Detailed sections from auger holes and outcrops in the Bethera, Cordesville, Huger, and Kittredge quadrangles, South Carolina

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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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Contents

Introduction

In the course of preparing a detailed map for the Bethera, Cordesville, Huger, and Kittredge 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 will be summarized on the forthcoming map, much of the more detailed information could not be shown in such a visual manner and therefore is included in this open file report for interested geologists, engineers, and urban planners. Information is included for 174 localities within these four quadrangles.

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 Cross Limestone) 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.

Although section thicknesses vary considerably, from 8 feet (CO-1,CO-2) to 100 feet (KI-24, KI-27), most fall in the range of 35-55 feet. Most of the Quaternary and late 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. The Ashley is thin or absent in the northern parts of the Bethera and Cordesville quadrangles, however, so there holes often penetrated to the Parkers Ferry Formation (upper Eocene) or the Cross Limestone (middle Eocene).

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" for dense, probably lower Pleistocene clays and sands which were encountered sporadically throughout the area of these quadrangles. What we here call the Goose Creek Limestone is known in parts of this area as the "water sands". It appears to be locally important as a shallow water source east of the Cooper River. The major deep aquifers lie in the middle Eocene Santee limestones (including the Cross Limestone) and the Paleocene Black Mingo Group.

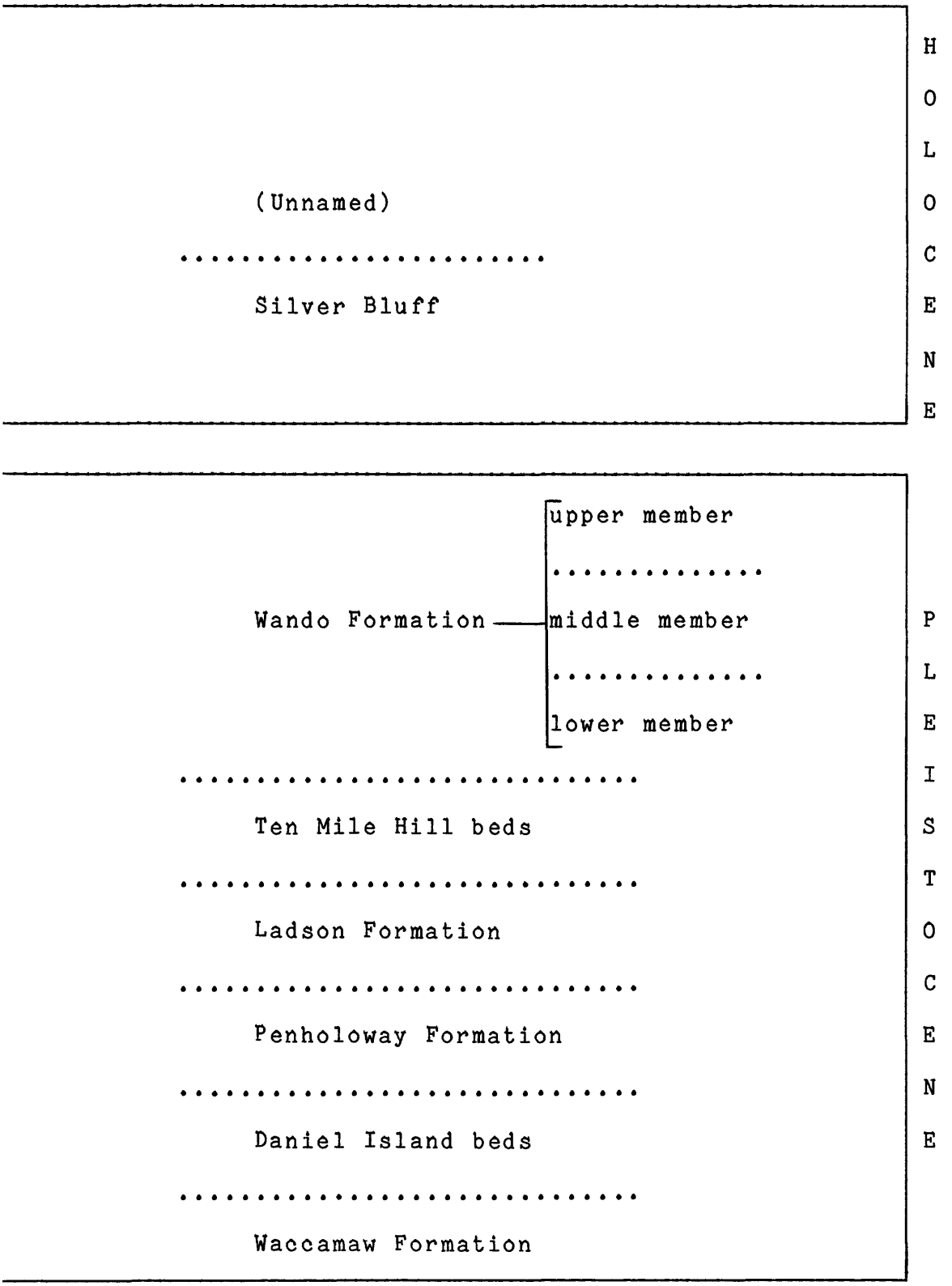
References cited

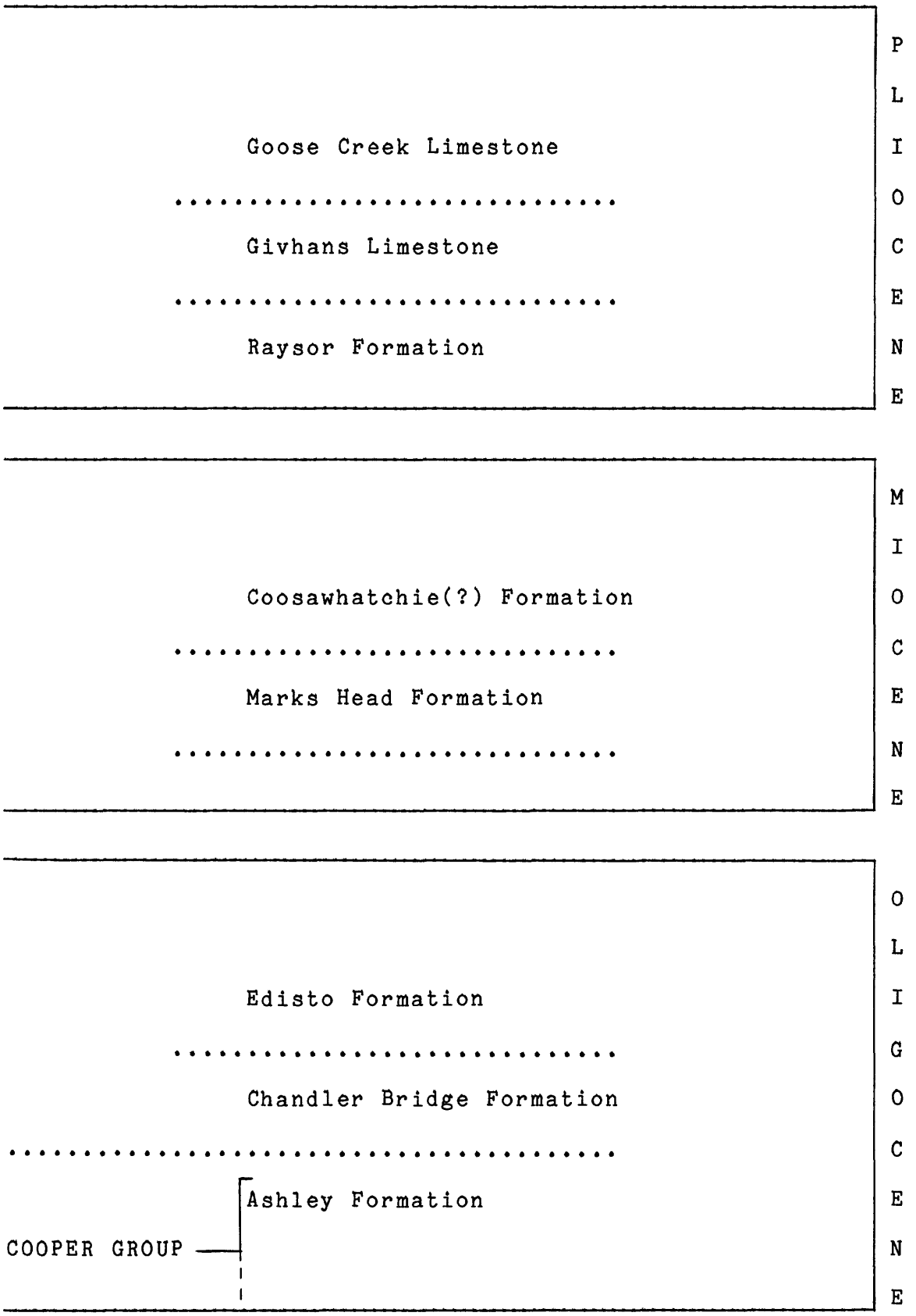
Weems, Robert E., and Lemon, E. M., Jr., 1984a, Geologic map of the Mount Holly quadrangle, Berkeley and Charleston Counties, South Carolina: U. S. Geological Survey Geologic Quadrangle Map GQ-1579, scale 1:24,000.

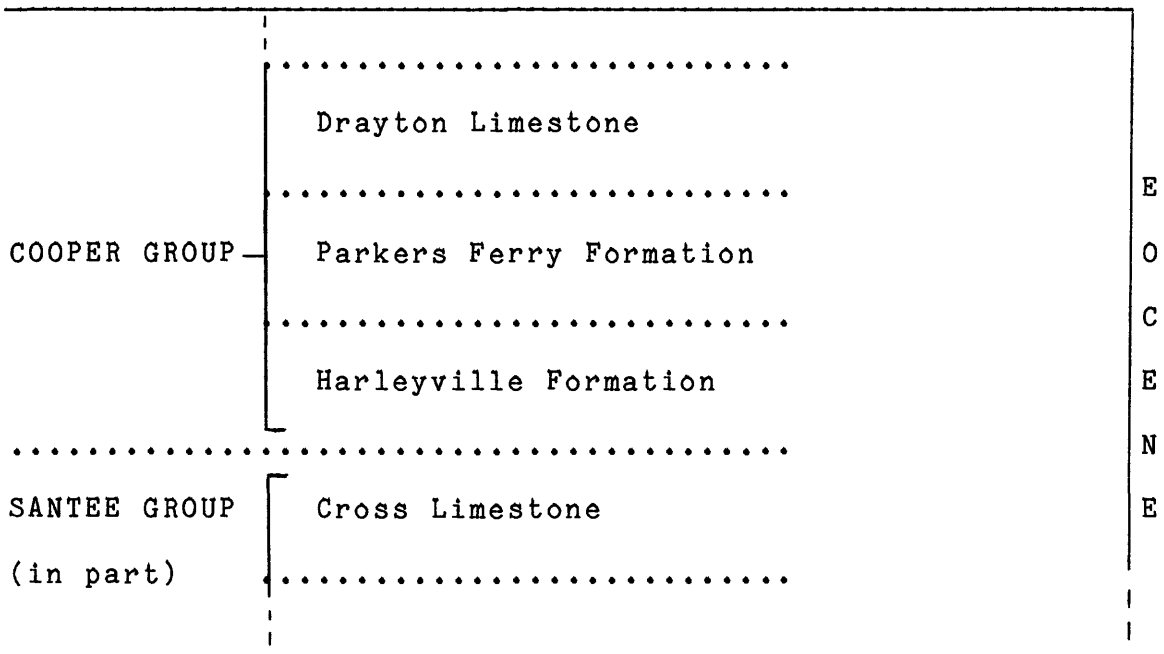
_____, 1984b, Geologic map of the Stallsville quadrangle, Dorchester and Charleston Counties, South Carolina: U. S. Geological Survey Geologic Quadrangle Map GQ-1581, scale 1:24,000.

Ages and Sequence of Regionally Recognized Geologic Units

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




Goose Creek Limestone
Givhans Limestone
Raysor Formation
PLIOCENE
Coosawhatchie(?) Formation
Marks Head Formation
MIOCENE
Edisto Formation
Chandler Bridge Formation
Ashley Formation
COOPER GROUP
OLIGOCENE


Drayton Limestone
COOPER GROUP
Parkers Ferry Formation
Harleyville Formation
SANTEE GROUP
(in part)
Cross Limestone
EOCENE

Detailed Locality Descriptions
BETHERA QUADRANGLE
(Depths in feet)

BE-1: 0.8 mi. W of east quad. (quadrangle) border, 2.5 mi. S of north quad. border. Surface elevation 58 feet.

LADSON FM	0-8	Sand, medium- grained, medium-reddish-orange, silty
	8-16	Clay, medium-gray, sandy, silty, grading down by 12 feet to silt, sandy, very poorly sorted
	16-31	Clay, medium-bluish-gray, stiff, micaceous, sparse grains of sand, woody, contains layers of well sorted, fine- grained, pale-bluish-gray sand less than 1 foot thick, indurated clay balls present
	31-35	Gravel, granular (about 5 mm diam), mostly quartz but includes some feldspar and fine- grained phosphate, subangular
CROSS FM	35-54	Calcarenite, fine- grained, medium-brownish gray, phosphatic, contains indurated zones
	at 54	Impenetrable bed

Base of Ladson Formation: +23 feet above sea level
Bottomed in Cross Formation

BE-2: 0.8 mi. W of east quad. border, 0.95 mi. S of north quad. border. Surface elevation 52 feet.

LADSON FM	0-4	Sand, coarse-grained, sparsely pebbly, medium-orange grading down to black and humic
	4-16	Clay, stiff, medium-gray, becomes sandy below 12 feet
	16-29	Sand, coarse-grained, subangular, feldspathic, clayey matrix, medium-gray, pebbly (up to 1.5 cm diameter) near base
DANIEL ISLAND BEDS	29-33	Clay, medium-bluish-gray with green indurated clayballs
CROSS FM	at 33	Impenetrable bed

Base of Ladson Formation: +23 feet above sea level
Base of Daniel Island beds: +19 feet above sea level
Bottomed on Cross Formation

BE-3: 0.95 mile W of east quad. border, 4.0 mi. S of north quad. border. Surface elevation 30 feet.

TEN MILE HILL BEDS	0-5	Clay, sandy, medium-reddish-orange and gray mottled, grading down to clay, gray, quartz and phosphate pebbles present at base
PARKERS FERRY FM	5-10	Calcarenite,fine- grained, medium-grading down to pale-grayish-green, phosphatic
CROSS FM	at 10	Impenetrable bed

Base of Ten Mile Hill beds: +25 feet above sea level
Base of Parkers Ferry Formation: +20 feet above sea level
Bottomed on Cross Formation

BE-4: 1.05 mi. W of east quad. border, 3.3 mi. N of south quad. border. Surface elevation 30 feet.

TEN MILE HILL BEDS	0-5	Sand, medium- grained, medium-brown and medium-gray mottled grading down to medium-orange, silty
LADSON FM	5-46	Sand, coarse-grained, poorly sorted, muscovitic, clayey and silty, medium-gray, coarser and less silty downward, scattered feldspar grains and quartz pebbles, humic in basal 5 feet
CROSS FM	at 46	Impenetrable bed, smear of very-fine, white calcarenite recovered

Base of Ten Mile Hill beds: +25 feet above sea level
Base of Ladson Formation: -16 feet below sea level
Bottomed on Cross Formation

BE-5: 1.55 mi. W of east quad. border, 1.7 mi. N of south quad. border. Surface elevation 34 feet.

TEN MILE HILL BEDS	0-7	Clay, medium-orangish-brown and medium-gray mottled, abundant coarse-grained, subangular quartz and feldspar sand grains, sparse phosphate pebbles at base
ASHLEY FM	7-13	Calcarenite, fine- grained, olive-brown, very phosphatic, weathered in upper 3 feet, phosphate pebble bed at base
PARKERS FERRY FM	13-15	Calcilutite, pale-yellowish-brown, contains echinoid spines

Base of Ten Mile Hill beds: +27 feet above sea level
Base of Ashley Formation: +21 feet above sea level
Bottomed in Parkers Ferry Formation

BE-6: 2.1 mi. W of east quad. border, 0.1 mi. N of south quad. border. Surface elevation 31 feet.

TEN MILE HILL BEDS	0-20	Clay, stiff, medium-gray and medium-orange mottled (0-1) grading rapidly to medium-gray, black phosphate lumps in basal foot
PARKERS FERRY FM	20-50	Calcarenite, very fine grained, to calcilutite, pale-greenish-gray grading down to moderate-greenish-gray by base, contains echinoid spines

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

BE-7: 2.0 miles E of west quad. border, 2.35 mi. N of south quad. border. Surface elevation 55 feet.

LADSON FM	0-7	Sand, medium- grained, well sorted, grading down to fine- grained, silty, light-gray
	7-23	Clay, medium-gray, sticky, stiff, contains coarse sand grains below 16 feet
	23-30	Sand, medium- grained, phosphatic, scattered coarse quartz grains
GOOSE CREEK LS	30-36	Calcarenite, medium- grained, white, phosphate pebble bed at base, contains Argopecten eboreus
PARKERS FERRY FM	36-40	Calcilutite, pale-yellowish-green, micaceous, contains echinoid spines

Base of Ladson Formation: +25 feet above sea level
Base of Goose Creek Limestone: +19 feet above sea level
Bottomed in Parkers Ferry Formation

BE-8: 0.8 mi. E of west quad. border, 1.2 mi. N of south quad. border. Surface elevation 30 feet.

TEN MILE HILL BEDS	0-5	Sand, fine- grained, well sorted, light-brown, grades to:
	5-9	Sand, medium- grained, dark-grayish-brown grading down to black, woody from 8 to 9 feet
	9-14	Sand, coarse-grained, angular, silty, black
DANIEL ISLAND BEDS	14-41	Clay, medium-gray, sticky, dense, very micaceous, wood at 26 feet, greasy
	41-44	Sand, medium- grained, clayey, shelly, pebble bed at base
ASHLEY FM	44-70	Calcarenite, fine- grained, pale-brownish-gray (44-59) grading down to olive-brown (59-70), dense, almost no sand-size phosphate

Base of Ten Mile Hill beds: +16 feet above sea level
Base of Ladson Formation: -14 feet below sea level
Bottomed in Ashley Formation

BE-9: 3.4 mi. W of east quad. border, 4.1 mi. N of south quad. border. Surface elevation 55 feet.

