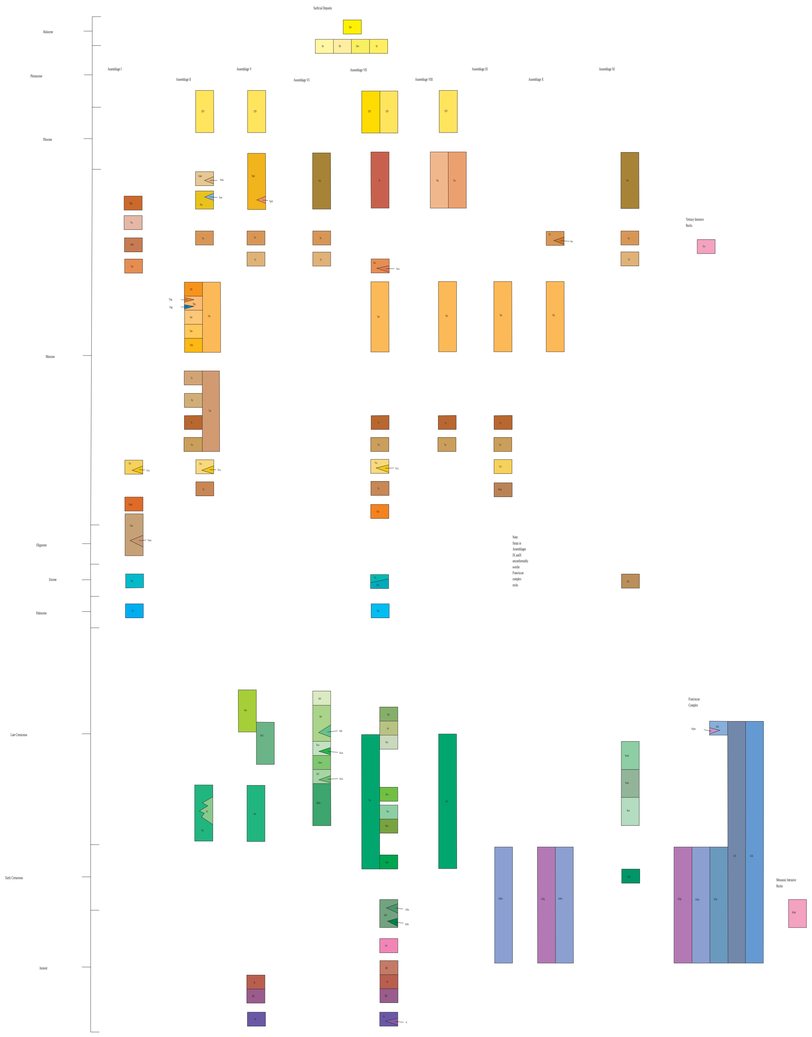
CORRELATION OF MAP UNITS



MAP EXPLANATION

Surficial Deposits

- Qar Artificial Deposits
- Qu Undivided surficial deposits
- Qls Landslide deposits
- Qoa Older alluvial deposits
- Qt Terrace deposits

Tertiary Intrusive Rocks

- Tsv Silicic intrusive rocks

Mesozoic Intrusive Rocks

- KJqd Quartz diorite

Franciscan Complex

- KJf Undivided Franciscan rocks
- Kfn Novato Quarry terrane - sandstone and siltstone
- Kfgm Diorite in Novato Quarry terrane
- KJfs Undivided Franciscan sandstone
- KJfg Undivided Franciscan greenstone
- KJfe Eylar Mountain terrane - sandstone, siltstone, conglomerate and chert
- KJfm Melange terrane
- fc chert
- fg greenstone
- fl limestone
- fs meta-graywacke
- sp Serpentinite

Assemblage I

- Tbp Bald Peak volcanics
- Tst Siesta Formation - siltstone and sandstone
- Tmb Moraga volcanics
- Tor Orinda Formation - conglomerate, sandstone, and siltstone
- Tcc Claremont Chert
- Tccs Claremont Chert, sandstone interbeds
- Tush Unnamed gray shale
- Tsms Unnamed brown sandstone
- Tsm Unnamed brown mudstone
- Tes Unnamed sandstone and green mudstone
- Ta Unnamed glauconite sandstone

Assemblage II

- QTl Livermore gravels
- Tmll Mullholland Formation - lower member
- Tmls Mullholland Formation - sandstone(?) member
- Tus Unnamed sedimentary and volcanic rocks
- Tusl Limestone member
- Tn Neroly Formation - blue sandstone
- Tbr Briones Formation, undivided - sandstone, locally divided into:
- Tbi Briones Formation, I member -
- Tbg Briones Formation, G member - sandstone and shell breccia
- Tbgc conglomerate beds
- Tbgl limestone beds
- Tbf Briones Formation, F member - sandstone and shale
- Tbe Briones Formation, E member - sandstone and shell breccia
- Tbd Briones Formation, D member - massive sandstone
- Tro Rodeo, Hambre, Tice, and Oursan Formations, undivided
- Tr Rodeo Shale
- Th Hambre Sandstone
- Tt Tice Shale
- To Oursan Sandstone
- Tcs Claremont Formation - shale and chert
- Tccs Claremont Formation, sandstone member
- Ts Sobrante Sandstone
- Ku Unnamed sandstone and shale
- Kc Unnamed conglomerate

