GROUND-WATER QUALITY DATA FOR THE SACO RIVER VALLEY GLACIAL AQUIFER FROM BARTLETT, NEW HAMPSHIRE TO FRYEBURG, MAINE: JULY 1984 THROUGH NOVEMBER 1985

by Carole D. Johnson, Dorothy H. Tepper, and Daniel J. Morrissey

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UNITED STATES DEPARTMENT OF THE INTERIOR

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CONVERSION FACTORS AND ABBREVIATIONS

For the convenience of readers who may prefer to use metric (International System) units rather than the inch-pound units used in this report, values may be converted by using the following factors:

Multiply inch-pound unit	By	To obtain metric unit
foot (ft)	0.3048	meter (m)
inch (in)	25.40	millimeter (mm)
mile (mi)	1.609	kilometer (km)

Chemical concentrations and water temperature are given in metric units. Chemical concentration is given in milligrams per liter (mg/L) or micrograms per liter (µg/L). Milligrams per liter is a unit expressing the concentration of chemical constituents in solution as weight (milligrams) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter. For concentrations less than 7,000 mg/L, the numerical value is the same as for concentrations in parts per million.

Water temperature is given in degrees Celsius (°C), which can be converted to degrees Fahrenheit (°F) by the following equation:

$$F = 1.8(^{\circ}C) + 32$$

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ABSTRACT

This report presents ground-water quality data collected for a study of the Saco River valley glacial aquifer. The study area extends along the Saco River from Bartlett, New Hampshire to Fryeburg, Maine. The study was done in cooperation with the Maine Geological Survey (Department of Conservation), the New Hampshire Water Supply and Pollution Control Commission, the New Hampshire Water Resources Board, and the Town of Conway, New Hampshire.
The data include 129 analyses of ground-water chemistry from 92 sites. Field determinations include pH, temperature, and specific conductance. Laboratory determinations include nutrients, common inorganic anions and cations, selected volatile organic compounds, and detergents. The chemical analyses are summarized in tables. Maps show the locations of the data-collection sites.

INTRODUCTION

The extensive, unconfined sand and gravel aquifer located along the Saco River from Bartlett, New Hampshire to Fryeburg, Maine is an important water supply for this region (U.S. Army Corps of Engineers, 1982). A quantitative investigation of this resource was initiated in 1984 by the U.S. Geological Survey, in cooperation with the Maine Geological Survey (Department of Conservation), the New Hampshire Water Supply and Pollution Control Commission, the New Hampshire Water Resources Board, and the Town of Conway, New Hampshire.

The objectives of this study are to determine the quantity and quality of water available from the aquifer, the effects of increased pumping on water levels in the aquifer, and the effects of various land-use practices on ground-water quality.

Purpose and Scope

The purpose of this report is to make water-quality data from this study available to those concerned with timely and effective water-resources management. The data presented were collected from July 1984 through November 1985. The data include 129 analyses of ground-water chemistry from 92 sites. Field determinations include pH, temperature, and specific conductance. Laboratory determinations include nutrients, common inorganic anions and cations, selected volatile organic compounds, and detergents.

Description of the Study Area

The study area is located in east-central New Hampshire and south-western Maine, along a section of the Saco River extending from Bartlett, New Hampshire to Fryeburg, Maine (fig. 1). The Saco River provides primary drainage for the area.

The Saco River valley glacial aquifer consists of unconsolidated sand and gravel. These surficial deposits have been mapped by Leavitt and Perkins (1935), Prescott (1980), and Thompson (1985).

Major land uses in the Conway area include the lodging and restaurant business, retail business, light industry, and farming. Land use in the Fryeburg area is primarily agricultural.

Acknowledgments

The authors express their appreciation to the North Conway Water Precinct, the Lower Bartlett Water Precinct, the Conway Village Fire District, and the Fryeburg Water Company for access to municipal wells. Thanks are also extended to town officials and to the many private citizens who granted permission to drill and sample observation wells.

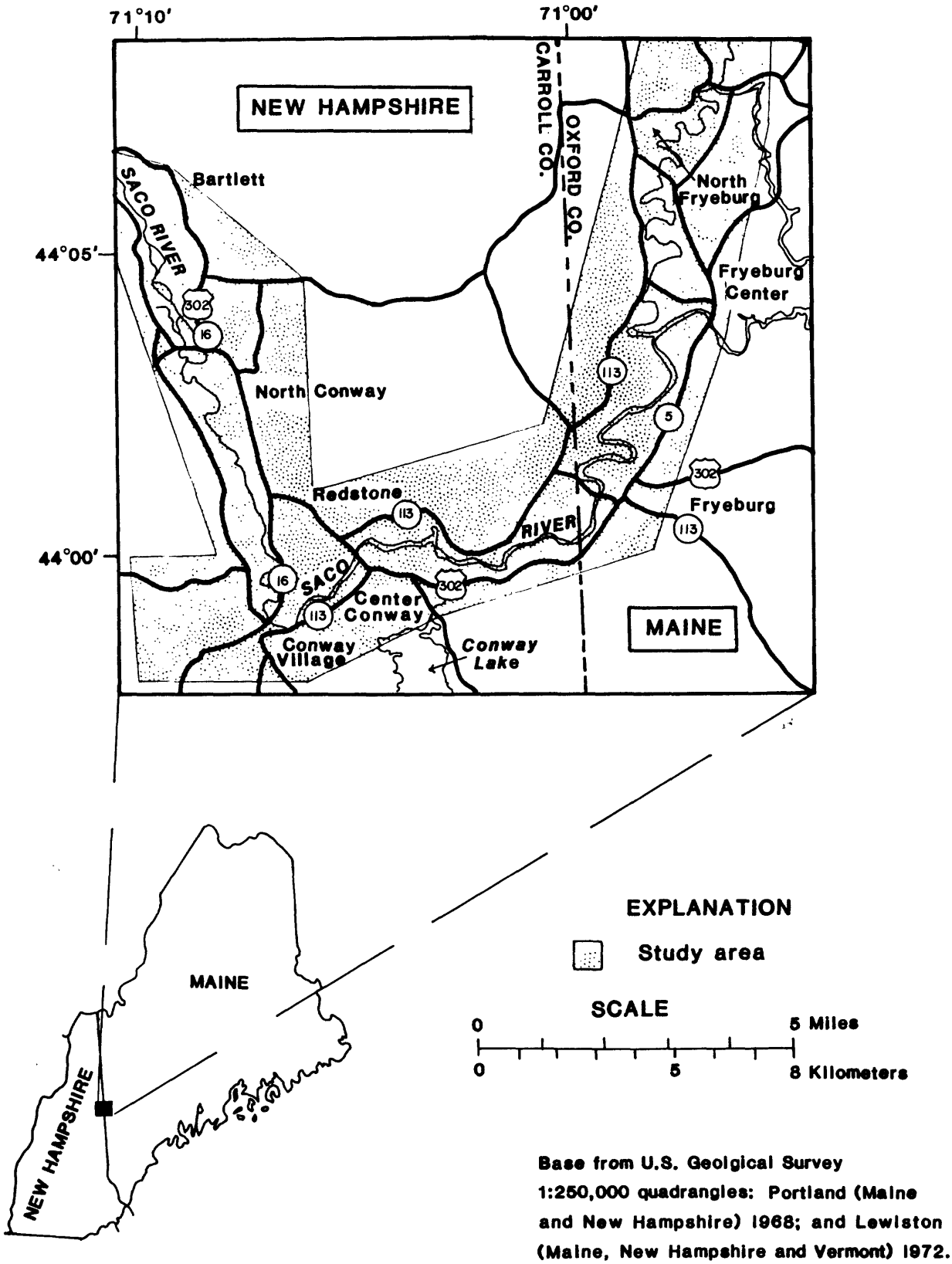


Figure 1.—Location of the study area

METHODS

Installation and Development of Observation Wells

Seventy-nine wells were installed to obtain information on water quality, grain-size of the sediments, stratigraphy, depth to water table, depth to bedrock, and hydrologic data.

