Map Unit Properties Table: Colonial National Historical Park

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Age	Map Unit (Symbol)	Geologic Description	Geologic Features and Processes	Geologic Resource Management Issues	Geologic History
QUATERNARY (Recent)	Fill (Qf)	Unit **Qf** consists of unsorted, jumbled, undifferentiated material such as sand or gravel used for fill. Modified or disturbed earth materials also fall into this unit type. **Qf** is mapped at Jamestown Island, Yorktown, and along the Colonial Parkway.	None documented	**Shoreline Erosion, Sediment Transport, and Coastal Engineering Structures**—this unit composes many of the coastal engineering structures along the James and York rivers in place to protect reaches of the shoreline.	**Building and Reshaping the Coastal Plain**—unit **Qf** reflects human attempts to reshape the landscape and resist changes brought about by Earth surface processes such as shoreline erosion and flooding.
	Marsh sediment (Qms)	**Qms** accumulates in marshes, bogs, and wetland areas. **Qms** is rich in organic deposits such as plant debris and includes fine sand and clay interlayers. **Qms** occurs at Swanns Point, Jamestown Island, Yorktown, and along the Colonial Parkway.	**Paleontological Resources**—**Qms** contains organic material that may include plant debris and fossil pollen. Foraminifera, spores, conifer and angiosperm pollen, and pine and angiosperm phytoliths on occur on Jamestown Island, dating from about 37,000 years ago to the present. On the York River, **Qms** may contain late Pleistocene bivalves and gastropods and potentially host mastodon remains. **Hydrogeologic System at Yorktown Battlefield**—**Qms** may be part of the interlayered shallow system of aquifers and confining layers. Sandy sediments are part of the Columbia and Cornwallis Cave aquifers. Clay-rich layers are part of the Cornwallis Cave confining unit.	**Paleontological Resource Inventory, Monitoring, and Protection**—the park does not yet have a site-specific paleontological resource management plan. **Groundwater Quantity and Quality**—this unit is part of the regional shallow aquifer and confining layer system at Yorktown Battlefield.	**Building and Reshaping the Coastal Plain**—these are among the youngest geologic map units occurring on the landscape at Colonial National Historical Park. These units reflect the ongoing processes of deposition of sediments weathered from the highlands and fluvial and other earth surface processes acting on the sediments that compose the Coastal Plain. **Qms** and **Qss** formed in estuarine, marsh, and swamp environments. **Qb** formed in beach and shoreline environments. **Qshom** and **Qoy** may be Pleistocene in age.
	Swamp sediment (Qss)	**Qss** accumulates in swamps and other still-water areas. **Qss** is rich in organic deposits such as peat and includes silt, fine sand, and clay interlayers. **Qss** is mapped at Swanns Point and along the Colonial Parkway.	**Paleontological Resources**—**Qss** contains organic material that may include plant debris and fossil pollen.	**Paleontological Resource Inventory, Monitoring, and Protection**—the park does not yet have a site-specific paleontological resource management plan.	
	Beach and dune (Qb)	**Qb** consists of fine- to coarse-grained quartz sand. The sand is poorly to well-sorted. As mapped, this unit may include shoreline stabilizing riprap adjacent to water. **Qb** occurs at Jamestown Island and may have been used for iron casting.	None documented	None documented	
	Shelly organic mud (Qshom)	**Qshom** contains organic mud with abundant fossil and modern shells, fragments of shells, and some interbedded sand. Most of this unit is exposed at the shoreline or under water.	**Fluvial Features and Processes**—**Qshom** is mapped submerged beneath the James River near Jamestown Island and along the York River bottom and may be a sand resource. **Paleontological Resources**—**Qshom** contains fossil shells and shell debris. Shell types include oyster, *Rangia*, and other shells.	**Shoreline Erosion, Sediment Transport, and Coastal Engineering Structures**—these units are among the bottom-sediment units mapped in the James and York rivers. These sediments are constantly in flux in the channel and may be dredged periodically. **Paleontological Resource Inventory, Monitoring, and Protection**—the park does not yet have a site-specific paleontological resource management plan.	