LADSON FM	0-5	Sand, medium-grained, medium-orange, silty, grading down to coarse-grained, angular, pale-gray
	5-9	Sand, medium-grained, white, micaceous, contains numerous very fine grained heavies and some quartz granules
	9-24	Clay, pale-gray, micaceous, grading to dark-bluish-gray by 13 feet, scattered fine sand grains
	24-25	Sand, fine-to medium- grained, in a clay matrix (sand-filled burrows?), medium-gray
	at 25	Concretions, white, non-calcareous
	25-28	Clay, dark-bluish-green, crumbly, contains abundant coarse sand grains
	28-30	Sand, coarse-grained, quartz and feldspar pebbles abundant
GOOSE CREEK LS	30-33	Calcarenite, medium- grained, pale-yellowish-brown, sparse phosphate pebbles at base
PARKERS FERRY FM	33-45	Calcarenite, fine- grained, dark-greenish-gray, mica flakes, phosphate, and forams present

Base of Ladson Formation: +25 feet above sea level
Base of Goose Creek Limestone: +22 feet above sea level
Bottomed in Parkers Ferry Formation

BE-10: 2.0 mi. W of east quad. border, 2.4 mi. S of north quad. border. Surface elevation 59 feet.

LADSON FM	0-9	Sand, medium- grained, well sorted, medium-orange (0-1) grading through light-gray (1-2) to humic dark brown
	9-10	Clay, fine-grained sandy, very micaceous with flakes up to 2 mm in diameter, pale-brown
	10-13	Sand, fine- grained, well sorted, micaceous, numerous fine- grained heavies, finely broken fossil fragments, pale-brown
	13-14	Clay, medium-brown, stiff, silty
	14-31	Clay, medium-gray, sticky, micaceous
	31-67	Sand, medium- grained, medium-gray, micaceous (flakes up to 4 mm diameter), silty, grading to coarse-grained and pebbly by 41 feet, feldspathic
CROSS FM	at 67	Impenetrable bed, smears on end of stem of calcarenite, fine-grained, white, glauconitic

Base of Ladson Formation: -8 feet below sea level
Bottomed on Cross Formation

BE-11: 3.55 mi. E of west quad. border, 1.1 mi. N of south quad. border. Surface elevation 22 feet.

TEN MILE HILL BEDS	0-5	Clay, medium-gray sparsely mottled medium-orange, sandy, with lenses of fine- to medium-grained sand
LADSON FM	5-10	Sand, fine- to coarse grained, medium-gray, poorly sorted, clayey, stiff, quartz gravel (less than 5 cm diameter) in basal foot
PARKERS FERRY FM	10-15	Calcilutite, medium-blue and medium brown mottled grading down to pale-orange, contains glauconite, phosphate, and echinoid spines, weathered and leached in upper 2 feet

Base of Ten Mile Hill beds: +17 feet above sea level
Base of Ladson Formation: +12 feet above sea level
Bottomed in Parkers Ferry Formation

BE-12: 0.6 mi. E of west quad. border, 4.0 miles S of north quad. border. Surface elevation 50 feet.

LADSON FM	0-8	Clay, medium-orange grading down to dark-red and light-gray mottled, sandy grading down to silty
	8-22	Clay, medium-gray, silty, gradational with above
	22-24	Clay, medium-bluish-gray, contains subangular, poorly sorted sand and a few quartz pebbles
GOOSE CREEK LS	24-37	Calcarenite, medium- grained, pale-yellowish-brown, contains calcite-cemented lumps, sparse phosphate pebbles at base
ASHLEY FM	37-45	Calcarenite, fine- grained, olive-brown, contains very large forams

Base of Ladson Formation: +26 feet above sea level
Base of Goose Creek Limestone: +13 feet above sea level
Bottomed in Ashley Formation

BE-13: 1.95 mi. E of west quad. border, 1.4 mi. S of north quad. border. Surface elevation 42 feet.

LADSON FM	0-7	Clay, medium-orange and medium-gray mottled grading through medium-red and medium-gray mottled to light-gray by base, dense, stiff
PARKERS FERRY FM	7-30	Calcilutite, medium-bluish gray and medium-brown mottled (weathered) grading to medium-gray by 12 feet, phosphatic, micaceous, sparse echinoid spines and forams

Base of Ladson Formation: +35 feet above sea level
Bottomed in Parkers Ferry Formation

BE-14: 2.9 mi. W of east quad. border, 0.5 mi. S of north quad. border. Surface elevation about 45 feet.

FILL	0-1	Road material
HOLOCENE	1-5	Clay, dark-gray, sandy, rich in organic matter, soft
LADSON FM	5-15	Clay, dark-gray, dense, contains wood fragments
	15-18	Peat, dark-brown, woody
	18-40	Sand, medium- grained, dark-gray, silty, grades by 22 feet to coarse-grained, subangular, pebbly, feldspathic, and micaceous with very fine grained heavies and blue quartz grains present; probably gravelly at base because of crunchy drilling, but if so this material fell off stem during recovery
CROSS FM	at 40	Impenetrable bed, recovered smear of fine- grained calcarenite, white, glauconitic

Base of Holocene: +40 feet above sea level
Base of Ladson Formation: +5 feet above sea level
Bottomed on Cross Formation

BE-15: 3.0 mi. E of west quad. border, 2.7 mi. S of north quad. border. Surface elevation 53 feet.

LADSON FM	0-5	Sand, fine- grained, pale-yellow grading through medium-orange to dark-gray at base, gets more clayey downward
	5-23	Clay, light-gray to dark-gray, sandy lenses present, pebbly and feldspathic below 16 feet
PARKERS FERRY FM	23-30	Calcilutite, medium-gray, weathered in upper 4 feet

Base of Ladson Formation: +30 feet above sea level
Bottomed in Parkers Ferry Formation

BE-16: 0.5 mi. E of west quad. border, 0.5 mi. N of south quad. border. Surface elevation 27 feet.

TEN MILE HILL BEDS	0-6	Clay, medium-orange, medium-yellow and medium-gray mottled, sandy, stiff, dominantly gray by base
	6-13	Sand, medium-grading down to coarse-grained, medium-brown, pebbly and feldspathic toward base
DANIEL ISLAND BEDS	13-24	Clay, pale-blue, stiff, calcareous lumps and quartz pebbles up to 3 cm in diameter, sandy
GOOSE CREEK LS	24-38	Calcarenite, medium- grained, pale-yellowish-brown abundant calcite-cemented lumps, sparse phosphate pebbles at base
ASHLEY FM	38-45	Calcarenite, fine- grained, olive-brown, large forams sparsely present

Base of Ten Mile Hill beds: +14 feet above sea level
Base of Daniel Island beds: +3 feet above sea level
Base of Goose Creek Limestone: -11 feet below sea level
Bottomed in Ashley Formation

BE-17: 2.4 mi. W of east quad border, 3.1 mi. N of south quad border.
Surface elevation 21 feet.

FILL	0-5	Road material
ALLUVIUM	5-6	Sand, fine-grained, dark-gray
PARKERS FERRY FM	6-32	Calcarenite, very fine grained, light-yellowish-gray with medium-brown mottles grading through medium-olive-gray to medium-greenish-gray by 15 feet, very silty, mica-like flakes abundant, basal foot dark-green and full of phosphate and glauconite sand as well as black phosphate lumps up to 3 cm in diameter
CROSS FM	at 32	Calcarenite, very-fine-grained, very light-greenish-gray, peppered with medium-grained phosphate sand, penetrated about 4 inches before auger began to spin

Base of Alluvium: +15 feet above sea level
Base of Parkers Ferry Formation: -11 feet below sea level
Bottomed on Cross Limestone

BE-18: 2.5 mi. W of east quad border, 4.2 mi. S of north quad border
Surface elevation 44 feet.

LADSON FM	0-4	Sand, fine-grained, medium-brown to dark-brown, well sorted
	4-4.5	Clay, medium-gray with black streaks of carbon
	4.5-5	Sand, medium-to coarse-grained, medium-orange and light-gray mottled, subrounded, clayey
	5-20	Clay, medium-gray (5-9) grading down to medium-bluish-gray, fine-grained sandy, dense, grades down to:
	20-26	Sand, fine-grained, medium-bluish-gray, clayey, contains sparse large muscovite flakes, grades down to:
	26-29	Sand, fine-grained, medium-bluish-gray down grades to:
	29-37	Sand, medium-grained, light-greenish-gray, mostly well sorted but some quartz granules and pebbles (up to 1 cm diam) present, clayey and calcareous in basal 5 feet
PARKERS FERRY FM	37-39	Calcarenite, very-fine-grained, medium-greenish-gray
CROSS LS	39-40	Calcarenite, very fine grained, white with a hint of greenish-gray, medium-yellowish-orange in basal 3 inches

Base of Ladson Formation: +7 feet above sea level
Base of Parkers Ferry Formation: +5 feet above sea level
Bottomed in Cross Limestone

BE-19: 0.3 mi. W of east quad border, 0.85 mi. N of south quad border. Surface elevation 31 feet.

FILL	0-1	Road material
TEN MILE HILL BEDS	1-6	Clay, medium-gray and medium-orange grading down to medium-gray and bright medium-yellowish-orange
	6-10	Sand, fine-grained, medium-brownish-gray, very clayey,grades to:
	10-14	Sand, fine-grained, light-brownish-gray, well sorted, slightly micaceous, grades to:
	14-18	Sand, dominantly medium-grained, medium-gray, poorly sorted, grades to:
	18-21	Sand, dominantly coarse-grained, medium-yellowish-brown, quartz pebbly
DANIEL ISLAND BEDS	21-28	Clay, dark-gray, stiff, micaceous, slightly sandy, 1 cm diameter subrounded quartz and phosphate pebbles present at base
PARKERS FERRY FM	28-48	Calcarenite, very-fine-grained, medium-greenish-gray, silty, contains echinoid spines
	48-57	Calcarenite, dominantly fine-grained, dark-greenish-gray, sand-size phosphate very abundant
CROSS LS	57-57.5	Calcarenite, very fine grained, very light-greenish-gray, contains burrows filled with above lithology

Base of Ten Mile Hill beds: +10 feet above sea level
Base of Daniel Island beds: +3 feet above sea level
Base of Parkers Ferry Formation: -26 feet below sea level
Bottomed in Cross Limestone

BE-20: 0.35 mi. W of east quad border, 2.45 mi. N of south quad border. Surface elevation about 32 feet.

TEN MILE HILL BED	0-5	Sand, fine-to coarse-grained, bright light-yellowish-orange and light-gray mottled, about 1 cm diameter subrounded quartz pebbles present, stiff, clayey
LADSON FM	5-36	Sand, mostly medium-grained, medium-gray, better sorted than above, feldspathic (including labradorite with cleavage), mica flakes up to 3 mm in diameter, grains of blue-quartz, grades rapidly to
	36-45	Sand, coarse-grained, medium-orangish-brown (36-37) rapidly grading to medium-gray, subrounded to subangular, pebbly, very feldspathic, clayey below 40 feet
DANIEL ISLAND BEDS	45-50	Clay, light-bluish-greenish-gray grading to medium-green, stiff, 2-3 mm mica flakes present, plant fragments present

Base of Ten Mile Hill beds: +27 feet above sea level
Base of Ladson Formation: -13 feet below sea level
Bottomed in Daniel Island beds

BE-21: 3.55 mi. W of east quad border, 0.4 mi. N of south quad border. Surface elevation 5 feet.

FILL	0-2	Road material
ALLUVIUM	2-5	Clay, dark-brownish-gray grading down to dark-gray with sparse bright medium-yellowish-orange mottles, fine-grained sandy
	5-7	Sand, medium-grained, dark-gray, woody, 1-3 cm diam. phosphate lumps at base
PARKERS FERRY FM	7-20	Calcarenite, very fine grained, to calcisiltite, clayey, light-greenish-gray (7-9) grading through medium-orangish-brown and light greenish-gray mottled (9-12) and through medium-olive-brown (12-15) to medium-greenish-gray (15-20) top two feet only faintly calcareous (weathered), echinoid spines present below 12 feet

Base of alluvium: -2 feet below sea level
Bottomed in Parkers Ferry Formation

BE-22: 3.05 mi. W of east quad border, 1.9 mi. N of south quad border. Surface elevation 26 feet.

TEN MILE HILL BEDS	0-5	Clay, medium-red, medium-yellow, and medium-gray mottled, fine- to coarse-grained sandy and quartz pebbly (0.5-1.0 cm), grades to:
	5-7	Sand, fine- to coarse-grained, medium-brown, quartz pebbly, very clayey, sharp basal contact
WACCAMAW(?) FM	7-9	Sand, fine-grained, medium-gray, well sorted, grades to:
	9-15	Sand, fine- to medium-grained, medium-yellowish-orange, silty, micaceous, grades to:
	15-18	Sand, coarse-grained, medium-yellowish-orange, shelly (Chione, Dentalium, pectenids, snails, etc.), contains indurated calcite-cemented lumps and phosphate lumps at base
PARKERS FERRY FM	18-20	Calcarenite, very fine grained, light-greenish-gray silty, contains mica-like flakes

Base of Ten Mile Hill beds: +19 feet above sea level
Base of Waccamaw(?) Formation: +8 feet above sea level
Bottomed in Parkers Ferry Formation

BE-23: 3.5 mi. W of east quad border, 2.9 mi. N of south quad border. Surface elevation 30 feet.

TEN MILE HILL BEDS	0-7	Clay, medium-reddish-orange, medium-orange, and medium-gray (0-5) grading to medium-brown (5-7), fine- to coarse-grained sandy, subangular quartz pebbles present, 1 cm diameter dark-brown egg-shaped phosphate pebbles at base.
PARKERS FERRY FM	7-20	Calcarenite, very fine grained, light-gray and medium-orangish-brown mottled, silty, very fine grained phosphate sand present in basal foot.

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

BE-24: 3.5 mi. E of west quad border, 1.95 mi. N of south quad border. Surface elevation 23 feet.

TEN MILE HILL BEDS	0-5	Sand, coarse-grained, medium-gray, clayey in upper part, grades to:
	5-9	Clay, medium-gray with medium-orangish-brown mottles, sandy, grading to sand, medium -grained, clayey
GOOSE CREEK LS	9-10	Calcarenite, medium-grained, light-yellowish-white, black phosphate grains scattered throughout and phosphate pebbles at base

Base of Ten Mile Hill beds: +14 feet above sea level
Bottomed in Goose Creek Limestone (probably just above Parkers Ferry)

BE-25: 1.9 mi. E of west quad border, 3.6 mi. S of north quad border. Surface elevation 54 feet.

LADSON FM	0-5	Sand, medium-grained, medium-brownish-orange grading down to medium-yellowish-orange and both mottled with light-gray,subrounded, silty
	5-7	Sand, fine-grained, light-yellowish-gray, micaceous, well sorted, silty
	7-8	Clay, light-orange
	8-19	Clay, dark-gray, greasy
	19-27	Clay, dark-greenish-gray, mostly stiff with coarse sand grains and subangular quartz pebbles.
GOOSE CREEK LS	27-44	Calcarenite, medium-grained, very light-gray, most fell off stem, phosphate pebble bed at base
PARKERS FERRY FM	44-45	Calcilutite, medium-greenish-gray

Base of Ladson Formation: +27 feet above sea level
Base of Goose Creek Limestone: +10 feet above sea level
Bottomed in Parkers Ferry Formation

BE-26: 1.0 mi. E of west quad border, 2.85 mi. N of south quad border. Surface elevation 61 feet.

LADSON FM	0-7	Sand, very-fine-to fine-grained, medium-orangish-brown grading through light-gray to light-brown, well sorted, grades down to:
	7-14	Sand, medium-grained, dark-brown, well sorted, rapidly grades down to:
	14-26	Clay, medium-bluish-greenish-gray grading to medium-bluish-gray, greasy
	26-37	Clay, light-greenish-gray, stiff, fine-to coarse-grained sandy and quartz pebbly, grades down to:
	37-41	Sand, fine-to coarse-grained, medium-greenish-gray, poorly sorted, subrounded, clayey, stiff
GOOSE CREEK LS	41-54	Calcarenite, medium-grained, very light-gray, phosphate pebble bed at base
ASHLEY FM	54-55	Calcarenite, very-fine-grained, medium-olive-brown, contains large forams and a phosphatized coral

Base of Ladson Formation: +20 feet above sea level
Base of Goose Creek Limestone: +7 feet above sea level
Bottomed in Ashley Formation

BE-27: 1.4 mi. E of west quad border, 2.55 mi. S of north quad border. Surface elevation 38 feet.

FILL	0-1	Road material
LADSON FM	1-5	Sand, fine-to medium-grained, medium-orangish-brown and light-gray mottled grading down to light-gray, silty and clayey, micaceous
	5-8	Sand, very-fine-grained, light-gray, very micaceous, light-gray clay lens at base
	8-10	Sand, fine-grained, light-grayish-brown, well sorted, very micaceous
	10-11	Sand, fine-grained, medium-orange, clayey
	11-22	Sand, fine-grained, medium-gray, clayey, woody in basal foot
GOOSE CREEK LS	22-49	Calcarenite, medium-grained, very-light-gray, scattered 3-4 mm quartz grains near base
PARKERS FERRY FM	49-51	Calcarenite, medium-grained, dark-greenish-gray, glauconite and phosphate sand very abundant
CROSS FM	51-61	Calcarenite, very fine grained, light-greenish-gray, impenetrable bed at base

Base of Ladson Formation: +16 feet above sea level
Base of Goose Creek Limestone: -11 feet below sea level
Base of Parkers Ferry Formation: -13 feet below sea level
Bottomed in Cross Limestone

BE-28: 0.35 mi. E of west quad border, 0.5 mi. S of north quad border. Surface elevation about 42 feet.

LADSON FM	0-5	Clay, dark-orange grading down to medium-yellowish-orange, both mottled with light-gray, fine-to coarse-grained sandy, stiff, grades to:
	5-11	Sand, fine-to coarse-grained, medium-yellowish-orange and light-gray mottled, stiff, clayey, contains subrounded to subangular quartz pebbles, feldspathic
ASHLEY FM	11-23	Calcarenite, fine-grained, medium-yellowish-brown grading through dark-yellowish-gray to dark-olive, phosphate sand abundant, sharp basal contact
PARKERS FERRY FM	23-53	Calcisiltite, medium-greenish-gray, clayey, stiff, contains mica-like flakes
	53-55	Calcarenite, fine-grained, dark-green, contains abundant glauconite and phosphate sand

Base of Ladson Formation: +31 feet above sea level
Base of Ashley Formation: +19 feet above sea level
Bottomed in Parkers Ferry Formation (probably just above Cross)

BE-29: 3.4 mi. W of east quad border, 2.0 mi. S of north quad border.
Surface elevation about 55 feet.

LADSON FM	0-5	Sand, very-fine-to fine-grained, medium-orange (0-1) grading through dark-orangish-brown (1-3) to light-reddish-gray (3-5), well sorted
	5-8	Sand, fine-grained, light-orange
	8-9	Clay, light-gray, stiff
	9-10	Sand, very-fine-to fine-grained, light-gray, very micaceous
	10-28	Clay, dark-gray, greasy
	28-29	Sand, fine-to coarse-grained, medium-gray, some phosphate sand and mica (up to 4 mm diam)
	29-34	Clay, medium-greenish-gray, stiff, fine-to coarse-grained sandy, feldspathic, quartz pebbly
CROSS LS	34-50	Calcarenite, fine-grained, white with a greenish tinge, glauconite and phosphate sand abundant, shell fragments locally abundant

Base of Ladson Formation: +21 feet above sea level
Bottomed in Cross Limestone

BE-30: 3.6 mi. E of west quad border, on north quad border.
Surface elevation about 45 feet.

