

Detailed sections from auger holes and outcrops in the  
Ladson, Moncks Corner, Mount Holly, and Stallville  
quadrangles, South Carolina

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by Robert E. Weems, Earl M. Lemon, Jr., Gregory S. Gohn, and  
Brenda B. Houser: U. S. Geological Survey, Reston, VA 22092

This report is preliminary and has not been reviewed  
for conformity with U.S. Geological Survey editorial  
standards and stratigraphic nomenclature

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## Introduction

In the course of preparing detailed geologic maps for the Ladson, Moncks Corner, Mount Holly, and Stallville quadrangles, sediments from numerous auger holes and outcrops were studied and recorded to determine their lithologic characteristics, spatial distribution, and temporal framework. While the major geologic boundaries have been summarized on the Mount Holly and Stallville maps (Weems and Lemon, 1984a,b), and will be summarized on the forthcoming Ladson and Moncks Corner maps, much of the more detailed stratigraphic information could not be shown easily on a map and therefore is included in this open-file report for interested geologists, engineers, and urban planners. Information is included for 266 localities within these four quadrangles. Additional described localities also can be found in publicly available reports on the Ladson quadrangle (Malde, 1959; Colquhoun, 1961) and the Moncks Corner quadrangle (Inden, 1976).

A few of the localities (so indicated) were natural outcrops or ditch banks, but since exposures are rare the majority of the data was gathered by augering. These auger holes were drilled with a truck-mounted, Mobile Drill B-40 power auger, using 5-foot stem sections. One stem was augered into the ground and then pulled to describe the soil profile. After this, a second run was made in which

additional stems were added until either a chattering sound followed by a sudden tightening of the drill string occurred (penetration of the Ashley Formation) or until the vacated 5 feet of the first auger run was filled by rising sediment from the newly penetrated section. In the latter case (usually 4-6 flights, depending on the density of the material being augered), the stems were pulled and described (allowing for 5 feet of total rise during drilling). In most cases the base of the Pleistocene section was penetrated by the third run; in exceptionally thick sections, the rest of the section was augered in 20 to 30 foot runs. At two localities (MH-47, MH-87) the U. S. Geological Survey Mobile Drill B-50 unit was used to obtain a core of sediments down to the top of the Cross Limestone. These cores are stored in the U.S. Geological Survey Warehouse in Herndon, Virginia.

Although the outcrop and auger hole sections vary considerably in thickness, from 2 feet (ST-11) to 208 feet (MH-47), most fall in the range of 35-55 feet. Most of the Quaternary and upper Tertiary shallow subsurface units are thin (less than 50 feet total thickness) and poorly consolidated down to the upper Oligocene Ashley Formation of the Cooper Group (locally called the "Cooper Marl"). In contrast, the Ashley is often 100 feet or more thick and firmly compacted. It was impractical in most instances to try to drill through the Ashley with the power auger, so

most of our drill holes were filled and abandoned as soon as we penetrated this unit.

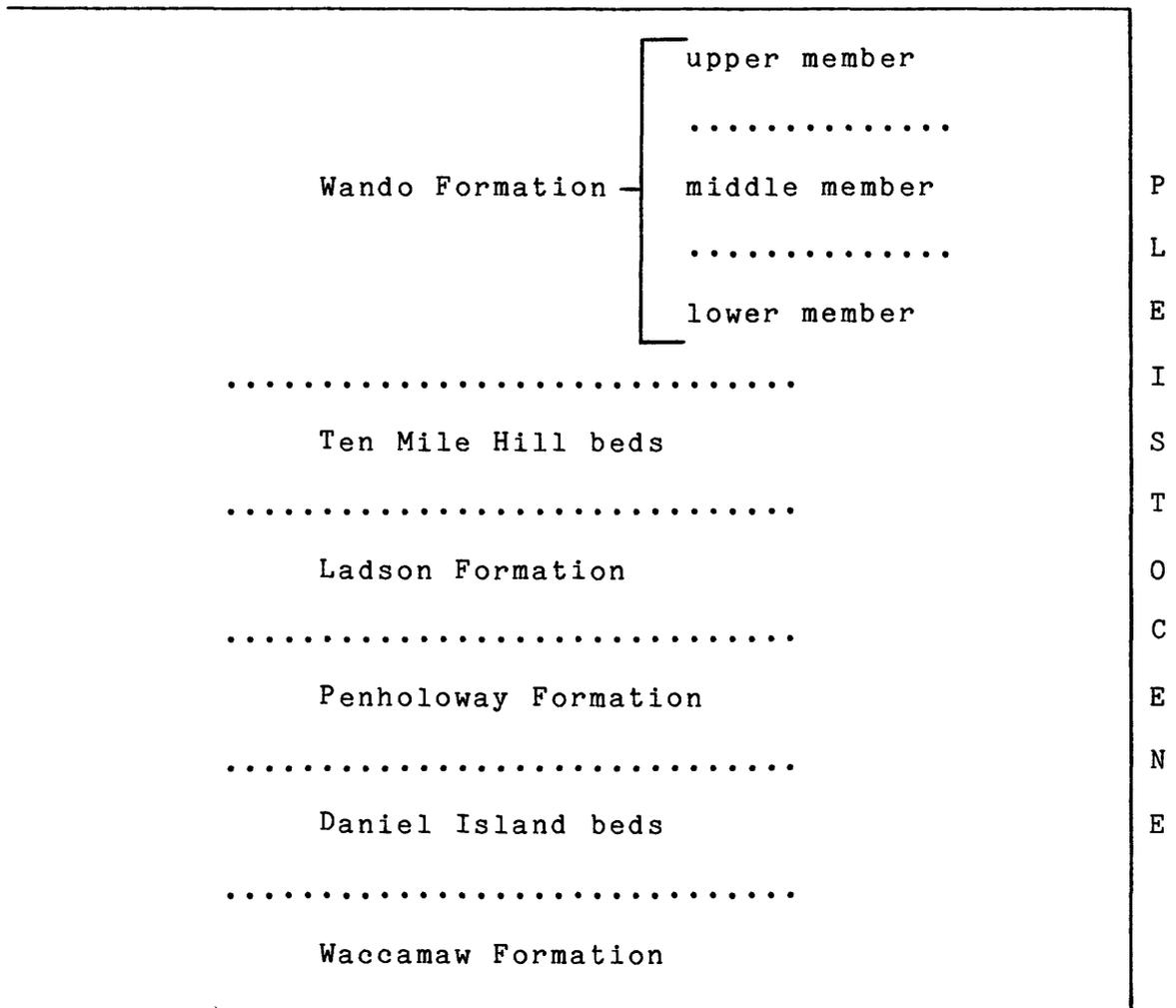
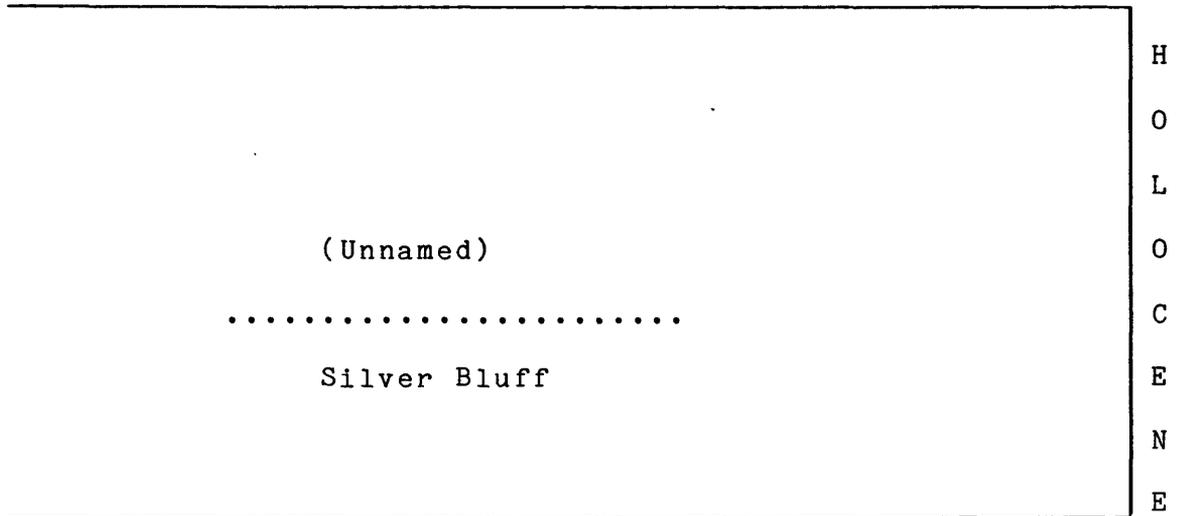
No attempt was made to describe sediments in any great detail. Grain sizes and sediment colors were estimated visually without aid of grain-size or color charts. It is possible, therefore, that units described as "clays" may include clayey silts or clayey sands. Unit names conform to those used by Weems and Lemon (1984a, 1984b), with the addition of the term "Daniel Island beds" (Weems and others, 1985) for dense, probably lower Pleistocene clays and sands which were encountered sporadically throughout the area of these quadrangles.

References cited

- Colquhoun, D. J., 1961, Contours drawn on top of the Cooper Marl in the Ladson quadrangle, South Carolina: South Carolina State Development Board, Division of Geology, MS-4 (1:24,000).
- Inden, R. F., 1976, Preliminary surficial geologic map of the Moncks Corner quadrangle, South Carolina: U. S. Geological Survey Open-File Report 76-50.
- Malde, H. E., 1959, Geology of the Charleston phosphate area, South Carolina: U. S. Geological Survey Bulletin 1079, p. 1-105.
- Weems, Robert E., and Lemon, E. M., Jr., 1984a, Geologic map of the Mount Holly quadrangle, Berkeley and Charleston Counties, South Carolina: U. S. Geological Survey Geologic Quadrangle Map GQ-1579, scale 1:24,000.
- \_\_\_\_\_, 1984b, Geologic map of the Stallville quadrangle, Dorchester and Charleston Counties, South Carolina: U. S. Geological Survey Geologic Quadrangle Map GQ-1581, scale 1:24,000.
- Weems, Robert E., Lemon, E. M., Jr., and McCartan, Lucy, 1985, Shallow subsurface geology of the North Charleston 7.5-minute quadrangle, South Carolina: U. S. Geological Survey Open-File Report 85-274.

Ages and Sequence of Regionally Recognized Geologic Units

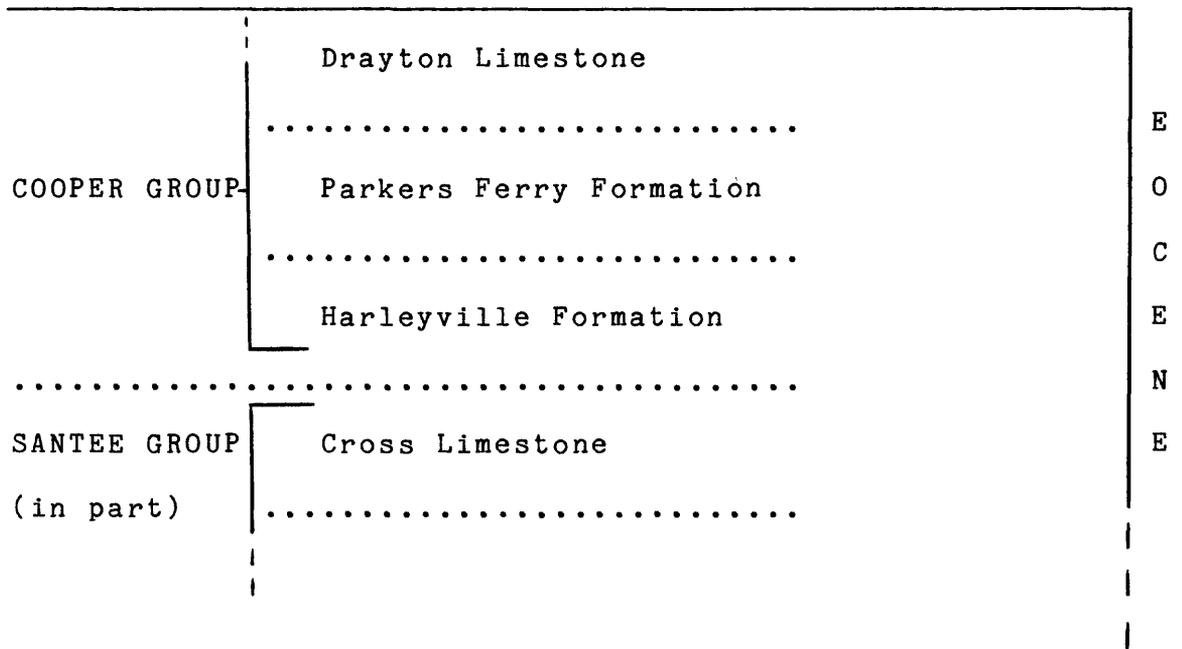
(in any given section, many units will be missing due to erosion)



<p>Goose Creek Limestone</p> <p>.....</p> <p>Givhans Limestone</p> <p>.....</p> <p>Raysor Formation</p>	<p>P</p> <p>L</p> <p>I</p> <p>O</p> <p>C</p> <p>E</p> <p>N</p> <p>E</p>
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<p>Coosawatchie(?) Formation</p> <p>.....</p> <p>Marks Head Formation</p>	<p>M</p> <p>I</p> <p>O</p> <p>C</p> <p>E</p> <p>N</p> <p>E</p>
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<p>Edisto Formation</p> <p>.....</p> <p>Chandler Bridge Formation</p> <p>.....</p>	<p>O</p> <p>L</p> <p>I</p> <p>G</p> <p>O</p> <p>C</p> <p>E</p> <p>N</p> <p>E</p>
<p>COOPER GROUP</p>	<p>Ashley Formation</p>



LADSON QUADRANGLE\*  
(Depths in feet)

LA-1: 2.5 miles E of west quad. (quadrangle) border, 0.1 miles N of south quad. border. Top of river bluff about 12 feet elevation.

WANDO FM\*\*      0-4      Sand, fine-grained, pale-yellowish-orange, bed of  
(UPPER MEM)                      phosphate rock and pebbles at base

.....  
ASHLEY FM      4-12      Calcarenite, fine-grained, olive-brown, massive

Base of Wando Formation (upper member): +8 feet above sea level  
Ashley Formation to water line of Ashley River

LA-2: 2.95 miles E of west quad. border, 0.65 miles N of south quad. border. Top of river bluff about 12 feet elevation.

MINE                      0-4      Sand, bedding pervasively contorted and disrupted  
SPOIL

.....  
ASHLEY FM      4-12      Calcarenite, fine-grained, olive-brown, massive

Former base of Wando Formation: +8 feet above sea level  
Ashley Formation to water line of Ashley River

LA-3: 1.6 miles E of west quad. border, 0.6 miles N of south quad. border. Top of river bluff about 12 feet elevation.

WANDO FM      0-2      Sand, fine-grained, pale-yellowish-orange, phosphate  
(UPPER MEM)                      rock and pebbles along basal contact

.....  
ASHLEY FM      2-12      Calcarenite, fine-grained, olive-brown, massive

Base of Wando Formation (upper member): +10 feet above sea level  
Ashley Formation to water line of Ashley River

LA-4: 0.3 miles E of west quad. border, 1.25 miles N of south quad. border. Mostly wooded river bluff, basal 8 feet exposed.

ASHLEY FM      0-8      Calcarenite, fine-grained, olive-brown, massive

Ashley Formation to water line of Ashley River

\*also see Malde, 1959, and Colquhoun, 1961, for more logs and depth to Ashley data

\*\*FM = FORMATION, MEM = MEMBER

LA-5: 1.85 miles W of east quad. border, 4.21 miles N of south quad. border.  
Surface elevation 27 feet.

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TEN MILE	0-3	Sand, fine-grained, medium-orange, micaceous, clayey
HILL BEDS	3-5	Sand, fine-grained, light-gray, loose
	5-18.5	Sand, fine-grained, medium-orange (5-10) grading through medium-gray (10-17.5) to dark-gray, loose, clayey
	18.5-19.5	Clay, medium-gray
	19.5-20	Lignite, dark-brown
	20-45	Clay, medium-gray, plastic, shell fragments at 30 feet and from 41-43 feet
	45-54	Clay, medium-gray, 0.5 foot-thick phosphate pebble bed at base

.....  
ASHLEY 54-60 Calcarenite, fine-grained, olive-brown, dense, quartz FM and phosphate sand grains present

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Base of Ten Mile Hill beds: -27 feet below sea level  
Bottomed in Ashley Formation

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LA-6: 2.5 miles W of east quad. border, 2.15 miles S of north quad. border.  
Surface elevation 15 feet.

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TEN MILE	0-5	Sand, fine-grained, medium-orange and medium-gray mottled, clayey
HILL BEDS	5-14.5	Clay, medium-gray, massive, wood pieces concentrated at base
	14.5-15	Sand, coarse-grained, composed of sugary-looking quartz

.....  
ASHLEY FM 15-17 Calcarenite, fine-grained, olive-brown

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Base of Ten Mile Hill beds:  $\pm 0$  feet at sea level  
Bottomed in Ashley Formation

LA-7: 2.68 miles W of east quad. border, 3.94 miles S of north quad. border.  
Surface elevation 9 feet.

---

WANDO FM	0-5	Clay, medium-green mottled medium-orange, grades to:
(UPPER MEM)	5-10	Clay, medium-blue, becomes slightly sandy downward
	10-12	Sand, fine-grained, medium-bluish-gray, clayey
	12-13	Sand, coarse-grained, medium-bluish-gray, silty

.....  
DANIEL 13-14 Clay, medium-bluish-gray, contains numerous phosphate  
ISLAND BEDS pebbles

.....  
ASHLEY FM 14-15 Calcarenite, fine-grained, olive-brown, dense, quartz  
and phosphate sand-grains present

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Base of Wando Formation (upper member): -4 feet below sea level  
Base of Daniel Island beds: -5 feet below sea level  
Bottomed in Ashley Formation

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LA-8: 1.0 miles E of west quad. border, 2.65 miles N of south quad. border.  
Surface elevation 28 feet.

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TEN MILE	0-5	Sand, medium-grained, light-gray and medium-orangish-
HILL BEDS		brown mottled, coarsens to coarse-grained and subangular
		by base, clayey
	5-11	Sand, medium- to coarse-grained, medium-yellowish-brown,
		clayey
	11-16	Sand, medium-grained, medium-yellowish-brown, very-
		fine-grained heavies present

.....  
ASHLEY FM 16-25 Calcarenite, fine-grained, pale-brown grading down to  
olive-brown

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Base of Ten Mile Hill beds: +12 feet above sea level  
Bottomed in Ashley Formation

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LA-9: 1.15 miles E of west quad. border, 3.55 miles N of south quad. border.  
Surface elevation 29 feet.

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TEN MILE	0-16	Clay, dark-gray, fine-grained sandy, stiff
HILL BEDS	16-18	Sand, medium-grained, dark-gray, dense, clayey, contains
		numerous lumps of phosphate about 1 cm in diameter

.....  
ASHLEY FM 18-30 Calcarenite, fine-grained, pale-brown grading down to  
olive-brown by 22 feet, abundant sand-size phosphate

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Base of Ten Mile Hill beds: +11 feet above sea level  
Bottomed in Ashley Formation

LA-10: 2.0 miles E of west quad. border, 3.0 miles N of south quad. border.  
Surface elevation 29 feet.

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TEN MILE HILL BEDS	0-10	Sand, medium-grained, medium-orangish-brown and light-gray mottled, well sorted clayey, stiff
	10-15	Clay, medium- to dark-gray, sandy, gradational contacts above and below
	15-19	Sand, medium-grained, medium-gray, clayey, stiff, contains lumps of phosphate

.....

ASHLEY FM	19-25	Calcarenite, fine-grained, light-brown grading down to olive-brown
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Base of Ten Mile Hill beds: +10 feet above sea level  
Bottomed in Ashley Formation

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LA-11: 3.35 miles W of east quad. border, 2.3 miles N of south quad. border.  
Surface elevation 44 feet.

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TEN MILE HILL BEDS	0-18	Sand, fine-grained, medium-orange grading down to light-yellow, well sorted, sparsely micaceous, very fine grained heavy minerals abundant
	18-37	Sand, fine-grained, light-gray, sparse phosphate pebbles at base

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CHANDLER BRIDGE FM	at 37	Clay, dark-greenish-gray, slightly calcareous, dense, about 2 inches thick
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ASHLEY FM	37-45	Calcarenite, fine-grained, olive-brown
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Base of Ten Mile Hill beds: +7 feet above sea level  
Base of Chandler Bridge Formation: +7 feet above sea level  
Bottomed in Ashley Formation

LA-12: 3.1 miles W of east quad. border, 1.1 miles N of south quad. border.  
 Surface elevation 30 feet.

