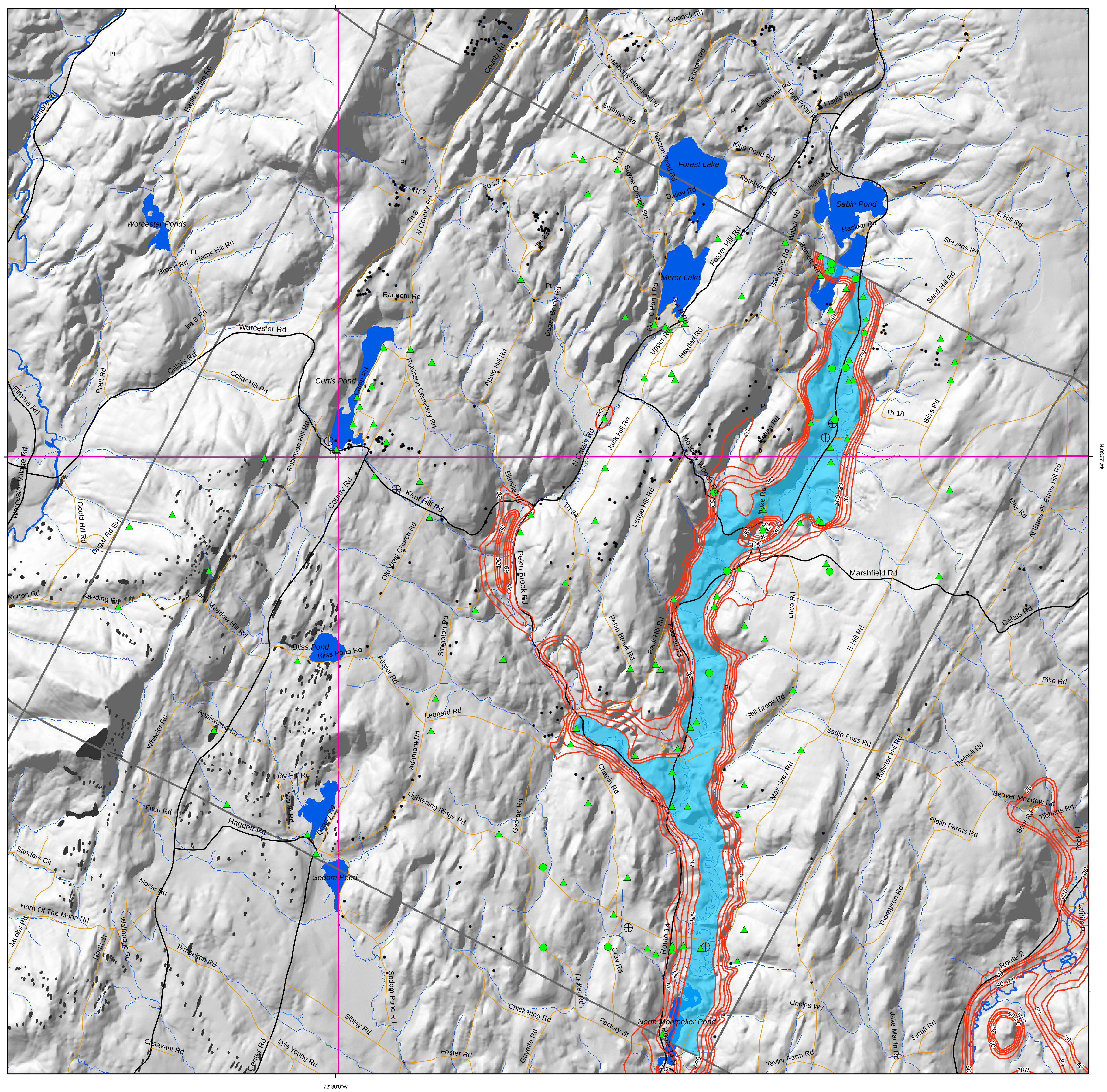
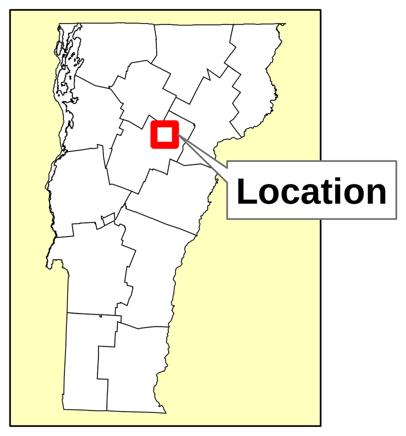


