

0-58: No sieve sample collected.

58–78: Gravelly sand (gS); fine to very coarse sand and gravel <19 mm; poorly sorted; subangular to rounded; dark grayish brown (2.5Y 4/2).

78-80: No sieve sample collected.



80–90: Sand (S); fine to medium sand with minor coarse to very coarse sand and clay; moderately sorted; subangular to subrounded; dark grayish brown (2.5Y 4/2).

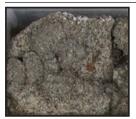


150–160: Sand (S); very fine to fine sand; well sorted; subangular to subrounded; dark olive gray (5Y 3/2).

Depth interval (feet) and description

140–150: Sand (S); very fine to fine; well sorted; subangular to subrounded;

dark olive gray (5Y 3/2).



90–100: Sand (S); fine to medium sand with minor coarse to very coarse sand and clay; moderately sorted; subangular to subrounded; dark grayish brown (2.5Y 4/2).



160–170: Sand (S); very fine to coarse sand; moderately to poorly sorted; subangular to subrounded; dark grayish brown (2.5Y 4/2).



100–110: Sandy silt (sZ); silt with very fine to fine sand and minor medium to very coarse sand; poorly sorted; dark grayish brown (2.5Y 4/2).



170–180: Sand (S); very fine sand with minor silt; well sorted; subangular to subrounded; dark olive gray (5Y 3/2).



110–120: Sand (S); fine to medium sand with minor coarse sand; moderately sorted; subangular to subrounded; dark gray (2.5Y 4/1).



180–190: Sand (S); very fine sand with minor silt; well sorted; subangular to subrounded; dark olive gray (5Y 3/2); fragments of sandstone.



120–130: Sandy silt (sZ); silt with very fine to fine sand and minor coarse to very coarse sand; poorly sorted; dark olive gray (5Y 3/2); *shell fragments*.



190–200: Sand (S); very fine sand with minor silt; well sorted; subangular to subrounded; dark olive gray (5Y 3/2).



130–140: Gravelly sand (gS); very fine to very coarse sand with gravel <12 mm; poorly sorted; subangular to rounded; olive gray (5Y 4/2).



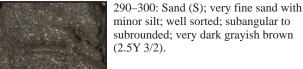
200–210: Sand (S); very fine to fine sand; well sorted; subangular to subrounded; dark olive gray (5Y 3/2).

Figure 18D. Lithologic descriptions and photographs of sieve drill cuttings collected from the borehole at 16 USGS multiple-depth, monitoring-well sites in San Diego County, California, 1995, 2003–2017: (A) SDCD; (B) SDSY; (C) SDLH; (D) SDAQ; (E) SDCP; (F) SDBP; (G) SDHF; (H) SDEP; (I) SDNB; (J) SDSW; (K) SDMC; (L) SDLD; (M) SDCC; (N) SDOR; (O) SDOT; and (P) SDBW.



### Depth interval (feet) and description

210-220: Sand (S); very fine to fine sand with trace gravel <12 mm; well sorted; subangular to subrounded; dark grayish brown (2.5Y 4/2).





220-228: Clay (C); clay; well sorted; very dark gray (5Y 3/1).



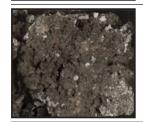
300-310: Sand (S); very fine sand with minor silt; well sorted; subangular to subrounded; very dark grayish brown (2.5Y 3/2).



228-250: Sand (S); very fine to very coarse sand and trace gravel <14 mm; poorly sorted; subangular to subrounded; dark grayish brown (2.5Y 4/2); minor shell fragments.



310-320: Silty sand (zS); very fine to fine sand with silt; well sorted; subangular to subrounded; very dark grayish brown (2.5Y 3/2).



250–260: Sandy silt (sZ); silt with very fine sand; well sorted; dark grayish brown (2.5Y 4/2).



320–330: Sand (S); very fine to fine sand; well sorted; subangular to subrounded; very dark grayish brown (2.5Y 3/2).



