ADDENDUM MP-B:

GROUNDWATER MODEL

November 2007

NICHOLS UNIT PUMP TESTS ADDENDUM MP-B

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TABLE MPB.1-1. NICHOLS RANCH UNIT MODEL DRAWDOWN PRINTOUT

NICHOLS UNIT 1% BLEED DRAWDOWN T=350 S=1.8E-4 Q= 35.0 GPM 1% BLEED
AO AND WO = 1 1

GENERAL DATABASE:

TS = 1
Number of simulation periods for which drawdown
or recovery is to be calculated 1
Simulation period number= 1
Duration of simulation period in days= 1095.000
Number of grid columns= 59
Number of grid rows= 64
Grid spacing in ft= 1000.00
X-coordinate of upper-left grid node in ft=-29000.00
Y-coordinate of upper-left grid node in ft=-29000.00
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 5
Well number= 1
X-coordinate of well in ft= 2800.00
Y-coordinate of well in ft= 3200.00
Well discharge in gpm= 35.00
Duration of pump operation during simulation period
in days= 1095.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 5
Well number= 2
X-coordinate of well in ft= 2800.00
Y-coordinate of well in ft= 3200.00
Well discharge in gpm= -35.00
Duration of pump operation during simulation period
in days= 730.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 5
Well number= 3
X-coordinate of well in ft= 400.00
Y-coordinate of well in ft= 1500.00
Well discharge in gpm= 35.00
Duration of pump operation during simulation period
in days= 730.000
Well radius in ft= 0.50
Simulation period number= 1

TABLE MPB.1-1. NICHOLS RANCH UNIT MODEL DRAWDOWN PRINTOUT

Number of production, injection, and image wells
active during simulation period= 5
Well number= 4
X-coordinate of well in ft= 400.00
Y-coordinate of well in ft= 1500.00
Well discharge in gpm= -35.00
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 5
Well number= 5
X-coordinate of well in ft= 1100.00
Y-coordinate of well in ft= 4300.00
Well discharge in gpm= 35.00
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Number of observation wells for which time-
drawdown tables are desired 1
Observation well number= 1
I-coordinate of observation well= 1
J-coordinate of observation well= 1
Aquifer transmissivity in gpd/ft= 350.00
Aquifer storativity as a decimal= 0.000180

NODAL COMPUTATION RESULTS:

SIMULATION PERIOD DURATION IN DAYS: 1095.000

VALUES OF DRAWDOWN OR RECOVERY (FT) AT NODES:

TABLE MPB.1-1. NICHOLS RANCH UNIT MODEL DRAWDOWN PRINTOUT

		I-COLUMN																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
J-ROW	1	0.86	0.93	1	1.08	1.16	1.24	1.33	1.42	1.52	1.61	1.71	1.81	1.91	2.01	2.11	2.21	2.3	2.4
	2	0.93	1	1.09	1.17	1.26	1.35	1.45	1.55	1.65	1.76	1.86	1.97	2.08	2.19	2.3	2.41	2.52	2.63
	3	1	1.09	1.18	1.27	1.37	1.47	1.57	1.68	1.8	1.91	2.03	2.15	2.27	2.39	2.52	2.64	2.76	2.87
	4	1.09	1.18	1.27	1.37	1.48	1.59	1.71	1.83	1.95	2.08	2.21	2.34	2.47	2.61	2.74	2.88	3.01	3.14
	5	1.17	1.27	1.37	1.48	1.6	1.72	1.85	1.98	2.11	2.25	2.4	2.54	2.69	2.84	2.98	3.13	3.28	3.42
	6	1.26	1.37	1.48	1.6	1.73	1.86	2	2.14	2.29	2.44	2.59	2.75	2.91	3.08	3.24	3.4	3.56	3.72
	7	1.35	1.47	1.59	1.72	1.86	2	2.15	2.31	2.47	2.63	2.8	2.98	3.16	3.33	3.51	3.69	3.87	4.04
	8	1.45	1.57	1.71	1.85	2	2.15	2.31	2.48	2.66	2.84	3.03	3.22	3.41	3.61	3.8	4	4.2	4.39
	9	1.55	1.68	1.83	1.98	2.14	2.31	2.48	2.67	2.86	3.06	3.26	3.47	3.68	3.89	4.11	4.33	4.54	4.75
	10	1.65	1.8	1.95	2.11	2.29	2.47	2.66	2.86	3.07	3.28	3.5	3.73	3.96	4.19	4.43	4.67	4.91	5.14
	11	1.75	1.91	2.08	2.25	2.44	2.64	2.84	3.06	3.28	3.51	3.75	4	4.25	4.51	4.77	5.03	5.29	5.55
	12	1.86	2.03	2.21	2.4	2.6	2.81	3.03	3.26	3.51	3.76	4.02	4.29	4.56	4.84	5.12	5.41	5.7	5.98
	13	1.97	2.15	2.34	2.54	2.76	2.99	3.22	3.48	3.74	4.01	4.29	4.58	4.88	5.19	5.5	5.81	6.12	6.43
	14	2.08	2.27	2.48	2.69	2.92	3.17	3.42	3.69	3.97	4.27	4.57	4.89	5.21	5.54	5.88	6.22	6.57	6.91
	15	2.2	2.4	2.61	2.85	3.09	3.35	3.62	3.91	4.22	4.53	4.86	5.2	5.55	5.91	6.28	6.66	7.04	7.41
	16	2.31	2.52	2.75	3	3.26	3.54	3.83	4.14	4.46	4.8	5.16	5.52	5.9	6.3	6.7	7.11	7.52	7.94
	17	2.42	2.65	2.89	3.15	3.43	3.72	4.03	4.36	4.71	5.07	5.46	5.85	6.26	6.69	7.13	7.57	8.02	8.48
	18	2.53	2.77	3.03	3.3	3.6	3.91	4.24	4.59	4.96	5.35	5.76	6.19	6.63	7.09	7.56	8.05	8.54	9.05
	19	2.64	2.89	3.16	3.45	3.76	4.09	4.44	4.82	5.21	5.63	6.06	6.52	7	7.5	8.01	8.54	9.08	9.63
	20	2.75	3.01	3.29	3.6	3.92	4.27	4.64	5.04	5.46	5.9	6.37	6.86	7.37	7.91	8.46	9.04	9.63	10.23
