Table 5. 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, August 2–28, 2006.

[Easting and Northing: State plane coordinates are from 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 and nitrogen data: U.S. Geological Survey National Water Quality Laboratory, Lakewood, Colorado. USGS, U.S. Geological Survey; ft, foot; m, meter; µS/cm, microsiemens per centimeter at 25 degrees Celsius; <, actual value less than value shown; --, no data; E, estimated value for constituent detected in the sample below the laboratory reporting level; MHE, MHE Products PushPoint sampler; KV, KV Associates Macho well-point sampler. Pond stage on 8/2/2006 was 45.70 ft. Locations of sites shown in figure 6]

Site identifier	USGS site ID	Date sampled	Easting (m)	Northing (m)	Latitude (° ' ")	Longitude (° ' ")	Distance from shore (ft)	Water depth (ft)	Drive-point method	Drive depth (ft)	Altitude of bottom of drive point (ft)
MA–FSW 669–A01	413804070322501	8/2/06	279960.096	820930.300	41 38 04.03	70 32 27.17	20	3.3	MHE	0.5	42.4
MA–FSW 669–A01	413804070322501	8/2/06	279960.096	820930.300	41 38 04.03	70 32 27.17	20	3.3	KV	3.0	39.9
MA–FSW 669–A02	413805070322411	8/3/06	279981.284	820949.857	41 38 04.65	70 32 26.24	20	3.8	MHE	0.5	41.8
MA–FSW 669–A02	413805070322411	8/3/06	279981.284	820949.857	41 38 04.65	70 32 26.24	20	3.8	KV	3.0	39.3
MA–FSW 669–A03	413804070322401	8/3/06	279979.536	820929.851	41 38 04.01	70 32 26.33	90	4.8	MHE	0.5	40.8
MA–FSW 669–A03	413804070322401	8/3/06	279979.536	820929.851	41 38 04.01	70 32 26.33	90	4.8	KV	3.0	38.3
MA–FSW 669–A04	413805070322314	8/3/06	279999.319	820945.576	41 38 04.51	70 32 25.47	20	3.3	MHE	0.5	42.3
MA–FSW 669–A04	413805070322314	8/3/06	279999.319	820945.576	41 38 04.51	70 32 25.47	20	3.3	KV	3.0	39.8
MA–FSW 669–A05	413804070322301	8/3/06	280000.451	820926.413	41 38 03.89	70 32 25.43	90	5.4	MHE	0.5	40.3
MA–FSW 669–A05	413804070322301	8/3/06	280000.451	820926.413	41 38 03.89	70 32 25.43	90	5.4	KV	3.0	37.8
MA–FSW 669–A06	413805070322215	8/3/06	280025.862	820961.658	41 38 05.02	70 32 24.31	16	2.1	MHE	0.5	43.6
MA–FSW 669–A06	413805070322215	8/3/06	280025.862	820961.658	41 38 05.02	70 32 24.31	16	2.1	KV	3.0	41.1
MA–FSW 669–A07	413805070322220	8/4/06	280026.695	820960.285	41 38 04.98	70 32 24.28	24	2.7	MHE	0.5	43.0
MA–FSW 669–A07	413805070322220	8/4/06	280026.695	820960.285	41 38 04.98	70 32 24.28	24	2.7	KV	3.0	40.5
MA–FSW 669–A08	413805070322216	8/4/06	280028.180	820957.821	41 38 04.90	70 32 24.21	32	3.6	MHE	0.5	42.0
MA–FSW 669–A08	413805070322216	8/4/06	280028.180	820957.821	41 38 04.90	70 32 24.21	32	3.6	KV	1.5	41.0
MA–FSW 669–A08	413805070322216	8/4/06	280028.180	820957.821	41 38 04.90	70 32 24.21	32	3.6	KV	3.0	39.5
MA–FSW 669–A09	413805070322221	8/7/06	280029.312	820955.941	41 38 04.83	70 32 24.17	40	3.8	MHE	0.5	41.8
MA–FSW 669–A09	413805070322221	8/7/06	280029.312	820955.941	41 38 04.83	70 32 24.17	40	3.8	KV	3.0	39.3
MA–FSW 669–A10	413805070322217	8/7/06	280031.140	820953.702	41 38 04.76	70 32 24.09	51	4.4	MHE	0.5	41.2
MA–FSW 669–A10	413805070322217	8/7/06	280031.140	820953.702	41 38 04.76	70 32 24.09	51	4.4	KV	3.0	38.7
MA–FSW 669–A11	413806070322211	8/7/06	280033.000	820964.929	41 38 05.12	70 32 24.00	22	2.5	MHE	0.5	43.1
MA–FSW 669–A11	413806070322211	8/7/06	280033.000	820964.929	41 38 05.12	70 32 24.00	22	2.5	KV	3.0	40.6
MA–FSW 669–A12	413805070322218	8/7/06	280037.378	820963.084	41 38 05.06	70 32 23.81	38	4.1	MHE	0.5	41.5
MA–FSW 669–A12	413805070322218	8/7/06	280037.378	820963.084	41 38 05.06	70 32 23.81	38	4.1	KV	3.0	39.0
MA–FSW 669–A13	413805070322219	8/7/06	280041.267	820957.395	41 38 04.88	70 32 23.65	60	4.8	MHE	0.5	40.8
MA–FSW 669–A13	413805070322219	8/7/06	280041.267	820957.395	41 38 04.88	70 32 23.65	60	4.8	KV	3.0	38.3
MA–FSW 669–A14	413806070322212	8/7/06	280040.500	820973.500	41 38 05.40	70 32 23.67	15	1.9	MHE	0.5	43.7
MA–FSW 669–A14	413806070322212	8/7/06	280040.500	820973.500	41 38 05.40	70 32 23.67	15	1.9	KV	1.5	42.7
MA–FSW 669–A14	413806070322212	8/7/06	280040.500	820973.500	41 38 05.40	70 32 23.67	15	1.9	KV	3.0	41.2
MA–FSW 669–A15	413806070322213	8/10/06	280042.099	820971.659	41 38 05.34	70 32 23.61	23	2.5	MHE	0.5	43.1
MA–FSW 669–A15	413806070322213	8/10/06	280042.099	820971.659	41 38 05.34	70 32 23.61	23	2.5	KV	1.5	42.1
MA–FSW 669–A15	413806070322213	8/10/06	280042.099	820971.659	41 38 05.34	70 32 23.61	23	2.5	KV	3.0	40.6
MA–FSW 669–A16	413806070322214	8/10/06	280043.900	820968.789	41 38 05.24	70 32 23.53	31	2.9	MHE	0.5	42.6
MA–FSW 669–A16	413806070322214	8/10/06	280043.900	820968.789	41 38 05.24	70 32 23.53	31	2.9	KV	1.5	41.6
MA–FSW 669–A16	413806070322214	8/10/06	280043.900	820968.789	41 38 05.24	70 32 23.53	31	2.9	KV	3.0	40.1
MA–FSW 669–A17	413806070322215	8/10/06	280045.357	820967.445	41 38 05.20	70 32 23.47	39	3.2	MHE	0.5	42.4
MA–FSW 669–A17	413806070322215	8/10/06	280045.357	820967.445	41 38 05.20	70 32 23.47	39	3.2	KV	1.5	41.4
MA–FSW 669–A17	413806070322215	8/10/06	280045.357	820967.445	41 38 05.20	70 32 23.47	39	3.2	KV	3.0	39.9
MA–FSW 669–A18	413806070322101	8/14/06	280047.581	820964.160	41 38 05.09	70 32 23.37	50	4.0	MHE	0.5	41.6
MA–FSW 669–A18	413806070322101	8/14/06	280047.581	820964.160	41 38 05.09	70 32 23.37	50	4.0	KV	1.5	40.6
MA–FSW 669–A18	413806070322101	8/14/06	280047.581	820964.160	41 38 05.09	70 32 23.37	50	4.0	KV	3.0	39.1
MA–FSW 669–A19	413805070322101	8/14/06	280049.695	820962.915	41 38 05.05	70 32 23.28	61	5.2	MHE	0.5	40.4
MA–FSW 669–A19	413805070322101	8/14/06	280049.695	820962.915	41 38 05.05	70 32 23.28	61	5.2	KV	3.0	37.9
MA–FSW 669–A20	413805070322102	8/14/06	280051.893	820960.384	41 38 04.97	70 32 23.19	72	5.8	MHE	0.5	39.8
MA–FSW 669–A20	413805070322102	8/14/06	280051.893	820960.384	41 38 04.97	70 32 23.19	72	5.8	KV	3.0	37.3
MA–FSW 669–A21	413806070322216	8/10/06	280046.205	820979.522	41 38 05.59	70 32 23.42	11	1.4	MHE	0.5	44.1
MA–FSW 669–A21	413806070322216	8/10/06	280046.205	820979.522	41 38 05.59	70 32 23.42	11	1.4	KV	1.5	43.1
MA–FSW 669–A21	413806070322216	8/10/06	280046.205	820979.522	41 38 05.59	70 32 23.42	11	1.4	KV	3.0	41.6
MA–FSW 669–A22	413806070322102	8/10/06	280046.809	820978.469	41 38 05.56	70 32 23.40	19	2.2	MHE	0.5	43.3
MA–FSW 669–A22	413806070322102	8/10/06	280046.809	820978.469	41 38 05.56	70 32 23.40	19	2.2	KV	1.5	42.3
MA–FSW 669–A22	413806070322102	8/10/06	280046.809	820978.469	41 38 05.56	70 32 23.40	19	2.2	KV	3.0	40.8
MA–FSW 669–A23	413806070322103	8/10/06	280048.748	820976.482	41 38 05.49	70 32 23.32	27	2.8	MHE	0.5	42.7
MA–FSW 669–A23	413806070322103	8/10/06	280048.748	820976.482	41 38 05.49	70 32 23.32	27	2.8	KV	1.5	41.7
MA–FSW 669–A23	413806070322103	8/10/06	280048.748	820976.482	41 38 05.49	70 32 23.32	27	2.8	KV	3.0	40.2
MA–FSW 669–A24	413806070322104	8/10/06	280051.291	820974.812	41 38 05.44	70 32 23.21	35	3.2	MHE	0.5	42.3
MA–FSW 669–A24	413806070322104	8/10/06	280051.291	820974.812	41 38 05.44	70 32 23.21	35	3.2	KV	1.5	41.3

