

Bedrock Geologic Map of the New Jersey Portions of the Weehawken and Central
Park Quadrangles, Bergen, Hudson and Passaic Counties, New Jersey

New Jersey Geological and Water Survey
Geologic Map Series GMS 18-1

Pamphlet with Table 1 to accompany map

Table 1. Selected well and boring records.

Boring logs from New Jersey Department of Transportation soil boring logs
<http://www.state.nj.us/transportation/refdata/geologic/>

<u>Map number</u>	<u>Identification</u>	<u>Depth (ft)</u>	<u>recovered material</u>
A-1	Log ID - B0022275 Plan ID - P0001909 Boring Label – B-15	0-3 3-3.6	surficial gravel + sand rock, siltstone, gray, medium to hard
A-2	Log ID - B0022284 Plan ID - P0001912 Boring Label – B-24	0-4.8 4.9-6.4	surficial sand rock, sandstone, gray/white, medium to hard
A-3	Log ID - B0007963 Plan ID - P0000424 Boring Label - 540W-3	0-19.5 19.5-24.5	surficial gravel + sand core 54% recovery, 2.7 ft hornfels, black arkose, lt brown, fine grained
A-4	Log ID - B0007949 Plan ID - P0000423 Boring Label - 540W-13	0-35.7 35.7-42.5	surficial gravel, sand, silt + clay hornfels, black + white, thinly bedded
A-5	Log ID - B0009739 Plan ID - P0000603 Boring Label – PB-8	0-12.07 12.07-13.57	surficial gravel + sand sandstone, dk red to buff, fine to medium grained, slightly weathered, 0.15m shale at bottom
A-6	Log ID - B0022281 Plan ID - P0001910 Boring Label – B-21A	0-4.7 4.7-6.7	surficial sand siltstone, gray, v. soft to hard, close to med. spaced discontinuities
A-7	Log ID - B0022277 Plan ID - P0001909 Boring Label – B-17	0-4.0 4.0-6.7	surficial sand + gravel siltstone, dark gray, hard, fresh, horizontal joints, vertical fractures
A-8	Log ID - B0022274 Plan ID - P0001906 Boring Label – B-1	0-4.0 4.0-5.5	surficial sand + gravel siltstone, gray, medium to hard, close to medium spaced discontinuities
A-9	Log ID - B0016491 Plan ID - P0001309 Field number – B-20	0-6.5 6.5-16.5	surficial sand, silt + gravel sandstone, dark red brown
A-10	Log ID - B0016474 Plan ID - P0001305	0-10.2 10.2-15.2	surficial sand, silt + gravel cored interval 31% recovery, yellow brown to

	Field number - B-23	15.2-20.2	white sandstone and gneiss cored interval 53% recovery, gray basalt (3 in), pinkish brown f sandstone
A-11	Log ID - B0011158 Plan ID - P0000657 Field number - D-55	0-8.5 8.5-23.5	surficial sand, silt + gravel gray diabase, medium grained, slightly weathered

Abbreviated well logs from the Trans-Hudson Express (THE) Project for proposed Hudson River tunnel in 2007. Project was cancelled. Logs on file at the NJGWS. Well number is bolded; PE number is project well identifier

277	PE-128W		
0-52	surficial material		
52-56	light yellow-gray and white-gray with occasional dark gray, mixed m-f grained and f-grained sandstone		
56-66	light-medium-dark gray and light tan mixed siltstone; fine grained and m f grained sandstone; with few coarse grained arkosic sandstone; thin to very thin bedded c-f grained arkosic sandstone; dark and light gray, occasionally discolored orange-brown, m-f grained arkosic sandstone		
66-76	light tan to brownish-gray mottled dark gray, interlayered f-grained and m-f grained sandstone and m-f grained and c-f grained arkosic sandstone		
76-81	light tan-gray c-f grained arkosic sandstone		
278	PE-222		
0-35	surficial material		
35-40	light gray mottled brown, m-f grained arkosic sandstone; light tan and gray mottled brown f-grained silty sandstone and siltstone		
40-45	light gray mottled brown m-f grained arkosic sandstone		
45-56	light gray mottled brown m-f grained arkosic sandstone; tan-white f-grained silty sandstone and siltstone with scattered medium grains; light gray f-grained to m-f grained arkosic sandstone; light gray to medium yellow-gray m-f grained arkosic sandstone; medium gray f-grained silty sandstone, diffuse turbated bedding		
56-66	medium tan-gray f-grained to m-f grained silty sandstone diffuse very thin bedding; light gray and tan layered m-f grained arkosic sandstone, f-grained sandstone and siltstone, diffuse thin to very thin bedding.		
66-71	tan f-grained to m-f grained sandstone diffuse medium bedding. gray interlayered c-f grained and m-f grained arkosic sandstone		
71-76	gray interlayered c-f grained and m-f grained arkosic sandstone		
76-81	gray mottled brown m-f grained and c-m grained arkosic sandstone, diffuse very thin to medium bedding		
81-86	gray mottled brown, interbedded m-f grained and c-f grained arkosic sandstone, very thin to thin bedding		
86-91	gray mottled brown, interbedded c-f grained and m-f grained arkosic sandstone. light gray mottled brown, m-f grained arkosic sandstone.		
91-96	light gray mottled brown m-f grained arkosic sandstone; light tan-white and gray mottled yellow-gray siltstone and claystone		
96-101	light gray occasionally mottled brown, m-f grained arkosic sandstone; light tan and dark gray mottled orangish-gray, mixed siltstone and f-grained and m-f grained sandstone		
101-112	dark gray to light tan mottled yellow-brown mixed m-f grained and f-grained sandstone and siltstone; light tan and gray m-f grained arkosic sandstone interbedded with little f-grained arkosic sandstone		
112-116	light tan and gray, m-f grained and f-grained arkosic sandstone and siltstone; medium to dark gray and light tan mixed m-f grained and f-grained sandstone		

