

Table 3. Physical properties of sampling locations and chemical analyses of groundwater samples collected from temporary drive points below the pond bottom, Ashumet Pond, Cape Cod, Massachusetts, June 9-26, 2003.

[Easting and Northing: State plane coordinates are for North American Datum of 1983 (NAD83). Latitude and longitude in degrees (°), minutes (′), and seconds (″). Altitude refers to distance above or below the National Geodetic Vertical Datum of 1929. Source of phosphorus, boron, iron, and manganese data: Douglas B. Kent, U.S. Geological Survey, National Research Program, Menlo Park, California. Source of nitrogen data: Richard L. Smith, U.S. Geological Survey, National Research Program, Boulder, Colorado. ft, foot; m, meter; μS/cm, microsiemens per centimeter at 25 degrees Celsius; <, actual value less than value shown. Pond stage on 6/9/2003 was 45.20 ft. Locations of sites shown in figure 4]

Site identifier	Date sampled	Easting (m)	Northing (m)	Latitude (° ′ ″)	Longitude (° ′ ″)	Distance from shore (ft)	Water depth (ft)	Drive depth (ft)	Altitude of bottom of drive point (ft)
200S-075	6/9/03	280022.347	820802.106	41 37 59.85	70 32 24.54	75	3.2	1.8	40.2
200S-125	6/9/03	280039.006	820801.265	41 37 59.82	70 32 23.82	125	3.7	1.8	39.7
200S-200	6/9/03	280059.613	820802.173	41 37 59.84	70 32 22.93	200	3.9	2.0	39.3
100S-005	6/9/03	279956.146	820845.788	41 38 01.29	70 32 27.38	5	0.4	2.0	42.8
100S-025	6/9/03	279962.441	820844.803	41 38 01.26	70 32 27.11	25	1.2	2.1	41.9
100S-050	6/9/03	279970.133	820843.678	41 38 01.22	70 32 26.78	50	1.7	2.0	41.5
100S-075	6/9/03	279977.152	820842.737	41 38 01.18	70 32 26.47	75	2.3	2.0	40.9
100S-100	6/9/03	279984.817	820843.154	41 38 01.19	70 32 26.14	100	2.9	2.0	40.3
100S-125	6/9/03	279993.297	820842.780	41 38 01.18	70 32 25.78	125	3.5	1.9	39.8
100S-150	6/9/03	280000.357	820841.646	41 38 01.14	70 32 25.47	150	4.1	3.0	38.1
100S-200	6/9/03	280015.383	820839.960	41 38 01.08	70 32 24.82	200	5.6	2.0	37.6
100S-250	6/10/03	280029.551	820832.250	41 38 00.82	70 32 24.22	250	6.8	2.0	36.4
100S-300	6/10/03	280047.625	820828.137	41 38 00.68	70 32 23.44	300	7.3	2.0	35.9
000-005	6/10/03	279944.303	820878.246	41 38 02.35	70 32 27.88	5	0.7	0.7	43.8
000-025	6/10/03	279949.964	820877.141	41 38 02.31	70 32 27.63	25	2.9	2.1	40.2
000-050	6/10/03	279956.824	820876.707	41 38 02.29	70 32 27.34	50	3.4	3.4	38.4
000-075	6/10/03	279965.154	820876.262	41 38 02.27	70 32 26.98	75	3.7	2.0	39.5
000-100	6/10/03	279973.311	820876.758	41 38 02.29	70 32 26.62	100	4.6	2.3	38.3
000-125	6/10/03	279979.614	820875.521	41 38 02.25	70 32 26.35	125	4.9	2.6	37.7
000-150	6/10/03	279989.273	820875.536	41 38 02.24	70 32 25.93	150	5.0	2.1	38.1
000-200	6/10/03	280004.530	820875.015	41 38 02.22	70 32 25.28	200	6.0	2.0	37.2
000-250	6/10/03	280019.622	820872.398	41 38 02.13	70 32 24.63	250	6.9	2.2	36.1
000-300	6/11/03	280033.977	820869.753	41 38 02.04	70 32 24.01	300	7.8	2.0	35.4
000-350	6/11/03	280051.649	820870.246	41 38 02.05	70 32 23.24	350	8.9	2.0	34.3
100N-005	6/11/03	279945.172	820902.196	41 38 03.12	70 32 27.83	5	0.4	2.0	42.8
100N-025	6/11/03	279951.373	820900.946	41 38 03.08	70 32 27.56	25	2.1	1.6	41.5
100N-050	6/11/03	279958.669	820900.265	41 38 03.06	70 32 27.24	50	3.6	2.0	39.6
100N-075	6/11/03	279966.201	820900.365	41 38 03.06	70 32 26.92	75	4.2	2.1	38.9
100N-100	6/11/03	279974.752	820899.825	41 38 03.04	70 32 26.55	100	4.6	2.0	38.6
100N-125	6/11/03	279981.518	820899.360	41 38 03.02	70 32 26.26	125	4.9	2.0	38.3
100N-150	6/11/03	279990.771	820896.563	41 38 02.92	70 32 25.86	150	4.9	2.0	38.3
100N-200	6/11/03	280003.751	820894.931	41 38 02.87	70 32 25.30	200	5.7	2.0	37.5
100N-250	6/11/03	280019.896	820894.215	41 38 02.84	70 32 24.60	250	7.2	2.0	36.0
100N-300	6/11/03	280036.844	820892.848	41 38 02.79	70 32 23.87	300	7.4	3.0	34.8
100N-350	6/11/03	280053.055	820889.990	41 38 02.69	70 32 23.17	350	9.4	2.0	33.8
175N-005	6/12/03	279953.004	820930.126	41 38 04.03	70 32 27.48	5	0.6	2.0	42.6
175N-025	6/12/03	279959.640	820930.189	41 38 04.02	70 32 27.19	25	2.2	2.0	41.0
175N-050	6/12/03	279967.452	820928.680	41 38 03.97	70 32 26.85	50	3.6	2.1	39.5
175N-075	6/12/03	279975.785	820926.566	41 38 03.90	70 32 26.49	75	3.8	2.0	39.4
175N-100	6/12/03	279983.243	820925.385	41 38 03.86	70 32 26.17	100	3.9	2.0	39.3
175N-125	6/12/03	279990.106	820924.769	41 38 03.84	70 32 25.87	125	4.2	2.0	39.0
175N-150	6/12/03	279997.170	820925.608	41 38 03.86	70 32 25.57	150	4.4	2.0	38.8
175N-200	6/16/03	280012.942	820925.571	41 38 03.86	70 32 24.89	200	5.2	2.0	38.0
175N-250	6/16/03	280031.537	820926.203	41 38 03.87	70 32 24.08	250	6.5	2.0	36.7
175N-300	6/16/03	280046.303	820924.424	41 38 03.81	70 32 23.45	300	8.1	2.1	35.0
175N-350	6/16/03	280058.035	820914.010	41 38 03.46	70 32 22.95	350	9.5	2.2	33.5

