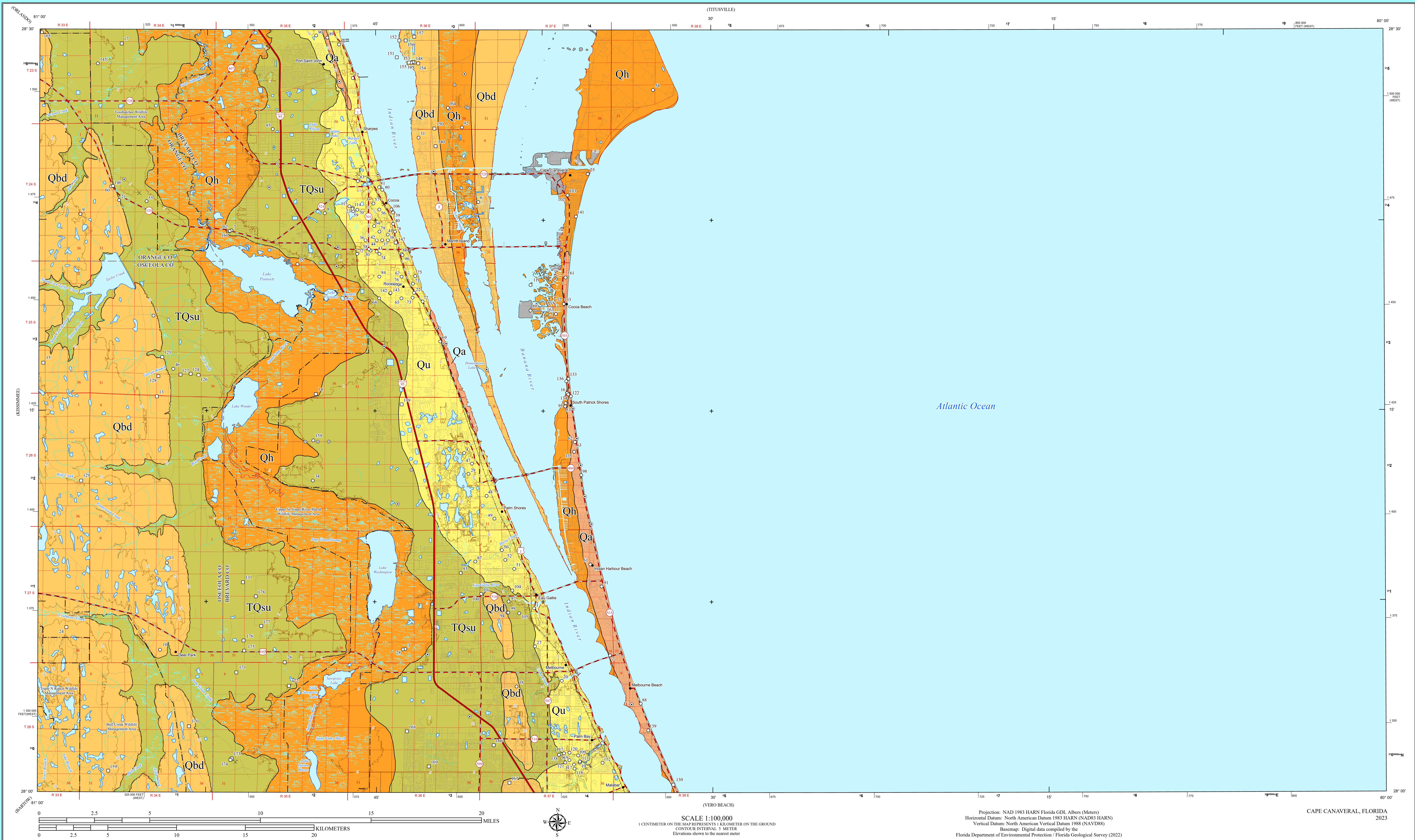




Guy H. Means  
State Geologist and Director

OPEN-FILE MAP SERIES 115, Plate 1  
GEOLOGIC MAP OF THE USGS CAPE CANAVERAL  
30 X 60 MINUTE QUADRANGLE, CENTRAL FLORIDA

2023  
BY  
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Holocene sediments

**Qh** Sediments mapped as Holocene (Qh) may include quartz sands, marls, organics, and minor carbonate sands and mud. They may also include fresh-water gastropods and modern shells. Within the study area, these occur near and along the present coastlines in barrier islands on the Atlantic Ocean and the St. Johns River floodplain.

Quaternary beach ridge and dune

**Qbd** Quaternary beach ridge and dune sediments (Qbd) are a subdivision of the Quaternary undifferentiated sediments that are noted based on surficial expression of relief beach ridges and dunes. While not a formally recognized lithostratigraphic unit, Qbd is mapped in order to facilitate a better understanding of Florida's geology. Beach ridge and dune sediments are dominantly siliclastic sands and are unconsolidated to poorly consolidated. Organics typically occur as disseminated organic matrix, roots and plant debris, carbonized remains, or charcoal.

Quaternary undifferentiated sediments

**Qu** While not a formally recognized lithostratigraphic unit, Quaternary undifferentiated sediments (Qu) are mapped in order to better understand Florida's geology. These Quaternary undifferentiated sediments consist of white to gray to orange, fine- to coarse-grained, clean to clayey unconsolidated sands, sandy clays and clays with variable admixtures of organics.