- 116-126 light tan and gray mixed m-f grained sandstone and siltstone; light tan and gray mixed f-grained sandstone and siltstone; tan, occasionally mottled brown, m-f grained arkosic sandstone; yellow tan to dark gray siltstone
- 126-135 light gray mottled yellow-brown layered m-f grained and little c-m grained arkosic sandstone; yellow-brown mixed m-f grained sandstone and siltstone, bioturbated
- 135-141 light tan mottled yellow-brown and gray, layered siltstone, f-grained sandstone, and m-f grained arkosic sandstone, bioturbated burrows infilled with m-f grained sandstone
- 141-151 tan-gray mottled brown m-f grained arkosic sandstone with scattered c-grains
- 151-156 gray mottled, yellow-brown m-f grained arkosic sandstone with scattered coarse-grains mixed with light tan siltstone
- 156-161 gray and tan c-m grained arkosic sandstone, tan mixed f-grained silty sandstone; dark brown mixed f-grained sandstone and siltstone and gray m-f grained arkosic sandstone, gray m-f grained arkosic sandstone
- 161-166 dark brown mottled gray interlayered siltstone, shale and f-grained sandstone, tan-gray m-f grained arkosic sandstone, light tan and gray m-f grained arkosic sandstone
- 166-176 light tan and gray m-f grained arkosic sandstone with f-grained sandstone
- 176-186 light tan and gray m-g grained arkosic sandstone with few coarse grains, dark gray brown f-grained silty sandstone, light tan and gray f-grained silty sandstone coarsening downward to m-f grained arkosic sandstone
- 186-196 light tan and gray m-f grained coarsening downward to c-grained arkosic sandstone. light tan and gray m-f grained arkosic sandstone
- 196-201 light gray m-f grained arkosic sandstone, light tan siltstone bioturbated, light gray c-m grained arkosic sandstone

279 PE139W

- 0-60 surficial material
- 60-65 light tan-gray medium bedded, c-f grained arkosic sandstone; tan-white and yellow-brown, very thin to laminated, f-grained sandstone
- 65-74 tan-white and yellow-brown, very thin to medium bedded m-f grained arkosic sandstone
- 74-85 light gray, medium gray, light yellow-tan and brown mixed siltstone and f-grained and m-f grained sandstone
- 85-92 mixed siltstone and f-grained and m-f grained sandstone; gray, mottled tan, diffuse mix of f-grained silty sandstone and m-f grained arkosic sandstone
- 92-95 gray and tan diffuse mixture of f-grained silty sandstone and m-f grained arkosic sandstone; light tan and gray m-f grained arkosic sandstone
- 95-105 m-f grained arkosic sandstone; light tan and dark gray interbedded f-grained sandstone and siltstone; light tan gray mottled yellow-brown mixed siltstone and f-grained and m-f grained sandstone; gray-tan c-f grained arkosic sandstone
- 105-115 light yellowish gray occasionally mottled red-brown c-m grained arkosic sandstone; granule and pebble conglomeritic sandstone
- 115-125 light tan-gray granule and pebble sandy conglomerate; light tan-gray mottled yellow-brown red-brown and dark gray c-f grained arkosic sandstone
- 125-135 light gray and tan interbedded siltstone and m-f grained and f-grained sandstone; dark brown mottled light orange; mixed siltstone and f-grained and m-f grained sandstone
- 135-145 dark brown siltstone; light gray, tan and dark brown interbedded siltstone and f-grained sandstone; light tan, gray, occasionally mottled brown along bedding planes, m-f grained sandstone
- 145-155 light tan and gray, occasionally mottled brown, m-f grained sandstone; tan and gray interbedded siltstone and f-grained and m-f grained sandstone