260–270: Sand (S); very fine to medium sand with minor silt; moderately sorted; subangular to subrounded; very dark grayish brown (2.5Y 3/2).



330–340: Silty sand (zS); very fine to fine sand with silt; well sorted; subangular to subrounded; very dark grayish brown (2.5Y 3/2).



270–280: Silty sand (zS); very fine to fine sand with silt; well sorted; subangular to subrounded; very dark grayish brown (2.5Y 3/2).



340–350: Sand (S); very fine to fine sand; well sorted; subangular to subrounded; very dark grayish brown (2.5Y 3/2).



280-290: Sand (S); very fine sand with minor silt; well sorted; subangular to subrounded; very dark grayish brown (2.5Y 3/2).



350–360: Sand (S); very fine to fine sand; well sorted; subangular to subrounded; very dark grayish brown (2.5Y 3/2).

Figure 18D. Lithologic descriptions and photographs of sieve drill cuttings collected from the borehole at 16 USGS multiple-depth, monitoring-well sites in San Diego County, California, 1995, 2003–2017: (A) SDCD; (B) SDSY; (C) SDLH; (D) SDAQ; (E) SDCP; (F) SDBP; (G) SDHF; (H) SDEP; (I) SDNB; (J) SDSW; (K) SDMC; (L) SDLD; (M) SDCC; (N) SDOR; (O) SDOT; and (P) SDBW. —Continued.

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# Depth interval (feet) and description Depth interval (feet) and description 360-370: Sand (S); very fine to fine 430-440: Silty sand (zS); very fine to sand; well sorted; subangular to medium sand and silt; well to moderatesubrounded; very dark grayish brown ly sorted; subangular to subrounded; dark gray (5Y 4/1). (2.5Y 3/2). 370-380: Sand (S); very fine to fine 440-450: Silty sand (zS); very fine sand sand; well sorted; subangular to with silt; well sorted; subangular to subrounded; very dark grayish brown subrounded; dark olive gray (5Y 3/2). (2.5Y 3/2).380-390: Sand (S); very fine to fine 450-460: Silty sand (zS); very fine sand sand; well sorted; subangular to with silt; well sorted; subangular to subrounded; dark gray (5Y 4/1). subrounded; very dark grayish brown (2.5Y 3/2).390-400: Silty sand (zS); very fine to 460-470: Silty sand (zS); very fine sand fine sand with silt; well sorted; with silt, minor fine sand and trace subangular to subrounded; very dark gravel <5 mm; poorly sorted; subangugrayish brown (2.5Y 3/2). lar rounded; dark gray (5Y 4/1). 400–410: Sand (S); very fine to fine 470-480: Silty sand (zS); very fine sand sand; well sorted; subangular to with silt and minor fine to medium subrounded; very dark grayish brown sand; moderately sorted; subangular to subrounded; dark gray (5Y 4/1). (2.5Y 3/2).410–420: Silty sand (zS); very fine sand 480-490: Sand (S); very fine to fine with silt; well sorted; subangular to sand; well sorted; subangular to subrounded; very dark grayish brown subrounded; dark gray (5Y 4/1). (2.5Y 3/2).490–500: Sand (S); very fine to fine 420–430: Silty sand (zS); very fine sand with silt; well sorted; subangular to sand; well sorted; subangular to subrounded; dark olive gray (5Y 3/2). subrounded; dark gray (5Y 4/1).

Figure 18*D*. Lithologic descriptions and photographs of sieve drill cuttings collected from the borehole at 16 USGS multiple-depth, monitoring-well sites in San Diego County, California, 1995, 2003–2017: (A) SDCD; (B) SDSY; (C) SDLH; (D) SDAQ; (E) SDCP; (F) SDBP; (G) SDHF; (H) SDEP; (I) SDNB; (J) SDSW; (K) SDMC; (L) SDLD; (M) SDCC; (N) SDOR; (O) SDOT; and (P) SDBW.—Continued.

