Data on Observation Wells, Ground-Water Levels, and Ground-Water Quality for the Stratified-Drift Aquifer in the Northwestern Basin of Country Pond, Kingston, New Hampshire

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CONVERSION FACTORS AND VERTICAL DATUM

Multiple	By	To obtain
	Length	
inch (in.)	25.4	millimeter
foot (ft)	0.3048	meter
mile (mi)	1.609	kilometer
	Area	
square mile (mi)	2.590	square kilometer
acre	4,047	square meter
	Volume	
gallon (gal)	3.785	liter
	Flow	
gallon per minute (gal/min)	0.06309	liter per second
gallon per day (gal/d)	3.7854	liter per day

Sea level: In this report, "sea level" refers to the National Geodetic Vertical Datum of 1929--a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

Data on Observation Wells, Ground-Water Levels, and Ground-Water Quality for the Stratified-Drift Aquifer in the Northwestern Basin of Country Pond, Kingston, New Hampshire

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Abstract

This report presents data on ground-water levels and quality collected for a study of ground-water contamination in stratified drift at Country Pond in Kingston, New Hampshire. The data were collected in 1987, 1988, and 1991 in cooperation with the U.S. Environmental Protection Agency and the New Hampshire Department of Environmental Services, Waste Management Division.

Water-quality analyses are presented for 56 samples collected from 30 wells installed at various depths in stratified drift beneath Country Pond. Water-level data are also presented for nine wells drilled in 1991. Samples were analyzed in the laboratory for 40 volatile organic compounds. Ground-water contamination from volatile organic compounds was found in 23 of the 56 samples collected.

INTRODUCTION

This study was initiated in 1987 to provide data needed to address the fate of contamination flowing downgradient from a hazardous waste site in Kingston, N.H. The areas examined included Country Pond and the stratified-drift aquifer bordering and underlying the pond. The study was done in cooperation with the U.S. Environmental Protection Agency (USEPA), Region I, Waste Management Division and the New Hampshire Department of Environmental Services, Waste Management Division (NHDES, WMD).

Purpose and Scope

The purpose of this report is to present selected data on observation wells, ground-water levels, and ground-water quality from wells drilled at Country Pond in 1987, 1988, and 1991. The report includes data on well construction, well yields, head relations between ground water and the pond, and ground-water quality. Additional ground-water-level and ground-water-quality data are also provided for two wells drilled in 1983 by a private consulting firm at the northern and western edge of the pond.

Contaminants originating from a hazardous-waste site in the town of Kingston enter surface and ground water and flow southeasterly from the site through and beneath a wetland toward Country Pond (fig. 1). Previous investigations by the USEPA (1986); Goldberg-Zoino and Associates (1986); and Ecology and Environment, Inc. (1982) were limited to field explorations of the site area and to the wetland southeast of the site.

Description of the Study Area

The 14-acre study area is the northwestern part of Country Pond (fig. 1) and encompasses about 5 percent of the pond area. Ground-water contamination originated approximately 1,500 ft northwest of the study area and extends from the source through a wetland and into the study area. The primary contaminants found in ground water downgradient from the site are volatile organic compounds (VOC's) of arsenic, and nickel (Goldberg-Zoino and Associates, 1986).

Acknowledgments

Appreciation is expressed to town officials in Kingston and to private residents along the shore of Country Pond who granted the author access to the pond through their properties. Appreciation is also extended to private consultants who made their reports and drilling logs available to the author.

