Introduction

The area of this report includes that part of eastern Vermont drained by the Ottauquechee and Saxtons Rivers, and several intervening tributaries to the Connecticut River. This study is part of a cooperative program between the United States Geological Survey and the State of Vermont Department of Water Resources to provide a statewide reconnaissance of ground-water availability. Information presented in this report is based on a limited amount of data and is intended as a guide for local exploration, and not as a statement that conditions are uniform everywhere within a ground-water favorability area. Further studies are recommended for a more detailed appraisal of ground-water availability.

The areas of greatest ground-water potential are along the Ottauquechee, Black, Williams, and Saxtons Rivers. Silt and clay deposits limit the ground-water potential of most of the Connecticut River except in the Windsor and Westminster areas.

BASE FROM
UNITED STATES GEOLOGICAL SURVEY

WATER WELLS AND TEST BORINGS

WATER WELLS

Number	Owner	Location	Total Depth (in feet) 1/	Depth to Bedrock (in feet) 1/	Aquifer 1/	Yield (in gallons per minute) 1/ 2/
1	Eugene Poplawski	Bridgewater	101	NR	Sand & gravel	30
2	Peter G. Wyckoff	Bridgewater	87	NR	Sand & gravel	20
3	Robert Ueland	Woodstock	95	NR	Sand & gravel	10
4	Mrs. Robert Goddard	Woodstock	97	5	Rock	60
5	Mrs. Gertrude Harding	Pomfret	65	NR	Sand & gravel	30
6	Town of Hartford	Hartford	28	NR	Fine sand & silt	60
7	North Hartland Water Co.	Hartland	21	77	Sand & gravel	140
8	Donald Brooks	Hartland	321	7	Rock	½
9	Hartland Library	Hartland	100	NR	Sand & gravel	20
10	Green Mtn. Horse Assoc.	Woodstock	140	NR	Sand & gravel	25
11	Lorena Beckwith	Plymouth	57	NR	Sand & gravel	100
12	William Baker	Plymouth	46	NR	Sand & gravel	45
13	Raymond Ayers	Ludlow	56	NR	Sand & gravel	50
14	Proctorsville Village	Cavendish	35	35	Sand & gravel	120
15	Eastern Magnesia Talc Co.	Reading	42	42	Sand & gravel	150
16	Town of Windsor	Windsor	90	NR	Sand & gravel	1140
17	Otto G. Hemming	Weathersfield	79	NR	Sand & gravel	11
18	Malcolm Laflam	Weathersfield	110	NR	Sand & gravel	40
19	Edward J. Abbott	Weathersfield	76	NR	Sand & gravel	60
20	Harold Cyrs	Springfield	350	3	Rock	12
21	John Angell	Springfield	93	NR	Sand & gravel	40
22	Lydia Ratcliff	Andover	105	30	Rock	6
23	Don Gross	Andover	95	NR	Sand & gravel	75
24	Joseph Fromberger	Andover	83	NR	Sand & gravel	7
25	Henry Corliss	Chester	171	30	Rock	2½
26	Town of Chester	Chester	48	NR	Sand & gravel	205
27	Dr. William A. Leach	Springfield	310	3	Rock	2
28	Clarence Gibson	Rockingham	300	165	Rock	9
29	Emerson Griswold	Rockingham	88	NR	Sand & gravel	20
30	Paul Roundy	Rockingham	215	205	Rock	100
31	John F. Genelli	Grafton	220	75	Rock	6
32	Philip Scott	Grafton	47	NR	Sand & gravel	30
33	Edward Kent	Rockingham	43	NR	Sand & gravel	60
34	Village of Bellows Falls	Rockingham	70	NR	Sand & gravel	500
35	Edwin Nowers	Westminster	308	NR	Sand & gravel	40

NR - Not Reached 1/ Reported by owner or driller 2/ May be limited by capacity of pump

TEST BORINGS (Vermont Department of Highways except as noted)

36 Sherburne - U. S. Route 4 over Ottauquechee River — Elevation 1,160 ft
- Soil & sand . . . . . 0 - 4 ft
- Sand & some fine gravel . . . . . 4 - 10
- Sand & fine gravel - clay color wash . . 10 - 47½
- Boulder or ledge (refusal) 47½

37 West Bridgewater - U. S. Route 4 over Ottauquechee River — Elevation 1,050 ft
- Sand & gravel . . . . . 0 - 33 ft
- Not to bedrock

38 Bridgewater - U. S. Route 4 over Ottauquechee River — Elevation 950 ft
- Interbedded sand & gravel . . . . . 0 - 30 ft
- Bedrock 30

