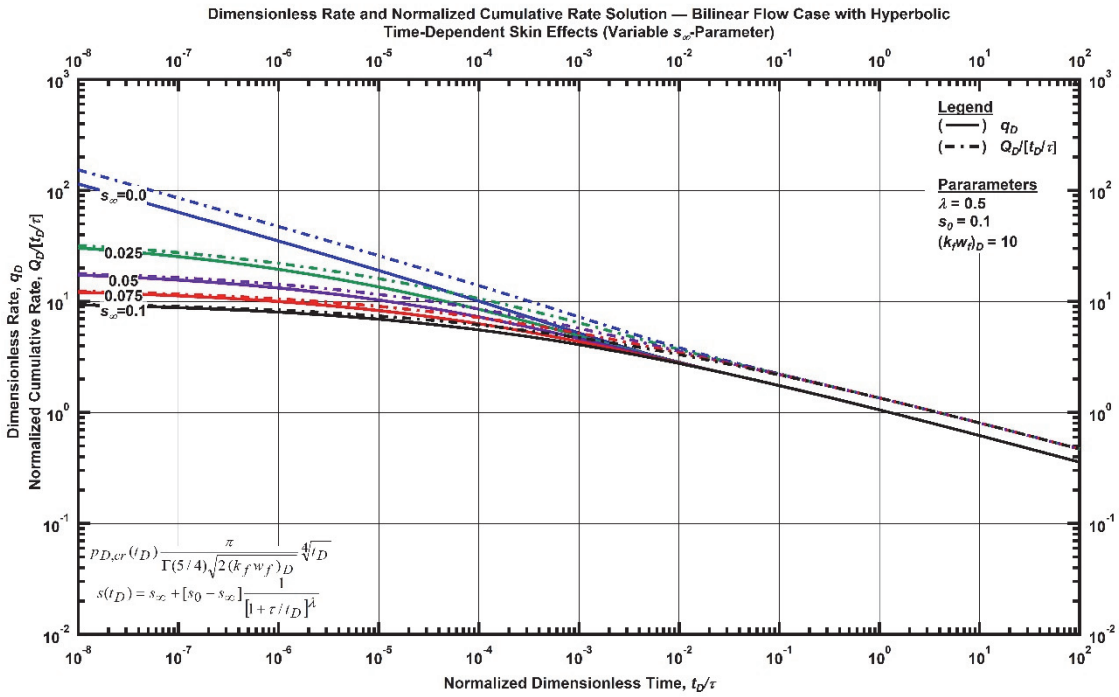

Figure F. 174 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the bilinear flow model combined with the hyperbolic time-dependent for select values of s_∞-parameter.

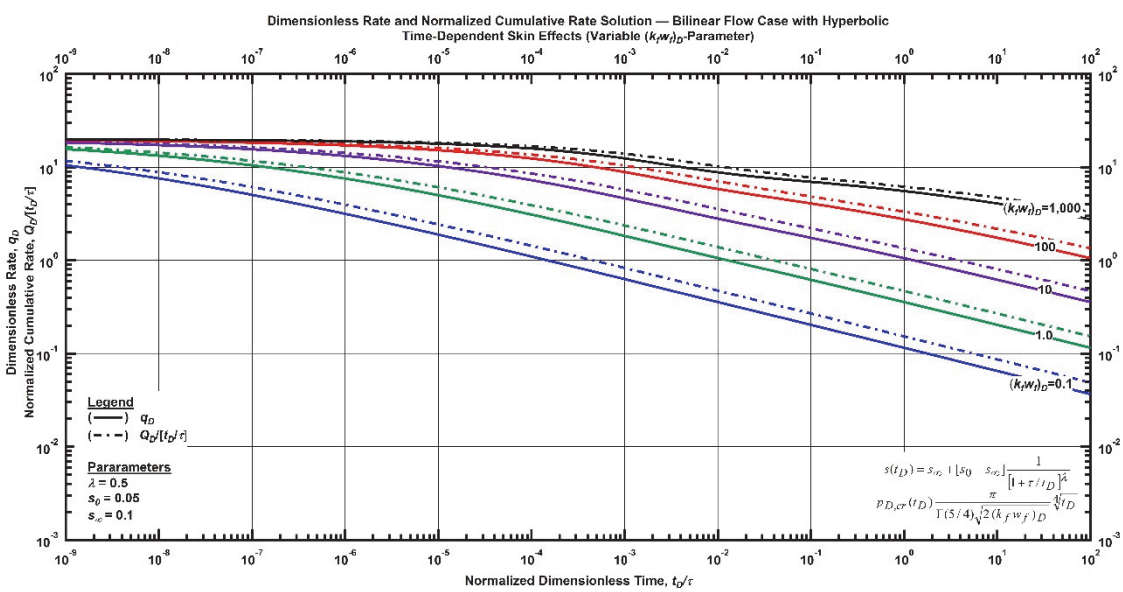

Figure F. 175 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the bilinear flow model combined with the hyperbolic time-dependent for select values of dimensionless fracture conductivity.

