

# Santa Ana Geologic Labels

ptype	name	source_ptype	source_name	source_age
af	Artificial Fill	Qaf	Artificial fill	late Holocene
af	Artificial Fill	Qaf?	Artificial fill, uncertain	late Holocene
Qsu	Undifferentiated Surficial Deposits; includes colluvium, slope wash, talus deposits, and other surface deposits of all ages	Qc	Very young colluvial deposits	late Holocene
Qsu	Undifferentiated Surficial Deposits; includes colluvium, slope wash, talus deposits, and other surface deposits of all ages	Qoc	Old colluvial deposits	late to middle Pleistocene
Qsu	Undifferentiated Surficial Deposits; includes colluvium, slope wash, talus deposits, and other surface deposits of all ages	Qos	Old surficial deposits	late to middle Pleistocene
Qsu	Undifferentiated Surficial Deposits; includes colluvium, slope wash, talus deposits, and other surface deposits of all ages	Qvor	Very old regolith	middle to early Pleistocene
Qsu	Undifferentiated Surficial Deposits; includes colluvium, slope wash, talus deposits, and other surface deposits of all ages	Qyc	Young colluvial deposits	Holocene and late Pleistocene
Qsu	Undifferentiated Surficial Deposits; includes colluvium, slope wash, talus deposits, and other surface deposits of all ages	Qyc?	Young colluvial deposits, uncertain	Holocene and late Pleistocene
Qsu	Undifferentiated Surficial Deposits; includes colluvium, slope wash, talus deposits, and other surface deposits of all ages	Qypt	Young peat deposits	Holocene
Qls	Landslide Deposits; may include debris flows and older landslides	Qls	Very young landslide deposits	late Holocene
Qls	Landslide Deposits; may include debris flows and older landslides	Qls?	Very young landslide deposits, uncertain	late Holocene
Qls	Landslide Deposits; may include debris flows and older landslides	Qols	Old landslide deposits	late to middle Pleistocene
Qls	Landslide Deposits; may include debris flows and older landslides	Qvols	Very old landslide deposits	middle to early Pleistocene
Qls	Landslide Deposits; may include debris flows and older landslides	Qyls	Young landslide deposits	Holocene and late Pleistocene
Qls	Landslide Deposits; may include debris flows and older landslides	Qyls?	Young landslide deposits, uncertain	Holocene and late Pleistocene
Qb	Beach Deposits	Qm	Very young marine deposits, active sandy beach deposits	late Holocene

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Qw	Alluvial Wash Deposits	Qsw	Very young slope-wash deposits	late Holocene
Qw	Alluvial Wash Deposits	Qsw?	Very young slope-wash deposits, uncertain	late Holocene
Qw	Alluvial Wash Deposits	Qw	Very young wash deposits	late Holocene
Qw	Alluvial Wash Deposits	Qw3	Very young wash deposits, Unit 3	late Holocene
Qf	Alluvial Fan Deposits	Qf	Very young alluvial-fan deposits	late Holocene
Qf	Alluvial Fan Deposits	Qf1	Very young alluvial-fan deposits, Unit 1	late Holocene
Qf	Young Alluvial Fan Deposits	Qyf4	Young alluvial-fan deposits, Unit 4	late Holocene
Qf	Young Alluvial Fan Deposits	Qyf5	Young alluvial-fan deposits, Unit 5	late Holocene
Qa	Alluvial Valley Deposits	Qa	Very young axial-channel deposits	late Holocene
Qa	Alluvial Valley Deposits	Qv	Very young alluvial-valley deposits	late Holocene
Qa	Young Alluvial Valley Deposits	Qya4	Young axial-channel deposits, Unit 4	late Holocene
Qa	Young Alluvial Valley Deposits	Qya5	Young axial-channel deposits, Unit 5	late Holocene
Qa	Young Alluvial Valley Deposits	Qya6	Young axial-channel deposits, Unit 6	late Holocene
Ql	Lacustrine, Playa and Estuarine (Paralic) Deposits	Qes	Very young estuarine deposits	late Holocene
Ql	Lacustrine, Playa and Estuarine (Paralic) Deposits	Ql	Very young lacustrine deposits	late Holocene
Ql	Lacustrine, Playa and Estuarine (Paralic) Deposits	Qlv	Very young lacustrine and fluvial deposits	late Holocene
Qe	Eolian and Dune Deposits	Qe	Very young eolian deposits	late Holocene
Qyw	Young Alluvial Wash Deposits	Qyw	Young wash deposits	Holocene and late Pleistocene
Qyf	Young Alluvial Fan Deposits	Qyf	Young alluvial-fan deposits	Holocene and late Pleistocene
Qyf	Young Alluvial Fan Deposits	Qyf1	Young alluvial-fan deposits, Unit 1	early Holocene and late Pleistocene
Qyf	Young Alluvial Fan Deposits	Qyf2	Young alluvial-fan deposits, Unit 2	early Holocene
Qyf	Young Alluvial Fan Deposits	Qyf3	Young alluvial-fan deposits, Unit 3	middle Holocene
Qyf	Young Alluvial Fan Deposits	Qyf6	Young alluvial-fan deposits, Unit 6	late Holocene and latest Pleistocene
Qyf	Young Alluvial Fan Deposits	Qyf7	Young alluvial-fan deposits, Unit 7	late Holocene and latest Pleistocene
Qya	Young Alluvial Valley Deposits	Qya	Young axial-channel deposits	Holocene and late Pleistocene
Qya	Young Alluvial Valley Deposits	Qya3	Young axial-channel deposits, Unit 3	middle Holocene
Qya	Young Alluvial Valley Deposits	Qyv	Young alluvial-valley deposits	Holocene and late Pleistocene
Qya	Young Alluvial Valley Deposits	Qyv1	Young alluvial-valley deposits, Unit 1	early Holocene and late Pleistocene

