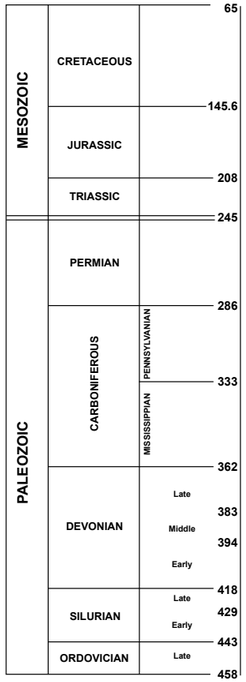
LEGEND

This legend is comoon to both the north and south sheets of t this map. Not all lithotectonic units shown in the legend necessarily appear on this sheet. Examples of representative stratigraphic units given in red.



KEY

- *Mélange and broken formation*
- *Volcanic rocks (felsic / mafic)*
- *Intrusive rocks (felsic / mafic)*
- *Mafic and ultramafic components of an ophiolite and areas of isolated ultramafic and meta-ultramafic bodies*
- *Shear zone*

For Unit 1 only

- *Orthogneiss*
- *Anorthosite-mangerite-charnockite suite rocks (mangerite, charnockite, granite / gabbro, anorthosite)*
- *Paragneiss and metavolcanic rock*

39 *Plutonic rocks of unknown origin*
Greensboro intrusive suite

Continental rift basins and magmatism related to formation of the Atlantic Basin

38 *38a. Alluvial and lacustrine clastic sedimentary rocks and local basalt, granite, syenite, gabbro and minor felsic volcanic rocks; rift basins immediately preceding formation of the Atlantic Ocean.*
Newark Supergroup, North Mountain Basalt, Wolfville Formation
38b. New-England–Québec igneous suite; alkalic granite, syenite, and gabbro with minor felsic volcanic rocks.

Geological boundary
Thrust fault
Strike-slip (arrows indicate relative movement) or undefined fault
Normal fault
Submerged major structures and/or geological boundaries

Southern Appalachians

35 *Lower Mississippian to Lower Permain maily terrestrial clastic sedimentary rocks that form westward transgressive wedges includes minor cratonal facies near base.*
35a. Mauch Chunk-Pottsville clastic wedge
Mauch Chuck Group
35b. Pennington-Lee clastic wedge
Lee Formation
35c. Ouachita clastic wedge
Pottsville Group

Alleghanian plutonism

37 *Carboniferous to Permian plutonic rocks*
Rolesville batholith, Narragansett Pier pluton, Sebago pluton

34 *Middle Devonian to earliest Carboniferous plutonic rocks*
Concord pluton, Deer Isle Granite, South Mountain batholith, Ackley batholith

Acadian clastic wedge

33 *Mainly Middle to Upper Devonian dominantly terrestrial clastic sedimentary rocks deposited on the west flank (Catskill clastic wedge) and on interior portions of the Appalachian Orogen; includes minor carbonate rocks.*
Hamilton Group, Genesee Group, Sonyea Group
— on Laurentian Realm —

Marine basin

26 Upper Ordovician slate, schist, quartzite, and conglomerate with minor metavolcanic rocks.
Arvonia Formation
— on Axial Realm —

Southern Appalachians

Mid-paleozoic clastic wedge and time-equivalent rocks

23 *Middle Ordovician to Lower Devonian, generally thin, shallow marine to terrestrial, clastic sedimentary wedge with subordinate carbonate rocks and chert. Includes unit 33 in southernmost Appalachians and carbonate rocks that are either the cratonward equivalent of unit 6 or lie unconformably on rocks deformed during the Taconic Orogeny.*
Tuscarora Formation, Tonoloway Formation, Salina Group
— on Laurentian Realm —

Extensional basin and cover rocks

24 *Upper Ordovician to Lower Mississippian clastic sedimentary rocks and diamictite lying unconformably on unit 4.*
Talladega Group
— on southern Laurentian Realm —

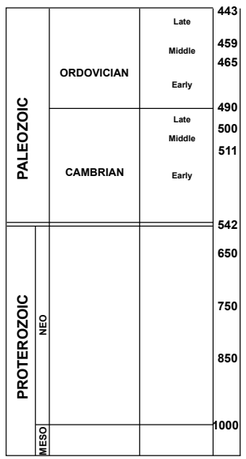
Mid-paleozoic magmatism mainly in Axial realm

25 *Middle Ordovician to Lower Silurian plutonic rocks and orthogneiss mainly confined to the Piedmont domain*
Shelton Granite Gneiss, Cortlandt complex

Northern Appalachians
(except unit 32c)

Syn-acadian sedimentary and magmatic rocks

32 *32a. Upper Silurian to Lower Devonian mainly marine with subordinate terrestrial clastic sedimentary rocks; commonly lying unconformably on pre-Upper Silurian rocks. Calcareous rocks are locally prominent in the west. Includes non-arc volcanic and associated bimodal magmatic rocks. Units extends into Middle Devonian in Gaspésie.*
Seboomook Group, upper part of Chaleurs Group (above Salinic unconformity), Piscataquis magmatic suite
32b. Non-arc volcanic rocks and bimodal magmatic rocks of possibly unrelated tectonic settings.
Exeter pluton, North Pole pluton, Rose Blanche pluton, North Bay batholith
32c. Upper Silurian to Lower Devonian plutonic rocks confined to Carolina.
Concord-Salsbury Plutonic Suite



