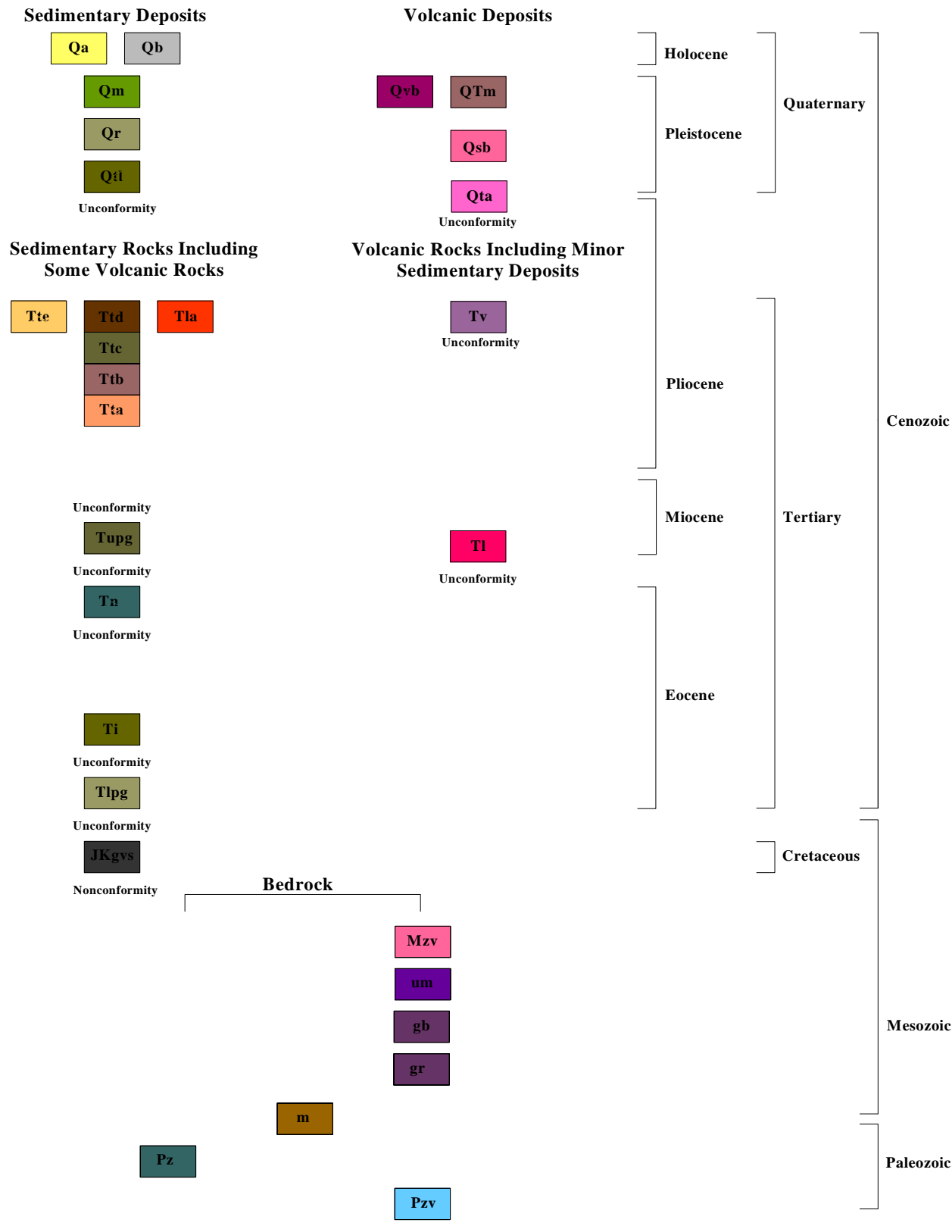


## CORRELATION OF MAP UNITS



## DESCRIPTION OF MAP UNITS

- Qa** **Alluvium** (Holocene)-Includes surficial alluvium and stream channel deposits of unweathered gravel, sand and silt, maximum thickness 80 ft. (*adapted from Harwood and Helley, 1985*).
- Qb** **Basin deposits** (Holocene)-Fine-grained silt and clay derived from adjacent mountain ranges, maximum thickness up to 200 ft. (*adapted from Harwood and Helley, 1985*).
- Qm** **Modesto Formation**, undifferentiated (Pleistocene)-alluvial fan and terrace deposits consisting of unconsolidated weathered and unweathered gravel, sand, silt and clay, maximum thickness approximately 200 ft. (*adapted from Harwood & Helley, 1985*).
- Qr** **Riverbank Formation**, undifferentiated (Pleistocene)-alluvial fan and terrace deposits consisting of unconsolidated to semi-consolidated gravel, sand and silt, maximum thickness approximately 200 ft. (*adapted from Harwood and Helley, 1985*).
- Qu** **Turlock Lake** (Pleistocene)-weathered and dissected arkosic gravels with minor amounts of resistant metamorphic rock fragments and quartz pebbles, sand and silt; maximum thickness approximately 100 ft. (*adapted from Harwood and Helley, 1985*).
- Qvb** **Volcanic Basalts**, undifferentiated (Pleistocene)-younger basalt flows found primarily on the east side of the Sacramento Valley, includes minor exposures of andesite, maximum thickness 100 ft. (*adapted from Harwood and Helley, 1985*).
- QTm** **Tuff Breccia** (Pliocene-Pleistocene)-tuff breccia forming outer ring surrounding the Sutter Buttes (*adapted from Harwood and Helley, 1985*).
- Qsb** **Alluvium of the Sutter Buttes** (Pliocene-Pleistocene)-Volcanic fluvatile sediments, maximum thickness 980 ft.
- Qta** **Volcanic Andesites**, undifferentiated (Pleistocene-Pliocene)-younger andesites forming the center of the Sutter Buttes (*adapted from Harwood and Helley, 1985*).
- Tte** **Tehama Formation** (Pliocene)-includes Red Bluff Formation. Pale green, gray and tan sandstone and siltstone with lenses of pebble and cobble conglomerate, maximum thickness 2,000 ft (*adapted from Harwood and Helley, 1985*).
- Ttd** **Tuscan Unit D** (Pliocene)-Fragmental flow deposits characterized by monolithic masses containing gray hornblende and basaltic andesites and black pumice, maximum thickness 160 ft. (*adapted from Harwood and Helley, 1985*).
- Ttc** **Tuscan Unit C** (Pliocene)-Volcanic lahars with some interbedded volcanic conglomerate and sandstone, maximum thickness 600 ft. (*adapted from Harwood and Helley, 1985; Staton (unpublished), 2000*).
- Ttb** **Tuscan Unit B** (Pliocene)-Layered, interbedded lahars, volcanic conglomerate, volcanic sandstone and siltstone, maximum thickness 600 ft. (*adapted from Harwood and Helley, 1985; Staton (unpublished), 2000*).
