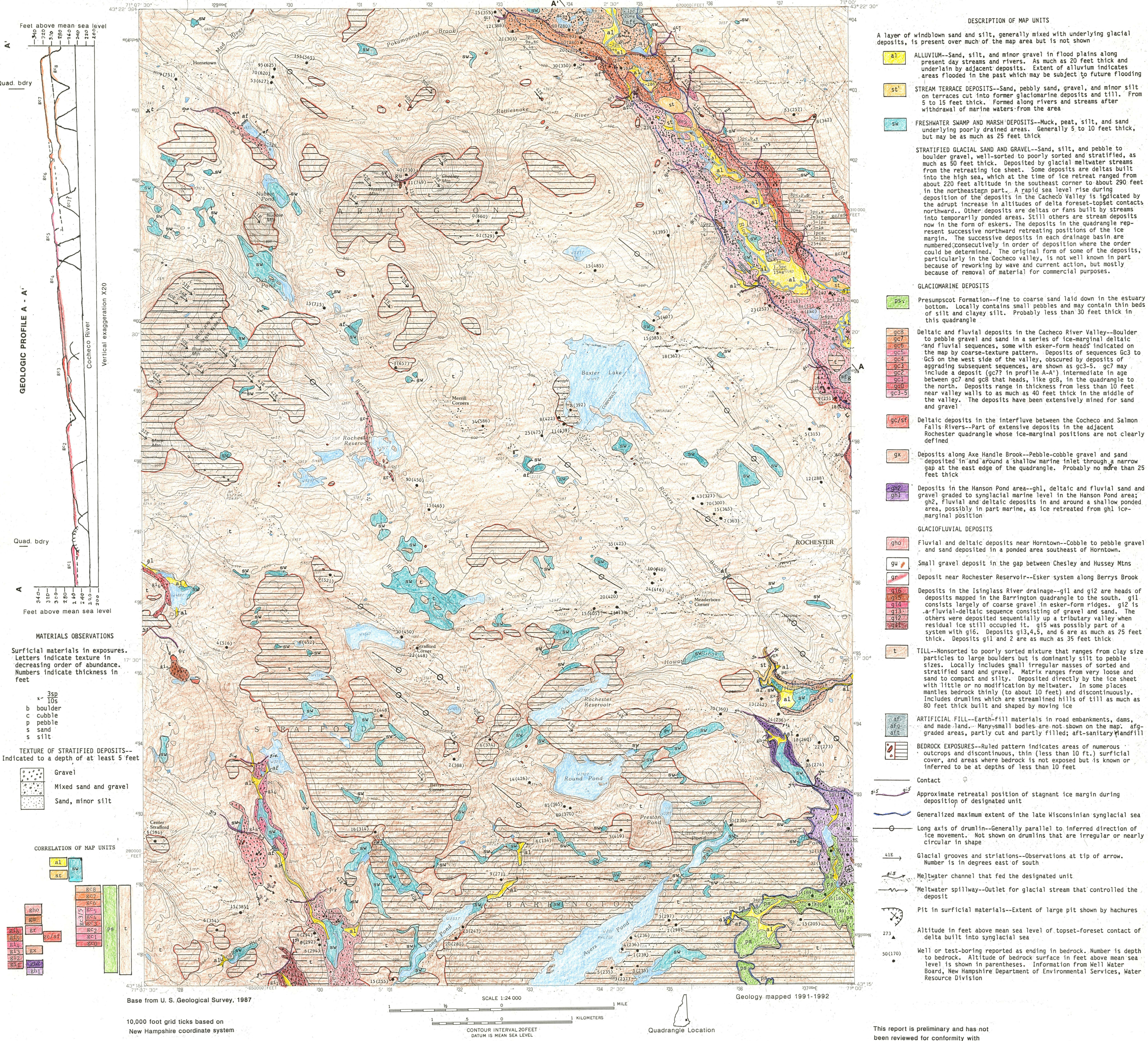
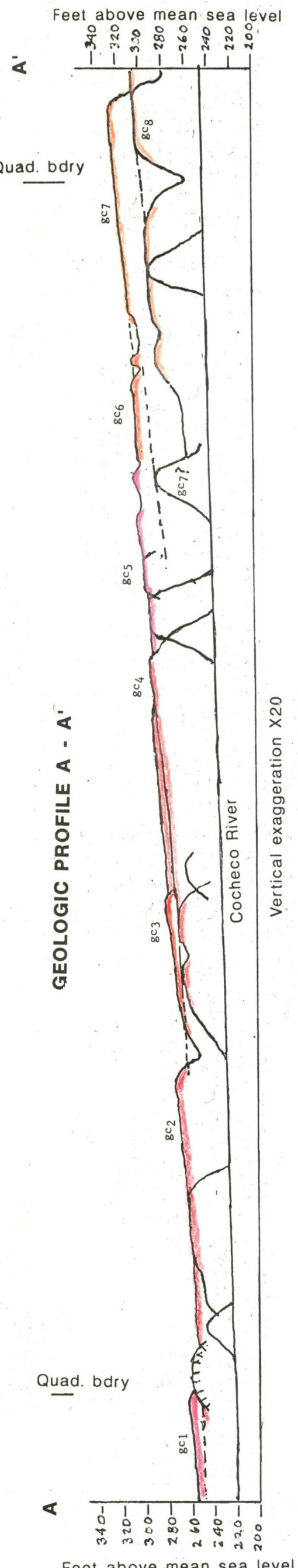