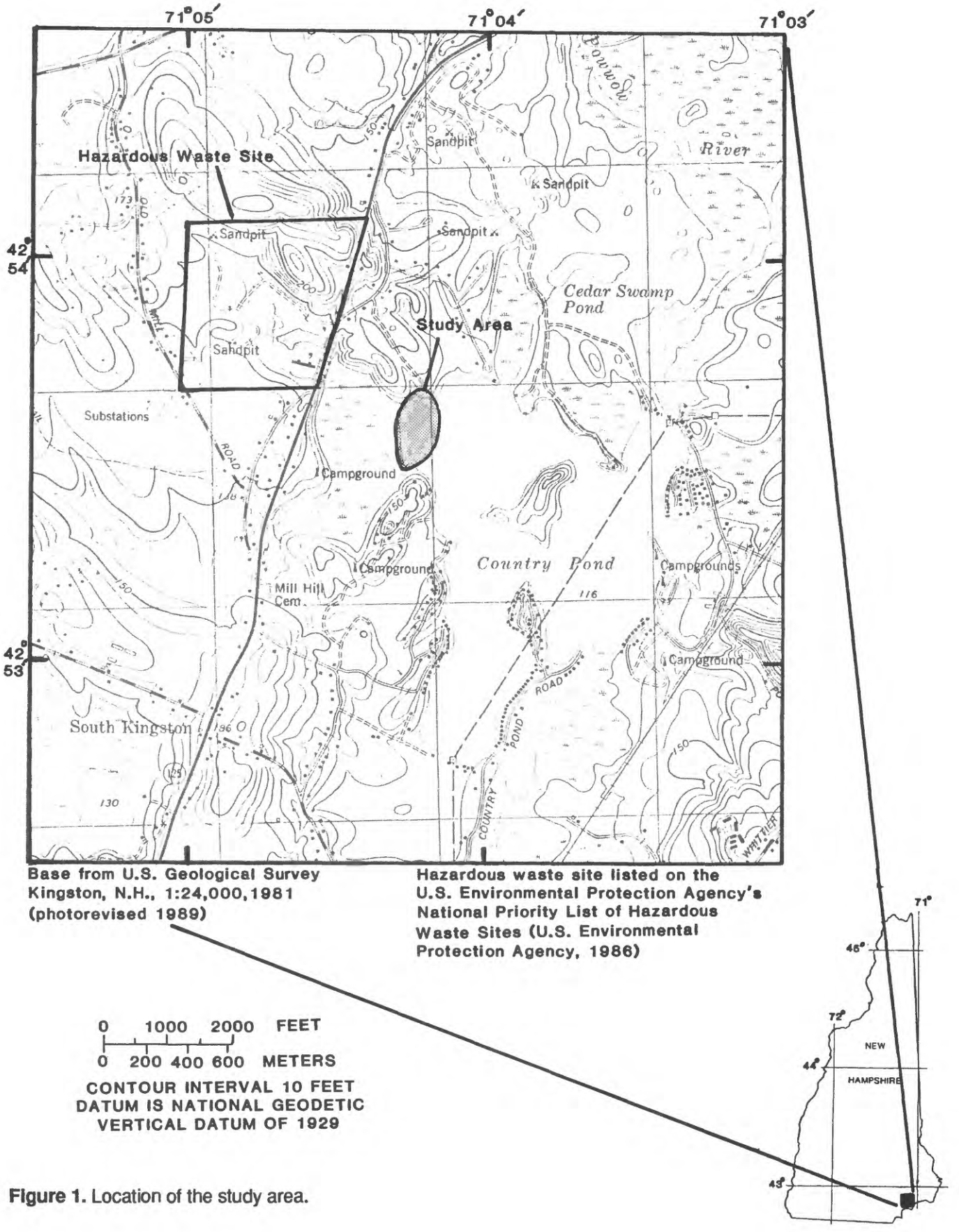

Figure 1. Location of the study area.

OBSERVATION WELLS

Observation wells were installed beneath the pond bottom in 1987, 1988, and 1991 (fig. 2) to determine water levels and to collect water-quality samples. Wells installed in 1987 were left in place over the winter, whereas wells installed in 1988 and 1991 were removed within 24 hours of installation. All wells were installed and sampled before pond levels were lowered in the autumn.

Thirty wells were installed at various depths in stratified drift underlying Country Pond. Depths to refusal measured from pond bottom ranged from 11.3 to 60.8 ft with an average of 31.3 ft.

During October 1987, 11 wells were installed at 7 locations. At four locations, two wells were installed and screened in the stratified-drift aquifer at intervals separated by about 10 ft. The wells were originally intended to serve as temporary monitoring sites that would be in place for about 1 year. After installation, the wells were marked with florescent orange paint and an arc of buoys was strung across the eastern edge of the well network as a warning to boats. Two sets of ground-water samples (October 1987 and February 1988) were collected and analyzed from these wells by the NHDES, WMD. When the wells were damaged by winter ice, no subsequent samples were taken. The wells were removed in June 1988 by the NHDES, WMD.

Drilling methods in November 1988 and May 1991 differed slightly from the methods used in 1987. In 1988 and 1991, the wells were installed, developed, sampled, and then immediately removed so that the pond was clear of all well casings and screens at the end of a day's drilling. This procedure was adopted to minimize damage to the wells and reduce interference with the recreational use of the pond. Ground-water samples were collected at intervals of 5 to 10 ft as each well point was advanced.

All wells were installed by use of a tripod hammer-weight system to drive 1 1/4-in. galvanized (steam-cleaned) well points from a floating platform. Well-site locations were chosen by the USEPA and the NHDES, WMD. Well construction and measurements of well yield and potentiometric heads were supervised by the U.S. Geological Survey (USGS) for wells drilled in 1987 and 1991 and by the NHDES, WMD for wells drilled in 1988. Surveying and ground-water sampling was supervised by the NHDES, WMD.

A subcontract was issued to a local well drilling company for pipe cleaning, well construction, and well development and removal. The New Hampshire Department of Transportation provided a 16- by 16-ft floating platform for drilling. Wells were developed by use of a hand-pitcher pump until yield stabilized and water was free of sediment. Final well yields were estimated volumetrically by use of a centrifugal pump and a 5-gallon bucket. Single and multi-level wells were installed to the depth at which maximum well yields were achieved. An average of two wells were installed, sampled, and removed each day. Drillers' logs for wells are given in tables 1, 2, 3, and 4. Table 1 contains logs made previously by a consultant for two wells installed on the northern and western edge of the pond in 1983. Tables 2, 3, and 4 include logs for wells constructed as described in this section in 1987, 1988, and 1991, respectively. Well yields were measured at observation wells in 1987 and 1991 and varied from 0 to 60 gal/min (tables 2 and 4)

GROUND-WATER LEVELS

Water levels were measured at several depths in nine wells drilled in 1991 (table 4). Ground-water and pond levels were measured with an electric tape accurate to +0.01 ft. All ground-water and pond levels at a given well site are referenced to a common datum plane such that comparisons between water levels

