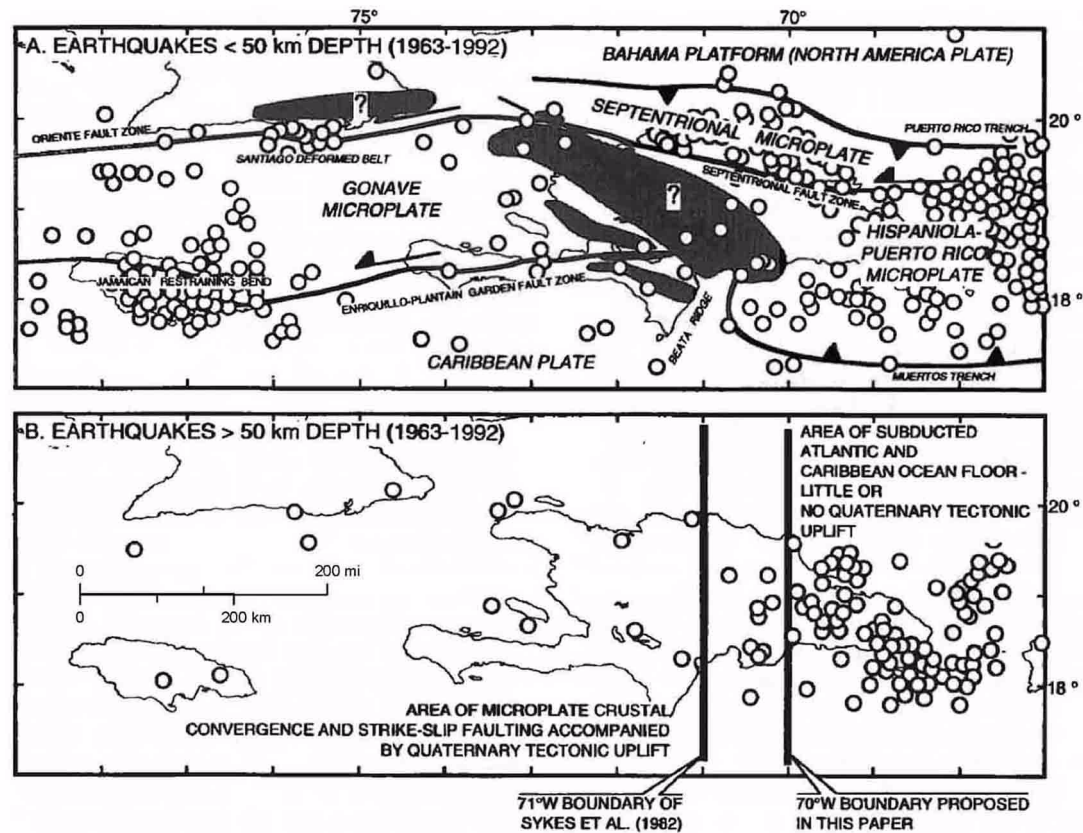


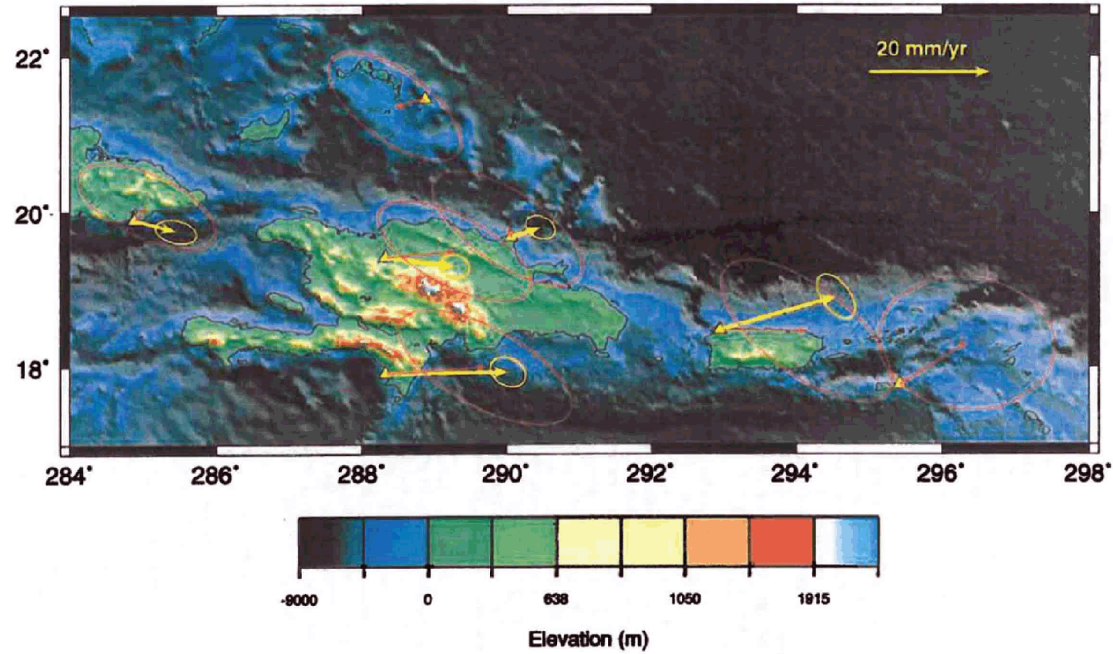
Figure 2.5.1-323 Earthquakes by Depth and Major Plate Boundary Structures in the Northeastern Area of the North America-Caribbean Plate Boundary



Source: Reference 639

Turkey Point Units 6 & 7
COL Application
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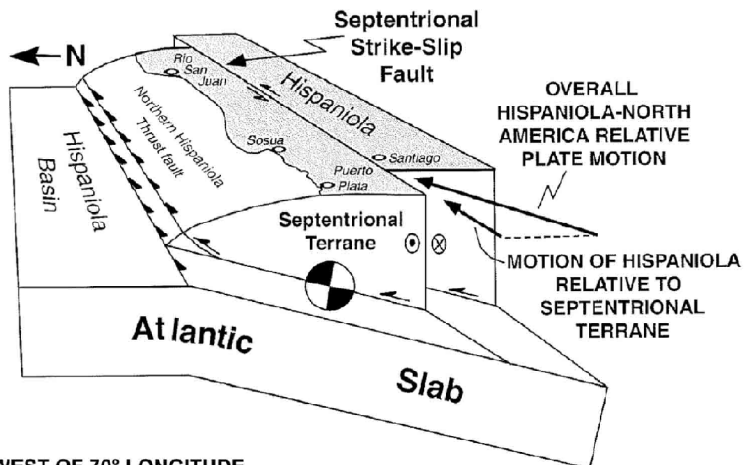
Figure 2.5.1-324 GPS Site Velocities with Respect to North America



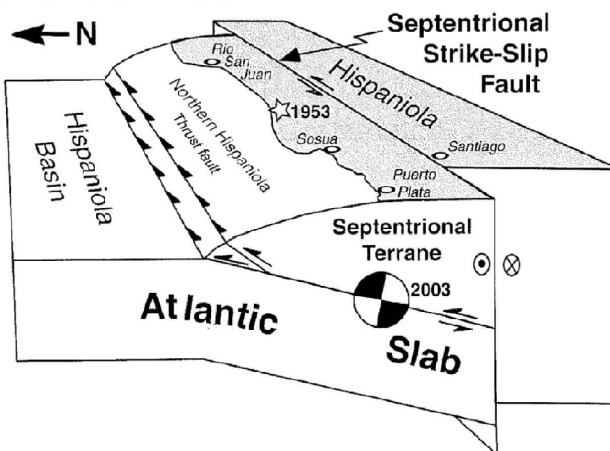
Source: Reference 780

Figure 2.5.1-325 Kinematic Illustrations Showing Interactions of Septentrional and Northern Hispaniola Faults at Depth

(A) EAST OF 70° LONGITUDE



(B) WEST OF 70° LONGITUDE

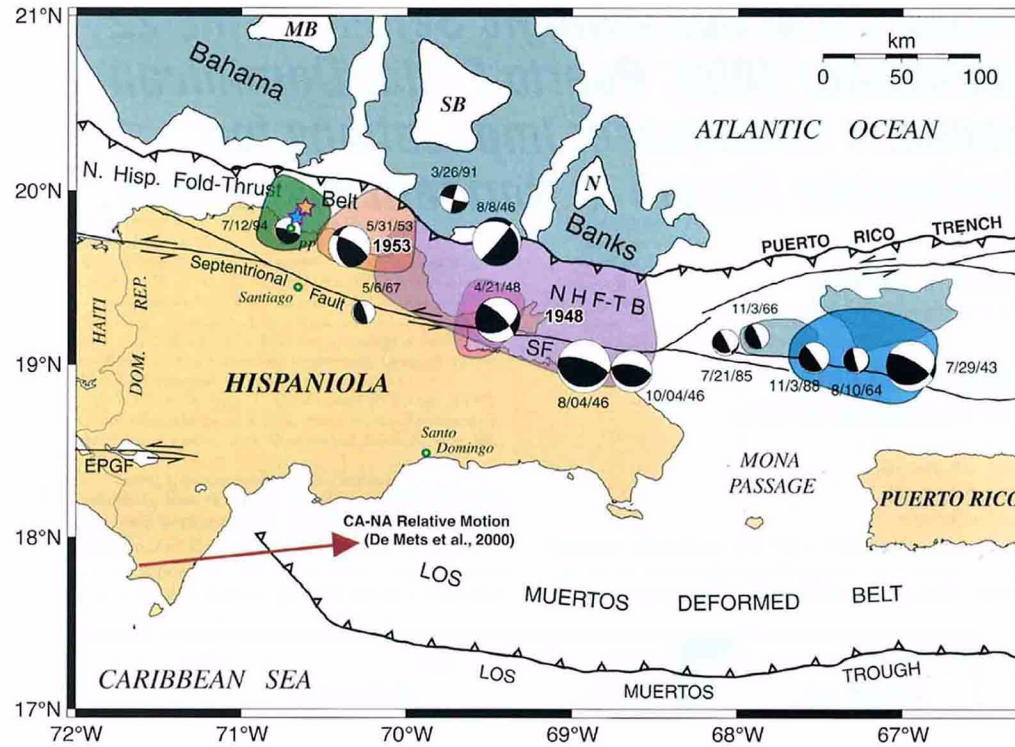


Note: Northern Hispaniola Thrust fault is equivalent to North Hispaniola Subduction Zone.

Source: [Reference 638](#)

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Figure 2.5.1-326 Focal Mechanisms for Major Earthquakes in the North Hispaniola Subduction Zone

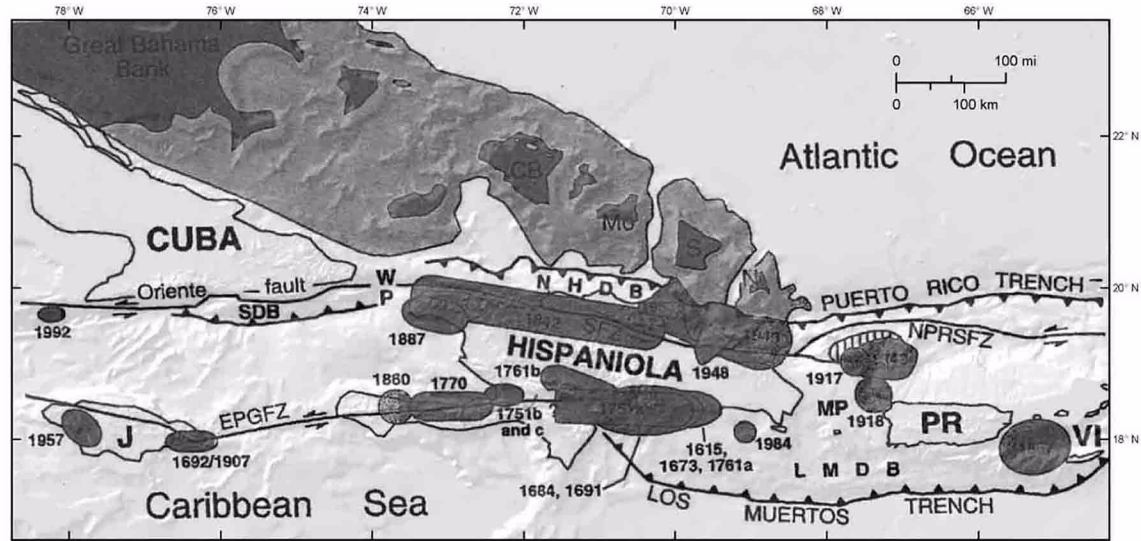


Notes:
 EPGF = Enriquillo-Plantain Garden fault zone
 NHF-TB = Northern Hispaniola fold-thrust belt
 SF = Septentrional fault

Source: [Reference 638](#)

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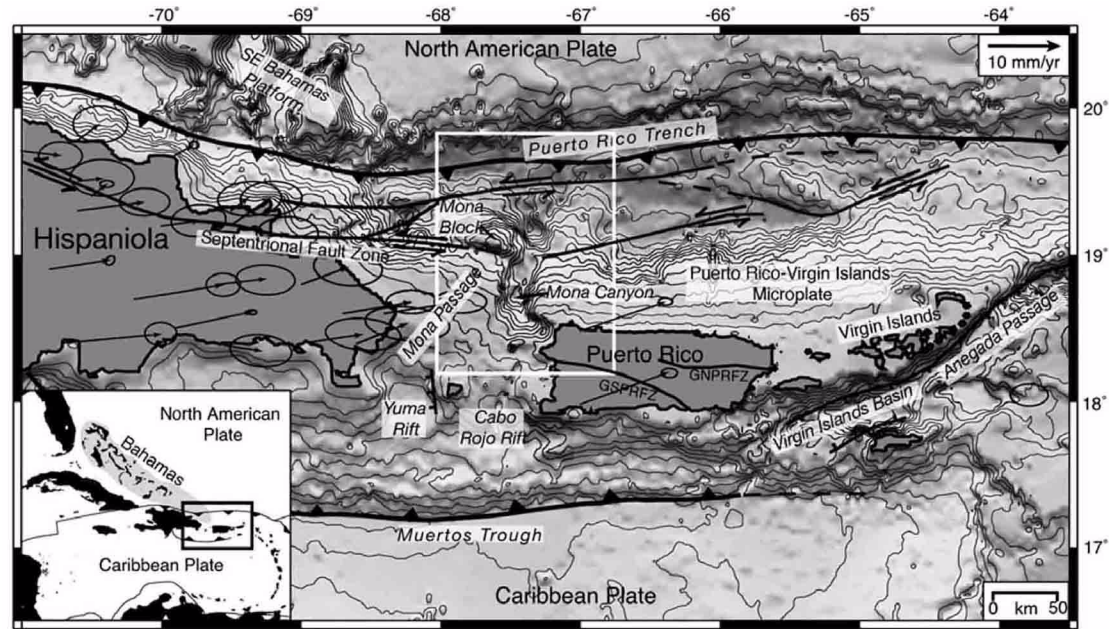
Figure 2.5.1-327 Damage Zones for Major Earthquakes in the Northeastern Caribbean, 1615-1992