	21	2.85	3.12	3.42	3.74	4.08	4.45	4.84	5.26	5.7	6.17	6.67	7.19	7.74	8.32	8.92	9.54	10.19	10.85
	22	2.95	3.23	3.54	3.88	4.24	4.62	5.03	5.47	5.94	6.44	6.97	7.52	8.11	8.73	9.37	10.05	10.75	11.47
	23	3.04	3.34	3.66	4.01	4.38	4.78	5.22	5.68	6.17	6.69	7.25	7.84	8.47	9.13	9.83	10.55	11.31	12.1
	24	3.13	3.43	3.77	4.13	4.52	4.94	5.39	5.87	6.39	6.94	7.53	8.15	8.82	9.52	10.27	11.05	11.87	12.73
	25	3.2	3.52	3.87	4.24	4.65	5.08	5.55	6.05	6.59	7.17	7.79	8.45	9.15	9.9	10.69	11.53	12.42	13.35
	26	3.28	3.61	3.96	4.35	4.76	5.21	5.7	6.22	6.78	7.38	8.03	8.72	9.46	10.25	11.1	11.99	12.94	13.95
	27	3.34	3.68	4.04	4.44	4.87	5.33	5.83	6.37	6.95	7.58	8.25	8.97	9.75	10.58	11.47	12.42	13.44	14.52
	28	3.39	3.74	4.11	4.52	4.96	5.43	5.94	6.5	7.1	7.75	8.45	9.2	10.01	10.88	11.81	12.82	13.9	15.05
	29	3.44	3.79	4.17	4.58	5.03	5.51	6.04	6.61	7.23	7.89	8.61	9.39	10.23	11.13	12.11	13.17	14.3	15.53
	30	3.47	3.83	4.21	4.63	5.09	5.58	6.12	6.7	7.33	8.01	8.75	9.54	10.41	11.34	12.36	13.46	14.65	15.94
	31	3.5	3.85	4.24	4.67	5.13	5.63	6.17	6.76	7.4	8.09	8.84	9.66	10.55	11.51	12.55	13.69	14.92	16.27
	32	3.51	3.87	4.26	4.69	5.15	5.65	6.2	6.8	7.44	8.15	8.91	9.74	10.64	11.62	12.68	13.85	15.12	16.51
	33	3.51	3.87	4.26	4.69	5.15	5.66	6.21	6.81	7.46	8.16	8.93	9.77	10.68	11.67	12.75	13.93	15.22	16.64
	34	3.5	3.86	4.25	4.67	5.14	5.64	6.19	6.79	7.44	8.15	8.92	9.75	10.66	11.66	12.74	13.93	15.23	16.66
	35	3.48	3.83	4.22	4.65	5.11	5.61	6.16	6.75	7.4	8.1	8.86	9.69	10.6	11.59	12.67	13.85	15.14	16.57
	36	3.44	3.8	4.18	4.6	5.06	5.55	6.09	6.68	7.32	8.01	8.77	9.59	10.49	11.46	12.53	13.69	14.96	16.36
	37	3.4	3.75	4.13	4.54	4.99	5.48	6.01	6.59	7.22	7.9	8.64	9.44	10.32	11.28	12.32	13.45	14.69	16.05
	38	3.35	3.69	4.06	4.46	4.91	5.38	5.9	6.47	7.08	7.75	8.47	9.26	10.11	11.04	12.05	13.14	14.34	15.65
	39	3.28	3.62	3.98	4.38	4.81	5.27	5.78	6.33	6.93	7.57	8.27	9.04	9.86	10.75	11.72	12.77	13.92	15.16
	40	3.21	3.54	3.89	4.27	4.69	5.15	5.64	6.17	6.75	7.37	8.05	8.78	9.57	10.43	11.35	12.35	13.43	14.59
	41	3.13	3.45	3.79	4.16	4.57	5	5.48	5.99	6.55	7.15	7.79	8.49	9.25	10.06	10.94	11.88	12.89	13.98
	42	3.04	3.35	3.68	4.04	4.43	4.85	5.3	5.8	6.33	6.9	7.52	8.19	8.9	9.67	10.49	11.38	12.32	13.33
	43	2.95	3.24	3.56	3.91	4.28	4.68	5.12	5.59	6.1	6.64	7.23	7.86	8.53	9.25	10.02	10.85	11.72	12.65
	44	2.85	3.13	3.44	3.77	4.12	4.51	4.92	5.37	5.85	6.37	6.92	7.51	8.15	8.82	9.54	10.3	11.11	11.95
	45	2.75	3.01	3.31	3.62	3.96	4.33	4.72	5.14	5.6	6.09	6.61	7.16	7.75	8.38	9.04	9.75	10.48	11.26
	46	2.64	2.89	3.17	3.47	3.79	4.14	4.51	4.91	5.34	5.8	6.28	6.8	7.35	7.93	8.55	9.19	9.86	10.57
	47	2.53	2.77	3.03	3.32	3.62	3.95	4.3	4.68	5.08	5.5	5.96	6.44	6.95	7.49	8.05	8.64	9.25	9.89
	48	2.41	2.65	2.89	3.16	3.45	3.76	4.09	4.44	4.81	5.21	5.63	6.08	6.55	7.04	7.56	8.1	8.65	9.23
	49	2.3	2.52	2.75	3.01	3.28	3.56	3.87	4.2	4.55	4.92	5.31	5.72	6.16	6.61	7.08	7.57	8.07	8.59
	50	2.19	2.39	2.61	2.85	3.1	3.37	3.66	3.97	4.29	4.63	4.99	5.37	5.77	6.19	6.62	7.06	7.52	7.98
	51	2.07	2.27	2.47	2.7	2.93	3.18	3.45	3.74	4.04	4.35	4.69	5.03	5.4	5.78	6.17	6.57	6.98	7.4
	52	1.96	2.14	2.34	2.54	2.76	3	3.25	3.51	3.79	4.08	4.38	4.7	5.04	5.38	5.74	6.1	6.47	6.84
	53	1.85	2.02	2.2	2.39	2.6	2.82	3.05	3.29	3.54	3.81	4.09	4.39	4.69	5	5.32	5.65	5.98	6.32
	54	1.74	1.9	2.07	2.25	2.44	2.64	2.85	3.07	3.31	3.56	3.81	4.08	4.36	4.64	4.93	5.23	5.53	5.83
	55	1.64	1.78	1.94	2.11	2.28	2.47	2.66	2.87	3.08	3.31	3.55	3.79	4.04	4.3	4.56	4.83	5.1	5.37
	56	1.54	1.67	1.82	1.97	2.13	2.3	2.48	2.67	2.87	3.08	3.29	3.51	3.74	3.97	4.21	4.45	4.69	4.93
	57	1.44	1.56	1.7	1.84	1.99	2.14	2.31	2.48	2.66	2.85	3.05	3.25	3.45	3.66	3.88	4.1	4.31	4.53
	58	1.34	1.46	1.58	1.71	1.85	1.99	2.14	2.3	2.47	2.64	2.82	3	3.19	3.38	3.57	3.76	3.96	4.15
	59	1.25	1.36	1.47	1.59	1.72	1.85	1.99	2.13	2.28	2.44	2.6	2.77	2.93	3.11	3.28	3.45	3.63	3.8
	60	1.16	1.26	1.37	1.48	1.59	1.71	1.84	1.97	2.11	2.25	2.4	2.55	2.7	2.85	3.01	3.17	3.32	3.48
	61	1.08	1.17	1.27	1.37	1.47	1.58	1.7	1.82	1.94	2.07	2.2	2.34	2.48	2.62	2.76	2.9	3.04	3.18
	62	1	1.08	1.17	1.26	1.36	1.46	1.57	1.67	1.79	1.9	2.02	2.15	2.27	2.4	2.52	2.65	2.77	2.9
	63	0.93	1	1.08	1.17	1.25	1.35	1.44	1.54	1.64	1.75	1.86	1.97	2.08	2.19	2.31	2.42	2.53	2.64
	64	0.85	0.92	1	1.07	1.15	1.24	1.32	1.41	1.51	1.6	1.7	1.8	1.9	2	2.1	2.21	2.31	2.41