	Oysters (Qoy)	**Qoy** contains live oysters and oyster shells in a sandy or muddy substrate. **Qoy** may form reef-like forms. **Qoy** is part of the submerged bottom sediment mapping.	**Paleontological Resources**—**Qoy** contains oyster shells and shell debris.		

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Age	Map Unit (Symbol)	Geologic Description	Geologic Features and Processes	Geologic Resource Management Issues	Geologic History
QUATERNARY (Recent)	Peat (Qpe)	**Qpe** consists of decomposed plant remains commonly mixed with sand or mud.	**Paleontological Resources**—**Qpe** contains fossil shells roots of inundated marsh and swamp plants.	**Shoreline Erosion, Sediment Transport, and Coastal Engineering Structures**—these unitsare among the bottom-sediment units mapped in the James and York rivers. These sediments are constantly in flux in the channel and may be dredged periodically. **Paleontological Resource Inventory, Monitoring, and Protection**—the park does not yet have a site-specific paleontological resource management plan.	**Building and Reshaping the Coastal Plain**—these are among the youngest geologic map units occurring on the landscape at Colonial National Historical Park. These units reflect the ongoing processes of deposition of sediments weathered from the highlands and fluvial and other earth surface processes acting on the sediments which compose the Coastal Plain. **Qpe** may be Pleistocene in age. **Qom** formed in estuarine, marsh, and swamp environments. **Qsnd** formed in beach and shoreline environments. **Qsg** and **Qal** formed in fluvial environments as channels incised through Coastal-Plain sediments.
	Organic mud (Qom)	**Qom** consists of black, dark gray or dark brown clay and silt. Organic material is abundant. **Qom** is mapped at Jamestown Island.	**Fluvial Features and Processes**—**Qbs** is mapped submerged beneath the James River near Jamestown Island. **Paleontological Resources**—**Qom** contains organic material that may include plant debris and fossil pollen. Foraminifera, spores, conifer and angiosperm pollen, and pine and angiosperm phytoliths occur on Jamestown Island, dating from about 37,000 years ago to the present.		
	Sand (Qsnd)	**Qsnd** is fine- to coarse-grained, poorly to well-sorted quartz sand similar to **Qb**. **Qsnd** may include granules, small pebbles, and organic material. **Qsnd** is gray in channel bottoms and brown in areas adjacent to cliffs, beaches, and active erosion. As mapped, this may include shoreline stabilizing riprap adjacent to water. **Qsnd** is mapped within Swanns Point and Jamestown Island and along the length of the Colonial Parkway fronting the York River.	**Fluvial Features and Processes**—**Qsnd** is mapped submerged beneath the James River near Jamestown Island and may be a sand resource for shoreline nourishment.	**Shoreline Erosion, Sediment Transport, and Coastal Engineering Structures** —these units are among the bottom-sediment units mapped in the James River. These sediments are constantly in flux in the channel and may be dredged periodically.	
	Sand and gravel (Qsg)	**Qsg** is similar to **Qbs**, but with coarser grainsize. It consists of brown, coarse-grained sand, granules and pebbles. **Qsg** is mapped along the Back River near Jamestown.	**Fluvial Features and Processes**—**Qsg** is mapped submerged beneath the James River near Jamestown Island and may be a sand and/or gravel resource.		
	Alluvium (Qal)	Alluvium is deposited by rivers and streams in their channels. **Qal** consists of pebbly sand and sand with common silt layers and abundant organic material such as plant debris. **Qal** is mapped at Yorktown and along the Colonial Parkway.	**Paleontological Resources**—**Qal** contains organic material that may include plant debris and fossil pollen. **Hydrogeologic System at Yorktown Battlefield**—**Qal** may be part of the interlayered shallow system of aquifers and confining layers. Sandy sediments are part of the Columbia and Cornwallis Cave aquifers. Clay-rich layers are part of the Cornwallis Cave confining unit.	**Paleontological Resource Inventory, Monitoring, and Protection**—the park does not yet have a site-specific paleontological resource management plan. **Groundwater Quantity and Quality** —this unit is part of the regional shallow aquifer and confining layer system at Yorktown Battlefield.	

