

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



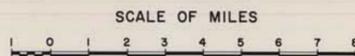
Test borings

Basin boundary



INDEX MAP OF VERMONT
SCALE OF MILES
0 10 20 30 40 50

GROUND WATER FAVORABILITY MAP
OF THE
LAMOILLE RIVER BASIN, VERMONT



PUBLISHED BY
VERMONT DEPARTMENT OF WATER RESOURCES
IN COOPERATION WITH
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY
BY
ARTHUR L. HODGES, JR.
U.S. GEOLOGICAL SURVEY
ASSISTED BY
DAVID BUTTERFIELD
VT. DEPT. OF WATER RESOURCES
1967

Introduction

The area of this report includes that part of northwestern Vermont drained by the Lamoille River and several small tributaries to Lake Champlain. It also includes South Hero Island. 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; it is intended as a guide for local exploration, and not as a statement that conditions are uniform everywhere within a water favorability area. Further studies are recommended for detailed appraisals of ground-water quantities available within this area.

The areas of greatest ground-water potential along the Lamoille River are from Cambridge to Jeffersonville, Johnson to the Wild Branch, and from Hardwick to East Hardwick. Other areas of good ground-water potential extend from Eden to Garfield and Underhill Center to Underhill Flats. Less promising areas are scattered throughout the basin. Silt and clay deposits occur as a thin cover in most of the stream valleys, but toward the mouth of the Lamoille River these deposits are thicker and mask the underlying water-bearing gravel.

WATER WELLS AND TEST BORINGS

Number	Owner	Location	Total Depth		Aquifer	Yield
			(in ft)	(in ft)		
1.	Everett Baker	Grand Isle	43	10	Rock	100
2.	Armand Blow	South Hero	220	12	Rock	1
3.	Clifford Turner	Milton	17	NR	Sand	5
4.	Clifford Turner	Milton	700	162	Rock	2
5.	Edward Roby	Essex	305	35	Rock	2
6.	D. W. Decker	Fairfax	330	170	Rock	3
7.	Town of Underhill	Underhill	41	NR	Sand & Gravel	60
8.	Arthur Barnard	Underhill	298	109	Rock	1
9.	Robert Hubbard	Cambridge	400	110	Rock	1
10.	Elsworth DeGoosh	Johnson	500	20	Rock	5
11.	Louis Beaugrand	Morristown	265	NR	Gravel	250
12.	Vermont Highway Department	Ryde Park	148	NR	Sand & Gravel	20
13.	Village of Morrisville	Morristown	52	NR	Sand & Gravel	560
14.	Everett Andrus	Wolcott	40	1	Rock	4
15.	Village of Hardwick	Hardwick	30	NR	Gravel	500
16.	Louis DeLaricheliere	Hardwick	90	NR	Gravel	60

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
17.	Milton - South Hero Sand Bar Bridge approximately 0.4 mile East of Bora's Land, South Hero	Water 0 - 10 ft Sand 10 - 50 Bedrock 50	95 ft
18.	Colchester - Interstate 89 over Munson Flat and Malletts Bay Inlet	-South end Gray clay 0 - 148 ft Not to bedrock -North end Soft clay 0 - 36 ft Sand & gravel 36 - 38 Bedrock 38	95 ft
19.	Milton - State Aid Route 3 over Interstate 89 approximately 2 miles North of Checkerberry Village	Silt & clay 0 - 170 ft Bedrock 170	340 ft
20.	Georgia - Interstate 89 over C.V.R.R. North of hamlet of Oakland	Silt, clay with minor sand, trace of gravel 0 - 140 ft Bedrock 140	390 ft
21.	Jericho - Stone Hill Bridge over Lee's River approximately 0.9 mile North of Jericho Center	Sand, gravel, minor silt 0 - 35 ft Bedrock 35	90 ft
22.	Fairfax - Vt. Route 104 over Beaver Brook approximately 2.7 miles East of hamlet of Fairfax Falls	Sand & topsoil 0 - 9 ft Blue clay 9 - 28 Blue clay with fine sand 28 - 41 Sand & gravel with clay 41 - 52 Bedrock 52	429 ft
23.	Cambridge - Vt. Route 15 over Lamoille River	Interbedded sand, clay & gravel 0 - 75 ft Not to bedrock	440 ft
24.	Johnson - Johnson Village bridge over Gihon River	Sand 0 - 7 ft Sand & clay 7 - 9 Clay 9 - 12 Gravel 12 - 13 Clay 13 - 20 Gravel 20 - 23 Not to bedrock	490 ft
25.	Belvidere - Vt. Route 118 bridge over small tributary of North Branch, Lamoille River at Belvidere Corners	Sand & gravel 0 - 10 ft Silt 10 - 60 Bedrock or boulder 60	1,141 ft
26.	Eden - Vt. Route 100 over brook, Northeast of Eden Lake	Soil & gravel 0 - 15 ft Clay & very fine sand 15 - 25 Sand & gravel 25 - 35 Not to bedrock	1,245 ft
27.	Hardwick - Vt. Route 12 over Haynesville Brook	Maximum 5 feet sand & gravel over till Not to bedrock	Not Available
28.	Hardwick - (1.5 miles Northeast of East Hardwick) Vt. Route 12 over Greensboro Brook	Gravel, some sand & clay 0 - 20 ft Not to bedrock	1,122 ft