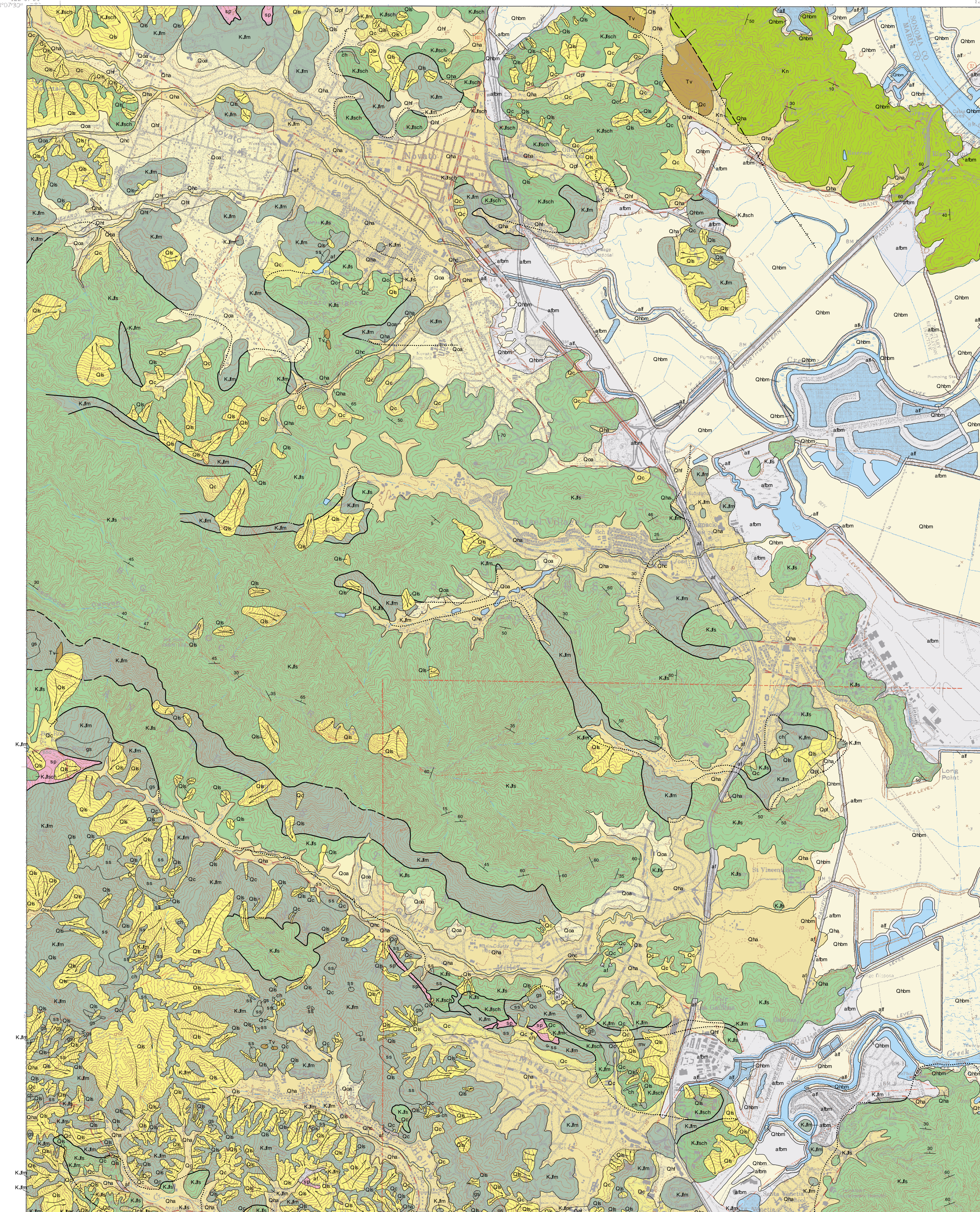


GEOLOGIC MAP OF THE NOVATO 7.5' QUADRANGLE MARIN AND SONOMA COUNTIES, CALIFORNIA: A DIGITAL DATABASE VERSION 1.0

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Digital Database
by:
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2002

