OFR 63-83

EXPLANATION

POST-DEVONIAN

db

Diabase dike

A steeply-dipping diabase dike, fine to medium grained, containing from 3 to 5 percent magnetite, is about 200 feet wide at its only known outcrop, in Dark Cove in the Danforth quadrangle. This occurrence, normally under water but visible, crops out on the east side of the island in Dark Cove and on the west shore of the nearby peninsula to the east when the lake is abnormally low (Larrabee and Spencer, 1963). The dike cuts quartz monzonite of Devonian age, and has been traced by aeromagnetic methods for about 100 miles, chiefly east-northeast (Allingham, 1960; Griscom, Andrew, written communication, April 12, 1961). It was traced in the Trout Brook area of the Danforth quadrangle by ground magnetometer in July, 1957 by R. W. Bromery. It is similar to rock in an outcrop about 4 miles east of South Dover, and in a quarry near Route 23 about one mile north of Lake Wassookeag, near Dexter (Espenshade, G. H., oral communication, April 1961).

SILURIAN

Sb

Gray slate and metasiltstone

Gray slate and metasiltstone, argillaceous quartzite, and thin-bedded metasandstone crop out in a few places in the Danforth quadrangle, chiefly along Baskahegan Stream 0.4 miles southeast of South Bancroft, and along the Maine Central Railroad 1.25 miles east of the western edge of that quadrangle. It has been projected on strike in the syncline extending into the Wytopitlock quadrangle on structural and aeromagnetic evidence.

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 (Larrabee and Spencer, 1963); its type locality is along and south of the Maine Central Railroad, north of the ridge. 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 last unit crops out 2 miles northeast of Bancroft, in the eastern part of the Wytopitlock quadrangle, where it was traced by ground magnetometer (Bromery, R. W., written communication, July 26, 1957). Following an aeromagnetic survey by the U. S. Geological Survey in 1956; a similar aeromagnetic survey was made in part of the Wytopitlock quadrangle in August 1958. It is believed present in parts of the Danforth and nearby quadrangles on aeromagnetic evidence (Griscom, Andrew, written communication, April 12, 1961). Thin green cherty lenses of rhyolitic metatuff occur along Baskahegan Stream near South Bancroft in the Danforth quadrangle. The metaconglomerate crops out along Mill Priveledge Brook southeast of Wytopitlock village, and on Ellen Wood Ridge in the southeastern part of the Wytopitlock quadrangle. The formation is exposed over a width of about 8,000 feet in the Danforth quadrangle, where quartzite and metaconglomerate form most of the thickness, which is estimated to be one thousand or more 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 orthoid brachiopod with branching costae and an apparent faint concentric ornamentation was found in the metaconglomerate unit (Neuman, R. B., and Cloud, P. E., written communication, [illegible] 1957). The formation is [illegible] in the Danforth quadrangle (Larrabee and Spencer, 1963).

SILURIAN(?)

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, where it was mapped by the author and S. S. Svenson, 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. Slate commonly occurs in beds from 1 to 8 inches thick and locally from 1/8 inch to 3 or 4 feet thick. In the Wytopitlock quadrangle, the dark gray slate in places has poorly developed cleavage or is phyllitic, rarely almost schistose. Iron carbonate-bearing metasiltstone and slate are well-exposed along the main road in the northwestern part of the quadrangle, south of Reed. Generally, this quadrangle is so covered with glacial overburden and swamp that outcrops are scarce. The metasiltstone and metasandstone beds commonly range from 4 inches to 4 feet in thickness, ranging locally to 20 feet. In places, beds of metasiltstone contain thin laminae of light and dark metasandstone. Thin beds of quartz granule metaconglomerate are associated with metasandstone and quartzite in places. The metasiltstone beds in many places have good gradation in texture, and cross-bedding. The average content of slate in the formation is about 20 percent, and the thickness of the formation has not been ascertained because of the lack of good key beds, continuous outcrops, and much isoclinal folding; however, it appears to exceed 1,000 feet. The Kellyland Formation is the stratigraphic equivalent of at least part of the Pale Argillite Division of the Charlotte Group in New Brunswick (Alcock, 1946), and is believed to be the stratigraphic equivalent of map unit [illegible] in the Danforth and [illegible] quadrangles in Maine. [illegible]

Outcrop or group of outcrops

Contact
Long dashed where approximately located,
short dashed where inferred

Contact
Located by aeromagnetic survey

Fault
Long dashed where approximately located;
short dashed where inferred

Shear zone

Syncline
Showing trace of axial plane and
bearing and plunge of axis. Dashed
where approximately located

[illegible]

Minor fold

Strike and dip of beds
Dot indicates top of beds known from
sedimentary textures or structures

Strike of vertical beds
Dot indicates top of beds known from
sedimentary textures or structures

Strike and dip of overturned beds
Dot indicates top of beds known from
sedimentary textures or structures

Strike and dip of foliation

Strike of vertical 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 of vertical slaty cleavage

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

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

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

Diabase dike
Located by aeromagnetic survey
Short dashed where inferred between
[illegible]

Glacial striae and grooves
[illegible]

References

Alcock, F. J., 1946, Preliminary map, Honeydale, New Brunswick: Canada Geol. Survey Paper 46-3, geologic map with descriptive notes, scale 1 in. = 1 mi.

Allingham, J. W., 1960, Use of aeromagnetic data to determine geologic structure in northern Maine: U. S. Geol. Survey [illegible]

Larrabee, D. M., and Spencer, C. W., 1963, [illegible] Danforth quadrangle, Maine: U. S. Geol. Survey GQ-211, map scale 1:62,500 (in press)