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Age	Map Unit (Symbol)	Geologic Description	Geologic Features and Processes	Geologic Resource Management Issues	Geologic History
QUATERNARY (late Pleistocene)	Tabb Alloformation, undivided (Qt)	**Qt** contains clay-rich, fine- to coarse-grained sand.	**Coastal Plain Sediments**—**Qt** consists of fining-upward sequences. **Paleontological Resources**—**Qt** may contain pollen and phytoliths (small mineral deposits within plants), as well as spores, and foraminifera that may yield a paleoecological reconstruction of the area for the past 37,000 years. These fossil remains may be part of **Qm** or **Qom**. None have been located within park boundaries to date. **Hydrogeologic System at Yorktown Battlefield**—**Qt** is part of the interlayered shallow system of aquifers and confining layers. Sandy sediments of **Qt** are part of the Columbia aquifer. Clay-rich layers in **Qt** form part of the Cornwallis Cave confining unit. **Qt** is part of the Cornwallis Cave aquifer.	**Paleontological Resource Inventory, Monitoring, and Protection**—the park does not yet have a site-specific paleontological resource management plan. **Groundwater Quantity and Quality**—this unit is part of the regional shallow aquifer and confining layer system at Yorktown Battlefield.	**Building and Reshaping the Coastal Plain**—**Qt** and overlying sediments (see **Qm** and **Qom**) may contain a record of paleoecological conditions for the past 37,000 years. Northern boreal forests dominated the area until 11,000 to 8,000 years before present when oak, hickory, and other temperate species thrived. **Qt** accumulated in fluvial, estuarine, and marginal and restricted marine environments.
	Tabb Alloformation, Poquoson member (Qtp)	**Qtp** consists of layers of sand, silt, and clay. **Qtp** is up to 5 m (15 ft) thick. **Qtp** is mapped at Swanns Point and Jamestown Island.	**Fluvial Features and Processes**—**Qtp** forms part of the low ridges south of Passmore Creek at Jamestown Island. **Coastal Plain Sediments**—**Qtp** is among the younger, fluvial-estuarine deposits with highly variable compositions.	None documented	**Building and Reshaping the Coastal Plain**—see description for **Qt**. **Qtp** and **Qtl** accumulated approximately 50,000 to 33,000 years ago.
	Tabb Alloformation, Lynnhaven and Poquoson members, undifferentiated (Qtlp)	**Qtlp** contains mixtures of fine- to coarse-grained sand and clay-rich sand.	**Coastal Plain Sediments**—**Qtlp** is among the younger, fluvial-estuarine deposits with highly variable compositions.	None documented	**Building and Reshaping the Coastal Plain**—see description for **Qt**.
	Tabb Alloformation, Lynnhaven Member (Qtl)	**Qtl** contains layers of silt, fine-grained sand, and clay. **Qtl** is up to 6 m (20 ft) thick. **Qtl** crops out at Jamestown Island and underlies the high ground first settled by the Europeans. It may have been a supply in early pottery and brick making.	**Fluvial Features and Processes**—**Qtl** underlies low, arcuate ridges on Jamestown Island. **Coastal Plain Sediments**—**Qtl** is among the younger, fluvial-estuarine deposits with highly variable compositions. **Paleontological Resources**—**Qtl** includes paleochannel fill deposits that can include plant fragments or peat.	**Paleontological Resource Inventory, Monitoring, and Protection**—the park does not yet have a site-specific paleontological resource management plan.	**Building and Reshaping the Coastal Plain**—see description for **Qt**. **Qtp** and **Qtl** accumulated approximately 50,000 to 33,000 years ago.