FILL	0-1	Road material
LADSON FM	1-8	Clay, dark-gray grading down to dark-brownish-gray, greasy
	8-18	Clay, light-gray, sticky, micaceous, rotten shells in basal 2 feet
	18-51	Sand, very-fine and micaceous grading through fine-grained to medium-grained by 30 feet and then to coarse-grained and to very-coarse-grained and quartz pebbly, light-gray
	51-53	Sand, very-coarse-grained, light-greenish-gray, contains 2-6 cm diameter lumps of Cross Limestone which are irregularly pitted and white
CROSS LS	53-55	Calcarenite, very-fine-grained, white

Base of Ladson Formation: -8 feet below sea level
Bottomed in Cross Limestone

BE-31: 1.5 mi. W of east quad border, on north quad border.
Surface elevation about 48 feet

LADSON FM	0-9	Sand, fine-grained, black (0-1) grading through medium-yellowish-brown (1-3) and light-brown (3-5) to light-orange (5-9), well sorted, gets stiffer and more clayey downward
	9-12	Clay, medium-orange and medium-red, micaceous
	12-19	Sand, medium-grained grading down to fine-grained, medium-orange
	19-28	Clay, medium-orangish-gray grading through medium-orange and medium-reddish-orange to medium-pinkish-red, stiff, gets sandier downward and grades to:
	28-35	Sand, fine-grading down to medium-grained, medium-red grading down to medium-reddish-orange, micaceous.
	35-44	Clay, medium-reddish-orange, contains coarse sand grains and quartz pebbles
CROSS LS	44-45	Calcarenite, fine-grained, white, very tough drilling

Base of Ladson Formation: +4 feet above sea level
Bottomed in Cross Limestone

BE-32: 0.2 mi. W of east quad border, 4.2 mi. N of south quad border.
Surface elevation 32 feet.

TEN MILE HILL BEDS	0-5	Clay, dark-gray grading to medium-gray and bright medium-yellowish-orange, fine-to coarse-grained sandy
	5-10	Clay, medium-yellowish-gray, coarse-grained sandy and quartz pebbly
	10-16	Clay, medium-yellowish-orange and medium-bluish-green mottled, stiff, not pebbly, contains white blebs, breaks into sticky sheets, lumps of black phosphate (up to 3 cm diameter) at base
CROSS LS	16-20	Calcarenite, very-fine-grained, light-to medium-greenish-gray, grains of glauconite and phosphate visible, shell fragments present

Base of Ten Mile Hill beds: +16 feet above sea level
Bottomed in Cross Limestone

BE-33: 2.2 mi. W of east quad border, 2.35 mi. N of south quad border. Surface elevation 32 feet.

TEN MILE HILL BEDS	0-7	Sand, fine-to medium-grained, dark-orange and light-gray mottled, stiff, clayey, micaceous, grades to:
	7-12	Sand, coarse-grained, light-orange, quartz pebbly
PARKERS FERRY FM	12-20	Calcarenite, very-fine-grained, light-gray grading down to medium-greenish-gray, contains mica-like flakes

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

BE-34: 2.7 mi. E of west quad border, 0.5 mi. N of south quad border. Surface elevation about 18 feet.

TEN MILE HILL BEDS	0-5	Clay, light-orange and light-gray with sparse medium-red mottles, stiff, grades abruptly to
	5-7	Sand, coarse-grained, light-orange and light-gray, subrounded quartz pebbly, stiff, very clayey, 2 cm diameter phosphate pebbles at base
PARKERS FERRY FM	7-15	Calcarenite, very-fine-grained, light-gray and medium-orange mottled, leached at top and clayey, contains mica-like flakes and echinoid spines

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

CORDESVILLE QUADRANGLE
(Depths in feet)

CO-1: 1.75 mi. E of west quad. border, 2.2 mi. S of north quad. border. Surface elevation about 25 feet (road cut exposure).		
LADSON FM	0-5	Sand, coarse-grained, reddish-orange, angular
PENHOLOWAY FM	5-8	Sand, fine-grained, reddish-orange, well sorted, very fine grained heavies abundant, upper contact burrowed and burrows filled with coarse-grained angular sand
Base of Ladson Formation: +20 feet above sea level Base of section in Penholoway Formation		
CO-2: 0.9 mi. E of west quad. border, 2.7 mi. S of north quad. border. Surface elevation 50 feet (road cut exposure).		
LADSON FM	0-8	Sand, coarse-grained, medium-reddish-orange, poorly sorted, clayey matrix, contains light-gray clay laminae
Base of exposure in Ladson Formation		
CO-3: 0.95 mi. E of west quad. border, 2.5 mi. S of north quad. border. Surface elevation about 30 feet (roadside ditch exposure).		
ASHLEY FM	0-10	Calcarenite, fine-grained, light-yellowish-brown, sparsely shelly, semi-indurated
Base of exposure in Ashley Formation		
CO-4: 1.05 mi. E of west quad. border, 2.9 mi. S of north quad. border. Surface elevation about 50 feet (roadcut and adjacent ditch exposure).		
LADSON FM	0-20	Sand, coarse-grained, reddish-orange, angular, poorly sorted, clayey, with interbedded light-gray clay laminae
ASHLEY FM	20-23	Calcarenite, fine-grained, light-yellowish-brown
Base of Ladson Formation: +30 feet above sea level Bottom of section in Ashley Formation		

CO-5: 1.2 mi. E of west quad. border, 0.5 mi. S of north quad. border. Surface elevation about 65 feet (roadcut exposure).

PENHOLOWAY FM	0-4	Sand, fine-grained, pale-yellow, well sorted
	4-5	Sand, fine-grained, reddish-orange, and clay, medium-gray, interbedded
	5-12	Sand, medium- to coarse-grained, subrounded to subangular, reddish-orange and white speckled, white specks are detrital lumps of gibbsite

Bottom of section in Penholoway Formation

CO-6: 1.05 mi. E of west quad. border, 0.6 mi. S of north quad. border. Surface elevation about 27 feet.

FILL	0-12	Road material
WANDO FM (UPPER MEM)	12-25	Sand, medium-grained, pale-brown, poorly sorted, silty
ASHLEY FM	25-41	Calcarenite, fine-grained, olive-brown, contains quartz and phosphate sand
PARKERS FERRY FM	41-50	Calcilutite, light-grayish-green, contains echinoid spines, basal 2 feet full of phosphate pebbles
CROSS FM	50-60	Calcarenite, fine-grained, pale-yellowish-brown, contains sand-size phosphate, tough drilling

Base of Wando Formation (upper member): +2 feet above sea level
Base of Ashley Formation: -14 feet below sea level
Base of Parkers Ferry Formation: -23 feet below sea level
Bottomed in Cross Formation

CO-7: 0.45 mi. W of east quad. border, 0.65 mi. S of north quad. border. Surface elevation about 36 feet.

LADSON FM	0-11	Clay, medium-gray and medium-orange mottled, sandy (coarse-grained), stiff
	11-16	Sand, coarse-grained, medium-orange, poorly sorted, clayey
GOOSE CREEK LS	16-18	Calcarenite, medium-grained, pale-yellowish-brown, phosphate pebbles at base, loose on stems
ASHLEY FM	18-23	Calcarenite, fine-grained, olive-brown, contains sand-size phosphate
PARKERS FERRY FM	23-40	Calcilutite, light-grayish-green

Base of Ladson Formation: +20 feet above sea level
Base of Goose Creek Limestone: +18 feet above sea level
Base of Ashley Formation: +13 feet above sea level
Bottomed in Parkers Ferry Formation

CO-8: 2.65 mi. W of east quad. border, 3.05 mi. N of south quad. border. Surface elevation 48 feet.

LADSON FM	0-5	Clay, medium-orange, medium-red, and sparsely light-gray mottled, stiff, sandy (medium-grained, subangular), grades to:
	5-12	Sand, medium-grained, color as above, clayey
	12-20	Clay, light-gray grading through medium-gray to dark-gray, sticky, basal 3 inches sandy, phosphate pebbles above sandy basal horizon
GOOSE CREEK LS	20-31	Calcarenite, medium-grained, pale-yellowish-brown
ASHLEY FM	31-35	Calcarenite, fine-grained, olive-brown, numerous large forams

Base of Ladson Formation: +28 feet above sea level
Base of Goose Creek Limestone: +17 feet above sea level
Bottomed in Ashley Formation

CO-9: 0.75 mi. E of west quad. border, 0.9 mi. N of south quad. border. Surface elevation 31 feet.

TEN MILE HILL BEDS	0-5	Sand, fine-grained, medium-red, silty, clayey, micaceous
	5-16	Sand, fine-grained, medium-orange (5-7) grading to pale-brown (7-16), well sorted, clayey below 13 feet, very micaceous with flakes up to 3 mm in diameter toward base
	16-28	Clay, medium-gray grading to dark-gray by 22 feet, sparsely micaceous, basal lag composed of 1 cm diameter lumps of Ashley
ASHLEY FM	28-30	Calcarenite, fine-grained, olive-brown, sparsely shelly

Base of Ten Mile Hill beds: +3 feet above sea level
Bottomed in Ashley Formation

CO-10: 0.65 mi. E of west quad. border, 1.0 mi. N of south quad. border. Surface elevation about 15 feet.

WANDO FM (UPPER MEM)	0-5	Sand, fine-grained, dark-gray, grading down to clayey, dark gray and medium-orange mottled, sparsely micaceous
TEN MILE HILL BEDS	5-8	Clay, very-light-gray, stiff, contains caliche-like nodules in upper foot (same clay as in CO-9, 16-28 feet)
CHANDLER BRIDGE FM	8-8.5	Sand, fine-grained, medium-brown and medium-gray mottled, iron-hydroxide-rich weathered zone at upper contact, contains fish teeth and bones, sharp basal contact but no lag deposit
ASHLEY FM	8.5-10	Calcarenite, fine-grained, pale-brown

Base of Wando Formation (upper member): +10 feet above sea level
Base of Ten Mile Hill beds: +7 feet above sea level
Base of Chandler Bridge Formation: about +6 feet above sea level
Bottomed in Ashley Formation

CO-11: 0.25 mi. E of west quad. border, 1.0 mi. N of south quad. border. Surface elevation 8 feet.

SILVER BLUFF	0-8	Clay, medium-gray sparsely mottled with medium-orange, stiff, contains wood fragments, grades to pale-gray with sand lenses from 5 to 8 feet
PENHOLOWAY FM	8-14	Sand, fine-grained, medium-gray, well sorted, clean, contains numerous very fine-grained heavies, large mica flakes, parse small phosphate pebbles, sharks teeth and quartz pebbles along basal contact
ASHLEY FM	14-20	Calcarenite, fine-grained, olive-brown, sparse shell fragments present, contains abundant sand-sized phosphate

Base of Silver Bluff (Holocene): ±0 feet at sea level
Base of Penholoway Formation: -6 feet below sea level
Bottomed in Ashley Formation

CO-12: 0.1 mi. E of west quad. border, 1.8 mi. N of south quad. border. Surface elevation about 15 feet.

WANDO FM	0-3	Sand, fine-grained, light-gray, well sorted
(UPPER MEM)	3-14	Clay, light-gray and medium-orange mottled, sandy, sparse quartz pebbles at base
ASHLEY FM	14-25	Calcarenite, fine-grained, pale-brown grading down to olive-brown

Base of Wando Formation (upper member): +1 foot above sea level
Bottomed in Ashley Formation

CO-13: 0.4 mi. E of west quad. border, 4.25 mi. S of north quad. border. Surface elevation about 45 feet.

LADSON FM	0-9	Sand, fine-grained, pale-orange, pale-gray and dark-brown mottled, angular, clayey, grades to medium-orange below 5 feet
	9-10	Clay, medium-gray, sandy
ASHLEY FM	10-15	Calcarenite, fine-grained, pale-brown grading to olive-brown, contains clacite-cemented lumps

Base of Ladson Formation: +35 feet above sea level
Bottomed in Ashley Formation

CO-14: 1.65 mi. E of west quad. border, 2.6 mi. S of north quad. border. Surface elevation 10 feet.

FILL	0-4	Road material
ALLUVIUM	4-8	Sand, fine-grained, medium-gray and medium-orange mottled, clayey, quartz pebbles at base up to 0.5 cm in diameter
ASHLEY FM	8-50	Calcarenite, fine-grained, olive-brown, contains sand-size phosphate that becomes very abundant near base, phosphate lumps at base
CROSS FM	50-55	Calcarenite, fine-grained, pale-yellowish-gray, contains coarse-grained phosphate sand, tough and ledgy drilling

Base of Alluvium (Holocene): +2 feet above sea level
Base of Ashley Formation: -40 feet below sea level
Bottomed in Cross Formation

CO-15: 2.2 mi. E of west quad. border, 2.5 mi. S of north quad. border. Surface elevation 35 feet.

TEN MILE HILL BEDS	0-6	Sand, fine-grained, medium-orange and medium-brown mottled, clayey in upper foot, loose, loamy texture, large mica flakes scattered throughout
LADSON FM	6-15	Sand, medium-grained, medium-orange, poorly sorted, silty, scattered coarse-grained quartz and feldspar grains, contains large mica flakes, grades to:
	15-36	Sand, medium- to coarse-grained, medium-gray, sparsely pebbly, poorly sorted
	36-38	Clay, dark-gray, contains subrounded to subangular quartz pebbles about 1 cm in diameter
ASHLEY FM	38-40	Calcarenite, fine-grained, olive-brown

Base of Ten Mile Hill beds: +29 feet above sea level
Base of Ladson Formation: -3 feet below sea level
Bottomed in Ashley Formation

CO-16: 1.05 mi. S of north quad. border, 3.35 mi. E of west quad. border. Surface elevation 35 feet.

TEN MILE HILL BEDS	0-8	Clay, medium-brown, medium-orange, and medium-gray mottled, contains coarse quartz grains and pebbles, pebbles more abundant below 5 feet
PENHOLOWAY FM	8-26	Sand, fine-grained, light-brown grading down to medium-gray, silty, well sorted
CROSS FM	26-30	Calcarenite, fine-grained, pale-yellowish-gray, contains oyster fragments, tough and ledgy drilling

Base of Ten Mile Hill beds: +27 feet above sea level
Base of Penholoway Formation: +9 feet above sea level
Bottomed in Cross Formation

CO-17: 1.75 mi. E of west quad. border, 0.15 mi. S of north quad. border. Surface elevation 75 feet.

PENHOLOWAY FM	0-5	Sand, fine-grained, clayey, light-gray grading down to intense medium-red, iron oxide cemented nodules in basal foot
	5-15	Sand, fine-to coarse-grained, medium-orange grading down to light-brown, poorly sorted and quartz pebbly, abundant large mica flakes
	15-23	Silt grading down to clay, medium-brown grading down to bluish-gray
	23-29	Sand, fine-grained, medium-gray, silty, contains stiff clay lumps and aragonitic shell fragments, medium-bluish-gray in basal foot with shell hash and coarse quartz grains present
ASHLEY FM	29-40	Calcarenite, fine-grained, olive-brown, abundant large forams

Base of Penholoway Formation: +46 feet above sea level
Bottomed in Ashley Formation

CO-18: 1.3 mi. W of east quad. border, 3.1 mi. S of north quad. border. Surface elevation about 36 feet.

TEN MILE HILL BEDS	0-6	Clay, medium-red mottled medium-orange and medium-gray, grading down to medium-gray mottled medium-orange, sandy, sand poorly sorted
LADSON FM	6-11	Sand, fine- to coarse-grained, pale-brown, silty, grading to
	11-22	Sand, fine-grained, dark-gray, silty, micaceous, grading down by 17 feet to coarse-grained, pebbly and feldspathic, woody, sharp contact with below
DANIEL ISLAND BEDS	22-39	Clay, dark-gray, stiff, sandy, medium-brown wood-rich zone at about 28 feet
	39-43	Sand, fine- to medium-grained, dark-brown, humic
	43-44	Peat, woody, dark-brown
	44-51	Clay, dark-brown, woody, sparsely shelly in basal 4 feet, rounded and worn wood and calcite-cemented lumps at base
ASHLEY FM	51-55	Calcarenite, fine-grained, yellowish-olive-green, glauconitic, abundant large forams

Base of Ten Mile Hill beds: +30 feet above sea level
Base of Ladson Formation: +24 feet above sea level
Base of Daniel Island beds: -15 feet below sea level
Bottomed in Ashley Formation

CO-19: 2.25 mi. W of east quad. border, 1.5 mi. S of north quad. border. Surface elevation 25 feet.

TEN MILE HILL BEDS	0-6	Clay, medium-greenish-gray, medium-orange and medium-brown mottled, sandy, stiff, micaceous, sparsely woody
	6-15	Sand, fine-grained, medium-brown, silty, poorly sorted with some angular medium-grain sand, dark-gray sandy clay lenses at 10 feet and at 15 feet
GOOSE CREEK LS	15-21	Calcarenite, medium-grained, pale-yellowish-brown, no basal phosphate bed
ASHLEY FM	21-35	Calcarenite, fine-grained, olive-brown, abundant large forams, abundant sand-size phosphate, phosphate pebbles abundant by base, probably close to basal contact

Base of Ten Mile Hill beds: +10 feet above sea level
Base of Goose Creek Limestone: +4 feet above sea level
Bottomed in Ashley Formation

CO-20: 2.1 mi. W of east quad. border, 0.2 mi. S of north quad. border. Surface elevation 20 feet.

TEN MILE HILL BEDS	0-6	Sand, fine-grained, clayey, to clay, sandy, medium-orange with medium-gray mottles, stiff, very poorly sorted, contains subangular quartz pebbles
GOOSE CREEK LS	6-11	Calcarenite, medium-grained, pale-yellowish-brown
PARKERS FERRY FM	11-35	Calcilutite, light-grayish-green, glauconitic and phosphatic sand, echinoid spines present, sand-size phosphate very abundant in basal 2 feet (near basal contact?)

Base of Ten Mile Hill beds: +14 feet above sea level
Base of Goose Creek Limestone: +9 feet above sea level
Bottomed in Parkers Ferry Formation

CO-21: 2.7 mi. E of west quad. border, 3.65 mi. S of north quad. border. Surface elevation 5 feet.

FILL	0-5	Ashley Formation spoil from rediversion canal bed, plant debris at base
ALLUVIUM	5-6	Sand, fine-grained, medium-gray mottled medium-orange, clayey
	6-11	Sand, fine-grained, medium-gray, well sorted, silty
ASHLEY FM	11-15	Calcarenite, fine-grained, pale-brown grading down to olive-brown, abundant sand-size forams

Base of Alluvium (Holocene): -6 feet below sea level
Bottomed in Ashley Formation

CO-22: 1.75 mi. W of east quad. border, 1.9 mi. N of south quad. border. Surface elevation 55 feet.