Source: Reference 591

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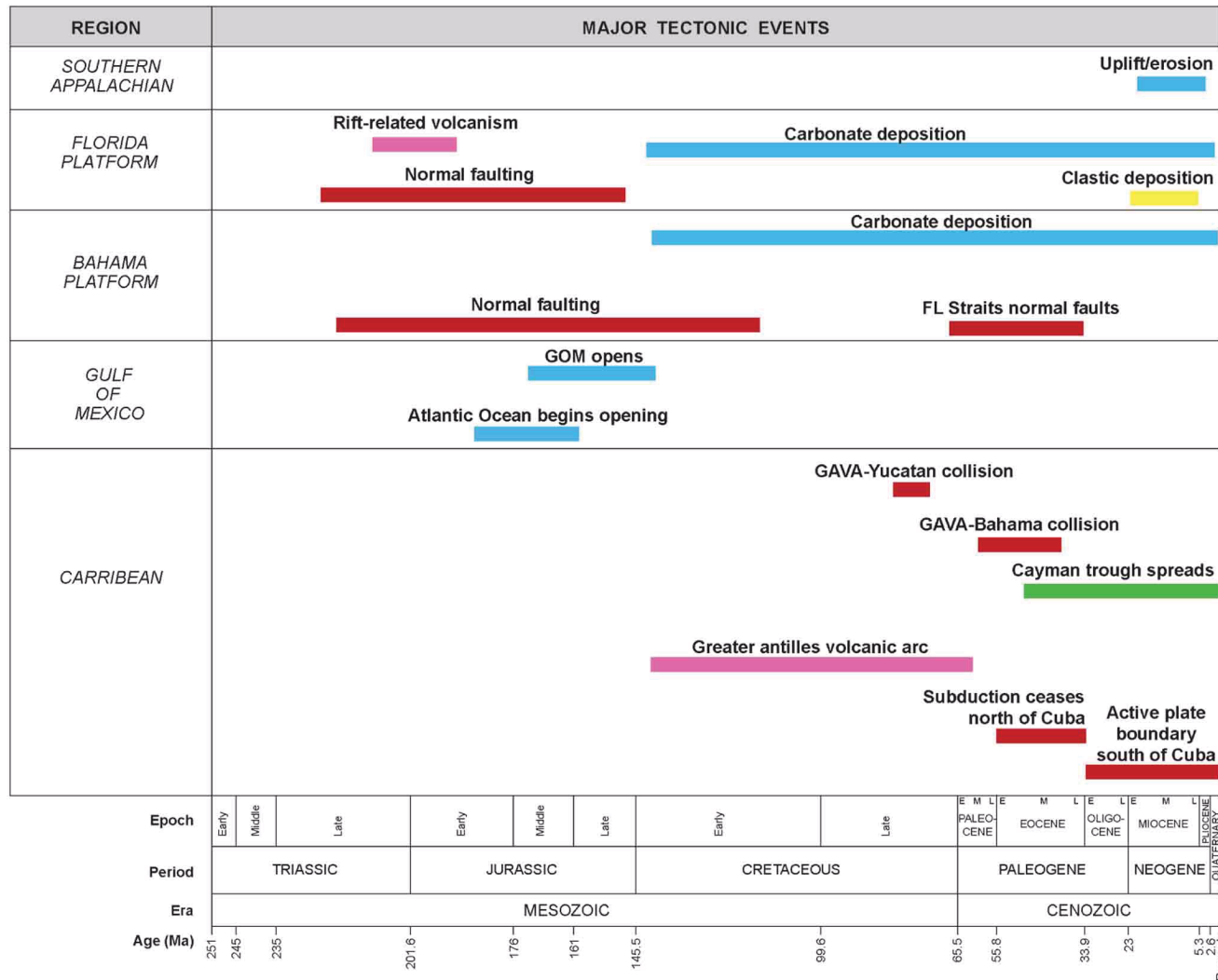
Figure 2.5.1-328 Bathymetry, Structural Features, and GPS Vectors relative to North America, Northeastern Caribbean



Source: Reference 585

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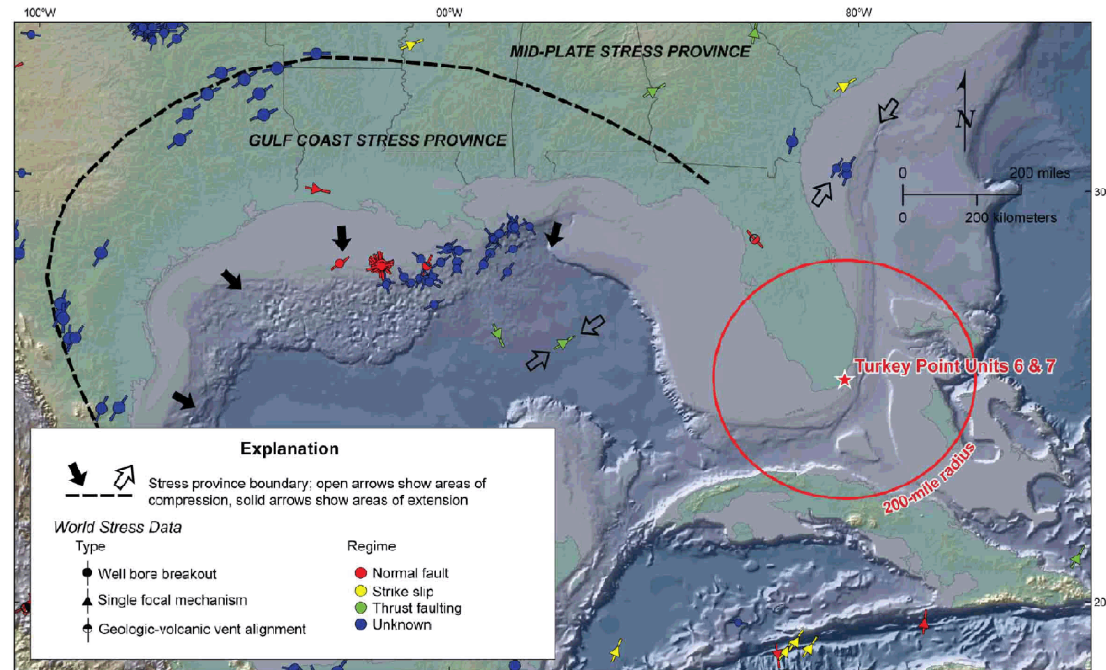
Figure 2.5.1-329 Timeline of Regional Tectonic and Geologic Events



Sources: References 307, 368, and 639

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Figure 2.5.1-330 North America Stress Provinces

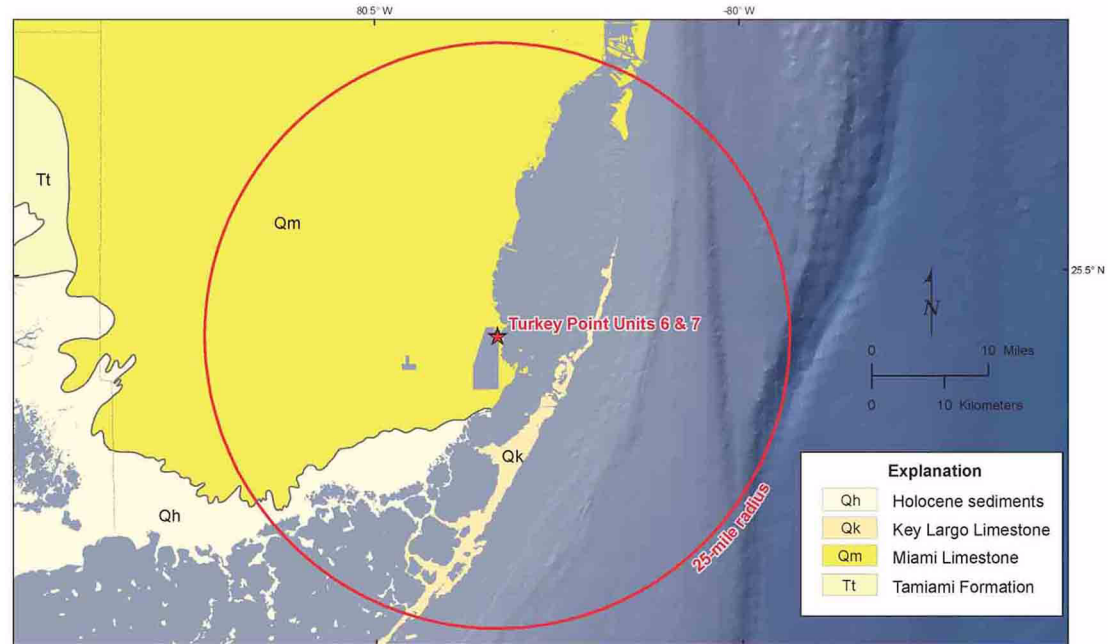


Base Source: Reference 822

Source of world stress data: Reference 731

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Figure 2.5.1-331 Site Vicinity Geologic Map



Base sources: Reference 435
Source of geologic information: Reference 827

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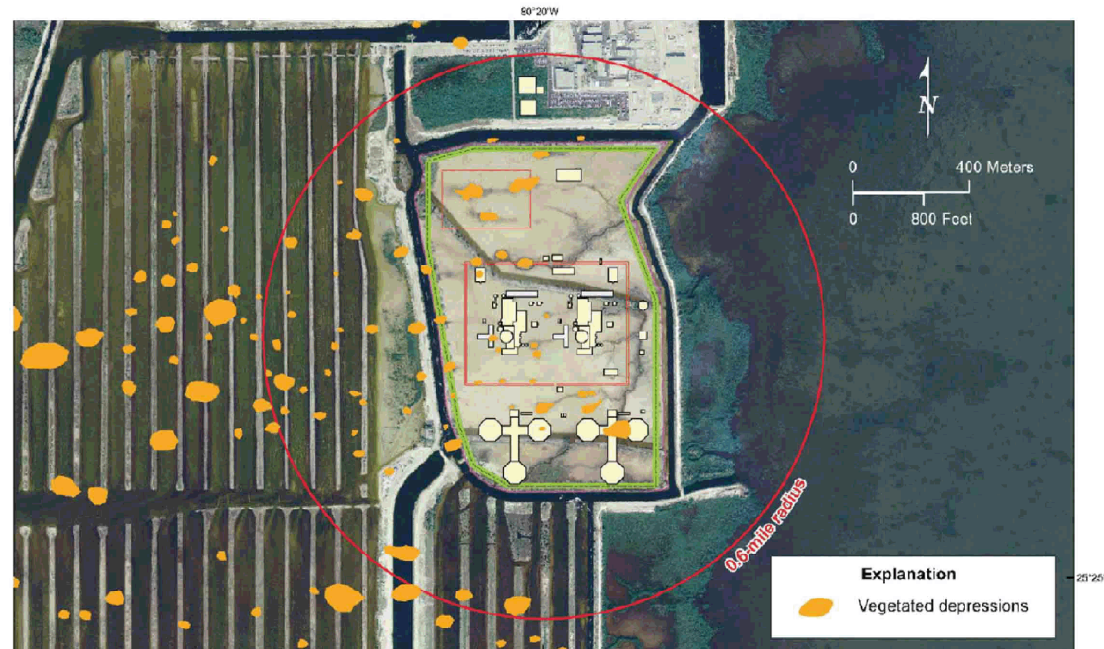
Figure 2.5.1-332 Site Stratigraphy

ERATHEM	SYSTEM	SERIES	HYDRO- GEOLOGIC UNIT	STRATIGRAPHIC UNIT	LITHOLOGY	APPROXIMATE TOP ELEVATION (ft NAVD 88)	APPROXIMATE THICKNESS (ft)		
CENOZOIC	QUATERNARY	HOLOCENE	Surficial aquifer system	Biscayne aquifer	organic muck	organic soil and silt	0	3	
		PLEISTOCENE			Miami Limestone	sandy, oolitic limestone	-3	25	
					Key Largo Limestone	well indurated, vuggy, coralline limestone	-28	22	
					Fort Thompson Formation	poor/well indurated fossiliferous limestone	-50	65	
	TERTIARY	PLIOCENE	Semi-confining unit	Intermediate confining unit	Hawthorn Group	Tamiami Formation	sand and silt with calcareous limestone	-115	105
		MIOCENE				Intermediate confining unit	Hawthorn Group	Peace River Formation	silty calcareous sand and silt
			Arcadia Formation	calcareous wackestone with indurated limestones, sandstone, and sand	-455			>160	
									<i>formation contact based on natural gamma signature</i>
		<i>drilling ended at -616.5 ft</i>							

Note: see Figures 2.5.1-338, 2.5.1-339, 2.5.1-340, and 2.5.1-341 for site geologic cross sections.

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Figure 2.5.1-333 Vegetated Depressions Identified Within Site from Photographs Taken Before Construction of the Cooling Canal System



Note: Reconnaissance mapping performed using 1940s 1:40,000 scale panchromatic stereo aerial photography (Reference 386), but shown on 2004 imagery (Reference 435) of the Units 6 & 7 site for reference.

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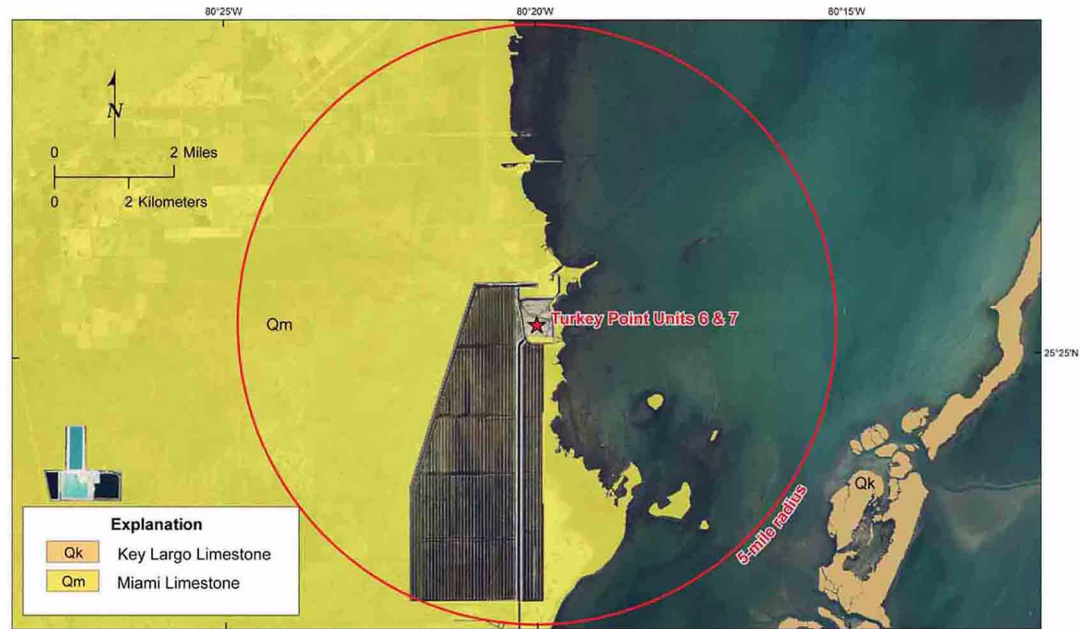
Figure 2.5.1-334 Site Geologic Map



Base sources: [References 829](#), and [435](#)
Source of geologic information: [Reference 827](#)

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Figure 2.5.1-335 Site Area Geologic Map

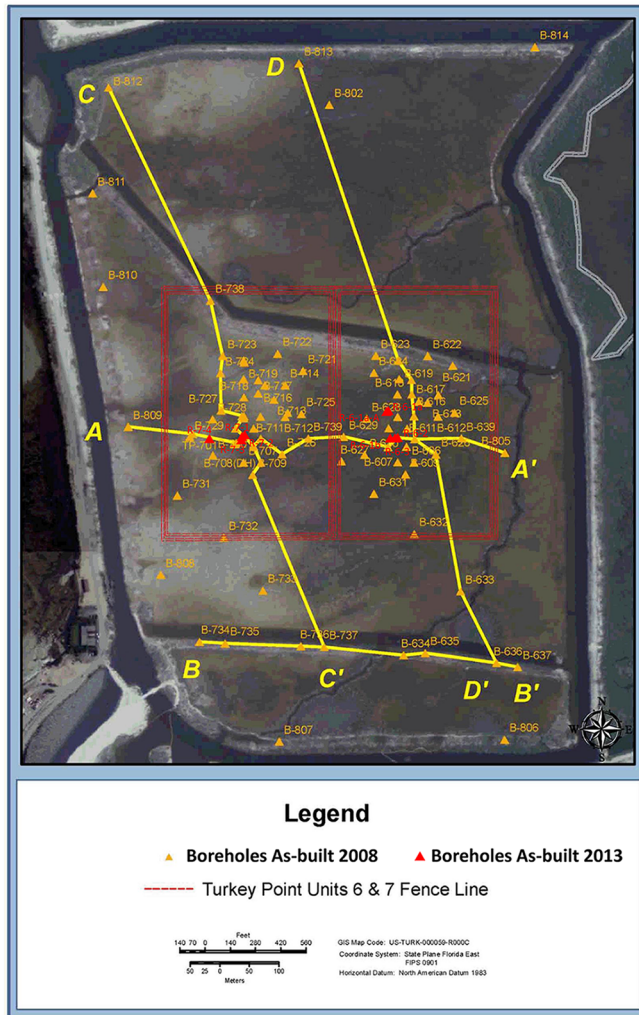


Base sources: [Reference 435](#)

Source of geologic information: [Reference 219](#)

