PROGRESS BEDROCK GEOLOGIC MAP, EASTERN PART OF THE SHUTESBURY QUADRANGLE, CENTRAL MASSACHUSETTS

EXPLANATION

TRIASSIC (?) — Trd

Diabase Dike

Trd: Fine-grained, buff-weathering plagioclase-augite-magnetite diabase.

LOWER DEVONIAN — Dea, Dl

Erving Formation

Dea: Coarse- to fine-grained, well bedded hornblende-epidote amphibolite.

Littleton Formation

Dl: Medium- to coarse-grained, gray-weathering mica-garnet schist commonly with kyanite and staurolite.

MIDDLE ORDOVICIAN — Op, Opa, Opq

Partridge Formation

Op: Rusty-weathering sulfidic mica-garnet schist and feldspathic schist with minor amphibolite.

Opa: Slabby, well layered hornblende amphibolite, commonly with garnet.

Opq: Thin-bedded muscovite quartzite.

ORDOVICIAN, CAMBRIAN, OR PRECAMBRIAN — gg, gy, gq

Fourmile Gneiss (?)

gg: Massive to moderately layered, well foliated, medium- to coarse-grained biotite-feldspar gneiss with minor interbedded muscovite-biotite-feldspar gneiss and hornblende amphibolite. Generally gray-weathering but locally indistinguishable from the yellow-weathering unit below, with which it is gradational.

gy: Yellow-weathering, massive to well layered, well foliated, medium- to coarse-grained muscovite-biotite-feldspar gneiss commonly with garnet. Especially thinly layered at base. Local beds of quartzite, slabby hornblende and anthophyllite amphibolite, and massive gray-weathering gneiss. Contact with gray gneiss unit above is gradational and based in part on muscovite content.

gq: Thinly layered muscovite quartzite, where separately mapped.

EARLY CAMBRIAN OR LATE PRECAMBRIAN — mq, msa, mc, mu; rr; pq; dg, pg, dg

Mount Mineral Formation

mq: Coarse- to fine-grained, well bedded, gray- to buff-weathering muscovite-garnet quartzite and gray mica-garnet schist with rare kyanite.

msa: Coarse- to fine-grained, rusty-weathering mica-garnet-feldspar schist with rare kyanite or sillimanite, and with interbedded amphibolite, biotite-feldspar gneiss, and garnet quartzite. Pod at least 10 feet thick of foliated hornblendite on north bank of Rocky Run.

mc: Green- to gray-weathering, coarse- to medium-grained, moderately bedded actinolite or muscovite quartzite with interbedded actinolite calc-silicate granulite.

mu: Schist, quartzite, and amphibolite, undifferentiated.

Rocky Run Gneiss

rr: Massive to moderately bedded, well foliated, coarse- to medium-grained, gray-weathering biotite-feldspar gneiss, locally with conspicuous megacrysts of feldspar or hornblende.

Pelham Quartzite

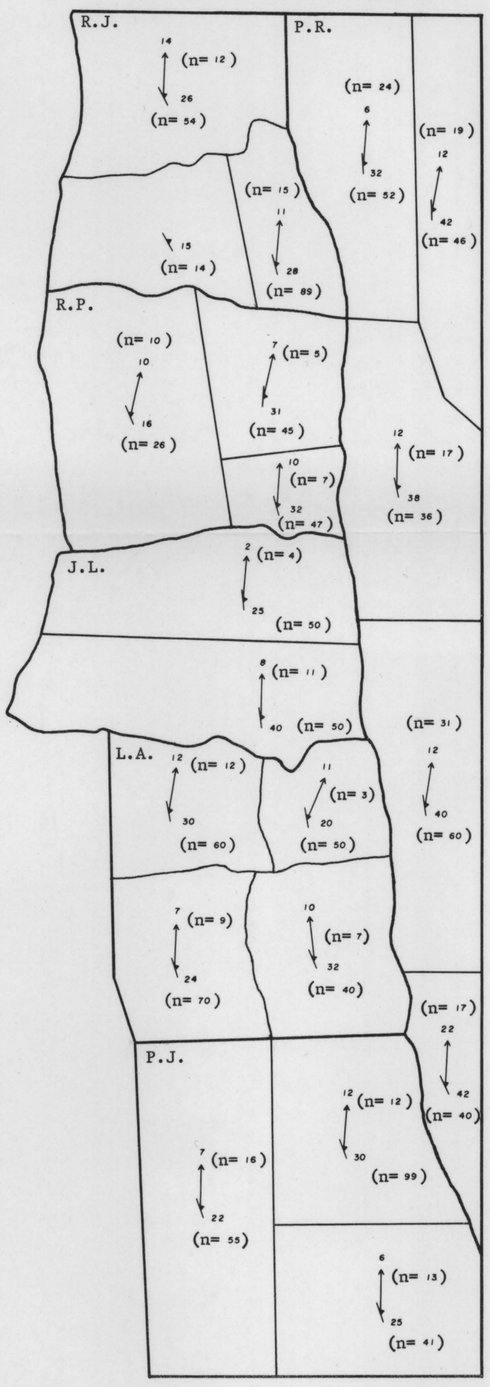
pq: White-, buff-, or pink-weathering, massive to well bedded, moderately foliated, coarse- to fine-grained quartzite containing minor biotite, feldspar, and/or actinolite. Extremely rare thin beds of calcite marble.

Dry Hill and Related Gneisses

dg: Massive, well foliated, coarse- to medium-grained, gray to pink feldspar-biotite gneiss, locally with hornblende and pink microcline megacrysts. Resembles Dry Hill Gneiss, Biotite Member of Ashenden (1973). Minor beds of massive to slabby, gray-weathering biotite-actinolite quartzite and amphibolite west of hill 1305'.

pg: Interbedded, well foliated, course-grained, dark gray biotite gneiss, muscovite-biotite-feldspar-tourmaline schist, and micaceous quartzite. Resembles Poplar Mountain Gneiss as mapped by Ashenden (1973).

STRUCTURE SUMMARY DIAGRAM



SYMBOLS

- Contact, accurately located
- Contact, approximately located
- Contact, location inferred
- Contact, inferred, mapping incomplete
- Fault, accurately located
- Fault, approximately located
- Fault, location inferred
- Strike and dip of bedding
- Strike and dip of foliation
- Trend and plunge of mineral lineation
- Trend and plunge of minor fold axis and movement sense

GEOLOGY BY:

Advanced Geologic Mapping, (Geology 332-632)
Conducted by Peter Robinson, Fall, 1972

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SCALE 1:24 000
1 0 1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 5 0 1 KILOMETER
CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL