

Depth (feet) and description	Depth (feet) and description	Depth (feet) and description	Depth (feet) and description
	10: Sand (S); very fine to medium sand; well sorted; subrounded; dark grayish brown (2.5Y 4/2).		80: Silty sand (zS); very fine to medium sand with silt; well sorted; subrounded; gray (2.5Y 5/1).
	20: Gravelly silty sand (gmS); fine to coarse sand with very fine sand and silt and very coarse sand to pebbles <10 mm; very poorly sorted; subrounded; dark grayish brown (10YR 4/2).		90: Silty sand (zS); very fine to medium sand with silt and minor coarse to very coarse sand; moderately sorted; subrounded; gray (2.5Y 5/1).
	38–58: Silty gravelly sand (gmS); fine to very coarse sand with granules and pebbles <10 mm and very fine sand and silt; very poorly sorted; subrounded; greenish gray (5GY 5/1) and dark grayish brown (10YR 4/2); <i>reamed sample</i> .		100: Sandy silt (sZ); silt and very fine sand with minor coarse to very coarse sand; well sorted; dark gray (N 4/1).
	40: Silty sand (zS); medium to very fine sand with silt and minor very coarse sand; poorly sorted; subrounded; dark grayish brown (10YR 4/2) .		110: Sandy silt (sZ); silt and very fine sand; very well sorted; gray (N 5/1).
	50: Gravelly silty sand (gmS); fine to very coarse sand with very fine sand and silt and some granules; very poorly sorted; subrounded; greenish gray (5GY 5/1) and dark grayish brown (10YR 4/2).		120: Sandy silt (sZ); silt and very fine sand with medium to very coarse sand; moderately sorted; dark gray (N 4/1).
	60: Sand (S); coarse to very coarse sand; very well sorted; subrounded; grayish brown (2.5Y 5/2).		130: Sandy silty gravel (mG); pebbles <10 mm with silt and very fine sand; very poorly sorted; subrounded; gray (2.5Y 5/1).
	70: Sand (S); very fine to medium sand; well sorted; subrounded; gray (2.5Y 5/1) .		140: Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; dark gray (N 4/1).

Figure 17D. 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) SDPC; (F) SDBP; (G) SDHF; (H) SDEP; (I) SDNB; (J) SDSW; (K) SDMC; (L) SLDL; (M) SDCC; (N) SDOR; (O) SDOT; and (P) SDBW.

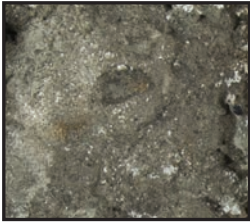
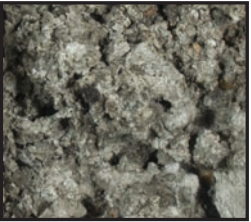









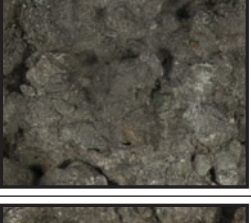
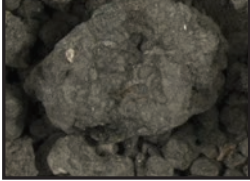

Depth (feet) and description	Depth (feet) and description		
	<p>150: Sandy silt (sZ); silt and very fine sand; very well sorted; dark gray (N 4/1).</p>		<p>210: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; gray (2.5Y 6/1).</p>
	<p>160: Sand (S); coarse to very coarse sand; very well sorted; subrounded; grayish brown (2.5Y 5/2).</p>		<p>220: Clayey silt (M); silt with clay; very well sorted; dark gray (2.5Y 4/1).</p>
	<p>168: Silty gravel (mG); pebbles <8 mm with silt; very poorly sorted; angular; gray (N 5/1); <i>pebbles are very fresh fragments.</i></p>		<p>228: Sand (S); coarse to very coarse sand; very well sorted; subrounded; light olive brown (2.5Y 5/3).</p>
	<p>170: Sandy silt (sZ); silt and very fine sand; very well sorted; dark gray (N 4/1).</p>		<p>250: Sandy silt (sZ); silt and very fine sand; very well sorted; dark gray (2.5Y 4/1).</p>
	<p>180: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; dark gray (N 4/1).</p>		<p>260: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; dark gray (2.5Y 4/1).</p>
	<p>190: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; dark gray (N 4/1).</p>		<p>270: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; dark gray (2.5Y 4/1).</p>
	<p>200: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; dark gray (N 4/1).</p>		<p>280: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; dark gray (2.5Y 4/1).</p>

Figure 17D. 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) SDPC; (F) SDBP; (G) SDHF; (H) SDEP; (I) SDNB; (J) SDSW; (K) SDMC; (L) SLDL; (M) SDCC; (N) SDOR; (O) SDOT; and (P) SDBW. —Continued.

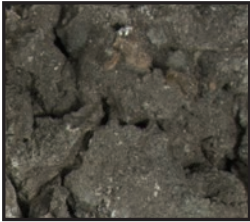
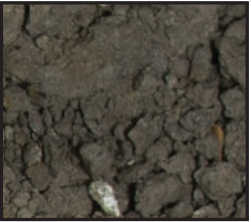






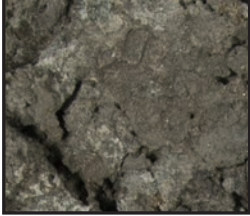





Depth (feet) and description	Depth (feet) and description
	
<p>290: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; dark gray (2.5Y 4/1).</p>	<p>360: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; dark gray (2.5Y 4/1).</p>
	
<p>300: Sandy silt (sZ); silt and very fine sand; very well sorted; dark gray (2.5Y 4/1).</p>	<p>370: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; gray (2.5Y 6/1).</p>
	
<p>310: Sandy silt (sZ); silt and very fine sand; very well sorted; dark gray (2.5Y 4/1).</p>	<p>380: Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; gray (2.5Y 6/1).</p>
	
<p>320: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; dark gray (2.5Y 4/1).</p>	<p>390: Sandy silt (sZ); silt and very fine sand; very well sorted; dark gray (2.5Y 4/1).</p>
	
<p>330: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; dark gray (2.5Y 4/1).</p>	<p>400: Sandy silt(sZ); silt and very fine sand; very well sorted; dark gray (2.5Y 4/1).</p>
	
<p>340: Sandy silt (sZ); silt and very fine sand; very well sorted; dark gray (2.5Y 4/1).</p>	<p>410: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; dark gray (2.5Y 4/1).</p>
	
<p>350: Sandy silt (sZ); silt and very fine sand; very well sorted; dark gray (2.5Y 4/1).</p>	<p>420: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; dark gray (2.5Y 4/1).</p>

Figure 17D. 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) SLDL; (M) SDCC; (N) SDOR; (O) SDOT; and (P) SDBW. —Continued.

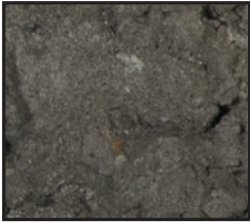
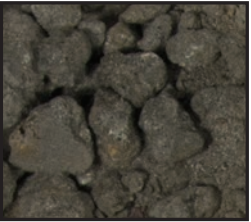


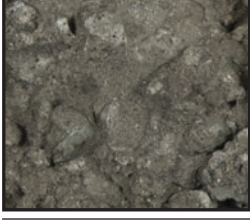

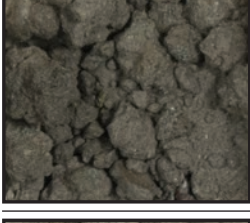


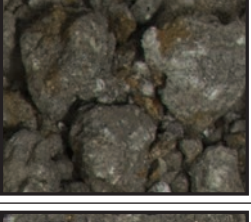
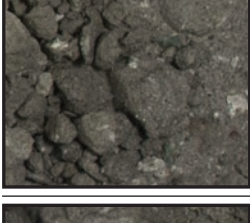
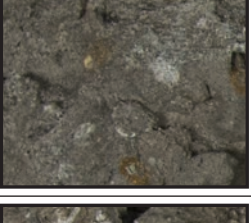
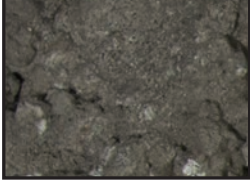
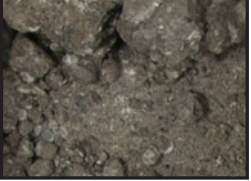
Depth (feet) and description	Depth (feet) and description		
	<p>430: Sand (S); fine to very fine sand; very well sorted; subrounded; dark gray (2.5Y 4/1).</p>		<p>500: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; dark gray (2.5Y 4/1).</p>
	<p>440: Silty sand (zS); fine to very fine sand with silt; well sorted; subrounded; dark gray (2.5Y 4/1).</p>		<p>510: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; dark gray (2.5Y 4/1).</p>
	<p>450: Sandy silt (sZ); silt and very fine sand; very well sorted; dark gray (2.5Y 4/1).</p>		<p>520: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; dark gray (2.5Y 4/1).</p>
	<p>460: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; dark gray (2.5Y 4/1).</p>		<p>530: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; dark gray (2.5Y 4/1).</p>
	<p>470: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; dark gray (2.5Y 4/1).</p>		<p>540: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; dark gray (2.5Y 4/1).</p>
	<p>480: Silty sand (zS); fine to very fine sand and silt; well sorted; subrounded; dark gray (2.5Y 4/1).</p>		<p>550: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; dark gray (2.5Y 4/1).</p>
	<p>490: Sand (S); fine to very fine sand; very well sorted; subrounded; gray (2.5Y 5/1).</p>		<p>560: Sandy silt (sZ); silt and very fine sand; very well sorted; dark gray (2.5Y 4/1).</p>