1. California Geological Survey, 801 K St. MS 12-31, Sacramento, CA 95814
2. William Lettis & Associates, Inc., 1777 Botello Drive, Suite 262, Walnut Creek, CA 94596

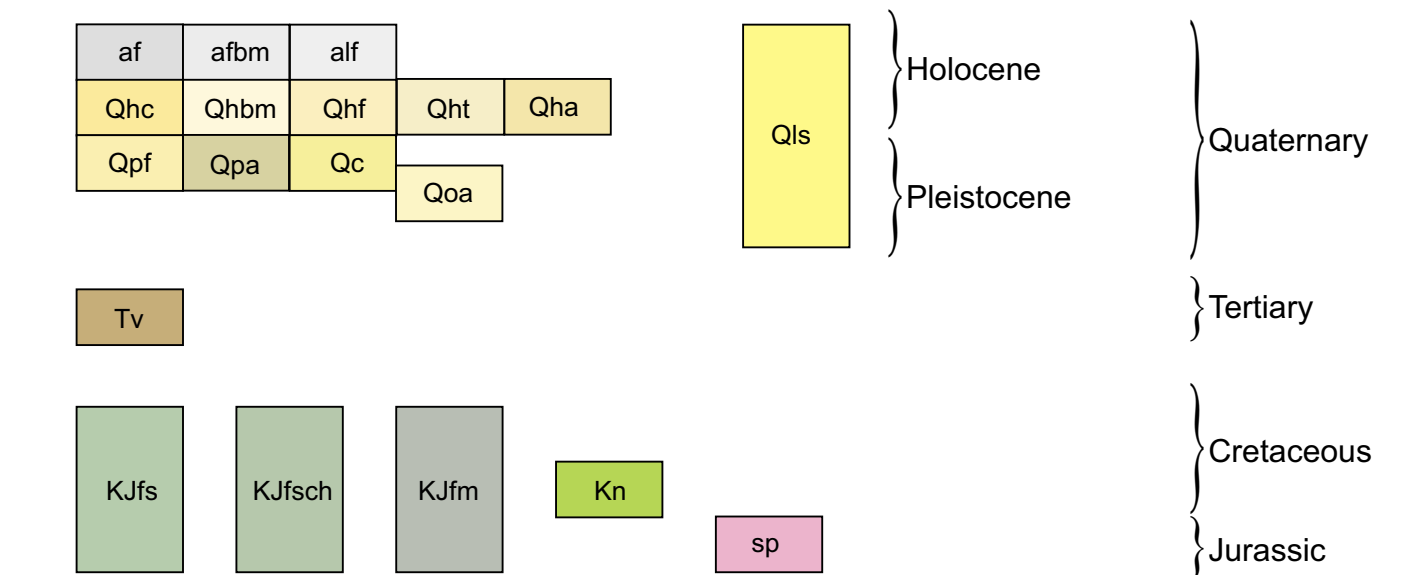


Unit Explanation

(See Knudsen and others, 2000, for more information on Quaternary units).

