TABLE 4
GROUNDWATER FLOW MODEL CALIBRATION RESIDUALS

Regional Groundwater Flow Model
American Bottoms Aquifer

Well ID	X	Y	Midpoint of Screened Interval (ft MSL)	OBSERVED Water Elevation (July, 2005) (ft MSL)	SIMULATED Water Elevation (ft MSL)	Residual Error (SIMULATED-OBSERVED) (ft)
Shallow Hydrogeologic Unit						
EE-03	2295550.00	699819.90	381.43	396.72	396.53	-0.19
EEG-107	2294746.00	699963.60	380.85	396.26	396.10	-0.16
GM-1	2298057.00	703323.40	383.63	396.01	396.16	0.15
GM-11	2297207.00	704133.90	394.24	395.77	395.47	-0.30
GM-15	2296750.00	703148.60	384.54	396.65	395.72	-0.93
GM-18A	2293001.00	701457.70	382.09	394.43	394.24	-0.18
GM-19A	2292087.00	702313.80	380.28	393.49	392.66	-0.82
GM-2	2294146.00	701475.30	380.33	395.38	395.35	-0.03
GM-31A	2292910.00	701062.40	387.09	394.56	395.08	0.52
GM-33	2294376.00	702196.50	393.26	394.20	395.16	0.96
GM-4A	2294467.00	703403.40	382.16	394.38	394.34	-0.04
GM-5	2293555.00	702896.90	383.06	394.14	393.86	-0.28
GM-59A	2292802.00	701054.60	381.28	394.54	394.38	-0.15
GM-60A	2292356.00	703578.50	384.23	393.22	392.20	-1.02
GM-6A	2294131.00	702060.00	385.18	394.88	395.12	0.24
GM-7	2293241.00	701902.30	383.16	394.37	394.14	-0.24
GM-8	2293110.00	701047.50	388.64	394.63	395.16	0.53
GM-9A	2295539.00	702112.00	390.71	397.39	395.66	-1.73
P1-B-S	2295155.00	701809.30	396.50	396.25	395.62	-0.63
P1-C-S	2295917.00	702008.10	398.43	396.41	395.85	-0.55
P2-A-S	2293744.00	699351.70	392.00	395.85	395.92	0.06
P2-B-S	2294686.00	699045.70	394.53	396.43	396.60	0.17
P2-C-S	2295627.00	699482.30	393.46	396.95	396.81	-0.14
P3-B-S	2293656.00	697466.10	395.24	396.07	396.80	0.73
P3-C-S	2294906.00	697081.30	394.49	397.15	397.42	0.27
PIEZ-2S	2293420.00	708489.50	395.45	391.48	393.51	2.02
PIEZ-3S	2294822.00	708190.70	384.25	392.07	393.11	1.04
PIEZ-5S	2291739.00	701104.60	387.28	393.87	393.51	-0.36
PIEZ-6S	2293998.00	701453.10	388.15	394.65	395.31	0.65
PIEZ-7S	2286292.00	698362.50	394.11	393.15	392.72	-0.43
PIEZ-9S	2290383.00	694307.80	388.88	395.15	396.60	1.45
SA-O-2	2292314.00	702283.30	387.55	393.65	392.97	-0.69
SA-O-3	2292127.00	702338.20	380.10	393.52	392.69	-0.83
SA-O-4	2292007.00	701964.30	382.10	393.57	392.91	-0.67
SA-P-1	2293873.00	705617.70	386.89	393.12	393.36	0.23
SA-P-2	2293446.00	705139.70	388.76	393.40	393.13	-0.27
SA-P-3	2293614.00	704568.90	388.57	393.70	393.38	-0.32
SA-Q-1	2288657.00	698218.60	389.95	391.53	393.67	2.14
SA-Q-10	2288412.00	697956.40	388.33	392.88	393.73	0.85
SA-Q-11	2288151.00	698311.40	390.53	392.13	393.12	0.99

