

DEPARTMENT OF THE INTERIOR

U.S. GEOLOGICAL SURVEY

Detailed sections from auger holes and outcrops in the
Pringletown, Ridgeville, Summerville Northwest, and
Summerville quadrangles, South Carolina

by

Robert E. Weems¹, Earl M. Lemon, Jr.¹, M. Sandra Nelson¹,
Gregory S. Gohn¹, and Brenda B. Houser¹

Open-File Report 87-524

Prepared in cooperation with
the Nuclear Regulatory Commission

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

¹ U. S. Geological Survey, Reston, VA 22092

Contents

	<u>Page</u>
Introduction.....	ii
Ages and sequence of regionally recognized geologic units.....	vi
Locality descriptions and detailed sections:	
Pringletown quadrangle.....	1
Ridgeville quadrangle.....	23
Summerville Northwest quadrangle.....	42
Summerville quadrangle.....	66

Introduction

In the course of preparing detailed geologic maps for the Pringletown, Ridgeville, Summerville Northwest, and Summerville quadrangles, sediments from numerous auger holes and outcrops were studied to determine their lithologic characteristics, spatial distribution, and temporal framework. While the major geologic boundaries will be summarized on a forthcoming geologic map of these quadrangles (Weems, Lemon, and Nelson in preparation), much of the more detailed stratigraphic information could not be shown easily on a map and therefore is included in this Open-File Report. Information is included for 105 localities within these four quadrangles.

A few of the localities (so indicated) were natural outcrops, excavation pits, or ditch banks, but because exposures are rare the majority of the localities were logged by augering. These auger holes were drilled with a truck-mounted, Mobile Drill B-40 power auger, using 5-foot stem sections. One stem was augered into the ground and then pulled to describe the soil profile. After this, a second run was made in which additional stems were added until either a chattering sound followed by a sudden tightening of the drill string occurred (penetration of the Ashley Formation) or until the vacated 5 feet of the first auger run was filled by rising sediment from the newly

penetrated section. In the latter case (usually 4-6 flights, depending on the density of the material being augered), the stems were pulled and described (allowing for 5 feet of total rise during drilling). In most cases the base of the Pleistocene section was penetrated by the third run; in exceptionally thick sections, the rest of the section was augered in 20 to 30 foot runs.

Although the outcrop and auger hole sections vary considerably in thickness, from 2 feet (SN-4) to 145 feet (RI-15, SU-5) most fall in the range of 30-50 feet. Most of the Quaternary and upper Tertiary shallow subsurface units are thin (less than 50 feet total thickness) and poorly consolidated down to the upper Oligocene Ashley Formation of the Cooper Group (locally called the "Cooper Marl"). In contrast, the Ashley is often 100 feet or more thick and firmly compacted. It was impractical in many instances to try to drill through the Ashley with the power auger, so those drill holes were filled and abandoned as soon as we penetrated this unit. In the northern parts of the Pringletown and Summerville Northwest quadrangles, however, the Ashley begins to pinch out updip and penetration in that area was often to the top of the Cross Limestone of the Santee Limestone Group.

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). Three units, present within these four quadrangles but not in other parts of the Charleston region, are the "Pringletown beds", the "Salkehatchie beds", and the "Rudd Branch beds".

The "Pringletown beds" are composed of blue, sandy, micaceous clay to clayey sand which was encountered in three holes in the Pringletown and Summerville Northwest quadrangles. It is not readily confused with any other unit in the area, being only similar to bluish parts of the Daniel Island beds and the Parkers Ferry Formation (the latter being distinguished readily because it is very calcareous). It unconformably underlies, and therefore is older than, the early Pleistocene Waccamaw Formation; it unconformably overlies, and therefore is younger than, the Pliocene "Salkehatchie beds". A more precise age determination is not possible at the present time. It could be a nearshore equivalent of the Goose Creek Limestone, but positive evidence for this is lacking. Possibly it represents a transgression otherwise unknown in the Charleston region.

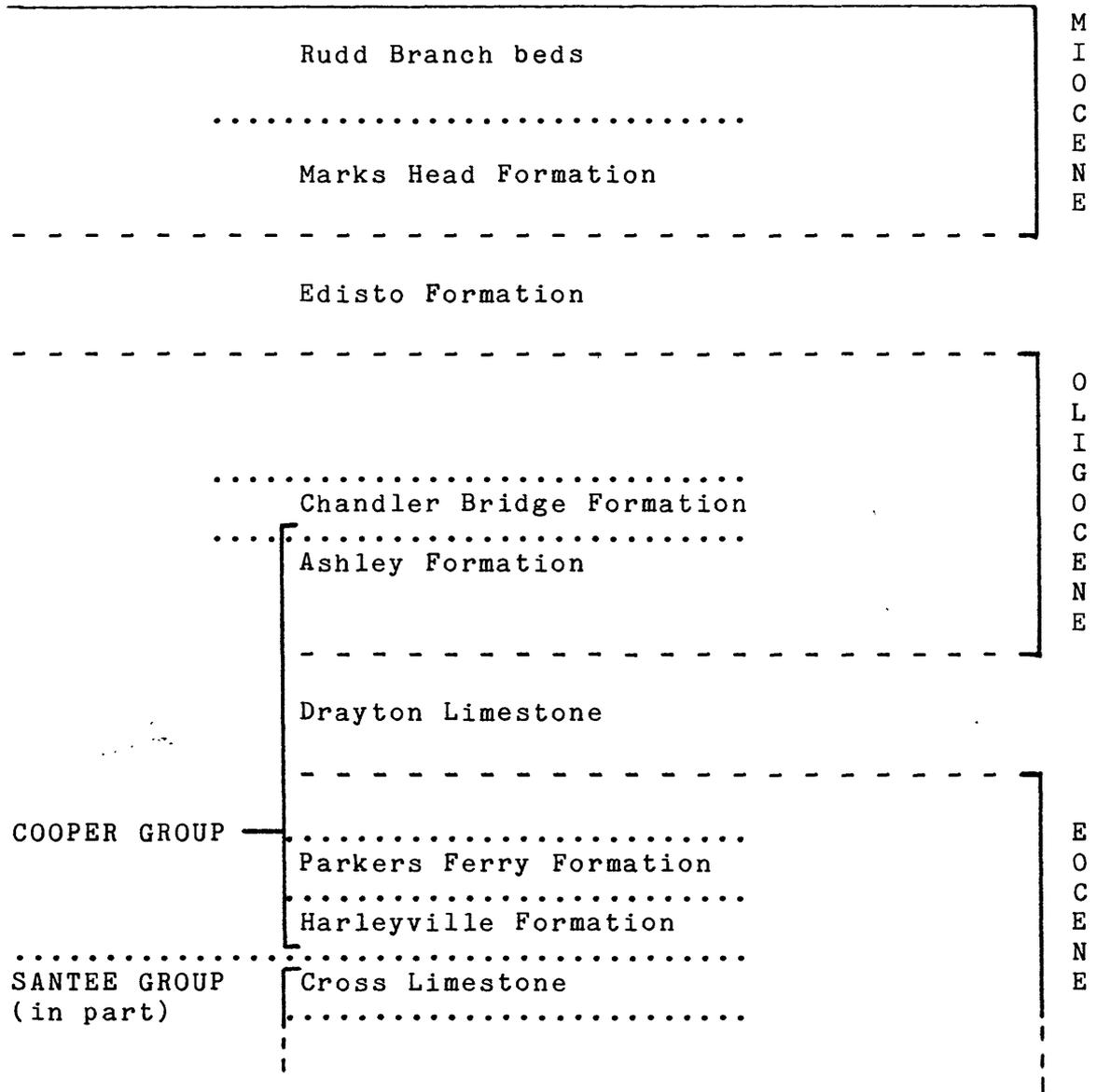
The "Salkehatchie beds" are Pliocene in age, and correspond in their description (soft, dark-gray-green, glauconitic and phosphatic sand) and their stratigraphic position (beneath the seaward edge of the Wicomico terrace)

to the "Salkehatchie Phase" of Sloan (1908). This unit might be equivalent to the early Pliocene Raysor Formation of Blackwelder and Ward (1979), but its color and lower calcium carbonate content are strikingly different.

The "Rudd Branch beds", named informally for Rudd Branch Creek in the vicinity of auger holes SN-14 and SN-20, contains dinoflagellates which indicate this unit falls in the vicinity of the middle/upper Miocene boundary (Lucy Edwards, USGS, written communication, Report on Shipment Number ERG-84-12, 1984). Based on the dinoflagellates, it is too young to be a facies of the Marks Head Formation or the Chandler Bridge Formation, and too old to be a facies of the Raysor Formation. These are the only local units which lithologically resemble it. So far, it differs from the Chandler Bridge in that it usually has a basal phosphate bed and lacks a basal clay bed, from the Marks Head in that it lacks the brown hues and dense, sticky clay beds typical of that unit, and from the Raysor in that it is denser and usually less shelly. Possibly it is an updip equivalent of the middle Miocene Coosawatchie Clay, present in southern South Carolina.

References cited

- Blackwelder, B.W., and Ward, L.W., 1979, Stratigraphic revision of the Pliocene deposits of North and South Carolina: Geologic Notes, v. 23, no. 1, p. 33-49
- Sloan, Earle, 1908, Catalogue of the mineral localities of South Carolina: South Carolina Geological Survey Bulletin 2 (reprinted 1958)
- 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
- Weems, Robert E., and Lemon, E. M. Jr., 1984b, Geologic map of the Stallville quadrangle, Charleston and Dorchester Counties, South Carolina: U. S. Geological Survey Geologic Map GQ-1581, scale 1:24,000.
- Weems, Robert E., Lemon, E. M., Jr., and Nelson, M. S., in preparation, Geologic map of the Pringletown, Ridgeville, Summerville, and Summerville Northwest quadrangles, Berkeley and Dorchester Counties, South Carolina: U. S. Geological Survey Geologic Map I-_____, scale 1:24,000.



M
I
O
C
E
N
E

O
L
I
G
O
C
E
N
E

E
O
C
E
N
E

PRINGLETOWN QUADRANGLE

(depths in feet)

PR-1: 2.15 mi. E of west quad. border, 0.9 mi. N of south quad.
border. Surface elevation 50 feet.