Figure 17D. 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) SDPC; (F) SDBP; (G) SDHF; (H) SDEP; (I) SDNB; (J) SDSW; (K) SDMC; (L) SDLD; (M) SDCC; (N) SDOR; (O) SDOT; and (P) SDBW. —Continued.



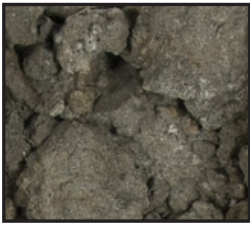
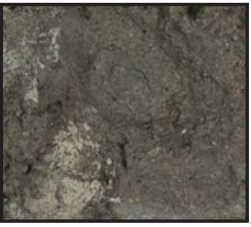
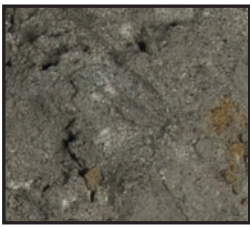
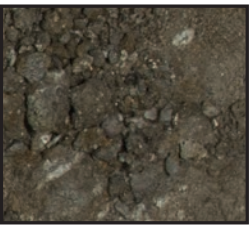
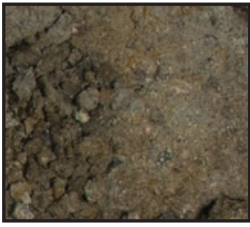
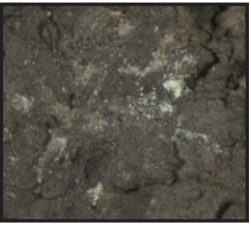
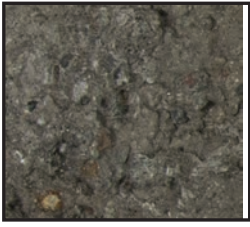




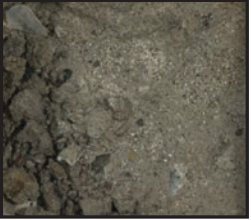
Depth (feet) and description	Depth (feet) and description	Depth (feet) and description	Depth (feet) and description
	<p>570: Sandy silt (sZ); silt and very fine sand with minor coarse to very coarse sand; well sorted; dark gray (2.5Y 4/1).</p>		<p>640: Sandy silt (sZ); silt and very fine sand with minor coarse to very coarse sand; well sorted; dark gray (2.5Y 4/1).</p>
	<p>580: Sandy silt (sZ); silt and very fine sand; very well sorted; dark gray (2.5Y 4/1).</p>		<p>650: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; dark gray (2.5Y 4/1).</p>
	<p>590: Sandy silt (sZ); silt and very fine sand; very well sorted; subrounded; dark gray (2.5Y 4/1).</p>		<p>660: Sandy silt (sZ); silt and very fine sand; very well sorted; dark gray (2.5Y 4/1).</p>
	<p>600: Silty sand (zS); very fine sand and silt with minor coarse to very coarse sand; well sorted; subrounded; dark gray (2.5Y 4/1).</p>		<p>670: Sandy silt (sZ); silt and very fine sand; very well sorted; dark gray (2.5Y 4/1).</p>
	<p>610: Silty sand (zS); very fine sand and silt; very well sorted; subrounded; dark gray (2.5Y 4/1).</p>		<p>680: Silty sand (zS); very fine sand and silt with minor coarse to very coarse sand; well sorted; subrounded; dark gray (2.5Y 4/1).</p>
	<p>620: Silty sand (zS); very fine sand and silt with minor very coarse sand; well sorted; subrounded; dark gray (2.5Y 4/1).</p>		<p>690: Silty sand (zS); very fine sand and silt with coarse to very coarse sand; moderately sorted; subrounded; dark gray (2.5Y 4/1).</p>
	<p>630: Sandy silt (sZ); silt and very fine sand with minor coarse to very coarse sand; well sorted; dark gray (2.5Y 4/1).</p>		<p>700: Silty sand (zS); very fine sand and silt with coarse to very coarse sand; moderately sorted; subrounded; dark gray (2.5Y 4/1).</p>

Figure 17D. 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) SDPC; (F) SDBP; (G) SDHF; (H) SDEP; (I) SDNB; (J) SDSW; (K) SDMC; (L) SDLD; (M) SDCC; (N) SDOR; (O) SDOT; and (P) SDBW. —Continued.