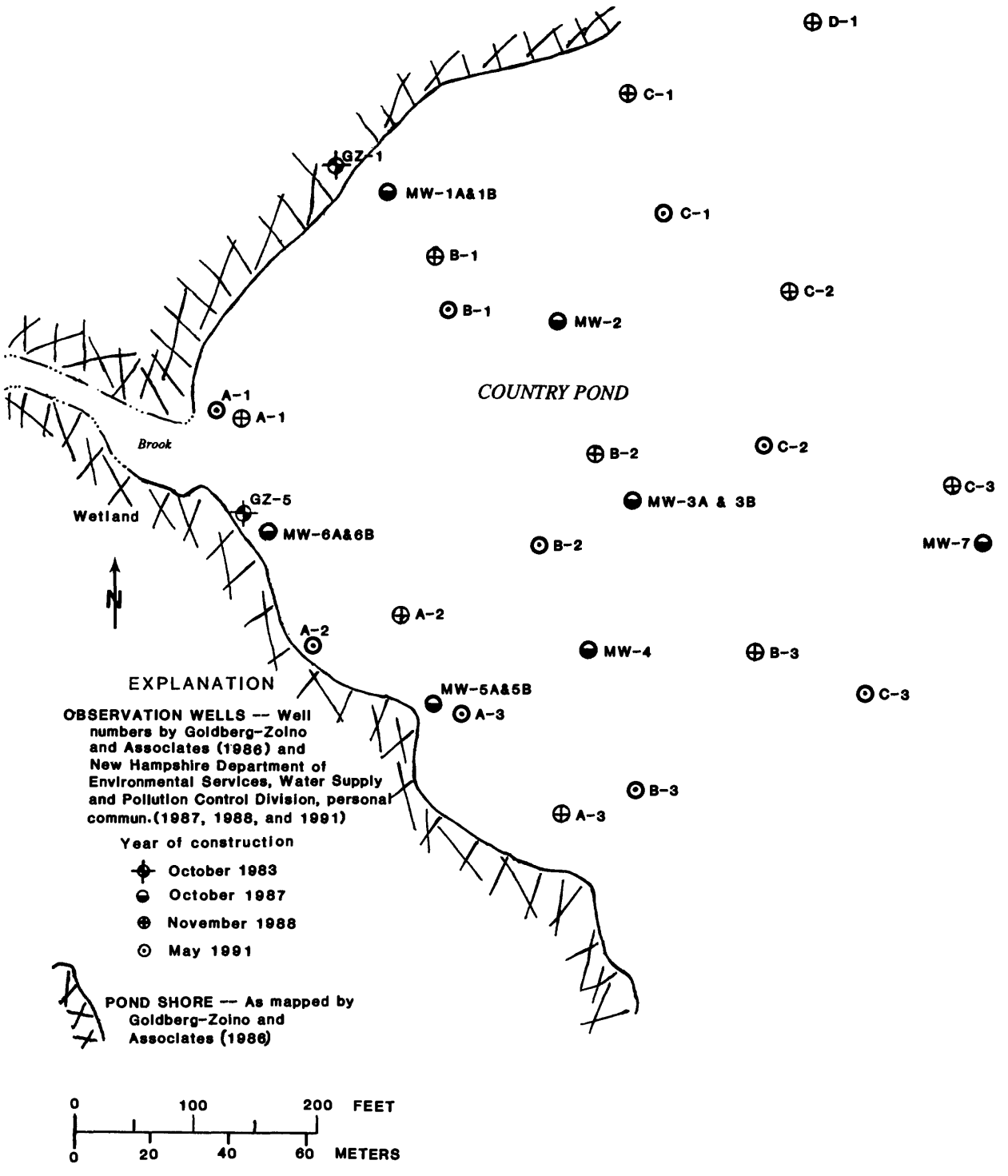

Figure 2. Locations of wells in Country Pond, Kingston, New Hampshire.

are significant to +0.01 ft. Water levels in wells were stabilized to ambient conditions after completion of well development. Water levels were considered stabilized when two consecutive measurements, separated by 15 minutes, showed less than a 0.01 ft head change. Differences in levels between the pond and ground water indicate high hydraulic heads in the stratified-drift aquifer at all measured well sites (table 4).

GROUND-WATER QUALITY

Ground-water quality samples were taken in 1987, 1988, and 1991 from wells drilled in the study area. Seventeen ground-water samples from 11 wells drilled in October 1987 were collected in October 1987 and February 1988. Nineteen ground-water samples from 10 wells drilled in November 1988 were collected in November 1988, and 20 ground-water samples from 9 wells drilled in May 1991 were collected in May 1991.

After well development, water samples were collected from each well for analysis of VOC's by use of a stainless steel bailer. Standard quality assurance and quality-control procedures were followed in the collection and analysis of samples. All water samples were analyzed by the NHDES laboratory in Concord, N.H. and the results of the analyses are given in tables 5, 6, and 7. Additional ground-water-quality data for two wells installed on the north and west edge of the pond are given in table 8. Detected VOC's include chloroethane; 1,1 -dichloroethane; 1,2 -dichloroethane; c&t-1,2-dichloroethylene; benzene; ethyl benzene; xylene; chlorobenzene; dichlorobenzenes; tetrahydro-furan; and diethyl ether (tables 5, 6, and 7). Concentrations of total VOC's (sum of analytes) in the wells that were sampled ranged from 0.0 to 1,300 ppb (parts per billion).

SELECTED REFERENCES

Ecology and Environment, Inc., 1982, Field investigations of uncontrolled hazardous waste sites, FIT Project, hydrogeologic investigation, Kingston, New Hampshire: U.S. Environmental Protection Agency, Task Report, contract no. 68-01-6056.

GeoTrans, Inc., 1986, Analysis of groundwater flow and chemical transport from the Ottati and Goss/Great Lakes Container Corporation Sites: U.S. Environmental Protection Agency, Expert Report.

Goldberg-Zoino and Associates, 1986, Remedial investigation of the Ottati and Goss/Great Lakes Container Corporation site, Kingston, New Hampshire: Concord, N.H., New Hampshire Department of Environmental Services, Water Supply and Pollution Control Division, 229 p.

U.S. Environmental Protection Agency, 1986, Amendment to national oil and hazardous substance contingency plan, national priorities list--final rule and proposed rules: Federal Register, v. 51, no. 111, p. 21053-21112.

Table 1. Description of two wells drilled in October 1983 in Country Pond, Kingston, New Hampshire
[mmddyy, month, day, year; latitude and longitude in degrees, minutes, seconds]

Local well number[1]	Latitude	Longitude	Owner	Date well constructed (mmddyy)	Altitude of land surface (feet)	Depth drilled (feet)	Depth of well (feet)	Diameter of casing (inches)	Top of open interval (feet)	Bottom of open interval (feet)	Depth to refusal (feet)	Depth to top (feet)	Depth to bottom (feet)	Lithology
GZ-1	42°53'39"	071°04'14"	Goldberg-Zoino and Associates	10-05-83	118.3	32.8	31.5	1.5	1.2	31.5	32.8	0	.5	Silt and fine sand, loose, some organic matter
												.5	8	Sand, fine to medium, yellow-brown, medium dense, trace coarse sand and silt
												8	19	Sand and gravel, fine to medium, dense; trace of silt; trace of coarse sand; trace of gravel
												19	27.7	Sand, fine to medium, dense; trace of silt; trace of coarse sand; trace of gravel
												27.7	31.5	Schist, slightly weathered, medium hard, moderately fractured
												32.8		End of hole
GZ-5	42°53'29"	071°04'15"	Goldberg-Zoino and Associates	10-21-83	115	48.8	37.5	1.5	8	37.5	48.8	0	6.8	Peat, very soft, brown; trace of roots; muck
												6.8	13	Sand, medium to fine, loose gray; some silt
												13	18	Sand, fine to coarse; gravel, coarse; light brown
												18	19.5	Sand, fine to medium, light brown, very dense; some gravel, little silt
												19.5	24.5	Silt, medium dense, red-brown; trace of fine sand
												24.5	34.5	Sand, fine to coarse, medium dense; little fine gravel; trace of silt
												34.5	42.8	Sand, fine; gravel, fine; some silt
												48.8		Schist, slightly weathered, gray, medium hard

[1] Drilled by Goldberg-Zoino and Associates (1983).

