

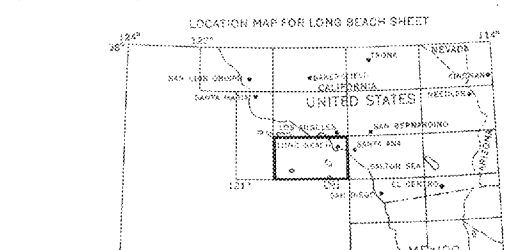
EXPLANATION

SEDIMENTARY AND METASEDIMENTARY ROCKS		IGNEOUS AND META-IGNEOUS ROCKS	
Quaternary	<ul style="list-style-type: none"> Dune sand Alluvium Stream channel deposits Pin deposits Basin deposits Salt deposits Quaternary lake deposits Glacial deposits Quaternary nonmarine terrace deposits Pleistocene marine and marine terrace deposits Pleistocene nonmarine Pli-Pleistocene nonmarine Undivided Pliocene nonmarine Upper Pliocene nonmarine Middle and/or lower Pliocene nonmarine Middle and/or lower Pliocene marine Undivided Miocene nonmarine Upper Miocene nonmarine Upper Miocene marine Middle Miocene nonmarine Middle Miocene marine Lower Miocene marine Oligocene nonmarine Oligocene marine Eocene nonmarine Eocene marine Paleocene nonmarine Paleocene marine Cenozoic nonmarine Tertiary nonmarine Tertiary lake deposits Tertiary marine Undivided Cretaceous marine Upper Cretaceous marine Lower Cretaceous marine Knob/Life Formation Upper Jurassic marine Middle and/or Lower Jurassic marine Triassic marine Pre-Cretaceous metamorphic rocks (ls = limestone or dolomite) Pre-Cretaceous metasedimentary rocks Paleozoic marine (ls = limestone or dolomite) Permian marine Undivided Carboniferous marine Pennsylvanian marine Mississippian marine Devonian marine Silurian marine Pre-Silurian metamorphic rocks Ordovician marine Cambrian marine Cambrian-PreCambrian marine Undivided Precambrian metamorphic rocks (slc = gneiss, slca = schist) Later Precambrian sedimentary and metamorphic rocks Earlier Precambrian metamorphic rocks 	<ul style="list-style-type: none"> Recent volcanic: 0V - rhyolite, 0V' - andesite, 0V'' - basalt, 0V''' - pyroclastic rocks Pleistocene volcanic: 1V - rhyolite, 1V' - andesite, 1V'' - basalt, 1V''' - pyroclastic rocks Pliocene volcanic: 1P - rhyolite, 1P' - andesite, 1P'' - basalt, 1P''' - pyroclastic rocks Miocene volcanic: 1M - rhyolite, 1M' - andesite, 1M'' - basalt, 1M''' - pyroclastic rocks Oligocene volcanic: 0V - rhyolite, 0V' - andesite, 0V'' - basalt, 0V''' - pyroclastic rocks Eocene volcanic: 1E - rhyolite, 1E' - andesite, 1E'' - basalt, 1E''' - pyroclastic rocks Cenozoic volcanic: 0V - rhyolite, 0V' - andesite, 0V'' - basalt, 0V''' - pyroclastic rocks Tertiary volcanic: 1V - rhyolite, 1V' - andesite, 1V'' - basalt, 1V''' - pyroclastic rocks Franciscan volcanic and metavolcanic rocks Mesozoic granite complex (sl = granite and schist; slc = granite and schist) Mesozoic basin intrusive rocks Mesozoic ultrabasic intrusive rocks Jura-Trias metavolcanic rocks Pre-Cretaceous metamorphic rocks Pre-Cenozoic granite and metamorphic rocks Paleozoic metamorphic rocks Permian metamorphic rocks Carboniferous metamorphic rocks Devonian metamorphic rocks Devonian and pre-Devonian and Devonian metamorphic rocks Pre-Silurian metamorphic rocks Pre-Silurian metamorphic rocks Pre-Silurian metamorphic rocks Undivided Precambrian granite rocks 	

TOPOGRAPHIC BASE MAP
Prepared by the Army Map Service (AMS), Dept. of Engineers, U. S. Army, Washington, D. C.
Copyright © 1957 by United States Government Printing Office, 16-50350, or its successors.
Special Report No. 33, Geol. Soc. America
Corrections and additions to culture by California Division of Mines and Geology, 1962.

SUBMARINE CONTOUR INTERVAL 300 FEET
Local depressions 1500'

Line of demarcation: Reef
Rocks: Atoll, Bank
Fossiliferous str.
Interruption of air stream
Narrow or sharp



Scale 1:250,000

0 5 10 15 20 25 30 Statute Miles

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
LONG BEACH SHEET
COMPILATION BY CHARLES W. JENNINGS, 1962

Contacts
(Dashed where approximately located, gradational or inferred)

Faults
(Dashed where approximately located, dotted where concealed)

Thrust fault
(Bars on upper plate; dashed where approximately located, dotted where concealed)

INDEX TO GEOLOGIC MAPPING
(COMPLETE INDEX ON EXPANDED DATA SHEET)

1. Bower, F. H., *Geological Map of California*, 1953.
2. Bower, F. H., *Geological Map of California*, 1953.
3. Bower, F. H., *Geological Map of California*, 1953.
4. Bower, F. H., *Geological Map of California*, 1953.
5. Bower, F. H., *Geological Map of California*, 1953.
6. Bower, F. H., *Geological Map of California*, 1953.
7. Bower, F. H., *Geological Map of California*, 1953.
8. Bower, F. H., *Geological Map of California*, 1953.
9. Bower, F. H., *Geological Map of California*, 1953.
10. Bower, F. H., *Geological Map of California*, 1953.