


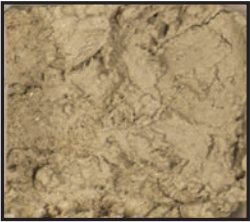



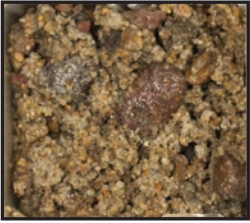
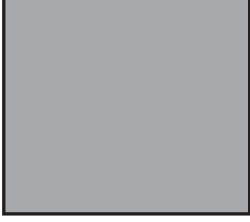







Depth (feet) and description	Depth (feet) and description
 <p>10: Gravelly clayey sand (gmS); medium to very coarse sand with clay and granules to medium pebbles; very poorly sorted; subangular to subrounded; dark yellowish brown (10YR 4/4); <i>slightly calcareous</i>.</p>	 <p>70: Sandy clayey silt (sM); silt with clay and very fine to fine sand; well sorted; light olive brown (2.5Y 5/3).</p>
 <p>20: Sandy gravel (sG); granules to very large pebbles with coarse to very coarse sand; poorly sorted; subangular to subrounded; dark yellowish brown (10YR 4/4).</p>	 <p>80: Sand (S); medium to very coarse sand with trace granules; well sorted; subangular to subrounded; yellowish brown (10YR 5/4).</p>
 <p>31: No shaker sample collected; <i>core 1, no recovery</i>.</p>	 <p>90: Gravelly silty sand (gmS); medium to very coarse sand with silt and granules to medium pebbles; poorly sorted; subangular to subrounded; brown (10YR 5/3).</p>
 <p>40: No shaker sample collected; <i>core 2, no recovery</i>.</p>	 <p>100: Sandy silt (sZ); silt with very fine to coarse sand and trace granules; moderately sorted; light olive brown (2.5Y 5/3); <i>calcareous</i>.</p>
 <p>45: Gravel (G); granules to cobbles with minor very fine to very coarse sand; very poorly sorted; subangular to subrounded; brown (10YR 5/3); <i>calcareous; core 3</i>.</p>	 <p>105: Sand (S); fine to medium sand with silt; well sorted; subangular to subrounded; light olive brown (2.5Y 5/3); <i>micaceous; core 4</i>.</p>
 <p>50: Gravelly clayey sand (gmS); medium to very coarse sand with clay and granules to medium pebbles; poorly sorted; subangular to subrounded; yellowish brown (10YR 5/4); <i>calcareous</i>.</p>	 <p>110: Gravelly sand (gS); medium to very coarse sand with granules to large pebbles with minor clay; poorly sorted; angular to subangular; light olive brown (2.5Y 5/3).</p>
 <p>60: Sand (S); coarse to very coarse sand; very well sorted; subangular to subrounded; brown (10YR 5/3).</p>	 <p>120: Sandy gravel (sG); granules to large pebbles, medium to very coarse sand, and minor clay; poorly sorted; angular to subangular; light olive brown (2.5Y 5/3).</p>

Figure 17M. Lithologic descriptions and photographs of **shaker** drill cuttings collected from the borehole at 16 USGS multiple-depth, monitoring-well sites in San Diego County, California, 2003–2017: (A) SDGD; (B) SDSY; (C) SDLH; (D) SDAQ; (E) SDGP; (F) SDBP; (G) SDHF; (H) SDEP; (I) SDNB; (J) SDSW; (K) SDMC; (L) SDLD; **(M) SDCC**; (N) SDOR; (O) SDOT; and (P) SDBW.

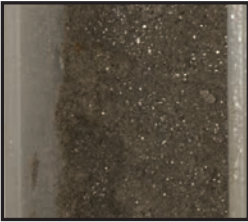
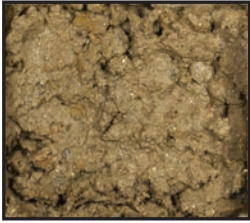




Depth (feet) and description	Depth (feet) and description
 <p>125: Gravelly sand (gS); coarse to very coarse sand with granules to medium pebbles; moderately sorted; subangular to subrounded; dark yellowish brown (10YR 4/6); <i>oxidized</i>.</p>	 <p>175: Sandy silt (sZ); silt with very fine to fine sand; well sorted; very dark gray (2.5Y 3/1); <i>slightly calcareous; micaceous; trace shell fragments (<2 mm); core 7.</i></p>
 <p>130: Slightly gravelly silty sand ((g)mS); very fine to medium sand with silt, minor coarse to very coarse sand, and granules to small pebbles; poorly sorted; grayish brown (2.5Y 5/2); <i>slightly calcareous; micaceous.</i></p>	 <p>180: Sandy silt (sZ); silt with very fine to medium sand; well sorted; very dark gray (2.5Y 3/1); <i>micaceous; core 8.</i></p>
 <p>140: Sandy silt (sZ); silt with very fine to medium sand, minor coarse to very coarse sand, and trace granules to small pebbles; poorly to moderately sorted; olive brown (2.5Y 4/3); <i>slightly calcareous; micaceous.</i></p>	 <p>190: Sandy silt (sZ); silt with very fine to medium sand and trace granules to medium pebbles; moderately to well sorted; very dark gray (2.5Y 3/1); <i>extremely calcareous; abundant bivalve (clams, scallops), gastropod, and echinoderm (sea urchin spine) shell fragments (<10 mm); trace wood fragments (<6 mm).</i></p>
 <p>145: Sand (S); fine to coarse sand; well sorted; subangular to subrounded; very dark gray (2.5Y 3/1); <i>slightly calcareous; micaceous; trace shell fragments, (<2 mm); core 5.</i></p>	 <p>200: Sandy silt (sZ); silt with very fine to medium sand and trace granules to medium pebbles; moderately to well sorted; very dark gray (2.5Y 3/1); <i>extremely calcareous; abundant gastropod, bivalve (scallop, clams), and echinoderm (sea urchin spine) shell fragments (<20 mm).</i></p>
 <p>150: Silty sand (zS); very fine to medium sand with silt; moderately to well sorted; subangular to subrounded; very dark gray (2.5Y 3/1); <i>micaceous; core 6.</i></p>	 <p>210: Sandy silt (sZ); silt with very fine to very coarse sand; poorly to moderately sorted; very dark gray (2.5Y 3/1); <i>extremely calcareous; bivalve, gastropod, and echinoderm (sea urchin spine) shell fragments (<20 mm).</i></p>
 <p>160: Silty sand (zS); very fine to medium sand with silt and trace granules to small pebbles; moderately to well sorted; subangular to subrounded; very dark gray (2.5Y 3/1); <i>slightly calcareous; micaceous; shell fragments (<2 mm).</i></p>	 <p>220: Sandy silt (sZ); silt with very fine to medium sand; moderately to well sorted; very dark gray (2.5Y 3/1); <i>extremely calcareous; minor shell fragments (<4 mm).</i></p>
 <p>170: Sandy silt (sZ); silt and very fine to fine sand; well sorted; very dark gray (2.5Y 3/1); <i>extremely calcareous; abundant bivalve (clams, scallops) and gastropod shell fragments (<4 mm); coquina.</i></p>	 <p>230: Sandy silt (sZ); silt with very fine to fine sand; well sorted; very dark grayish brown (2.5Y 3/2); <i>calcareous; trace shell fragments (<2 mm).</i></p>