- 155-165 light tan, gray and brown mixed siltstone and f-grained and m-f sandstone; gray c-f grained arkosic sandstone; light gray interlayered f-grained and m-f grained sandstone
- 165-175 gray c-f grained arkosic sandstone; light gray interlayered siltstone and f-grained and m-f grained sandstone; gray interlayered m-f grained and c-m grained arkosic sandstone
- 175-185 gray interlayered c-m grained and m-f grained arkosic sandstone with tan, brown and dark gray layer of mixed f-grained and m-f grained sandstone
- 185-194 gray, interlayered c-m grained and m-f grained arkosic sandstone; interlayered tan and gray f-grained sandstone and dark brown f-grained silty sandstone
- 194-200 dark brown mottled tan and dark gray mixed f-grained silty sandstone and m-f grained sandstone; light f-grained and m-f grained sandstone grading down to gray c-f grained arkosic sandstone

280 PE-155W

- 0-95 surficial material
- 95-105 medium to light gray, mottled brown, c-m grained to m-f grained arkosic sandstone
- 105-115 light gray m-f grained arkosic sandstone; light gray and light purple m-f grained arkosic silty sandstone; light purple sandstone breccia; light gray m-f grained arkosic sandstone
- 115-125 light gray m-f grained arkosic sandstone; light gray-white siltstone
- 125-135 light gray-white mottled yellow-brown siltstone; light gray, occasionally mottled yellow-brown, diffuse laminated to medium-thick bedded, m-f grained arkosic sandstone with minor very thin-bedded c-m grained arkosic sandstone layers
- 135-145 light gray, little yellow-brown staining, medium to thick bedded, c-f grained arkosic sandstone, interlayered with minor very thin bedded f-grained silty sandstone; light gray-white, interbedded f-grained silty sandstone and siltstone; gray to light gray, little brown staining, m-grained grading downward to m-f grained arkosic sandstone; granule conglomeritic sandstone, lithic grain of clay rip-up clasts
- 145-151 light gray m-f grained, thin bedded arkosic sandstone
- 151-156 gray to light gray interbedded m-f grained, c-f grained and c-m grained laminated to thin-bedded arkosic sandstone, grading downward to f-grained sandstone
- 156-158 light tan f-grained, grading downward to m-f grained and c-f grained arkosic sandstone
- 158-165 brown, mottled black, dark gray and light brown bioturbated siltstone
- 165-175 dark brown, black and tan bioturbated siltstone mixed with m-f grained silty sandstone with occasional fossils; gray, interbedded f-grained, m-f grained and c-f grained arkosic sandstone
- 175-185 gray c-m grained, c-f grained and f-grained arkosic sandstone

281 PE-223

- 0-130 surficial material
- 130-132 gray interlayered m-f grained and c-f grained arkosic sandstone; gray granule and pebble arkosic conglomeritic sandstone; gray, mixed siltstone and f-grained silty sandstone
- 132-142 gray mottled yellow-brown mixed m-f grained arkosic sandstone, with scattered pebble-size grains, and mudstone; gray interlayered m-f grained and c-f grained arkosic sandstone, and minor f-grained arkosic sandstone
- 142-152 gray m-f grained arkosic sandstone; occasional thin-bedded c-f grained arkosic sandstone; occasional very thin to thin bedded mixed sandy siltstone and f-grained arkosic sandstone
- 152-162 gray and grayish-brown mixed siltstone f-grained sandy claystone and minor m-f grained arkosic sandstone; light tan m-f grained arkosic silty sandstone; light gray and tan interlayered clayey siltstone, siltstone, and f-grained silty sandstone; light tan m-f grained arkosic silty sandstone; interlayered dark brown siltstone and dark brownish-gray f-grained silty sandstone; light gray-tan mottled dark gray m-f grained arkosic sandstone

- 162-172 light to medium gray-brown mottled dark gray, mixed siltstone and f-grained and m-f graded arkosic silty sandstone; interlayered dark brown siltstone and dark brownish-gray f-grained silty sandstone; light gray-tan mottled dark gray m-f graded arkosic sandstone
- 172-182 gray, m-f graded arkosic sandstone; gray mottled tan, mixed f-grained silty sandstone and minor m-f graded arkosic sandstone; gray-green to dark red, mixed siltstone, f-grained silty sandstone, and m-f graded arkosic sandstone; dark red-brown occasionally mottled gray-green and tan, mixed siltstone and silty shale
- 182-192 dark red-brown occasionally mottled greenish gray mixed siltstone and silty shale