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American Bottoms Aquifer

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SA-Q-12	2288092.00	697236.20	391.27	393.30	394.11	0.82
SA-Q-13	2287592.00	697660.50	387.67	393.03	393.33	0.30
SA-Q-14	2287394.00	697315.70	386.26	392.23	393.57	1.34
SA-Q-15	2287117.00	697611.00	390.62	392.44	394.18	1.73
SA-Q-16	2290518.00	702118.30	392.43	391.90	393.49	1.59
SA-Q-5	2289554.00	700011.40	390.77	392.41	392.61	0.20
SA-Q-6	2289033.00	700432.50	390.91	393.49	393.19	-0.30
SA-Q-7	2289470.00	699639.10	387.22	392.66	392.92	0.26
SA-Q-9	2288920.00	698693.30	387.83	392.77	393.40	0.63
SA-S-1	2291471.00	701873.70	388.38	392.94	392.39	-0.55
TCMW-3-S	2294848.00	699581.90	380.45	396.33	396.32	-0.01
TCMW-5-S	2294327.00	699614.30	381.54	396.07	396.07	0.00
TCMW-6-S	2293917.00	699642.00	380.73	395.82	395.86	0.04
TRA1-PZBSHU	2297431.00	702686.80	383.59	396.59	396.21	-0.37
TRA1-PZCSHU	2296786.00	700022.70	380.31	397.19	397.11	-0.08
TRA3-PZASHU	2294892.00	705014.10	381.16	393.68	394.10	0.42
TRA3-PZBSHU	2293935.00	702741.80	383.16	394.49	394.81	0.32
TRA5-PZCSHU	2290274.00	700852.10	380.41	392.34	392.52	0.18
Middle Hydrogeologic Unit						
B-24C	2290774.00	703571.10	359.54	387.58	387.28	-0.29
B-28B	2290377.00	702659.90	378.31	385.99	386.72	0.74
EE-01	2295289.00	700156.60	377.63	396.44	396.26	-0.18
GM-10B	2296074.00	703672.60	345.53	395.89	395.09	-0.80
GM-27B	2290909.00	704332.60	349.75	389.72	390.23	0.51
GM-3	2293971.00	704004.90	376.62	392.97	393.79	0.82
GM-31B	2292928.00	701063.80	341.90	394.59	394.47	-0.13
GM-60B	2292362.00	703589.30	350.56	393.24	392.21	-1.04
GM-9B	2295523.00	702119.50	344.81	396.23	395.47	-0.76
IMW-1S	2296767.00	700426.70	352.59	397.13	396.84	-0.29
MW-3B	2293764.00	703626.20	341.24	393.89	393.75	-0.15
MW-5B	2293551.00	702877.30	341.71	394.21	393.87	-0.34
P1-B-M	2295153.00	701809.00	373.39	395.78	395.42	-0.36
P1-C-M	2295918.00	702010.60	375.26	396.24	395.71	-0.52
P2-A-M	2293741.00	699349.50	370.06	395.78	395.92	0.13
P2-B-M	2294683.00	699048.50	366.50	396.38	396.48	0.11
P2-C-M	2295600.00	699473.90	367.64	396.69	396.71	0.02
P3-A-M	2292979.00	697659.40	371.29	395.88	396.33	0.45
P3-B-M	2293655.00	697468.40	369.27	396.13	396.69	0.56
P3-C-M	2294909.00	697081.60	370.52	397.20	397.36	0.17
PIEZ-1M	2292547.00	708917.20	340.80	390.10	390.19	0.09
PIEZ-2M	2293419.00	708489.60	344.45	391.41	391.98	0.57