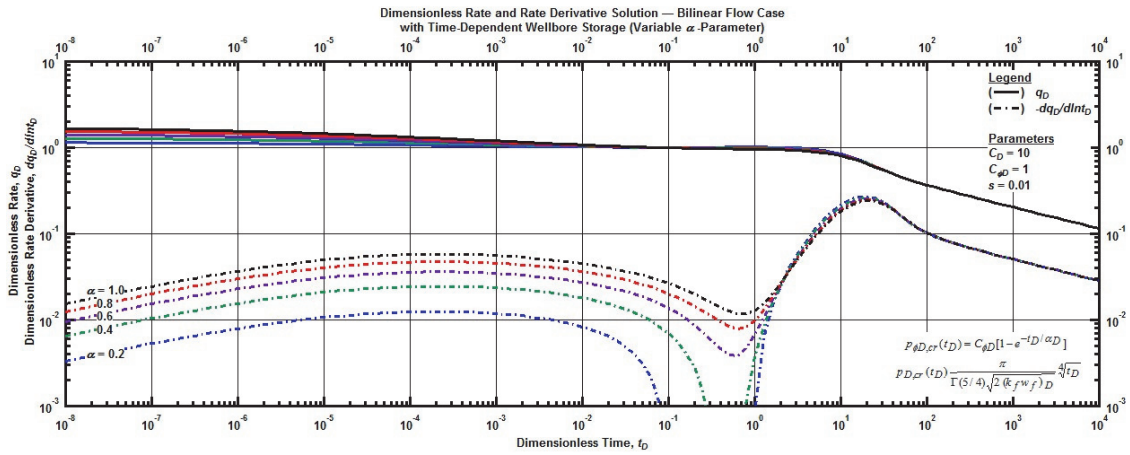

Figure F. 176 — Log-log plot (constant pressure dimensionless rate solution) for the bilinear flow model combined with the time-dependent wellbore storage for select values of α-parameter.

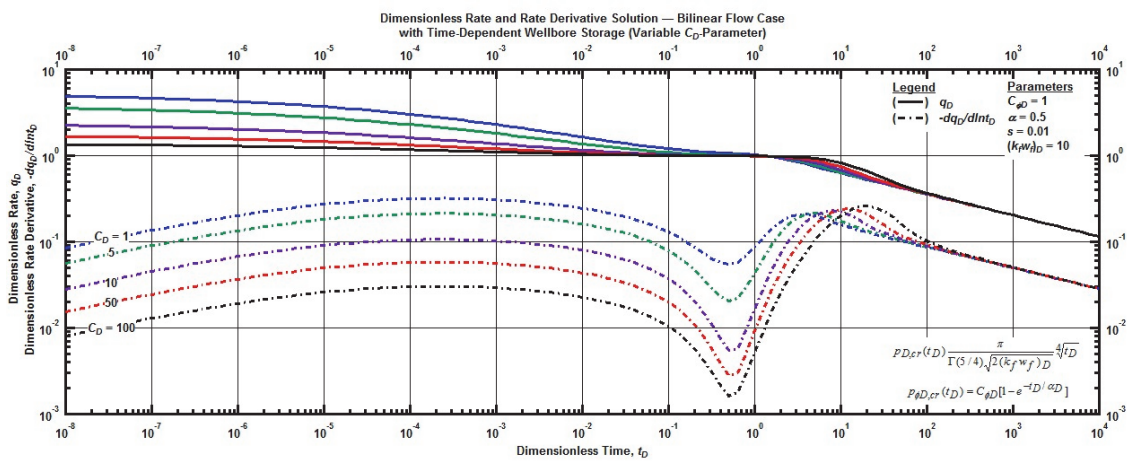

Figure F. 177 — Log-log plot (constant pressure dimensionless rate solution) for the bilinear flow model combined with the time-dependent wellbore storage for select values of the dimensionless wellbore storage constant.

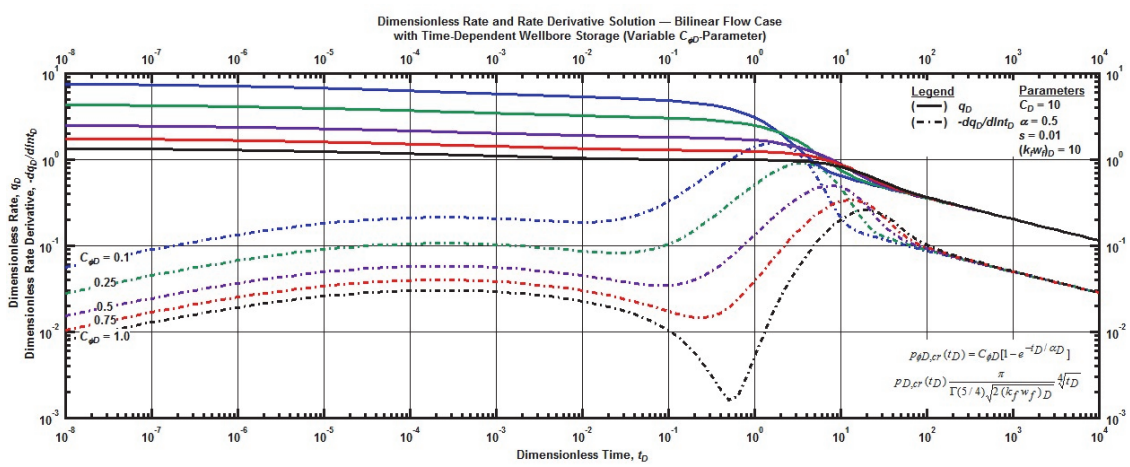

Figure F. 178 — Log-log plot (constant pressure dimensionless rate solution) for the bilinear flow model combined with the time-dependent wellbore storage for select values phase redistribution constant.