A hollow-stem auger drill rig was used for exploration hole drilling. In this method of drilling, fluted auger sections 5 feet in length and 6 inches in diameter are rotated in the hole. New sections are added at the drill head as the hole progresses. Samples of the sediment above the water table are brought to the surface by the rotation of the augers. Sediment samples below the water table are collected ahead of the drill stem with a split-spoon sampler.

The exploration holes were cased with 2-inch diameter schedule 40 PVC (polyvinyl chloride) plastic pipe. The casing has 4-foot-long screens with slot widths of 0.006, 0.010, or 0.018 inches. All casing lengths, screens, and couplings were fastened with 3/8-inch sheet metal screws rather than with PVC cement, which releases tetrahydrofuran. The PVC cement can raise concentrations of volatile organic compounds to above background levels. The casing and screen were emplaced inside the hollow stem auger, and the hole was allowed to collapse as the drill stem was withdrawn.

Immediately after the casing was emplaced, water was pumped down to aid well development. At a later time, the wells were further developed using compressed air to pressurize and displace water and sediment. A minimum of 10 volumes of water was evacuated from each observation well. If necessary, more water was evacuated to clear sediment. A layer of bentonite was placed approximately 6 inches below land surface to prevent surface water from infiltrating around the casing.

Water-Quality Sampling Procedures

Ground-water samples were collected for analyses of common inorganic and organic constituents from 48 wells from July through September 1984 and from 82 wells from August through November 1985. Additional analyses for detergents and volatile organics were performed in 1985 on ground-water samples from selected wells in the vicinity of Route 16, the main road through North Conway, New Hampshire.

To ensure that water samples were representative of the geochemical environment, the wells were pumped until a minimum of three casing volumes was evacuated and the pH, temperature, and conductivity had stabilized. After the wells were pumped, samples were collected with a submersible pump set 3 feet from the bottom of the well. A Johnson-Keck model SP-81[1/] submersible pump was used in 1984 and a Fultz Enterprises submersible pump was used in 1985. In wells with yields too low to permit pumping with a submersible pump, samples were withdrawn using a Masterflex peristaltic pump or a PVC bailer. Grab samples were collected from domestic wells, springs, and pumpheads at municipal wells.

Specific conductance, pH, and temperature were measured in the field. Specific conductance was measured with Beckman Solu Bridge portable meters (type RB-5 in 1984, type RB-3 in 1985). Field measurements of pH were made using a portable Leeds and Northrup model 7417 meter.

Samples to be analyzed for dissolved constituents were field-filtered through a 0.45-micrometer filter and acidified with nitric acid. Samples were preserved according to specifications from the analyzing laboratory.

All samples from 1984 were analyzed by the laboratory of the Maine Department of Environmental Protection. Samples collected from Fryeburg, Maine in 1985 were also analyzed by this laboratory. Samples collected from New Hampshire in 1985 were analyzed by the U.S. Geological Survey Central Laboratories in Atlanta, Georgia and Denver, Colorado.

[1/] Use of trade names in this report is for descriptive purposes only and does not constitute endorsement by the U.S. Geological Survey or other cooperating agencies.

WATER-QUALITY DATA

Chemical analyses of ground water from 82 observation wells, 6 municipal wells, 3 domestic wells, and 1 spring are summarized in tables 1 through 7. Locations of sampling sites are shown on figure 2. The summaries of major chemical constituents in ground-water samples from Bartlett and Conway, New Hampshire are presented in tables 1-3. Analyses of 28 volatile organics in ground-water samples from OW14, OW17, OW30D, OW30S, OW25, and OW32 are summarized in table 4. No concentrations exceeded the detection limit of any compound. The analyses of major chemical constituents in ground-water samples from Fryeburg, Maine are summarized in tables 5-7.

Recommended concentration limits for drinking water, where they have been established, are presented in table 8.

page 8 follows

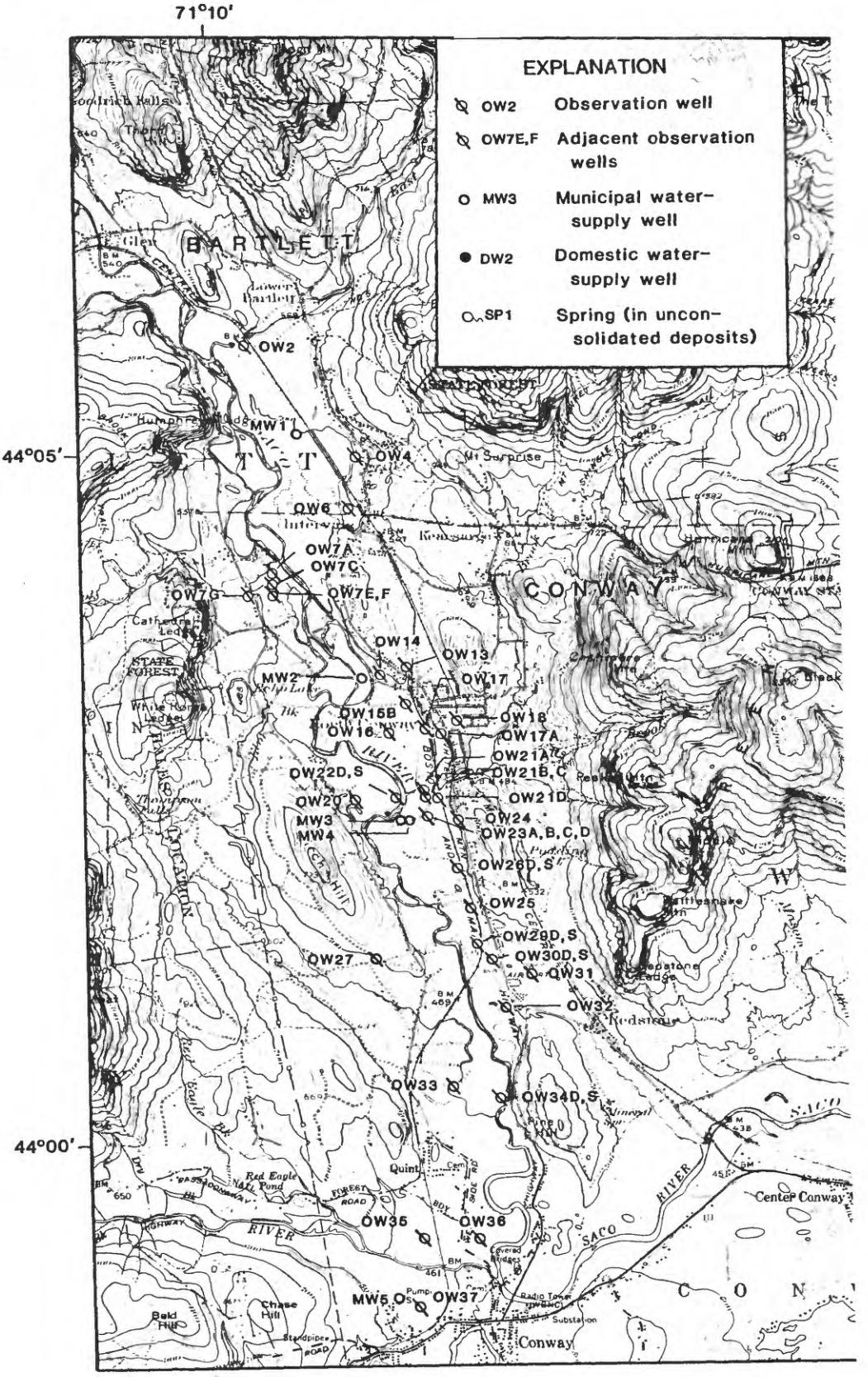
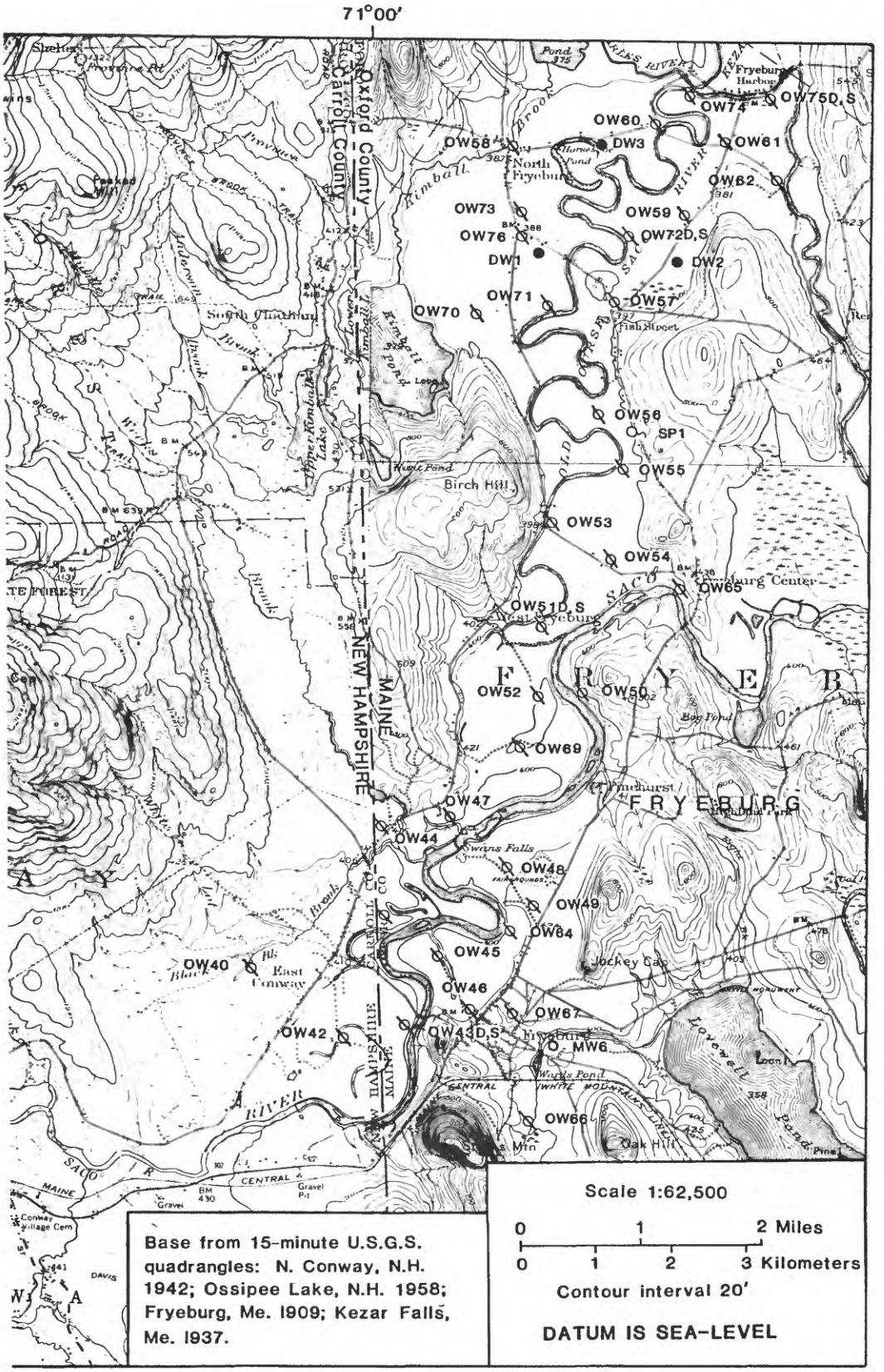