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PIEZ-3M	2294822.00	708190.70	343.75	392.11	393.11	1.00
PIEZ-4S	2290034.00	702417.30	373.41	389.77	390.30	0.53
PIEZ-5M	2291739.00	701104.60	343.28	393.79	393.51	-0.28
PIEZ-6M	2293998.00	701453.10	343.15	394.66	394.94	0.27
PIEZ-7M	2286292.00	698362.50	346.61	389.58	390.55	0.97
PIEZ-9M	2290383.00	694308.00	343.38	395.19	396.54	1.35
SA-O-1	2292907.00	702782.80	375.95	393.90	393.29	-0.61
SA-Q-2	2289951.00	702294.10	372.94	390.26	390.37	0.11
SA-Q-3	2290079.00	701615.50	379.53	391.53	391.36	-0.17
SA-Q-4	2289686.00	700977.30	379.46	391.71	391.62	-0.09
SA-Q-8	2288111.00	699784.90	379.50	390.36	390.66	0.30
TCMW-1-M	2295679.00	699276.70	353.46	396.97	396.83	-0.14
TCMW-3-M	2294848.00	699587.20	356.24	396.32	396.32	-0.01
TCMW-5-M	2294328.00	699619.80	356.63	396.11	396.06	-0.04
TCMW-6-M	2293920.00	699648.30	355.04	395.80	395.86	0.05
TRA1-PZBMHU	2297435.00	702687.50	365.55	396.54	396.12	-0.41
TRA3-PZAMHU	2294893.00	705019.10	360.08	393.61	394.10	0.49
TRA3-PZBMHU	2293934.00	702741.50	361.23	394.48	394.24	-0.24
TRA3-PZCMHU	2293730.00	700591.00	353.64	395.27	395.26	-0.01
TRA5-PZBMHU	2291351.00	703402.30	356.33	391.83	389.77	-2.06
TRA5-PZCMHU	2290274.00	700852.10	358.52	392.38	392.52	0.14
Deep Hydrogeologic Unit						
GM-12C	2297289.00	702578.50	308.91	396.90	396.11	-0.79
GM-17C	2294317.00	702701.00	310.22	394.48	394.52	0.04
GM-18B	2292996.00	701435.10	327.79	394.43	394.26	-0.17
GM-19C	2292105.00	702308.80	311.79	393.54	392.69	-0.85
GM-20B	2292713.00	702843.70	329.02	393.37	393.04	-0.33
GM-27C	2290906.00	704326.40	326.70	389.75	390.21	0.47
GM-31C	2292918.00	701061.40	310.05	394.62	394.46	-0.16
GM-4B	2294470.00	703410.90	325.35	394.22	394.34	0.12
GM-6B	2294135.00	702076.20	333.63	394.89	394.70	-0.19
GM-9C	2295527.00	702123.00	311.54	396.08	395.47	-0.61
MW-3C	2293771.00	703625.10	315.89	393.79	393.75	-0.04
MW-5C	2293553.00	702888.40	316.42	393.98	393.86	-0.12
MW-7C	2293370.00	702337.20	314.35	394.13	393.98	-0.15
PIEZ-3D	2294822.00	708190.70	307.25	392.13	393.11	0.98
PIEZ-4D	2290034.00	702417.30	294.41	389.79	390.30	0.51
PIEZ-5D	2291739.00	701104.60	304.28	393.69	393.51	-0.18
PIEZ-6D	2293998.00	701453.10	302.65	394.67	394.94	0.26
PIEZ-9D	2290383.00	694307.80	302.88	395.21	396.54	1.33
TRA1-PZBDHU	2297439.00	702688.50	331.56	396.60	396.12	-0.47

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TRA3-PZADHU	2294894.00	705022.80	329.05	393.70	394.10	0.40
TRA3-PZBDHU	2293932.00	702741.20	331.12	394.20	394.23	0.04
TRA3-PZCDHU	2293727.00	700594.20	324.52	395.23	395.26	0.03
TRA5-PZBDHU	2291350.00	703398.90	327.38	391.64	389.77	-1.88
TRA5-PZCDHU	2290274.00	700852.10	327.47	392.24	392.51	0.27

NOTES:
1. Groundwater elevations obtained from MODFLOW model for July 6-8, 2005 water level sampling event.
2. All coordinates in State Plane feet, Illinois West, NAD 1983.
3. Monitoring wells B-22A, B-24A, and B-28A were not considered in the analysis due to their close proximity to the slurry wall and Site R (the model could not reproduce these heads accurately), while well B-29A was not considered due to its location on the very edge of Site R

ft = feet
MSL = mean sea level