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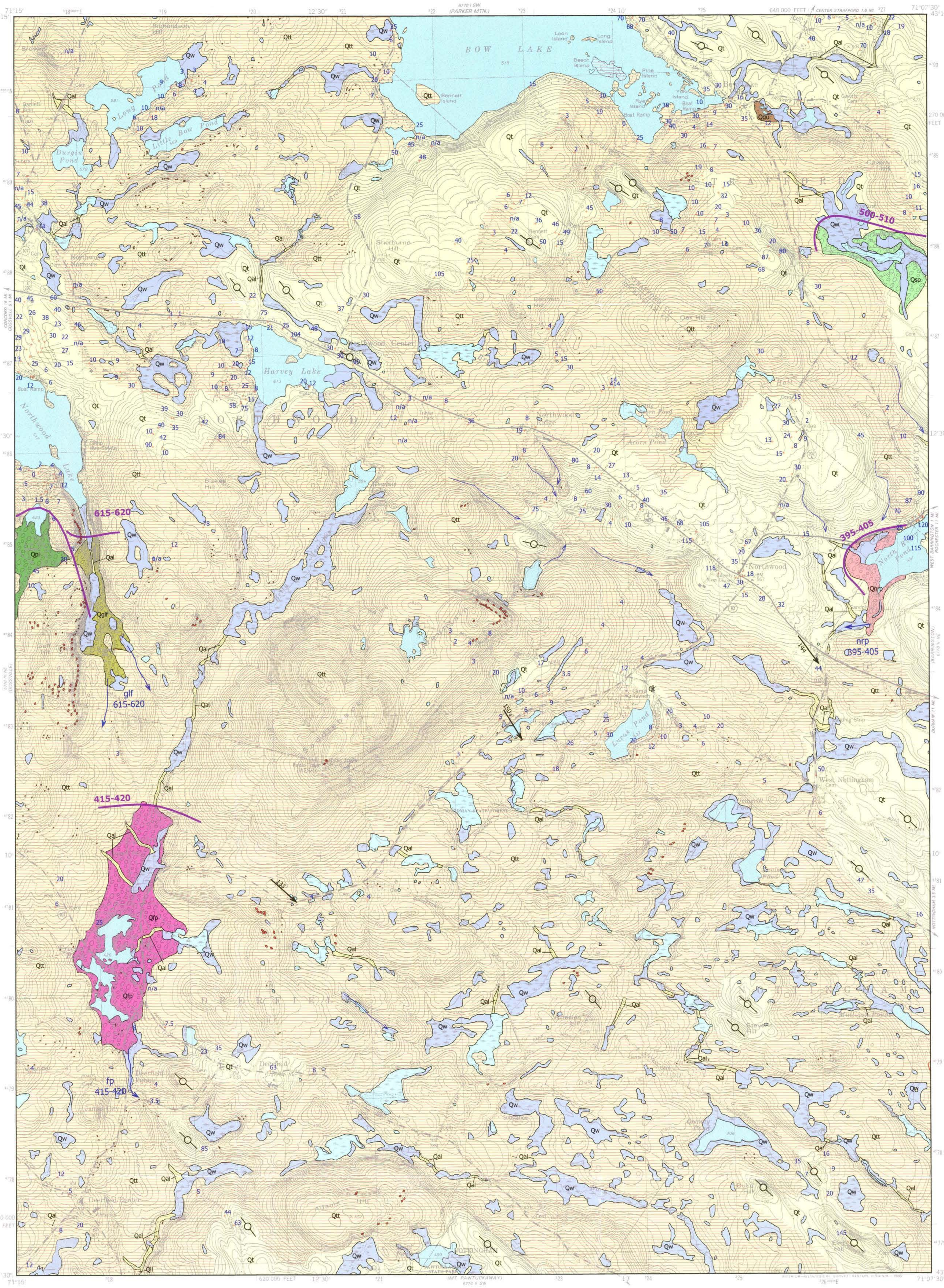
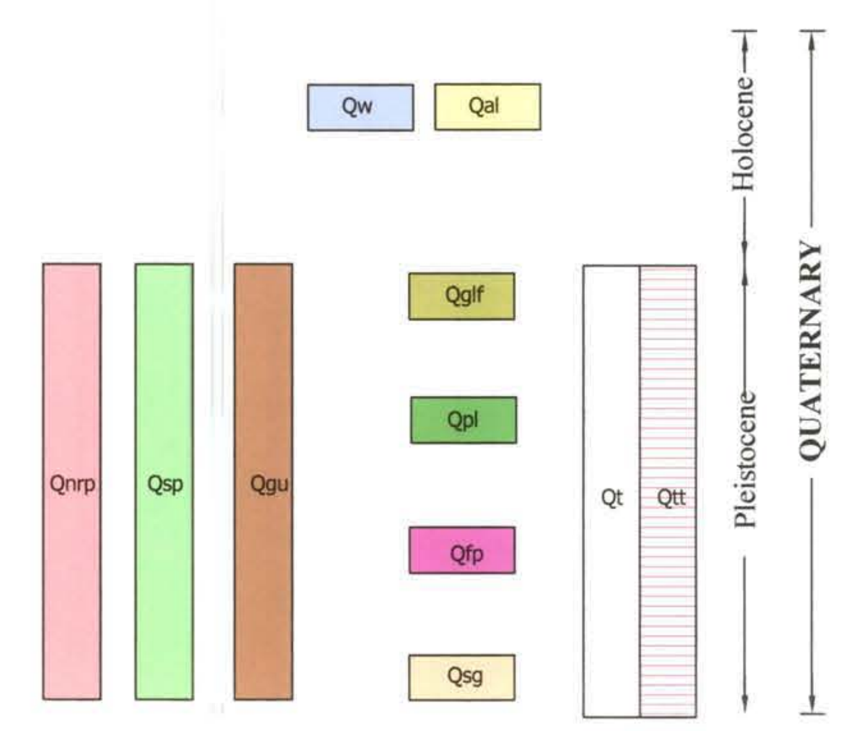
Prepared In Cooperation With
NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES - NEW HAMPSHIRE GEOLOGICAL SURVEY
And
UNITED STATES GEOLOGICAL SURVEY STATEMAP



