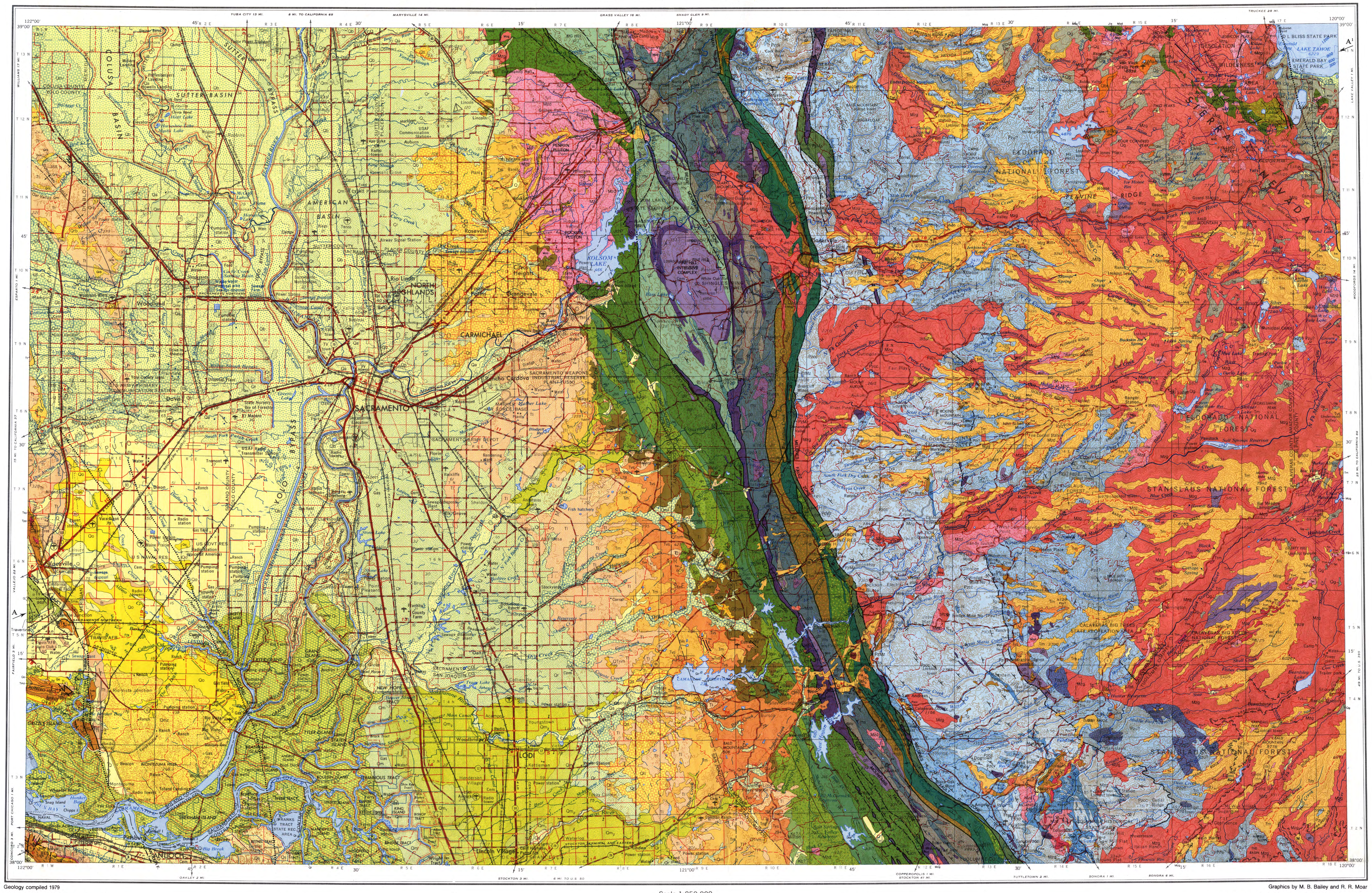
CALIFORNIA DIVISION OF MINES AND GEOLOGY
JAMES F. DAVIS, STATE GEOLOGIST

STATE OF CALIFORNIA—EDMUND G. BROWN JR., GOVERNOR
THE RESOURCES AGENCY—HUEY D. JOHNSON, SECRETARY
DEPARTMENT OF CONSERVATION—PRISCILLA C. GREW, DIRECTOR

