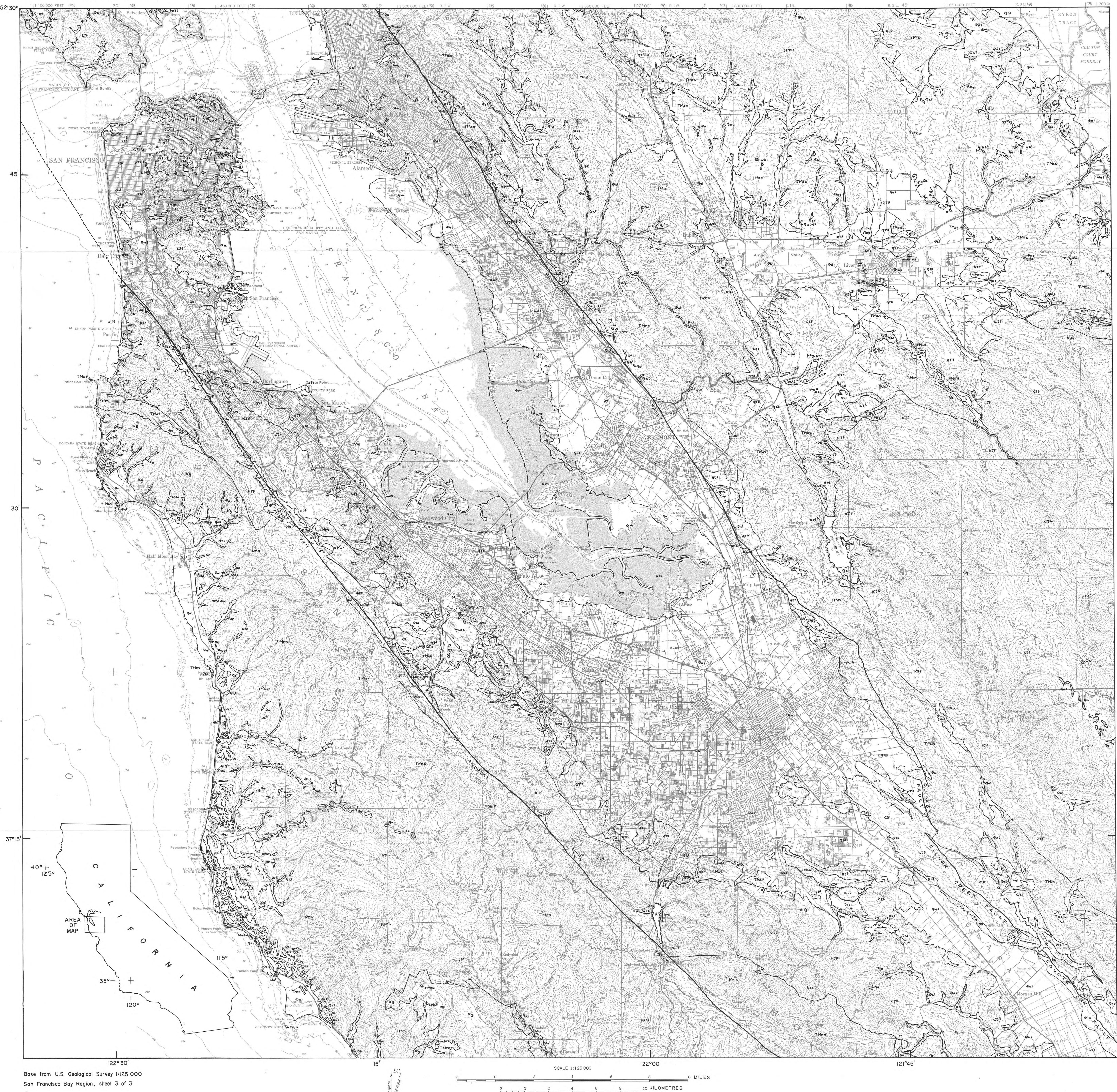


EXPLANATION



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**

by

Roger D. Borcherdt, James F. Gibbs, and Kenneth R. Lajoie
1975

USGS LIBRARY - RESTON
3 1818 00218978 3

U.S. GEOLOGICAL SURVEY
RESTON, VA
MAY 9 1996

Text of (800)
A361s
No. 709

M(800)
MF
No. 209
1990
Sheet 3
C.1

Qm
Holocene estuarine mud:
Unconsolidated water-saturated mud.
Consists of San Francisco Bay mud,
(bay mud unit in table 1), artificial
fill overlying mud, and
estuarine sand at the mouth of
coastal streams. 0-40 m thick.
Overlies Quaternary alluvium.
Locally overlies Franciscan Formation
in San Francisco

Qa1
Quaternary alluvium:
Unconsolidated to weakly consolidated
silt, sand, and gravel. Consists of
Holocene and late Pleistocene
alluvium (which is equivalent
to the mud 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, which is composed 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 group, and
Formation along the southeastern
margin of the bay basin, and the
Irvington and Livermore gravels of
local usage along the northeastern
margin of the bay basin.
grain size thickness such as 1,500 m
but maximum depth to underlying bedrock
variable due to erosion and tectonic
deformation. Underlies younger sedi-
mentary deposits to depths of 700 m in
Colma Valley and the southern bay basin,
and to shallower depths in Livermore
Valley

TM2s
Tertiary and Mesozoic sedimentary rocks:
Moderately to highly indurated
chert, shale, sandstone,
and conglomerate. Consists of all bedrock units
except Franciscan and plutonic
rocks. Predominantly Mesozoic
marine shale and sandstone (Great
Valley sequence unit in table 1)
northeast of the San Andreas
and Tertiary 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 Montara Quartz
Diorite of local usage (granite
unit in table 1) and Ben Lomond
Quartz Diorite.
Generally jointed and deeply
weathered. Constitutes the base-
ment complex southwest of
San Andreas fault and the
small area northeast of the
Pilarcitos fault

KJF
Franciscan Formation:
Shallowly well-indurated sandstone and
shale but includes subordinate
amounts of greenish chert, lime-
stone, conglomerate, and metamorphic
rocks of blueschist facies (collect-
ively the Franciscan Formation unit
in table 1). Generally highly
deformed and locally intensely
sheared with hard blocks of various
lithologies in 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