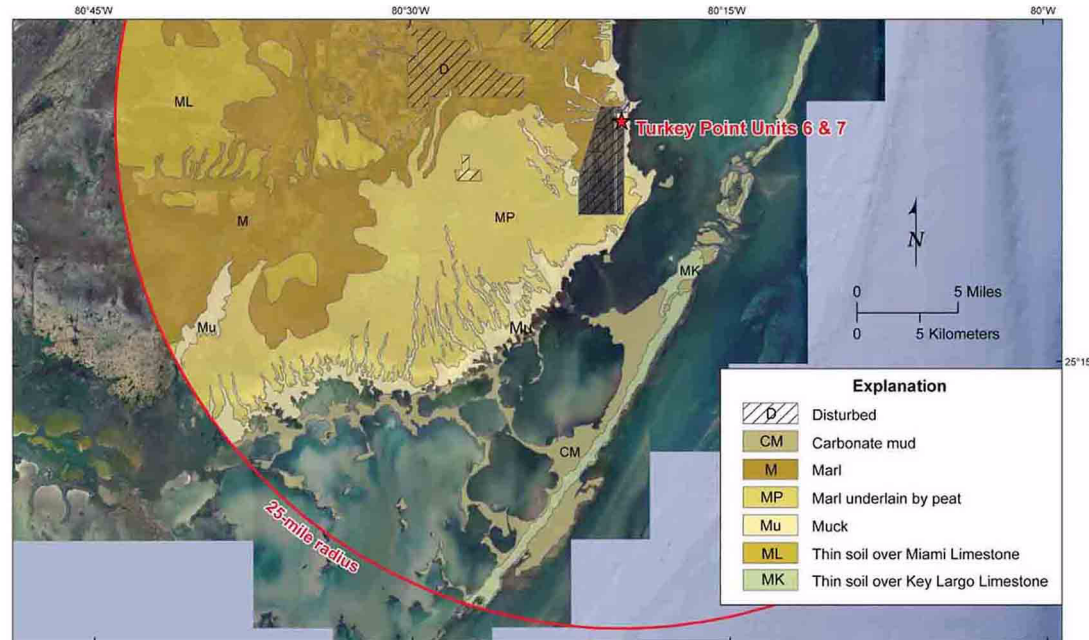
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Figure 2.5.1-336 Locations of Geologic Cross Sections



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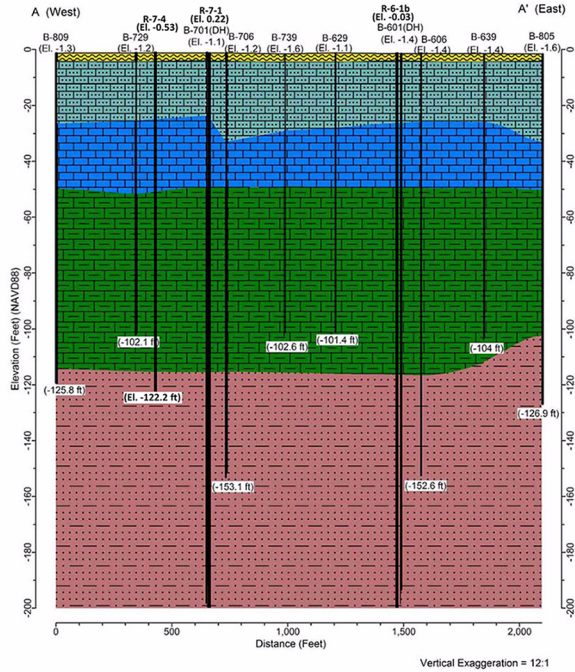
Figure 2.5.1-337 Surficial Deposits Map



Base sources: [Reference 829](#)
Source of geologic information: [References 715](#) and [830](#)

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**Figure 2.5.1-338 Cross-Section A-A' Truncated
(Vertical Exaggeration = 12:1)**
This figure appears in Appendix 2.5AA as Figure 2.5AA-211

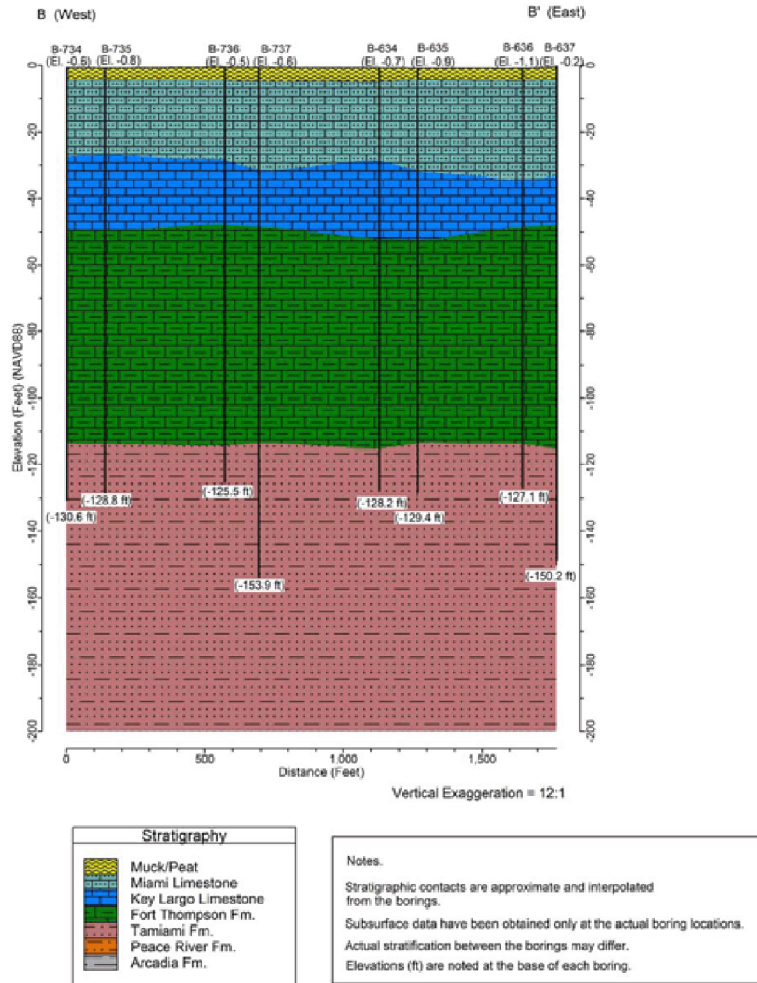


Stratigraphy	
	Muck/Peat
	Miami Limestone
	Key Largo Limestone
	Fort Thompson Fm.
	Tamiami Fm.
	Peace River Fm.
	Arcadia Fm.

Notes.
Stratigraphic contacts are approximate and interpolated from the borings.
Subsurface data have been obtained only at the actual boring locations.
Actual stratification between the borings may differ.
Elevations (ft) are noted at the base of each boring.

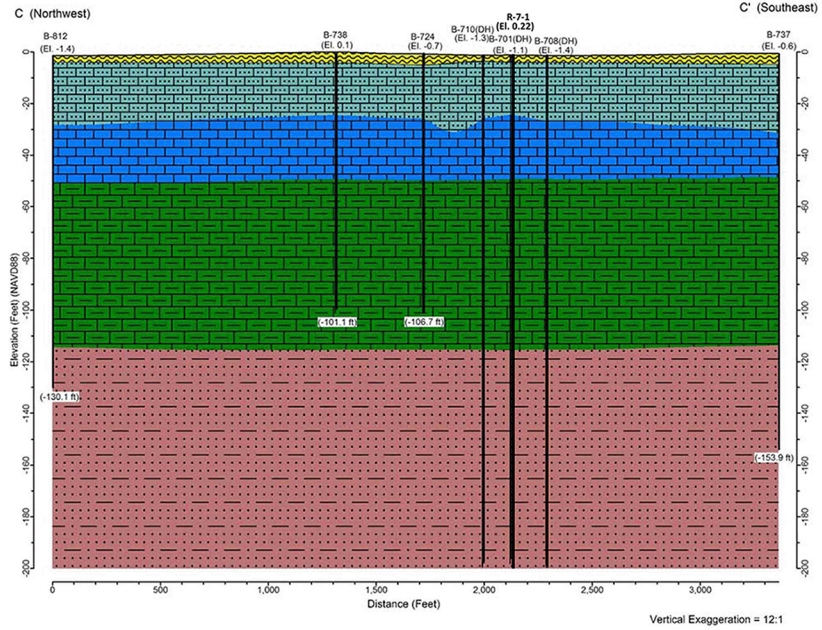
Turkey Point Units 6 & 7
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**Figure 2.5.1-339 Cross-Section B-B' Truncated
 (Vertical Exaggeration = 12:1)**
 This figure appears in Appendix 2.5AA as Figure 2.5AA-212



Turkey Point Units 6 & 7
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**Figure 2.5.1-340 Cross-Section C-C' Truncated
 (Vertical Exaggeration = (12:1))**
 This figure appears in Appendix 2.5AA as Figure 2.5AA-213

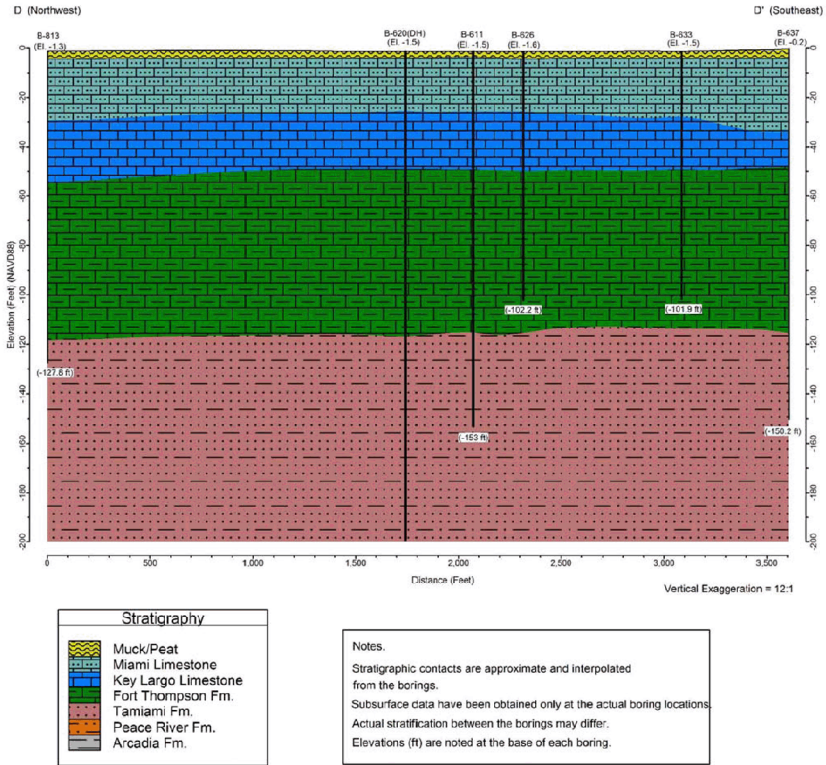


Stratigraphy	
	Muck/Peat
	Miami Limestone
	Key Largo Limestone
	Fort Thompson Fm.
	Tamiami Fm.
	Peace River Fm.
	Arcadia Fm.

Notes.
 Stratigraphic contacts are approximate and interpolated from the borings.
 Subsurface data have been obtained only at the actual boring locations.
 Actual stratification between the borings may differ.
 Elevations (ft) are noted at the base of each boring.

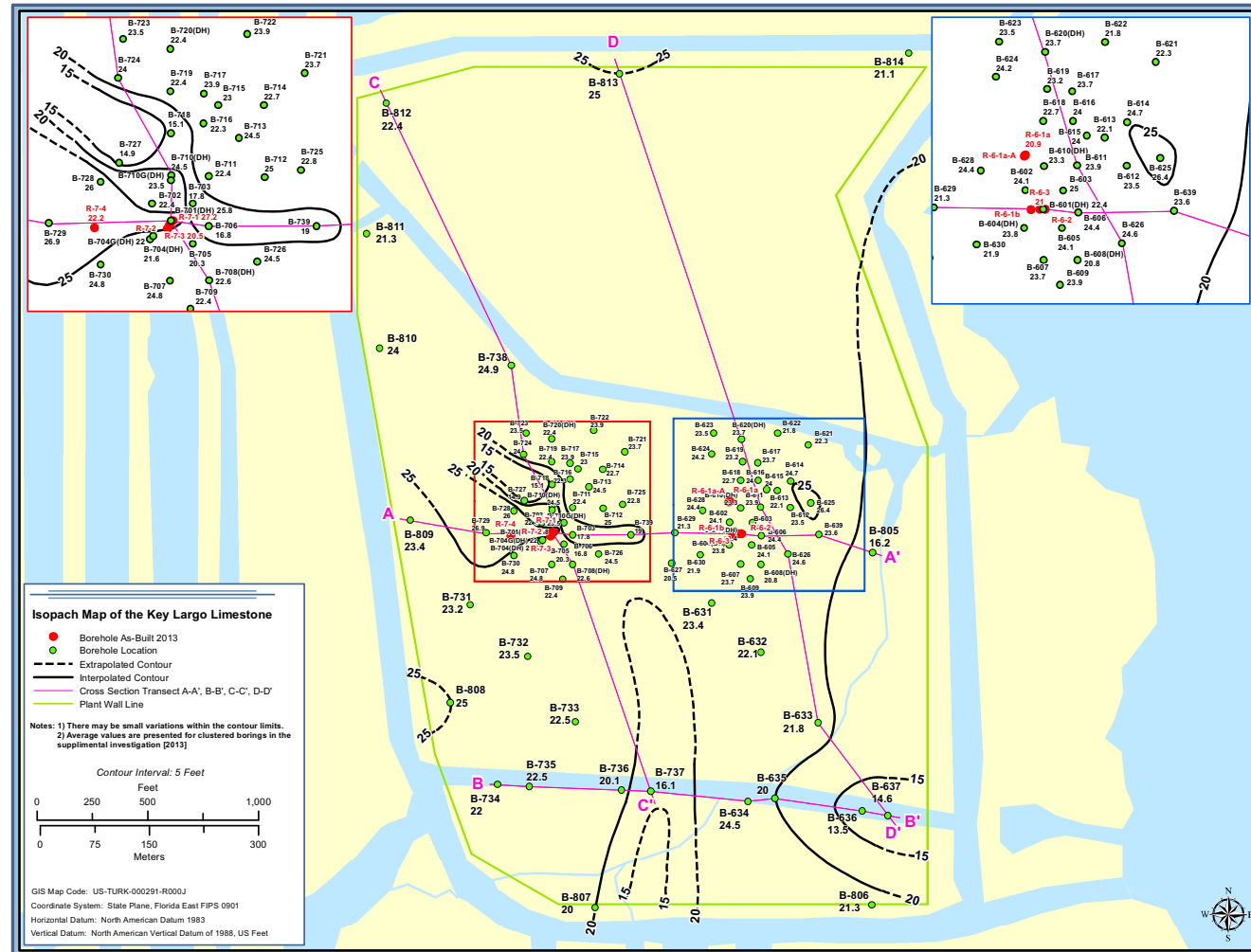
Turkey Point Units 6 & 7
 COL Application
 Part 2 — FSAR

**Figure 2.5.1-341 Cross-Section D-D' Truncated
 (Vertical Exaggeration = 12:1)**
 This figure appears in Appendix 2.5AA as Figure 2.5AA-214