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Qye	Young Eolian and Dune Deposits	Qye	Young eolian deposits	Holocene and late Pleistocene
Qow	Old Alluvial Wash Deposits	Qow	Old wash deposits	late to middle Pleistocene
Qof	Old Alluvial Fan Deposits	Qof	Old alluvial-fan deposits	late to middle Pleistocene
Qof	Old Alluvial Fan Deposits	Qof1	Old alluvial-fan deposits, Unit 1	middle Pleistocene
Qof	Old Alluvial Fan Deposits	Qof3	Old alluvial-fan deposits, Unit 3	late to middle Pleistocene
Qof	Old Alluvial Fan Deposits	Qofv	Old alluvial-fan deposits and young alluvial-valley deposits	Holocene and late to middle Pleistocene
Qof	Old Alluvial Fan Deposits	Qopf	Old paralic deposits overlain by alluvial-fan deposits	late to middle Pleistocene
Qoa	Old Alluvial Valley Deposits	Qoa	Old axial-channel deposits	late Pleistocene
Qoa	Old Alluvial Valley Deposits	Qoa1	Old axial-channel deposits, Unit 1	late to middle Pleistocene
Qoa	Old Alluvial Valley Deposits	Qoa7	Old axial-channel deposits, Unit 7	late Pleistocene
Qoa	Old Alluvial Valley Deposits	Qov	Old alluvial-valley deposits	late to middle Pleistocene
Qol	Old Lacustrine, Playa and Estuarine (Paralic) Deposits	Qop	Old paralic deposits, undivided	late to middle Pleistocene
Qol	Old Lacustrine, Playa and Estuarine (Paralic) Deposits	Qop1	Old paralic deposits, Unit 1	late to middle Pleistocene
Qol	Old Lacustrine, Playa and Estuarine (Paralic) Deposits	Qop2	Old paralic deposits, Unit 2	late to middle Pleistocene
Qol	Old Lacustrine, Playa and Estuarine (Paralic) Deposits	Qop2-6	Old paralic deposits, Units 2-6, undivided	late to middle Pleistocene
Qol	Old Lacustrine, Playa and Estuarine (Paralic) Deposits	Qop3	Old paralic deposits, Unit 3	late to middle Pleistocene
Qol	Old Lacustrine, Playa and Estuarine (Paralic) Deposits	Qop3-6	Old paralic deposits, Units 3-6, undivided	late to middle Pleistocene
Qol	Old Lacustrine, Playa and Estuarine (Paralic) Deposits	Qop4	Old paralic deposits, Unit 4	late to middle Pleistocene
Qol	Old Lacustrine, Playa and Estuarine (Paralic) Deposits	Qop6	Old paralic deposits, Unit 6	late to middle Pleistocene
Qol	Old Lacustrine, Playa and Estuarine (Paralic) Deposits	Qop7?	Old paralic deposits, Unit 7, uncertain	late to middle Pleistocene
Qvof	Very Old Alluvial Fan Deposits	Qvof	Very old alluvial-fan deposits	middle to early Pleistocene