TABLE MPB.1-1. NICHOLS RANCH UNIT MODEL DRAWDOWN PRINTOUT

		I-COLUMN																	
		19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
J-ROW	1	2.49	2.58	2.66	2.74	2.81	2.88	2.94	2.99	3.04	3.07	3.1	3.12	3.12	3.12	3.11	3.09	3.06	3.02
	2	2.73	2.83	2.92	3.01	3.09	3.16	3.23	3.29	3.34	3.38	3.41	3.42	3.43	3.43	3.42	3.39	3.36	3.32
	3	2.99	3.1	3.2	3.3	3.39	3.47	3.54	3.61	3.66	3.71	3.74	3.76	3.77	3.76	3.75	3.72	3.69	3.64
	4	3.26	3.38	3.5	3.61	3.71	3.8	3.88	3.95	4.01	4.06	4.1	4.12	4.13	4.13	4.11	4.08	4.04	3.98
	5	3.56	3.69	3.82	3.94	4.05	4.16	4.25	4.33	4.39	4.45	4.49	4.51	4.52	4.52	4.5	4.47	4.42	4.36
	6	3.88	4.02	4.17	4.3	4.42	4.54	4.64	4.73	4.8	4.86	4.91	4.93	4.94	4.94	4.92	4.88	4.83	4.76
	7	4.22	4.38	4.54	4.68	4.82	4.95	5.06	5.16	5.24	5.31	5.36	5.39	5.4	5.39	5.37	5.33	5.27	5.19
	8	4.58	4.76	4.93	5.1	5.25	5.39	5.52	5.62	5.72	5.79	5.84	5.88	5.89	5.89	5.86	5.81	5.74	5.66
	9	4.96	5.16	5.35	5.54	5.71	5.86	6	6.12	6.23	6.31	6.37	6.41	6.42	6.41	6.38	6.33	6.25	6.16
	10	5.37	5.59	5.8	6.01	6.2	6.37	6.53	6.66	6.78	6.87	6.94	6.98	6.99	6.98	6.95	6.89	6.8	6.7
	11	5.8	6.05	6.28	6.51	6.72	6.91	7.09	7.24	7.37	7.47	7.54	7.59	7.61	7.6	7.56	7.49	7.39	7.27
	12	6.26	6.53	6.79	7.04	7.28	7.49	7.69	7.86	8	8.11	8.2	8.25	8.27	8.26	8.21	8.14	8.03	7.89
	13	6.74	7.04	7.33	7.61	7.87	8.11	8.33	8.52	8.68	8.81	8.9	8.96	8.99	8.97	8.92	8.83	8.71	8.56
	14	7.25	7.58	7.91	8.22	8.51	8.77	9.02	9.23	9.41	9.56	9.66	9.73	9.76	9.74	9.68	9.58	9.44	9.27
	15	7.79	8.16	8.51	8.86	9.18	9.48	9.75	10	10.2	10.36	10.48	10.56	10.59	10.57	10.5	10.39	10.23	10.04
	16	8.35	8.76	9.15	9.54	9.9	10.24	10.54	10.82	11.05	11.23	11.37	11.46	11.49	11.46	11.39	11.26	11.08	10.86
	17	8.94	9.39	9.83	10.26	10.66	11.04	11.39	11.7	11.96	12.17	12.33	12.42	12.46	12.43	12.35	12.2	12	11.74
	18	9.55	10.05	10.54	11.02	11.47	11.9	12.29	12.64	12.94	13.18	13.36	13.48	13.52	13.49	13.39	13.22	12.99	12.7
	19	10.18	10.74	11.28	11.82	12.33	12.82	13.26	13.66	14	14.28	14.49	14.62	14.67	14.63	14.52	14.32	14.05	13.72
	20	10.84	11.45	12.06	12.66	13.24	13.79	14.3	14.76	15.15	15.48	15.72	15.87	15.92	15.88	15.74	15.52	15.21	14.82
	21	11.52	12.2	12.88	13.55	14.2	14.83	15.41	15.94	16.4	16.77	17.05	17.23	17.3	17.25	17.09	16.82	16.46	16.01
	22	12.21	12.96	13.72	14.47	15.21	15.93	16.6	17.21	17.75	18.19	18.52	18.73	18.81	18.75	18.56	18.25	17.82	17.3
	23	12.91	13.74	14.59	15.44	16.28	17.09	17.87	18.58	19.21	19.74	20.14	20.39	20.48	20.41	20.19	19.81	19.31	18.69
	24	13.62	14.54	15.48	16.43	17.39	18.32	19.22	20.06	20.81	21.44	21.92	22.23	22.34	22.26	21.99	21.53	20.92	20.19
	25	14.32	15.34	16.38	17.46	18.54	19.62	20.67	21.66	22.56	23.32	23.91	24.29	24.43	24.33	23.99	23.43	22.7	21.82
	26	15.01	16.12	17.29	18.49	19.72	20.97	22.19	23.37	24.46	25.4	26.14	26.62	26.8	26.67	26.24	25.55	24.64	23.57
	27	15.67	16.89	18.18	19.52	20.92	22.36	23.8	25.21	26.54	27.71	28.65	29.28	29.52	29.35	28.79	27.9	26.76	25.45
	28	16.3	17.62	19.03	20.53	22.11	23.76	25.46	27.16	28.8	30.29	31.52	32.35	32.68	32.45	31.71	30.54	29.09	27.46
	29	16.86	18.29	19.83	21.49	23.26	25.15	27.14	29.19	31.24	33.17	34.82	35.97	36.44	36.12	35.08	33.51	31.61	29.57
	30	17.35	18.88	20.55	22.36	24.33	26.47	28.78	31.25	33.81	36.36	38.65	40.34	41.04	40.56	39.03	36.82	34.3	31.72
	31	17.75	19.37	21.14	23.1	25.26	27.65	30.3	33.23	36.43	39.8	43.1	45.76	46.94	46.13	43.69	40.46	37.06	33.82
	32	18.04	19.73	21.59	23.67	25.99	28.61	31.58	34.97	38.87	43.31	48.18	52.73	55.05	53.44	49.14	44.24	39.68	35.68
	33	18.21	19.94	21.87	24.03	26.47	29.25	32.47	36.25	40.78	46.35	53.36	61.85	67.95	63.53	54.95	47.6	41.77	37.05
	34	18.24	20	21.95	24.15	26.65	29.51	32.85	36.82	41.71	47.99	56.74	70.93	100.31	75.13	58.96	49.47	42.8	37.68
	35	18.14	19.89	21.83	24.02	26.5	29.33	32.64	36.56	41.35	47.44	55.67	67.77	81.77	70.83	57.69	48.86	42.42	37.41
	36	17.91	19.62	21.51	23.64	26.03	28.75	31.87	35.5	39.8	44.93	51.03	57.61	61.56	58.77	52.34	46.05	40.72	36.27
	37	17.55	19.19	21.01	23.03	25.28	27.8	30.63	33.84	37.44	41.43	45.58	49.21	50.94	49.75	46.38	42.24	38.19	34.5
	38	17.07	18.63	20.35	22.23	24.3	26.58	29.08	31.8	34.72	37.73	40.56	42.76	43.7	43.06	41.06	38.31	35.3	32.35
	39	16.5	17.96	19.56	21.28	23.15	25.17	27.33	29.61	31.94	34.21	36.2	37.64	38.23	37.83	36.53	34.62	32.39	30.05
	40	15.85	17.21	18.67	20.23	21.9	23.67	25.51	27.4	29.26	30.98	32.44	33.44	33.84	33.57	32.67	31.29	29.6	27.76
	41	15.15	16.39	17.72	19.12	20.59	22.13	23.69	25.25	26.74	28.08	29.17	29.9	30.19	29.99	29.34	28.31	27.01	25.54
	42	14.4	15.53	16.73	17.98	19.27	20.6	21.92	23.21	24.42	25.47	26.31	26.87	27.08	26.94	26.45	25.66	24.63	23.45
	43	13.62	14.65	15.72	16.83	17.96	19.1	20.23	21.3	22.29	23.13	23.8	24.23	24.39	24.28	23.9	23.28	22.46	21.5
	44	12.84	13.77	14.72	15.7	16.69	17.67	18.63	19.53	20.34	21.03	21.56	21.9	22.03	21.94	21.64	21.14	20.48	19.7
	45	12.06	12.89	13.74	14.61	15.47	16.32	17.13	17.89	18.56	19.13	19.56	19.84	19.94	19.87	19.63	19.22	18.68	18.03
	46	11.29	12.03	12.79	13.55	14.3	15.04	15.73	16.37	16.94	17.41	17.76	17.99	18.08	18.02	17.82	17.49	17.04	16.5
	47	10.54	11.2	11.88	12.54	13.2	13.84	14.43	14.98	15.45	15.85	16.15	16.33	16.41	16.36	16.2	15.92	15.55	15.09
	48	9.81	10.41	11	11.59	12.16	12.71	13.23	13.69	14.1	14.43	14.68	14.84	14.9	14.86	14.73	14.5	14.18	13.79
	49	9.12	9.64	10.17	10.69	11.19	11.67	12.11	12.51	12.86	13.14	13.36	13.49	13.54	13.51	13.39	13.2	12.93	12.6
	50	8.45	8.92	9.39	9.84	10.28	10.7	11.09	11.43	11.73	11.97	12.15	12.27	12.31	12.28	12.19	12.02	11.8	11.51
	51	7.82	8.24	8.65	9.05	9.44	9.8	10.14	10.44	10.69	10.9	11.06	11.15	11.19	11.17	11.09	10.95	10.75	10.51
	52	7.22	7.59	7.96	8.31	8.65	8.97	9.26	9.52	9.74	9.92	10.06	10.14	10.18	10.16	10.09	9.97	9.8	9.59
	53	6.66	6.99	7.31	7.63	7.93	8.2	8.46	8.68	8.88	9.03	9.15	9.22	9.25	9.24	9.18	9.08	8.93	8.75
	54	6.13	6.42	6.71	6.99	7.25	7.5	7.72	7.92	8.08	8.22	8.32	8.39	8.41	8.4	8.35	8.26	8.14	7.98
	55	5.63	5.9	6.15	6.4	6.63	6.84	7.04	7.21	7.36	7.48	7.57	7.62	7.65	7.63	7.59	7.51	7.41	7.27
	56	5.17	5.41	5.63	5.85	6.05	6.24	6.42	6.57	6.7	6.8	6.88	6.93	6.95	6.94	6.9	6.83	6.74	6.62
	57	4.74	4.95	5.15	5.34	5.52	5.69	5.84	5.98	6.09	6.18	6.25	6.29	6.31	6.3	6.27	6.21	6.13	6.03
	58	4.34	4.53	4.71	4.88	5.04	5.18	5.32	5.44	5.53	5.61	5.67	5.71	5.73	5.72	5.7	5.65	5.58	5.49
	59	3.97	4.14	4.3	4.45	4.59	4.72	4.84	4.94	5.03	5.1	5.15	5.19	5.2	5.2	5.17	5.13	5.07	4.99
	60	3.63	3.78	3.92	4.05	4.18	4.29	4.4	4.49	4.57	4.63	4.67	4.7	4.72	4.71	4.69	4.66	4.6	4.54
	61	3.31	3.44	3.57	3.69	3.8	3.9	3.99	4.07	4.14	4.2	4.24	4.27	4.28	4.28	4.26	4.23	4.18	4.12
	62	3.02	3.14	3.25	3.35	3.45	3.54	3.62	3.7	3.76	3.81	3.84	3.87	3.88	3.88	3.86	3.83	3.79	3.74
	63	2.75	2.85	2.95	3.05	3.14	3.22	3.29	3.35	3.41	3.45	3.48	3.5	3.51	3.51	3.5	3.48	3.44	3.39
	64	2.5	2.59	2.68	2.77	2.84	2.92	2.98	3.04	3.08	3.12	3.15	3.17	3.18	3.18	3.17	3.15	3.12	3.08