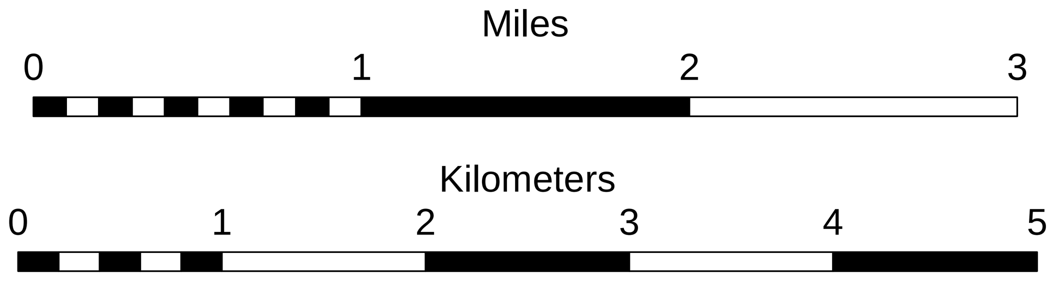
- Depth To Bedrock (Feet)
- Depth To Bedrock >= 100 Feet
- Bedrock Outcrop
- Bedrock Outcrop
- Bedrock Wells
- Gravel Wells
- Borings
- Minor Roads
- Major Roads
- Streams
- Water Bodies
- Town Boundaries
- Quadrangle Boundaries

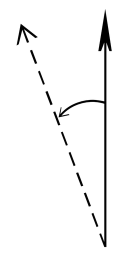
EXPLANATION

This plate shows depth to bedrock in feet. Known bedrock outcrops are shown as black dots and polygons. The red lines are approximate contours at depths of 20, 40, 60, 80, and 100 feet. An extensive area in the Kingsbury Branch and lower Pekin Brook valleys with depths greater than 100 feet is shown in blue. The depth is more certain in areas with abundant water well logs and/or bedrock outcrops and less certain in areas where this information is sparse.



Scale 1:24,000





Magnetic declination
14.8 degrees west, 2015

Base map from Vt. Center for Geographic Information.
Coordinate System: Vermont State Plane, meters, NAD 83.
Geographic coordinates shown at topo corners are in NAD 83.

Digital cartography by George Springston, August 16, 2016.
Research supported by the Vermont Geological Survey,
Dept. of Environmental Conservation, VT ANR.

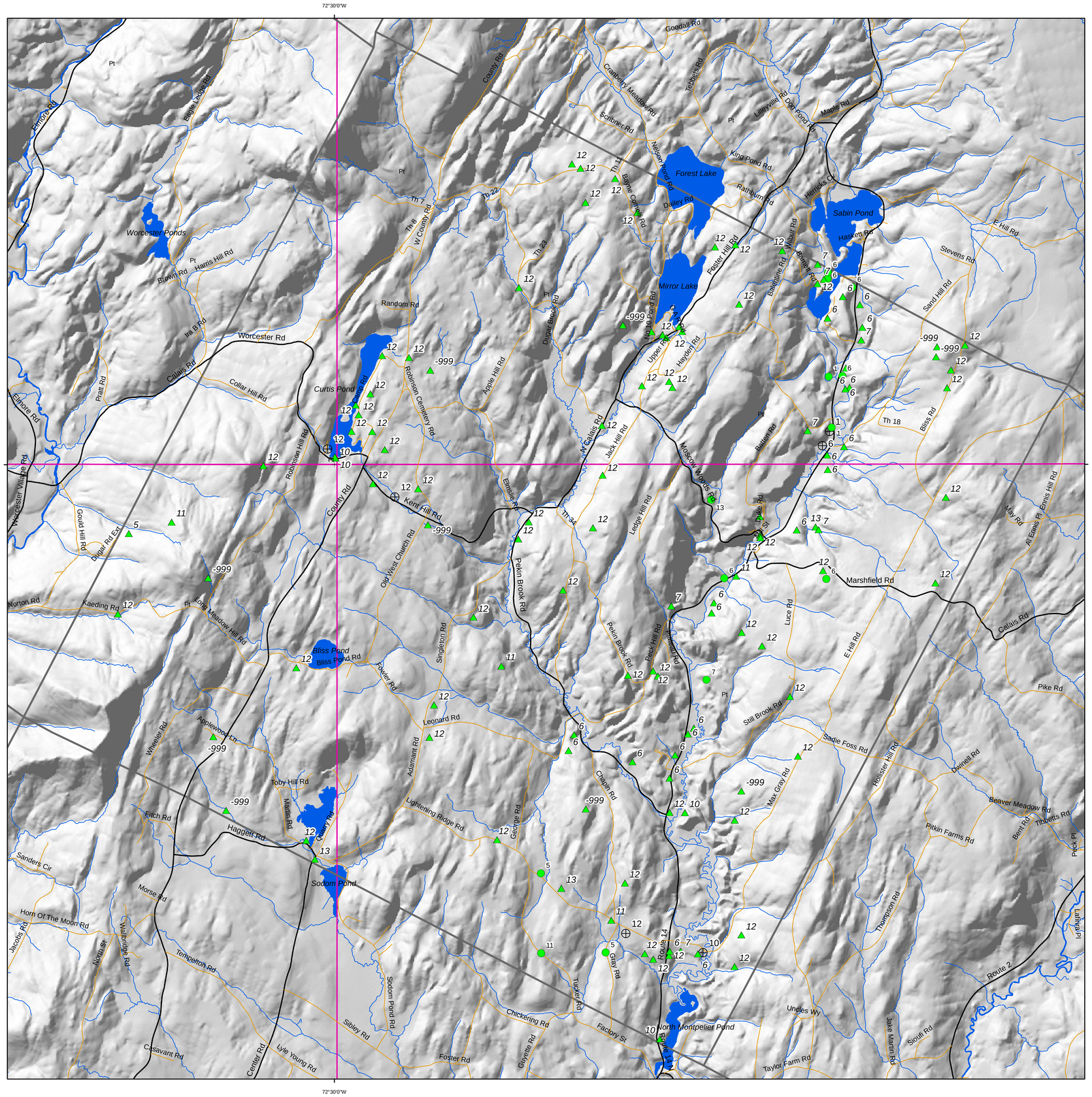
The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the State of Vermont.