Figure 2.--Locations of



water-quality sampling sites.

Table 1.--Chemical analyses of samples from Bartlett and Conway, N.H.: sites OW2-OW17A
[All values are in milligrams per liter, unless otherwise noted.
A dash indicates no data collected.]

Local identification number[1]	Latitude	Longitude	Depth[2]	Date sampled	Sampling device[3]	Temperature (°C)	Conductivity (µS/cm)	pH (in units)	TOC[4]	Alkalinity (as $CaCO_3$)	Chloride, dissolved	Sulfate, dissolved	Phosphorus, total (as P)	Phosphorus, Ortho, total (as P)
OW 2	440549	0710932	39.1	09-18-85	S	17.5	47	5.9	<0.1	9	4.7	4.4	0.04	<0.01
OW 4	440502	0710829	22.4	10-08-85	S	10.0	150	5.5	2.2	6	36	4.6	.07	.02
OW 6	440439	0710832	11.5	08-21-84	S	12.5	115	5.8	<1	12	18	6.6	.010	--
	440439	0710832	11.5	10-04-85	P	12.5	155	5.9	.8	14	31	9.8	.02	<.01
OW 7A	440410	0710920	8.3	08-24-84	S	11.5	60	5.4	<1	13	1.5	18.8	3.6	--
OW 7C	440405	0710917	20.1	08-23-84	S	17.0	28	5.7	<1	4	--	5.2	.020	--
OW 7E	440403	0710917	80.9	08-23-84	S	10.0	53	6.4	<1	11	.49	4.9	.003	--
	440403	0710917	80.9	09-19-85	S	11.0	56	6.7		14	1.0	3.5	.77	.01
OW 7F	440403	0710917	16.0	08-23-84	S	16.0	26	5.7	<1	4	1.0	4.9	.003	--
	440403	0710917	16.0	09-19-85	S	14.5	23	5.8	1.3	15	.8	4.0	.01	<.01
OW 7G	440401	0710933	20.7	08-23-84	B	8.5	38	5.8	<1	8	<.5	7.0	.081	--
OW 13	440329	0710800	30.2	10-01-85	S	9.0	44	6.0	.5	11	9.0	1.5	.02	.01
OW 14	440326	0710815	20.0	08-28-84	S	8.0	195	5.6	<1	12	22	7.2	.010	--
	440326	0710815	20.0	11-19-85	S	8.5	315	5.6	.4	13	48	15	.18	.01
OW 15B	440313	0710759	16.0	08-28-84	S	13.5	190	5.6	<1	18	39	5.8	.028	--
	440313	0710759	16.0	10-09-85	S	12.0	190	5.7	1.4	14	40	9.9	.02	.02
OW 16	440301	0710810	16.8	08-27-84	S	17.0	130	5.2	<1	12	24	5.6	.001	--
	440301	0710810	16.8	10-09-85	S	11.0	100	5.7	.6	11	16	3.1	.01	.01
OW 17	440302	0710748	16.1	08-27-84	S	11.5	315	5.1	<1	7	59	10.1	.009	--
	440302	0710748	16.1	11-19-85	S	10.0	310	5.5	.4	10	49	14	.04	.01
OW 17A	440300	0710738	13.9	08-27-84	S	10.5	305	5.0	8	5	58	10.4	3.0	--
	440300	0710738	13.9	10-10-85	S	11.0	370	4.9	1.1	3	74	13	.02	.01

[1] (OW) observation well, (MW) municipal well, (DW) domestic well, (SP) spring
[2] Depth of bottom of well, in feet below land surface datum
[3] Sampling Device = (S) submersible pump, (P) peristaltic pump, (B) bailer, (G) grab sample, (F) faucet
[4] TOC = Total organic carbon

Table 1.--Chemical analyses of samples from Bartlett and Conway, N.H.: sites OW2-OW17A--Continued

