TABLES 5–8

Table 5. Field characteristics of water quality in the aquifers underlying Belvidere, Ill., 1993–96

[All data collected by the U.S. Geological Survey; depth of well in feet below land surface; °C, degree Celsius; µS/cm, microsiemens per centimeter at 25° Celsius; mv, millivolts; mg/L, milligrams per liter; NTU, nephelometric turbidity units; --, no data]

Well designation	Sample date	Depth of well (feet)	pH (standard unit)	Temperature (°C)	Specific conductance (µS/cm)	Oxidation-reduction potential (Eh) (mv)	Dissolved oxygen (mg/L)	Chloride (mg/L)	Turbidity (NTU)
00051	07-20-93	120	6.83	12.3	485	73	--	--	--
00065	07-21-93	427	6.74	14.9	730	26	--	--	--
00157	07-20-93	318	7.60	15.5	925	14	--	--	--
00239	07-21-93	365	7.50	12.1	630	−150	--	--	--
00294	07-21-93	868	7.07	12.3	715	--	1.50	--	--
00296	07-20-93	550	7.09	11.6	675	--	.04	--	--
00299	07-21-93	116	7.19	12.3	690	--	--	--	--
00401	07-20-93	110	6.71	12.6	630	−2	--	--	--
00436	06-01-95	[1]215	6.86	12.9	970	174	--	--	
do.	06-01-95	[2]215	6.86	12.4	871	142	--	--	--
									--
20832	07-20-93	86	7.52	12.0	680	3	--	--	--
do.	06-01-94	86	--	10.2	740	165	1.93	45	--
21261	07-20-93	48	6.77	12.5	610	75	--	--	--
21296	07-20-93	100	7.31	12.5	695	−140	--	--	--
21541	07-19-93	410	7.73	13.5	615	−197	--	--	--
21613	07-20-93	100	7.27	12.7	790	−87	--	--	--
21699	07-20-93	145	6.85	11.9	685	−36	--	--	--
22094	07-19-93	63	6.91	11.1	485	44	--	--	--
22336	07-20-93	400	7.80	12.0	560	−230	--	--	--
421755	07-21-93	398	7.40	14.0	580	−124	--	--	--
AGTG305GPS	05-31-95	115.0	6.93	12.3	826	67	.07	--	0.46
do.	09-19-96	115.0	7.12	11.9	774	27	.05	--	2.8
AGTG305GPD	05-31-95	251.4	6.89	12.8	576	27	.09	--	58
do.	09-19-96	251.4	7.10	11.7	753	10	.05	--	27
AGTG305SP	05-31-95	357.8	6.88	13.4	932	113	.00	--	.22
BL1PW12	07-20-93	59	7.01	14.3	735	--	--	--	--
BL2RW1	07-20-93	520	7.90	12.9	575	52	--	--	--
BL2RW3	07-20-93	52	7.33	11.3	735	81	--	--	--
BMW4	07-23-93	1,800	7.04	12.2	730	--	3.61	--	--
do.	05-31-94	1,800	7.09	13.1	650	254	1.69	--	--
BMW5	07-21-93	610	6.71	11.7	715	--	.60	--	--
do.	05-31-94	610	6.99	11.9	790	18	.16	--	--
BMW6	07-21-93	868	7.18	11.5	685	--	5.45	--	--
do.	06-02-94	868	7.09	11.4	725	76	5.35	--	--
BMW7	07-21-93	969	7.27	12.9	555	--	.52	--	--
do.	05-31-94	969	7.15	13.1	575	−46	.23	--	--
BMW8	05-31-94	1,390	7.13	13.1	550	−45	.06	--	--
BMW9	07-21-93	122	7.35	10.9	615	--	.98	--	--
do.	05-31-94	122	7.19	10.9	600	−7	.92	--	--
BMWR2-6	07-21-93	46.5	6.91	12.0	540	69	--	--	--

Table 5. Field characteristics of water quality in the aquifers underlying Belvidere, Ill., 1993–96—Continued