Table 2. Drillers' logs for wells drilled in October 1987 in Country Pond, Kingston, New Hampshire

[USGS, U.S. Geological Survey; ft, feet; gal/min, gallons per minute; m/d/yr, month, day, year; m/yr, month , year. Wells were constructed of 1 1/4-inch, schedule-80, glavanized-riser pipe in 5 ft lengths, 1 1/4-inch galvanized drive couplings, and 3 ft of 0.01-slot galvanized screen. All joints were wrapped with teflon tape. All water levels were measured with a steel tape from top of threads on the drivepipe. Lake level is measured to the nearest 0.01 foot in a stilling well. --, no data available]

USGS well and sample number	Total length of pipe and screen (ft)	Lake bottom below lake surface (ft)	Top of casing height above lake surface (ft)	Screened interval below lake bottom (ft)	Water sample identifier	Tested yield (gal/min)	Date of installation (m/d/yr)	Date of removal (m/yr)	Remarks
MW-1A	8	4.3	2	0 - 1.7	--	1	10/9/87	6/88	Drove very hard, developed poorly, much silt and very fine sand
	13	--	2	3.7 - 6.7	--	--	--	--	Drove very hard, good steady flow, well cleared of silt and sand
	18	--	2	8.7 - 11.7	--	--	--	--	Drove hard, good flow
	23	--	2	13.7 - 16.7	MW-1A	48	---	--	Drove very hard, very silty development water, till
	28	--	4	16.7 - 19.7	--	--	--	--	Refusal, pipe bouncing, may be on bedrock
MW-1B	8	4.3	2	0 - 1.7	--	--	10/99/87	6/88	Drove very hard, developed poorly, much silt and very fine sand
	13	--	2	3.6 - 6.7	--	--	--	--	Drove hard, good steady flow, well cleared of silt and sand
	18	--	5.6	5.1 - 8.1	MW-1B	19	--	--	Drove hard, good flow
MW-2	18	9.1	3	2.9 - 5.9	--	--	10/9/87	6/88	Pushed pipe in by hand, very soft organic mud bottom, no development possible, no flow
	23	--	2	8.9 - 11.9	--	--	--	--	Drove easy, good flow
	28	--	2	13.9 - 16.9	MW-2	30			Drove with moderate resistance, good flow
	33	--	2	18.9 - 21.9	--	--	--	--	Last 3 ft drove very hard, no lift, no flow, till?
	38	--	3.3	22.6 - 25.6	--	--	--	--	Refusal on bedrock or till, pipe bouncing, no lift, no flow
MW-3A	28	9.5	2	13.5 - 16.5	--	--	10/9/87	6/88	Pushed pipe in by hand, very soft organic mud bottom, no flow
	33	--	2	18.5 - 21.5	--	--	--	--	Drove easy, good flow, very fine to fine sand in development water
	38	--	2	23.5 - 26.5	MW-3A	7	--	--	Drove with moderate resistance, well developed clear, moderate flow
	43	--	2	28.5 - 31.5	--	--	--	--	Drove very hard, no lift, no flow, till
	48	--	2	31.1 - 34.1	--	--	--	--	Refusal on bedrock or till, no flow

Table 2. Drillers' logs for wells drilled in October 1987 in Country Pond, Kingston, New Hampshire--Continued

USGS well and sample number	Total length of pipe and screen (ft)	Lake bottom below lake surface (ft)	Top of casing height above lake surface (ft)	Screened interval below lake bottom (ft)	Water sample identifier	Tested yield (gal/min)	Date of installation (m/d/yr)	Date of removal (m/yr)	Remarks
MW-3B	28	9.5	2	13.5 - 16.5	--	--	10/13/87	6/88	Pushed pipe in by hand, very soft mud bottom, no flow
	33	--	3.5	17.0 - 20.0	MW-3B	36	--	--	Drove easy, developed clear, good flow
MW-4	33	9.5	2.3	18.2 - 21.2	--	--	10/14/87	6/88	Pushed pipe in by hand, soft mud bottom, no development
	38	--	2.3	23.2 - 26.2	--	--	--	--	Drove easy, mud bottom, no lift, no development.
	43	--	2.3	28.2 - 31.2	--	--	--	--	Drove easy, could not develop
	48	--	2.3	33.2 - 36.2	MW-4	36	--	--	Drove with moderate resistance, developed clear, good flow
	53	--	2.3	38.2 - 41.2	--	--	--	--	Drove with moderate resistance, developed with good flow, better at 36.2 ft
	58	--	4.0	41.5 - 44.5	--	--	--	--	Refusal, pipe bouncing on bedrock or till, no flow
MW-5A	23	4.9	2	13.1 - 16.1	--	--	10/15/87	6/88	Pushed pipe in by hand, soft mud bottom
	28	--	2	18.1 - 21.1	--	--	--	--	Drove with moderate resistance, good flow
	33	--	2	23.1 - 26.1	--	--	--	--	24-26 ft very hard driving, good flow
	38	--	2	28.1 - 31.1	MW-5A	28	--	--	Drove hard, good flow, approximately 30 gal/min, very fine to fine sand in development water
	43	--	2	33.1 - 36.1	--	--	--	--	Drove very hard, low flow, very fine to fine sand in development water
	48	--	3.5	36.6 - 39.6	--	--	--	--	Refusal on bedrock or till, no flow
MW-5B	23	4.9	2	13.1 - 16.1	--	--	10/15/87	6/88	Pushed pipe in by hand, soft mud bottom
	28	--	2.4	17.7 - 20.7	MW-5B	51	--	--	Drove with moderate resistance, excellent flow
MW-6A	28	1.7	2	21.3 - 24.3	--	--	10/15/87	6/88	Pushed in by hand, soft mud bottom, no flow
	33	--	2	26.3 - 29.3	--	--	--	--	Drove easy, little resistance, no flow
	38	--	2	31.3 - 34.3	--	>30	--	--	Drove with moderate resistance, good flow
	43	--	2	36.3 - 39.3	--	>30	--	--	Drove with moderate resistance, good flow
	48	--	2	41.3 - 44.3	--	--	--	--	Drove with moderate resistance, excellent flow
	53	--	2	46.3 - 49.3	MW-6A	45	--	--	Drove with moderate resistance, good flow
	58	--	2	51.3 - 54.3	--	--	--	--	Drove hard, no lift, no flow, till
	63	--	2	56.3 - 59.3	--	--	--	--	Drove hard, no flow, till
	68	--	5.5	57.8 - 60.8	--	--	--	--	Refusal on bedrock or till, no flow