REGIONAL GEOLOGIC MAP SERIES
SACRAMENTO QUADRANGLE—MAP NO. 1A (GEOLOGY)
SHEET 1 OF 4



Geology compiled 1979

Graphics by M. B. Bailey and R. R. Moar

TOPOGRAPHIC BASE MAP

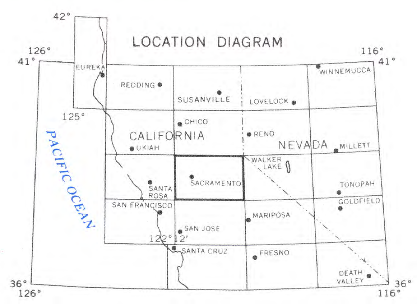
Prepared by the U.S. Army Topographic Command (KCSX), Washington, D.C. Compiled in 1961 by photogrammetric methods and from United States quadrangles, 1:24,000, 1:25,000, and 1:50,000, 1941-55; USC&GS chart, 1957. Planimetry revised in part from aerial photographs taken 1954-60. Map field checked 1957. Revised by the U.S. Geological Survey 1970.

Selected hydrographic data compiled from USC&GS charts. This information is not intended for navigational purposes.

Minor corrections and additions to culture by California Division of Mines and Geology 1979.

Depth contours in Lake Tahoe in feet—compiled from soundings shown on U.S. Coast and Geodetic Survey Chart 5001.

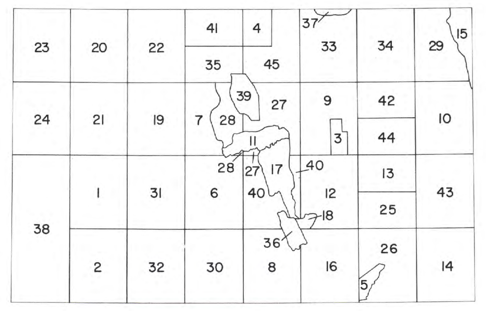
LOCATION DIAGRAM



Scale 1:250,000

5 0 5 10 15 20 Statute Miles
5 0 5 10 15 20 25 30 Kilometers
5 0 5 10 15 Nautical Miles

CONTOUR INTERVAL 200 FEET
WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS
TRANSVERSE MERCATOR PROJECTION



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2. Atwater, B., 1979
3. Aune, Q.A., 1965
4. Aune, Q.A., 1979
5. Baird, A.K., 1962
6. Bartow, J.A., and Marchand, D.E., 1979
7. Bartow, J.A., and Helley, E.J., 1979
8. Bartow, J.A., and Marchand, D.E., 1979
9. Bedrossian, T.L., 1979
10. Bedrossian, T.L., 1979
11. Behrman, P.G., 1978
12. Bortugno, E.J., 1979
13. Bortugno, E.J., 1979
14. Bortugno, E.J., 1979
15. Burnett, J.L., 1971
16. Clark, L.D., Stromquist, A.A., and Tatlock, D.B., 1963
17. Duffield, W.A., and Sharp, R.V., 1975
18. Goldman, H.B., 1964
Rose, R.L., 1949
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19. Helley, E.J., 1979
20. Helley, E.J., 1979
21. Helley, E.J., 1979
22. Helley, E.J., 1979
23. Helley, E.J., and Barker, J.A., 1979
24. Helley, E.J., and Barker, J.A., 1979
25. Jennings, C.W., 1979
26. Jennings, C.W., 1979
27. Lindgren, Waldemar and Turner, H.W., 1894
28. Lindgren, Waldemar, 1894
29. Loomis, A.A., 1964
30. Marchand, D.E., and Bartow, J.A., 1979
31. Marchand, D.E., and Atwater, B., 1979
32. Marchand, D.E., and Atwater, B., 1979
33. McJunkin, R.D., and Taylor, G.C., 1979
34. McJunkin, R.D., and Taylor, G.C., 1979
35. Olmsted, F.H., 1971
36. Parkison, G.A., 1976
37. Redmond, T.L., 1966
38. Sims, J.D., Fox, K.F., Jr., Bartow, J.A., and Helley, E.J., 1973
39. Springer, R.K., 1971
40. Taliaferro, N.L., 1950
41. Taylor, G.C., 1979
42. Taylor, G.C., and McJunkin, R.D., 1979
43. Wagner, D.L., 1979
44. Wagner, D.L., 1979
45. Wagner, D.L., 1979

