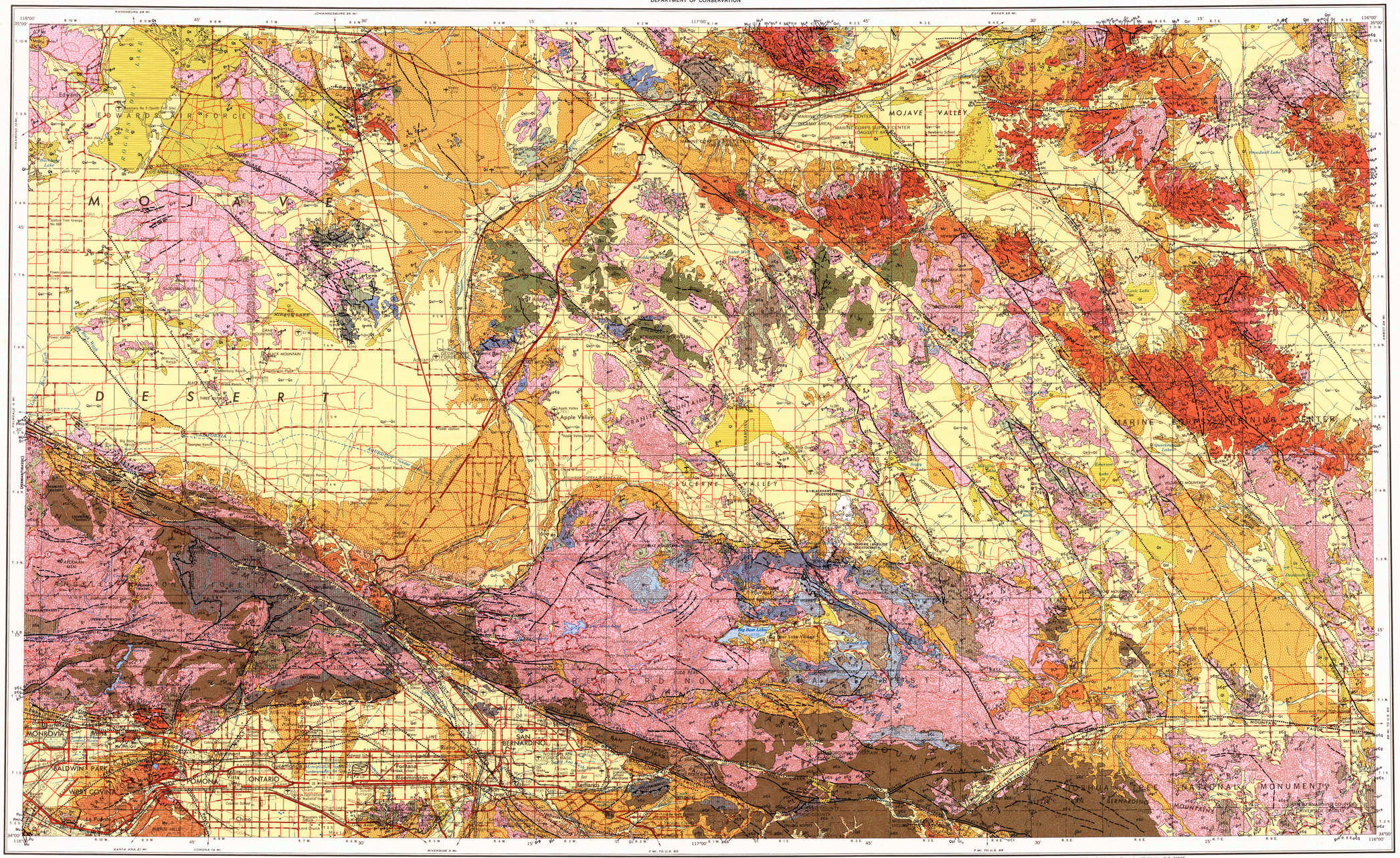
IAN CAMPBELL, CHIEF
GORDON B. OAKESHOTT, DEPUTY CHIEF

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF CONSERVATION

GEOLOGIC MAP OF CALIFORNIA
SAN BERNARDINO SHEET



Williams & Heintz Map Corporation, Washington, D.C. 20027

TOPOGRAPHIC BASE MAP

Prepared by the Army Map Service (ACLO), 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, 1:125,000, U.S. Geological Survey and AMS, 1925-55. Planimetric detail revised by photoplanimetric 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, 1968

Land net prepared by U.S. Geological Survey

Contact
(Dashed where approximately located, gradational or inferred)

Fault
(Dashed where approximately located; dotted where concealed)

Thrust fault
(Barbs on upper plate; dashed where approximately located)

LOCATION MAP FOR SAN BERNARDINO SHEET

Scale 1:250,000

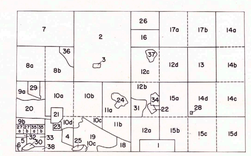
5 0 5 10 15 20 Statute Miles

5 0 5 10 15 20 25 30 Kilometers

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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2. Bowen, O. E., Jr., 1954
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EXPLANATION

SEDIMENTARY AND METASEDIMENTARY ROCKS

CENOZOIC — QUATERNARY — Recent

- Qs — Dune sand
- Qal — Alluvium
- Qsc — Stream channel deposits (GREAT VALLEY)
- Qf — Fan deposits (GREAT VALLEY)
- Qb — Basin deposits (GREAT VALLEY)
- Qsl — Salt deposits
- Ql — Quaternary lake deposits