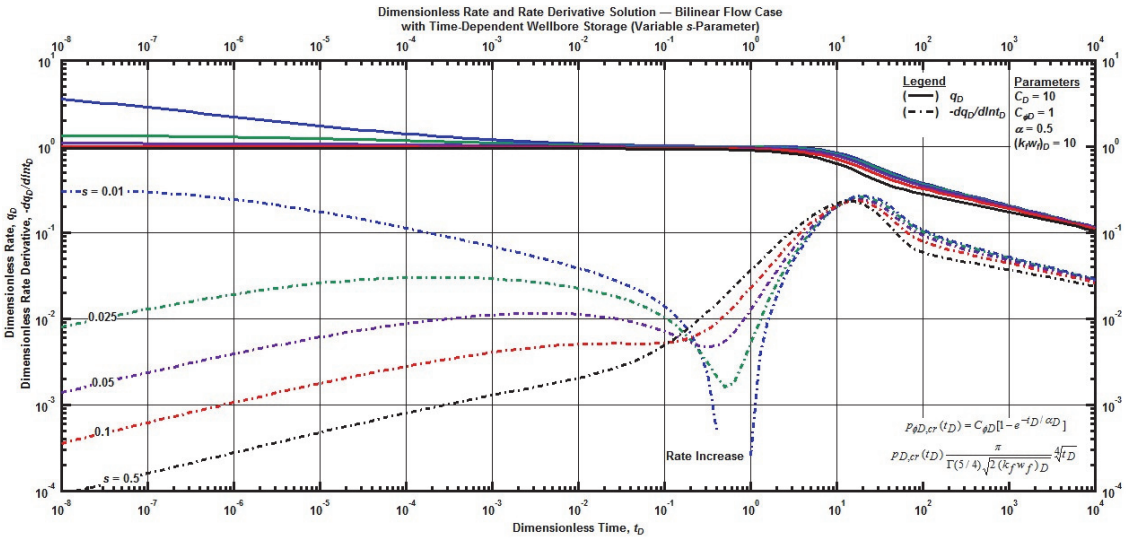

Figure F. 179 — Log-log plot (constant pressure dimensionless rate solution) for the bilinear flow model combined with the time-dependent wellbore storage for select dimensionless constant skin factor.

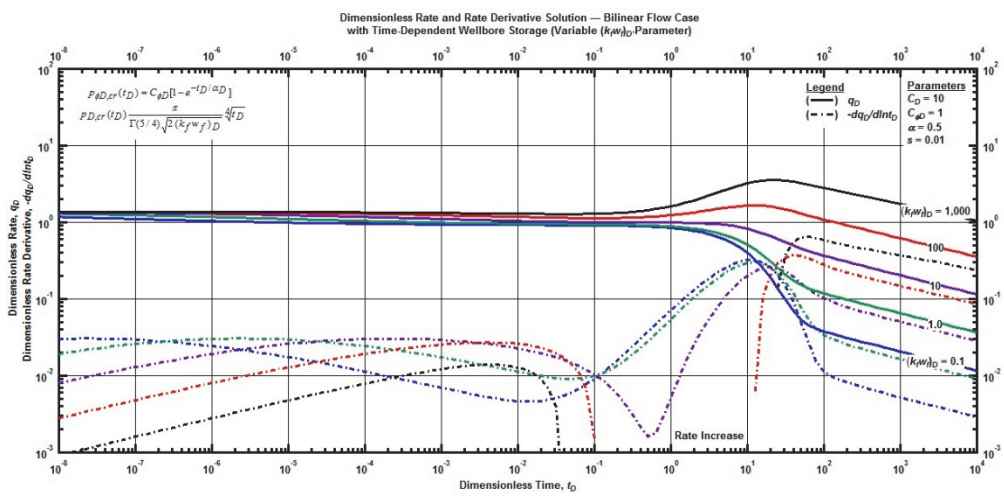

Figure F. 180 — Log-log plot (constant pressure dimensionless rate solution) for the bilinear flow model combined with the time-dependent wellbore storage for select values of ($k_f w_f$)-parameter.