TABLE MPB.1-1. NICHOLS RANCH UNIT MODEL DRAWDOWN PRINTOUT

		I-COLUMN																	
		37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
J-ROW	1	2.98	2.92	2.86	2.79	2.72	2.64	2.55	2.47	2.38	2.28	2.19	2.09	1.99	1.9	1.8	1.71	1.61	1.52
	2	3.27	3.21	3.14	3.06	2.98	2.89	2.8	2.7	2.6	2.49	2.39	2.28	2.17	2.07	1.96	1.86	1.75	1.65
	3	3.58	3.51	3.44	3.35	3.26	3.16	3.06	2.95	2.84	2.72	2.6	2.49	2.37	2.25	2.13	2.02	1.9	1.79
	4	3.92	3.84	3.76	3.66	3.56	3.45	3.33	3.21	3.09	2.96	2.83	2.7	2.57	2.44	2.31	2.19	2.06	1.94
	5	4.28	4.2	4.1	4	3.88	3.76	3.63	3.5	3.36	3.22	3.08	2.93	2.79	2.65	2.51	2.37	2.23	2.1
	6	4.68	4.58	4.48	4.36	4.23	4.09	3.95	3.8	3.65	3.5	3.34	3.18	3.02	2.86	2.71	2.56	2.41	2.26
	7	5.1	4.99	4.87	4.74	4.6	4.45	4.29	4.13	3.96	3.79	3.61	3.44	3.26	3.09	2.92	2.76	2.59	2.43
	8	5.56	5.44	5.3	5.16	5	4.83	4.66	4.47	4.29	4.1	3.91	3.71	3.52	3.33	3.15	2.96	2.79	2.61
	9	6.04	5.91	5.76	5.6	5.42	5.24	5.04	4.84	4.63	4.42	4.21	4	3.79	3.59	3.38	3.18	2.99	2.8
	10	6.57	6.42	6.25	6.07	5.87	5.67	5.45	5.23	5	4.77	4.54	4.31	4.08	3.85	3.63	3.41	3.2	3
	11	7.13	6.96	6.78	6.57	6.35	6.12	5.88	5.64	5.39	5.13	4.88	4.63	4.37	4.13	3.89	3.65	3.42	3.2
	12	7.73	7.54	7.33	7.11	6.86	6.61	6.34	6.07	5.8	5.52	5.24	4.96	4.68	4.41	4.15	3.9	3.65	3.41
	13	8.37	8.16	7.93	7.68	7.41	7.12	6.83	6.53	6.22	5.92	5.61	5.31	5.01	4.71	4.43	4.15	3.88	3.63
	14	9.06	8.83	8.57	8.28	7.98	7.67	7.34	7.01	6.67	6.33	6	5.67	5.34	5.02	4.71	4.41	4.12	3.85
	15	9.8	9.54	9.24	8.93	8.59	8.24	7.88	7.51	7.14	6.77	6.4	6.04	5.68	5.34	5	4.68	4.37	4.07
	16	10.6	10.3	9.97	9.61	9.24	8.84	8.44	8.04	7.63	7.22	6.82	6.42	6.04	5.66	5.3	4.95	4.62	4.3
	17	11.44	11.11	10.73	10.33	9.91	9.48	9.03	8.59	8.14	7.69	7.25	6.82	6.4	6	5.6	5.23	4.87	4.53
	18	12.35	11.97	11.55	11.1	10.63	10.14	9.65	9.15	8.66	8.17	7.69	7.22	6.77	6.33	5.91	5.51	5.12	4.76
	19	13.33	12.89	12.42	11.91	11.38	10.84	10.29	9.74	9.2	8.67	8.14	7.63	7.14	6.67	6.22	5.79	5.38	4.99
	20	14.38	13.87	13.33	12.76	12.17	11.56	10.96	10.35	9.75	9.17	8.6	8.05	7.52	7.01	6.53	6.07	5.63	5.21
	21	15.5	14.92	14.31	13.66	12.99	12.32	11.64	10.97	10.32	9.68	9.06	8.47	7.9	7.35	6.83	6.34	5.88	5.44
	22	16.7	16.04	15.33	14.6	13.85	13.09	12.34	11.61	10.89	10.19	9.52	8.88	8.27	7.68	7.13	6.61	6.12	5.65
	23	17.99	17.22	16.41	15.58	14.73	13.89	13.06	12.25	11.46	10.7	9.98	9.29	8.63	8.01	7.42	6.87	6.35	5.86
	24	19.37	18.47	17.54	16.59	15.64	14.7	13.78	12.89	12.03	11.21	10.43	9.69	8.99	8.32	7.7	7.12	6.57	6.06
	25	20.84	19.79	18.72	17.63	16.56	15.51	14.49	13.52	12.59	11.7	10.86	10.07	9.32	8.62	7.97	7.35	6.78	6.24
	26	22.4	21.18	19.93	18.7	17.49	16.32	15.2	14.13	13.12	12.17	11.27	10.43	9.64	8.9	8.21	7.57	6.97	6.41
	27	24.05	22.6	21.16	19.76	18.4	17.11	15.88	14.72	13.63	12.61	11.66	10.77	9.93	9.16	8.44	7.77	7.15	6.57
	28	25.76	24.06	22.39	20.8	19.28	17.86	16.52	15.27	14.1	13.02	12.01	11.07	10.2	9.39	8.64	7.94	7.3	6.7
	29	27.51	25.5	23.59	21.79	20.11	18.55	17.1	15.76	14.52	13.37	12.31	11.33	10.43	9.59	8.81	8.09	7.43	6.82
	30	29.23	26.88	24.7	22.69	20.85	19.16	17.61	16.19	14.88	13.68	12.57	11.55	10.61	9.75	8.95	8.21	7.53	6.91
	31	30.83	28.12	25.68	23.47	21.48	19.67	18.03	16.53	15.17	13.92	12.77	11.72	10.76	9.87	9.05	8.3	7.61	6.97
	32	32.18	29.13	26.45	24.07	21.95	20.05	18.33	16.78	15.37	14.08	12.91	11.83	10.85	9.95	9.12	8.36	7.66	7.01
	33	33.14	29.82	26.96	24.45	22.24	20.27	18.51	16.92	15.48	14.17	12.98	11.89	10.89	9.98	9.15	8.38	7.67	7.03
	34	33.55	30.09	27.15	24.59	22.34	20.34	18.55	16.94	15.49	14.18	12.98	11.89	10.89	9.97	9.13	8.37	7.66	7.01
	35	33.33	29.92	26.99	24.45	22.22	20.23	18.45	16.85	15.41	14.1	12.91	11.82	10.83	9.92	9.08	8.32	7.62	6.97
	36	32.52	29.3	26.51	24.06	21.89	19.95	18.21	16.65	15.23	13.94	12.76	11.69	10.71	9.81	8.99	8.24	7.54	6.9
	37	31.22	28.31	25.73	23.43	21.37	19.52	17.85	16.33	14.95	13.7	12.55	11.51	10.55	9.67	8.86	8.12	7.44	6.81
	38	29.58	27.03	24.71	22.6	20.69	18.95	17.36	15.92	14.6	13.39	12.28	11.27	10.34	9.48	8.7	7.97	7.31	6.7
	39	27.76	25.57	23.52	21.62	19.87	18.26	16.78	15.42	14.17	13.01	11.96	10.98	10.08	9.26	8.5	7.8	7.15	6.56
	40	25.87	24.01	22.23	20.54	18.96	17.49	16.12	14.85	13.67	12.58	11.58	10.65	9.79	9	8.27	7.59	6.97	6.4
	41	23.99	22.43	20.89	19.4	17.99	16.65	15.39	14.22	13.13	12.11	11.16	10.28	9.47	8.71	8.02	7.37	6.77	6.22
	42	22.17	20.85	19.53	18.23	16.97	15.77	14.63	13.56	12.54	11.6	10.71	9.89	9.12	8.4	7.74	7.12	6.55	6.02
	43	20.44	19.33	18.19	17.06	15.95	14.87	13.84	12.86	11.94	11.06	10.24	9.47	8.75	8.07	7.44	6.86	6.32	5.81
	44	18.81	17.87	16.89	15.91	14.93	13.97	13.05	12.16	11.31	10.51	9.75	9.03	8.36	7.73	7.14	6.59	6.07	5.59
	45	17.29	16.49	15.65	14.79	13.93	13.08	12.26	11.45	10.68	9.95	9.25	8.58	7.96	7.37	6.82	6.3	5.82	5.36
	46	15.87	15.19	14.47	13.72	12.97	12.22	11.48	10.75	10.06	9.38	8.74	8.13	7.55	7.01	6.49	6.01	5.55	5.13
	47	14.56	13.97	13.35	12.7	12.04	11.37	10.71	10.07	9.44	8.83	8.24	7.68	7.15	6.64	6.16	5.71	5.29	4.89
	48	13.34	12.84	12.3	11.74	11.15	10.57	9.98	9.4	8.83	8.28	7.75	7.24	6.75	6.28	5.84	5.42	5.02	4.65
	49	12.22	11.79	11.32	10.83	10.32	9.8	9.28	8.76	8.25	7.75	7.26	6.8	6.35	5.92	5.51	5.12	4.76	4.41
	50	11.18	10.81	10.4	9.97	9.52	9.07	8.6	8.14	7.68	7.23	6.79	6.37	5.96	5.57	5.19	4.83	4.49	4.17
	51	10.23	9.9	9.55	9.17	8.78	8.38	7.96	7.55	7.14	6.74	6.34	5.95	5.58	5.22	4.88	4.55	4.23	3.93
	52	9.35	9.07	8.76	8.43	8.08	7.73	7.36	6.99	6.63	6.26	5.9	5.55	5.21	4.89	4.57	4.27	3.98	3.7
	53	8.54	8.29	8.03	7.74	7.43	7.12	6.79	6.47	6.14	5.81	5.49	5.17	4.86	4.56	4.28	4	3.73	3.48
	54	7.79	7.58	7.35	7.09	6.83	6.55	6.26	5.97	5.67	5.38	5.09	4.8	4.53	4.25	3.99	3.74	3.49	3.26
	55	7.11	6.93	6.72	6.5	6.26	6.02	5.76	5.5	5.24	4.98	4.71	4.46	4.2	3.96	3.72	3.49	3.26	3.05
	56	6.48	6.32	6.14	5.95	5.74	5.52	5.29	5.06	4.83	4.59	4.36	4.13	3.9	3.68	3.46	3.25	3.04	2.85
	57	5.91	5.77	5.61	5.44	5.25	5.06	4.86	4.65	4.45	4.24	4.02	3.82	3.61	3.41	3.21	3.02	2.83	2.65
	58	5.38	5.26	5.12	4.97	4.81	4.64	4.46	4.27	4.09	3.9	3.71	3.52	3.34	3.15	2.97	2.8	2.63	2.47
	59	4.9	4.79	4.67	4.53	4.39	4.24	4.08	3.92	3.75	3.58	3.42	3.25	3.08	2.91	2.75	2.59	2.44	2.29
	60	4.45	4.36	4.25	4.14	4.01	3.88	3.74	3.59	3.44	3.29	3.14	2.99	2.84	2.69	2.54	2.4	2.26	2.12
	61	4.05	3.97	3.87	3.77	3.66	3.54	3.41	3.29	3.15	3.02	2.88	2.75	2.61	2.48	2.34	2.21	2.09	1.96
	62	3.68	3.61	3.52	3.43	3.33	3.23	3.12	3	2.89	2.77	2.64	2.52	2.4	2.28	2.16	2.04	1.93	1.81
	63	3.34	3.28	3.2	3.12	3.03	2.94	2.84	2.74	2.64	2.53	2.42	2.31	2.2	2.09	1.98	1.88	1.77	1.67
	64	3.03	2.97	2.91	2.84	2.76	2.68	2.59	2.5	2.41	2.31	2.21	2.12	2.02	1.92	1.82	1.73	1.63	1.54