Well designation	Sample date	Depth of well (feet)	pH (standard unit)	Temperature (°C)	Specific conductance (µS/cm)	Oxidation-reduction potential (Eh) (mv)	Dissolved oxygen (mg/L)	Chloride (mg/L)	Turbidity (NTU)
BMWR3-6	07-21-93	--	7.16	11.2	725	17	--	--	--
BMWR4-5	07-19-93	--	6.64	14.0	695	59	--	--	--
HGM1	06-01-94	125	--	11.5	725	134	1.24	40	--
HGM2	07-20-93	80	6.86	12.1	1,600	–30	--	--	--
do.	06-01-94	--	7.95	12.5	1,485	20	.05	140	--
NSMG101	06-01-94	37.9	7.06	11.6	1,175	–25	.21	--	1
NSMG102	06-01-94	49.6	7.09	14.7	1,110	115	3.80	--	--
NSMG103	07-19-93	54.9	6.86	13.8	1,200	--	1.71	--	--
do.	09-12-96	54.9	6.80	13.8	1,145	293	2.47	--	--
NSMG104	06-02-94	59.0	7.45	12.6	1,060	–128	--	--	14
do.	06-01-95	59.0	7.00	13.1	1,280	–116	.10	--	1.06
do.	09-12-96	59.0	6.93	12.5	1,144	–10	.12	--	--
NSMG105	06-01-94	47.8	7.06	14.7	1,380	77	.08	--	1
do.	06-01-95	47.8	6.87	15.3	1,280	103	.27	--	133
do.	09-12-96	47.8	6.76	14.3	1,580	223	.24	--	--
PCHG115B	07-20-93	48.6	6.96	13.2	830	119	2.27	--	--
PCHG115BD	07-20-93	151.5	6.83	12.0	645	–39	.05	--	--
do.	05-31-95	151.5	7.25	14.1	662	113	--	--	1.0
PCHG116D	07-20-93	33.6	6.77	11.5	675	119	.06	--	1.53
do.	05-31-94	33.6	7.04	11.4	610	150	--	--	--
PCHG119D	07-21-93	36.5	6.81	12.8	820	105	4.23	--	--
PCHG120D	07-20-93	35.1	6.95	12.8	820	34	1.11	--	--
PCHG125BD	07-21-93	147.7	7.00	12.5	715	–33	.05	--	--
PCHG125D	07-21-93	28.4	6.83	15.8	925	138	4.70	--	--
do.	06-01-94	28.4	--	12.8	810	164	4.50	--	--
PCHG127GP	07-21-93	294.2	7.02	13.8	580	44	.22	--	--
do.	06-01-94	294.2	7.37	12.2	620	155	--	--	--
do.	05-31-95	294.2	6.89	12.0	541	175	--	--	8.25
do.	09-25-96	294.2	7.08	11.6	631	42	.05	--	--
PCHG127SP	07-20-93	375.7	7.15	12.7	547	–31	.28	--	--
do.	05-31-94	375.7	--	12.3	515	7	.05	--	5.53
do.	05-31-95	375.7	6.84	12.5	583	80	--	--	.4
do.	09-25-96	375.7	7.21	11.5	530	–113	.05	--	--
PCHG128GPS	06-02-94	121.0	7.37	12.3	897	29	--	--	2
do.	06-01-95	121.0	6.68	12.6	830	85	--	--	1.9
PCHG128GPD	06-02-94	258.5	7.20	12.3	622	–8	.12	--	1
do.	06-01-95	258.5	7.46	12.7	717	92	--	--	.9
PCHP436B	08-29-96	35.0	6.96	12.6	965	289	6.52	--	79
PCHG436GPS	08-29-96	107.3	7.02	12.6	572	–1	.11	--	78
SQ4329	07-21-93	--	6.60	10.4	880	--	1.79	--	--
TW18	07-22-93	19	7.39	16.8	335	168	--	--	--
TW28	07-21-93	15	6.83	20.3	970	10	--	--	--
TW33	07-23-93	33	7.13	17.9	1,025	147	--	--	--

[1]Sample collected about 30 feet below land surface (about 1 foot below water surface), after pumping 15 gallons of water.
[2]Sample collected about 100 feet below land surface (about 70 feet below water surface), after pumping 10 gallons of water.