- af** Artificial fill
- afbm** Artificial fill placed over bay mud
- alf** Artificial levee fill
- Qhc** Modern (<150 years) stream channel deposits in active natural stream channels. Deposits are late Holocene to modern in age and consist of loose alluvial sand, gravel, and silt.
- Qhbm** Holocene (<10,000 years) estuarine deposits (bay mud). Holocene sediments deposited in a tidal marsh, estuary, delta, or lagoon. Sediments are silts, fine sands, peats, and clays.
- Qhf** Holocene alluvial fan deposits- Gravel, sand, silt, or clay deposited by streams emanating from canyons onto alluvial valley floors as debris flows, hyperconcentrated mud flows, or braided stream flows. Sediment is moderately to poorly sorted and moderately to poorly bedded.
- Qht** Holocene stream terrace deposits- Sediment deposited in point bar and overbank settings. Includes sand, gravel, silt, and minor clay. Moderately to well sorted and bedded.
- Qha** Holocene alluvium, undivided- Alluvium deposited on fans, terraces, or in basins. Gravel, sand, and silt that are poorly to moderately sorted.
- Qpf** Latest Pleistocene (<30,000) alluvial fan deposits. Similar to Holocene fans (Qhf), but they are more dissected.
- Qoa** Early to late Pleistocene deposits, undivided. Includes alluvial fan, stream terrace, basin, and channel deposits. Topography often consists of gently rolling hills with little or none of the original planar surface preserved.
- Qc** Colluvium. Unconsolidated and unsorted soil and weathered rock fragments accumulated on or at the base of slopes.
- Qls** Landslides. Includes debris flow and block slump landslides. Arrows show the direction of movement.
- Tv** Tertiary volcanic rocks. Andesite, dacite, and rhyolite, mostly dikes, but some are flow remnants. These rocks are similar to and are likely related to the Burdell Mountain Volcanics.
- Kn** Novato Conglomerate - Massive, well cemented coarse conglomerate in the northeast corner of the quadrangle, composed of well rounded pebbles, and cobbles, of chert, rhyolite, granite, and quartzite in a coarse, sandy matrix (Part of the Great Valley Sequence).
- Kjfs** Franciscan Complex sandstone and shale. Thick bedded, arkosic sandstone and interbedded shale. Arkose is composed of coarse, fairly well sorted quartz and feldspar grains with minor fine-grained matrix.
- Kjfm** Franciscan Complex melange- tectonic mixture of masses of resistant rock types including sandstone, altered mafic volcanic rock (greenstone), chert, serpentine, and exotic metamorphic rocks embedded in a sheared, shaly matrix. Blocks within the melange large enough to be shown on the map are: ss, sandstone and shale; ch, chert; mv, metamorphosed basaltic rocks; gs, greenstone.
- Kjfsch** Franciscan Complex schist, phyllite, and semischist- slightly to well foliated metasedimentary and metavolcanic rocks.
- sp** Serpentinized ultramafic rock

Unit Correlation

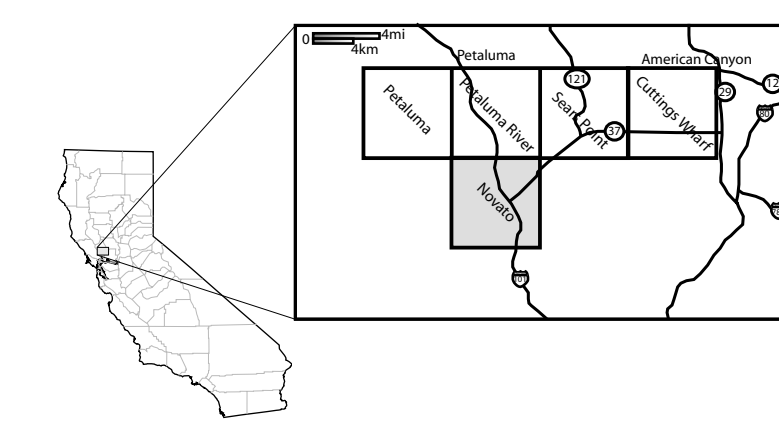


Symbol Explanation

- Contact between map units - solid where accurately located, dashed where approximately located, short dash where inferred, dotted where concealed.
- - - - - ? Fault - solid where accurately located, dashed where approximately located; short dash where inferred; dotted where concealed, queried where uncertain. U = upthrown block, D = downthrown block. Arrow and number indicate direction and angle of dip of fault plane.
- Strike and dip of sedimentary beds:
- 25 / Inclined
- ⊕ Horizontal
- Landslide - arrows indicate principal direction of movement. Queried where questionable. (Not all landslides shown; for additional landslide information see Rice, S.R., 1973).

References

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Topographic base from the U.S. Geological Survey Polyconic Projection

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