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TEN MILE HILL BEDS      0-19      Sand, medium-grained, medium-orange (0-5) grading through light-yellow (5-8) then back to medium-orange, light-gray clay lense at 10 feet, phosphate pebble bed at base

.....  
 CHANDLER BRIDGE FM      19-21      Sand, fine-grained, light-gray, well sorted, light-brown phosphate lumps scattered throughout and not concentrated at base

.....  
 ASHLEY FM      21-25      Calcarenite, fine-grained, olive-brown

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Base of Ten Mile Hill beds:                      +11 feet above sea level  
 Base of Chandler Bridge Formation:      +9 feet above sea level  
 Bottomed in Ashley Formation

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LA-13: 1.05 miles W of east quad. border, 1.2 miles N of south quad. border.  
 Surface elevation 30 feet.

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FILL      0-3      Road base

.....  
 WANDO FM      3-4      Soil, dark-gray  
 (LOWER MEM)      4-5      Sand, fine-grained, medium-orangish-brown, clayey  
                          5-7      Clay, light-gray and medium-orange mottled, stiff

.....  
 TEN MILE HILL BEDS      7-42      Sand, medium-grained, light-green grading down to light-gray, well sorted, micaceous, very fine grained heavy minerals abundant  
    42-44      Sand, medium-grained, medium-gray, shelly  
    44-49      Conglomerate, composed of phosphate lumps up to 4 cm in diameter

.....  
 ASHLEY FM      49-50      Calcarenite, fine-grained, olive-brown

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Base of Wando Formation (lower member): +23 feet above sea level  
 Base of Ten Mile Hill beds:                      -19 feet below sea level  
 Bottomed in Ashley Formation

LA-14: 2.4 miles W of east quad. border, 2.75 miles N of south quad. border.  
Surface elevation 42 feet.

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TEN MILE HILL BEDS	0-22	Sand, fine-grained, medium-orange (0-2) grading through light-yellow (2-4) to light-gray, well sorted, iron-hydroxide-cemented lumps in upper 2 feet
	22-26	Clay, medium-blue, sandy (fine-grained)
	26-41	Sand, medium-grained, medium-blue, silty and clayey, shelly
	41-44	Conglomerate, composed of phosphate pebbles up to 3 cm in diameter

.....  
ASHLEY FM 44-50 Calcarenite, fine-grained, olive-brown

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Base of Ten Mile Hill beds: -2 feet below sea level  
Bottomed in Ashley Formation

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LA-15: 3.0 miles W of east quad. border, 3.75 miles N of south quad. border.  
Surface elevation 32 feet.

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TEN MILE HILL BEDS	0-10	Sand, fine-grained, light-orangish-brown and light-gray mottled, well sorted, clayey, stiff (0-8) grading to clean and loose (8-10)
	10-18	Clay, medium-bluish-gray, dense, contains medium-green lumps and oyster fragments

.....  
ASHLEY FM 18-40 Calcarenite, fine-grained, olive-brown

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Base of Ten Mile Hill beds: +14 feet above sea level  
Bottomed in Ashley Formation

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LA-16: 3.2 miles E of west quad. border, 3.75 miles N of south quad. border.  
Surface elevation 35 feet.

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TEN MILE HILL BEDS	0-3	Sand, fine-grained, medium-orangish-brown and light-gray mottled, well sorted, grading down to:
	3-20	Clay, medium-orangish-brown and light-gray mottled, stiff, grades at base to:
	20-23	Sand, medium-grained, medium-gray, well sorted, sharp contact with bed below

.....  
DANIEL ISLAND BEDS 23-36 Clay, medium-gray, very stiff and dense, sparse phosphate pebbles up to 2 cm in diameter at base

.....  
ASHLEY FM 36-50 Calcarenite, fine-grained, olive-brown

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Base of Ten Mile Hill beds: +12 feet above sea level  
Base of Daniel Island beds: -1 foot below sea level  
Bottomed in Ashley Formation

LA-17: 0.2 miles W of east quad. border, 0.05 miles N of south quad. border.  
Surface elevation 27 feet.

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WANDO FM (LOWER MEM)	0-16	Sand, medium-grained, humic, dark-brownish-gray, well sorted, micaceous, shelly below 9 feet
	16-27	Sand, medium-grained, medium-gray, clayey and stiff at top, looser downward, basal foot contains phosphate pebbles up to 4 cm in diameter
.....		
ASHLEY FM	27-30	Calcarenite, fine-grained, light-brown grading down to olive-brown

---

Base of Wando Formation (lower member):  $\pm 0$  feet at sea level  
Bottomed in Ashley Formation

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LA-18: 3.3 miles E of west quad. border, 2.45 miles N of south quad. border.  
Surface elevation 42 feet.

---

TEN MILE HILL BEDS	0-30	Sand, fine-grained, medium-orange (0-5) grading down to medium-gray, well sorted, shelly below 18 feet
	30-38	Clay, medium-gray, sandy, stiff, grading down to sand, medium-grained, medium-gray, well sorted sparse phosphate pebbles about 1 cm in diameter at base
.....		
ASHLEY FM	38-65	Calcarenite, fine-grained, olive-brown

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Base of Ten Mile Hill beds: +4 feet above sea level  
Bottomed in Ashley Formation

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LA-19: 2.4 miles E of west quad. border, 4.2 miles S of north quad. border.  
Surface elevation 14 feet.

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WANDO FM (UPPER MEM)	0-7	Clay, dark-gray grading through medium-gray to light-gray, sandy
.....		
PENHOLOWAY FM	7-27	Sand, fine-grained, light-gray, silty, soft, sparsely shelly at top grading down to coarse-grained quartz sand and shell hash near base, sparse phosphate pebbles about 0.5 cm in diameter at base; alloisoleucine/isoleucine ratios for <u>Mulinia</u> about 0.85 (Julia Corrado, oral communication, 1983)
.....		
ASHLEY FM	27-35	Calcarenite, fine-grained, olive-brown

---

Base of Wando Formation (upper member): +7 feet above sea level  
Base of Penholoway Formation: -13 feet below sea level  
Bottomed in Ashley Formation

LA-20: 0.3 miles W of east quad. border, 1.1 miles S of north quad. border.  
Surface elevation 30 feet.

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TEN MILE HILL BEDS	0-20	Clay, medium-reddish-orange and light-gray mottled grading by base to dark-gray, sandy, stiff, iron-hydroxide-cemented lumps around 4 feet, gradational to bed below
	20-35	Sand, fine-grained, dark-gray, silty, a few clay laminae near top, grading down to sand, medium-grained, well sorted, sparse phosphate pebbles about 2 cm in diameter at base

.....  
ASHLEY FM 35-40 Calcarenite, fine-grained, olive-brown  
.....

Base of Ten Mile Hill beds: -5 feet below sea level  
Bottomed in Ashley Formation

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LA-21: 1.85 miles W of east quad. border, 1.7 miles S of north quad. border.  
Surface elevation 35 feet.

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TEN MILE HILL BEDS	0-12	Clay, bright medium-orange with medium-red streaks grading through medium-orange to light-gray, silty towards base
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.....  
LADSON FM 12-19 Sand, medium- to coarse-grained, light-gray, very silty and soft  
.....

ASHLEY FM 19-40 Calcarenite, fine-grained, medium-brown grading down to olive-brown  
.....

Base of Ten Mile Hill beds: +23 feet above sea level  
Base of Ladson Formation: +16 feet above sea level  
Bottomed in Ashley Formation

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LA-22: 2.55 miles E of west quad. border, 2.65 miles S of north quad. border.  
Surface elevation 20 feet.

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FILL	0-4	Road base
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.....  
ASHLEY FM 4-5 Clay, light-gray, sandy, contains white phosphate nodules, grading down to:

5-15 Calcarenite, fine-grained, light-brown grading to olive-green by base  
.....

Bottomed in weathered profile of Ashley Formation

LA-23: 2.35 miles E of west quad. border, 2.65 miles S of north quad. border.  
Surface elevation 10 feet.

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FILL	0-5	Road base, compacted swamp muck at base
MINE SPOIL	5-10	Clay, light-gray, soft, sandy, probably spoil from phosphate strip-mine
ASHLEY FM	10-20	Calcarenite, fine-grained, olive-brown

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Base of mine spoil:  $\pm 0$  feet at sea level  
Bottomed in Ashley Formation

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LA-24: On east quad. border, 1.3 miles N of south quad. border.  
Surface elevation 10 feet.

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FILL	0-3	Road base and phosphate mine-spoil
DANIEL ISLAND BEDS (?)	3-6	Clay, medium-gray, sticky, dense
ASHLEY FM	6-25	Calcarenite, fine-grained, light-brown grading down to olive-brown

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Former base of Wando Formation: +7 feet above sea level  
Base of Daniel Island beds(?): +4 feet above sea level  
Bottomed in Ashley Formation

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LA-25: 3.2 miles W of east quad. border, 3.7 miles S of north quad. border.  
Surface elevation 20 feet.

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TEN MILE HILL BEDS	0-6	Sand, medium-grained, light-gray, clayey, phosphate pebble bed at base
CHANDLER BRIDGE FM	6-8	Sand, fine-grained, light-gray, phosphate sand abundant and phosphate-cemented lumps of sand, stiff, dense
	8-9	Sand, fine-grained, light-gray, loose, contained sea turtle skeleton
ASHLEY FM	9-12	Calcarenite, fine-grained, light-yellowish-brown grading to olive-brown, dense

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Base of Ten Mile Hill beds: +14 feet above sea level  
Base of Chandler Bridge Formation: +11 feet above sea level  
Bottomed in Ashley Formation

LA-26: 0.85 miles W of east quad. border, 0.2 miles N of south quad. border.  
Surface elevation 20 feet.

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WANDO FM (UPPER MEM)	0-20	Clay, medium-blue, sandy, grading down to sand, fine-grained, medium-blue, clayey, abundantly shelly in lower 10 feet including <u>Mercenaria</u> , shells fresh and lustrous
ASHLEY FM	20-21	Calcarenite, fine-grained, olive-brown

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Base of Wando Formation (lower member):  $\pm 0$  feet at sea level  
Bottomed in Ashely Formation

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LA-27: 2.6 miles E of west quad. border, 2.0 miles N of south quad. border.  
Top of creek bank about 8 feet elevation.

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MINE SPOIL	0-3	Sand, bedding contorted and jumbled
ASHLEY FM	3-4	Calcarenite, fine-grained, olive-brown, massive

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Former base of Silver Bluff(?): +5 feet above sea level  
Ashley Formation to base of exposure

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LA-28: 1.55 miles E of west quad. border, 0.2 miles N of south quad. border.  
Surface elevation about 17 feet.

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FILL	0-3	Road base
WANDO FM (UPPER MEM)	3-5	Clay, medium-brownish-gray, sandy, stiff
ASHLEY FM	5-25	Calcarenite, fine-grained, olive-brown, contains quartz and phosphate sand
PARKERS FERRY FM	25-40	Calcilutite, medium-greenish-gray, stiff, plastic

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Base of Wando Formation (upper member): +12 feet above sea level  
Base of Ashley Formation: -8 feet below sea level  
Bottomed in Parkers Ferry Formation

LA-29: 0.7 miles E of west quad. border, 0.7 miles N of south quad. border.  
Surface elevation 26 feet.

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FILL	0-1	Road base
.....		
TEN MILE	1-8	Sand, fine-grading down to coarse-grained, medium-
HILL BEDS		yellowish-orange, silty, clayey
	8-15	Sand, medium-grained, medium-gray, clayey, with lenses
		of medium-gray clay, phosphate pebbles up to 4 cm in
		diameter at base
.....		
ASHLEY FM	15-25	Calcarenite, fine-grained, olive-brown

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Base of Ten Mile Hill beds: +11 feet above sea level  
Bottomed in Ashley Formation

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LA-30: 1.5 miles E of west quad. border, 2.3 miles N of south quad. border.  
Surface elevation 27 feet.

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FILL	0-1	Road base
.....		
TEN MILE	1-2	Clay, dark-gray, sandy, roots present
HILL BEDS	2-10	Sand, fine-grained, olive-gray grading through greenish-
		gray to yellowish-gray, clayey, scattered clay laminae
		1 cm or less thick
	10-20	Sand, medium- grading down to coarse-grained, light-
		olive-gray, pebbly toward base
.....		
ASHLEY FM	20-25	Calcarenite, fine-grained, light-olive-gray grading
		down to olive-brown

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Base of Ten Mile Hill beds: +7 feet above sea level  
Bottomed in Ashley Formation

LA-31: 2.05 miles E of west quad. border, 2.1 miles N of south quad. border.  
 Surface elevation 28 feet.

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 TEN MILE            0-8    Clay, medium-gray, and sand, medium-grained, medium-  
 HILL BEDS                            red, clayey, stiff  
                           8-17    Sand, fine-grained grading down to medium-grained,  
     medium-yellowish-brown, slightly muddy, phosphate  
     pebbles at base

.....  
 CHANDLER            17-19    Sand, fine-grained, medium-gray, soft, clayey  
 BRIDGE FM

.....  
 ASHLEY FM            19-55    Calcarenite, fine-grained, olive-green, sandy and  
     clayey, minor sand-size phosphate

.....  
 PARKERS            55-82    Calcilutite, medium-greenish-gray, stiffens downward  
 FERRY FM

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 Base of Ten Mile Hill beds:            +11 feet above sea level  
 Base of Chandler Bridge Formation:    +9 feet above sea level  
 Base of Ashley Formation:            -27 feet below sea level  
 Bottomed in Parkers Ferry Formation

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LA-32: 3.45 miles E of west quad. border, 0.4 miles N of south quad. border.  
 Surface elevation 28 feet.

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 FILL                    0-4.5    Materials of diverse origin

.....  
 TEN MILE            4.5-8    Sand, fine-grained, dark-brown, contains roots  
 HILL BEDS            8-13    Clay, light-bluish-gray to greenish-gray with medium-  
     yellowish-brown and medium-orange mottles, phosphate  
     pebbles and sand present near base

.....  
 ASHLEY FM            13-20    Calcarenite, fine-grained, olive-brown

-----  
 Base of Ten Mile Hill beds:            +15 feet above sea level  
 Bottomed in Ashley Formation

LA-33: 0.4 miles E of west quad. border, 3.1 miles N of south quad. border.  
Surface elevation 16 feet.

---

TEN MILE HILL BEDS	0-20	Sand, medium-grained, light-gray (0-5) grading down to light-brown, muddy
.....		
ASHLEY FM	20-55	Calcarenite, fine-grained, light-brown (20-30) grading down to olive-brown, phosphate pebbles abundant in basal 5 feet
.....		
PARKERS FERRY FM	55-90	Calcilutite, light-greenish-gray, soft and sticky

---

Base of Ten Mile Hill beds: -4 feet below sea level  
Base of Ashley Formation: -39 feet below sea level  
Bottomed in Parkers Ferry Formation

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LA-34: 2.45 miles E of west quad. border, 3.35 miles N of south quad. border.  
Surface elevation 26 feet.

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TEN MILE HILL BEDS	0-20	Sand, fine- to medium-grained, medium-reddish-brown, grayish-orange and light-greenish-gray mottled (0-3) grading down through yellowish-gray and grayish-yellow-green (3-10) to medium-gray with medium-olive-brown mottles, clayey, sparsely micaceous, woody around 14 feet, medium-gray sandy clay lenses present below 10 feet
.....		
PENHOLLOWAY FM	20-42	Sand, medium- grading down to very coarse grained, medium-gray, shelly, abundant phosphate pebbles about 0.5 cm in diameter in basal 2 feet
.....		
ASHLEY FM	42-50	Calcarenite, fine-grained, olive-brown

---

Base of Ten Mile Hill beds: +6 feet above sea level  
Base of Penholoway Formation: -16 feet below sea level  
Bottomed in Ashley Formation

LA-35: 2.7 miles E of west quad. border, 3.55 miles N of south quad. border.  
Surface elevation about 17 feet.

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WANDO FM (UPPER MEM)	0-6	Clay, medium-gray, silty, sandy, stiff
.....		
PENHOLOWAY FM	6-9	Sand, fine-grained, medium-gray, clayey, loose, shelly
.....		
ASHLEY FM	9-25	Calcarenite, fine-grained, olive-green, silty, firm

---

Base of Wando Formation (upper member): +9 feet above sea level  
Base of Penholoway Formation: +8 feet above sea level  
Bottomed in Ashley Formation

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LA-36: 3.2 miles E of west quad. border, 3.3 miles N of south quad. border.  
Surface elevation 24 feet.

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FILL	0-5	Materials of diverse origin
.....		
TEN MILE HILL BEDS	5-12	Sand, fine- to medium-grained, medium-gray, silty, sparsely micaceous, clay stringers (less than 1 cm thick) present, woody from 10-11
	12-14	Clay, dark-yellowish-green and grayish-green mottled, phosphate pebbles 1-2 cm in diameter at base
.....		
ASHLEY FM	14-20	Calcarenite, fine-grained, light-yellowish-red to light- yellowish-brown, weathered

---

Base of Ten Mile Hill beds: +10 feet above sea level  
Bottomed in Ashley Formation

LA-37: 3.25 miles E of west quad. border, 3.05 miles N of south quad. border.  
Surface elevation 36 feet.

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TEN MILE HILL BEDS	0-20	Sand, medium-grained, dark-orange grading through white (0-5) to light-yellowish-brown, clean in upper 5 feet and muddy below that
	20-26	Clay, medium-bluish-green, sandy, stiff, phosphate pebbles at base

.....

ASHLEY FM	26-91	Calcarenite, fine-grained, olive-brown, sand-size phosphate abundant except from 45-70, phosphate pebbles abundant in basal 10 feet
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PARKERS FERRY FM	91-100	Calcilutite, medium-greenish-gray, burrows at top filled with phosphate sand from above
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Base of Ten Mile Hill beds: +10 feet above sea level  
Base of Ashley Formation: -55 feet below sea level  
Bottomed in Parkers Ferry Formation

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LA-38: 3.2 miles E of west quad. border, 3.2 miles N of south quad. border.  
Surface elevation 31 feet.

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TEN MILE HILL BEDS	0-6	Clay, medium-greenish-gray, medium-gray, light-brown and medium-reddish-brown mottled, silty
	6-13	Sand, medium-grained, medium-gray with sparse light-brown mottles, clay stringers present from 10-13, medium-bluish-gray to light-bluish-gray, silty
	13-17	Clay, grayish-green to grayish-blue-green, phosphate and some quartz pebbles present about 1-2 cm in diameter

.....

ASHLEY FM	17-20	Calcarenite, fine-grained, grayish-yellow-green, weathered
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Base of Ten Mile Hill beds: +14 feet above sea level  
Bottomed in Ashley Formation

LA-39: 0.8 miles E of west quad. border, 2.5 miles S of north quad. border.  
Surface elevation 46 feet.

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LADSON FM	0-8	Clay, medium-red, medium-reddish-brown, and medium-gray mottled, silty, sandy
	8-14	Sand, medium-grained, medium-pink and dark-yellowish-orange grading to dark-yellowish-orange, muddy, sparse light-grayish-green clay lenses present
	14-24	Sand, medium-grained, light-yellowish-red, muddy, and clay, light-greenish-gray, silty, interbedded, phosphate pebbles 1-2 cm in diameter in basal 2 feet

.....

ASHLEY FM	24-30	Calcarenite, fine-grained, grayish-olive, quartz sand present
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Base of Ladson Formation: +22 feet above sea level  
Bottomed in Ashley Formation

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LA-40: 0.85 miles E of west quad. border, 1.2 miles S of north quad. border. (S. C. Development Board Charleston Co. Hole-Blanton #2).  
Surface elevation 45 feet.

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LADSON FM	0-14	Sand, medium- to coarse-grained, light-brownish-orange and medium-red, clayey, stiff, interbedded with clay, medium-red and medium-gray mottled
	14-23	Sand, fine-grained, light-brownish-orange to light-brownish-yellow, clayey, silty, soft

.....

ASHLEY FM	23-30	Calcarenite, fine-grained, olive-brown, contains sand-size phosphate
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Base of Ladson Formation: +22 feet above sea level  
Bottomed in Ashley Formation

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LA-41: 2.3 miles E of west quad. border, 1.3 miles S of north quad. border.  
Surface elevation 12 feet.