	Tabb Alloformation, Sedgefield Member (Qts)	**Qts** is coarser grained than **Qt** and contains pebbly sand, sand, and clay-rich silt layers. **Qts** is up to 15 m (50 ft) thick. **Qts** is mapped at Yorktown.	**Coastal Plain Sediments**—**Qts** is among the younger, fluvial-estuarine deposits with highly variable compositions. **Paleontological Resources**—**Qts** includes paleochannel fill deposits that can include plant fragments or peat. **Qts** may contain marine fossils.		**Building and Reshaping the Coastal Plain**—see description for **Qt**. **Qts** dates at least in part to approximately 130,000 to 80,000 years ago.
QUATERNARY	Elsing Green Alloformation (Qeg)	**Qeg** consists of muddy, fine- to medium-grained sand grading downward to coarse-grained sand, granules, and pebbles. Phosphate mineral occur locally. **Qeg** is up to 4 m (15 ft) thick, with thicker areas in paleochannels in the York and James rivers. **Qeg** is mapped at College Creek and along the Colonial Parkway fronting the York River.	**Coastal Plain Sediments**—**Qeg** is among the younger, fluvial-estuarine deposits with highly variable compositions.	None documented	**Building and Reshaping the Coastal Plain**—**Qeg** dates at least in part to approximately 125,000 to 130,000 years ago.

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Age	Map Unit (Symbol)	Geologic Description	Geologic Features and Processes	Geologic Resource Management Issues	Geologic History
QUATERNARY (middle Pleistocene)	Shirley Alloformation (Qsh)	**Qsh** contains pebble to boulder sand layers, silt and clay layers, with scattered organic-rich beds of silt and peat. **Qsh** is up to 24 m (80 ft) thick in paleochannels. The contact with the overlying **Qt** is disconformable. **Qsh** is mapped at Jamestown Island, Yorktown, and along the Colonial Parkway.	**Coastal Plain Sediments**—**Qsh** is among the younger, fluvial-estuarine deposits with highly variable compositions. **Paleontological Resources**—**Qsh** contains organic material that may include plant debris and fossil pollen. *In situ* tree stumps, leaves, and seeds of cyprus, oak, and hickory trees are common in **Qsh**. *Crassostrea virginica*, *Mulinia*, *Noetia*, and *Mercenaria*, among other mollusks also occur in **Qsh**. An *Astrangia* (coral) fossil was dated for an approximate age of 184,000 years before present in **Qsh**. None have been located within park boundaries to date. **Hydrogeologic System at Yorktown Battlefield**—**Qsh** is part of the interlayered shallow system of aquifers and confining layers. Sandy sediments of **Qsh** are part of the Columbia aquifer. Clay-rich layers in **Qsh** form part of the Cornwallis Cave confining unit. **Qsh** is the part of the Cornwallis Cave aquifer.	**Paleontological Resource Inventory, Monitoring, and Protection**—the park does not yet have a site-specific paleontological resource management plan. **Geologic Hazards and Risks**—**Qsh** underlies local buildings with relatively elevated radon levels. **Groundwater Quantity and Quality**—this unit is part of the regional shallow aquifer and confining layer system at Yorktown Battlefield.	**Building and Reshaping the Coastal Plain**—**Qsh** was part of a series of complex erosional surfaces, channel incisions, and sedimentary fill events during local sea level changes. **Qsh** accumulated in spatially complex fluvial, estuarine, and nearshore marine settings. **Qsh** accumulated on the York-James Peninsula approximately 400,000 to 250,000 years ago.