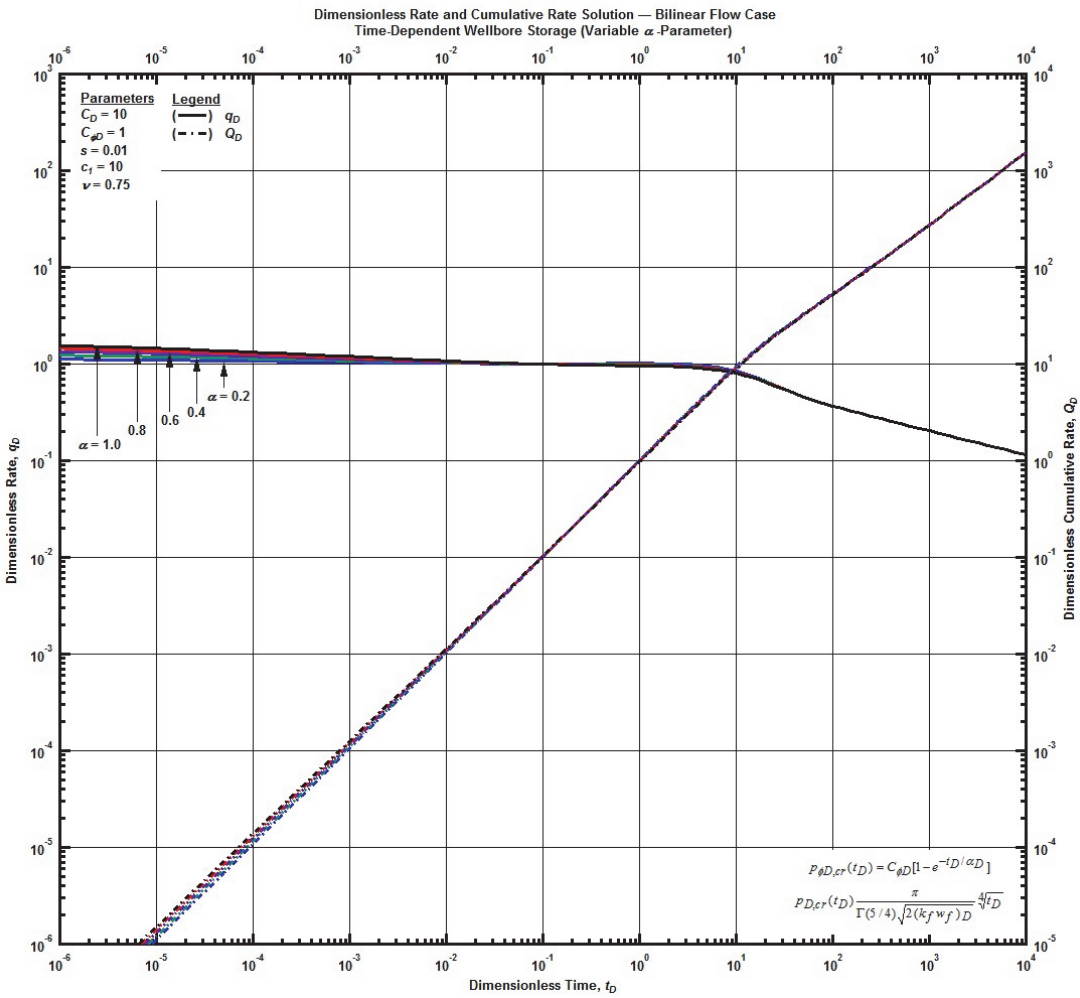

Figure F. 181 — Log-log plot (constant pressure dimensionless cumulative production solution) for the bilinear flow model combined with the time-dependent wellbore storage for select values of α-parameter.

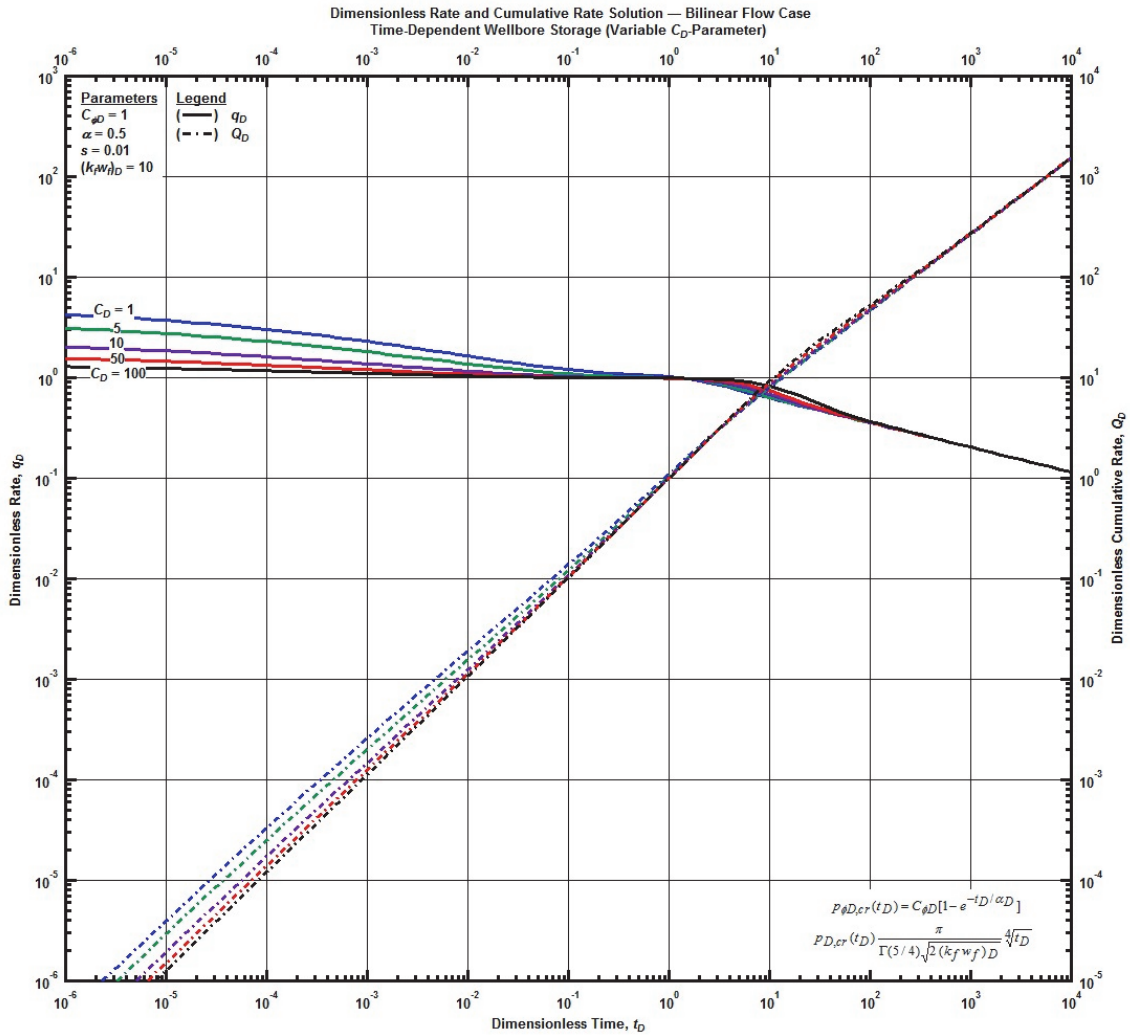

Figure F. 182 — Log-log plot (constant pressure dimensionless cumulative production solution) for the bilinear flow model combined with the time-dependent wellbore storage for select values of the dimensionless wellbore storage constant.