TABLE MPB.1-1. NICHOLS RANCH UNIT MODEL DRAWDOWN PRINTOUT

I-COLUMN

J-ROW	55	56	57	58	59
1	1.43	1.34	1.26	1.18	1.1
2	1.55	1.46	1.37	1.28	1.19
3	1.68	1.58	1.48	1.38	1.29
4	1.82	1.71	1.6	1.49	1.39
5	1.97	1.84	1.72	1.61	1.5
6	2.12	1.98	1.85	1.73	1.61
7	2.28	2.13	1.99	1.85	1.72
8	2.45	2.29	2.13	1.98	1.84
9	2.62	2.45	2.28	2.12	1.97
10	2.8	2.61	2.43	2.26	2.1
11	2.99	2.78	2.59	2.41	2.23
12	3.18	2.96	2.75	2.55	2.36
13	3.38	3.14	2.92	2.7	2.5
14	3.58	3.33	3.09	2.86	2.64
15	3.79	3.51	3.26	3.01	2.78
16	3.99	3.7	3.43	3.17	2.93
17	4.2	3.89	3.6	3.33	3.07
18	4.41	4.08	3.77	3.48	3.21
19	4.62	4.27	3.94	3.64	3.35
20	4.82	4.46	4.11	3.79	3.48
21	5.02	4.64	4.27	3.93	3.61
22	5.22	4.81	4.43	4.07	3.74
23	5.4	4.98	4.58	4.21	3.86
24	5.58	5.13	4.72	4.33	3.97
25	5.75	5.28	4.85	4.45	4.08
26	5.9	5.42	4.97	4.55	4.17
27	6.03	5.54	5.07	4.65	4.25
28	6.15	5.64	5.17	4.73	4.33
29	6.25	5.73	5.24	4.8	4.39
30	6.33	5.8	5.3	4.85	4.43
31	6.39	5.84	5.35	4.89	4.47
32	6.42	5.87	5.37	4.91	4.48
33	6.43	5.88	5.38	4.91	4.49
34	6.42	5.87	5.37	4.9	4.48
35	6.38	5.83	5.33	4.87	4.45
36	6.32	5.78	5.29	4.83	4.41
37	6.24	5.71	5.22	4.77	4.36
38	6.13	5.61	5.13	4.7	4.29
39	6.01	5.5	5.04	4.61	4.21
40	5.86	5.37	4.92	4.5	4.12
41	5.7	5.23	4.79	4.39	4.02
42	5.53	5.08	4.66	4.27	3.91
43	5.34	4.91	4.51	4.13	3.79
44	5.15	4.73	4.35	3.99	3.66
45	4.94	4.55	4.18	3.84	3.53
46	4.73	4.36	4.01	3.69	3.39
47	4.52	4.17	3.84	3.54	3.25
48	4.3	3.97	3.66	3.38	3.11
49	4.08	3.77	3.49	3.22	2.96
50	3.87	3.58	3.31	3.06	2.82
51	3.65	3.39	3.13	2.9	2.68
52	3.44	3.19	2.96	2.74	2.53
53	3.24	3.01	2.79	2.59	2.39
54	3.04	2.83	2.62	2.43	2.25
55	2.84	2.65	2.46	2.29	2.12
56	2.66	2.48	2.31	2.14	1.99
57	2.48	2.31	2.16	2.01	1.86
58	2.31	2.16	2.01	1.87	1.74
59	2.15	2.01	1.87	1.75	1.63
60	1.99	1.86	1.74	1.63	1.51
61	1.84	1.73	1.62	1.51	1.41
62	1.7	1.6	1.5	1.4	1.31
63	1.57	1.48	1.38	1.3	1.21
64	1.45	1.36	1.28	1.2	1.12

TABLE MPB.1-1. NICHOLS RANCH UNIT MODEL DRAWDOWN PRINTOUT

OBSERVATION WELL COMPUTATION RESULTS WITH FULL WELL PENETRATION AND WITHOUT WELLBORE STORAGE:

TIME-DRAWDOWN OR RECOVERY TABLE

OBSERVATION WELL NUMBER: 1

TIME(DAYS)	DRAWDOWN OR RECOVERY(FT)
1095.000	0.86

TABLE MPB.2-1. HANK UNIT MODEL DRAWDOWN PRINTOUT

HANK UNIT 3.0% DRAWDOWN WELLFIELD T=400 S=0.05 Q= 75.0 GPM
AO AND WO = 1 1

GENERAL DATA BASE:

TS = 1
Number of simulation periods for which drawdown
or recovery is to be calculated 1
Simulation period number= 1
Duration of simulation period in days= 1095.000
Number of grid columns= 35
Number of grid rows= 65
Grid spacing in ft= 200.00
X-coordinate of upper-left grid node in ft= 0.00
Y-coordinate of upper-left grid node in ft= -1000.00
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 1
X-coordinate of well in ft= 2400.00
Y-coordinate of well in ft= 500.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 1095.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 2
X-coordinate of well in ft= 3000.00
Y-coordinate of well in ft= 1100.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 1095.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 3
X-coordinate of well in ft= 3900.00
Y-coordinate of well in ft= 1000.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 1095.000
Well radius in ft= 0.50
Simulation period number= 1