---

WANDO FM	0-5	Sand, fine-grained, dark-brown, clayey, stiff
(UPPER MEM)	5-8	Clay, medium-yellowish-brown, soft, sandy

.....

ASHLEY FM	8-110	Calcarenite, fine-grained, olive-brown, sand-size phosphate locally abundant, large forams abundant around 70 feet
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Base of Wando Formation (upper member): +4 feet above sea level  
Bottomed in Ashley Formation



LA-45: 1.0 miles W of east quad. border, 1.65 miles S of north quad. border.  
Surface elevation 33 feet.

TEN MILE HILL BEDS 0-12 Sand, fine- to medium-grained, medium-red, medium-yellow, and medium-gray mottled, clayey  
12-16 Sand, fine- to medium-grained, medium-blue, clayey  
16-36 Sand, fine- to medium-grained, medium-gray (16-19) grading down to medium-green

ASHLEY FM 36-40 Calcarenite, fine-grained, olive-green, clayey

Base of Ten Mile Hill beds: -3 feet below sea level  
Bottomed in Ashley Formation

LA-46: 1.0 miles W of east quad. border, 2.9 miles S of north quad. border.  
Surface elevation 17 feet.

TEN MILE HILL BEDS 0-5 Sand, medium-grained, medium-orange, clayey, grades down to:  
5-20 Clay, light-gray with medium-orange mottles grading down to dark-gray, becomes stiffer downward

ASHLEY FM 20-105 Calcarenite, fine-grained, light-brown (20-25) grading down to olive-brown, minor sand-size phosphate, large forams abundant from 65-85, clayey below 85

Base of Ten Mile Hill beds: -3 feet below sea level  
Bottomed in Ashley Formation

LA-47: 0.5 miles W of east quad. border, 3.0 miles S of north quad. border.  
Surface elevation 17 feet.

TEN MILE HILL BEDS 0-4.5 Clay, medium-blue, massive, fulsome  
4.5-8 Clay, medium-blue, lumpy, contains shells including oyster fragments, phosphate pebbles at base

CHANDLER BRIDGE FM 8-10 Sand, fine-grained, light-gray, silty, contained whale skeleton

ASHLEY FM 10-15 Calcarenite, fine-grained, olive-brown

Base of Ten Mile Hill beds: +9 feet above sea level  
Base of Chandler Bridge Formation: +7 feet above sea level  
Bottomed in Ashley Formation

LA-48: 1.45 miles W of east quad. border, 1.8 miles N of south quad. border.  
Surface elevation about 42 feet.

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TEN MILE HILL BEDS	0-20	Sand, fine- to medium-grained, medium-yellowish-brown, becomes more micaceous downward
	20-30	Clay, medium-gray, sandy, contains small shell fragments
	30-32	Conglomerate, composed of phosphate pebbles
.....		
ASHLEY FM	32-114	Calcarenite, fine-grained, olive-brown, clayey from 92 to 105, abundant sand-size phosphate from 52 to 92 and below 105, sparsely to abundantly shelly from 52- 105, phosphate pebble bed in basal 2 feet
.....		
PARKERS FERRY FM	114-135	Calcilutite, light-greenish-gray, stiff and plastic

---

Base of Ten Mile Hill beds: +10 feet above sea level  
Base of Ashley Formation: -72 feet below sea level  
Bottomed in Parkers Ferry Formation

MONCK'S CORNER QUADRANGLE\*--  
(depths in feet)

MC-1: 2.25 miles W of east quad. border, 3.25 miles N of south quad. border.  
Surface elevation 67 feet.

PENHOLLOWAY FM	0-5 5-9 9-16 16-17	Sand, coarse-grained, light-gray, poorly sorted, clayey Clay, light-gray, dense, sticky and sand, medium- grained, light-orange, interbedded Sand, medium-grained, medium-yellowish-orange grading down to medium-orange, well sorted, silty Sand, medium-grained, medium-blue, well sorted, silty, shelly including <u>Mulinia</u>
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ASHLEY FM	17-25	Calcarenite, fine-grained, olive-brown, contains quartz and phosphate sand, some calcite-cemented lumps
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Base of Penholoway Formation: +40 feet above sea level  
Bottomed in Ashley Formation

MC-2: 3.4 miles E of west quad. border, 2.25 miles N of south quad. border.  
Surface elevation 91 feet.

PENHOLLOWAY FM	0-5 5-8 8-16 16-22 22-35 35-41	Sand, fine-grained, dark-gray, silty with red clay lenses Clay, medium-gray, dense, sandy Sand, coarse-grained, light-brown grading down to bright medium-orange, poorly sorted, abundant very fine grained heavy minerals and small white clay-balls Clay, bright medium-orange in upper foot but grading rapidly downward to sand, fine-grained, silty, medium- gray with clay lenses by 20 feet, grading to: Clay, medium-blue, micaceous, grading to sand, fine- grained, silty, light-bluish-gray, shelly at 27-35 feet ( <u>Mulinia</u> , <u>Dosinia</u> , <u>Mercenaria</u> , other clams, and snails) Clay, medium-blue, dense, contains calcite lumps at top, a few shells and phosphate lumps at base
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ASHLEY FM	41-67	Calcarenite, fine-grained, olive-brown, contains quartz and abundant phosphate sand, sporadic calcite-cemented lumps
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PARKERS FERRY FM	67-70	Calcilutite, medium-greenish-gray, dense, contains echinoid spines
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Base of Penholoway Formation: +50 feet above sea level  
Base of Ashley Formation: +24 feet above sea level  
Bottomed in Parkers Ferry Formation

\* See also Inden (1976) for more auger logs and detailed sections.

MC-3: 0.3 miles E of west quad. border, 4.45 miles N of south quad. border.  
Surface elevation 66 feet.

-----  
PENHOLLOWAY 0-7 Sand, medium-grained, medium-reddish-orange and medium-  
FM gray mottled, clayey  
.....

ASHLEY FM 7-20 Calcarenite, fine-grained, medium-yellowish-brown  
grading down through light-brown to olive-brown,  
extensively recrystallized in upper part, but quartz  
and phosphate sand present and color normal in lower  
half

-----  
Base of Penholoway Formation: +59 feet above sea level  
Bottomed in Ashley Formation

-----  
MC-4: 1.1 miles E of west quad. border, 3.75 miles N of south quad. border.  
Surface elevation 60 feet.

-----  
PENHOLLOWAY 0-5 Sand, medium-grained, dark-gray grading down to medium-  
FM gray, silty  
5-7 Peat, dark-brown, sandy  
.....

ASHLEY FM 7-45 Calcarenite, fine-grained, olive-brown, some quartz sand  
and abundant phosphate sand below 20 feet, contains  
calcite-cemented lumps

-----  
Base of Penholoway Formation: +53 feet above sea level  
Bottomed in Ashley Formation

-----  
MC-5: 0.65 miles E of west quad. border, 4.15 miles N of south quad. border.  
Surface elevation 63 feet.

-----  
PENHOLLOWAY 0-7 Clay, medium-red, sandy  
FM 7-13 Sand, medium-grained, light-gray, poorly sorted, silty  
.....

ASHLEY FM 13-20 Calcarenite, fine-grained, light-brown, partially  
recrystallized, sparse quartz and phosphate sand

-----  
Base of Penholoway Formation: +50 feet above sea level  
Bottomed in Ashley Formation

MC-6: 0.25 miles E of west quad. border, 0.25 miles S of north quad. border.  
Surface elevation 55 feet.

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FILL	0-3	Road base
.....		
PENHOLOWAY FM	3-7	Clay, medium-gray grading down to medium-blue, sandy
.....		
ASHLEY FM	7-25	Calcarenite, fine-grained, olive-brown, some quartz and phosphate sand present
.....		
	25-50	Uncertain, badly churned during drilling
.....		
CROSS FM	50-91	Calcarenite, light-yellowish-brown, numerous hard ledges made drilling difficult; very phosphatic in basal two feet and bottomed on hard ledge, hole became artesian after auger stems were pulled

---

Base of Penholoway Formation: +48 feet above sea level  
Base of Ashley Formation: +18 ± 12 feet above sea level  
Bottomed in Cross Formation

---

MC-7: 0.65 miles E of west quad. border, 0.8 miles S of north quad. border.  
Surface elevation 65 feet.

---

PENHOLOWAY FM	0-7	Clay, medium-reddish-orange grading down to medium-gray gray and medium-reddish-orange mottled, sandy, contains lense of coarse-grained, angular sand, quartz pebbles present at base
.....		
ASHLEY FM	7-20	Calcarenite, fine-grained, light-brown grading down to olive-brown by 13 feet, sparse shell fragments, large forams, quartz and phosphate sand grains present

---

Base of Penholoway Formation: +58 feet above sea level  
Bottomed in Ashley Formation

MC-8: 1.4 miles E of west quad. border, 1.7 miles S of north quad. border.  
Surface elevation 69 feet.

---

PENHOLOWAY FM	0-4	Sand, fine-grained, medium-red and medium-gray mottled, stiff, clayey
	4-6	Clay, medium-red and medium-gray mottled, stiff, sandy
	6-8	Sand, coarse-grained, medium-orange, granular
	8-16	Clay, dark-brown, micaceous, sandy

.....

ASHLEY FM	16-20	Calcarenite fine-grained, light-brown, partially recrystallized, sand-size phosphate abundant
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Base of Penholoway Formation: +53 feet above sea level  
Bottomed in Ashley Formation

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MC-9: 3.0 miles E of west quad. border, 3.55 miles S of north quad. border.  
Surface elevation 68 feet.

---

PENHOLOWAY FM	0-5	Clay, dark-gray, humic
	5-7	Clay, medium-gray, stiff
	7-9	Sand, coarse-grained, bright medium-orange, poorly sorted, silty
	9-14	Clay, medium-gray, stiff, sandy, contains coarse-grained sand lenses

.....

ASHLEY FM	14-20	Calcarenite, fine-grained, light-brown, partially recrystallized
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Base of Penholoway Formation: +54 feet above sea level  
Bottomed in Ashley Formation

---

MC-10: 0.9 miles W of east quad. border, 1.05 miles N of south quad. border.  
Surface elevation 20 feet.

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TEN MILE HILL BEDS	0-7	Clay, medium-brownish-gray, sandy, stiff
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.....

PARKERS FERRY FM	7-15	Calcilutite, medium-orange and light-brown grading down to medium-bluish-green, very stiff
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Base of Ten Mile Hill beds: +13 feet above sea level  
Bottomed in Parkers Ferry Formation

MC-11: 1.85 miles W of east quad. border, 2.35 miles N of south quad. border.  
Surface elevation 40 feet.

---

LADSON FM	0-4	Sand, medium-grained, medium-gray, contains iron-hydroxide-cemented lumps
	4-6	Sand, medium-grained, medium-gray, angular, poorly sorted, clayey
.....		
ASHLEY FM	6-53	Calcarenite, fine-grained, light-brown in upper three feet and grading to olive-brown, quartz and phosphate sand abundant
.....		
PARKERS FERRY FM	53-70	Calcilutite, medium-bluish-green, contains echinoid spines

---

Base of Ladson Formation: +36 feet above sea level  
Base of Ashley Formation: -13 feet below sea level  
Bottomed in Parkers Ferry Formation

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MC-12: 1.5 miles W of east quad. border, 1.55 miles N of south quad. border.  
Surface elevation 48 feet.

---

LADSON FM	0-7	Sand, medium-grained, medium-reddish-orange, medium-red, light-gray, and medium-gray mottled, angular, dense, clayey, contains sparse quartz granules in basal two feet
.....		
PARKERS FERRY FM	7-25	Calcilutite, medium-orange and medium-bluish-green mottled grading down by 15 feet to medium-bluish-green, contains echinoid spines

---

Base of Ladson Formation: +41 feet above sea level  
Bottomed in Parkers Ferry Formation

MC-13: 2.9 miles W of east quad. border, 1.85 miles N of south quad. border.  
Surface elevation 71 feet.

---

PENHOLLOWAY FM	0-5	Sand, coarse-grained, medium-red, moderately well rounded, clayey, contains iron hydroxide-cemented nodules
	5-6	Clay, medium-gray and medium-red mottled
	6-17	Sand, coarse-grained, medium-orange, angular, poorly sorted, silty, very fine grained heavy minerals abundant
	17-23	Clay, medium-blue, greasy, bed of phosphate pebbles at base
.....		
ASHLEY FM	23-42	Calcarenite, fine-grained, olive-brown, quartz sand present and phosphate sand abundant
.....		
PARKERS FERRY FM	42-45	Calcilutite, medium-bluish-green, contains echinoid spines, upper foot contains burrows filled with overlying material

---

Base of Penholoway Formation: +48 feet above sea level  
Base of Ashley Formation: +29 feet above sea level  
Bottomed in Parkers Ferry Formation

---

MC-14: 3.1 miles W of east quad. border, 1.1 miles N of south quad. border.  
Surface elevation 65 feet.

---

PENHOLLOWAY	0-25	Sand, medium- to coarse-grained, medium-reddish-orange (0-4) grading to light-gray, well sorted, moderately angular, silty, contains sand-size phosphate
.....		
PARKERS FERRY FM	25-35	Calcilutite, medium-bluish-green, contains echinoid spines

---

Base of Penholoway Formation: +40 feet above sea level  
Bottomed in Parkers Ferry Formation

MC-15: 0.95 miles E of west quad. border, 1.15 miles N of south quad. border.  
Surface elevation 84 feet.

---

PENHOLLOWAY FM	0-5	Sand, fine-grained, medium-gray, well sorted, tightly packed, grades to:
	5-9	Sand, fine-grained, medium-gray, poorly sorted, micaceous
	9-11	Clay, medium-gray, sticky, contains wood fragments
	11-26	Sand, fine-grained, medium-gray, silty
	26-34	Sand, fine-grained, medium-gray, silty, denser than above, shelly (including <u>Mulinia</u> and <u>Argopecten eboreus</u> )
.....		
ASHLEY FM	34-40	Calcarenite, fine-grained, light-brown grading down to medium-brown, quartz and phosphate sand present, calcite-cemented lumps scattered throughout

---

Base of Penholoway Formation: +50 feet above sea level  
Bottomed in Ashley Formation

---

MC-16: 2.3 miles E of west quad. border, 0.45 miles N of south quad. border.  
Surface elevation 91 feet.

---

PENHOLLOWAY	0-5	Sand, fine-grained, medium-reddish-orange grading down to light-gray, well sorted, rounded iron hydroxide-cemented nodules in upper 3 feet, grades to:
	5-16	Sand, medium-grained, light-gray (5-8) grading to medium-orangish-red, poorly sorted but skewed toward coarse-grained, very fine grained heavy minerals abundant
	16-28	Clay, medium-gray (16-17) grading down to medium-bluish-gray, silty, greasy, sandy in basal two feet
	28-49	Sand, fine-grained, medium-bluish-gray, denser than clay above, clayey, shelly (including <u>Mulinia</u> , <u>Mercenaria</u> , and oyster)
.....		
ASHLEY FM	49-50	Calcarenite, fine-grained, olive-brown, contains quartz and phosphate sand

---

Base of Penholoway Formation: +42 feet above sea level  
Bottomed in Ashley Formation

MC-17: 2.7 miles E of west quad. border, 1.55 miles N of south quad. border.  
Surface elevation 88 feet.

---

PENHOLOWAY FM	0-5	Sand, fine-grained, medium-reddish-orange grading down to light-gray, well sorted
	5-6	Clay, light-gray, sandy
	6-12	Sand, fine- to medium-grained, white, poorly sorted, micaceous, very fine grained heavy minerals sprinkled throughout
	12-18	Clay, dark-gray, silty, shell lense at 15 feet
	18-29	Sand, fine-grained, dark-gray, silty, shelly ( <u>Mulinia</u> and others)
	29-58	Clay, dark-gray, sandy, less shelly than above, micaceous, sparse wood fragments present
	58-66	Sand, fine-grained, medium-gray, sparse shell and wood fragments, no basal phosphate bed
.....		
PARKERS FERRY FM	66-70	Calcilutite, light-yellowish-green, friable, tough

---

Base of Penholoway Formation: +22 feet above sea level  
Bottomed in Parkers Ferry Formation

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MC-18: 1.1 miles E of west quad. border, 2.95 miles S of north quad. border.  
Surface elevation 68 feet.

---

PENHOLOWAY FM	0-3	Clay, medium-yellowish-orange, sandy
	3-7	Sand, medium-grained, medium-yellowish-orange, clayey
	7-11	Clay, medium-reddish-orange, contains quartz pebbles
.....		
ASHLEY FM	11-15	Calcarenite, fine-grained, light-brown, sparse quartz and phosphate sand present, partially recrystallized

---

Base of Penholoway Formation: +57 feet above sea level  
Bottomed in Ashley Formation

MC-19: 3.3 miles E of west quad. border, 3.9 miles N of south quad. border.  
Surface elevation 75 feet.

-----  
PENHOLLOWAY 0-5 Sand, fine-grained, medium-gray, medium-red, medium-  
FM orange and medium-yellow mottled, clayey  
5-11 Clay, medium-bluish-gray, sandy, dense, micaceous,  
contains hard green lumps  
11-20 Sand, medium-grained, medium-bluish-gray, poorly sorted  
20-24 Clay, dark-gray, dense, micaceous, contains green lumps  
and sand-filled burrows

.....  
ASHLEY FM 24-25 Calcarenite, fine-grained, light-brown, contains quartz  
and phosphate sand, calcite-cemented lumps

-----  
Base of Penholoway Formation: +51 feet above sea level  
Bottomed in Ashley Formation

-----  
MC-20: 2.15 miles E of west quad. border, 0.7 miles S of north quad. border.  
Surface elevation 78 feet.

-----  
PENHOLLOWAY 0-6 Sand, fine-grained, medium-reddish-orange and light-gray  
FM mottled, clayey, dense  
6-12 Clay, medium-orange, medium-gray, and medium-pink  
mottled, dense, sticky  
12-16 Clay, medium-gray, greasy  
16-22 Clay, dark-gray, semi-indurated, breaks into angular  
lumps, sparse shell fragments in basal foot

.....  
ASHLEY FM 22-30 Calcarenite, fine-grained, light-brown grading down to  
olive-brown, contains quartz and phosphate sand

-----  
Base of Penholoway Formation: +56 feet above sea level  
Bottomed in Ashley Formation

-----  
MC-21: 1.1 miles W of east quad. border, 1.6 miles S of north quad. border.  
Surface elevation 75 feet.

-----  
PENHOLLOWAY 0-7 Sand, fine-grained, medium-orange, well sorted  
FM 7-25 Clay, medium-red, silty, micaceous, dark-gray lens at  
22 feet, sandy below that point

.....  
ASHLEY FM 25-30 Calcarenite, fine-grained, light-brown grading down to  
medium-brown, quartz and phosphate sand present

-----  
Base of Penholoway Formation: +50 feet above sea level  
Bottomed in Ashley Formation

MC-22: 0.55 miles W of east quad. border, 2.25 miles S of north quad. border.  
Surface elevation 63 feet.

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PENHOLOWAY FM	0-5	Sand, fine- to medium-grained, medium-orange and medium-gray mottled, poorly sorted, subangular, clayey, micaceous, dense
	5-16	Clay, medium-green, sandy, sand grains range from fine at top to coarse and angular at base

.....

ASHLEY FM	16-20	Calcarenite, fine-grained, light-brown grading down to medium-brown, sparse quartz and phosphate sand, partially recrystallized
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Base of Penholoway Formation: +47 feet above sea level  
Bottomed in Ashley Formation

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MC-23: 1.85 miles E of west quad. border, 3.9 miles N of south quad. border.  
Surface elevation 75 feet.

---

PENHOLOWAY FM	0-9	Sand, fine-grained, clayey grading down to clay, sandy, medium-reddish-pink and medium-gray mottled, grading to mostly medium-gray downward
	9-21	Sand, fine-grained, medium-orangish-red, clayey

.....

ASHLEY FM	21-25	Calcarenite, fine-grained, light-brown, sparse quartz and phosphate sand present
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Base of Penholoway Formation: +54 feet above sea level  
Bottomed in Ashley Formation

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MC-24: 0.85 miles E of west quad. border, 2.9 miles N of south quad. border.  
Surface elevation 77 feet.

---

PENHOLOWAY FM	0-5	Sand, fine-grained, light-gray, clayey
	5-12	Clay, light-gray and medium-orange mottled, sandy in upper part with some coarse grains, stiffens toward base
	12-24	Sand, medium-grained, medium-orangish-red grading downward to medium-gray by 17 feet and to medium-bluish-gray by 20 feet, angular

.....

