



Maine Geological Survey

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Sample explanation of information shown on the Bedrock Geology Map of the Weeks Mills 7.5' quadrangle:

EXPLANATION OF UNITS

INTRUSIVE ROCKS

Devonian

Dg

Threemile Pond pluton. Medium-grained to coarse-grained, light gray to light tan weathered, light gray, biotite-bearing granodiorite to granite. Lithologically heterogeneous with biotite content varying from less than 10% to greater than 25%. Locally contains enclaves of granodiorite to diorite or xenoliths of metasedimentary rock. Cut by quartzofeldspathic dikes in some places. High precision U-Pb zircon age of 381 ± 1 Ma reported by Tucker and others (2001).

Devonian(?)-Ordovician(?)

DOp

Pegmatite. White, coarse-grained feldspar-quartz-muscovite pegmatite. This rock type intrudes all others in the field area. It is generally parallel or slightly discordant to foliation in the Nehumkeag Pond Formation, but highly discordant to the layering in the Hutchins Corner Formation. The thick pegmatite belt associated with the Hackmatack Pond fault contains abundant, small, foliation-parallel rafts of metasedimentary rock, many of which are not shown on the map. Several ages of pegmatite are probably present.

STRATIFIED ROCKS

Silurian-Ordovician(?)

SOhc

Hutchins Corner Formation. Lithologically heterogeneous package of metasedimentary rocks including: gray to tan weathered, dark gray, massive to well-laminated, fine-grained biotite-quartz-feldspar granofels, in some places containing very thin, slightly coarser-grained quartz stringers; gray weathered, dark purplish-gray, fine-grained biotite quartzite; light gray to tan weathered, light gray, schistose granofels with biotite porphyroblasts; light gray to tan weathered, light gray, fine- to medium-grained, feldspathic calc-silicate granofels with chlorite and/or actinolite, commonly calcite-bearing. Rocks in this unit generally exhibit thin to medium scale bedding.

SOhcr

Rusty weathering schist. Rusty weathering, highly deformed and crenulated muscovite-bearing schist. It ranges from muscovite-rich to quartz-rich; some contains graphite. Several relatively narrow bands of rusty weathering schist are mapped within the Hutchins Corner Formation. It is not known whether these are separate and distinct units or whether they represent a single unit repeated by folding or faulting. The dominant foliation in the rusty weathering schist is commonly slightly discordant to that in the enveloping rocks.

Ordovician(?)

Obr

Beaver Ridge Formation. Deeply rusty weathering, dark gray to black, sulfidic and often graphitic, quartz-muscovite schist to muscovite-quartz-feldspar granofels. It is locally sillimanite bearing.

Onp

Nehumkeag Pond Formation. A lithologically heterogeneous unit comprised of metamorphic rocks with both igneous and sedimentary protoliths. The unit is dominated by gray, well foliated, medium-grained, biotite-plagioclase-quartz \pm garnet gneiss. Other common rock types include biotite-hornblende-plagioclase gneiss in discontinuous lenses; a salt and pepper, biotite-feldspar-garnet-quartz gneiss with garnets less than 3 mm across; and thin, discontinuous layers of sillimanite-bearing metapelite. Asymmetric "Z" folds are widely present.

Onpg

Aluminous gneiss. Light gray, medium- to coarse-grained, biotite-plagioclase-staurolite gneiss with possible garnet and/or kyanite. Also a medium-grained, garnet-biotite schist with possible kyanite. Also biotite-hornblende \pm garnet gneiss. All above rock types found in close proximity with pegmatite along the Hackmatack Pond fault. Along strike to the northeast, Pankiowskyj (1996) mapped similar rock as the Sandy Pond Member of the Carrs Corner Formation.

Onpa

Amphibolite. Dark gray to black, medium-grained, well-foliated, epidote-plagioclase-amphibolite, locally with garnet. This unit is found as relatively thin, discontinuous, foliation-parallel layers.

Onpr

Rusty schist. Rusty weathering, quartz-muscovite-graphite schist, typically crenulated.

-- Relationship uncertain --

Osc

Scarboro Formation. Andalusite schist, black to gray to moderately rusty weathering, medium-grained to coarse-grained, graphitic, garnet-staurolite-andalusite schist with discontinuous, intensely folded quartz veins containing coarse, pink andalusite. The schist is interlayered with gray, medium-grained, micaceous quartz-feldspar granofels and lesser amounts of thinly bedded, coarse-grained, diopside calc-silicate rock.

Oscg

Gray schist. A gray, medium-grained, highly crenulated schist. A distinctive feature is the presence of thin, discontinuous fold lenses of salmon colored garnet cotecule.

Oscv

Metavolcanic unit. Greenish gray, medium-grained, garnet-andalusite schist interlayered with boudinaged and folded lenses of medium-grained to coarse-grained calc-silicate granofels. Garnet and andalusite porphyroblasts in this unit are generally idiomorphic and less than 5 mm in size.

Oce

Cape Elizabeth Formation. Light to dark gray, medium-grained to coarse-grained muscovite-biotite-quartz-feldspar granofels or gneiss interlayered with coarse-grained feldspathic biotite-muscovite schist. The presence of coarse spangly muscovite is one of the characteristic features of the Cape Elizabeth Formation. Quartz veins of variable thickness down to a few millimeters are common. Calc-silicate layers are also present locally.

Ocer

Rusty-weathering schist. One thin but mappable unit of an oxidized, dark gray, medium-grained, quartz-muscovite schist and granofels.

HIGHLY DEFORMED ROCKS

scm

Sandhill Corner mylonite. A mappable zone of variably mylonitic rocks. There is a strain gradient, with intensity increasing from west to east across the unit. The western portion of the Sandhill Corner mylonite is a protomylonite with feldspar and muscovite porphyroclasts. The eastern part of the unit is a light gray, highly-jointed, mylonite to ultramylonite with occasional coarsely crystalline muscovite lineations. Cape Elizabeth Formation is the likely protolith.

EXPLANATION OF SYMBOLS

- Bedrock outcrop.
- Strike and dip of main foliation. (Inclined, Vertical)
- Trend and plunge of fold hinge. (Dextral, Rotation sense unspecified)
- Trend and plunge of lineation. (Horizontal, Plunging)
- Strike and dip of joint. (Inclined, Vertical)
- Lithologic contact. (Known, Approximate, Inferred)
- - - - - Fault. (Known, Approximate, Inferred)
- Location of photograph shown in sidebar

GEOLOGIC TIME SCALE

Geologic Age		Absolute Age*
Cenozoic Era		0-65
Mesozoic Era	Cretaceous Period	65-145
	Jurassic Period	145-200
	Triassic Period	200-253
Paleozoic Era	Permian Period	253-300
	Carboniferous Period	300-360
	Devonian Period	360-418
	Silurian Period	418-443
	Ordovician Period	443-489
	Cambrian Period	489-544

Precambrian time Older than 544

* In millions of years before present. (Okulitch, 2002)

REFERENCES

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