282 PE-158W

- 0-112 surficial material
- 112-117 dark red-brown siltstone interlayered with dark red-brown m-f graded arkosic silty sandstone
- 117-122 dark red-brown siltstone interlayered with m-f graded sandy siltstone and red-gray f-grained arkosic silty sandstone
- 122-127 dark red-brown siltstone mixed with m-f graded arkosic silty sandstone; light tan m-f graded arkosic sandstone
- 127-132 tan to dark gray m-f graded arkosic sandstone; gray-brown to dark red granule and pebble sandy conglomerate; dark red-brown mottled yellow brown siltstone with minor m-f graded sandy siltstone
- 132-137 dark red-brown siltstone; dark red-brown to tan gradationally interbedded m-f graded and c-f graded arkosic sandstone
- 137-142 light reddish-tan gradationally bedded, f-grained, m-f graded, c-m graded arkosic sandstone; light reddish-tan thin bedded granule and pebble sandy conglomerate; gray-tan mottled yellow-brown siltstone grading into f-grained silty sandstone
- 142-147 reddish tan mottled yellow-brown and gray siltstone and f-grained sandstone
- 147-152 light reddish-tan c-m graded arkosic sandstone; light-gray-tan t-grained to m-f graded arkosic sandstone; reddish-gray to brown, mottled orange, c-m graded arkosic sandstone
- 152-157 dark gray c-f graded arkosic sandstone; dark red mottled yellow-brown mixed siltstone, f-grained arkosic silty sandstone, and minor m-f graded sandstone lenses
- 157-162 light reddish-tan interlayered c-f graded f-grained and m-f graded arkosic sandstone; yellow-grain f-grained silty sandstone
- 162-167 light reddish-tan, thin to medium-thick gradationally interbedded m-f graded and c-f graded arkosic sandstone, with occasional laminated to very thin bedded f-grained sandstone and siltstone
- 167-172 light reddish-gray to tan, gradationally interlayered, medium-thick bedded, c-m graded and m-f graded arkosic sandstone with minor granule conglomeritic sandstone; gray mottled yellow-brown claystone and siltstone
- 172-177 dark gray-brown c-f graded arkosic sandstone; dark brownish-red siltstone; light reddish-tan m-f graded arkosic sandstone
- 177-182 light reddish-tan, gradationally interlayered m-f graded and c-f graded arkosic sandstone; dark gray mottled yellow-brown m-f graded arkosic sandstone grading to siltstone
- 182-187 dark gray m-f graded arkosic sandstone; dark red-brown to yellow-brown siltstone and sandy siltstone; light reddish-tan gradationally interlayered medium-bedded, m-f graded and c-m graded arkosic sandstone; mottled yellow-brown f-grained sandstone and siltstone

283 PE-001

- 0-90 surficial material
- 90-95 arkosic sandstone, lt reddish-gray, medium-thick to thin bedded, interlayered c-m graded, m-f graded and f graded
- 95-100 arkosic sandstone, lt reddish-gray occasionally mottled yellow-brown m-f graded, grades downward to brown purple-gray c-f graded arkosic silty sandstone and downward to gray m-f graded sandstone

- 100-105 dark red-brown occasionally mottled gray and brownish-yellow siltstone, close to moderate fracture spacing
- 105-110 dark red-brown siltstone, close to moderate fracture spacing
- 110-115 light tan m-f grained arkosic sandstone coarsening downward to c-f grained arkosic sandstone, very thin to thin gradational bedding
- 115-125 light tan mottled yellow-brown interbedded m-f grained and c-m grained arkosic sandstone; dark red-brown interbedded f-grained and m-grained silty arkosic sandstone; light tan f-grained arkosic sandstone
- 125-135 light tan c-m grained arkosic sandstone, conglomeratic with quartz, feldspar and lithic granule and pebble-size grains. light tan to light gray mottled yellow-gray f-grained silty sandstone. light tan to light gray interbedded m-f grained and f-grained arkosic sandstone, very thin to thin bedding
- 135-145 light gray mottled yellow-brown interbedded f-grained and m-f grained arkosic sandstone, very thin to thin bedding; dark red-brown mottled yellow-brown sandy siltstone; light gray to light tan interbedded f-grained, m-f grained and c-m grained arkosic sandstone; light tan to yellow-brown sandy siltstone.
- 145-155 tan interbedded m-f grained and c-m grained arkosic sandstone
- 155-165 tan interbedded m-f grained and c-m grained arkosic sandstone; dark red-brown, purple-brown and greenish-brown siltstone. light tan c-f arkosic sandstone. interbedded gray-green to dark red-brown siltstone and yellow-brown to light tan m-f grained arkosic sandstone
- 165-175 light tan, m-f grained arkosic sandstone. light tan to light yellow-brown c-m arkosic sandstone, frequently conglomeritic with quartz, feldspar and lithic granules and pebbles
- 175-185 light tan c-m grained arkosic sandstone frequently conglomeritic light reddish-tan m-f grained sandstone; yellow-brown to gray-green sandy siltstone. yellow-green to yellow-brown c-m grained arkosic sandstone
- 185-195 light tan-white m-f grained arkosic sandstone; light gray c-m grained arkosic sandstone. yellow-brown to gray sandy siltstone. light gray c-m grained arkosic sandstone
- 195-205 light gray c-m grained sandstone. light gray c-m grained arkosic sandstone; dark red-brown and gray-green siltstone; yellow-brown residual soil and completely weathered c-m arkosic sandstone; light tan to light gray granule to pebble sandy conglomerate with quartz, feldspar and lithic grains
- 205-214 light tan c-m grained arkosic sandstone
- 284** PE-224W
- 0-84 surficial material
- 84-89 light gray-white, mottled yellow-gray and purplish-gray interlayered m-f grained arkosic sandstone and minor siltstone
- 89-99 gray-white and gray, mottled yellow-brown m-f grained arkosic sandstone; dark red-brown interlayered m-f grained silty arkosic sandstone and siltstone; light tan-gray mottled light green m-f grained arkosic sandstone
- 99-109 light tan-gray m-f grained arkosic sandstone; dark red-brown siltstone mixed with dark purple brown m-f grained arkosic silty sandstone
- 109-119 dark red-brown mottled gray-green, interlayered siltstone and f-grained silty sandstone; light gray mottled yellow-brown interlayered c-f grained and m-f grained arkosic sandstone and c-m grained arkosic sandy conglomerate; dark red-brown and light gray, mottled yellow-brown and gray-green siltstone to f-grained and m-f grained arkosic silty sandstone
- 119-129 gray interlayered m-f grained and c-m grained arkosic sandstone and thin-bedded granule and pebble conglomerate; dark red-brown mottled yellow-green to gray green siltstone to f-grained silty sandstone; dark red-brown mottled yellow-brown granule and pebble arkosic sandy conglomerate
- 129-139 tan-gray, occasionally mottled yellow-brown, c-m and little m-f grained arkosic sandstone interlayered with granule and pebble conglomeritic sandstone; tan and gray, mottled yellow-gray, yellow-brown, and greenish-yellow, f-grained silty sandstone coarsening downward to m-f grained arkosic sandstone; yellow-gray mottled yellow-brown m-f grained arkosic sandstone

