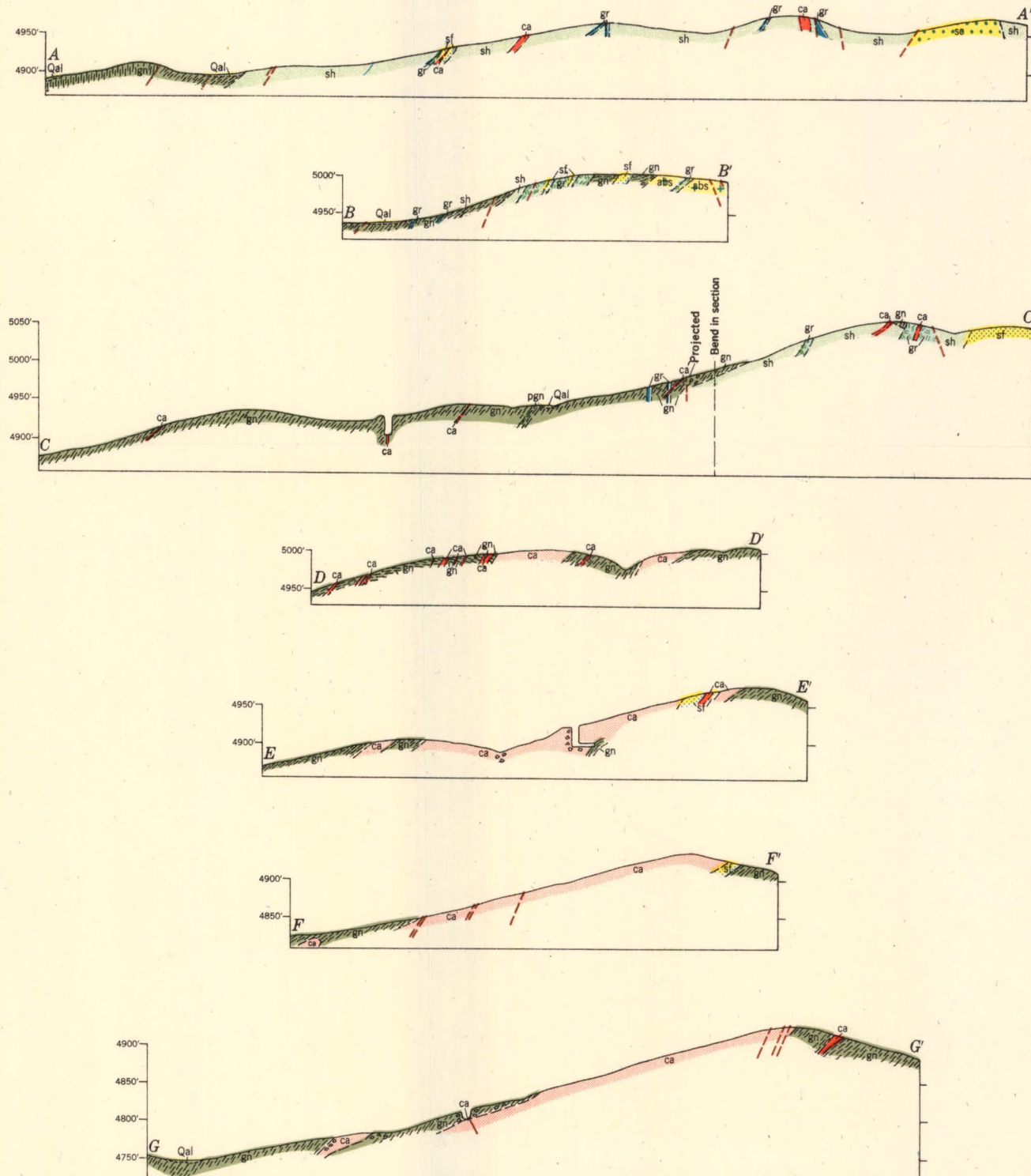
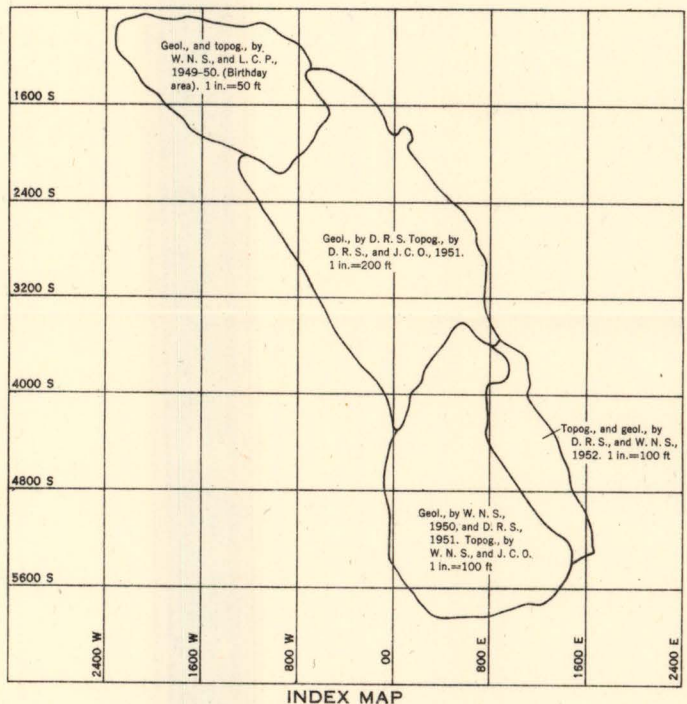




EXPLANATION

- Qal Alluvium
 - Andesite
 - Quartz vein
 - Carbonate rocks and veins
 - Shonkinite dike rocks
 - Granite
 - Quartz syenite
 - Fine-grained syenite
 - Coarse-grained syenite
 - Augite- and biotite-rich syenite
 - Shonkinite
 - Pegmatite granitic gneiss
 - Granitic gneiss, mafic gneiss, and biotite schist, undifferentiated
 - Isorad
 - Contact, showing dip, dashed where approximately located
 - Indefinite contact
 - Strike and dip of foliation in gneiss and shonkinite, or streaked barite foliation in carbonate rocks
 - Strike and dip of foliation in gneiss and shonkinite, or streaked barite foliation in carbonate rocks, with plunge of lineation
 - Strike and dip of barite, crocidolite, and chlorite along shear planes in carbonate rocks
 - Strike of vertical barite, crocidolite, and chlorite along shear planes in carbonate rocks
 - Fault zone, showing dip of individual shear
 - Vertical shear in fault zone
 - Pit, showing depth in feet
 - Shaft
 - Adit
 - Dike
- Isorads: interval is 0.1 millirem/hour per hour; dashed outer isorad indicates radioactivity of 0.05 mR per hr or lower; number indicates highest radioactivity in mR per hr.



GEOLOGIC MAP AND CROSS SECTIONS OF THE SULPHIDE QUEEN-BIRTHDAY AREA, WITH ISORAD LINES, MOUNTAIN PASS DISTRICT, SAN BERNARDINO COUNTY, CALIFORNIA

100 0 500 Feet
Contour interval 50 feet
Datum is mean sea level

Geology and topography by D. R. Shaw, W. N. Sharp, L. C. Fray, and J. C. Olson, 1949-52. Isorads mapped by D. R. Shaw, 1952.