FILL	0-4	Sand, road fill
HOLOCENE	4-5	Clay, dark-gray, soft, contains roots
LADSON FM	5-11	Sand, very fine-grained, medium-gray, silty, clayey, wood fragments present	
	11-16	Sand, medium-grained, medium-gray, well- sorted, contains very fine-grained heavies
ASHLEY FM	16-25	Calcarenite, fine-grained, light-brown grading down to olive-green, thin shells present	

Base of Holocene: +45 feet above sea level
Base of Ladson Formation: +34 feet above sea level
Bottomed in Ashley Formation

PR-2: 0.5 mi. E of west quad. border, 2.3 mi. S of north quad. border. Surface elevation 87 feet.

WACCAMAW FM	0-7	Sand, fine-grained, medium-orange and medium-gray, well sorted, clayey, grades downward to sandy clay
	7-17	Sand, fine-grained, white grading down to pale-yellow, gets poorly sorted with some medium- and coarse-grained fraction by base
	17-19	Clay, medium-gray and reddish-orange mottled
	19-24	Sand, medium-grained, bright-orange, silty, well-sorted, medium-gray clay beds interspersed, grades to coarse-grained by base

.....

SALKEHATCHIE BEDS	24-26	Clay, dark-green
----------------------	-------	------------------

.....

ASHLEY FM	26-30	Calcarenite, fine-grained, olive-brown, contains quartz grains and large forams, recrystallized calcareous nodules in upper two feet, shell fragments in basal foot
-----------	-------	---

Base of Waccamaw Formation: +63 feet above sea level
Base of Salkehatchie beds: +61 feet above sea level
Bottomed in Ashley Formation

PR-4: 2.2 mi. W of east quad. border, 2.35 mi. S of north quad. border. Surface elevation 95 feet.

WACCAMAW FM	0-6	Sand, fine-grained, brownish-orange grading down to reddish-orange and medium-gray mottled
	6-19	Sand, medium-grained, white, well-sorted, contains abundant very fine-grained heavies, interbedded with thin light-gray clay laminae, sand turns medium-orange below 15 feet
	19-26	Clay, medium-bluish-gray, soft, greasy
	26-32	Silt, sandy, grading to sand, fine-grained, silty, medium-yellowish-brown
	32-34	Sand, coarse-grained, medium-orange, contains subangular quartz pebbles, sharp basal contact

.....

PRINGLETOWN BEDS	34-42	Sand, fine-grained, light-orange grading by 35 feet to medium-blue, silty, clayey, grades downward to medium-grained and micaceous
---------------------	-------	--

.....

ASHLEY FM	42-60	Calcarenite, fine-grained, medium-brown, contains quartz and phosphate sand
-----------	-------	---

Base of Waccamaw Formation:	+61 feet above sea level
Base of Pringletown beds:	+53 feet above sea level
Bottomed in Ashley Formation	

PR-5: 2.8 mi. E of west quad. border, 0.5 mi. S of north quad. border. Surface elevation 81 feet.

WACCAMAW FM	0-6	Sand, medium-grained, medium-brown, medium-orange, and light-gray mottled, poorly sorted, very clayey
	6-7	Clay, light-gray and medium-red mottled
	7-12	Sand, coarse-grained, medium-brown, medium-orange and light-gray mottled, poorly sorted, subangular
	12-17	Sand, dominantly medium-grained, pale-brownish-orange, poorly sorted, silty, thin bed of medium-orange clay at base

.....

SALKEHATCHIE BEDS	17-22	Sand, medium-grained, dark-greenish-gray, silty, very abundant sand-size phosphate, subangular
----------------------	-------	--

.....

ASHLEY FM	22-29	Calcarenite, fine- to medium-grained, light-brown, contains shell fragments including small pectens
-----------	-------	---

.....

CROSS LS	29-35	Calcarenite, fine-grained, white, glauconitic
----------	-------	---

Base of Waccamaw Formation:	+64 feet above sea level
Base of Salkehatchie beds:	+59 feet above sea level
Base of Ashley Formation:	+52 feet above sea level
Bottomed in Cross Limestone	

PR-6: 0.3 mi. E of west quad. border, 0.6 mi. N of south quad. border. Surface elevation 94 feet.

WACCAMAW FM 0-4.5 Sand, fine-grained, light-orange, very fine grained heavies present below 3 feet and some feldspar grains

 4.5-5 Clay, light-gray with light-orange mottles, rapid gradation from above

 5-25 Sand, fine-grained, light-yellowish-brown, contains abundant very fine-grained heavies, slightly micaceous, silty, grades to

 25-29 Sand, fine-grained, bright medium-orange, more angular than above, some coarse-grains present, contains abundant very fine-grained heavies

SALKEHATCHIE BEDS 29-40 Sand, fine- to medium-grained, dark-brown grading to dark-greenish-gray by 32 feet, very fine-grained heavies abundant, sparse aragonitic shells present, sparse phosphate pebbles at base, burrows in unit below filled with this lithology

ASHLEY FM 40-50 Calcarenite, very fine-grained, light-olive-gray grading down to medium-olive, phosphate sand content increases downward, a few phosphate and calcite-cemented lumps present

Base of Waccamaw Formation: +65 feet above sea level
Base of Salkehatchie beds: +54 feet above sea level
Bottomed in Ashley Formation

PR-7: 1.9 mi. E of west quad. border, 3.15 mi. N of south quad. border. Surface elevation 102 feet.

WACCAMAW FM 0-23 Sand, fine-grained, medium-yellowish-orange grading through medium-brownish-orange to light-brownish-gray by 5 feet, well-sorted, very slightly silty, very fine-grained heavies abundant, slightly micaceous (2-3 mm flakes)

 at 23 Clay, light-gray, present in thin lense

 23-36 Sand, fine-grained, light-brownish-gray, silty

SALKEHATCHIE BEDS 36-41 Sand, fine- to medium-grained, medium-gray (36-37 feet) grading to dark-brownish-gray, sparse quartz and phosphate pebbles at base (mostly 1 cm, but one vein quartz pebble had 2 cm long axis)

ASHLEY FM 41-50 Calcarenite, very fine-grained, medium-olive, contains sparse shell fragments and phosphate sand

Base of Waccamaw Formation: +66 feet above sea level
Base of Salkehatchie beds: +61 feet above sea level
Bottomed in Ashley Formation

PR-8: 0.35 mi. E of west quad. border, 3.35 mi. N of south quad. border. Surface elevation 102 feet.

WACCAMAW FM 0-5 Sand, fine- to medium-grained, medium-orange grading to light-orangish-gray, well-sorted, slightly silty, grades to

 5-18 Sand, fine- to medium-grained, light-brown, micaceous (1-2 mm flakes), grades to

 18-24 Sand, medium-grained, light-gray, more micaceous than above and contains abundant quartz granules

 24-25 Clay, light-gray, fine- to coarse-grained sandy

SALKEHATCHIE BEDS 25-39 Sand, medium-grained, light-greenish-gray, very calcareous and contains quartz and phosphate sand, calcareous shell fragments (including Amusium mortoni) present, quartz and phosphate pebbles (about 1 cm diameter) present at base

ASHLEY FM 39-40 Calcarenite, fine-grained, medium-olive-brown, contains abundant phosphate sand

Base of Waccamaw Formation: +77 feet above sea level
Base of Salkehatchie beds: +63 feet above sea level
Bottomed in Ashley Formation

PR-9: 1.35 mi. W of east quad. border, 3.45 mi. N of south quad. border. Surface elevation about 80 feet.

WACCAMAW FM	0-5	Sand, dominantly medium-grained, light-yellowish-orange with light-brownish-gray mottles grading down to medium-orange with light-gray mottles, very poorly sorted, silty and clayey, grades to
	5-15	Sand, dominantly fine-grained, light-orange grading down to light-yellowish-orange, very poorly sorted, silty and clayey, grades to
	15-20	Silt, light-yellowish-orange, clayey and sandy (fine- to coarse-grained), grades to
	20-27	Sand, fine-grained grading down to medium-grained, medium-yellow (lepidochrosite?), silty, phosphate pebbles at base
.....		
SALKEHATCHIE BEDS	at 27	Clay, dark-yellowish-brown, silty, 5 cm thick
.....		
ASHLEY FM	27-32	Calcarenite, fine-grained, medium-olive-brown, abundant sand-size phosphate, contains thin shell fragments, sparse phosphate pebbles at base
.....		
HARLEYVILLE FM	32-35	Calcarenite, very fine-grained, light-bluish-green, grainy, semi-lithified; contains sparse quartz and phosphate sand; burrows at top of unit are filled with Ashley matrix from above unit

Base of Waccamaw Formation: +53 feet above sea level
 Base of Salkehatchie beds: +53 feet above sea level
 Base of Ashley Formation: +48 feet above sea level
 Bottomed in Harleyville Formation

PR-10: 2.2 mi. W of east quad. border, 3.9 mi. S of north quad. border. Surface elevation 78 feet.

WACCAMAW FM	0-7	Sand, fine-grained, light-brownish-gray grading down to medium-orange and light-gray mottled, well-sorted, slightly clayey and silty
	7-10	Clay, bright medium-red with medium-gray to light-gray mottles grading down to light-orange and light-gray mottled, micaceous, slightly sandy grading down to abundantly sandy and subangular, quartz pebbly
	10-23	Sand, dominantly medium-grained, grading down to dominantly fine-grained by 18 feet, light-brownish-gray grading to medium-gray by 15 feet and to dark-gray by 18 feet, very poorly sorted, very fine-grained heavies present, slightly silty, phosphate pebbles and rounded lumps of calcarenite, (1-2 cm diameter) at base

ASHLEY FM	23-30	Calcarenite, very fine-grained, light-olive-brown, silty
-----------	-------	--

Base of Waccamaw Formation: +55 feet above sea level
Bottomed in Ashley Formation

PR-12: 2.8 mi. W of east quad. border, 1.25 mi. S of north quad. border. Surface elevation 90 feet.