QUATERNARY (middle(?) Pleistocene)	Chuckatuck Alloformation (Qc)	**Qc** consists of pebbly sand, sand, silt, and clay layers. **Qc** is locally up to 8 m (26 ft) thick. Upper and lower contacts of **Qc** are unconformable. **Qc** is mapped at Yorktown Battlefield.	**Coastal Plain Sediments**—**Qc** is among the younger, fluvial-estuarine deposits with highly variable compositions. **Paleontological Resources**—**Qc** contains *Ophiomorpha* burrows as trace fossils. None have been located within park boundaries to date. **Hydrogeologic System at Yorktown Battlefield**—**Qc** is part of the interlayered shallow system of aquifers and confining layers. Sandy sediments of **Qc** are part of the Columbia aquifer. Clay-rich layers in **Qc** form part of the Cornwallis Cave confining unit. **Qc** is the part of the Cornwallis Cave aquifer.	**Paleontological Resource Inventory, Monitoring, and Protection**—the park does not yet have a site-specific paleontological resource management plan. **Groundwater Quantity and Quality**—this unit is part of the regional shallow aquifer and confining layer system at Yorktown Battlefield.	**Building and Reshaping the Coastal Plain**—**Qc** formed in fluvial, estuarine, and restricted marine environments associated with sea level changes during the Pleistocene.
QUATERNARY (early Pleistocene)	Charles City Alloformation (Qcc)	**Qcc** is similar in composition to **Qsh** with pebble to boulder sand, interlayered with cross-bedded sand, and silt and clay. **Qcc** is mapped at Yorktown Battlefield and near College Creek at the Colonial Parkway.	**Coastal Plain Sediments**—**Qcc** is among the younger, fluvial-estuarine deposits with highly variable compositions.	None documented	**Building and Reshaping the Coastal Plain**—**Qcc** was part of a series of complex erosional surfaces, channel incisions, and sedimentary fill events during local sea level changes.

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Age	Map Unit (Symbol)	Geologic Description	Geologic Features and Processes	Geologic Resource Management Issues	Geologic History
QUATERNARY (early Pleistocene)	Windsor Formation (Qw)	**Qw** contains clay-rich, fine- to coarse-grained sand that overlies fine- to coarse-grained, pebble-rich sand layers. **Qw** has a local maximum thickness of about 12 m (40 ft). The contact between **Qw** and overlying **Qsh** is disconformable. **Qw** is mapped along the Colonial Parkway and at Yorktown.	**Coastal Plain Sediments**—**Qw** is among the younger, fluvial-estuarine deposits with highly variable compositions. **Paleontological Resources**—Fossils are not common for this unit and none have been located within park boundaries to date. Elsewhere, **Qw** contains *in situ* vertical knobby burrows similar to those formed by *Calianassa major* (modern ghost shrimp). **Qw** also displays mollusk molds formed in goethite, hematite, and limonite minerals from reworked **Ty** mollusks. **Hydrogeologic System at Yorktown Battlefield**—**Qw** is part of the interlayered shallow system of aquifers and confining layers. Sandy sediments of **Qw** are part of the Columbia aquifer. **Qw** is also part of the Cornwallis Cave aquifer.	**Paleontological Resource Inventory, Monitoring, and Protection**—the park does not yet have a site-specific paleontological resource management plan. **Groundwater Quantity and Quality**—this unit is part of the regional shallow aquifer and confining layer system at Yorktown Battlefield.	**Building and Reshaping the Coastal Plain**—**Qw** was part of a series of complex erosional surfaces, channel incisions, and sedimentary fill events during local sea level changes. **Qw** accumulated in fluvial, estuarine, tidal flat, and restricted marine settings. **Qw** was deposited approximately 1.5 million years ago.
	Moorings unit of Oaks and Coch (1973) (Qm)	**Qm** consists of massively bedded sand or clay.	None documented	None documented	**Building and Reshaping the Coastal Plain**—**Qm** was part of a series of complex erosional surfaces, channel incisions, and sedimentary fill events during local sea level changes.