Local identification number	Nitrogen, NO_2 total (as N)	Nitrogen, NO_2+NO_3 total (as N)	Nitrogen, Ammonia total (as N)	Nitrogen, Ammonia + Organic total (as N)	Nitrogen, Organic total (as N)	Nitrogen, total (as N)	Nitrogen, total (as NO_3)	Calcium, dissolved	Magnesium, dissolved	Sodium, dissolved	Potassium, dissolved	Iron, dissolved (µg/L)	Iron, total (µg/L)	Manganese, dissolved (µg/L)	Manganese, total (µg/L)	MBAS (detergents)
OW 2	<0.01	0.01	<0.01	0.40	--	0.50	2.2	1.8	0.38	6.8	0.8	14	110	3	10	--
OW 4	<.01	.30	.07	.40	.33	.7	3.1	5.0	.52	21	1.3	12	4,200	25	120	--
OW 6	--	1.2	--	--	--	--	--	5.7	.87	13	2.4	<30	--	670	--	--
	<.01	1.0	<.01	.10	--	1.1	4.9	4.6	.60	22	2.8	10	980	110	130	0.04
OW 7A	--	5.2	--	--	--	--	--	5.1	.81	3.5	4.9	2,400	--	1,400	--	--
OW 7C	--	.16	--	--	--	--	--	2.4	.24	1.8	.8	30	--	28	--	--
OW 7E	--	.70	--	--	--	--	--	5.5	.62	3.5	1.2	40	--	30	--	--
	<.01	.10	<.01	.30	--	.40	1.8	5.5	.63	3.5	1.0	6	110	8	<10	--
OW 7F	--	.15	--	--	--	--	--	2.0	.20	2.0	.8	<30	--	<6	--	--
	<.01	.20	.08	.40	.32	.60	2.7	1.9	.26	2.2	.7	8	100	2	10	.02
OW 7G	--	.50	--	--	--	--	--	3.5	.44	3.5	1.0	80	--	35	--	--
OW 13	<.01	.30	<.01	.10	--	.40	1.8	3.7	.45	2.7	1.0	4	660	50	80	.02
OW 14	--	6.5	--	--	--	--	--	16	1.6	15	3.8	<30	--	110	--	--
	<.01	10	.01	.60	.59	11	47	25	2.4	25	4.8	9	1,400	12	20	.09
OW 15B	--	<.01	--	--	--	--	--	2.0	.18	29	1.3	340	--	140	--	--
	<.01	.60	.11	.40	.29	1.0	4.4	5.3	.63	30	2.1	40	440	340	360	--
OW 16	--	.29	--	--	--	--	--	3.3	.41	20	1.9	<30	--	10	--	--
	<.01	.50	.06	.20	.14	.70	3.1	4.7	.59	12	1.6	3	110	2	10	.04
OW 17	--	8.2	--	--	--	--	--	15	1.8	34	5.7	<30	--	36	--	--
	<.01	9.5	.01	.30	.29	9.8	43	13	1.5	38	6.5	6	2,300	15	120	.09
OW 17A	--	7.0	--	--	--	--	--	17	2.0	32	4.9	160	--	230	--	--
	<.01	7.6	.10	.05	.05	7.7	34	10	1.3	54	5.5	13	700	91	120	.11

Table 2.--Chemical analyses of samples from Bartlett and Conway, N.H.: sites OW18-OW27
[All values are in milligrams per liter, unless otherwise noted.
A dash indicates no data collected.]

Local identification number[1]	Latitude	Longitude	Depth[2]	Date sampled	Sampling device[3]	Temperature (°C)	Conductivity (µS/cm)	pH (in units)	TOC[4]	Alkalinity (as $CaCO_3$)	Chloride, dissolved	Sulfate, dissolved	Phosphorus, total (as P)	Phosphorus, Ortho, total (as P)
OW 18	440305	0710729	22.1	08-21-84	S	11.0	615	5.4	<1	11	170	5.7	0.003	--
	440305	0710729	22.1	10-08-85	P	11.0	390	5.8	.7	11	97	10	.01	0.01
OW 20	440232	0710830	42.8	11-12-85	S	7.5	110	7.1	1.1	31	5.5	2.9	.02	.01
OW 21A	440236	0710749	20.0	08-22-84	S	17.0	86	5.8	<1	7	20.	5.7	.024	--
OW 21B	440234	0710748	60.3	08-22-84	S	9.5	71	5.7	<1	9	8.3	6.0	.002	--
	440234	0710748	60.3	10-03-85	S	10.0	80	6.1	.5	9	11	5.6	.03	.03
OW 21C	440234	0710748	24.5	08-22-84	S	14.0	68	5.7	<1	5	.1	4.1	.008	--
OW 21D	440233	0710741	19.5	08-22-84	B	12.5	92	5.8	2	10	22	6.7	13	--
	440233	0710741	19.5	10-04-85	S	13.0	105	6.2	2.2	13	18	5.9	.03	<.01
OW 22D	440233	0710805	86.3	11-13-85	S	8.5	200	5.8	.6	16	27	10	<.01	<.01
OW 22S	440233	0710805	34.2	11-20-85	S	8.5	115	5.4	.2	6	22	7.3	.06	.01
OW 23A	440225	0710747	17.3	09-24-85	S	11.0	94	5.8	<.1	8	17	4.8	.01	<.01
OW 23B	440225	0720747	36.7	10-03-85	S	11.5	125	5.8	1.3	11	15	4.9	.02	.01
OW 23C	440225	0710747	79.4	10-03-85	S	9.5	76	5.9	.6	8	11	4.7	.02	.02
OW 23D	440225	0710747	60.7	10-03-85	S	9.0	105	5.8	.5	11	13	4.6	.02	<.01
OW 24	440223	0710729	15.1	08-28-84	B	13.0	540	5.8	3	29	100	11	2.9	--
	440223	0710729	15.1	10-08-85	P	11.0	530	5.9	--	24	110	15	.23	.02
OW 25	440143	0710721	50.8	11-19-85	S	10.5	275	5.6	.1	21	22	6.0	.05	<.01
OW 26D	440202	0710729	42.3	08-28-84	S	9.5	810	5.2	<1	3	230	--	.003	--
	440202	0710729	42.3	10-09-85	S	10.0	330	5.7	.8	11	82	4.3	.02	.06
OW 26S	440202	0710729	21.7	08-28-84	S	9.0	280	5.7	<1	4	69	<3.0	.001	--
	440202	0710729	21.7	10-09-85	S	10.0	150	5.8	.5	9	35	4.7	.01	.01
OW 27	440121	0710818	41.7	11-07-85	S	8.0	31	6.3	.5	10	1.1	1.6	.04	.03

[1] (OW) observation well, (MW) municipal well, (DW) domestic well, (SP) spring
[2] Depth of bottom of well, in feet below land surface datum
[3] Sampling Device = (S) submersible pump, (P) peristaltic pump, (B) bailer, (G) grab sample, (F) faucet
[4] TOC = Total organic carbon

Table 2.--Chemical analyses of samples from Bartlett and Conway, N.H.: sites OW18-OW27--Continued

Local identification number	Nitrogen, NO_2 total (as N)	Nitrogen, NO_2+NO_3 total (as N)	Nitrogen, Ammonia total (as N)	Nitrogen, Ammonia + Organic total (as N)	Nitrogen, Organic total (as N)	Nitrogen, total (as N)	Nitrogen, total (as NO_3)	Calcium, dissolved	Magnesium, dissolved	Sodium, dissolved	Potassium, dissolved	Iron, dissolved (µg/L)	Iron, total (µg/L)	Manganese, dissolved (µg/L)	Manganese, total (µg/L)	MBAS (detergents)
OW 18	--	1.7	--	--	--	--	--	15	1.3	100	5.0	30	--	100	--	--
	<.01	4.3	.06	<0.10	--	--	--	8.1	.91	68	3.6	10	310	35	50	.08
OW 20	.02	.20	.04	<.20			.01	7.5	2.0	8.0	3.0	5	1,200	560	560	--
OW 21A	--	.55	--	--	--	--	--	4.5	.56	9.8	1.4	40	--	<6	--	--
OW 21B	--	.27	--	--	--	--	--	4.3	.59	7.2	1.9	60	--	73	--	--
	<.01	.20	.01	.20	0.19	0.40	1.8	5.2	.57	7.8	1.1	<3	230	11	20	.02
OW 21C	--	.40	--	--	--	--	--	3.9	.51	7.6	1.2	<30	--	<6	--	--
OW 21D	--		--	--	--	--	--	4.5	.67	13	1.5	400	--	17	--	--
	<.01	.30	<.01	.80	--	1.1	4.9	4.6	.55	14	1.2	110	15,000	7	300	.03
OW 22D	<.01	<.10	.07	<.20	--	--	--	16	2.1	14	2.9	410	1,300	1,300	1,300	--
OW 22S	<.01	.30	.02	.20	.18	.50	2.2	6.3	1.2	11	1.7	9	2,500	12	20	--
OW 23A	<.01	1.2	<.01	<.10	--	--	--	4.9	.82	9.6	1.8	11	3,200	9	350	.02
OW 23B	<.01	3.5	.01	.30		3.8	17.	11	1.3	7.9	1.9	23	12,000	190	330	.05
OW 23C	<.01	.50	.07	.20	.13	.70	3.1	4.6	.61	7.4	1.0	4	4,600	15	160	.03
OW 23D	<.01	3.1	<.01	.20		3.3	15	8.1	1.1	7.7	1.6	8	80	55	60	.05
OW 24	--	12	--	--	--	--	--	18	3.3	66	7.7	30	--	180	--	--
	.02	7.5	.17	3.4	3.2	11	48	18	3.0	78	8.1	35	13,000	110	330	.11
OW 25	<.01	14	.01	.50	.49	15	64	13	1.0	35	4.0	13	500	13	20	.11
OW 26D	--	1.2	--	--	--	--	--	29	2.7	100	7.6	<30	--	58	--	--
	<.01	2.8	.11	.20	.09	3.0	13	4.5	.47	59	4.2	11	1,900	13	70	.08
OW 26S	--	.78	--	--	--	--	--	5.2	.50	40	2.7	40	--	12	--	--
	<.01	1.2	.07	.50	.43	1.7	7.5	3.2	.33	24	1.8	5	80	2	10	.05
OW 27	<.01	<.10	.02	<.20	--	--	--	2.5	.30	2.2	.8	<3	1,000	200	280	--

