

The area of this report includes that part of eastern Vermont drained by the White 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 main stem of the White River from Granville to Bethel and in the Towns of Sharon and Hartford. Excellent ground-water potential is also indicated along parts of the Tweed River and the Second and Third Branches of the White River. Most of the First Branch of the White River is less promising for ground-water development. Silt and clay deposits limit the ground-water potential of the southern half of the Second Branch of the White River.

WATER WELLS

Number	Owner	Location	Total Depth (in ft)	Depth to Bedrock (in ft)	Aquifer	Yield (in gallons per minute)
1.	Richard Bannister	Hancock	180	28	Rock	15
2.	Town of Rochester	Rochester	47	NR	Sand & Gravel	100
3.	Martin W. Bowen	Rochester	85	NR	Sand & Gravel	20
4.	R. Johnson	Rochester	115	57	Rock	3 1/2
5.	John Giorgetti	Stockbridge	54	NR	Sand & Gravel	200
6.	Joseph Petersen	Pittsfield	50	NR	Sand & Gravel	50
7.	Claus Bartenstein	Sherburne	111	45	Rock	75
8.	Stockbridge Central School	Stockbridge	121	NR	Sand & Gravel	30
9.	Village of Bethel	Bethel	69	NR	Sand & Gravel	160
10.	Raymond Smith	Bethel	117	8	Rock	30
11.	Town of Randolph	Randolph	165	NR	Sand & Gravel	225
12.	Charles J. Bacon	Granville	20	NR	Sand & Gravel	5
13.	Oscar Lamson	Brookfield	10	NR	Sand & Gravel	5
14.	Lawrence Holmes	Brookfield	25	NR	Sand & Gravel	30
15.	Taft - Salter	Randolph	65	NR	Sand & Gravel	10
16.	North Randolph Creamery	Randolph	68	68	Sand & Gravel	100
17.	Leon Greenwood	Randolph	8	NR	Sand & Gravel	50
18.	Harold Slack	Royalton	400	50	Rock	1
19.	Miller Construction Inc.	Royalton	32	NR	Sand & Gravel	15
20.	Joseph Spiritti	Barnard	255	3	Rock	3
21.	F. Ray Keyser, Sr.	Chelsea	287	18	Rock	75
22.	F. Ray Keyser, Sr.	Chelsea	25	25	Sand & Gravel	35
23.	Ralph Grant	Tunbridge	244	22	Rock	2
24.	North Tunbridge School	Tunbridge	285	40	Rock	5
25.	Mark A. Howe	Tunbridge	164	50	Rock	10
26.	South Royalton School	Royalton	44	44	Sand & Gravel	90
27.	Sharon School	Sharon	70	79	Sand & Gravel	8
28.	Cleon Smith	Sharon	245	5	Rock	3 1/2
29.	Frank Weigel	Hartford	245	91	Rock	30
30.	Town of Hartford	Hartford	34	NR	Sand & Gravel	250

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

TEST BORINGS (Vermont Department of Highways)

Number	Location	Depth	Elevation
31.	Granville - Vt. Route 100 over White River	0 - 12 ft	935 ft
	Fine gray sand, some fine gravel	12 - 18	
	Fine gray sand, some fine gravel	18 - 28	
	Fine gray sand, trace of silt	28 - 43	
	Fine gravel	43 - 44	
	Refusal on boulder or bedrock	44	
32.	Barnard - Vt. Route 12 over Locust Creek	0 - 10 ft	760 ft
	Gravel	10	
33.	Royalton - I 89 over White River (edge of river)	0 - 10 ft	500 ft
	Sand, some gravel & silt	10 - 20	
	Silt, sand, little gravel	20	
34.	Sharon - I 89 over White River	0 - 80 ft	495 ft
	-West end of bridge	80 - 85	
	Silt, some sand & gravel	85	
	Sand & gravel, trace of silt		425 ft
	Bedrock		
	-East end of bridge		
	Bedrock exposed in bed of river		
35.	Sharon - I 89 over High Pole Brook Road	0 - 30 ft	585 ft
	Silt, sand & gravel	30 - 50	
	(Seismic survey indicates bedrock at)	50 - 70 ft	
36.	Hartford - I 89 over Podunk Brook	0 - 20 ft	500 ft
	Silt, some sand, gravel	20	
	Bedrock (maximum depth)		
37.	Hartford - I 89 over White River	0 - 52 ft	410 ft
	Sand & gravel, little silt	52	
	Bedrock (maximum depth)		

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.

