



EXPLANATION

SEDIMENTARY AND METASEDIMENTARY ROCKS

IGNEOUS AND META-IGNEOUS ROCKS

QUATERNARY

- Qd Dune sand
- Qal Alluvium
- Qsc Stream channel deposits
- Qfp Fan deposits
- Qbs Basin deposits
- Qst Salt deposits
- Ql Quaternary lake deposits
- Qgl Glacial deposits
- Qtm Quaternary marine terrace deposits
- Qp Pleistocene marine and marine terrace deposits
- Qnc Pleistocene nonmarine
- Qpl Plio-Pleistocene nonmarine
- Qun Undivided Pliocene nonmarine
- Qup Upper Pliocene nonmarine
- Qum Middle and/or lower Pliocene nonmarine
- Qml Middle and/or lower Pliocene marine
- Qun Undivided Miocene nonmarine
- Qum Upper Miocene nonmarine
- Qmm Middle Miocene nonmarine
- Qml Lower Miocene marine
- Qom Oligocene nonmarine
- Qom Oligocene marine
- Qem Eocene nonmarine
- Qem Eocene marine
- Qpm Paleocene nonmarine
- Qpm Paleocene marine
- Qcn Cenozoic nonmarine
- Qtl Tertiary nonmarine
- Qtd Tertiary lake deposits
- Qtm Tertiary marine

CENOZOIC

- Qv Recent volcanic: Qv¹-rhyolite; Qv²-andesite; Qv³-basalt; Qv⁴-pyroclastic rocks
- Qp¹ Pliocene volcanic: Qp¹-rhyolite; Qp²-andesite; Qp³-basalt; Qp⁴-pyroclastic rocks
- Qm¹ Miocene volcanic: M¹-rhyolite; M²-andesite; M³-basalt; M⁴-pyroclastic rocks
- Qo¹ Oligocene volcanic: O¹-rhyolite; O²-andesite; O³-basalt; O⁴-pyroclastic rocks
- Qe¹ Eocene volcanic: E¹-rhyolite; E²-andesite; E³-basalt; E⁴-pyroclastic rocks
- Qc¹ Cenozoic volcanic: C¹-rhyolite; C²-andesite; C³-basalt; C⁴-pyroclastic rocks
- Qti Tertiary intrusive (hypabyssal) rocks: T¹-rhyolite; T²-andesite; T³-basalt
- Qtv Tertiary volcanic: T¹-rhyolite; T²-andesite; T³-basalt; T⁴-pyroclastic rocks

MESOZOIC

- Uc Undivided Cretaceous marine
- Ucm Upper Cretaceous marine
- Lcm Lower Cretaceous marine
- Kf Knoxville Formation
- Uj Upper Jurassic marine
- Mj Middle and/or Lower Jurassic marine
- Tm Triassic marine
- Pre-Cretaceous metamorphic rocks (ls = limestone or dolomite)
- Pre-Cretaceous metasedimentary rocks
- Pre-Cretaceous marine (ls = limestone or dolomite)
- Permian marine
- Undivided Carboniferous marine
- Pen Pennsylvanian marine
- Mis Mississippian marine
- Dv Devonian marine
- Sv Silurian marine
- Pre-Silurian metasedimentary rocks
- Orv Ordovician marine
- Cm Cambrian marine
- Cam-Cambrian marine
- Undivided Precambrian metamorphic rocks (G = gneiss, G² = schist)
- Later Precambrian sedimentary and metamorphic rocks
- Earlier Precambrian metamorphic rocks
- Pre-Cambrian igneous and metamorphic rock complex
- Undivided Precambrian granitic rocks

PALEOZOIC

- Fr Franciscan Formation
- Mesozoic granitic rocks: G¹-granite and andesite; G²-granodiorite; G³-tonalite and diorite
- Mesozoic basic intrusive rocks
- Mesozoic ultrabasic intrusive rocks
- Jura-Tris metavolcanic rocks
- Pre-Cretaceous metavolcanic rocks
- Pre-Cretaceous granitic and metamorphic rocks
- Paleozoic metavolcanic rocks
- Permian metavolcanic rocks
- Carboniferous metavolcanic rocks
- Devonian metavolcanic rocks
- Devonian and pre-Devonian? metavolcanic rocks
- Pre-Silurian metamorphic rocks
- Pre-Silurian metavolcanic rocks

PRECAMBRIAN

- Pre-Cambrian igneous and metamorphic rock complex
- Undivided Precambrian granitic rocks

TOPOGRAPHIC BASE MAP

Prepared by the Army Map Service (KCLD), Corps of Engineers, U.S. Army, Washington, D.C. Compiled in 1957 by photogrammetric methods and from United States Quadrangles, 1:20,000, 1:24,000, 1:25,000, 1:48,000, 1:50,000, 1:62,500, 1:75,000, U.S. Geological Survey and AMS, 1925-55. Planimetric detail revised by photogrammetric methods. Control by USGS, USC&GS, Los Angeles County, CE, Metropolitan Water District of Southern California, and AMS. Map field checked 1958.

Minor corrections and additions to culture by California Division of Mines and Geology, 1958

Land net prepared by U.S. Geological Survey

LOCATION MAP FOR SAN BERNARDINO SHEET

Scale 1:250,000

CONTOUR INTERVAL 200 FEET
WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS

GEOLOGIC MAP OF CALIFORNIA
OLAF P. JENKINS EDITION
SAN BERNARDINO SHEET
COMPILATION BY THOMAS H. ROGERS, 1967

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1. Allen, C. R., 1957
2. Bowen, O. E., Jr., 1954
3. Bowen, O. E., Jr., and Van Plank, W. E., 1956
4. Burnham, W. L., unpublished
5. California Dept. Water Resources, 1956
6. Dibblee, T. W., and Stephens, A. O., 1949
7. Dibblee, T. W., Jr., 1950
8a. Dibblee, T. W., Jr., 1959
8b. Dibblee, T. W., Jr., 1960
9. Dibblee, T. W., Jr., unpublished
10. Dibblee, T. W., Jr., unpublished
11. Dibblee, T. W., Jr., unpublished
12. Dibblee, T. W., Jr., 1954
13. Dibblee, T. W., Jr., 1966
14. Dibblee, T. W., Jr., 1967
15. Dibblee, T. W., Jr., unpublished
16. Dibblee, T. W., Jr., unpublished
17. Dibblee, T. W., Jr., and Bennett, A. M., 1956
18. Dutcher, L. C., and Burnham, W. L., 1959
19. Dutcher, L. C., and Burnham, W. L., 1960
20. Dutcher, L. C., and Garrett, A. A., 1963
21. Edgell, P. L., unpublished
22. Edgell, P. L., unpublished
23. Edgell, P. L., unpublished
24. Edgell, P. L., 1955
25. MacCall, R. S., 1964
26. MacKenzie, E. M., 1951
27. MacKenzie, E. M., 1955
28. Morton, D. M., unpublished
29. Nash, R. M., Walker, S. W., and Bergstrom, R. P., 1955
30. Noble, L. F., 1954
31. Noble, L. F., 1955
32. Richmond, J. F., 1960
33. Shotton, J. S., 1944
34. Shotton, J. S., 1955
35. Shaw, R. L., unpublished
36. Shaw, R. L., unpublished
37. Trossel, B. W., unpublished
38. Woodford, A. O., Shelton, J. S., and Horn, T. B., 1944

HEAVY BORDER ON BOXES INDICATES UNITS THAT APPEAR ON THIS SHEET