ABBREVIATED EXPLANATION

Approximate stratigraphic relationships only; see Geologic Map Explanation for more accurate stratigraphic relationships and unit descriptions.

SEDIMENTARY AND METASEDIMENTARY ROCKS

CENOZOIC — QUATERNARY

- Q — Alluvium
- t — Mine and dredge tailings
- Qa — Levee and channel deposits
- Qb — Basin deposits *(Alluvium)*
- Qi — Intertidal deposits *(Peaty mud)*
- Qs — Dune sand
- Ql — Lake deposits
- Qo — Older alluvium
- Qg — Glacial deposits
- Qm — Modesto Formation *(Alluvium)*; Qm_1/Qm_2 Upper and lower members
- Qr — Riverbank Formation *(Alluvium)*
- Qmr — Modesto-Riverbank Formations *(Arkosic alluvium)*
- Qmz — Montezuma Formation *(Poorly consolidated, clayey sand)*
- Qtl — Turlock Lake Formation *(Sand, silt, and gravel)*
- Qrb — Red Bluff Formation *(Gravel in reddish, silty or sandy matrix)*
- QTnm — North Merced Gravel *(Thin pediment veneer)*

CENOZOIC — TERTIARY

- Tt — Tehama Formation *(Sand, silt, and volcaniclastic rocks)*
- Tl — Laguna Formation *(Consolidated alluvial deposits)*
- Tsp — San Pablo Group *(Marine sandstone and shale)*
- Tm — Mehrten Formation *(Andesitic conglomerate, sandstone, and breccia)*
- Tvs — Valley Springs Formation *(Rhyolitic tuff and sedimentary rocks)*
- Tmk — Markley Sandstone *(Marine)*
- Tn — Nortonville Shale *(Marine)*
- Td — Domengine Sandstone *(Marine)*
- Tc — Capay Formation *(Marine sandstone)*
- Tg — "Auriferous" Gravels
- Ti — Ione Formation *(Quartzose sandstone and kaolinitic clay)*
- Tmz — Martinez Formation *(Marine quartzose sandstone)*

MESOZOIC — CRETACEOUS

- Kg — Guinda Formation *(Marine sandstone)*
- Kc — Chico Formation *(Marine sandstone, shale, and conglomerate)*

MESOZOIC — JURASSIC

- Jss — Salt Springs Slate
- Jm — Mariposa Formation *(Slate, graywacke, and conglomerate)*
- Jls — Sailor Canyon Formation *(Metasedimentary rocks)*

PALEOZOIC

- ms — Metasedimentary rocks*
- ls — Crystalline limestone and dolomite*
- Pzcc — Calaveras Complex *(Metasedimentary rocks)*
- PzMz — Paleozoic-Mesozoic metamorphic rocks
- Pzg? — Augen gneiss of uncertain age
- Pzu? — Undifferentiated Paleozoic(?) rocks

VOLCANIC AND METAVOLCANIC ROCKS

- Qbs — Basalt
- Tlt — Lawlor Tuff
- Td — Dacite, rhyodacite domes
- Tet — Eureka Valley Tuff
- Ttm — Table Mountain Latite
- Tpp — Putnam Peak Basalt
- Jch — Copper Hill Volcanics
- Jmb — Brower Creek Volcanics
- Jgo — Gopher Ridge Volcanics
- Jlr — Logtown Ridge Formation
- Jmv — Jurassic metavolcanic rocks
- mv — Metavolcanic rocks*
- Pzcv — Calaveras Complex volcanic rocks

PLUTONIC ROCKS

MESOZOIC

- Mzg — Mesozoic granitic rocks
- Mzd — Mesozoic dioritic rocks
- gb — Gabbroic rocks*
- um — Ultramafic rocks*

*Horizontal line pattern denotes melange terrane.

