

LEGEND

**METAMORPHIC AND IGNEOUS ROCKS**

- Volcanic vents** (Metadiabase and volcanic tuff with angular blocks of metadiabase and keranitic.)
- Conway granite** (Medium-grained pink biotite granite, composed of microperthite, quartz, oligoclase, and biotite; locally porphyritic.)
- Shatter zone** (Dikes of fine-grained to medium-grained pink biotite granite, related to the Conway granite, cut coarse syenite of the Olierian magma series.)
- Granite porphyry** (Medium-grained pink to gray granite porphyry, with large phenocrysts of quartz and microperthite, and smaller phenocrysts of biotite and hornblende; groundmass is microperthite, orthoclase, quartz, oligoclase, hastingsite, biotite and magnetite.)
- Hastingsite-biotite granite** (Fine-grained to medium-grained pink rock, composed of microperthite, quartz, oligoclase, hastingsite, and biotite.)
- Hastingsite-riebeckite granite** (Medium-grained green granite, weathering white, buff, or pink, composed of microperthite, quartz, oligoclase, hastingsite, riebeckite, and a little biotite.)
- Hastingsite-quartz syenite** (Subporphyritic, medium-grained, green quartz syenite, weathering buff to white, composed of microperthite, oligoclase, quartz, hastingsite, edenbergtite, and a little biotite.)
- Syenite** (Chiefly a fine-grained to coarse-grained green syenite, weathering buff to white, composed of microcline, oligoclase, orthoclase, edenbergtite, and soda-hornblende; locally a quartz syenite.)
- Quartz monzonite and quartz monzonite** (Medium-grained to coarse-grained dark-gray rocks, composed of andesine, orthoclase, quartz, hornblende, biotite and magnetite.)
- Pegmatite** (Large, interlocking crystals of feldspar, quartz, biotite, muscovite; includes some granite.)
- Bickford granite** (Medium-grained to coarse-grained, locally porphyritic, white to gray binary granite composed of microcline, orthoclase, quartz, oligoclase, biotite and muscovite.)
- Porphyritic biotite-quartz monzonite** (Medium-grained, pink to gray foliated granular rock; phenocrysts of microcline, 5 to 15 mm, long, commonly composed of Coriander's texture, quartz, oligoclase, and some biotite and muscovite.)
- Biotite-quartz monzonite** (Medium-grained, pink, foliated, granular rock, composed of microcline, quartz, oligoclase, and some biotite and muscovite.)
- Coarse granite** (Coarse-grained, pink rock, generally massive and only locally foliated; composed of microcline, quartz, oligoclase, and a little biotite, hornblende, and magnetite.)
- Coarse syenite** (Coarse-grained to medium-grained pink rock, generally foliated; composed chiefly of microcline that shows Coriander's texture; groundmass composed of oligoclase, hornblende, biotite, and some magnetite.)
- Fine-grained gray quartz monzonite** (Fine-grained, gray, generally massive, locally foliated, rock, composed of oligoclase, quartz, microcline, biotite, and a little magnetite and muscovite.)
- Hornblende-quartz monzonite** (Very variable rock; medium-grained to coarse-grained, porphyritic and non-porphyritic; in porphyritic type pink to white phenocrysts of microcline, composed of Coriander's texture, are set in a dark-gray groundmass of oligoclase or andesine, microcline, quartz, hornblende, and biotite; in non-porphyritic type only the groundmass is present.)

**LOWER DEVONIAN**

- Littleton formation** (Lower part of formation, Dis, is gneiss, composed of alternating one-inch dark and light layers; dark layers are biotite, oligoclase, quartz, and muscovite; light layers are chiefly oligoclase and quartz; Locality, Dis, the gneiss is cut by numerous dikes of Bickford granite. Host number, Dis, consists of dioritic orthoclase, oligoclase-actinolite granitoid, actinolite granitoid, actinolite-biotite schist, and biotite-gneiss. Upper part of formation, Dis, consists of interbedded quartzite and mica schist, the latter containing radiolaria, sillimanite, staurolite, biotite, muscovite and garnet.)
- Lost nation group** (Medium-grained, dark rocks, chiefly diorite and quartz diorite, with some gabbro and syenite.)
- Ammonoosuc volcanic** (Chiefly fine-grained biotite gneiss; some amphibolite, quartz-muscovite-pyrite schist, lime-silicate granitoid, a little mica schist. Locality, Oam, cut by numerous dikes of Bickford granite.)
- Albee formation** (Fine-grained light-gray to dark-gray quartzite, locally bedded and foliated.)