Table 6. Concentrations of trace metals and cyanide in the aquifers underlying Belvidere, Ill., 1985–95

[All samples collected by the U.S. Geological Survey unless otherwise noted; all concentrations of metals represent dissolved fraction unless otherwise noted; all concentrations of cyanide represent total fraction; depth of well below land surface; µg/L, micrograms per liter; ND, not detected]

Well designation	Sample date	Depth of well (feet)	Aluminum (µg/L)	Antimony (µg/L)	Arsenic (µg/L)	Barium (µg/L)	Cadmium (µg/L)	Chromium (µg/L)	Copper (µg/L)	Cyanide (µg/L)	Lead (µg/L)	Mercury (µg/L)	Nickel (µg/L)	Selenium (µg/L)	Vanadium (µg/L)	Zinc (µg/L)
AGTG305GPS	05-31-95	115.0	ND	ND	0.2	62	ND	9	ND	ND	3	ND	ND	ND	ND	ND
AGTG305GPS	05-31-95	115.0	ND	ND	.3	62	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AGTG305GPD	05-31-95	251.4	ND	ND	.2	88	ND	ND	ND	ND	3	ND	ND	ND	ND	ND
AGTG305SP	05-31-95	357.8	ND	ND	.3	59	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BL1PW10	[1]01-15-86	66	ND	ND	ND	ND	ND	13	67	ND	ND	ND	ND	ND	ND	420
BL1PW10	07-20-93	66	47.2	ND	ND	[2]46.8	ND	ND	12.8	ND	3.6	ND	ND	ND[2]	ND	[2]126
BL1PW10	07-20-93	66	ND	ND	ND	[2]48.4	ND	ND	10.1	ND	3	ND	ND	ND[2]	ND	[2]131
BMW4	11-19-85	1,800	ND	ND	ND	297	ND	ND	12	ND	ND	0.12	ND	ND	ND	ND
BMW4	07-23-93	1,800	63.2	ND	ND	197	ND	ND	ND	ND	[2]1.4	ND[2]	ND	ND[2]	ND	[2]13.4
BMW4	07-23-93	1,800	ND	ND	ND	202	ND	ND	ND	ND	[2]1.7	ND[2]	ND	ND[2]	ND	[2]22.2
NSMG103	[3]08-25-88	54.9	260	120	ND	[2]56	7	ND	169	7	[2]5	ND	ND	[2]3	ND	52
NSMG103	07-19-93	54.9	[2]87.3	ND	ND	[2]106	ND	ND	ND	ND	ND[2]	ND[2]	ND	[2]5.2	ND	[2]10.6
NSMG103	07-19-93	54.9	[2]68.4	ND	ND	[2]63.5	ND	ND	[2]6	ND	ND[2]	ND[2]	17	ND[2]	ND	[2]23.5
NSMG104	[3]08-25-88	59.0	[2]160	100	ND	[2]63	11	10	55	5	8	ND	ND	ND	ND	ND
NSMG104	[4]06-01-95	59.0	ND	ND	.2	53	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
NSMG105	[3]08-25-88	47.8	[2]150	160	ND	[2]75	6	ND	215	ND	37	ND	ND	ND	ND	ND
NSMG105	[4]06-01-95	47.8	807	ND	1.6	81	ND	98	8	ND	3	ND	267	ND	6	ND
TW1	07-22-93	21	ND	ND	ND	[2]13.6	ND	ND	[2]5.7	ND	ND[2]	ND[2]	ND	ND[2]	ND	ND
TW24	07-20-93	12	[2]59.4	ND	ND	[2]35.9	ND	ND	ND	ND	[2]1.4	ND[2]	ND	[2]3.2	ND	ND
TW30	07-26-93	9	[2]15.2	ND	ND	[2]34.1	ND	ND	[2]5.6	ND	ND[2]	ND	ND	ND[2]	ND	[2]14.7
TW31	07-19-93	9	[2]339	ND	1.1	[2]57.3	ND	ND	[2]8.9	ND	[2]1.9	ND[2]	ND	ND[2]	ND	[2]22.6
TW32	07-20-93	14	ND	ND	ND	[2]23.9	ND	ND	[2]5.2	ND	ND[2]	ND[2]	ND	ND[2]	ND	[2]31

[1]Sample collected by a private contractor or by the Illinois Environmental Protection Agency.
[2]Concentration is estimated. Specific reason for estimate can be obtained from the U.S. Geological Survey.
[3]Sample collected by the Illinois Environmental Protection Agency.
[4]Unfiltered sample; represents total fraction of metals in ground water.