Table 5. 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, August 2–28, 2006—continued

[Easting and Northing: State plane coordinates are from 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 and nitrogen data: U.S. Geological Survey National Water Quality Laboratory, Lakewood, Colorado. USGS, U.S. Geological Survey; ft, foot; m, meter; µS/cm, microsiemens per centimeter at 25 degrees Celsius; <, actual value less than value shown; --, no data; E, estimated value for constituent detected in the sample below the laboratory reporting level; MHE, MHE Products PushPoint sampler; KV, KV Associates Macho well-point sampler. Pond stage on 8/2/2006 was 45.70 ft. Locations of sites shown in figure 6]

		Measured in field, unfiltered				Measured in laboratory, filtered			
Site identifier	Drive depth (ft)	Specific conduct-ance (µS/cm)	Oxygen, dissolved (mg/L)	pH (standard units)	Orthophos-phate (mg/L as P)	Phosphorus (mg/L as P)	Nitrite plus nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)
MA–FSW 669–A01	0.5	155.0	0.030	--	0.783	0.657	<0.060	<0.002	0.030
MA–FSW 669–A01	3.0	149	.430	--	1.03	.604	<.060	<.002	.018
MA–FSW 669–A02	0.5	191	.160	--	.245	.194	<.060	<.002	.012
MA–FSW 669–A02	3.0	187	.400	--	.391	.310	<.060	<.002	.016
MA–FSW 669–A03	0.5	102	.170	--	1.37	1.26	<.060	<.002	.496
MA–FSW 669–A03	3.0	100	.810	--	.995	.972	<.060	<.002	.447
MA–FSW 669–A04	0.5	192	.055	--	<.098	.027	<.060	<.002	.014
MA–FSW 669–A04	3.0	191	.870	--	<.098	E.010	<.060	<.002	.018
MA–FSW 669–A05	0.5	161	.070	--	.245	.170	<.060	<.002	.433
MA–FSW 669–A05	3.0	146	.230	--	.538	.495	<.060	<.002	.349
MA–FSW 669–A06	0.5	138	.555	--	<.098	--	<.060	<.002	.043
MA–FSW 669–A06	3.0	173	.085	--	<.098	<.020	<.060	<.002	.241
MA–FSW 669–A07	0.5	144	.435	4.96	<.098	<.020	<.060	<.002	.031
MA–FSW 669–A07	3.0	176	.635	5.73	<.098	E.014	<.060	<.002	.231
MA–FSW 669–A08	0.5	182	.160	5.53	.130	<.020	<.060	<.002	.146
MA–FSW 669–A08	1.5	173	.385	5.49	.114	<.020	<.060	<.002	.063
MA–FSW 669–A08	3.0	182	.175	5.77	.098	<.020	<.060	<.002	.243
MA–FSW 669–A09	0.5	162	.200	5.51	<.098	<.020	<.060	<.002	.955
MA–FSW 669–A09	3.0	142	.155	5.60	<.098	<.020	<.060	<.002	2.20
MA–FSW 669–A10	0.5	121	6.68	5.91	.277	<.020	<.060	<.002	.030
MA–FSW 669–A10	3.0	139	.345	6.12	.424	--	<.060	<.002	.192
MA–FSW 669–A11	0.5	177	.200	6.18	1.32	1.04	.450	.002	.063
MA–FSW 669–A11	3.0	198	.620	6.21	1.11	1.01	.901	<.002	.127
MA–FSW 669–A12	0.5	118	.000	7.02	.163	.126	<.060	<.002	.017
MA–FSW 669–A12	3.0	107	3.84	6.16	.946	.853	.783	<.002	E.010
MA–FSW 669–A13	0.5	122	3.79	5.65	.424	.373	.865	<.002	E.010
MA–FSW 669–A13	3.0	123	5.40	5.78	.359	.246	.850	<.002	.010
MA–FSW 669–A14	0.5	196	.060	6.10	1.37	1.18	<.060	<.002	.092
MA–FSW 669–A14	1.5	196	.075	6.16	1.34	1.14	<.060	<.002	.096
MA–FSW 669–A14	3.0	197	.290	6.18	1.14	1.07	<.060	<.002	.097
MA–FSW 669–A15	0.5	129	.040	7.21	.147	.086	<.060	<.002	.252
MA–FSW 669–A15	1.5	163	.225	8.02	<.098	.042	<.060	<.002	.395
MA–FSW 669–A15	3.0	174	.485	6.47	.750	.895	.671	<.002	.385
MA–FSW 669–A16	0.5	200	.000	7.01	.130	.069	<.060	<.002	.094
MA–FSW 669–A16	1.5	206	.400	7.22	.440	.081	E.035	.004	.084
MA–FSW 669–A16	3.0	202	.950	7.24	.669	.588	1.10	<.002	.136
MA–FSW 669–A17	0.5	143	.010	7.33	.163	.103	<.060	<.002	.384
MA–FSW 669–A17	1.5	156	.030	7.38	.114	.050	<.060	<.002	.413
MA–FSW 669–A17	3.0	161	.200	6.57	.799	.668	1.19	<.002	.452
MA–FSW 669–A18	0.5	112	.015	7.31	.245	.175	<.060	<.002	.016
MA–FSW 669–A18	1.5	113	.385	7.54	.261	.193	.198	E.002	.012
MA–FSW 669–A18	3.0	105	4.45	7.12	.669	.638	.811	<.002	E.010
MA–FSW 669–A19	0.5	80.4	4.22	6.46	.522	.400	.714	<.002	.010
MA–FSW 669–A19	3.0	81.1	5.02	6.17	.440	.362	.701	<.002	.011
MA–FSW 669–A20	0.5	81.1	4.64	6.47	.310	.240	.811	<.002	E.009
MA–FSW 669–A20	3.0	78.8	4.95	6.50	.310	.212	.745	<.002	.010
MA–FSW 669–A21	0.5	170	.210	6.04	1.65	1.32	<.060	<.002	.121
MA–FSW 669–A21	1.5	178	.500	6.06	1.55	1.31	<.060	<.002	.110
MA–FSW 669–A21	3.0	175	.490	6.06	1.45	1.30	<.060	<.002	.101
MA–FSW 669–A22	0.5	172	.000	7.01	<.098	.036	<.060	E.001	.583
MA–FSW 669–A22	1.5	211	.150	6.53	1.19	.929	<.060	<.002	.869
MA–FSW 669–A22	3.0	203	.095	6.22	1.55	1.56	<.060	<.002	.871
MA–FSW 669–A23	0.5	157	.070	7.09	<.098	.022	<.060	<.002	.583
MA–FSW 669–A23	1.5	168	.055	7.74	.196	.148	<.060	<.002	.602
MA–FSW 669–A23	3.0	168	.130	6.52	1.53	1.52	<.060	<.002	.613
MA–FSW 669–A24	0.5	149	.010	7.50	<.098	.056	<.060	<.002	.470
MA–FSW 669–A24	1.5	158	.030	7.50	.114	.146	<.060	<.002	.441