ASHLEY FM	24-25	Calcarenite, fine-grained, light-brown, quartz and phosphate sand present, partially recrystallized
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Base of Penholoway Formation: +53 feet above sea level  
Bottomed in Ashley Formation



MC-27: 0.5 miles W of east quad. border, 0.95 miles N of south quad. border.  
Surface elevation 10 feet.

---

WANDO FM	0-4	Clay, medium-gray, sandy, stiff
(UPPER MEM)	4-8	Sand, fine-grained, medium-gray, well sorted except for basal foot which includes quartz granules
.....		
PARKERS	8-15	Calcilutite, medium-bluish-green and medium-greenish-gray mottled, contains echinoid spines, upper foot contains carbonized roots
FERRY FM		

---

Base of Wando Formation (upper member): +2 feet above sea level  
Bottomed in Parkers Ferry Formation

---

MC-28: 0.15 miles W of east quad. border, 1.55 miles N of south quad. border.  
Surface elevation 15 feet.

---

WANDO FM	0-3	Sand, medium-grained, light-gray, well sorted
(UPPER MEM)	3-13	Clay, medium-gray and medium-orange mottled, sandy, grading down to sand, medium-grained, medium-gray, silty
.....		
ASHLEY FM	13-65	Calcarenite, fine-grained, light-brown (13-18) grading to olive-brown, forams abundant, sparse quartz and phosphate sand present

---

Base of Wando Formation (upper member): +2 feet above sea level  
Bottomed in Ashley Formation

---

MC-29: 2.0 miles E of west quad. border, 2.4 miles N of south quad. border.  
Surface elevation 80 feet.

---

PENHOLLOWAY	0-13	Sand, medium-grained, medium-orange grading down to dark-yellowish-orange, clayey
FM	13-28	Clay and sand, fine-grained, interbedded, medium-gray to dark-greenish gray, micaceous
	28-43	Sand, fine-grained, dark-greenish-gray, slightly clayey, shelly below 36 feet
	43-52	Sand, medium- to coarse-grained, medium-gray, clayey, phosphate and glauconite sand abundant; phosphate pebbles up to 1 cm in diameter and some shells present in basal foot
.....		
PARKERS	at 52	Calcilutite, medium-greenish-gray, barely penetrated on
FERRY FM		the end of the last stem

---

Base of Penholoway Formation: +28 feet above sea level  
Bottomed on Parkers Ferry Formation

MC-30: 3.55 miles W of west quad. border, 3.7 miles S of north quad. border.  
 Surface elevation about 73 feet.

---

FILL	0-3	Road base
.....		
PENHOLLOWAY FM	3-4	Sand, medium-grained, medium-gray, clayey, micaceous
	4-8	Clay, white, medium-gray and medium-bluish-gray, some minor fine-grained sand lenses present, clayey, micaceous
	8-12	Clay, medium-grayish-green, some burrows filled with fine-grained sand present, micaceous; contains waxy, dry, hard, medium-green, clay lumps
	12-14.5	Clay, medium-grayish-green, grading down to sand, fine- through medium-grained, minor amounts of wood present, micaceous
	14.5-18	Sand, coarse-grained, medium-greenish-gray, clean, micaceous, contains pebbles up to 1.5 cm in diameter of dark-greenish-gray, waxy clay toward the base
.....		
CHANDLER BRIDGE FM	18-24	Clay, medium-grayish-green, contains burrows filled with medium-gray, clean, fine-grained sand
.....		
ASHLEY FM	24-25	Calcarenite, fine-grained, light-brown, biocalcarenitic, calcite-cemented lumps up to 1.5 cm in diameter

---

Base of Penholoway Formation: +55 feet above sea level  
 Base of Chandler Bridge Formation: +49 feet above sea level  
 Bottomed in Ashley Formation





MH-7: 3.4 miles W of east quad. border, 3.85 miles S of north quad. border.  
Surface elevation 44 feet (spot elevation mark).

---

LADSON FM	0-10	Clay, sandy, medium-orange grading to medium-orange and medium-gray mottled, muscovitic, no pebble bed at base
.....		
ASHLEY FM	10-26	Calcarenite, fine-grained, medium-brown grading down to olive-brown, slightly phosphatic
	at 26	Impenetrable hard bed, probably basal phosphate gravel bed

---

Base of Ladson Formation: +34 feet above sea level  
Base of Ashley Formation: +18 feet above sea level

---

MH-8: 2.9 miles W of east quad. border, 4.1 miles S of north quad. border.  
Surface elevation 27 feet.

---

TEN MILE HILL BEDS?	0-2	Clay, medium-blue, numerous phosphate pebbles and molds of corals phosphatized, white calcite lumps present
.....		
PARKERS FERRY FM	2-10	Calcilutite, medium-orange and medium-bluish-gray mottled

---

Base of Ten Mile Hill beds?: +25 feet above sea level (this could be entirely a soil developed on the Parkers Ferry)  
Bottomed in Parkers Ferry Formation

---

MH-9: 3.45 miles W of east quad. border, 3.05 miles N of south quad. border.  
Surface elevation 41 feet.

---

LADSON FM	0-10	Clay, sandy, medium-orange to medium-gray, a few scattered quartz granules and pebbles present
.....		
ASHLEY FM	10-20	Calcarenite, fine-grained, white grading down to medium-brown, many calcite lumps at around 15 feet

---

Base of Ladson Formation: +31 feet above sea level  
Bottomed in Ashley Formation





MH-16: 0.85 miles W of east quad. border, 1.3 miles N of south quad. border.  
Surface elevation 37 feet.

---

LADSON FM	0-10	Clay, medium-red and medium-gray mottled, scattered coarse sand grains and muscovite flakes present
	10-11	Clay, medium-gray, coarse angular sand grains scattered throughout
	11-13	Sand, fine-grained, silty, medium-yellowish-orange, muscovitic, grades rapidly to:
	13-16	Sand, coarse-grained, medium-yellowish-orange, silty, loosely packed
	16-18	Sand, coarse-grained, white, clean
CHANDLER	18-18.5	Clay, medium-brown, soft
BRIDGE FM	18.5-19	Clay, medium-green, soft
ASHLEY FM	19-25	Calcarenite, fine-grained, olive-brown

---

Base of Ladson Formation: +19 feet above sea level  
Base of Chandler Bridge Formation: +18 feet above sea level  
Bottomed in Ashley Formation

---

MH-17: 0.8 miles W of east quad. boundary, 0.25 miles N of south quad. boundary. Surface elevation 9 feet.

---

SILVER	0-4	Sand, medium-grained, medium-orange and medium-gray mottled, clayey, loamy
BLUFF	4-10	Clay, medium-gray, coarse sand grains and pebbles scattered throughout
WANDO FM (UPPER MEM)	10-12	Clay, medium-gray, sparsely micaceous, wavy laminations present
ASHLEY FM	12-20	Calcarenite, fine-grained, light-brown (12-14) grading down to olive-brown and sparsely phosphatic

---

Base of Silver Bluff (Holocene): -1 foot below sea level  
Base of Wando Formation (upper member): -3 feet below sea level  
Bottomed in Ashley Formation

---

MH-18: 0.5 miles W of east quad. border, 1.1 miles N of south quad. border.  
Surface elevation 9 feet.

---

FILL	0-2	Road base underlain by soil
ASHLEY FM	2-15	Calcarenite, fine-grained, light-brown (2-8), grading down to olive-brown, sparsely phosphatic

---

Base of fill: +7 feet above sea level  
Bottomed in Ashley Formation

MH-19: 0.95 miles W of east quad. border, 2.75 miles N of south quad. border.  
Surface elevation 12 feet.

---

FILL	0-1	Road base underlain by soil
.....		
PARKERS FERRY FM	1-15	Calcilutite, medium-bluish-green with medium-orange mottles (1-5) grading down to medium-bluish-green, echinoid spines abundant

---

Base of fill: +11 feet above sea level  
Bottomed in Parkers Ferry Formation

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MH-20: 3.6 miles W of east quad. border, 3.95 miles N of south quad. border.  
Surface elevation 20 feet.

---

FILL	0-2	Road base
.....		
ASHLEY FM	2-27	Calcarenite, fine-grained, olive-brown, phosphate pebble bed at base
.....		
PARKERS FERRY FM	27-35	Calcilutite, medium-blue, echinoid spines abundant

---

Base of Ashley Formation: -7 feet below sea level  
Bottomed in Parkers Ferry Formation

---

MH-21: 3.15 miles W of east quad. border, 4.0 miles S of north quad. border.  
Surface elevation 20 feet.

---

WANDO FM	0-5	Clay, medium-bluish-gray, sandy
(UPPER MEM)	5-7	Sand, coarse-grained, light-gray, clean, pebbly at base
.....		
PARKERS FERRY FM	7-20	Calcilutite, light-brown and medium-orange mottled (5-7 feet) grading through medium-bluish-green, medium-brown, and medium-orange mottled (7-18) to medium-bluish-green, echinoid spines abundant

---

Base of Wando Formation (upper member): +13 feet above sea level  
Bottomed in Parkers Ferry Formation





MH-30: Located 25 feet west of MH-29. Surface elevation 17 feet.

---

ASHLEY FM	0-15	Calcarenite, fine-grained, olive-brown
.....		
PARKERS FERRY FM	15-25	Calcilutite, medium-bluish-green, echinoid spines present, a single 1 cm diameter phosphate pebble at the upper contact

---

Base of Ashley Formation: +2 feet above sea level  
Bottomed in Parkers Ferry Formation

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MH-31: 2.2 miles W of east quad. border, 2.65 miles N of south quad. border. Surface elevation 40 feet.

---

LADSON FM	0-5	Clay, medium-orange and medium-gray mottled, medium to coarse sand grains scattered within it, loamy
	5-10	Sand, medium-grained, silty and clayey, medium-orange, loosely packed, muscovitic, occasional small pebbles present
	10-11.5	Sand, coarse-grained, medium-orange, numerous rounded pebbles near base
.....		
ASHLEY FM	11.5-15	Calcarenite, fine-grained, light-gray grading down to olive-green

---

Base of Ladson Formation: +28 feet above sea level  
Bottomed in Ashley Formation

---

MH-32: Located half way between MH-31 and MH-23. Surface elevation about 20 feet.

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PARKERS FERRY FM	0-10	Calcilutite, medium-bluish-green to medium-gray, echinoid spines present
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Bottomed in Parkers Ferry Formation

MH-33: Located 200 feet west of MH 31. Surface elevation about 25 feet.

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LADSON FM	0-6.5	Sand, coarse-grained, medium-orange
	6.5-7.5	Clay, medium-gray, sandy
.....		
ASHLEY FM	7.5-8	Phosphate pebble bed with calcarenite matrix, fine-grained, olive-brown
.....		
PARKERS	8-11	Calcilutite, medium-bluish-gray
FERRY FM		

---

Base of Ladson Formation: +17.5 feet above sea level  
Base of Ashley Formation: +17 feet above sea level  
Bottomed in Parkers Ferry Formation

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MH-34: Located 50 feet east of MH-33 and 150 feet west of MH-31. Surface elevation about 27 feet.

---

LADSON FM	0-5	Clay, medium-gray, scattered coarse sand grains present
	5-9	Sand, medium-grading down to coarse-grained, medium-gray
.....		
CHANDLER	9-10	Clay, medium-gray, noncalcareous
BRIDGE FM		
.....		
ASHLEY FM	10-10.5	Calcarenite, fine-grained, light-brown
	10.5-11	Phosphate pebble bed

---

Base of Ladson Formation: +18 feet above sea level  
Base of Chandler Bridge Formation: +17 feet above sea level  
Base of Ashley Formation: +16 feet above sea level

---

MH-35: 1.55 miles W of east quad. border, 2.6 miles N of south quad. border. Surface elevation about 32 feet.

---

TEN MILE	0-7	Clay, medium-orange, sandy near the top, no basal sand
HILL BEDS		or pebble bed
.....		
ASHLEY FM	7-15	Calcarenite, fine-grained, light-brown grading down to medium-brown

---

Base of Ten Mile Hill beds: +25 feet above sea level  
Bottomed in Ashley Formation

MH-36: 1.25 miles W of east quad. border, 2.55 miles N of south quad. border.  
Surface elevation 30 feet.

---

TEN MILE HILL BEDS	0-5	Clay, medium-orange, sandy
.....		
ASHLEY FM	5-14	Calcarenite fine-grained, light-brown
	14-15	Phosphate pebble bed
.....		
PARKERS FERRY FM	15-20	Calcilutite, medium-bluish-gray, echinoid spines abundant

---

Base of Ten Mile Hill beds: +25 feet above sea level  
Base of Ashley Formation: +15 feet above sea level  
Bottomed in Parkers Ferry Formation

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MH-37: Located 70 feet west of MH-36. Surface elevation about 30 feet.

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0-12	Went through Pleistocene and Ashley, phosphate pebble bed marking Ashley/Parkers Ferry contact encountered at 12 feet but not penetrated. Not otherwise logged.
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Base of Ashley Formation: +18 feet elevation

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MH-38: 1.9 miles W of east quad. border, 2.6 miles N of south quad. border.  
Surface elevation 46 feet.

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0-30	Not logged. Basal Ashley/Parkers Ferry phosphate bed encountered at 30 feet but not penetrated
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Base of Ashley Formation: +16 feet above sea level

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MH-39: 2.35 miles W of east quad. border, 1.9 miles N of south quad. border.  
Surface elevation about 35 feet.

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LADSON FM	0-13	Sand, medium-grained grading down to coarse-grained, medium-orange, muscovitic, many rutile grains between 5-10 feet, pebbly toward base
.....		
CHANDLER BRIDGE FM	13-15	Silt, medium-gray, soft, clayey
.....		
ASHLEY FM	15-20	Calcarenite, fine-grained, light-brown grading rapidly down to olive-brown

---

Base of Ladson Formation: +22 feet above sea level  
Base of Chandler Bridge Formation: +20 feet above sea level  
Bottomed in Ashley Formation



MH-42: 3.3 miles E of west quad. border, 1.3 miles S of north quad. border.  
Surface elevation 58 feet.

---

PENHLOWAY FM	0-8	Sand, medium-grained, medium-orange with medium-gray mottles, well sorted, coarsens downward
	8-10	Clay, medium-gray, contains hard medium-green lumps
	10-19	Clay, medium-blue, contains hard medium-green clay lumps, muscovitic, very sandy in basal foot

.....  
ASHLEY FM      19-31    Calcarenite, fine-grained, olive-brown  
                  31-32    Phosphate pebble bed

.....  
PARKERS        32-35    Calcilutite, medium-bluish-green, echinoid spines abundant  
FERRY FM

---

Base of Penholoway Formation: +39 feet above sea level  
Base of Ashley Formation:      +26 feet above sea level  
Bottomed in Parkers Ferry Formation

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MH-43: Located 500 feet W of MH-24. Surface elevation 13 feet.

---

WANDO FM (UPPER MEM)	0-3	Clay, dark-gray, soft, greasy, rich in organic matter
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.....  
ASHLEY FM      3-25    Calcarenite, fine-grained, white in upper two feet and olive-brown below that, phosphate bed and clam shells at base

.....  
PARKERS        25-35    Calcilutite, medium-bluish-green  
FERRY FM

---

Base of Wando Formation (upper member): +10 feet above sea level  
Base of Ashley Formation:                -12 feet below sea level  
Bottomed in Parkers Ferry Formation

---

MH-44: Located 25 feet W of MH-28. Surface elevation 15 feet.

---

ASHLEY FM	0-20	Calcarenite, fine-grained, olive-brown
	20-21	Phosphate pebble bed

.....  
PARKERS        21-27    Calcilutite, blue-green, very stiff and dense  
FERRY FM

---

Base of Ashley Formation: -6 feet below sea level  
Bottomed in Parkers Ferry Formation

MH-45: 0.35 miles W of east quad. border, 2.95 miles S of north quad. border.  
Surface elevation about 15 feet.

---

TEN MILE HILL BEDS	0-10	Clay, medium-gray, sticky, contains medium-brown lumps, grading to medium-blue at 9 feet with medium-green lumps
	10-15	Sand, medium-grained, black, grading down to black silt with wood fragments

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GOOSE CREEK LS	15-31	Calcarenite, medium-grained, light brown, contains numerous <u>Pecten eboreus</u> fragments, phosphate pebble bed at base
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PARKERS FERRY FM	31-35	Calcilutite, medium-green, contains echinoid spines
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Base of Ten Mile Hill beds:           ±0 feet at sea level  
Base of Goose Creek Limestone:   -15 feet below sea level  
Bottomed in Parkers Ferry Formation

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MH-46: 0.5 miles E of west quad. border, 0.9 miles N of south quad. border.  
Surface elevation 50 feet.

---

LADSON FM	0-5	Sand, coarse-grained, medium-reddish-orange grading down to medium-gray, angular, clayey
	5-7	Clay, medium-gray and medium-red mottled
	7-19	Sand, fine-grained, light-gray grading through medium-yellow to medium-gray, silty, micaceous, phosphate pebble bed at base

---

CHANDLER BRIDGE FM	19-36	Sand, fine-grained, dark-greenish-gray, well sorted; sand-size phosphate abundant; discoidal polished quartz pebbles, sharks' teeth, and barnacle fragments present
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ASHLEY FM	36-60	Calcarenite, fine-grained, olive-brown, denser than above, contains large forams
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Base of Ladson Formation:           +31 feet above sea level  
Base of Chandler Bridge Formation: +14 feet above sea level  
Bottomed in Ashley Formation

MH-47: 2.5 miles E of west quad. border, 1.95 miles N of south quad. border.  
Surface elevation 16 feet.

---

WANDO FM	0-2	Clay, dark-gray, soft, greasy, rich in organic matter
(UPPER MEM)		
.....		
ASHLEY FM	2-121	Calcarenite, fine-grained, white in upper foot grading to olive-brown, clayey below 110, phosphate pebble bed at base
.....		
HARLEYVILLE FM	121-198	Calcarenite, very fine grained, medium-brownish-gray, silty, contains thin lime-cemented lenses toward base, basal 11 feet full of phosphate pebbles
.....		
CROSS FM	198-208	Calcarenite, fine-grained, light-yellow, well cemented

---

Base of Wando Formation (upper member): +14 feet above sea level  
Base of Ashley Formation: -105 feet below sea level  
Base of Harleyville Formation: -182 feet below sea level  
Bottomed in Cross Formation

---

MH-48: 3.5 miles E of west quad. border, on south quad. border. Surface elevation 20 feet.

---

LADSON FM	0-5	Sand, fine-grained, medium-orangish-brown, silty
	5-10	Sand, fine-grained, light-gray, clayey, scattered quartz pebbles present
.....		
ASHLEY FM	10-58	Calcarenite, fine-grained, light-brown grading down to olive-brown by 20 feet, calcite lumps from 15 to 20 feet, sparse oyster shells near base

---

Base of Ladson Formation: +10 feet above sea level  
Bottomed in Ashley Formation

MH-49: 1.8 miles W of east quad. border, 0.2 miles N of south quad. border.  
Surface elevation 20 feet.

---

LADSON FM	0-5	Sand, coarse-grained, medium-gray and white mottled, pebbly
.....		
ASHLEY FM	5-60	Calcarenite, fine-grained, olive-brown, upper 20 feet contains calcite-cemented lumps, phosphate pebble bed at base; one pebble was a phosphatized bryozoan colony
.....		
PARKERS FERRY FM?	60-75	Calcarenite, fine-grained, medium-bluish-brown, less dense than above; phosphate pebble bed at 69 feet

---

Base of Ladson Formation: +15 feet above sea level  
Base of Ashley Formation: -40 feet below sea level  
Bottomed in Parkers Ferry(?) Formation

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MH-50: 1.15 miles W of east quad. border, 1.5 miles N of south quad. border.  
Surface elevation 40 feet.

---

LADSON FM	0-10	Sand, coarse-grained, medium-red and medium-brown mottled, clayey
	10-15	Clay, medium-gray, contains pockets of coarse-grained sand
	15-23	Sand, coarse-grained grading down to fine-grained and clayey; 5 cm diameter quartz discoids scattered near base; dark-brown peaty clay lens at base
.....		
ASHLEY FM	23-67	Calcarenite, fine-grained, olive-brown, very phosphatic near base, impenetrable pebble bed at base

---

Base of Ladson Formation: +17 feet above sea level  
Base of Ashley Formation: -27 feet below sea level  
Bottomed on Parkers Ferry Formation

MH-51: 2.5 miles W of east quad. border, 1.2 miles N of south quad. border.  
Surface elevation 33 feet.