**White Mountain Magma Series**

**MISSISSIPPIAN ?**

**Upper Devonian Magma Series**

**LOWER DEVONIAN ?**

**Bed Rock Not Exposed**

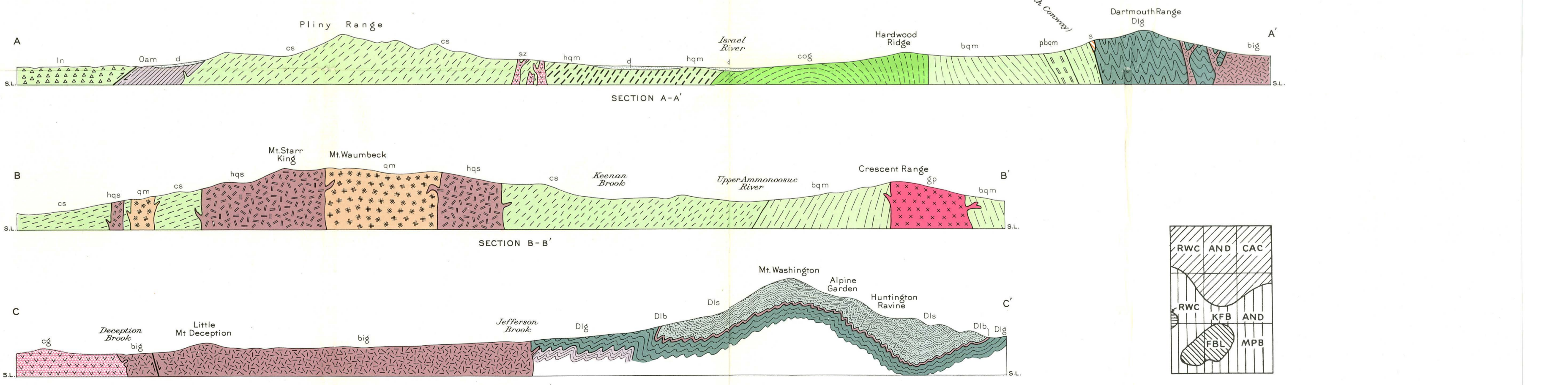
**CONTACTS**

- Accurate
- Approximate and diagrammatic due to poor exposures.
- Indefinite as sharp contact is lacking

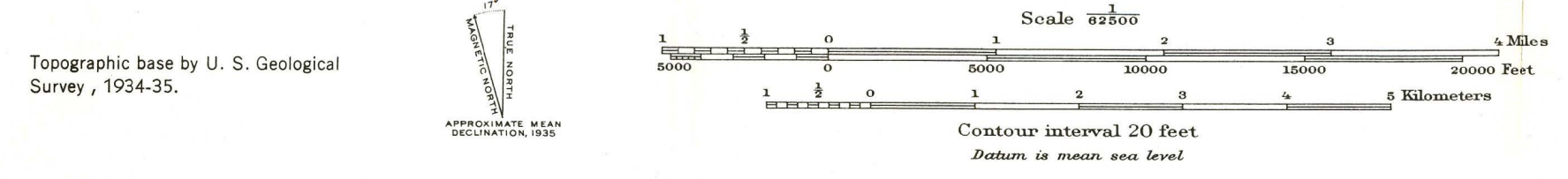
**SPECIAL SYMBOLS**

(Dip and strike symbols represent only a small percentage of the field observations.)

- Strike and dip of bedding; in some cases represents general attitude of folded beds.
- Strike of vertical beds
- Strike and dip of overturned beds.
- Horizontal beds.
- Strike and dip of foliation of igneous rocks and gneiss.
- Strike of vertical foliation of igneous rocks and gneiss.
- Strike and dip of foliation parallel to axial plane of folds in Littleton formation.
- Strike of vertical foliation parallel to axial plane of folds in Littleton formation.
- Thrust fault; T on upthrown side.
- Normal fault; D on downthrown side; U on upthrown side.
- Silicified fault zone.



GEOLOGIC MAP AND STRUCTURE SECTIONS OF THE MT. WASHINGTON QUADRANGLE, NEW HAMPSHIRE



Geology by Marland P. Billings, R. W. Chapman, C. A. Chapman, Katharine Fowler-Billings, and F. B. Loomis, Jr., assisted by W. P. Fuller, Jr., and R. F. Storey. Geology Surveyed 1936, 1938, 1939, 1940, with the aid of grants from the Associates in Science of Harvard University and the Penrose Bequest of the Geological Society of America. Published 1945. Reprinted 1965.