Table 2. Drillers' logs for wells drilled in October 1987 in Country Pond, Kingston, New Hampshire--Continued

USGS well and sample number	Total length of pipe and screen (ft)	Lake bottom below lake surface (ft)	Top of casing height above lake surface (ft)	Screened interval below lake bottom (ft)	Water sample identifier	Tested yield (gal/min)	Date of installation (m/d/yr)	Date of removal (m/yr)	Remarks
MW-6B	28	1.7	2	21.3 - 24.3	--	--	10/15/87	6/88	Pushed in by hand, soft mud bottom, no flow
	33	--	2	26.3 - 29.3	--	--	--	--	Drove easy, little resistance, no flow
	38	--	2	31.3 - 34.3	--	>30	--	--	Drove with moderate resistance, good flow
	43	--	2.3	36.0 - 39.0	MW-6B	51	--	--	Drove with moderate resistance, excellent flow
MW-7	8	3.7	2	0 - 2.3	--	--	10/15/87	6/88	Installed on west shore of island, 50 ft from
	--	--	--	--	--	--	--	--	shore; drove hard, several cobbles and
	--	--	--	--	--	--	--	--	boulders (ice contact materials); developed
	--	--	--	--	--	--	--	--	poorly, low fow
	13	--	.3	6.0 - 9.0	MW-7	45	--	--	Drove hard, very good flow

Table 3. Drillers' logs for wells drilled in November 1988 in Country Pond, Kingston, New Hampshire

[USGS, U.S. Geological Survey; ft, feet; S, shallow well; D, deep well; m/yr, month , year; --, no data available. Wells were constructed of 1 1/4-inch, schedule-80, glavanized-riser pipe in 5 ft lengths, 1 1/4-inch galvanized drive couplings, and 3 ft of 0.01-slot galvanized screen. All joints were wrapped with teflon tape. All water levels were measured with a steel tape from top of threads on the drive pipe. The wells were installed in November 1988 and removed in November 1988.]

USGS well and sample number	Total length of pipe and screen (ft)	Well water sample identifier	Screened interval below lake bottom (ft)	Lake bottom below lake surface (ft)	Date of installation (m/yr)	Date of removal (m/yr)	Remarks
A1-88	18	A1(S)-88	9 - 12	3	11/88	11/88	Organic sediment thickness approximately 2 ft
	23	A1(D)-88	13 - 16	--	--	--	Depth to refusal = 18 ft below lake bottom
A2-88	28	A2(S)-88	17 - 20	3	11/88	11/88	Organic sediment thickness approximately 10 ft
	33	A2(D)-88	24 - 27	--	--	--	Depth to refusal = 27 ft below lake bottom
A3-88	53	A3(S)-88	39 - 42	5	11/88	11/88	Organic sediment thickness approximately 32 ft
	58	A3(D)-88	42 - 45	--	--	--	Depth to refusal = 45 ft below lake bottom
B1-88	13	B1(S)-88	4 - 7	3	11/88	11/88	Organic sediment thickness approximately 0 ft
	23	B1(D)-88	10 - 13	--	--	--	Depth to refusal = 13 ft below lake bottom
B2-88	33	B2(S)-88	21 - 24	7	11/88	11/88	Organic sediment thickness approximately 14 ft
	38	B2(D)-88	26 - 29	--	--	--	Depth to refusal = 29 ft below lake bottom
B3-88	38	B3(S)-88	23 - 26	9	11/88	11/88	Organic sediment thickness approximately 14 ft
	43	B3(D)-88	28 - 31	--	--	--	Depth to refusal = 33 ft below lake bottom
C1-88	23	C1-88	7 - 10	9	11/88	11/88	Organic sediment thickness approximately 0 ft Depth to refusal = 12 ft below lake bottom
C2-88	43	C2(S)-88	30 - 33	9	11/88	11/88	Organic sediment thickness approximately 9 ft
	48	C2(D)-88	34 - 37	--	--	--	Depth to refusal = 42 ft below lake bottom
C3-88	48	C3(S)-88	32 - 35	10	11/88	11/88	Organic sediment thickness approximately 25 ft
	63	C3(D)-88	47 - 50	--	--	--	Depth to refusal = 50 ft below lake bottom
D1-88	23	D1(S)-88	7 - 10	8	11/88	11/88	Organic sediment thickness approximately 0 ft
	28	S1(D)-88	11 - 14	--	--	--	Depth to refusal = 17 ft below lake bottom

Table 4. Drillers' logs for wells drilled in May 1991 in Country Pond, Kingston, New Hampshire

[USGS, U.S. Geological Survey; ft, feet; gal/min, gallons per minute; --, no data available. All water levels were measured with a steel tape from top of threads on the drivepipe. The wells were installed in May 1991 and removed in May 1991.]

USGS well and sample number	Total length of pipe and screen[1] (ft)	Blows per foot	Top of casing height above lake surface (ft)	Lake bottom below lake surface (ft)	Screened interval below lake bottom (ft)	Initial depth to water in well (ft)	Tested yield (gal/min)	Water sample identifier	Depth to lake surface[2] (ft)	Depth to water in well (ft)	Head difference (ft)	Remarks
A1-91	13	22-40	3.16	2.7	4.14 - 7.17	3.93	15	A1(7)-91	3.93	3.93	0	Organic sediment thickness approximately 3.2 ft, drove easy; 0-6 ft below lake bottom, drove hard 6-8 ft lake bottom; fine sand in development water, very firm back pressure on hand pump
	18	32	4.04	--	8.26 - 11.26	--	--	--	--	--	--	8 - 11 ft drove very hard, not able to pump water, till or very poorly sorted ice contact material, refusal at 11.26 ft below lake bottom, snapped welded tip of well point at 11.26 ft below lake bottom
A2-91	13	20	2.0	2.4	5.60 - 8.60	--	33	A2(9)-91	2.11	2.10	.01	Organic sediment thickness approximately 6.2 ft, drove easy; little resistance, developed with ease, grey fine sand in development water, little back pressure on hand pump
	18	37	--	--	--	--	--	--	--	--	--	Suds observed in development water
	23	67	2.4	--	15.20 - 18.20	--	7.5	A2(14)	--	--	--	Drove hard, ice contact deposits - gravel and cobbles
	28	120	--	--	--	--	--	--	--	--		
	33	120+	5.7	--	21.90 - 24.90	--	37.5	A2(21)	--	--	--	Refusal on boulder or bedrock
A3-91	13	30	2.3	1.8	5.70 - 8.90	3.13 well 3.31 pond	23	A3(9)-91	3.17	2.85	.32	Organic sediment thickness approximately 5 ft, 0-5 ft pushed by hand, 5-13 ft drove with moderate resistance, developed clear in 10 seconds, good steady flow
	18	60+	2.58	--	10.60 - 13.60	2.66 well 2.95 pond	25	A3(13)-91	2.97	2.64	.33	Drove hard, grey very fine to fine sand in development water good steady flow