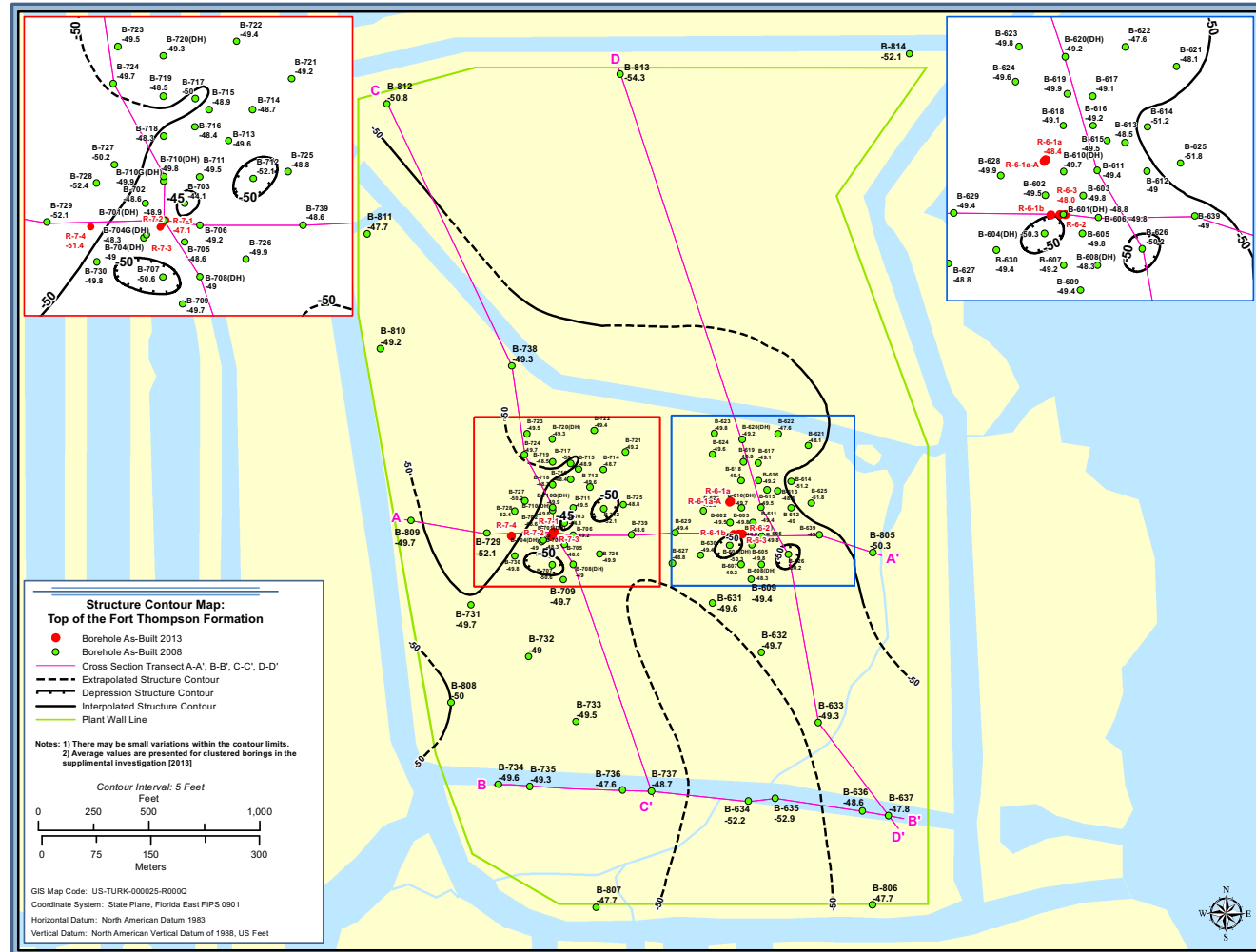
Turkey Point Units 6 & 7
COL Application
Part 2 — FSAR

Figure 2.5.1-342 Isopach Map of the Key Largo Limestone
This figure appears in Appendix 2.5AA as Figure 2.5AA-207



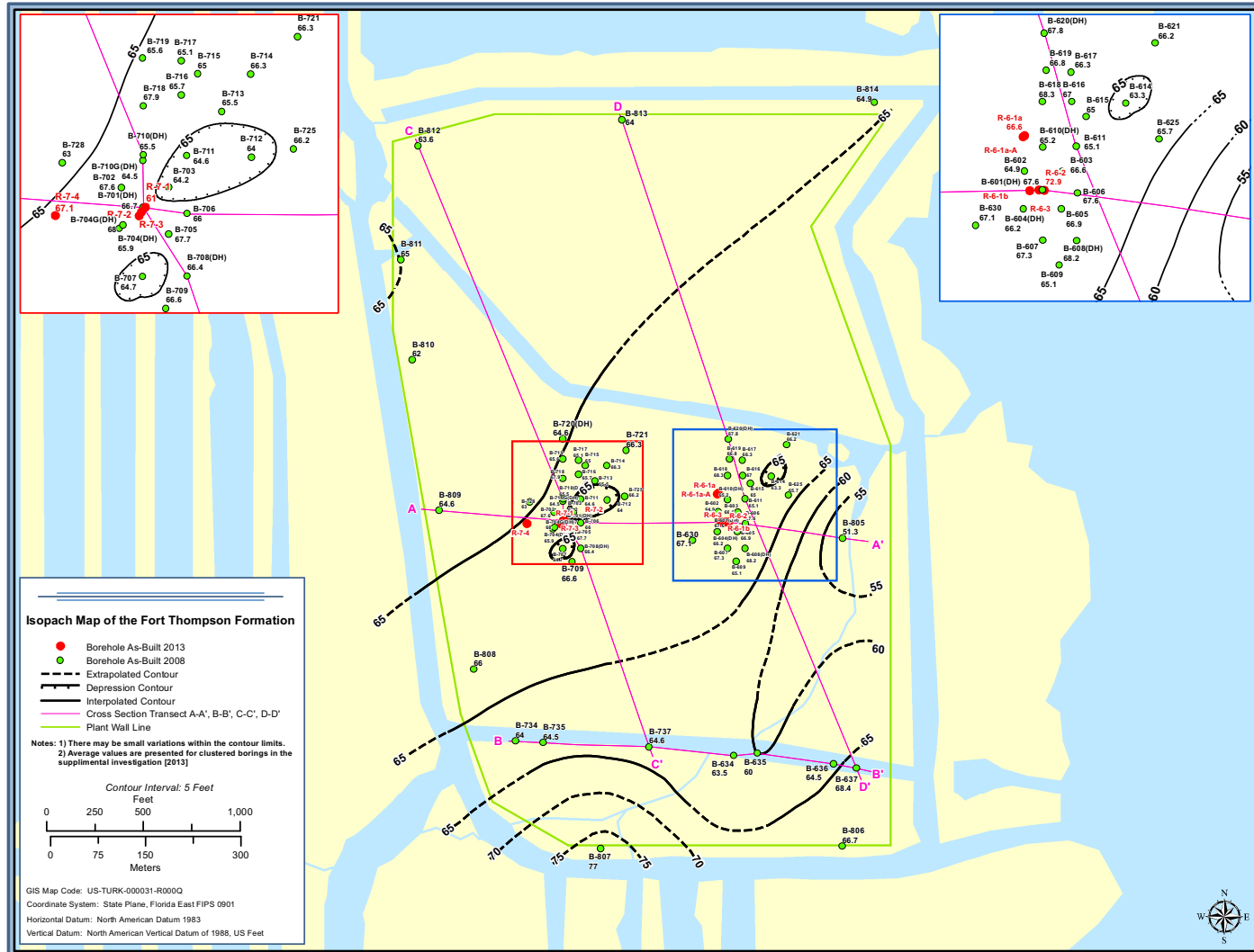
Turkey Point Units 6 & 7
COL Application
Part 2 — FSAR

Figure 2.5.1-343 Structure Contour Map of the Top of the Fort Thompson Formation
This figure appears in Appendix 2.5AA as Figure 2.5AA-208



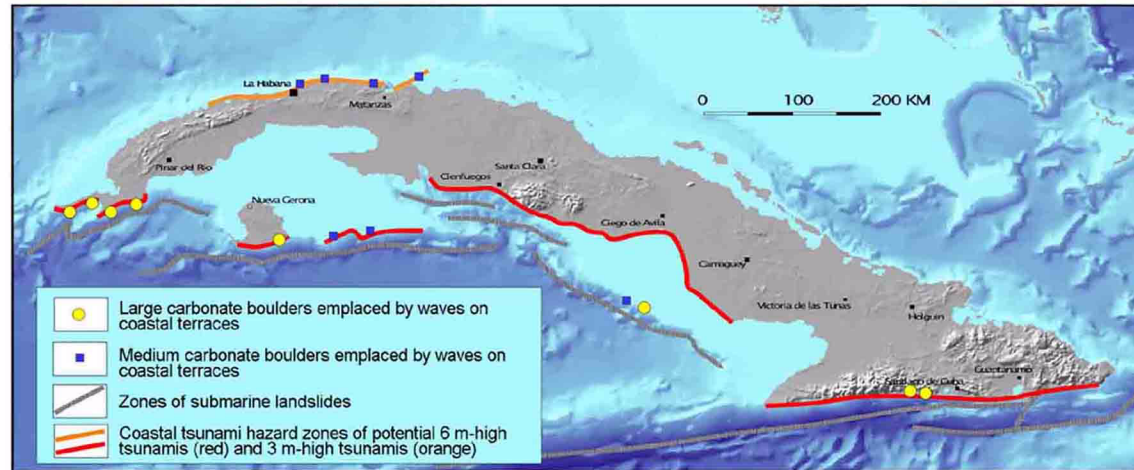
Turkey Point Units 6 & 7
COL Application
Part 2 — FSAR

Figure 2.5.1-344 Isopach Map of the Fort Thompson Formation
This figure appears in Appendix 2.5AA as Figure 2.5AA-210



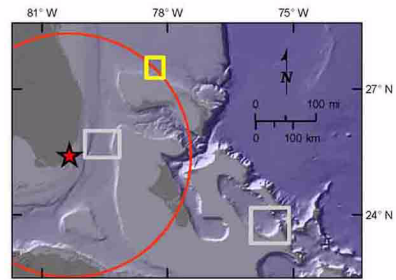
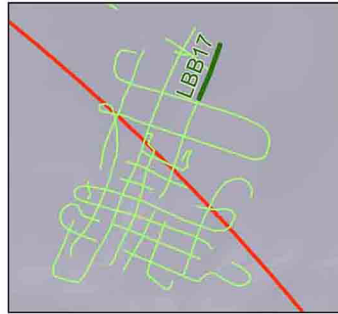
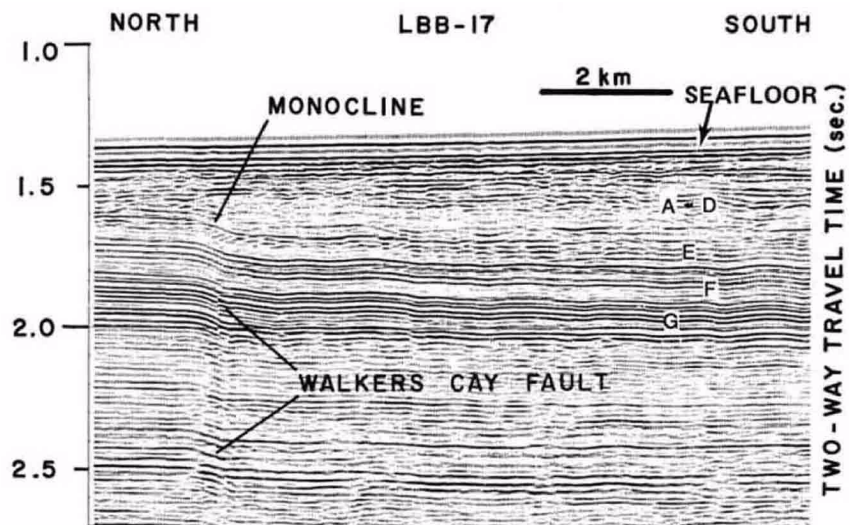
Turkey Point Units 6 & 7
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Figure 2.5.1-345 Geologic Hazards for Coastal Zones of Cuba



Modified from: Reference 742

Figure 2.5.1-346 Interpreted Seismic Line across the Edge of the Little Bahama Bank

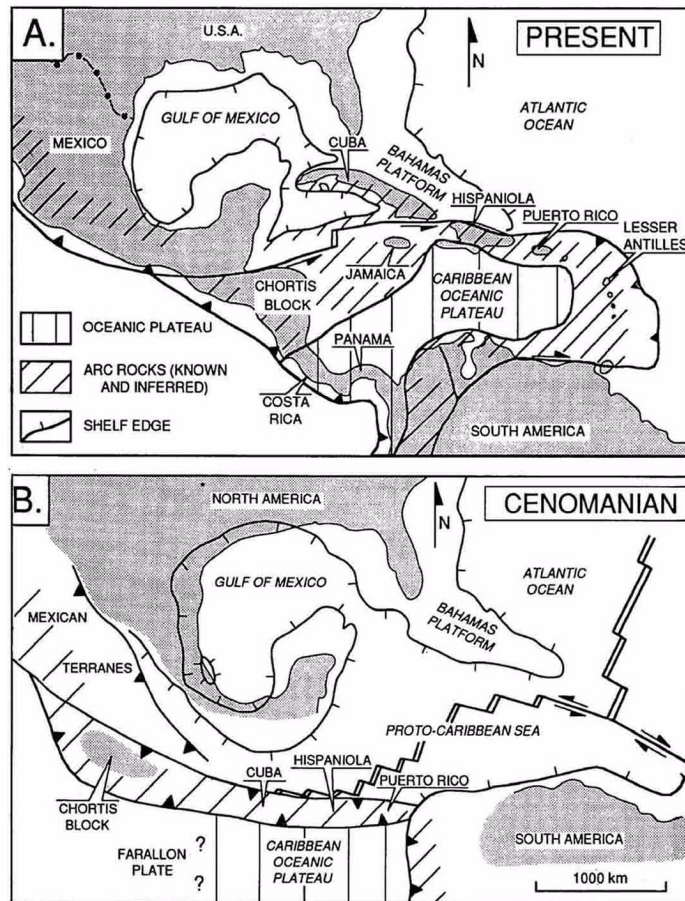


Note: Sequence G (the shallow-water carbonate platform sampled at Site 627) is offset, while sequences A-F thicken across the fault trace, suggesting syn-sedimentary movement.

Modified from: [Reference 785](#)

Turkey Point Units 6 & 7
COL Application
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Figure 2.5.1-347 Initiation of the Greater Antilles Arc and Collision with the Caribbean Oceanic Plateau

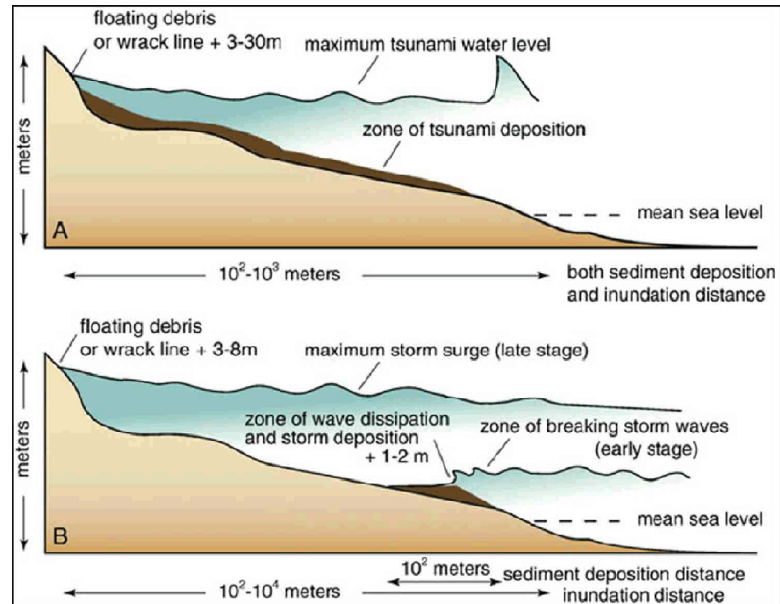


Notes:
A. Present-day distribution of Cretaceous to Recent island arc and late Cretaceous oceanic plateau crust in the Caribbean.
B. Mid-Cretaceous (Cenomanian) reconstruction of the Caribbean island arc and oceanic plateau

Source: [Reference 833](#)

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Figure 2.5.1-348 Tsunami Sediments



C. Typical tsunami deposit	Typical storm deposit
<ul style="list-style-type: none"> mudcap lamina sets may be separated by thin mud or heavy mineral lamina often normally graded rip up clasts 5-25 cm thick abrupt lower contact 	<ul style="list-style-type: none"> mudcap rare may have foresets, troughs, climbing ripples planar stratification many laminae and laminasets 25-200 cm thick abrupt lower contact

Notes:

