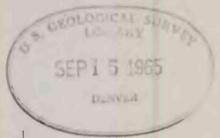


FIG 15 EXPLANATION FOR TEST TRENCHES EAST OF PLANT SITE

Descriptions are lithologic only; temporal or stratigraphic correlation between units with the same label is neither intended nor implied, parts of some units involved in landslides

(300)
R295
no. 864



Surficial deposits

Qs Sand, brownish-gray to brownish-black, silty, clayey, fine- to medium-grained, relatively soft and friable; in trench 2 contains: (1) about 5 percent subangular to rounded cobbles and boulders concentrated near base, (2) about 5 percent angular fragments of units st-1 and st-3 and rare sandstone fragments 1/16 inch to 1 inch long, and (3) locally abundant debris of pinkish-brown mudstone near base at south end, grades northward to dark-brownish-gray friable clayey sand that contains about 15 percent angular fragments of units st-1 and st-3; in trenches A and B contains about 10 percent subangular fragments less than 4 inches long of units st-1 and st-3

CF Sand and clay, brownish-gray, olive-gray, brownish-black, tough; sand is silty to fine grained; contains numerous subrounded pebbles and cobbles at base and about 5 percent angular fragments of unit st-3 between 1/16 inch and 1 inch long; locally contains numerous rounded pebbles, cobbles, and few boulders of resistant sandstone and volcanic rock in a train with scattered pebbles above and below; lower part in trenches A and B contains abundant calcium carbonate in patches, streaks, and coating on fractures and gravel; minor mycelium carbonate in trench C

C1 Clay, fine-grained sandy, brownish-gray to reddish-brown; contains about 10 percent subangular fragments less than 3 inches long of unit st-3

C2 Clay, dark reddish-brown; contains sparse fragments, chiefly less than 1 inch long, of unit st-3

C3 Clay, brownish-black; contains about 7 percent subangular fragments of unit st-3 between 1/4 inch and 4 inches long

C4 Clay, silty to fine-grained sandy, brownish-gray; contains about 10 percent subangular fragments of unit st-3, and calcium carbonate

C5 Clay, fine-grained sandy, brown; locally contains about 20 percent subangular fragments of unit st-3 less than 4 inches long

C6 Clay, silty to very fine to coarse grained sandy, pale brown, reddish brown, or black; hackly fracture; contains as much as 10 percent angular fragments of unit st-3 less than 2 inches long and rare rounded pebbles

C7 Clay, white; contains abundant calcium carbonate and rare fragments of unit st-3

C8 Clay, very fine grained sandy, pale gray; contains about 50 percent angular fragments of unit st-3 between 1/16 inch and 4 inches long

Sd Sand, in trench 1, brownish-gray to reddish-brown, fine- to medium-grained, poorly sorted, friable; in trench B, the unit is well sorted near base and grains are subangular; locally calcareous, and contains about 15 percent angular fragments of unit st-3 between 1/16 and 1/2 inch long and very rare rounded pebbles of volcanic rock similar to Middle Topanga Formation; color grades southward to gray

Sd1 Sand in trench D, pale-yellow-brown, fine- to medium-grained, well-sorted, locally silty, loose and friable; locally contains about 2 percent scattered fragments unit st-3 as long as 1/4 in.; unit may contain local intraformational unconformity near station 35, alt. 178 feet (trench D)

Sd-1 Sand in trench B, clayey, silty, grayish-red, subangular grains, calcareous, contains angular fragments of st-3

Sd-2 Sand, pale-yellow-brown to grayish-white, massive and poorly sorted, clayey, very fine-grained, subangular, very calcareous, porous to powdery

Sd-5 Sand and silt in trench E, moderate yellow-brown, medium-grained, poorly sorted, locally friable and porous; contains some clay

Sd-6 Sand in trench E, moderate brown, medium-grained, moderately sorted, friable and porous, contains some clay

Sd-7 Sand in gully C, moderate yellow-brown to reddish-brown, well-sorted, medium-grained, friable, marine

SG Sand and gravel in gully C, moderate yellow-brown, marine, locally contains lenses and interbeds as thick as 20 in. of clean, fine-grained, well-sorted pebbly sand; SG1, reddish-brown, pebble to boulder gravel in medium- to coarse-grained well-sorted sand, slightly clayey; gravel locally shows good south-dipping imbrication; SG2, reddish-brown sand and gravel; sand is fine to medium grained, well sorted, loose; gravel locally shows good south-dipping imbrication; unit contains scattered fragments of mollusk shells