Table 3.--Chemical analyses of samples from Bartlett and Conway, N.H.: sites OW29D-MW5
[All values are in milligrams per liter, unless otherwise noted.
A dash indicates no data collected.]

Local identification number[1]	Latitude	Longitude	Depth[2]	Date Sampled	Sampling device[3]	Temperature (°C)	Conductivity (µS/cm)	pH (in units)	TOC[4]	Alkalinity (as $CaCO_3$)	Chloride, dissolved	Sulfate, dissolved	Phosphorus, total (as P)	Phosphorus, Ortho, total (as P)
OW 29D	440128	0710717	76.3	10-10-85	S	11.5	74	6.6	0.5	17	7.2	1.4	0.02	0.02
OW 29S	440128	0710717	42.3	10-10-85	S	12.0	22	6.0	.5	5	1.4	0.9	.01	.02
OW 30D	440122	0710709	76.2	08-22-84	S	17.5	77	6.4	<1	18	2.0	5.7	.012	--
	440122	0710709	76.2	11-19-85	S	10.0	78	6.4	<.1	21	2.7	5.5	<.01	<.01
OW 30S	440122	0710709	47.2	08-28-84	S	13.5	185	5.2	<1	6	14	<3.0	.001	--
	440122	0710709	47.2	11-19-85	S	11.0	100	5.4	.1	6	6.8	2.9	<.01	<.01
OW 31	440117	0710644	26.0	08-23-84	S	10.0	35	5.7	<1	9	.5	5.3	.007	--
	440117	0710644	36.0	11-20-85	S	11.0	33	5.9	.3	9	1.0	4.8	.01	<.01
OW 32	440101	0710659	34.1	11-18-85	S	9.0	145	6.2	1.0	19	26	2.8	.02	<.01
OW 33	440025	0710731	17.4	11-19-85	S	10.5	100	6.0	.8	28	6.9	7.5	.02	<.01
OW 34D	440022	0710701	59.4	11-07-85	S	9.0	115	6.0	1.1	23	5.5	18	.26	.04
OW 34S	440022	0710701	19.4	11-07-85	S	9.0	135	5.6	.5	11	11	13	.04	.03
OW 35	435920	0710753	31.1	11-07-85	S	8.5	38	5.7	.7	9	2.6	2.7	.03	.04
OW 36	435916	0710720	20.3	11-07-85	S	9.0	210	5.8	2.5	17	25	11	.38	.03
OW 37	435846	0710800	31.7	09-24-85	S	9.5	215	5.7	<.1	10	50	3.1	.01	<.01
OW 40	440121	0710108	19.0	08-24-84	S	10.0	32	6.2	<1	10	<.5	3.7	.016	--
	440121	0710108	19.0	11-08-85	S	11.0	35	5.9	<.1	8	.6	2.4	.02	.03
OW 42	440051	0710803	21.2	08-29-84	S	9.5	115	5.6	<1	16	8.4	15	.031	--
	440051	0710803	31.3	11-08-85	S	10.5	110	5.8	.7	12	6.6	19	.02	.03
MW 1	440511	0710903	120	09-07-84	F	7.5	88	5.8	<1	8	0.3	4.9	<.001	--
MW 2	440324	0710825	70	09-14-84	F	9.5	54	5.5	<1	7	4.9	4.4	<.001	--
MW 3	440223	0710801	96	09-14-84	F	11.0	76	5.6	<1	5	7.8	4.7	.006	--
MW 4	440223	0710758	92.5	09-07-84	P	11.0	27	8.9	2.0	9	.5	<3.0	.13	--
MW 5	435854	0710803	64	09-07-84	F	10.5	170	5.2	<1	1	38	<3.0	<.001	--

[1] (OW) observation well, (MW) municipal well, (DW) domestic well, (SP) spring
[2] Depth of bottom of well, in feet below land surface datum
[3] Sampling Device = (S) submersible pump, (P) peristaltic pump, (B) bailer, (G) grab sample, (F) faucet
[4] TOC = Total organic carbon

Table 3.--Chemical analyses of samples from Bartlett and Conway, N.H.: sites OW29D-MW5--Continued

Local identification number	Nitrogen, NO_2 total (as N)	Nitrogen, NO_2+NO_3 total (as N)	Nitrogen, Ammonia total (as N)	Nitrogen, Ammonia + Organic total (as N)	Nitrogen, Organic total (as N)	Nitrogen, total (as N)	Nitrogen, total (as NO_3)	Calcium, dissolved	Magnesium, dissolved	Sodium, dissolved	Potassium, dissolved	Iron, dissolved (µg/L)	Iron, total (µg/L)	Manganese, dissolved (µg/L)	Manganese, total (µg/L)	MBAS (detergents)
OW 29D	<0.01	1.0	0.07	0.30	0.23	1.3	5.8	6.2	0.89	5.9	1.6	9	250	49	70	0.03
OW 29S	<.01	.10	.08	1.0	.92	1.1	4.9	1.7	.32	1.6	.5	7	100	5	10	.02
OW 30D	--	6.3	--	--	--	--	--	7.2	1.4	4.7	1.7	130	--	26	--	--
	<.01	.40	<.01	<.20	--	--	--	6.9	1.6	4.6	1.9	5	240	2	10	.02
OW 30S	--	12	--	--	--	--	--	11	1.5	17	1.6	<30	--	370	--	--
	<.01	7.0	.05	.50	.45	7.5	33	6.6	.83	9.2	1.3	7	170	330	300	.06
OW 31	--	.25	--	--	--	--	--	3.2	.38	2.4	1.0	30	--	110	--	--
	<.01	<.10	.01	<.20	--	--	--	2.9	.28	2.3	.9	10	360	11	20	.01
OW 32	<.01	.70	.01	.20	.19	.90	4.0	2.5	.34	25	1.8	21	1,000	130	120	.02
OW 33	<.01	<.10	.01	.20	.19	--	--	11	1.7	5.0	2.4	460	770	58	50	--
OW 34D	.02	<.10	.13	.20	.07	--	--	12	1.6	3.9	1.6	10	23,000	2,200	2,500	--
OW 34S	<.01	6.1	.03	.30	.27	6.4	28	15	2.5	3.2	1.2	<3	1,100	240	290	--
OW 35	<.01	<.10	.04	<.20	--	--	--	2.6	.20	2.5	.8	380	4,700	910	930	--
OW 36	.01	7.0	.02	.40	.38	7.4	33	17	2.3	14	6.5	<3	45,000	14	1,200	--
OW 37	<.01	.40	<.01	.30	--	.70	3.1	14	2.3	18	1.8	11	1,200	120	400	.03
OW 40	--	.20	--	--	--	--	--	3.0	.59	1.6	.9	40	--	340	--	--
	<.01	.40	.01	<.20	--	--	--	3.0	.40	1.5	1.2	4	310	180	180	--
OW 42	--	<.01	--	--	--	--	--	10.0	2.0	4.4	2.7	3,800	--	750	--	--
	<.01	.40	.04	<.20	--		--	9.1	2.0	4.1	3.0	3,000	4,300	350	410	--
MW 1	--	.70	--	--	--	--	--	4.5	.79	10	1.2	<30	--	<5	--	--
MW 2	--	.20	--	--	--	--	--	4.1	.60	3.8	.9	<30	--	<5	--	--
MW 3	--	1.4	--	--	--	--	--	5.8	.69	5.1	1.0	<30	--	<5	--	--
MW 4	--	1.0	--	--	--	--	--	1.4	.23	1.8	2.4	50	--	10	--	--
MW 5	--	.80	--	--	--	--	--	9.0	1.1	19	1.4	<30	--	14	--	--

Table 4. Chemical analyses of samples from Bartlett and Conway, N.H. for volatile organics: sites OW14, OW17, OW30D, OW30S, OW25, and OW32.

