



**PRELIMINARY GEOLOGIC MAP OF THE SAN JOSE 30 X 60-MINUTE QUADRANGLE, CALIFORNIA**

Compiled By

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**MAP UNITS**

<p><b>SURFICIAL DEPOSITS</b></p> <p>General</p> <ul style="list-style-type: none"> <li>af Artificial fill (MODERN)</li> <li>Qc Stream channel deposits (HOLOCENE)</li> <li>Qta Alluvium (HOLOCENE)</li> <li>Ql Landslide deposits (QUATERNARY)</li> <li>Qa Alluvium, undivided (QUATERNARY)</li> <li>Qc Colluvium (QUATERNARY)</li> <li>Qc Stream terrace deposits (QUATERNARY)</li> <li>Qta Alluvium (UPPER PLEISTOCENE)</li> <li>Qta Older alluvium (LOWER-MIDDLE PLEISTOCENE)</li> </ul> <p>South Flank of the Santa Cruz Mountains</p> <ul style="list-style-type: none"> <li>Qm Marine terrace deposits (PLEISTOCENE)</li> <li>Qm Anomalous Sand (PLEISTOCENE)</li> <li>Qm Nonmarine terrace deposits (PLEISTOCENE AND PLEISTOCENE?)</li> </ul> <p>Santa Clara Valley</p> <ul style="list-style-type: none"> <li>PP/GP Percolation pond, gravel pit (MODERN)</li> <li>Qbm Bay Mud (HOLOCENE)</li> <li>Qba Basin deposits (HOLOCENE)</li> <li>Qbp Flood plain deposits (HOLOCENE)</li> <li>Qbl Levee deposits (HOLOCENE)</li> <li>Qbc Stream channel deposits (HOLOCENE)</li> <li>Qbt Stream terrace deposits (HOLOCENE)</li> <li>Qbf Alluvial fan deposits (HOLOCENE)</li> <li>Qbf1 Younger</li> <li>Qbf2 Older</li> <li>Qbf3 Alluvial fan deposits (UPPER PLEISTOCENE)</li> <li>Qbf4 Older alluvial fan deposits (MIDDLE TO UPPER PLEISTOCENE)</li> </ul> <p>San Joaquin Valley</p> <ul style="list-style-type: none"> <li>Qbc Stream channel deposits (HOLOCENE)</li> <li>Qba Basin deposits of San Joaquin River (HOLOCENE)</li> <li>Qbl Levee deposits of San Joaquin River (HOLOCENE)</li> <li>Qbp Basin rim and distal fan deposits (HOLOCENE)</li> <li>Qbc Alluvium of Patterson (UPPER HOLOCENE AND UPPER PLEISTOCENE)</li> <li>Qbc Alluvium of San Luis Ranch (LOWER HOLOCENE AND UPPER PLEISTOCENE)</li> <li>Qcu Upper member</li> <li>Qcl Lower member</li> </ul> <p>Alluvium of Los Banos (UPPER AND MIDDLE PLEISTOCENE)</p> <ul style="list-style-type: none"> <li>Qcu Upper member</li> <li>Qcm Middle member</li> <li>Qcl Lower member</li> </ul> <p><b>SANTA CRUZ BLOCK</b></p> <ul style="list-style-type: none"> <li>Tp Patrimonia Formation (PLIOCENE AND UPPER MIOCENE)</li> <li>Tc Santa Cruz Mudstone (UPPER MIOCENE)</li> <li>Tm Santa Margarita Sandstone (UPPER MIOCENE)</li> <li>Tm Monterey Formation (MIDDLE MIOCENE)</li> <li>Tm Lompoc Sandstone (MIDDLE AND LOWER MIOCENE)</li> <li>Tm Lambert Shale (LOWER MIOCENE)</li> <li>Tm Vagadero Sandstone and volcanic rocks (LOWER MIOCENE AND OLIGOCENE)</li> <li>Tz Zzzante Sandstone</li> <li>Tvb Basalt</li> </ul> <p>San Lorenzo Formation (OLIGOCENE AND EOCENE)</p> <ul style="list-style-type: none"> <li>Tc Rice Madstone Member</li> <li>Tc Two-Bar Shale Member</li> </ul> <p>Butano Sandstone (EOCENE)</p> <ul style="list-style-type: none"> <li>Tm Sandstone and mudstone, undivided</li> <li>Tc Conglomerate</li> <li>Kpr Granite and Metamorphic Rocks (CRETACEOUS AND OLDER)</li> </ul> <p><b>SIERRA AZUL BLOCK</b></p> <ul style="list-style-type: none"> <li>sc Silica-carbonate rock (MIOCENE?)