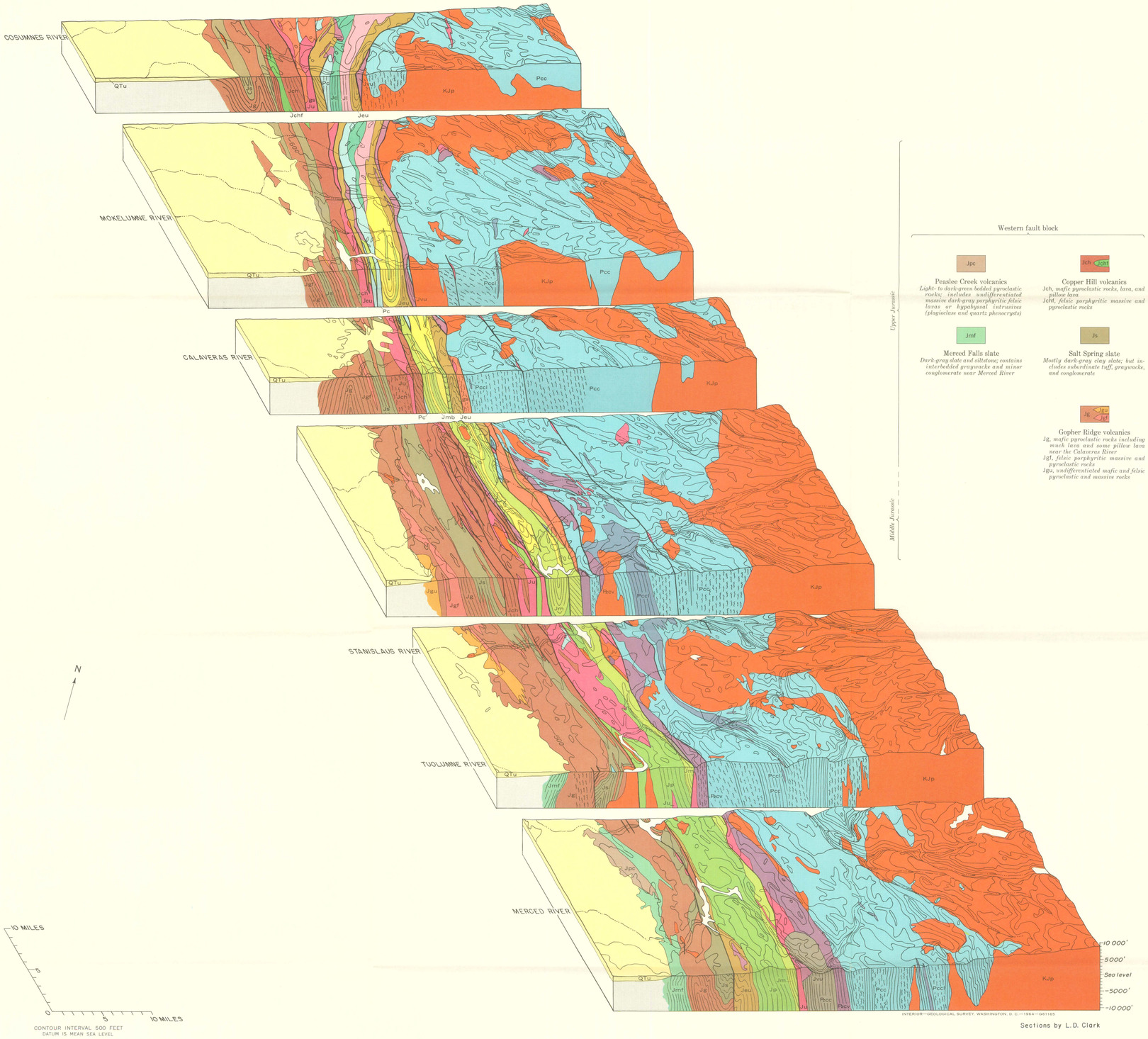

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D.C.—1964—G61165

Sections by L.D. Clark

EXPLANATION

QTu — Volcanic rocks and alluvial gravels undivided
Shown only at west side of map area