- 139-149 pink-gray to tan gray, mottled yellow-brown arkosic sandstone interlayered with thin to medium bedded granule and pebble arkosic conglomeritic sandstone to sandy conglomerate; gray-green, mottled yellow-brown and dark red-brown siltstone and f-grained sandy siltstone
- 149-159 interlayered thin-bedded, tan-gray granule and pebble arkosic sandy conglomerate and very thin to thin irregular lenses of gray-green mudstone and dark red-brown siltstone and f-grained sandy siltstone. brown and yellow-brown, thin-bedded m-f grained arkosic sandstone; gray stained brown and yellow-brown, c-m grained arkosic sandstone; dark red-brown, mixed c-m grained arkosic sandstone and m-f grained sandy siltstone
- 159-169 dark red-brown sandy siltstone; gray to brown, c-m grained arkosic sandstone; dark red-brown to light tan, occasionally mottled yellow-green and gray-green interlayered siltstone, f-grained silty sandstone, and little m-f grained arkosic sandstone; tan-gray arkosic sandstone
- 169-179 gray to tan-gray m-f grained arkosic sandstone; dark red-brown, light tan, and gray-green, stained yellow-brown interlayered siltstone, f-grained sandy siltstone and little m-f grained silty sandstone and little gray-green claystone; gray green granule and pebble sandy conglomerate; gray-white to light gray f-grained sandstone coarsening downward to m-f grained arkosic sandstone
- 179-189 gray-white to light gray interlayered m-f grained and c-m grained arkosic sandstone; dark brown m-f grained to c-m grained arkosic sandstone
- 189-195 dark red-brown occasionally mottled gray-green, interlayered f-grained silty sandstone, f-grained arkosic sandstone, and minor lenses of m-f grained and c-f grained arkosic sandstone; dark red-brown to medium gray interlayered m-f grained and c-f grained arkosic sandstone

285 PE-002W

- 0-65 surficial material
- 65-70 light gray c-m grained arkosic sandstone, occasional quartz and lithic pebbles
- 70-75 light c-m grained arkosic sandstone
- 75-80 light gray c-m grained arkosic sandstone; quartz and lithic granule to pebble sandy conglomerate;
- 80-85 light gray c-m arkosic sandstone with occasional granule-size grains; dark red-brown m-f grained arkosic sandstone with occasional granule-size grains
- 85-90 dark red-brown interlayered m-f grained arkosic sandstone, siltstone and mudstone; dark-brown m-f grained arkosic sandstone
- 90-95 medium gray c-m arkosic sandstone with occasional granules and pebbles; yellow-brown c-m arkosic sandstone; yellow-brown to brownish-gray arkosic sandstone
- 95-100 light brownish-gray c-m grained arkosic sandstone; light brownish-gray granule to pebble conglomerate with quartz, feldspar and lithic grains
- 100-105 light brownish-grain c-m grained arkosic sandstone
- 105-110 light brownish-grain c-m arkosic sandstone, numerous quartz and feldspar granules; granule to pebble conglomerate, quartz, feldspar and lithic granules
- 110-115 yellow-brown c-m grained arkosic sandstone; brownish-gray mottled yellow-brown granule to pebble conglomerate, quartz, feldspar and lithic granules and pebbles
- 115-125 greenish-gray c-m arkosic sandstone, occasional granule to pebble-sized grain; light brownish-gray c-m arkosic sandstone; purple-brown to gray-green interlayered laminated clayey siltstone and f-grained silty sandstone; brownish-gray c-m arkosic sandstone grading to granule-pebble conglomerate; greenish-gray to yellow-brown to dark brown-gray c-m grained arkosic sandstone
- 125-135 interlayered red-brown siltstone and light tan f-grained sandstone; interlayered light tan-gray m-g grained arkosic sandstone and light brown-gray c-m grained arkosic sandstone; yellow-brown silty m-f grained arkosic sandstone
- 135-149 dark red-brown f-grained silty sandstone, laminated to very thinly bedded; brown-gray c-m arkosic sandstone