---

LADSON FM	0-6	Sand, coarse-grained, medium-orange and medium-red mottled grading down to medium-gray, very clayey, finer toward base
	6-11	Clay, medium-gray, contains scattered coarse quartz sand grains and angular white granules (K-feldspar?)

---

ASHLEY FM	11-76	Calcarenite, fine-grained, light-brown (11-18) grading down to olive-brown, phosphate pebble bed at base; small amount of medium-bluish-green calcilutite on tip of drill bit
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Base of Ladson Formation: +22 feet above sea level  
Base of Ashley Formation: -43 feet below sea level  
Bottomed on Parkers Ferry Formation

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MH-52: 2.3 miles W of east quad. border, 4.3 miles S of north quad. border.  
Surface elevation 40 feet.

---

LADSON FM	0-10	Sand, coarse-grained, medium-red and medium-orange mottled grading down to medium-orange, angular at top grading down to subangular, clayey, very fine grained heavy minerals present near base
	10-11	Clay, medium-gray
	11-15	Sand, coarse-grained, medium-orange, subangular, very fine grained heavy minerals present

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PARKERS FERRY FM	15-40	Calcilutite, medium-bluish-gray, contains echinoid spines
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Base of Ladson Formation: +25 feet above sea level  
Bottomed in Parkers Ferry Formation

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MH-53: 2.8 miles W of east quad. border, 3.0 miles S of north quad. border.  
Surface elevation 45 feet.

---

LADSON FM	0-9	Clay, medium-red and medium-orange mottled grading down to medium-gray, contains coarse, angular sand grains, grades to:
	9-12	Sand, coarse-grained, sugary

---

PARKERS FERRY FM	12-20	Calcilutite, medium-bluish-gray with medium-brown mottles, contains echinoid spines, upper foot weathered white
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Base of Ladson Formation: +33 feet above sea level  
Bottomed in Parkers Ferry Formation

MH-54: 2.7 miles W of east quad. border, 1.05 miles S of north quad. border.  
Surface elevation 48 feet.

---

LADSON FM	0-6	Sand, coarse-grained, medium-red and medium-brown mottled, clayey, muscovitic, phosphate pebbles at base
.....		
PARKERS FERRY FM	6-20	Calcilutite, medium-blue with medium-brown mottles, echinoid spines abundant in upper 5 feet

---

Base of Ladson Formation: +42 feet above sea level  
Bottomed in Parkers Ferry Formation

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MH-55: 1.6 miles W of east quad. border, 2.35 miles S of north quad. border.  
Surface elevation 33 feet.

---

TEN MILE HILL BEDS	0-10	Clay, medium-gray, loamy in upper two feet, below that has platy laminae
.....		
LADSON FM	10-32	Sand, very coarse-grained, light-gray, sparse very fine grained heavy minerals and quartz pebbles present
.....		
PARKERS FERRY FM	32-40	Calcilutite, medium-bluish-green, echinoid spines present

---

Base of Ten Mile Hill beds: +23 feet above sea level  
Base of Ladson Formation: +1 foot above sea level  
Bottomed in Parkers Ferry Formation

---

MH-56: 0.9 miles E of west quad. border, 2.25 miles N of south quad. border.  
Surface elevation 45 feet.

---

PENHLOWAY FM	0-18	Sand, medium-grained, medium-orange grading down to medium-blue near base, gets clayey downward, phosphate pebble bed and shells at base
.....		
ASHLEY FM	18-65	Calcarenite, fine-grained, olive-brown, phosphatic

---

Base of Penholoway Formation: +27 feet above sea level  
Bottomed in Ashley Formation

MH-57: 3.0 miles E of west quad. border, 2.75 miles S of north quad. border.  
Surface elevation 45 feet.

---

FILL	0-10	Road base
.....		
ASHLEY FM	10-31	Calcarenite, fine-grained, olive-brown, very phosphatic 18-31, phosphate pebble bed at base
.....		
PARKERS FERRY FM	31-40	Calcilutite, medium-bluish-green, echinoid spines present

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Base of Ashley Formation: +14 feet above sea level  
Bottomed in Parkers Ferry Formation

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MH-58: 2.25 miles S of north quad. border, 1.9 miles E of west quad. border.  
Surface elevation 53 feet.

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ALLUVIUM	0-6	Sand, coarse-grained, medium-orange
.....		
PENHOLLOWAY FM	6-27	Clay, medium-blue, sandy, muscovitic, shelly, phosphate pebble bed at base
.....		
ASHLEY FM	27-78	Calcarenite, fine-grained, olive-brown, calcite lumps scattered throughout, phosphate pebble bed at base
.....		
PARKERS FERRY FM	78-85	Calcilutite, medium-bluish-green

---

Base of Alluvium: +47 feet above sea level  
Base of Penholoway Formation: +26 feet above sea level  
Base of Ashley Formation: -25 feet below sea level  
Bottomed in Parkers Ferry Formation

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MH-59: 2.75 miles E of west quad. border, 3.9 miles N of south quad. border.  
Surface elevation 50 feet.

---

LADSON FM	0-10	Sand, coarse-grained, medium-gray, angular, fines downward to:
	10-13	Sand, fine-grained, medium-yellow, silty, scattered very fine grained heavy minerals present
.....		
ASHLEY FM	13-72	Calcarenite, fine-grained, olive-brown, phosphate pebble bed at base
.....		
PARKERS FERRY FM	72-75	Calcilutite, medium-blue

---

Base of Ladson Formation: +37 feet above sea level  
Base of Ashley Formation: -22 feet below sea level  
Bottomed in Parkers Ferry Formation

MH-60: 2.85 miles E of west quad. border, 3.65 miles S of north quad. border.  
Surface elevation 53 feet.

---

LADSON FM	0-8	Sand, fine-grained, medium-yellow, silty, scattered very fine grained heavy minerals present
	8-17	Sand, fine-grained, medium-orange and medium-gray mottled, clayey, phosphate pebble bed at base

.....  
ASHLEY FM      17-66    Calcarenite, fine-grained, olive-brown, contains calcite lumps, phosphate pebble bed at base

.....  
PARKERS            66-70    Calcilutite, medium-blue, echinoid spines present  
FERRY FM

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Base of Ladson Formation: +36 feet above sea level  
Base of Ashley Formation: -13 feet below sea level  
Bottomed in Parkers Ferry Formation

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MH-61: 3.55 miles E of west quad. border, 0.5 miles S of north quad. border.  
Surface elevation 63 feet.

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PENHLOWAY	0-3	Sand, coarse-grained, medium-orange, silty
FM	3-5	Sand, medium-grained, medium-orange, clayey
	5-13	Sand, fine-grained, medium-orangish-red grading down to medium-yellow, silty
	13-56	Sand, fine-grained, medium-blue to medium-bluish-green, silty to clayey, scattered shells present, sand becomes cleaner in basal 5 feet but no phosphate pebble bed present

.....  
PARKERS            56-60    Calcilutite, medium-greenish-gray, echinoid spines present, burrows at top contain sand

---

Base of Penholoway Formation: +7 feet above sea level  
Bottomed in Parkers Ferry Formation



MH-65: 1.1 miles W of east quad. border, 1.0 miles S of north quad. border.  
Surface elevation 24 feet.

---

TEN MILE HILL BEDS	0-4	Clay, medium-gray, tough
	4-12	Sand, medium-grained grading down to coarse-grained, medium-gray, slightly clayey
GOOSE CREEK LS	12-15	Calcarenite, medium-grained, medium-yellow, phosphatic, <u>Argopecten eboreus</u> fragments abundant
	15-51	Calcarenite, medium-grained, medium-blue, <u>Argopecten eboreus</u> abundant, lumps of calcilutite present near base, phosphate pebble bed at base
PARKERS FERRY FM	51-55	Calcilutite, medium-green, very stiff, echinoid spines present, upper two feet burrowed and filled with Goose Creek Limestone lithology

---

Base of Ten Mile Hill beds: +12 feet above sea level  
Base of Goose Creek Limestone: -27 feet below sea level  
Bottomed in Parkers Ferry Formation

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MH-66: 1.25 miles E of west quad. border, 1.6 miles N of south quad. border.  
Surface elevation about 40 feet.

---

LADSON FM	0-5	Sand, fine-grained, medium-orange and medium-gray streaked, clayey, dense
	5-9	Sand, medium-grained grading down to coarse-grained, medium-orange and medium-gray, angular, silty, pebbly
CHANDLER BRIDGE FM	9-25	Sand, fine-grained, medium-gray grading down to dark-greenish-gray, phosphatic, barnacle fragments present
ASHLEY FM	25-30	Calcarenite, fine-grained, olive-brown, phosphatic

---

Base of Ladson Formation: +31 feet above sea level  
Base of Chandler Bridge Formation: +15 feet above sea level  
Bottomed in Ashley Formation

---

MH-67: 2.2 miles E of west quad. border, 2.35 miles N of south quad. border.  
Surface elevation 45 feet.

---

LADSON FM	0-5	Sand, fine-grained, medium-reddish-orange, medium-red, and medium-gray mottled, clayey, dense
	5-7	Clay, medium-red, white phosphate pebbles at base
ASHLEY FM	7-35	Calcarenite, fine-grained, olive-brown

---

Base of Ladson Formation: +38 feet above sea level  
Bottomed in Ashley Formation



MH-70: 2.2 miles W of east quad. border, 2.45 miles S of north quad. border.  
Surface elevation 20 feet.

---

TEN MILE HILL BEDS	0-5	Clay, light-orangish-brown grading down to medium-gray, sandy at top and plinthitic, black wood fragments present near base
	5-8	Clay, medium-gray and medium-orange mottled, contains hard medium-green lumps
	8-11	Sand, coarse-grained, medium-gray and medium-brown mottled, clayey, contains angular granules, poorly sorted
.....		
PARKERS FERRY FM	11-25	Calcilutite, medium-bluish-green grading down to medium-bluish-green and medium-greenish-gray mottled, dense, echinoid spines present

---

Base of Ten Mile Hill beds: +9 feet above sea level  
Bottomed in Parkers Ferry Formation

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MH-71: 3.1 miles E of west quad. border, 1.3 miles S of north quad. border.  
Surface elevation 79 feet.

---

PENHOLOWAY FM	0-5	Sand, medium- to coarse-grained, medium-orange grading down to medium-gray, poorly sorted, moderately well rounded, clayey, stiff
	5-8	Sand, coarse-grained, medium-orangish-brown, poorly sorted, angular, pebbly
	8-12	Clay, light-gray, dense, plastic
	12-22	Sand, fine-grained, light-brown to light-orange, silty, soft, contains abundant very fine grained heavy minerals
	22-24	Clay, medium-bluish-gray, micaceous
	24-34	Sand, fine-grained, medium-bluish-gray, silty, contains clay lenses, shelly below 30 feet
.....		
ASHLEY FM	34-35	Calcarenite, fine-grained, light-brown

---

Base of Penholoway Formation: +45 feet above sea level  
Bottomed in Ashley Formation

MH-72: 1.05 miles E of west quad. border, 1.2 miles S of north quad. border.  
Surface elevation 89 feet.

---

PENHOLLOWAY FM	0-5	Sand, fine-grained, medium-orange and medium-gray banded, well sorted, clayey
	5-10	Sand, fine-grained, medium-gray, well sorted very fine grained heavy minerals abundant
	10-45	Sand fine- to medium-grained, medium-gray, poorly sorted, medium-gray clay lense at top; shelly below 30 feet; denser and finer grained with medium-green clay lumps below 36 feet
	45-46	Sand, coarse-grained, medium-gray, phosphate pebbles abundant

.....  
ASHLEY FM      46-50    Calcarenite, fine-grained, light-brown, very phosphatic

---

Base of Penholoway Formation: +43 feet above sea level  
Bottomed in Ashley Formation

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MH-73: 0.3 miles E of west quad. border, 0.25 miles S of north quad. border.  
Surface elevation 85 feet.

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PENHOLLOWAY FM	0-5	Sand, fine-grained, dark-brown, humate-rich, well sorted, grades to:
	5-10	Sand, medium-grained, light-gray, poorly sorted, contains scattered granules, grades to:
	10-11	Sand, coarse-grained, contains granules and kaolinite ghosts of K-spar grains
	11-23	Clay, dark-gray, silty, soft
	23-33	Clay, dark-gray, sandy, shelly, grades to
33-41	Sand, fine-grained, dark-gray, shelly	

.....  
ASHLEY FM      41-45    Calcarenite, fine-grained, light-brown grading down to olive-brown, contains calcite-cemented lumps

---

Base of Penholoway Formation: +44 feet above sea level  
Bottomed in Ashley Formation

MH-74: 1.6 miles E of west quad. border, 0.15 miles N of south quad. border.  
Surface elevation about 35 feet.

---

LADSON FM	0-8	Clay, medium-red and medium-gray mottled, sandy, grading down to medium-gray clay, quartz discoidal pebble bed at base
.....		
PENHOLLOWAY FM	8-14	Sand, fine-grained, light-brown, poorly sorted, pebble bed of quartz and phosphate at base
.....		
CHANDLER BRIDGE FM	14-19	Sand, fine-grained, dark-greenish-gray, very phosphatic
.....		
ASHLEY FM	19-30	Calcarenite, fine-grained (finer than above), olive-brown, large forams abundant

---

Base of Ladson Formation: +27 feet above sea level  
 Base of Penholoway Formation: +21 feet above sea level  
 Base of Chandler Bridge Formation: +16 feet above sea level  
 Bottomed in Ashley Formation

---

MH-75: 0.45 miles E of west quad. border, 3.25 miles N of south quad. border.  
Surface elevation 79 feet.

---

PENHOLLOWAY FM	0-5	Sand, fine-grained, medium-red grading down to medium-yellowish-orange and light-gray mottled, clayey, micaceous
	5-14	Sand, fine-grained and medium-grained interbedded, scattered very fine grained heavy minerals present, light-brown except for a medium-reddish-orange interval from 8-9 feet, sparse white clay blobs (9-10) and numerous (about 2 cm diam.) white clay balls (10-14) present
	14-23	Clay, medium-red at top grading down to medium-bluish-gray by base, very micaceous
	23-30	Sand, fine-grained, medium-bluish-gray, clayey
	30-45	Sand, fine-grained, medium-bluish-gray, clayey, shelly (mostly <u>Mulinia</u> but also sparse oysters and other bivalves); medium-blue clay lense at 40 feet
	45-50	Sand, coarse-grained, medium-bluish-gray, not as shelly as above, phosphate pebble bed at base
.....		
ASHLEY FM	50-60	Calcarenite, fine-grained, olive-brown, phosphatic

---

Base of Penholoway Formation: +29 feet above sea level  
 Bottomed in Ashley Formation

MH-76: 0.1 miles W of east quad. border, 4.1 miles N of south quad. border.  
Surface elevation 30 feet.

---

TEN MILE HILL BEDS	0-5	Sand, fine-grained, medium-red and medium-gray mottled, clayey, dense, grades to:
	5-10	Clay, medium-gray, sandy, dense
	10-13	Sand, fine-grained, light-orange, clayey
	13-15	Clay, medium-gray, sandy, stiff
	15-21	Sand, medium-grained, light-brown, poorly sorted
	21-25	Sand, medium-grained, medium-blue, and clayey peat, dark-brown, interbedded
	25-28	Sand, fine-grading down to medium-grained, dark-brown, humic, poorly sorted
.....		
GOOSE CREEK LS	28-37	Calcarenite, medium-grained, light-brown, phosphatic, soft, calcite-cemented lumps and <u>Argopecten eboreus</u> fragments present, sparse phosphate pebbles at base
.....		
PARKERS FERRY FM	37-50	Calcilutite, medium-bluish-green, echinoid spines present

---

Base of Ten Mile Hill beds: +2 feet above sea level  
Base of Goose Creek Limestone: -7 feet below sea level  
Bottomed in Parkers Ferry Formation

---

MH-77: 0.9 miles W of east quad. border, 4.1 miles N of south quad. border.  
Surface elevation 28 feet.

---

TEN MILE HILL BEDS	0-9	Clay, medium-red and medium-gray mottled, sandy, stiff
.....		
GOOSE CREEK LS	9-28	Calcarenite, medium-grained, light-brown, phosphatic, soft, calcite-cemented lumps and <u>Argopecten eboreus</u> present, grades to:
	28-43	Calcarenite, medium-grained, light-bluish-gray, phosphate pebble bed at base
.....		
PARKERS FERRY FM	43-45	Calcilutite, medium-greenish-gray, stiff, burrowed and burrows filled with overlying lithology

---

Base of Ten Mile Hill beds: +19 feet above sea level  
Base of Goose Creek Limestone: -15 feet below sea level  
Bottomed in Parkers Ferry Formation

MH-78: 0.55 miles W of east quad. border, 3.3 miles N of south quad. border.  
Surface elevation 24 feet.

---

TEN MILE HILL BEDS	0-5	Clay, medium-red and medium-gray mottled, stiff, sandy, grading down to sand, fine-grained, medium-red and medium-gray mottled, stiff, clayey
	5-10	Clay, medium-bluish-green, stiff, contains hard medium-green lumps
	10-15	Clay, medium-blue, sticky, smooth texture
	15-24	Clay, medium-blue, contains numerous oysters and possibly some <u>Mulinia</u> at base
	24-26	Sand, coarse-grained, medium-blue

.....  
PARKERS FERRY FM 26-35 Calcilutite, medium-bluish-green, dense, echinoid spines present

---

Base of Ten Mile Hill beds: -2 feet below sea level  
Bottomed in Parkers Ferry Formation

---

MH-79: 3.4 miles W of east quad. border, 2.05 miles N of south quad. border.  
Surface elevation about 42 feet.

---

LADSON FM	0-10	Sand, fine-grained, clayey, to clay, sandy, medium-red and medium-orange mottled
	10-14	Clay, silty, scattered coarse sand grains and muscovite flakes present

.....  
ASHLEY FM 14-20 Calcarenite, fine-grained, dark-yellowish-brown

---

Base of Ladson Formation: +28 feet above sea level  
Bottomed in Ashley Formation

MH-80: 1.85 miles E of west quad. border, 4.25 miles S of north quad. border.  
Surface elevation 67 feet.

---

FILL	0-3	Road base
.....		
PENHOLLOWAY FM	3-7	Sand, coarse- to medium-grained, bright medium-red and medium-yellow mottled, clayey, rare medium-gray clay laminae present
	7-9	Clay, medium-reddish-yellow and medium-gray mottled, sandy
	9-18	Sand, medium-grained, medium-gray, becomes more clay-rich downward
	18-34	Sand, medium-grained, medium-bluish-gray, sparsely shelly, phosphate pebbles abundant in basal 3 feet
.....		
ASHLEY FM	34-35	Calcarenite, fine-grained, olive-brown

---

Base of Penholoway Formation: +33 feet above sea level  
Bottomed in Ashley Formation

---

MH-81: 1.2 miles E of west quad. border, 3.3 miles S of north quad. border.  
Surface elevation 84 feet.

---

PENHOLLOWAY FM	0-13	Sand, medium- to coarse-grained, some quartz granules present, medium-gray, scattered very fine grained heavy minerals present
	13-15	Sand, fine-grained, light-olive-gray, clean
	15-16	Clay, medium-greenish-black, sandy
	16-18	Sand, medium-grained, dark-greenish-gray, muscovitic
	18-20	Clay, dark-greenish-gray
	20-24	Sand, fine-grained, silty and clayey, dark-greenish-gray
	24-29	Sand, medium-grained, dark-olive-gray, slightly clayey
	29-29.5	Clay, sandy, dark-greenish-gray
	29.5-35	Silt, slightly sandy to clayey, dark-greenish-black, increasingly shelly downward
	35-39	Sand, coarse-grained, muddy, dark-greenish-black, shelly
.....		
MARKS HEAD FM	39-45	Clay, dark-greenish-gray, waxy, somewhat gritty and sparsely shelly at base
.....		
ASHLEY FM	at 45	Calcarenite, fine-grained, white, abundant sand-size and pebble-size phosphate (up to 2 cm)

---

Base of Penholoway Formation: +45 feet above sea level  
Base of Marks Head Formation: +39 feet above sea level  
Bottomed in Ashley Formation

MH-82: 0.5 miles E of west quad. border, 1.65 miles S of north quad. border.  
 Surface elevation 90 feet.

