


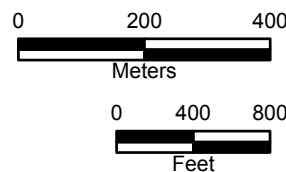
Legend

 Potentiometric Surface Contour

United States Nuclear Regulatory Commission Official Hearing Exhibit			
In the Matter of: PSEG POWER, LLC AND PSEG NUCLEAR, LLC (Early Site Permit Application)			
	ASLBP #:	15-943-01-ESP-BD01	Identified: 03/24/2016 Withdrawn: Stricken:
	Docket #:	05200043	
	Exhibit #:	PSEG004G-MA-BD01	
	Admitted:	03/24/2016	
	Rejected:	Other:	

Notes:

Simulation depicts groundwater contours post-construction
Contours estimated using MODFlow



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Potentiometric Surface Contours
in Vincentown Formation
Post-Construction

FIGURE 2.4.12-29

Rev 0

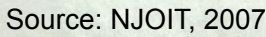
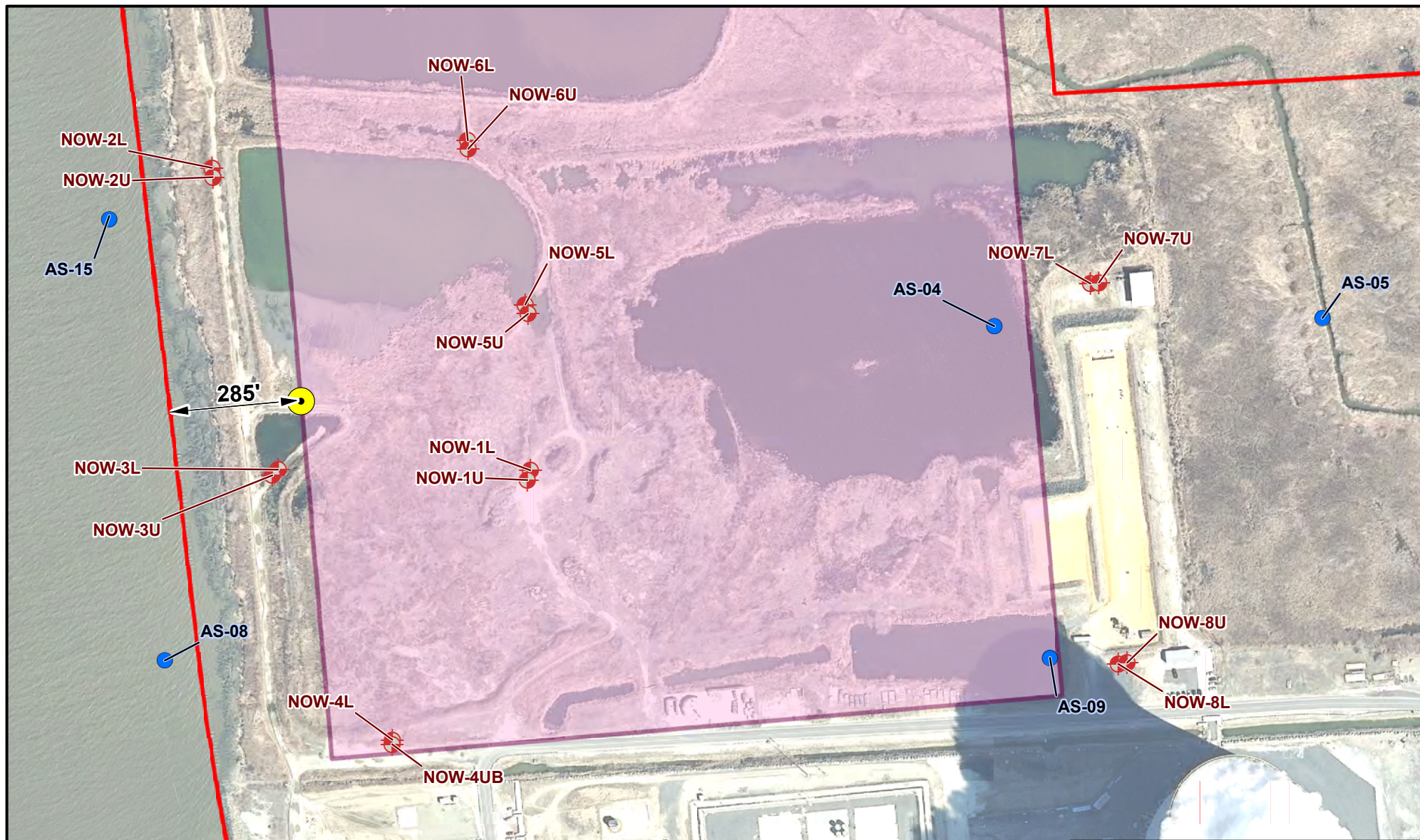
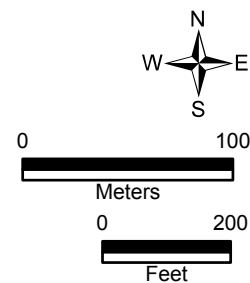


FIGURE 2.4.12-30 Rev 0



LEGEND

- Hypothetical Accidental Release Location
- ⊕ ESP Observation Well
- ESP Surface Water/Sediment Sample
- Power Block
- Site Boundary



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Location of Hypothetical
Accidental Release
(West Flow Path)

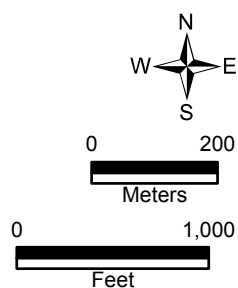
FIGURE 2.4.13-1

Rev 1



LEGEND

- Hypothetical Accidental Release Location
- ⊕ ESP Observation Well
- Approx. Former Edge of River
- Power Block
- Site Boundary



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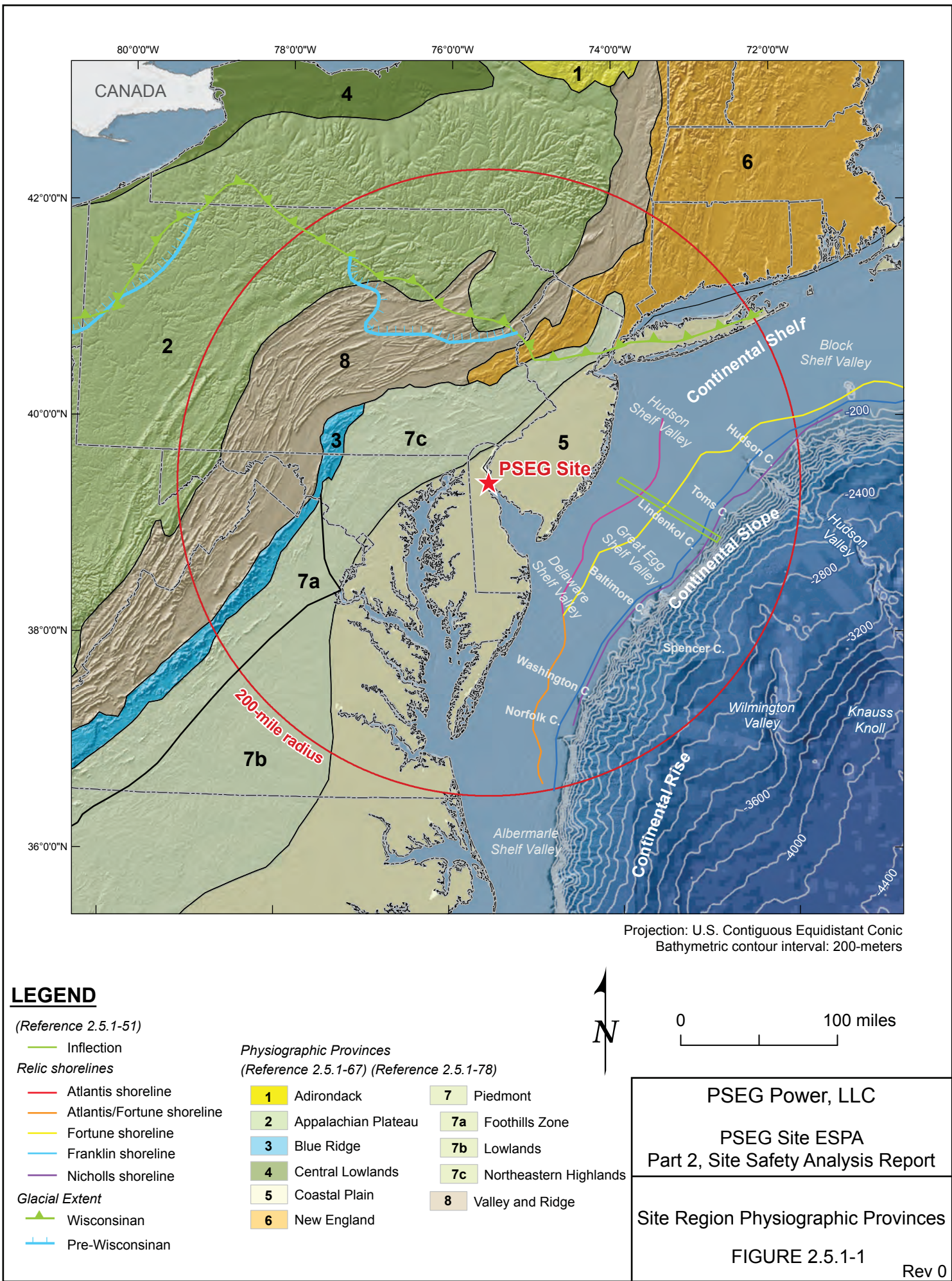
PSEG Site ESP

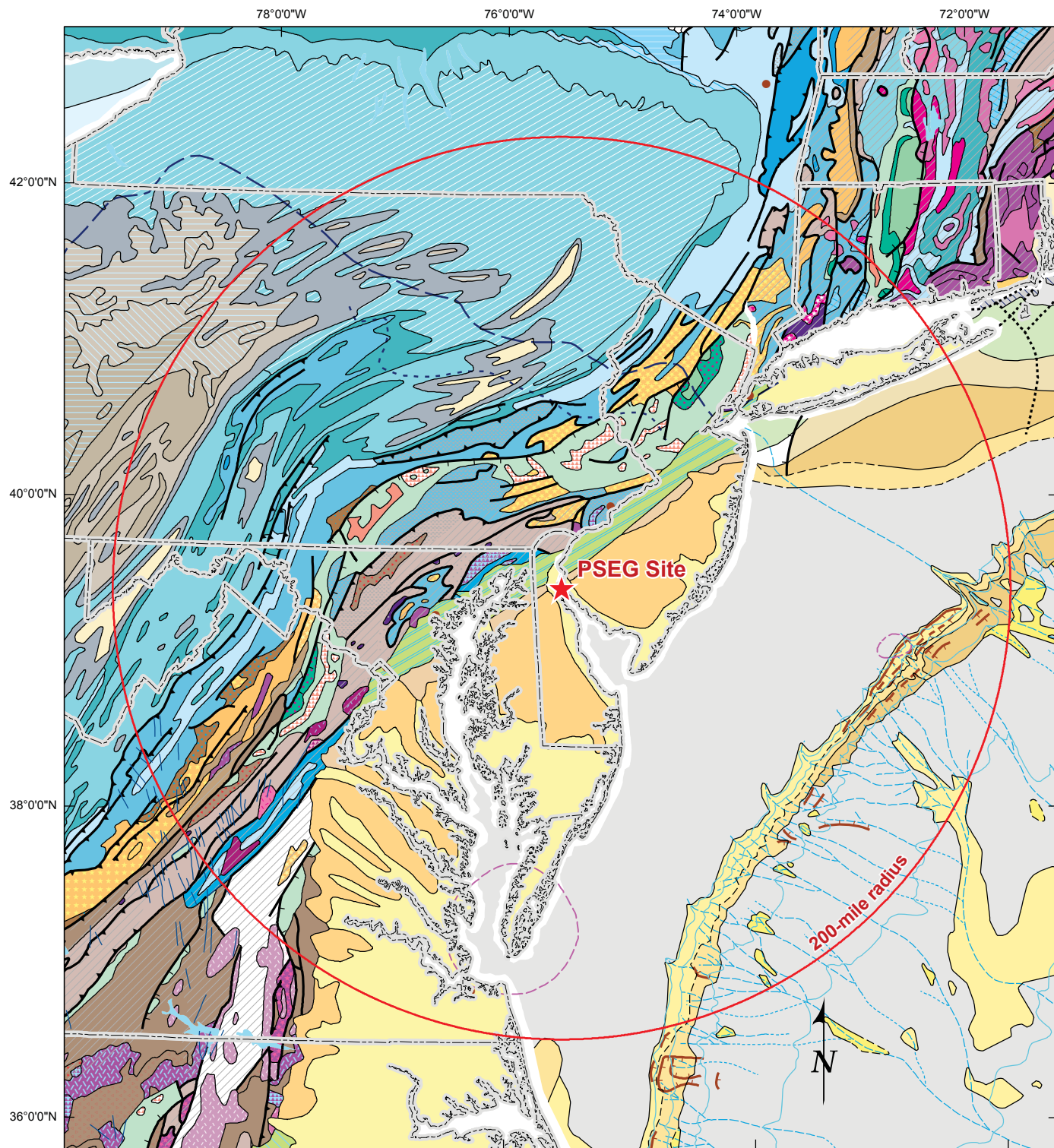
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Location of Hypothetical
Accidental Release
(Northeast Flow Path)

FIGURE 2.4.13-2

Rev 0





Source: Garrity, C.P., and Soller, D.R., 2009 (Reference 2.5.1-73), Database of the Geologic Map of North America; adapted from the map by J.C. Reed, Jr. and others (2005): U.S. Geological Survey Data Series 424 [<http://pubs.usgs.gov/ds/424/>]