LADSON FM	0-6	Sand, fine-grained, pale-orangish-brown grading down to medium-gray mottled medium-orange, well sorted, slightly silty
	6-21	Clay, medium-orange grading down to medium-gray by 7 feet, micaceous, silty, gets sandy downward, sand fraction poorly sorted
GOOSE CREEK LS	21-48	Calcarenite, medium-grained, pale- to medium-gray grading down to pale-brown, oyster and Amusium mortoni fragments, sparse phosphate pebbles at base
ASHLEY FM	48-55	Calcarenite, fine-grained, olive-brown, large forams abundant

Base of Ladson Formation: +34 feet above sea level
Base of Goose Creek Limestone: +7 feet above sea level
Bottomed in Ashley Formation

CO-23: 0.9 mi. W of east quad. border, 0.8 mi. N of south quad. border. Surface elevation 54 feet.

LADSON FM	0-7	Sand, fine-grained, pale-orange grading rapidly to humic dark-brown, well sorted
	7-26	Clay, dark-gray, greasy, scattered wood fragments and abundant wood near base
	26-29	Sand, fine-grained, dark-gray, silty, grading down to
	29-36	Clay, dark-gray, sandy (poorly sorted, fine- to coarse-grained), woody
GOOSE CREEK LS	36-40	Calcarenite, medium-grained, pale-yellowish-brown

Base of Ladson Formation: +18 feet above sea level
Bottomed in Goose Creek Limestone

CO-24: 2.5 mi. E of west quad. border, 2.95 mi. N of south quad. border. Surface elevation 40 feet.

LADSON FM	0-6	Clay, medium-red mottled medium-gray, stiff, sandy (coarse-grained) grading to
	6-13	Sand, coarse-grained, medium-red and medium-gray mottled, subangular, feldspathic, clayey, phosphate sand occurs near base and phosphate pebbles at base
ASHLEY FM	13-20	Calcarenite, fine-grained, pale-brown rapidly grading down to olive-brown, large forams abundant

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

CO-25: 3.55 mi. E of west quad. border, 4.05 mi. S of north quad. border. Surface elevation 42 feet.

LADSON FM	0-12	Sand, fine- to coarse-grained, medium-orange grading down to medium-orange mottled gray, poorly sorted, feldspathic sand and angular pebbles, stiff drilling in top five feet and very clayey
ASHLEY FM	12-15	Calcarenite, fine-grained, olive-brown

Base of Ladson Formation: +30 feet above sea level
Bottomed in Ashley Formation

CO-26: 2.45 mi. E of west quad. border, 1.35 mi. N of south quad. border. Surface elevation 35 feet.

TEN MILE HILL BEDS	0-9	Sand, fine- to coarse-grained, medium-orange mottled medium-gray, subangular, poorly sorted, clay matrix
PENHOLOWAY FM	9-39	Sand, very- fine-grained grading down to fine-grained by 18 feet, pale-brown grading down to dark-greenish-brown by 18 feet, well sorted, silty, shell fragments from 30-39 feet, sparse phosphate pebbles and medium to coarse sand grains in basal foot
ASHLEY FM	39-45	Calcarenite, fine-grained, olive-brown, rare large forams present

Base of Ten Mile Hill beds: +26 feet above sea level
Base of Penholoway Formation: -4 feet below sea level
Bottomed in Ashley Formation

CO-27: 0.55 mi. W of east quad. border, 3.05 mi. W of east quad. border. Surface elevation about 55 feet.

LADSON FM	0-11	Sand, fine-grained, medium-brownish-orange grading through pale-white (7-10) to bright medium-orange, well sorted
	11-27	Clay, light-gray (11-13) grading to dark-gray, silty, micaceous
DANIEL ISLAND BEDS	27-36	Clay, medium-greenish-gray, very stiff, dense, sandy (fine to coarse), sharp contact with above
GOOSE CREEK LS	36-48	Calcarenite, medium-grained, pale-yellowish-brown, abundant phosphate pebble beds at base
ASHLEY FM	48-50	Calcarenite, fine-grained, olive-brown, numerous large forams

Base of Ladson Formation: +28 feet above sea level
Base of Daniel Island beds: +19 feet above sea level
Base of Goose Creek Limestone: +7 feet above sea level
Bottomed in Ashley Formation

CO-28: 2.8 mi. E of west quad. border, 2.05 mi. S of north quad. border. Surface elevation about 19 feet.

FILL	0-5	Road material
LADSON FM	5-6	Soil zone
	6-13	Sand, coarse-grained, medium-gray, angular, silty
	13-15	Clay, dark-gray, sandy (fine to coarse), pebbly, stiff
ASHLEY FM	15-20	Calcarenite, fine-grained, pale-brown grading down to olive-brown, large forams abundant

Base of Ladson Formation: +4 feet above sea level
Bottomed in Ashley Formation

HUGER QUADRANGLE
(Depths in feet)

HU-1: 3.5 mi. W of east quad. border, 2.75 mi. N of south quad. border. Surface elevation 40 feet.

TEN MILE HILL BEDS	0-7	Sand, fine-grained, medium-orange, well sorted, very-fine-grained heavies abundant
	7-10	Clay, medium-gray, micaceous
	10-13	Silt, medium-gray and medium-orange mottled, sandy, very micaceous
	13-25	Clay, dark-gray, silty, sandy, very micaceous
	25-36	Sand, fine-grained, dark-gray, slightly clayey, shelly below 33 feet (including *Anadara ovalis*)
	36-37	Clay, medium-gray, sandy
	37-42	Sand, medium-grained, medium-gray, contains shell hash, sparse phosphate pebbles at base
ASHLEY FM	42-50	Calcarenite, fine-grained, medium-brown, large forams present

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

HU-2: 2.65 mi. W of east quad. border, 1.05 mi. N of south quad. border. Surface elevation 35 feet.

FILL	0-1	Road material
TEN MILE HILL BEDS	1-7	Clay, dark-gray and medium-orange mottled grading down to medium-gray, sandy
	7-21	Sand, very-fine-grained, medium-gray, silty, contains large mica flakes, grades to:
	21-31	Sand, fine-grained, medium-gray, micaceous, contains phosphate sand, dominantly clay from 27-29
	31-45	Clay, medium-gray, sandy, micaceous and sand, fine-grained, medium-gray, silty, interbedded, Mulinia present
	45-66	Sand, grades from fine- through medium- to coarse-grained by base, includes Mulinia shell hash and phosphate sand, phosphate pebbles and rounded wood fragments at base
DANIEL ISLAND BEDS	66-72	Clay, medium-bluish-gray, stiff, dense, fine-grain size flakes of mica
	72-74	Sand, medium-grading to coarse-grained, medium-bluish-gray, shell hash and phosphate lumps at base, burrows penetrate unit below
ASHLEY FM	74-80	Calcarenite, fine-grained, olive-brown, large forams abundant

Base of Ten Mile Hill beds: -31 feet below sea level
Base of Daniel Island beds: -39 feet below sea level
Bottomed in Ashley Formation

HU-3: 0.9 mi. W of east quad. border, 1.0 mi. N of south quad. border. Surface elevation 31 feet.

TEN MILE HILL BEDS	0-5	Sand, fine-grained, medium-orange grading to light-gray, clayey
	5-33	Sand, fine-grained, pale-brown grading to medium-gray by 10 feet, silty, micaceous, sparse very-fine-grained heavies, one foot bed of stiff, medium-gray clay at 19 feet, shelly below 23 feet (mostly Mulinia, some oyster) and abundantly shelly from 28 to 33 feet
DANIEL ISLAND BEDS	33-45	Clay, medium-bluish-gray, dense, tough
	45-47	Peat, dark-brown to black, woody
	47-63	Clay, dark-gray, micaceous, stiff, wood fragments scattered throughout, sparse phosphate pebbles and sand lenses at base, dark-brown in basal foot
ASHLEY FM	63-80	Calcarenite, fine-grained, pale-brown

Base of Ten Mile Hill beds: -2 feet below sea level
Base of Daniel Island beds: -32 feet below sea level
Bottomed in Ashley Formation

HU-4: 1.2 mi. W of east quad. border, 4.0 mi. N of south quad. border. Surface elevation 31 feet.

TEN MILE HILL BEDS	0-5	Sand, fine-grained, medium-orange with sparse medium-gray mottles, stiff, clayey
	5-10	Sand, fine-grained, medium-orange and clay, light-gray and white, interbedded
	10-18	Clay, light-gray grading down to dark-gray, greasy texture, sparse phosphate pebbles and coarse-grained quartz sand at base
GOOSE CREEK LS	18-27	Calcarenite, medium-grained, pale-yellowish-brown, phosphate lumps in basal 2 feet
ASHLEY FM	27-35	Calcarenite, fine-grained, pale-brown in uppermost foot and olive-brown below that, large forams abundant

Base of Ten Mile Hill beds: +13 feet above sea level
Base of Goose Creek Limestone: +4 feet above sea level
Bottomed in Ashley Formation

HU-5: 2.25 mi. W of east quad. border, 3.5 mi. S of north quad. border. Surface elevation 28 feet.

TEN MILE HILL BEDS	0-7	Sand, fine-grained, medium-orange with sparse medium-gray mottles grading down to medium-orange, clayey grading down to silty
	7-20	Sand, fine-grained, white, sparse mica and very fine-grained heavies, with clay interbeds about 0.5 cm thick at top but thickening to about 3 cm toward base, light-gray at top but becoming medium-gray downward, phosphate pebbles at base
GOOSE CREEK LS	at 20	Calcarenite, medium-grained, pale-yellowish-brown, abundant phosphate sand and pebbles, bed about 3 inches thick
ASHLEY FM	20-35	Calcarenite, fine-grained, olive-brown, large forams present

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

HU-6: 3.35 mi. W of east quad. border, 2.1 mi. S of north quad. border. Surface elevation 5 feet.

FILL	0-5	Road material
HOLOCENE	5-9	Compacted marsh muck, dark-gray, coarse-grained pebbly quartz sand at base
ASHLEY FM	9-22	Calcarenite, fine-grained, pale-brown and olive-brown mottled grading to olive-brown, phosphate sand and glauconite sand abundant, sparse phosphate pebbles at base
PARKERS FERRY FM	22-30	Calcilutite, pale-green, contains sparse echinoid spines

Base of Holocene: -4 feet below sea level
Base of Ashley Formation: -17 feet below sea level
Bottomed in Parkers Ferry Formation

HU-7: 2.3 mi. E of west quad. border, 3.05 mi. S of north quad. border. Surface elevation 29 feet.

TEN MILE HILL BEDS	0-5	Sand, fine-grained, medium-orange and medium-gray mottled, stiff, silty, clayey, micaceous
	5-21	Clay and sand, fine-grained, silty and clayey, interbedded, medium-gray and medium-orange mottled
	21-24	Clay, dark-gray, 4 inch thick peat bed at base
	24-25	Sand, fine-grained, medium-gray, clean, well sorted
	25-28	Clay, dark-gray, sandy
	28-37	Sand, fine-grained, medium-gray, silty
	37-47	Clay, dark-gray, greasy, micaceous
	47-49	Clay, dark-brown, woody
	49-53	Peat, dark-brown
	53-55	Clay, dark-brown, woody
	55-60	Sand, medium- to coarse-grained, dark-brownish-gray, poorly sorted, subangular, pebbly
DANIEL ISLAND BEDS	60-71	Clay, dark-gray, stiff, micaceous
	71-72	Peat, dark-brown, sandy
	72-75	Clay, dark-greenish-gray, hackly, sparse shell fragments

Base of Ten Mile Hill beds: -31 feet below sea level
Bottomed in Daniel Island beds

HU-8: 3.15 mi. W of east quad. border, 0.75 mi. S of north quad. border. Surface elevation 36 feet.

TEN MILE HILL BEDS	0-10	Clay, medium-red and medium-gray mottled (0-5) grading down to medium-gray, sandy, stiff
	10-22	Sand, fine-grained, pale-brown, subangular, silty, pebbly and poorly sorted below 14 feet
	22-23	Clay, light-gray grading down to dark-gray
LADSON FM	23-31	Sand, medium- and coarse-grained, poorly sorted, grading by 25 feet to coarse-grained, dark-gray, contains abundant feldspar grains, quartz pebbles abundant toward base
PARKERS FERRY FM	31-35	Calcilutite, pale-greenish-gray, small mica flakes scattered throughout, echinoid spines present

Base of Ten Mile Hill beds: +13 feet above sea level
Base of Ladson Formation: +5 feet above sea level
Bottomed in Parkers Ferry Formation

HU-9: On east quad. border, 0.3 mi. S of north quad. border.
Surface elevation 30 feet.

TEN MILE HILL BEDS	0-5	Clay, medium-gray, medium-orange and medium-red mottled, sandy, stiff
	5-15	Sand, very fine grained grading down to fine-grained, pale-orangish-brown grading down to pale-brown, a few rounded quartz pebbles in basal 3 feet
DANIEL ISLAND BEDS	15-27	Clay, medium-orangish-brown sparsely mottled pale-bluish-gray grading to dark-gray by 19 feet
	27-31	Peat, dark-brown
	31-35	Sand, fine-grained, medium-bluish-gray, roots in uppermost 2 feet, mostly quartz and some phosphate pebbles at base
PARKERS FERRY FM	35-50	Calcilutite, medium-greenish-gray with a few medium-brown lenses, very fine grained phosphate(?) sand present

Base of Ten Mile Hill beds: +15 feet above sea level
Base of Daniel Island beds: -5 feet below sea level
Bottomed in Parkers Ferry Formation

HU-10: 0.75 mi. W of east quad. border, 2.7 mi. S of north quad. border.
Surface elevation 35 feet.

TEN MILE HILL BEDS	0-10	Sand, fine-grained, medium-gray with sparse medium-yellowish-orange mottles grading down to light-gray, clayey
	10-28	Sand, fine-grained, light- to medium-gray grading by 19 feet to light-brown, silty, interbedded with sandy clays, by 20 foot grades to medium- and coarse-grained sand with silty and clayey matrix, numerous phosphate lumps at base
WACCAMAW FM	28-32	Sand, medium-grading down to coarse-grained, shelly (snails, pectens, aragonitic fragments, barnacles), pebbly at base (mostly phosphate)
ASHLEY FM	32-35	Calcarenite, fine-grained, olive-brown, contains quartz, phosphate, and glauconitic sand and large forams

Base of Ten Mile Hill beds: +7 feet above sea level
Base of Waccamaw Formation: +3 feet above sea level
Bottomed in Ashley Formation

HU-11: 1.0 mi. E of west quad. border, 3.65 mi. N of south quad. border. Surface elevation 39 feet.

TEN MILE HILL BEDS	0-5	Sand, very-fine-grained, medium-orange with light-gray mottles, silty, clayey
	5-23	Sand, very-fine-grained, medium-orange grading through medium-orange and medium-gray mottled to pale-brown (19-23), silty, micaceous in basal 4 feet, grades rapidly to:
	23-28	Silt, medium-bluish-gray, slightly clayey, micaceous, grades to:
	28-33	Sand, fine-grained, dark-gray, contains sand-size phosphate and medium-green clay balls, 3 inch thick dark-gray clay bed at 31 feet, phosphate pebbles in basal foot
ASHLEY FM	33-35	Calcarenite, fine-grained, olive-brown, contains sand-size phosphate and large forams

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

HU-12: 0.55 mi. E of west quad. border, 0.55 mi. N of south quad. border. Surface elevation 38 feet.

TEN MILE HILL BEDS	0-4	Sand, fine-grained, medium-orange (0-2) grading to pale-brown, iron-hydroxide-cemented lumps in upper two feet, numerous very-fine-grained heavies below that, well sorted, grades to:
	4-6	Sand, fine-grained, light-gray, clayey, stiff
	6-15	Sand, fine-grained, pale-orangish-brown, silty, contains numerous very-fine-grained heavies
	15-24	Clay, medium-gray grading down to dark-blue, greasy, and sand, fine-grained, light-brown grading down to medium-gray, interbedded
	24-33	Sand, fine-grained, medium-gray, silty, micaceous, contains abundant very-fine-grained heavies
	33-34	Clay, dark-blue, micaceous, sandy, sparse phosphate pebbles at base
GOOSE CREEK LS	34-58	Calcarenite, medium-grained, pale-yellowish-brown, sand-size phosphate abundant, calcite-cemented lumps present, *Amusium mortoni* fragments, phosphate pebbles in basal foot
ASHLEY FM	58-60	Calcarenite, fine-grained, olive-brown, large forams present

Base of Ten Mile Hill beds: +4 feet above sea level
Base of Goose Creek Limestone: -20 feet below sea level
Bottomed in Ashley Formation

HU-13: 3.35 mi. W of east quad. border, 4.05 mi. N of south quad. border. Surface elevation 31 feet.

TEN MILE HILL BEDS	0-8	Sand, fine-grained, medium-orange and medium-gray mottled, stiff, very clayey at top but less so downward
	8-12	Clay, medium-gray mottled medium-green and medium-brown, stiff, sandy, grading to
	12-25	Silt, medium-gray, sandy
	25-38	Clay, dark-gray, sticky, stiff in upper 3 feet, contains sand lenses and oyster fragments, medium- to coarse sand grains and shell fragments in basal foot
DANIEL ISLAND BEDS	38-50	Clay, dark-gray, very stiff and sticky, upper 3 feet woody, caliche nodules from 3-4 feet
	50-66	Clay, medium-brown, micaceous, sparsely shelly and phosphate pebbles in basal foot
	66-77	Clay, dark-gray, with fine-grained sand lenses, micaceous
	77-90	Sand, fine-grained, quartz and phosphate, medium-gray and medium-greenish-gray to dark-gray, loose, clay lense at 87 feet

Base of Ten Mile Hill beds: -7 feet below sea level
Bottomed in Daniel Island beds

HU-14: 0.2 mi. W of east quad. border, 3.0 mi. N of south quad. border. Surface elevation about 22 feet.

TEN MILE HILL BEDS	0-5	Clay, medium-orange grading down to medium-orange and medium-gray mottled, stiff, sandy
	5-8	Sand, fine-grained, pale-brown, silty
WACCAMAW FM	8-33	Shell hash, pale-yellow, contains Glycymeris?, pecten fragments, Donax, other snails, barnacle fragments and echinoid spines
ASHLEY FM	33-40	Calcarenite, fine-grained, olive-brown, large forams present

Base of Ten Mile Hill beds: +14 feet above sea level
Base of Waccamaw Formation: -11 feet below sea level
Bottomed in Ashley Formation

HU-15: 1.85 mi. E of west quad. border, 0.05 mi. S of north quad. border. Surface elevation 31 feet.