Assemblage V

- QTl Livermore gravels
- Tgvt Green Valley/Tassajara group
- Tgvtt Green Valley/Tassajara group tuff member
- Tn Neroly Formation - blue sandstone
- Tc Cierbo Formation - white sandstone
- Kss Unnamed sandstone
- Kslt Unnamed siltstone
- Ku Unnamed shale
- Jb Basalt and diabase
- Jgb Gabbro
- sp Serpentinite

Assemblage VI

- Tol Oro Loma Formation - reddish silt, sand, and gravel
- Tn Neroly Formation
- Tc Cierbo Formation - white sandstone

Great Valley Sequence

- Kel Lower Unit E - siltstone
- Kd Unit D - sandstone
- Kds Unit D, shale member
- Kcu Upper Unit C - shale
- Kcus Upper Unit C, sandstone member
- Kcm Middle Unit C - sandstone
- Kcl Lower Unit C - shale
- Kcls Lower Unit C, sandstone member
- Khsh Unit B, shale member

Assemblage VII

- QTl Irvington gravels
- QTl Livermore gravels
- Tv Unnamed volcanic rocks
- Tor Orinda Formation - conglomerate, sandstone, and mudstone
- Torv Orinda Formation, dacite lens
- Tbr Briones Formation - sandstone and shell breccia
- Tt Tice Shale
- To Oursan Sandstone
- Tcs Claremont Formation - shale and chert
- Tccs Claremont Formation, sandstone member
- Ts Sobrante Sandstone
- Tsh Unnamed shale and sandstone
- Ttls Tolman Formation, limestone member
- Tts Tolman Formation, glauconite sandstone member
- Tps Unnamed shale and glauconite sandstone
- Kp Pinehurst Shale
- Kr Redwood Canyon Formation - sandstone
- Ksc Shepherd Creek Formation - siltstone and mudstone
- Ks Unnamed sandstone and shale
- Kcv Unnamed sandstone, conglomerate, and shale
- Ko Oakland Formation - conglomerate and sandstone
- Kjm Joaquin Miller Formation - fine sandstone and shale
- Ksh Unnamed shale
- KJk Knoxville Formation - sandstone and shale
- KJkc Knoxville Formation - conglomerate member
- KJkv Knoxville Formation - volcanic breccia member
- Jsv Keratophyre and quartz keratophyre
- Jpb Pillow basalt
- Jb Basalt and diabase
- Jgb Gabbro
- sp Serpentinite
- sc Silica carbonate rock

Assemblage VIII

- QTl Livermore gravels
- Tlp Unnamed freshwater limestone and mudstone
- Tss Unnamed sandstone, chert, and limestone
- Tbr Briones Formation - sandstone and shell breccia
- Tt Tice Shale - brown mudstone
- To Oursan Sandstone - olive sandstone and siltstone
- Ks Unnamed sandstone and shale

Assemblage IX

- Tbr Briones Formation - sandstone and shell breccia
- Tt Tice Shale - brown mudstone
- To Oursan Sandstone - olive sandstone and siltstone
- Tcc Claremont Formation - chert and siliceous shale
- Ttem Temblor Sandstone

NOTE Ttem unconformably overlies rocks of the Franciscan complex in this assemblage

Assemblage X

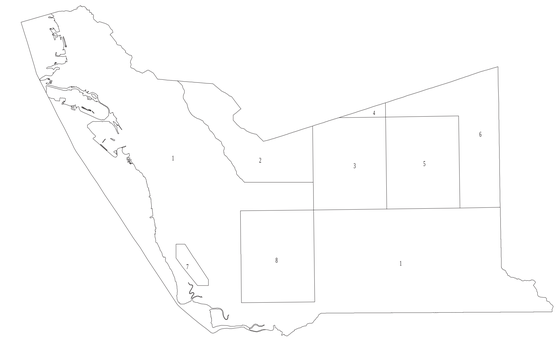
- Tn Neroly Formation - blue sandstone
- Tnc Neroly Formation, conglomerate member
- Tbr Briones Formation - sandstone and shell breccia

NOTE Tbr unconformably overlies rocks of the Franciscan complex in this assemblage.

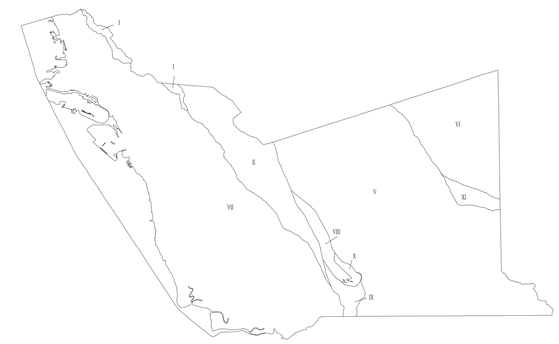
Assemblage XI

- Tol Oro Loma Formation - reddish silt, sand, and gravel
- Tn Neroly Formation - blue sandstone
- Tc Cierbo Formation - white sandstone
- Tte Tesla Formation - sandstone, claystone, and coal
- Ksuh Unnamed shale
- Ksus Unnamed sandstone
- Ksu Unnamed sandstone and shale
- Kkh Horsetown Formation - dark shale and sandstone