Number of production, injection, and image wells
active during simulation period= 18
Well number= 4
X-coordinate of well in ft= 3800.00
Y-coordinate of well in ft= 1900.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 1095.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 5
X-coordinate of well in ft= 3800.00
Y-coordinate of well in ft= 2800.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 1095.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 6
X-coordinate of well in ft= 3700.00
Y-coordinate of well in ft= 3700.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 1095.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 7
X-coordinate of well in ft= 2400.00
Y-coordinate of well in ft= 500.00
Well discharge in gpm= -12.50
Duration of pump operation during simulation period
in days= 548.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 8
X-coordinate of well in ft= 3000.00
Y-coordinate of well in ft= 1100.00
Well discharge in gpm= -12.50

Duration of pump operation during simulation period
in days= 548.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 9
X-coordinate of well in ft= 3900.00
Y-coordinate of well in ft= 1000.00
Well discharge in gpm= -12.50
Duration of pump operation during simulation period
in days= 548.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 10
X-coordinate of well in ft= 3800.00
Y-coordinate of well in ft= 1900.00
Well discharge in gpm= -12.50
Duration of pump operation during simulation period
in days= 548.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 11
X-coordinate of well in ft= 3800.00
Y-coordinate of well in ft= 2800.00
Well discharge in gpm= -12.50
Duration of pump operation during simulation period
in days= 548.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 12
X-coordinate of well in ft= 3700.00
Y-coordinate of well in ft= 3700.00
Well discharge in gpm= -12.50
Duration of pump operation during simulation period
in days= 548.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18

Well number= 13
X-coordinate of well in ft= 3600.00
Y-coordinate of well in ft= 4600.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 548.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 14
X-coordinate of well in ft= 3600.00
Y-coordinate of well in ft= 5500.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 548.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 15
X-coordinate of well in ft= 3600.00
Y-coordinate of well in ft= 6400.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 548.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 16
X-coordinate of well in ft= 3600.00
Y-coordinate of well in ft= 7300.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 548.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 17
X-coordinate of well in ft= 3600.00
Y-coordinate of well in ft= 8200.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 548.000

TABLE MPB.2-1. HANK UNIT MODEL DRAWDOWN PRINTOUT

Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 18
X-coordinate of well in ft= 4300.00
Y-coordinate of well in ft= 9000.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 548.000
Well radius in ft= 0.50
Number of observation wells for which time-
drawdown tables are desired 1
Observation well number= 1
I-coordinate of observation well= 1
J-coordinate of observation well= 1
Aquifer transmissivity in gpd/ft= 400.00
Aquifer storativity as a decimal= 0.050000

NODAL COMPUTATION RESULTS:

SIMULATION PERIOD DURATION IN DAYS: 1095.000

VALUES OF DRAWDOWN OR RECOVERY (FT) AT NODES:

TABLE MPB.2-1. HANK UNIT MODEL DRAWDOWN PRINTOUT

		I-COLUMN																	
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**
J-ROW	1	0.31	0.41	0.52	0.67	0.83	1.01	1.21	1.43	1.64	1.86	2.06	2.24	2.39	2.5	2.57	2.59	2.57	2.5
	2	0.37	0.48	0.63	0.8	1	1.22	1.47	1.73	1.99	2.26	2.51	2.74	2.93	3.07	3.16	3.2	3.18	3.1
	3	0.43	0.56	0.73	0.94	1.17	1.44	1.73	2.05	2.37	2.69	3	3.28	3.52	3.7	3.82	3.88	3.86	3.78
	4	0.49	0.64	0.84	1.07	1.35	1.66	2.01	2.37	2.76	3.14	3.51	3.85	4.14	4.37	4.53	4.61	4.61	4.52
	5	0.54	0.72	0.94	1.21	1.52	1.88	2.27	2.7	3.15	3.59	4.03	4.43	4.78	5.06	5.26	5.37	5.39	5.3
	6	0.59	0.79	1.04	1.33	1.68	2.08	2.52	3.01	3.51	4.03	4.53	5	5.41	5.75	6	6.14	6.18	6.1
	7	0.64	0.85	1.11	1.44	1.82	2.26	2.75	3.28	3.85	4.42	4.99	5.52	6	6.4	6.7	6.89	6.95	6.89
	8	0.67	0.89	1.18	1.52	1.93	2.4	2.93	3.51	4.13	4.76	5.39	5.99	6.53	6.99	7.35	7.58	7.68	7.63
	9	0.69	0.92	1.22	1.57	2	2.5	3.06	3.68	4.34	5.02	5.71	6.37	6.97	7.5	7.91	8.19	8.33	8.31
	10	0.69	0.93	1.23	1.6	2.04	2.55	3.14	3.78	4.48	5.21	5.94	6.65	7.31	7.89	8.36	8.7	8.88	8.89
	11	0.69	0.92	1.22	1.59	2.04	2.56	3.15	3.82	4.54	5.3	6.07	6.83	7.54	8.17	8.69	9.08	9.31	9.36
	12	0.67	0.9	1.2	1.56	2	2.52	3.12	3.79	4.52	5.3	6.1	6.89	7.64	8.32	8.9	9.33	9.61	9.7