Table 5. 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, August 2–21, 2006—continued

[Easting and Northing: State plane coordinates are from 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 and nitrogen data: U.S. Geological Survey National Water Quality Laboratory, Lakewood, Colorado. USGS, U.S. Geological Survey; ft, foot; m, meter; µS/cm, microsiemens per centimeter at 25 degrees Celsius; <, actual value less than value shown; --, no data; E, estimated value for constituent detected in the sample below the laboratory reporting level; MHE, MHE Products PushPoint sampler; KV, KV Associates Macho well-point sampler. Pond stage on 8/2/2006 was 45.70 ft. Locations of sites shown in figure 6]

Site identifier	USGS site ID	Date sampled	Easting (m)	Northing (m)	Latitude (° ' ")	Longitude (° ' ")	Distance from shore (ft)	Water depth (ft)	Drive-point method	Drive depth (ft)	Altitude of bottom of drive point (ft)
MA–FSW 669–A24	413806070322104	8/10/06	280051.291	820974.812	41 38 05.44	70 32 23.21	35	3.2	KV	3.0	39.8
MA–FSW 669–A25	413806070322105	8/14/06	280053.791	820971.829	41 38 05.34	70 32 23.10	46	4.1	MHE	0.5	41.5
MA–FSW 669–A25	413806070322105	8/14/06	280053.791	820971.829	41 38 05.34	70 32 23.10	46	4.1	KV	1.5	40.5
MA–FSW 669–A25	413806070322105	8/14/06	280053.791	820971.829	41 38 05.34	70 32 23.10	46	4.1	KV	3.0	39.0
MA–FSW 669–A26	413806070322106	8/14/06	280056.019	820969.324	41 38 05.26	70 32 23.01	57	5.1	MHE	0.5	40.5
MA–FSW 669–A26	413806070322106	8/14/06	280056.019	820969.324	41 38 05.26	70 32 23.01	57	5.1	KV	3.0	38.0
MA–FSW 669–A27	413806070322107	8/11/06	280052.391	820984.732	41 38 05.76	70 32 23.15	16	2.0	MHE	0.5	43.5
MA–FSW 669–A27	413806070322107	8/11/06	280052.391	820984.732	41 38 05.76	70 32 23.15	16	2.0	KV	1.5	42.5
MA–FSW 669–A27	413806070322107	8/11/06	280052.391	820984.732	41 38 05.76	70 32 23.15	16	2.0	KV	3.0	41.0
MA–FSW 669–A28	413806070322108	8/11/06	280054.354	820982.883	41 38 05.70	70 32 23.07	24	2.6	MHE	0.5	42.9
MA–FSW 669–A28	413806070322108	8/11/06	280054.354	820982.883	41 38 05.70	70 32 23.07	24	2.6	KV	1.5	41.9
MA–FSW 669–A28	413806070322108	8/11/06	280054.354	820982.883	41 38 05.70	70 32 23.07	24	2.6	KV	3.0	40.4
MA–FSW 669–A29	413806070322109	8/11/06	280055.922	820981.954	41 38 05.67	70 32 23.00	32	3.4	MHE	0.5	42.1
MA–FSW 669–A29	413806070322109	8/11/06	280055.922	820981.954	41 38 05.67	70 32 23.00	32	3.4	KV	1.5	41.1
MA–FSW 669–A29	413806070322109	8/11/06	280055.922	820981.954	41 38 05.67	70 32 23.00	32	3.4	KV	3.0	39.6
MA–FSW 669–A30	413806070322110	8/11/06	280057.803	820981.020	41 38 05.64	70 32 22.92	40	3.8	MHE	0.5	41.8
MA–FSW 669–A30	413806070322110	8/11/06	280057.803	820981.020	41 38 05.64	70 32 22.92	40	3.8	KV	1.5	40.8
MA–FSW 669–A30	413806070322110	8/11/06	280057.803	820981.020	41 38 05.64	70 32 22.92	40	3.8	KV	3.0	39.3
MA–FSW 669–A31	413806070322111	8/14/06	280060.379	820978.509	41 38 05.55	70 32 22.81	51	4.2	MHE	0.5	41.4
MA–FSW 669–A31	413806070322111	8/14/06	280060.379	820978.509	41 38 05.55	70 32 22.81	51	4.2	KV	1.5	40.4
MA–FSW 669–A31	413806070322111	8/14/06	280060.379	820978.509	41 38 05.55	70 32 22.81	51	4.2	KV	3.0	38.9
MA–FSW 669–A32	413806070322112	8/14/06	280062.636	820976.029	41 38 05.47	70 32 22.72	62	5.8	MHE	0.5	39.8
MA–FSW 669–A32	413806070322112	8/14/06	280062.636	820976.029	41 38 05.47	70 32 22.72	62	5.8	KV	3.0	37.3
MA–FSW 669–A33	413806070322119	8/14/06	280064.892	820973.549	41 38 05.39	70 32 22.62	73	6.0	MHE	0.5	39.6
MA–FSW 669–A33	413806070322119	8/14/06	280064.892	820973.549	41 38 05.39	70 32 22.62	73	6.0	KV	3.0	37.1
MA–FSW 669–A34	413806070322113	8/14/06	280059.618	820991.891	41 38 05.99	70 32 22.84	19	2.0	MHE	0.5	43.6
MA–FSW 669–A34	413806070322113	8/14/06	280059.618	820991.891	41 38 05.99	70 32 22.84	19	2.0	KV	1.5	42.6
MA–FSW 669–A34	413806070322113	8/14/06	280059.618	820991.891	41 38 05.99	70 32 22.84	19	2.0	KV	3.0	41.1
MA–FSW 669–A35	413806070322114	8/15/06	280061.823	820990.924	41 38 05.96	70 32 22.74	27	2.8	MHE	0.5	42.8
MA–FSW 669–A35	413806070322114	8/15/06	280061.823	820990.924	41 38 05.96	70 32 22.74	27	2.8	KV	1.5	41.8
MA–FSW 669–A35	413806070322114	8/15/06	280061.823	820990.924	41 38 05.96	70 32 22.74	27	2.8	KV	3.0	40.3
MA–FSW 669–A36	413806070322115	8/15/06	280063.995	820990.307	41 38 05.94	70 32 22.65	35	3.3	MHE	0.5	42.3
MA–FSW 669–A36	413806070322115	8/15/06	280063.995	820990.307	41 38 05.94	70 32 22.65	35	3.3	KV	1.5	41.3
MA–FSW 669–A36	413806070322115	8/15/06	280063.995	820990.307	41 38 05.94	70 32 22.65	35	3.3	KV	3.0	39.8
MA–FSW 669–A37	413806070322116	8/15/06	280064.307	820988.165	41 38 05.87	70 32 22.64	43	3.6	MHE	0.5	42.0
MA–FSW 669–A37	413806070322116	8/15/06	280064.307	820988.165	41 38 05.87	70 32 22.64	43	3.6	KV	1.5	41.0
MA–FSW 669–A37	413806070322116	8/15/06	280064.307	820988.165	41 38 05.87	70 32 22.64	43	3.6	KV	3.0	39.5
MA–FSW 669–A38	413806070322117	8/15/06	280067.999	820985.353	41 38 05.77	70 32 22.48	54	4.1	MHE	0.5	41.5
MA–FSW 669–A38	413806070322117	8/15/06	280067.999	820985.353	41 38 05.77	70 32 22.48	54	4.1	KV	1.5	40.5
MA–FSW 669–A38	413806070322117	8/15/06	280067.999	820985.353	41 38 05.77	70 32 22.48	54	4.1	KV	3.0	39.0
MA–FSW 669–A39	413806070322118	8/15/06	280071.542	820984.465	41 38 05.74	70 32 22.33	65	5.4	MHE	0.5	40.3
MA–FSW 669–A39	413806070322118	8/15/06	280071.542	820984.465	41 38 05.74	70 32 22.33	65	5.4	KV	3.0	37.8
MA–FSW 669–A40	413807070322101	8/15/06	280062.453	820998.465	41 38 06.20	70 32 22.71	14	1.9	MHE	0.5	43.8
MA–FSW 669–A40	413807070322101	8/15/06	280062.453	820998.465	41 38 06.20	70 32 22.71	14	1.9	KV	1.5	42.8
MA–FSW 669–A40	413807070322101	8/15/06	280062.453	820998.465	41 38 06.20	70 32 22.71	14	1.9	KV	3.0	41.3
MA–FSW 669–A41	413807070322102	8/15/06	280064.341	820997.533	41 38 06.17	70 32 22.63	22	2.3	MHE	0.5	43.3
MA–FSW 669–A41	413807070322102	8/15/06	280064.341	820997.533	41 38 06.17	70 32 22.63	22	2.3	KV	1.5	42.3
MA–FSW 669–A41	413807070322102	8/15/06	280064.341	820997.533	41 38 06.17	70 32 22.63	22	2.3	KV	3.0	40.8
MA–FSW 669–A42	413807070322103	8/15/06	280066.592	820996.178	41 38 06.12	70 32 22.54	30	3.1	MHE	0.5	42.5
MA–FSW 669–A42	413807070322103	8/15/06	280066.592	820996.178	41 38 06.12	70 32 22.54	30	3.1	KV	1.5	41.5
MA–FSW 669–A42	413807070322103	8/15/06	280066.592	820996.178	41 38 06.12	70 32 22.54	30	3.1	KV	3.0	40.0
MA–FSW 669–A43	413806070322001	8/15/06	280069.058	820994.776	41 38 06.08	70 32 22.43	38	3.7	MHE	0.5	42.0
MA–FSW 669–A43	413806070322001	8/15/06	280069.058	820994.776	41 38 06.08	70 32 22.43	38	3.7	KV	1.5	41.0
MA–FSW 669–A43	413806070322001	8/15/06	280069.058	820994.776	41 38 06.08	70 32 22.43	38	3.7	KV	3.0	39.5
MA–FSW 669–A44	413806070322002	8/15/06	280071.391	820993.073	41 38 06.02	70 32 22.33	49	4.5	MHE	0.5	41.1
MA–FSW 669–A44	413806070322002	8/15/06	280071.391	820993.073	41 38 06.02	70 32 22.33	49	4.5	KV	1.5	40.1
MA–FSW 669–A44	413806070322002	8/15/06	280071.391	820993.073	41 38 06.02	70 32 22.33	49	4.5	KV	3.0	38.6
MA–FSW 669–A45	413806070322003	8/16/06	280074.462	820991.783	41 38 05.98	70 32 22.20	60	5.3	MHE	0.5	40.3
MA–FSW 669–A45	413806070322003	8/16/06	280074.462	820991.783	41 38 05.98	70 32 22.20	60	5.3	KV	3.0	37.8
MA–FSW 669–A46	413806070322004	8/16/06	280077.278	820989.200	41 38 05.89	70 32 22.08	71	6.0	MHE	0.5	39.6
MA–FSW 669–A46	413806070322004	8/16/06	280077.278	820989.200	41 38 05.89	70 32 22.08	71	6.0	KV	1.5	38.6
MA–FSW 669–A46	413806070322004	8/16/06	280077.278	820989.200	41 38 05.89	70 32 22.08	71	6.0	KV	3.0	37.1