MAP SYMBOLS

Contact
(Observed or approximately located; queried where gradational or inferred.)

Fault
(Solid where well located; dashed where approximately located or inferred; dotted where concealed by younger rocks or water; queried where continuation or existence is uncertain. U, upthrown side; D, downthrown side, relative or apparent.)

Anticlinal fold
(Dotted where concealed by younger rocks or water.)

Synclinal fold
(Dotted where concealed by younger rocks or water.)

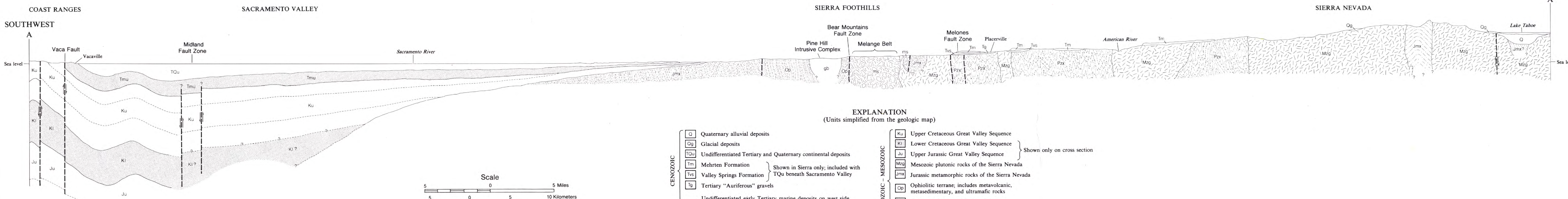
Overturned fold

Strike and dip of beds
(General strike and dip of stratified rocks.)

Strike and dip of foliation
(General strike and dip of foliation in metamorphic rocks.)

Joints
(Prominent joints in granitic and metamorphic rocks of the high Sierra.)

DIAGRAMMATIC CROSS SECTION ACROSS THE SACRAMENTO QUADRANGLE



Scale
5 0 5 Miles
5 0 5 10 Kilometers
Vertical Exag. = Approximately 2X Horizontal

EXPLANATION
(Units simplified from the geologic map)

CENOZOIC

- Q — Quaternary alluvial deposits
- Qg — Glacial deposits
- TQu — Undifferentiated Tertiary and Quaternary continental deposits
- Tm — Mehrten Formation; Tvs — Valley Springs Formation (Shown in Sierra only; included with TQu beneath Sacramento Valley)
- Tg — Tertiary "Auriferous" gravels
- Tmu — Undifferentiated early Tertiary marine deposits on west side and beneath Sacramento Valley grading into early Tertiary nonmarine deposits (Ione Fm) on east side of the Valley

PALEOZOIC – MESOZOIC

- Ku — Upper Cretaceous Great Valley Sequence; Kl — Lower Cretaceous Great Valley Sequence; Ju — Upper Jurassic Great Valley Sequence (Shown only on cross section)
- Mzg — Mesozoic plutonic rocks of the Sierra Nevada
- Jmx — Jurassic metamorphic rocks of the Sierra Nevada
- Op — Ophiolitic terrane; includes metavolcanic, metasedimentary, and ultramafic rocks
- gb — Gabbroic rocks (in ophiolitic terrane)
- ms — Sheared Mesozoic-Paleozoic rocks of Foothill melange belt
- Pzx — Paleozoic metamorphic rocks of the Sierra Nevada

Williams & Heintz Map Corporation, Capitol Heights, Md. 20743

GEOLOGIC MAP OF THE SACRAMENTO QUADRANGLE, CALIFORNIA, 1:250,000

Compilation by
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Published
1981