# APPENDICIES

## APPENDIX 1: Rock Units

**HOLOCENE**

Old Alluvial Deposits

Pebble-gravel, sand

Older Dune Sand Deposits

Unconsolidated and slightly cemented sand of stabilized dunes

**PLEISTOCENE**

Orcutt Sand

Slightly deformed terrace deposits; Interbedded reddish-brown or gray sand and gravel Freshwater molluscs rare. Maximum exposed thickness about 100 ft. Well cores suggest it may be up to 550 feet thick in the subsurface.

Paso Robles Formation

Sandstone, siltstone, claystone, and conglomerate; unconsolidated to well consolidated. Clasts, other than Monterey shale or chert, within the conglomerate are dominantly from the Franciscan melange.

Quatal Formation and conglomerate

Yellowish-gray to greenish-gray, thick-bedded claystone, greenish-gray, thin bedded; limestone, white, very thin bedded; lower part tongues eastward into Quatal Formation.

**PLIOCENE AND UPPER MIOCENE**

Sisquoc Formation

Mudstone,diatomite, porcelaneous mudstone or shale, locally siltstone and sandstone. Up to 2,000 feet thick

**MIDDLE MIOCENE**

Santa Margarita Formation

Sandstone, siltstone, and minor conglomerate; marine; possibly includes nonmarine tongues in the upper part; locally contains siliceous silty shale; sandstone contains mollusks and echinoids.

Caliente Formation

Non-marine sandstone and red clay with basalt.

Monterey Formation

General Description

Brittle, siliceous, thinly bedded shale, siltstone, claystone, porcelaneous shale, diatomaceous silstone, cherty shale. Up to 5,000 feet thick.

Upper member

Porcelaneous siliceous shale, cherty shale, opaline shale. Up to 300 feet thick

Cherty member

Cherty shale and porcelaneous siliceous shall. Up to 50 feet thick. Exposed in Santa

Maria River.

Lower member

Thinly bedded siliceous siltstone, porcelaneous shale. Up to 3,500 feet thick.

White Rock Bluff Member

Siliceous Shale

Saltos Shale Member

Semi-siliceous and clay shale and fine-grained sandstone, greenish-gray to brownish-gray, concretionary, indistinctly bedded; includes minor amounts of fine- to coarse grained conglomeratic sandstone; tongues eastward into Branch Canyon FormationBranch Canyon Medium to coarse grained sandstone and pebble to boulder conglomerate, light gray to yellowish gray, thick-bedded, locally cross-stratified, concretionary in places; includes siltstone and fine-grained sandstone, greenish-gray, thin-bedded; locally contains claystone, grayish-olive and red, thin bedded; tongues westward into Saltos Shale Member of Monterey Formation.

**MIDDLE AND LOWER MIOCENE**

Vaqueros Formation

Painted Rock Member Sandstone

Soda Lake Member Shale and Chert

Obispo Formation

**MIOCENE AND OLIGOCENE**

Rincon Shale

Interbedded siltstone, tuffaceous siltstone, claystone, minor amounts of semisiliceous shale. Contains dolomitic or calcareous concretions and siltstone beds.

**OLIGOCENE**

Simmler Formation

Granitic conglomerate with red and gray sandstone and claystone interbeds.

**PALEOCENE**

Pattiway Formation

Siltstone, clayey to sandy, olive-gray to dark gray, locally concretionary; sandstone, fine to medium-grained, light olive-gray, graded at places; carbonaceous material on some bedding plains. Has a pebble to boulder conglomerate member with fine- to coarse grained sandstone, yellowish-gray to pale greenish gray, thick-bedded or massive and lenticular,; deeply channeled into the other parts of the Pattiway Formation at places.

**EOCENE AND PALEOCENE**

Tus

Sandstone, conglomerate, and minor concretionary mudstone; lenticular; submarine fan deposits; abundant siliceous metavolcanic clasts in conglomerate.

Tusm

Mudstone and minor sandstone; lenticular; intertongues with Tus in eastern Garcia Mountain area.

Tss

sandstone, clay, shale and minor conglomerate.

**PALEOCENE AND UPPER CRETACEOUS**

TKs

Concretionary mudstone, sandstone and minor conglomerate: lenticular; submarine fan deposits.

**UPPER CRETACEOUS SEDIMENTARY ROCKS**

Great Valley Sequence

Sandstone, conglomerate, and minor concretionary mudstone; lenticular; submarine fan deposits

(Ku). Kum Mudstone

Kuc Conglomerate

Kus Sandstone

**LOWER CRETACEOUS AND UPPER JURASSIC**

Torro Formation

Interbedded shale or claystone and sandstone. Dominantly thinly bedded greenish-brown or brown, micaceous shale; contains calcareous lenses and concretions. Some sandstone and conglomerate members.

**JURASSIC**

Franciscan Formation

This widespread formation is made of greenstone, claystone and serpentine. It represents ancient sea floor that was scraped off and plastered onto the continent during subduction.

Metavolcanics Primarily metamorphosed basalt and diabase. Commonly associated with red chert. Locally dark red and extensively sheared. Considered to be tectonic blocks on or within or below Franciscan melange and probably equivalent to Jurassic ophiolite. Thickness unknown.

Melange Graywacke, pervasively sheared and in large part composed of sheared greenish-black claystone. Includes exotic clasts of conglomerate; blueschist, schist, metavolcanic rocks or greenstone, white, red or green chert, graywacke, shale, diabase and serpentinite, tuff, gabro and silica-carbonate rocks. Original structure of unit destroyed by shearing and mixing.

Ophiolite Predominantly microdiorite, dikes and sills, diorite and serpentine or altered pyroxenite. Spilite, keratophyre, and subordinate tuff, albitized and altered to zeolite and greenschist facies. Lower parts includes small remnants of intrusive dioritic, diabasic and plagiogranitic rocks: upper part locally consists of greenstone breccia.