0 150 miles

See Figure 2.5.1-2b for explanation

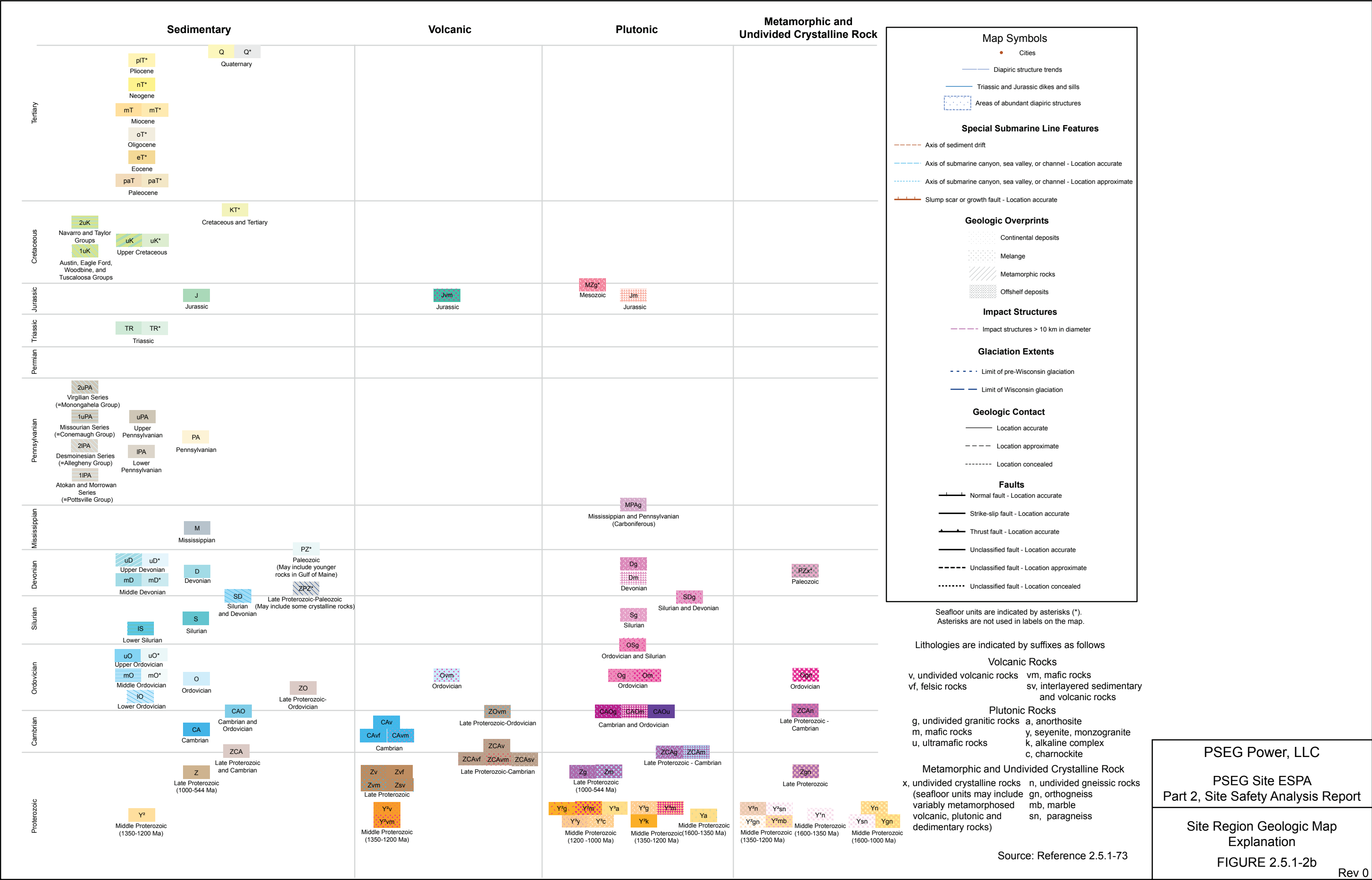
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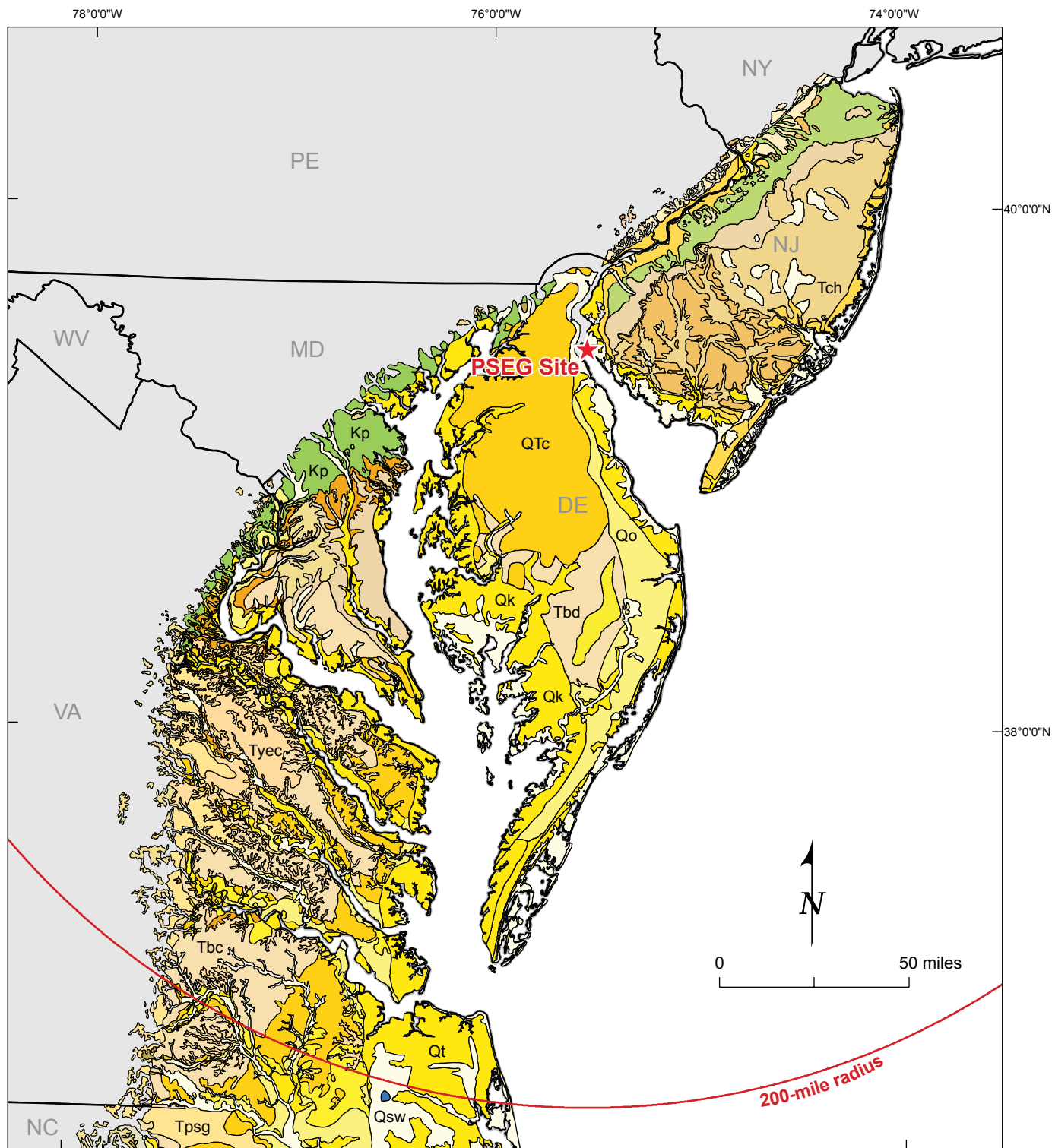
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Site Region Geologic Map

FIGURE 2.5.1-2a

Rev 0





Projection: NAD 1983 UTM Zone 18N
From Reference 2.5.1-11

See Figure 2.5.1-3b for explanation and stratigraphic correlation of units

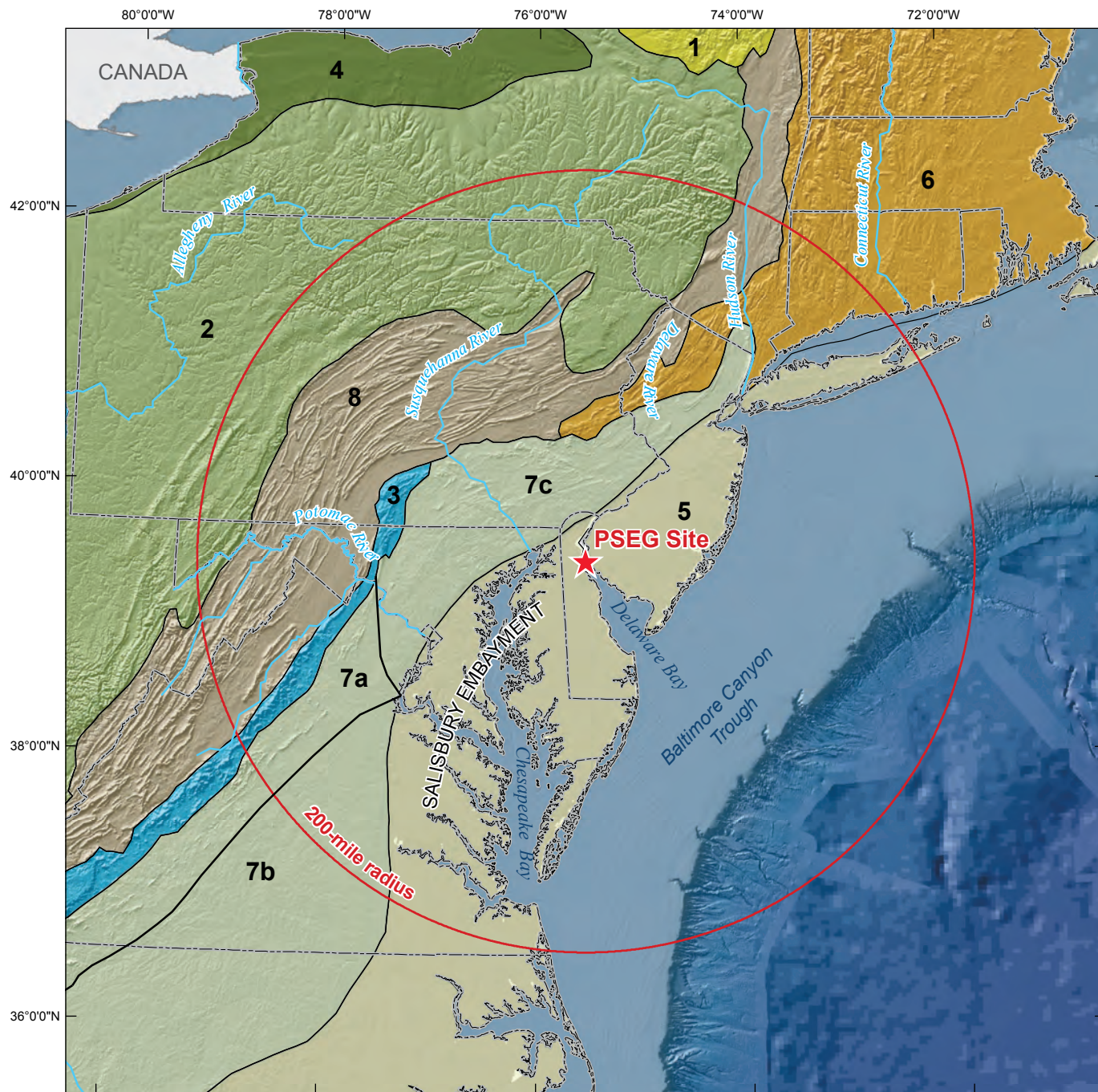
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Site Regional Geologic Map
of the Coastal Plain
FIGURE 2.5.1-3a

Rev 0

Series		Formations and informal stratigraphic units (predominant sediment texture)												
		New Jersey and Pennsylvania			Delmarva Peninsula		Maryland and Virginia, west of Chesapeake Bay and south to Northern North Carolina			Southern North Carolina, south of Albemarle Sound				
Quaternary	Holocene	Coextensive surficial deposits: Beach (SG), Tidal Marsh (MP), Swamp (MP), and Alluvial Valley Swamp (MP) Qb Qtm Qsw Qavs												
	Pleistocene	Cape May Fm. Undivided (SG) ^{1,2}	Qv Van Sciver Lake Beds (SG) ¹	Qp Parsonsburg Sand (SG) ³										
			Qcms Cape May 1 Fm. (SG, M–see plate 3) ¹	Qk Kent Island Fm. (M) ⁴ Qsc Scotts Corner Fm. (M) ⁶ Qs Sinepuxent Fm. (SG) ⁴ Qwa Wachapreague Fm. (SG) ^{5,7} Qj Joynes Neck Sand (SG) ^{5,7}	Qk Kent Island Fm. (M) ⁴ Qt Tabb Fm. (M) ⁵			Qt Tabb Fm. (M) ⁵	Wando Fm. (M) ⁸					
		Qsl Spring Lake Beds (SG) ^{1,2}	Qlh Lynch Heights Fm. (M) ⁶ Qn Nassawadox Fm. Undivided (SG) ^{5,7} Qo Omar Fm. (M) ⁷			Qsh Shirley Fm. (M) ⁵			Socastee Fm. (M) ⁸					
		Qcm Cape May 2, 3 Fms. (SG,M–see plate 3) ¹												
							Qcc Charles City Fm. (M) ⁵			Penholoway Fm. (M) ⁸				
				QTc Columbia Fm. (SG) ³⁵			QTw Windsor Fm. (M) ⁵			Waccamaw Fm. (SG) ⁸				
	Tertiary	Pliocene				Tbd Beaverdam Fm. (SG) ^{10,11}			Tbc Bacons Castle Fm. (CS, SG–see plate 3) ^{17,18}			Bear Bluff Fm. (M) ⁸		
						Tpsg Pliocene Sands and Gravels (SG) ⁵								
Tp Pensauken Fm. (SG) ^{1,2}			Yorktown Fm. (fine member)(SG) ¹⁶			Tyec Chesapeake Grp. (M) ⁵	Yorktown Fm. (fine member) (CS) ¹⁶		Td Duplin Fm. (SG) ⁸	Yorktown Fm. (fine member) (CS) ¹⁶				
			Yorktown Fm. (coarse member) (SG) ¹⁶				Yorktown Fm. (coarse member) (SG) ¹⁶			Yorktown Fm. (coarse member) (SG) ¹⁶				
Tbt Bridgeton Fm. (SG) ¹			Manokin B Fm. (SG) ^{12,13} Manokin A Fm. (CS) ^{12,13}			Post-Choptank Chesapeake Grp. (M)	Eastover Fm. (M) ¹⁶							
			St Marys Fm. (CS) ^{14,15}											
Tbm Bryn Mawr Gravels (SG) ⁹					Choptank Fm. (SG) ^{14,15}			Tccs St. Marys, Choptank, and Calvert Fms., Undivided (CS) ^{19,20,21}	St. Marys Fm. (CS) ¹⁴	Tb Brandywine Fm. (SG) ^{22,23} Bon Air Gravels (SG) ²⁴	Tba	Tmsg Miocene Sands and Gravels (SG) ^{5,25}		
														Tch Cohansey Fm. (SG) ^{1,34}
		Tkwn Kirkwood Fm. (SG) ^{1,30}			Calvert Fm. (CS) ^{14,15,31}									Calvert Fm. (CS) ^{14,15}
Oligocene											Belgrade Fm. (SG) ²⁵			
											River Bend Fm. (L) ²⁵			
Eocene		Shark River Fm. (SG) ³²						Tpa Pamunkey Grp. (M) ¹⁵	Tpa Lower Tertiary Fms. Undivided (SG) ⁵	Nanjemoy Fm. (CS) ²¹ Aquia Fm. (SG) ^{14,15}	Castle Hayne Fm. (L) ²⁵			
		Manasquan Fm. (M) ^{26,32}												
		Vincentown Fm. (SG) ^{28,32}									Vincentown Fm. (SG) ²⁸			
Paleocene		Homerstown Fm. (M) ^{28,32}			Homerstown Fm. (SG) ²⁸									
		Cretaceous	Upper	Tinton Fm. (SG) ³²									Peedee Fm. (M) ²⁵ Peedee Fm. Black Creek Grp. Middendorf Fm. Cape Fear Fm. Undivided (M) ^{25,33}	
Red Bank Fm. Undivided (SG) ^{27,32}														
Navesink Fm. (M) ^{27,32}														
Wenonah and Mt. Laurel Fms. (SG) ^{27,28}				Mt. Laurel Fm. (SG) ²⁸										
Marshalltown Fm. (M) ²⁸				Marshalltown Fm. (M) ²⁸			Matawan Fm. (SG) ^{14,15}							
Englishtown Fm. (M) ²⁸				Englishtown Fm. (M)										
Woodbury Clay (CS) ²⁷														
Merchantville Fm. (CS) ^{28,32}				Merchantville Fm. (CS) ²⁸										
Lower	Kpmr Potomac Grp. Raritan and Magothy Fms., Undivided (SG) ³⁰		Magothy Fm. (SG) ¹⁵		Magothy Fm. (SG) ^{14,15}			Magothy Fm. (SG) ^{14,15}			Middendorf Fm. (SG) ²⁵			
			Kp Potomac Grp. (SG) ^{27,30}	Raritan Fm. (SG) ²⁷	Kp Potomac Grp. (SG) ^{15,27}			Kp Potomac Grp. (SG) ^{15,27,29}	Patapsco Fm. (SG) ^{15,27}		Cape Fear Fm. (SG) ²⁵			
		Anundel Fm. (CS) ^{15,27}												
							Patuxent Fm. (SG) ^{15,27}							
Pre-Cretaceous	PDMNT Undifferentiated Consolidated Rocks of the Piedmont Province (X)													

Map explanation modified from Reference 2.5.1-11



Projection: U.S. Contiguous Equidistant Conic

LEGEND

Physiographic Provinces
(Reference 2.5.1-67) (Reference 2.5.1-78)

1	Adirondack	7	Piedmont
2	Appalachian Plateau	7a	Foothills Zone
3	Blue Ridge	7b	Lowlands
4	Central Lowlands	7c	Northeastern Highlands
5	Coastal Plain	8	Valley and Ridge
6	New England		