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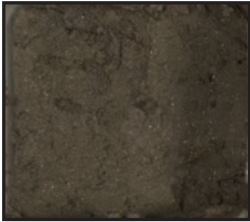
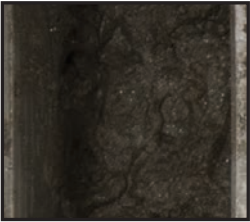
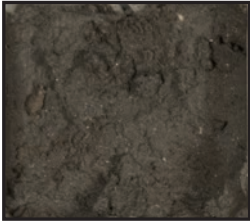
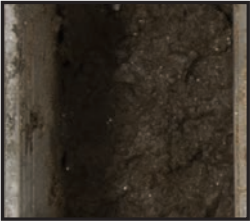








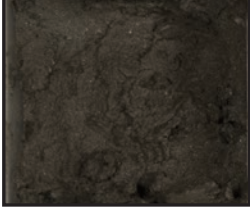

Depth (feet) and description	Depth (feet) and description
 <p>240: Sandy silt (sZ); silt with very fine to medium sand; moderately to well sorted; very dark grayish brown (2.5Y 3/2); <i>slightly calcareous; micaceous.</i></p>	 <p>305: Sandy clayey silt (sM); silt with clay and very fine to medium sand; moderately to well sorted; very dark gray (2.5Y 3/1); <i>slightly calcareous; micaceous; trace shell fragments (<1 mm); core 9.</i></p>
 <p>250: Sandy clayey silt (sM); silt with clay and very fine to fine sand; well sorted; very dark gray (2.5Y 3/1); <i>extremely calcareous; micaceous; trace shell fragments (<3 mm).</i></p>	 <p>310: Sandy clayey silt (sM); silt with clay and very fine to medium sand; moderately to well sorted; very dark grayish brown (2.5Y 3/2); <i>slightly calcareous; micaceous; trace shell fragments (<1 mm); core 10.</i></p>
 <p>260: Sandy clayey silt (sM); silt with clay and very fine to fine sand; well sorted; very dark gray (2.5Y 3/1); <i>calcareous; micaceous; trace shell fragments (<3 mm).</i></p>	 <p>320: Sandy clayey silt (sM); silt with clay, very fine to medium sand, and trace granules; moderately to well sorted; very dark grayish brown (2.5Y 3/2); <i>slightly calcareous; micaceous; trace shell fragments (<2 mm).</i></p>
 <p>270: Sandy clayey silt (sM); silt with clay and very fine to fine sand; well sorted; very dark grayish brown (2.5Y 3/2); <i>slightly calcareous; micaceous; trace shell fragments (<1 mm).</i></p>	 <p>330: Sandy clayey silt (sM); silt with clay and very fine to medium sand; moderately to well sorted; very dark grayish brown (2.5Y 3.2); <i>slightly calcareous; micaceous; trace shell fragments (<2 mm).</i></p>
 <p>280: Sandy clayey silt (sM); silt with clay and very fine to fine sand; well sorted; very dark grayish brown (2.5Y 3/2); <i>calcareous; micaceous; trace shell fragments (<2 mm).</i></p>	 <p>340: Sandy clayey silt (sM); silt with clay and very fine to fine sand; well sorted; very dark grayish brown (2.5Y 3/2); <i>micaceous.</i></p>
 <p>290: Sandy clayey silt (sM); silt with clay and very fine to medium sand; moderately to well sorted; very dark grayish brown (2.5Y 3/2); <i>extremely calcareous; micaceous; trace shell fragments (<8 mm).</i></p>	 <p>350: Sandy clayey silt (sM); silt with clay, very fine to fine sand, and trace medium to coarse sand; well sorted; very dark grayish brown (2.5Y 3/2); <i>micaceous.</i></p>
 <p>300: Sandy clayey silt (sM); silt with clay and very fine to medium sand; moderately to well sorted; very dark gray (2.5Y 3/1); <i>slightly calcareous; micaceous; trace shell fragments (<2 mm).</i></p>	 <p>360: Sandy clayey silt (sM); silt with clay, fine to medium sand, and trace coarse to very coarse sand; moderately to well sorted; very dark grayish brown (2.5Y 3/2); <i>slightly calcareous; micaceous.</i></p>

Figure 17M. Lithologic descriptions and photographs of **shaker** drill cuttings collected from the borehole at 16 USGS multiple-depth, monitoring-well sites in San Diego County, California, 2003–2017: (A) SDGD; (B) SDSY; (C) SDLH; (D) SDAQ; (E) SDGP; (F) SDBP; (G) SDHF; (H) SDEP; (I) SDNB; (J) SDSW; (K) SDMC; (L) SDLD; **(M) SDCC**; (N) SDOR; (O) SDOT; and (P) SDBW. —Continued.