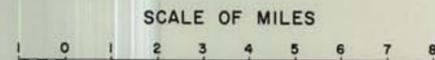
Water wells in stratified glacial drift

Water wells in glacial till and bedrock

Test borings

Basin boundary

GROUND WATER FAVORABILITY MAP OF THE WHITE RIVER BASIN, VERMONT



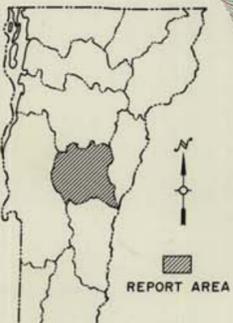
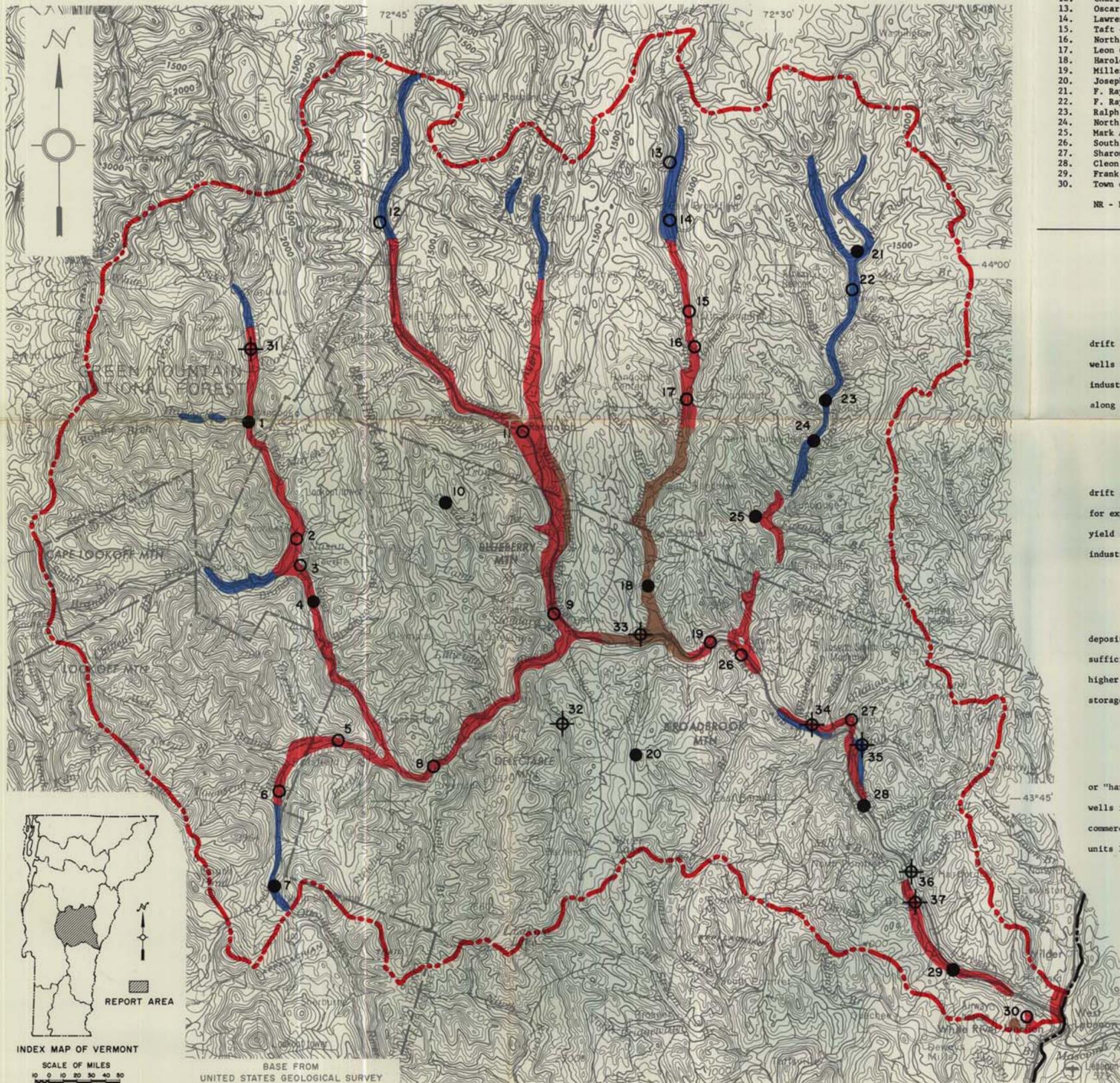
CONTOUR INTERVAL 100 FEET
DATUM MEAN SEA LEVEL

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SCALE OF MILES 0 10 20 30 40 50
BASE FROM UNITED STATES GEOLOGICAL SURVEY