0 100 miles

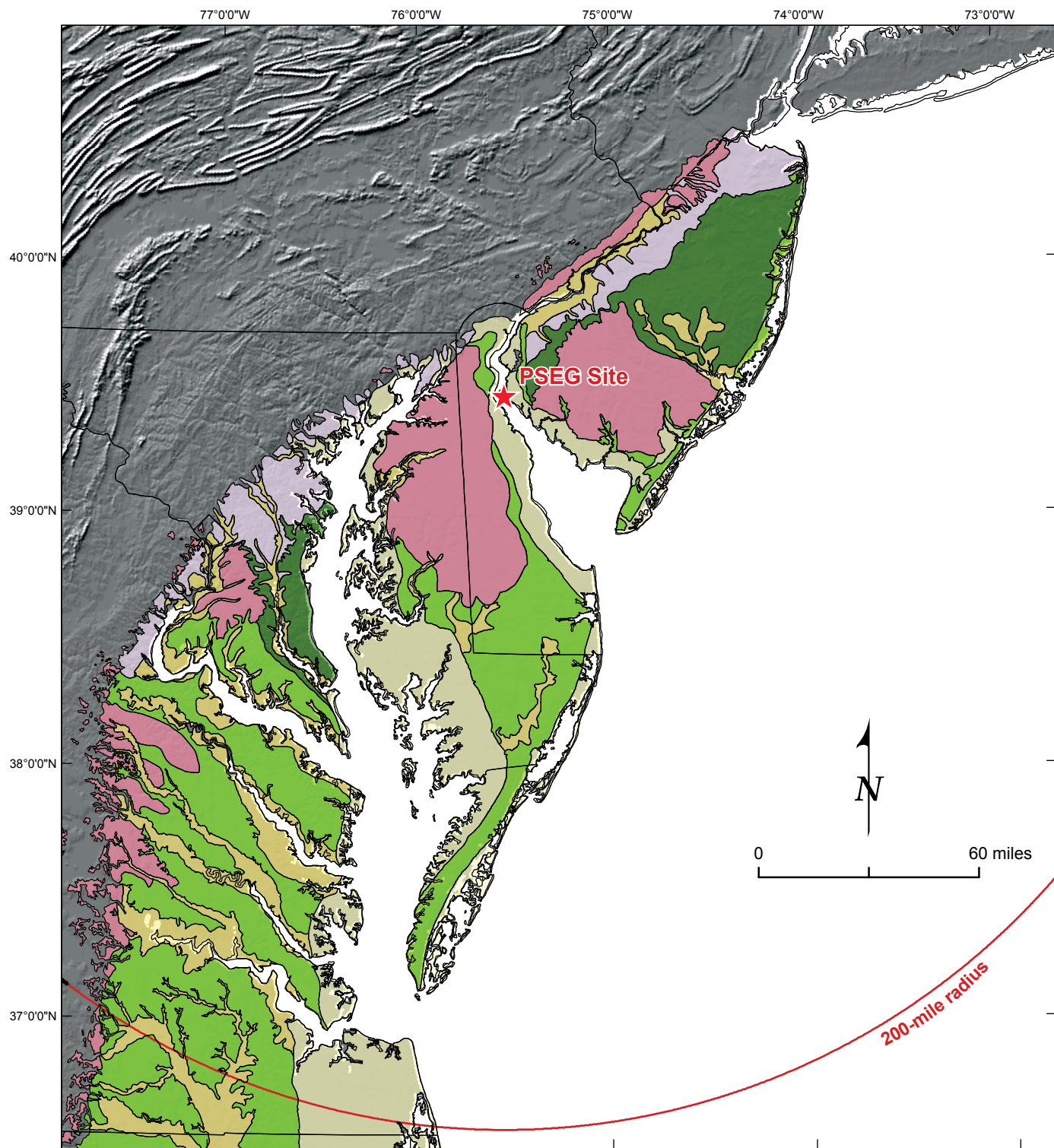
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Site Region Physiographic Features

FIGURE 2.5.1-4

Rev 0



Projection: U.S. Contiguous Equidistant Conic

LEGEND

- Outer Coastal Plain
- Alluvial/Estuarine Valleys

Middle Coastal Plain

- Dissected Uplands
- Terraces

Inner Coastal Plain

- Dissected Outcrop Belt
- Upland Sands and Gravels

From Reference 2.5.1-238

- See Figure 2.5.1-4

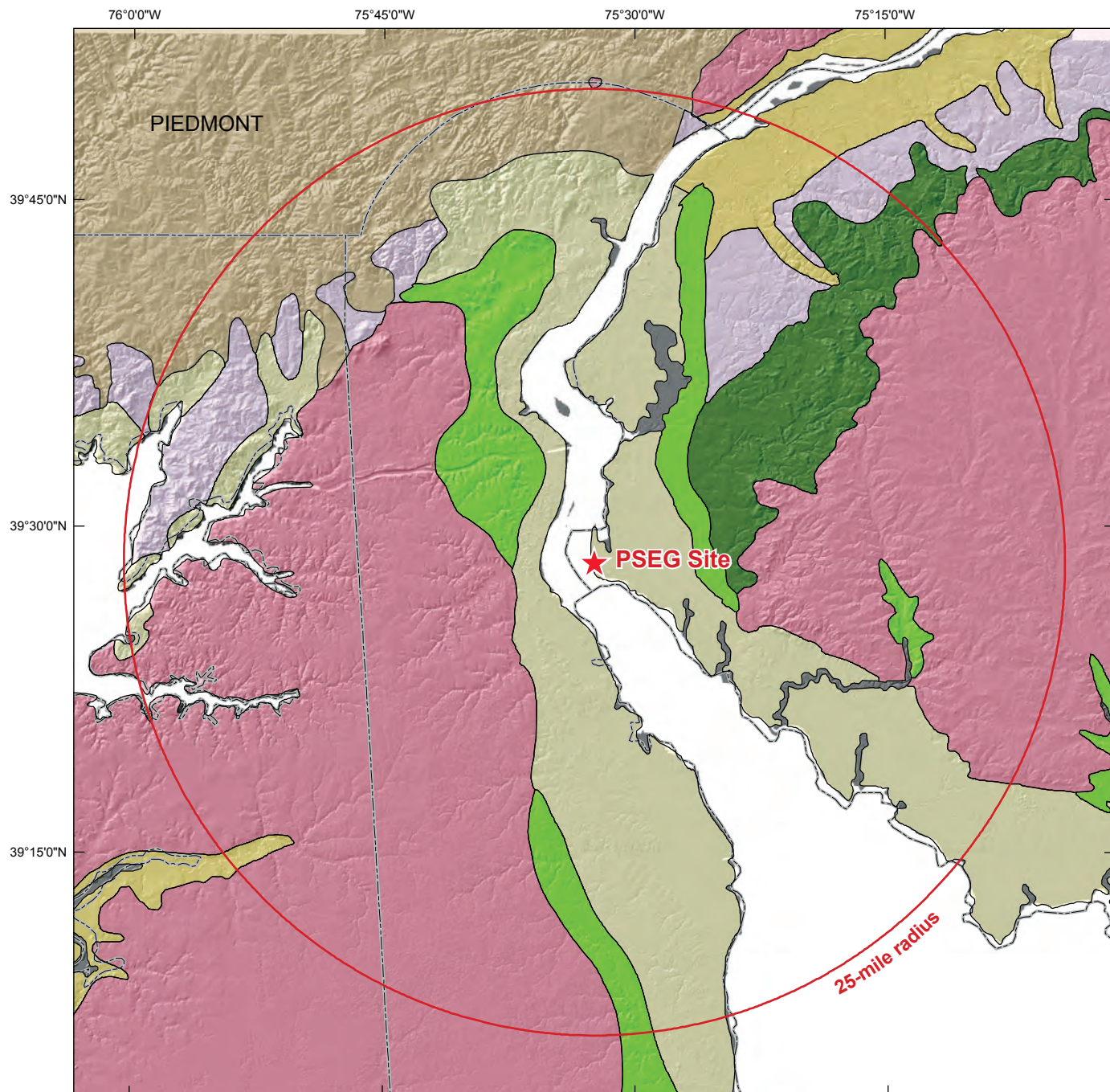
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Site Regional Physiographic
Subprovinces of the Coastal Plain

FIGURE 2.5.1-5

Rev 0



Projection: Projection: U.S. Contiguous Equidistant Conic

LEGEND

- Piedmont
- Outer Coastal Plain
- Alluvial/Estuarine Valleys

Middle Coastal Plain

- Dissected Uplands
- Terraces

Inner Coastal Plain

- Dissected Outcrop Belt
- Upland Sands and Gravels

From Aitor et al., 2005 (Reference 2.5.1-11)



0 20 miles

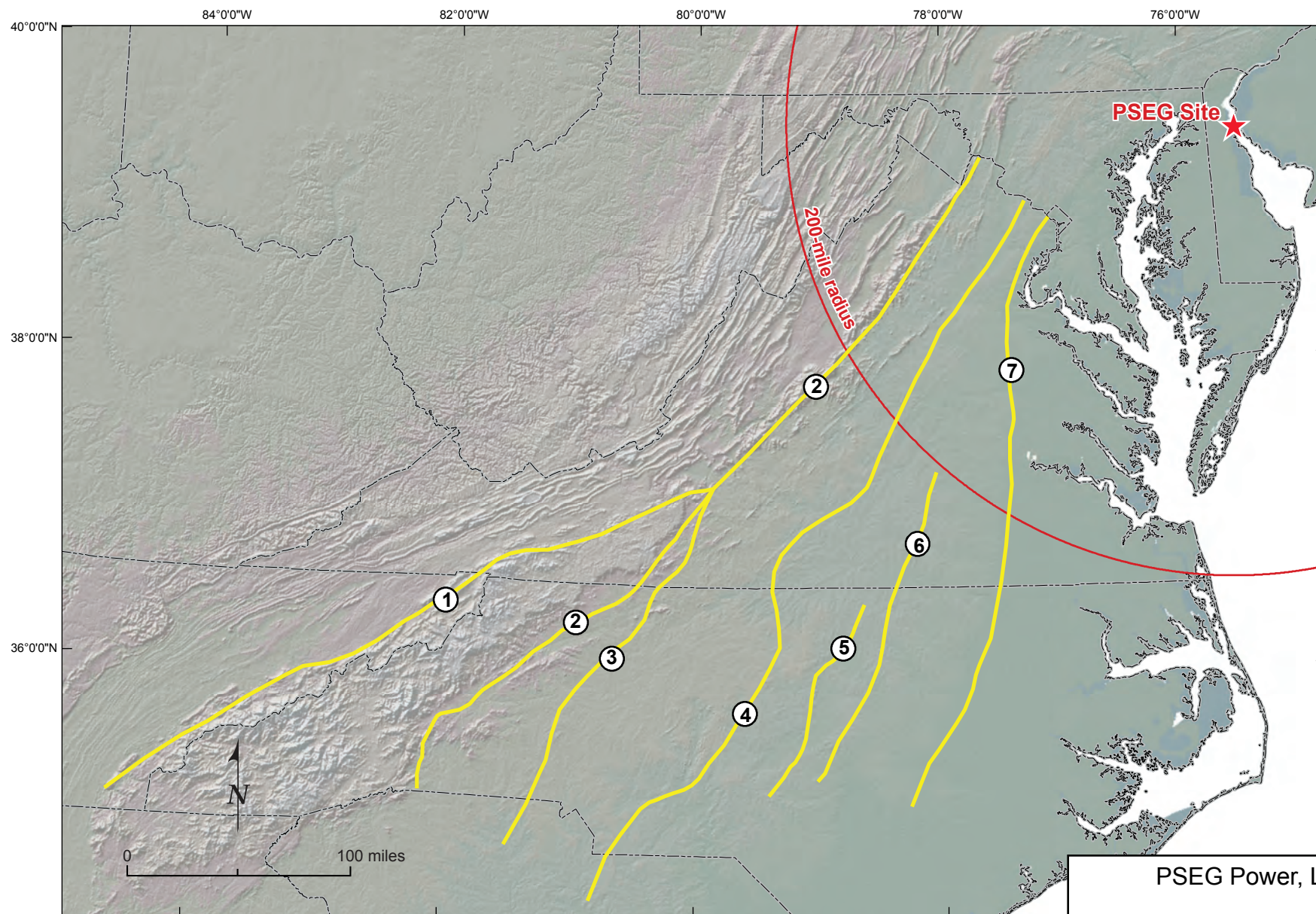
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Site Vicinity Physiographic
Subprovinces of the Coastal Plain

FIGURE 2.5.1-6

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LEGEND

1. Great Smoky Fall Line
2. Blue Ridge Fall Line
3. Western Piedmont Fall Line
4. Central Piedmont Fall Line

5. Durham Fall Line
6. Netbush Fall Line
7. Tidewater Fall Line

From Reference 2.5.1-245

Projection: U.S. Contiguous Equidistant Conic

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Fall Lines of Weems

FIGURE 2.5.1-7

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Site Region Lithostratigraphic Map










FIGURE 2.5.1-8a

Rev 0





Triassic–Jurassic basins
(patterned subsurface;
rifting of Pangea)

Igneous Rocks



-  190–170 Ma dikes, sills, & flows
(Rifting of Pangea)
-  325–285 Ma granitoid plutons
(Modern age dates)
-  350–325 Ma granitoid plutons
(Modern age dates)
-  380–355 Ma granitoid plutons
(Modern age dates)
-  Likely Ordovician plutons
(no age dates)
-  Ordovician plutons
(Modern age dates)
-  Greenstone and amphibolite
(Neoproterozoic to Ordovician)
of arc, MORB, and continental
affinities. Only Blue Ridge units
shown; includes Catoclin Fm. (VA) &
Hillabee Greenstone (AL–GA).
-  Ultramafic rocks
(Neoproterozoic to Ordovician)
-  ~735 Ma rift-related alkalic plutons
(Failed rifting of Rodinia)

Laurentian Platform & Rifted Margin

Clastic Wedges

-  Alleghanian (Mississippian–Pe)
-  Acadian and Neoacadian
(Late Dev.–early Mississippian)

Taconian

-  Martinsburg–Tuscarora
(Caradoc to Llandovery)
-  Blountian–Sevier–Rockmart
Mineral Bluff (Murphy syncline in Blue Ridge)
(Llanvirn–Llandeilo)

Platform Rocks


-  Cambrian–Ordovician
clastic to carbonate

Rifted Margin Rocks

-  Neoproterozoic–Early Cambrian
clastic & volcanic rocks. Includes
Baltimore terrane.

Terranes Accreted During Taconian Events


(Laurentian affinity, distal, deep-water deposits)

-  **Hamburg complex (Hc)**
Allochthons and olistostromes of deep-water, distal margin
clastics and carbonates (Dauphin Formation) thrust into the
foreland over the Myerstown euxinic platform limestone, and
covered by the Martinsburg Formation. Includes greenschist
facies equivalent clastic Cocalico Formation to the SE.

-  **Westminster terrane**
Neoproterozoic/Cambrian–Middle Ordovician deposition &
volcanism. Sedimentary component >>> volcanic.


Terranes Accreted During Neoacadian to Alleghanian Events

(distal, deep-water deposits
and arc-to–MORB volcanics)

-  **Tugaloo (–Milton–Potomac–Philadelphia) terrane**
Distal Laurentian; Neoproterozoic/Cambrian–Middle Ordovician
deposition & volcanism, minor 1.15 Ga basement;
arc-to–MORB volcanics; mélanges. Abundant Ordovician
plutons. Sedimentary component >> volcanic.


-  **Smith River allochthon**
Neoproterozoic metasedimentary and metavolcanic
rocks; Ordovician plutons. May have Laurentian and
Peri-Gondwanan provenance.

Carolina superterrane (peri–Gondwanan)


-  **Carolina terrane**
Supracrustal (low grade) components
Neoproterozoic deposition and arc volcanism
to Ordovician (?) deposition.

-  **Charlotte terrane**
Infracrustal (high grade) components
Neoproterozoic deposition and arc volcanism.

Brunswick (Charleston) terrane

-  Rocks of largely unknown composition
and provenance (likely peri-Gondwanan)

East Coast Magnetic Anomaly

-  Alleghanian deformation obscured by failed rifting
and deposition of Triassic–Jurassic sediments of the
South Georgia basin. Continues south to join with
Wiggins–Suwannee suture.