Depth to Bedrock, Calais, Vermont

Published by:
Vermont Geological Survey, Marjorie Gale, State Geologist
Department of Environmental Conservation
Agency of Natural Resources
1 National Life Drive, Davis 2
Montpelier, VT 05620-3902
http://www.anr.state.vt.us/dec/geo/vgs.htm

VERMONT
AGENCY OF NATURAL RESOURCES
Vermont Geological Survey

Geology and Hydrogeology of Calais,Vermont
Springston and others, 2016
Vermont Geological Survey
Open File Report VG2016-1, Plate 6



- Bedrock Wells
- Gravel Wells
- Borings
- Minor Roads
- Major Roads
- Streams
- Water Bodies
- Town Boundaries
- Quadrangle Boundaries

Explanation

The purpose of the hydrogeologic classification is to rank how easily ground water can move through the surficial materials. The classification is made using water well logs and is based almost entirely on the coarseness of the surficial materials, with the assumption that ground water will be able to flow easier through coarser materials than through finer ones. Interpretations based on this data will be shown on other plates in this report.

Relatively thin, coarse-grained surface horizons that are less than about 20 feet thick are ignored in this classification as they are likely to be of little importance either as significant aquifers or as barriers to prevent or slow infiltration of ground water. In the classification below a "thick" surface horizon measures 20 feet or more.

Surficial deposits that are less than about 40 feet in **total** thickness are not considered to be good candidates for surficial aquifers. Even if such deposits can supply sufficient yields during dry seasons, they are quite likely to be at risk from contamination from surface waters.

Hydrogeologic Classification

0	Thick, coarse-grained, stratified deposits over till over coarse-grained stratified deposits.
1	Fine-grained stratified deposits over coarse-grained stratified deposits.
2	Fine-grained stratified deposits over coarse-grained stratified deposits over fine-grained stratified deposits or till.
3	Thick, coarse-grained, stratified deposits over fine-grained stratified deposits over coarse-grained stratified deposits.
4	Sand-matrix till over coarse-grained stratified deposits.
5	Silt-to-clay-matrix till over coarse-grained stratified deposits.
6	Thick, coarse-grained, stratified deposits.
7	Thick, coarse-grained, stratified deposits over fine-grained stratified deposits and/or till.
8	Thick section of sand-matrix till.
9	Thick section of silt-to-clay matrix till over fine-grained stratified deposits.
10	Thick section of fine-grained stratified deposits over silt-to-clay-matrix till or directly over bedrock.
11	Thick section of silt-to-clay-matrix till.
12	Thin surficial deposits or no surficial deposits overlying bedrock. Includes the very common case of thin till over bedrock. Generally less than 40 feet thick.
13	Other. Commonly, this is a thick section of surficial deposits with either no details of stratigraphy or highly variable stratigraphy.
-999	Problem record. Usually due to location being suspect.