EUGENE L. BOUDETTE, STATE GEOLOGIST



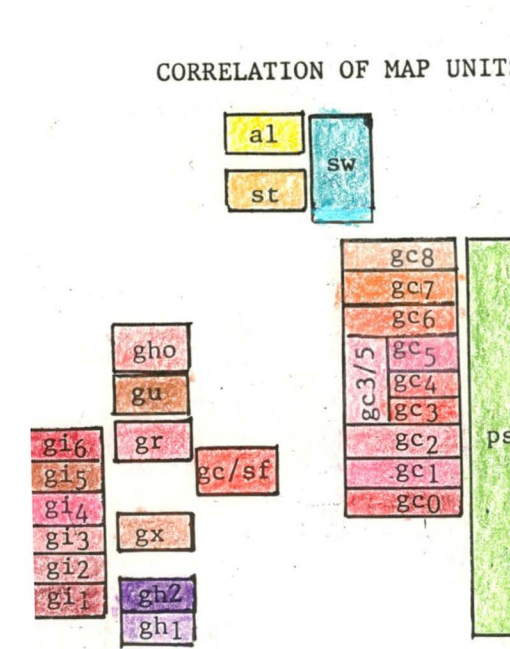
DESCRIPTION OF MAP UNITS

- A layer of windblown sand and silt, generally mixed with underlying glacial deposits, is present over much of the map area but is not shown
- a1** ALLUVIUM--Sand, silt, and minor gravel in flood plains along present day streams and rivers. As much as 20 feet thick and underlain by adjacent deposits. Extent of alluvium indicates areas flooded in the past which may be subject to future flooding
 - st** STREAM TERRACE DEPOSITS--Sand, pebbly sand, gravel, and minor silt on terraces cut into former glaciomarine deposits and till. From 5 to 15 feet thick. Formed along rivers and streams after withdrawal of marine waters from the area
 - sw** FRESHWATER SWAMP AND MARSH DEPOSITS--Muck, peat, silt, and sand underlying poorly drained areas. Generally 5 to 10 feet thick, but may be as much as 25 feet thick
- STRATIFIED GLACIAL SAND AND GRAVEL--Sand, silt, and pebble to boulder gravel, well-sorted to poorly sorted and stratified, as much as 50 feet thick. Deposited by glacial meltwater streams from the retreating ice sheet. Some deposits are deltas built into the high sea, which at the time of ice retreat ranged from about 220 feet altitude in the southeast corner to about 290 feet in the northeastern part. A rapid sea level rise during deposition of the deposits in the Cochecho Valley is indicated by the abrupt increase in altitudes of delta foreset-topset contacts northward. Other deposits are deltas or fans built by streams into temporarily ponded areas. Still others are stream deposits now in the form of eskers. The deposits in the quadrangle represent successive northward retreating positions of the ice margin. The successive deposits in each drainage basin are numbered consecutively in order of deposition where the order could be determined. The original form of some of the deposits, particularly in the Cochecho valley, is not well known in part because of reworking by wave and current action, but mostly because of removal of material for commercial purposes.
- GLACIOMARINE DEPOSITS**
- ps** Presumpscot Formation--fine to coarse sand laid down in the estuary bottom. Locally contains small pebbles and may contain thin beds of silt and clayey silt. Probably less than 30 feet thick in this quadrangle
 - gc8** Deltatic and fluvial deposits in the Cochecho River Valley--Boulder to pebble gravel and sand in a series of ice-marginal deltaic and fluvial sequences, some with esker-form heads indicated on the map by coarse-texture pattern. Deposits of sequences gc3 to gc5 on the west side of the valley, obscured by deposits of aggrading subsequent sequences, are shown as gc3-5. gc7 may include a deposit (gc77 in profile A-A') intermediate in age between gc7 and gc8 that heads, like gc8, in the quadrangle to the north. Deposits range in thickness from less than 10 feet near valley walls to as much as 40 feet thick in the middle of the valley. The deposits have been extensively mined for sand and gravel
 - gc/sf** Deltatic deposits in the interfluvium between the Cochecho and Salmon Falls Rivers--Part of extensive deposits in the adjacent Rochester quadrangle whose ice-marginal positions are not clearly defined
 - gx** Deposits along Axe Handle Brook--Pebble-cobble gravel and sand deposited in and around a shallow marine inlet through a narrow gap at the east edge of the quadrangle. Probably no more than 25 feet thick
 - gh2** Deposits in the Hanson Pond area--gh1, deltaic and fluvial sand and gravel graded to synglacial marine level in the Hanson Pond area; gh2, fluvial and deltaic deposits in and around a shallow ponded area, possibly in part marine, as ice retreated from gh1 ice-marginal position
- GLACIOFLUVIAL DEPOSITS**
- gho** Fluvial and deltaic deposits near Horntown--Cobble to pebble gravel and sand deposited in a ponded area southeast of Horntown.
 - gu** Small gravel deposit in the gap between Chesley and Hussey Mtns
 - gr** Deposit near Rochester Reservoir--Esker system along Berry Brook
 - g16** Deposits in the Isinglass River drainage--g11 and g12 are heads of deposits mapped in the Barrington quadrangle to the south. g12 consists largely of coarse gravel in esker-form ridges. g12 is a fluvial-deltaic sequence consisting of gravel and sand. The others were deposited sequentially up a tributary valley when residual ice still occupied it. g15 was possibly part of a system with g16. Deposits g13,4,5, and 6 are as much as 25 feet thick. Deposits g11 and 2 are as much as 35 feet thick
 - t** TILL--Nonsorted to poorly sorted mixture that ranges from clay size particles to large boulders but is dominantly silt to pebble sizes. Locally includes small irregular masses of sorted and stratified sand and gravel. Matrix ranges from very loose and sand to compact and silty. Deposited directly by the ice sheet with little or no modification by meltwater. In some places mantles bedrock thinly (to about 10 feet) and discontinuously. Includes drumlins which are streamlined hills of till as much as 80 feet thick built and shaped by moving ice
 - af** ARTIFICIAL FILL--Earth-fill materials in road embankments, dams, and made land. Many small bodies are not shown on the map. afg--graded areas, partly cut and partly filled; aft--sanitary landfill
 - bedrock** BEDROCK EXPOSURES--Ruled pattern indicates areas of numerous outcrops and discontinuous, thin (less than 10 ft.) surficial cover, and areas where bedrock is not exposed but is known or inferred to be at depths of less than 10 feet
- CONTACTS**
- g15** Approximate retreatal position of stagnant ice margin during deposition of designated unit
 - Generalized maximum extent of the late Wisconsinan synglacial sea
 - Long axis of drumlin--Generally parallel to inferred direction of ice movement. Not shown on drumlins that are irregular or nearly circular in shape
 - 41E Glacial grooves and striations--Observations at tip of arrow. Number is in degrees east of south
 - Meltwater channel that fed the designated unit
 - Meltwater spillway--Outlet for glacial stream that controlled the deposit
 - Pit in surficial materials--Extent of large pit shown by hachures
 - 273 Altitude in feet above mean sea level of topset-foreset contact of delta built into synglacial sea
 - 50(170) Well or test-boring reported as ending in bedrock. Number is depth to bedrock. Altitude of bedrock surface in feet above mean sea level is shown in parentheses. Information from Well Water Board, New Hampshire Department of Environmental Services, Water Resource Division