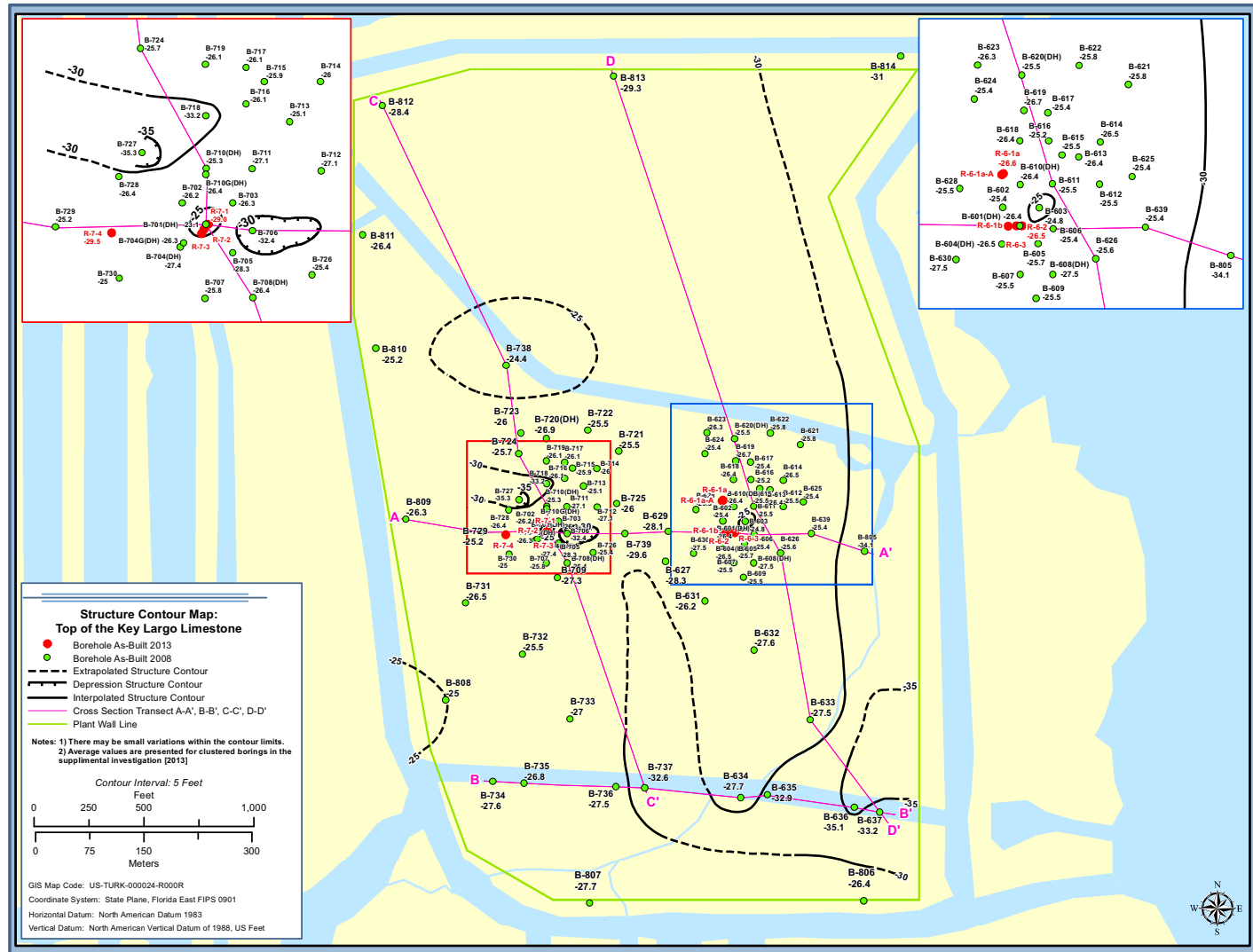
A and B. Comparison of typical inundation distances, sediment-transport distances, and maximum water levels (indicated by height of wrack line) for deposition by tsunamis (A) and coastal storms (B)

C. Composite characteristics of typical sandy tsunami and storm deposits

Source: [Reference 890](#)

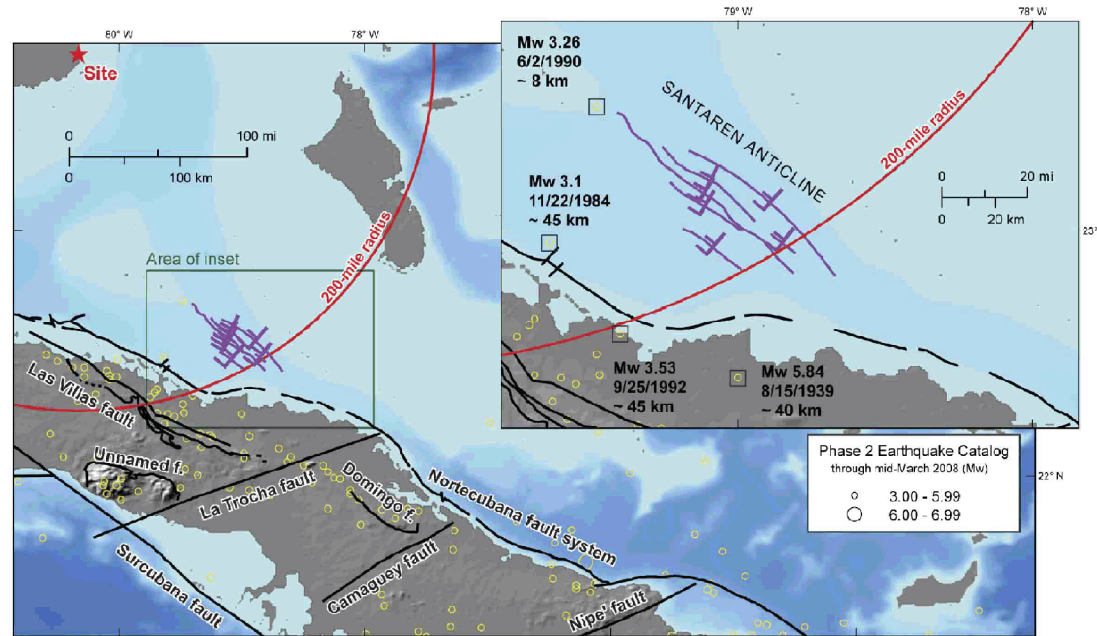
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Figure 2.5.1-349 Structure Contour Map of the Top of the Key Largo Limestone
This figure appears in Appendix 2.5AA as Figure 2.5AA-209



Turkey Point Units 6 & 7
COL Application
Part 2 — FSAR

Figure 2.5.1-350 Regional Seismicity Plotted on a Map of the Nortecubana Fault and Santaren Anticline

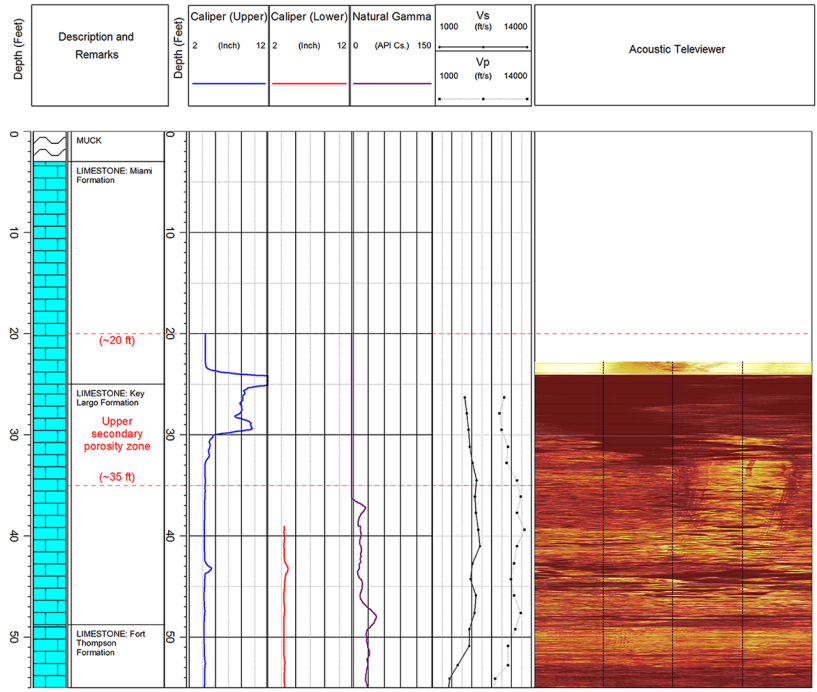


Source: References 439, 443, 448, 477, 492, 494, and 770

Turkey Point Units 6 & 7
COL Application
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**Figure 2.5.1-351 The Two Zones of Secondary Porosity on B-604 (DH)
Showing the Lithology, Caliper, Natural Gamma, Velocity (V_s and V_p) and
Acoustic Televiewer Logs (Sheet 1 of 3)**

Log ID: **B-604 (DH)**
 Total Depth: **165 ft**
 Northing: **396,916 (NAD83/90)**
 Easting: **876,592 (NAD83/90)**
 Hole Diameter: **5" from 0.0 to 29.0 ft; 4" from 29.0 to 165.0 ft.** **Note:**
 Elevation (Ground Surface): **-1.5 ft** Caliper (upper section) from 20.05 to 105 feet bgs.
 Drilling Date: **Started 3/19/08 Completed 3/23/08** Caliper (lower section) from 39.05 to 157 feet bgs.
 Drilled By: **P. Pitts / R. Landeros** Natural Gamma (lower and upper sections) from 20.05 to 157 feet bgs.
 Lithology Logged By: **S. Woodham** Receiver to receiver V_s and V_p from 26.3 to 150.9 feet bgs.
 Geophysical Log Operator: **GEOVision Geophysical Services** Acoustic Televiewer from 22.78 to 120.65 feet bgs.

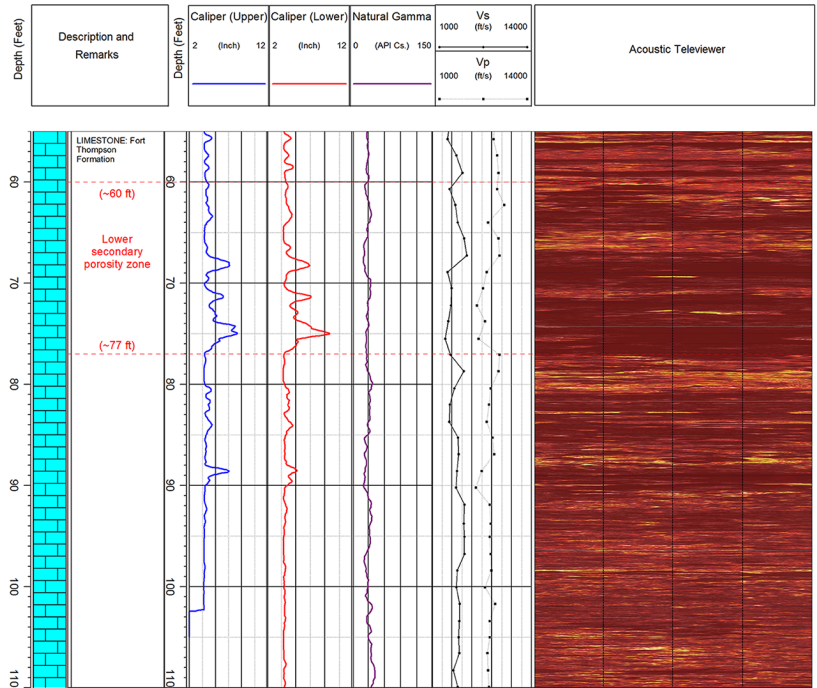


Turkey Point Units 6 & 7
COL Application
Part 2 — FSAR

Figure 2.5.1-351 The Two Zones of Secondary Porosity on B-604 (DH) Showing the Lithology, Caliper, Natural Gamma, Velocity (V_s and V_p) and Acoustic Televiewer Logs (Sheet 2 of 3)

Log ID: **B-604 (DH)**
 Total Depth: **165 ft**
 Northing: **396,916 (NAD83/90)**
 Easting: **876,592 (NAD83/90)**
 Hole Diameter: **5" from 0.0 to 29.0 ft; 4" from 29.0 to 165.0 ft.**
 Elevation (Ground Surface): **-1.5 ft**
 Drilling Date: **Started 3/19/08 Completed 3/23/08**
 Drilled By: **P. Pitts / R. Landeros**
 Lithology Logged By: **S. Woodham**
 Geophysical Log Operator: **GEOVision Geophysical Services**

Note:
 Caliper (upper section) from 20.05 to 105 feet bgs.
 Caliper (lower section) from 39.05 to 157 feet bgs.
 Natural Gamma (lower and upper sections) from 20.05 to 157 feet bgs.
 Receiver to receiver V_s and V_p from 26.3 to 150.9 feet bgs.
 Acoustic Televiewer from 22.78 to 120.65 feet bgs.



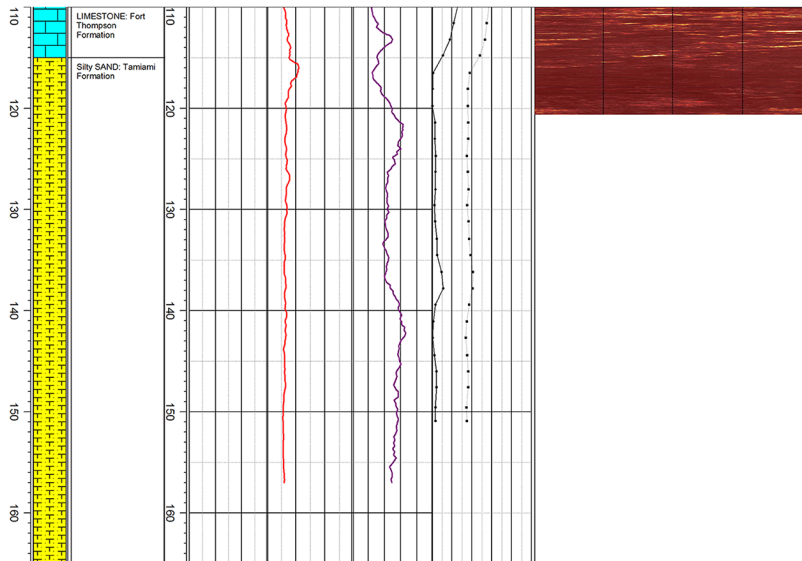
Turkey Point Units 6 & 7
COL Application
Part 2 — FSAR

**Figure 2.5.1-351 The Two Zones of Secondary Porosity on B-604 (DH)
Showing the Lithology, Caliper, Natural Gamma, Velocity (V_s and V_p) and
Acoustic Televiewer Logs (Sheet 3 of 3)**

Log ID: **B-604 (DH)**
 Total Depth: **165 ft**
 Northing: **396,916 (NAD83/90)**
 Easting: **876,592 (NAD83/90)**
 Hole Diameter: **5" from 0.0 to 29.0 ft; 4" from 29.0 to 165.0 ft.**
 Elevation (Ground Surface): **-1.5 ft**
 Drilling Date: **Started 3/19/08 Completed 3/23/08**
 Drilled By: **P. Pitts / R. Landeros**
 Lithology Logged By: **S. Woodham**
 Geophysical Log Operator: **GEOVision Geophysical Services**

Note:
 Caliper (upper section) from 20.05 to 105 feet bgs.
 Caliper (lower section) from 39.05 to 157 feet bgs.
 Natural Gamma (lower and upper sections) from 20.05 to 157 feet bgs.
 Receiver to receiver V_s and V_p from 26.3 to 150.9 feet bgs.
 Acoustic Televiewer from 22.78 to 120.65 feet bgs.