TEN MILE HILL BEDS	0-11	Clay, medium-gray, medium-yellow, medium-orange and medium-red mottled (0-4) grading to medium-gray, stiff, sandy, abundant quartz pebbles in basal 2 feet
ASHLEY FM	11-25	Calcarenite, fine-grained, white mottled medium-orange, contains teleost vertebra and Galeocerdo tooth

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

HU-16: 1.25 mi. E of west quad. border, 0.15 mi. S of north quad. border. Surface elevation 29 feet.

TEN MILE HILL BEDS	0-28	Clay, medium-orangish-red and medium-gray mottled (0-3) grading through medium-orange and medium-gray mottled (3-5) and medium-gray with medium-brown mottles (5-24) to dark-gray, stiff
	28-31	Peat, dark-brown, clayey
	31-36	Sand, fine-grained, dark-gray, silty, well sorted
	36-38	Clay, medium-gray, stiff, contains poorly sorted sand grains
	38-45	Sand, medium-grained, medium-gray, poorly sorted, angular
GOOSE CREEK LS(?)	45-54	Shell hash, pale-brown, badly broken up, echinoid spine recognizable
ASHLEY FM	54-75	Calcarenite, fine-grained, pale-olive-green, large forams present

Base of Ten Mile Hill beds: -16 feet below sea level
Base of Goose Creek Limestone(?): -25 feet below sea level
Bottomed in Ashley Formation

HU-17: 0.45 mi. E of west quad. border, 1.1 mi. S of north quad. border. Surface elevation 30 feet.

TEN MILE HILL BEDS	0-14	Clay, medium-reddish-orange and medium-orange (0-5) grading to medium-gray, fine-grained sandy, micaceous, feldspathic and quartz pebbly in basal 2 feet, some pebbles nearly angular
PARKERS FERRY FM	14-40	Calcilutite, medium-bluish-green and medium-brown mottled grading through pale-bluish-green to medium-bluish-green with dark-green mottles, micaceous, very-fine-grained phosphate(?) present and echinoid spines

Base of Ten Mile Hill beds: +16 feet above sea level
Bottomed in weathered Parkers Ferry Formation

HU-18: 1.4 mi. E of west quad. border, 0.25 mi. N of south quad. border. Surface elevation 28 feet.

TEN MILE HILL BEDS	0-8	Silt, clayey, grading down to clay, silty, light-brown grading down to medium-orange, medium-yellowish-orange, and light-gray, slightly micaceous
	8-29	Clay, medium-gray, massive, greasy
	29-30	Sand, fine- to medium-grained, medium-gray
GOOSE CREEK LS	30-41	Calcarenite, medium-grained, medium-greenish-gray, bed of 2-3 cm diameter black phosphate pebbles at base
ASHLEY FM	41-55	Calcarenite, very fine grained, medium-yellowish-orange, contains large forams

Base of Ten Mile Hill beds: -2 feet below sea level
Base of Goose Creek Limestone: -13 feet below sea level
Bottomed in Ashley Formation

HU-19: 3.2 mi. E of west quad. border, 0.7 mi. N of south quad. border. Surface elevation about 42 feet.

TEN MILE HILL BEDS	0-5	Sand, fine-grained, medium-orange grading down to light-orange, well sorted, very fine grained heavies present below 2 feet
	5-11	Sand, fine- to medium-grained, light-brown, micaceous
	11-12	Clay, dark-gray, very micaceous
	12-26	Sand, very fine grained, dark-gray, silty, contains very fine grained mica, grades to:
	26-33	Sand, fine-grained, dark-gray, very fine grained heavies present, silty, grades rapidly to:
	33-34	Sand, medium-grained, contains sparse black phosphate pebbles about 0.5 cm in diameter
GOOSE CREEK LS	34-56	Calcarenite, medium-grained, very-light-gray speckled with black sand-size phosphate grading in basal 4 feet to light-greenish-gray, abundant 2-4 cm diameter black phosphate pebbes in basal foot
ASHLEY FM	56-60	Calcarenite, very fine grained, medium-olive-brown, contains 1-2 mm diameter forams, upper foot burrowed and burrows filled with Goose Creek lithology and phosphate pebbles

Base of Ten Mile Hill beds: +8 feet above sea level
Base of Goose Creek Limestone: -14 feet below sea level
Bottomed in Ashley Formation

HU-20: 2.85 mi. W of east quad. border, 3.4 mi. S of north quad. border. Surface elevation 33 feet.

TEN MILE HILL BEDS	0-8	Clay, medium-orange with light-gray and dark-red mottles grading down to medium-orange and light-gray, stiff, micaceous below 5 feet
	8-9	Sand, fine-grained, medium-orange
	9-12	Clay, light-gray, micaceous, gets sandier downward and grades to:
	12-15	Sand, fine- to coarse-grained, medium-gray, poorly sorted, grains subrounded, clayey matrix
	15-17	Clay, medium-orange and medium-gray mottled, dense, contains laminae of fine-grained, well sorted sand
	17-18	Sand, fine- to coarse-grained, medium-bluish-gray, poorly sorted, grains subrounded, clayey matrix, 1-5 cm diameter phosphate pebbles (gray to black) abundant
DANIEL ISLAND BEDS	18-23	Clay, medium-bluish-gray with dark-green streaks, dense, slightly sandy, sparse 1 cm diameter black phosphate pebbles at base
ASHLEY FM	23-26	Silt, light-greenish-brown, slightly calcareous, grades to:
	26-28	Silt, medium-brown, very calcareous, large forams present, grades to:
	28-40	Calcarenite, very fine grained, medium-olive-brown grading down to medium-olive-green by 32 feet then to medium-greenish-yellowish-gray by 36 feet, large forams abundant

Base of Ten Mile Hill beds: +15 feet above sea level
Base of Daniel Island beds: +10 feet above sea level
Bottomed in Ashley Formation

HU-21: 0.65 mi. E of west quad. border, 1.75 mi. S of north quad. border. Surface elevation about 33 feet.

TEN MILE HILL BEDS	0-10	Sand, very fine to fine-grained, medium-gold (0-2), grading through medium-orangish-brown (2-2.5), medium-brown (2.5-3) and medium-orange and light-gray mottled (3-5) to light-gray with medium-orange mottles, dense, micaceous, gets more clayey downward and grades to:
	10-11	Clay, medium-bluish-gray, sandy, dense, grades to:
	11-12	Clay, medium-purplish-gray, sandy, dense, grades to:
	12-24	Clay, light-greenish-gray grading down to light-gray with sparse yellowish-brown mottles, sand laminae scattered throughout
	24-25	Sand, fine- to coarse-grained, medium-bluish-gray, poorly sorted, grains subrounded, sparse 0.5 cm diameter subrounded quartz pebbles and dark-brown rounded 1 cm diameter phosphate pebbles
DANIEL ISLAND BEDS	25-29	Clay, medium-purplish-gray to medium-bluish-gray, both with medium-yellowish-brown mottles, dense
	29-34	Sand, very fine grained, medium-greenish-gray to medium-brownish-gray, soft, silty, very abundant 1-2 mm diameter mica flakes
	34-55	Clay, medium-gray, dense, micaceous, woody from 45-52 feet, grades to:
	55-71	Clay, medium-brownish-gray, greasy, shells (some valves articulated and closed) present from 62-63 feet and wood present from 62-71 feet
	71-72	Sand, fine- to coarse-grained, medium-brownish-gray, very shelly, sparse 0.5 cm subrounded phosphate pebbles present, clayey matrix
	72-75	Clay, medium-gray, dense, woody

Base of Ten Mile Hill beds: +8 feet above sea level
Bottomed in Daniel Island beds

HU-22: 1.6 mi. W of east quad. border, 1.9 mi. N of south quad. border. Surface elevation about 35 feet.

TEN MILE HILL BEDS	0-5	Sand, fine-grained, and clay, fine-grained sandy, light-bluish-green, contains abundant roots
	5-28	Sand, fine-grained grading down to medium-grained, light-greenish-gray, very silty, abundant 1-3 mm muscovite flakes, a few 2-4 inch thick clay-rich intervals present, sparse shell fragments and indurated 1-2 cm diameter subrounded lumps of Goose Creek Limestone in basal 4 feet
GOOSE CREEK LS	28-35	Calcarenite, medium-grained, light-gray, sparse black 0.5 cm diameter phosphate pebbles at base
MARKS HEAD FM	35-35.5	Calcarenite, very fine grained, light-brown, silty grades down to:
	35.5-38	Calcisiltite, medium-browngrading rapidly down to dark-brown, clayey, mica-like flakes abundant, 0.5-6 cm diameter black subrounded phosphate pebbles present at base
ASHLEY FM	38-40	Calcarenite, very fine grained, medium-olive-brown, contains large 1-2 mm diameter forams

Base of Ten Mile Hill beds: +7 feet above sea level
Base of Goose Creek Limestone: ±0 feet at sea level
Base of Marks Head Formation: -3 feet below sea level
Bottomed in Ashley Formation

HU-23: 2.5 mi. E of west quad. border, 1.55 mi. S of north quad. border. Surface elevation about 16 feet.

FILL	0-1	Sand, fine-grained, light-brown to medium-brown, well sorted, road material
TEN MILE HILL BEDS	1-15.5	Clay, medium-orange with light-gray and dark-orange mottles, slightly sandy (1-5) grading to medium-gray with dark-orange mottles then to medium-brownish-gray with medium-brown mottles, fine- to coarse-grained sandy, carbonaceous, small 0.25-0.5 cm diameter subrounded phosphate pebbles at base
GOOSE CREEK LS	15.5-16	Calcarenite, medium-grained, light-yellowish-brown grading down to light-bluish-gray, sand-size phosphate abundant, well rounded 0.5-1.0 cm diameter phosphate pebbles at base
ASHLEY FM	16-30	Calcarenite, very fine grained, medium-bluish-gray grading through medium-gray, medium-purplish-gray, and medium-purplish-brown to medium-olive-brown by 18 feet, shell fragments and large forams present, also glauconite and phosphate sand

Base of Ten Mile Hill beds: +0.5 feet above sea level
Base of Goose Creek Limestone: ±0 feet at sea level
Bottomed in Ashley Formation

HU-24: 1.65 mi. E of west quad. border, 1.75 mi. S of north quad. border. Surface elevation 21 feet.

TEN MILE HILL BEDS	0-13	Clay, medium-orange with light-orange, dark-orange, and light-gray mottles grading by 5 feet to light-gray with medium-yellow and medium-orange mottles, purple tinge present in basal two feet, fine-grained sandy, slightly micaceous, stiff, basal 1 inch contains abundant fine- to coarse-grained sand
LADSON FM	13-14	Clay, very pale greenish-gray with light-brown to medium-brown mottles, crumbly
	14-14.5	Sand, fine-grained, medium-greenish-brown, silty, very micaceous (1-2 mm diameter flakes)
	14.5-16	Sand, coarse-grained, light-yellowish-brown, white feldspar grains in sand fraction, subrounded quartz pebbles abundant
	16-21	Clay, light-yellowish-gray, fine- to coarse-grained sandy
	21-22	Clay, medium-bluish-green, fine- to coarse-grained sandy, calcite-cemented 1-2 cm diameter lumps of Goose Creek Limestone at base
GOOSE CREEK LS	22-74	Calcarenite, medium-grained grading down to coarse-grained by 45 feet, light-gray, phosphate sand abundant coarse grains composed of subrounded to rounded fragments of clam shells, echinoid spines, barnacles, and bryozoans, lumps of 1-4 cm diameter calcite-cemented Ashley at base
ASHLEY FM	74-75	Calcarenite, very fine grained, medium-olive-brown, slightly glauconitic

Base of Ten Mile Hill beds: +8 feet above sea level
Base of Ladson Formation: -1 foot below sea level
Base of Goose Creek Limestone: -53 feet below sea level
Bottomed in Ashley Formation

HU-25: 0.2 mi. E of west quad. border, 2.8 mi. S of north quad. border. Surface elevation 32 feet (=CH-1-D).

TEN MILE HILL BEDS	0-16	Clay, very-pale-orange with medium-yellow, medium-red, and medium-yellowish-brown mottles, grading down to light-gray and light-yellowish-brown mottled brown and yellow, sandy
	16-18	Sand, medium- to coarse-grained, light-yellowish-brown, clayey, very pebbly (phosphate and indurated lumps of of Ashley Formation)
ASHLEY FM	18-68	Calcarenite, fine-grained, yellowish-gray (5Y7/2) from 18 to 25 grading down to grayish-olive to olive-brown (10Y4/2 to 5Y5/2), shell fragments present at 60-61 feet

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

HU-26: 1.95 mi. W of east quad. border, 1.3 mi. S of north quad. border. Surface elevation 33 feet (=CH-2-D)

FILL	0-2	Road material
TEN MILE HILL BEDS	2-10	Sand, fine-grained, medium-gray with medium-yellow streaks, clayey, micaceous
	10-20	Clay, medium-brownish-gray grading down to dark-greenish-gray, silty, sandy, micaceous, 1-2 cm diameter phosphate pebbles at base
ASHLEY FM	20-25	Calcarenite, fine-grained, pale-yellowish-brown grading down to pale-olive and medium-yellowish-brown

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

KITTREDGE QUADRANGLE
(Depths in feet)

KI-1: 0.23 mi. W of east quad. border, 3.50 mi. S of north quad. border. Surface elevation 3 feet (river bank bluff).

PARKERS FERRY FM	0-3	Calcilutite, white, soft, very weathered, exposed between tides

Base of exposure in Parkers Ferry Formation

KI-2: 2.62 mi. E of west quad. border, 0.65 mi. S of north quad. border. Surface elevation 12 feet (river bank bluff).

ASHLEY FM	0-12	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand present

Base of exposure in Ashley Formation

KI-3: 0.21 mi. W of east quad. border, 3.42 mi. S of north quad. border. Surface elevation 32 feet.

TEN MILE HILL BEDS	0-14	Sand, fine-grained, medium-red, silt and clay abundant, micaceous
	14-16	Sand, medium to coarse-grained, medium-gray, clayey
	16-22	Clay, medium-gray, fine-grained, sandy
	22-23	Phosphate pebble bed
PARKERS FERRY FM	23-27	Clay, medium-gray, mottled, light-gray, weathered
	27-30	Calcilutite, light-brown, calcareous lumps
	30-50	Calcilutite, light-bluish-gray to greenish-gray, contains numerous echinoid spines, dense

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

KI-4: 1.77 mi. W of east quad. border, 1.95 mi. S of north quad. border. Surface elevation 18 feet.

TEN MILE HILL BEDS	0-5	Sand, fine-grained, medium-reddish-orange, loamy, clayey, gets coarse and pebbly at base
LADSON FM	5-10	Clay, medium-blue, sandy, occasional sand lenses, many wood fragments, feldspar grains present
GOOSE CREEK LS	10-22	Calcarenite, fine-grained, pale-yellowish-brown, loose, very phosphatic, Amusium mortoni and other shell fragments present; one foot thick bed of phosphate lumps at base
ASHLEY FM	22-75	Calcarenite, fine-grained, olive-brown, dense, sparse quartz and phosphate sand present, forams abundant in upper part, phosphate content increases downward and lumps of phosphate are present at 60 feet

Base of Ten Mile Hill beds: +13 feet above sea level
Base of Ladson Formation: +8 feet above sea level
Base of Goose Creek Limestone: -4 feet below sea level
Bottomed in Ashley Formation

KI-5: 1.70 mi. W of east quad. border, 0.64 mi. S of north quad. border. Surface elevation 47 feet.

LADSON FM	0-5	Sand, medium-grained, medium-gray, contains mica, feldspar, heavies and a few pebbles
	5-10	Starts as above and grades down to medium-gray, clayey, fine-grained sand
	10-15	Clay, medium-gray, sparsely sandy
	15-20	Sand, coarse-grained, medium-orange, pebbly
	20-26	As above but slightly clayeyer
	26-27	Clay, medium-gray
	27-33	Sand, coarse-grained, medium-orange, clay matrix, many very fine grained heavies present
	33-37	As above but grading to medium-grained
GOOSE CREEK LS	37-50	Calcarenite, medium-grained, pale-yellowish-brown, loose, very phosphatic, shelly, calcite-cemented nodules present, quartz pebbles at base
GIVHANS LS(?)	50-59	Calcarenite, fine-grained, light-yellowish-green, phosphatic, shelly, dense phosphate pebble bed at base
ASHLEY FM	59-65	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand grains present, large forams present

Base of Ladson Formation: +10 feet above sea level
Base of Goose Creek Limestone: -3 feet below sea level
Base of Givhans Limestone(?): -12 feet below sea level
Bottomed in Ashley Formation

KI-6: 2.60 mi. E of west quad. border, 1.54 mi. S of north quad. border. Surface elevation 29 feet.

TEN MILE HILL BEDS	0-4	Sand, fine-grained, medium-gray and medium-orange mottled, clayey, muscovitic
	4-6	Clay, medium-gray, sandy
	6-17	Sand, medium-grained, dark-gray, clayey, contains wood fragments, phosphate pebbles at base
ASHLEY FM	17-20	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand grains present, calcareous lumps

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

KI-7: 3.06 mi. E of west quad. border, 0.28 mi. S of north quad. border. Surface elevation 32 feet.

TEN MILE HILL BEDS	0-6	Clay, medium-gray and medium-orange mottled, sandy, muscovitic
	6-9	Clay, medium-orange, sandy with interbedded medium-gray clay lenses
	9-15	Sand, coarse-grained, medium-orange, angular, clayey, slightly pebbly
ASHLEY FM	15-16	Calcarenite, fine-grained, olive-brown, dense, contains quartz and phosphate sand grains, calcite-cemented lumps

Base of Ten Mile Hill beds: +17 feet elevation
Bottomed in Ashely Formation

KI-8: 3.00 mi. W of east quad. border, 2.39 mi. S of north quad. border. Surface elevation 20 feet.

TEN MILE HILL BEDS	0-3	Sand, fine- to medium-grained, medium-orange, clayey
	3-6	As above but medium-orange and medium-gray mottled
GOOSE CREEK LS	6-12	Calcarenite, fine-grained, pale-yellowish-brown, loose, much sand-sized phosphate, Argopecten eboreus fragments, phosphate pebble bed at base
ASHLEY FM	12-20	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand present, Epitonium charlestonensis fragments present

Base of Ten Mile Hill beds: +14 feet above sea level
Base of Goose Creek Limestone: +8 feet above sea level
Bottomed in Ashley Formation

KI-9: 2.77 mi. W of east quad. border, 0.89 mi. S of north quad. border. Surface elevation 59 feet.