- 139-144 dark red-brown mottled dark grey and yellow-brown c-m grading down to m-f grained silty arkosic sandstone; dark red brown mottled gray green mudstone and f-grained silty sandstone, laminated two very thinly bedded; light brown-gray to dark red-brown mottled gray-green and yellow-brown m-f grained arkosic sandstone
- 144-154 dark red brown light tan gray and gray occasionally mottled yellow brown and green brown interbedded siltstone f-grained arkosic sandstone m-f grained arkosic sandstone c-f grained arkosic sandstone;
- 154-164 dark red-brown to dark brown f-grained arkosic silty sandstone; dark red-brown laminated clayey siltstone
- 164-174 dark red-brown, laminated to very thin bedded, interlayered m-f grained arkosic clayey sandstone, clayey siltstone and f-grained clayey sandstone; red-brown to light brownish-gray, occasionally mottled brownish-yellow, interlayered m-f grained and c-m grained arkosic sandstone in thin to medium-thick beds
- 174-179 red-brown occasionally mottled brownish-gray to brownish-yellow interlayered m-f grained c-m grained arkosic sandstone, in thin to medium-thick beds
- 179-189 dark brown occasionally mottled light greenish-gray c-m arkosic sandstone; granule and pebble conglomerate with quartz, feldspar and lithic grains; dark brown occasionally mottled light greenish-gray m-f grained arkosic sandstone; dark brown c-f arkosic sandstone grading downward to granule and pebble conglomerate
- 189-194 dark brown occasionally mottled light greenish-gray and brownish-yellow granule and pebble sandy conglomerate, quartz, feldspar and lithic grains
- 286** PE-225
- 0-60 surficial material
- 60-65 brown c-f arkosic sandstone, diffuse medium to very thin bedding
- 65-70 light-gray, yellow gray and reddish-brown siltstone coarsening downward to m-f grained with little c-f grained arkosic siltstone; brown to light brown occasionally mottled yellow-tan, c-f grained arkosic sandstone
- 70-75 brown mottled greenish-gray m-grained arkosic sandstone, medium strong to weak, diffuse medium bedded
- 75-83 brown mottled yellow-tan, very thinly bedded f-grained sandstone, and c-m grained arkosic sandstone; brown mottled greenish gray c-m grained arkosic sandstone; brown m-f grained and c-m grained arkosic sandstone; brown mottled light gray c-m grained arkosic sandstone, coarsening downward to granule and pebble sandy conglomerate
- 83-93 dark brown and light gray interlayered m-grained and c-m grained arkosic sandstone with occasional pebbles to 15mm size; granule and pebble sandy conglomerate, quartz, feldspar and lithic grains to 50 mm size
- 93-99 brown and light brown laminated to very thin bedded f-grained and m-grained arkosic sandstone; brown and dark gray, occasionally mottled light gray, c-m arkosic sandstone
- 99-104 dark red-brown f-grained silty sandstone and light reddish-gray f-grained sandstone; dark red-brown mottled greenish-gray interlayered f-grained silty sandstone and siltstone
- 104-114 dark red-brown, f-grained silty sandstone; mixed red-brown f-grained silty sandstone and light gray mottled yellow-tan m-f grained sandstone; light gray to green gray mottled yellow-tan m-f grained sandstone; dark red-brown f-grained silty sandstone mixed with gray m-f grained sandstone
- 114-122 green-gray mottled red-brown c-f grained arkosic sandstone and granule and pebble conglomerate, lithic pebbles up to 25mm size; layered dark red-brown mottled greenish gray c-f grained arkosic sandstone
- 122-124 dark red-brown layered c-f grained and m-f grained arkosic sandstone
- 124-134 interlayered dark red-brown and light gray f-grained silty sandstone and m-f grained sandstone; dark brown and light gray m-f grained arkosic sandstone

- 134-139 dark brown mottled light gray layered m-f grained and c-f grained arkosic sandstone; dark red-brown laminated siltstone, mudstone, and f-grained silty sandstone
- 139-146 dark red-brown laminated siltstone, mudstone, and f-grained silty sandstone; dark red-brown interbedded m-f grained and c-f grained arkosic sandstone, with siltstone and f-grained silty sandstone
- 146-147 dark red-brown m-f grained arkosic sandstone; dark red-brown, f-grained sandy clay and silt, residual soil
- 147-156 dark red-brown f-grained silty sandstone; dark red-brown clayey sand to sandy clay, residual soil; light tan thin-bedded, m-f grained c-f grained arkosic sandstone with brown, very thin-bedded silty sandstone; light gray m-f grained and c-f grained arkosic sandstone and red-brown silty clay and clayey sand; tan and brown, thin-bedded, m-f grained arkosic sandstone
- 156-165 interlayered brown, light gray and dark red-brown m-f grained and c-f grained arkosic sandstone, grayish-white f-grained sandstone, and little red-brown f-grained silty sandstone