Table 4. Drillers' logs for wells drilled in May 1991 in Country Pond, Kingston, New Hampshire--Continued

USGS well and sample number	Total length of pipe and screen[1] (ft)	Blows per foot	Top of casing height above lake surface (ft)	Lake bottom below lake surface (ft)	Screened interval below lake bottom (ft)	Initial depth to water in well (ft)	Tested yield (gal/min)	Water sample identifier	Depth to lake surface[2] (ft)	Depth to water in well (ft)	Head difference (ft)	Remarks
A3-91 continued	23	100+	2.88	--	15.30 - 18.30	2.97 well 3.27 pond	28	no sample	3.23	2.91	.32	Drove hard, grey very fine to fine sand in development water, good, steady flow
	28	100+	2.92	--	20.30 - 23.30	3.28 well	23	A3(23)-91	3.17	2.93	.24	Drove hard, grey very fine sand, good steady flow
	33	100+	2.16	--	26.00 - 29.00	3.30 pond	50	--	--	--	--	Drove hard, excellent flow, developed clear
	38	200+	2.5	1.8	30.70 - 33.70	2.75 well 2.94 pond	45	--	--	.19	-- --	Drove very hard, grey very fine sand to med. sand in development water - ice contact deposits
	43	200+	2.46	--	35.70 - 38.70	4.13 well 4.45 pond	20	--	--	.32	--	Drove very hard, milky grey very fine sand in development water
	44	--	--	--	--	--	--	--	--	--	--	Refusal on boulder or bedrock
B1-91	13	72	2.2	4.4	3.40 - 6.40	4.0 pond	15.6	B1(6)-91	4.14	3.99	.15	Organic sediment thickness approximately 2.7 ft
						4.08 well	--	--	--	--	--	Drove hard, ice contact deposits? Trace of suds in development water
	18	140+ 6-9ft 80 9-11ft	-- --	-- --	-- --	-- --	-- --	-- --	-- --	--	--	
	23	100+	2.58	--	13.00 - 16.00	4.51 pond 4.73 well	30	B1(16)-91	--	--	--	Drove with moderate resistance, much suds in development water, good, steady flow
B2-91	23	45	6.08	--	--	--	--	--	--	--	--	Organic sediment thickness approximately 12.6 ft
	28	50	2.67	4.3	19.00 - 21.00	4.67 pond 4.83 well	50	--	4.63	4.38	.25	Drove easy, development water clear of sand in less than 10 seconds
	33	50	--	--	--	--	--	--	--	--	--	
	38	50	3.1	--	27.60 - 30.60	3.49 well 3.55 pond	60	B2(31)-91	3.51	3.38	.13	Drove easy, fine sand in development water, trace of suds in development water
	43	70	--	--	--	--	--	--	--	--	--	
	48	100	3.54		37.20 - 40.20	--	--	--	--	--	--	Refusal at 40.2 ft below lake bottom

Table 4. Drillers' logs for wells drilled in May 1991 in Country Pond, Kingston, New Hampshire--Continued

USGS well and sample number	Total length of pipe and screen[1] (ft)	Blows per foot	Top of casing height above lake surface (ft)	Lake bottom below lake surface (ft)	Screened interval below lake bottom (ft)	Initial depth to water in well (ft)	Tested yield (gal/min)	Water sample identifier	Depth to lake surface[2] (ft)	Depth to water in well (ft)	Head difference (ft)	Remarks
B3-91	38	--	2.6	3.15	29.30 - 32.30	4.42 pond 4.55 well	43	B3(32)-91	2.78	2.62	.12	Organic sediment thickness approximately 27 ft, pushed in by hand, first 23 ft drove very easy 27-33 ft below lake bottom. Silt and very fine sand in development water
	43	48	--	--	--	--	--	--	--	--	--	
	48	36	3.21	--	38.70 - 41.70	3.48 well 3.66 pond .22	12	B3(42)-91	3.53	3.19	.34	Drove very easy, little resistance. Loose material. Silt and very fine to fine sand in development water. Lots of back pressure on hand pump.
	53	50	--	--	--	--	--	--	--	--	--	Not able to develop with hand pump, very tight material, no flow
	58	60	3.17	--	48.70 - 51.70	--	--	--	--	--	--	Refusal at 51.7 ft below lake bottom
C1-91	13	3	--	6.3	--	--	--	--	--	--	--	Organic sediment thickness approximately .4 ft
	18	120	2.3	--	6.4 - 9.4	4.18 pond 4.31 well	43	C1-(9)-91	2.6	2.59	.01	Drove very easy to 5 ft below lake bottom, started to drive very hard 5-9 ft Excellent yield, steady flow
	23	70	--	--	--	--	--	--	--	--	--	
	28	200+	4.0	--	14.7 - 17.7	--	--	C1(18)-91	4.35	4.19	.10	Well developed with fine brown sand. Excellent yield, steady flow. Refusal at 17.7 ft below lake bottom
C2-91	33	Pushed by hand 8-12 ft 21-23 ft 36 blows	2.0	7.9	20.1 - 23.1	--	15	no sample	--	--	--	Organic sediment approximately 23 ft, Pushed in by hand to 21 ft Loose material
	38	44	2.1	--	25.0 - 28.0	3.90 well 3.92 pond	33	C2(28)-92	3.91	3.71	.20	Drove easy, little back pressure on hand pump. Pumped with very fine sand and silt
	48	40 blows 28-30 ft 30-33 ft 50 blows	3.0		34.1 -7.1	4.97 pond 4.81 well	--	--	--	--	--	No sample; till about 33 ft below lake bottom, no flow at 33 ft below lake bottom. Hard driving, some course grained material, cobbles and pebbles. Refusal at 37.1 ft below lake bottom