— — — — — Thrust fault

- - - - - Possible buried terrane boundary

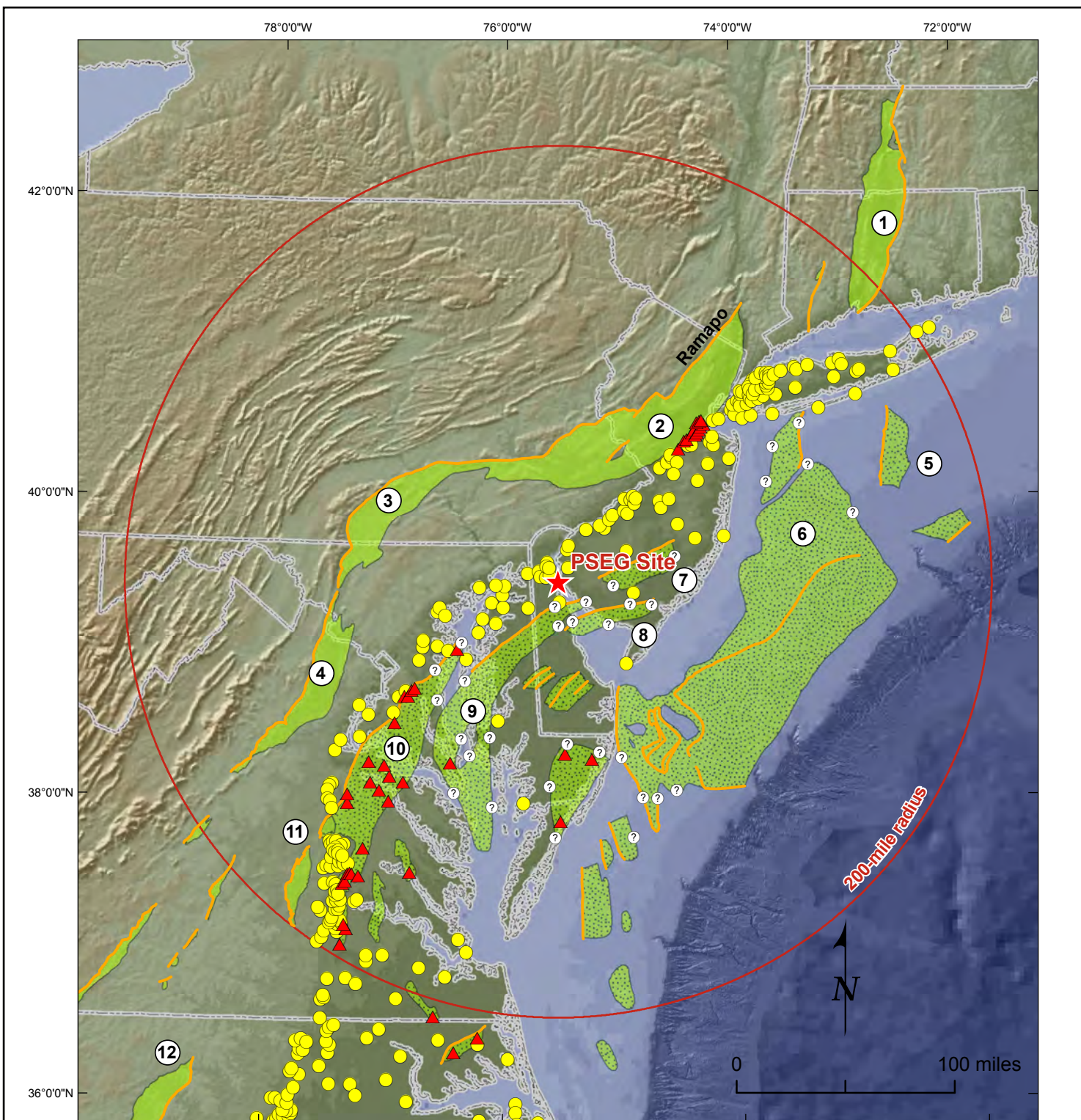
from Reference 2.5.1-85

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Site Region Lithostratigraphic Map
Explanation
FIGURE 2.5.1-8b

Rev 0



LEGEND

— Fault, queried where data absent or poor

Boreholes

- Pre-Mesozoic rock
- ▲ Unmetamorphosed, synrift sedimentary rock

Mesozoic Basins (Newark Supergroup sediments)

■ Exposed ■ Buried

- | | |
|----------------------------|----------------------|
| ① Hartford-Deerfield Basin | ⑦ Buena Basin |
| ② Newark Basin | ⑧ Bridgeville Basin |
| ③ Gettysburg Basin | ⑨ Queen Anne Basin |
| ④ Culpeper Basin | ⑩ Taylorsville Basin |
| ⑤ Long Island Basin | ⑪ Richmond Basin |
| ⑥ Fenwick Basin | ⑫ Deep River Basin |

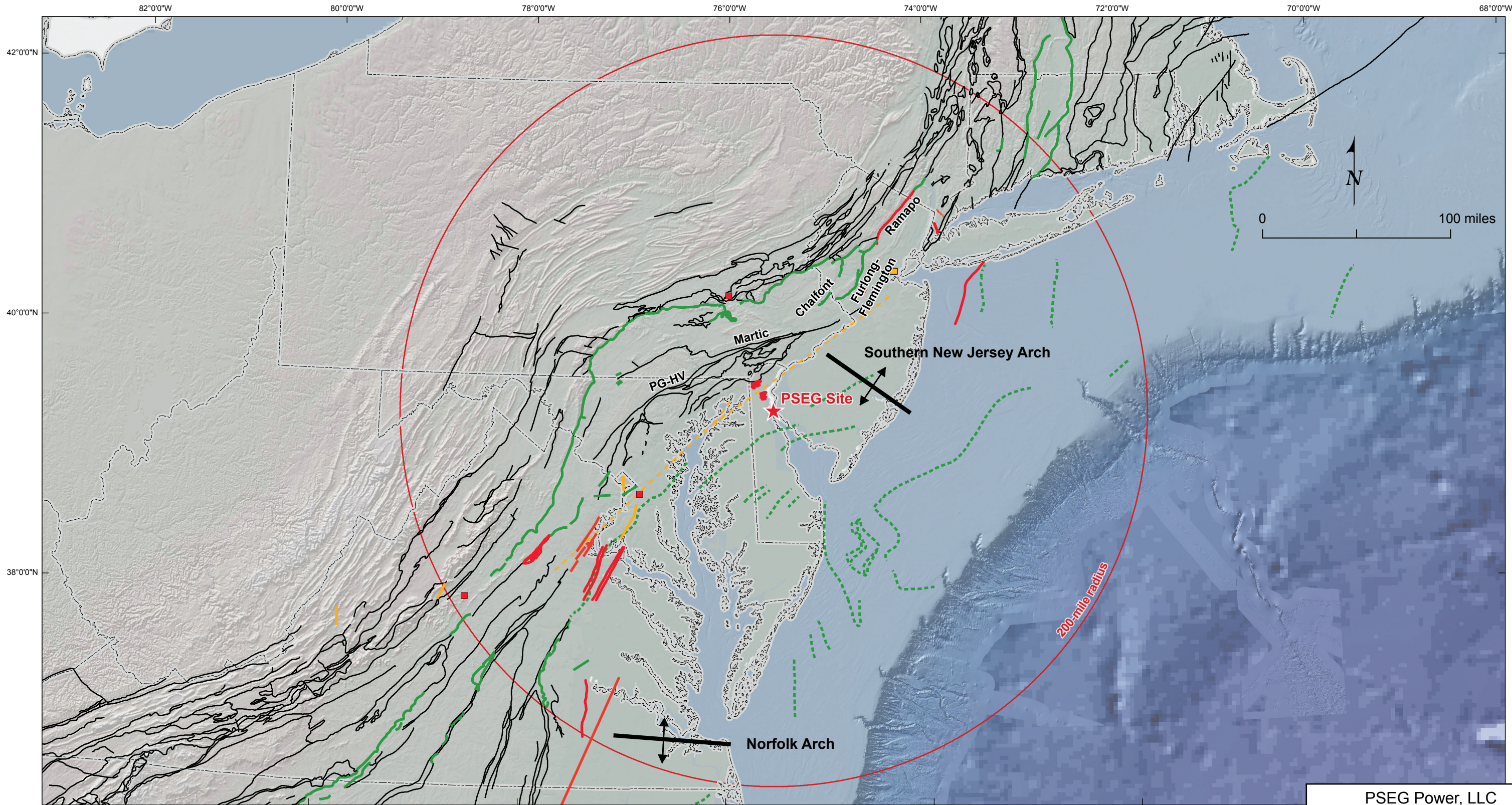
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Mesozoic Basins by Benson

FIGURE 2.5.1-9

Rev 0



LEGEND

- | | | |
|--|---|--|
| <p><i>Paleozoic</i></p> <p>— Fault (Reference 2.5.1-87)</p> | <p><i>Cenozoic</i></p> <p>■ Feature too small to be shown at scale (Reference 2.5.1-173)</p> <p>— Fault (Reference 2.5.1-173)</p> <p>- - Hypothetical feature (Reference 2.5.1-162 and Reference 2.5.1-120)</p> | <p><i>Possible Quaternary</i></p> <p>■ Feature too small to be shown at scale (Reference 2.5.1-40)</p> <p>— Fault (Reference 2.5.1-40 and Reference 2.5.1-248)</p> |
| <p><i>Mesozoic</i></p> <p>— Fault, exposed (Reference 2.5.1-87)</p> <p>- - Fault, concealed (Reference 2.5.1-15)</p> | | |

Projection: U.S. Contiguous Equidistant Conic

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Site Region Structures
FIGURE 2.5.1-10
Rev 1

Era	System	Series	Stratigraphic Unit		Predominant Lithology			
CENOZOIC	Quaternary	Holocene	alluvial, coastal, marsh, and eolian deposits		sand, gravel, silt, mud, and peat			
		Pleistocene	COASTAL AREAS Wisconsin alluvium, Cape May Formation, colluvium	INLAND, NORTHERN NEW JERSEY Wisconsin and pre-Wisconsin alluvial, colluvial, glacial, lacustrine, and eolian deposits	sand, gravel, silt, clay (statewide), till and till-like deposits (northern New Jersey)			
	Tertiary	Miocene	Pensauken Formation		sand, clayey silt			
			Bridgeton Formation					
			Beacon Hill Gravel		gravel, sand			
			Cohansey Sand		sand, some clayey silt			
			Kirkwood Formation		sand, gravel, clayey silt			
		Oligocene	ACGS Beta Unit (Piney Point)		sand, some glauconitic sand			
			Mays Landing Unit					
		Eocene	Shark River Formation		clayey silt, fine quartz sand, glauconitic sand			
			Manasquan Formation					
	Paleocene	Vincentown Formation		sand, clayey silt, glauconitic sand, calcarenite				
		Hornerstown Formation		glauconitic sand				
MESOZOIC	Cretaceous	Upper Cretaceous	Tinton Sand		sand, glauconitic sand			
			Red Bank Sand		sand, clayey silt, some glauconite sand			
			Navesink Formation		glauconite sand			
			Mount Laurel Sand		sand			
			Wenonah Formation		silty sand, some glauconite			
			Marshalltown Formation		clayey silt, glauconitic sand			
			Englishtown Formation		sand, clayey silt			
			Woodbury Clay		clayey silt			
			Merchantville Formation		clayey silt, glauconitic sand			
			Magothy Formation		sand, clayey silt			
			Raritan Formation					
		Lower Cretaceous	Potomac Group		gravel, sand, silt, clay			
	Jurassic	Lower Jurassic	Newark Supergroup	Brunswick Group	Boonton Formation		sandstone, siltstone, shale, conglomerate	
					Hook Mountain Basalt		basalt	
					Towaco Formation		sandstone, siltstone, shale, conglomerate	
					Preakness Basalt		basalt, intercalated sedimentary rock	
					Feltville Formation		sandstone, siltstone, shale, conglomerate, limestone	
					Orange Mtn. Basalt	diabase intrusives	basalt	diabase
					Passaic Formation		sandstone, siltstone, shale, conglomerate	
	Triassic	Upper Jurassic		Lockatong Formation		siltstone, mudstone, sandstone, shale		
				Stockton Formation		arkosic sandstone, siltstone, shale, conglomerate		

		VALLEY AND RIDGE		
		Stratigraphic unit	Predominant lithology	
PALEOZOIC	Devonian			
		Marcellus Shale	shale, siltstone	
		Buttermilk Falls Limestone	argillaceous limestone	
		Schoharie Formation	calcareous siltstone	
		Esopus Formation	siltstone, sandstone	
		Oriskany Group	Ridgely Sandstone	sandstone, calcareous conglomerate
			Shriver Chert	shale, siltstone, chert
			Glenerie Formation	limestone
		Helderburg Group	Port Ewen Shale	calcareous shale, siltstone
			Minisink Limestone	limestone, calcareous shale
			New Scotland Formation	calcareous silty shale
			Coeymans Formation	limestone, sandstone, conglomerate
		Silurian	Rondout Formation	limestone, calcareous shale, dolomite
			Decker Formation	calcareous sandstone, silty limestone
	Bossardville Limestone		argillaceous, partly dolomitic limestone	
	Poxono Island Formation		calcareous shale, dolomite	
	Bloomsburg Red Beds		shale, siltstone, sandstone	
	Shawangunk Formation		conglomeratic quartzite	
			GREEN POND MOUNTAIN REGION	
			Stratigraphic unit	Predominant lithology
		Skunnemunk Conglomerate	conglomerate	
		Bellvale Sandstone	sandstone, siltstone, shale	
		Cornwall Shale	shale, siltstone	
		Kanouse Sandstone	conglomeratic sandstone, siltstone	
		Esopus Formation	siltstone, sandstone	
		Connelly Conglomerate	conglomeratic quartzite	
		Berkshire Valley Formation	calcareous siltstone, silty dolomite, sandstone	
		Poxono Island Formation	calcareous shale, dolomite	
		Longwood Shale	shale, siltstone	
		Green Pond Conglomerate	conglomeratic quartzite, siltstone	

			Stratigraphic Unit				Predominant Lithology			
PALEOZOIC	Ordovician		Beemerville intrusive complex				nepheline syenite, intrusive alkalic igneous rocks			
			Martinsburg Formation				slate, siltstone, graywacke			
		Middle Ordovician	Jacksonburg Limestone				limestone, argillaceous limestone		shale, limestone, chert (Jutland)	
		Lower Ordovician	Beekman-town Group	Kittatinny Supergroup	Ontelaunee Formation	Jutland klippe units (not part of Kittatinny Supergroup)	dolomite, limestone (Ontelaunee, Epler)			
					Epler Formation					
					Rickenbach Dolomite		sandy dolomite (Rickenbach)			
		Cambrian	Upper Cambrian	Allentown Dolomite				dolomite, calcareous limestone		
			Middle Cambrian	Leithsville Formation				dolomite, calcareous shale		
	Lower Cambrian		Hardyston Quartzite				arkosic quartzite, conglomerate (Hardyston)			
	?	Ordovician (?) Cambrian (?) Late Proterozoic (?)	Manhattan Schist, Wissahickon Formation, serpentinite, Chickies Quartzite				sillimanite-garnet-muscovite-biotite schist (Manhattan); schist, metagraywacke, amphibolite, altered ultramafics (Wissahickon); highly sheared serpentinite preserving few original igneous structures; quartz-sericite schist, conglomerate (Chickies)			
PROTEROZOIC	Late Proterozoic (?)		Chestnut Hill Formation				greenschist-grade sedimentary and metavolcanic (?) rock			
	Middle Proterozoic	Byram Intrusive Suite, Lake Hopatcong Intrusive Suite, Mount Eve Granite				granite, quartz syenite, syenite, quartz monzonite, monzonite, and granodiorite				
		metasedimentary rocks				quartzofeldspathic and calcareous metasedimentary rocks including the Franklin and Wildcat Marbles				
		Losee Metamorphic Suite				highly sodic gneissic and granitoid rocks; amphibolite				

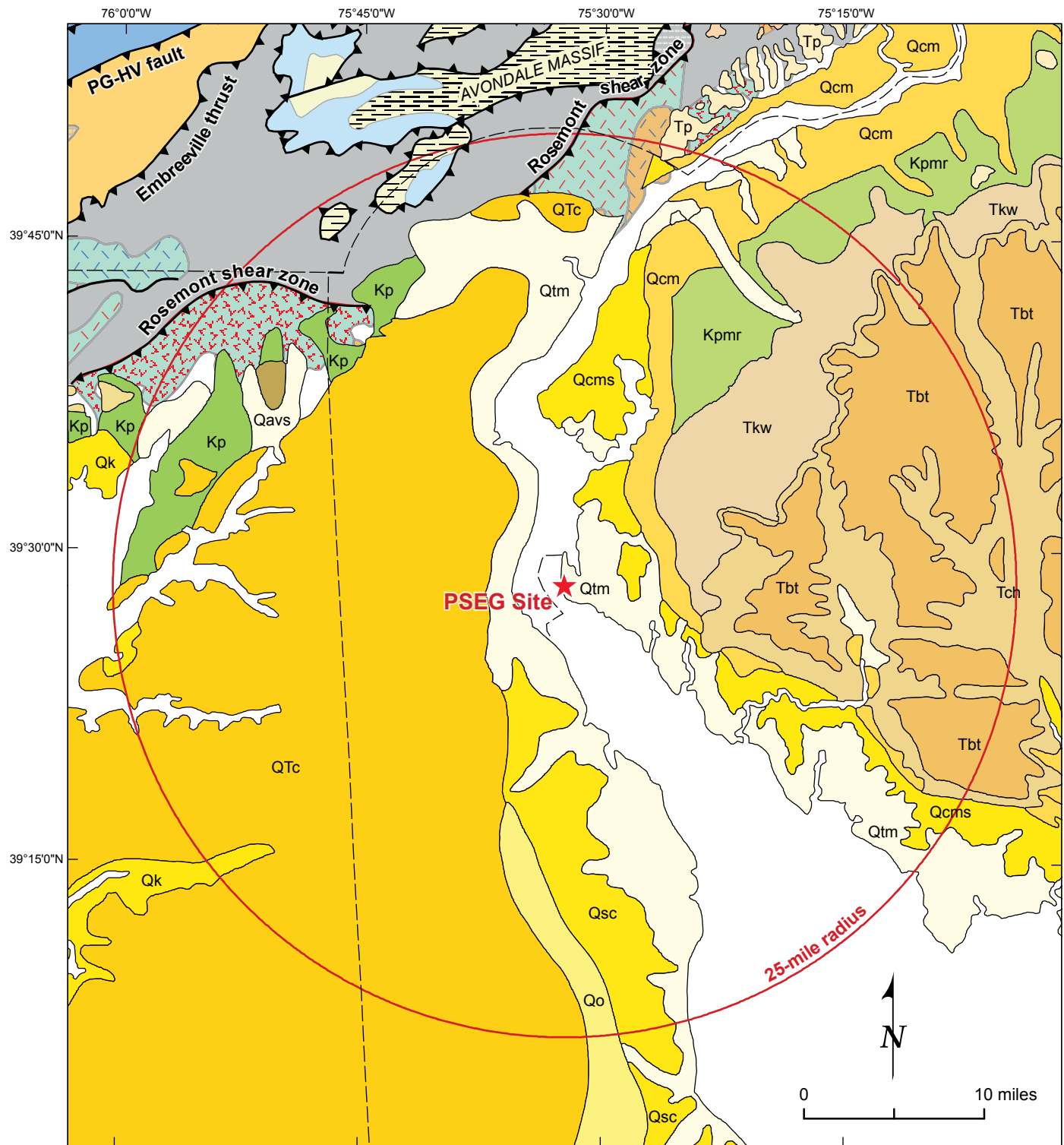
from New Jersey Geological Survey, 1990
(Reference 2.5.1-141)