287 PE-093

- 0-37 surficial material
- 37-42 dark brown, c-f grained, arkosic sandstone
- 42-48 reddish-brown, f-grained sandstone, occasionally interbedded with red-brown siltstone and shale
- 48-50 red-brown f-grained sandstone interbedded with siltstone
- 50-55 red-brown, f-grained, sandstone, siltstone and shale, mostly indistinct bedding, occasional laminations and very thin lenses of light greenish-gray shale; light gray quartz-rich, c-f grained sandstone
- 55-65 light reddish-gray to red-brown c-f grained arkosic sandstone; granule to pebble conglomeritic sandstone; red-brown, thinly bedded, interlayered siltstone and f-grained sandstone
- 65-75 red-brown, thinly bedded siltstone and interbedded f-grained sandstone; light pinkish-gray-white, thin to medium bedded f-grained and m-f grained sandstone interlayered with red-brown c-f grained arkosic sandstone
- 75-85 red-brown and light gray interlayered siltstone and f-grained sandstone; red-brown and light gray interlayered f-grained, m-f grained and c-m grained arkosic sandstone
- 85-95 red-brown, m-f grained grading downward to c-m grained arkosic sandstone; red-brown and light gray interlayered siltstone, shale, m-f grained and c-f grained arkosic sandstone
- 95-105 interbedded light reddish-gray to dark red-brown m-f grained and c-m grained arkosic sandstone very thin to medium-thick gradational bedding coarsening downwards, except conglomeritic arkosic sandstone; dark red-brown siltstone
- 105-115 dark red-brown and light gray interbedded m-f grained and c-m grained arkosic sandstone and conglomeritic arkosic sandstone
- 115-123 dark red-brown, interbedded c-m grained and m-f grained arkosic sandstone with f-grained silty sandstone; light tan-gray m-f grained sandstone
- 123-133 red-brown and light gray thick bedded c-m grained arkosic sandstone interlayered with thin bedded m-f grained sandstone
- 133-142 dark brown and light gray interbedded c-m grained and m-f grained arkosic sandstone; conglomeritic arkosic sandstone; red-brown f-grained silty sandstone
- 142-144 red-brown, f-grained sandy siltstone and shale
- 144-154 red-brown to light gray coarsening downward from f-grained sandy siltstone to silty arkosic sandstone to arkosic sandstone; dark red-brown interbedded m-f grained and c-m grained arkosic sandstone; granule and pebble conglomeritic arkosic sandstone; arkosic sandstone as above, interlayered with very thin bedded, light yellowish to pinkish gray, c-m grained quartz sandstone
- 154-165 dark red-brown and light greenish gray, interbedded m-grained and c-m grained arkosic sandstone, granule and pebble conglomeritic arkosic sandstone, with quartz, feldspar and lithic grains; dark red-brown m-f grained arkosic sandstone