39 Bridgewater - U. S. Route 4 over Ottauquechee River — Elevation 873 ft
- Sand, silt, some fine gravel . . . . . 0 - 28 ft
- Fine gravel, some fine sand . . . . . 28 - 38
- Not to bedrock

40 Woodstock - Vermont Route 12 (Bethel-Woodstock Road) over Gulf Stream — Elevation 694 ft
- Sand & fine gravel . . . . . 0 - 40 ft
- Gravel . . . . . 40 - 44
- Refusal (bedrock?) 44

41 North Hartland - U. S. Route 5 over Ottauquechee River — Elevation 360 ft
- Sand & gravel . . . . . 0 - 15 ft
- Silt, some fine sand . . . . . 15 - 50
- Bedrock 50

42 Hartland - U. S. Route 5 over I 91 — Elevation 490 ft
- Sand & gravel with silt . . . . . 0 - 20 ft
- Silt, some sand, trace gravel . . . . . 20 - 120

43 Windsor - I 91 over Hubbard Brook — Elevation 555 ft
- Sand, gravel & silt . . . . . 0 - 42 ft
- Bedrock 42

44 Windsor - Vermont Route 44 over Mill Brook — Elevation 400 ft
- Soil & sand . . . . . 0 - 3 ft
- Gravel . . . . . 3 - 5
- Sand . . . . . 5 - 6
- Gravel, sand, some silt . . . . . 6 - 10
- Medium fine sharp sand, some silt . . . 10 - 43
- Gravel, some shale . . . . . 43 - 44
- Bedrock 44

45 Ludlow - Depot Street bridge over Black River — Elevation 1,010 ft
- Sand & gravel, minor silt . . . . . 0 - 68 ft
- Not to bedrock

46 Proctorsville - Vermont Route 103 over Black River — Elevation 925 ft
- Fine sand . . . . . 0 - 53 ft
- Fine to medium gravel . . . . . 53 - 58
- Fine sand, trace of fine gravel . . . . 58 - 78
- Bedrock 78

47 Chester - Vermont Route 103 over Williams River — Elevation 750 ft
- Coarse sand, gravel & cobbles, occasional silt & clay . . . . . 0 - 42 ft
- Bedrock 42

48 North Springfield Dam (U. S. Corps of Engineers' borings) — Average Elevation 550 ft
- Pervious sands & gravels over bedrock 120± ft

49 Springfield - Vermont Route 11 over Black River — Elevation 354 ft
- Fill . . . . . 0 - 16 ft
- Boulder . . . . . 16 - 21
- Sand & fine gravel . . . . . 21 - 26
- Boulder . . . . . 26 - 29
- Gravel . . . . . 29 - 36
- Boulder & dirt . . . . . 36 - 38
- Bedrock? . . . . . 38 - 41

50 Westminster - I 91 over State Aid Highway No. 4 — Elevation 338 ft
- Fine sand . . . . . 0 - 20 ft
- Coarse sand & gravel . . . . . 20 - 35
- Clay . . . . . 35 - 40
- Hardpan 40
- Not to bedrock

Ground-Water Favorability Areas

Areas underlain by thick deposits of coarse-grained stratified glacial drift have excellent ground-water potential. Suitable for exploration to locate wells that should yield sufficient quantities of water to meet municipal and industrial requirements. Deposits are thinner and wells would be less productive along the margins of these areas.

Areas underlain by thin deposits of coarse-grained stratified glacial drift and stream gravel have low to moderate ground-water potential. Suitable for exploration to locate shallow wells and infiltration galleries that should yield sufficient quantities of water for domestic, commercial, and light industrial use.

Areas underlain by fine-grained stratified glacial drift and swamp deposits have low ground-water potential. These deposits generally will yield sufficient water for domestic wells only. In places, thin lenses of gravel with higher yields may underlie these deposits, but these lenses may not have adequate storage or recharge to produce high yields on a sustained basis.

Areas underlain by deposits of unstratified glacial drift (called till or "hardpan") and bedrock ("ledge") have low ground-water potential. In general, wells in either till or bedrock will yield only enough water for domestic or light commercial use. Till and bedrock underlie the stratified glacial drift of the map units listed above.

Water wells in stratified glacial drift

Water wells in glacial till and bedrock

Test borings

Basin boundary

GROUND WATER FAVORABILITY MAP
OF THE
OTTAUQUECHEE-SAXTONS RIVER BASIN, VERMONT

SCALE OF MILES
1 0 1 2 3 4 5 6 7 8

CONTOUR INTERVAL 100 FEET
DATUM MEAN SEA LEVEL

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