Table 3. Physical properties of sampling locations and chemical analyses of groundwater samples collected from temporary drive points below the pond bottom, Ashumet Pond, Cape Cod, Massachusetts, June 9-26, 2003—continued

[Easting and Northing: State plane coordinates are for North American Datum of 1983 (NAD83). Latitude and longitude in degrees (°), minutes (′), and seconds (″). Altitude refers to distance above or below the National Geodetic Vertical Datum of 1929. Source of phosphorus, boron, iron, and manganese data: Douglas B. Kent, U.S. Geological Survey, National Research Program, Menlo Park, California. Source of nitrogen data: Richard L. Smith, U.S. Geological Survey, National Research Program, Boulder, Colorado. ft, foot; m, meter; µS/cm, microsiemens per centimeter at 25 degrees Celsius; <, actual value less than value shown. Pond stage on 6/9/2003 was 45.20 ft. Locations of sites shown in figure 4]

Site identifier	Measured in field, unfiltered			Measured in laboratory, filtered						
	Specific conductance (µS/cm)	Oxygen, dissolved (mg/L)	Orthophosphate (mg/L as P)	Phosphorus (mg/L as P)	Boron (mg/L)	Iron (mg/L)	Manganese (mg/L)	Nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)
200S-075	91.0	0.030	<0.098	<0.075	0.051	0.638	0.037	<0.070	<0.010	1.551
200S-125	144	.070	.147	<0.075	.109	.578	.265	<0.070	<0.010	1.62
200S-200	179	.175	<.098	<0.075	.134	.980	.427	<0.070	<0.010	3.14
100S-005	100	.815	<.098	<0.075	.009	.020	.014	.263	<0.010	<0.070
100S-025	83.0	.045	.114	<0.075	.022	.011	.004	<0.070	<0.010	<0.070
100S-050	76.0	3.45	.457	<0.075	.020	.006	<.002	1.36	<0.010	<0.070
100S-075	140	.105	.196	<0.075	.069	.018	2.97	.316	<0.010	<0.070
100S-100	171	.060	.098	<0.075	.077	.027	4.20	<0.070	<0.010	<0.070
100S-125	185	.080	.163	<0.075	.087	.039	4.82	<0.070	<0.010	<0.070
100S-150	167	2.37	<.098	<0.075	.090	.146	3.96	<0.070	<0.010	<0.070
100S-200	156	2.11	<.098	<0.075	.111	.144	2.83	<0.070	<0.010	<0.070
100S-250	253	1.17	.147	<0.075	.340	.596	.064	<0.070	<0.010	7.21
100S-300	302	.155	<.098	<0.075	.309	.656	.108	<0.070	<0.010	7.27
000-005	91.0	1.24	<.098	<0.075	.032	.032	.017	1.72	<0.010	<0.070
000-025	87.4	2.98	<.098	<0.075	.016	.060	.014	.653	<0.010	<0.070
000-050	124	.220	<.098	<0.075	.122	.383	.035	<0.070	<0.010	.908
000-075	138	.030	.326	.185	.034	.692	1.11	<0.070	<0.010	2.10
000-100	83.1	.855	<.098	<0.075	.046	.239	.461	<0.070	<0.010	<0.070
000-125	94.3	.200	<.098	<0.075	.046	.206	.201	<0.070	<0.010	<0.070
000-150	97.0	.290	<.098	<0.075	.041	.062	1.07	.686	<0.010	<0.070
000-200	153	.200	<.098	<0.075	.079	.214	3.54	.854	<0.010	<0.070
000-250	200	.430	.408	<0.075	.197	.863	.109	<0.070	<0.010	1.02
000-300	95.0	1.27	.098	<0.075	.030	.092	3.19	1.29	<0.010	<0.070
000-350	120	.400	.179	.140	.019	.566	.234	<0.070	<0.010	.482
100N-005	61.0	2.10	<.098	<0.075	.020	.028	.016	1.03	<0.010	<0.070
100N-025	174	.125	<.098	<0.075	.057	.031	.087	1.24	<0.010	<0.070
100N-050	98.0	.600	<.098	<0.075	.016	.251	.034	<0.070	<0.010	<0.070
100N-075	110	.585	.294	.266	.009	.909	.061	<0.070	<0.010	1.26
100N-100	125	.795	.114	<0.075	.103	.229	.036	<0.070	<0.010	<0.070
100N-125	181	.430	.114	<0.075	.205	.562	.067	<0.070	<0.010	1.28
100N-150	165	.775	<.098	<0.075	.079	.158	3.35	<0.070	<0.010	<0.070
100N-200	70.0	5.00	<.098	<0.075	.021	.077	.147	.713	<0.010	<0.070
100N-250	96.0	.275	<.098	<0.075	.020	.099	.974	1.44	<0.010	.496
100N-300	144	.435	.163	<0.075	.035	.558	.068	<0.070	<0.010	1.63
100N-350	141	2.43	<.098	<0.075	.026	.220	.713	.765	<0.010	1.55
175N-005	66.2	5.98	.147	<0.075	.017	.042	.012	<0.070	<0.010	<0.070
175N-025	233	.225	.114	.099	.063	.029	.109	2.11	<0.010	<0.070
175N-050	224	.705	.440	.489	.066	.219	2.06	.099	<0.010	<0.070
175N-075	212	.200	.587	.582	.058	.135	2.81	<0.070	<0.010	<0.070
175N-100	139	.540	1.04	1.09	.037	.126	1.90	<0.070	<0.010	1.22
175N-125	230	.295	<.098	<0.075	.080	.515	5.75	<0.070	<0.010	2.00
175N-150	156	.495	.489	.492	.059	.150	3.73	<0.070	<0.010	<0.070
175N-200	183	.735	.130	<0.075	.050	.127	4.77	<0.070	<0.010	.538
175N-250	121	.420	<.098	<0.075	.020	.440	3.42	<0.070	<0.010	.141
175N-300	131	6.12	<.098	<0.075	.021	.192	2.78	.589	<0.010	.257
175N-350	93.0	3.18	<.098	<0.075	.016	.179	.647	1.71	<0.010	1.46

Table 3. Physical properties of sampling locations and chemical analyses of groundwater samples collected from temporary drive points below the pond bottom, Ashumet Pond, Cape Cod, Massachusetts, June 9-26, 2003—continued