Compound	Concentration[1] (mg/L)	Compound	Concentration (mg/L)
Benzene	<0.003	Toluene	<0.003
Bromoform	< .003	Trichloroethylene	< .003
Carbon tetrachloride	< .003	Trichlorofluormethane	< .003
Chlorobenzene	< .003	Vinyl Chloride	< .003
Chlorodibromomethane	< .003	1,1-Dichloroethylene	< .003
Chloroethane	< .003	1,1-Dichlorethane	< .003
Chloroform	< .003	1,1,1-Trichloroethane	< .003
Chloromethane	< .003	1,1,2-Tetrachlorothane	< .003
Dichlorobromomethane	< .003	1,1,2,2-Tetrachloroethane	< .003
Dichlorodifluoromethane	< .003	1,2 Dichloroethane	< .003
Ethylbenzene	< .003	1,2-Dichloropropane	< .003
Methylbromide	< .003	1,3-Dichloropropene	< .003
Methylene chloride	< .003	Trans 1,2-dichloroethylene	< .003
Tetrachloroethylene	< .003	2-Chloroethylvinylether	< .003

The detection limit for each compound listed is 0.003 mg/L.

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Table 5.--Chemical analyses of samples from Fryeburg, Me.: Sites OW43D-OW55·
[All values are in milligrams per liter, unless otherwise noted.
A dash indicates no data collected.]

Local identification number[1]	Latitude	Longitude	Depth[2]	Date sampled	Sampling device[3]	Temperature (°C)	Conductivity (µS/cm)	pH (in units)	TOC[4]	Alkalinity (as $CaCO_3$)	Chloride, dissolved	Sulfate, dissolved	Phosphorus, total (as P)	phorus, Ortho, total (as P)
OW43D	440055	705933	81.9	08-24-84	S	10.0	185	7.6	<1	96	10	6.8	0.010	--
	440055	705933	81.9	08-08-85	S	10.5	190	8.1	17	77	1.0	7.8	.012	0.010
OW43S	440055	705933	19.9	08-24-84	S	9.0	150	5.4	<1	10	8.4	7.5	.003	--
	440055	705933	19.9	08-08-85	S	13.0	165	5.5	11	10	10	9.8	.002	.002
OW44	440219	705952	14.0	08-06-85	S	12.0	28	5.7	6	9	1.0	<3.0	.040	.004
OW45	440129	705921	18.4	08-06-85	S	11.0	75	5.6	25	20	3.4	6.2	.074	.002
OW46	440058	705859	16.1	08-29-84	S	11.5	190	5.8	<1	26	25	14	.001	--
	440058	705859	16.1	08-12-85	S	11.0	640	6.0	--	51	160	3.8	.008	.005
OW47	440225	705913	13.9	09-05-84	B	12.5	210	5.6	9	60	20	11	7.3	--
	440225	705913	13.9	08-15-85	B	12.5	195	6.3	4.9	50	18	11	3.3	.034
OW48	440207	705842	21.5	09-05-84	B	10.0	57	5.8	<1	16	6.9	11	5.8	--
	440207	705842	21.5	08-09-85	S	25.0	100	6.7	5.1	20	9.8	3.0	1.4	.42
OW49	440146	705822	29.1	08-29-84	S	9.5	295	5.2	<1	2	73	<3	<.001	--
	440146	705822	29.1	08-12-85	S	9.5	215	5.4	<1	3	4.9	<3	.002	<.001
OW50	440318	705758	21.6	08-07-85	B	9.0	45	6.2	18	28	<.5	5.3	3.2	.022
OW51D	440351	705813	59.4	08-07-85	S	13.0	120	6.5	9.9	18	7.8	12	.15	.003
OW51S	440351	705813	28.2	08-06-85	S	14.0	34	5.4	7.4	3	<.5	6.3	.11	.016
OW52	440315	705819	32.7	09-05-84	S	9.5	170	5.7	<1	10	13	11	.20	--
	440315	705819	32.7	08-15-85	S	14.0	175	5.9	2.3	11	16	6.1	.058	.005
OW53	440433	705814	36.4	09-04-84	S	10.0	125	5.4	<1	6	16	<3.0	.002	
	440433	705814	36.4	08-09-85	S	12.0	94	5.6	11	10	18	<3.0	.006	.002
OW54	440415	705737	20.0	08-29-84	S	10.0	140	5.1	<1	6	12	7.1	.005	
	440415	705737	20.0	08-09-85	S	12.0	150	5.4	13	6	17	11	.40	.007
OW55	440457	705729	20.4	08-06-85	S	11.0	56	5.4	5.7	4	5.4	4.3	.018	.002

[1] (OW) observation well, (MW) municipal well, (DW) domestic well, (SP) spring
[2] Depth of bottom of well, in feet below land surface datum
[3] Sampling Device = (S) submersible pump, (P) peristaltic pump, (B) bailer, (G) grab sample (F) faucet
[4] TOC - Total organic carbon

Table 5.--Chemical Analyses of samples from Fryeburg, Me.: sites OW34D-OW55--Continued

Local identification number	Nitrogen, NO_2 total (as N)	Nitrogen, NO_2+NO_3 total (as N)	Nitrogen, Ammonia total (as N)	Nitrogen, Ammonia + Organic total (as N)	Nitrogen, Organic total (as N)	Nitrogen, total (as N)	Nitrogen, total (as NO_3)	Calcium, dissolved	Magnesium, dissolved	Sodium, dissolved	Potassium, dissolved	Iron, dissolved (µg/L)	Iron, total (µg/L)	Manganese, dissolved (µg/L)	Manganese, total (µg/L)
OW43D	--	1.0	--	--	--	--	--	17	2.0	2.2	2.0	50	--	110	--
	<0.01	<.01	0.04	0.3	0.26	0.30	1.3	18	2.0	20	2.2	<30	--	63	--
OW43S	--	7.5	--	--	--	--	--	17	2.9	3.8	1.3	<30	--	63	--
	<.01	8.5	1.5	1.5	--	10	44	18	3.1	3.8	1.5	<30	--	5	--
OW44	<.01	.10	.02	<.10	--	.10	.44	.7	.19	1.2	4.8	<30	--	360	--
OW45	<.01	<.01	.04	<.10	--	--	--	8.2	1.0	2.6	1.5	580	--	420	--
OW46	--	1.7	--	--	--	--	--	8.5	.79	21	3.4	120	--	1,500	--
	.02	.13	.02	--	--	--	--	25	2.0	100	4.7	2,700	3,700	5,600	5,700
OW47	--	--	--	--	--	--	--	15	5.4	13	9.5	<30	--	710	--
	--	.48	.70	.70	--	1.2	5.3	13	4.3	9.9	13	<30	--	670	--
OW48	--	.39	--	--	--	--	--	1.4	.34	10	.8	720	--	40	--
	.20	.22	.10	.30	.20	.52	2.3	.9	.17	8.8	.7	100	--	<5	--
OW49	--	3.5	--	--	--	--	--	9.2	1.3	34	2.8	<30	--	68	--
	<.01	3.1	.02	.20	.18	3.3	15	9.7	1.8	22	2.9	<30	<30	66	61
OW50	.30	.32	.15	.90	.73	1.2	5.3	5.8	1.1	3.8	1.3	950	--	370	--
OW51D	<.01	.01	.24	.24	--	.25	1.1	10	2.1	4.1	1.9	5,600	--	550	--
OW51S	<.01	<.01	.04	.20	.16	.20	.89	3.1	.58	1.1	0.7	<30	--	14	--
OW52	--	5.1	--	--	--	--	--	16	2.9	3.5	1.9	5,800	--	1,600	--
	<.01	9.0	.08	--	--	--	--	20	3.7	4.8	1.6	570	4,000	940	940
OW53	--	5.2	--	--	--	--	--	8.6	1.5	10	.9	<30	--	27	--
	<.01	.02	.03	.20	.17	.22	.97	7.5	1.3	6.4	.9	50	--	32	--
OW54	--	6.0	--	--	--	--	--	17	2.1	2.4	.7	<30	--	14	--
	<.01	5.2	.03	.10	.08	5.3	23	20	2.0	2.3	.9	<30	--	12	--
OW55	<.01	1.1	.20	.20	<.01	1.3	5.8	4.3	.94	2.9	1.3	<30	--	21	--

Table 6.--Chemical analyses of samples from Fryeburg, Me.: Sites OW56-OW71.
[All values are in milligrams per liter, unless otherwise noted.
A dash indicates no data collection.]