---

PENHOLOWAY FM	0-18	Sand, fine-grained, medium-reddish-orange, scattered very fine grained heavy minerals present
	18-22	Sand, fine-grained, medium-greenish-gray, rare clay lenses present,
	22-28	Silt, sandy, medium-greenish-gray
	28-38	Sand, fine- to medium-grained, medium-greenish-gray, very fine grained heavy minerals and muscovite abundant, clay lenses present
	38-45	Sand, medium-grained, medium-greenish-gray, shelly
MARKS HEAD FM	45-49	Clay, dense, medium-green, silty
ASHLEY FM	49-50	Calcarenite, fine-grained, light-brown, contains calcite-cemented lumps

---

Base of Penholoway Formation: +45 feet above sea level  
 Base of Marks Head Formation: +41 feet above sea level  
 Bottomed in Ashley Formation

---

MH-83: 3.6 miles E of west quad. border, on north quad. border. Surface elevation 65 feet.

---

PENHOLOWAY FM	0-19	Sand, medium-grained, medium-gray with medium-yellow mottles, clayey
	19-26	Sand, medium-grained, dark-bluish-gray, clayey, shelly
PARKERS FERRY FM	26-30	Calcilutite, medium-bluish-gray and medium-brownish-gray mottled

---

Base of Penholoway Formation: +39 feet above sea level  
 Bottomed in Parkers Ferry Formation



MH-87: 1.95 miles W of east quad. border, 3.2 miles S of north quad. border.  
Surface elevation 15 feet.

---

WANDO FM            0-15    Clay, dark-gray, getting sandy downward and grading  
(UPPER MEM)            to a basal coarse-grained sand, basal gravel contains  
quartz discoids and phosphate lumps. Possibly lower  
part of section is pre-Wando, but no boundary was  
observed

---

PARKERS            15-89    Calcilutite, medium-greenish-gray, echinoid spines  
FERRY FM            present, thin phosphate pebble bed at base

---

HARLEYVILLE    89-140    Calcarenite, very fine grained, medium-brownish-gray,  
FM            contains thin lime-cemented lenses, phosphate pebble  
bed at base

---

CROSS LS           140-145    Calcarenite, fine-grained, very light gray, well  
cemented, faulted near the top and a thin section of  
Harleyville is repeated

---

Base of Wando Formation:            ±0 feet at sea level  
Base of Parkers Ferry Formation:    -74 feet below sea level  
Base of Harleyville Formation:    -125 feet below sea level  
Bottomed in Cross Limestone



ST-4: 3.3 miles E of west quad. border, 1.2 miles S of north quad. border.  
Surface elevation 50 feet.

-----  
PENHOLLOWAY 0-5 Clay, light-gray and medium-red interlaminated,  
FM kaolinitic, interbedded with fine-grained silty sand  
-----

Base of exposure in Penholoway Formation

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ST-5: 2.35 miles W of east quad. border, 3.0 miles S of north quad. border.  
Surface elevation about 15 feet.

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Ditch with Chandler Bridge Fm. at base overlain by pebbly channel sands of Wando age. Section not measured precisely, total thickness approx. 4 feet for Wando Formation, 1 foot for Chandler Bridge.

-----  
ST-6: 2.6 miles W of east quad. border, 3.65 miles S of north quad. border.  
Bluff at Old Fort Dorchester. Surface elevation 15 feet.

-----  
WANDO FM 0-6 Sand, medium-grained, light-gray, weathered, lumps  
(UPPER MEM) of phosphate scattered throughout  
6-8 Sand, medium-grained, medium-blue, clayey, phosphate  
pebble and cobble bed at base, in troughs on top of  
Ashley

.....  
ASHLEY FM 6-15 Calcarenite, fine-grained, olive-brown, phosphatic  
shelly

-----  
Base of Wando Formation (upper member): +7 to +9 feet above sea level  
Bottomed in Ashley Formation





ST-13: 2.4 miles W of east quad. border, 3.45 miles S of north quad. border in tidal bluff at ford across Dorchester Creek. Surface elevation 6 feet.

---

SILVER BLUFF	0-2	Sand, medium-grained, medium-gray, poorly consolidated, humic
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.....  
ASHLEY FM      2-6      Calcarenite, fine-grained, olive-brown, dense

---

Base of Silver Bluff (Holocene): +4 feet above sea level  
Base of section in Ashley Formation

---

ST-14: 2.3 miles E of west quad. border, 3.5 miles S of north quad. border. Surface elevation 17 feet.

---

TEN MILE HILL BEDS	0-5	Sand, medium-grained, light-gray, well-sorted, badly weathered, phosphate pebble bed at base
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.....  
CHANDLER BRIDGE FM      5-7      Sand, fine-grained, medium-gray, well-sorted, bioturbated, very phosphatic, contains sea cow (dugong) and sea turtle bones, sharks teeth

7-8      Sand, fine-grained, clayey, dark-yellowish-brown, soft, very phosphatic

.....  
ASHLEY FM      8-9      Calcarenite, fine-grained, olive-brown, phosphatic, dense

---

Base of Ten Mile Hill beds:                    +12 feet above sea level  
Base of Chandler Bridge Formation:       +9 feet above sea level  
Bottom of ditch in Ashley Formation

ST-15: 2.1 miles S of north quad. border, 3.4 miles E of west quad. border.  
Surface elevation 53 feet.

---

LADSON FM	0-12	Sand, medium-grained, light-yellow, poorly compacted
	12-16	Clay, light-gray, well laminated
	16-22	Sand, medium-grained to coarse-grained, yellowish-gray to light-olive-gray, clayey
.....		
	22-30	Sand, medium-grained, dark-greenish-gray (medium-gray where weathered), phosphatic, sparsely shelly, phosphate pebble bed at base
.....		
CHANDLER BRIDGE FM	30-32	Sand, fine-grained, dark-greenish-gray (medium-gray where weathered), bioturbated, contains whale bones and sharks teeth
.....		
ASHLEY FM	32-40	Calcarenite, fine-grained, olive-brown, phosphatic, dense

---

Base of Ladson Formation: +23 feet above sea level  
Base of Chandler Bridge Formation: +21 feet above sea level  
Bottom of pit in Ashley Formation

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ST-16: 1.6 miles W of east quad. border, 2.2 miles S of north quad. border at Charleston Museum excavation site (Type section of the Chandler Bridge Formation). Surface elevation 18 feet.

---

TEN MILE HILL BEDS	0-1	Sand, medium-grained, medium-gray, clayey, dense
	1-4	Sand, medium-grained, medium-gray, angular, massive, clayey, well compacted, contains basal quartz and phosphate pebble bed 1 cm thick
.....		
CHANDLER BRIDGE FM	4-6	Sand, medium-grained, medium-gray, very phosphatic, massive, clayey, well compacted; abundant subrounded to subangular lumps of phosphate present (Bed 3)
	6-7	Sand, fine-grained, medium-gray, very phosphatic, bioturbated, clayey, moderately compacted; abundant subrounded to subangular lumps of phosphate present (Bed 2)
	7-8	Sand, fine-grained, dark-yellowish-brown, massive, clayey, slightly calcareous, moderately compacted; rests on a sharply defined, undulatory surface (Bed 1)
.....		
ASHLEY FM	8-9	Calcarenite, fine-grained, olive-brown, bioturbated, well-compacted but not lithified; contains fine-grained phosphate and quartz sand

---

Base of Ten Mile Hill beds: +14 feet above sea level  
Base of Chandler Bridge Formation: +10 feet above sea level  
Bottomed in Ashley Formation

ST-17: 1.05 miles W of east quad. border, 1.15 miles S of north quad. border.  
Surface elevation 62 feet.

---

LADSON FM	0-8.5	Sand, medium-grained, light-yellowish-brown with dark-yellowish-orange mottled near surface, grading down to light-yellowish-brown and medium-gray interbedded, slightly clayey
	8.5-11	Clay, medium-gray, and sand, fine-grained, medium-yellowish-gray, interlayered
	11-20	Clay, medium-gray, massive
.....		
PENHOLOWAY FM	20-30	Clay, silty, dark-greenish-gray with numerous shells; stringers of coarse-grained sand near base
	30-34	Clay, light-blue, numerous lumps of rolled and polished black phosphate present
.....		
CHANDLER BRIDGE FM	34-38	Sand, fine-grained, dark-greenish-gray with light-brown lumps of phosphate
.....		
ASHLEY FM	38-40	Calcarenite, fine-grained, dark-greenish-gray, abundant sand-sized phosphate and lumps of calcite present

---

Base of Ladson Formation: +42 feet above sea level  
Base of Penholoway Formation: +28 feet above sea level  
Base of Chandler Bridge Formation: +24 feet above sea level  
Bottomed in Ashley Formation

---

ST-18: 0.8 miles W of east quad. border, 2.75 miles S of north quad. border.  
Surface elevation 51 feet (road cut for top 15 feet, rest from auger hole).

---

LADSON FM	0-9	Sand, medium-grained, medium-orange, clayey
	9-15	Sand, medium-grained, white, thin clayey interlaminae present which thicken to about 1 cm each by base
	15-23	Sand, mostly fine-grained but some medium-grained, dark-yellowish-orange, clayey
	23-24	Sand, medium-grained, olive-gray, contains grains and pebbles of phosphate and sparse oyster shells
.....		
ASHLEY FM	24-29	Calcarenite, fine-grained, olive-brown, contains sand-size phosphate

---

Base of Ladson Formation: +27 feet above sea level  
Bottomed in Ashley Formation



ST-22: 2.65 miles W of east quad. border, 1.95 miles S of north quad. border.  
Surface elevation 23 feet.

---

TEN MILE	0-4	Sand, medium-grained, medium-bluish-gray, clayey
HILL BEDS	4-7	Sand, medium-grained, medium-bluish-gray, stringers of dark-yellowish-brown clay at base (Chandler Bridge?)
.....		
ASHLEY FM	7-10	Calcarenite, fine-grained, olive-green, clayey

---

Base of Ten Mile Hill beds: +16 feet above sea level  
Base of Chandler Bridge(?) Formation: +16 feet above sea level  
Bottomed in Ashley Formation

---

ST-23: 2.65 miles W of east quad. border, 0.25 miles S of north quad. border.  
Surface elevation 69 feet.

---

PENHOLOWAY	0-3.5	Sand, medium-grained, medium-orange, clayey
FM	3.5-9.0	Clay, sandy, dark-brownish-red with medium-gray mottles, sticky
	9.0-14.5	Clay, silty, dark-brownish-red with medium-gray mottles, soupy texture
	14.5-29.5	Sand, medium-grained, clayey, dark-bluish-gray to dark-greenish-gray, shelly and micaceous below 22.5 feet
	29.5-37.0	Clay, plastic, bright medium-bluish-gray, large lumps of phosphate present below 34 feet
.....		
ASHLEY FM	37-40	Calcarenite, fine-grained, olive-green, massive

---

Base of Penholoway Formation: +32 feet above sea level  
Bottomed in Ashley Formation

---

ST-24: 0.15 miles W of east quad. border, 0.95 miles S of north quad. border.  
Surface elevation 49 feet.

---

PENHOLOWAY	0-23	Sand, medium-grained, clayey, light-bluish-gray to light-greenish-gray, shelly, sparse phosphate pebbles at base
FM		
.....		
ASHLEY FM	23-40	Calcarenite, fine-grained, dark-olive-green, clayey, calcite-cemented lumps present

---

Base of Penholoway Formation: +26 feet above sea level  
Bottomed in Ashley Formation

ST-25: 0.75 miles W of east quad. border, 1.85 miles S of north quad. border.  
Surface elevation 28 feet.

---

FILL	0-2	Road base
.....		
TEN MILE HILL BEDS	2-11.5	Sand, coarse-grained, light-brownish-gray grading down to dark-gray, slightly clayey, poorly compacted
.....		
CHANDLER BRIDGE FM	11.5-12	Clay, dark-yellowish-brown
.....		
ASHLEY FM	12-15	Calcarenite, fine-grained, olive-green, clayey

---

Base of Ten Mile Hill beds: +17 feet above sea level  
Base of Chandler Bridge Formation: +16 feet above sea level  
Bottomed in Ashley Formation

---

ST-26: 1.65 miles W of east quad. border, 3.95 miles S of north quad. border.  
Surface elevation 24 feet.

---

TEN MILE HILL BEDS	0-12	Clay, sandy, medium-orange with medium-gray mottles, quartz and phosphate pebbles (2 cm diameter) at base
.....		
ASHLEY FM	12-20	Calcarenite, fine-grained, olive-green, clayey

---

Base of Ten Mile Hill beds: +12 feet above sea level  
Bottomed in Ashley Formation

---

ST-27: 0.95 miles W of east quad. border, 1.65 miles S of north quad. border.  
Surface elevation 43 feet.

---

LADSON FM	0-1	Soil
	1-3	Clay, medium-gray, sticky
	3-16	Sand, medium-grained, medium-yellow, clayey, poorly compacted
	16-23.5	Sand, medium-grained, medium-gray grading down to dark-gray, clayey, poorly compacted, basal 2 feet contains phosphate pebbles and quartz discoids
.....		
PENHOLLOWAY FM	23.5-28.5	Sand, fine-grained, dark-greenish-gray, clayey, basal 1.5 foot contains quartz discoids and phosphate pebbles
.....		
ASHLEY FM	28.5-35	Calcarenite, fine-grained, olive-green

---

Base of Ladson Formation: +18 feet above sea level  
Base of Penholoway Formation: +15 feet above sea level  
Bottomed in Ashley Formation

ST-28: 3.6 miles W of east quad. border, 0.75 miles S of north quad. border.  
Surface elevation 70 feet.

---

PENHOLOWAY	0-4	Sand, fine-grained, medium-red
FM	4-6	Clay, medium-gray
	6-16	Clay, medium-red, not very plastic at top but more so downward
	16-20	Sand, fine-grained, medium-red, very clayey
	20-24	Clay, medium-red
	24-33	Sand, medium-grained, light-greenish-gray, clayey, very shelly, rare blebs of blue clayey sand toward base and phosphate pebble bed in basal foot

.....

ASHLEY FM	33-40	Calcarenite, fine-grained, olive-green
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---

Base of Penholoway Formation: +37 feet above sea level  
Bottomed in Ashley Formation

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ST-29: 2.35 miles W of east quad. border, 2.6 miles S of north quad. border.  
Surface elevation about 22 feet.

---

FILL	0-1	Road base, soil horizon underneath
------	-----	------------------------------------

.....

TEN MILE	1-5	Clay, sandy, medium-orange and medium-red mottled, tough, breaks into small lumps
HILL BEDS	5-6.5	Sand, clayey, light-gray, well-compacted
	6.5-7	Sand, light-gray, poorly compacted, smear of brown clay at base (Chandler Bridge?)

.....

ASHLEY FM	7-12	Calcarenite, fine-grained, olive-brown
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Base of Ten Mile Hill beds: +15 feet above sea level  
Base of Chandler Bridge(?) Formation: +15 feet above sea level  
Bottomed in Ashley Formation

ST-30: 2.65 miles W of east quad. border, 1.05 miles S of north quad. border.  
Surface elevation 47 feet.

---

LADSON FM	0-5	Clay, medium-orange at top grading down through medium-gray to medium-red
	5-15.5	Sand, medium-grained, medium-reddish-orange grading down to medium-yellowish-orange, clayey, coarsens downward
.....		
PENHOLOWAY FM	15.5-17.5	Clay, medium-gray
	17.5-23.5	Silt, yellowish-orange, slightly sandy, medium-gray clay lumps scattered throughout, phosphate pebbles present in basal foot
.....		
CHANDLER BRIDGE FM	23.5-26	Sand, fine-grained, clayey, dark-yellowish-brown to dark-greenish-gray, sand-sized phosphate abundant
.....		
ASHLEY FM	26-30	Calcarenite, fine-grained, olive-green

---

Base of Ladson Formation: +31 feet above sea level  
 Base of Penholoway Formation: +24 feet above sea level  
 Base of Chandler Bridge Formation: +21 feet above sea level  
 Bottomed in Ashley Formation

---

ST-31: 1.75 miles W of east quad. border, 1.15 miles S of north quad. border.  
Surface elevation about 48 feet.

---

LADSON FM	0-3.5	Sand, fine-grained, medium-orangish-red, clayey
	3.5-10.5	Clay, massive, medium-red and medium-gray mottled
	10.5-19.5	Sand, medium-grained, clayey, light-orange grading down by 19 feet to medium-yellow
	19.5-23	Sand, fine-grained, medium-yellow, very silty, muscovitic
	23-23.5	Clay, medium-gray, plastic
	23.5-26	Sand, coarse-grained grading down to medium-grained, medium-orange grading down to medium-yellowish-orange, clayey and silty, quartz pebbles (about 0.5 cm diameter) at base
.....		
CHANDLER BRIDGE FM	26-31	Sand, fine-grained, dark-greenish-gray, contains lumps of phosphate in upper foot (burrow fill?). Stringer of medium-orange clay at basal contact
.....		
ASHLEY FM	31-35	Calcarenite, fine-grained, olive-brown

---

Base of Ladson Formation: +22 feet above sea level  
 Base of Chandler Bridge Formation: +17 feet above sea level  
 Bottomed in Ashley Formation

ST-32: 1.7 miles E of west quad. border, 0.95 miles N of south quad. border.  
Surface elevation about 8 feet.

---

FILL	0-2	Road base
.....		
SILVER BLUFF	2-6	Sand, fine-grained, medium-gray, very clayey, massive, sticky
.....		
WANDO FM	6-8.5	Sand, fine- to medium-grained, light-gray, clayey
(UPPER MEM)	8.5-16	Sand, medium- grading down to coarse-grained, light- greenish-gray, micaceous, phosphate pebble bed at base
.....		
ASHLEY FM	16-20	Calcarenite, fine-grained, olive-brown

---

Base of Silver Bluff (Holocene): +2 feet above sea level  
Base of Wando Formation (upper member): -8 feet below sea level  
Bottomed in Ashley Formation

---

ST-33: 2.2 miles E of west quad. border, 1.45 miles N of south quad. border.  
Surface elevation about 11 feet.

---

WANDO FM (UPPER MEM)	0-3	Sand, fine-grained, dark-gray, clayey, humic, phosphate pebble and cobble bed at base; some cobbles contain molds of <u>Ostrea haitensis</u>
.....		
CHANDLER BRIDGE FM	3-4	Sand, fine-grained, light-gray mottled medium-orange, clayey
.....		
ASHLEY FM	4-6	Calcarenite, fine-grained, light-brown and partly cemented

---

Base of Wando Formation (upper member): +8 feet above sea level  
Base of Chandler Bridge Formation: +7 feet above sea level  
Bottomed in Ashley Formation

---

ST-34: 2.6 miles E of west quad. border, 1.9 miles N of south quad. border.  
Surface elevation about 24 feet.

---

TEN MILE HILL BEDS	0-3.5 3.5-17	Sand, fine-grained, medium-orange Clay, medium-bluish-gray, massive, plastic, micaceous below 7 feet, two sand lenses below 7 feet, woody below 11 feet
.....		
ASHLEY FM	17-20	Calcarenite, fine-grained, olive-brown

---

Base of Ten Mile Hill beds: +7 feet above sea level  
Bottomed in Ashley Formation

ST-35: 2.95 miles E of west quad. border, 2.3 miles N of south quad. border.  
Surface elevation about 11 feet.

-----  
WANDO FM            0-4     Clay, medium-gray and medium-orange mottled, blocky,  
(UPPER MEM)                    phosphate pebble bed at base  
.....

ASHLEY FM            4-6     Calcarenite, fine-grained, light-olive-brown  
-----

Base of Wando Formation (upper member): +7 feet above sea level  
Bottomed in Ashley Formation

-----  
ST-36: 3.5 miles E of west quad. border, 2.9 miles N of south quad. border.  
Surface elevation 30 feet.

-----  
TEN MILE            0-12     Sand, medium- grading down to coarse-grained with  
HILL BEDS                    phosphate pebbles at base, medium-orange grading down  
                                 to light-brown, clayey and silty  
.....

ASHLEY FM            12-20     Calcarenite, fine-grained, light-brown, leached in upper  
                                 3 feet  
-----

Base of Ten Mile Hill beds: +18 feet above sea level  
Bottomed in Ashley Formation

-----  
ST-37: 3.2 miles E of west quad. border, 2.6 miles N of south quad. border.  
Surface elevation about 32 feet.

-----  
TEN MILE            0-15     Sand, medium-grained, light-orange, stiff, clayey (0-13)  
HILL BEDS                    grading down to silty, phosphate lumps at basal  
                                 contact  
.....