# Depth interval (feet) and description Depth interval (feet) and description 500-510: Sand (S); very fine to fine 570-580: Sand (S); very fine to fine sand; well sorted; subangular to sand; well sorted; subangular to subrounded; dark olive gray (5Y 3/2). subrounded; dark gray (2.5Y 4/1). 510-520: Sand (S); very fine to fine 580-590: Sand (S); very fine to fine sand; well sorted; subangular to sand; well sorted; subangular to subrounded; dark olive gray (5Y 3/2). subrounded; dark gray (2.5Y 4/1). 520-530: Sand (S); very fine to fine 590-600: Sand (S); very fine to fine sand; well sorted; subangular to sand; well sorted; subangular to subrounded; dark gray (2.5Y 4/1). subrounded; dark gray (2.5Y 4/1). 530-540: Sand (S); very fine to fine 600-610: Sand (S); very fine to fine sand; well sorted; subangular to sand; well sorted; subangular to subrounded; dark gray (5Y 4/1). subrounded; dark grayish brown (2.5Y 4/2). 540-550: Sand (S); very fine to fine 610-620: Sand (S); very fine to fine sand; well sorted; subangular to sand; well sorted; subangular to subrounded; dark gray (2.5Y 4/1). subrounded; dark gray (2.5Y 4/1). 620-630: Sand (S); very fine to fine 550-560: Sand (S); very fine to fine sand; well sorted; subangular to sand; well sorted; subangular to subrounded; dark gray (2.5Y 4/1). subrounded; dark gray (2.5Y 4/1). 560-570: Sand (S); very fine to fine 630-640: Sand (S); very fine to fine sand; well sorted; subangular to sand; well sorted; subangular to subrounded; dark gray (2.5Y 4/1). subrounded; dark gray (2.5Y 4/1).

Figure 18D. Lithologic descriptions and photographs of sieve drill cuttings collected from the borehole at 16 USGS multiple-depth, monitoring-well sites in San Diego County, California, 1995, 2003–2017: (A) SDCD; (B) SDSY; (C) SDLH; (D) SDAQ; (E) SDCP; (F) SDBP; (G) SDHF; (H) SDEP; (I) SDNB; (J) SDSW; (K) SDMC; (L) SDLD; (M) SDCC; (N) SDOR; (O) SDOT; and (P) SDBW.—Continued.

### Depth interval (feet) and description Depth interval (feet) and description 640-650: Sand (S); very fine to fine 710-720: Sand (S); very fine to fine sand with minor medium to very coarse sand with minor medium sand; well sand and trace gravel <8 mm; moderatesorted; subangular to subrounded; dark ly sorted; subangular to subrounded; gray (2.5Y 4/1). dark gray (2.5Y 4/1). 650-660: Sand (S); very fine to fine 720-730: Sand (S); very fine to fine sand; well sorted; subangular to sand; well sorted; subangular to subrounded; dark gray (2.5Y 4/1). subrounded; dark gray (2.5Y 4/1). 660-670: Sand (S): very fine to fine 730-740: Sand (S); very fine to fine sand; well sorted; subangular to sand with minor medium to very coarse subrounded; very dark grayish brown sand; moderately sorted; subangular to subrounded; dark grayish brown (2.5Y (2.5Y 3/2).4/2). 670-680: Sand (S); very fine to fine 740–750: Sand (S); very fine to fine sand; well sorted; subangular to sand with minor clay; well sorted; subrounded; very dark grayish brown subangular to subrounded; olive gray (5Y 4/2).(2.5Y 3/2).680-690: Sand (S); very fine to fine 750–760: Sand (S); very fine to fine sand with minor medium to coarse sand; sand with minor clay; well sorted; well sorted; subangular to subrounded; subangular to subrounded; olive brown dark grayish brown (2.5Y 4/2). (2.5Y 4/3).690-700: Sand (S); very fine to fine 760–770: Clayey sand (cS); fine to sand with minor medium to coarse sand; medium sand with clay; moderately well sorted; subangular to subrounded; sorted; subangular to subrounded; olive dark gray (2.5Y 4/1). (5Y 5/3).700-710: Sand (S); very fine to fine 770-780: Sandy clay (sC); clay with sand with minor medium to very coarse very fine to very coarse sand; poorly sand; well sorted; subangular to sorted; olive (5Y 5/3). subrounded; dark gray (2.5Y 4/1).