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Site identifier	Date sampled	Easting (m)	Northing (m)	Latitude (° ′ ″)	Longitude (° ′ ″)	Distance from shore (ft)	Water depth (ft)	Drive depth (ft)	Altitude of bottom of drive point (ft)
250N-005	6/16/03	279965.577	820951.631	41 38 04.72	70 32 26.92	5	0.5	1.2	43.5
250N-025	6/16/03	279971.527	820951.358	41 38 04.71	70 32 26.66	25	2.0	1.4	41.8
250N-050	6/16/03	279978.344	820951.346	41 38 04.70	70 32 26.37	50	2.7	2.0	40.5
250N-075	6/16/03	279986.735	820950.142	41 38 04.66	70 32 26.01	75	2.7	1.3	41.2
250N-100	6/16/03	279994.524	820948.489	41 38 04.61	70 32 25.67	100	1.7	2.0	41.5
250N-125	6/16/03	280001.506	820949.047	41 38 04.62	70 32 25.37	125	1.9	1.7	41.6
250N-150	6/16/03	280009.102	820948.184	41 38 04.59	70 32 25.04	150	2.6	2.0	40.6
250N-200	6/16/03	280025.473	820946.628	41 38 04.53	70 32 24.34	200	3.8	2.0	39.4
250N-250	6/16/03	280042.105	820945.887	41 38 04.50	70 32 23.62	250	5.7	2.0	37.5
250N-300	6/16/03	280056.497	820945.262	41 38 04.48	70 32 23.00	300	7.3	2.0	35.9
250N-350	6/16/03	280070.245	820943.655	41 38 04.42	70 32 22.40	350	10.4	1.5	33.3
350N-005	6/17/03	280015.685	820959.293	41 38 04.95	70 32 24.75	5	0.3	2.0	42.9
350N-025	6/17/03	280021.569	820959.312	41 38 04.95	70 32 24.50	25	1.2	2.0	42.0
350N-050	6/17/03	280029.328	820959.921	41 38 04.96	70 32 24.16	50	2.4	1.5	41.3
350N-075	6/17/03	280037.370	820958.799	41 38 04.92	70 32 23.82	75	3.0	1.5	40.7
350N-100	6/17/03	280046.251	820957.628	41 38 04.88	70 32 23.43	100	4.2	2.0	39.0
350N-125	6/17/03	280053.429	820959.083	41 38 04.93	70 32 23.12	125	5.2	2.0	38.0
350N-150	6/17/03	280061.202	820959.497	41 38 04.94	70 32 22.79	150	6.6	2.0	36.6
350N-200	6/17/03	280077.772	820958.891	41 38 04.91	70 32 22.07	200	11.6	2.1	31.5
350N-250	6/17/03	280082.790	820957.775	41 38 04.87	70 32 21.85	250	12.6	1.2	31.4
400N-000	6/17/03	280031.701	820969.739	41 38 05.28	70 32 24.06	0	0.0	2.0	43.2
400N-005	6/17/03	280033.488	820969.530	41 38 05.27	70 32 23.98	5	0.8	1.8	42.6
400N-010	6/17/03	280035.645	820968.611	41 38 05.24	70 32 23.89	10	0.6	2.0	42.6
400N-020	6/17/03	280038.265	820968.712	41 38 05.24	70 32 23.77	20	1.1	1.8	42.3
400N-030	6/17/03	280041.126	820968.464	41 38 05.24	70 32 23.65	30	1.6	1.8	41.8
400N-040	6/17/03	280044.812	820967.975	41 38 05.22	70 32 23.49	40	2.3	1.6	41.3
400N-050	6/17/03	280046.849	820968.318	41 38 05.23	70 32 23.40	50	2.6	1.7	40.9
400N-075	6/18/03	280056.454	820967.111	41 38 05.19	70 32 22.99	75	4.4	2.0	38.8
400N-100	6/18/03	280063.214	820967.699	41 38 05.20	70 32 22.70	100	5.3	2.0	37.9
400N-125	6/18/03	280069.324	820967.601	41 38 05.20	70 32 22.43	125	6.7	2.0	36.5
400N-175	6/18/03	280084.673	820963.706	41 38 05.07	70 32 21.77	175	11.9	1.5	31.8