Sd-8 Sand in gully C, pale-yellow-brown, fine-grained, well-sorted, locally cross laminated, clean; contains scattered pebbles, marine

T Rubble or unconsolidated breccia in trench B, pale-orange to pinkish-gray; a sedimentary deposit that consists of angular fragments of unit st-3 between 1/16 inch and 3 inches long, chiefly 1/8 to 1/2 inch, in matrix of smaller fragments, sparse fine-grained sand, and silt; near alt. 176 feet contains a few boulders of hard, dolomitic(?), fine-grained sandstone, and a few pebbles near south margin of unit

G-1 Gravel in trench B, pale grayish-brown, massive, unsorted; consists of 20 to 50 percent subrounded to rounded boulders, cobbles, and pebbles of sandstone, rare volcanic rock (similar to Middle Topanga Formation), and more resistant polycyclic rocks in a matrix of medium- to very coarse-grained sand, local silt, and clay; contains sparse fragments of unit st-3 near contact with Sdm

G-2 Sand and gravel in trench A; upper part: brown fine-grained silty sand that contains scattered pebbles; lower part (stations 281 to 292): subrounded pebbles of resistant rock 1/16 to 2 inches long in a matrix of reddish-brown, silty to medium-grained, poorly to moderately sorted, clayey sand

G-3 Sand and gravel; in trench 1: upper part at north end of trench is about 60 percent gravel of pebbles and cobbles, grading southward to pebbles, in a matrix of fine- to medium-grained sand; excellent north-dipping imbrication of clasts at south end of unit; upper part at south end of trench is sand, dark-brown to reddish-brown, clayey to silty, medium-grained, in beds 6 to 24 inches thick, contains angular to rounded pebbles in thin lenses or scattered; lower part at north end of trench is sand, pale to moderate yellowish-brown, fine to coarse-grained and slightly clayey or silty, locally crudely stratified parallel to the base, contains lenses of crudely to well-sorted gravel consisting of variable amounts of subrounded to rounded pebbles, cobbles, and few boulders, locally distinct north-dipping imbrication of clasts. In trench 2 north unit is gravel in matrix of slightly clayey, medium- to coarse-grained sand; unit near station 260 is sand, dark-brown to yellowish brown, variably silty or clayey, coarse-grained, poorly to moderately sorted, contains pebbles, cobbles, and boulders in crudely stratified beds or as scattered clasts, one poorly defined bed of coarse-grained sand; unit south of station 220 is sand, moderate yellowish-brown, poorly to moderately sorted, contains abundant scattered subrounded to rounded pebbles, cobbles, and boulders

Sdm Sand and gravel in trench B: pale yellowish-gray, marine, well-sorted, crudely bedded, loose and friable; contains scattered boulders as long as 1 1/2 feet of locally derived dolomitic sandstone and many polycyclic pebbles and cobbles, in matrix of medium- to very coarse-grained sand and small pebbles, locally abundant angular to rounded pebble-size fragments of unit st-3

rb1 Rubble, chiefly angular fragments unit st-3 between granule size and 8 inches in length, contains minor amount intermixed clay and silt, abundant calcium carbonate

Monterey Shale (Middle Miocene)

Unit B (Middle Miocene)

Bedrock

st-2 Siltstone, pinkish-gray, thin-bedded to laminated, slightly siliceous(?), thoroughly jointed and fractured into angular fragments 1 to 3 inches long; fragments locally disoriented and most fractures open or filled with powdery calcium carbonate and clay

st-3 Siltstone breccia; siltstone is pinkish or brownish gray, thin bedded and platy, subporcelaneous; fragments are angular, 1/4 to 1 inch long, and densely packed in sparse to abundant matrix of calcium carbonate and clay

st-1 Siltstone and fine-grained sandstone, grayish-orange to pale-gray, massive, hard, dolomitic(?), commonly closely fractured, locally contains very fine-grained sandstone; forms resistant ledges and angular fragments

m Mudstone in trench B, greenish-gray, massive, very clayey

m-1 Mudstone commonly brecciated or fragmented, greenish-gray to whitish; fragments 1/16 to 1/4 inch long

m-2 Mudstone similar to unit m-1, porous, contains rusty streaks and patches; fragments 1/4 to 2 inches long; contains scattered pellets, blocks, or beds white tuff