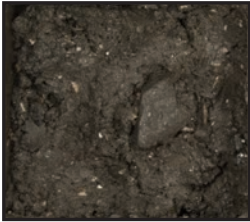

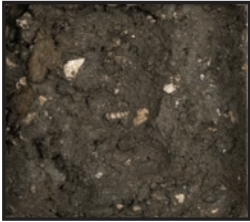











Depth (feet) and description	Depth (feet) and description
 <p>370: Sandy clayey silt (sM); silt with clay, fine to very coarse sand, and trace granules to medium pebbles; poorly sorted; very dark gray (2.5Y 3/1); <i>calcareous; abundant bivalve and gastropod shell fragments (<4 mm).</i></p>	 <p>430: Sandy clayey silt (sM); silt with clay and very fine to fine sand; well sorted; very dark gray (2.5Y 3/1); <i>calcareous; micaceous; trace shell fragments (<2 mm).</i></p>
 <p>380: Sandy clayey silt (sM); silt with clay, very fine to very coarse sand, and trace granules to small pebbles; poorly sorted; very dark gray (2.5Y 3/1); <i>calcareous; micaceous; bivalve and gastropod shell fragments (<4 mm).</i></p>	 <p>440: Sandy clayey silt (sM); silt with clay, very fine to fine sand, trace medium to very coarse sand, and granules to medium pebbles; moderately sorted; very dark gray (2.5Y 3/1); <i>extremely calcareous; micaceous; trace shell fragments (<2 mm).</i></p>
 <p>385: Sandy clayey silt (sM); silt with clay and very fine to fine sand; well sorted; very dark grayish brown (2.5Y 3/2); <i>slightly calcareous; micaceous; trace shell fragments (<1 mm); core 11.</i></p>	 <p>450: Sandy clayey silt (sM); silt with clay and very fine to fine sand; well sorted; very dark gray (2.5Y 3/1); <i>calcareous; micaceous; trace shell fragments (<2 mm).</i></p>
 <p>390: Sandy clayey silt (sM); silt with clay and very fine to fine sand; well sorted; very dark grayish brown (2.5Y 3/2); <i>micaceous.</i></p>	 <p>460: Sandy clayey silt (sM); silt with clay and very fine to fine sand; well sorted; very dark gray (2.5Y 3/1); <i>extremely calcareous; micaceous; trace shell fragments (<2 mm).</i></p>
 <p>400: Sandy clayey silt (sM); silt with clay, very fine to fine sand, trace medium to very coarse sand, and granules to medium pebbles; moderately sorted; very dark gray (2.5Y 3/1); <i>micaceous; trace shell fragments (<3 mm).</i></p>	 <p>470: Sandy clayey silt (sM); silt with clay and very fine to fine sand; well sorted; very dark grayish brown (2.5Y 3/2); <i>calcareous; micaceous; trace shell fragments (<2 mm).</i></p>
 <p>410: Sandy clayey silt (sM); silt with clay and very fine to medium sand; moderately to well sorted; very dark grayish brown (2.5Y 3/2); <i>extremely calcareous; micaceous; trace shell fragments (<2 mm).</i></p>	 <p>480: Sandy clayey silt (sM); silt with clay and very fine to fine sand; well sorted; very dark gray (2.5Y 3/1); <i>micaceous.</i></p>
 <p>420: Sandy clayey silt (sM); silt with clay and very fine to fine sand; well sorted; very dark gray (2.5Y 3/1); <i>calcareous; micaceous; trace shell fragments (<2 mm).</i></p>	 <p>490: Sandy clayey silt (sM); silt with clay and very fine to fine sand; well sorted; very dark gray (2.5Y 3/1); <i>slightly calcareous; micaceous; trace shell fragments (<1 mm).</i></p>

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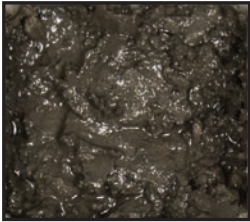
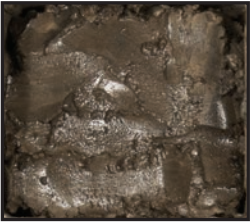
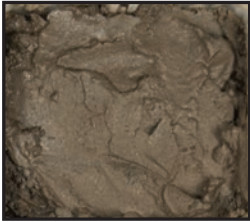

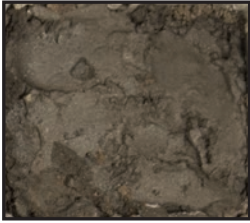
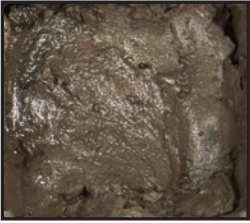

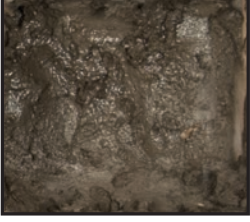
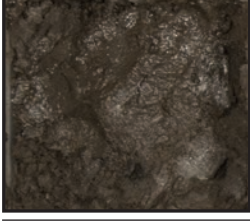
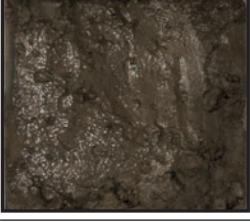



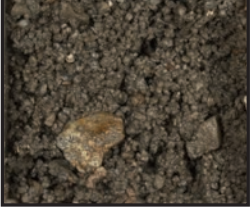
Depth (feet) and description	Depth (feet) and description
 <p>500: Clayey silt (M); silt with clay; very well sorted; very dark gray (2.5Y 3/1); <i>slightly calcareous; micaceous; trace shell fragments (<2 mm).</i></p>	 <p>560: Clayey silt (M); silt with clay; very well sorted; very dark grayish brown (2.5Y 3/2); <i>micaceous.</i></p>
 <p>510: Sandy clayey silt (sM); silt with clay and very fine to fine sand; well sorted; very dark grayish brown (2.5Y 3/2); <i>micaceous.</i></p>	 <p>570: Clayey sandy silt (sM); silt with very fine to fine sand, and clay; well sorted; very dark gray (2.5Y 3/1); <i>slightly calcareous; micaceous.</i></p>
 <p>520: Sandy clayey silt (sM); silt with clay and very fine to fine sand; well sorted; very dark gray (2.5Y 3/1); <i>calcareous; micaceous.</i></p>	 <p>580: Sandy clayey silt (sM); silt with clay and very fine to medium sand; moderately to well sorted; very dark grayish brown (2.5Y 3/2); <i>micaceous.</i></p>
 <p>530: Sandy clayey silt (sM); silt with clay and very fine sand; well sorted; very dark gray (2.5Y 3/1); <i>micaceous.</i></p>	 <p>590: Sandy clayey silt (sM); silt with clay and very fine to fine sand; well sorted; very dark grayish brown (2.5Y 3/2); <i>micaceous.</i></p>
 <p>540: Sandy clayey silt (sM); silt with clay, very fine to medium sand, and trace granules; moderately to well sorted; very dark grayish brown (2.5Y 3/2); <i>slightly calcareous; micaceous.</i></p>	 <p>600: Sandy clayey silt (sM); silt with clay and very fine to medium sand; moderately to well sorted; very dark grayish brown (2.5Y 3/2); <i>slightly calcareous; micaceous.</i></p>
 <p>545: Sandy clayey silt (sM); silt with clay and very fine to medium sand; moderately to well sorted; very dark grayish brown (2.5Y 3/2); <i>micaceous; core 12.</i></p>	 <p>610: Gravelly silty clayey sand (gmS); medium to very coarse sand with clay, silt, and granules to medium pebbles; very poorly sorted; angular to subangular; very dark gray (2.5Y 3/1); <i>calcareous; bivalve shell fragments (<7 mm).</i></p>
 <p>550: Sandy clayey silt (sM); silt with clay and very fine to fine sand; well sorted; very dark grayish brown (2.5Y 3/2); <i>micaceous; core 13.</i></p>	 <p>620: Sandy gravel (sG); granules to large pebbles with coarse to very coarse sand; poorly to moderately sorted; subangular to subrounded; very dark gray (2.5Y 3/1); <i>slightly calcareous; trace shell fragments (<2 mm).</i></p>