KJp — Plutonic rocks
Chiefly granodiorite, quartz monzonite, and granite, but includes some hornblende gabbro and rocks of intermediate composition

Ju — Ultramafic rocks
Chiefly serpentine in and west of the Melones fault zone and talc-anthrite schist east of the Melones fault zone. Peridotite and dunite rare

Western fault block

Jpc — Peaslee Creek volcanics
Light- to dark-green bedded pyroclastic rocks; includes undifferentiated massive dark-gray porphyritic felsic lavas or hypabyssal intrusives (plagioclase and quartz phenocrysts)

Jch, Jchf — Copper Hill volcanics
Jch, *mafic pyroclastic rocks, lava, and pillow lava*
Jchf, *felsic porphyritic massive and pyroclastic rocks*

Jmf — Merced Falls slate
Dark-gray slate and siltstone; contains interbedded graywacke and minor conglomerate near Merced River

Js — Salt Spring slate
Mostly dark-gray clay slate; but includes subordinate tuff, graywacke, and conglomerate

Jg, Jgu, Jgf — Gopher Ridge volcanics
Jg, *mafic pyroclastic rocks including much lava and some pillow lava near the Calaveras River*
Jgf, *felsic porphyritic massive and pyroclastic rocks*
Jgu, *undifferentiated mafic and felsic pyroclastic and massive rocks*

Central fault block and Melones fault zone

Jvu — Volcanic rocks of uncertain stratigraphic position
Similar in lithology to Logtown Ridge formation, Peñon Blanco volcanics, and Brower Creek volcanic member of Mariposa formation

Jeu — Epiclastic rocks of uncertain stratigraphic position
Lithologically similar to Cosumnes and Mariposa formations

Jm, Jmb — Mariposa formation
Jm, *mostly dark-gray clay slate; but includes subordinate tuff, graywacke and conglomerate*
Jmb, *Brower Creek volcanic member, dark-green mafic volcanic breccia; includes some tuff and rare pillow lava*

Amador group:

Jl — Logtown Ridge formation
Coarse mafic volcanic breccia, in part porphyritic (augite phenocrysts). Subordinate tuff and lapilli tuff, minor pillow lava

Jc — Cosumnes formation
Dark-gray clay slate, pyroclastic rocks, coarse conglomerate, and some graywacke

Jp — Peñon Blanco volcanics
Upper part is dark-green mafic volcanic breccia and tuff, in part porphyritic (pyroxene phenocrysts); lower part is dark-green mafic lava and some pillow lava

Jv — Mafic volcanic rocks, conglomerate, and slate

gs — Green schist
Metavolcanic rocks of unknown age distinguished in the Melones fault zone and at the north end of the map area. Mostly schistose, but includes some massive rocks

Pc — Calaveras formation
Thin-bedded slate, chert, and siliceous slate containing calcarenite lenses. Includes some volcanic rocks

Eastern fault block

Calaveras formation:

Pcc, Pccl — Undifferentiated argillaceous member and chert member
Pcc, *argillaceous rocks and siltstone and some thin-bedded chert; includes minor lenticular limestone in southwestern part; thin-bedded chert and black, carbonaceous slate containing minor lenticular mafic pyroclastics elsewhere*
Pccl, *limestone*

Pcv — Upper volcanic member
Mafic pyroclastic rocks, in part porphyritic (augite phenocrysts). Minor pillow lava and black slate

Pccc — Clastic member
Thin-bedded dark-gray slate and graywacke, thin-bedded chert, and tuff; minor limestone lenses

Contact

Fault

Upper Jurassic — Middle Jurassic — JURASSIC — MESOZOIC

PERMIAN — PALEOZOIC AND MESOZOIC

PERMIAN — PALEOZOIC

JURASSIC AND CRETACEOUS

TERTIARY AND QUATERNARY — CENOZOIC

EXPANDED BLOCK DIAGRAM SHOWING GEOLOGY OF THE WESTERN SIERRA NEVADA BETWEEN THE MERCED AND COSUMNES RIVERS, CALIFORNIA