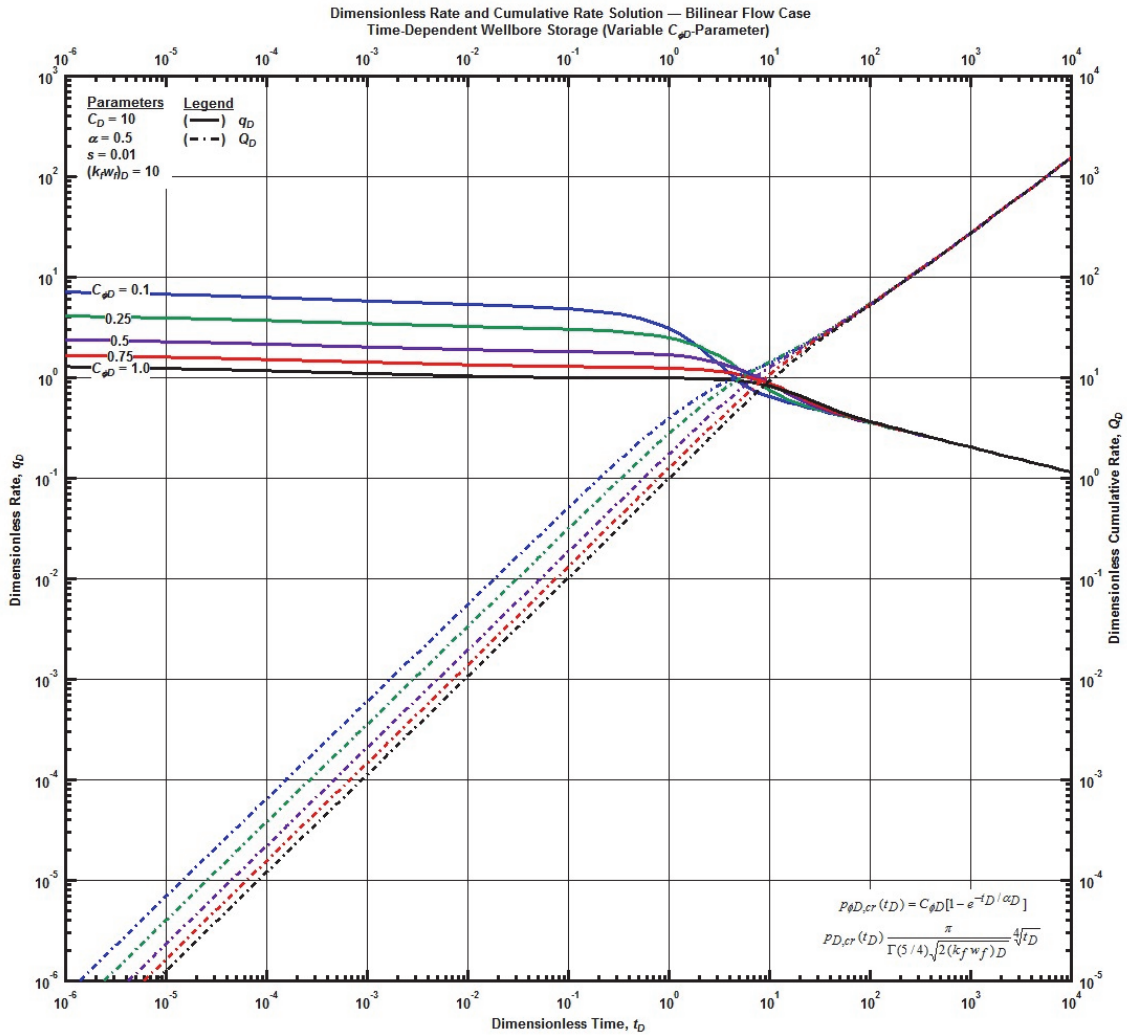

Figure F. 183 — Log-log plot (constant pressure dimensionless cumulative production solution) for the bilinear flow model combined with the time-dependent wellbore storage for select values phase redistribution constant.