CORRELATION OF MAP UNITS



DESCRIPTION OF MAP UNITS AND SYMBOLS

Qal ALLUVIUM (HOLOCENE) - Sand, silt, and minor gravel in flood plains along present rivers and streams. As much as 15 feet (5 m) thick.

Qw SWAMP DEPOSITS (HOLOCENE) - Muck, peat, silt, and sand. Generally 5 to 10 ft (1.5 to 3 m) thick. Defined based on field mapping, NWI GIS data, GRANIT GIS DOQ aerial photographs, and Landsat image.

Qgu UNDIFFERENTIATED GLACIOFLUVIAL DEPOSITS (PLEISTOCENE) Glaciofluvial deposits of sand to pebbles not correlated to a known spillway elevation or ice margin position.

Qsp SPRUCE POND GLACIOFLUVIAL DEPOSITS (PLEISTOCENE) Glaciofluvial deposits of sand to pebbles correlated to a spillway elevation of 500 to 510 feet (152 to 155 m) on Spruce Brook in the Barrington Quadrangle.

Qnrp NORTH RIVER POND GLACIOFLUVIAL DEPOSITS (PLEISTOCENE) Glaciofluvial deposits of sand to pebbles controlled by spillway at approximately 395 to 405 feet (120 to 124m). Deposits generally less than 20 feet (6 m) thick.

Qglf THE GULF GLACIOFLUVIAL-GLACIOLACUSTRINE DEPOSITS (PLEISTOCENE) Glaciofluvial deposits of sand, pebbles, and cobbles interlayered with sand. Glacial ice was present in the western portion of the Gulf during sediment deposition. Sediments grade to spillways at the southern end of the Gulf at elevations of approximately 615 to 620 feet (187 to 189 m) above sea level. Reworked Pleasant Lake sediments may also have been redeposited into the northwestern portion of the Gulf.

Qpl PLEASANT LAKE GLACIOFLUVIAL DEPOSITS (PLEISTOCENE) Glaciofluvial deposits of sand, pebbles, and cobbles interlayered with well sorted fine to coarse sand. The deposit is generally thin (<20 feet or 6m thick) and has been extensively excavated. Deposit extends westward into the Gossville Quadrangle where it was mapped (and named) by Goldsmith (1998). Deposition into the Gulf was prevented by the presence of glacial ice.