	Bacons Castle Formation (Qbc)	**Qbc** is composed of massively bedded and lenticular to flaser-bedded layers of sand, silt, and clay. Basal layers commonly contain pebbles and coarser sand grains. **Qbc** ranges in thickness from 14 to 21 m (45 to 70 ft). **Qbc** crops out in Swanns Point and along the Colonial Parkway.	**Coastal Plain Sediments**—**Qbc** has flaser bedding in which mud streaks or lenses occur in ripple troughs, but not on the crests. **Paleontological Resources**—Fossils are not common for this unit and none have been located within park boundaries to date. **Qbc** may contain invertebrate burrows. **Subsurface Geologic Features and the Chesapeake Bay Impact Crater**—**Qbc** overlies regional faults that may affect shallow-aquifer dynamics. **Hydrogeologic System at Yorktown Battlefield**—**Qbc** is part of the interlayered shallow system of aquifers and confining layers. Clay-rich layers in **Qbc** form part of the Cornwallis Cave confining unit. **Qbc** is part of the Cornwallis Cave aquifer.	**Paleontological Resource Inventory, Monitoring, and Protection**—the park does not yet have a site-specific paleontological resource management plan. **Geologic Hazards and Risks**—**Qbc** underlies local buildings with relatively elevated radon levels. **Groundwater Quantity and Quality**—this unit is part of the regional shallow aquifer and confining layer system at Yorktown Battlefield.	**Building and Reshaping the Coastal Plain**—**Qbc** was part of a series of complex, shifting depositional environments resulting from climatic and sea level changes. **Qbc** accumulated in fluvial, estuarine, tidal flat, and possibly marine settings approximately 2.3 to 2.0 million years ago.
NEOGENE (late Pliocene)	Cold Harbor Formation (Tch)	**Tch** contains yellow to red, muddy, fine- to coarse-grained sand with rare granules. Some lenticular clay layers may reach 9.1 m (30 ft) in thickness. **Tch** also commonly includes a basal gravel layer with large pebbles. Total thickness of **Tch** ranges up to 24.2 m (80 ft). **Tch** unconformably overlies **Tymh** and **Tc**. **Tch** is mapped in creek drainages crossed by the Colonial Parkway.	**Paleontological Resources**—burrows such as *Ophiomorpha nodosa* are common for **Tch**.	**Paleontological Resource Inventory, Monitoring, and Protection**—the park does not yet have a site-specific paleontological resource management plan.	**Building and Reshaping the Coastal Plain**—**Tch** accumulated in marginal-marine, wave-dominated deltaic, shallow marine, and tidal flat/channel settings. **Tch** was deposited during a period of sea-level rise.

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Age	Map Unit (Symbol)	Geologic Description	Geologic Features and Processes	Geologic Resource Management Issues	Geologic History
NEOGENE (late Pliocene)	Yorktown Formation, Moore House Member (Tymh)	**Tymh** is one of four members of the Yorktown Formation (**Tc**) and consists of a shell hash of coquina layer and sandy, clayey silt that is yellowish to brown in color. The sand layers coarsen downward from very-fine sand to granules. **Tymh** is typically 2 to 3 m (7 to 10 ft) thick.	See descriptions for **Tc**	See descriptions for **Tc**	**Building and Reshaping the Coastal Plain**—**Tymh** accumulated in a fluvial-estuarine, and tidal channel settings.