Depth (Feet)	Description and Remarks	Caliper (Upper)	Caliper (Lower)	Natural Gamma	Vs (ft/s)	Vp (ft/s)	Acoustic Televiewer
		2 (inch)	12 (inch)	12 0 (API Cs.)	1000 14000	1000 14000	

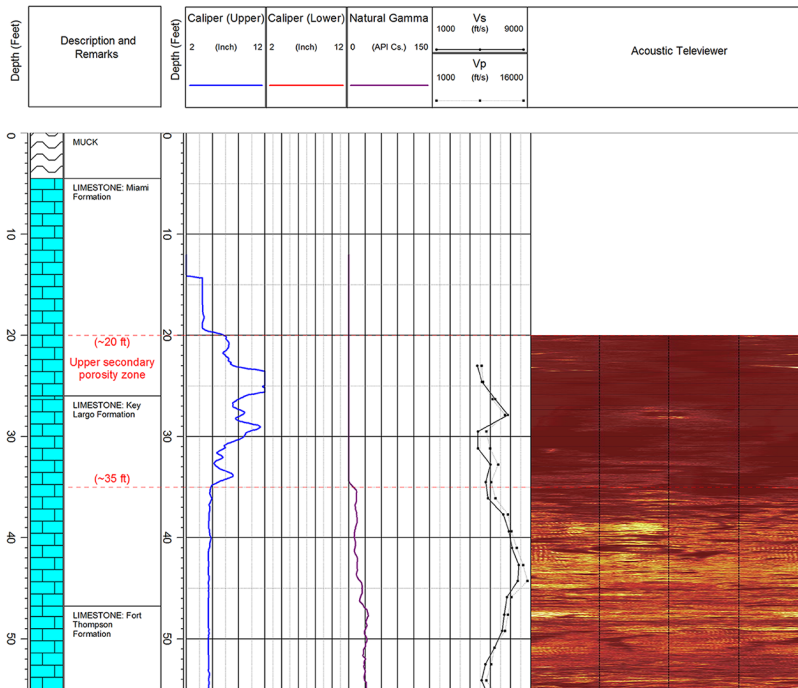


Turkey Point Units 6 & 7
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Figure 2.5.1-352 The Two Zones of Secondary Porosity on B-608 (DH) Showing the Lithology, Caliper, Natural Gamma, Velocity (V_s and V_p), and Acoustic Televiewer Logs (Sheet 1 of 5)

Log ID: **B-608 (DH)**
 Total Depth: **265.4 ft**
 Northing: **396,830 (NAD83/90)**
 Easting: **876,736 (NAD83/90)**
 Hole Diameter: **5" from 0.0 to 34.0 ft; 4" from 34.0 to 265.4 ft.**
 Elevation (Ground Surface): **-1.5 ft**
 Drilling Date: **Started 3/25/08 Completed 4/2/08**
 Drilled By: **R. Landeros/N. Rodriguez (MACTEC)**
 Lithology Logged By: **S. Woodman/B. Taylor (MACTEC)**
 Geophysical Log Operator: **GEOVision Geophysical Services**

Note:
 Caliper (upper section) from 12.05 to 115 feet bgs.
 Caliper (lower section) from 107.05 to 255 feet bgs.
 Natural Gamma (lower and upper sections) from 12.05 to 255 feet bgs.
 Receiver to receiver V_s and V_p from 23 to 249.3 feet bgs.
 Acoustic televiewer from 20 to 120.2 feet bgs.

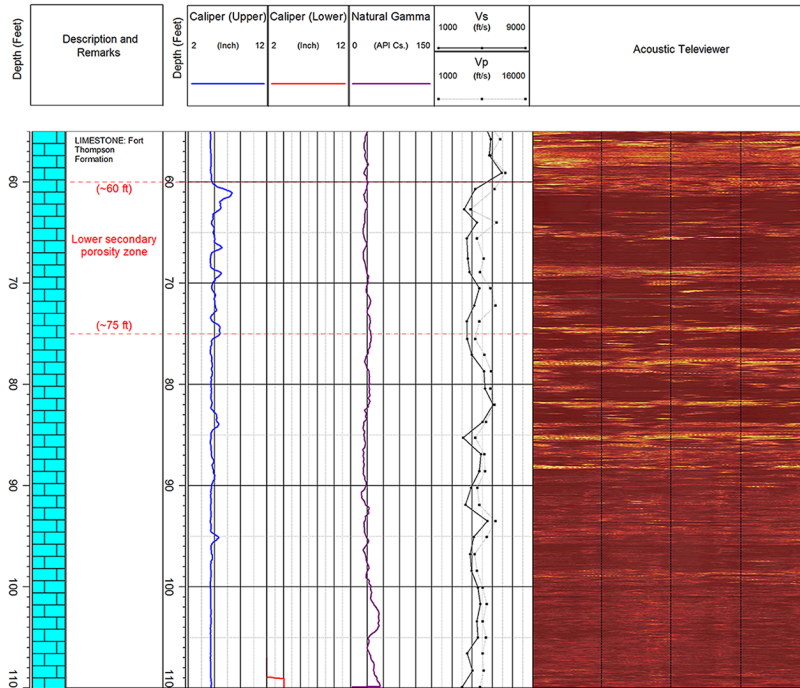


Turkey Point Units 6 & 7
COL Application
Part 2 — FSAR

Figure 2.5.1-352 The Two Zones of Secondary Porosity on B-608 (DH) Showing the Lithology, Caliper, Natural Gamma, Velocity (V_s and V_p), and Acoustic Televiewer Logs (Sheet 2 of 5)

Log ID: B-608 (DH)
 Total Depth: 265.4 ft
 Northing: 396,830 (NAD83/90)
 Easting: 876,736 (NAD83/90)
 Hole Diameter: 5" from 0.0 to 34.0 ft; 4" from 34.0 to 265.4 ft.
 Elevation (Ground Surface): -1.5 ft
 Drilling Date: Started 3/25/08 Completed 4/2/08
 Drilled By: R. Landeros/N. Rodriguez (MACTEC)
 Lithology Logged By: S. Woodman/B. Taylor (MACTEC)
 Geophysical Log Operator: GEOVision Geophysical Services

Note:
 Caliper (upper section) from 12.05 to 115 feet bgs.
 Caliper (lower section) from 107.05 to 255 feet bgs.
 Natural Gamma (lower and upper sections) from 12.05 to 255 feet bgs.
 Receiver to receiver V_s and V_p from 23 to 249.3 feet bgs.
 Acoustic televiewer from 20 to 120.2 feet bgs.

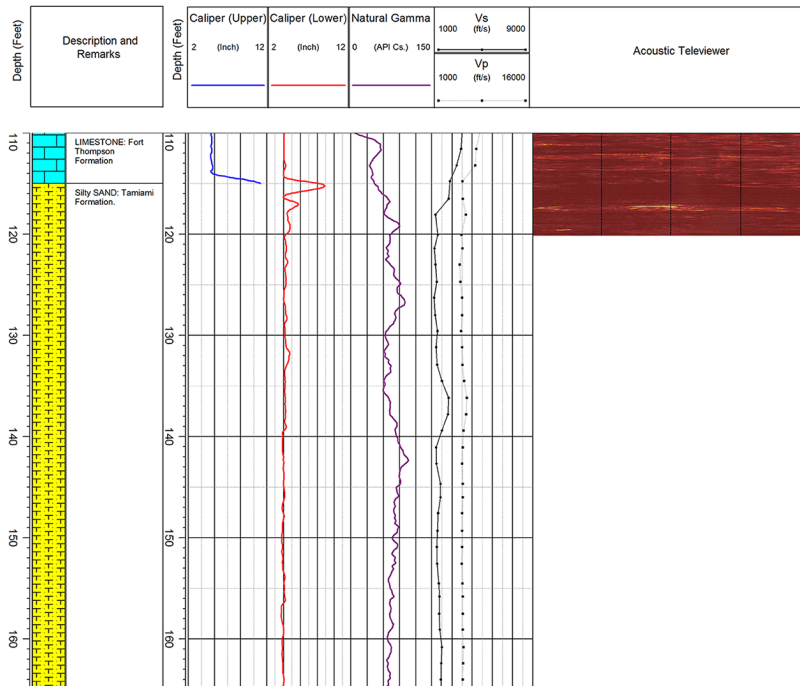


Turkey Point Units 6 & 7
COL Application
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Figure 2.5.1-352 The Two Zones of Secondary Porosity on B-608 (DH) Showing the Lithology, Caliper, Natural Gamma, Velocity (V_s and V_p), and Acoustic Televiewer Logs (Sheet 3 of 5)

Log ID: **B-608 (DH)**
 Total Depth: **265.4 ft**
 Northing: **396,830 (NAD83/90)**
 Easting: **876,736 (NAD83/90)**
 Hole Diameter: **5" from 0.0 to 34.0 ft; 4" from 34.0 to 265.4 ft.**
 Elevation (Ground Surface): **-1.5 ft**
 Drilling Date: **Started 3/25/08 Completed 4/2/08**
 Drilled By: **R. Landeros/N. Rodriguez (MACTEC)**
 Lithology Logged By: **S. Woodman/B. Taylor (MACTEC)**
 Geophysical Log Operator: **GEOVision Geophysical Services**

Note:
 Caliper (upper section) from 12.05 to 115 feet bgs.
 Caliper (lower section) from 107.05 to 255 feet bgs.
 Natural Gamma (lower and upper sections) from 12.05 to 255 feet bgs.
 Receiver to receiver V_s and V_p from 23 to 249.3 feet bgs.
 Acoustic televiewer from 20 to 120.2 feet bgs.

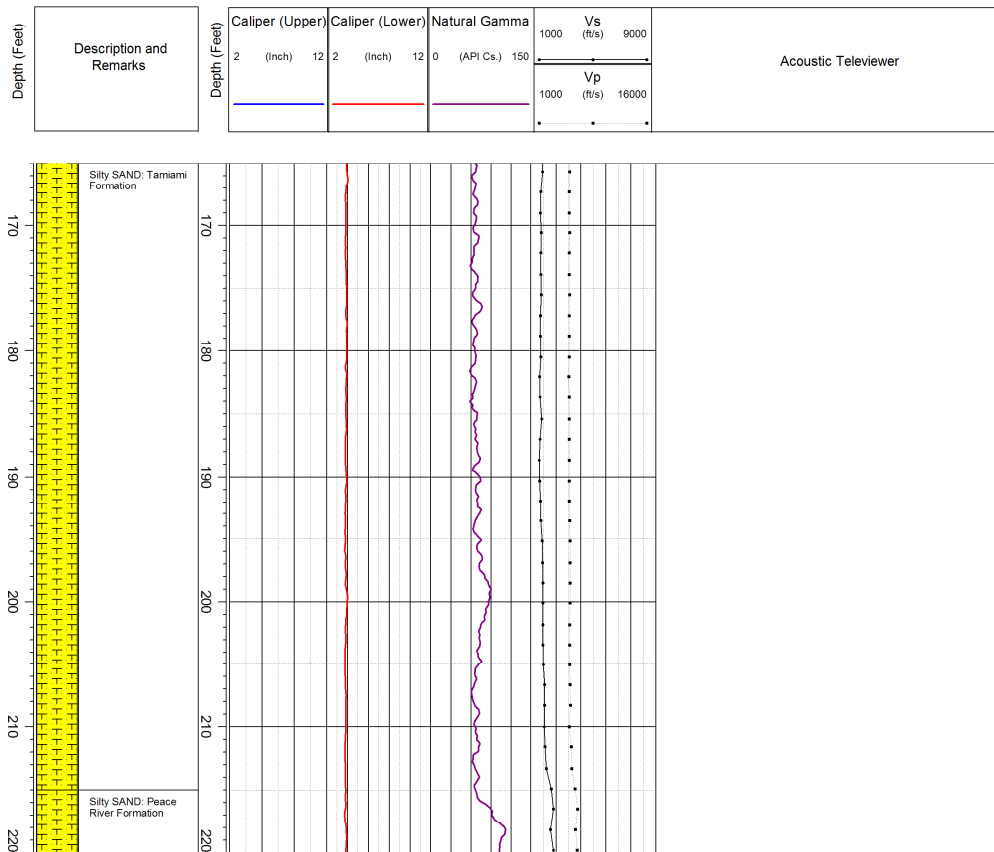


Turkey Point Units 6 & 7
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 Part 2 — FSAR

Figure 2.5.1-352 The Two Zones of Secondary Porosity on B-608 (DH) Showing the Lithology Caliper, Natural Gamma, Velocity (V_s and V_p) and Acoustic Televiwer Logs (Sheet 4 of 5)

Log ID: **B-608 (DH)**
 Total Depth: **265.4 ft**
 Northing: **396,830 (NAD83/90)**
 Easting: **876,736 (NAD83/90)**
 Hole Diameter: **5" from 0.0 to 34.0 ft; 4" from 34.0 to 265.4 ft.**
 Elevation (Ground Surface): **-1.5 ft**
 Drilling Date: **Started 3/25/08 Completed 4/2/08**
 Drilled By: **R. Landeros/N. Rodriguez (MACTEC)**
 Lithology Logged By: **S. Woodman/B. Taylor (MACTEC)**
 Geophysical Log Operator: **GEOVision Geophysical Services**

Note:
 Caliper (upper section) from 12.05 to 115 feet bgs.
 Caliper (lower section) from 107.05 to 255 feet bgs.
 Natural Gamma (lower and upper sections) from 12.05 to 255 feet bgs.
 Receiver to receiver V_s and V_p from 23 to 249.3 feet bgs.
 Acoustic televiwer from 20 to 120.2 feet bgs.

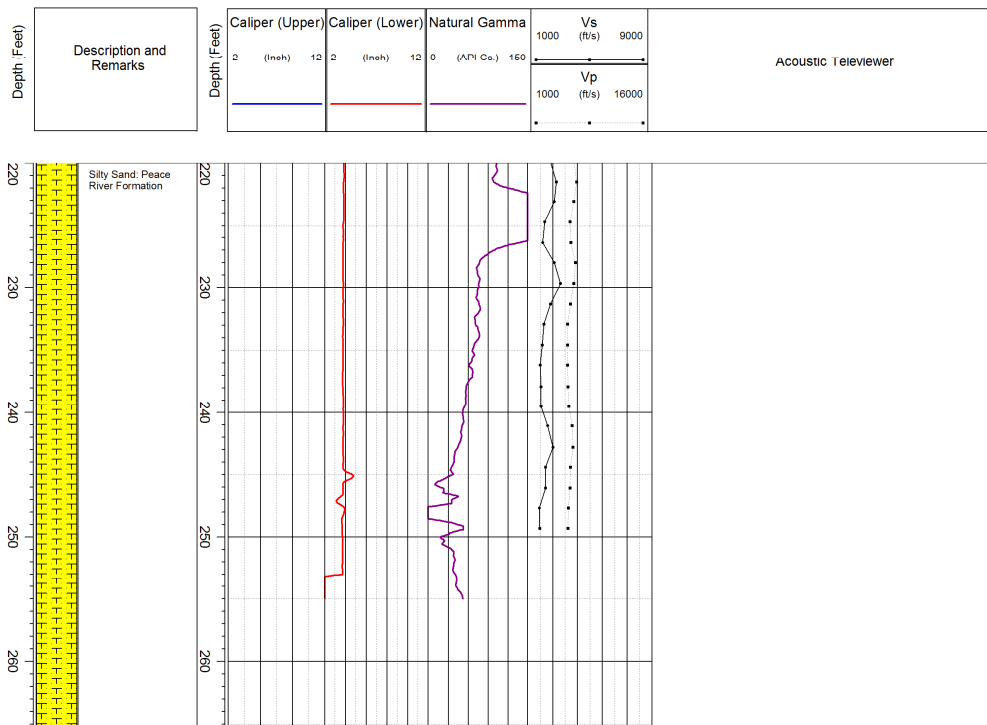


Turkey Point Units 6 & 7
 COL Application
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Figure 2.5.1-352 The Two Zones of Secondary Porosity on B-608 (DH) Showing the Lithology Caliper, Natural Gamma, Velocity (V_s and V_p) and Acoustic Televiewer Logs (Sheet 5 of 5)

Log ID: **B-608 (DH)**
 Total Depth: **265.4 ft**
 Northing: **396,830 (NAD83/90)**
 Easting: **876,736 (NAD83/90)**
 Hole Diameter: **5" from 0.0 to 34.0 ft; 4" from 34.0 to 265.4 ft.**
 Elevation (Ground Surface): **-1.5 ft**
 Drilling Date: **Started 3/25/08 Completed 4/2/08**
 Drilled By: **R. Landeros/N. Rodriguez (MACTEC)**
 Lithology Logged By: **S. Woodman/B. Taylor (MACTEC)**
 Geophysical Log Operator: **GEOVision Geophysical Services**

Note:
 Caliper (upper section) from 12.05 to 115 feet bgs.
 Caliper (lower section) from 107.05 to 255 feet bgs.
 Natural Gamma (lower and upper sections) from 12.05 to 255 feet bgs.
 Receiver to receiver V_s and V_p from 23 to 249.3 feet bgs.
 Acoustic televiewer from 20 to 120.2 feet bgs.