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Qvof	Very Old Alluvial Fan Deposits	Qvof1	Very old alluvial-fan deposits, Unit 1	early Pleistocene
Qvof	Very Old Alluvial Fan Deposits	Qvof3	Very old alluvial-fan deposits, Unit 3	middle to early Pleistocene
Qvoa	Very Old Alluvial Valley Deposits	Qvoa	Very old axial-channel deposits	middle to early Pleistocene
Qvoa	Very Old Alluvial Valley Deposits	Qvoa1	Very old axial-channel deposits, Unit 1	early Pleistocene
Qvoa	Very Old Alluvial Valley Deposits	Qvoa1?	Very old axial-channel deposits, Unit 1, uncertain	early Pleistocene
Qvoa	Very Old Alluvial Valley Deposits	Qvoa2	Very old axial-channel deposits, Unit 2	early Pleistocene
Qvoa	Very Old Alluvial Valley Deposits	Qvoa3	Very old axial-channel deposits, Unit 3	middle to early Pleistocene
Qvoa	Very Old Alluvial Valley Deposits	Qvoa4	Very old axial-channel deposits, Unit 4	middle to early Pleistocene
Qvoa	Very Old Alluvial Valley Deposits	Qvoa5	Very old axial-channel deposits, Unit 5	middle to early Pleistocene
Qvoa	Very Old Alluvial Valley Deposits	Qvov	Very old alluvial-valley deposits	late to middle Pleistocene
Qvol	Very Old Lacustrine, Playa and Estuarine (Paralic) Deposits	Qvop	Very old paralic deposits	middle to early Pleistocene
Qvol	Very Old Lacustrine, Playa and Estuarine (Paralic) Deposits	Qvop?	Very old paralic deposits, uncertain	middle to early Pleistocene
Qss	Coarse-grained formations of Pleistocene age and younger	Qpf	Pauba Formation, fanglomerate, coarse sandstone, and mudstone	Pleistocene
Qss	Coarse-grained formations of Pleistocene age and younger	Qpf?	Pauba Formation, uncertain	Pleistocene
Qss	Coarse-grained formations of Pleistocene age and younger	Qps	Pauba Formation, cross-bedded sandstone	Pleistocene
Qss	Coarse-grained formations of Pleistocene age and younger	Qsp	San Pedro Formation, marine sandstone	Pleistocene
Qss	Coarse-grained formations of Pleistocene age and younger	Qsp2	San Pedro Formation, sandstone and conglomerate	Pleistocene
Qss	Coarse-grained formations of Pleistocene age and younger	Qsp4	San Pedro Formation, sandstone and conglomerate	Pleistocene
Qss	Coarse-grained formations of Pleistocene age and younger	Qsts	San Timoteo Beds, conglomerate, sandstone in upper member	Pleistocene
Qss	Coarse-grained formations of Pleistocene age and younger	Qstu	San Timoteo Beds, upper member, sandstone	Pleistocene
Qss	Coarse-grained formations of Pleistocene age and younger	QTc	Conglomeratic sedimentary rocks of Riverside West 7.5' quadrangle	early Pleistocene and late Miocene