WACCAMAW FM 0-5 Sand, fine-grained, light-orange with light-gray mottles near base, silty grading down to clayey and silty, rounded lumps of plinthite present at about 2 feet, grades to

 5-14 Sand, fine-grained, light-brownish-orange grading through light-orange to light-reddish-orange by 10 feet, poorly sorted with some medium and coarse grains, silty, coarsens downward to

 14-28 Sand, medium-grained, light-red grading to light-orange by 22 feet, poorly sorted, coarse grains subangular

SALKEHATCHIE BEDS 28-29 Clay, dark-olive-green (about 5 GY 2/2), sandy, no basal pebble bed

ASHLEY FM 29-31 Calcarenite, fine-grained, medium-olive-brown, phosphatic, grades to

 31-32 Calcarenite, light-brownish-gray grading to light-yellowish-olive, phosphate sand abundant

Base of Waccamaw Formation: +62 feet above sea level
Base of Salkehatchie beds: +61 feet above sea level
Bottomed in Ashley Formation

PR-13: 1.1 mi. W of east quad. border, 1.4 mi. S of north quad. border. Surface elevation 94 feet.

WACCAMAW FM	0-18	Sand, fine-grained, light-yellowish-gray (0-2 feet) grading to light-gray, very fine-grained heavies present, very kaolinitic (?), silty, grades to
	18-26	Sand, medium-grained, medium-gray, scattered thin lenses of medium-gray clay
	26-35	Sand, medium-grained grading down to coarse-grained by base, medium-gray, calcareous and aragonitic shells present
.....		
ASHLEY FM	35-40	Calcarenite, fine-grained, medium-yellowish-olive, contains phosphate sand

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

PR-14: 0.65 mi. W of east quad. border, 0.8 mi. N of south quad. border. Surface elevation 65 feet.

PENHOLOWAY FM	0-6	Clay, light-brown and medium-gray mottled grading through light-orange and medium-gray mottled to light-gray, slightly fine-grained sandy, basal contact sharp
.....		
WACCAMAW FM	6-9	Sand, fine-grained grading down to fine- and medium-grained, medium-gray, 1 cm phosphate pebbles abundant at base
.....		
ASHLEY FM	9-15	Calcarenite, very fine-grained, light-gray grading down to light-orange, silty

Base of Penholoway Formation: +59 feet above sea level
Base of Waccamaw Formation: +56 feet above sea level
Bottomed in Ashley Formation

PR-16: 0.2 mi. E of west quad. border, 3.6 mi. S of north quad. border. Surface elevation 90 feet.

WACCAMAW FM	0-7	Clay, light-brown and light-gray mottled with a few medium-reddish-orange mottles grading down to light-red and medium-red mottled, silty and slightly sandy, grades to
	7-10	Silt, bright light-orange, sandy, grades rapidly to
	10-10.5	Clay, light-purple, silty to sandy, grades rapidly to
	10.5-14	Silt, bright light-orange, sandy, grades rapidly to
	14-14.5	Clay, light-purplish-gray, sandy, grades rapidly to
	14.5-21	Silt, sandy grading down to sand, fine-grained, silty, light-orange
	21-23.5	Clay, light-gray, contains poorly sorted sand and quartz granules

SALKEHATCHIE BEDS	23.5-24	Clay, dark-brown
----------------------	---------	------------------

ASHLEY FM	24-25	Calcarenite, very fine-grained, light-gray
-----------	-------	--

Base of Waccamaw Formation: +67 feet above sea level
Base of Salkehatchie beds: +66 feet above sea level
Bottomed in Ashley Formation

PR-17: 0.3 mi. E of west quad. border, 0.15 mi. S of north quad. border. Surface elevation 76 feet.

WACCAMAW FM	0-9	Silt, medium-orange with light-gray mottles below 4 feet, slightly clayey, fine-grained sandy
	9-10	Clay, light-gray, sandy
	10-14	Sand, fine- to medium-grained, light-reddish-orange, very fine-grained black heavies abundant, grades to
	14-26	Sand, coarse-grained, light-reddish-orange, contains granules of quartz and feldspar and scattered laminae of light-gray clayey sand, grades to
	26-38	Gravel, granular, light-reddish-orange, well-sorted, subrounded to subangular, dominantly quartz, clayey from 32-38

CROSS LS	38-50	Calcarenite, very fine-grained, light-yellow grading through very-light-brown to light-gray in basal foot, silty, contains shell and sand dollar fragments
----------	-------	--

Base of Waccamaw Formation: +38 feet above sea level
Bottomed in Cross Limestone

PR-18: 1.65 mi. E of west quad. border, 2.0 mi. N of south quad. border. Surface elevation about 87 feet.

WACCAMAW FM	0-5	Sand, fine-grained, light-orange grading down to white, well-sorted, very fine-grained heavies present
	5-16	Sand, fine-grained, light-brown, silty, more poorly sorted downward with some coarse-grained fraction coming in by 13 feet, light-gray clay laminae scattered throughout
	16-18	Sand, dominantly fine-grained, medium-orange, clayey
	18-24	Sand, fine-grained, dark-brownish-green, very clayey, 1 cm phosphate pebbles at base

.....

SALKEHATCHIE BEDS	24-30	Sand, fine-grained, dark-brownish-green, rich in phosphate sand, calcite-cemented lumps present, much denser than above
----------------------	-------	---

Base of Waccamaw Formation: +63 feet above sea level
Bottomed in Salkehatchie beds

PR-19: 1.05 mi. E of west quad. border, 1.15 mi. N of south quad. border. Surface elevation 82 feet.

WACCAMAW FM 0-14 Sand, fine-grained, light-brown (0-2 feet) grading through light-orange (2-5 feet) to light-yellowish-brown by 4 feet, clean, well-sorted, very fine-grained heavies present, sparsely scattered light-gray clay laminae present, grades to

 14-25 Sand, medium-grained, light-yellowish-brown (14-18 feet) grading through medium-orange (18-20 feet) to dark-green, clayey (20-25 feet), sharp basal contact

SALKEHATCHIE BEDS 25-27 Sand, fine-grained, light-gray, very calcareous, sparse oyster fragments present, abundant phosphate pebbles at base

ASHLEY FM 27-30 Calcarenite, very fine-grained, medium-olive-brown, slightly quartz and phosphate sandy

Base of Waccamaw Formation: +57 feet above sea level
Base of Salkehatchie beds: +55 feet above sea level
Bottomed in Ashley Formation

PR-22: 2.6 mi. E of west quad. border, 4.0 mi. S of north quad. border. Surface elevation about 90 feet (=RID-NE-3-H of Houser).

WACCAMAW FM	0-5	Sand, medium-grained, medium-gray and medium-orange, clayey, slightly micaceous
	5-8.5	Sand, medium- to coarse-grained, yellowish-brown, muddy, slightly micaceous
	8.5-26	Sand, medium-grained grading down to coarse-grained, white grading down to medium-gray (23-26 feet), muddy, slightly micaceous
	26-28	Sand, fine- to medium-grained, dark-gray, sparse phosphate pebbles at base
.....		
SALKEHATCHIE BEDS	28-30	Sand, fine- to medium-grained, dark-olive-green
.....		
ASHLEY FM	30-81	Calcarenite, fine-grained, olive-green to olive-brown, sand-size phosphate mostly rare but increases to abundant near base
.....		
HARLEYVILLE FM	81-86	Calcilutite, olive-green to olive-brown, stiff
.....		
CROSS LS	86-125	Calcarenite, fine-grained, white to pale-yellowish-brown

Base of Waccamaw Formation: +62 feet above sea level
 Base of Salkehatchie beds: +60 feet above sea level
 Base of Ashley Formation: +9 feet above sea level
 Base of Harleyville Formation: +4 feet above sea level
 Bottomed in Cross Limestone

PR-23: 0.95 mi. E of west quad. border, 1.8 mi. N of south quad. border. Surface elevation 52 feet.

FILL	0-6	Road fill
.....		
HOLOCENE	6-7	Sand, medium- to coarse-grained, medium-brownish-orange, subangular
.....		
LADSON FM	7-15	Sand, dominantly fine-grained, light-brown, poorly sorted, grading to dominantly medium-grained, poorly sorted, woody and peaty brown in basal foot
.....		
ASHLEY FM	15-20	Calcarenite, very fine-grained, light-yellowish-brown grading down to light-olive

Base of Holocene: +45 feet above sea level
Base of Ladson Formation: +37 feet above sea level
Bottomed in Ashley Formation

RI-3: 2.4 mi. E of west quad. border, 2.5 mi. S of north quad. border. Surface elevation 82 feet.

PENHOLLOWAY FM	0-3	Sand, medium-grained, medium-orange, silty
	3-6	Clay, medium-orange, medium-gray and brownish-orange mottled, sandy
	6-10	Sand, fine- to medium-grained, light orange, contains a subordinate coarse-grained fraction
	10-12	Sand, fine-grained, light-orange and medium-orange mottled, contains numerous very fine-grained heavies
	12-32	Clay, medium-gray, medium-red and orangish-brown mottled, grading to medium-blue by 23 feet
	32-33	Sand, fine-grained, dark-gray, micaceous, silty
	33-39	Sand, medium-grained, medium-green, poorly sorted, shell fragments present (mostly oyster), phosphate pebbles at base

ASHLEY FM	39-50	Calcarenite, fine-grained, light-brown rapidly grading to olive-brown
--------------	-------	---

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

RI-4: 2.6 mi. E of west quad. border, 3.25 mi. N of south quad. border. Surface elevation 57 feet.

PENHOLLOWAY FM	0-5	Clay, reddish-orange, medium-orange and medium-gray mottled, slightly sandy
	5-7	Sand, fine- to coarse-grained, white, poorly sorted, silty, pebbly
	7-16	Clay, light-gray, dense
	16-31	Sand, fine-grained grading through medium- to coarse-grained by base, light-gray, well-sorted, silty, contains abundant very fine-grained heavies
	31-34	Sand, coarse-grained, dark-greenish-gray, subangular, poorly sorted, discoidal phosphate pebbles in basal foot

CHANDLER BRIDGE FM	34-35	Sand, fine-grained, dark-greenish-gray, dense (22 cm) overlying clay, dark brown (8 cm)
-----------------------	-------	---

ASHLEY FM	35-50	Calcarenite, fine-grained, olive-brown, abundant sand-size phosphate, phosphate pebbles and bone fragments in basal foot
--------------	-------	--

Base of Penholoway Formation: +23 feet above sea level
Base of Chandler Bridge Formation: +22 feet above sea level
Bottomed in Ashley Formation

RI-5: 3.65 mi. W of east quad border, 3.3 mi. S of north quad.
border. Surface elevation 62 feet.

