

EXPLANATION

Dc

Chiputneticook Quartz Monzonite
Gray biotitic quartz monzonite

This rock, named for and best exposed on islands and shores of the Chiputneticook chain of lakes on both sides of the International Boundary between Maine and New Brunswick, crops out most commonly in the Danforth, Forest, and Vanceboro quadrangles, Maine. The type locality is at Greenland Cove in East Grand Lake in the Danforth quadrangle. In the Forest quadrangle, the best outcrops indicated are east of Walls Hill. The rock is light gray, coarse-grained, porphyritic, and has an average grain size larger than 1/4 inch, and where porphyritic, the euhedral potassium feldspar phenocrysts range from 1/4 by 1 inch to 1/2 by 2 inches, in places showing resorptive texture. The porphyritic texture commonly extends to within a few feet of the border. Outcrops of a pegmatite were reported (Forsyth, 1955) on the southwest slope of Greenland Mountain. The quartz monzonite is an easterly-trending elliptical pluton exposed for approximately 16 miles in a northerly direction and 40 miles along the easterly axis. The composition ranges from quartz monzonitic to granitic. The geologic age as determined by the potassium-argon method is about 400 m.y. in the Danforth quadrangle (Faul, Stern, Thomas, and Elmore, 1963) and 380 m.y. in the Fosterville, N.E. area (Tupper and Hart, 1961). The mass intrudes metasedimentary rocks of known Silurian age, and is considered to be of Devonian age. The rock is indicated as Dg on the geologic map of the Danforth quadrangle (Larrabee and Spencer, 1963).

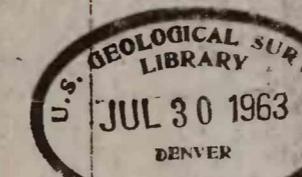
Sd

Daggett Ridge Formation
Quartzite, metaconglomerate, metasiltstone,
and slate

The Daggett Ridge Formation is named for the ridge on which the rock is best exposed in the Danforth quadrangle, Maine; its type locality is along and south of the Maine Central Railroad. Chloritic argillaceous quartzite, quartzite metaconglomerate with fractured pebbles and cobbles as large as 8 by 12 inches, gray and gray-green slate and metasiltstone, and thin lenses of magnetite-bearing interbedded black slate and metasiltstone comprise the formation. The magnetite-bearing slate and metasiltstone unit crops out in the eastern part of the Houghtaling quadrangle, Maine, and is believed present in other parts of the Danforth and nearby quadrangles on aeromagnetic evidence. Thin green cherty lenses of rhyolitic metatuff occur along Basque Stream near South Bancroft in the Danforth quadrangle. The best outcrops in the Forest quadrangle are northeast of Camp Lake, and there at 18 km. northeast of Pines Hill, and Woods Mountain. The formation is exposed over a width of about 5,000 feet in the Danforth quadrangle, where quartzite and metaconglomerate form most of the thickness, which is estimated to be several hundreds to one thousand feet. Inadequate exposures and isoclinal folding prevent an accurate determination of thickness of the formation or any of its members. The formation is assigned a Silurian age based upon meager paleontological evidence; a single dorsal valve of an orthid brachiopod with branching costae and an apparent faint concentric ornamentation was found in the metaconglomerate unit (Neuman, R. E., and Cloud, P. E., written com-

Ocu

Cambrion or Ordovician, undifferentiated
Chloritic quartzite, and green and red slates



Outcrop or group of outcrops

Line where measured, low values
where approximately located, short dashed
where inferred

Contact

Located by aeromagnetic survey

Approximate limit of hornfels zone
Hornfels area has been contact metamorphosed

Fault

Short dashed where inferred

Direction and place of minor fold

Strike and dip of beds

Dot indicates top of bed known from sedimentary
textures or structures

Strike of vertical beds

Dot indicates top of bed known from sedimentary
textures or structures

Strike and dip of overstepped beds

Dot indicates top of bed known from sedimentary
textures or structures

Strike and dip of foliation

Strike and dip of foliation and beds where parallel.
Dot indicates top of bed known from sedimentary
textures or structures

Strike and dip of slaty cleavage

Strike and dip of slaty cleavage and beds where parallel.
Dot indicates top of bed known from sedimentary
textures or structures

X

Gravel pit

Possible truck roads
Located approximately from aerial photographs

Sk

Kellyland Formation
Gray metasiltstone, metasandstone,
and slate

The Kellyland Formation of Silurian(?) age, named for the village closest to its largest and most representative outcrop at Grand Falls of the St. Croix River, in the Kellyland quadrangle, Maine, is interbedded sericitic pale gray metasiltstone, arenaceous metasiltstone, argillaceous metasandstone and quartzite, and thin beds of darker gray slate. Most beds contain iron carbonates; the metasiltstone and coarser beds contain more carbonate than does the slate. Some of the coarser beds are tuffaceous. Slates commonly occur in beds from 1 to 8 inches thick, and locally from 1/8 inch to 3 or 4 feet thick. The metasiltstone and metasandstone beds commonly range from 4 inches to 4 feet in thickness, ranging locally to 20 feet. Rarely, beds of metasiltstone contain thin laminated layers of light and dark metasiltstone. Thin beds of quartz granule metasandstone are associated with metasandstone and quartzite beds in places. The metasiltstone beds in many places show good crystallization in texture and cross-bedding. Outcrops are sparse in the Forest quadrangle. The average content of slate in the formation is about 20 percent, and the thickness of the formation has not been determined because of the lack of continuous outcrops and isoclinal folding. However, it appears to exceed 1,000 feet. The Kellyland Formation is the stratigraphic equivalent of at least two of the structural units of the Chiputneticook in the same quadrangle (Larrabee, 1963), and is believed to be the stratigraphic equivalent of an unit not in the Danforth and adjacent quadrangles in Maine (Larrabee and Spencer, 1963).

DEVONIAN

SILURIAN

SILURIAN (7)

References

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- Larrabee, D. M., and Spencer, C. W., 1963, Bedrock geology of the Danforth quadrangle, Maine: U. S. Geol. Survey G-221, map scale 1:62,500 (in press).
- Tupper, W. M., and Hart, S. M., 1961, The age of granite complexes in the Central Highlands and western part of the Southern Highlands of New Brunswick: Charlton University Dept. of Geology, Geological Paper 1-1, 9 p. with map, scale 1 in. = 36 mi.