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Qss	Coarse-grained formations of Pleistocene age and younger	QTn	Sedimentary rocks of Norco area	early Pleistocene and late Miocene
Qss	Coarse-grained formations of Pleistocene age and younger	QTs	Unnamed sedimentary rocks in Riverside and Corona areas	early Pleistocene to late Pliocene
Qss	Coarse-grained formations of Pleistocene age and younger	QTt	Conglomerate of Temescal area	early Pleistocene to late Pliocene
Qss	Coarse-grained formations of Pleistocene age and younger	QTwc	Sandstone and conglomerate of Wildomar area, conglomerate unit	Pleistocene, early Quaternary, and late Tertiary
Qss	Coarse-grained formations of Pleistocene age and younger	QTws	Sandstone and conglomerate of Wildomar area, sandstone unit	Pleistocene, early Quaternary, and late Tertiary
Qsh	Fine-grained formations of Pleistocene age and younger	Qch	Coyote Hills Formation, 60% mudstone, 40% sandstone	Pleistocene
Qsh	Fine-grained formations of Pleistocene age and younger	Qlh	La Habra Formation, mudstone, sandstone, and conglomerate	Pleistocene
Qsh	Fine-grained formations of Pleistocene age and younger	Qsp1	San Pedro Formation, siltstone and clay	Pleistocene
Qsh	Fine-grained formations of Pleistocene age and younger	Qsp3	San Pedro Formation, siltstone and clay	Pleistocene
Tss	Coarse-grained Tertiary age formations	Tc	Capistrano Formation, marine sandstone and siltstone	early Pliocene and Miocene
Tss	Coarse-grained Tertiary age formations	Tcg	Conglomerate of Lake Mathews area	Miocene
Tss	Coarse-grained Tertiary age formations	Tcga	Conglomerate of Arlington Mountain	Paleogene
Tss	Coarse-grained Tertiary age formations	Tcgr	Rhyolite-clast conglomerate of Lake Mathews area	Miocene
Tss	Coarse-grained Tertiary age formations	Tch	Sandstone and conglomerate in southeastern Chino Hills	early Pliocene and Miocene
Tss	Coarse-grained Tertiary age formations	Tco	Capistrano Formation, Oso Member sandstone	early Pliocene and late Miocene
Tss	Coarse-grained Tertiary age formations	Tflc	Fernando Formation, conglomerate	Pliocene
Tss	Coarse-grained Tertiary age formations	Tfu	Fernando Formation, upper member, sandstone and conglomerate	Pliocene
Tss	Coarse-grained Tertiary age formations	Tfuc	Fernando Formation, conglomerate	Pliocene
Tss	Coarse-grained Tertiary age formations	Tme	Mount Eden Formation of Fraser (1931), undifferentiated	early Pliocene and Miocene
Tss	Coarse-grained Tertiary age formations	Tmea	Mount Eden Formation of Fraser (1931), arkosic sandstone and conglomerate	Miocene

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Tss	Coarse-grained Tertiary age formations	Tmeb	Mount Eden Formation of Fraser (1931), boulder breccia	Miocene
Tss	Coarse-grained Tertiary age formations	Tmec	Mount Eden Formation of Fraser (1931), coarse sandstone and conglomerate	Miocene
Tss	Coarse-grained Tertiary age formations	Tmeh	Mount Eden Formation of Fraser (1931), sandstone and limestone	Miocene
Tss	Coarse-grained Tertiary age formations	Tn	Niguel Formation, marine sandstone interbedded with sandy siltstone	Pliocene
Tss	Coarse-grained Tertiary age formations	Tn?	Niguel Formation, uncertain	Pliocene
Tss	Coarse-grained Tertiary age formations	Tns	Sandstone of Norco area	Pliocene
Tss	Coarse-grained Tertiary age formations	Tpsc	Puente Formation, Sycamore Canyon Member, sandstone and conglomerate	early Pliocene and Miocene
Tss	Coarse-grained Tertiary age formations	Tpscc	Puente Formation, Sycamore Canyon Member, conglomerate	early Pliocene and Miocene
Tss	Coarse-grained Tertiary age formations	Tpsq	Puente Formation, Soquel Member, sandstone and siltstone	Miocene
Tss	Coarse-grained Tertiary age formations	Tpyc	Puente Formation, Yorba Member, conglomerate	Miocene
Tss	Coarse-grained Tertiary age formations	Ts	Sespe Formation, non-marine conglomerate, sandstone	early Miocene, Oligocene, and late Eocene
Tss	Coarse-grained Tertiary age formations	Ts?	Sespe Formation, uncertain	early Miocene, Oligocene, and late Eocene
Tss	Coarse-grained Tertiary age formations	Tsa	Santiago Formation, sandstone and conglomerate	middle Eocene
Tss	Coarse-grained Tertiary age formations	Tsi	Silverado Formation, sandstone, siltstone, and conglomerate	Paleocene
Tss	Coarse-grained Tertiary age formations	Tsicg	Silverado Formation, basal conglomerate	Paleocene
Tss	Coarse-grained Tertiary age formations	Tsob	San Onofre Breccia, marine sedimentary breccia	middle Miocene
Tss	Coarse-grained Tertiary age formations	Tstd	San Timoteo Beds, conglomerate	Pliocene
Tss	Coarse-grained Tertiary age formations	Tstl	San Timoteo Beds, lower member, sandstone	Pliocene
Tss	Coarse-grained Tertiary age formations	Tstl1	San Timoteo Beds, arkosic sandstone	Pliocene
Tss	Coarse-grained Tertiary age formations	Tstm	San Timoteo Beds, middle member, sandstone and conglomerate	Pliocene
Tss	Coarse-grained Tertiary age formations	Tstrl	San Timoteo Beds, lower member, sandstone and mudrock	Pliocene