LADSON FM	0-5	Sand, fine- to medium-grained, dark-gray, humic
	5-18	Sand, fine-grained, dark-brown grading down to medium-gray, micaceous
	18-21	Silt, medium-gray, clayey
	21-30	Clay, medium-gray, massive, sticky
	30-37	Sand, medium-grained, medium-gray, clayey, sticky
GOOSE CREEK LS	37-60	Calcarenite, fine-grained, pale-yellowish-brown, loose, very phosphate sand-rich, poor recovery
ASHLEY FM	60-80	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand present

Base of Ladson Formation: +22 feet above sea level
Base of Goose Creek Limestone: -1 foot below sea level
Bottomed in Ashley Formation

KI-10: 1.25 mi. W of east quad. border, 0.43 mi. S of north quad. border. Surface elevation 41 feet.

LADSON FM	0-5	Sand, fine-grained, grading down to clay, dark-gray, humic
	5-12	Sand, fine- to medium-grained, medium-gray, silty
	12-20	Clay, medium-gray, micaceous
	20-22	Sand, coarse-grained, medium-gray
	22-26	Silt, dark-gray, sandy
GOOSE CREEK LS	26-54	Calcarenite, fine-grained, pale-brownish-gray, loose, sand-size phosphate abundant, phosphate bed at base
ASHLEY FM	54-65	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand present, forams

Base of Ladson Formation: +15 feet above sea level
Base of Goose Creek Limestone: -13 feet below sea level
Bottomed in Ashley Formation

KI-11: 0.06 mi. W of east quad. border, 0.05 mi. S of north quad. border. Surface elevation 35 feet.

LADSON FM	0-18	Clay, medium-gray, slightly sandy
	18-21	Sand, coarse-grained, medium-gray, contains phosphate lumps
ASHLEY FM	21-25	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand grains present

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

KI-12: 2.73 mi. W of east quad. border, 0.34 mi. S of north quad. border. Surface elevation 52 feet.

LADSON FM	0-12	Sand, fine- to medium-grained, medium-orange, very fine grained heavies abundant, gets more clayey downward
	12-14	Clay, medium-gray, sandy
	14-18	Sand, coarse-grained, medium-gray, angular, pebbly
	18-23	Clay, medium-gray, micaceous, with lenses of coarse-grained sand and wood fragments
	23-30	Sand, coarse-grained, medium-blue, clayey; white, heavies-rich sand layer at base
GOOSE CREEK LS	30-54	Calcarenite, fine-grained, pale-yellowish-brown, loose, very phosphatic, Amusium mortoni and Argopecten eboreus fragments present, phosphate pebble bed at base
ASHLEY FM	54-65	Calcarenite, fine-grained, olive-brown, dense, sparse phosphate and quartz sand, forams present

Base of Ladson Formation: +22 feet above sea level
Base of Goose Creek Limestone: -2 feet below sea level
Bottomed in Ashley Formation

KI-13: 3.18 mi. W of east quad. border, 1.08 mi. S of north quad. border. Surface elevation 49 feet.

LADSON FM	0-7	Sand, fine- to medium-grained, medium-orange, clayeyer downward, some heavies present
	7-12	Clay, medium-gray, sporadic sand lenses
	12-30	Clay, medium-blue, sparsely micaceous
	30-31	Sand, coarse-grained, medium-gray
GOOSE CREEK LS	31-44	Calcarenite, fine-grained, pale-yellowish-brown, loose, abundant phosphate sand, phosphate pebble bed at base
ASHLEY FM	44-55	Calcarenite, fine-grained, olive-brown, dense, phosphate sand, quartz sand, and large forams present

Base of Ladson Formation: +18 feet above sea level
Base of Goose Creek Limestone: +5 feet above sea level
Bottomed in Ashley Formation

KI-14: 0.45 mi. E of west quad. border, 3.03 mi. S of north quad. border. Surface elevation 29 feet.

TEN MILE HILL BEDS	0-5	Clay, medium-orange and medium-gray mottled, fine-grained sandy
	5-20	Sand, fine-grained, medium-gray, clayey, grades downward to medium-grained
	20-22	Sand, medium-grained, medium-gray, full of phosphate pebbles
PARKERS FERRY FM	22-40	Calcilutite, medium-bluish-green, dense, contains echinoid spines

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

KI-15: 1.78 mi. E of west quad. border, 4.16 mi. S of north quad. border. Surface elevtion 28 feet.

TEN MILE HILL BEDS	0-22	Sand, fine-grained grading down to medium-grained, medium-orange and medium-gray mottled, clayey, heavies increase downward, pebbly at base
ASHLEY FM	22-58	Calcarenite, fine-grained, olive-brown, dense, much phosphate and some quartz sand, many forams, phosphate pebble bed at base
PARKERS FERRY FM	58-60	Calcilutite, blue-green, contains burrows filled with above lithology

Base of Ten Mile Hill beds: +6 feet above sea level
Base of Ashley Formation: -30 feet below sea level
Bottomed in Parkers Ferry Formation

KI-16: 3.11 mi. W of east quad. border, 0.34 mi. N of south quad. border. Surface elevation 6 feet.

FILL	0-2	Road material
SILVER BLUFF	2-3	soil horizon
	3-5	Sand, fine-grained, medium-gray, clayey
WANDO FM (UPPER MEM)	5-11	Sand, fine-grained, medium-gray with streaks of medium-orange, slightly clayey, micaceous
	11-13	As above but with scattered clay lenses
	13-17	Clay, medium-gray, sandy, micaceous
GOOSE CREEK LS	17-25	Lost, probably Goose Creek that fell off stem
	25-30	Calcarenite, fine-grained, pale-yellowish-brown, loose, fragments of Argopecten eboreus and large echinoid spines, very phosphatic, phosphate pebble bed at base
ASHLEY FM	30-40	Calcarenite, fine-grained, olive-brown, dense, phosphate and quartz sand grains present

Base of Silver Bluff (Holocene): +1 foot above sea level
Base of Wando Formation (upper member): -11 feet below sea level
Base of Goose Creek Limestone: -24 feet below sea level
Bottomed in Ashley Formation

KI-17: 3.59 mi. W of east quad. border, 1.60 mi. N of south quad. border. Surface elevation 6 feet.

FILL	0-3	Road material, old soil horizon at base
SILVER BLUFF	3-10	Clay, medium-gray, sandy, contains calcareous lumps
GOOSE CREEK LS	10-25	Calcarenite, fine-grained, pale-yellowish-brown, loose, contains abundant phosphate sand, echinoid spines, and Argopecten eboreus; phosphate pebble bed at base
ASHLEY FM	25-35	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand present

Base of Silver Bluff (Holocene): -4 feet below sea level
Base of Goose Creek Limestone: -19 feet below sea level
Bottomed in Ashley Formation

KI-18: 2.85 mi. E of west quad. border, 2.75 mi. N of south quad. border. Surface elevation 8 feet.

SILVER BLUFF	0-5	Clay, medium-orange and medium-gray mottled, sandy
WANDO FM (UPPER MEM)	5-18	Sand, medium-grained, medium-gray, contains very fine grained heavies
GOOSE CREEK LS	18-34	Calcarenite, fine-grained, pale-yellowish-brown, loose, much phosphate sand, phosphate pebble bed at base
ASHLEY FM	34-45	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand present

Base of Silver Bluff (Holocene): +3 feet above sea level
Base of Wando Formation (upper member): -10 feet below sea level
Base of Goose Creek Limestone: -26 feet below sea level
Bottomed in Ashley Formation

KI-19: 1.55 mi. E of west quad. border, 2.72 mi. S of north quad. border. Surface elevation 13 feet.

FILL	0-3	Sand, coarse-grained, medium-orange, clayey (road material)
WANDO FM (UPPER MEM)	3-6	Sand, medium-grained, light-gray
	6-18	Clay, medium-gray, plastic, slightly sandy and woody at 16 feet
	18-20	Peat, dark-chocolate-brown, clayey, many large wood fragments present
	20-26	Clay, dark-grayish-brown, contains wood fragments
	26-29	Sand, fine-grained, dark-brown, shelly
	29-30	Clay, medium-gray
	30-35	Sand, medium-grained, medium-gray
	35-36	Sand, coarse-grained, medium-gray, pebbly
PARKERS FERRY FM	36-45	Calcilutite, medium-greenish-gray contains echinoid spines

Base of Wando Formation (upper member): -23 feet below sea level
Bottomed in Parkers Ferry Formation

KI-20: 2.62 mi. E of west quad. border, 3.91 mi. N of south quad. border. Surface elevation 5 feet.

FILL	0-3	Road material, soil horizon at base
SILVER BLUFF	3-10	Clay, dark-grayish-blue, plastic, gets denser downward
WANDO FM (UPPER MEM)	10-17	Sand, fine-grained, medium-gray, clayey, a few clay lenses present
	17-18	Phosphate pebble bed
ASHLEY FM	18-25	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand present

Base of Silver Bluff (Holocene): -5 feet below sea level
Base of Wando Formation (upper member): -13 feet below sea level
Bottomed in Ashley Formation

KI-21: 0.69 mi. W of east quad. border, 0.85 mi. N of south quad. border. Surface elevation 37 feet.

TEN MILE HILL BEDS	0-3	Sand, fine-grained, medium-orange, silty
	3-10	Sand, fine-grained, medium-gray, silty, very fine grained heavies sprinkled throughout
	10-15	As above but micaceous
	15-18	Clay, medium-gray, silty with sandy lenses
	18-30	Clay, medium-blue, silty, micaceous
	30-40	Sand, fine-grained, medium-blue, clayey and silty, micaceous, occasional blue clay lenses, coarsens at base to medium-grained
DANIEL ISLAND BEDS	40-50	Clay, medium-blue, clayball lumps scattered throughout, numerous forams or ostracodes present
GOOSE CREEK LS	50-65	Calcarenite, fine-grained, pale-yellowish-brown, loose, much phosphate sand, Amusium mortoni present
ASHLEY FM	65-75	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand present, large forams present

Base of Ten Mile Hill beds: -3 feet below sea level
Base of Daniel Island beds: -13 feet below sea level
Base of Goose Creek Limestone: -28 feet below sea level
Bottomed in Ashley Formation

KI-22: 1.40 mi. W of east quad. border, 0.54 mi. N of south quad. border. Surface elevation 6 feet.

SILVER BLUFF	0-3	Sand, fine-grained, medium-gray and medium-orange mottled, clayey
WANDO FM (UPPER MEM)	3-16	Sand, medium-grained, light-gray except dark-gray in basal 2 feet, silty, micaceous, very fine grained heavies scattered throughout
GOOSE CREEK LS	16-20	Calcarenite, fine-grained, pale-yellowish-brown, loose, phosphate sand abundant, Amusium mortoni fragments present; phosphate pebble bed at base
ASHLEY FM	20-97	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand present

Base of Silver Bluff (Holocene): +3 feet above sea level
Base of Wando Formation (upper member): -10 feet below sea level
Base of Goose Creek Limestone: -14 feet below sea level
Bottomed in Ashley Formation

KI-23: 1.19 mi. W of east quad. border, 0.66 mi. N of south quad. border. Surface elevation 13 feet.

WANDO FM (UPPER MEM)	0-6	Sand, fine-grained, medium-orange and medium-gray mottled, grading down to medium-gray, silty, micaceous, sparse very fine grained heavies present
	6-8	Clay, medium-blue, contains hard green lumps, wood fragments
	8-19	Sand, fine-grained, medium-bluish-gray, silty, micaceous, contains dark specks
GOOSE CREEK LS	19-26	Calcarenite, fine-grained, pale-yellowish-brown, loose, much phosphate sand, Amusium mortoni present, phosphate bed at base
ASHLEY FM	26-30	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand present

Base of Wando Formation (upper member): -6 feet below sea level
Base of Goose Creek Limestone: -13 feet below sea level
Bottomed in Ashley Formation

KI-24: 0.68 mi. W of east quad. border, 0.02 mi. N of south quad. border. Surface elevation 30 feet.

TEN MILE HILL BEDS	0-13	Sand, fine-grained, medium-orange (0-5) grading to medium-gray (5-13), silty, muscovitic
	13-22	Clay, medium-blue, micaceous, some silty and sandy lenses
	22-40	Sand, fine-grained, meidum-blue, silty, shelly, a few clay stringers present
DANIEL ISLAND BEDS	40-84	Clay, medium-blue, shelly at top (Noetia, etc.) but shells sparse farther down, sparse wood fragments present, sparse phosphate pebbles at base
ASHLEY FM	84-100	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand grains present

Base of Ten Mile Hill beds: -10 feet below sea level
Base of Daniel Island beds: -54 feet below sea level
Bottomed in Ashley Formation

KI-25: 0.01 mi. W of east quad. border, 0.58 mi. N of south quad. border. Surface elevation 35 feet.

FILL	0-2	Road material
TEN MILE HILL BEDS	2-5	Sand, fine-grained, medium-orange and medium-gray mottled, silty
	5-29	Sand, fine-grained, medium-yellow, muscovitic, silty, sparse very fine grained heavies present
	29-30	As above, but medium-blue
	30-40	Clay, medium-blue, shelly (oysters) in upper five feet, green lumps in lower five, sparse phosphate pebbles at base
GOOSE CREEK LS	40-56	Calcarenite, fine-grained, pale-brownish-gray, loose, phosphate sand abundant, sparse phosphate pebble bed at base
ASHLEY FM	56-60	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand present

Base of Ten Mile Hill beds: -5 feet below sea level
Base of Goose Creek Limestone: -21 feet below sea level
Bottomed in Ashley Formation

KI-26: 0.11 mi. W of east quad. border, 1.33 mi. N of south quad. border. Surface elevation 21 feet.

FILL	0-1	Road material
TEN MILE HILL BEDS	1-3	Sand, fine-grained, medium-orange and medium-gray mottled, clayey
	3-5	Clay, medium-orange and medium-gray mottled, sandy
	5-19	Sand, fine-grained, medium-gray, silty, micaceous, thin clay lenses scattered in, coarsens to medium-grained in basal foot
GOOSE CREEK LS	19-43	Calcarenite, fine-grained, pale-yellowish-brown, loose, abundant phosphate sand
ASHLEY FM	43-50	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand present

Base of Ten Mile Hill beds: +2 feet above sea level
Base of Goose Creek Limestone: -22 feet below sea level
Bottomed in Ashley Formation

KI-27: 1.05 mi. W of east quad. border, 3.60 mi. N of south quad. border. Surface elevation 7 feet.

FILL	0-1	Road material
SILVER BLUFF	1-3	Sand, fine-grained, dark-gray, loamy, clayey
WANDO FM (UPPER MEM)	3-5	Sand, fine-grained, medium-orange and medium-gray mottled, clayey
	5-9	Clay, medium-orange and medium-gray mottled, fine- to coarse-grained sandy
	9-14	As above but medium-gray, sparse phosphate pebbles at base
GOOSE CREEK LS	14-29	Calcarenite, fine-grained, pale-yellowish-brown, loose, phosphate sand abundant, phosphate pebble bed at base
ASHLEY FM	29-83	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand present
	83-100	As above but phosphate sand much more abundant

Base of Silver Bluff (Holocene): +4 feet above sea level
Base of Wando Formation (upper member): -7 feet below sea level
Base of Goose Creek Limestone: -22 feet below sea level
Bottomed in Ashley Formation

KI-28: 0.51 mi. W of east quad. border, 3.30 mi. N of south quad. border. Surface elevation 20 feet.

TEN MILE HILL BEDS	0-5	Sand, fine- to medium-grained, medium-orange and medium-gray mottled, clayey
	5-17	Sand, fine-grained, medium-yellow, micaceous, very fine grained heavies present
GOOSE CREEK LS	17-39	Calcarenite, fine-grained, pale-yellowish-brown, loose, phosphate sand abundant, phosphate pebble bed at base
ASHLEY FM	39-45	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand present

Base of Ten Mile Hill beds: +3 feet above sea level
Base of Goose Creek Limestone: -19 feet below sea level
Bottomed in Ashley Formation

KI-29: On east quad. border, 2.68 mi. N of south quad. border. Surface elevation 27 feet.

TEN MILE HILL BEDS	0-6	Sand, fine-grained, medium-orangish-red and medium-gray mottled, clayey
	6-19	Sand, fine-grained, medium-yellow, silty, micaceous, sparse heavies present
	19-21	Sand, medium-grained, medium-bluish-gray, silty, muscovitic
	21-32	Clay, medium-bluish-gray, contains hard lumps
GOOSE CREEK LS	32-44	Calcarenite, medium-grained, medium-blue, loose, contains phosphate sand and shell hash
	44-45	Calcarenite, medium-grained, pale-yellowish-brown, loose, abundant phosphate sand and phosphate pebbles
ASHLEY FM	45-50	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand present

Base of Ten Mile Hill beds: -5 feet below sea level
Base of Goose Creek Limestone: -18 feet below sea level
Bottomed in Ashley Formation

KI-30: 2.11 mi. E of west quad. border, 4.03 mi. N of south quad. border. Surface elevation 28 feet.

TEN MILE HILL BEDS	0-5	Sand, fine-grained, medium-orangish-red, slightly silty
	5-10	As above but grading from medium-yellow to pale-brown, very micaceous, sparse very fine grained heavies present, well sorted
	10-18	Sand, fine-grained, pale-brown, very micaceous, heavies more abundant, coarsens to medium-grained in basal foot
	18-21	Sand, medium-grained, medium-bluish-gray
	21-28	Clay, medium-bluish-gray, sandy
	28-35	Sand, fine-grained, dark-gray, silty, clayey, carbonaceous, contains dark gray clay lenses and wood fragments
GOOSE CREEK LS	at 35	Calcarenite, fine-grained, light-brownish-gray, loose, phosphate sand and pebbles abundant, at most 2 inches thick
ASHLEY FM	35-50	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand sparsely present

Base of Ten Mile Hill beds: -7 feet below sea level
Base of Goose Creek Limestone: -7 feet below sea level
Bottomed in Ashley Formation

KI-31: 2.33 mi. W of east quad. border, 3.07 mi. N of south quad. border. Surface elevation 8 feet.

WANDO FM (UPPER MEM)	0-13	Sand, fine-grained, medium-reddish-orange and medium-gray mottled grading down to medium-yellow by 5 feet, silty, sparse very fine grained heavies present
DANIEL ISLAND BEDS	13-18	Clay, medium-gray, sandy
GOOSE CREEK LS	18-19	Calcarenite, fine-grained, pale-yellowish-brown, loose, abundant phosphate sand and pebbles present, questionable Argopecten eboreus fragment
ASHLEY FM	19-25	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand present

Base of Wando Formation (upper member): -5 feet below sea level
Base of Daniel Island beds: -10 feet below sea level
Base of Goose Creek Limestone: -11 feet below sea level
Bottomed in Ashley Formation

KI-32: 1.92 mi. W of east quad. border, 2.60 mi. N of south quad. border. Surface elevation 13 feet.