LAURENTIAN REALM (entire orogen)

Taconic foreland basin

6 *Westward-transgressive clastic wedges mainly derived from an eastern source and associated carbonate rocks. Locally includes mélange.*
6a. Lower to Middle Ordovician Sevier clastic wedge Sevier Formation
6b. Middle to Upper Ordovician Taconic clastic wedge; gradational with unit 23 Martinsburg Formation, Walloomsac Formation
6c. Lower to Upper Ordovician Tourelle-Humber wedge; extends into Lower Silurian on Anticosti Island Tourelle Formation, Goose Tickle Group

4 *Lower Paleozoic basal transgressive clastic sequence and overlying dominantly carbonate platform sequence containing local clasic rocks* Chilhowee Group, Knox Group, Beekmantown Group, Philipsburg Group, Port au Port Group, Potsdam Sandstone

5 *Continental slope-and-rise facies; locally may contain oceanic volcanic rocks and rift-facies rocks*
Conestoga Limestone, Ottauquechoe Fm, Trois-Pistoles Group, Northern Head Group, West Castleton Formation

Iapetus rift facies

3 *Neoproterozoic to Cambrian mainly clastic sedimentary rocks filling rift basins and associated magmatism related to lapetan rifting. Locally contains fragments of oceanic crust*
Ocoee Supergroup, Catoctin Formation, Pinnacle Formation, Tibbit Hill Formation, Bateau Formation, Lynchburg Formation

2 *Encratonic magmatic rocks (ca. 750-680 Ma.) and associated sedimentary rocks; southern Appalachians*
Grandfather Mountain Formation, Crossnore Complex

Grenville basement of Laurentian including ca. 1 Ga inliers within the hinterland

1 *Gneiss, schist, and plutonic rocks affected by the Grenille Orogeny and associated post-orogenic granitoid bodies*
Mount Holly Complex, Disappointment Hill Complex
1a. Basement components > 1.5 Ga.

AXIAL REALM

Southern Appalachians

PIEDMONT DOMAIN

Composite magmatic arc and other magmatic rocks

8 *8a. Mainly Lower to Middle Ordovician metamagmatic rocks and associated metaclastic rocks of the Chopawamsic volcanic arc.*
Chopawamsic Formation
8b. Other metamagmatic rocks and associated metaclastic rocks of rift, magmatic-arc, or oceanic affinity.
Dadeville Complex

Multiply tectonized accretionary complex

7 *Neoproterozoic to Lower Paleozoic mainly clastic metasedimentary rocks, schist, and gneiss containing metaclastic mélanges and subordinate amphibolite, meta-ultramafic rocks, and eclogite. Locally associated to units 1, 3, 4, 5, 6, 8 and 9.*
Ashe Formation, Evington Group
7a. Metaclastic rocks and amphibolite of the Smith River allochthon; metaclastic rocks yield Early Cambrian monazite ages.
Fork Mountain Formation

10 *Unseparated schist, gneiss and migmatite; may include rocks as young as Silurian. Contains detrital zircon populations distinct from those of units 7 and 9.*
Unnamed gneiss and schist east of Brindle Creek fault

9 *Unseparated schist, gneiss and migmatite; may include rocks as young as Silurian. Contains detrital zircon populations distinct from those of units 7 and 9.*
Unnamed gneiss and schist of the Six Mile Nappe

GOOCHLAND DOMAIN

Metamorphic rocks of unknown origin

11 *High-grade paragneiss, orthogneiss and amphibolite of unknown affinity that structurally overlie ca. 1 Ga basement of unit 1. Locally contains small bodies of Devonian orthogneiss*
Maidens Gneiss

Northern Appalachians

PERI-GONDWANAN REALM

Southern Appalachians

CAROLINA

Suprastructural magmatic-arc and associated rocks

14 *14a. Younger magmatic-arc/black-arc and overlying sequences– Neoproterozoic to Lower Paleozoic magmatic sequences with associated clastic sedimentary rock; generally <580 Ma.* Albemarle Goupr
14b. Older magmatic-arc – Neoproterozoic magmatic-arc rocks with associated clastic sedimentary rocks; generally >580 Ma.
Virgilina Formation
14c. Unseparated magmatic and clastic sedimentary sequences
Spring Hope Formation
14d. Mafic-ultramafic complex of probable oceanic origin
Complex of Halifax County

Infrastructural magmatic-arc oceanic rocks

15 *Gneiss, schist, metavolcanic rocks, and amphibolite, with local mélange and ultramafic bodies. Locally yield Neoproterozoic to Cambrian radiometric ages.*
Battleground Formation

WLS COL 2.5-1

WILLIAM STATES LEE III
NUCLEAR STATION UNITS 1 & 2

Explanation of
Lithotectonic Map of the Site Region

FIGURE 2.5.1-202b Rev 2