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Tss	Coarse-grained Tertiary age formations	Tt	Topanga Group, marine sandstone, siltstone, and shale	middle Miocene
Tss	Coarse-grained Tertiary age formations	Tta	Temecula Arkose	Pliocene
Tss	Coarse-grained Tertiary age formations	Ttb	Topanga Group, Bommer Formation, sandstone	middle Miocene
Tss	Coarse-grained Tertiary age formations	Tv	Vaqueros Formation, sandstone	early Miocene, Oligocene, and late Eocene
Tss	Coarse-grained Tertiary age formations	Tv?	Vaqueros Formation, sandstone, uncertain	early Miocene, Oligocene, and late Eocene
Tss	Coarse-grained Tertiary age formations	Tvs	Vaqueros and Sespe Formations, undifferentiated	early Miocene, Oligocene, and late Eocene
Tss	Coarse-grained Tertiary age formations	Tvss	Vaqueros, Sespe, Santiago, and Silverado Formations, undifferentiated	early Miocene and Paleocene
Tsh	Fine-grained Tertiary age formations	Tcs	Capistrano Formation, siltstone facies, mudstone	early Pliocene and Miocene
Tsh	Fine-grained Tertiary age formations	Tcs?	Capistrano Formation, uncertain	early Pliocene and Miocene
Tsh	Fine-grained Tertiary age formations	Tf	Fernando Formation, siltstone and conglomerate	Pliocene
Tsh	Fine-grained Tertiary age formations	Tfl	Fernando Formation, siltstone, sandstone, and conglomerate	Pliocene
Tsh	Fine-grained Tertiary age formations	Tlm	Lake Mathews Formation, massive mudstone	Miocene
Tsh	Fine-grained Tertiary age formations	Tlm?	Lake Mathews Formation, massive mudstone, uncertain	Miocene
Tsh	Fine-grained Tertiary age formations	Tm	Monterey Formation, marine siltstone	Miocene
Tsh	Fine-grained Tertiary age formations	Tp	Puente Formation, marine siltstone, shale, and sandstone	early Pliocene and Miocene
Tsh	Fine-grained Tertiary age formations	Tplv	Puente, Formation, La Vida Member, siltstone	Miocene
Tsh	Fine-grained Tertiary age formations	Tpy	Puente Formation, Yorba Member, siltstone	Miocene
Tsh	Fine-grained Tertiary age formations	Tsis	Silverado Formation, Serrano Clay Unit	Paleocene
Tsh	Fine-grained Tertiary age formations	Tstf	San Timoteo Beds, fine-grained member, mudrock	Pliocene
Tsh	Fine-grained Tertiary age formations	Tstl2	San Timoteo Beds, claystone, siltstone and sandstone	Pliocene
Tsh	Fine-grained Tertiary age formations	Tilt	Topanga Group, Los Trancas Formation, siltstone	middle Miocene