Qfp FREESES POND GLACIOFLUVIAL-GLACIOLUSCTRINE DEPOSITS (PLEISTOCENE) Glaciofluvial and glaciolacustrine deposits of sand to pebbles with minor cobbles. Much of the deposit is less than 20 feet (6 m) thick with bedrock or till exposed within the limits of the deposits or within sand pits. The deposits are graded in the south to a 415-420 foot (127 to 128 m) elevation spillway on the Lamprey River north of Deerfield Parade. Glaciofluvial/ice contact deposits at the northern end of the deposit begin at an elevation of approximately 525 feet (160 m).

Qll GLACIAL LAKE LAMPREY DEPOSITS (PLEISTOCENE) Sand and pebble deposit named after glacial lake deposits in the Mt. Pawtuckaway Quadrangle (Goldsmith, 1997). Lake stage controlled by a bedrock spillway at 200 to 210 feet (61 to 64 m).

Qt TILL (PLEISTOCENE) - Non-sorted to poorly sorted mixture of silt, sand, pebbles, cobbles, and boulders. Basal till is very compact and light- to dark-gray. Ablation till is moderately compact and light brown to orange brown. The ablation till typically has less than 20% silt.

Qtt THIN TILL (PLEISTOCENE) - Areas of abundant bedrock exposures and till deposits less than 10 ft (3m) thick. Extent of thin till mapped in part from aerial photographs and Landsat images. Locations of individual outcrop exposures are available from NHDES.

BEDROCK EXPOSURES

Geologic contact

520-540 Retreatal ice position of stagnant ice front - Approximate position of ice during deposition of designated unit and elevation of spillway (in feet above sea level).

fp 415-420 Melt-water spillway - Controlled deposition of glacial-stream and lake deposits. Letter symbol indicates map unit controlled by spillway. Number indicates elevation of spillway (in feet).

Melt-water channel - Cut chiefly in till.

149 Direction of glacial grooves and striations - Observation is at arrow tip. Value is degrees rotation from true north.

TEXTURE OF STRATIFIED DRIFT DEPOSITS

Pebbles to boulders with subordinate sand.

60 / 540 Well or test well reported as ending in bedrock - Upper number is depth to bedrock in feet.

Streamlined Hill or Drumlin Form

Other Sources of Information

Goldsmith, Richard, 1990, Surficial geologic map of the Barrington Quadrangle, Rockingham and Strafford Counties, New Hampshire: N.H. Department of Environmental Services, Open File Map, OFR-90-2, scale 1:24,000.

Goldsmith, Richard, 1997, Surficial geologic map of the Mt. Pawtuckaway Quadrangle, Rockingham County, New Hampshire: N.H. Department of Environmental Services, Open File Map, OFR-97-?, scale 1:24,000.

Goldsmith, Richard, 1998, Surficial geologic map of the Gossville Quadrangle, Merrimack and Rockingham Counties, New Hampshire: N.H. Department of Environmental Services, Open File Map, OFR-98-?, scale 1:24,000.

Koteff, Karl, 2004, Surficial geologic map of the Paker Mtn. Quadrangle, Belknap, Merrimack, Rockingham, and Strafford Counties, New Hampshire: N.H. Department of Environmental Services, Open File Map, OFR-04-?, scale 1:24,000.

SOURCES OF INFORMATION

Map prepared in cooperation with the USGS STATEMAP Cooperative Mapping Program - Grant #02HQAG0057. Surficial Mapping completed by John A. Brooks (consulting geologist at Emery & Garrett Groundwater, Inc.) during the 1990 and 2004 field seasons. Unit designations and contacts matched to adjacent quadrangles, when available. Swamp deposits mapped partially using data from New Hampshire GRANIT database layers for the National Wetland Inventory (NWI) and Landsat Images. Well information obtained from the NHGS Water Well Inventory.

Scale = 1:24,000

MILES / FEET / KILOMETERS / METERS

CONTOUR INTERVAL 20 FEET

Topographic base from U.S. Geological Survey Northwood, New Hampshire, Quadrangle, scale 1:24,000.

True North

Quadrangle Location

SURFICIAL GEOLOGIC MAP OF THE NORTHWOOD QUADRANGLE, ROCKINGHAM AND STRAFFORD COUNTIES, NEW HAMPSHIRE

By
John A. Brooks
2004