Table 4. Drillers' logs for wells drilled in May 1991 in Country Pond, Kingston, New Hampshire--Continued

USGS well and sample number	Total length of pipe and screen[1] (ft)	Blows per foot	Top of casing height above lake surface (ft)	Lake bottom below lake surface (ft)	Screened interval below lake bottom (ft)	Initial depth to water in well (ft)	Tested yield (gal/min)	Water sample identifier	Depth to lake surface[2] (ft)	Depth to water in well (ft)	Head difference (ft)	Remarks
C3-91	43	Pushed by hand	2.33	7.4	30.3 - 33.3	4.21 pond 4.25 well	21.4	C3(33)-91	4.19	3.96	.23	Organic sediment thickness approximately 29.8 ft. Good steady flow. Drove easy. Brown very fine sand in development water.
	48	48	--	--	--	--	--	--	--	--	--	
	53	60	3.6	--	39.0 - 42.0	4.06 pond 4.07 well	5.4	C3(42)-91	3.97	3.90	.07	Drove easy. Grey very fine sand in development water. Much sand in development water. Much back pressure on hand pump. Well did not clear of grey very fine sand.
	58	80	--	--	--	--	--	--	--	--	--	
	63	88	2.4	--	50.0 - 53.0	4.36 pond 4.71 well	21.4	C3(53)-91	4.32	4.19	.13	Drove with moderate resistance, no trace of cobbles or pebbles. Grey very fine sand in development water. Moderate back pressure on hand pump. Refusal at 54 ft below lake bottom.

[1] Wells were constructed of 1 1/4-inch schedule 80 galvanized riser pipe in 5 ft lengths, 1 1/4-inch galvanized drive couplings, 3 ft of 0.01 slot galvanized screen; all joints were wrapped with teflon tape.

[2] Lake level is measured to the nearest 0.01 foot in a stilling well.

Table 5. Results of ground-water-quality analyses of samples from wells constructed in October 1987 in Country Pond, Kingston, New Hampshire

[Concentrations reported in micrograms per liter, µg/L; Samples were collected and analyzed by New Hampshire Department of Environmental Services; Well No., well number; --, indicates no detection of the analyte; <, less than]

Well No.	MW-1A		MW-1B		MW-2	MW-3A		MW-3B		MW-4	MW-5A	MW-5B		MW-6A	MW-6B		MW-7
Sampling interval depth, in feet below lake bottom	14-17		5-8		14-17	24-27		17-20		33-36	28-31	18-21		46-49	36-39		6-9
Date collected	10/27 1987	2/19 1988	10/27 1987	2/19 1988	10/27 1987	10/27 1987	2/19 1988	10/27 1987	2/19 1988	10/27 1987	2/19 1988	10/27 1987	10/27 1988	10/27 1987	10/27 1987	2/19 1988	10/27 1987
ANALYTE																	
Dichloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1 Dichloroethane	<5	<5	--	--	--	--	--	--	--	--	--	<5	--	--	--	--	--
1,2 Dichloroethane	<5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1 Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2 Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1 Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2 Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethylene	--	--	--	--	--	--	--	--	--	<5	--	--	--	--	--	--	--
Tetrachloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2 Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3 Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	10	<5	<5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	6.4	<5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	16.8	<5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	--	--	--	--	--	--	--	<5	--	<5	--	--	--	--	--	--	--
Xylene, meta isomer	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, meta isomer	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, (ortho & para)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroflouromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl t-butyl ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrahydrofuran	38	--	--	--	--	19.7	--	--	--	--	--	--	--	--	--	--	--
Diethyl ether	11.2	<5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	--	--	--	--	--	5.4	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	--	--	--	--	--	8.1	--	--	--	<5	--	--	--	--	--	--	--
Propene 1,3 dimethyl t	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorotriflouroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroflouromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodiflouromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorotriflouroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trihalomethanes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tribromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trochloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorobromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorodibromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total volatile organics (sum)	82.4	--	--	--	--	33.2	--	--	--	--	--	--	--	--	--	--	--

Table 6. Results of ground-water-quality analyses of samples from wells constructed in November 1988 in Country Pond, Kingston, New Hampshire

[Concentrations reported in micrograms per liter, µg/L; Samples were collected and analyzed by New Hampshire Department of Environmental Services in November 1988; No., number; --, indicates no detection of the analyte]

Well No.	A1-88		A2-88		A3-88		B1-88		B2-88		B3-88		C1-88	C2-88		C3-88		D1-88	
Sample No.	A1(S)	A1(D)	A2(S)	A2(D)	A3(S)	A3(D)	B1(S)	B1(D)	B2(S)	B2(D)	B3(S)	B3(D)	C1-88	C2(S)	C2(D)	C3(S)	C3(D)	C4(S)	C4(D)
Sampling interval depth, in feet below lake bottom	9-12	13-16	17-20	24-27	39-42	42-45	4-7	10-13	21-24	26-29	23-26	28-31	7-10	30-33	34-37	32-35	47-50	7-10	11-14
ANALYTE																			
Dichloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1 Dichloroethane	15.6	18.3	3.0	30.1	--	--	--	1.9	1.7	1.8	--	--	--	--	--	--	--	--	--
1,2 Dichloroethane	--	3.4	--	7.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1 Trichloroethane	--	--	--	--	0.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2 Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1 Dichloroethylene	--	--	3.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2 Dichloroethylene	--	--	--	2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2 Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3 Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	2.1	16.3	5.9	19.5	--	--	--	2.8	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	--	7.4	14.1	27.4	--	--	--	1.6	--	--	--	--	--	--	--	--	--	--	--
Dichlorobenzene	--	--	--	61.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	--	31	5.6	9.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	--	--	--	1.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, meta isomer	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, (ortho & para)	--	11.8	2.4	4.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroflouromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl t-butyl ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrahydrofuran	--	1,190	868	100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl ether	4.4	23	10	20.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Propene 1,3 dimethyl t	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroflouroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroflouromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodiflouromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorotriflouroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trihalomethanes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tribromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloromethane	--	--	3.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorobromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorodibromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total volatile organics (sum)	26.5	1301.3	915.9	285	0.7	--	--	6.3	1.7	1.8	--	--	--	--	--	--	--	--	--