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ptype	name	source_ptype	source_name	source_age
Tsh	Fine-grained Tertiary age formations	Ttlt?	Topanga Group, uncertain	middle Miocene
Tsh	Fine-grained Tertiary age formations	Ttp	Topanga Group, Paulerino Formation, siltstone and tuffaceous sandstone	middle Miocene
Tv	Tertiary age formations of volcanic origin	Tvem	El Modeno Volcanics, undifferentiated	middle Miocene
Tv	Tertiary age formations of volcanic origin	Tvema	El Modeno Volcanics, andesite	middle Miocene
Tv	Tertiary age formations of volcanic origin	Tvemb	El Modeno Volcanics, basalt	middle Miocene
Tv	Tertiary age formations of volcanic origin	Tvemt	El Modeno Volcanics, tuff and breccia	middle Miocene
Tv	Tertiary age formations of volcanic origin	Tvep	Basalt of Elsinore Peak, vesicular basalt	Miocene
Tv	Tertiary age formations of volcanic origin	Tvh	Basalt of Hogbacks, channel-filling flows	Miocene
Tv	Tertiary age formations of volcanic origin	Tvsr	Santa Rosa basalt of Mann (1955), olivine basalt	Miocene
Tv	Tertiary age formations of volcanic origin	Tvtb	Basalt of Temecula area, vesicular basalt	Miocene
Kss	Coarse-grained Cretaceous age formations of sedimentary origin	Kl	Ladd Formation, undifferentiated	Late Cretaceous
Kss	Coarse-grained Cretaceous age formations of sedimentary origin	Klbc	Ladd Formation, Baker Canyon Conglomerate	Late Cretaceous
Kss	Coarse-grained Cretaceous age formations of sedimentary origin	Klhsc	Ladd Formation, Holz Sandstone and Conglomerate	Cretaceous
Kss	Coarse-grained Cretaceous age formations of sedimentary origin	Ktr	Trabuco Formation, non-marine conglomerate, sandstone, and siltstone	Late Cretaceous
Kss	Coarse-grained Cretaceous age formations of sedimentary origin	Ktrl	Trabuco Formation, lower unit, fanglomerate	Late Cretaceous
Kss	Coarse-grained Cretaceous age formations of sedimentary origin	Ktru	Trabuco Formation, upper unit, conglomerate	Late Cretaceous
Kss	Coarse-grained Cretaceous age formations of sedimentary origin	Kwl	Williams and Ladd Formations, undifferentiated	Late Cretaceous
Kss	Coarse-grained Cretaceous age formations of sedimentary origin	Kwps	Williams Formation, Pleasant Sandstone Member	Late Cretaceous
Kss	Coarse-grained Cretaceous age formations of sedimentary origin	Kwps?	Williams Formation, conglomeratic sandstone, uncertain	Late Cretaceous
Kss	Coarse-grained Cretaceous age formations of sedimentary origin	Kwps1	Williams Formation, conglomeratic sandstone	Late Cretaceous
Kss	Coarse-grained Cretaceous age formations of sedimentary origin	Kwsr	Williams Formation, Shultz Ranch Member, sandstone and conglomerate	Late Cretaceous
Kss	Coarse-grained Cretaceous age formations of sedimentary origin	Kwsr?	Williams Formation, Shultz Ranch Member, sandstone and conglomerate, uncertain	Late Cretaceous
Kss	Coarse-grained Cretaceous age formations of sedimentary origin	Kwsru	Williams Formation, Shultz Ranch Upper Sandstone	Late Cretaceous

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Kss	Coarse-grained Cretaceous age formations of sedimentary origin	Kwst	Williams Formation, Starr Member, fanglomerate	Late Cretaceous
Ksh	Fine-grained Cretaceous age formations of sedimentary origin	Kc	Carbonate-silicate rock	Cretaceous
Ksh	Fine-grained Cretaceous age formations of sedimentary origin	Klhs	Ladd Formation, Holz Shale	Cretaceous
Ksh	Fine-grained Cretaceous age formations of sedimentary origin	Kwsrl	Williams Formation, Shultz Ranch Lower Siltstone	Late Cretaceous
Kv	Cretaceous age formations of volcanic origin	Ksv	Intermixed Estelle Mountain volcanics of Herzig (1991) and Cretaceous (?) sedimentary rocks	Cretaceous
Kv	Cretaceous age formations of volcanic origin	Kvem	Estelle Mountain volcanics of Herzig (1991)	Cretaceous
Kv	Cretaceous age formations of volcanic origin	Kvr	Rhyolite of Estelle Mountain volcanics of Herzig (1991)	Cretaceous
Kv	Cretaceous age formations of volcanic origin	Kvs	Intermixed Estelle Mountain volcanics of Herzig (1991) and Mesozoic sedimentary rocks	Mesozoic
Kv	Cretaceous age formations of volcanic origin	Kvsp	Santiago Peak Volcanics	Cretaceous
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	Jbc	Bedford Canyon Formation, undifferentiated	Jurassic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	Jbc?	Bedford Canyon Formation, undifferentiated?	Jurassic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	Jbc1	Bedford Canyon Formation, metasandstone	Jurassic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	Jbcm	Bedford Canyon Formation, marble and limestone	Jurassic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	KgMz	Intermixed Mesozoic schist and Cretaceous granitic rocks	Mesozoic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	KgPz	Intermixed Paleozoic (?) schist and Cretaceous granitic rocks	Paleozoic