Local identification number[1]	Latitude	Longitude	Depth[2]	Date sampled	Sampling device[3]	Temperature (°C)	Conductivity (µS/cm)	pH (in units)	TOC[4]	Alkalinity (as $CaCO_3$)	Chloride, dissolved	Sulfate, dissolved	Phosphorus, total (as P)	phorus, Ortho, total (as P)
OW56	440519	705743	24.3	08-07-85	S	11.0	78	6.2	8.8	16	6.4	3.8	0.20	0.008
OW57	440610	705735	25.2	09-04-84	S	8.0	72	5.8	<1	16	1.0	5.7	.004	--
	440610	705735	25.2	08-13-85	S	9.0	71	6.2	<1	13	.5	9.9	.007	.004
OW58	440715	705837	14.1	09-04-84	S	10.5	120	6.0	<1	42	2.0	9.6	.004	--
	440715	705837	14.1	08-13-85	S	12.0	180	6.4	1	43	18	7.7	.089	.008
OW59	440646	705651	24.0	09-05-84	S	8.0	95	5.4	<1	17	6.9	8.3	.005	--
	440646	705651	24.0	08-13-85	S	10.0	160	5.6	--	14	24	10	.008	.006
OW60	440727	705709	19.2	09-05-84	S	10.5	360	5.6	<1	26	58	17	.005	--
	440727	705709	19.2	08-14-85	S	10.5	150	6.1	.2	32	4.4	15	.16	<.001
OW61	440720	705630	24.3	09-06-84	S	9.0	170	5.4	<1	11	13	4.0	.007	--
	440720	705630	24.3	08-13-85	S	11.0	210	5.8	1.5	11	20	14	.003	<.001
OW62	440701	705557	15.0	09-05-84	S	10.0	62	5.3	<1	12	1.0	3.7	.022	--
	440701	705557	15.0	08-13-85	S	10.5	61	5.9	2.8	18	<.5	3.3	.020	.019
OW64	440137	705835	50.7	08-29-84	S	11.0	66	6.7	<1	14	<.5	6.1	.027	--
	440137	705835	50.7	08-08-85	S	11.0	72	7.1	3.1	14	1	5.6	.044	.023
OW65	440405	705656	43.0	08-29-84	S	11.0	92	6.4	<1	35	1.5	7.8	1.1	--
	440405	705656	43.0	08-09-85	S	11.0	110	6.8	11	41	2	4.6	.64	.08
OW66	440017	705822	22.3	08-05-85	S	12.0	20	5.7	1.5	5	.5	<3	.005	.002
OW67	440101	705829	39.2	08-06-85	S	12.5	160	5.2	66	36	13	13	.012	.004
OW68	440143	705953	18.9	08-07-85	S	10.0	150	6.0	--	17	13	12	.024	<.001
OW69	440256	705828	29.6	08-14-85	S	13.0	260	5.8	<1	9	20	20	.028	.016
OW70	440605	705849	18.4	08-07-85	S	10.0	65	6.1	9.6	11	15	16	.16	.006
OW71	440607	705809	27.2	08-07-85	S	11.0	160	5.7	19	15	<5	5.9	.21	.59

[1] (OW) observation well, (MW) municipal well, (DW) domestic well, (SP) spring
[2] Depth of bottom of well, in feet below land surface datum
[3] Sampling Device = (S) submersible pump, (P) peristaltic pump, (B) bailer, (G) grab sample (F) faucet
[4] TOC - Total organic carbon

Table 6.--Chemical Analyses of samples from Fryeburg, Me.: sites OW56-OW71--Continued

Local identification number	Nitro-Gen, NO_2 total (as N)	Nitro-Gen, NO_2+NO_3 total (as N)	Nitro-gen, Ammonia total (as N)	Nitro-gen, Ammonia + Organic total (as N)	Nitro-gen, Organic total (as N)	Nitro-gen, total (as N)	Nitro-gen, total (as NO_3)	Cal-cium, dis-solved	Magne-sium, dis-solved	Sod-ium, dis-solved	Potas-sium, dis-solved	Iron, dis-solved (µg/L)	Iron, total (µg/L)	Manga-nese, dis-solved (µg/L)	Manga-nese, total (µg/L)
OW56	<0.01	0.35	0.26	0.42	0.16	0.77	3.4	5.5	1.1	3.7	0.9	1,400	--	1,500	--
OW57	--	1.7	--	--	--	--	--	7.4	1.3	1.4	3.1	<30	--	38	--
	<.01	<.01	<.01	.20	.20	.20	.89	7.7	1.2	1.2	3.1	<30	<30	<5	<5
OW58	--	.39	--	--	--	--	--	12	2.5	4.0	3.5	480	--	1,700	--
	<.01	2.1	1.02	.30	.28	2.4	11	21	3.7	5.8	4.2	90	2,100	380	410
OW59	--	.90	--	--	--	--	--	7.1	1.3	8.6	0.8	<30	--	95	--
	.02	.98	.02	.22	.20	1.2	5.3	11	1.8	14	1.0	<30	50	140	150
OW60	--	6.2	--	--	--	--	--	21	5.7	20	22	40	--	160	--
	<.01	<.01	.05	.19	.14	.19	.84	13	3.5	6.7	4.3	200	3400	160	220
OW61	--	9.0	--	--	--	--	--	14	2.6	8.9	4.3	<30	--	170	--
								20	3.6	7.7	4.3	<30	110	28	30
OW62	--	.37	--	--	--	--	--	3.1	.64	2.3	.5	6,300	--	750	--
	<.01	<.01	.37	--	--	--	--	34	.64	2.3	.4	6,400	5,800	240	240
OW64	--	<.01	--	--	--	--	--	5.2	1.1	3.9	1.2	2,700	--	210	--
	<.01	<.01	.06	.30	.24	.30	1.3	5.1	1.2	3.8	1.4	2,900	--	220	--
OW65	--	1.0	--	--	--	--	--	8.9	2.2	6.4	1.5	1,600	--	190	--
	<.01	<.01	.04	.20	.16	.20	.89	11	2.2	6.1	1.8	620	--	62	--
OW66	<.01	<.01	.03	.30	.17	.30	1.3	1.3	.29	1.5	.7	<30	--	30	--
OW67	<.01	.3	.02	.20	.18	.50	2.2	20	2.6	5.4	1.7	550	--	950	--
OW68	<.01	3.6	.20	.40	.20	4.0	18	14	2.1	7.0	3.0	50	--	36	--
OW69	<.01	15	.02	.19	.17	15	66	--	--	--	--	--	2,200	--	170
OW70	.01	5.0	.30	--	--	--	--	4.0	.88	3.2	1.1	6,200	--	510	--
OW71	<.01	<.01	.03	.23	.20	.23	1.0	17	3.9	4.9	1.2	<30	--	52	--

Table 7.--Chemical analyses of samples from Fryeburg, Me.: Sites OW72D-SP1
[All values are in milligrams per liter, unless otherwise noted.
A dash indicates no data collection.]