m-3 Mudstone as unit m-1, rusty throughout, locally very hard, silicified(?) patches

m-4 Mudstone in trenches 2, B, C, and D, similar to unit m, intensely sheared; anastomosing shears define lens-shaped fragments 1/8 to 1 inch thick and 1/2 to 3 inches long with numerous striations; locally contains small lens-shaped pods of sandstone; local continuous shears are so intense as to resemble sandy gouge; plastic when wet, tough when dry; between stations 120 and 150 in trench B, locally contains pellets of pale-yellow montmorillonite(?) 1/4 to 3/4 inches long

m-5 Mudstone in trench 2, pale yellowish-pinkish-brown; faintly perceptible lamination on fresh fractures, intensely sheared; closely spaced anastomosing shears define irregular to lens-shaped fragments 1/8 to 2 inches long; shears locally folded and resheared; north boundary of unit marked by shearing so intense as to resemble gouge, locally contains phosphate pellets as long as 1 1/2 in.

mb Mudstone breccia in trench 2, pale-brown, locally tuffaceous(?)

mf Mudstone similar to unit m, in trenches 2 and B, greenish-gray to gray, silty, variably sheared and brecciated, contains patches and veinlets of calcium carbonate and locally abundant middle Miocene Foraminifera (Luisian stage of Kleinpell)

ms Mudstone in trench B, greenish-gray, contains thin interbeds and laminae of fine-grained sandstone

msb Mudstone and interbedded siltstone and sandstone in trench 2, mudstone is gray and sandy; siltstone and sandstone are gray and micaceous, sandstone is very fine to medium grained and forms pods and boudins; unit is sheared, but less intensely than finer grained units

msc Mudstone and interbedded sandstone in trench 2, mudstone is gray and silty, sandstone is fine to medium grained; unit is fractured and sheared, locally brecciated; locally contains cristobalite rock and middle Miocene Foraminifera (Luisian stage of Kleinpell, 1938)

msd Mudstone in trenches 1 and 2 similar to unit m-4; greenish-gray to yellowish-brown, clayey, sheared; contains numerous lenses and pods of sandstone (unit sd-1), commonly with sheared mudstone on boundaries; scattered pods and concretions of hard silty fine-grained sandstone or powdery rusty siltstone

sd-1 Sandstone, chiefly as lens-shaped bodies as long as 10 feet, pale-yellowish-gray to moderate grayish-brown, fine- to coarse-grained, poorly to moderately sorted, somewhat friable; boundaries defined by sheared and striated mudstone

sd-2 Sandstone in trench B, pale-brownish-gray to pale-gray, commonly thin-bedded, shattered or brecciated

sd-3 Sandstone in trench 2, pale-brownish-gray, fine- to medium-grained, moderately sorted, beds 1 1/2 to 4 feet thick, slightly calcareous; contains interbeds of very fine-grained, laminated sandstone, greenish-gray mudstone, and middle Miocene Foraminifera; unit jointed normal to stratification, but not sheared

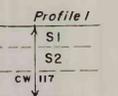
sd-4 Sandstone and interbedded siltstone in trench 2, gray, very fine grained, micaceous; thin sandstone beds are persistent; unit not sheared

v Cristobalite(?) rock in trench B, pale-yellowish-brown, tuffaceous(?), massive, friable to powdery, porous; contains pods of unit m-4, many filled burrows, and abundant root channels

Unit B (Middle Miocene)

Symbols

- Contact between depositional units; solid where distinct, dashed where indistinct, dotted where inferred on good evidence
Zone of intense shearing, gouge
Concretion, commonly of hard, dolomitic(?) siltstone or sandstone; commonly jointed or shattered
Pebble, cobble, or boulder; pst, siltstone pod, sandstone; pv, volcanic rock
Ca Calcium carbonate in veins, pods, and burrows
Fault or shear; marked by sharp lithologic boundaries, closely spaced slip surfaces, intensely sheared mudstone, and in numerous cases, narrow veins of calcium carbonate
Burrow, filled with soil and calcium carbonate
Contact between depositional units; character of contact not determined
Megafossil locality (Trench B, station 116)
Apparent dip of stratification or contact on face of trench; true attitude shown on trace of surface
Microfossil locality (Trench 2)
Contact stained by yellow-brown to orange iron oxide



Location and number of described soil profile; S-1, S-2, soil horizons (see table 1); CW117, number of soil sample (table 5)

Quaternary

Quaternary