Seven Islands Quadrangle, Maine

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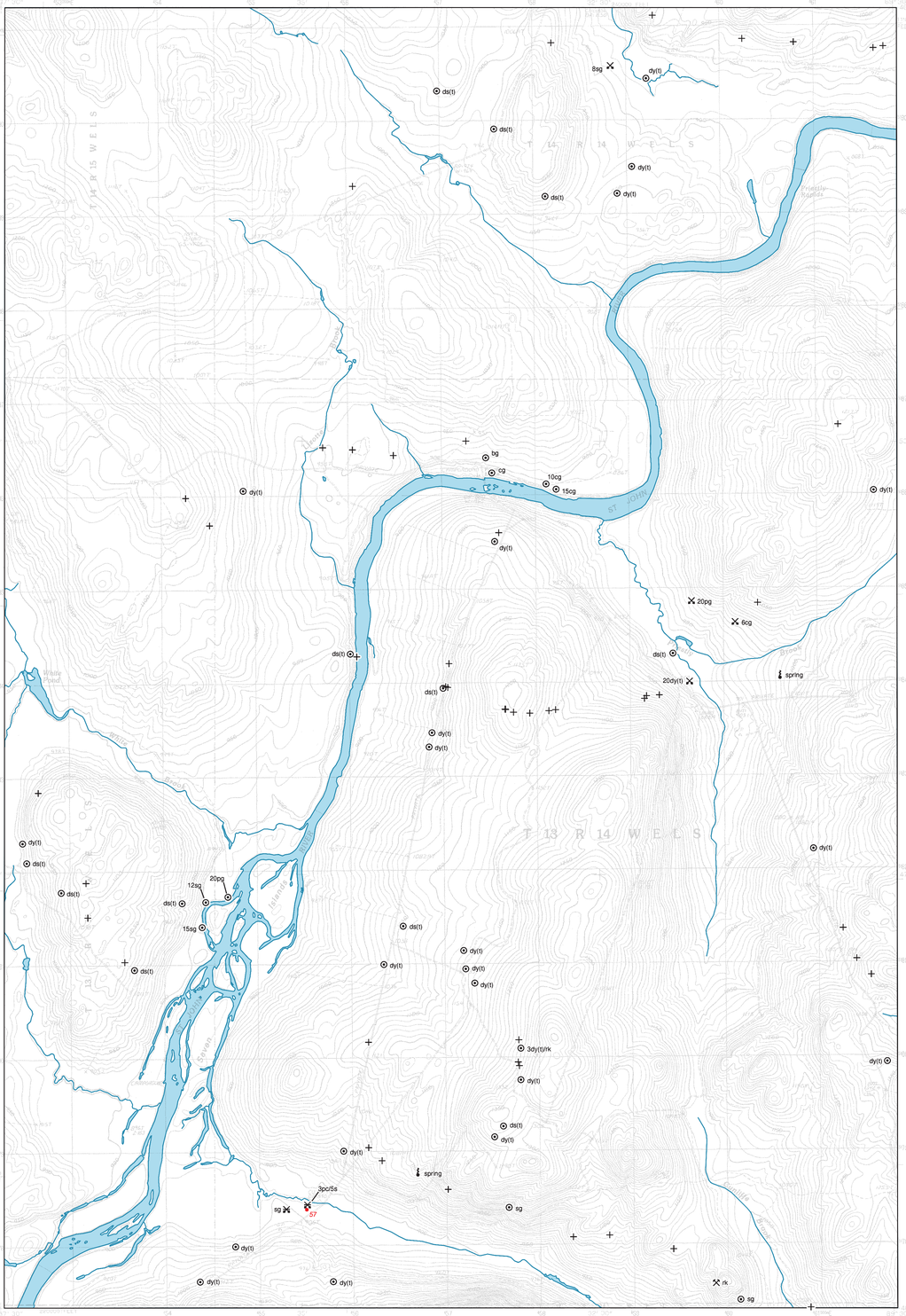
Surficial Materials



SOURCES OF INFORMATION

Materials data collected by the Maine Geological Survey Significant Sand and Gravel aquifer mapping program during the 2005 field season.

Quadrangle Location

SCALE 1 : 24,000

1 0 1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET

TRUE NORTH

Topographic base from U.S. Geological Survey Seven Islands quadrangle, scale 1:24,000 using standard U.S. Geological Survey topographic map symbols.

The use of industry, firm, or local government names on this map is for location purposes only and does not impute responsibility for any present or potential effects on the natural resources.

This map shows the textures of surficial sediments in the quadrangle, independent of interpretations regarding their origin. For example, poorly sorted sediments deposited directly from glacial ice are shown here as "diamicton," although they may be genetically classified as "till."