WANDO FM (UPPER MEM)	0-5	Sand, fine-grained, medium-orange, silty
	5-9	Sand, fine-grading through medium- to coarse-grained, medium-yellow, numerous labile heavies present
	9-13	As above but all coarse-grained
DANIEL ISLAND BEDS	13-24	Clay, dark-bluish-gray, wood at 22 feet, sandy below that level and sand filled burrows present
GOOSE CREEK LS	24-35	Calcarenite, fine-grained, pale-yellowish-brown, loose, phosphate sand abundant, phosphate pebble bed at base
ASHLEY FM	35-40	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand present

Base of Wando Formation (upper member): ±0 at sea level
Base of Daniel Island beds: -11 feet below sea level
Base of Goose Creek Limestone: -22 feet below sea level
Bottomed in Ashley Formation

KI-33: 1.57 mi. W of east quad. border, 3.46 mi. N of south quad. border. Surface elevation 26 feet.

TEN MILE HILL BEDS	0-5	Sand, fine-grained, medium-orange and medium-gray mottled, clayey
	5-8	Clay, medium-gray
	8-21	Sand, fine-grained, medium-gray, silty, muscovitic, very fine grained heavies present, occasional gray clay stringers
	21-30	Sand, fine-grained grading down to coarse-grained then back to fine-grained, dark-gray
	30-34	Sand, as above, grading to medium-grained, thin carbonaceous clay layer at base
GOOSE CREEK LS	34-46	Calcarenite, fine-grained pale-yellowish-brown, loose, very phosphatic, phosphate pebble bed at base
ASHLEY FM	46-50	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand grains present

Base of Ten Mile Hill beds: -8 feet below sea level
Base of Goose Creek Limestone: -20 feet below sea level
Bottomed in Ashley Formation

KI-34: 3.45 mi. W of east quad. border, 2.98 mi. N of south quad. border. Surface elevation 7 feet.

SILVER BLUFF	0-2	Sand, fine-grained, light-gray, contains very fine grained heavies
WANDO FM (UPPER MEM)	2-4	Sand, fine-grained, medium-orange and medium-gray mottled, silty
	4-10	As above but getting more clay-rich and grayer, occasional sandy interbeds present
	10-18	Sand, fine-grained at top grading down to poorly sorted and pebbly at base, silty, dark-orange
GOOSE CREEK	18-20	Calcarenite, coarse-grained, pale-yellowish-brown, phosphate sand and shell hash present, Amusium mortoni present; phosphate pebble bed at base
ASHLEY FM	at 20	Calcarenite, fine-grained, olive-brown, quartz and phosphate sand present. Two inches penetrated at base of stem

Base of Silver Bluff (Holocene): +5 feet above sea level
Base of Wando Formation (upper member): -11 feet below sea level
Bottomed in Ashley Formation

KI-35: 3.65 mi. W of east quad. border, 4.04 mi. N of south quad. border. Surface elevation 22 feet.

TEN MILE HILL BEDS	0-5	Sand, fine-grained, medium-orange and medium-gray mottled, clayey
	5-13	Sand, fine-grained, medium-gray, clayey with clay content increasing downward
	13-17	Sand, fine-grained, medium-gray, silty and clayey, loose on stem
	17-30	Clay, medium-blue, silty, interbedded layers of stiff clay and coarse sand at about 28 feet
GOOSE CREEK LS	30-37	Calcarenite, coarse-grained, pale-yellowish-brown, contains phosphate sand and shell fragments; phosphate pebble bed at base
ASHLEY FM	37-40	Calcarenite, fine-grained, olive-brown, phosphate and quartz sand present

Base of Ten Mile Hill beds: -8 feet below sea level
Base of Goose Creek Limestone: -15 feet below sea level
Bottomed in Ashley Formation

KI-36: 3.32 mi. W of east quad. border, 4.10 mi. N of south quad. border. Surface elevation 5 feet.

SILVER BLUFF	0-2	Sand, fine-grained, medium-orange and medium-gray mottled, clayey
	2-5	As above but medium-gray
WANDO FM (UPPER MEM)	5-14	Clay, medium-gray
	14-15	Sand, poorly sorted, medium-orangish-brown, contains quartz pebbles
TEN MILE HILL BEDS	15-17	Clay, medium-gray, with phosphate pebble bed at base
ASHLEY FM	17-20	Calcarenite, fine-grained, olive-brown, quartz and phosphate sand present

Base of Silver Bluff (Holocene): ±0 feet at sea level
Base of Wando Formation (upper member): -10 feet below sea level
Base of Ten Mile Hill beds: -12 feet below sea level
Bottomed in Ashley Formation

KI-37: 2.8 mi. E of west quad. border, 3.8 mi. S of north quad. border. Surface elevation 5 feet.

FILL	0-1	Road material
SILVER BLUFF	1-5	Sand, fine-grained, medium-orange and medium-gray mottled, clayey
WANDO FM (UPPER MEM)	5-24	Clay, medium-gray, with green blobby lumps
	24-26	Sand, fine-grained, medium-gray
	26-28	Clay, medium-gray, contains wood fragments
	28-32	Sand, fine-grained, medium-gray
GOOSE CREEK	32-40	Calcarenite, coarse-grained, pale-yellowish-brown, phosphate sand and shell hash present, phosphate pebble bed at base
ASHLEY FM	40-50	Calcarenite, fine-grained, olive-brown, quartz and phosphate sand present

Base of Silver Bluff (Holocene): ±0 feet at sea level
Base of Wando Formation (upper member): -27 feet below sea level
Base of Goose Creek Limestone: -35 feet below sea level
Bottomed in Ashley Formation

KI-38: 3.22 mi. E of west quad. border, 3.56 mi. N of south quad. border. Surface elevation 23 feet.

FILL	0-3	Road material
TEN MILE HILL BEDS	3-8	Sand, fine-grained, medium-orange and medium-gray mottled, clayey
	8-20	Sand, fine-grained, light-gray, silty, micaceous, very fine grained heavies present; grades down to a silt by base
DANIEL ISLAND BEDS	20-47	Clay, dark-gray, contains green lumps, wood fragments at 25-27 feet, shells abundant at 34-35 feet and present downward sparingly; phosphate pebble bed at base
ASHLEY FM	47-55	Calcarenite, fine-grained, olive brown, quartz and phosphate sand present

Base of Ten Mile Hill beds: +3 feet above sea level
Base of Daniel Island beds: -24 feet below sea level
Bottomed in Ashley Formation

KI-39: 3.36 mi. E of west quad. border, 2.16 mi. N of south quad. border. Suface elevation 5 feet.

FILL	0-3	Road material
SILVER BLUFF	3-5	Sand, fine-grained, medium-brown, loamy
WANDO FM (UPPER MEM)	5-9	Sand, fine-grained, medium-orange and medium-gray mottled, clayey
	9-19.5	Sand, fine-grained, gray except orange in basal foot, silty, micaceous, heavies present, grades to medium-grained by base
	19.5-20	Clay, dark-bluish-gray, micaceous
GOOSE CREEK LS	20-30	Calcarenite, fine-grained, pale-yellowish-brown, loose, phosphate sand abundant, Argopecten eboreus present
ASHLEY FM	30-35	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand present

Base of Silver Bluff (Holocene): ±0 feet below sea level
Base of Wando Formation (upper member): -15 feet below sea level
Base of Goose Creek Limestone: -25 feet below sea level
Bottomed in Ashley Formation

KI-40: 1.05 mi. E of west quad. border, 2.76 mi. S of north quad. border. Surface elevation 25 feet.

TEN MILE HILL BEDS	0-5	Clay, sandy (0-2 feet), grading down to sand, fine-grained, clayey, medium-orange and medium-gray mottled
	5-15	Sand, fine-grained, medium-gray, clayey
	15-19	Sand, medium- to coarse-grained, medium-gray, silty
	19-20	Clay, medium-blue, contains hard green lumps
	20-21	Sand, medium-grained, medium-blue, poorly sorted with some coarse grains, silty
PARKERS FERRY FM	21-25	Calcilutite, medium-bluish-green, contains echinoid spines

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

KI-41: 1.96 mi. E of west quad. border, 2.33 mi. S of north quad. border. Surface elevation 5 feet.

SILVER BLUFF	0-3	Clay, medium-orange and medium-gray mottled
WANDO FM (UPPER MEM)	3-13	Sand, fine-grained, medium-gray, micaceous
ASHLEY FM	13-34	Calcarenite, light-olive-brown in upper 4 feet and olive-brown below that, quartz sandy and sparsely phosphate sandy. Phosphate pebble bed at base
PARKERS FERRY FM	34-35	Calcilutite, pale-green, crumbly

Base of Silver Bluff (Holocene): +2 feet above sea level
Base of Wando Formation (upper member): -8 feet below sea level
Base of Ashley Formation: -29 feet below sea level
Bottomed in Parkers Ferry Formation

KI-42: 2.45 mi. E of west quad. border, 2.23 mi. S of north quad. border. Surface elevation 4 feet.

FILL	0-5	Clay, medium-orange and medium-gray, sandy
WANDO FM (UPPER MEM)	5-35	Clay, medium-gray, sandy, micaceous, fine-grained sand lenses present
ASHLEY FM	35-78	Calcarenite, fine-grained, olive-brown, dense, sparse phosphate and quartz sand present

Base of Wando Formation (upper member): -31 feet below sea level
Bottomed in Ashley Formation

KI-43: 2.92 mi. E of west quad. boundary, 2.20 mi. S of north quad. boundary. Surface elevation 12 feet.

FILL(?)	0-1	Sand, fine-grained, medium-gray, with very fine grained heavies
WANDO FM (UPPER MEM)	1-5	Sand, fine-grained, medium-gray and medium-orange mottled, clayey
	5-9	Sand, fine-grained, medium-gray, silty, base gradational with underlying bed
	9-27	Clay, blue, micaceous, phosphate bed at base, sparse shells present
ASHLEY FM	27-35	Calcarenite, olive-brown, quartz and phosphate sand present

Base of Wando Formation (upper member): -15 feet below sea level
Bottomed in Ashley Formation

KI-44: 0.88 mi. W of east quad. border, 1.55 mi. N of south quad. border. Surface elevation 28 feet.

TEN MILE HILL BEDS	0-8	Sand, fine-grained, medium-orange and medium-gray mottled, clayey
	8-18	Sand, fine-grained, light-yellowish-brown, silty, micaceous, very fine grained heavies present
	18-23	Sand, fine-grained, medium-orange, poorly sorted with some coarse-grained sand, very fine grained heavies abundant
	23-26	As above but medium-blue
	26-28	Clay, medium-blue, contains shell hash (oysters, etc.)
	28-31	Clay, medium-blue, contains sparse wood
GOOSE CREEK LS	31-47	Calcarenite, fine-grained, pale-yellowish-brown, loose, abundant phosphate sand, phosphate pebble bed at base
ASHLEY FM	47-50	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand present

Base of Ten Mile Hill beds: -3 feet below sea level
Base of Goose Creek Limestone: -19 feet below sea level
Bottomed in Ashely Formation

KI-45: 1.28 mi. W of east quad. border, 2.28 mi. N of south quad. border. Surface elevation 30 feet.

TEN MILE HILL BEDS	0-5	Sand, fine-grained, medium-orangish-red with some medium-gray mottles, clayey
	5-26	Sand, fine-grained, light-yellowish-brown, silty, micaceous, some very fine grained heavies present
	26-36	As above but medium-bluish-gray
	36-41	Clay, medium-blue, contains hard lumps
GOOSE CREEK LS	41-52	Calcarenite, fine-grained, pale-yellowish-brown, loose, abundant phosphate sand present, phosphate pebble bed at base
ASHLEY FM	52-60	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand present

Base of Ten Mile Hill beds: -11 feet below sea level
Base of Goose Creek Limestone: -22 feet below sea level
Bottomed in Ashley Formation

KI-46: 1.15 mi. W of east quad. border, 2.91 mi. N of south quad. border. Surface elevation 30 feet.

TEN MILE HILL BEDS	0-10	Sand, fine-grained, medium-orange, silty, medium-gray clay lense in basal foot
	10-18	Sand, fine-grained, light-brown, silty
	18-25	Clay, medium-blue, silty, contains sparse wood
GOOSE CREEK LS	25-51	Calcarenite, fine-grained, pale-yellowish-brown, loose, abundant phosphate sand, phosphate pebble bed at base
ASHLEY FM	51-55	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand present

Base of Ten Mile Hill beds: +5 feet above sea level
Base of Goose Creek Limestone: -21 feet below sea level
Bottomed in Ashley Formation

KI-47: 0.37 mi. W of east quad. border, 2.01 mi. N of south quad. border. Surface elevation 30 feet.

TEN MILE HILL BEDS	0-10	Clay, medium-orange and medium-gray mottled, fine-grained sandy
	10-23	As above but pale-yellowish-brown
	23-25	Sand, medium-grained, medium-blue, clayey
GOOSE CREEK LS	25-47	Calcarenite, fine-grained, pale-yellowish-brown, loose, phosphate pebble bed at base
ASHLEY FM	47-55	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand grains present

Base of Ten Mile Hill beds: +5 feet above sea level
Base of Goose Creek Limestone: -17 feet below sea level
Bottomed in Ashley Formation

KI-48: 0.50 mi. W of east quad. border, 3.62 mi. S of north quad. border. Surface elevation 5 feet.

SILVER BLUFF	0-6	Sand, medium-grained, medium-orange, clayey, sparse pebbles at base
PARKERS FERRY FM	6-25	Calcilutite, medium-bluish-green to medium-green, contains echinoid spines

Base of Silver Bluff (Holocene): -1 foot below sea level
Bottomed in Parkers Ferry Formation

KI-49: 0.95 mi. W of east quad. border, 3.62 mi. S of north quad. border. Surface elevation 28 feet.

TEN MILE HILL BEDS	0-14	Sand, fine-grained, medium-reddish-orange with medium-gray mottles grading to medium-yellowish-brown below 5 feet, clayey at top grading down to silty below 5 feet
	14-20	Sand, fine- to coarse-grained, medium-yellowish-brown, poorly sorted, loose, garnets present, thin basal 1-2 inch clayey sand
GOOSE CREEK LS	20-28	Calcarenite, fine-grained, light-brownish-gray, loose, abundant phosphate sand, phosphate pebble bed at base
ASHLEY FM	28-40	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand present

Base of Ten Mile Hill beds: +8 feet above sea level
Base of Goose Creek Limestone: ±0 feet, at sea level
Bottomed in Ashley Formation

KI-50: 0.52 mi. W of east quad. border, 2.84 mi. S of north quad. border. Surface elevation 30 feet.

TEN MILE HILL BEDS	0-3	Sand, fine-grained, clayey, medium-orange and medium-gray mottled
	3-11	Sand, fine-grained, medium-yellowish-brown, silty
	11-25	Clay, medium-gray, medium-green lumps scattered throughout, sandy lenses sporadically present
	25-30	Sand, fine-grained, medium-gray
DANIEL ISLAND BEDS	30-44	Clay, medium-grayish-brown, wood fragments present
	44-55	Clay, medium-brown, peaty with woody horizons at 44-46 and 53-55
	55-60	Clay, medium-brownish-gray, contains shell and wood fragments
	60-69	Clay, medium-gray, sparse phosphate pebbles at base
PARKERS FERRY FM	69-70	Calcilutite, pale-yellowish-brown, dense
	70-75	Calcilutite, medium-green, contains echinoid spines, dense

Base of Ten Mile Hill beds: ±0 feet at sea level
Base of Daniel Island beds: -39 feet below sea level
Bottomed in Parkers Ferry Formation

KI-51: 0.07 mi. W of east quad. border, 1.65 mi. S of north quad. border. Surface elevation 35 feet.

TEN MILE HILL BEDS	0-12	Sand, fine-grained, medium-orange and medium-gray mottled grading to medium-yellowish-brown by 5 feet, silty grading down to clayey
	12-19	Clay, medium-gray, sandy, 2-5 cm phosphate pebbles at base of bed
PARKERS FERRY FM	19-30	Calcilutite, medium-bluish-green, contains echinoid spines, burrows in upper few feet

Base of Ten Mile Hill beds: +16 feet above sea level
Bottomed in Parkers Ferry Formation

KI-52: 1.27 mi. W of east quad. border, 2.50 mi. S of north quad. border. Surface elevation 29 feet.

TEN MILE HILL BEDS	0-5	Sand, fine-grained, medium-orange and medium-gray mottled, micaceous
	5-18	Clay, medium-gray and medium-brown, very sandy, two foot thick phosphate pebble bed at base
PARKERS FERRY FM	18-20	Calcilutite, medium-bluish-green, contains echinoid spines, weathered in upper 1.5 feet

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

KI-53: 2.32 mi. W of east quad. border, 1.38 mi. S of north quad. border. Surface elevation 30 feet.

TEN MILE HILL BEDS	0-5	Sand, fine-grained, medium-orange and medium-gray mottled, clayey
	5-10	Clay medium-gray, sandy (fine to coarse grains)
	10-12	Sand, fine-to medium-grained, medium-gray, poorly sorted
GOOSE CREEK LS	12-31	Calcarenite, fine-grained, pale-yellowish-brown, loose, contains shell fragments and echinoid spines, abundant phosphate sand, phosphate pebble bed at base
ASHLEY FM	31-40	Calcarenite, fine-grained, olive-brown, quartz and phosphate sand present, large forams present

Base of Ten Mile Hill beds: +18 feet above sea level
Base of Goose Creek Limestone: -1 foot below sea level
Bottomed in Ashley Formation

KI-54: 2.88 mi. W of east quad. border, 3.20 mi. S of north quad. border. Surface elevation 5 feet.

SILVER BLUFF	0-4	Sand, dominantly fine-grained, medium-orange and medium-gray mottled, clayey, poorly sorted, some medium and coarse grains
	4-10	Sand, medium-grained, medium-orange and medium-gray mottled, clayey, poorly sorted, some coarse grains
GOOSE CREEK LS	10-14	Calcarenite, fine-grained, medium-yellowish-orange, loose, abundant sand size phosphate, sparse phosphate pebble bed at base
ASHLEY FM	14-20	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand present. Upper 4 inches brown and weathered, next two inches light-yellowish-brown (weathering profile)

Base of Silver Bluff (Holocene): -5 feet below sea level
Base of Goose Creek Limestone: -9 feet below sea level
Bottomed in Ashley Formation

KI-55: 1.64 mi. W of east quad. border, 3.24 mi. S of north quad. border. Surface elevation 20 feet.

TEN MILE HILL BEDS	0-6	Sand, fine-grained, medium-orange and medium-gray mottled, silty
	6-28	Clay, medium-gray, sandy, phosphate pebble bed at base
GOOSE CREEK LS	28-29	Calcarenite, fine-grained, pale-yellowish-brown, loose, phosphate sand abundant, shell fragments present (*Argopecten eboreus*, etc.), phosphate pebble bed at base
ASHLEY FM	29-90	Calcarenite, fine-grained, olive-brown, dense, quartz and phosphate sand sparsely present

Base of Ten Mile Hill beds: -8 feet below sea level
Base of Goose Creek Limestone: -9 feet below sea level
Bottomed in Ashley Formation

KI-56: 0.07 mi. W of east quad. border, 2.70 mi. S of north quad. border. Surface elevation 33 feet.