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Generalized Stratigraphic Table
for New Jersey
FIGURE 2.5.1-11

Rev 0



Coastal Plain geology from Reference 2.5.1-11
Piedmont geology from Reference 2.5.1-87

Projection: NAD 1983 UTM Zone 18N

See Figure 2.5.1-12b for explanation of geologic units

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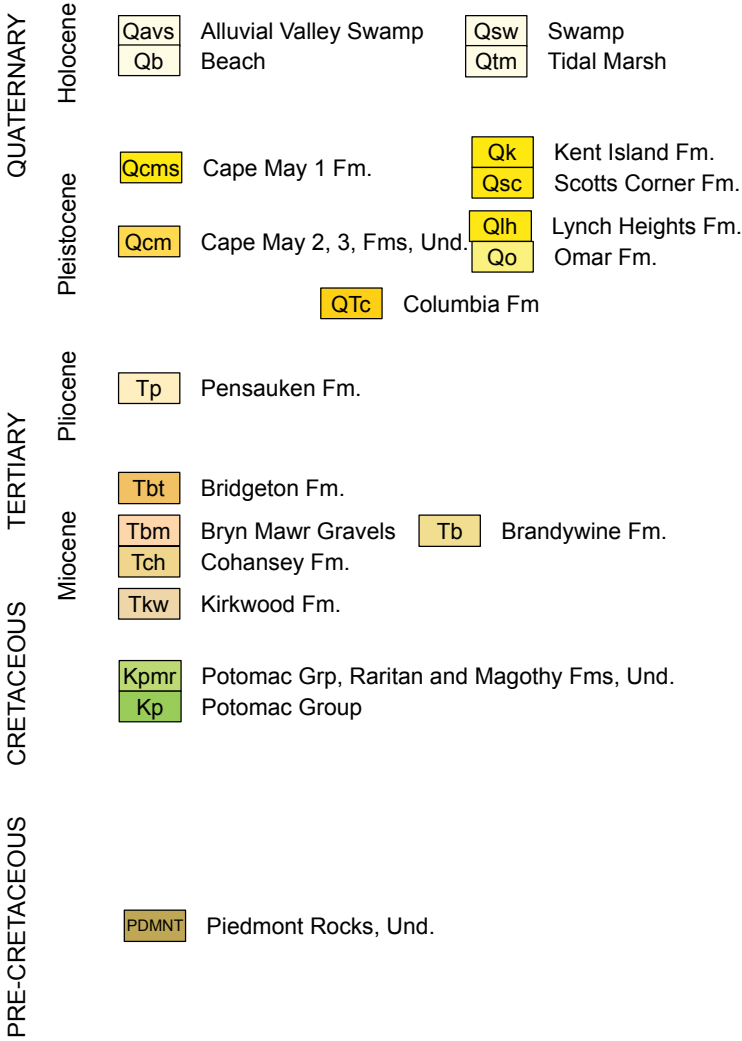
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Site Vicinity Geologic Map

FIGURE 2.5.1-12a

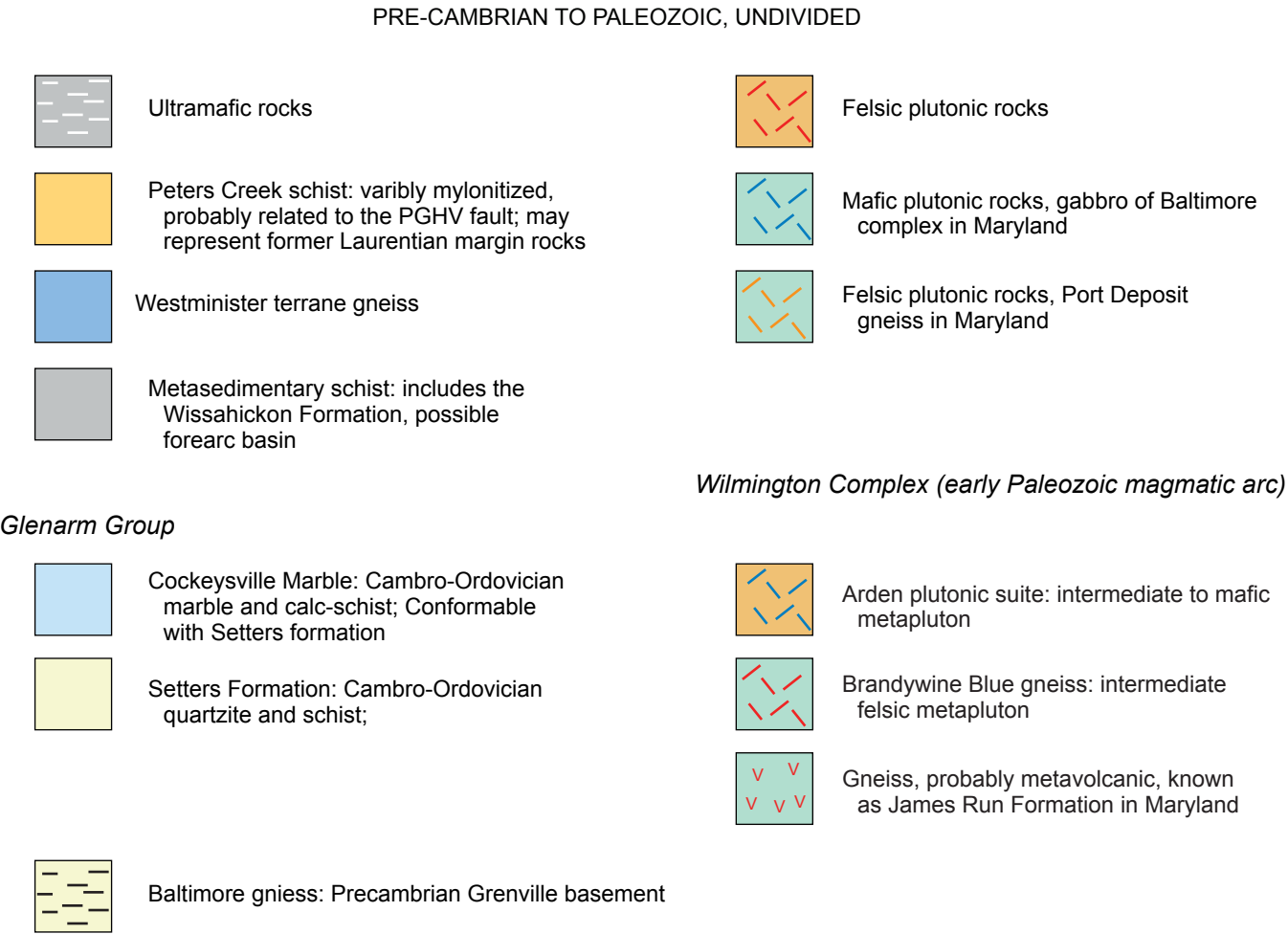
Rev 0

Coastal Plain Geology
from Reference 2.5.1-11



Piedmont Geology

Modified from Reference 2.5.1-87, and Reference 2.5.1-168



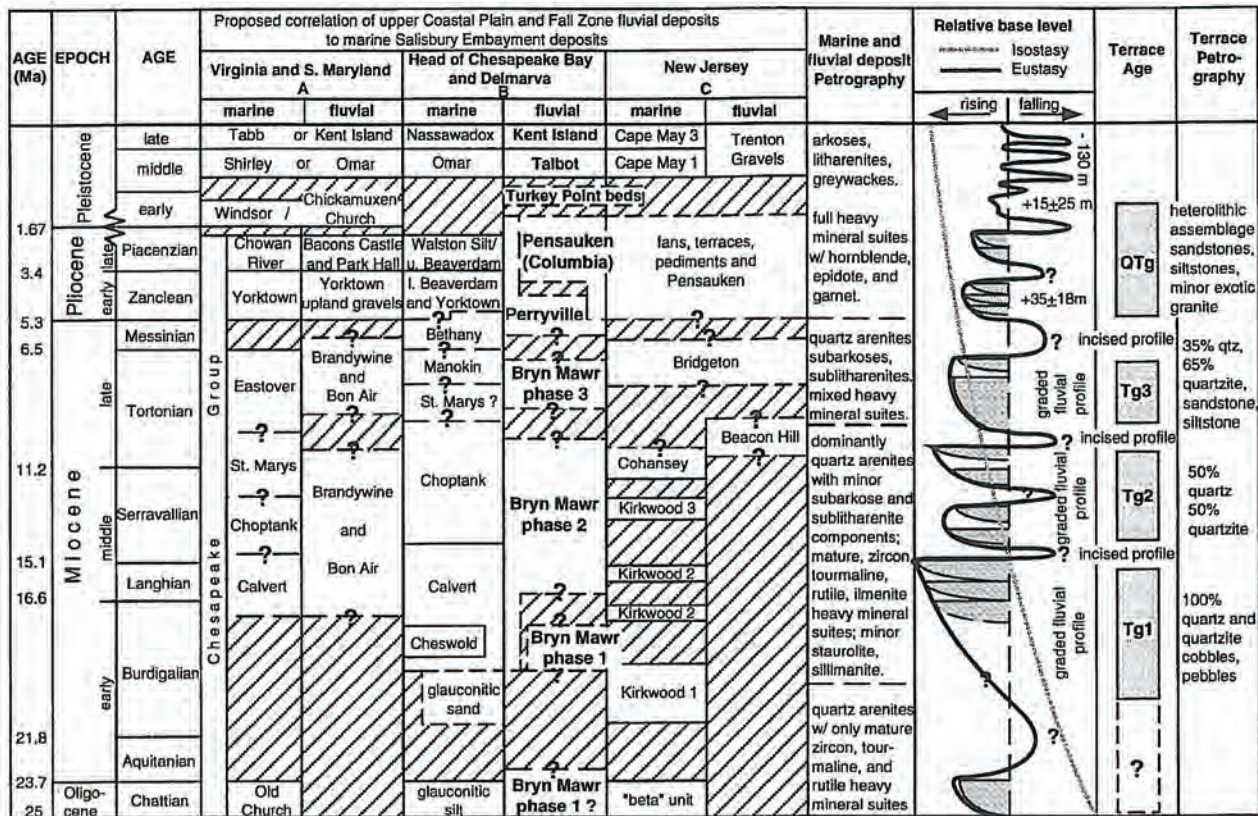
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Site Vicinity Geologic Map
Explanation

FIGURE 2.5.1-12b

Rev 0



from Reference 2.5.1-164

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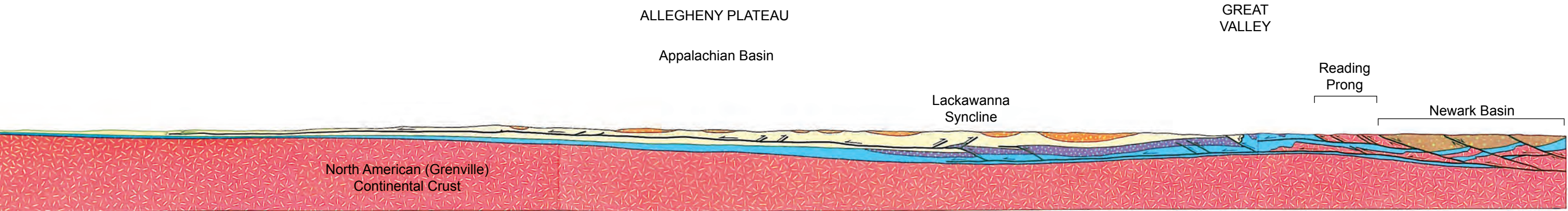
Regional Stratigraphic Correlations for
Fluvial and Marine Neogene Strata

FIGURE 2.5.1-13

Rev 0

E

E'