450N-000	6/18/03	280045.712	820980.310	41 38 05.62	70 32 23.45	0	0.0	2.0	43.2
450N-005	6/18/03	280047.143	820979.456	41 38 05.59	70 32 23.38	5	0.5	2.0	42.7
450N-010	6/18/03	280048.036	820979.499	41 38 05.59	70 32 23.35	10	0.8	1.6	42.8
450N-020	6/18/03	280052.211	820979.209	41 38 05.58	70 32 23.17	20	1.8	2.0	41.4
450N-030	6/18/03	280054.776	820978.808	41 38 05.57	70 32 23.05	30	2.4	1.7	41.1
450N-040	6/18/03	280058.024	820978.940	41 38 05.57	70 32 22.91	40	2.8	1.7	40.7
450N-050	6/19/03	280060.028	820977.181	41 38 05.51	70 32 22.83	50	3.3	1.8	40.1
450N-075	6/19/03	280068.040	820976.337	41 38 05.48	70 32 22.48	75	5.0	2.0	38.2
450N-100	6/19/03	280077.073	820975.655	41 38 05.46	70 32 22.09	100	7.0	2.0	36.2
450N-125	6/19/03	280084.932	820973.900	41 38 05.40	70 32 21.75	125	9.8	2.0	33.4
450N-165	6/19/03	280093.799	820973.950	41 38 05.39	70 32 21.37	165	12.5	1.0	31.7
500N-000	6/19/03	280055.353	820992.322	41 38 06.00	70 32 23.02	0	0.0	1.9	43.3
500N-005	6/19/03	280057.526	820992.490	41 38 06.01	70 32 22.93	5	0.6	1.0	43.6
500N-010	6/19/03	280058.555	820992.439	41 38 06.01	70 32 22.88	10	0.9	2.0	42.3
500N-020	6/19/03	280062.157	820991.523	41 38 05.98	70 32 22.73	20	1.7	2.0	41.5
500N-030	6/19/03	280065.496	820992.145	41 38 05.99	70 32 22.59	30	2.5	2.0	40.7
500N-040	6/19/03	280068.359	820991.861	41 38 05.98	70 32 22.46	40	3.0	2.0	40.2
500N-050	6/19/03	280070.870	820992.581	41 38 06.01	70 32 22.35	50	3.3	2.0	39.9
500N-075	6/19/03	280077.952	820991.948	41 38 05.98	70 32 22.05	75	5.0	2.0	38.2
500N-100	6/19/03	280086.736	820991.320	41 38 05.96	70 32 21.67	100	7.0	2.0	36.2
500N-125	6/19/03	280094.487	820991.812	41 38 05.97	70 32 21.33	125	9.3	2.0	33.9
500N-150	6/20/03	280102.250	820994.154	41 38 06.05	70 32 21.00	150	10.4	2.0	32.8
550N-000	6/20/03	280065.471	821006.775	41 38 06.47	70 32 22.58	0	0.0	2.0	43.2
550N-005	6/20/03	280067.295	821006.586	41 38 06.46	70 32 22.50	5	0.5	2.0	42.7
550N-010	6/20/03	280069.357	821006.310	41 38 06.45	70 32 22.41	10	0.9	2.0	42.3
550N-020	6/20/03	280071.881	821005.601	41 38 06.43	70 32 22.30	20	1.7	2.0	41.5
550N-030	6/20/03	280074.508	821005.353	41 38 06.42	70 32 22.19	30	2.5	2.0	40.7
550N-040	6/20/03	280077.572	821005.497	41 38 06.42	70 32 22.06	40	2.7	2.0	40.5
550N-050	6/20/03	280080.887	821004.741	41 38 06.40	70 32 21.91	50	3.8	2.0	39.4
550N-075	6/20/03	280087.680	821004.735	41 38 06.39	70 32 21.62	75	4.9	2.0	38.3
550N-100	6/20/03	280095.669	821003.850	41 38 06.36	70 32 21.28	100	7.1	2.0	36.1
550N-125	6/23/03	280104.372	821002.116	41 38 06.30	70 32 20.90	125	9.3	2.0	33.9
550N-150	6/23/03	280111.899	821002.893	41 38 06.33	70 32 20.58	150	11.2	2.0	32.0
600N-000	6/23/03	280073.939	821018.137	41 38 06.83	70 32 22.21	0	0.0	2.0	43.2