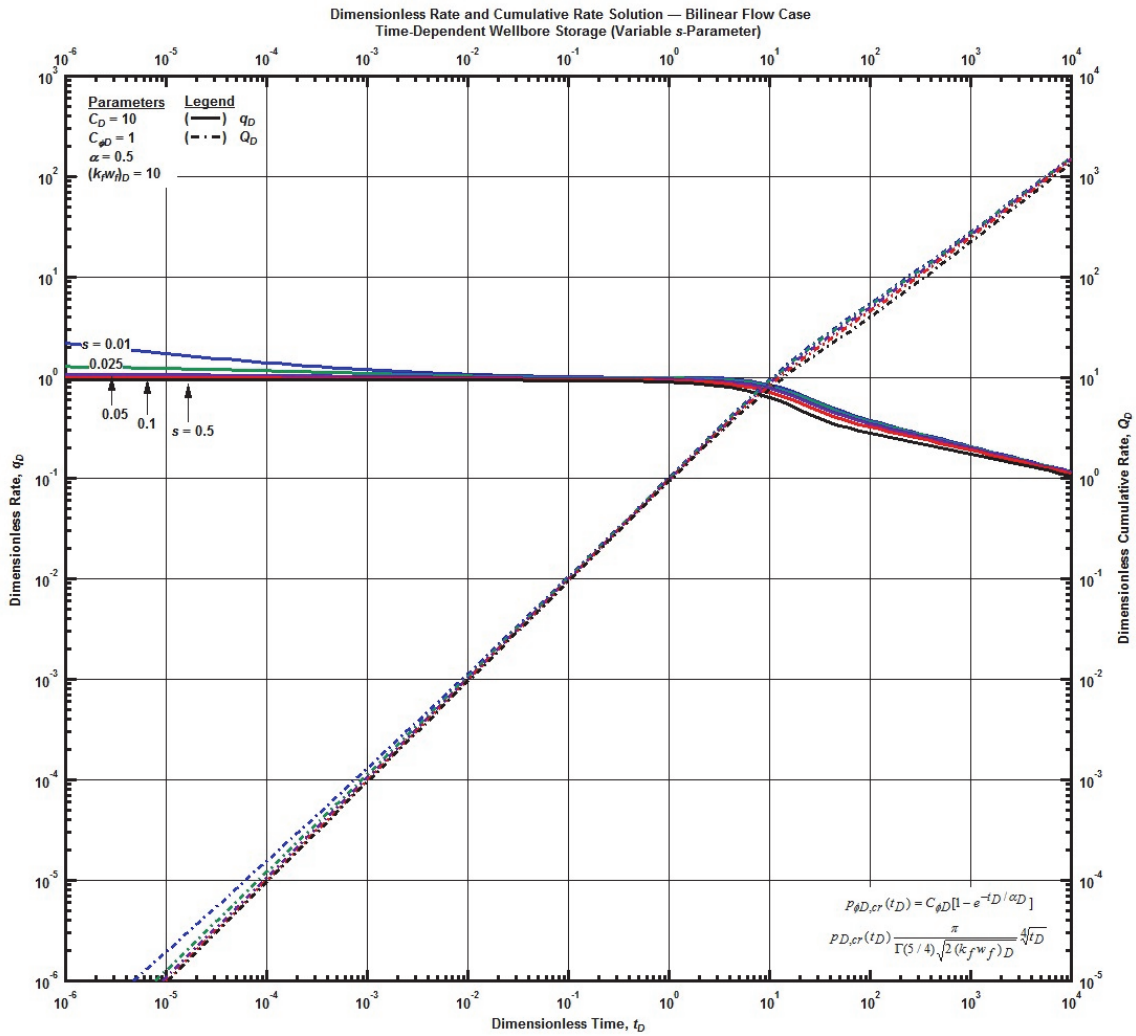

Figure F. 184 — Log-log plot (constant pressure dimensionless cumulative production solution) for the bilinear flow model combined with the time-dependent wellbore storage for select dimensionless constant skin factor.