- Tta** **Tuscan Unit A** (Pliocene)-Interbedded lahars, volcanic conglomerate, volcanic sandstone, and siltstone containing metamorphic rock fragments, maximum thickness 400 ft. (*adapted from Harwood and Helley, 1985; Staton (unpublished), 2000*).
- Tla** **Laguna Formation** (Pliocene)-Interbedded alluvial gravel, sand and silt, maximum thickness 1,000 feet. (*adapted from Harwood and Helley, 1985; Olmsted and Davis, 1961; DWR Bulletin 118-6, 1978*).
- Tv** **Basalts and andesites**, undifferentiated (Pliocene)-older basalts and andesites found on the northeastern portion of the Sacramento Valley and southwest of Winters, maximum thickness up to 230 ft. (*adapted from Harwood and Helley, 1985*).
- Tupg** **Upper Princeton Gorge** (Miocene-Eocene)-Non-marine sediments composed of sandstone with interbeds of mudstone and occasional conglomerate and conglomerate sandstone, maximum thickness 1,400 ft.
- Tn** **Neroly Formation** (Miocene)-marine to non-marine sediments, blue-gray tuffaceous andesitic sandstone with interbeds of light grey tuff and tuffaceous shales and occasional conglomerate lenses, maximum thickness 500 ft.
- Ti** **Lovejoy Basalt** (Miocene)-Black, dense, hard microcrystalline basalt, maximum thickness 65 feet. (*adapted from Harwood and Helley, 1985*).
- Ti** **Ione Formation** (Eocene)-Marine to non-marine deltaic sediments, light colored, commonly white conglomerate, sandstone and siltstone, which is soft and easily eroded, maximum thickness 650 ft.
- Tlpg** **Lower Princeton Gorge** (Eocene)-includes Capay Formation. Marine sandstone, conglomerate and interbedded silty shale, maximum thickness 2,400 ft. (*adapted from Redwine, 1972*).
- JKgvs** **Great Valley Sequence** (Late Jurassic to Upper Cretaceous)-Marine clastic sedimentary rock consisting of siltstone, shale, sandstone and conglomerate, maximum thickness 15,000 ft.
- Mzv** **Volcanic and Metavolcanic Rocks** (Mesozoic)-Undivided volcanic and metavolcanic rocks, andesite rhyolite flow rocks, greenstone, and volcanic breccia. (*adapted from Jennings, 1977*)
- um** **Ultramafic Rocks** (Mesozoic)-Primarily composed of serpentine, with peridotite, gabbro, and diabase. (*adapted from Jennings, 1977*)
- gb** **Gabbro** (Mesozoic)-Gabbro and dark diotric rocks. (*adapted from Jennings, 1977*)
- gr** **Undifferentiated Granitic Plutons** (Paleozoic-Mesozoic)-Undivided granitic plutons and related rocks. (*adapted from Jennings, 1977*)
- m** **Mixed Rocks** (pre-Cenozoic)-Undivided metasedimentary and metavolcanic rocks of greatly varying types. (*adapted from Jennings, 1977*)
- Pz** **Paleozoic Metasedimentary Rocks** (Paleozoic)-Undivided metasedimentary rocks including slate, shale, sandstone, chert, conglomerate, limestone, dolomite, marble, phyllite, schist, hornfels, and quartzite. (*adapted from Jennings, 1977*)
- Pzv** **Paleozoic Metavolcanic Rocks** (Paleozoic)-Undivided metavolcanic rocks, primarily flows, breccia, and tuff, including greenstone, diabase and pillow lavas. (*adapted from Jennings, 1977*)