Table 3. Physical properties of sampling locations and chemical analyses of groundwater samples collected from temporary drive points below the pond bottom, Ashumet Pond, Cape Cod, Massachusetts, June 9-26, 2003—continued

[Easting and Northing: State plane coordinates are for North American Datum of 1983 (NAD83). Latitude and longitude in degrees (°), minutes (′), and seconds (″). Altitude refers to distance above or below the National Geodetic Vertical Datum of 1929. Source of phosphorus, boron, iron, and manganese data: Douglas B. Kent, U.S. Geological Survey, National Research Program, Menlo Park, California. Source of nitrogen data: Richard L. Smith, U.S. Geological Survey, National Research Program, Boulder, Colorado. ft, foot; m, meter; µS/cm, microsiemens per centimeter at 25 degrees Celsius; <, actual value less than value shown. Pond stage on 6/9/2003 was 45.20 ft. Locations of sites shown in figure 4]

Site identifier	Measured in field, unfiltered			Measured in laboratory, filtered						
	Specific conductance (µS/cm)	Oxygen, dissolved (mg/L)	Orthophosphate (mg/L as P)	Phosphorus (mg/L as P)	Boron (mg/L)	Iron (mg/L)	Manganese (mg/L)	Nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)
250N-005	74.0	6.160	<0.098	<0.075	0.011	0.048	0.031	0.352	<0.010	<0.070
250N-025	202	.100	<.098	<.075	.047	.019	.150	1.44	.125	<.070
250N-050	210	.135	.294	.092	.043	.022	.089	1.45	.187	<.070
250N-075	185	1.01	<.098	<.075	.043	.030	.153	.903	<.010	<.070
250N-100	179	.095	<.098	<.075	.041	.026	2.28	.466	<.010	<.070
250N-125	124	.010	<.098	<.075	.037	.027	.080	<.070	<.010	<.070
250N-150	133	.385	.440	.424	.042	.171	1.17	<.070	<.010	<.070
250N-200	133	1.54	.130	<.075	.055	.261	1.84	.395	<.010	.724
250N-250	117	6.12	.114	<.075	.033	.248	2.86	.095	<.010	<.070
250N-300	96.1	.710	<.098	<.075	.016	.155	.936	2.09	<.010	1.33
250N-350	104	.350	<.098	<.075	.018	.123	.125	2.99	<.010	2.24
350N-005	84.3	5.62	<.098	<.075	.010	.007	.011	.584	<.010	<.070
350N-025	147	.135	<.098	<.075	.041	.025	.067	2.39	<.010	<.070
350N-050	153	.185	<.098	<.075	.041	.010	.029	2.08	<.010	<.070
350N-075	177	.060	.946	.967	.028	.014	2.93	<.070	<.010	.651
350N-100	127	.335	.457	.481	.017	.079	3.33	.808	<.010	.576
350N-125	99.1	1.11	.750	.655	.015	.159	2.35	1.77	<.010	.755
350N-150	104	.605	.130	<.075	.017	.119	.774	2.44	<.010	1.51
350N-200	101	1.99	.098	<.075	.021	.218	.217	1.91	<.010	2.06
350N-250	93.0	10.1	<.098	<.075	.014	.257	.055	.121	<.010	<.070
400N-000	69.3	5.370	.147	<.075	.009	.034	.027	<.070	<.010	<.070
400N-005	71.0	9.13	.228	<.075	.009	.024	.013	.135	<.010	<.070
400N-010	170	.255	.538	.369	.039	.018	.028	3.78	<.010	<.070
400N-020	140	.135	1.58	1.52	.042	.007	2.91	<.070	<.010	.104
400N-030	155	.090	1.60	1.60	.041	.018	2.35	<.070	<.010	<.070
400N-040	144	.075	1.63	1.45	.025	.013	1.17	<.070	<.010	.148
400N-050	96.5	.170	2.25	2.08	.026	.031	1.35	<.070	<.010	<.070
400N-075	98.4	.345	1.01	1.09	.020	.095	2.61	1.81	<.010	.432
400N-100	107	1.84	.750	.737	.022	.103	1.66	2.36	<.010	1.26
400N-125	107	.750	<.098	<.075	.019	.127	.374	2.91	<.010	2.37