Table 5. 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, August 2–21, 2006—continued

[Easting and Northing: State plane coordinates are from 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 and nitrogen data: U.S. Geological Survey National Water Quality Laboratory, Lakewood, Colorado. USGS, U.S. Geological Survey; ft, foot; m, meter; µS/cm, microsiemens per centimeter at 25 degrees Celsius; <, actual value less than value shown; --, no data; E, estimated value for constituent detected in the sample below the laboratory reporting level; MHE, MHE Products PushPoint sampler; KV, KV Associates Macho well-point sampler. Pond stage on 8/2/2006 was 45.70 ft. Locations of sites shown in figure 6]

		Measured in field, unfiltered				Measured in laboratory, filtered			
Site identifier	Drive depth (ft)	Specific conduct-ance (µS/cm)	Oxygen, dissolved (mg/L)	pH (standard units)	Orthophos-phate (mg/L as P)	Phosphorus (mg/L as P)	Nitrite plus nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)
MA–FSW 669–A24	3.0	156.5	0.020	6.74	1.191	1.240	0.224	<0.002	0.468
MA–FSW 669–A25	0.5	99.4	.010	8.09	.163	.090	<.060	<.002	E.010
MA–FSW 669–A25	1.5	95.7	1.97	7.49	.245	.190	.660	.006	E.010
MA–FSW 669–A25	3.0	91.8	1.84	6.70	.440	.454	1.20	<.002	.010
MA–FSW 669–A26	0.5	96.0	.055	6.73	.881	.724	1.60	.111	E.009
MA–FSW 669–A26	3.0	93.3	1.44	6.77	.457	.374	1.59	.032	.011
MA–FSW 669–A27	0.5	187	.190	6.02	1.16	1.32	.180	E.002	.144
MA–FSW 669–A27	1.5	180	4.48	6.08	1.39	1.27	E.047	<.002	.191
MA–FSW 669–A27	3.0	176	.250	6.08	1.27	1.26	<.060	<.002	.215
MA–FSW 669–A28	0.5	235	.000	7.10	<.098	.027	<.060	<.002	.754
MA–FSW 669–A28	1.5	235	3.68	6.71	<.098	<0.02	<.060	.011	.991
MA–FSW 669–A28	3.0	228	--	6.30	1.13	1.15	<.060	<.002	1.01
MA–FSW 669–A29	0.5	181	.000	7.40	.163	.153	<.060	<.002	.918
MA–FSW 669–A29	1.5	207	2.12	7.23	<.098	.082	<.060	<.002	1.08
MA–FSW 669–A29	3.0	188	.640	6.46	1.47	1.37	<.060	<.002	.940
MA–FSW 669–A30	0.5	164	.000	7.33	.359	.340	<.060	<.002	.795
MA–FSW 669–A30	1.5	164	.350	7.57	.228	.184	<.060	<.002	.783
MA–FSW 669–A30	3.0	169	2.84	6.62	1.44	1.50	<.060	<.002	.781
MA–FSW 669–A31	0.5	108	.045	7.21	.245	.091	.231	.008	.019
MA–FSW 669–A31	1.5	106	5.00	7.20	.179	.177	<.060	<.002	.014
MA–FSW 669–A31	3.0	96.4	5.26	6.67	.652	.624	.786	<.002	E.010
MA–FSW 669–A32	0.5	84.1	.070	6.17	.457	.353	1.74	.016	E.009
MA–FSW 669–A32	3.0	84.6	5.15	6.42	.343	.282	1.72	.009	.011
MA–FSW 669–A33	0.5	99.3	.300	6.55	.489	.471	1.75	<.002	1.26
MA–FSW 669–A33	3.0	99.1	.705	6.62	.473	.408	1.78	<.002	1.25
MA–FSW 669–A34	0.5	196	.020	6.97	<.098	.038	<.060	<.002	.652
MA–FSW 669–A34	1.5	205	.000	7.69	<.098	.042	<.060	E.002	.690
MA–FSW 669–A34	3.0	196	.110	6.99	1.40	1.38	<.060	<.002	.717
MA–FSW 669–A35	0.5	199	.000	7.51	.114	.074	<.060	<.002	.798
MA–FSW 669–A35	1.5	207	.265	7.95	.163	.138	<.060	<.002	.841
MA–FSW 669–A35	3.0	206	.290	6.90	1.60	1.44	<.060	<.002	.896
MA–FSW 669–A36	0.5	169	.000	7.51	.245	.369	<.060	<.002	.901
MA–FSW 669–A36	1.5	161	.100	8.12	.408	.360	<.060	<.002	.905
MA–FSW 669–A36	3.0	160	.585	7.04	1.68	1.69	<.060	<.002	.832
MA–FSW 669–A37	0.5	110	.110	7.89	.391	.402	<.060	<.002	.368
MA–FSW 669–A37	1.5	111	2.21	7.60	.506	.320	.281	.005	.179
MA–FSW 669–A37	3.0	109	.560	6.97	1.03	1.43	1.23	<.002	.073
MA–FSW 669–A38	0.5	92.5	.055	8.10	.326	<.020	<.060	<.002	.047
MA–FSW 669–A38	1.5	89.5	2.85	6.85	.375	.485	.946	.039	E.010
MA–FSW 669–A38	3.0	83.8	2.41	6.29	.620	.605	.920	<.002	E.005
MA–FSW 669–A39	0.5	99.3	.210	6.41	<.098	.620	1.80	<.002	1.01
MA–FSW 669–A39	3.0	95.8	.235	6.24	.718	.757	1.83	<.002	1.62
MA–FSW 669–A40	0.5	200	.020	6.27	1.21	1.10	<.060	<.002	.429
MA–FSW 669–A40	1.5	206	3.42	6.28	1.32	1.11	E.036	<.002	.481
MA–FSW 669–A40	3.0	207	.545	6.30	1.27	1.17	<.060	<.002	.512
MA–FSW 669–A41	0.5	184	.000	7.16	<.098	.089	<.060	E.002	.567
MA–FSW 669–A41	1.5	195	.015	7.64	<.098	.036	<.060	E.002	.676
MA–FSW 669–A41	3.0	200	6.09	7.28	.147	.094	<.060	E.001	.696
MA–FSW 669–A42	0.5	207	.000	7.71	<.098	.111	<.060	<.002	.813
MA–FSW 669–A42	1.5	214	.090	7.33	.913	.817	<.060	<.002	.832
MA–FSW 669–A42	3.0	205	--	6.79	1.27	1.35	<.060	<.002	.851
MA–FSW 669–A43	0.5	119	.060	7.17	.310	.347	<.060	<.002	.466
MA–FSW 669–A43	1.5	118	1.79	7.76	.130	.126	<.060	<.002	.373
MA–FSW 669–A43	3.0	116	.400	7.06	1.68	1.50	.880	<.002	.077
MA–FSW 669–A44	0.5	97.0	.000	7.39	<.098	.105	<.060	E.001	E.014
MA–FSW 669–A44	1.5	83.4	3.95	6.42	.799	.633	.792	.002	.010
MA–FSW 669–A44	3.0	82.8	4.53	6.18	.620	.668	.824	<.002	.010
MA–FSW 669–A45	0.5	93.9	.070	6.02	.489	.435	1.88	.042	E.007
MA–FSW 669–A45	3.0	90.5	.120	5.93	.538	.447	1.93	.035	<.010
MA–FSW 669–A46	0.5	101	.060	6.10	.930	.764	2.15	<.002	1.43
MA–FSW 669–A46	1.5	101	.225	6.18	.913	.815	2.17	E.001	1.65
MA–FSW 669–A46	3.0	102	.545	6.35	.930	.786	2.20	<.002	1.78