	13	0.64	0.86	1.15	1.5	1.93	2.44	3.03	3.7	4.43	5.22	6.03	6.85	7.64	8.36	8.97	9.45	9.77	9.91
	14	0.6	0.81	1.08	1.42	1.83	2.33	2.9	3.56	4.28	5.07	5.89	6.72	7.53	8.27	8.93	9.45	9.81	9.99
	15	0.55	0.75	1.01	1.33	1.72	2.19	2.74	3.38	4.08	4.86	5.67	6.51	7.33	8.1	8.78	9.34	9.74	9.95
	16	0.5	0.69	0.92	1.22	1.59	2.03	2.56	3.17	3.85	4.6	5.41	6.24	7.06	7.84	8.55	9.14	9.57	9.82
	17	0.45	0.62	0.84	1.11	1.45	1.87	2.36	2.94	3.6	4.32	5.11	5.92	6.75	7.54	8.26	8.87	9.33	9.61
	18	0.4	0.56	0.75	1	1.32	1.7	2.17	2.71	3.33	4.03	4.79	5.59	6.41	7.2	7.93	8.55	9.04	9.35
	19	0.36	0.49	0.67	0.9	1.19	1.54	1.97	2.48	3.07	3.74	4.48	5.26	6.06	6.85	7.58	8.22	8.73	9.06
	20	0.31	0.43	0.59	0.8	1.06	1.39	1.79	2.27	2.82	3.46	4.17	4.93	5.72	6.51	7.25	7.9	8.43	8.78
	21	0.27	0.38	0.52	0.71	0.95	1.25	1.62	2.06	2.59	3.2	3.88	4.63	5.41	6.2	6.95	7.63	8.17	8.55
	22	0.24	0.33	0.46	0.63	0.84	1.12	1.46	1.88	2.38	2.96	3.62	4.36	5.14	5.94	6.72	7.43	8.02	8.42
	23	0.2	0.29	0.4	0.55	0.75	1	1.32	1.71	2.18	2.74	3.39	4.12	4.92	5.75	6.58	7.35	8	8.46
	24	0.18	0.25	0.35	0.49	0.67	0.9	1.19	1.56	2.01	2.56	3.2	3.93	4.76	5.64	6.56	7.44	8.21	8.76
	25	0.15	0.22	0.31	0.43	0.59	0.8	1.08	1.42	1.86	2.39	3.03	3.79	4.66	5.63	6.68	7.74	8.71	9.44
	26	0.13	0.19	0.27	0.38	0.52	0.72	0.97	1.3	1.72	2.24	2.89	3.68	4.61	5.7	6.94	8.28	9.61	10.69
	27	0.11	0.16	0.23	0.33	0.46	0.64	0.88	1.19	1.6	2.12	2.77	3.59	4.61	5.83	7.3	9.02	10.95	12.79
	28	0.1	0.14	0.2	0.29	0.41	0.57	0.8	1.09	1.49	2	2.67	3.52	4.61	5.97	7.67	9.81	12.55	16.04
	29	0.08	0.12	0.18	0.25	0.36	0.51	0.72	1	1.38	1.89	2.57	3.45	4.59	6.06	7.94	10.38	13.68	18.98
	30	0.07	0.1	0.15	0.22	0.32	0.46	0.65	0.92	1.29	1.79	2.47	3.37	4.55	6.09	8.06	10.57	13.72	17.58
	31	0.06	0.09	0.13	0.19	0.28	0.4	0.58	0.84	1.2	1.69	2.37	3.28	4.49	6.06	8.07	10.57	13.46	16.24
	32	0.05	0.07	0.11	0.16	0.24	0.36	0.53	0.77	1.11	1.6	2.27	3.18	4.4	6	8.06	10.63	13.69	16.88
	33	0.04	0.06	0.09	0.14	0.21	0.32	0.48	0.71	1.04	1.51	2.17	3.08	4.3	5.92	8.01	10.71	14.21	19.18
	34	0.03	0.05	0.08	0.12	0.19	0.29	0.43	0.65	0.97	1.43	2.08	2.98	4.2	5.81	7.91	10.61	14.12	19.09
	35	0.03	0.04	0.07	0.11	0.16	0.26	0.39	0.6	0.91	1.36	2	2.89	4.09	5.69	7.76	10.36	13.44	16.64
	36	0.02	0.04	0.06	0.09	0.15	0.23	0.36	0.56	0.86	1.3	1.93	2.8	4	5.59	7.64	10.19	13.15	15.97
	37	0.02	0.03	0.05	0.08	0.13	0.21	0.34	0.53	0.82	1.25	1.86	2.73	3.92	5.5	7.57	10.21	13.5	17.46
	38	0.02	0.03	0.04	0.07	0.12	0.19	0.31	0.5	0.78	1.2	1.81	2.67	3.85	5.43	7.51	10.2	13.79	19.3
	39	0.01	0.02	0.04	0.06	0.11	0.18	0.3	0.48	0.75	1.17	1.76	2.61	3.78	5.35	7.41	10.03	13.32	17.27
	40	0.01	0.02	0.03	0.06	0.1	0.17	0.28	0.46	0.73	1.13	1.72	2.56	3.72	5.28	7.3	9.83	12.77	15.59
	41	0.01	0.02	0.03	0.05	0.09	0.16	0.27	0.44	0.7	1.1	1.69	2.52	3.67	5.21	7.24	9.8	12.87	16.06
	42	0.01	0.02	0.03	0.05	0.09	0.15	0.26	0.42	0.68	1.07	1.65	2.46	3.6	5.15	7.19	9.84	13.34	18.31
	43	0.01	0.01	0.03	0.05	0.08	0.14	0.24	0.41	0.66	1.04	1.6	2.4	3.52	5.05	7.07	9.72	13.21	18.2
	44	0.01	0.01	0.02	0.04	0.08	0.14	0.23	0.39	0.63	1	1.54	2.32	3.42	4.91	6.88	9.4	12.47	15.71
	45	0.01	0.01	0.02	0.04	0.07	0.13	0.22	0.36	0.59	0.95	1.47	2.22	3.27	4.72	6.64	9.1	12.02	14.9
	46	0.01	0.01	0.02	0.04	0.07	0.12	0.2	0.34	0.55	0.88	1.37	2.08	3.09	4.48	6.35	8.83	12.06	16.09
	47	0	0.01	0.02	0.03	0.06	0.11	0.18	0.31	0.51	0.81	1.26	1.92	2.85	4.15	5.93	8.36	11.79	17.37
	48	0	0.01	0.02	0.03	0.05	0.1	0.16	0.28	0.45	0.73	1.13	1.72	2.56	3.73	5.32	7.48	10.41	14.31
	49	0	0.01	0.01	0.03	0.05	0.08	0.14	0.24	0.4	0.63	0.99	1.5	2.23	3.23	4.58	6.33	8.51	10.9
	50	0	0.01	0.01	0.02	0.04	0.07	0.12	0.21	0.34	0.54	0.84	1.27	1.88	2.7	3.79	5.16	6.79	8.53
	51	0	0	0.01	0.02	0.03	0.06	0.1	0.17	0.28	0.44	0.69	1.04	1.53	2.2	3.06	4.12	5.38	6.79
	52	0	0	0.01	0.01	0.03	0.05	0.08	0.14	0.22	0.36	0.55	0.83	1.22	1.74	2.41	3.24	4.23	5.39
	53	0	0	0.01	0.01	0.02	0.04	0.06	0.11	0.18	0.28	0.43	0.65	0.95	1.34	1.86	2.5	3.27	4.18
	54	0	0	0	0.01	0.02	0.03	0.05	0.08	0.13	0.21	0.33	0.49	0.72	1.01	1.4	1.88	2.46	3.15
	55	0	0	0	0.01	0.01	0.02	0.04	0.06	0.1	0.16	0.24	0.36	0.53	0.75	1.03	1.38	1.81	2.3
	56	0	0	0	0	0.01	0.01	0.03	0.04	0.07	0.11	0.17	0.26	0.38	0.54	0.74	0.99	1.29	1.63
	57	0	0	0	0	0.01	0.01	0.02	0.03	0.05	0.08	0.12	0.18	0.27	0.38	0.52	0.69	0.9	1.12
	58	0	0	0	0	0	0.01	0.01	0.02	0.03	0.05	0.08	0.12	0.18	0.26	0.35	0.47	0.61	0.75
	59	0	0	0	0	0	0	0.01	0.01	0.02	0.04	0.06	0.08	0.12	0.17	0.23	0.31	0.4	0.49
	60	0	0	0	0	0	0	0.01	0.01	0.01	0.02	0.04	0.05	0.08	0.11	0.15	0.2	0.25	0.31
	61	0	0	0	0	0	0	0	0.01	0.01	0.01	0.02	0.03	0.05	0.07	0.09	0.12	0.16	0.19
	62	0	0	0	0	0	0	0	0	0.01	0.01	0.01	0.02	0.03	0.04	0.06	0.08	0.1	0.12
	63	0	0	0	0	0	0	0	0	0	0.01	0.01	0.01	0.02	0.03	0.03	0.04	0.06	0.07
	64	0	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0.01	0.02	0.03	0.03	0.04
	65	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0.01	0.01	0.02	0.02