</li> <li>Tm Shale and sandstone of Highland Way (LOWER MIOCENE TO LOWER EOCENE)</li> </ul> <p>Sandstone and shale of Loma Chaparral Ridge (EOCENE)</p> <ul style="list-style-type: none"> <li>Tm Sandstone and shale</li> <li>Tm Mottled mudstone and sandstone of Mount Chual (LOWER EOCENE)</li> </ul>	<p>Great Valley Sequence (CRETACEOUS AND JURASSIC)</p> <ul style="list-style-type: none"> <li>Km Sandstone and shale (UPPER CRETACEOUS)</li> <li>Kc Conglomerate (UPPER CRETACEOUS)</li> <li>Kb Mudstone (LOWER CRETACEOUS AND UPPER JURASSIC)</li> <li>Jd Slate of Loma Prieta Peak (JURASSIC)</li> </ul> <p>Coast Range Ophiolite (JURASSIC)</p> <ul style="list-style-type: none"> <li>Jbk Basalt, andesite, diorite, and quartz keratophyre</li> <li>Jc Intrusive complex</li> <li>Jdw Cumulate gabbroic and ultramafic rocks</li> </ul> <p><b>NEW ALMADEN BLOCK</b></p> <ul style="list-style-type: none"> <li>QTe Santa Clara Formation (PLEISTOCENE AND PLOCENE)</li> <li>sc Silica-carbonate rock (MIOCENE?)</li> <li>Tm Monterey Shale (MIDDLE AND LOWER MIOCENE)</li> <li>Tm Sandstone</li> <li>Ts Temblor Sandstone (MIDDLE MIOCENE TO OLIGOCENE?)</li> <li>Tv Dacitic volcanic rocks</li> <li>Jsp Serpentinized harzburgite and dunite</li> </ul> <p><b>CENTRAL BELT, FRANCISCAN COMPLEX (CRETACEOUS AND JURASSIC)</b></p> <ul style="list-style-type: none"> <li>fm Melange (LOWER TERTIARY AND UPPER CRETACEOUS)</li> <li>gs Greenstone</li> </ul> <p>Permian-Triassic (CRETACEOUS)</p> <ul style="list-style-type: none"> <li>fp Formational Limestones (UPPER TO LOWER CRETACEOUS)</li> <li>fpv Basaltic volcanic rocks (LOWER CRETACEOUS)</li> </ul> <p>Marin Headlands Terrace (CRETACEOUS AND JURASSIC)</p> <ul style="list-style-type: none"> <li>fms Graywacke (LOWER CRETACEOUS)</li> <li>fmc Radiolarian chert (LOWER CRETACEOUS TO LOWER JURASSIC)</li> <li>fmv Basaltic volcanic rocks (LOWER JURASSIC)</li> </ul> <p><b>SILVER CREEK BLOCK</b></p> <ul style="list-style-type: none"> <li>QTe Packwood Gravels (PLEISTOCENE AND PLOCENE?)</li> <li>Tsp Silver Creek Gravels (PLOCENE)</li> <li>Tba Basalt of Anderson and Coyote Reservoirs (PLOCENE)</li> <li>Tvo Andesite of Silver Creek (MIOCENE)</li> <li>Ts Sandstone of Silver Creek (MIOCENE)</li> <li>sc Silica-carbonate rock (MIOCENE?)</li> <li>KK Knoxville Formation (LOWER CRETACEOUS AND UPPER JURASSIC)</li> </ul> <p>Coast Range Ophiolite (JURASSIC)</p> <ul style="list-style-type: none"> <li>Jsp Serpentinized harzburgite and dunite</li> </ul> <p><b>CENTRAL BELT, FRANCISCAN COMPLEX (CRETACEOUS AND JURASSIC)</b></p> <ul style="list-style-type: none"> <li>fm Melange (LOWER TERTIARY AND UPPER CRETACEOUS)</li> </ul> <p><b>COYOTE BLOCK</b></p> <ul style="list-style-type: none"> <li>sc Silica-carbonate rock (MIOCENE?)</li> <li>Tb Britones Formation (UPPER MIOCENE)</li> <li>Tc Claremont Formation (UPPER TO MIDDLE MIOCENE)</li> <li>Ts Temblor Sandstone (MIDDLE MIOCENE)</li> <li>Tm Brown weathering mudstone (EOCENE)</li> <li>Tps Glauconitic sandstone and red mudstone (EOCENE AND/OR UPPER PALEOCENE)</li> <li>Kcs Sandstone, mudstone and conglomerate (CRETACEOUS)</li> </ul> <p>Coast Range Ophiolite (JURASSIC)</p> <ul style="list-style-type: none"> <li>Jsp Serpentinized harzburgite and dunite</li> </ul> <p><b>ALUM ROCK BLOCK</b></p> <ul style="list-style-type: none"> <li>QTI Irvington Gravels (PLEISTOCENE AND PLOCENE?)