TEN MILE HILL BEDS	0-9	Sand, fine-grained, medium-red and medium-orange mottled grading down by 5 feet to medium-orange and medium-gray mottled, clayey
	9-13	Clay, medium-gray, gradational both with bed above and below
	13-21	Sand, fine-grained, medium-gray and medium-orange, very clayey, two foot thick pebble bed at base
PARKERS FERRY FM	21-25	Calcilutite, white, contains echinoid spines, weathered

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

KI-57: On east quad. border, 0.93 mi. S of north quad. border. Surface elevation 30 feet.

TEN MILE HILL BEDS	0-5	Sand, fine-grained, medium-orange and medium-gray mottled, silty
	5-9	Sand, fine-grained, medium-gray and medium-orange mottled, sparse pebble bed at base
PARKERS FERRY FM	9-30	Calcilutite, white mottled medium-brown with 1-2 cm diameter calcite nodules in upper 4 feet, grading down to pale-gray mottled medium-brown at base, contains echinoid spines, dense

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

KI-58: 1.0 mi. W of east quad. border, 1.15 mi. S of north quad. border. Surface elevation 35 feet.

TEN MILE HILL BEDS	0-7	Sand, fine-grained, dark-gray, silty
	7-9	Sand, fine-grained, medium-gray, silty, micaceous
	9-17	Sand, fine-grained, medium-gray, clayey
	17-18	Gravel bed, quartz pebbles (1/2 inch diameter) but no phosphate, coarse-grained sand-size microcline present
GOOSE CREEK LS	18-21	Sand, medium-grained but poorly sorted, pale-brown, probably burrowed Goose Creek Limestone residuum
	21-32	Calcarenite, fine-grained, pale-yellowish-brown, loose, phosphate sand abundant, phosphate pebble bed at base
PARKERS FERRY FM	32-35	Calcilutite, medium-greenish-gray, contains echinoid spines

Base of Ten Mile Hill beds: +17 feet above sea level
Base of Goose Creek Limestone: +3 feet above sea level
Bottomed in Parkers Ferry Formation

KI-59: 2.27 mi. W of east quad. border, 2.18 mi. S of north quad. border. Surface elevation 28 feet.

TEN MILE HILL BEDS	0-6	Sand, fine-grained, medium-red, medium-orange and medium-gray mottled, clayey
	6-18	Clay, dark-grayish-brown, contains wood fragments
	18-20	Gravel bed, quartz and phosphate pebbles mixed
ASHLEY FM	20-25	Calcarenite, fine-grained, medium-brown (20-20.5) grading through white (20.5-24.5) to medium-brown again, dense, quartz and phosphate sand present. Upper 0.5 feet noncalcareous

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

KI-60: 2.2 mi. W of east quad. border, 3.25 mi. S of north quad. border. Surface elevation 11 feet.

WANDO FM (UPPER MEM)	0-9	Sand, fine-grained, medium-orange and medium-gray mottled, silty grading down to clayey, two foot thick phosphate pebble bed at base
ASHLEY FM	9-20	Calcarenite, fine-grained, pale-brown, dense, quartz and phosphate sand present, weathered

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

KI-61: 3.2 mi. E of west quad. border, 0.85 mi. N of south quad. border. Surface elevation 30 feet.

TEN MILE HILL BEDS	0-15	Sand, fine-grained, well-sorted, silty, dark-reddish-orange
	15-28	Sand, fine-grained, well sorted, silty, grades from above color to pale-gray, clay stringers and blobs scattered throughout
	28-32	Clay, dark-gray, micaceous, contains a few dark gray silty fine-grained sand interbeds, phosphate pebbles, quartz pebbles and wood fragments at base
GOOSE CREEK LS	32-53	Calcarenite, medium-grained, pale-brown, fragments of Argopecten eboreus present, phosphate pebble bed at base
ASHLEY FM	53-55	Calcarenite, fine-grained, pale-brown, burrowed at top with burrows filled with above lithology and phosphate pebbles

Base of Pleistocene: -2 feet below sea level
Base of Goose Creek Limestone: -23 feet below sea level
Bottomed in Ashley Formation

KI-62: 0.35 mi. E of west quad. border, 0.3 mi. N of south quad. border. Surface elevation 31 feet.

TEN MILE HILL BEDS	0-6	Clay, light-gray, medium-orange, and dark-brown mottled, sandy, grades to:
	6-16	Clay, dark-brownish-gray and light-gray mottled, sandy, basal 3 feet full of white phosphate lumps
CHANDLER BRIDGE FM	16-18	Clay, medium-gray and medium-orange mottled, sharp contact with bed below but no basal lag bed
ASHLEY FM	18-30	Calcarenite, fine-grained, medium-orange grading through pale-brown to dark-brown, sparse shell fragments and large forams present

Base of Ten Mile Hill beds: +15 feet above sea level
Base of Chandler Bridge Formation: +13 feet above sea level
Bottomed in Ashley Formation

KI-63: 1.5 mi. E of west quad. border, 1.05 mi. S of north quad. border. Surface elevation 10 feet.

WANDO FM (UPPER MEM)	0-5	Sand, fine-grained, medium-brown and medium-gray mottled, well sorted, micaceous, clayey in upper 3 feet
	5-7	Clay, medium-brown and medium-gray mottled, stiff, sticky
ASHLEY FM	7-25	Calcarenite, fine-grained, olive-brown

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

KI-64: 1.0 mi. E of west quad. border, 0.15 mi. S of north quad. border. Surface elevation about 15 feet.

WANDO FM (UPPER MEM)	0-5	Clay, sandy, grading down to sand, fine-grained, sandy, medium-orange, medium-gray and medium-brown mottled
LADSON FM	5-17	Sand, fine- to coarse-grained, pale-brown, poorly sorted, silty, with thin, medium-gray clay layers interbedded, grades to dark-gray by 12 feet and coarsens to base
GOOSE CREEK LS	17-18	Calcarenite, medium-grained, pale-yellowish-brown, *Amusium mortoni* fragments present, phosphate pebble bed at base
ASHLEY FM	18-20	Calcarenite, fine-grained, olive-green, sand-size phosphate and large forams present

Base of Wando Formation (upper member): +10 feet above sea level
Base of Ladson Formation: -2 feet below sea level
Base of Goose Creek Limestone: -3 feet below sea level
Bottomed in Ashley Formation

KI-65: 0.05 mi. E of west quad. border, 1.6 mi. S of north quad. border. Surface elevation 29 feet.

TEN MILE HILL BEDS	0-15	Clay, medium-orange, medium-brown and light-gray mottled with a few dark-red blobs, fine-grained sandy, becomes more sandy downward
LADSON FM	15-25	Sand, coarse-grained, medium-brownish-orange, clayey, pebbly, contains iron-hydroxide-cemented lumps, sand rather angular, below 17 feet grades to pale-brown and contains some shell hash (including Argopecten eboreus) possibly reworked from below; basal foot a clayey, angular, coarse-grained sand
GOOSE CREEK LS	25-29	Calcarenite, medium-grained, pale-yellowish-brown, phosphate pebble bed at base
PARKERS FERRY FM	29-35	Calcilutite, medium-greenish-gray, contains echinoid spines

Base of Ten Mile Hill beds: +14 feet above sea level
Base of Ladson Formation: +4 feet above sea level
Base of Goose Creek Limestone: ±0 feet at sea level
Bottomed in Parkers Ferry Formation

KI-66: 0.65 mi. E of west quad. border, 0.7 mi. S of north quad. border. Surface elevtion 8 feet.

WANDO FM (UPPER MEM)	0-7	Clay, medium-orange, medium-brown, and medium-gray mottled, grading down to medium-gray, stiff, sandy
LADSON FM	7-18	Sand, fine-grained, medium-gray, silty, contains sand-size phosphate, grading down to angular, silty, coarse-grained sand, containing quartz and phosphate pebbles
PARKERS FERRY FM	18-20	Calcilutite, medium-greenish-gray, burrows at top filled with coarse-grained, angular sand

Base of Wando Formation (upper member): +1 foot above sea level
Base of Ladson Formation: -10 feet below sea level
Bottomed in Parkers Ferry Formation

KI-67: 0.15 mi. E of west quad. border, 2.8 mi. N of south quad. border. Surface elevation 31 feet.

TEN MILE HILL BEDS	0-6	Clay, medium-orange and medium-gray mottled, stiff, sandy (fine-grained), grading to:
	6-10	Sand, fine-grained, medium-orange grading down to medium-orange and medium-gray mottled, silty
	10-21	Clay, dark-gray grading down rapidly to medium-gray, stiff, sandy, phosphate pebbles in basal 2 feet.
PARKERS FERRY FM	21-35	Calcilutite, medium-brown and medium-greenish-gray mottled grading down to medium-greenish-gray, contains echinoid spines

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

KI-68: 0.3 mi. E of west quad. border, 3.2 mi. N of south quad. border. Surface elevation 29 feet.

TEN MILE HILL BEDS	0-5	Clay, dark-reddish-brown, medium-orange, and medium-gray mottled grading down to medium-orange and medium-gray mottled, stiff, micaceous, sandy (fine-grained)
LADSON FM	5-25	Sand, medium-grained and fine-grained, silty and clayey, interbedded, medium-orange and medium-gray mottled, mostly medium-grained, and quartz pebbly below 20 feet, basal foot is angular, coarse-grained sand with a medium-brown, clay-rich matrix
GOOSE CREEK LS	25-55	Calcarenite, meidum-grained, pale-yellowish-brown, contains calcite-cemented lumps
	55-61	Conglomerate, composed of phosphate lumps, matrix as above
PARKERS FERRY FM	61-89	Calcilutite, medium-greenish-gray, sparse phosphate pebbles at base
HARLEYVILLE FM	89-97	Calcarenite, very fine grained, pale-brown, partially calcite-cemented, silty; crunchy drilling

Base of Ten Mile Hill beds: +24 feet above sea level
Base of Ladson Formation: +4 feet above sea level
Base of Goose Creek Limestone: -32 feet below sea level
Base of Parkers Ferry Formation: -60 feet below sea level
Bottomed in Harleyville Formation

KI-69: 0.5 mi. E of west quad. border, 3.65 mi. N of south quad. border. Surface elevation 26 feet.

TEN MILE HILL BEDS	0-5	Clay, fine-grained sandy, dark-red, medium-orange and medium-gray mottled, micaceous, grades to:
	5-22	Clay, medium-gray with stiff, dark-green clay lumps present in upper part, contains calcite nodules and quartz pebbles in basal lag bed
GOOSE CREEK LS	22-42	Calcarenite, medium-grained, pale-brown, numerous calcite-cemented lumps and pecten fragments, sparse phosphate pebble bed at base
PARKERS FERRY FM	42-45	Calcilutite, mint-green

Base of Ten Mile Hill beds: +4 feet above sea level
Base of Goose Creek Limestone: -16 feet below sea level
Bottomed in Parkers Ferry Formation

KI-70: 0.85 mi. E of west quad. border, 4.3 mi. N of south quad. border. Surface elevation 12 feet.

WANDO FM (UPPER MEM)	0-6	Clay, fine-grained sandy, medium-orange and medium-gray mottled
TEN MILE HILL BEDS	6-11	Sand, fine- to medium-grained, medium-orange and medium-gray mottled, poorly sorted, very silty, abrupt change from above but no pebbles or burrows, grades to fine-grained by 9 feet
	11-19	Sand, fine-grained, well sorted, pale-gray, micaceous, very fine grained heavies scattered throughout, grades to:
	19-21	Sand, medium-grained, black, phosphate pebble bed at base
PARKERS FERRY FM	21-25	Calcilutite, mint-green, contains echinoid spines, weathered to non-calcareous clay in upper foot

Base of Wando Formation (upper member): +6 feet above sea level
Base of Ten Mile Hill beds: -9 feet below sea level
Bottomed in Parkers Ferry Formation

KI-71: 1.4 mi. W of east quad. border, 3.7 mi. S of north quad. border. Surface elevation 10 feet.

WANDO FM (UPPER MEM)	0-3	Clay, medium-orange, medium-gray and medium-red mottled grading down to medium-orange, medium-gray, and medium-brown mottled, sandy (fine- grading to medium-grained), subangular quartz pebbles at base
TEN MILE HILL BEDS	3-15	Clay, medium-brownish-gray, stiff, dense, sharp contact with above, occasional burrows filled with fine-grained sand
	15-19	Sand, fine- grading down to medium-grained, dark-gray, phosphate pebble bed at base
ASHLEY FM	19-40	Calcarenite, fine-grained, light-gray grading through pale-brown to olive-brown by 33 feet

Base of Wando Formation (upper member): +7 feet above sea level
Base of Ten Mile Hill beds: -9 feet below sea level
Bottomed in Ashley Formation

KI-72: 1.2 mi. E of west quad. border, 2.6 mi. N of south quad. border. Surface elevation about 18 feet.

FILL	0-5	Road material
TEN MILE HILL BEDS	5-11	Clay, fine-grained sandy, dark-gray
	11-13	Sand, fine-grained, silty, dark-gray
	13-15	Clay, medium-greenish-gray
	15-28	Sand, fine-grained grading down through medium-grained to coarse-grained by 23 feet, shelly from 20-28, sparse phosphate pebbles at base
PARKERS FERRY FM	28-35	Calcilutite, mint-green, contains echinoid spines

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

KI-73: 2.2 mi. E of west quad. border, 2.75 mi. N of south quad. border. Surface elevation 8 feet.

WANDO FM (UPPER MEM)	0-6	Sand, fine-grained, clayey, medium-brown, medium-orange, and medium-gray mottled, stiff
	6-23	Clay, medium-gray, slightly silty, contains wood fragments, grades from above over a two foot interval, sparse phosphate pebbles at base
GOOSE CREEK LS	23-28	Calcarenite, medium-grained, pale-yellowish-brown, contains numerous calcareous shell fragments, sparse phosphate pebbles at base
ASHLEY FM	28-35	Calcarenite, fine-grained, olive-brown, contains abundant foram tests

Base of Wando Formation (upper member): -15 feet below sea level
Base of Goose Creek Limestone: -20 feet below sea level
Bottomed in Ashley Formation

KI-74: 2.15 mi. E of west quad. border, 1.5 mi. N of south quad. border. Surface elevation about 15 feet

WANDO FM (UPPER MEM)	0-8	Clay (0-6), fine-grained sandy, medium-brown, medium-orange and medium-gray mottled, stiff, grading to sand (6-8), silty and clayey, fine-grained, pale-brown
GOOSE CREEK LS	8-19	Calcarenite, medium-grained, pale-yellowish-brown, locally calcite-cemented into nodular lumps, sparse phosphate pebbles at base
ASHLEY FM	19-45	Calcarenite, fine-grained, olive-brown, dense

Base of Wando Formation (upper member): +7 feet above sea level
Base of Goose Creek Limestone: -4 feet below sea level
Bottomed in Ashley Formation

KI-75: 0.45 mi. E of west quad. border, 1.7 mi. N of south quad. border. Surface elevation 32 feet.

TEN MILE HILL BEDS	0-5	Clay, medium-gray, medium-orange and medium-red mottled, stiff, sandy (fine-grained)
	5-8	Clay, dark-gray, dense, grades to:
	8-20	Clay, light-gray, sandy (8-14), grading down to sand, fine-grained, pale-brown, silty (14-18), grading down to sand, coarse-grained, poorly sorted, pebbly at base
CHANDLER BRIDGE FM	at 20	Clay, dark-yellowish-brown, with light-gray, fine-grained, silty sand-filled burrows, 4 inches thick, phosphate pebbles absent
ASHLEY FM	20-30	Calcarenite, fine-grained, olive-brown, contains sand-size phosphate and large forams

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

KI-76: 3.6 mi. E of west quad. border, 3.7 mi. N of south quad. border. Top of river bluff at 20 feet above sea level.

TEN MILE HILL BEDS	0.0-8.0	Sand, fine-grained, moderate-greenish-yellow (10Y7/4) to very-light-gray (N8), poorly banded, blocky
	8.0-8.2	Silt, clayey, very-light-gray (N8)
	8.2-9.0	Sand, fine- to medium-grained, moderate-olive-brown ((5Y4/4), light-olive-brown (5Y5/6), and moderate-yellow (5Y7/6), mostly massive but with a few impersistent clay laminae
	9.0-9.4	Clay, silty, very-light-gray (N8), interbedded with sand, fine- to very fine grained, light-brown (5YR5/6), layering extensively disrupted by bioturbation
	9.4-12.8	Clay, very-light-gray (N8), with laminae of very fine grained sand, grayish-orange (10YR7/4) to light-brown (5YR5/6), only slightly disrupted by bioturbation, basal contact sharp
	12.8-13.1	Sand, medium- to coarse-grained, light-brown (5YR5/6)
	13.1-13.6	Sand, fine-grained, grayish-orange (10YR7/4) with light-gray (N6) clay blobs
	13.6-13.9	Sand, very fine grained, light-brown (5YR5/6), prominently banded, contains blobs of clay ripped up from bed below
	13.9-14.5	Sand, very fine grained, light-brown (5YR5/6), and clay, light-gray (N6), interlaminated
	14.5-14.8	Sand, very fine grained, yellowish-gray ((5Y7/2), clayey and silty
	14.8-15.4	Clay, light-gray (N6), sand, very fine grained, grayish-orange (10YR7/4), and sand, very fine grained, light-brown (5YR5/6) interbedded in thin bands

15.4-15.7	Clay, light-gray (N6), with laminae of very fine grained sand, some grayish-orange (10YR7/4) and some light-brown (5YR5/6), bands thinner than in bed above
15.7-16.4	Sand, very fine grained, grayish orange (10YR7/4) and light-brown (5YR5/6), with light-gray (N6) clay laminae, bedding wavey to severely churned and contorted
16.4-16.5	Clay, light-gray (N6), somewhat disrupted
16.5-16.8	Sand, fine-grained, broadly planar laminated, well sorted, yellowish-gray ((5Y8/1), basal contact very irregular
16.8-17.2	Sand, very fine to fine-grained, silty, pale-olive (10Y6/2)
17.2-17.8	Sand, fine-grained, white and dark-greenish-yellow (10Y6/6) mottled, contains lumps and lenses of light-gray (N6) clay
17.8-18.1	Sand, very fine grained, silty, micaceous (2-3 mm flakes), dark-greenish-yellow (10Y6/6)
18.1-18.4	Clay, light-brownish-gray (5YR6/1) and light-olive-brown (10YR5/4), interlayered
18.4-19.0	Clay, light-brownish-gray (5YR6/1), well bedded with white sand laminae forming bedding planes
19.0-20.0	Clay, light-gray (N6), as above but with thinner sand laminae

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Base of section at water line of Cooper River