

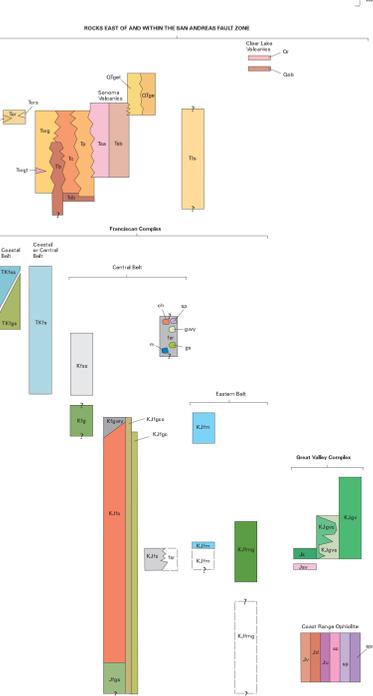
- SOURCES OF MAP DATA**  
(See References Cited for sources with dates shown in parentheses)
1. E. H. Bailey, geologic investigations in 1957-1962.
  2. E. H. Bailey and M. C. Blake, Jr., field investigations in 1959-1961; T. W. Doherty, field investigations in 1962 and Higgins (1966).
  3. Wentworth (1967) and (1968), Wentworth and others (1968); recently active fault traces and adjacent landslides from Brown and Wolfe (1970).
  4. Crawford (1965), supplemented by field reconnaissance by Blake and Wright in 1970.
  5. Gearty (1961), supplemented by field reconnaissance by Blake and Wright in 1970; recently active faults from Brown (1972) and California Division of Mines and Geology (1963, 1965); Glen Ellen Formation from Cardwell (1958) and advice of J. A. Barton and K. F. Price, Jr.
  6. Higgins (1959), supplemented by field reconnaissance by Blake and Wright in 1970.
  7. Reconnaissance by C. M. Wentworth in 1970, augmented by information from Julius Schlocker and Schlocker and Bonita (1963).
  8. McNeil (1968), McLaughlin (1978), supplemented by field reconnaissance by Blake and Wright in 1970; active faults from California Division of Mines and Geology (1963).
  9. Bailey (1960), McLaughlin (1978).
  10. Rudolf G. Strain, geologic investigations in 1967-1969.
  11. Tracy (1962), Christensen (1973), Bodman (1981), supplemented in western quarter of study area by investigation by W. P. Lewis in 1966, and field reconnaissance by Blake and Wright in 1970; contact between Plutonic and Wilson Grove Formation from J. A. Barton; Glen Ellen Formation from Cardwell (1958).
  12. Clyde Wainwright, field investigations in 1970.

**LIST OF MAP UNITS**

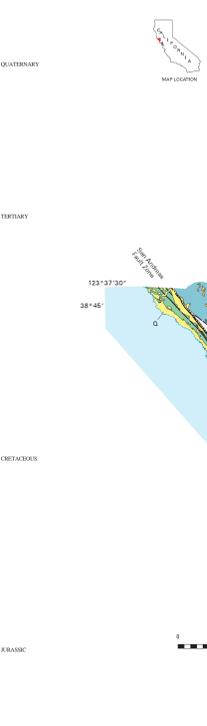
- |  |  |
|--|--|
| <b>SURFICIAL DEPOSITS</b>  | <b>Great Valley complex</b>  |
| Artificial fill (Holocene)   | Sandstone, shale, and conglomerate (Early Cretaceous and Late Jurassic)                |
| Alluvial fan and fluvial deposits (Quaternary)                         | Sandstone, siltstone, and shale  |
| Bay mud (Quaternary)   | Conglomerate   |
| Beach and dune sand (Quaternary)                                       | Knoxville Formation (Late Jurassic)  |
| Landslide deposits (Quaternary)  | Keratophyre and quartz keratophyre tuff (Late Jurassic)                                |
| Alluvial and marine terrace deposits (Pliocene)                        | Coast Range Ophiolite (Late and Middle Jurassic)                                       |
| Older alluvial fan deposits (Pliocene)                                 | Mafic and intermediate volcanic rocks  |
| <b>ROCKS EAST OF AND WITHIN THE SAN ANDREAS FAULT ZONE</b>             | Mafic and intermediate intrusive rocks   |
| Clear Lake Volcanics   | Ultramafic rocks   |
| Rhyolite and rhyodacite (Pliocene)                                     | Serpentine   |
| Olivine basalt (Pliocene)  | Silica-carbonate rock  |
| Glen Ellen Formation (Pliocene?) and Pliocene                          | Serpentine matrix in change  |
| Tuffaceous member  | <b>ROCKS WEST OF AND WITHIN THE SAN ANDREAS FAULT ZONE</b>                             |
| Olson Ranch Formation (Pliocene)                                       | Sandstone and mudstone of the Fort Ross area (early Miocene)                           |
| Sandstone  | <b>Great Valley(?) complex</b>   |
| Conglomerate   | German Rancho Formation of Wentworth and others (1998b) (Oligocene and Paleocene)      |
| Sedimentary rocks of Little Sulphur Creek (Pliocene and (or) Miocene)  | Undifferentiated German Rancho and Gualala Formations (Late Cretaceous and Paleocene?) |
| Sonoma Volcanics (Pliocene and Miocene)                                | Gualala Formation of Wentworth and others (1998b) (Late Cretaceous and Paleocene?)     |
| Andesite   | Anchor Bay member  |
| Basalt   | Stewarts Point member  |
| Wilson Grove Formation (late Pliocene to late Miocene)                 | Siltstone near Black Point (Cretaceous? or Jurassic?)                                  |
| Tuff (late Miocene)  | Salinian complex   |
| Sand and gravel of Cotati (Pliocene and late Miocene)                  | Quartz-diorite of Bodega Head (Cretaceous)   |
| Petaluma Formation (Pliocene and late Miocene)                         |  |
| Undivided basalt (Pliocene and Miocene)                                |  |
| Donsell Ranch volcanics of Youngman, 1989 (Miocene)                    |  |
| Franciscan Complex   |  |
| Coastal Belt   |  |
| Sandstone (late Eocene to Late Cretaceous, Maastrichtian)              |  |
| Greenstone (middle Eocene to Late Cretaceous)                          |  |
| Coastal or Central Belt  |  |
| TKis   |  |
| Sandstone (late Eocene to Late Cretaceous, Turonian)                   |  |
| Central Belt   |  |
| Kfs  |  |
| Sandstone (Late Cretaceous, Turonian to Campanian)                     |  |
| Greenstone (late?) Cretaceous  |  |
| Kjgsv  |  |
| Sandstone (late and Early Cretaceous, Cenomanian and (or) late Albian) |  |
| Kjgsv  |  |
| Greenstone, chert, and sandstone (Cretaceous and Jurassic)             |  |
| Kjgsv  |  |
| Chert (Cretaceous and Jurassic)  |  |
| Kjgsv  |  |
| Greenstone and Chert (Cretaceous and Jurassic)                         |  |
| Kjgsv  |  |
| Graywacke and mélange (Cretaceous and Jurassic)                        |  |
| Mélange  |  |
| Greenstone block   |  |
| Chert block  |  |
| Graywacke block  |  |
| High-grade metamorphic rock block                                      |  |
| Serpentinite block   |  |
| Greenstone (Jurassic)  |  |
| Eastern Belt   |  |
| Kjfs   |  |
| Metagraywacke (Cretaceous and Jurassic)                                |  |
| Metabasalt (Cretaceous and Jurassic)                                   |  |