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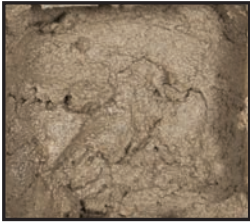


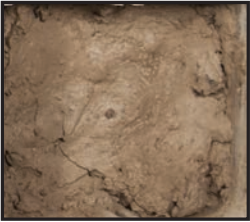










Depth (feet) and description	Depth (feet) and description
 <p>630: Clayey sand (cS); very fine to medium sand with clay; moderately sorted; subangular; grayish brown (2.5Y 5/2); <i>calcareous</i>; <i>trace caliche</i>.</p>	 <p>700: Silty clay (M); clay with silt and trace medium to very coarse sand; well to very well sorted; grayish brown (10YR 5/2); <i>calcareous</i>; <i>micaceous</i>.</p>
 <p>640: Clayey sand (cS); fine to coarse sand with clay and trace granules to medium pebbles; poorly to moderately sorted; subangular to subrounded; grayish brown (2.5Y 5/2); <i>calcareous</i>; <i>trace caliche</i>.</p>	 <p>710: Silty clay (M); clay with silt and trace medium to very coarse sand; well to very well sorted; brown (10YR 5/3); <i>calcareous</i>.</p>
 <p>650: Clayey sand (cS); fine to very coarse sand with clay and trace granules to small pebbles; poorly sorted; subangular to subrounded; grayish brown (2.5Y 5/2); <i>calcareous</i>.</p>	 <p>715: Silty clay (M); clay with silt and trace medium to very coarse sand; well to very well sorted; brown (10YR 5/3); <i>extremely calcareous</i>; <i>micaceous</i>; <i>core 14</i>.</p>
 <p>660: Sandy clay (sC); clay with fine to very coarse sand; poorly to moderately sorted; dark grayish brown (10YR 4/2); <i>calcareous</i>.</p>	 <p>720: Silty clay (M); clay with silt; very well sorted; brown (10YR 5/3); <i>extremely calcareous</i>; <i>core 15</i>.</p>
 <p>670: Sandy clay (sC); clay with fine to very coarse sand; poorly to moderately sorted; grayish brown (10YR 5/2); <i>calcareous</i>.</p>	 <p>725: Sandy silty clay (sM); clay with silt and very fine to fine sand; well sorted; brown (10YR 5/3); <i>extremely calcareous</i>; <i>core 16</i>.</p>
 <p>680: Sandy clay (sC); clay with fine to very coarse sand and trace granules to small pebbles; poorly to moderately sorted; dark grayish brown (10YR 4/2); <i>calcareous</i>; <i>micaceous</i>.</p>	 <p>730: Silty clay (M); clay with silt; very well sorted; grayish brown (10YR 5/2); <i>extremely calcareous</i>.</p>
 <p>690: Sandy silty clay (sM); clay with silt, very fine to medium sand, and trace coarse sand; moderately to well sorted; grayish brown (2.5Y 5/2); <i>calcareous</i>; <i>micaceous</i>.</p>	 <p>740: Silty clay (M); clay with silt; very well sorted; grayish brown (2.5Y 5/2); <i>extremely calcareous</i>.</p>

Figure 17M. Lithologic descriptions and photographs of **shaker** drill cuttings collected from the borehole at 16 USGS multiple-depth, monitoring-well sites in San Diego County, California, 2003–2017: (A) SDCD; (B) SDSY; (C) SDLH; (D) SDAQ; (E) SDGP; (F) SDBP; (G) SDHF; (H) SDEP; (I) SDNB; (J) SDSW; (K) SDMC; (L) SDLD; **(M) SDCC**; (N) SDOR; (O) SDOT; and (P) SDBW. —Continued.


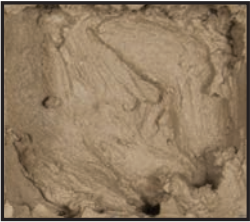
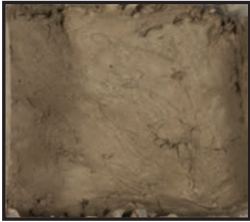







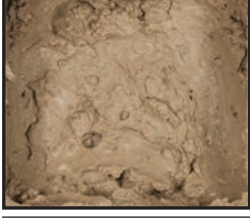
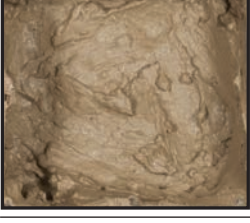


Depth (feet) and description	Depth (feet) and description
 <p>750: Silty clay (M); clay with silt and trace very fine to medium sand; well to very well sorted; grayish brown (2.5Y 5/2); <i>calcareous</i>.</p>	 <p>820: Sandy silty clay (sM); clay with silt and very fine to fine sand; well sorted; grayish brown (2.5Y 5/2); <i>calcareous</i>.</p>
 <p>760: Silty clay (sC); clay with silt, minor medium to very coarse sand, and trace granules; moderately to well sorted; grayish brown (2.5Y 5/2); <i>calcareous</i>.</p>	 <p>830: Sandy silty clay (sM); clay with silt and very fine to fine sand; well sorted; brown (10YR 5/3); <i>calcareous</i>.</p>
 <p>770: Silty clay (M); clay with silt and minor fine to coarse sand; moderately to well sorted; grayish brown (2.5Y 5/2); <i>calcareous</i>.</p>	 <p>840: Sandy silty clay (sM); clay with silt and very fine to fine sand; well sorted; grayish brown (2.5Y 5/2); <i>calcareous</i>.</p>
 <p>780: Sandy silty clay (sM); clay with silt, very fine to medium sand, and trace very coarse sand; moderately to well sorted; grayish brown (2.5Y 5/2); <i>calcareous</i>.</p>	 <p>850: Clay (C); clay with minor fine to coarse sand and trace granules; moderately to well sorted; grayish brown (2.5Y 5/2).</p>
 <p>790: Silty clay (M); clay with silt and trace very fine to very coarse sand; well sorted; grayish brown (10YR 5/2); <i>extremely calcareous</i>; <i>minor mica</i>.</p>	 <p>860: Clay (C); clay with minor fine to coarse sand; moderately to well sorted; brown (10YR 5/3); <i>slightly calcareous</i>; <i>minor mica</i>.</p>
 <p>800: Silty clay (M); clay with silt and trace medium to very coarse sand; well sorted; brown (10YR 5/3); <i>calcareous</i>.</p>	 <p>870: Silty clay (M); clay with silt and minor fine to coarse sand; moderately to well sorted; light olive brown (2.5Y 5/3); <i>calcareous</i>.</p>
 <p>810: Silty sandy clay (sM); clay with very fine to medium sand, silt, and trace granules; moderately to well sorted; grayish brown (2.5Y 5/2); <i>slightly calcareous</i>.</p>	 <p>880: Sandy silty clay (sM); clay with silt, very fine to fine sand, minor coarse to very coarse sand, and trace granules; moderately sorted; grayish brown (2.5Y 5/2); <i>calcareous</i>.</p>