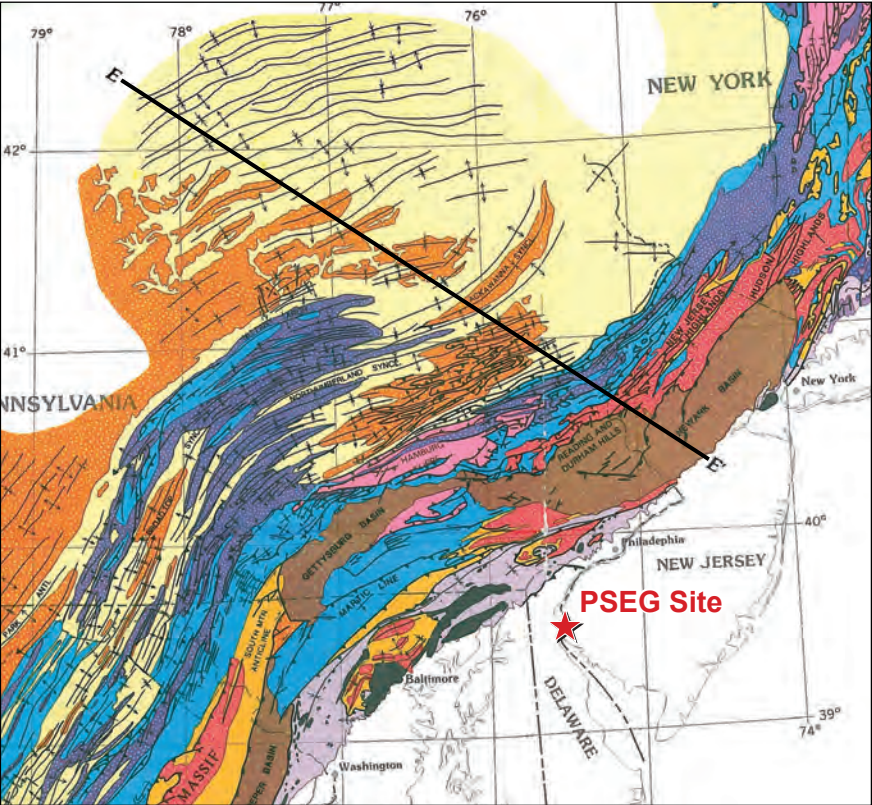


LEGEND

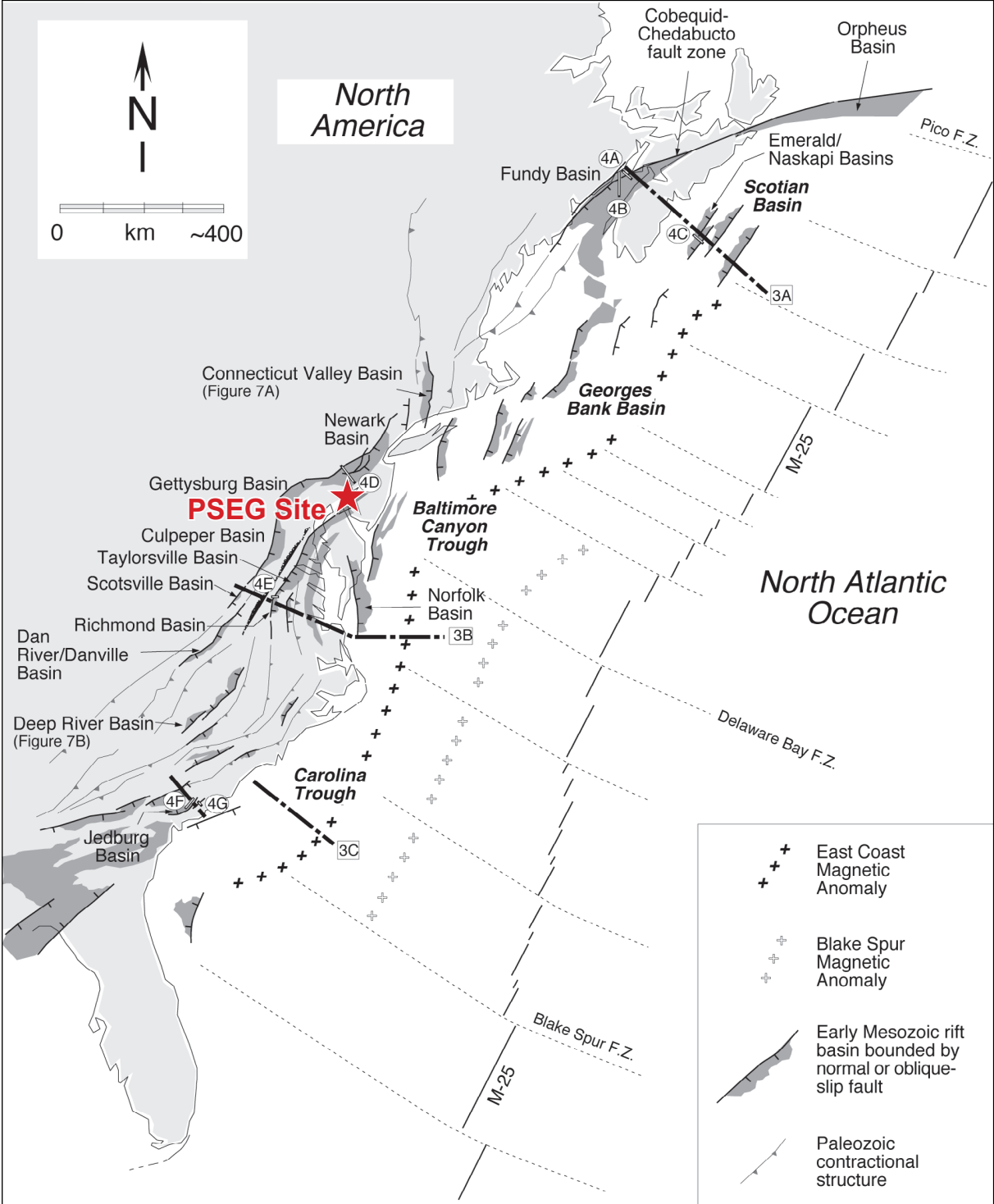
- Triassic-Jurassic rift basin
- Late Mississippian-Permian molasse and Middle Devonian-Permian molasse (New England)
- Acadian clastic wedge
- Taconian clastic wedge (Upper Ordovician-Silurian Martinsburg-Shawangunk patterned)
- North American platform
- North American basement massifs

from Reference 2.5.1-82

Location of Cross-Section E-E'

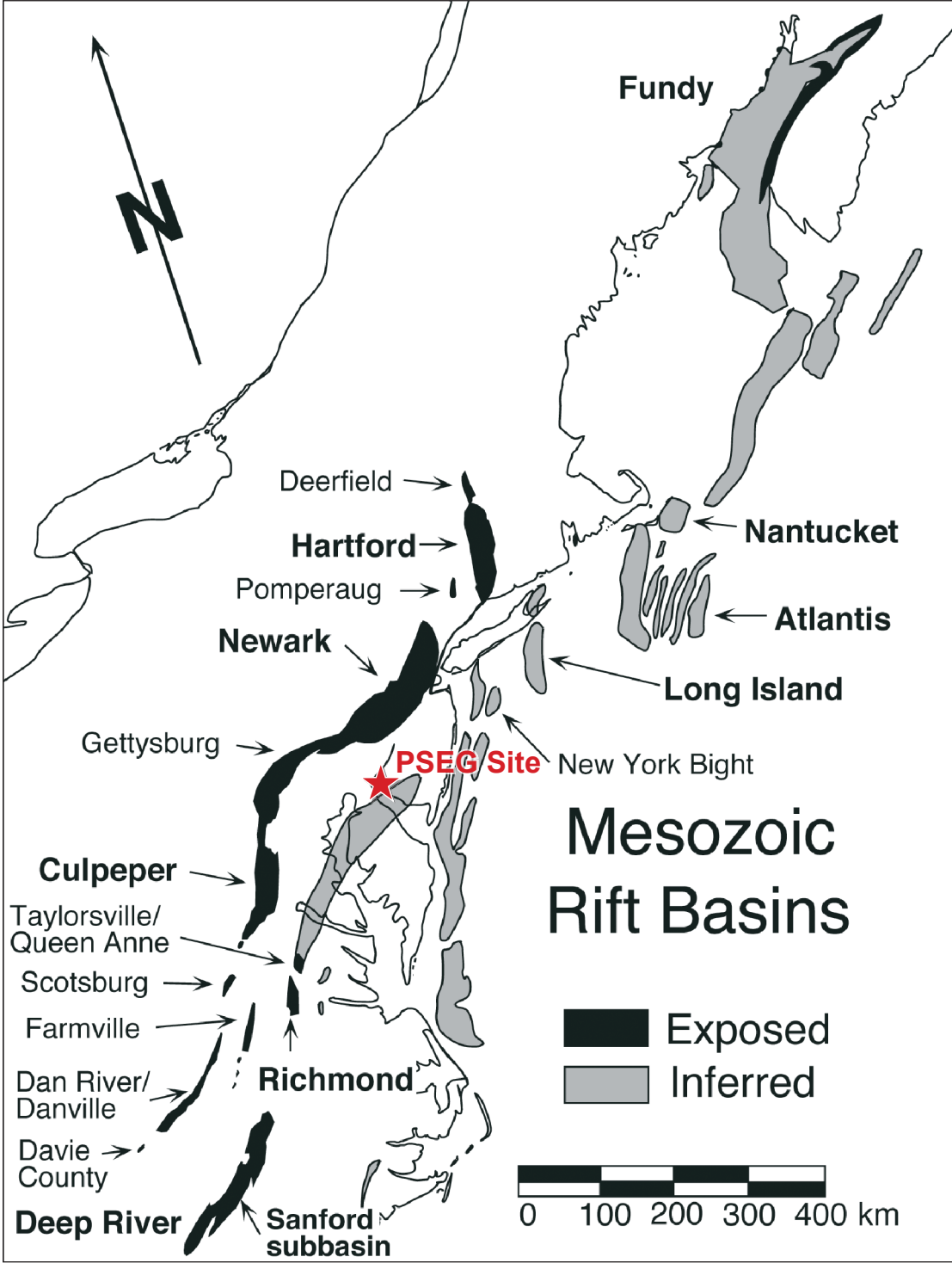


from Reference 2.5.1-254

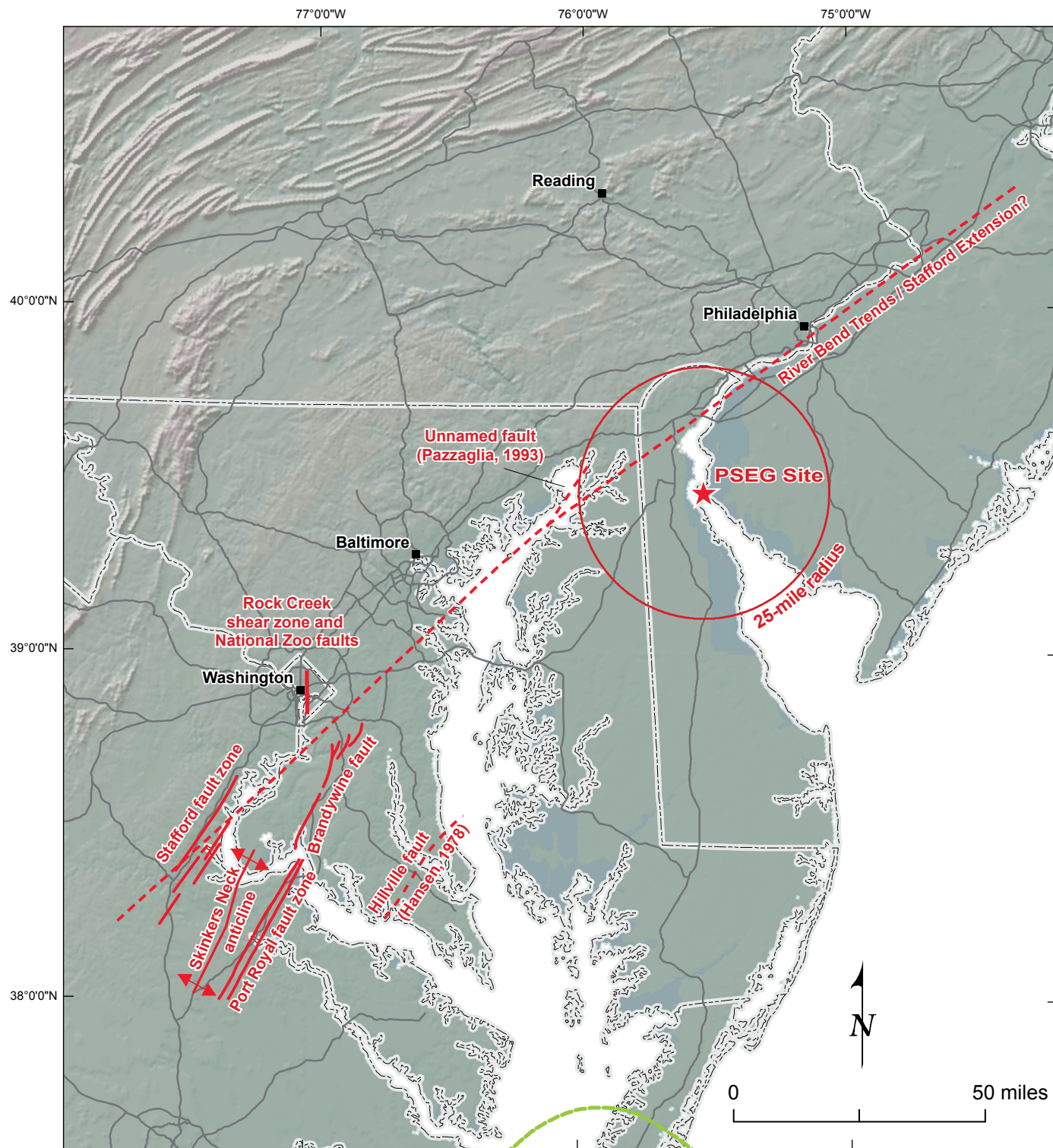


Note: Site location approximate

from Reference 2.5.1-200



Note: Site location approximate



Projection: U.S. Contiguous Equidistant Conic

LEGEND

- Fault
- - - Hypothetical fault
- ↕ Anticline
- - - Chesapeake Bay Impact Structure

See Subsection 2.5.1.1.4.2.4 for references to noted structures

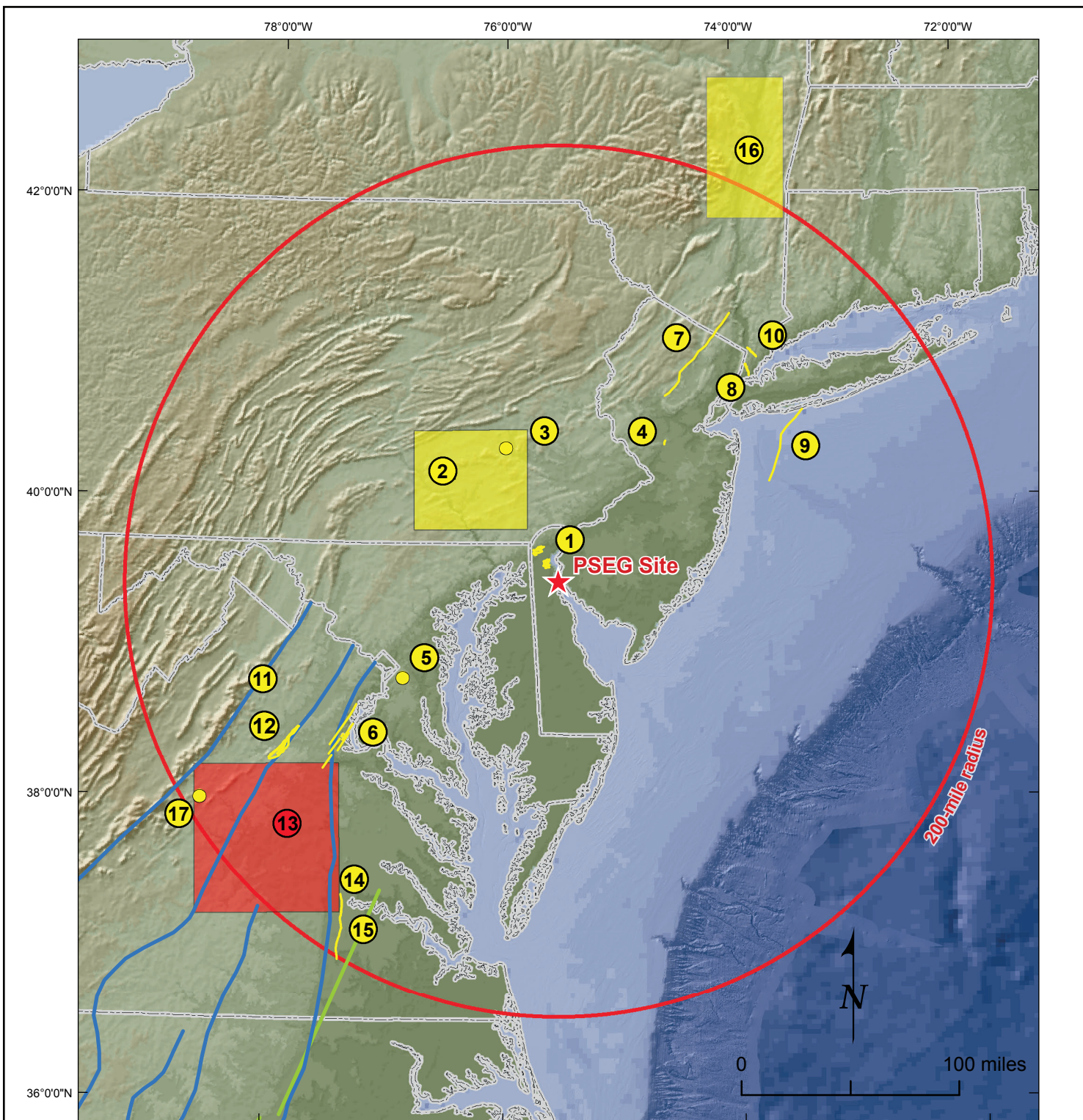
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Cenozoic Features

FIGURE 2.5.1-16

Rev 0



LEGEND

Projection: U.S. Contiguous Equidistant Conic

East Coast Fault System

Fall Lines of Weems (Reference 2.5.1-245), NC VA, TN

Potential Quaternary Features (Reference 2.5.1-40 and Reference 2.5.1-248)

● Class A ● Class C

- 1 – New Castle County fault**
- 2 – Lancaster seismic zone*
- 3 – Cacoosing Valley earthquake*
- 4 – Kingston fault*
- 5 – Marlboro fault*
- 6 – Stafford fault zone**
- 7 – Ramapo fault*
- 8 – Mosholu fault*
- 9 – New York Bight fault*
- 10 – Dobbs Ferry fault zone*

- 11 – Fall Lines of Weems (Reference 2.5.1-245)**
- 12 – Everona fault - Mountain Run fault zone*
- 13 – Central Virginia seismic zone*
- 14 – Hopewell fault**
- 15 – East Coast fault system*
- 16 – Offset glaciated features*
- 17 – Lebanon Church fault*