TABLE MPB.2-1. HANK UNIT MODEL DRAWDOWN PRINTOUT

		I-COLUMN																
		19	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**
J-ROW	1	2.39	2.25	2.08	1.89	1.69	1.48	1.28	1.09	0.91	0.74	0.6	0.47	0.37	0.28	0.21	0.16	0.11
	2	2.98	2.81	2.6	2.37	2.12	1.86	1.61	1.37	1.14	0.93	0.75	0.59	0.46	0.35	0.26	0.2	0.14
	3	3.64	3.44	3.19	2.91	2.61	2.3	1.99	1.69	1.41	1.15	0.93	0.73	0.57	0.44	0.33	0.24	0.17
	4	4.36	4.13	3.84	3.51	3.15	2.78	2.41	2.05	1.71	1.4	1.13	0.89	0.69	0.53	0.4	0.29	0.21
	5	5.13	4.87	4.54	4.16	3.74	3.3	2.86	2.44	2.04	1.67	1.34	1.06	0.82	0.63	0.47	0.35	0.25
	6	5.91	5.63	5.27	4.83	4.36	3.85	3.34	2.85	2.38	1.96	1.57	1.24	0.97	0.74	0.55	0.41	0.29
	7	6.7	6.4	6	5.52	4.98	4.42	3.84	3.27	2.74	2.25	1.81	1.43	1.11	0.85	0.63	0.47	0.34
	8	7.45	7.13	6.71	6.19	5.6	4.97	4.33	3.7	3.1	2.54	2.05	1.62	1.26	0.96	0.72	0.53	0.38
	9	8.14	7.82	7.37	6.82	6.18	5.5	4.8	4.1	3.44	2.83	2.28	1.81	1.4	1.07	0.8	0.59	0.42
	10	8.74	8.42	7.96	7.38	6.71	5.98	5.23	4.48	3.76	3.1	2.5	1.98	1.54	1.17	0.88	0.64	0.46
	11	9.23	8.93	8.47	7.87	7.18	6.41	5.61	4.81	4.05	3.33	2.69	2.13	1.66	1.26	0.94	0.69	0.5
	12	9.6	9.32	8.86	8.27	7.55	6.76	5.93	5.09	4.29	3.54	2.86	2.27	1.76	1.34	1	0.74	0.53
	13	9.84	9.59	9.15	8.56	7.84	7.03	6.18	5.31	4.48	3.7	2.99	2.37	1.84	1.41	1.05	0.77	0.56
	14	9.96	9.74	9.32	8.74	8.02	7.21	6.35	5.47	4.62	3.82	3.09	2.45	1.91	1.46	1.09	0.8	0.58
	15	9.97	9.77	9.39	8.82	8.12	7.31	6.45	5.56	4.7	3.89	3.15	2.5	1.95	1.49	1.11	0.82	0.59
	16	9.87	9.71	9.35	8.81	8.13	7.33	6.47	5.59	4.73	3.92	3.18	2.52	1.96	1.5	1.12	0.83	0.6
	17	9.69	9.56	9.23	8.72	8.06	7.28	6.43	5.57	4.71	3.9	3.17	2.52	1.96	1.5	1.12	0.82	0.6
	18	9.46	9.36	9.05	8.57	7.92	7.17	6.34	5.49	4.64	3.85	3.12	2.48	1.93	1.48	1.11	0.81	0.59
	19	9.19	9.12	8.84	8.37	7.75	7.01	6.2	5.36	4.54	3.76	3.05	2.42	1.89	1.44	1.08	0.79	0.57
	20	8.93	8.88	8.61	8.16	7.55	6.82	6.03	5.21	4.41	3.65	2.96	2.35	1.83	1.39	1.04	0.77	0.55
	21	8.72	8.68	8.42	7.96	7.35	6.63	5.84	5.04	4.25	3.51	2.84	2.25	1.75	1.33	1	0.73	0.53
	22	8.61	8.57	8.29	7.81	7.18	6.44	5.65	4.85	4.08	3.35	2.71	2.14	1.66	1.26	0.94	0.69	0.5
	23	8.68	8.62	8.3	7.76	7.07	6.29	5.48	4.67	3.9	3.19	2.56	2.02	1.56	1.19	0.88	0.65	0.47
	24	9.01	8.92	8.5	7.85	7.06	6.2	5.33	4.49	3.72	3.02	2.41	1.89	1.46	1.1	0.82	0.6	0.43
	25	9.76	9.59	9	8.14	7.16	6.17	5.21	4.33	3.54	2.85	2.26	1.76	1.35	1.02	0.75	0.55	0.39
	26	11.17	10.83	9.87	8.65	7.39	6.21	5.14	4.19	3.38	2.68	2.1	1.62	1.24	0.93	0.68	0.5	0.36
	27	13.69	12.91	11.18	9.36	7.71	6.29	5.08	4.06	3.22	2.52	1.95	1.49	1.13	0.84	0.62	0.45	0.32
	28	18.64	16.15	12.76	10.11	8.03	6.37	5.03	3.94	3.06	2.36	1.8	1.36	1.02	0.75	0.55	0.4	0.28
	29	62.05	19.07	13.86	10.63	8.26	6.41	4.96	3.81	2.91	2.21	1.66	1.24	0.91	0.67	0.48	0.35	0.25
	30	20.32	17.66	13.88	10.78	8.32	6.38	4.86	3.67	2.76	2.05	1.52	1.12	0.81	0.59	0.42	0.3	0.21
	31	17.55	16.31	13.59	10.74	8.29	6.3	4.74	3.53	2.61	1.91	1.39	1.01	0.72	0.52	0.37	0.26	0.18
	32	18.56	16.93	13.79	10.77	8.23	6.19	4.6	3.38	2.46	1.78	1.27	0.91	0.64	0.45	0.32	0.22	0.15
	33	25.18	19.22	14.29	10.82	8.15	6.07	4.46	3.24	2.33	1.65	1.17	0.82	0.57	0.39	0.27	0.19	0.13
	34	25.09	19.12	14.18	10.7	8.02	5.93	4.32	3.11	2.2	1.54	1.07	0.74	0.5	0.34	0.23	0.16	0.11
	35	18.32	16.67	13.49	10.43	7.85	5.79	4.19	2.99	2.09	1.45	0.99	0.67	0.45	0.3	0.2	0.13	0.09
	36	17.28	15.99	13.19	10.25	7.71	5.67	4.08	2.88	2	1.37	0.92	0.62	0.41	0.27	0.18	0.11	0.07
	37	20.22	17.48	13.54	10.26	7.64	5.58	3.99	2.8	1.93	1.31	0.87	0.57	0.37	0.24	0.15	0.1	0.06
	38	62.44	19.33	13.83	10.26	7.57	5.5	3.92	2.74	1.88	1.26	0.83	0.54	0.35	0.22	0.14	0.09	0.05
	39	20.03	17.3	13.37	10.1	7.49	5.45	3.88	2.7	1.84	1.23	0.81	0.52	0.33	0.21	0.13	0.08	0.05
	40	16.9	15.63	12.85	9.94	7.43	5.42	3.86	2.69	1.83	1.22	0.8	0.51	0.32	0.2	0.12	0.07	0.04
	41	17.76	16.13	12.99	9.97	7.44	5.43	3.87	2.7	1.85	1.23	0.81	0.52	0.32	0.2	0.12	0.07	0.04
	42	24.34	18.42	13.54	10.12	7.51	5.48	3.92	2.75	1.89	1.27	0.83	0.53	0.34	0.21	0.12	0.07	0.04
	43	24.26	18.38	13.55	10.17	7.58	5.57	4.02	2.84	1.97	1.33	0.88	0.57	0.36	0.22	0.13	0.08	0.05
	44	17.49	15.99	13	10.11	7.68	5.72	4.18	2.99	2.09	1.42	0.95	0.61	0.39	0.24	0.14	0.09	0.05
	45	16.37	15.35	12.85	10.21	7.89	5.97	4.42	3.2	2.25	1.55	1.04	0.68	0.43	0.27	0.16	0.1	0.05
	46	19.11	16.79	13.36	10.55	8.27	6.36	4.77	3.49	2.48	1.71	1.15	0.75	0.48	0.3	0.18	0.11	0.06
	47	60.87	18.44	13.8	11.02	8.85	6.94	5.27	3.86	2.75	1.9	1.27	0.83	0.53	0.33	0.2	0.12	0.07
	48	17.56	15.93	13.49	11.6	9.76	7.8	5.92	4.31	3.04	2.09	1.4	0.91	0.58	0.36	0.22	0.13	0.07
	49	12.71	13.24	13.15	12.78	11.41	9.07	6.7	4.77	3.31	2.25	1.49	0.97	0.62	0.38	0.23	0.14	0.08
	50	10.14	11.62	13.41	15.71	14.76	10.67	7.4	5.09	3.47	2.34	1.54	1	0.63	0.39	0.24	0.14	0.08
	51	8.34	10.24	13.19	20.33	19.71	11.4	7.52	5.09	3.44	2.31	1.53	0.99	0.63	0.39	0.24	0.14	0.08
	52	6.76	8.48	10.85	13.78	13.38	9.7	6.74	4.66	3.19	2.15	1.43	0.93	0.59	0.37	0.23	0.13	0.08
	53	5.26	6.53	7.91	8.95	8.69	7.18	5.42	3.91	2.75	1.89	1.27	0.84	0.54	0.34	0.21	0.12	0.07
	54	3.93	4.77	5.55	6	5.84	5.09	4.07	3.08	2.24	1.57	1.07	0.72	0.46	0.29	0.18	0.11	0.06
	55	2.84	3.37	3.82	4.05	3.95	3.54	2.94	2.31	1.72	1.24	0.86	0.58	0.38	0.24	0.15	0.09	0.05
	56	1.99	2.33	2.59	2.72	2.66	2.42	2.06	1.66	1.27	0.94	0.66	0.46	0.3	0.19	0.12	0.07	0.04
	57	1.36	1.57	1.73	1.8	1.77	1.63	1.41	1.16	0.91	0.68	0.49	0.34	0.23	0.15	0.09	0.06	0.03
	58	0.9	1.03	1.13	1.18	1.15	1.07	0.94	0.79	0.63	0.48	0.35	0.25	0.17	0.11	0.07	0.04	0.03
	59	0.59	0.67	0.73	0.75	0.74	0.69	0.61	0.52	0.42	0.32	0.24	0.17	0.12	0.08	0.05	0.03	0.02
	60	0.37	0.42	0.46	0.47	0.47	0.44	0.39	0.33	0.27	0.21	0.16	0.11	0.08	0.05	0.03	0.02	0.01
	61	0.23	0.26	0.28	0.29	0.29	0.27	0.24	0.21	0.17	0.14	0.1	0.07	0.05	0.04	0.02	0.01	0.01
	62	0.14	0.16	0.17	0.17	0.17	0.16	0.15	0.13	0.11	0.08	0.06	0.05	0.03	0.02	0.01	0.01	0.01
	63	0.08	0.09	0.1	0.1	0.1	0.1	0.09	0.08	0.06	0.05	0.04	0.03	0.02	0.01	0.01	0.01	0
	64	0.05	0.05	0.06	0.06	0.06	0.05	0.05	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0	0
	65	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0	0	0	0

TABLE MPB.2-1. HANK UNIT MODEL DRAWDOWN PRINTOUT

OBSERVATION WELL COMPUTATION RESULTS WITH FULL WELL PENETRATION AND WITHOUT WELLBORE STORAGE:

TIME-DRAWDOWN OR RECOVERY TABLE

OBSERVATION WELL NUMBER: 1

TIME(DAYS)	DRAWDOWN OR RECOVERY(FT)
1095.000	0.31