Scale 1:24,000

Miles: 0 1 2 3

Kilometers: 0 1 2 3 4 5

Magnetic declination
14.8 degrees west, 2015

Base map from Vt. Center for Geographic Information.
Coordinate System: Vermont State Plane, meters, NAD 83.
Geographic coordinates shown at topo corners are in NAD 83.

Digital cartography by George Springston, August 16, 2016.
Research supported by the Vermont Geological Survey,
Dept. of Environmental Conservation, VT ANR.

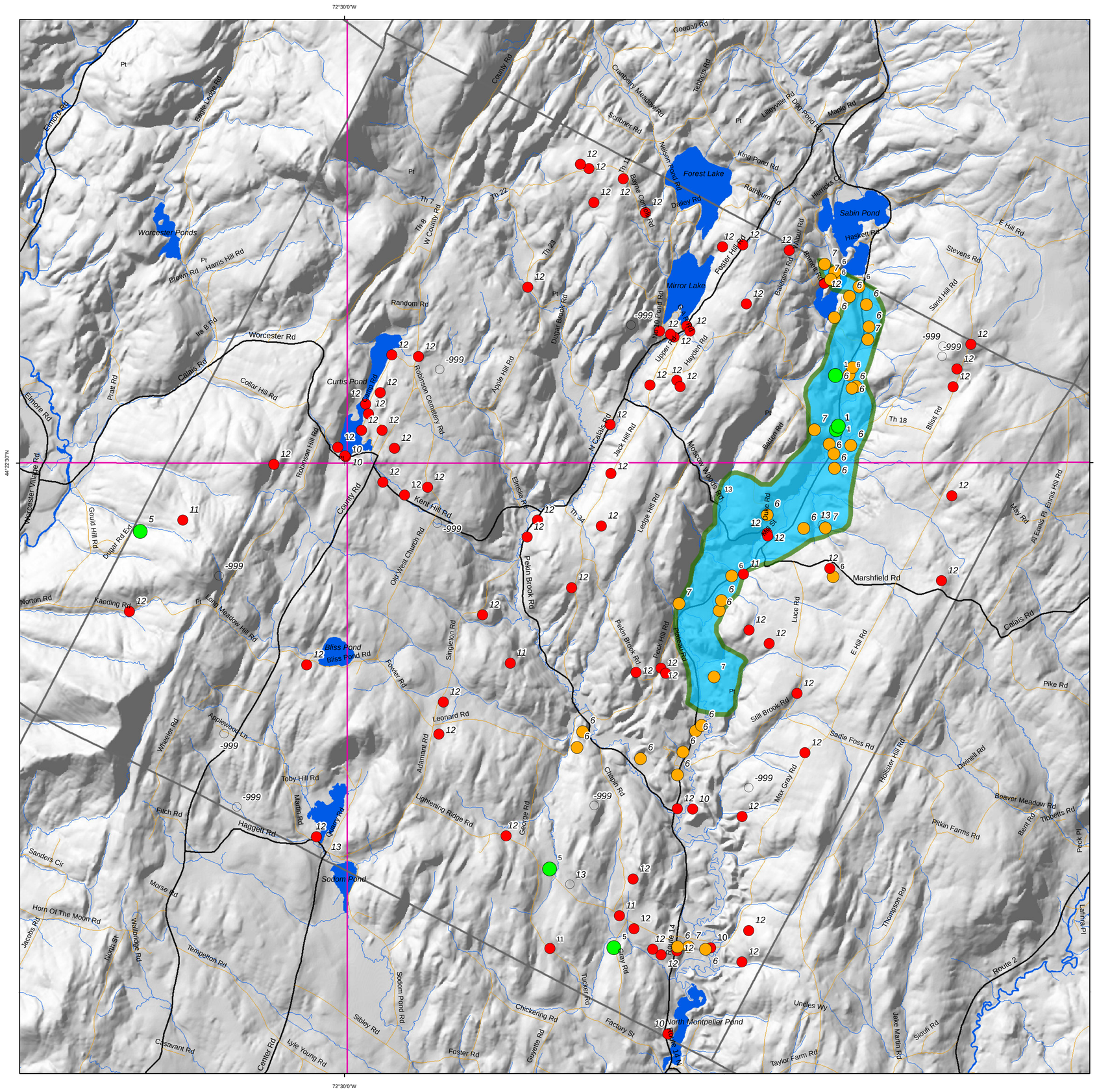
The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the State of Vermont.