Figure 17M. Lithologic descriptions and photographs of **shaker** drill cuttings collected from the borehole at 16 USGS multiple-depth, monitoring-well sites in San Diego County, California, 2003–2017: (A) SDGD; (B) SDSY; (C) SDLH; (D) SDAQ; (E) SDGP; (F) SDBP; (G) SDHF; (H) SDEP; (I) SDNB; (J) SDSW; (K) SDMC; (L) SDLD; **(M) SDCC**; (N) SDOR; (O) SDOT; and (P) SDBW. —Continued.



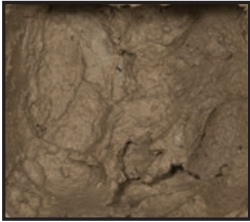
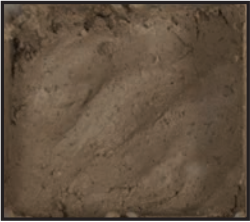










Depth (feet) and description	Depth (feet) and description
 <p>890: Sandy silty clay (sM); clay with silt and very fine to fine sand; well sorted; grayish brown (2.5Y 5/2); <i>calcareous</i>.</p>	 <p>960: Sandy silty clay (sM); clay with silt, very fine to medium sand, and trace granules; poorly to moderately sorted; light olive brown (2.5Y 5/3); <i>calcareous</i>.</p>
 <p>900: Sandy silty clay (sM); clay with silt, very fine to very coarse sand, and trace granules to small pebbles; very poorly to poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous</i>.</p>	 <p>970: Silty sandy clay (sM); clay with fine to coarse sand and silt; poorly to moderately sorted; light olive brown (2.5Y 5/3); <i>slightly calcareous</i>.</p>
 <p>910: Clayey sandy silt (sM); silt with very fine to coarse sand, clay, and trace granules to small pebbles; poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous</i>.</p>	 <p>980: Clay (C); clay with minor fine to coarse sand and trace granules; moderately to well sorted; light olive brown (2.5Y 5/3); <i>calcareous</i>.</p>
 <p>920: Sandy silt (sZ); silt with very fine to coarse sand; moderately sorted; light olive brown (2.5Y 5/3); <i>calcareous</i>.</p>	 <p>990: Clayey silty sand (mS); very fine to coarse sand with silt and clay; poorly sorted; subangular to subrounded; grayish brown (2.5Y 5/2); <i>calcareous</i>.</p>
 <p>930: Sandy silty clay (sM); clay with silt and very fine to medium sand; moderately sorted; grayish brown (2.5Y 5/2); <i>calcareous</i>; <i>minor mica</i>.</p>	 <p>1,000: Clayey silty sand (mS); very fine to coarse sand with silt and clay; poorly sorted; subangular to subrounded; grayish brown (2.5Y 5/2); <i>calcareous</i>.</p>
 <p>940: Sandy clay (sC); clay with very fine to coarse sand; poorly to moderately sorted; brown (10YR 5/3); <i>calcareous</i>.</p>	 <p>1,010: Sandy clay (sC); clay with very fine to coarse sand; poorly sorted; grayish brown (2.5Y 5/2); <i>calcareous</i>.</p>
 <p>950: Clayey silty sand (mS); fine to medium sand with silt, clay, and minor coarse to very coarse sand; poorly to moderately sorted; subangular to subrounded; grayish brown (2.5Y 5/2); <i>slightly calcareous</i>.</p>	 <p>1,020: Sandy clay (sC); clay with very fine to coarse sand and trace granules; poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous</i>.</p>

Figure 17M. Lithologic descriptions and photographs of **shaker** drill cuttings collected from the borehole at 16 USGS multiple-depth, monitoring-well sites in San Diego County, California, 2003–2017: (A) SDGD; (B) SDSY; (C) SDLH; (D) SDAQ; (E) SDGP; (F) SDBP; (G) SDHF; (H) SDEP; (I) SDNB; (J) SDSW; (K) SDMC; (L) SDLD; **(M) SDCC**; (N) SDOR; (O) SDOT; and (P) SDBW. —Continued.