400N-175	102	.550	<.098	<.075	.021	.096	.104	2.15	<.010	<.070
450N-000	77.0	6.05	<.098	<.075	.008	.032	.049	.141	<.010	<.070
450N-005	122	.945	.147	<.075	.025	.021	.009	2.49	<.010	<.070
450N-010	162	.100	.506	.586	.036	.015	.010	.371	<.010	<.070
450N-020	174	.050	1.61	2.07	.040	.012	1.91	<.070	<.010	<.070
450N-030	97.6	.150	3.07	3.35	.027	.022	1.01	<.070	<.010	<.070
450N-040	86.6	.085	2.41	2.51	.021	.020	1.31	<.070	<.010	.177
450N-050	86.1	.070	1.96	2.18	.018	.014	1.92	1.31	<.010	.574
450N-075	106	3.44	.685	.766	.020	.106	2.04	1.96	<.010	.591
450N-100	97.0	2.56	<.098	<.075	.019	.182	.175	2.13	<.010	2.59
450N-125	98.1	5.03	<.098	<.075	.021	.231	.058	1.11	<.010	.879
450N-165	94.2	8.41	<.098	<.075	.019	.270	.093	.231	<.010	.140
500N-000	69.3	5.29	<.098	<.075	.006	.035	.031	<.070	<.010	<.070
500N-005	112	.925	<.098	<.075	.026	.017	.014	1.01	<.010	<.070
500N-010	121	.115	1.86	1.97	.029	.017	.051	<.070	<.010	.180
500N-020	195	.100	.832	1.72	.035	.017	.140	<.070	<.010	<.070
500N-030	99.9	2.66	1.60	2.92	.025	.133	.394	<.070	<.010	<.070
500N-040	86.2	.210	.995	2.57	.020	.117	.981	.859	<.010	<.070
500N-050	95.2	.300	2.09	2.06	.017	.176	1.14	1.11	<.010	.936
500N-075	124	1.11	1.37	1.52	.020	.125	2.86	1.69	<.010	.840
500N-100	121	1.74	.147	.113	.015	.140	.930	1.85	<.010	2.20
500N-125	134	2.03	<.098	<.075	.018	.213	.173	1.82	<.010	3.86
500N-150	107	5.01	<.098	<.075	.016	.249	.061	1.00	<.010	1.01
550N-000	57.0	7.39	<.098	<.075	.008	.114	.027	<.070	<.010	<.070
550N-005	104	9.06	.098	<.075	.012	.117	.031	.453	<.010	<.070
550N-010	111	.945	1.91	1.91	.024	.087	.022	.183	<.010	<.070
550N-020	175	.130	2.54	2.52	.026	.101	1.28	<.070	<.010	.911
550N-030	134	.145	1.84	1.89	.022	.116	.080	.970	<.010	.924
550N-040	126	.195	2.45	2.13	.018	.083	2.22	1.00	<.010	1.14
550N-050	107	.170	1.66	1.65	.019	.095	3.45	1.69	<.010	.495
550N-075	109	5.69	1.03	1.04	.017	.094	1.28	.709	<.010	<.070
550N-100	118	.210	<.098	<.075	.014	.105	.216	2.37	<.010	.874
550N-125	108	8.43	<.098	<.075	.012	.276	.098	.626	<.010	<.070
550N-150	93.1	8.75	<.098	<.075	.019	.309	.042	.125	<.010	<.070
600N-000	87.3	7.38	<.098	<.075	.011	.212	.028	.411	<.010	<.070

Table 3. Physical properties of sampling locations and chemical analyses of groundwater samples collected from temporary drive points below the pond bottom, Ashumet Pond, Cape Cod, Massachusetts, June 9-26, 2003—continued

[Easting and Northing: State plane coordinates are for North American Datum of 1983 (NAD83). Latitude and longitude in degrees (°), minutes (′), and seconds (″). Altitude refers to distance above or below the National Geodetic Vertical Datum of 1929. Source of phosphorus, boron, iron, and manganese data: Douglas B. Kent, U.S. Geological Survey, National Research Program, Menlo Park, California. Source of nitrogen data: Richard L. Smith, U.S. Geological Survey, National Research Program, Boulder, Colorado. ft, foot; m, meter; μ S/cm, microsiemens per centimeter at 25 degrees Celsius; <, actual value less than value shown. Pond stage on 6/9/2003 was 45.20 ft. Locations of sites shown in figure 4]

