South Carolina Department of Natural Resources Geological Survey



# **GEOLOGIC MAP OF THE BLACK CREEK QUADRANGLE, COLLETON AND HAMPTON COUNTIES, SOUTH CAROLINA**

Courtney N. Pierce, C. Andrew Wykel & William R. Doar, III 2024

## Open File Report Black Creek, S.C. OFR-275

Ten Mile Hill sediments typically occur above 22 feet in elevation at their seaward edge, where they are abutted or overlain by Pamlico. At their landward edge, Ten Mile Hill sediments generally lie below 35 feet in elevation, overlapping, overlying, or

QPtm Estuarine Deposits (Pleistocene) – Sandy clay, gray (10YR 5/1), yellowish brown, (10YR 5/8) to red (10R 5/8), very fine- to fine-grained, subangular, moderately sorted, with scattered very coarse-grained quartz sand.

Sediments of the Ladson alloformation are generally above the elevation of 35 feet at their seaward margin where overlapped by sediments of the Ten Mile Hill beds. At their landward margin, Ladson alloformation sediments generally are below the elevation of 57 feet where the deposits overlap, overlie, or abut sediments of the Penholoway alloformation. In the study area, sediments of the Ladson alloformation are generally

QPIds Barrier Island Deposits (Pleistocene) – Quartz sand to silty sand, white (10YR 8/1) to light yellowish brown (2.5Y 7/3) to brownish yellow (10YR 6/8), very fine- to medium-grained subangular to subrounded, moderately to well sorted, with scattered very fine-grained opaques.

**QPldm** Estuarine Deposits (Pleistocene) – Silty quartz sand to clay coated sand to sandy clay, red (2.5YR 4/8) to yellowish brown (10YR 5/8) to yellowish red (5YR 5/8), subangular, moderately sorted, very fine to medium-grained, with scattered very fine-grained mica and scattered very fine-grained opaques.

Sediments of the Penholoway alloformation are generally above the elevation of 57 feet at their seaward margin where overlapped by sediments of the Ten Mile Hill beds. At their landward margin, Penholoway alloformation sediments generally are below the elevation of 70 feet where the deposits overlap, overlie, or abut sediments of the Wicomico alloformation. In the study area, sediments of the Penholoway generally

QPphs Barrier Island Deposits (Pleistocene) – Quartz sand to silty sand, brownish yellow (10YR 6/8), pale brown (10YR 8/3), to light yellowish brown (2.5Y) yellow (10YR 6/8), pale brown (10YR 8/3), to light yellowish brown (2.5Y 6/4), very fine- to medium-grained, subangular to subrounded, moderately to well sorted, with scattered coarse-grained quartz sand, very fine-grained mica, and very

Sediments of the Wicomico alloformation are generally above the elevation of 70 feet at their seaward margin where overlapped by sediments of the Penholoway alloformation. At their landward margin, Wicomico alloformation sediments generally are below the elevation of 90 feet where the deposits overlap, overlie, or abut sediments of the

QPwsr Sand Ridge member (Pleistocene) – Quartz sand to silty sand, light gray (10YR 7/1), pale brown (10YR 7/3), to brown (10YR 5/3), fine- to medium-grained, subangular to subrounded, moderately to well sorted, with scattered very fine-grained opaque sand, rare very fine-grained garnet, and fine- to medium-grained

QPwds Dean Swamp member (Pleistocene) – Silty sand to clayey sand, brownish yellow to yellow to pale brown, fine- to medium-grained, subangular, moderately sorted, with very fine scattered opaques, very fine scattered mica, and

## NOTES

Part of the geomorphic interpretation was derived from Colleton County Elevation 2007, 10x10 ft DEM [File Geodatabase] and Hampton County Elevation 2010, 10x10 ft

## REFERENCES

- Hampton County Elevation 2010, 10x10 ft DEM [File Geodatabase]: Columbia, South Carolina, South Carolina Department of Natural Resources, Available: SC DNR GIS Data Clearinghouse, http://www.dnr.sc.gov/GIS/lidar.html (Last accessed October
- Colleton County Elevation 2007, 10x10 ft DEM [File Geodatabase]: Columbia, South Carolina, South Carolina Department of Natural Resources, Available: SC DNR GIS Data Clearinghouse, http://www.dnr.sc.gov/GIS/lidar.html (Last accessed October
- Moore C.R., Brooks M.J., Mallinson D.J., Parham P.R., Ivester A.H., and Feathers J.K., 2016, The Quaternary evolution of Herndon Bay, a Carolina Bay on the Coastal Plain of North Carolina (USA): implications for paleoclimate and oriented lake genesis:
- South Carolina Imagery NIR, 2020 [Tile Layer]: Columbia, South Carolina, South Carolina Revenue and Fiscal Affairs Office, Available: SCDNR Geospatial Open Data, https://data-scdnr.opendata.arcgis.com/maps/scdnr::south-carolina-imagery-2020-nir/



### SCALE 1:24 000 1kilomete 1000 2000 3000 4000 5000 fee CONTOUR INTERVAL 10 FEET ADJOINING 7.5' QUADRANGLE NAMES 1 Islandton 1 2 3 2 Sniders 7°29′ 133 MILS Crossroads \_\_\_\_ 3 Walterboro 0°6' 2 MILS 4 5 4 Cummings Base Map: U. S. Geological Survey 5 Hendersonville 6 7 8 6 McPhersonville Black Creek 7.5' Quadrangle, 2020 ITM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET 1983 North American Datum 7 Yemassee Date Version Geology mapped 2024 Digital cartography by Gerald Krieger and Darby DeBruhl, 2024 Geology & Cartography 2024 For publications contact: South Carolina Geological Survey 5 Geology Road, Columbia, SC 29212

(803) 896-7931

## www.dnr.sc.gov/geology