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pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	m	Paleozoic (?) rocks, undifferentiated, marble bodies	Paleozoic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	Pzc	Calc-silicate rocks	Paleozoic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	Pzmp	Marble, Peninsular Ranges	Paleozoic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	Pzms	Marble and schist, undifferentiated	Paleozoic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	Pzq	Impure quartzite	Paleozoic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	Pzsg	Biotite schist, Laborde Canyon area	Paleozoic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	Pzsgp	Biotite schist and gneiss	Paleozoic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	Pzu	Paleozoic (?) rocks, undifferentiated	Paleozoic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	TRma	Rocks of Menifee Valley, amphibolite	Triassic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	TRmdc	Rocks of Menifee Valley, marble	Triassic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	TRmdx	Rocks of Menifee Valley, amphibolite associated with metadunite and serpentinite	Triassic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	TRmg	Rocks of Menifee Valley, metagraywacke	Triassic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	TRmgn	Rocks of Menifee Valley, biotite gneiss and schist	Triassic

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pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	TRmgp	Rocks of Menifee Valley, graywacke and phyllite	Triassic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	TRmi	Rocks of Menifee Valley, phyllite, schist, and quartzite	Triassic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	TRmm	Rocks of Menifee Valley, marble	Triassic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	TRmp	Rocks of Menifee Valley, phyllite	Triassic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	TRmq	Rocks of Menifee Valley, quartz-rich metasandstone	Triassic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	TRmqg	Rocks of Menifee Valley, quartzite and metagraywacke	Triassic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	TRms	Rocks of Menifee Valley, schist	Triassic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	TRmsgn	Rocks of Menifee Valley, metamorphic and amphibolitic grade rocks	Triassic
pKm	Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin	TRmu	Rocks of Menifee Valley, undifferentiated	Triassic
sp	Serpentinite of all ages	Ks	Serpentinite	Cretaceous
sp	Serpentinite of all ages	TRmds	Rocks of Menifee Valley, serpentinitized metadunite, serpentinite	Triassic
sp	Serpentinite of all ages	TRmsm	Rocks of Menifee Valley, serpentinitized metadunite	Triassic
gr	Granitic and other intrusive crystalline rocks of all ages	Katg	Granodiorite of Arroyo del Toro Pluton	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kba	Box Springs Plutonic Complex, amphibolitic gabbro	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kbfg	Box Springs Plutonic Complex, biotite, granodiorite and tonalite	Cretaceous

Santa Ana Geologic Labels

ptype	name	source_ptype	source_name	source_age
gr	Granitic and other intrusive crystalline rocks of all ages	Kbfgi	Box Springs Plutonic Complex, biotite, granodiorite and tonalite with inclusions	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kbft	Box Springs Plutonic Complex, biotite-hornblende tonalite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kbg	Box Springs Plutonic Complex, porphyritic granodiorite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kbgt	Box Springs Plutonic Complex, heterogeneous granodiorite and tonalite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kbhg	Box Springs Plutonic Complex, heterogeneous porphyritic granodiorite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kbhg1	Box Springs Plutonic Complex, layered heterogeneous porphyritic granodiorite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kbht	Box Springs Plutonic Complex, heterogeneous biotite tonalite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kbpg	Monzogranite of Bernasconi Pass, biotite-hornblende	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kbpm	Monzogranite of Bernasconi Pass, migmatic	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kbt	Box Springs Plutonic Complex, biotite tonalite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kcg	Cajalco Pluton, monzogranite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kcgb	Cajalco Pluton, granodiorite and gabbro	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kcgd	Cajalco Pluton, granodiorite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kcgq	Cajalco Pluton, granodiorite and quartz latite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kct	Cajalco Pluton, tonalite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kcto	Cajalco Pluton, tourmalinized monzogranite and granodiorite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kd	Diorite, undifferentiated	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kdqd	Diorite and quartz diorite, undifferentiated	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kdvg	Domenigoni Valley Pluton, granodiorite and tonalite	Cretaceous

Santa Ana Geologic Labels

ptype	name	source_ptype	source_name	source_age
gr	Granitic and other intrusive crystalline rocks of all ages	Kg	Granitic dikes	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kgaa	Green Acres Gabbro Complex, anorthosite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kgab	Green Acres Gabbro Complex, olivine, pyroxene, and hornblende	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kgah	Green Acres Gabbro Complex, hornblende-rich gabbro	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kgam	Green Acres Gabbro Complex, metagabbro	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kgao	Green Acres Gabbro Complex, olivine gabbro	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kgat	Green Acres Gabbro Complex, trocolite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kgb	Gabbro, undifferentiated	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kgbf	Fine-grained hornblende gabbro, Railroad Canyon area	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kgct	Gavilan Ring Complex, biotite hornblende tonalite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kgd	Granodiorite, undifferentiated	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kgg	Gavilan Ring Complex, hypersthene monzogranite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kgh	Gavilan Ring Complex, hypabyssal tonalite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kght	Gavilan Ring Complex, heterogeneous tonalite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kgr	Granophyre	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kgt	Gavilan Ring Complex, massive textured tonalite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kgtf	Gavilan Ring Complex, foliated tonalite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kgti	Gavilan Ring Complex, tonalite with mesocratic inclusions	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kgu	Granite, undifferentiated	Cretaceous