Site identifier	Date sampled	Easting (m)	Northing (m)	Latitude (° ' ")	Longitude (° ' ")	Distance from shore (ft)	Water depth (ft)	Drive depth (ft)	Altitude of bottom of drive point (ft)
600N-005	6/23/03	280075.836	821018.501	41 38 06.84	70 32 22.13	5	0.5	1.0	43.7
600N-010	6/23/03	280076.682	821018.874	41 38 06.86	70 32 22.09	10	1.1	2.0	42.1
600N-020	6/23/03	280079.754	821018.907	41 38 06.86	70 32 21.96	20	2.0	2.0	41.2
600N-030	6/23/03	280082.918	821018.337	41 38 06.84	70 32 21.82	30	2.5	2.0	40.7
600N-040	6/23/03	280085.634	821019.014	41 38 06.86	70 32 21.70	40	3.0	2.0	40.2
600N-050	6/23/03	280090.428	821017.669	41 38 06.81	70 32 21.50	50	4.0	2.0	39.2
600N-075	6/23/03	280098.442	821017.064	41 38 06.79	70 32 21.15	75	5.6	2.0	37.6
600N-100	6/24/03	280106.334	821016.855	41 38 06.78	70 32 20.81	100	7.2	2.0	36.0
600N-125	6/24/03	280112.628	821018.173	41 38 06.82	70 32 20.54	125	8.4	3.0	33.8
600N-150	6/24/03	280121.676	821016.390	41 38 06.76	70 32 20.15	150	9.7	2.0	33.5
650N-000	6/24/03	280079.963	821028.416	41 38 07.16	70 32 21.94	0	0.0	2.0	43.2
650N-005	6/24/03	280081.402	821029.053	41 38 07.18	70 32 21.88	5	0.7	2.0	42.5
650N-010	6/24/03	280082.895	821029.615	41 38 07.20	70 32 21.82	10	1.2	2.0	42.0
650N-020	6/24/03	280085.518	821029.490	41 38 07.20	70 32 21.70	20	2.2	2.0	41.0
650N-030	6/24/03	280090.245	821028.704	41 38 07.17	70 32 21.50	30	2.9	2.0	40.3
650N-040	6/24/03	280093.089	821028.987	41 38 07.18	70 32 21.38	40	2.6	2.0	40.6
650N-050	6/24/03	280095.395	821027.134	41 38 07.12	70 32 21.28	50	3.8	2.0	39.4
650N-075	6/24/03	280105.396	821026.132	41 38 07.08	70 32 20.84	75	5.8	2.0	37.4
650N-100	6/24/03	280110.242	821025.227	41 38 07.05	70 32 20.64	100	7.3	2.0	35.9
650N-125	6/25/03	280118.847	821025.841	41 38 07.07	70 32 20.26	125	7.8	2.0	35.4
650N-150	6/25/03	280126.614	821022.212	41 38 06.95	70 32 19.93	150	9.8	2.0	33.4
700N-000	6/25/03	280086.162	821044.016	41 38 07.67	70 32 21.67	0	0.0	2.0	43.2
700N-005	6/25/03	280087.318	821043.920	41 38 07.66	70 32 21.62	5	0.8	1.5	42.9
700N-010	6/25/03	280088.386	821043.716	41 38 07.66	70 32 21.57	10	1.2	2.0	42.0
700N-020	6/25/03	280091.688	821044.145	41 38 07.67	70 32 21.43	20	2.2	2.0	41.0
700N-030	6/25/03	280094.616	821043.934	41 38 07.66	70 32 21.30	30	2.8	2.0	40.4
700N-040	6/25/03	280098.345	821043.459	41 38 07.65	70 32 21.14	40	3.7	2.0	39.5
700N-050	6/25/03	280101.780	821042.496	41 38 07.61	70 32 20.99	50	4.8	2.0	38.4
700N-075	6/25/03	280109.639	821041.984	41 38 07.59	70 32 20.65	75	6.1	2.0	37.1
700N-100	6/25/03	280117.663	821040.709	41 38 07.55	70 32 20.31	100	6.0	1.6	37.6
700N-125	6/25/03	280125.223	821039.250	41 38 07.50	70 32 19.98	125	7.2	2.0	36.0
750N-005	6/25/03	280095.066	821059.553	41 38 08.17	70 32 21.27	5	0.6	2.0	42.6
750N-025	6/26/03	280100.876	821059.310	41 38 08.16	70 32 21.02	25	2.1	2.0	41.1
750N-050	6/26/03	280108.789	821059.307	41 38 08.16	70 32 20.68	50	3.3	1.5	40.4
750N-075	6/26/03	280117.097	821059.032	41 38 08.14	70 32 20.32	75	3.6	1.5	40.1
750N-100	6/26/03	280125.243	821058.546	41 38 08.12	70 32 19.97	100	4.2	2.0	39.0
750N-125	6/26/03	280132.204	821058.895	41 38 08.13	70 32 19.67	125	4.8	1.9	38.5