288	PE-094
0-47	surficial material
47-52	dark brown c-f grained sandstone
52-56	red brown f-grained silty sandstone (?); white and light gray f-grained quartz sandstone;
56-61	light reddish gray to light reddish-brown m-f grained arkosic sandstone; layered red-brown and light gray c-f arkosic sandstone; granule to pebble sandy conglomerate, dark red-brown clayey siltstone to f-grained silty sandstone; mixed dark red-brown f-grained silty sandstone and light gray f-grained sandstone; light gray f-grained grading downward to m-f grained subarkosic sandstone;
61-70	layered red-brown and light gray c-f arkosic sandstone; dark red-brown clayey siltstone and f-grained silty sandstone; mixed dark red-brown f-grained silty sandstone and light gray f-grained sandstone; light gray f-grained grading downward to m-f grained subarkosic sandstone, occasional lithic pebbles
70-80	light brownish gray to dark brown c-f arkosic sandstone; quartz lithic granule to pebble sandy conglomerate;
80-89	dark brown interlayered, thin to medium bedded c-f grained arkosic sandstone and very thin bedded m-f grained arkosic sandstone; quartz and lithic granule to pebble conglomeritic sandstone; dark purplish-brown f-grained sandy siltstone; layered light pinkish-gray and dark brown m-f grained and c-f grained arkosic sandstone; quartz and lithic granule to pebble conglomerate sandstone;
89-99	interlayered c-f arkosic sandstone; red-brown siltstone and interlayered very thin lenses of m-f grained arkosic sandstone; interlayered light greenish-gray, brownish-red and dark brown, thick bedded, c-f grained arkosic sandstone
99-108	layered dark brown and light gray c-m arkosic conglomeritic sandstone; red-brown laminated siltstone and f-grained silty sandstone; light reddish tan to reddish brown m-f grained grading to c-f grained arkosic sandstone; dark red-brown f-grained grading to m-f grained silty sandstone
108-118	medium red-brown to dark red-brown c-m grained arkosic sandstone light gray-green mudstone; red-brown f-grained arkosic sandstone, light gray m-f grained quartz sandstone grading downward to red-brown m-f grained arkosic sandstone
118-128	dark reddish-brown to light gray-green c-m grained arkosic sandstone; dark red-brown siltstone interlayered with f-grained silty sandstone, red-brown mudstone; interlayered light greenish-gray and red-brown m-f grained sandstone, gray-green f-grained clayey sandstone, light gray f-grained clayey sandstone;
128-138	red-brown interlayered c-f grained arkosic sandstone and f-grained mudstone; red-brown to light gray-green f-grained silty sandstone, light brownish-gray c-f grained arkosic sandstone
138-148	light brown to dark brown, occasionally mottled light gray-green c-f grained arkosic sandstone; mottled light gray-green and dark red brown m-f grained arkosic silty sandstone;
148-154	mottled light gray-green and dark red-brown m-f grained arkosic silty sandstone, red, occasionally mottled light gray c-f grained arkosic sandstone; red and light gray quartz and lithic granule to pebble conglomerate;
154-164	interlayered light greenish-gray, dark red-brown and red c-m grained arkosic sandstone; light gray-green quartz and lithic granule to pebble sandy conglomerate
164-173	light gray c-m grained subarkosic conglomeritic sandstone, light gray m-f grained quartz sandstone, light greenish-gray c-f grained arkosic sandstone, dark red-brown m-f grained arkosic sandstone mixed with silty sandstone
173-178	light greenish gray to medium red-gray c-f grained arkosic sandstone, mottled dark red, dark green and tan m-f grained arkosic sandstone
290	PE-095
0-165	surficial material
165-170	f-grained siltstone

170-176 dark reddish-gray, mottled dark gray-green sandstone, occasionally coarse sand and granule-size angular lithic clasts; mottled reddish-brown and light quartz and lithic pebble conglomerate with dark gray-green, m-f grained silty sandstone matrix
 176-186 quartz and lithic pebble conglomerate, red brecciated siltstone

291 PE-096

0-151 surficial material
 151-156 dark brown and light gray c-f grained arkosic sandstone
 156-166 dark red-brown c-m grained arkosic sandstone, dark re-brown siltstone and mudstone, light gray to medium brown-gray m-f grained arkosic sandstone, dark brown c-m grained arkosic sandstone, arkosic sandy granule conglomerate, brown c-f grained arkosic sandstone, arkosic granule conglomerate

292 PE-228

0-108 surficial material
 108-113 dark reddish-brown m-f grained arkosic sandstone grading down to c-f grained arkosic sandstone; dark reddish-brown m-f grained arkosic sandstone
 113-118 dark reddish-brown m-f grained arkosic sandstone; dark reddish-brown mottled greenish-gray c-f grained arkosic sandstone, coarsening downward to granule and pebble sandy conglomerate; dark reddish-brown m-f grained arkosic sandstone
 118-123 dark reddish brown mottled greenish gray granule and pebble sandy conglomerate, coarsening downward to granule and pebble conglomerate; dark reddish-brown occasionally mottled yellowish-tan, layered m-f and c-f grained arkosic sandstone
 123-128 dark red-brown interlayered f-grained and m-f grained arkosic sandstone; light tan m-f grained arkosic sandstone coarsening downward to c-f grained arkosic sandstone

Boring log for Lincoln Tunnel in NJGWS permanent note dated 1/30/1935 on file at NJGWS office

293 114 Lincoln Tunnel

0-7.5 clay, sand and gravel
 7.5-15 sand, gravel and crushed rock
 15-76.5 coarse, badly broken trap rock
 76.5-85.5 broken trap rock
 85.5-100.5 broken trap and disintegrated rock
 100.5-105.5 disintegrated rock
 105.5-109.5 sandstone and fault gouge
 109.5-114.5 broken shale and sandstone
 114.5-133.5 crushed sandstone
 133.5-144.5 coarse sandstone

Abbreviated boring logs from Langan for Reconstruction of Roadway Platforms on Sinatra Drive North
<http://www.nj.gov/dep/floodresilience/docs/rbdh-feis/attachment-5-cultural-resources-technical-environmental-study-vol-2a-rbd-hr-feis.pdf> **Well number is bolded; B number is project well identifier**

294 B-5

1-55 surficial material
 55-60 pink and white sandstone
 60-65 pink and white sandstone

295

B-1

1-55

surficial material

55-60

white sandstone

60-65

white/pink sandstone

Note: in well descriptions v = very, f = fine, m = medium, c = coarse, lt = light, v = very, dk = dark