PENHOLLOWAY FM	0-5	Clay, medium-orange grading down to medium- orange and medium-gray mottled, stiff, dense
	5-8	Sand, fine-grained, medium-orange, silty
	8-12	Clay, light-gray with medium-purple mottles, dense, stiff
	12-24	Sand, fine-grained, light-yellow, silty, contains abundant very fine-grained heavies, phosphate pebble bed at base
.....		
CHANDLER BRIDGE FM	24-25	Sand, fine-grained, dark-greenish-gray, contains abundant sand-size phosphate
.....		
ASHLEY FM	25-35	Calcarenite, fine-grained, olive-green, contains abundant sand-size phosphate

Base of Penholoway Formation: +38 feet above sea level
Base of Chandler Bridge Formation: +37 feet above sea level
Bottomed in Ashley Formation

RI-7: 0.15 mi. E of west quad. border, 1.1 mi. N of south quad. border. Surface elevation 64 feet.

PENHOLLOWAY FM	0-3	Silt, dull medium-orange, fine-grained sandy, sand well-rounded and well sorted,
	3-6	Clay, light-gray with medium-red mottles abundant
	6-17	Sand, very fine-grained, light-reddish-orange grading down to light-brown, silty
	17-24	Clay, light-gray rapidly grading down to light-bluish-gray
	24-25	Sand, very fine-grained, light-yellowish-gray, silty
	25-26	Clay light-yellowish-gray, silty, contains sparse lumps of clay

ASHLEY FM	26-30	Calcarenite, very fine-grained, light-brown
--------------	-------	---

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

RI-8: 0.45 mi. E of west quad. border, 4.0 mi. N of south quad. border. Surface elevation 58 feet.

PENHOLOWAY 0-5 Clay, light- to medium-orange with sparse
FM light-gray mottles, sandy (mostly fine- but
some medium-grained)

5-10 Clay, light-greenish-gray with sparse
light-orange mottles, thinly layered in
sheets that tear apart, sparse fine-grained
sand present, medium-bluish-green mottles
present below 8 feet, no basal pebble bed

ASHLEY 10-20 Calcarenite, very fine-grained, pale-gray
FM (10-16 feet) grading through light-
yellowish-olive (16-18 feet) and light-
brownish-gray (18-19 feet) to medium-brown,
large forams present in basal foot

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

RI-9: 3.4 mi. E of west quad. border, 2.7 mi. N of south quad. border. Surface elevation 48 feet.

LADSON 0-4 Silt, medium-orange, sparsely fine-grained
FM(?) sandy

PENHOLOWAY 4-25 Clay, light-gray with medium-red mottles in
FM upper foot, fine- to coarse-grained sandy,
contains scattered laminae of fine-grained
sand, sparse quartz and phosphate pebbles
at base

ASHLEY FM at 25 Calcarenite, very fine-grained, light-gray

Base of Ladson Formation?: +44 feet above sea level
Base of Penholoway Formation: +23 feet above sea level
Bottomed in Ashley Formation

RI-12: 1.9 mi. W of east quad. border, 2.3 mi. N of south quad. border. Surface elevation 52 feet.

PENHOLLOWAY FM	0-6	Clay, bright medium-red with light-gray and light-orange mottles, dense and massive
	6-8	Clay, bright medium-orange, silty, fine-grained sandy
	8-16	Clay, light-orangish-gray, contains medium- to coarse-grained quartz sand, white phosphate lumps and smears of carbon in basal 4 inches

CHANDLER BRIDGE FM	16-20	Sand, very fine-grained, light-gray, silty, white grains of phosphate present, 3 cm of greasy medium-brown clay at base
-----------------------	-------	---

ASHLEY FM	20-35	Calcarenite, very fine-grained, light-brown grading down to medium-brown
--------------	-------	--

Base of Penholloway Formation: +36 feet above sea level
Base of Chandler Bridge Formation: +32 feet above sea level
Bottomed in Ashley Formation

RI-13: On west quad. border, 2.8 mi. S of north quad. border.
Surface elevation 40 feet.

LADSON 0-5 Sand, fine-grained, dark-gray and light-
FM brown mottled grading down to medium-gray,
 well-sorted, slightly clayey in upper 3
 feet

WACCAMAW 5-15 Sand, medium-grained, dark-gray, contains a
FM feldspathic coarse-grained fraction, grades
 to

 15-19 Sand, medium- to coarse-grained, dark-
 brown, contains wood fragments, grades to

 19-23 Sand, medium-grained, dark-brown, grades to

 23-29 Sand, medium- to coarse-grained, dark-
 brown, phosphate pebbles and quartz
 granules present in basal foot

ASHLEY 29-35 Calcarenite, very fine-grained, light-
FM yellowish-green, fragments of thin bivalve
 shells present

Base of Ladson Formation: +35 feet above sea level

Base of Waccamaw Formation: +11 feet above sea level

Bottomed in Ashley Formation

RI-14: 1.4 mi. E of west quad. border, 3.0 mi. S of north quad. border. Surface elevation 79 feet (=CRVSE-1-D of McCartan).

PENHOLLOWAY FM	0-14	Sand, fine- to medium-grained, light-brown grading through light-olive-gray to medium-reddish-orange, clay laminae present near base
	14-23	Clay, medium-greenish-gray, silty, sandy
	23-28	Sand, fine-grained to coarse-grained, medium-greenish-gray, clayey, micaceous, pebbly at base

.....

ASHLEY FM	28-32	Calcarenite, fine-grained, light-olive-green grading through medium-brown and dark-brown to dark-olive-brown
--------------	-------	--

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

RI-15: 3.25 mi. W of east quad. border, 0.6 mi. S of north quad. border. Surface elevation 55 feet. (=RID-SE-2-H of Houser)

FILL	0-3	Mottled clay and sand
.....		
PENHOLLOWAY FM	3-10	Clay, fine-grained sandy, medium-orange (3-8 feet) grading down to light-gray and medium-brownish-green, phosphate pebbles at base
.....		
ASHLEY FM	10-119	Calcarenite, fine-grained, light-brown (10-12 feet) grading down to medium- to dark-olive-green, contains quartz, phosphate, and glauconite sand; phosphate pebble bed at base
.....		
PARKERS FERRY FM	119-126	Calcarenite, fine-grained, medium-bluish-olive, stiff, phosphate sand abundant
.....		
HARLEYVILLE FM	126-145	Calcarenite, very fine-grained, very light-greenish-gray

Base of Penholoway Formation: +45 feet above sea level
Base of Ashley Formation: -64 feet below sea level
Base of Parkers Ferry Formation: -71 feet below sea level
Bottomed in Harleyville Formation

RI-16: 3.35 mi. E of west quad. border, 1.8 mi. N of south quad. border, surface elevation 33 feet.

TEN MILE HILL BEDS 0-5 Clay, medium-gray with medium-orange and medium-olive-gray mottles, stiff, basal foot has 1-3 cm rounded phosphate pebbles and 0.5 cm subrounded quartz pebbles

.....

PENHOLLOWAY FM 5-8 Sand, fine-grained, light-bluish-gray, well sorted, 2 cm-thick layer of dark-brown sandy clay at base

.....

EDISTO FM 8-15 Calcarenite, fine-grained, light-yellowish-brown grading down to light-yellowish-gray, bryozoan fragments abundant, partly medium-grained in basal foot

.....

ASHLEY FM 15-20 Calcarenite, very fine-grained, medium-olive-brown, slightly clayey

Base of Ten Mile Hill beds: +28 feet above sea level
Base of Penholoway Formation: +25 feet above sea level
Base of Edisto Formation: +18 feet above sea level
Bottomed in Ashley Formation

RI-17: 1.95 mi. W of east quad. border, 2.25 mi. S of north quad. border. Surface elevation 56 feet.

PENHOLLOWAY FM	0-2	Sand, fine-grained but poorly sorted, medium-yellowish-orange, silty, grading to
	2-5	Clay, medium-orange mottled dark-red, dark-pink, and light-gray, fine-grained sandy
	5-8	Clay, light-gray, coarse-grained sandy grading down to fine-grained sandy
	8-13	Sand, fine-grained, light-yellowish-gray, silty, with interbeds of sandy light-gray clay
	13-25	Sand, medium-grained, light-yellowish-gray, poorly sorted, micaceous, silty, very fine-grained heavies present grading down to coarse-grained, poorly sorted, subrounded, quartz pebbly; 15 cm of light-brownish-gray clay with olive-brown mottles at base

.....

ASHLEY FM	25-30	Calcarenite, very fine-grained, medium-olive-brown grading down to dark-olive-green, phosphate and glauconite sand abundant
--------------	-------	---

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

RI-19: 2.15 mi. E of west quad. border, 0.1 mi. N of south quad. border. Surface elevation 57 feet.

PENHOLOWAY 0-8 Clay, medium-orange, basal foot medium-orange with dark-pink, dark-red, and light-gray mottles, dense, slightly sandy
FM
8-19 Sand, very fine-grained, light-orange, very silty grading down to fine-grained, light-yellowish-orange, silty, calcite-cemented lumps (1-2 cm diameter) common in basal foot

EDISTO 19-30 Calcarenite, fine-grained, light-yellowish-brown, shell fragments and bryozoan fragments abundant to very abundant at base, small phosphate pebbles (0.25-0.50 cm) concentrated in basal burrows, medium-yellow subangular 2-3 cm diameter calcite lumps in basal two feet
FM

ASHLEY at 30 About 8 cm of calcarenite, very fine-grained, medium-olive-brown, burrowed from above
FM

Base of Penholoway Formation: +38 feet above sea level
Base of Edisto Formation: +27 feet above sea level
Bottomed in Ashley Formation

RI-20: 1.75 mi. E of west quad. border, 2.25 mi. N of south quad. border. Surface elevation 62 feet.

PENHOLLOWAY FM 0-8 Clay, medium-orange with light-yellowish-orange and light-gray mottles grading down to light-gray with light-orange and medium-red mottles, slightly fine-grained sandy grading down to fine- to coarse-grained and subrounded sandy

 8-10 Sand, dominantly fine-grained, medium-orange and light-gray mottled, poorly sorted to coarse-grained, slightly micaceous

 10-31 Sand, fine- to medium-grained grading down to fine- to coarse-grained but dominantly fine-grained, light-yellowish-orange grading through light-grayish-brown to medium-olive-gray, poorly sorted, coarse grains subrounded, sparse phosphate pebbles at base

CHANDLER BRIDGE FM 31-35 Sand, fine-grained, medium-greenish-gray grading down to dark-greenish-gray

 35-36 Clay, dark-chocolate-brown, greasy

ASHLEY FM 36-40 Calcarenite, very fine-grained, medium-olive-brown, contains large forams

Base of Penholoway Formation: +31 feet above sea level
Base of Chandler Bridge Formation: +26 feet above sea level
Bottomed in Ashley Formation

SN-2: On west quad. border, 2.45 mi. S of north quad. border.
 Surface elevation 88 feet.