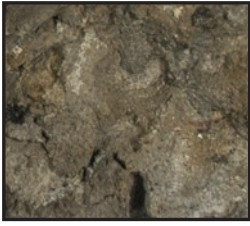
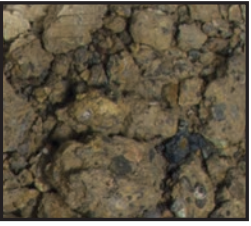







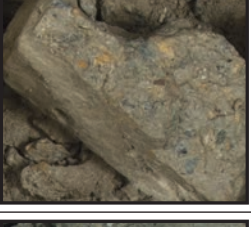

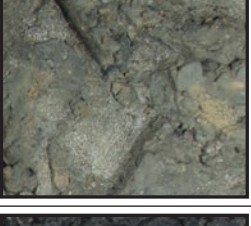


Depth (feet) and description	Depth (feet) and description		
	<p>710: Sandy silt (sZ); silt and very fine sand; very well sorted; dark gray (2.5Y 4/1).</p>		<p>780: Gravelly clayey silty sand (gmS); fine sand to silt with clay and coarse sand to granules; very poorly sorted; subrounded; light olive brown (2.5Y 5/3), dark gray (2.5Y 4/1), and greenish gray (5G 6/1).</p>
	<p>720: Sand (S); medium to very fine sand with minor coarse to very coarse sand; moderately sorted; subrounded; dark gray (2.5Y 4/1).</p>		<p>790: Clayey sandy silt (sM); silt and very fine sand with some clay and minor very coarse sand; moderately sorted; light olive brown (2.5Y 5/3), gray (2.5Y 5/1), and dark reddish brown (2.5YR 3/3).</p>
	<p>730: Silty sand (zS); very fine sand and silt with minor coarse to very coarse sand; moderately sorted; subrounded; gray (2.5Y 5/1).</p>		<p>800: Clayey sandy silt (sM); silt and very fine sand with clay and minor coarse to very coarse sand; poorly sorted; light olive brown (2.5Y 5/4) and dark gray (2.5Y 4/1).</p>
	<p>740: Clayey sandy silt (sM); silt and very fine sand with clay; well sorted; olive gray (5Y 5/2) and dark gray (5Y 4/1).</p>		<p>810: Clayey sandy silt (sM); silt and very fine sand with clay and minor very coarse sand; moderately sorted; light olive brown (2.5Y 5/4), dark gray (2.5Y 4/1), and dark reddish brown (2.5YR 3/3).</p>
	<p>750: Clayey sandy silt (sM); silt and very fine sand with clay; well sorted; light olive brown (2.5Y 5/3), brown (10YR 5/3), and greenish gray (5GY 6/1).</p>		<p>820: Clayey sandy silt (sM); silt and very fine sand with clay and minor coarse to very coarse sand; poorly sorted; olive gray (5Y 5/2) and dark gray (2.5Y 4/1).</p>
	<p>760: Clayey sandy silt (sM); silt and very fine sand with clay; well sorted; light olive brown (2.5Y 5/4), greenish gray (5GY 6/1), and dark reddish brown (2.5YR 3/3).</p>		<p>830: Clayey sandy silt (sM); silt and very fine sand with clay and minor coarse to very coarse sand; poorly sorted; dark gray (2.5Y 4/1) and gray (2.5Y 5/1).</p>
	<p>770: Clayey sandy silt (sM); silt and very fine sand with clay; well sorted; light olive brown (2.5Y 5/3), light gray (5Y 7/1), and dark gray (2.5Y 4/1).</p>		<p>840: Sandy clayey silt (sM); silt and clay with very fine sand and minor coarse to very coarse sand; moderately sorted; dark gray (2.5Y 4/1), gray (2.5Y 5/1), and light olive brown (2.5Y 5/3).</p>

Figure 17D. 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) SDPC; (F) SDBP; (G) SDHF; (H) SDEP; (I) SDNB; (J) SDSW; (K) SDMC; (L) SDLD; (M) SDCC; (N) SDOR; (O) SDOT; and (P) SDBW. —Continued.