Figure 18*D*. Lithologic descriptions and photographs of sieve drill cuttings collected from the borehole at 16 USGS multiple-depth, monitoring-well sites in San Diego County, California, 1995, 2003–2017: (A) SDCD; (B) SDSY; (C) SDLH; (D) SDAQ; (E) SDCP; (F) SDBP; (G) SDHF; (H) SDEP; (I) SDNB; (J) SDSW; (K) SDMC; (L) SDLD; (M) SDCC; (N) SDOR; (O) SDOT; and (P) SDBW.—Continued.

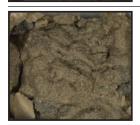


# Depth interval (feet) and description

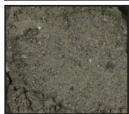
780-790: Sand (S); fine to medium sand with minor very fine and coarse to very coarse sand and silt; poorly sorted; subangular to subrounded; olive brown (2.5Y 4/3).



850-860: Sandy clay (sC); clay with very fine sand; well sorted; dark greenish gray (10Y 3/1).



790-800: Clayey sand (cS); very fine to medium sand and clay; poorly sorted; subangular to subrounded; olive brown (5Y 5/3).



860-870: Sand (S); very fine to fine sand with minor medium sand and silt; moderately sorted; subangular to subrounded; dark gray (5Y 4/1).



800-810: Sand (S); very fine to fine sand with minor medium sand and clay; poorly sorted; subangular to subrounded; olive (5Y 5/3).



870-880: Sand (S); very fine to fine sand with minor medium sand and silt; moderately sorted; subangular to subrounded; dark gray (5Y 4/1).



810-820: Sand (S); very fine to fine sand with minor medium sand and clay; poorly sorted; subangular to subrounded; olive brown (2.5Y 4/3).



880-890: Sand (S); very fine to fine sand with minor medium sand; moderately sorted; subangular to subrounded; dark gray (5Y 4/1).



820-830: Clayey sand (cS); very fine to fine sand with clay; poorly sorted; subangular to subrounded; olive gray (5Y 4/2).



890-900: Sand (S); very fine to very coarse sand with gravel <6 mm; poorly sorted; subangular to rounded; greenish black (10Y 2.5/1); shell fragments; sandstone fragments.



830-840: Sandy clay (sC); clay with very fine to fine sand; poorly sorted; dark greenish gray (10Y 4/1).



900–910: Sand (S); very fine to very coarse sand with gravel <6 mm; poorly sorted; subangular to rounded; greenish black (10Y 2.5/1); sandstone fragments.



840-850: Sandy clay (sC); clay with very fine sand; well sorted; dark greenish gray (10Y 3/1).



910–920: Sand (S); very fine to very coarse sand with gravel <6 mm; poorly sorted; subangular to rounded; greenish black (10Y 2.5/1); sandstone fragments.

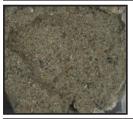
Figure 18D. Lithologic descriptions and photographs of sieve drill cuttings collected from the borehole at 16 USGS multiple-depth, monitoring-well sites in San Diego County, California, 1995, 2003–2017: (A) SDCD; (B) SDSY; (C) SDLH; (D) SDAQ; (E) SDCP; (F) SDBP; (G) SDHF; (H) SDEP; (I) SDNB; (J) SDSW; (K) SDMC; (L) SDLD; (M) SDCC; (N) SDOR; (O) SDOT; and (P) SDBW. —Continued.



920–930: Sandy clay (sC); clay with very fine to fine sand; olive gray (5Y 4/2).



930–940: Sandy clay (sC); clay with very fine to fine sand; moderately sorted; olive gray (5Y 4/2).



940–946: Sandy clay (sC); clay with very fine to fine sand; moderately sorted; olive gray (5Y 4/2).

946-949: Core 1.

949-950: No sieve sample collected.