* From Reference 2.5.1-40

** From Reference 2.5.1-248

Note: Features with an areal extent are shown with a shaded box

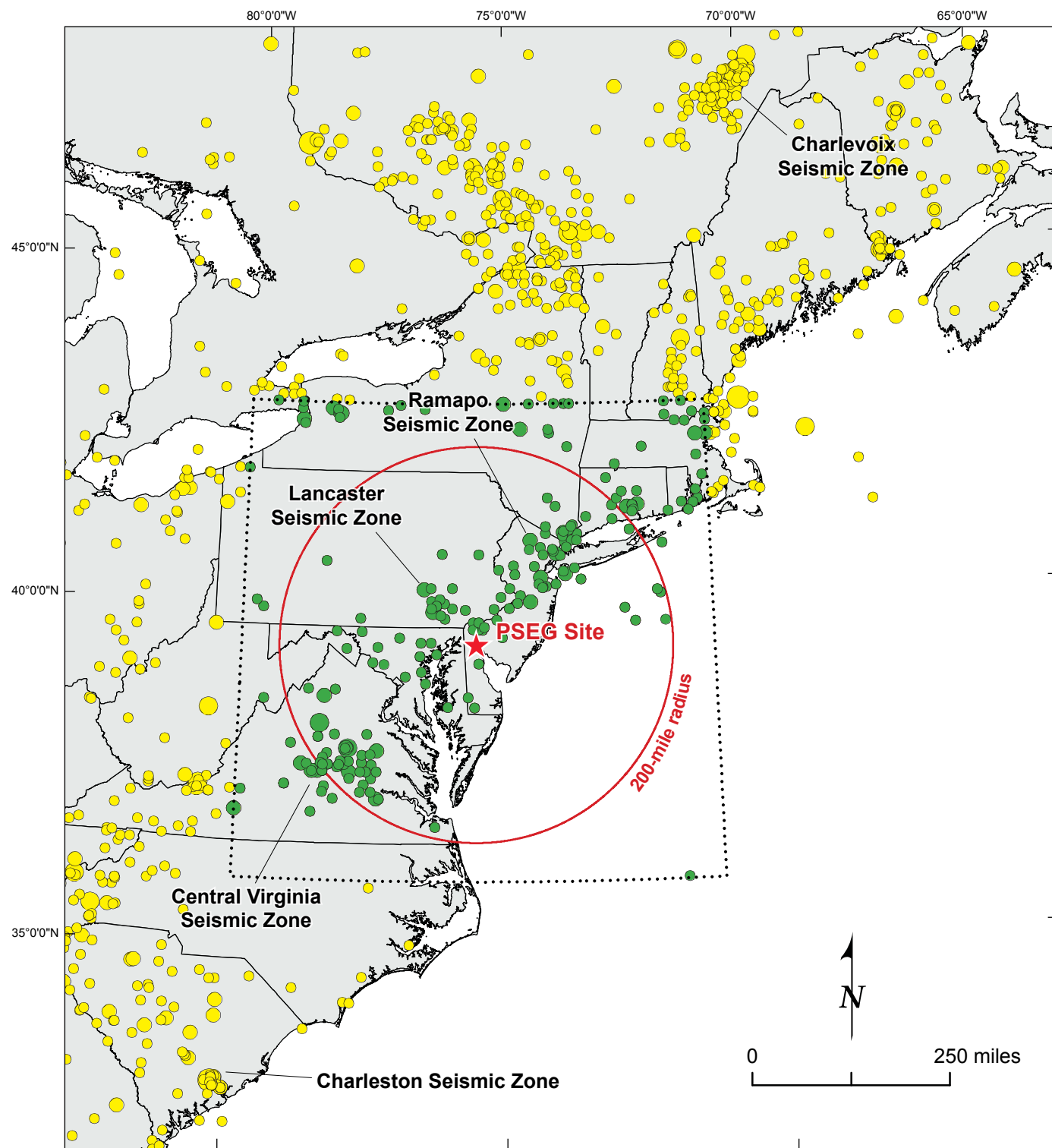
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Potential Quaternary Features

FIGURE 2.5.1-17

Rev 1



Projection: U.S. Contiguous Equidistant Conic

LEGEND

- CEUS EQ Catalog (NUREG 2115)
- PSEG Regional Seismic Catalog, updated from CEUS SSC seismicity catalog (Reference 2.5.1-287)
- Limit of PSEG Regional Seismic Catalog

Magnitude ($E[M]$)

- 3.0 - 3.9
- 4.0 - 4.9
- 4.0 - 4.9
- 5.0 - 5.9
- 6.0 - 6.9

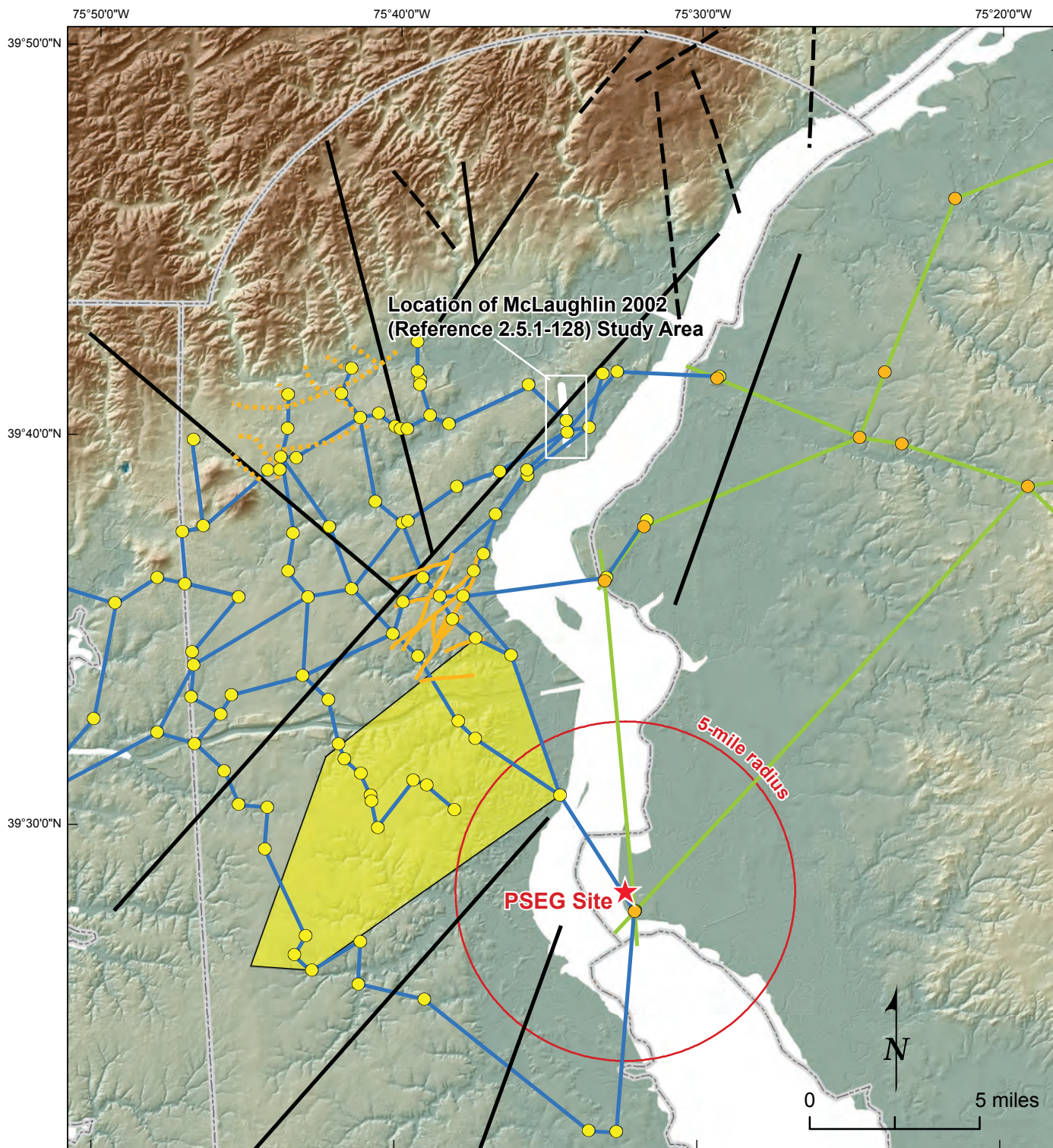
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Site Region Seismicity

FIGURE 2.5.1-18

Rev 1



Projection: NAD 1983 UTM Zone 18 N

LEGEND

- Extent of investigation for Summit Site, DE
- Wells and borings investigated by Benson, 2006 (Reference 2.5.1-18)
- Wells and borings investigated by Sugarman and Monteverde, 2008 (Reference 2.5.1-215)
- Geologic cross-section lines (Reference 2.5.1-18)
- Geologic cross-section lines (Reference 2.5.1-215)

Proposed Faults and Lineaments mapped by Spoljaric

Mapped from Satellite Imagery

- Spoljaric, 1979 (Reference 2.5.1-213)
- Spoljaric, 1974 (Reference 2.5.1-212)

Basement Faults

- Spoljaric, 1972 (Reference 2.5.1-210)
- Spoljaric, 1973 (Reference 2.5.1-211)

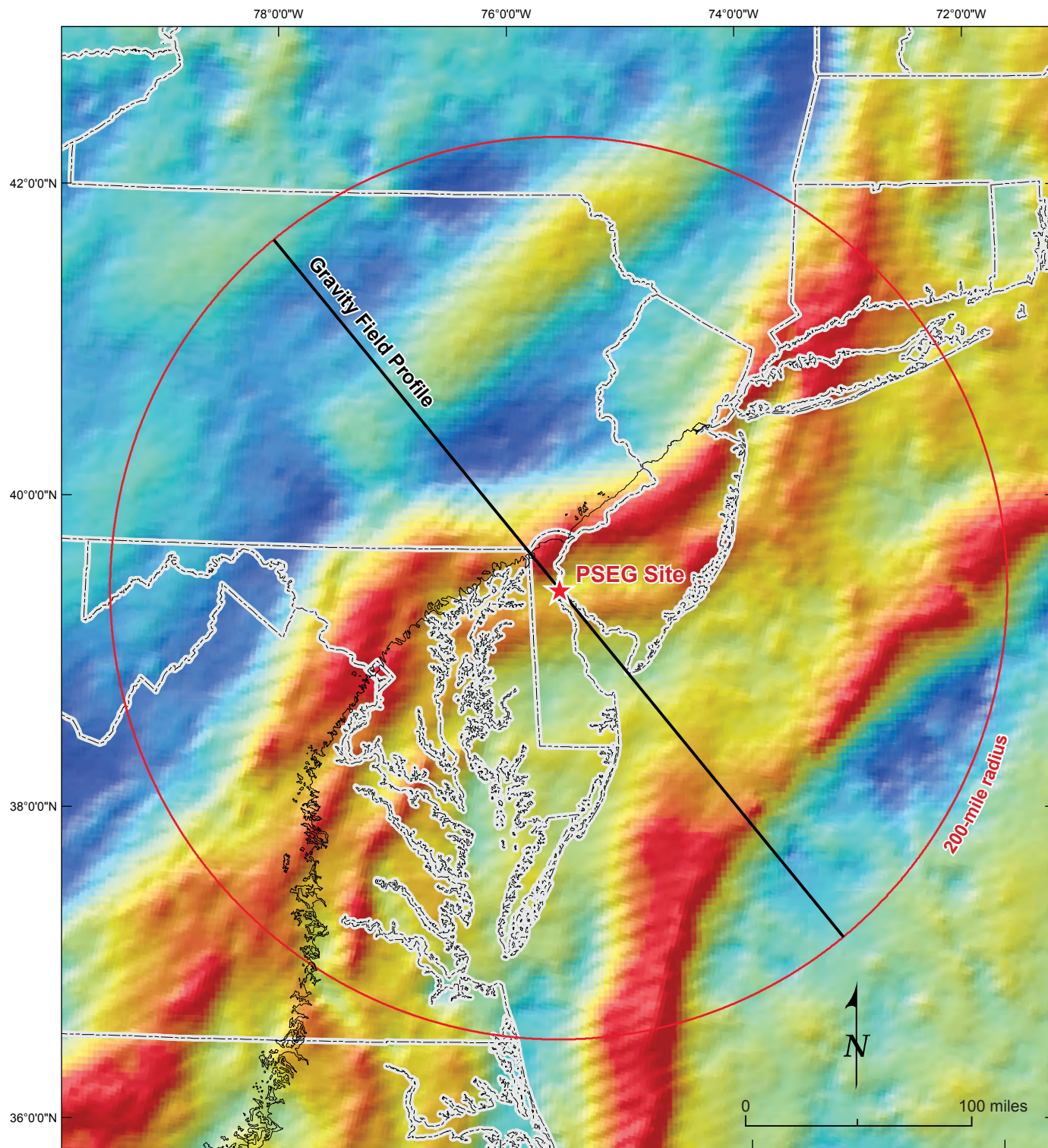
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New Castle County Faults

FIGURE 2.5.1-19

Rev 0



LEGEND

— Coastal Plain boundary

Gravity Field Data (Reference 2.5.1-225)



High : 72 milligal

Low : -111 milligal

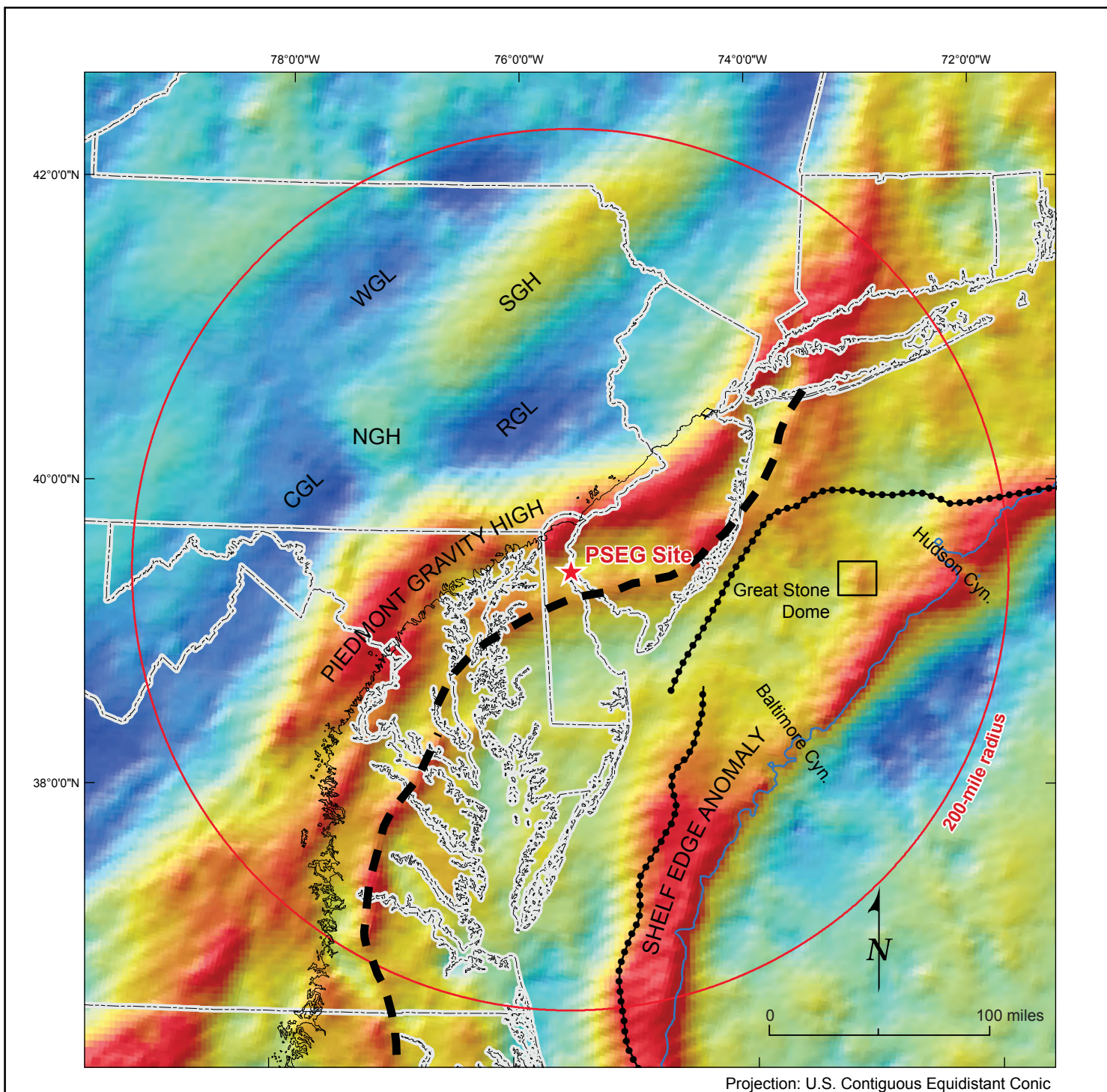
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Site Region Gravity Field

FIGURE 2.5.1-20a

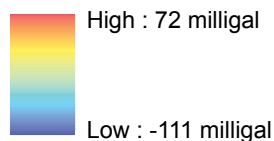
Rev 0



LEGEND

- -200m isobath
- Coastal Plain boundary
- Sussex - Leonardtown anomaly
- Hinge line

Gravity Field Data (Reference 2.5.1-225)



SGH - Scranton Gravity High
WGL - Williamsport Gravity Low
RGL - Reading Gravity Low
NGH - Newport Gravity High
CGL - Chambersburg Gravity Low