ASHLEY FM            15-25     Calcarenite, fine-grained, light-brown, weathered and  
                                 very phosphatic in upper 5 feet  
-----

Base of Ten Mile Hill beds: +17 feet above sea level  
Bottomed in Ashley Formation

-----  
ST-38: 3.9 miles E of west quad. border, 3.3 miles N of south quad. border.  
Surface elevation about 16 feet.

-----  
WANDO FM            0-5     Clay, medium-blue, stiff, massive, phosphate lumps  
(UPPER MEM)                    (small to large) scattered throughout  
.....

ASHLEY FM            5-10     Calcarenite, fine-grained, light-brown  
-----

Base of Wando Formation (upper member): +11 feet above sea level  
Bottomed in Ashley Formation

ST-39: 3.9 miles E of west quad. border, 3.55 miles N of south quad. border.  
Surface elevation 29 feet.

---

TEN MILE HILL BEDS	0-6	Sand, medium-grained, medium-red and medium-gray mottled, clayey, massive
	6-10	Sand, coarse-grained, medium-red
	10-15	Clay, medium-gray
	15-18	Sand, fine-grained, light-brown, clayey, lumps of phosphate abundant

.....  
ASHLEY FM 18-25 Calcarenite, fine-grained, light-brown, clayey, calcite-cemented lumps scattered throughout

---

Base of Ten Mile Hill beds: +11 feet above sea level  
Bottomed in Ashley Formation

---

ST-40: 1.4 miles E of west quad. border, 3.65 miles S of north quad. border.  
Surface elevation about 45 feet.

---

LADSON FM	0-9	Sand, medium-grained, medium-reddish-orange at top grading down to medium-yellow, clayey
	9-10	Clay, medium-gray
	10-25	Sand, fine-grained, medium-yellow, clayey, lumps of phosphate at base

.....  
ASHLEY FM 25-30 Calcarenite, fine-grained, light-brown grading down to olive-brown

---

Base of Ladson Formation: +20 feet above sea level  
Bottomed in Ashley Formation

---

ST-41: 2.65 miles W of east quad. border, 4.05 miles S of north quad. border.  
Surface elevation about 8 feet.

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SILVER BLUFF	0-2	Clay, medium-brown, woody
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.....  
WANDO FM (UPPER MEM) 2-6 Sand, very coarse grained to conglomerate, pebbly, quartz-rich, well sorted, light-yellowish-gray

.....  
ASHLEY FM 6-10 Calcarenite, fine-grained, olive-brown

---

Base of Silver Bluff (Holocene): +6 feet above sea level  
Base of Wando Formation (upper member): +2 feet above sea level  
Bottomed in Ashley Formation

ST-42: 3.1 miles W of east quad. border, 4.1 miles N of south quad. border.  
Surface elevation 29 feet.

---

TEN MILE HILL BEDS	0-10	Clay, sandy, medium-orange and medium-gray mottled, tough, massive
	10-17	Sand, coarse-grained, medium-orange, contains phosphate lumps in basal 2 feet

.....  
CHANDLER BRIDGE FM      17-18      Sand, fine-grained, dark-olive-green, black phosphate sand abundant

.....  
ASHLEY FM              18-25      Calcarenite, fine-grained, olive-brown, contains calcite-cemented lumps

---

Base of Ten Mile Hill beds:              +12 feet above sea level  
Base of Chandler Bridge Formation:      +11 feet above sea level  
Bottomed in Ashley Formation

---

ST-43: 3.15 miles E of west quad. border, 3.8 miles S of north quad. border.  
Surface elevation 37 feet.

---

TEN MILE HILL BEDS	0-9.5	Sand, coarse-grained, medium-orange grading down to medium-yellow, clayey
	9.5-16	Silt, clayey, medium-yellow, contains a few gray clay blebs
	16-28	Clay, medium-bluish-gray, micaceous massive, sticky, contains lenses of fine-grained medium-brown sand
	28-29	Clay, sandy, medium-brown

.....  
ASHLEY FM              29-35      Calcarenite, fine-grained, olive-brown

---

Base of Ten Mile Hill beds:      +18 feet above sea level  
Bottomed in Ashley Formation

---

ST-44: 2.25 miles E of west quad. border, 4.1 miles S of north quad. border.  
Surface elevation 30 feet.

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TEN MILE HILL BEDS	0-4	Clay, medium-gray, massive
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.....  
ASHLEY FM              4-15      Residuum, fine-grained sand, silty, light-brown grading down to calcarenite, fine-grained, light-brown, no evidence for an unconformity

---

Base of Ten Mile Hill beds:      +26 feet above sea level  
Bottomed in Ashley Formation



ST-48: 1.3 miles E of west quad. border, 0.3 miles S of north quad. border.  
Surface elevation 73 feet

---

PENHOLLOWAY	0-2	Soil, medium-gray, clayey
FM	2-22	Clay, dark-brownish-red grading down to light-reddish-gray, soft, micaceous
	22-33	Sand, fine-grained, medium-bluish-gray, silty, clayey, micaceous, phosphate lumps abundant in basal 3 feet
.....		
ASHLEY FM	33-35	Calcarenite, fine-grained, light-brown, contains calcite-cemented lumps

---

Base of Penholoway Formation: +40 feet above sea level  
Bottomed in Ashley Formation

---

ST-49: 1.4 miles E of west quad. border, 1.25 miles S of north quad. border.  
Surface elevation 69 feet.

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PENHOLLOWAY	0-12.5	Clay, medium-red, micaceous, soft, grading down to medium-orange with sparse medium-gray mottles near base
FM	12.5-29	Sand, fine-grained grading down to medium-grained, medium-orange, phosphate pebbles present in basal 3 feet
.....		
ASHLEY FM	29-30	Calcarenite, fine-grained, light-brown

---

Base of Penholoway Formation: +40 feet above sea level  
Bottomed in Ashley Formation

---

ST-50: 0.35 miles E of west quad. border, 0.1 miles S of north quad. border.  
Surface elevation 69 feet.

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PENHOLLOWAY	0-17	Clay, light-red with scattered light-gray mottles, micaceous
FM	17-25	Sand, fine-grained, light-red grading down to medium-orange, grades to:
	25-29	Sand, medium-grained, medium-orange, phosphate pebbles and oyster shells present
.....		
ASHLEY FM	29-30	Calcarenite, fine-grained, light-brown

---

Base of Penholoway Formation: +40 feet above sea level  
Bottomed in Ashley Formation

ST-51: 3.1 miles W of east quad. border, 3.15 miles S of north quad. border.  
Surface elevation 35 feet.

---

TEN MILE HILL BEDS	0-5	Sand, medium-grained, medium-gray and medium-brown mottled, muscovitic, scattered coarse quartz and feldspar grains present
	5-18	Sand, medium-grained, light-gray grading down to medium-yellow, 2 mm quartz granules near top, more pebbly and coarser downward
ASHLEY FM	18-25	Calcarenite, fine-grained, light-brown grading down to olive-brown, unusually quartz sandy (apparently burrowed) in upper foot

---

Base of Ten Mile Hill beds: +17 feet above sea level  
Bottomed in Ashley Formation

---

ST-52: 2.35 miles E of west quad. border, 2.1 miles S of north quad. border.  
Surface elevation 62 feet.

---

LADSON FM	0-8	Sand, coarse-grained, medium-reddish-orange, clayey
	8-9	Clay, medium-gray and medium-red mottled
	9-14	Sand, coarse-grained, medium-orange, clayey
	14-30	Sand, fine-grained and medium-grained interbedded, medium-orange, clayey, shelly (including oysters and others) below 23 feet, phosphate pebbles present below 27 feet
ASHLEY FM	30-35	Calcarenite, fine-grained, olive-brown, unusually quartz sandy (burrowed) in top foot

---

Base of Ladson Formation: +32 feet above sea level  
Bottomed in Ashley Formation

---

ST-53: 0.35 miles E of west quad. border, 1.0 miles S of north quad. border.  
Surface elevation 58 feet.

---

PENHOLLOWAY FM	0-5	Clay, medium-gray
	5-9	Clay, light-yellow, silty
	9-18	Sand, fine-grained, light-yellow, silty and clayey
	18-20	Clay, dark-gray
	20-29	Sand, coarse-grained, to conglomerate, granular, medium-bluish-gray
CHANDLER BRIDGE FM	29-32	Sand, fine-grained, dark-greenish-gray, dense
ASHLEY FM	32-35	Calcarenite, fine-grained, olive-green

---

Base of Penholoway Formation: +29 feet above sea level  
Base of Chandler Bridge Formation: +26 feet above sea level  
Bottomed in Ashley Formation

ST-54: 2.4 miles E of west quad. border, 0.05 miles S of north quad. border.  
Surface elevation 69 feet.

---

PENHOLLOWAY	0-14	Clay, light-red with medium-gray mottles
FM	14-23	Clay, medium-blue to medium-bluish-gray, contains dense lumps
	23-28	Sand, fine-grained grading down to medium-grained, medium-bluish gray, very shelly, large phosphate lumps present at base

.....  
ASHLEY FM 28-30 Calcarenite, fine-grained, light-brown

---

Base of Penholoway Formation: +41 feet above sea level  
Bottomed in Ashley Formation

---

ST-55: 1.1 miles W of east quad. border, 0.15 miles S of north quad. border.  
Surface elevation about 55 feet.

---

PENHOLLOWAY	0-5.5	Clay, medium-red
FM	5.5-16	Sand, fine-grained grading down to medium-grained, medium-orange, clayey
	16-18	Sand, coarse-grained, light-orange, phosphate pebbles present at base

.....  
ASHLEY FM 18-20 Calcarenite, fine-grained, light-brown

---

Base of Penholoway Formation: +36 feet above sea level  
Bottomed in Ashley Formation

---

ST-56: 0.1 miles W of east quad. border, 3.05 miles S of north quad. border.  
Surface elevation 50 feet.

---

LADSON FM	0-1	Sand, fine-grained, white
	1-6	Clay, medium-gray, slightly sandy
	6-25	Sand, fine-grained coarsening through medium- to coarse-grained, medium-red with medium-gray mottles, clayey, sparse phosphate pebbles at base

.....  
PENHOLLOWAY 25-28 Sand, fine-grained, light-yellowish-gray, clayey  
FM

.....  
CHANDLER 28-29 Sand, fine-grained, dark-olive-green  
BRIDGE FM(?)

.....  
ASHLEY FM 29-35 Calcarenite, fine-grained, dark-olive-green

---

Base of Ladson Formation: +25 feet above sea level  
Base of Penholoway Formation: +22 feet above sea level  
Base of Chandler Bridge(?) Formation: +21 feet above sea level  
Bottomed in Ashley Formation

ST-57: 0.2 miles W of east quad. border, 3.0 miles S of north quad. border.  
Surface elevation about 26 feet.

---

TEN MILE	0-1	Sand, fine-grained, medium-gray, clayey, sticky
HILL BEDS	1-11	Sand, fine-grained grading through medium- to coarse-grained, medium-yellow to white, large phosphate lumps present at base
.....		
ASHLEY FM	11-15	Calcarenite, fine-grained, olive-brown

---

Base of Ten Mile Hill beds: +15 feet above sea level  
Bottomed in Ashley Formation

---

ST-58: 1.5 miles W of east quad. border, 3.1 miles S of north quad. border.  
Surface elevation 19 feet.

---

TEN MILE	0-5	Sand, medium-grained grading down to fine-grained, medium-gray, phosphate lumps scattered throughout
.....		
ASHLEY FM	5-10	Calcarenite, fine-grained, light-brown

---

Base of Ten Mile Hill beds: +14 feet above sea level  
Bottomed in Ashley Formation

---

ST-59: 0.1 miles W of east quad. border, 3.45 miles N of south quad. border,  
Surface elevation 24 feet.

---

TEN MILE	0-6	Clay, medium-gray, sandy, phosphate lumps scattered throughout
HILL BEDS	6-10	Sand, fine-grained, medium-gray, clayey
	10-13	Sand, medium-grained, medium-gray, sparse phosphate pebbles and worn bones at base
.....		
ASHLEY FM	13-15	Calcarenite, fine-grained, light-brown, calcite-cemented lumps scattered throughout

---

Base of Ten Mile Hill beds: +11 feet above sea level  
Bottomed in Ashley Formation

---

ST-60: 0.75 miles W of east quad. border, 3.95 miles N of south quad. border.  
Surface elevation 21 feet.

---

TEN MILE	0-5	Clay, medium-gray, massive
HILL BEDS	5-6	Clay, medium-gray, phosphate pebbles scattered throughout
.....		
ASHLEY FM	6-10	Calcarenite, fine-grained, light-brown, soft

---

Base of Ten Mile Hill beds: +15 feet above sea level  
Bottomed in Ashley Formation

ST-61: 1.7 miles E of west quad. border, 4.1 miles N of south quad. border.  
Surface elevation 30 feet.

---

TEN MILE HILL BEDS	0-8	Sand, fine-grained, medium-orange and medium-gray mottled grading down to medium-gray, clayey
	8-15	Clay, dark-brownish-gray grading down to light-brownish-gray
	15-17	Sand, coarse-grained, medium-orange, contains numerous phosphate pebbles
.....		
ASHLEY FM	17-20	Calcarenite, fine-grained, light-brown, contains calcite-cemented lumps

---

Base of Ten Mile Hill beds: +13 feet above sea level  
Bottomed in Ashley Formation

---

ST-62: 0.6 miles E of west quad. border, 2.9 miles N of south quad. border.  
Surface elevation 21 feet.

---

WANDO FM (UPPER MEM)	0-6	Clay, medium-gray
	6-10	Sand, medium-grained, medium-gray, slightly clayey, contains churned-in lumps of clay
	10-11	Sand, fine-grained, medium-orange, clayey
	11-15	Sand, medium-grained, light-yellowish-brown
	15-19	Sand, medium-grained, light-blue, rare phosphate pebbles at base
.....		
ASHLEY FM	19-20	Calcarenite, fine-grained, olive-brown

---

Base of Wando Formation (upper member): +2 feet above sea level  
Bottomed in Ashley Formation

ST-63: 0.45 miles E of west quad. border, 3.6 miles S of north quad. border.  
Surface elevation 15 feet.

---

WANDO FM	0-2	Clay, medium-gray
(UPPER MEM)	2-10	Clay, medium-gray, sandy
	10-15	Clay, medium-bluish-gray, breaks into hard lumps; phosphate pebbles and skate teeth at base

.....  
ASHLEY FM      15-20    Calcarenite, fine-grained, light-brown

---

Base of Wando Formation (upper member):  $\pm 0$  feet at sea level  
Bottomed in Ashley Formation

---

ST-64: 1.55 miles W of east quad. border, 3.3 miles N of south quad. border.  
Surface elevation 31 feet.

---

TEN MILE	0-3	Sand, medium-grained, medium-gray
HILL BEDS	3-16	Sand, medium-grained, medium-yellow, clay lenses at 11 and 15 feet
	16-19	Sand, medium-grained, medium-gray
	19-21	Clay, medium-blue, lumps of phosphate abundant

.....  
ASHLEY FM      21-25    Calcarenite, fine-grained, medium-brown

---

Base of Ten Mile Hill beds: +10 feet above sea level  
Bottomed in Ashley Formation

---

ST-65: 3.5 miles E of west quad. border, 4.0 miles N of south quad. border.  
Surface elevation about 18 feet.

---

WANDO FM	0-2	Clay, medium-gray, loamy
(UPPER MEM)	2-6	Clay, medium-gray, scattered coarse quartz sand grains and phosphate lumps present

.....  
ASHLEY FM      6-10    Calcarenite, fine-grained, olive-brown

---

Base of Wando Formation (upper member): +12 feet above sea level  
Bottomed in Ashley Formation

ST-66: 2.65 miles E of west quad. border, 3.2 miles N of south quad. border.  
Surface elevation 30 feet.

---

TEN MILE	0-7	Clay, sandy, medium-orange
HILL BEDS	7-10	Clay, medium-gray, phosphate pebbles and worn bones abundant

.....  
ASHLEY FM      10-20    Calcarenite, fine-grained, light-brown, weathered in upper five feet

---

Base of Ten Mile Hill beds: +20 feet above sea level  
Bottomed in Ashley Formation

---

ST-67: 1.65 miles E of west quad. border, 2.9 miles N of south quad. border.  
Surface elevation 35 feet.

---

TEN MILE	0-4	Sand, fine-grained, light-gray, silty
HILL BEDS	4-5.5	Clay, light-gray, sandy
	5.5-15	Clay, medium-gray, silty, coarse-grained sand and rounded phosphate pebbles present in basal 3 feet

.....  
ASHLEY FM      15-20    Calcarenite, fine-grained, variably olive-brown, medium-brown, or light-brown

---

Base of Ten Mile Hill beds: +20 feet above sea level  
Bottomed in Ashley Formation

ST-68: 1.2 miles E of west quad. border, 1.75 miles N of south quad. border.  
Surface elevation 21 feet.

---

WANDO FM	0-4	Sand, fine-grained, light-gray
(UPPER MEM)	4-10	Sand, medium-grained grading down to coarse-grained, light-yellowish-brown, muscovitic
.....		
TEN MILE	10-12	Clay, sandy, medium-orange
HILL BEDS	12-17	Sand, fine-grained, light-yellowish-brown, grading down to clay, sandy, with medium-gray and medium-blue clay lumps
	17-20	Clay, medium-blue, greasy
	20-20.5	Sand, coarse-grained, medium-orange, quartz pebbles and lumps of phosphate present
.....		
DANIEL	20.5-23	Clay, medium-blue, wood fragments and lumps of phosphate present
ISLAND BEDS		
.....		
ASHLEY FM	23-25	Calcarenite, fine-grained, medium-brown

---

Base of Wando Formation (upper member): +11 feet above sea level  
Base of Ten Mile Hill beds: ±0 feet at sea level  
Base of Daniel Island beds: -2 feet below sea level  
Bottomed in Ashley Formation

---

ST-69: 2.9 miles E of west quad. border, 0.2 miles N of south quad. border.  
Surface elevation about 9 feet.

---

SILVER	0-4	Clay, medium-gray
BLUFF		
.....		
WANDO FM	4-13	Sand, medium-grained grading down to coarse-grained, subangular, medium-gray grading down to dark-gray
(UPPER MEM)	13-14	Clay, medium-blue
	14-19	Sand, coarse-grained, and pebble conglomerate containing rounded quartz pebbles, large phosphate lumps, and worn skate and shark teeth
.....		
ASHLEY FM	19-20	Calcarenite, fine-grained, olive-brown

---

Base of Silver Bluff (Holocene): +5 feet above sea level  
Base of Wando Formation (upper member): -10 feet below sea level  
Bottomed in Ashley Formation



ST-73: 2.65 miles W of east quad. border, 3.2 miles N of south quad. border.  
Surface elevation 30 feet.

---

TEN MILE	0-4	Clay, medium-orange
HILL BEDS	4-9	Clay, medium-gray, sandy
	9-12	Sand, fine-grained, light-yellowish-brown, clayey, large phosphate lumps in basal foot
.....		
ASHLEY FM	12-25	Calcarenite, fine-grained, light-brown grading down to olive-green, upper four feet weathered

---

Base of Ten Mile Hill beds: +18 feet above sea level  
Bottomed in Ashley Formation

---

ST-74: 0.05 miles E of west quad. border, 1.85 miles N of south quad. border.  
Surface elevation 15 feet.

---

WANDO FM	0-4	Sand, fine-grained, medium-orange to light-yellowish-brown, muscovitic
(UPPER MEM)	4-13	Silt, sandy, light-blue to medium-blue, quartz pebbles, phosphate lumps and brittle clay lumps in basal 2 feet
.....		
ASHLEY FM	13-25	Calcarenite, fine-grained, medium-brown

---

Base of Wando Formation (upper member): +3 feet above sea level  
Bottomed in Ashley Formation

---

ST-75: 0.05 miles E of west quad. border, 3.65 miles N of south quad. border.  
Surface elevaton about 16 feet.

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WANDO FM	0-14.5	Sand, medium-grained grading down to very coarse-grained, medium-gray, angular, micaceous
(UPPER MEM)	14.5-15	Peat, includes large fragments of wood
	15-16	Sand, coarse-grained, quartz pebbles and phosphate lumps abundant
.....		
ASHLEY FM	16-20	Calcarenite, fine-grained, olive-brown

---

Base of Wando Formation (upper member): ±0 feet at sea level  
Bottomed in Ashley Formation

ST-76: 0.05 miles W of east quad. border, 1.0 miles N of south quad. border.  
Surface elevation 48 feet.