Table 7. Concentrations of semivolatile organic compounds in the aquifers underlying Belvidere, Ill., 1988–95

[All samples collected by the U.S. Geological Survey unless otherwise noted; depth of well in feet below land surface; µg/L, micrograms per liter; ND, not detected]

Well designation	Sample date	Depth of well (feet)	Benzoic acid (µg/L)	Benzyl alcohol (µg/L)	4-Chloro-aniline (µg/L)	3-Nitro-aniline (µg/L)	4-Nitro aniline (µg/L)	Nitro-benzene (µg/L)	3,3'-Di-chloro-benzidine (µg/L)	bis(2-Ethylhexyl) phthalate (µg/L)	Di-n-butyl-phthalate (µg/L)	Di-ethyl-phthalate (µg/L)	Di-n-octyl-phthalate (µg/L)
AGTG305GPS	[1]05-31-95	115.0	ND	ND	ND	ND	ND	ND	ND	[2]73	ND	ND	ND
AGTG305GPS	05-31-95	115.0	ND	ND	ND	ND	ND	ND	ND	[2]26	ND	ND	ND
AGTG305GPD	05-31-95	251.4	ND	10	ND	ND	ND	ND	ND	[2]18	ND	ND	ND
AGTG305SP	05-31-95	357.8	ND	ND	ND	ND	ND	ND	ND	[2]24	ND	ND	ND
NSMG104	[3]08-25-88	59.0	[2]22	ND	ND	ND	ND	[2]2	ND	[2]4	[2]47	[2]79	[2]2
NSMG104	[4]06-01-95	59.0	ND	ND	7	6	2	ND	6	[2]36	ND	ND	ND
NSMG105	[5]08-25-88	47.8	ND	ND	ND	ND	ND	[2]2	ND	[2]3	[2]42	[2]71	[2].9
NSMG105	06-01-95	47.8	ND	ND	ND	ND	ND	ND	ND	[2]120	ND	ND	ND
TW9	07-27-93	23.0	ND	ND	ND	ND	ND	ND	ND	[6]1,100	ND	ND	ND
TW9	07-27-93	23.0	ND	ND	ND	ND	ND	ND	ND	[7]870	ND	ND	ND

[1]Also detected unknown ester, 7 µg/L.

[2]Also detected in trip blank.

[3]Sample collected by the Illinois Environmental Protection Agency. Also detected butylbenzyl phthalate, 0.2 µg/L; compound also detected in trip blank.

[4]Other than 3,3'-dichlorobenzidine, compounds detected in sample are suspected laboratory contaminants.

[5]Sample collected by the Illinois Environmental Protection Agency. Also detected butylbenzyl phthalate, 0.02 µg/L; compound also detected in trip blank.

[6]Concentrations in a dry clay sample in µg/kg. Also detected the following constituents; concentrations are estimated: phenanthrene, 81 µg/kg; fluoranthene, 130 µg/kg; pyrene, 100 µg/kg; benzo(a)anthracene, 67 µg/kg; chrysene, 51 µg/kg; benzo(b)fluoranthene, 94 µg/kg; benzo(k)fluoranthene, 94 µg/kg; benzo(a)pyrene, 42 µg/kg. Tentatively identified compounds; concentrations are estimated: tetrachloroethane, 81 µg/kg; 2-cyclohexen-1-one, 120 µg/kg; unknowns at 81, 320, 240, 570, and 730 µg/kg, respectively.

[7]Concentration in a wet silt sample in µg/kg. Tentatively identified compounds; concentrations are estimated: 2-cyclohexen-1-one, 120 µg/kg; unknown, 310 µg/kg.