Table 5. 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, August 2–21, 2006—continued

[Easting and Northing: State plane coordinates are from 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 and nitrogen data: U.S. Geological Survey National Water Quality Laboratory, Lakewood, Colorado. USGS, U.S. Geological Survey; ft, foot; m, meter; µS/cm, microsiemens per centimeter at 25 degrees Celsius; <, actual value less than value shown; --, no data; E, estimated value for constituent detected in the sample below the laboratory reporting level; MHE, MHE Products PushPoint sampler; KV, KV Associates Macho well-point sampler. Pond stage on 8/2/2006 was 45.70 ft. Locations of sites shown in figure 6]

Site identifier	USGS site ID	Date sampled	Easting (m)	Northing (m)	Latitude (° ' ")	Longitude (° ' ")	Distance from shore (ft)	Water depth (ft)	Drive-point method	Drive depth (ft)	Altitude of bottom of drive point (ft)
MA–FSW 669–A47	413807070322104	8/16/06	280068.298	821007.407	41 38 06.49	70 32 22.46	15	1.6	MHE	0.5	44.0
MA–FSW 669–A47	413807070322104	8/16/06	280068.298	821007.407	41 38 06.49	70 32 22.46	15	1.6	KV	1.5	43.0
MA–FSW 669–A47	413807070322104	8/16/06	280068.298	821007.407	41 38 06.49	70 32 22.46	15	1.6	KV	3.0	41.5
MA–FSW 669–A48	413807070322001	8/16/06	280070.014	821006.467	41 38 06.46	70 32 22.38	23	2.5	MHE	0.5	43.1
MA–FSW 669–A48	413807070322001	8/16/06	280070.014	821006.467	41 38 06.46	70 32 22.38	23	2.5	KV	1.5	42.1
MA–FSW 669–A48	413807070322001	8/16/06	280070.014	821006.467	41 38 06.46	70 32 22.38	23	2.5	KV	3.0	40.6
MA–FSW 669–A49	413807070322002	8/16/06	280072.216	821004.448	41 38 06.39	70 32 22.29	31	3.2	MHE	0.5	42.4
MA–FSW 669–A49	413807070322002	8/16/06	280072.216	821004.448	41 38 06.39	70 32 22.29	31	3.2	KV	1.5	41.4
MA–FSW 669–A49	413807070322002	8/16/06	280072.216	821004.448	41 38 06.39	70 32 22.29	31	3.2	KV	3.0	39.9
MA–FSW 669–A50	413807070322003	8/16/06	280074.122	821003.069	41 38 06.35	70 32 22.21	39	3.7	MHE	0.5	41.9
MA–FSW 669–A50	413807070322003	8/16/06	280074.122	821003.069	41 38 06.35	70 32 22.21	39	3.7	KV	1.5	40.9
MA–FSW 669–A50	413807070322003	8/16/06	280074.122	821003.069	41 38 06.35	70 32 22.21	39	3.7	KV	3.0	39.4
MA–FSW 669–A51	413807070322004	8/16/06	280076.609	821001.064	41 38 06.28	70 32 22.10	50	3.9	MHE	0.5	41.7
MA–FSW 669–A51	413807070322004	8/16/06	280076.609	821001.064	41 38 06.28	70 32 22.10	50	3.9	KV	1.5	40.7
MA–FSW 669–A51	413807070322004	8/16/06	280076.609	821001.064	41 38 06.28	70 32 22.10	50	3.9	KV	3.0	39.2
MA–FSW 669–A52	413807070322005	8/16/06	280080.063	820999.505	41 38 06.23	70 32 21.95	61	5.1	MHE	0.5	40.6
MA–FSW 669–A52	413807070322005	8/16/06	280080.063	820999.505	41 38 06.23	70 32 21.95	61	5.1	KV	3.0	38.1
MA–FSW 669–A53	413807070322020	8/16/06	280082.478	820998.539	41 38 06.20	70 32 21.85	72	5.8	MHE	0.5	39.8
MA–FSW 669–A53	413807070322020	8/16/06	280082.478	820998.539	41 38 06.20	70 32 21.85	72	5.8	KV	3.0	37.3
MA–FSW 669–A54	413807070322006	8/17/06	280073.317	821014.906	41 38 06.73	70 32 22.24	12	1.6	MHE	0.5	44.0
MA–FSW 669–A54	413807070322006	8/17/06	280073.317	821014.906	41 38 06.73	70 32 22.24	12	1.6	KV	1.5	43.0
MA–FSW 669–A54	413807070322006	8/17/06	280073.317	821014.906	41 38 06.73	70 32 22.24	12	1.6	KV	3.0	41.5
MA–FSW 669–A55	413807070322007	8/17/06	280075.350	821013.263	41 38 06.67	70 32 22.15	20	2.6	MHE	0.5	43.0
MA–FSW 669–A55	413807070322007	8/17/06	280075.350	821013.263	41 38 06.67	70 32 22.15	20	2.6	KV	1.5	42.0
MA–FSW 669–A55	413807070322007	8/17/06	280075.350	821013.263	41 38 06.67	70 32 22.15	20	2.6	KV	3.0	40.5
MA–FSW 669–A56	413807070322008	8/17/06	280077.139	821012.271	41 38 06.64	70 32 22.07	28	3.1	MHE	0.5	42.4
MA–FSW 669–A56	413807070322008	8/17/06	280077.139	821012.271	41 38 06.64	70 32 22.07	28	3.1	KV	1.5	41.4
MA–FSW 669–A56	413807070322008	8/17/06	280077.139	821012.271	41 38 06.64	70 32 22.07	28	3.1	KV	3.0	39.9
MA–FSW 669–A57	413807070322009	8/17/06	280079.048	821010.863	41 38 06.60	70 32 21.99	36	3.6	MHE	0.5	42.0
MA–FSW 669–A57	413807070322009	8/17/06	280079.048	821010.863	41 38 06.60	70 32 21.99	36	3.6	KV	1.5	41.0
MA–FSW 669–A57	413807070322009	8/17/06	280079.048	821010.863	41 38 06.60	70 32 21.99	36	3.6	KV	3.0	39.5
MA–FSW 669–A58	413807070322010	8/17/06	280081.681	821009.148	41 38 06.54	70 32 21.88	42	3.9	MHE	0.5	41.6
MA–FSW 669–A58	413807070322010	8/17/06	280081.681	821009.148	41 38 06.54	70 32 21.88	42	3.9	KV	1.5	40.6
MA–FSW 669–A58	413807070322010	8/17/06	280081.681	821009.148	41 38 06.54	70 32 21.88	42	3.9	KV	3.0	39.1
MA–FSW 669–A59	413807070322011	8/17/06	280085.037	821007.391	41 38 06.48	70 32 21.73	53	5.0	MHE	0.5	40.5
MA–FSW 669–A59	413807070322011	8/17/06	280085.037	821007.391	41 38 06.48	70 32 21.73	53	5.0	KV	3.0	38.0
MA–FSW 669–A60	413807070322012	8/17/06	280087.353	821004.951	41 38 06.40	70 32 21.63	64	5.9	MHE	0.5	39.6
MA–FSW 669–A60	413807070322012	8/17/06	280087.353	821004.951	41 38 06.40	70 32 21.63	64	5.9	KV	3.0	37.1
MA–FSW 669–A61	413807070322013	8/17/06	280076.879	821022.458	41 38 06.97	70 32 22.08	15	1.3	MHE	0.5	44.2
MA–FSW 669–A61	413807070322013	8/17/06	280076.879	821022.458	41 38 06.97	70 32 22.08	15	1.3	KV	1.5	43.2
MA–FSW 669–A61	413807070322013	8/17/06	280076.879	821022.458	41 38 06.97	70 32 22.08	15	1.3	KV	3.0	41.7
MA–FSW 669–A62	413807070322014	8/18/06	280078.899	821021.334	41 38 06.94	70 32 21.99	23	2.6	MHE	0.5	42.9
MA–FSW 669–A62	413807070322014	8/18/06	280078.899	821021.334	41 38 06.94	70 32 21.99	23	2.6	KV	1.5	41.9
MA–FSW 669–A62	413807070322014	8/18/06	280078.899	821021.334	41 38 06.94	70 32 21.99	23	2.6	KV	3.0	40.4
MA–FSW 669–A63	413807070322015	8/18/06	280080.941	821021.079	41 38 06.93	70 32 21.90	31	3.3	MHE	0.5	42.2
MA–FSW 669–A63	413807070322015	8/18/06	280080.941	821021.079	41 38 06.93	70 32 21.90	31	3.3	KV	1.5	41.2
MA–FSW 669–A63	413807070322015	8/18/06	280080.941	821021.079	41 38 06.93	70 32 21.90	31	3.3	KV	3.0	39.7
MA–FSW 669–A64	413807070322016	8/18/06	280083.031	821018.970	41 38 06.86	70 32 21.81	39	3.7	MHE	0.5	41.9
MA–FSW 669–A64	413807070322016	8/18/06	280083.031	821018.970	41 38 06.86	70 32 21.81	39	3.7	KV	1.5	40.9
MA–FSW 669–A64	413807070322016	8/18/06	280083.031	821018.970	41 38 06.86	70 32 21.81	39	3.7	KV	3.0	39.4
MA–FSW 669–A65	413807070322017	8/18/06	280086.094	821016.757	41 38 06.78	70 32 21.68	50	4.0	MHE	0.5	41.5
MA–FSW 669–A65	413807070322017	8/18/06	280086.094	821016.757	41 38 06.78	70 32 21.68	50	4.0	KV	1.5	40.5
MA–FSW 669–A65	413807070322017	8/18/06	280086.094	821016.757	41 38 06.78	70 32 21.68	50	4.0	KV	3.0	39.0
MA–FSW 669–A66	413807070322018	8/18/06	280089.082	821016.913	70 32 21.55	41 38 06.79	61	4.8	MHE	0.5	40.7
MA–FSW 669–A66	413807070322018	8/18/06	280089.082	821016.913	70 32 21.55	41 38 06.79	61	4.8	KV	3.0	38.2
MA–FSW 669–A67	413808070322001	8/18/06	280080.370	821030.239	70 32 21.92	41 38 07.22	14	1.3	MHE	0.5	44.2
MA–FSW 669–A67	413808070322001	8/18/06	280080.370	821030.239	70 32 21.92	41 38 07.22	14	1.3	KV	1.5	43.2
MA–FSW 669–A67	413808070322001	8/18/06	280080.370	821030.239	70 32 21.92	41 38 07.22	14	1.3	KV	3.0	41.7
MA–FSW 669–A68	413808070322002	8/18/06	280082.449	821029.640	70 32 21.83	41 38 07.20	22	2.6	MHE	0.5	42.9
MA–FSW 669–A68	413808070322002	8/18/06	280082.449	821029.640	70 32 21.83	41 38 07.20	22	2.6	KV	1.5	41.9
MA–FSW 669–A68	413808070322002	8/18/06	280082.449	821029.640	70 32 21.83	41 38 07.20	22	2.6	KV	3.0	40.4