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TEN MILE HILL BEDS	0-17	Sand, medium-grained, very fine grained heavies abundant, medium-orange grading through light-gray to medium-gray
	17-29	Silt, clayey, medium-gray, muscovitic
	29-35	Sand, medium-grained, medium-gray, phosphatic, shelly, phosphate pebble bed at base

.....

ASHLEY FM	35-45	Calcarenite, fine-grained, olive-brown, sand-size phosphate abundant
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Base of Ten Mile Hill beds: +13 feet above sea level  
Bottomed in Ashley Formation

---

ST-77: 0.6 miles W of east quad. border, 2.8 miles N of south quad. border.  
Surface elevation about 15 feet.

---

WANDO FM (UPPER MEM)	0-3	Sand, dominantly coarse-grained, poorly sorted, pebbly, clayey, medium-yellowish-gray and medium-orange mottled
	3-8	Sand, medium-grained, well sorted, light-brownish-gray with white lenses, very fine grained heavy minerals scattered throughout, soft

.....

ASHLEY FM	8-15	Calcarenite, fine-grained, medium-brown where weathered at top to olive-brown downward, dense
	15-40	Calcarenite, fine-grained, shelly and foram-rich, light-green, no obvious quartz or phosphate present, softer than above

---

Base of Wando Formation (upper member): +7 feet above sea level  
Bottomed in Ashley Formation

---

ST-78: 0.3 miles E of west quad. border, 2.6 miles N of south quad. border.  
Surface elevation 15 feet.

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WANDO FM (UPPER MEM)	0-5	Clay, sandy and pebbly, dark-gray, upper two feet probably fill
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ASHLEY FM	5-57	Calcarenite, fine-grained, light-brown grading rapidly down to olive-brown, very phosphatic near base
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PARKERS FERRY FM	57-85	Calcilutite, silty, medium-green
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Base of Wando Formation (upper member): +10 feet above sea level  
Base of Ashley Formation: -42 feet below sea level  
Bottomed in Parkers Ferry Formation

ST-79: 0.15 miles E of west quad. border, 1.35 miles S of north quad. border.  
Surface elevation 70 feet.

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PENHOLOWAY FM	0-6	Sand, fine-grained, clayey, medium-reddish-orange grading down to medium-gray, nodules cemented with iron-hydroxide in upper two feet
	6-36	Silt, clayey, medium sand grains scattered throughout, grades down from medium-orange through medium-greenish-orange to medium-brownish-gray
	36-42	Sand, medium-grained, medium-brownish-gray, phosphatic, phosphate pebbles at base. Phosphate bed dense and not penetrated

---

Base of Penholoway Formation: +28 feet above sea level  
Bottomed on Ashley Formation?

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ST-80: 1.45 miles E of west quad. border, 0.8 miles S of north quad. border.  
Surface elevation 61 feet.

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PENHOLOWAY FM	0-6	Silt, clayey and sandy, medium-orange, medium-red, and medium-gray mottled
	6-16	Silt, light-brown to light-yellowish-brown, clayey and sandy, grades to:
	16-20	Sand, medium-grained, light-yellowish-brown, grades to:
	20-29	Sand, medium-grained, phosphate pebbles and quartz discoids present, sparsely shelly
.....		
ASHLEY FM	29-30	Calcarenite, fine-grained, olive-green, dense, burrowed

---

Base of Penholoway Formation: +32 feet above sea level  
Bottomed in Ashley Formation

---

ST-81: 0.6 miles E of west quad. border, 0.45 miles S of north quad. border.  
Surface elevation 60 feet.

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PENHOLOWAY FM	0-15	Silt, clayey and sandy, medium-orange and medium-gray mottled grading down to medium-orange
	15-34	Sand, medium-grained, medium-orange grading through medium-gray to dark-gray, quartz and phosphate pebbles and barnacles present in basal 10 feet
.....		
ASHLEY FM	34-35	Calcarenite, fine-grained, olive-brown, burrows present filled with above lithology, shells and phosphate pebbles

---

Base of Penholoway Formation: +26 feet above sea level  
Bottomed in Ashley Formation

ST-82: 1.65 miles W of east quad. border, 1.15 miles N of south quad. border.  
Surface elevation 35 feet.

-----  
TEN MILE HILL BEDS      0-18    Sand, medium-grained, medium-orange and medium-gray mottled grading through medium-orange and medium-yellow to medium-gray downward, iron hydroxide-cemented nodules in upper 5 feet, muscovitic below that, silty, and clayey  
                                 18-29    Clay, dark-gray, micaceous, sandy, stiff, scattered wood fragments present, no phosphate pebbles at base  
.....  
ASHLEY FM            29-40    Calcarenite, fine-grained, olive-brown, contains calcite-cemented lumps and shell fragments  
-----

Base of Ten Mile Hill beds: +6 feet above sea level  
Bottomed in Ashley Formation

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ST-83: 2.8 miles W of east quad. border, 0.55 miles N of south quad. border.  
Surface elevation 33 feet.

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TEN MILE HILL BEDS      0-16    Sand, dominantly medium-grained, grain size bimodal, very fine grained heavy minerals abundant, micaceous, iron hydroxide-cemented nodules present in upper 5 feet, mostly medium-orange but grades abruptly down to medium-bluish-gray in basal foot  
                                 16-17    Clay, sandy, medium-gray  
                                 17-21    Sand, fine-grained, medium-bluish-gray  
                                 21-26    Clay, medium-bluish-gray, contains hard dark-green lumps and small lenses of fine-grained sand (burrows?), sparse phosphate pebbles at base  
.....  
ASHLEY FM            26-40    Calcarenite, fine-grained, olive-brown, soft, sand-size phosphate abundant  
-----

Base of Ten Mile Hill beds: +17 feet above sea level  
Bottomed in Ashley Formation

-----  
ST-84: 2.4 miles W of east quad. border, 1.4 miles N of south quad. border.  
Surface elevation 39 feet.

-----  
TEN MILE HILL BEDS      0-5      Sand, medium-grained, clayey, medium-orange and medium-gray mottled, stiff, plinthite in upper 2 feet  
                                 5-29    Sand, medium-grained, medium-yellowish-gray grading down to light-gray, loose, silty, well-sorted, very fine grained heavies sprinkled throughout, sparse phosphate pebbles at base  
.....  
ASHLEY FM            29-35    Calcarenite, fine-grained, olive-brown, sand-size phosphate abundant  
-----

Base of Ten Mile Hill beds: +10 feet above sea level  
Bottomed in Ashley Formation

ST-85: 0.7 miles E of west quad. border, 4.25 miles N of south quad. border.  
Surface elevation 16 feet.

---

WANDO FM (UPPER MEM)	0-5	Clay, medium-gray with a few medium-orange mottles, sandy, stiff
	5-13	Clay, dark-gray, micaceous, sticky
	13-16	Sand, medium- grading down to coarse-grained, dark-gray, clayey, loose, pebbly and woody at base
.....		
ASHLEY FM	16-25	Calcarenite, fine-grained, olive-brown

---

Base of Wando Formation (upper member):  $\pm 0$  feet at sea level  
Bottomed in Ashley Formation

---

ST-86: 0.9 miles E of west quad. border, 0.1 miles N of south quad. border.  
Surface elevation 17 feet.

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WANDO FM (UPPER MEM)	0-6	Clay, sandy, to sand, fine-grained, clayey, light-gray with a few medium-orange mottles.
	6-14	Silt, sandy, to sand, fine-grained, silty, medium- gray, loose, rare brownish-gray clay lenses present, rare phosphate pebbles present at base
.....		
ASHLEY FM	14-30	Calcarenite, fine-grained, medium-brown, some sand- size quartz and phosphate present

---

Base of Wando Formation (upper member): +3 feet above sea level  
Bottomed in Ashley Formation

---

ST-87: 0.2 miles E of west quad. border, 0.7 miles N of south quad. border.  
Surface elevation 22 feet.

---

TEN MILE HILL BEDS	0-5	Sand, coarse- to fine-grained, poorly sorted, medium- reddish-orange with medium-gray mottles, micaceous, stiff
	5-11	Sand, fine-grained, medium-yellowish-orange, silty, loose
	11-33	Clay, medium-gray, stiff, dense, dark-green brittle lumps scattered throughout
	33-35	Sand, coarse-grained, medium-gray, phosphate pebbles abundant at base
.....		
DANIEL ISLAND BEDS	35-37	Clay, medium-gray, stiff, woody, phosphate pebbles abundant at base
.....		
ASHLEY FM	37-45	Calcarenite, fine-grained, olive-brown

---

Base of Ten Mile Hill beds: -13 feet below sea level  
Base of Daniel Island beds: -15 feet below sea level  
Bottomed in Ashley Formation

ST-88: 1.5 miles W of east quad. border, 2.45 miles N of south quad. border.  
Surface elevation 14 feet.

---

WANDO FM            0-7     Sand, medium-grained, medium-gray, well sorted, silty,  
(UPPER MEM)                            sharp contact with bed below

.....  
TEN MILE            7-9     Sand, coarse-grained, light-brown, pebbly

HILL BEDS           9-10    Clay, medium-yellowish-brown, woody

.....  
ASHLEY FM           10-15   Calcarenite, fine-grained, olive-brown, sand-sized  
   phosphate abundant

---

Base of Wando Formation (upper member):    +7 feet above sea level

Base of Ten Mile Hill beds:                    +4 feet above sea level

Bottomed in Ashley Formation

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ST-89: 1.45 miles W of east quad. border, 0.15 miles N of south quad. border.  
Surface elevation 40 feet.

---

TEN MILE            0-8     Sand, medium-grained, light-gray, well sorted,  
HILL BEDS                            very fine grained heavy minerals abundantly scattered  
   throughout

8-12     Silt, clayey, massive, light-gray, sticky but loose

12-24    Sand, medium-grained, light-gray grading down to  
   medium-gray, well-sorted, silty, very fine grained  
   heavy minerals abundantly scattered throughout

24-26    Sand, fine-grained, medium-gray, clayey, phosphate  
   pebble bed at base

.....  
LADSON FM(?)       26-33   Sand, medium-grained, medium-gray, sand-size phosphate  
   abundant, oyster fragments present at base but no  
   phosphate pebbles

.....  
ASHLEY FM           33-40   Calcarenite, fine-grained, olive-brown, contains  
   phosphatized molds of clams and snails

---

Base of Ten Mile Hill beds:    +16 feet above sea level

Base of Ladson Formation(?):    +7 feet above sea level

Bottomed in Ashley Formation

ST-90: 0.8 miles W of east quad. border, 0.6 miles N of south quad. border.  
Surface elevation 48 feet.

---

TEN MILE HILL BEDS	0-19	Sand, medium-grained, medium-orange grading down to light-gray, very fine grained heavy minerals abundantly scattered throughout, micaceous
	19-23	Sand, medium-grained but finer than bed above, medium-orange
	23-25	Sand, fine-grained, medium-bluish-gray and medium-brown mottled, silty
	25-28	Clay, sandy, medium-bluish-gray and medium-brown mottled, stiff, dense
	28-33	Sand, medium-grained, medium-bluish-gray and light-gray mottled, stiff, dense, hard dark-green lumps present near base
	33-40	Sand, medium-grained, medium-gray, loose, phosphate pebble bed at base

.....  
ASHLEY FM 40-50 Calcarenite, fine-grained, olive-brown, sand-size phosphate abundant

---

Base of Ten Mile Hill beds: +8 feet above sea level  
Bottomed in Ashley Formation

---

ST-91: 2.0 miles W of east quad. border, 0.85 miles S of north quad. border.  
Surface elevation about 26 feet. (hole number originally STAL-6-H)

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TEN MILE HILL BEDS	0-5	Clay, medium-gray with minor medium-brown and medium-gray mottles, fine- to medium-grained sandy
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.....  
ASHLEY FM 5-108 Calcarenite, very fine to fine-grained, light-olive-gray to medium-olive-brown, phosphate sand and large coiled forams locally abundant, sand and pebble size phosphate abundant below 95 feet

.....  
PARKERS FERRY FM 108-130 Calcilutite, medium-greenish-gray to medium-olive-gray, fine-grained sandy

---

Base of Ten Mile Hill beds: +21 feet above sea level  
Base of Ashley Formation: -82 feet below sea level  
Bottomed in Parkers Ferry Formation

ST-92: 2.2 miles W of east quad. border, 3.3 miles S of north quad. border.  
Surface elevation 21 feet. (hole number originally STAL-5-H)

-----  
TEN MILE HILL BEDS      0-6      Clay, medium-orange and medium-red grading down to medium-gray, fine-grained sandy, stiff  
                             6-9      Sand, very- coarse-grained, medium-olive-brown, angular, clayey matrix

.....  
ASHLEY FM              9-91      Calcarenite, very fine to fine-grained, dark-olive-brown (15-25) grading down through light-olive-brown (15-25) to medium-olive-brown, phosphate sand and pebbles abundant below 76 feet, basal 3 feet includes material reworked from below

.....  
PARKERS FERRY FM(?)      91-95      Calcarenite, very fine grained, sand-size phosphate common

-----  
Base of Ten Mile Hill beds:    +12 feet above sea level  
Base of Ashley Formation:      -70 feet below sea level?  
Bottomed in Parkers Ferry Formation?

-----  
ST-93: 1.2 miles E of west quad. border, 3.45 miles N of south quad. border.  
Surface elevation 16 feet. (hole number originally STAL-1)

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FILL                      0-1      Road base

.....  
WANDO FM (UPPER MEM)      1-5      Clay, medium-gray and dark-yellowish-orange, phosphate pebbles in basal foot

.....  
ASHLEY FM              5-78      Calcarenite, very fine grained to fine-grained, light-olive-brown, sand- and granule-size phosphate and phosphate pebbles (1-2 cm diameter, abundant in basal foot, sparse quartz granules in basal foot

.....  
PARKERS FERRY FM              78-100      Calcilutite, light-olive, fine-grained sandy

-----  
Base of Wando Formation (upper member):    +10 feet above sea level  
Base of Ashley Formation:                      -62 feet below sea level  
Bottomed in Parkers Ferry Formation

ST-94: 3.5 miles W of east quad. border, 3.2 miles N of south quad. border.  
Surface elevation 18 feet. (hole number originally STAL-200)

-----  
WANDO FM            0-5     Sand, fine- to medium-grained, grayish-black, very  
(UPPER MEM)                            clayey

.....  
ASHLEY FM           5-88    Calcarenite, fine-grained, dusky-yellow-green grading  
   down to olive-brown by 25 feet, phosphate sand  
   abundant below 70 feet, grades to medium-grained  
   near base

.....  
PARKERS            88-95   Calcilutite, pale-olive, silty and very- fine-grained  
FERRY FM                                sandy

-----  
Base of Wando Formation (upper member): +13 feet above sea level  
Base of Ashley Formation:                        -70 feet below sea level  
Bottomed in Parkers Ferry Formation

-----  
ST-95: 2.8 miles W of east quad. border, 3.05 miles N of south quad. border.  
Surface elevation 16 feet. (hole number originally STAL-201)

-----  
WANDO FM            0-4     Clay, grayish-black, silty, fine-grained sandy  
(UPPER MEM)

.....  
ASHLEY FM           4-65    Calcarenite, very fine grained to fine-grained, dark-  
   yellowish-orange grading down to olive-brown

.....  
PARKERS            65-85   Calcilutite, pale-olive, very fine grained sandy  
FERRY FM

-----  
Base of Wando Formation (upper member): +12 feet above sea level  
Base of Ashley Formation:                        -49 feet below sea level  
Bottomed in Parkers Ferry Formation

-----  
ST-96: 3.45 miles W of east quad. border, 4.2 miles S of north quad. border.  
Surface elevation 22 feet. (hole number originally STAL-4)

-----  
TEN MILE            0-10     Sand, fine- to medium-grained, light-gray, dark-  
HILL BEDS                                yellowish-orange and medium-reddish-brown mottled  
   grading down to medium-greenish-gray, muddy, thin  
   laminae of light-gray silty clay scattered throughout,  
   grades to:

   10-12    Sand, coarse-grained, medium-greenish-gray, 1-3 cm  
   diameter phosphate pebbles at base

.....  
ASHLEY FM           12-93   Calcarenite, very fine grained, medium-olive-green to  
   pale-green, clayey

-----  
Base of Ten Mile Hill beds: +10 feet above sea level  
Bottomed in Ashley Formation

ST-97: 1.25 miles W of east quad. border, 3.55 miles S of north quad. border.  
Surface elevation 26 feet. (hole number originally STAL-3)

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	0-1	Road fill
.....		
TEN MILE HILL BEDS	1-18	Clay, medium-bluish-gray, fine-grained sandy and silty, oyster fragments present from 6-9 feet, phosphate pebbles abundant at base
.....		
ASHLEY FM	18-77	Calcarenite, very fine grained to fine-grained, medium-olive-brown, contains large forams
.....		
DRAYTON LS	77-100	Calcarenite, fine-grained, light-olive-gray, much of sample fell off stems

---

Base of Ten Mile Hill beds: +8 feet above sea level  
Base of Ashley Formation: -51 feet below sea level  
Bottomed in Drayton Limestone

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ST-98: 1.85 miles W of east quad. border, 2.85 miles N of south quad. border.  
Surface elevation about 30 feet. (hole number originally STAL-4-H)

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TEN MILE HILL BEDS	0-5	Sand, coarse-grained, light-yellowish-brown, muddy
	5-12	Clay, light-bluish-green, medium-grained sandy
.....		
ASHLEY FM	12-53	Calcarenite, very fine grained to fine-grained, light-olive-brown (12-20) grading to medium-olive-brown, some shell fragments present, large coiled forams abundant 40-50 feet
.....		
DRAYTON LS	53-80	Calcarenite, fine-grained, light-olive-gray

---

Base of Ten Mile Hill beds: +18 feet above sea level  
Base of Ashley Formation: -23 feet below sea level  
Bottomed in Drayton Limestone

ST-99: 1.2 miles W of east quad. border, 1.4 miles N of south quad. border.  
Surface elevation 28 feet. (hole number originally STAL-1-H)

---

TEN MILE HILL BEDS	0-13	Sand, medium-grained, medium-orangish-brown grading down to dark-brownish-yellow, clayey, stiff
	13-18	Clay, light-gray, sandy, stiff
	18-21	Sand, medium- to coarse-grained, dark-brownish-yellow, clayey, soft
	21-30	Clay, dark-greenish-gray, contains hard lumps and stringers of white sand, phosphate pebbles at base
.....		
ASHLEY FM	30-59	Calcarenite, very fine grained to fine-grained, medium-olive-brown, basal 2 feet full of phosphate pebbles
.....		
DRAYTON LS	59-75	Calcarenite, fine-grained, light-green, contains abundant fragments of bryozoans, slightly clayey

---

Base of Ten Mile Hill beds: -2 feet below sea level  
Base of Ashley Formation: -31 feet below sea level  
Bottomed in Drayton Limestone

---

ST-100: 3.2 miles W of east quad. border, 1.95 miles N of south quad. border.  
Surface elevation about 22 feet. (hole number originally STAL-3-H)

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TEN MILE HILL BEDS	0-4	Sand, coarse-grained, medium-orange, clean
	4-5	Sand, coarse-grained, medium-gray, clayey, stiff
	5-15	Sand, coarse-grained, light-brownish-yellow, very muddy
ASHLEY FM	15-105	Calcarenite, very fine grained to fine-grained, medium-brownish-yellow (15-20) grading to medium-olive-brown, sand-size phosphate abundant from 15-25 and 83-105, large coiled forams abundant 60-65, glauconitic below 83 feet

---

Base of Ten Mile Hill beds: +7 feet above sea level  
Bottomed in Ashley Formation

ST-101: 1.25 miles N of south quad. border, 3.5 miles W of east quad. border.  
Surface elevation 39 feet.(hole number originally STAL-202)

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TEN MILE HILL BEDS      0-12    Sand, medium-grained, medium-yellowish-brown grading down to pale-yellowish-brown, silty, moderately well sorted  
                                 12-25    Clay, medium-gray with sparse waxy light-olive-brown mottles, plastic, silty, stringers of medium-grained sand present below 19 feet  
                                 25-28    Sand, poor recovery

.....  
ASHLEY FM            28-115    Calcarenite, very fine to fine-grained, pale-olive grading down to light-olive-gray, phosphate sand abundant below 105 feet

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Base of Ten Mile Hill beds: +11 feet above sea level  
Bottomed in Ashley Formation

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