Published by:
Vermont Geological Survey, Marjorie Gale, State Geologist
Department of Environmental Conservation
Agency of Natural Resources
1 National Life Drive, Davis 2
Montpelier, VT 05620-3902
http://www.anr.state.vt.us/dec/geo/vgs.htm

Hydrogeologic Classification of Well Logs, Calais, Vermont

VERMONT
AGENCY OF NATURAL RESOURCES
Vermont Geological Survey

Geology and Hydrogeology of Calais,Vermont
Springston and others, 2016
Vermont Geological Survey
Open File Report VG2016-1, Plate 7



High Surficial Aquifer Potential

Surficial Aquifer Rating

- High
- High
- Moderate
- Moderate
- Low
- Low
- Minor Roads
- Major Roads
- Town Boundaries
- Quadrangle Boundaries
- Water Bodies
- Streams

EXPLANATION

This plate contains information on the favorability of surficial deposits to serve as aquifers. It is based on an interpretation of the hydrogeologic classification of water well logs shown on Plate 5. Hydrogeologic Classes 0 through 5 are interpreted as having a high surficial aquifer potential due to the presence of thick coarse-grained deposits overlain by finer grained deposits. These are shown as large green dots. Classes 6 and 7 are interpreted to have a moderate surficial aquifer potential as they have thick coarse-grained deposits but these are not overlain by a fine-grained deposit that could serve to prevent direct infiltration of surface water. These are shown as orange dots. Classes 8 through 12 do not have a thick coarse-grained deposit and therefore have a low potential to serve as a surficial aquifer. These are shown as small red dots.

An area of high surficial aquifer potential is shown in blue in the valley of the Kingsbury Branch in the eastern part of the town. It extends south from Sabin Pond almost to Pekin Branch. This area is approximated based on the favorable surficial materials and thick surficial deposits.

Scale 1:24,000

Miles: 0 1 2 3

Kilometers: 0 1 2 3 4 5

Magnetic declination
14.8 degrees west, 2015

Surficial Aquifer Potential, Calais, Vermont

Base map from Vt. Center for Geographic Information.
Coordinate System: Vermont State Plane, meters, NAD 83.
Geographic coordinates shown at topo corners are in NAD 83.

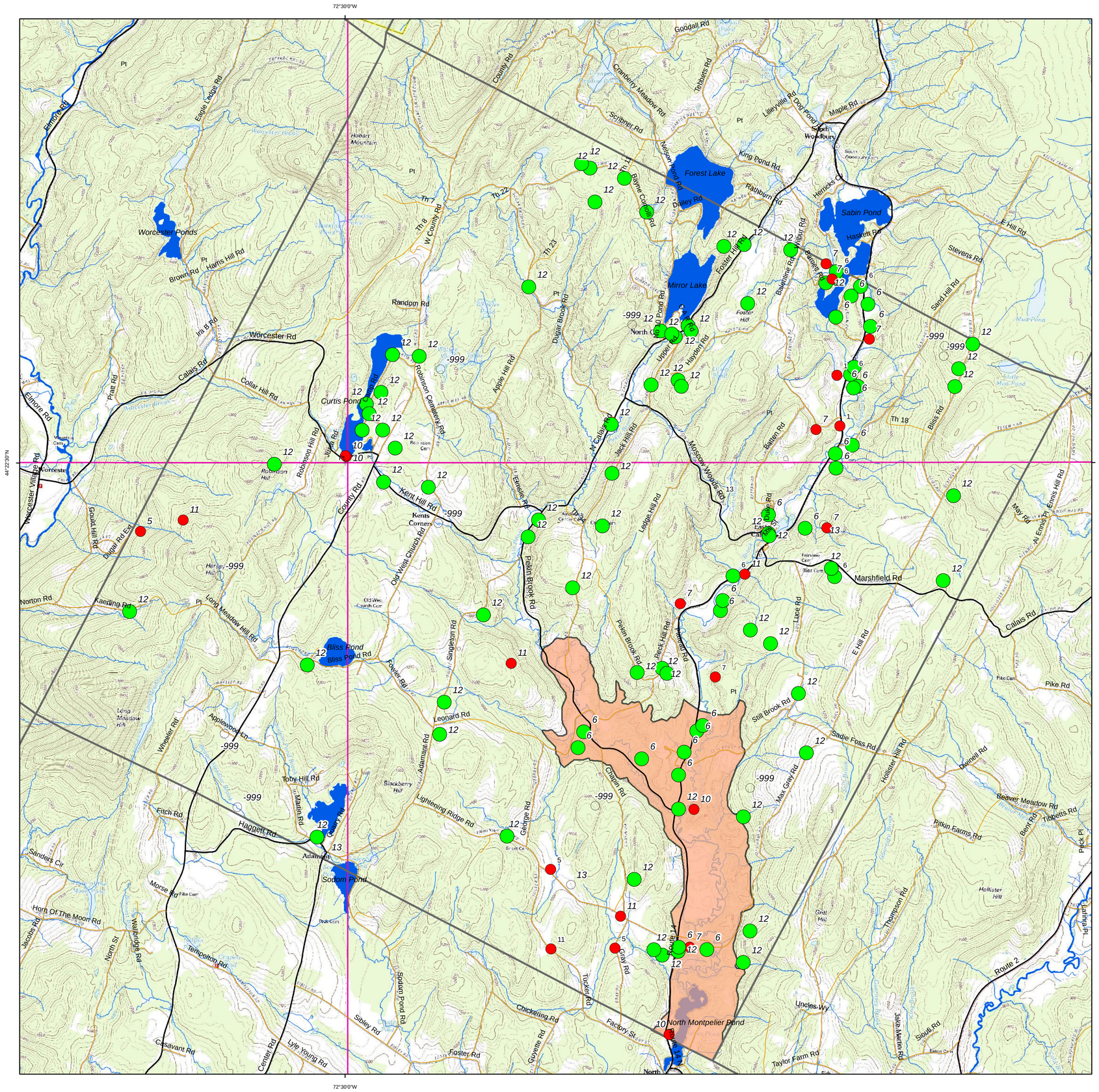
Digital cartography by George Springston, August 16, 2016.
Research supported by the Vermont Geological Survey,
Dept. of Environmental Conservation, VT ANR.