</li> <li>Tor Orinda Formation (UPPER MIOCENE)</li> <li>Tovv Basalt and andesite</li> <li>Tb Britones Formation (UPPER MIOCENE)</li> <li>Tc Claremont Formation (UPPER TO MIDDLE MIOCENE)</li> </ul> <p>Bertrams Formation (CRETACEOUS)</p> <ul style="list-style-type: none"> <li>Kbs Sandstone and mudstone</li> <li>Kbc Conglomerate</li> </ul> <p><b>SIERRA AZUL BLOCK</b></p> <ul style="list-style-type: none"> <li>Kai Sandstone, mudstone and conglomerate (UPPER CRETACEOUS)</li> <li>KK Knoxville Formation (LOWER CRETACEOUS AND UPPER JURASSIC)</li> </ul> <p>Coast Range Ophiolite (JURASSIC)</p> <ul style="list-style-type: none"> <li>Jbk Basalt, keratophyre, and quartz keratophyre</li> <li>Jc Intrusive diabase, diorite, and gabbro</li> <li>Jdw Cumulate gabbroic and ultramafic rocks</li> <li>Jsp Serpentinized harzburgite and dunite</li> <li>as Andesitic schist (JURASSIC?)</li> </ul>	<p><b>CENTRAL BELT, FRANCISCAN COMPLEX</b></p> <ul style="list-style-type: none"> <li>fm Melange (LOWER TERTIARY AND UPPER CRETACEOUS)</li> <li>High-grade schist block</li> <li>bs Blueschist</li> <li>ch Chert</li> <li>gs Greenstone</li> <li>mm Metagraywacke</li> <li>cg.gw Conglomerate, graywacke</li> </ul> <p>Burnt Hills Terrace (UPPER CRETACEOUS)</p> <ul style="list-style-type: none"> <li>fb1 Lower, thin-bedded metasediment unit</li> <li>fb2 Middle, thick-bedded metasediment unit</li> <li>fb3 Upper, schistose metagraywacke unit</li> <li>fbc chert</li> <li>fbg greenstone</li> </ul> <p>Yolla Bolly Terrace (CRETACEOUS AND JURASSIC)</p> <ul style="list-style-type: none"> <li>fy1 Lower, unclayed metagraywacke unit</li> <li>fy2 Middle, irregularly cleaved metagraywacke unit</li> <li>fy3 Upper, cleaved metagraywacke unit</li> <li>fyu Metagraywacke, undivided</li> <li>fyv Yolla Bolly Terrace, undivided</li> <li>fyw chert and metachert</li> <li>fyg greenstone and blueschist</li> <li>fyw Ward Creek? Terrace</li> </ul> <p><b>ORISTIMBA BLOCK</b></p> <ul style="list-style-type: none"> <li>QTu Talon Formation (PLEISTOCENE AND PLOCENE)</li> <li>Tf Funstonite (LOWER PLOCENE AND UPPER MIOCENE)</li> <li>Td Basalt of San Luis Reservoir (UPPER MIOCENE)</li> <li>Tvs Valley Springs Formation (LOWER MIOCENE AND UPPER MIDDLE EOCENE)</li> <li>Tpr Poverty Flat Sandstone (UPPER AND MIDDLE EOCENE)</li> <li>Tkr Kreyenhagen Shale (MIDDLE EOCENE)</li> <li>Tds Dominguez Sandstone (MIDDLE EOCENE)</li> </ul> <p>Teton Formation (EOCENE AND PALEOCENE)</p> <ul style="list-style-type: none"> <li>Tm Sandstone and siltstone</li> <li>Tq Quartzose sandstone</li> </ul> <p>Great Valley Sequence</p> <ul style="list-style-type: none"> <li>Moreno Formation (UPPER CRETACEOUS)</li> <li>Kmm Shale</li> <li>Km Sandstone</li> <li>Panocle Formation (UPPER CRETACEOUS)</li> <li>Kps Sandstone</li> <li>Kpc Conglomerate</li> <li>Kpm Mudstone</li> <li>Km Mudstone (UPPER CRETACEOUS)</li> <li>Ksh Shale (LOWER CRETACEOUS)</li> <li>Khm Mudstone, including Hawk Shale (LOWER CRETACEOUS AND UPPER JURASSIC)</li> <li>Klc Conglomerate (LOWER CRETACEOUS)</li> <li>Kc Conglomerate (LOWER CRETACEOUS)</li> <li>Lc Loma Prieta Peak (JURASSIC)</li> </ul> <p>Coast Range Ophiolite (JURASSIC)</p> <ul style="list-style-type: none"> <li>Jbk Basalt, keratophyre, and quartz keratophyre</li> <li>Jc Intrusive diabase, diorite, and gabbro</li> <li>Jdw Cumulate gabbroic and ultramafic rocks</li> <li>Jsp Serpentinized harzburgite and dunite</li> <li>as Andesitic schist (JURASSIC?)</li> </ul>
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