Local identification number[1]	Latitude	Longitude	Depth[2]	Date sampled	Sampling device[3]	Temperature (°C)	Conductivity (µS/cm)	pH (in units)	TOC[4]	Alkalinity (as $CaCO_3$)	Chloride, dissolved	Sulfate, dissolved	Phosphorus, total (as P)	phorus, Ortho, total (as P)
OW72D	440631	705727	57.2	08-15-85	S	12.5	120	6.2	3.8	26	8.3	12	0.022	0.006
OW72S	440631	705727	21.7	08-16-85	B	19.0	98	6.3	4	28	10	3.0	1.1	.036
OW73	440651	705833	21.0	08-08-85	S	11.0	54	5.6	8.2	9	1	7.6	.055	.004
OW74	440741	705653	19.3	08-08-85	S	12.0	215	6.0	39	60	17	11	.81	.055
OW75D	440742	705602	47.2	08-08-85	S	12.0	105	6.6	15	23	2	<3.0	.38	.012
OW75S	440742	705602	21.0	08-08-85	S	12.0	84	6.1	16	24	5.4	3.3	.081	.001
OW76[5]	440642	705843	38.0	09-06-84	P	10.0	235	6.2	--	69	12	14	<.01	--
MW6	440050	705807	10	07-09-84	B	10.5	30	6.0	<1	9	2.5	<3.0	.014	--
	440050	705807	10	08-16-85	B	10.5	39	6.5	<1	8	4.9	<3.0	.018	.013
DW1	440634	705819	24	08-14-85	F	17.0	88	5.9	<1	17	6.4	6.2	.001	<.001
DW2	440630	705700	16	08-15-85	F	12.0	56	5.9	<1	13	<.5	6.5	.006	.004
DW3	440720	705748	17	08-14-85	F	13.0	230	5.7	<1	21	48	3.2	<.001	<.001
SP1	440519	705725	--	08-14-85	G	9.0	43	6.6	<1	17	.5	<3.0	.019	.019

1 (OW) observation well, (MW) municipal well, (DW) domestic well, (SP) spring
2 Depth of bottom of well, in feet below land surface datum
3 Sampling Device = (S) submersible pump, (P) peristaltic pump, (B) bailer, (G) grab sample (F) faucet
4 TOC - Total organic carbon
5 Maine ground-water network well, analyzed by the Survey Central Laboratory (Haskell and others, 1985)

Table 7.--Chemical Analyses of samples from Fryeburg, Me.: sites OW72D-SP1'--Continued

Local identification number	Nitro-Gen, NO_2 total (as N)	Nitro-Gen, NO_2+NO_3 total (as N)	Nitro-gen, Ammonia total (as N)	Nitro-gen, Ammonia + Organic total (as N)	Nitro-gen, Organic total (as N)	Nitro-gen, total (as N)	Nitro-gen, total (as NO_3)	Cal-cium, dis-solved	Magne-sium, dis-solved	Sod-ium, dis-solved	Potas-sium, dis-solved	Iron, dis-solved (µg/L)	Iron, total (µg/L)	Manga-nese, dis-solved (µg/L)	Manga-nese, total (µg/L)
OW72D	<0.01	<0.01	0.02	0.20	0.18	0.20	0.89	13	1.9	4.9	1.0	1,700	2,900	390	400
OW72S	<.01	.45	.02	.50	.48	.95	4.2	8.8	2.4	5.5	1.7	30	--	360	--
OW73	<.01	.54	.03	.30	.27	.84	3.7	5.4	.87	2.5	.6	<30	--	10	--
OW74	.02	.19	.03	.24	.21	.43	1.9	26	5.0	2.8	1.6	2,500	--	550	--
OW75D	<.01	<.01	.39	.60	.21	.60	2.7	4.6	.70	3.0	.6	17,000	--	410	--
OW75S	<.01	<.01	.48	.50	.02	.50	2.2	3.6	.55	3.6	1.2	9,300	--	220	--
OW76	--	<.01	--	--	--	--	--	8.8	3.3	4.1	21	6,900	--	6,100	--
MW6	--	.80	--	--	--	--	--	2.2	.34	3.2	.4	<30	--	<5	--
	<.01	.11	.02	--	--	--	--	2.4	.38	4.4	.4	<30	40	<5	<5
DW1	<.01	.05	.03	.20	.17	.25	1.1	7.5	1.7	3.2	1.7	1,400	--	100	--
DW2	<.01	<.01	.21	.30	.09	.30	1.3	5.0	.68	2.5	.3	1,800	2,000	58	63
DW3	<.01	.04	.03	.30	.27	.34	1.5	9.6	2.1	25	5.4	450	--	940	--
SP1	<.01	.02	.03	.20	.17	.22	.97	4.5	.86	3.0	.5	<30	<30	<5	<5

Table 8.--Drinking Water Standards
[All concentrations are in milligrams per liter, unless otherwise noted.]

Parameter	SMCL[1]	Maine[2] MCL	Proposed[3] RMCL	Proposed[4] MCL	Maximum[5] Exposure Guidelines	Remarks
pH	6.5 to 8.5 (in pH units)					The values of pH range from 0 to 14; a pH of 0 is considered very acidic,7 is neutral, and 14 is very alkaline. Water with a pH level below 6.5 will tend to be corrosive. Drinking water can acquire a bitter taste at high pH levels.
Chloride	250					High concentrations of chloride may impart an objectionable taste to water and may cause corrosion of pipes in hot water systems.
Sulfate	250					Elevated concentrations of sulfates cause taste effects, laxative effects with excessive intake, and tend to form hard scale in boilers and heat exchangers.
Nitrate (as N)			10			Excessive concentrations of nitrate and nitrite can cause methemoglobinemia in infants. This disease affects the ability of blood to carry oxygen and can be fatal.
Nitrite (as N)			1			see above
Sodium		20				This limit is recommended for people who have heart, kidney, or hypertension problems.
Iron	300 (µg/L)					High concentrations of iron can cause taste effects and staining effects.
Manganese	50 (µg/L)					High concentrations of manganese may cause aesthetic and economic damage and may cause physiological effects.
Trichloroethylene				0.005	0.045	Category I[6]
Carbon Tetrachloride				.005	.02	Category I[6]
Vinyl Chloride				.001	.02	Category I[6]

1,2-Dichloroethane		.005	.014	Category I[6]
Benzene		.005	.07	Category I[6]
1,1-Dichloroethylene		.007	.028	Category II[6]
1,1,1-Trichloroethane		.200	.33	Category III[6]
1,2-Dichloropropane	0.006			
Ethylbenzene	.68			
Toluene	2.0		.1	
trans-1,2-Dichloro-ethylene	.07		.27	
Chlorobeneze			.047	
Dichlorodifluoromethane			1.6	
Methylene Chloride			.15	
Tetrachloroethylene			.035	
Trichlorofluoromethane			2.3	

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[1] SMCL--Secondary Maximum Concentration Levels are set by the Environmental Protection Agency (EPA) to provide acceptable qualities of taste, odor, color and appearance in public water supplies. At higher concentrations some of these constituents may be associated with adverse health effects. (EPA, 1979)

[2] Maine MCL--Maine's Maximum Concentration Levels were set by the Maine Department of Human Services (DHS) for common inorganic contaminants in drinking water. They are no less stringent than the EPA standards. (DHS, 1983)

[3] RMCL--Recommended Maximum Concentration Levels are non-enforceable EPA health goals. They are set at concentrations for drinking water, such that they pose no known or anticipated adverse health effects. (EPA, 1985 a,b)

[4] MCL--Maximum Concentration Levels are enforceable EPA standards for drinking water, set as close to the RMCL as is economically and technologically feasible. (EPA, 1985 a)

[5] Maximum Exposure Guidelines--These are maximum concentration levels set by the Maine DHS for hazardous contaminants in drinking water. They are no less stringent than the EPA standards. (DHS, 1984)

[6] EPA--volatile organic compounds are categorized for carcinogenicity by the Three-Category Approach (EPA, 1985 a):
Category I--known or probable human carcinogen: strong evidence of carcinogenicity.
Category II--Equivocal evidence of carcinogenicity
Category III--Non-carcinogens: inadequate or no evidence of carcinogenicity in animals.

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