

EXPLANATION

- Qm Holocene estuarine mud:
Unconsolidated water-saturated mud.
Consists of San Francisco Bay mud,
(bay mud unit in table 1), artificial
fill overlying bay mud, and
estuarine mud at the mouths of
coastal streams. 0-40 m thick.
Overlies Quaternary alluvium.
Locally overlies Franciscan Formation
in San Francisco
- Qal Quaternary alluvium:
Unconsolidated to weakly consolidated
silt, sand, and gravel. Consists of
Holocene and late Pleistocene
alluvium (which together are equivalent
to alluvium unit in table 1).
Includes minor deposits of Holocene
and late Pleistocene beach and dune
sand, and marine terrace deposits.
0-50 m thick. Generally overlies
bedrock in valleys and canyons of
upland and coastal areas, and
Quaternary and Tertiary deposits in
the bay basin and Livermore Valley
- QTs Quaternary and Tertiary sedimentary rocks:
Weakly to moderately consolidated
and indurated mudstone, sandstone,
and conglomerate. Consists of the
Santa Clara (see table 1) and Merced
Formations along the southwestern
margin of the bay basin, and the
Irvington and Livermore gravels of
local usage along the northeastern
margin of the bay basin. Stratigraphic
thickness as much as 1,500 m but
maximum depth to underlying bedrock
variable due to erosion and tectonic
deformation. Underlies younger
sedimentary deposits to depths of 700 m in
Colma Valley and the southern bay basin,
and to shallower depths in Livermore
Valley
- TMs Tertiary and Mesozoic sedimentary rocks:
Moderately to highly consolidated
and indurated chert, shale, sand-
stone, and conglomerate. Consists
of all bedrock units except
Franciscan Formation and plutonic
rocks. Predominantly Mesozoic
marine shale and sandstone (Great
Valley sequence unit in table 1)
northeast of the Hayward fault, and
Tertiary marine sandstone, shale,
chert, and minor amounts of volcanic
rocks in the upland areas throughout
the southern bay region. Underlies
parts of younger sedimentary units
- Kg Cretaceous granitic rocks:
Consists of Monterey Quartz
Diorite of local usage (granite
unit in table 1) and Ben Lomond
Quartz Diorite. Generally highly
jointed and deeply weathered.
Constitutes the basement
complex southwest of
San Andreas fault except for the
small area northeast of the
Pilarcitos fault
- Kjf Franciscan Formation:
Mostly well-indurated sandstone
and shale but includes subordinate
amounts of gneiss, chert, lime-
stone, conglomerate, and metamorphic
rocks of blueschist facies (collectively
the Franciscan Formation unit
in table 1). Generally highly
deformed and locally intensely
sheared with hard blocks of various
lithologies in a matrix of clay
materials. Constitutes the basement
complex northeast of the San Andreas
fault and in the small area southwest
of the fault between the Pilarcitos
fault and the San Andreas fault
- R Reservoir or lake

Fault

Data sources:

Alluvial units: Unpublished map of Quaternary deposits
1:125,000 by E. J. Helley, K. R. Lajoie,
and D. B. Burke (written communication, 1974)
Bedrock units: Unpublished compilation by E. E. Brabb
(written communication, 1974)
Generalized geologic units compiled and modified from above
sources by K. R. Lajoie, 1974



Base from U.S. Geological Survey 1:125 000
San Francisco Bay Region, sheet 3 of 3

SHEET 3: GENERALIZED GEOLOGIC MAP
Faults other than the San Andreas and the Hayward and its southern extension are omitted

**MAPS SHOWING MAXIMUM EARTHQUAKE INTENSITY
PREDICTED IN THE SOUTHERN SAN FRANCISCO BAY REGION, CALIFORNIA,
FOR LARGE EARTHQUAKES ON THE SAN ANDREAS AND HAYWARD FAULTS**

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