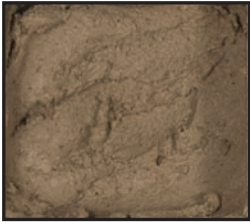













Depth (feet) and description	Depth (feet) and description
 <p>1,030: Sandy clay (sC); clay with very fine to coarse sand; poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous</i>.</p>	 <p>1,090: Sandy clay (sC); clay with fine to very coarse sand and trace granules; poorly sorted; light yellowish brown (2.5Y 6/3).</p>
 <p>1,040: Silty clayey sand (mS); very fine to very coarse sand with clay, silt, and trace granules to small pebbles; poorly sorted; subangular to subrounded; light olive brown (2.5Y 5/3); <i>calcareous</i>.</p>	 <p>1,100: Sandy clay (sC); clay with fine to very coarse sand and trace granules; poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous</i>; <i>micaceous</i>.</p>
 <p>1,045: Clayey sand (cS); very fine to very coarse sand with clay and trace granules; poorly sorted; subangular to subrounded; light olive brown (2.5Y 5/4); <i>calcareous</i>; <i>core 17</i></p>	 <p>1,110: Slightly gravelly clayey sand ((g)mS); fine to very coarse sand with clay and granules to small pebbles; very poorly to poorly sorted; subangular to subrounded; grayish brown (2.5Y 5/2); <i>slightly calcareous</i>.</p>
 <p>1,049: Slightly gravelly sandy clay ((g)sM); clay with very fine to very coarse sand and granules to small pebbles; very poorly sorted; light brownish gray (2.5Y 6/2); <i>extremely calcareous</i>; <i>caliche</i>; <i>core 18</i></p>	 <p>1,120: Clayey sand (cS); fine to very coarse sand with clay and trace granules to medium pebbles; poorly sorted; angular to subangular; light brownish gray (10YR 6/2); <i>calcareous</i>.</p>
 <p>1,060: Gravelly clayey sand (gmS); fine to very coarse sand with clay and granules to small pebbles; very poorly sorted; subangular to subrounded; dark grayish brown (2.5Y 4/2); <i>slightly calcareous</i>; <i>micaceous</i>.</p>	 <p>1,130: Slightly gravelly silty sand ((g)mS); fine to very coarse sand with silt and granules to small pebbles; very poorly to poorly sorted; subangular to subrounded; grayish brown (2.5Y 5/2); <i>calcareous</i>.</p>
 <p>1,070: Gravelly clayey sand (gmS); fine to very coarse sand with clay and granules to small pebbles; very poorly sorted; subangular to subrounded; light olive brown (2.5Y 5/3); <i>calcareous</i>.</p>	 <p>1,140: Clay (C); clay with minor fine to coarse sand; well sorted; light brownish gray (10YR 6/2); <i>calcareous</i>.</p>
 <p>1,080: Sandy clay (sC); clay with fine to coarse sand and trace granules; poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous</i>.</p>	 <p>1,150: Sandy silty clay (sM); clay with silt, very fine to medium sand, and minor coarse to very coarse sand, and trace granules to small pebbles; moderately sorted; pale brown (10YR 6/3); <i>slightly calcareous</i>.</p>

Figure 17M. Lithologic descriptions and photographs of **shaker** drill cuttings collected from the borehole at 16 USGS multiple-depth, monitoring-well sites in San Diego County, California, 2003–2017: (A) SDGD; (B) SDSY; (C) SDLH; (D) SDAQ; (E) SDGP; (F) SDBP; (G) SDHF; (H) SDEP; (I) SDNB; (J) SDSW; (K) SDMC; (L) SDLD; **(M) SDCC**; (N) SDOR; (O) SDOT; and (P) SDBW. —Continued.


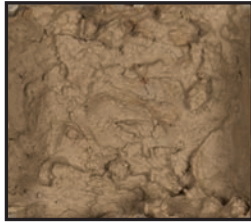









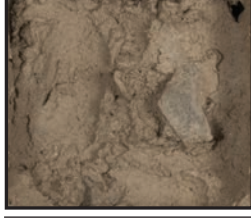


Depth (feet) and description		Depth (feet) and description	
	1,160: Clayey sand (cS); very fine to medium sand with clay, minor coarse to very coarse sand, and trace granules to small pebbles; moderately sorted; subangular to subrounded; light brownish gray (2.5Y 6/2); <i>calcareous</i> ; <i>minor mica</i> .		1,230: Sandy clayey silt (sM); silt with clay and very fine to coarse sand; poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous</i> ; <i>micaceous</i> .
	1,170: Clay (C); clay with minor fine to very coarse sand and trace granules to small pebbles; moderately to well sorted; yellowish brown (10YR 5/4); <i>slightly calcareous</i> .		1,240: Clayey silt (M); silt with clay, minor very fine to coarse sand, and trace granules; well sorted; light olive brown (2.5Y 5/3); <i>slightly calcareous</i> .
	1,180: Sandy clay (sC); clay with very fine to very coarse sand and trace granules to small pebbles; very poorly to poorly sorted; yellowish brown (10YR 5/4); <i>calcareous</i> ; <i>trace mica</i> .		1,250: Clayey silt (M); silt with clay, minor very fine to medium sand, and trace granules; well sorted; light olive brown (2.5Y 5/3); <i>calcareous</i> ; <i>minor mica</i> .
	1,190: Sandy clay (sC); clay with fine to medium sand; moderately to well sorted; dark yellowish brown (10YR 4/4); <i>calcareous</i> .		1,260: Clayey silt (M); silt with clay and trace very fine to coarse sand; very well sorted; grayish brown (2.5Y 5/2); <i>calcareous</i> .
	1,200: Sandy clay (sC); clay with very fine to medium sand; moderately to well sorted; brown (10YR 5/3); <i>calcareous</i> .		1,270: Silty clay (M); clay with silt and minor very fine to coarse sand; well to very well sorted; grayish brown (2.5Y 5/2); <i>calcareous</i> .
	1,210: Silty sandy clay (sM); clay with very fine to coarse sand, silt, and trace granules to small pebbles; poorly to moderately sorted; brown (10YR 5/3); <i>calcareous</i> .		1,280: Sandy silty gravelly clay (gM); clay with granules to large pebbles, silt, and very fine to very coarse sand; very poorly sorted; grayish brown (2.5Y 5/2); <i>calcareous</i> ; <i>minor mica</i> .
	1,220: Slightly gravelly clayey sand ((g)mS); very fine to coarse sand with clay and granules to small pebbles; very poorly to poorly sorted; angular to subrounded; light olive brown (2.5Y 5/3); <i>calcareous</i> .		1,290: Slightly gravelly sandy clay ((g)sM); clay with very fine to very coarse sand, and granules to small pebbles; very poorly sorted; grayish brown (2.5Y 5/2); <i>calcareous</i> ; <i>trace mica</i> .