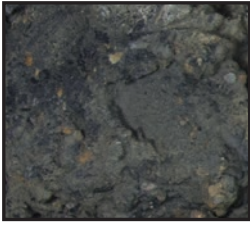

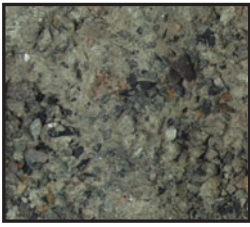
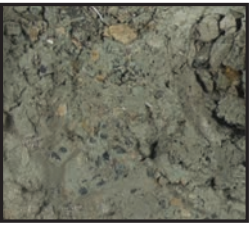
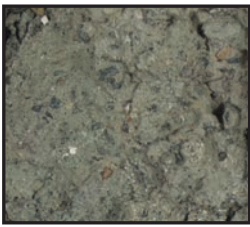
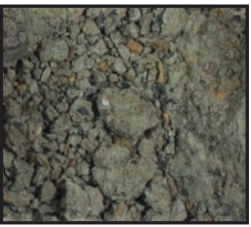
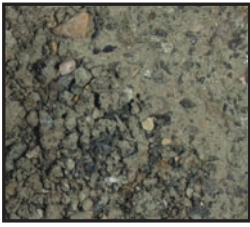



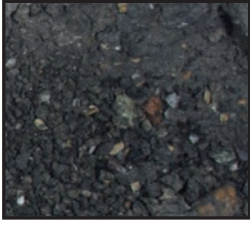
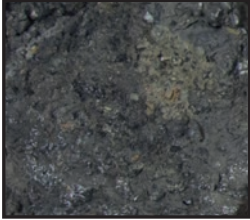
Depth (feet) and description	Depth (feet) and description	Depth (feet) and description	Depth (feet) and description
	850: Silty sand (zS); very fine sand and silt with minor coarse to very coarse sand; moderately sorted; subrounded; dark gray (2.5Y 4/1), gray (2.5Y 5/1), and light olive brown (2.5Y 5/3).		920: Silty sand (zS); coarse to very coarse sand with very fine sand and silt; moderately sorted; subangular; greenish gray (10Y 5/1); <i>minor volcanic fragments</i> .
	860: Silty sand (zS); very fine sand and silt with minor coarse to very coarse sand; moderately sorted; subrounded; greenish gray (10Y 5/1) and dark gray (2.5Y 4/1).		930: Silty sand (zS); very fine sand and silt with coarse to very coarse sand; moderately sorted; subangular to subrounded; greenish gray (10Y 5/1); <i>volcanic fragments</i> .
	870: Silty sand (zS); very fine sand and silt with minor coarse to very coarse sand; moderately sorted; subrounded; greenish gray (10Y 5/1) and dark gray (2.5Y 4/1).		940: Clayey silty sand (mS); very fine sand and silt with coarse to very coarse sand and clay; poorly sorted; subangular; greenish gray (10Y 5/1) and greenish gray (5G 6/1); <i>volcanic fragments</i> .
	880: Silty sand (zS); very fine sand and silt with minor coarse to very coarse sand; moderately sorted; subrounded; greenish gray (10Y 5/1) and dark gray (2.5Y 4/1).		945: Gravelly sand (gS); coarse to very coarse sand with granules and minor medium to fine sand; poorly sorted; subangular; multi-colored; <i>photo of washed sample</i> .
	890: Silty sand (zS); coarse to very coarse sand with very fine sand and silt; moderately sorted; subangular; very dark gray (N 3/1); <i>volcanic fragments</i> .		949: Metavolcanic bedrock; fractured; greenish gray; <i>probably Santiago Peak Volcanics; 3-foot core 1</i> . 949–950: No shaker sample collected.
	900: Silty sand (zS); coarse to very coarse sand with very fine sand and silt; moderately sorted; subangular; very dark gray (N 3/1); <i>volcanic fragments</i> .		
	910: Sand (S); coarse to very coarse sand with very fine to fine sand; moderately sorted; subangular; dark gray (N 4/1); <i>volcanic fragments</i> .		

Figure 17D. 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) SDPC; (F) SDBP; (G) SDHF; (H) SDEP; (I) SDNB; (J) SDSW; (K) SDMC; (L) SDLD; (M) SDCC; (N) SDOR; (O) SDOT; and (P) SDBW. —Continued.