Table 5. 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, August 2–21, 2006—continued

[Easting and Northing: State plane coordinates are from 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 and nitrogen data: U.S. Geological Survey National Water Quality Laboratory, Lakewood, Colorado. USGS, U.S. Geological Survey; ft, foot; m, meter; µS/cm, microsiemens per centimeter at 25 degrees Celsius; <, actual value less than value shown; --, no data; E, estimated value for constituent detected in the sample below the laboratory reporting level; MHE, MHE Products PushPoint sampler; KV, KV Associates Macho well-point sampler. Pond stage on 8/2/2006 was 45.70 ft. Locations of sites shown in figure 6]

		Measured in field, unfiltered				Measured in laboratory, filtered			
Site identifier	Drive depth (ft)	Specific conduct-ance (µS/cm)	Oxygen, dissolved (mg/L)	pH (standard units)	Orthophos-phate (mg/L as P)	Phosphorus (mg/L as P)	Nitrite plus nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)
MA–FSW 669–A47	0.5	180.1	0.160	6.26	1.272	0.907	<0.060	E0.001	0.080
MA–FSW 669–A47	1.5	190	.495	6.30	1.06	.898	<.060	E.001	.051
MA–FSW 669–A47	3.0	191	.195	6.18	1.06	.902	<.060	E.001	.137
MA–FSW 669–A48	0.5	199	.000	7.06	.571	.153	<.060	<.002	.740
MA–FSW 669–A48	1.5	199	6.10	7.05	1.47	1.06	<.060	E.001	.756
MA–FSW 669–A48	3.0	198	.250	6.69	1.44	1.50	<.060	E.002	.795
MA–FSW 669–A49	0.5	171	.025	5.89	.228	.167	<.060	<.002	.763
MA–FSW 669–A49	1.5	176	3.53	7.89	.130	.099	<.060	E.001	.773
MA–FSW 669–A49	3.0	179	.410	6.89	1.55	1.43	<.060	E.001	.792
MA–FSW 669–A50	0.5	138	.020	7.87	.228	.182	<.060	<.002	.479
MA–FSW 669–A50	1.5	140	.180	8.38	.228	.166	<.060	E.001	.466
MA–FSW 669–A50	3.0	150	.850	7.17	1.44	1.18	<.060	<.002	.464
MA–FSW 669–A51	0.5	103	.000	7.78	.098	.150	<.060	<.002	.019
MA–FSW 669–A51	1.5	104	.000	7.60	<.098	.046	<.060	E.001	.012
MA–FSW 669–A51	3.0	95.6	6.00	6.61	.522	.472	.635	<.002	E.006
MA–FSW 669–A52	0.5	87.5	2.71	6.28	<.098	.067	.431	E.002	<.010
MA–FSW 669–A52	3.0	86.5	5.42	6.03	.343	.327	.782	<.002	E.007
MA–FSW 669–A53	0.5	111	4.21	5.67	.245	.206	1.06	<.002	<.010
MA–FSW 669–A53	3.0	111	5.02	5.83	.163	.162	1.00	<.002	<.010
MA–FSW 669–A54	0.5	312	.200	6.20	.962	.923	.183	.007	.348
MA–FSW 669–A54	1.5	298	.600	6.26	.946	.982	.181	E.002	.417
MA–FSW 669–A54	3.0	229	.630	6.41	1.39	1.28	.063	<.002	.524
MA–FSW 669–A55	0.5	197	.005	6.58	.212	.157	<.060	<.002	.722
MA–FSW 669–A55	1.5	192	.145	6.82	1.44	1.40	<.060	<.002	.703
MA–FSW 669–A55	3.0	188	.345	7.01	1.29	1.51	<.060	<.002	.708
MA–FSW 669–A56	0.5	217	.000	7.59	.294	.162	<.060	<.002	.242
MA–FSW 669–A56	1.5	236	.035	7.80	.098	.046	<.060	<.002	.217
MA–FSW 669–A56	3.0	228	.295	6.98	.881	.783	E.048	<.002	.207
MA–FSW 669–A57	0.5	147	.050	8.21	.147	.067	<.060	<.002	.030
MA–FSW 669–A57	1.5	146	.015	7.77	.114	.054	<.060	<.002	.012
MA–FSW 669–A57	3.0	132	1.66	6.93	.881	.731	.347	<.002	E.010
MA–FSW 669–A58	0.5	115	.010	7.42	.114	.060	<.060	<.002	E.009
MA–FSW 669–A58	1.5	114	.005	7.93	.098	.056	<.060	.010	<.010
MA–FSW 669–A58	3.0	110	5.64	6.45	.473	.426	.700	<.002	E.007
MA–FSW 669–A59	0.5	104	.035	7.25	<.098	<.020	.104	.002	.011
MA–FSW 669–A59	3.0	96.3	5.49	6.23	.391	.298	.754	<.002	E.008
MA–FSW 669–A60	0.5	83.1	6.94	6.05	.343	.277	.767	<.002	<.010
MA–FSW 669–A60	3.0	81.4	6.69	6.13	.326	.239	.771	<.002	<.010
MA–FSW 669–A61	0.5	144	.395	6.70	1.40	1.28	<.060	<.002	.089
MA–FSW 669–A61	1.5	161	.920	6.54	1.27	1.13	<.060	<.002	.044
MA–FSW 669–A61	3.0	156	.700	6.66	1.24	1.14	<.060	<.002	.062
MA–FSW 669–A62	0.5	225	.005	7.14	<.098	.058	<.060	<.002	E.009
MA–FSW 669–A62	1.5	223	.000	6.88	.114	.120	.256	.006	E.008
MA–FSW 669–A62	3.0	208	3.50	6.16	.652	.619	.637	<.002	<.010
MA–FSW 669–A63	0.5	183	.000	7.19	<.098	.030	E.058	E.002	E.010
MA–FSW 669–A63	1.5	174	2.90	6.39	<.098	.117	.406	.003	E.005
MA–FSW 669–A63	3.0	162	5.99	5.81	.212	.392	.499	<.002	E.006
MA–FSW 669–A64	0.5	132	.000	6.75	.114	.104	<.060	<.002	.011
MA–FSW 669–A64	1.5	129	.145	7.64	<.098	.053	<.060	<.002	.011
MA–FSW 669–A64	3.0	122	6.61	6.54	.212	.239	.506	<.002	E.006
MA–FSW 669–A65	0.5	92.8	.000	7.34	<.098	E.014	<.060	<.002	.010
MA–FSW 669–A65	1.5	105	.875	7.19	<.098	<.020	.296	.003	<.010
MA–FSW 669–A65	3.0	82.0	7.14	6.25	.179	.351	.721	<.002	<.010
MA–FSW 669–A66	0.5	81.4	2.29	6.20	.147	.141	.238	<.002	.014
MA–FSW 669–A66	3.0	92.0	6.62	6.18	.163	.175	.529	<.002	<.010
MA–FSW 669–A67	0.5	156	.355	6.28	.881	.829	.219	E.002	<.010
MA–FSW 669–A67	1.5	151	2.32	6.31	.995	.865	.318	<.002	E.006
MA–FSW 669–A67	3.0	161	1.67	6.18	1.08	.844	.462	<.002	<.010
MA–FSW 669–A68	0.5	155	.000	7.19	<.098	.043	<.060	<.002	<.010
MA–FSW 669–A68	1.5	162	.000	7.45	<.098	<.020	E.042	.011	E.006
MA–FSW 669–A68	3.0	140	6.46	6.06	.391	.379	.552	<.002	<.010