The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the State of Vermont.

Published by:
Vermont Geological Survey, Marjorie Gale, State Geologist
Department of Environmental Conservation
Agency of Natural Resources
1 National Life Drive, Davis 2
Montpelier, VT 05620-3902
http://www.anr.state.vt.us/dec/geo/vgs.htm

VERMONT
AGENCY OF NATURAL RESOURCES
Vermont Geological Survey

Geology and Hydrogeology of Calais,Vermont
Springston and others, 2016
Vermont Geological Survey
Open File Report VG2016-1, Plate 8



Lower Surface Infiltration

Potential Recharge to Bedrock

- High
- Low
- Low
- Low
- Low
- Unknown
- Minor Roads
- Major Roads
- Town Boundaries
- Quadrangle Boundaries
- Water Bodies
- Streams

EXPLANATION

This plate contains information on the potential favorability of recharge to bedrock aquifers. It is based on an interpretation of the hydrogeologic classification of water well logs shown on Plate 5. Hydrogeologic Classes 6 and 12 are interpreted as having a high bedrock aquifer recharge potential due to the presence of either thick coarse-grained deposits at the base or else the presence of thin surficial deposits. These are shown as green dots. Classes 0 through 5 and 7 through 11 are interpreted to have a low potential for bedrock aquifer recharge as there is a thick deposit of fine-grained material in the surficial deposits that could impede recharge. These are shown as small red dots. Extensive areas underlain by fine-grained glacial lake deposits in the lower Pekin Brook valley and the southern portion of the Kingsbury Branch valley are shown in pink as these deposits may impede inifiltration of surface water to the bedrock below.

Scale 1:24,000

Miles: 0 1 2 3

Kilometers: 0 1 2 3 4 5

Magnetic declination
14.8 degrees west, 2015

Potential Favorability for Recharge of Groundwater to Bedrock, Calais, Vermont

Base map from Vt. Center for Geographic Information.
Coordinate System: Vermont State Plane, meters, NAD 83.
Geographic coordinates shown at topo corners are in NAD 83.

Digital cartography by George Springston, August 16, 2016.
Research supported by the Vermont Geological Survey,
Dept. of Environmental Conservation, VT ANR.

The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the State of Vermont.

Published by:
Vermont Geological Survey, Marjorie Gale, State Geologist
Department of Environmental Conservation
Agency of Natural Resources
1 National Life Drive, Davis 2
Montpelier, VT 05620-3902
http://www.anr.state.vt.us/dec/geo/vgs.htm

VERMONT
AGENCY OF NATURAL RESOURCES
Vermont Geological Survey