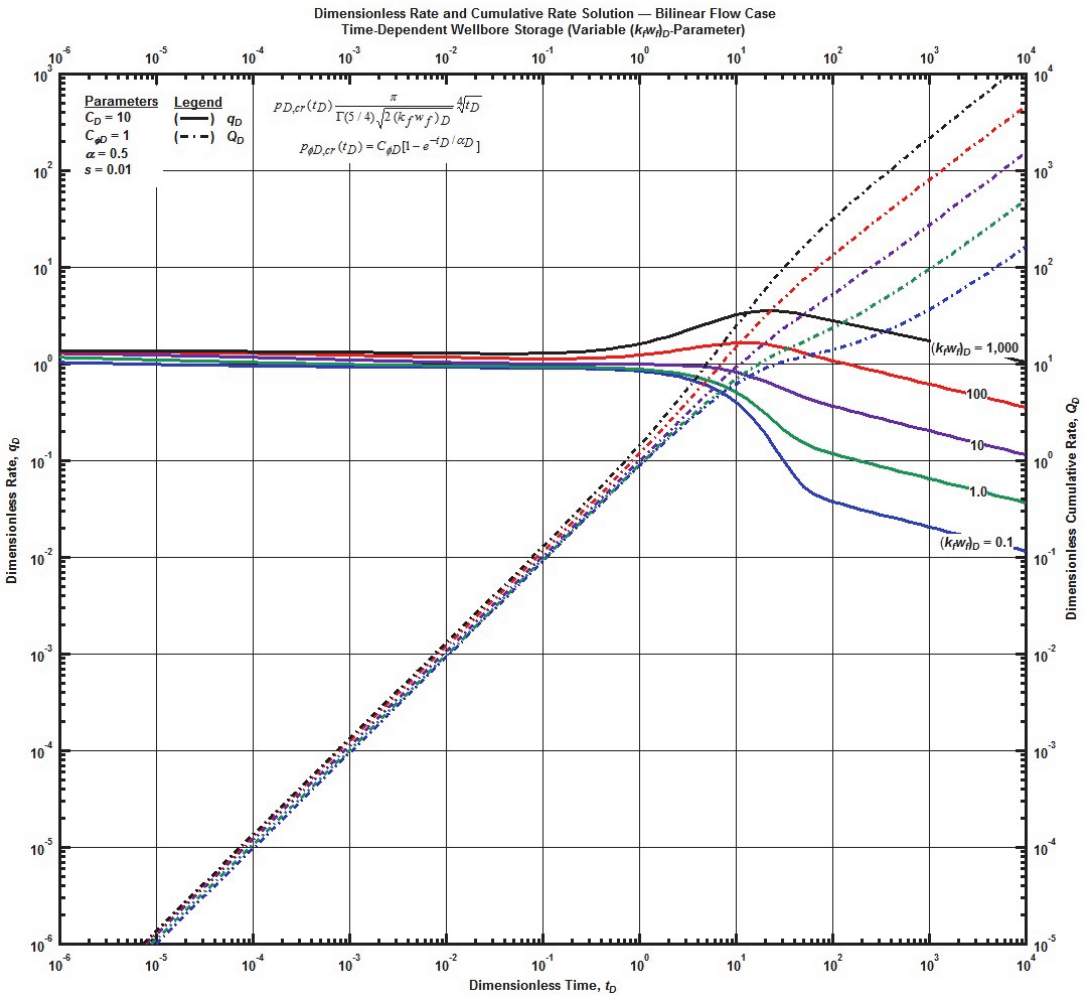

Figure F. 185 — Log-log plot (constant pressure dimensionless cumulative production solution) for the bilinear flow model combined with the time-dependent wellbore storage for select values of $(k_f w_f)$-parameter.

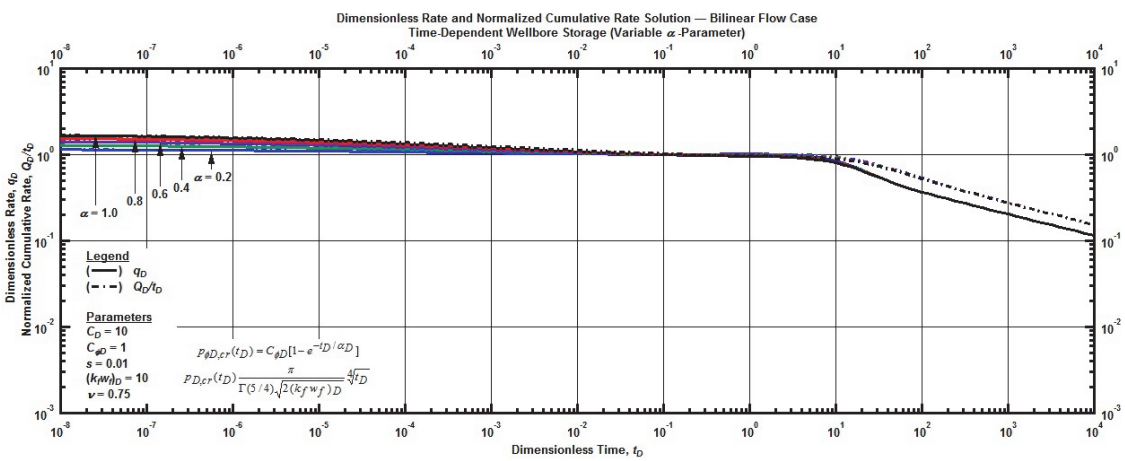

Figure F. 186 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the bilinear flow model combined with the time-dependent wellbore storage for select values of α-parameter.

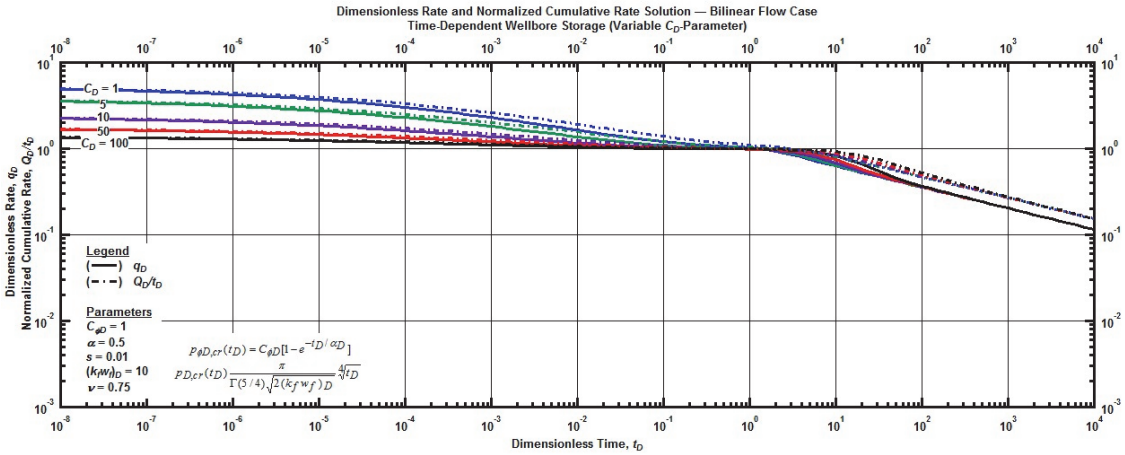

Figure F. 187 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the bilinear flow model combined with the time-dependent wellbore storage for select values of the dimensionless wellbore storage constant.