NEOGENE (Pliocene and early Pliocene)	Chesapeake Group, Yorktown and Eastover formations, undivided (Tc)	**Tc** includes interlayered shell-rich, fine-grained sand, clay-rich fine-grained sand, and silty fine- to very fine-grained sand. The Yorktown Formation contains interlayered shell-rich sand and fine-grained sand with dark brown clay-rich sand and clay at the top of the unit. Locally, the Yorktown Formation ranges in thickness between 12 and 14 m (39 and 45 ft). Its maximum thickness at Yorktown is 16.8 m (55 ft). The contacts between the Yorktown and overlying and underlying units are disconformable. Recent mapping and drilling on the James-York Peninsula have revealed the previously used "Sedley Formation" to be a weathering layer within the Yorktown Formation. The Eastover Formation consists of sand with interlayers of fossiliferous sand. The Eastover Formation varies in thickness from 5 to 28 m (16 to 92 ft). The contacts between The Eastover Formation and underlying older units, as well as overlying units are disconformable. **Tc** is mapped at Swanns Point, Yorktown, and along the Colonial Parkway.	**Coastal Plain Sediments**—**Tc** is among the older, thin, tabular, fossiliferous marine deposits. **Paleontological Resources**—The Yorktown Formation contains shells and shell debris (coquina). The first figured and described fossil from North America (ca. 1687) may have come from this unit—*Chesapecten jeffersonius*, named the state fossil of Virginia in 1993. The Yorktown Formation is rich in mollusks (at least 600 molluscan species) and other species such as *Turritella* (gastropod), *Crepidula* (gastropod), *Striarca centenaria* (bivalve), *Tellina* (bivalve), *Balanus* (barnacles), *Scaphopoda* (tusk-shelled mollusks), *Yoldia limatula* (bivalve), bryozoans, brachiopods, sponges, corals, annelid worms, decapod burrows, foraminifera, ostracodes, and echinoids. Vertebrate fossils discovered in the Yorktown Formation include fish bones, shark teeth, walrus jaw (*Prorosmarus alleni*), whale (*Balaena*) vertebrae, and a whale tooth. The Eastover Formation contains fossil-bearing layers that may include foraminifera, diatoms, palynomorphs (pollen and spores), dinoflagellates, brachiopods, gastropods, bivalves, ostracodes barnacles, crabs, echinoids, sharks, bony fish, auks, whales, and burrows; mollusks from the Eastover Formation may also be reworked into the Yorktown Formation. **Subsurface Geologic Features and the Chesapeake Bay Impact Crater** —the deposition of **Tc** coincides with active Cenozoic faulting that may affect shallow-aquifer dynamics. **Hydrogeologic System at Yorktown Battlefield**—**Tc** is part of the interlayered shallow system of aquifers and confining layers. Clay-rich layers in **Tc** form part of the Cornwallis Cave confining unit. **Tc** is the part of the Cornwallis Cave aquifer. **Tc** is part of the Yorktown confining unit. The Yorktown Formation is the lowermost part of the interlayered shallow system of aquifers and confining layers. The Yorktown Formation is the primary portion of the Cornwallis Cave aquifer and part of the Yorktown-Eastover aquifer, both of which underlie nearly the entire battlefield.	**Paleontological Resource Inventory, Monitoring, and Protection**—the park does not yet have a site-specific paleontological resource management plan. **Geologic Hazards and Risks**—Lateral heave within layers of the Yorktown Formation lead to local slope instability. **Tc** underlies local buildings with relatively elevated radon levels. **Groundwater Quantity and Quality**—this unit is part of the regional shallow aquifer and confining layer system at Yorktown Battlefield. the Eastover Formation portion of this unit is part of the regional shallow aquifer and confining layer system at Yorktown Battlefield, but is located at depths that are not reached by local stream incision. **Karst Landscape Management**—dissolution of carbonate-rich layers within **Tc** causes sinkhole formation at Yorktown Battlefield. **Yorktown Formation Shrink-and-Swell Clays**—clays within the Yorktown Formation swell when water saturated and shrink upon drying. The resulting volume changes can cause damage to roads and overlying structures. **Abandoned Mineral and Disturbed Lands**—Cornwallis Cave was excavated into coquina layers of the Yorktown Formation. The roof of the cave is failing.	**Building and Reshaping the Coastal Plain**—the Yorktown Formation accumulated in a variety of shallow marine settings including open marine, lagoon or other restricted marine, and barrier environments. Climate was relatively warmer during the deposition of the Yorktown Formation resulting in subtropical species flourishing. Age dates for the Yorktown Formation range from 4.5 to 2.5 million years ago. The Eastover Formation accumulated in shallow marine depositional environments during the Late Miocene. The Eastover Formation contains a record of a climate shift from older, cooler, open marine phase, to a younger, subtropical, shallow marine phase. The Eastover Formation may be as old as 11 million years.