Anastasia Formation

**Qa** The Anastasia Formation (Qa) is present within a narrow band along the eastern edge of the study area. The formation is composed of interbedded coquinal limestone and quartz sands. It typically occurs as an orangish-brown to very-pale orange, unconsolidated to moderately indurated coquina consisting of whole and broken mollusk shells in a quartz sand matrix. The coquina is commonly cemented by sparry calcite. The sands occur as light gray to tan and orangish brown, unconsolidated to moderately indurated, unfossiliferous to very fossiliferous beds. The unit sits unconformably on Tertiary/Quaternary undifferentiated shelly sediments.

Tertiary/Quaternary undifferentiated shelly sediments

**TQsu** Tertiary/Quaternary undifferentiated shelly sediments (TQsu) typically consist of fine-to-medium quartz sand with variable amounts of micrite, silt, marine mollusk shells, and clay. Shells, which may vary from whole to fragmented, can range from highly weathered and abraded to relatively intact, and may occasionally become the dominant lithology. Other accessory materials may include calcite, argonitic, mica, heavy minerals, and phosphate sand and gravel. A basal phosphate lag is often present. Colors range from light gray to light-olive gray. In the study area, TQsu is predominantly in the form of unconsolidated sands with varying percentages of shell fragments. The unit sits unconformably on the Peace River Formation throughout the mapped area.

SPOIL

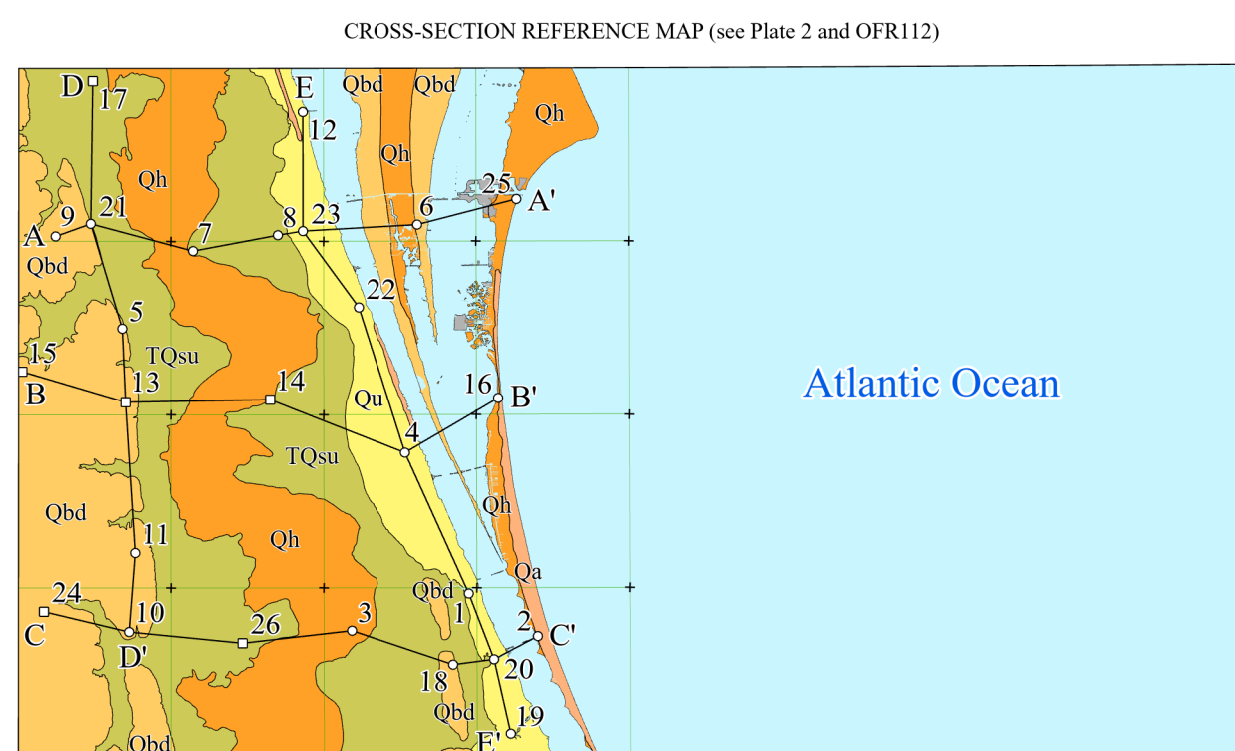
The areas marked as spoil on the map are disturbed lands created by dredging in the Indian River along navigation channels and fill areas for roads and bridges. These are typically a mixture of sand and shells from either the Tertiary/Quaternary undifferentiated shelly sediments, the Anastasia Formation, or Holocene sediments.

LEGEND

- Core
- Cuttings
- M-Series sample
- Outcrop/exposure
- Borrow pit
- Quarry / sand mine
- City/town
- USGS 1:24,000 Quadrangle tick mark
- Boreholes numbered 1 - 26 are used in cross-sections on OFMS 115, Plate 2
- Primary highway
- Secondary highway
- Light duty road, principal street
- Railroad
- County boundary
- State lands and parks
- Contours (5m)
- Intermediate
- Waterbody
- Wetland
- River or stream
- Cross section line
- U.S. Public Lands Survey Township/Range
- U.S. Public Lands Survey Section

Refer to [Open-File Report 112, Appendix A for borehole information](#)

Refer to [OFMS 115, Plate 2 for Cross-Sections](#)



ADJOINING MAPS

- |   |   |
|---|---|
| 1 | 2 |
| 3 | 4 |
| 5 |   |
- Orlando (OFMS 107)
  - Titusville
  - Kissimmee (OFMS 110)
  - Bartow (OFMS 111)
  - Vero Beach (OFMS 112)

For more information or to order maps contact:  
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3000 Commonwealth Blvd., Suite 1  
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850-617-0316  
<https://floridagdp.gov/fac/research/content/statement>

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