Pleistocene

- Qg — Glacial deposits
- Qt — Quaternary nonmarine terrace deposits
- Qm — Pleistocene marine and marine terrace deposits
- Qc — Pleistocene nonmarine
- QP — Plio-Pleistocene nonmarine

TERTIARY — Pliocene

- Pc — Undivided Pliocene nonmarine
- Pvc — Upper Pliocene nonmarine
- Pu — Upper Pliocene marine
- Pmc — Middle and/or lower Pliocene nonmarine
- Pm — Middle and/or lower Pliocene marine

Miocene

- Mc — Undivided Miocene nonmarine
- Mvc — Upper Miocene nonmarine
- Mu — Upper Miocene marine
- Mmc — Middle Miocene nonmarine
- Mm — Middle Miocene marine
- Ml — Lower Miocene marine

Oligocene

- Ec — Oligocene nonmarine
- O — Oligocene marine

Eocene

- Ec — Eocene nonmarine
- E — Eocene marine

Paleocene

- Epc — Paleocene nonmarine
- Ep — Paleocene marine

Undivided

- QTc — Cenozoic nonmarine
- Tc — Tertiary nonmarine
- Tl — Tertiary lake deposits
- Tm — Tertiary marine

IGNEOUS AND META-IGNEOUS ROCKS

- Qrv — Recent volcanic: Qr_v^r —rhyolite; Qr_v^a —andesite; Qr_v^b —basalt; Qr_v^p —pyroclastic rocks
- Qpv — Pleistocene volcanic: Qp_v^r —rhyolite; Qp_v^a—andesite; Qp_v^b—basalt; Qp_v^p—pyroclastic rocks
- Quaternary and/or Pliocene cinder cones
- Prv — Pliocene volcanic: Pr_v^r —rhyolite; Pr_v^a—andesite; Pr_v^b —basalt; Pr_v^p —pyroclastic rocks
- Mv — Miocene volcanic: Mv^r —rhyolite; Mv^a —andesite; Mv^b —basalt; Mv^p—pyroclastic rocks
- Ev — Oligocene volcanic: Ev^r—rhyolite; Ev^a—andesite; Ev^b —basalt; Ev^p—pyroclastic rocks
- Ev — Eocene volcanic: Ev^r —rhyolite; Ev^a—andesite; Ev^b—basalt; Ev^p—pyroclastic rocks
- QTv — Cenozoic volcanic: QTv^r—rhyolite; QTv^a—andesite; QTv^b—basalt; QTv^p—pyroclastic rocks
- Tv — Tertiary intrusive (hypabyssal) rocks: Tv^r—rhyolite; Tv^a—andesite; Tv^b—basalt
- Tv — Tertiary volcanic: Tv^r —rhyolite; Tv^a—andesite; Tv^b —basalt; Tv^p—pyroclastic rocks

MESOZOIC — CRETACEOUS

- K — Undivided Cretaceous marine
- Ku — Upper Cretaceous marine
- Kl — Lower Cretaceous marine
- Kv — Franciscan Formation
- Kfv — Franciscan volcanic and metavolcanic rocks
- Ks^r — Mesozoic granitic rocks: Ks^r-granite and adamellite; Ks^d-granodiorite; Ks^t-tonalite and diorite

JURASSIC

- Kn — Knoxville Formation
- Ju — Upper Jurassic marine
- Jm — Middle and/or Lower Jurassic marine

TRIASSIC

- Tr — Triassic marine
- Bi — Mesozoic basic intrusive rocks
- Um — Mesozoic ultrabasic intrusive rocks
- JTrv — Jura-Trias metavolcanic rocks

PALEOZOIC — UNDIVIDED

- lm — Pre-Cretaceous metamorphic rocks (lm = limestone or dolomite)
- ls — Pre-Cretaceous metasedimentary rocks
- P — Paleozoic marine (lm = limestone or dolomite
- Mv — Pre-Cretaceous metavolcanic rocks
- gr, m — Pre-Cenozoic granitic and metamorphic rocks
- PV — Paleozoic metavolcanic rocks

PERMIAN

- Pi — Permian marine
- Pv — Permian metavolcanic rocks

CARBONIFEROUS

- C — Undivided Carboniferous marine
- CP — Pennsylvanian marine
- CM — Mississippian marine
- Cv — Carboniferous metavolcanic rocks

DEVONIAN

- D — Devonian marine
- Dv — Devonian metavolcanic rocks
- Dvl — Devonian and pre-Devonian? metavolcanic rocks

SILURIAN

- S — Silurian marine
- Sm — Pre-Silurian metasedimentary rocks
- Sm — Pre-Silurian metamorphic rocks
- Sv — Pre-Silurian metavolcanic rocks

ORDOVICIAN

- O — Ordovician marine

CAMBRIAN

- Є — Cambrian marine
- Є — Cambrian – Precambrian marine

PRECAMBRIAN

- p€ — Undivided Precambrian metamorphic rocks
- p€g = gneiss, p€s = schist
- p€gr — Precambrian igneous and metamorphic rock complex
- p€c — Later Precambrian sedimentary and metamorphic rocks
- p€ — Undivided Precambrian granitic rocks
- p€e — Earlier Precambrian metamorphic rocks

HEAVY BORDER ON BOXES INDICATES UNITS THAT APPEAR ON THIS SHEET