Figure 17M. Lithologic descriptions and photographs of **shaker** drill cuttings collected from the borehole at 16 USGS multiple-depth, monitoring-well sites in San Diego County, California, 2003–2017: (A) SDGD; (B) SDSY; (C) SDLH; (D) SDAQ; (E) SDGP; (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 (feet) and description	Depth (feet) and description
 <p>1,300: Clayey silt (M); silt with clay and minor very fine sand; very well sorted; grayish brown (2.5Y 5/2); <i>calcareous</i>; <i>minor mica</i>.</p>	 <p>1,370: Clayey sand (cS); very fine to coarse sand with clay and trace granules; poorly sorted; angular to subangular; brown (10YR 5/3); <i>calcareous</i>; <i>minor mica</i>.</p>
 <p>1,310: Sandy gravelly clay (gM); clay with granules to large pebbles and very fine to very coarse sand; very poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous</i>.</p>	 <p>1,380: Clayey sand (cS); very fine to coarse sand with clay and trace granules; poorly sorted; subangular to subrounded; brown (10YR 5/3); <i>calcareous</i>; <i>minor mica</i>.</p>
 <p>1,320: Sandy silty clay (sM); clay with silt and fine to coarse sand; poorly sorted; brown (10YR 5/3); <i>calcareous</i>.</p>	 <p>1,390: Gravelly clayey sand (gmS); fine to coarse sand with clay and granules to medium pebbles; very poorly sorted; angular to subrounded; grayish brown (10YR 5/2); <i>calcareous</i>; <i>minor mica</i>.</p>
 <p>1,330: Sandy gravelly clay (gM); clay with granules to large pebbles and very fine to very coarse sand; very poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous</i>.</p>	 <p>1,400: Slightly gravelly clayey sand ((g)mS); very fine to coarse sand with clay and granules to large pebbles; very poorly sorted; angular to subangular; light brownish gray (10YR 6/2); <i>calcareous</i>.</p>
 <p>1,340: Sandy clayey gravel (msG); granules to small pebbles with clay and fine to very coarse sand; very poorly sorted; very angular to subangular; grayish brown (2.5Y 5/2); <i>slightly calcareous</i>; <i>micaceous</i>.</p>	 <p>1,410: Slightly gravelly sandy silty clay ((g)sM); clay with silt, very fine to medium sand, and granules to small pebbles; very poorly to poorly sorted; brown (10YR 5/3); <i>slightly calcareous</i>; <i>minor mica</i>.</p>
 <p>1,350: Clayey sand (cS); very fine to medium sand with clay and trace granules; moderately sorted; subangular to subrounded; grayish brown (10YR 5/2); <i>calcareous</i>.</p>	 <p>1,420: Sandy silty clay (sM); clay with silt and very fine to fine sand; well sorted; brown (10YR 5/3); <i>calcareous</i>; <i>minor mica</i>.</p>
 <p>1,360: Clayey sand (cS); very fine to medium sand with clay and trace granules; moderately sorted; subangular to subrounded; brown (10YR 5/3); <i>calcareous</i>.</p>	 <p>1,430: Sandy silty clay (sM); clay with silt and very fine to medium sand; moderately sorted; light brownish gray (2/5Y 6/2); <i>calcareous</i>; <i>minor mica</i>.</p>

Figure 17M. Lithologic descriptions and photographs of **shaker** drill cuttings collected from the borehole at 16 USGS multiple-depth, monitoring-well sites in San Diego County, California, 2003–2017: (A) SDCD; (B) SDSY; (C) SDLH; (D) SDAQ; (E) SDGP; (F) SDBP; (G) SDHF; (H) SDEP; (I) SDNB; (J) SDSW; (K) SDMC; (L) SDLD; **(M) SDCC**; (N) SDOR; (O) SDOT; and (P) SDBW. —Continued.

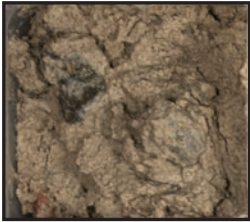
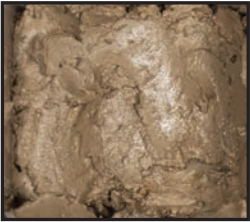

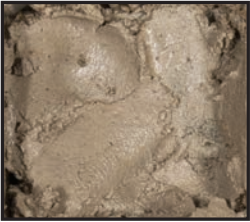

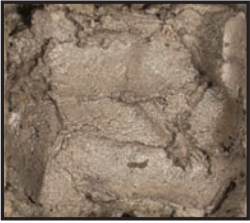








Depth (feet) and description	Depth (feet) and description
 <p>1,440: Sandy clay (sC); clay with very fine to coarse sand and trace granules to large pebbles; poorly sorted; light brownish gray (2.5Y 6/2); <i>slightly calcareous</i>.</p>	 <p>1,510: Clay (C); clay with minor very fine to coarse sand; well sorted; grayish brown (2.5Y 5/2); <i>calcareous</i>.</p>
 <p>1,450: Clay (C); clay with minor very fine to coarse sand; well to very well sorted; light olive brown (2.5Y 5/3); <i>calcareous</i>.</p>	 <p>1,520: Sandy clay (sC); clay with very fine to medium sand and minor coarse sand; moderately to well sorted; grayish brown (2.5Y 5/2); <i>calcareous</i>.</p>
 <p>1,460: Silty clay (M); clay with silt and minor very fine to coarse sand; well sorted; grayish brown (2.5Y 5/2); <i>calcareous</i>.</p>	 <p>1,530: Sandy clay (sC); clay with very fine to coarse sand and trace granules; poorly to moderately sorted; grayish brown (2.5Y 5/2); <i>calcareous</i>.</p>
 <p>1,470: Sandy silty clay (sM); clay and silt with very fine to medium sand; moderately sorted; grayish brown (10YR 5/2); <i>calcareous</i>.</p>	 <p>1,540: Silty clayey sand (mS); very fine to coarse sand with clay, silt, and trace granules to medium pebbles; poorly sorted; subangular to subrounded; dark grayish brown (10YR 4/2); <i>calcareous</i>.</p>
 <p>1,480: Silty clay (M); clay with silt and minor very fine to coarse sand; well sorted; light olive brown (2.5Y 5/3); <i>calcareous</i>; <i>minor mica</i>.</p>	 <p>1,550: Sandy clay (sC); clay with very fine to coarse sand and trace granules; poorly sorted; dark grayish brown (10YR 4/2); <i>extremely calcareous</i>.</p>
 <p>1,490: Sandy silty clay (sM); clay with silt and very fine to medium sand; moderately sorted; grayish brown (2.5Y 5/2); <i>calcareous</i>; <i>minor mica</i>.</p>	 <p>1,560: Sandy gravelly clay (gM); clay with granules to large pebbles and very fine to very coarse sand; very poorly sorted; brown (10YR 4/3); <i>calcareous</i>.</p>
 <p>1,500: Sandy silty clay (sM); clay with silt and very fine to medium sand; moderately sorted; grayish brown (10YR 5/2); <i>calcareous</i>.</p>	 <p>1,570: Sandy silty clay (sM); clay with silt, very fine to very coarse sand, and trace granules; very poorly sorted; grayish brown (2.5Y 5/2); <i>calcareous</i>; <i>trace mica</i>.</p>

Figure 17M. Lithologic descriptions and photographs of **shaker** drill cuttings collected from the borehole at 16 USGS multiple-depth, monitoring-well sites in San Diego County, California, 2003–2017: (A) SDGD; (B) SDSY; (C) SDLH; (D) SDAQ; (E) SDGP; (F) SDBP; (G) SDHF; (H) SDEP; (I) SDNB; (J) SDSW; (K) SDMC; (L) SDLD; **(M) SDCC**; (N) SDOR; (O) SDOT; and (P) SDBW. —Continued.