Santa Ana Geologic Labels

ptype	name	source_ptype	source_name	source_age
gr	Granitic and other intrusive crystalline rocks of all ages	Khg	Heterogeneous granitic rocks	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Khg(s)	Heterogeneous granitic rocks	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Khqd	Hypersthene quartz diorite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Klct	Tonalite of Lamb Canyon	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Klmc	Lakeview Mountains Pluton, gabbro	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Klmg	Lakeview Mountains Pluton, hypersthene hornblende gabbro	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Klml	Lakeview Mountains Pluton, leucocratic schlieren	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Klmm	Lakeview Mountains Pluton, melanocratic, biotite, hornblende	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Klmp	Lakeview Mountains Pluton, pegmatitic dikes	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Klmt	Lakeview Mountains Pluton, tonalite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Klmtg	Lakeview Mountains Pluton, tonalite and granodiorite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Klst	La Sierra Tonalite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Klt	Tonalite near mouth of Laborde Canyon	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kmeg	Granite of Mount Eden	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kmhg	Mount Hole Granodiorite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kmp	Micropegmatite granite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kmpc	Micropegmatite and granodiorite of Cajalco Pluton, undifferentiated	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kmrg	Granite of Mount Rubidoux, tonalite dikes	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kpd	Box Springs Plutonic Complex, granite pegmatite dikes	Cretaceous

Santa Ana Geologic Labels

ptype	name	source_ptype	source_name	source_age
gr	Granitic and other intrusive crystalline rocks of all ages	Kpvg	Paloma Valley Ring Complex, monzogranite and granodiorite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kpvgb	Paloma Valley Ring Complex, granodiorite and gabbro	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kpvgr	Paloma Valley Ring Complex, granophyre	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kpvp	Paloma Valley Ring Complex, pegmatite dikes	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kpvt	Paloma Valley Ring Complex, tonalite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kqd	Quartz diorite, undifferentiated	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Krct	Tonalite of Reinhardt Canyon Pluton	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Krg	Granite of Riverside area	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Ksmg	Monzogranite of Squaw Mountain	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kt	Tonalite, undifferentiated	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Ktbh	Tonalite of Bernasconi Hills	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Ktcg	Monzogranite of Tres Cerritos	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Ktd	Tonalite dikes of Mount Rubidoux	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kthgd	Granodiorite of Tusalota Hills	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Ktm	Tonalite and mafic rocks, undifferentiated	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kts	Tonalite of Slaughterhouse Canyon	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kvspi	Intrusive rocks associated with Santiago Peak Volcanics	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kvt	Val Verde Pluton, tonalite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kvt?	Val Verde Pluton, tonalite, uncertain	Cretaceous

Santa Ana Geologic Labels

ptype	name	source_ptype	source_name	source_age
gr	Granitic and other intrusive crystalline rocks of all ages	Kvti	Val Verde Pluton, inclusion-rich tonalite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Kvtk	Val Verde Pluton, potassium feldspar-bearing tonalite	Cretaceous
gr	Granitic and other intrusive crystalline rocks of all ages	Mzdy	Diorite, Yucaipa area	Mesozoic
gr	Granitic and other intrusive crystalline rocks of all ages	Mzmg	Deformed granitic rocks of Transverse Ranges Province	Mesozoic
gr	Granitic and other intrusive crystalline rocks of all ages	Tiema	Volcanic intrusive rocks associated with El Modeno Volcanics, andesite	middle Miocene
gr	Granitic and other intrusive crystalline rocks of all ages	Tiema?	Volcanic intrusive rocks associated with El Modeno Volcanics, uncertain	middle Miocene
gr	Granitic and other intrusive crystalline rocks of all ages	Tiemd	Volcanic intrusive rocks associated with El Modeno Volcanics, diabase	middle Miocene
gr	Granitic and other intrusive crystalline rocks of all ages	Tiemd?	Volcanic intrusive rocks associated with El Modeno Volcanics, uncertain	middle Miocene