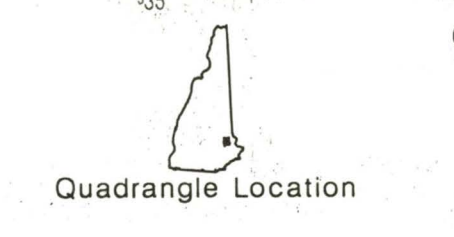
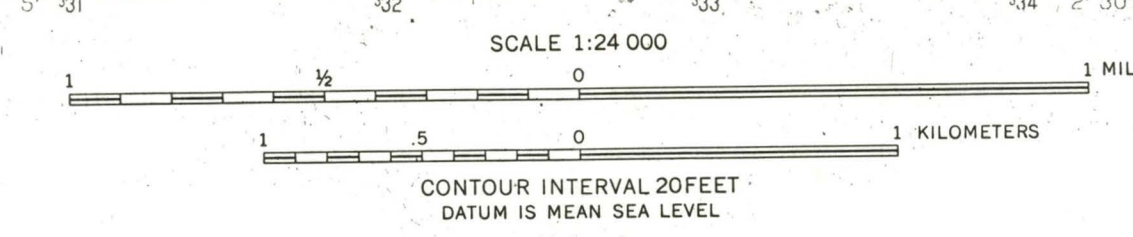
- MATERIALS OBSERVATIONS**
- Surficial materials in exposures. Letters indicate texture in decreasing order of abundance. Numbers indicate thickness in feet
- x 3sp 105
 - b boulder
 - c cobble
 - p pebble
 - s sand
 - s silt

- TEXTURE OF STRATIFIED DEPOSITS--**
Indicated to a depth of at least 5 feet
- Gravel
 - Mixed sand and gravel
 - Sand, minor silt



Base from U. S. Geological Survey, 1987

10,000 foot grid ticks based on New Hampshire coordinate system



This report is preliminary and has not been reviewed for conformity with editorial of stratigraphic standards

SURFICIAL GEOLOGIC MAP OF THE BAXTER LAKE QUADRANGLE, STRAFFORD COUNTY, NEW HAMPSHIRE

BY
RICHARD GOLDSMITH

1993