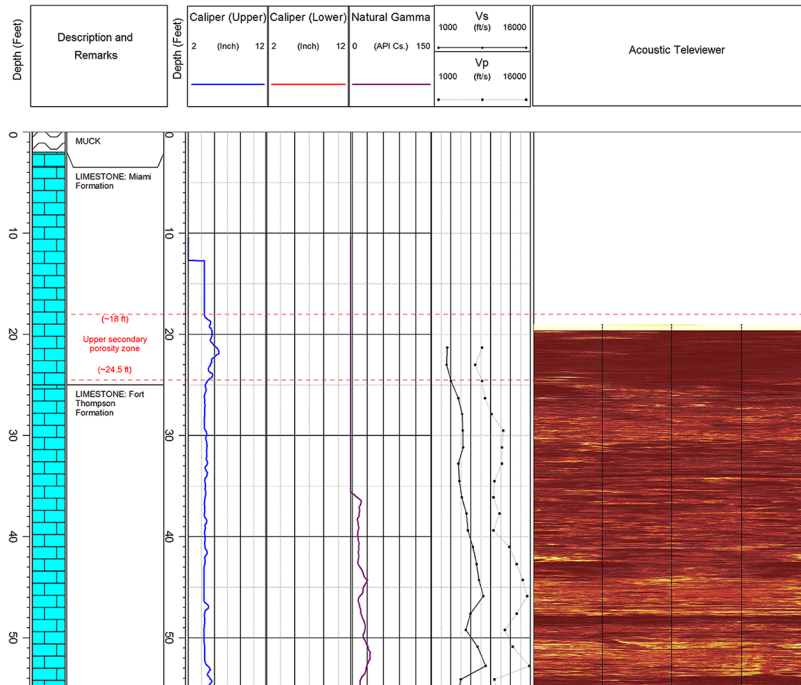


Turkey Point Units 6 & 7
COL Application
Part 2 — FSAR

Figure 2.5.1-353 The Two Zones of Secondary Porosity on B-710 G (DH) Showing the Lithology, Caliper, Natural Gamma, Velocity (V_s and V_p), and Acoustic Televiewer Logs (Sheet 1 of 5)

Log ID: B-710G(DH)
 Total Depth: 273.5 ft
 Northing: 397,075 (NAD83/90)
 Easting: 875,792 (NAD83/90)
 Hole Diameter: 4" from 0.0 to 273.5 ft
 Elevation (Ground Surface): -1.4 ft
 Drilling Date: Started 3/10/08 Completed 3/13/08
 Drilled By: R. Landeros / N. Rodriguez
 Lithology Logged By: S. Woodham
 Geophysical Log Operator: GEOVision Geophysical Services

Note:
 Caliper (upper section) from 10.4 to 130 feet bgs.
 Caliper (lower section) from 90.4 to 264 feet bgs.
 Natural Gamma (lower and upper sections) from 10.4 to 264 feet bgs.
 Receiver to receiver V_s and V_p from 26.2 to 257.5 feet bgs.
 Acoustic Televiewer from 19 to 120.4 feet bgs.

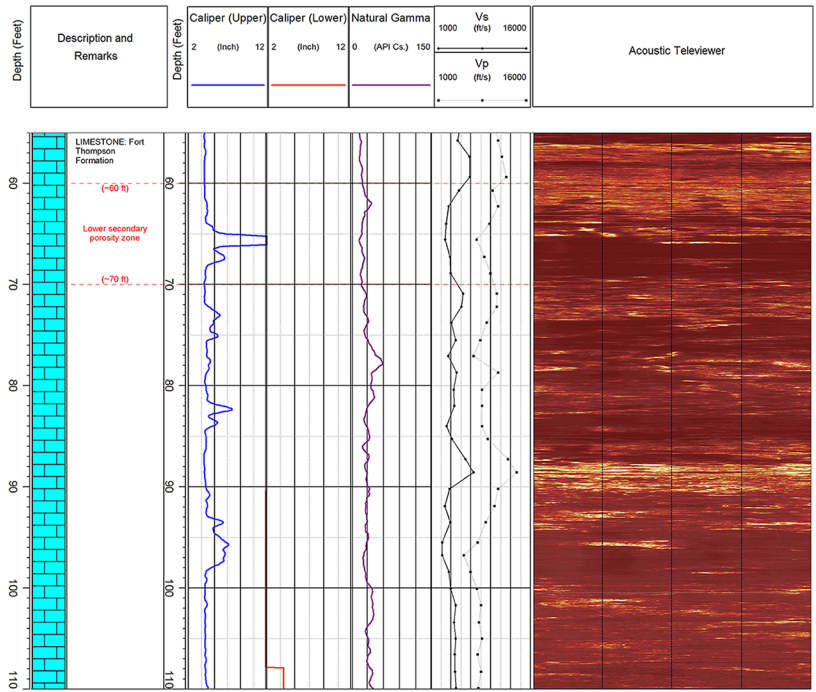


Turkey Point Units 6 & 7
COL Application
Part 2 — FSAR

Figure 2.5.1-353 The Two Zones of Secondary Porosity on B-710 G (DH) Showing the Lithology, Caliper, Natural Gamma, Velocity (V_s and V_p), and Acoustic Televiewer Logs (Sheet 2 of 5)

Log ID: B-710G(DH)
 Total Depth: 273.5 ft
 Northing: 397,075 (NAD83/90)
 Easting: 875,792 (NAD83/90)
 Hole Diameter: 4" from 0.0 to 273.5 ft
 Elevation (Ground Surface): -1.4 ft
 Drilling Date: Started 3/10/08 Completed 3/13/08
 Drilled By: R. Landeros / N. Rodriguez
 Lithology Logged By: S. Woodham
 Geophysical Log Operator: GEOVision Geophysical Services

Note:
 Caliper (upper section) from 10.4 to 130 feet bgs.
 Caliper (lower section) from 90.4 to 264 feet bgs.
 Natural Gamma (lower and upper sections) from 10.4 to 264 feet bgs.
 Receiver to receiver V_s and V_p from 26.2 to 257.5 feet bgs.
 Acoustic Televiewer from 19 to 120.4 feet bgs.

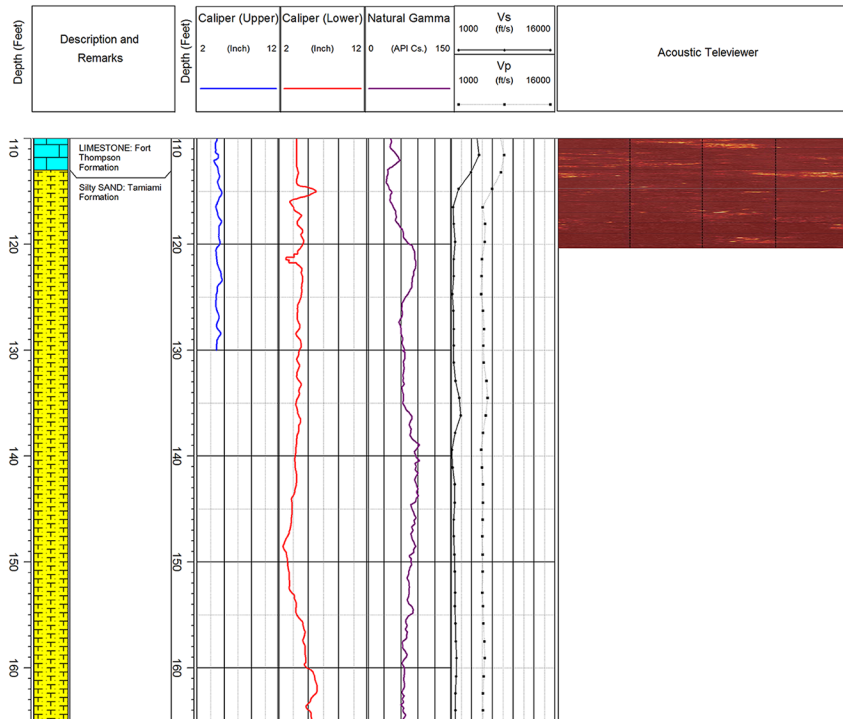


Turkey Point Units 6 & 7
COL Application
Part 2 — FSAR

Figure 2.5.1-353 The Two Zones of Secondary Porosity on B-710 G (DH) Showing the Lithology, Caliper, Natural Gamma, Velocity (V_s and V_p), and Acoustic Televiewer Logs (Sheet 3 of 5)

Log ID: B-710G(DH)
 Total Depth: 273.5 ft
 Northing: 397,075 (NAD83/90)
 Easting: 875,792 (NAD83/90)
 Hole Diameter: 4" from 0.0 to 273.5 ft
 Elevation (Ground Surface): -1.4 ft
 Drilling Date: Started 3/10/08 Completed 3/13/08
 Drilled By: R. Landeros / N. Rodriguez
 Lithology Logged By: S. Woodham
 Geophysical Log Operator: GEOVision Geophysical Services

Note:
 Caliper (upper section) from 10.4 to 130 feet bgs.
 Caliper (lower section) from 90.4 to 264 feet bgs.
 Natural Gamma (lower and upper sections) from 10.4 to 264 feet bgs.
 Receiver to receiver V_s and V_p from 26.2 to 257.5 feet bgs.
 Acoustic Televiewer from 19 to 120.4 feet bgs.

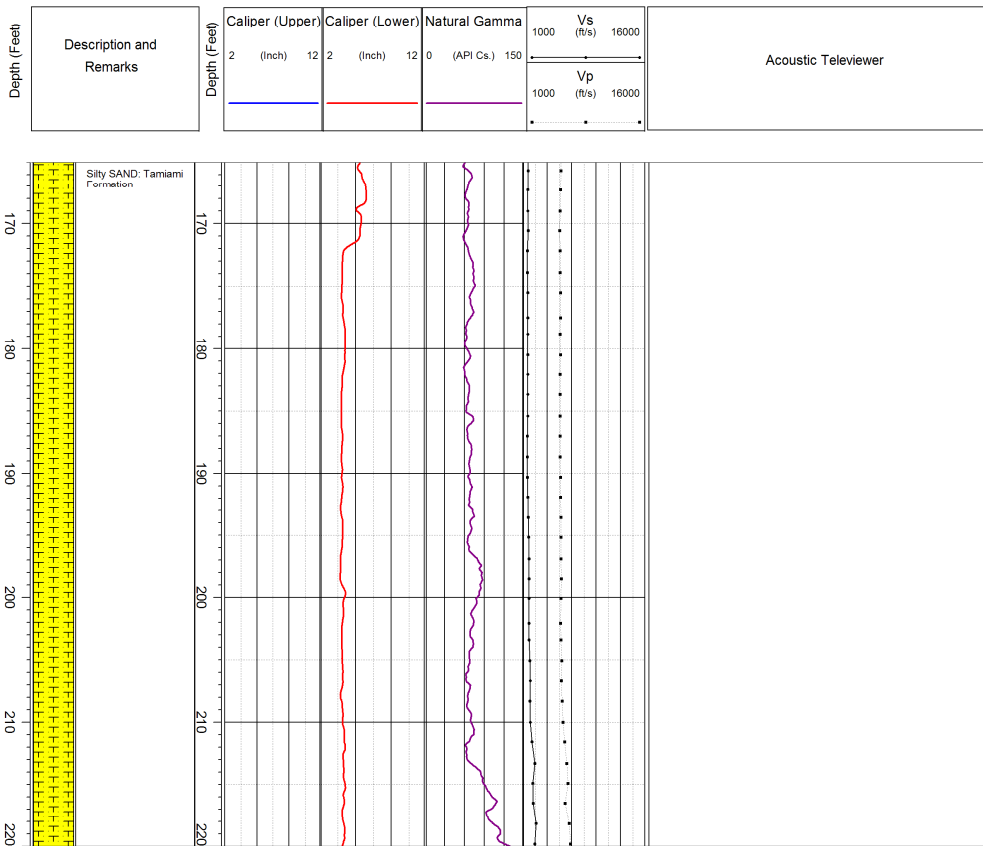


Turkey Point Units 6 & 7
COL Application
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Figure 2.5.1-353 The Two Zones of Secondary Porosity on B-710 G (DH) Showing the Lithology, Caliper, Natural Gamma, Velocity (Vs and Vp), and Acoustic Televiewer Logs (Sheet 4 of 5)

Log ID: **B-710G(DH)**
 Total Depth: **273.5 ft**
 Northing: **397,075 (NAD83/90)**
 Easting: **875,792 (NAD83/90)**
 Hole Diameter: **4" from 0.0 to 273.5 ft**
 Elevation (Ground Surface): **-1.4 ft**
 Drilling Date: **Started 3/10/08 Completed 3/13/08**
 Drilled By: **R. Landeros / N. Rodriguez**
 Lithology Logged By: **S. Woodham**
 Geophysical Log Operator: **GEOVision Geophysical Services**

Note:
 Caliper (upper section) from 10.4 to 130 feet bgs.
 Caliper (lower section) from 90.4 to 264 feet bgs.
 Natural Gamma (lower and upper sections) from 10.4 to 264 feet bgs.
 Receiver to receiver Vs and Vp from 26.2 to 257.5 feet bgs.
 Acoustic Televiewer from 19 to 120.4 feet bgs.

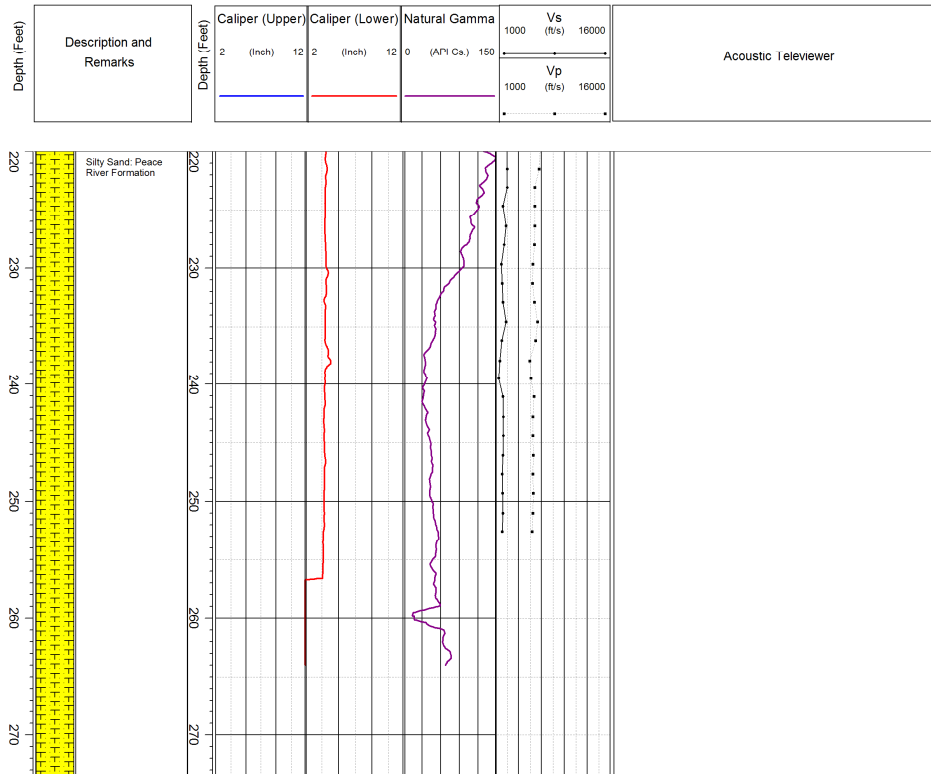


Turkey Point Units 6 & 7
COL Application
Part 2 — FSAR

Figure 2.5.1-353 The Two Zones of Secondary Porosity on B-710 G (DH) Showing the Lithology, Caliper, Natural Gamma, Velocity (V_s and V_p), and Acoustic Televiewer Logs (Sheet 5 of 5)

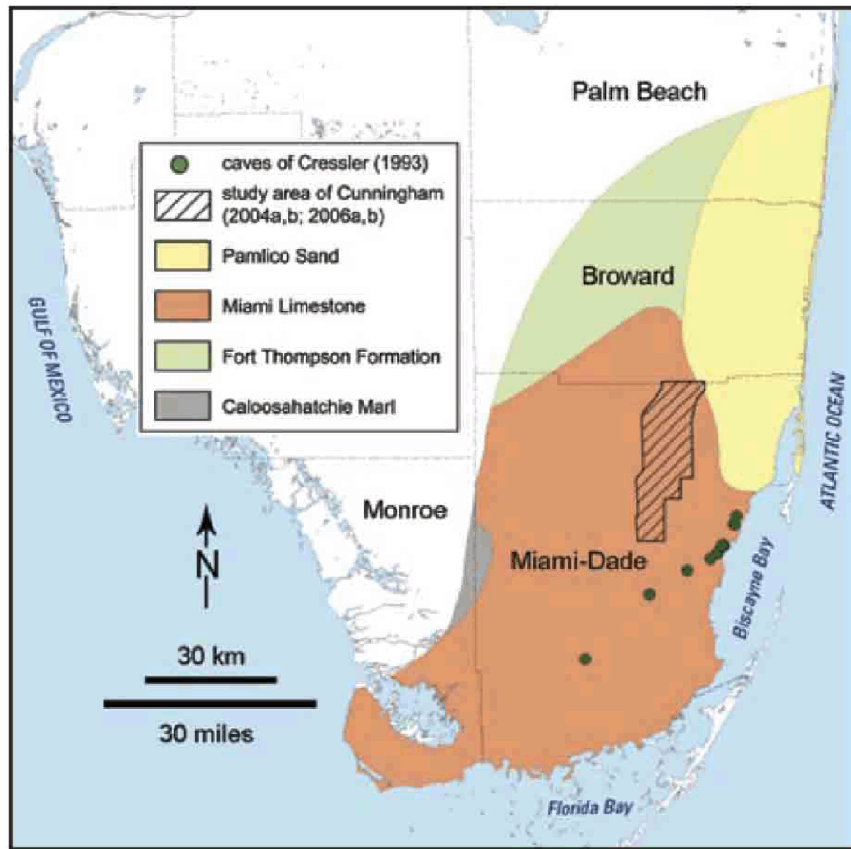
Log ID: **B-710G(DH)**
 Total Depth: **273.5 ft**
 Northing: **397,075 (NAD83/90)**
 Easting: **875,792 (NAD83/90)**
 Hole Diameter: **4" from 0.0 to 273.5 ft**
 Elevation (Ground Surface): **-1.4 ft**
 Drilling Date: **Started 3/10/08 Completed 3/13/08**
 Drilled By: **R. Landeros / N. Rodriguez**
 Lithology Logged By: **S. Woodham**
 Geophysical Log Operator: **GEOVision Geophysical Services**

Note:
 Caliper (upper section) from 10.4 to 130 feet bgs.
 Caliper (lower section) from 90.4 to 264 feet bgs.
 Natural Gamma (lower and upper sections) from 10.4 to 264 feet bgs.
 Receiver to receiver V_s and V_p from 26.2 to 257.5 feet bgs.
 Acoustic Televiewer from 19 to 120.4 feet bgs.