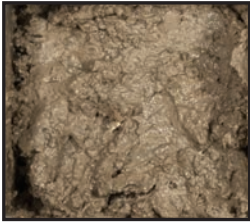
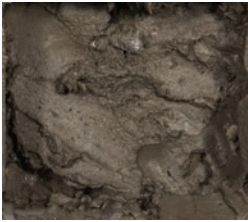

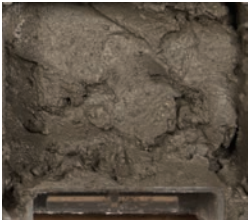
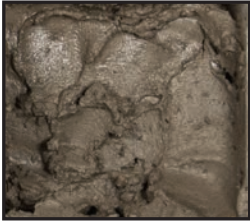
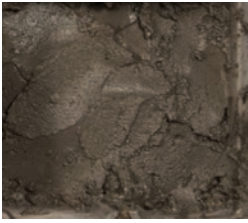






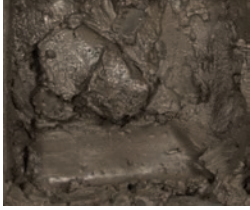

Depth (feet) and description	Depth (feet) and description
 <p>1,580: Sandy silty clay (sM); clay with silt, very fine to very coarse sand, and trace granules; very poorly sorted; grayish brown (2.5Y 5/2); <i>calcareous</i>.</p>	 <p>1,650: Silty clay (M); clay with silt and minor very fine to very coarse sand; well sorted; very dark grayish brown (2.5Y 3/2); <i>calcareous</i>; <i>micaceous</i>; <i>trace shell fragments</i> (<2 mm).</p>
 <p>1,590: Sandy clayey silt (sM); silt with clay, very fine to coarse sand, and trace granules; poorly sorted; dark gray (5Y 4/1); <i>calcareous</i>, <i>minor mica</i>.</p>	 <p>1,660: Clayey silt (M); silt with clay, minor very fine to coarse sand, and trace granule to medium pebbles; moderately to well sorted; very dark grayish brown (2.5Y 3/2); <i>calcareous</i>; <i>micaceous</i>; <i>minor shell fragments</i> (<2 mm).</p>
 <p>1,600: Clayey sandy silt (sM); silt with very fine to coarse sand, clay, and trace granules; poorly sorted; dark gray (10YR4/1); <i>calcareous</i>; <i>minor mica</i>.</p>	 <p>1,670: Clayey silt (M); silt with clay, minor very fine to coarse sand, and trace granules to small pebbles; moderately to well sorted; very dark grayish brown (2.5Y 3/2); <i>calcareous</i>; <i>micaceous</i>; <i>minor shell fragments</i> (<4 mm).</p>
 <p>1,610: Clayey sandy silt (sM); silt with very fine to coarse sand and clay; poorly sorted; very dark grayish brown (2.5Y 3/2); <i>calcareous</i>.</p>	 <p>1,680: Clayey sandy silt (sM); silt with very fine to coarse sand, clay, and trace granules to small pebbles; poorly sorted; very dark grayish brown (2.5Y 3/2); <i>calcareous</i>; <i>minor mica</i>.</p>
 <p>1,620: Clayey sandy silt (sM); silt with very fine to coarse sand, clay, and trace granules; poorly sorted; very dark grayish brown (2.5Y 3/2); <i>calcareous</i>; <i>micaceous</i>; <i>trace shell fragments</i> (<2 mm).</p>	 <p>1,690: Clayey sandy silt (sM); silt with very fine to coarse sand, and clay; poorly sorted; very dark grayish brown (2.5Y 3/2); <i>calcareous</i>.</p>
 <p>1,630: Silty clay (M); clay with silt, minor very fine to coarse sand, and trace granules; well sorted; very dark grayish brown (2.5Y 3/2); <i>calcareous</i>; <i>micaceous</i>.</p>	 <p>1,700: Clayey sandy silt (sM); silt with very fine to very coarse sand, clay, and trace granules; very poorly sorted; very dark grayish brown (2.5Y 3/2); <i>calcareous</i>.</p>
 <p>1,640: Silty clay (M); clay with silt, minor very fine to medium sand, and trace granules to large pebbles; moderately to well sorted; very dark grayish brown (2.5Y 3/2); <i>calcareous</i>; <i>micaceous</i>; <i>trace bivalve and echinoderm (sea urchin spine) shell fragments</i> (<3 mm).</p>	 <p>1,705: Sandy silt (sZ); silt with very fine to fine sand, minor clay, and trace granules; well to very well sorted; very dark grayish brown (2.5Y 3/2); <i>calcareous</i>; <i>minor mica</i>; <i>trace shell fragments</i> (<1 mm); <i>core 19</i>.</p>

Figure 17M. Lithologic descriptions and photographs of **shaker** drill cuttings collected from the borehole at 16 USGS multiple-depth, monitoring-well sites in San Diego County, California, 2003–2017: (A) SDGD; (B) SDSY; (C) SDLH; (D) SDAQ; (E) SDGP; (F) SDBP; (G) SDHF; (H) SDEP; (I) SDNB; (J) SDSW; (K) SDMC; (L) SDLD; **(M) SDCC**; (N) SDOR; (O) SDOT; and (P) SDBW. —Continued.

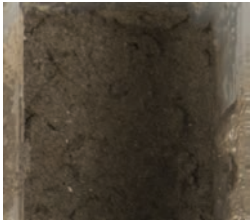



Depth (feet) and description	
	1,710: Sandy silt (sZ); silt with very fine to fine sand; well to very well sorted; very dark grayish brown (2.5Y 3/2); <i>calcareous; micaceous; core 20.</i>
	1,712.5: Sandy silty (sZ); silt with very fine to medium sand; well sorted; very dark grayish brown (2.5Y 3/2); <i>slightly calcareous; minor mica; core 21.</i>
	1,717.5: Sandy silt (sZ); silt with very fine to medium sand; well sorted; very dark grayish brown (2.5Y 3/2); <i>slightly calcareous; micaceous; core 22.</i>
	1,720: Sandy clayey silt (sM); silt and clay with very fine to medium sand; moderately to well sorted; very dark grayish brown (2.5Y 3/2); <i>slightly calcareous; micaceous; core 23.</i>

Figure 17M. Lithologic descriptions and photographs of **shaker** drill cuttings collected from the borehole at 16 USGS multiple-depth, monitoring-well sites in San Diego County, California, 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.