



**EXPLANATION**  
SEDIMENTARY AND METAMORPHIC ROCKS

- Qsd Surficial deposits of Recent and Pleistocene age
- Cc Cambridge slate
- Cs Serpentine
- Ch "Hornfels"
- Cm Metamorphic sediments (Quartzite, slates, schists, and marbles)

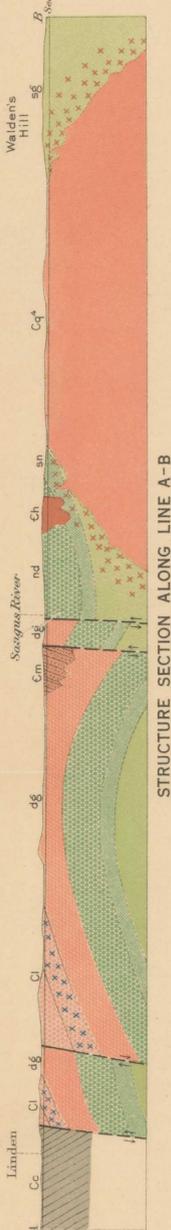
**IGNEOUS ROCKS**

- sg Andover granite
- Cl Lynn volcanics (Quartz keratophyre, trachyte, dacite, and andesite flow rocks; agglomerates and breccias = Cl<sup>a</sup>)
- Cq<sup>1</sup> Fine-grained granite
- Cq<sup>2</sup> Porphyritic granite
- Cq<sup>3</sup> Granite variation in East Danvers
- Cq<sup>4</sup> Normal granite
- Cq<sup>5</sup> Quartz syenite or nordmarkite
- Cb Granite with numerous xenoliths chiefly of Salem gabbro-diorite
- Cb<sup>1</sup> Beverly syenite (pulaskites and umptekites) and nephelite syenite
- Cb<sup>2</sup> Beverly syenite with numerous xenoliths chiefly of Salem gabbro-diorite
- dg Dedham granodiorite
- nd Newburyport quartz diorite
- sn Probably transition between Salem gabbro-diorite and Newburyport quartz diorite
- sg<sup>1</sup> Salem gabbro-diorite (Gabbro-diorite, gabbro, diorite, and gneiss)
- sg<sup>2</sup> Salem gabbro-diorite, brecciated and cut by Quincy granite\*
- sg<sup>3</sup> Salem gabbro-diorite, brecciated and cut by Beverly syenite
- d Diabase
- dg<sup>a</sup> Gabbro with quartz syenite differentiate (a)

**EXPLANATION (CONTINUED)**

- Geologic boundary (Position well located)
- Geologic boundary (Position assumed)
- Fault (Position determined; only large faults shown)
- Fault? (Fault and position assumed)

**QUATERNARY**  
**CARBONIFEROUS**  
**CAMBRIAN AND ALBANYAN (?)**  
**LATE CARBONIFEROUS OR POST-CARB.**  
**CARBONIFEROUS**  
**DEVONIAN (?)**



Base from U. S. Geological Survey Lawrence, Salem, Boston, and Boston Bay topographic maps

**GEOLOGIC MAP AND STRUCTURE SECTION OF PARTS OF ESSEX, SUFFOLK, AND MIDDLESEX COUNTIES, MASSACHUSETTS**

Geology by C. H. Clapp 1907-1910



Note.—Density of crosses in Beverly syenite and Salem gabbro-diorite indicates relative amount of igneous intrusives

\*The Quincy granite also cuts the adjoining Newburyport quartz diorite and the hornfels where shown by brown crosses.