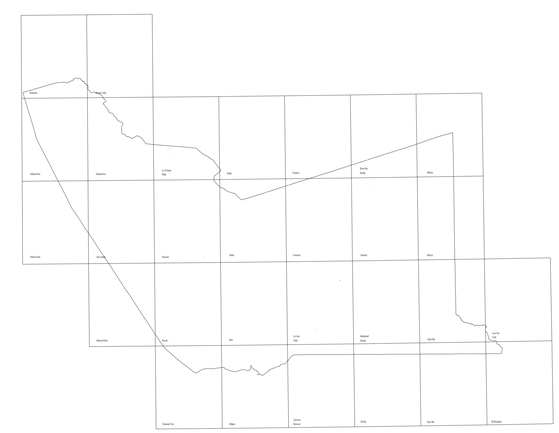
- Contact
- Contact, approximately located
- Contact, inferred
- Contact, concealed
- Fault
- Fault, approximately located
- Fault, inferred
- Fault, uncertain
- Fault, concealed
- Fault, concealed and uncertain
- Oblique fault with thrust or reverse component
- Oblique fault with thrust or reverse component, approximately located
- Oblique fault with thrust or reverse component, inferred
- Oblique fault with thrust or reverse component, uncertain
- Oblique fault with thrust or reverse component, concealed
- Oblique fault with thrust or reverse component, concealed and uncertain
- Oblique fault with normal component
- Oblique fault with normal component, approximately located
- Oblique fault with normal component, concealed
- Fold axis
- Fold axis, inferred
- Fold axis, concealed
- Tuff bed
- Strike and dip of bedding
- Strike and dip of overturned bedding
- Strike of vertical bedding
- Flat bedding
- Strike and dip of bedding, top direction known
- Strike and dip of overturned bedding, top direction known
- Strike of vertical bedding, top direction known
- Approximate strike and dip of bedding
- Crumpled bedding
- Strike and dip of bedding and foliation
- Strike of vertical bedding and foliation
- Strike and dip of foliation
- Strike of vertical foliation
- Strike and dip of joint
- Anticline
- Syncline
- Overturned syncline
- Right lateral offset on fault



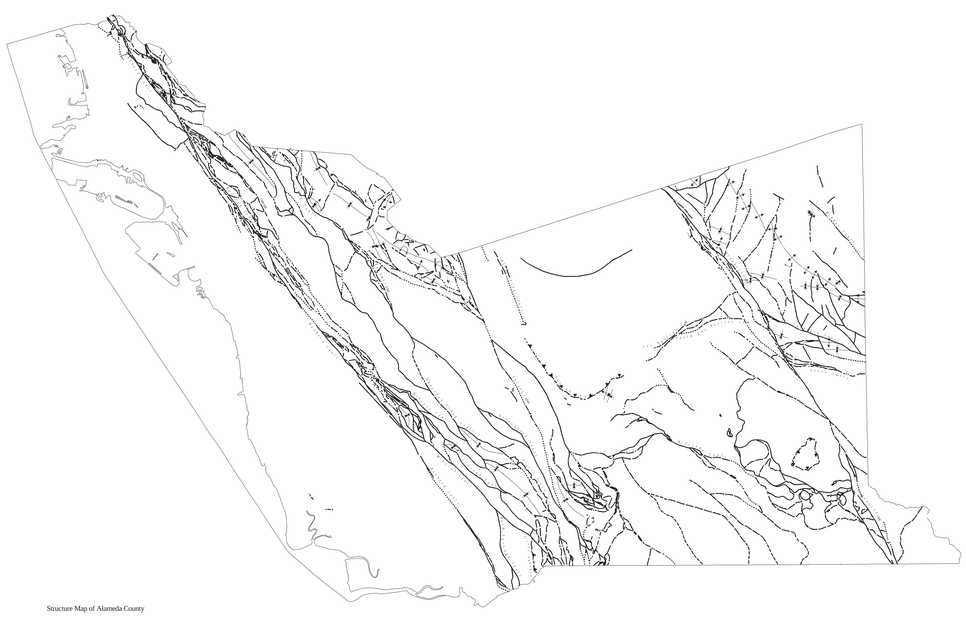
Index Map for Sources of Data (see alsource.txt)



Stratigraphic assemblages in Alameda County (see algeo.txt)



7.5 minute quadrangles in Alameda County



Structure Map of Alameda County

PRELIMINARY GEOLOGIC MAP EMPHASIZING BEDROCK FORMATIONS IN ALAMEDA COUNTY, CALIFORNIA: DERIVED FROM THE DIGITAL DATABASE OPEN-FILE REPORT 96-252

By

R.W. Graymer, D.L. Jones, and E.E. Brabb

1996

This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards or with the North American Stratigraphic Code. Any use of trade, product, or firm names is for descriptive purposes only and does not imply endorsement by the U.S. Government.
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