WACCAMAW FM	0-5	Sand, medium- to coarse-grained, medium-reddish-orange grading down to pinkish-red and light-gray mottled, clayey
	5-8	Sand, coarse-grained, bright pinkish-orange, poorly sorted, silty, pebbly, grains subangular to angular
	at 8	Clay, light-gray, sticky, 8 cm thick
	8-28	Sand, fine- to medium-grained, light-orangish-brown, clean, very fine-grained heavies sprinkled throughout, pebbly at base
.....		
PRINGLETOWN BEDS	28-29	Clay, medium-blue, sticky, contains quartz and phosphate pebbles, burrows filled with sand from above
.....		
SALKEHATCHIE BEDS	29-35	Sand, black, medium-grained, contains sparse shell fragments and abundant sand-size phosphate; contains dinoflagellates which collectively indicate a Pliocene age for this unit
.....		
ASHLEY FM	35-61	Calcarenite, very fine-grained, olive-brown, sparse thin shells present, phosphate pebbles in basal foot
.....		
PARKERS FERRY FM	61-75	Calcilutite, medium-greenish-gray, dense, sticky, phosphate pebbles and bones in basal foot
.....		
CROSS LS	75-90	Calcarenite, fine-grained, white to pale-yellowish-brown, contains abundant sand-size phosphate

Base of Waccamaw Formation:	+60 feet above sea level
Base of Pringletown beds:	+59 feet above sea level
Base of Salkehatchie beds:	+53 feet above sea level
Base of Ashley Formation:	+27 feet above sea level
Base of Parkers Ferry Formation:	+13 feet above sea level
Bottomed in Cross Limestone	

SN-3: 1.55 mi. E of west quad. border, 1.35 mi. S of north quad. border. Surface elevation 86 feet.

WACCAMAW FM	0-7	Sand, medium-grained, medium-brown (0-1 foot) grading through medium-orangish-brown and medium-gray mottled (1-4 feet) to light-gray, subangular, poorly sorted, grading to
	7-10	Sand, fine-grained, white, poorly sorted silty
	10-11	Clay, light-gray
	11-22	Sand, fine-grained, white (11-17 feet) grading through medium-orange (17-19 feet) to light-brown (19-22 feet), silty, better sorted than above, grades to
	22-29	Sand, medium-grained, medium-gray, subangular, contains subangular quartz pebbles

SALKEHATCHIE BEDS	29-32	Sand, fine-grained, dark-brownish-green, well sorted, fish scales and teeth present near base; dries to light-gray
----------------------	-------	--

ASHLEY FM	32-35	Calcarenite, very fine-grained, light-olive-brown, contains large forams
-----------	-------	--

Base of Waccamaw Formation: +57 feet above sea level
Base of Salkehatchie beds: +54 feet above sea level
Bottomed in Ashley Formation

SN-4: 2.95 mi. W of east quad. border, 1.75 mi. N of south quad. border. Surface elevation about 30 feet (outcrop).

ALLUVIUM	0-2	Sand, medium-grained, light-gray, subangular, very clean, sparse carbon in upper 3 inches, no soil profile
----------	-----	--

Base of section in Alluvium

SN-5: 0.4 mi. E of west quad. border, 0.4 mi. S of north quad. border. Surface elevation about 95 feet.

WACCAMAW FM	0-9	Sand, fine- to medium-grained, light-orange grading down to light-gray by 5 feet, well sorted, micaceous
	9-33	Clay, light-gray, grading to medium-gray by 15 feet, silty, sandy, slick, medium- to coarse-grained subangular sand grains present from 30-33 feet, quartz (1 cm) and phosphate (1-2 cm) pebbles at base.

.....

ASHLEY FM	33-40	Calcarenite, very fine-grained, light-greenish-gray grading down to medium-olive-brown, phosphate sand and large forams present
-----------	-------	---

Base of Waccamaw Formation: +62 feet above sea level
Bottomed in Ashley Formation

SN-6: 1.5 mi. E of west quad. border, 1.9 mi. S of north quad. border. Surface elevation 81 feet.

PENHLOWAY FM	0-5	Clay, medium-orange with light-gray mottles, silty, contains poorly sorted sand grains
	5-16	Clay grading down to silt; sandy, light-orange
	16-18	Clay, medium-gray, massive

.....

WACCAMAW FM	18-26	Sand, coarse-grained, light-greenish-gray, poorly sorted (fine to granules), silty
----------------	-------	--

.....

ASHLEY FM	26-30	Calcarenite, very fine-grained, dark-olive-brown grading rapidly to medium-olive-brown, phosphate sand and large forams present
--------------	-------	---

Base of Penholoway Formation: +63 feet above sea level
Base of Waccamaw Formation: +55 feet above sea level
Bottomed in Ashley Formation

SN-7: 2.85 mi. E of west quad. border, 3.55 mi. S of north quad. border. Surface elevation 63 feet.

FILL	0-2	Road fill
.....		
PENHOLOWAY FM	2-7	Clay, medium-reddish-orange with light-gray mottles, fine- to coarse-grained sandy, quartz (1 cm) pebbles at base
.....		
WACCAMAW FM	7-13	Sand, very fine- to medium-grained, light-gray, clayey, grading down to medium-gray and clean
	13-16	Sand, fine-grained, light-brownish-gray, very calcareous, contains pecten fragments phosphate sand and sparse phosphate pebbles at base
.....		
ASHLEY FM	16-20	Calcarenite, very fine-grained, medium-olive-brown, much denser than above, contains phosphate sand and large forams

Base of Penholoway Formation: +56 feet above sea level
Base of Waccamaw Formation: +47 feet above sea level
Bottomed in Ashley Formation

SN-8: 2.0 mi. W of east quad. border, 2.3 mi. S of north quad. border. Surface elevation 50 feet.

FILL	0-1	Road fill
.....		
LADSON FM	1-6	Sand, medium- to coarse-grained, clayey, grading down to clay, medium- to coarse-grained sandy, dark-gray grading down to light-gray and light-orange mottled
.....		
ASHLEY FM	6-15	Calcarenite, very fine-grained, light-brown grading through medium-brown to medium-olive-green

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

SN-9: 1.3 mi. W of east quad. border, 2.9 mi. S of north quad. border. Surface elevation 41 feet.

FILL	0-5	Road fill
.....		
ALLUVIUM	5-8	Sand, medium-grained, medium-gray, light-gray sandy clay (5 cm) at base
.....		
ASHLEY FM	8-15	Calcarenite, very fine-grained, light-brown grading rapidly to medium-olive-brown, contains phosphate sand and thin bivalve fragments

Base of alluvium (Holocene): +33 feet above sea level
Bottomed in Ashley Formation

SN-10: 1.75 mi. W of east quad. border, 2.05 mi. S of north quad. border. Surface elevation about 55 feet.

LADSON FM	0-5	Clay, light-brown and light-gray mottled grading down to light-orange and light-gray mottled, fine- to coarse-grained sandy, quartz pebbles and bone fragments at base
.....		
PENHLOWAY FM	5-6	Clay, medium-gray with medium-orange mottles, fine- to coarse-grained sandy, some sand laminae near base
.....		
ASHLEY FM	6-25	Calcarenite, very fine-grained, light-gray grading through light-olive-green to medium-olive-green

Base of Ladson Formation: +50 feet above sea level
Base of Penholoway Formation: +49 feet above sea level
Bottomed in Ashley Formation

SN-11: 1.95 mi. W of east quad. border, 0.6 mi. S of north quad. border. Surface elevation 59 feet.

FILL	0-1	Road fill
.....		
PENHOLLOWAY FM	1-6	Clay, medium-orange, bright-medium-red and light-gray mottled, very sandy (fine- to coarse-grained, subangular), some sand laminae present
.....		
ASHLEY FM	6-20	Calcarenite, very fine-grained, light-brown grading to medium-olive-green, contains phosphate sand

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

SN-12: 3.4 mi. W of east quad. border, 2.4 mi. S of north quad. border. Surface elevation 62 feet. (See SN-7 for nearly identical section)

PENHOLLOWAY FM	0-5	Sand, mostly medium-grained, poorly sorted, grading down to clay, sandy (fine- to coarse-grained), medium-orange and light-gray mottled
	5-7	Sand, mostly medium-grained, poorly sorted, light-gray, slightly clayey and silty, subrounded quartz pebbles (0.5 cm) at base
.....		
WACCAMAW FM	7-11	Sand, fine-grained, light-gray, very calcareous, phosphate sand abundant, pectenid fragments present, sparse phosphate pebbles (0.25-0.50 cm) at base, sharp contact with below
.....		
ASHLEY FM	11-15	Calcarenite, very fine-grained, olive-brown, much denser than above

Base of Penholoway Formation: +55 feet above sea level
Base of Waccamaw Formation: +51 feet above sea level
Bottomed in Ashley Formation

SN-13: 3.15 mi. W of east quad. border, 3.65 mi. N of south quad. border. Surface elevation 63 feet.

PENHOLLOWAY FM	0-5	Sand, fine- to medium-grained, medium-orange grading through medium-orange and light-gray mottled to light-gray, clay content increases downward
	5-9	Clay, medium-orange and light-gray grading down to medium-gray, dense, sandy at top but less so downward

RUDD BRANCH BEDS	9-13	Silt, medium-olive-green grading to dark-green, sandy (fine- to medium-grained), sharp contact with below
---------------------	------	---

ASHLEY FM	13-20	Calcarenite, very fine-grained, medium-olive-brown
--------------	-------	--

Base of Penholoway Formation: +54 feet above sea level
Base of Rudd Branch beds: +50 feet above sea level
Bottomed in Ashley Formation

SN-14: 2.75 mi. E of west quad. border, 3.6 mi. N of south quad. border. Surface elevation 63 feet.