Table 5. 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, August 2–21, 2006—continued

[Easting and Northing: State plane coordinates are from 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 and nitrogen data: U.S. Geological Survey National Water Quality Laboratory, Lakewood, Colorado. USGS, U.S. Geological Survey; ft, foot; m, meter; µS/cm, microsiemens per centimeter at 25 degrees Celsius; <, actual value less than value shown; --, no data; E, estimated value for constituent detected in the sample below the laboratory reporting level; MHE, MHE Products PushPoint sampler; KV, KV Associates Macho well-point sampler. Pond stage on 8/2/2006 was 45.70 ft. Locations of sites shown in figure 6]

Site identifier	USGS site ID	Date sampled	Easting (m)	Northing (m)	Latitude (° ' ")	Longitude (° ' ")	Distance from shore (ft)	Water depth (ft)	Drive-point method	Drive depth (ft)	Altitude of bottom of drive point (ft)
MA–FSW 669–A69	413808070322003	8/21/06	280085.939	821028.091	70 32 21.68	41 38 07.15	30	3.3	MHE	0.5	42.2
MA–FSW 669–A69	413808070322003	8/21/06	280085.939	821028.091	70 32 21.68	41 38 07.15	30	3.3	KV	1.5	41.2
MA–FSW 669–A69	413808070322003	8/21/06	280085.939	821028.091	70 32 21.68	41 38 07.15	30	3.3	KV	3.0	39.7
MA–FSW 669–A70	413808070322004	8/21/06	280087.588	821028.380	70 32 21.61	41 38 07.16	38	3.9	MHE	0.5	41.6
MA–FSW 669–A70	413808070322004	8/21/06	280087.588	821028.380	70 32 21.61	41 38 07.16	38	3.9	KV	1.5	40.6
MA–FSW 669–A70	413808070322004	8/21/06	280087.588	821028.380	70 32 21.61	41 38 07.16	38	3.9	KV	3.0	39.1
MA–FSW 669–A71	413807070322019	8/21/06	280090.195	821025.944	70 32 21.50	41 38 07.08	49	4.0	MHE	0.5	41.5
MA–FSW 669–A71	413807070322019	8/21/06	280090.195	821025.944	70 32 21.50	41 38 07.08	49	4.0	KV	1.5	40.5
MA–FSW 669–A71	413807070322019	8/21/06	280090.195	821025.944	70 32 21.50	41 38 07.08	49	4.0	KV	3.0	39.0
MA–FSW 669–A72	413807070321901	8/21/06	280093.475	821024.636	70 32 21.36	41 38 07.04	60	4.6	MHE	0.5	40.9
MA–FSW 669–A72	413807070321901	8/21/06	280093.475	821024.636	70 32 21.36	41 38 07.04	60	4.6	KV	1.5	39.9
MA–FSW 669–A72	413807070321901	8/21/06	280093.475	821024.636	70 32 21.36	41 38 07.04	60	4.6	KV	3.0	38.4
MA–FSW 669–A73	413807070321902	8/21/06	280098.067	821022.283	70 32 21.16	41 38 06.96	71	5.9	MHE	0.5	39.6
MA–FSW 669–A73	413807070321902	8/21/06	280098.067	821022.283	70 32 21.16	41 38 06.96	71	5.9	KV	3.0	37.1
MA–FSW 669–A74	413808070322005	8/21/06	280085.037	821038.745	70 32 21.72	41 38 07.50	15	1.7	MHE	0.5	43.8
MA–FSW 669–A74	413808070322005	8/21/06	280085.037	821038.745	70 32 21.72	41 38 07.50	15	1.7	KV	3.0	41.3
MA–FSW 669–A75	413808070322006	8/21/06	280089.772	821036.148	70 32 21.51	41 38 07.41	31	3.2	MHE	0.5	42.3
MA–FSW 669–A75	413808070322006	8/21/06	280089.772	821036.148	70 32 21.51	41 38 07.41	31	3.2	KV	3.0	39.8
MA–FSW 669–A76	413808070321901	8/21/06	280094.167	821034.015	70 32 21.33	41 38 07.34	50	4.6	MHE	0.5	40.9
MA–FSW 669–A76	413808070321901	8/21/06	280094.167	821034.015	70 32 21.33	41 38 07.34	50	4.6	KV	3.0	38.4
04–08	--	8/28/06	280024.026	820965.868	70 32 24.39	41 38 05.16	8	0.9	MHE	0.5	44.6
04–12	--	8/28/06	280024.763	820964.784	70 32 24.36	41 38 05.12	12	1.4	MHE	0.5	44.2
05–00	--	8/28/06	280033.475	820969.815	70 32 23.98	41 38 05.28	0	0.0	MHE	0.5	45.5
05–06	--	8/28/06	280032.776	820971.075	70 32 24.01	41 38 05.32	6	0.6	MHE	0.5	44.9
05–10	--	8/28/06	280032.254	820972.850	70 32 24.03	41 38 05.38	10	1.1	MHE	0.5	44.5
06–03	--	8/28/06	280038.912	820975.988	70 32 23.74	41 38 05.48	3	0.3	MHE	0.5	45.3
06–07	--	8/28/06	280040.987	820974.710	70 32 23.65	41 38 05.44	7	0.6	MHE	0.5	44.9
06–11	--	8/28/06	280042.689	820973.644	70 32 23.58	41 38 05.40	11	1.0	MHE	0.5	44.5
07–00	--	8/28/06	280045.323	820981.702	70 32 23.46	41 38 05.66	0	0.0	MHE	0.5	45.5
07–03	--	8/28/06	280046.482	820980.996	70 32 23.41	41 38 05.64	3	0.3	MHE	0.5	45.3
07–07	--	8/28/06	280048.191	820980.064	70 32 23.34	41 38 05.61	7	0.6	MHE	0.5	44.9
08–04	--	8/28/06	280050.044	820987.068	70 32 23.26	41 38 05.84	4	0.3	MHE	0.5	45.2
08–08	--	8/28/06	280052.583	820985.370	70 32 23.15	41 38 05.78	8	0.7	MHE	0.5	44.9
08–12	--	8/28/06	280055.197	820983.768	70 32 23.03	41 38 05.73	12	1.0	MHE	0.5	44.5
09–07	--	8/28/06	280055.139	820993.569	70 32 23.03	41 38 06.04	7	0.6	MHE	0.5	45.0
09–11	--	8/28/06	280057.621	820991.641	70 32 22.93	41 38 05.98	11	0.9	MHE	0.5	44.6
09–15	--	8/28/06	280059.547	820990.308	70 32 22.84	41 38 05.94	15	1.2	MHE	0.5	44.3
10–02	--	8/28/06	280061.358	820999.269	70 32 22.76	41 38 06.23	2	0.2	MHE	0.5	45.4
10–06	--	8/28/06	280062.996	820998.274	70 32 22.69	41 38 06.19	6	0.5	MHE	0.5	45.0
10–10	--	8/28/06	280065.212	820997.452	70 32 22.59	41 38 06.17	10	0.8	MHE	0.5	44.7
11–03	--	8/28/06	280065.683	821008.120	70 32 22.57	41 38 06.51	3	0.2	MHE	0.5	45.3
11–07	--	8/28/06	280067.950	821006.535	70 32 22.47	41 38 06.46	7	0.6	MHE	0.5	45.0
11–11	--	8/28/06	280070.379	821005.317	70 32 22.37	41 38 06.42	11	0.9	MHE	0.5	44.6
12–00	--	8/28/06	280067.028	821014.343	70 32 22.51	41 38 06.71	0	0.0	MHE	0.5	45.5
12–04	--	8/28/06	280071.188	821013.325	70 32 22.33	41 38 06.68	4	0.4	MHE	0.5	45.2
12–08	--	8/28/06	280071.866	821012.684	70 32 22.30	41 38 06.66	8	0.7	MHE	0.5	44.8
13–03	--	8/28/06	280075.789	821022.236	70 32 22.13	41 38 06.97	3	0.2	MHE	0.5	45.3
13–07	--	8/28/06	280076.962	821023.181	70 32 22.07	41 38 07.00	7	0.6	MHE	0.5	45.0
13–11	--	8/28/06	280081.528	821021.645	70 32 21.88	41 38 06.94	11	0.9	MHE	0.5	44.7
14–02	--	8/28/06	280076.478	821027.946	70 32 22.09	41 38 07.15	2	0.2	MHE	0.5	45.4
14–06	--	8/28/06	280078.977	821026.594	70 32 21.99	41 38 07.11	6	0.5	MHE	0.5	45.0
14–10	--	8/28/06	280080.869	821026.033	70 32 21.90	41 38 07.09	10	0.8	MHE	0.5	44.7
15–03	--	8/28/06	280078.752	821038.996	70 32 21.99	41 38 07.51	3	0.3	MHE	0.5	45.3
15–07	--	8/28/06	280081.629	821037.375	70 32 21.87	41 38 07.45	7	0.6	MHE	0.5	44.9
15–11	--	8/28/06	280082.796	821035.768	70 32 21.82	41 38 07.40	11	1.0	MHE	0.5	44.5