Table 3. Physical properties of sampling locations and chemical analyses of groundwater samples collected from temporary drive points below the pond bottom, Ashumet Pond, Cape Cod, Massachusetts, June 9-26, 2003—continued

[Easting and Northing: State plane coordinates are for North American Datum of 1983 (NAD83). Latitude and longitude in degrees (°), minutes (′), and seconds (″). Altitude refers to distance above or below the National Geodetic Vertical Datum of 1929. Source of phosphorus, boron, iron, and manganese data: Douglas B. Kent, U.S. Geological Survey, National Research Program, Menlo Park, California. Source of nitrogen data: Richard L. Smith, U.S. Geological Survey, National Research Program, Boulder, Colorado. ft, foot; m, meter; µS/cm, microsiemens per centimeter at 25 degrees Celsius; <, actual value less than value shown. Pond stage on 6/9/2003 was 45.20 ft. Locations of sites shown in figure 4]

Site identifier	Measured in field, unfiltered			Measured in laboratory, filtered						
	Specific conductance (µS/cm)	Oxygen, dissolved (mg/L)	Orthophosphate (mg/L as P)	Phosphorus (mg/L as P)	Boron (mg/L)	Iron (mg/L)	Manganese (mg/L)	Nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)
600N-005	92.8	2.420	0.522	0.508	0.020	0.010	0.014	0.362	<.010	<.070
600N-010	191	.480	1.70	1.77	.026	.130	.737	1.62	<.010	.320
600N-020	138	.690	1.48	1.87	.015	.108	1.90	1.27	<.010	1.45
600N-030	107	7.41	.685	1.26	.015	.111	3.66	.834	<.010	<.070
600N-040	121	6.22	1.37	1.34	.013	.054	2.57	.773	<.010	<.070
600N-050	108	6.19	1.19	1.10	.013	.070	1.85	.485	<.010	<.070
600N-075	101	8.76	.130	<.075	.013	.141	.073	.641	<.010	<.070
600N-100	95.5	9.18	.147	<.075	.016	.154	.045	.252	<.010	.168
600N-125	97.3	7.85	.114	<.075	.012	.194	.027	.561	<.010	<.070
600N-150	94.8	1.75	.130	<.075	.045	.627	.087	.086	<.010	1.06
650N-000	98.4	7.49	.130	<.075	.014	.158	.020	.266	<.010	<.070
650N-005	110	5.89	.734	.774	.024	.172	.024	.683	<.010	<.070
650N-010	128	5.64	1.13	.853	.014	.072	.023	.529	<.010	<.070
650N-020	112	6.41	.946	.718	.017	.156	1.93	.756	<.010	<.070
650N-030	94.1	6.30	.685	.523	.013	.138	.147	.520	<.010	<.070
650N-040	93.3	7.66	.391	.333	.013	.119	.066	.497	<.010	<.070
650N-050	92.0	8.20	.245	.129	.013	.171	.105	.498	<.010	<.070
650N-075	101	9.40	.130	<.075	.011	.163	.040	.627	<.010	<.070
650N-100	102	8.97	.245	<.075	.007	.168	.030	.527	<.010	<.070
650N-125	93.0	8.61	.130	<.075	.013	.161	.025	.495	<.010	<.070
650N-150	91.0	8.94	.114	<.075	.018	.356	.044	.134	<.010	<.070
700N-000	91.0	3.86	.130	<.075	.013	.105	.065	<.070	<.010	<.070
700N-005	140	7.85	.636	.543	.019	.149	.014	.735	<.010	.111
700N-010	86.9	9.39	.538	.477	.013	.070	.033	.470	<.010	<.070
700N-020	102	7.02	.440	.345	.014	.100	.040	.594	<.010	<.070
700N-030	92.2	8.09	.261	.164	.014	.190	.064	.388	<.010	<.070
700N-040	89.1	8.00	<.098	<.075	.012	.088	.046	.557	<.010	<.070
700N-050	91.7	8.84	<.098	<.075	.016	.233	.069	.185	<.010	<.070
700N-075	87.4	8.40	<.098	<.075	.013	.164	.023	.521	<.010	<.070
700N-100	93.0	8.89	<.098	<.075	.012	.258	.031	.539	<.010	<.070
700N-125	119	2.25	<.098	<.075	.026	.253	.021	.258	<.010	<.070
750N-005	84.2	6.37	<.098	<.075	.011	.215	.049	.205	<.010	<.070
750N-025	95.7	8.89	<.098	<.075	.017	.135	.049	.268	<.010	<.070
750N-050	86.2	9.79	<.098	<.075	.021	.226	.122	.193	<.010	<.070
750N-075	141	8.93	<.098	<.075	.016	.217	.050	.719	<.010	<.070
750N-100	100	.940	.163	<.075	.016	1.71	.277	<.070	<.010	.103
750N-125	90.3	3.22	<.098	<.075	<.006	.015	1.44	.097	<.010	.089