FILL	0-1	Road fill
.....		
PENHOLOWAY FM	1-7	Clay, light-orange and light-gray mottled, grading down to light-gray, sandy (fine- to medium-grained), micaceous, a few quartz pebbles to base
.....		
WACCAMAW FM	7-15	Sand, mostly fine- to medium-grained, dark-gray, slightly silty, upper foot contains burrows filled with light-gray sand from above, sparse phosphate pebbles at base
.....		
RUDD BRANCH BEDS	15-24	Sand, fine-grained, dark-green, sparse rotten shells present, grades to medium-grained by base and a 2 cm diameter phosphate pebble present
.....		
ASHLEY FM	24-30	Calcarenite, very fine-grained, light-yellowish-olive

Base of Penholoway Formation: +56 feet above sea level
Base of Waccamaw Formation: +48 feet above sea level
Base of Rudd Branch beds: +39 feet above sea level
Bottomed in Ashley Formation

SN-16: 1.65 mi. W of east quad. border, 1.85 mi. N of south quad. border. Surface elevation 69 feet.

PENHOLLOWAY FM	0-3	Sand, fine-grained, light-brownish-orange, silty and slightly clayey, grading to
	3-5	Sand, fine-grained, light-orange and light-gray mottled, clayey and slightly silty
	5-14	Clay, light-gray (5-6 feet) grading to light-pink, silty and sandy
	14-14.5	Clay, light-gray, denser than above, sandy
	14.5-15	Sand, fine- to medium-grained, light-yellowish-orange, poorly sorted, slightly silty
	15-18	Clay, light-pink, sandy and silty
	18-18.5	Clay, light-gray, stiff
	18.5-22	Silt, light-brown, sandy; coarse grains, quartz pebbles and phosphate lumps in basal foot

.....

ASHLEY FM	22-25	Calcarenite, very fine-grained, light-brown, contains phosphate sand
--------------	-------	--

Base of Penholoway Formation: +47 feet above sea level
Bottomed in Ashley Formation

SN-17: 3.0 mi. E of west quad. border, 4.35 mi. S of north quad. border. Surface elevation 63 feet.

PENHOLOWAY 0-7 Sand, fine- to medium-grained, light-
FM brownish-orange and light-gray mottled
grading down to light-gray, clay content
increases downward

.....

WACCAMAW 7-16 Sand, fine-grained, light-gray, very
FM calcareous, phosphate sand abundant, one
foot thick bed of phosphate pebbles at base

.....

ASHLEY 16-20 Calcarenite, very fine-grained, light-
FM olive-green

Base of Penholoway Formation: +56 feet above sea level

Base of Waccamaw Formation: +47 feet above sea level

Bottomed in Ashley Formation

SN-18: 2.05 mi. E of west quad. border, 2.6 mi. N of south quad. border. Surface elevation 65 feet.

FILL 0-2 Road fill

.....

PENHOLOWAY 2-6 Clay, medium-orange and light-gray mottled,
FM sandy (fine-grained)

6-16 Sand, medium-grained with quartz granules
grading down to coarse-grained and better
sorted but sparsely pebbly, light-orange,
very pebbly at base

.....

PRINGLETOWN 16-18 Clay, medium-blue, dense, micaceous, lumpy
BEDS

.....

ASHLEY FM 18-20 Calcarenite, very fine-grained, light-
brown, upper foot contains burrows filled
with blue clay and phosphate pebbles (2 cm)

Base of Penholoway Formation: +49 feet above sea level

Base of Pringletown beds: +47 feet above sea level

Bottomed in Ashley Formation

SN-20: 0.15 mi. E of west quad. border, 0.1 mi. N of south quad. border. Surface elevation 71 feet.

PENHOLLOWAY FM	0-1	Sand, fine-grained, light-brown, well sorted
	1-5	Clay, medium-orange and light-gray mottled, silty and fine-grained sandy
	5-13	Clay, light-gray (5-9 feet) grading to medium-gray (9-13 feet), massive, dense, lumpy
.....		
WACCAMAW FM	13-19	Silt, light-greenish-gray, contains phosphate sand and shell fragments, grading to
	19-29	Sand, fine-grained, light-greenish-gray, sparsely shelly
.....		
RUDD BRANCH BEDS	29-33	Sand, fine-grained, dark-green, phosphate pebbles in basal foot
.....		
ASHLEY FM	33-35	Calcarenite, very fine-grained, light-brown

Base of Penholoway Formation: +58 feet above sea level
 Base of Waccamaw Formation: +42 feet above sea level
 Base of Rudd Branch beds: +38 feet above sea level
 Bottomed in Ashley Formation

SN-23: 1.75 mi. W of east quad. border, 0.95 mi. N of south quad. border. Surface elevation 76 feet (=CSVNW-1-D of McCartan).

PENHOLOWAY 0-26 Sand, medium-grained grading down to
FM coarse-grained, gray, red, and yellow, with
clay layers at 8, 13, and 18 feet,
phosphate at base

ASHLEY 26-27 Calcarenite, very fine-grained, yellowish-
FM gray

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

SN-24: 3.45 mi. W of east quad. border, 2.2 mi. N of south quad. border. Surface elevation 66 feet (=CSVNW-2-D of McCartan).

PENHOLOWAY 0-10 Sand, medium-grained, and clay, sandy,
FM interbedded, medium-orange grading down
through yellowish-orange

10-18 Sand, medium- to coarse-grained, white,
clean

ASHLEY FM 18-22 Calcarenite, very fine-grained, yellowish-
orange; large forams and shell fragments
abundant

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

SN-25: 0.35 mi. E of west quad. border, 3.5 mi. S of north quad. border. Surface elevation about 75 feet. (=CSVNW-3-D of McCartan)

FILL	0-5	Fill
.....		
PENHOLOWAY FM	5-14	Sand, medium-grained, light-green, clayey, grading down to clay, sandy, dark-yellowish-brown, woody near base
	14-17	Sand, medium- to coarse-grained, greenish-gray, clean, woody; contains obvious biotite, rutile and blue quartz
.....		
ASHLEY FM	17-20	Calcarenite, very fine-grained, light-yellow grading down to olive-brown

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

SN-26: 3.6 mi. E of the west quad. border, 1.0 m. S of north quad. border. Surface elevation 63 feet.

PENHOLOWAY FM	0-1	Sand, fine- to medium-grained, medium-brownish-orange, subangular, poorly sorted
	1-3	Sand, fine- to medium-grained, medium-gray, subangular, poorly sorted, clayey
	3-5	Sand, fine- to medium-grained, bright medium-yellowish-orange, subangular, poorly sorted, clayey
	5-7	Sand, dominantly fine-grained, light-greenish-gray, poorly sorted, pebbles of quartz, phosphate and calcarenite present
.....		
ASHLEY FM	7-25	Calcarenite, fine-grained, olive-brown, sand-size phosphate abundant

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

SN-27: 2.25 mi. E of west quad. border, 2.6 mi. S of north quad. border. Surface elevation 71 feet.

PENHOLLOWAY FM	0-4	Sand, fine-grained, dark-brown grading through dark-gray to light-gray, clayey toward base
	4-6	Clay, bright medium-yellowish-orange with streaks of light-gray, fine-grained sandy; sand laminae present in lower foot
	6-15	Sand, fine-grained, light-gray (6-9 feet) grading through light-yellowish-gray (9-12 feet) to light-orangish-gray and medium-grained (12-15 feet), poorly sorted, silty; some quartz pebbles scattered throughout
.....		
WACCAMAW FM	15-19	Sand, fine-grained, medium-yellowish-gray grading down to medium-yellowish-brown; better sorted than above but still sparsely quartz pebbly; very fine-grained heavies abundant; lumps of calcarenite present on basal contact
.....		
ASHLEY FM	19-25	Calcarenite, very fine-grained, light-brownish-gray grading down to medium-yellowish-olive-gray

Base of Penholoway Formation: +56 feet above sea level
Base of Waccamaw Formation: +52 feet above sea level
Bottomed in Ashley Formation

SN-30: 0.85 mi. E of west quad. border, 2.65 mi. N of south quad. border. Surface elevation 71 feet.

PENHOLLOWAY FM	0-1	Soil, sandy and clayey, dark-gray
	1-10	Sand, fine-grained, medium-gray grading down to medium-brownish-orange (1-5 feet) then back to medium-gray and to light-gray (5-6 feet) then back to medium-brownish-orange (6-10 feet), clayey, grades rapidly to
	10-15	Clay, medium-bluish-gray with medium-green mottles grading down to medium-green with medium-gray mottles, very dense, sandy laminae present in basal 15 cm
	15-19	Sand, fine- to medium-grained, medium-greenish-gray, black phosphate pebbles (1-2 cm diam) in basal foot

ASHLEY FM	19-25	Calcarenite, very fine-grained, light-yellowish-gray (19-22 feet) grading through medium-yellowish-brown (22-23 feet) back to light-yellowish-gray (23-25 feet), very tough to drill
--------------	-------	--

Base of Penholoway Formation: +52 feet above sea level
Bottomed in Ashley Formation

SN-31: 2.3 mi. E of west quad. border, 0.6 mi. N of south quad. border. Surface elevation 74 feet.

PENHOLLOWAY FM	0-8	Sand, fine-grained, medium-orange (0-4 feet) grading down through medium-orange with light-gray mottles (4-5 feet) through medium-red and light-gray mottled (5-7 feet) to medium-orange (7-8 feet), silty
	8-18	Clay, light-gray (with medium-orange mottles from 8-12 feet), stiff, grades to
	18-25	Sand, fine-grained, light-yellowish-gray, silty, some laminae clay-rich
	25-27	Sand, fine-grained, medium-gray, silty, 1-2 cm diameter black phosphate lumps and discoids present

ASHLEY FM	27-30	Calcarenite, very fine-grained, medium-olive-gray, dense
--------------	-------	--

Base of Penholoway Formation: +47 feet above sea level
Bottomed in Ashley Formation

SN-32: 1.75 mi. W of east quad. border, 3.4 mi. N of south quad. border. Surface elevation about 55 feet.

LADSON FM	0-6	Sand, dominantly fine-grained but contains medium- and coarse-grains and some subrounded quartz pebbles, light-orangish-gray and light-gray mottled, silty
--------------	-----	--

PENHOLLOWAY FM	6-9	Clay, bright medium-orangish-yellow with streaks of medium-gray, sandy and pebbly (0.5 to 2 cm, subangular, quartz), platy grains (gibbsite?) present
-------------------	-----	---

ASHLEY FM	9-10	Calcarenite, very fine-grained, light-yellow, partially recrystallized
--------------	------	--

Base of Ladson Formation: +49 feet above sea level
Base of Penholoway Formation: +46 feet above sea level
Bottomed in Ashley Formation

SN-33: 1.95 miles E of west quad. border, 0.3 mile N of south quad. border. Surface elevation 74 feet.