Table 5. 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, August 2–21, 2006—continued

[Easting and Northing: State plane coordinates are from 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 and nitrogen data: U.S. Geological Survey National Water Quality Laboratory, Lakewood, Colorado. USGS, U.S. Geological Survey; ft, foot; m, meter; µS/cm, microsiemens per centimeter at 25 degrees Celsius; <, actual value less than value shown; --, no data; E, estimated value for constituent detected in the sample below the laboratory reporting level; MHE, MHE Products PushPoint sampler; KV, KV Associates Macho well-point sampler. Pond stage on 8/2/2006 was 45.70 ft. Locations of sites shown in figure 6]

		Measured in field, unfiltered				Measured in laboratory, filtered			
Site identifier	Drive depth (ft)	Specific conduct-ance (µS/cm)	Oxygen, dissolved (mg/L)	pH (standard units)	Orthophos-phate (mg/L as P)	Phosphorus (mg/L as P)	Nitrite plus nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)
MA–FSW 669–A69	0.5	127.1	0.005	6.60	<0.098	0.030	<0.060	E0.001	0.017
MA–FSW 669–A69	1.5	129	--	6.60	<.098	<.020	.407	.009	.013
MA–FSW 669–A69	3.0	107	6.91	5.93	.277	.259	.615	<.002	E.006
MA–FSW 669–A70	0.5	84.3	2.37	6.36	<.098	<.020	.246	<.002	E.009
MA–FSW 669–A70	1.5	103	5.66	5.92	.212	.181	.537	.004	.011
MA–FSW 669–A70	3.0	82.7	7.44	5.80	.261	.341	.548	<.002	<.010
MA–FSW 669–A71	0.5	131	.030	6.79	<.098	.024	E.032	.004	.022
MA–FSW 669–A71	1.5	114	6.21	6.06	<.098	E.018	.534	.002	E.009
MA–FSW 669–A71	3.0	101	8.38	5.84	.163	.110	.548	<.002	<.010
MA–FSW 669–A72	0.5	100	7.62	5.51	.098	.106	.530	<.002	<.010
MA–FSW 669–A72	1.5	99.6	8.37	5.66	<.098	.085	.551	<.002	E.006
MA–FSW 669–A72	3.0	99.0	8.99	5.57	.098	.092	.549	<.002	E.005
MA–FSW 669–A73	0.5	106	8.51	6.19	<.098	.035	.479	<.002	E.006
MA–FSW 669–A73	3.0	108	8.06	6.27	<.098	.024	.481	<.002	E.007
MA–FSW 669–A74	0.5	143	7.01	6.02	.489	.408	.491	<.002	<.010
MA–FSW 669–A74	3.0	162	7.69	5.95	.440	.357	.580	<.002	E.007
MA–FSW 669–A75	0.5	79.9	7.88	5.39	.310	.263	.559	<.002	<.010
MA–FSW 669–A75	3.0	85.1	8.04	5.77	.147	.362	.537	<.002	<.010
MA–FSW 669–A76	0.5	115	9.09	6.10	.277	.189	.522	<.002	<.010
MA–FSW 669–A76	3.0	109	8.50	6.45	.196	.143	.489	<.002	<.010
04–08	0.5	125	--	--	<.098	--	--	--	--
04–12	0.5	164	--	--	.147	--	--	--	--
05–00	0.5	67.1	--	--	<.098	--	--	--	--
05–06	0.5	95.3	--	--	<.098	--	--	--	--
05–10	0.5	227	--	--	1.48	--	--	--	--
06–03	0.5	71.9	--	--	<.098	--	--	--	--
06–07	0.5	190	--	--	1.53	--	--	--	--
06–11	0.5	198	--	--	1.24	--	--	--	--
07–00	0.5	63.3	--	--	<.098	--	--	--	--
07–03	0.5	195	--	--	1.47	--	--	--	--
07–07	0.5	178	--	--	1.24	--	--	--	--
08–04	0.5	63.5	--	--	<.098	--	--	--	--
08–08	0.5	232	--	--	1.50	--	--	--	--
08–12	0.5	223	--	--	<.098	--	--	--	--
09–07	0.5	109	--	--	<.098	--	--	--	--
09–11	0.5	198	--	--	1.09	--	--	--	--
09–15	0.5	306	--	--	<.098	--	--	--	--
10–02	0.5	133	--	--	.701	--	--	--	--
10–06	0.5	190	--	--	1.16	--	--	--	--
10–10	0.5	210	--	--	<.098	--	--	--	--
11–03	0.5	141	--	--	.114	--	--	--	--
11–07	0.5	162	--	--	1.04	--	--	--	--
11–11	0.5	201	--	--	.391	--	--	--	--
12–00	0.5	78.4	--	--	.147	--	--	--	--
12–04	0.5	118	--	--	1.06	--	--	--	--
12–08	0.5	261	--	--	1.17	--	--	--	--
13–03	0.5	108	--	--	.587	--	--	--	--
13–07	0.5	94.9	--	--	.147	--	--	--	--
13–11	0.5	142	--	--	.701	--	--	--	--
14–02	0.5	118	--	--	.718	--	--	--	--
14–06	0.5	139	--	--	1.40	--	--	--	--
14–10	0.5	202	--	--	.114	--	--	--	--
15–03	0.5	111	--	--	<.098	--	--	--	--
15–07	0.5	142	--	--	1.08	--	--	--	--
15–11	0.5	162	--	--	.669	--	--	--	--