**CORRELATION OF MAP UNITS**

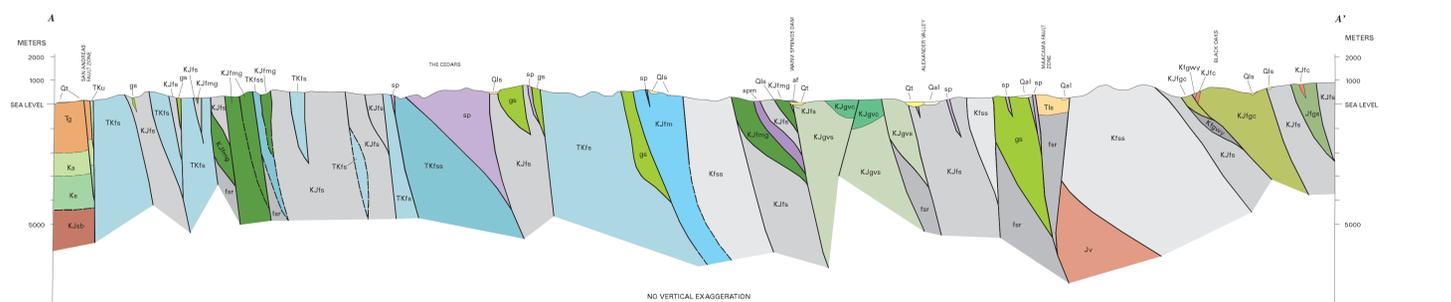
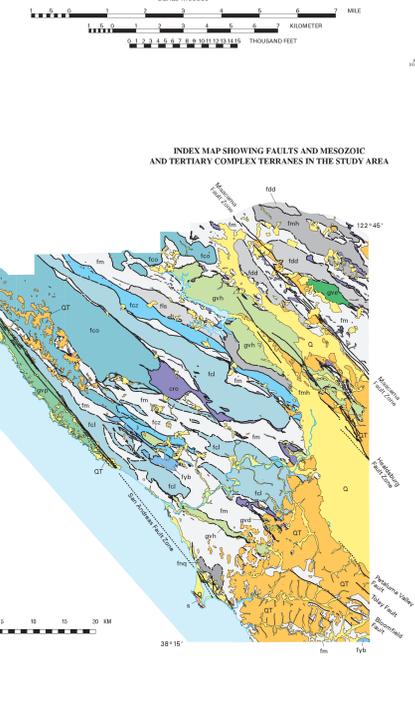
Note: For lithology and metamorphic units, position of lines with solid lines. Arrows indicate type of contact or relationship, respectively: position of lines with dashed boundaries indicates age of possible.



**EXPLANATION OF TERRANE MAP**



**INDEX MAP SHOWING FAULTS AND MESOZOIC AND TERTIARY COMPLEX TERRAINS IN THE STUDY AREA**



**Geologic Map and Map Database of Western Sonoma, Northernmost Marin, and Southernmost Mendocino Counties, California**

By  
M.C. Blake, Jr., R.W. Graymer, and R.E. Stamski

Digital data and cartography prepared under Activity 7. Geologic map scale: 1:50,000. This map was prepared on an electronic plotter directly from digital data. Operational calibration was 0.2% between electronic plotting and scanning. A 4% difference on the same plotter and paper may change map area by approximately 10 percent. Therefore, scale and dimensions may not be true to scale of this map. Available from U.S. Geological Survey, Information Services, Box 370, Federal Center, Denver, CO 80275. (303) 487-4525. This publication also includes a digital geologic map (GML) database. Available on the World Wide Web at: <http://pubs.usgs.gov/of/2002/> Any use of trade names or firm names is for identification purposes only and does not imply endorsement by the U.S. Government.