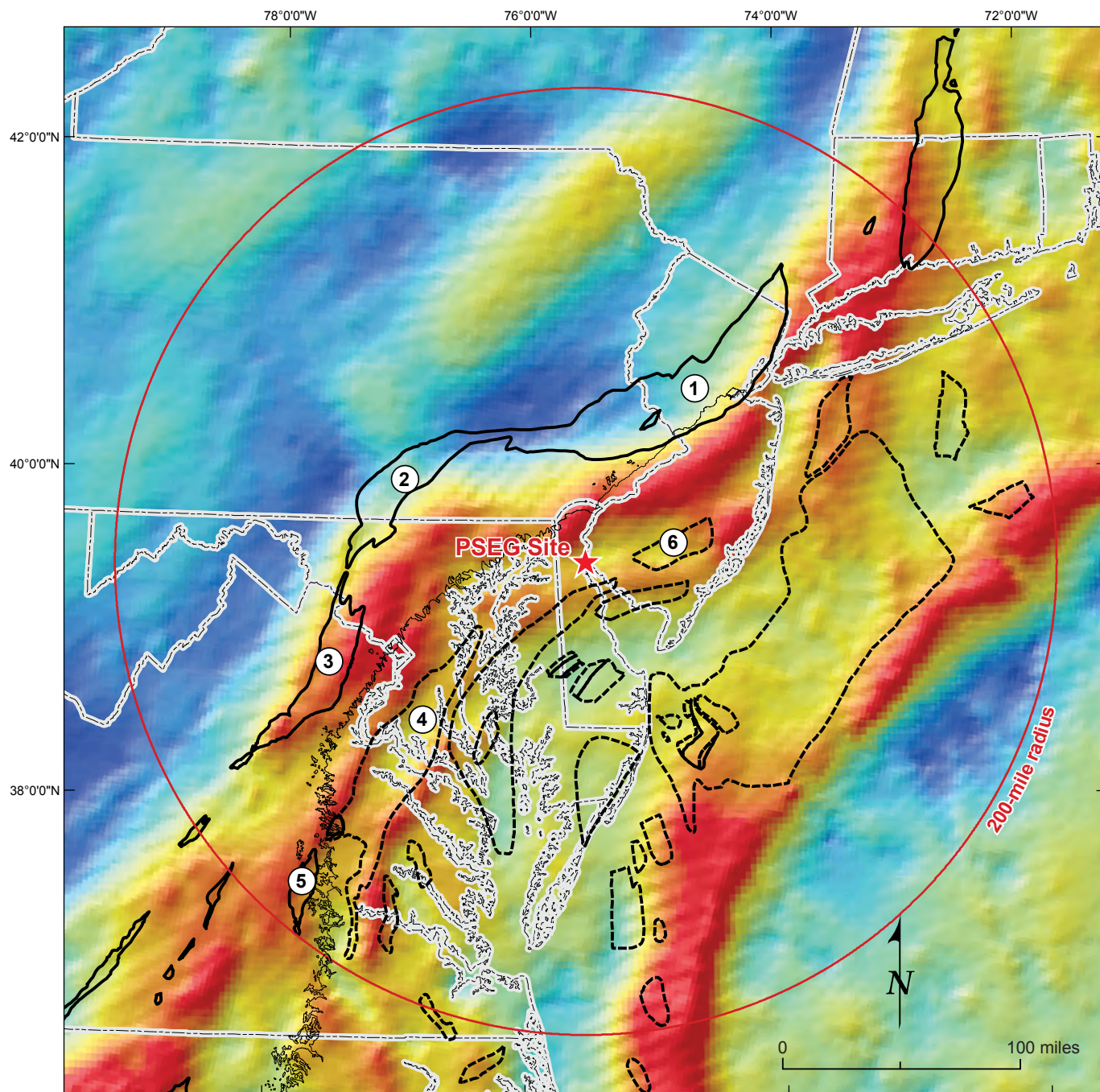
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Site Region Gravity Field Features

FIGURE 2.5.1-20b

Rev 0



LEGEND

— Coastal Plain boundary

Gravity Field Data (Reference 2.5.1-225)

High : 72 milligal

Low : -111 milligal

Mesozoic Basins (Reference 2.5.1-15)

Exposed

Covered

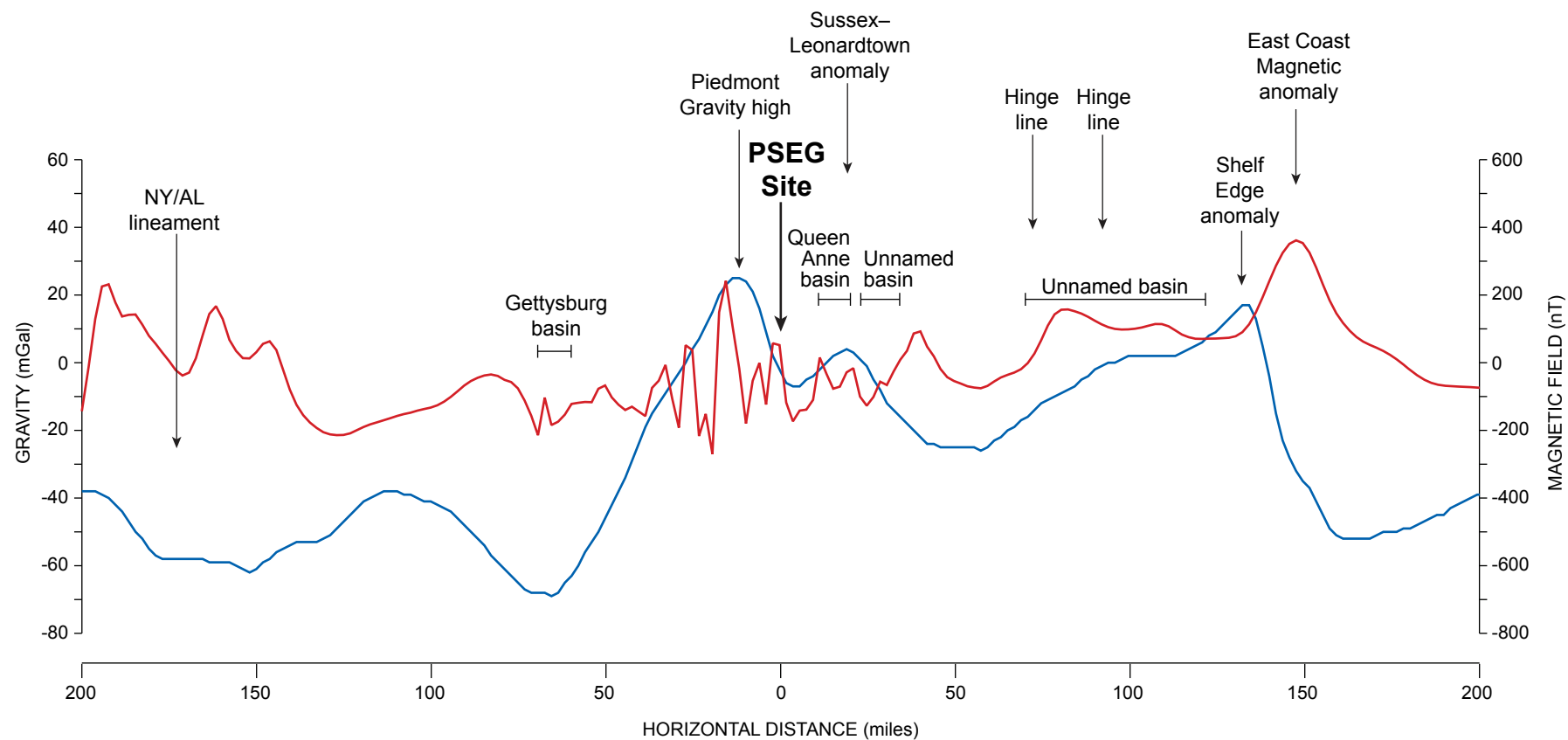
- ① Newark Basin
- ② Gettysburg Basin
- ③ Culpeper Basin
- ④ Taylorsville Basin
- ⑤ Richmond Basin
- ⑥ Buena Basin

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Part 2, Site Safety Analysis Report

Site Region Gravity Field
with Mesozoic Basins
FIGURE 2.5.1-20c

Rev 0



LEGEND

- Bouguer gravity
- Magnetic field

Note: See Figures 2.5.1-20a and 2.5.1-22a for location of profile

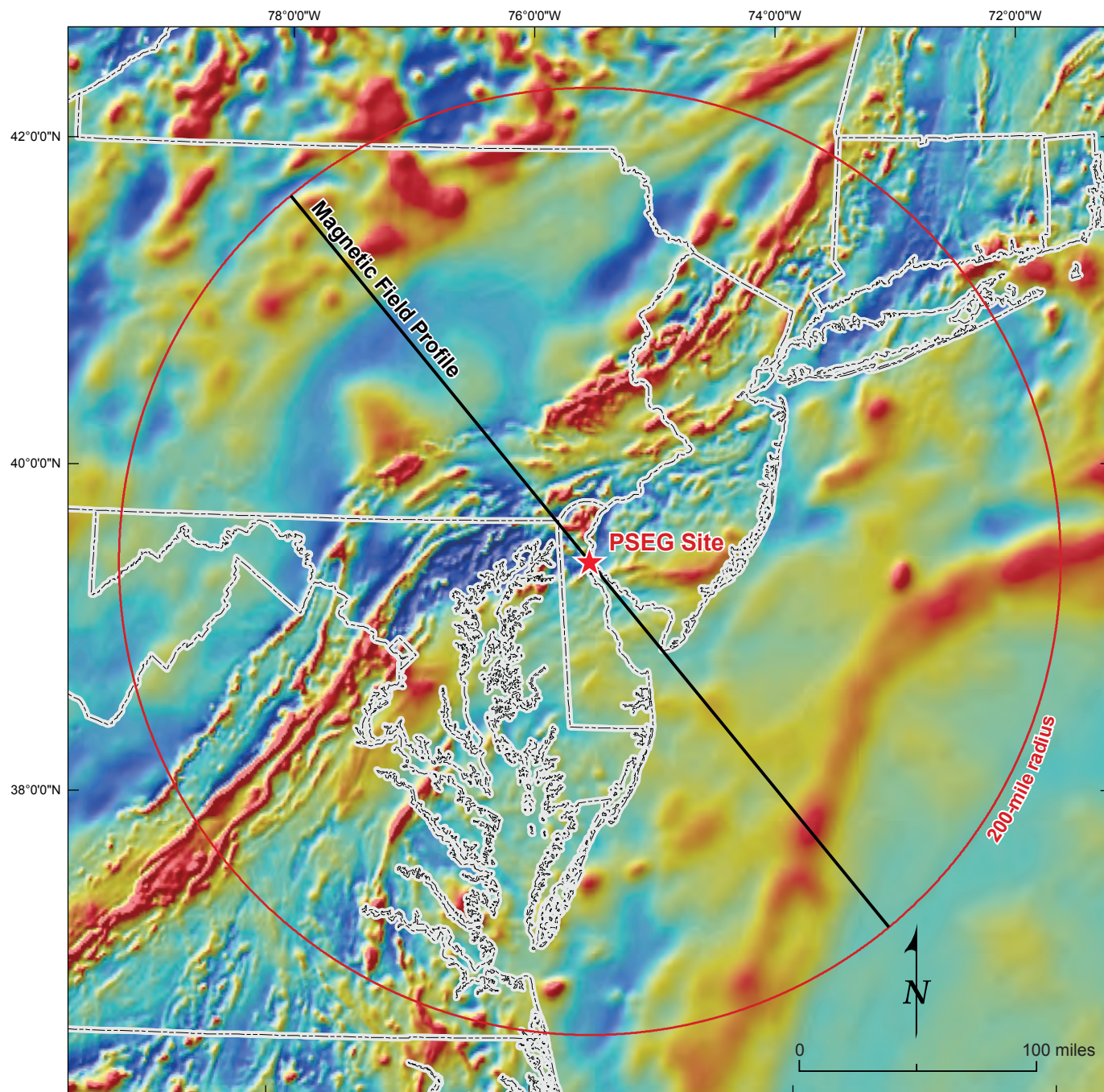
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Gravity and Magnetic Profiles

FIGURE 2.5.1-21

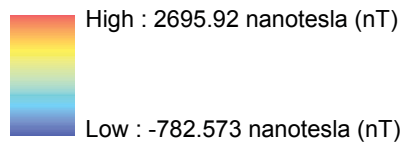
Rev 0



Projection: U.S. Contiguous Equidistant Conic

LEGEND

Magnetic Field Data (Reference 2.5.1-138)



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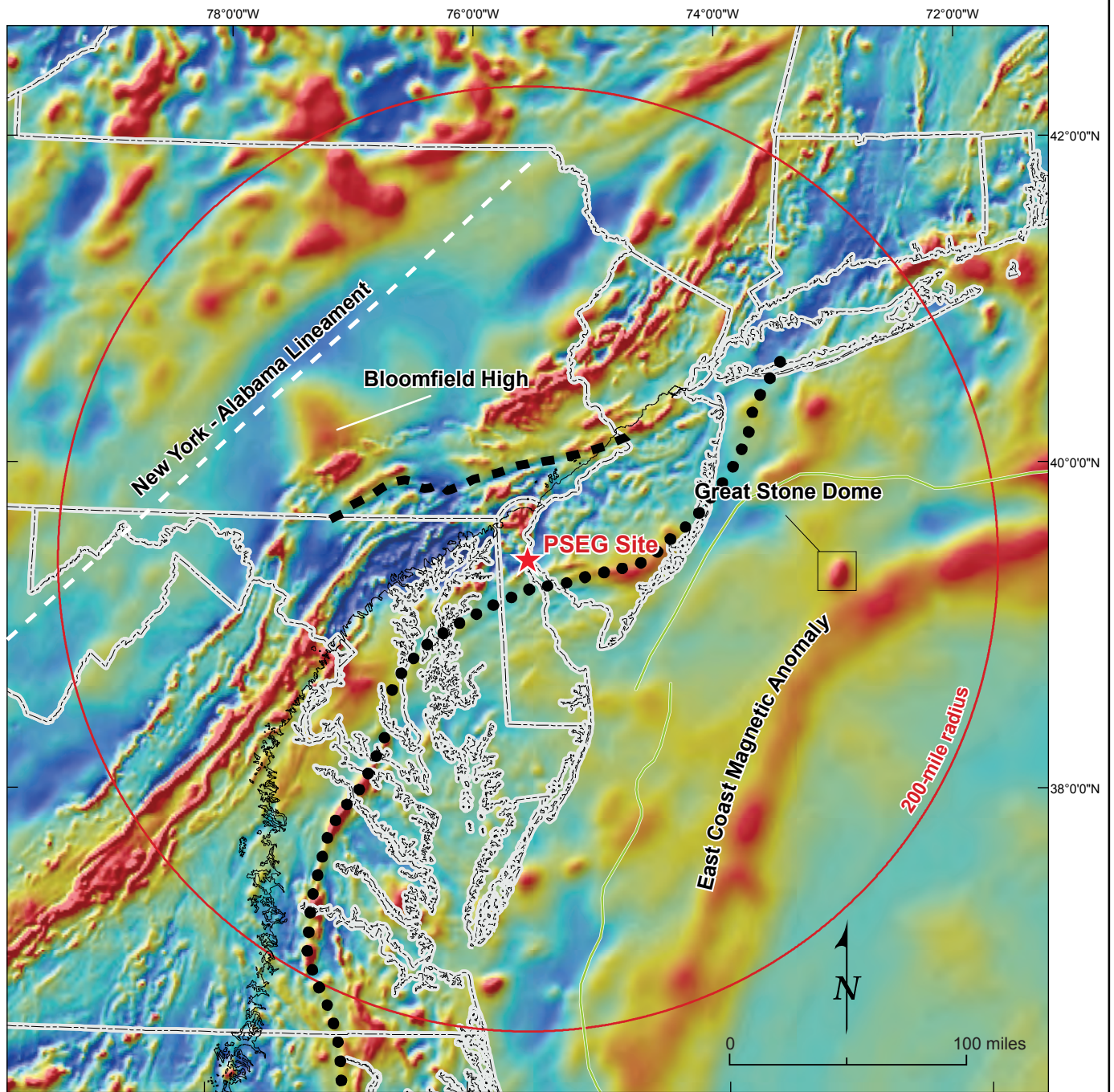
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Site Region Magnetic Field

FIGURE 2.5.1-22a

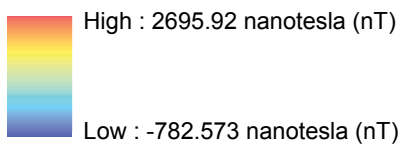
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LEGEND

- Coastal Plain boundary
- Hinge Line
- ● ● ● Sussex - Leonardtown anomaly
- ■ ■ Martic Line

Magnetic Field Data (Reference 2.5.1-138)



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Site Region Magnetic Field Features

FIGURE 2.5.1-22b

Rev 0