The symbols listed below indicate materials observed in borrow pits and other surface exposures, as well as subsurface data from various sources. Where more than one textural class is present, materials are separated by commas and listed in decreasing order of abundance (e.g. s, st, cy). Individual materials may occur in distinct layers, or they may be mixed. Hyphens show the ranges of particle sizes present where their relative abundances are uncertain (e.g. st-c). Slash marks indicate superposition of materials; thicknesses are in feet (e.g. 10s/3cy). "Σ" indicates a significant stratigraphic sequence of interbedded materials. Some borrow pits and other localities may be designated by numbers that refer to descriptions in the quadrangle text. Not all symbols will necessarily be found on the map.

GRAVEL **g** Undifferentiated gravel, used as a general term. Can be subdivided by size as follows:

b	Boulder gravel	>256 mm (10")
c	Cobble gravel	64-256 mm (2.5-10")
p	Pebble gravel	2-64 mm (0.1-2.5")

MIXED UNITS **gs** Gravelly sand (this is a special case for sand with lesser amounts of intermixed gravel, i.e. pebbly sand, cobbly sand, or bouldery sand)

sg Sand and gravel (used only to describe slumped face or other site where relative abundances of sand vs. gravel are unknown).

SAND **s** Undifferentiated sand, used as a general term. Can be subdivided by size as follows:

vcs	Very coarse sand	(1-2 mm)
cs	Coarse sand	(0.5-1 mm)
ms	Medium sand	(0.25-0.5 mm)
fs	Fine sand	(0.125-0.25 mm)
vfs	Very fine sand	(0.0625-0.125 mm)

SILT **st** Silt (0.002-0.0625 mm)

CLAY **cy** Clay (<0.002 mm)

DIAMICTON **d** Undifferentiated diamicton (poorly-sorted sediment in which particle sizes may range from clay to boulders). Used as a general term or subdivided as follows:

dg Gravelly -matrix diamicton
ds Sandy -matrix diamicton
dt Silty -matrix diamicton
dy Clayey -matrix diamicton

Note: Diamictons of glacial origin may be classified as one of the following varieties of till (shown on the map in parentheses):

t Till, undifferentiated. Usually of late Wisconsinan age (deposited by the last glacial ice sheet).

ta Ablation till. Deposited during retreat of the late Wisconsinan ice sheet. Typically sandy, stony, and not very compact.

tl Lodgement till. Inferred to have been deposited at the base of the late Wisconsinan ice sheet. Usually very compact.

tf Flowtill. Deposited by slumping adjacent to glacial ice.

T Variably weathered till (usually a lodgment facies) of inferred pre-late Wisconsinan age.

ORGANIC MATERIALS **og** Organic-rich sediment (can be any organic material, including forest litter, wood, shells, etc.)

pt Peat (reserved for actual fibrous peat)

OTHER MATERIALS **af** Artificial fill (e.g. road fills, building sites, dumps)

bd Scattered boulders; interpreted as till where followed by (t)

rk Bedrock (observed in pit floor, boring, or natural exposure)

rs Rottenstone, disintegrated or weathered bedrock, saprolite,

u Unknown (material unidentified)

R Refusal (in test boring or well)

(f) Fossiliferous (used to indicate fossiliferous units within a sequence).

8s-b Materials data from shovel hole, hand-auger hole, natural exposure, or excavation (other than borrow pit).

56 Depth to bedrock from well (≥ is used to indicate minimum depth to bedrock), in feet below land surface

Bedrock well

Drilled overburden well

Dug well

Driven point

20fs,st Observation well with materials data

10gs/rk Test boring with materials data

s-b Borrow pit, recently active at time of mapping, with materials data.

s-p Borrow pit, evidently abandoned or in long disuse at time of mapping, with materials data.

Quarry

9 Location of site for which a data sheet is on file at the Maine Geological Survey.

56 Depth to bedrock from seismic line, in feet below land surface

Bedrock outcrop

OTHER SOURCES OF INFORMATION

1. Lowell, T. V., 1985, Late Wisconsin ice-flow reversal and deglaciation, northwestern Maine; *in* Borns, H. W., Jr., LaSalle, P., and Thompson, W. B. (editors), 1985, Late Pleistocene history of northeastern New England and adjacent Quebec: Geological Society of America, Special Paper 197, p. 71-83.
2. Johnston, R. A., 2006, Sand and gravel aquifers in the Seven Islands quadrangle, Maine: Maine Geological Survey, Open-File Map 06-42.
3. Thompson, W. B., 1979, Surficial geology handbook for coastal Maine: Maine Geological Survey, 68 p. (out of print)
4. Thompson, W. B., and Borns, H. W., Jr., 1985, Surficial geologic map of Maine: Maine Geological Survey, scale 1:500,000.