Table 7. Results of ground-water-quality analyses of samples from wells constructed in May 1991 at Country Pond, Kingston, New Hampshire

[Concentrations reported in micrograms per liter, µg/L; Samples were collected and analyzed by New Hampshire Department of Environmental Services; --, indicates no detection of the analyte]

Well No.	A1-91	A2-91			A3-91				B1-91		B2-91		B3-91		C1-91		C2-91	C3-91		
Sample No.	A1(7)	A2(9)	A2(14)	A2(21)	A3(9)	A3(13)	A3(23)	A3(33)	B1(6)	B1(16)	B2(21)	B2(31)	B3(32)	B3(42)	C1(9)	C1(18)	C2(28)	C3(33)	C3(42)	C3(53)
Sampling interval depth, in feet below lake bottom	4-7	6-9	15-18	22-25	6-9	11-14	20-23	31-34	3-6	13-16	19-21	28-31	29-32	39-42	6-9	15-18	25-28	30-33	39-42	50-53
ANALYTE																				
1,1 Dichloroethane	--	6	8.7	45	--	--	5.8	4.9	28	21	9.7	34	--	--	--	6.5	--	--	--	--
1,2 Dichloroethane	--	3.7	3.7	9	--	--	--	--	6.1	8.9	1.1	4.2	--	--	--	1.1	--	--	--	--
1,1,1 Trichloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2 Tetrachloroethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1 Dichloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethylene	--	--	--	--	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--
Tetrachloroethylene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2 Dichloropropane	--	--	--	--	--	--	--	--	2.4	3	--	--	--	--	--	--	--	--	--	--
C1,3 Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	--	7.2	9.3	25	--	--	1.5	1.1	--	38	2.1	11	--	--	--	5.3	--	--	--	--
Chlorobenzene	--	18	20	22	--	--	2.6	2.3	14	19	5.2	21	--	--	--	4.3	--	--	--	--
Dichlorobenzenes	--	47	50	70	--	--	5	4.7	--	54	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	--	26	26	5.8	--	--	1.6	1.1	--	5.2	2.8	11	--	--	--	9.3	--	--	--	--
Toluene	--	2	--	--	--	--	--	--	--	--	--	1.3	--	--	--	--	--	--	--	--
Xylenes	--	15	2	8.1	--	--	--	--	2.4	2.5	1.2	4	--	--	--	1.4	--	--	--	--
Vinyl chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroflouromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl t-butyl ether	--	--	--	--	--	--	--	--	24	--	--	--	--	--	--	--	--	--	--	--
Acetone	--	--	--	--	--	--	--	--	--	77	--	--	--	--	--	--	--	--	--	--
Tetrahydofuran	--	--	97	400	--	--	--	--	400	300	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
c&t 1,2 Dichloroethylene	--	3.2	3.7	2	--	--	--	--	--	--	--	1.8	--	--	--	1.2	--	--	--	--
t1,3 Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloroethylvinyl ether	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl ether	--	4.5	6.2	21	--	--	2	2	19	30	2	10	--	--	--	4.2	--	--	--	--
CarboNn disulfate	--	--	--	--	--	--	--	--	1	1.3	--	--	--	--	--	--	--	--	--	--
2 Hexanone	--	--	--	--	--	--	--	--	--	--	--	13	--	--	--	--	--	--	--	--
Vinyl acetate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorodibromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	--	20	29	52	--	--	--	--	54	110	1	11	--	--	--	9	--	--	--	--
Methylene chloride	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorobromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Volatile Organics (sum)	--	152.6	255.6	659.9	--	--	18.5	16.1	550.9	669.9	26.1	122.3	--	--	--	42.3	--	--	--	--

Table 8. Results of ground-water-quality anaylses for two wells sampled at Country Pond, Kingston, New Hampshire

[Concentrations reported in micrograms per liter, µg/L; samples were collected by Goldberg-Zoino, Associates and analyzed by New Hampshire Department of Environmental Services; well no., well number; --, indicates no detection of the analyte. Well No. GZ-1: Sampling interval depth of 1.2-31.5 feet below lake bottom. Well No. GZ-5: Sampling interval depth of 8-37.5 feet below lake bottom. Collection dates: Sample No. 1, November 1983; Sample No. 2, December 1983; Sample No. 3, January 1985]

ANALYTE	Well No. GZ-1 Sample No.			Well No. GZ-5 Sample No.		
	1	2	3	1	2	3
Dichloromethane	--	--	--	--	--	--
Chlorodibromomethane	--	--	--	--	--	--
Dichlorobromomethane	--	--	--	--	--	--
Tribromomethane	--	--	--	--	--	--
Trichloromethane	--	--	--	--	--	--
Tetrachloromethane	--	--	--	--	--	--
Chloroethane	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	92	106	63
1,2-Dichloroethane	--	--	--	--	<10	<5
1,1,1-Trichloroethane	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--	--	--
1,1-Dichloroethylene	--	--	--	--	--	--
Trans-dichloroethylene	--	--	--	--	<10	--
Trichloroethylene	--	--	--	--	--	--
Tetrachloroethylene	--	--	--	--	--	--
1,2-Dichloropropane	--	--	--	--	--	--
1,3-Dichloro (c&t) propene	--	--	--	--	--	--
Benzene	--	--	<5	19	17	15
Chlorobenzene	--	--	--	13	<10	10
Dichlorobenzene	--	--	--	33	--	15
Ethylbenzene	--	--	--	26	17	<5
Toluene	--	--	<5	--	--	<5
Xylenes						
M isomer	--	--	--	33	19	--
O & P isomer	--	--	--	16	--	13
Acetone	--	--	--	--	--	--
Methyl Ethyl Ketone	--	--	--	--	106	35
Methyl Isobutyl Ketone	--	--	--	--	--	--
Tetrahydrofuran	--	--	--	--	264	29
Diethyl Ether	--	--	--	--	11	<5
Total volatile organics (sum)	--	--	<5	232	540	180

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