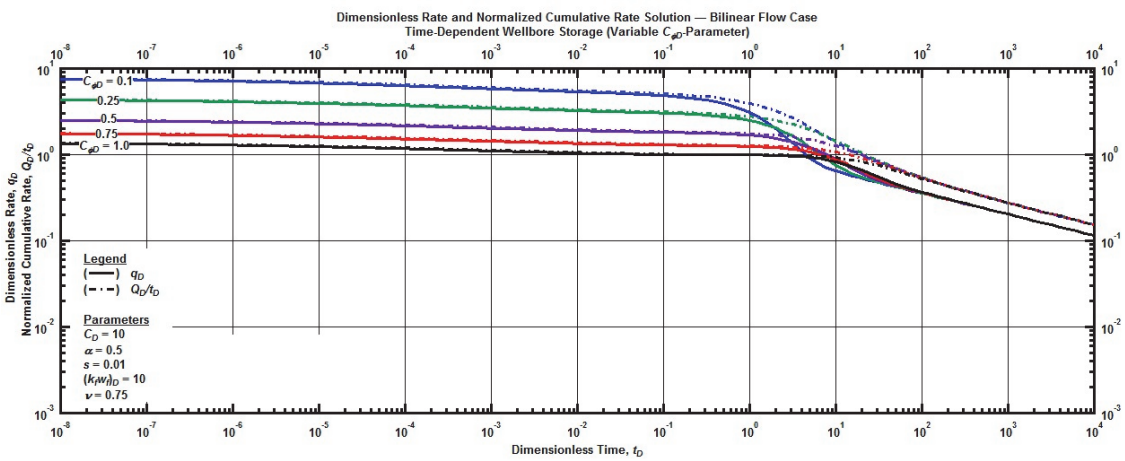

Figure F. 188 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the bilinear flow model combined with the time-dependent wellbore storage for select values phase redistribution constant.

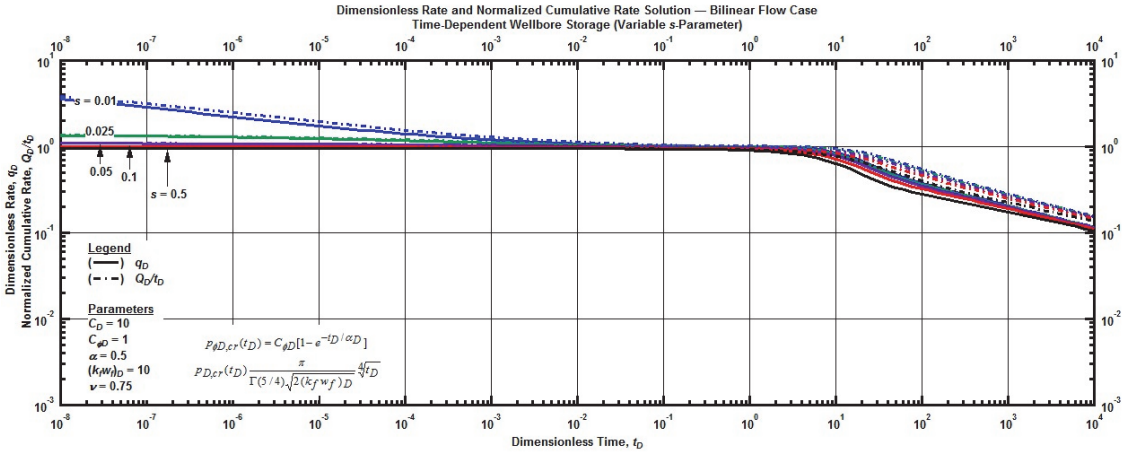

Figure F. 189 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the bilinear flow model combined with the time-dependent wellbore storage for select dimensionless constant skin factor.

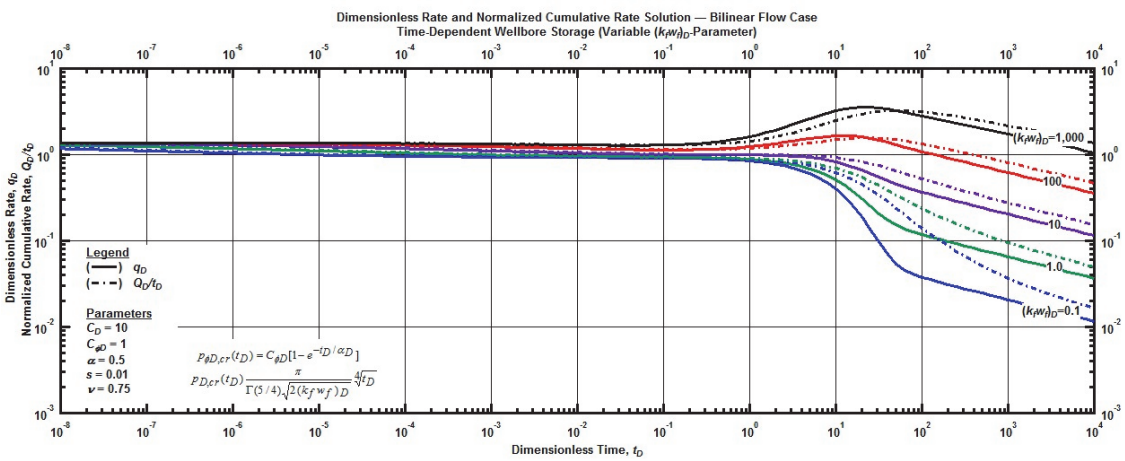

Figure F. 190 — Log-log plot (constant pressure time-normalized dimensionless cumulative rate solution) for the bilinear flow model combined with the time-dependent wellbore storage for select values of $(k_f w_f)$-parameter.