PENHOLLOWAY FM	0-0.5	Sand, fine-grained, dark-brown, well sorted
	0.5-5	Sand, fine-grained, clayey, dark-gray, medium-gray, light-gray and medium-reddish-orange mottled, grades rapidly to
	5-6	Sand, fine-grained, clayey, light-pink, micaceous, grades rapidly to
	6-18	Clay, light-gray, stiff, grades to
	18-20	Silt, light-gray to medium-gray, soft, grades to
	20-26	Sand, fine-grained, silty, medium-gray grading down to dark-gray
	at 26	Clay, white, dense, stiff

ASHLEY FM	26-30	Calcarenite, fine-grained, light-olive-brown, phosphatic
--------------	-------	--

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

SN-34: 3.2 miles E of west quad. border, 1.5 miles N. of south quad. border. Surface elevation 53 feet.

LADSON 0-5 Sand, fine- to medium-grained, light-yellowish-brownish-orange grading down to medium-gray, medium-orange, medium-yellow, and dark-reddish-orange mottled, stiff, clayey below 2 feet

 5-7 Sand, stiff, clayey, coarse-grained with subangular to subrounded 0.25-1.0 cm diameter quartz pebbles

PENHOLLOWAY 7-10 Clay, medium-orangish-gray; contains numerous grains and lumps of phosphate weathered to a white color, scattered throughout the layer and not concentrated at its base

ASHLEY 10-15 Calcarenite, fine-grained, light-brown grading down to medium-brown

Base of Ladson Formation: +46 feet above sea level
Base of Penholoway Formation: +43 feet above sea level
Bottomed in Ashley Formation

SN-35: 3.0 miles E of west quad. border, 1.0 miles N of south quad. border. Surface elevation about 45 feet (outcrop).

ASHLEY 0-3 Calcarenite, fine-grained, light-yellowish-brown, massive

Exposed section entirely of Ashley Formation

SU-2: 3.4 miles E of west quad. border, 2.95 miles S of north quad. border. Surface elevation 71 feet.

PENHOLLOWAY FM	0-2	Sand, fine-grained, medium-orange, clayey
	2-17	Clay, medium-gray and medium-purple mottled (2-5 feet) grading to medium-gray and medium-orange mottled (5-17 feet); micaceous below five feet; iron-hydroxide cemented lumps present below 10 feet
	17-25	Sand, mostly fine-grained with sparse medium and coarse grains, medium-gray and medium-orange mottled, silty
	25-29	Clay, medium-gray, stiff, dense, lumpy grading down to greasy and micaceous; lumps of reworked Ashley present along basal contact

ASHLEY FM	29-35	Calcarenite, fine-grained, olive-brown grading down to olive-green
--------------	-------	--

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

SU-3: 0.3 miles E of west quad. border, 2.0 miles N of south quad. border. Surface elevation 35 feet (=RID-SE-1-H of Houser).

PENHOLOWAY 0-10 Clay, medium-gray and light-olive-brown (0-5 feet) grading down to light-olive-brown (5-10 feet), stiff

10-13 Sand, fine-grained, yellowish-brown, muddy,
.....

ASHLEY 13-112 Calcarenite, fine-grained, olive-brown to FM olive-green, scattered intervals have abundant quartz and phosphate sand, phosphate pebble conglomerate at base
.....

PARKERS 112-130 Calcilutite, medium-greenish-gray, stiff FERRY FM

Base of Penholoway Formation: +22 feet above sea level
Base of Ashley Formation: -77 feet below sea level
Bottomed in Parkers Ferry Formation

SU-4: 0.35 miles E of west quad. border, 3.4 miles S of north quad. border. Surface elevation 31 feet. (=SUMM-1-H of Houser)

FILL 0-5 Road fill
.....

PENHOLOWAY 5-8 Clay, light-gray, medium-grained, sandy FM
.....

ASHLEY 8-105 Calcarenite, fine-grained, olive-brown to FM olive-green, sand-size phosphate locally abundant

Base of Penholoway Formation: +23 feet above sea level
Bottomed in Ashley Formation

SU-5: 0.8 miles W of east quad. border, 2.9 miles N of south quad. border. Surface elevation 64 feet. (=SUMM-2-H of Houser)

ALLUVIUM	0-1	Sandy swamp muck
.....		
PENHOLLOWAY FM	1-5	Clay, medium-gray and medium-orange, stiff, sandy
	5-15	Clay, sandy, grading down to sand, fine-grained, silty, light-brownish-gray grading through medium-greenish-gray to dark-olive-gray, contains angular fragments of opalized clay
	15-32	Clay, medium-greenish-gray grading down to medium-gray, sandy, shelly, phosphate pebble bed at base
.....		
ASHLEY FM	32-145	Calcarenite, fine-grained, olive-brown to olive-green, abundant sand-size phosphate

Base of alluvium (Holocene): +63 feet above sea level
 Base of Penholoway Formation: +32 feet above sea level
 Bottomed in Ashley Formation

SU-6: 0.8 miles S of north quad. border, 2.4 miles E of west quad. border. Surface elevation 30 feet (= SUMM-3-H of Houser).

TEN MILE HILL BEDS 0-7 Clay, medium-gray and medium-orange, fine-grained sandy

ASHLEY FM 7-85 Calcarenite, fine-grained, olive-brown to olive-green, sand-size phosphate sparse to abundant

PARKERS FERRY FM 85-105 Calcilutite, medium-greenish-gray, stiff, dry

Base of Ten Mile Hill beds: +23 feet above sea level
Base of Ashley Formation: -55 feet below sea level
Bottomed in Parkers Ferry Formation

SU-7: 0.6 miles W of east quad. border, 0.75 miles S of north quad. border. Surface elevation 85 feet. (=CSV-1-0 of McCartan)

PENHOLLOWAY FM 0-33 Sand, fine- to medium-grained, clayey grading down to fine-grained sandy silt and fine-grained silty sand, light-greenish-gray grading down to dark-greenish-gray, micaceous below 12 feet

 33-40 Sand, fine-grained, dark-greenish-gray, shelly

ASHLEY FM 40-45 Calcarenite, fine-grained, olive-green

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

SU-8: 2.8 miles E of west quad. border, 0.1 miles N of south quad. border. Surface elevation about 75 feet. (=CSV-2-D of McCartan)

PENHOLLOWAY 0-27 Sand, fine-grained, clayey, and clay, fine-grained, sandy, interbedded, dark-yellowish-orange, light-yellowish-orange, light-greenish-gray, and medium-red (0-20 feet) grading down to medium-bluish-gray and medium-greenish-gray
FM
.....

SALKEHATCHIE 28-32 Clay, dark-greenish-gray, shelly, sandier
BEDS downward, phosphate pebble bed at base
.....

ASHLEY 32-35 Calcarenite, fine-grained, light-olive-gray, abundant sand-size phosphate and large foraminifera
FM

Base of Penholoway Formation: +48 feet above sea level
Base of Salkehatchie beds: +43 feet above sea level
Bottomed in Ashley Formation

SU-9: 2.15 miles E of west quad. border, 2.25 miles N of south quad. border. Surface elevation 65 feet.

PENHOLLOWAY FM	0-7	Clay, light-gray and medium-orange mottled with a few medium-red mottles, stiff and massive, lumps of light-bluish-gray to light-greenish-gray clay present in basal 2 feet
	7-20	Sand, fine-grained, light-greenish-gray grading down to light-bluish-gray, very fine-grained heavies abundant; lower part contains oyster fragments
	20-25	Clay, medium-bluish-gray, lumpy, contains oyster fragments
	25-31	Sand, fine-grained grading down to medium-grained, medium-gray, phosphate sand and pebbles at base

ASHLEY FM	31-35	Calcarenite, very fine-grained, light-brown grading down to medium-brown, contains large foraminifera
--------------	-------	---

Base of Penholoway Formation: +34 feet above sea level
Bottomed in Ashley Formation

SU-10: 3.35 miles E of west quad. border, 3.85 miles N of south quad. border. Surface elevation 74 feet.

PENHOLLOWAY FM	0-5	Sand, fine-grained with some medium-grained fraction, light-gray sparsely mottled light-orange, silty grading down to clayey
	5-9	Clay, light-gray with medium-orange fine-grained sandy and micaceous streaks, grades to
	9-25	Clay, medium-bluish-gray, contains 1 mm flakes of mica, grades to
	25-30	Clay, medium-bluish-gray, silty, shelly (<u>Mulinia</u> , etc.), not as sticky as above, grades to
	30-34	Clay, medium-bluish- to medium-greenish-gray, lumpy, massive, very sticky, basal foot full of phosphate pebbles

.....

ASHLEY FM	34-35	Ashley, fine-grained, light-brown, contains abundant phosphate sand
--------------	-------	---

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

SU-11: 2.85 miles W of east quad. border, 1.4 miles S of north quad. border. Surface elevation 64 feet.

PENHOLLOWAY FM	0-6	Silt, medium-orange, clayey grading down to clay, medium-orange and light-gray mottled grading down to light-gray, silty
	6-13	Sand, fine-grained, light-yellowish-brown, silty, grades to
	13-22	Silt, light-greenish-gray, slightly clayey, contains a bimodal medium- and fine-grained sand fraction, some coarse-grains present near base, sharp basal contact

CHANDLER BRIDGE FM	22-23	Clay, dark-yellowish-brown, silty, contains small forams and a calcareous sponge spicule, dense, very sticky
-----------------------	-------	--

ASHLEY FM	23-25	Calcarenite, very fine-grained, light-brown, contains burrows filled with clay from unit above
-----------	-------	--

Base of Penholoway Formation: +42 feet above sea level
Base of Chandler Bridge Formation: +41 feet above sea level
Bottomed in Ashley Formation

SU-12: 1.1 miles W of east quad. border, 1.8 miles N of south quad. border. Surface elevation 79 feet.

PENHOLLOWAY FM	0-2	Sand, fine- to medium-grained, dark-brown, humic
	2-7	Sand, fine- to medium-grained, medium-orange and light-brownish-gray, slightly clayey (possibly in thin laminae)
	7-35	Silt, light-gray, clayey, sandy in upper 4 feet and occasional sandy horizons farther down, grades to
	35-38	Sand, medium-grained, dark-gray, contains phosphatized shell molds and lumps of phosphate, grades to
	38-51	Sand, fine-grained, dark-gray with some white layers, shelly, 2-3 mm muscovite in white fraction, phosphate pebble bed at base

ASHLEY FM	51-55	Calcarenite, very fine-grained, medium-olive-green, sparse shell fragments and large foraminifera present, some calcite-cemented lumps
--------------	-------	--

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

SU-13: 1.65 miles W of east quad. border, 3.45 miles S of north quad. border. Surface elevation 90 feet.

PENHOLLOWAY FM	0-8	Sand, mostly fine-grained, medium-orangish-brown (0-1 foot) grading through medium-yellowish- to orangish-brown (1-3 feet) and medium-orange and light-gray banded (3-4 feet) and bright dark-orange and light-gray banded (4-5 feet) to light-yellowish-brown (5-8 feet)
	8-31	Clay, medium-orange in upper 2 inches and medium-bluish-gray below that, silty and sandy, very micaceous (2-4 mm flakes) in upper few feet, sticky and not sandy or micaceous between 11 feet and 29 feet, micaceous, sandy, and shelly below 29 feet, grades to
	31-47	Sand, fine-grained, medium-gray, shelly (snails, bivalves including <u>Mulinia</u>), clayey and contains oyster fragments between 36 and 38 feet
	47-49	Sand, medium- to coarse-grained, bright medium-orange to medium-yellow, phosphate lumps, quartz pebbles (about 0.5 cm diameter) and a quartz discoid (about 1 x 2 x 0.25 cm) present

ASHLEY FM	49-50	Calcarenite, very fine-grained, light-brownish-gray
--------------	-------	---

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

SU-14: 0.65 miles E of west quad. border, 1.3 miles S of north quad. border. Surface elevation about 35 feet.

TEN MILE 0-1 Sand, fine-grained, light-gray grading down
HILL BEDS to light-gray with medium-reddish-brown
 mottles; discoidal, flat, rounded quartz
 pebble present near base
.....

LADSON 1-5 Clay, sandy, stiff, medium-gray and dark-
FM reddish-brown mottled, white phosphate
 grains present near base, grades down to

 5-8 Sand, medium-grained, clayey, subangular;
 shell casts and rock lumps at base
 (lithified Ashley Formation or Edisto
 Formation); basal contact sharp
.....

PENHOLLOWAY 8-10 Clay, sandy, medium-gray and medium-orange
FM mottled, rock lumps abundant at base
.....

ASHLEY 10-18 Calcarenite, fine-grained, light-yellowish-
FM gray, phosphatic; contains numerous
 cemented lumps, grades to

 18-70 Calcarenite, fine-grained, light-brown
 grading down to medium-olive-gray; contains
 calcite-cemented lumps in upper foot
.....

Base of Ten Mile Hill beds: +34 feet above sea level
Base of Ladson Formation: +27 feet above sea level
Base of Penholoway Formation: +25 feet above sea level
Bottomed in Ashley Formation

SU-15: 1.65 miles E of west quad. border, 1.7 miles S of north quad. border. Surface elevation 48 feet.

LADSON 0-4 Sand, fine-grained, dark-gray (0-2 feet) grading through light-gray (2-3 feet) to medium-orange (3-4 feet), clean, well sorted, grades rapidly to

 4-6 Sand, clayey, light-gray, medium-orange and dark-reddish-brown mottled, stiff and dense; subrounded to subangular quartz granules abundant at base

PENHLOWAY 6-12 Clay, silty and sandy, light-yellowish-brown, dense, stiff, grades to clayey and silty sand, fine-grained, medium-brownish-gray; some quartz granules present near base

EDISTO 12-20 Calcarenite, fine-grained, light-brown grading through medium-brown to medium-brownish-olive, sparsely phosphatic; calcite-cemented lumps abundant

Base of Ladson Formation: +42 feet above sea level
Base of Penholoway Formation: +36 feet above sea level
Bottomed in Edisto Formation

SU-16: 2.1 miles W of east quad. border, 2.4 miles S of north quad. border. Surface elevation 76 feet.

PENHOLLOWAY FM	0-5	Sand, fine-grained, medium-reddish-orange, clayey, dense, stiff; medium-gray streaks present in basal foot; grades to:
	5-15	Clay, fine-grained sandy, dark-reddish-orange and medium gray mottled (5-8 feet) grading through medium-orange and medium-gray mottled (8-13 feet) to dark-bluish-gray (13-15 feet)
	15-19	Silt, sandy and clayey, dark-bluish-gray; looser than above
	19-25	Sand, very fine-grained grading down through fine-grained to fine/medium-grained, dark-bluish-gray
	25-32	Clay, fine-grained sandy, dark-bluish-gray, dense; acquires a greenish cast around 29 feet
	32-44	Sand, fine-grained, well-sorted, phosphate sand abundant
.....		
SALKEHATCHIE BEDS	44-45	Sand, fine-grained, dark-olive-gray, contains rotten aragonitic and calcitic shells, phosphate pebble bed at base
.....		
EDISTO FM	45-47	Calcarenite, fine-grained, light-olive-brown, shelly; phosphate pebble bed at base with sharks teeth; base of unit very hard; burrows filled with this material penetrate underlying unit
.....		
ASHLEY FM	47-50	Calcarenite, fine-grained, medium-olive-brown; smooth drilling and no cemented lumps or layers

Base of Penholoway Formation: +32 feet above sea level
 Base of Salkehatchie beds: +31 feet above sea level
 Base of Edisto Formation: +29 feet above sea level
 Bottomed in Ashley Formation

SU-18: 2.85 miles W of east quad. border, 0.7 miles N of south quad. border. Surface elevation 41 feet.

FILL 0-2 Road fill

PENHOLOWAY 2-3 Clay, dark-gray, fine-grained sandy
FM
 3-10 Sand, fine-grained grading down to
 medium/coarse-grained, light-bluish-gray
 and medium-brown mottled; phosphate
 pebbles, bone fragments, and quartz
 discoids present at base

ASHLEY 10-20 Calcarenite, fine-grained, medium-olive-
FM brown, quartzose and phosphatic

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

SU-19: 0.55 mile W of east quad. border, 0.65 mile N of south quad. border. Surface elevation 58 ft.

PENHOLOWAY 0-1 Soil, sandy, rich in organic matter
FM
 1-7 Clay, light-gray, medium-gray, dark-red,
 and medium-orange mottled, stiff, dense
 7-29 Sand, fine-grained grading down to medium-
 grained near base, bright-medium-orange (7-
 14) grading through medium-brown (14-20) to
 medium-gray (20-29), clayey and silty,
 shelly (mostly Mulinia and oyster) below 14
 feet; sparse phosphate pebbles present at
 base

CHANDLER 29-35 Sand, fine-grained, dark-gray, dense,
BRIDGE FM phosphate pebbles, bone fragments and
 barnacle fragments scattered throughout

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

SU-23: 1.95 miles E of west quad. border, 2.95 miles N of south quad. border. Surface elevation 65 feet.

PENHOLOWAY 0-11 Clay, medium-reddish-orange, light-gray, and dark-red mottled, sandy in upper 4 feet, grades to:
FM

 11-17 Clay, light-gray with sparse medium-brown mottles, stiff

EDISTO 17-18 Sand, fine/medium-grained, medium-brown, grades to:
FM

 18-26 Sand, fine/medium-grained, light-olive-gray, silty; sting-ray barb present at 24 feet, grades to:

 26-30 Sand, fine/medium-grained, medium-greenish-bluish-gray grading down to light-gray near base, very calcareous and contains calcite-cemented lumps; basal contact indistinct

ASHLEY 30-35 Calcarenite, fine-grained, medium-brown grading down to medium-olive-brown
FM

Base of Penholoway Formation: +48 feet above sea level
Base of Edisto Formation: +35 feet above sea level
Bottomed in Ashley Formation

SU-24: 3.3 miles W of east quad. border, 2.45 miles N of south quad. border. Surface elevation 84 feet.

PENHOLLOWAY FM	0-9	Sand, medium-grained, light-gray and medium-orange mottled (0-6 feet) grading down to medium-gray (6-9 feet)
	9-10	Clay, medium-gray, stiff, sticky
	10-31	Clay, medium-bluish-gray, micaceous
	31-39	Sand, fine-grained, medium-bluish-gray, silty and clayey, shelly (includes snails and <u>Mercenaria</u>)
	39-44	Clay, medium-bluish-gray, stiff
	44-51	Sand, fine-grained, medium-bluish-gray, clayey and silty, sparsely shelly; rounded, calcite-cemented lumps abundant in basal two feet

.....

ASHLEY	51-60	Calcarenite, fine-grained, yellowish-olive, glauconitic and phosphatic
--------	-------	--

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

SU-26: 2.7 miles E of west quad. border, 1.6 miles N of south quad. border. Surface elevation 82 feet.

PENHOLOWAY 0-8 Sand, fine/medium-grained, light-brown with
FM medium-orange and light-gray mottles,
clayey lense 5 cm thick at around 4.5 feet

8-30 Clay, light-bluish-gray grading rapidly
down to medium-bluish-gray, silty,
micaceous

30-41 Sand, medium-grained, medium-bluish-gray,
fairly clean; shelly below 32 feet
(including Dinocardium and Anadara
transversa), some shells lustrous;
phosphate pebbles scattered near base

ASHLEY 41-50 Calcarenite, fine-grained, light-brown (41-
FM 42 feet) grading down to medium-olive-brown
(42-50 feet) contains calcite-cemented
lumps

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

SU-27: 0.05 mile E of west quad. border, 2.8 miles N of south quad. border. Surface elevation 62 feet.

PENHOLOWAY 0-5 Clay, light-gray, medium-reddish-orange,
FM medium-red, and dark-red mottled, stiff,
grades to

5-15 Clay, light-gray with medium-yellowish-
brown mottles, stiff, dense

EDISTO 15-23 Sand, fine/medium-grained, light-brown,
FM silty, grades to

23-35 Calcarenite, fine-grained to medium-
grained, light-gray, dense, quartzose,
numerous calcite-cemented lumps near base

Base of Penholoway Formation: +47 feet above sea level
Bottomed in Edisto Formation