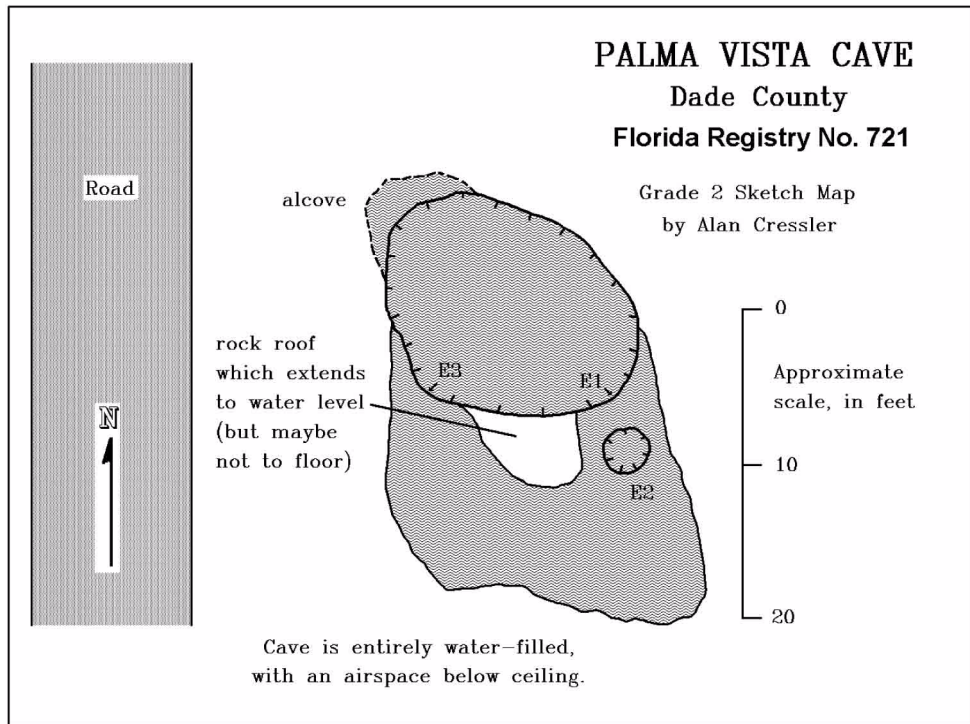
Source: [Reference 708](#)

Figure 2.5.1-354 Map of Southern Florida Showing the Locations of Caves Identified by Cressler



Source: Reference 954

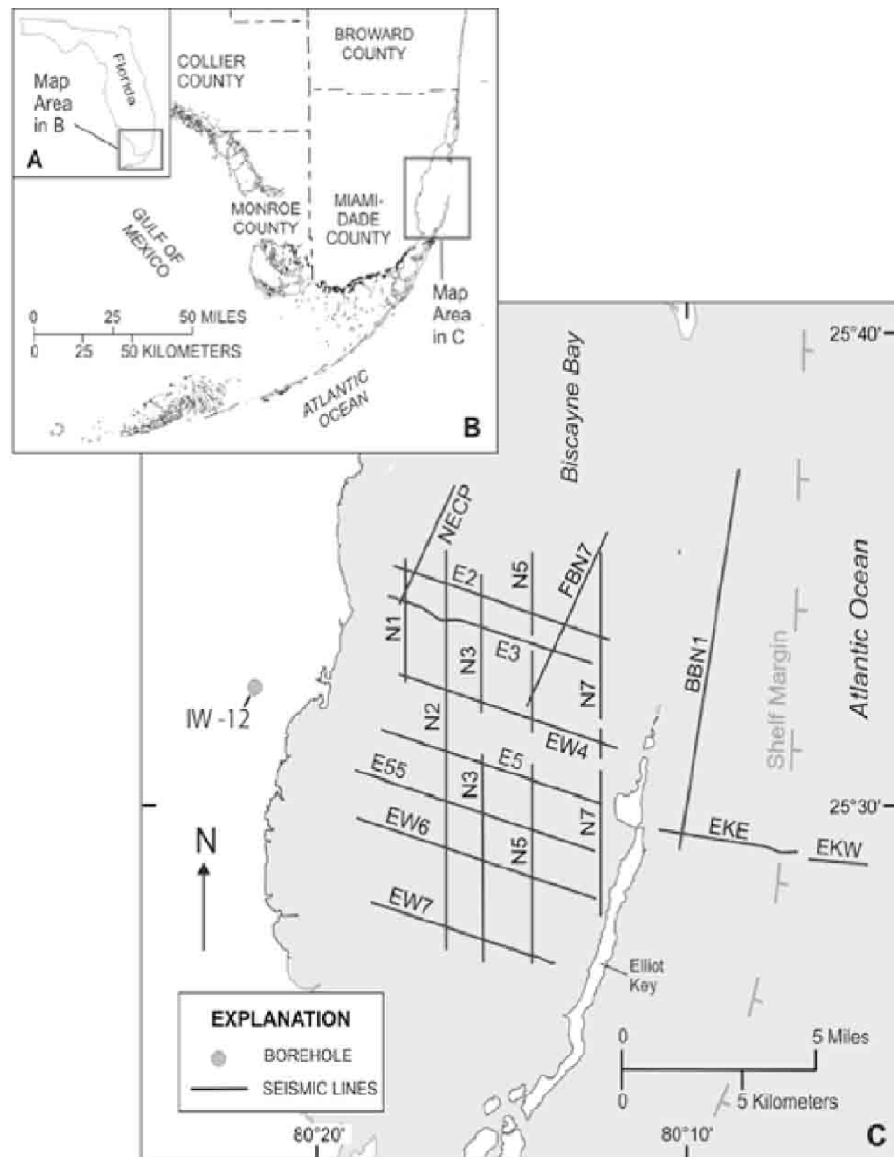
Figure 2.5.1-355 Palma Vista Cave



Source: [Reference 955](#)

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Figure 2.5.1-356 Cunningham and Walker Study Area in Biscayne Bay, Southeast Florida



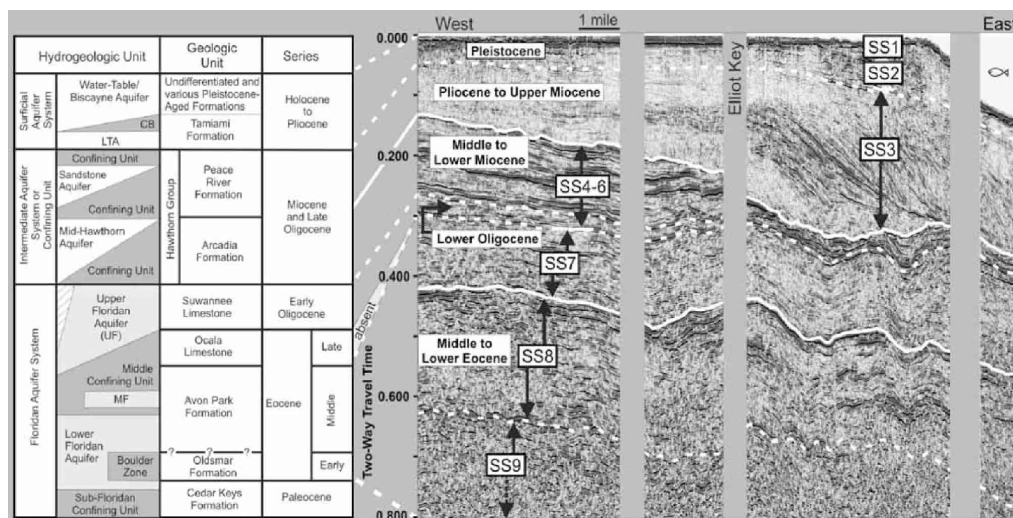
Notes:

- (a) Location map of area delimited in B.
- (b) Outline of study area shown in C.
- (c) Location map of seismic profiles in Biscayne Bay.

Source: [Reference 958](#)

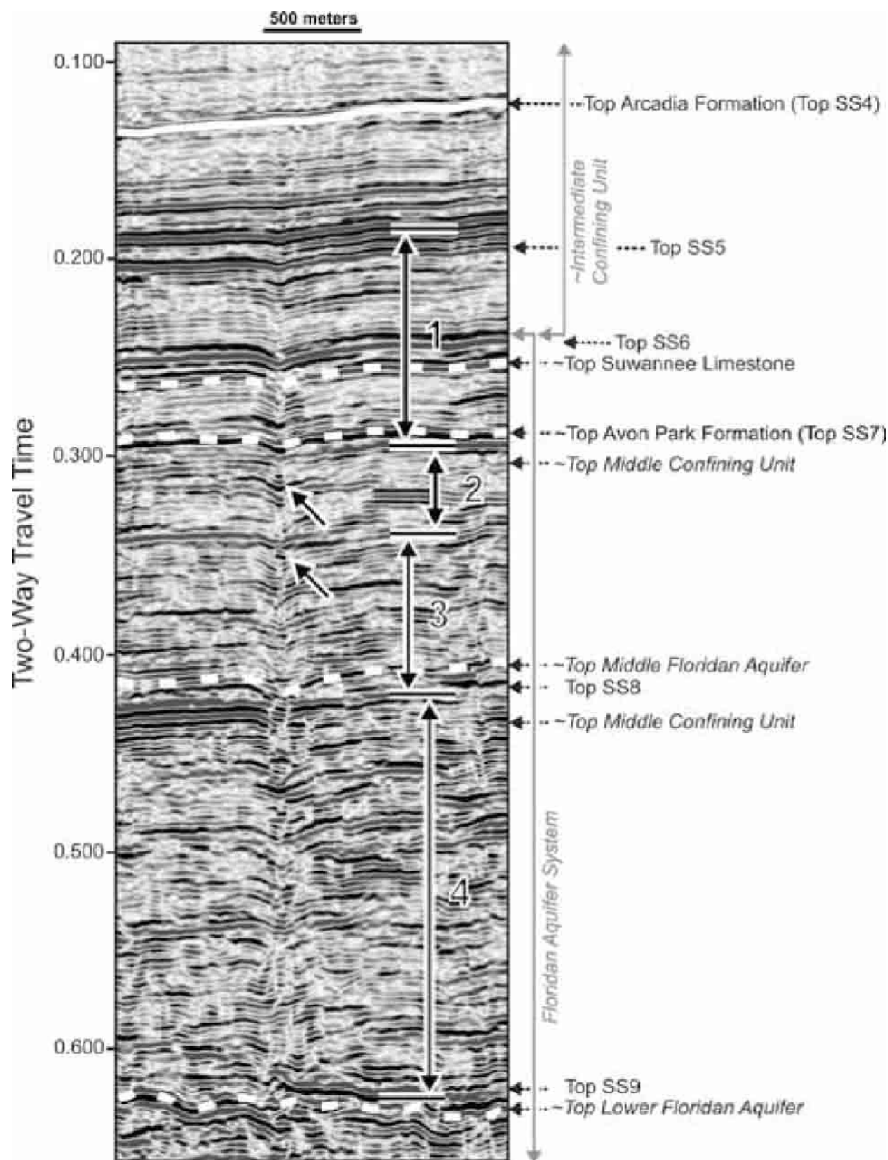
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Figure 2.5.1-357 Correlation of Hydrogeologic and Geologic Units to Time Stratigraphic Units of Southern Florida



Note: Correlation of hydrogeologic and geologic units, and time stratigraphic units of southern Florida to a provisional seismic-reflection stratigraphy (SS1–SS9) of seismic profiles EW4 in Biscayne Bay, and EKW and EKE east of Elliot Key in the Atlantic Ocean (Reference 958).

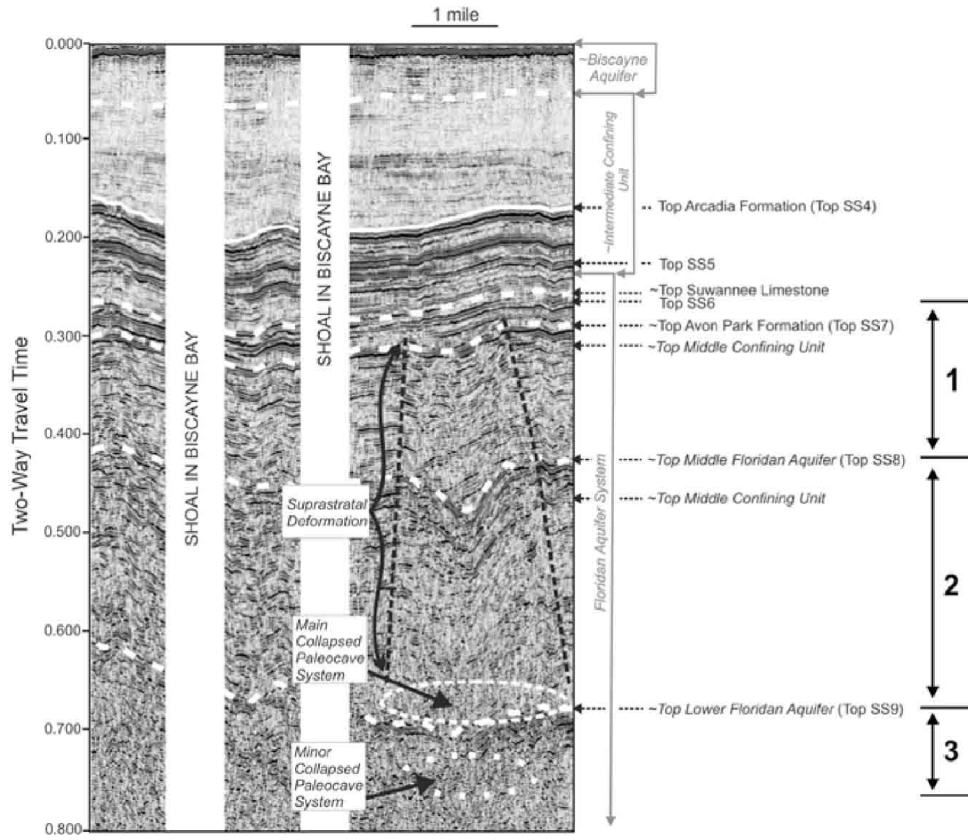
Figure 2.5.1-358 A Part of Seismic-Reflection Profile N1 Across Four Vertically Stacked, Narrow Zones (1–4) of Seismic Sags That Combine to Form a Single Seismic-Sag Structural System



Source: Reference 958

Turkey Point Units 6 & 7
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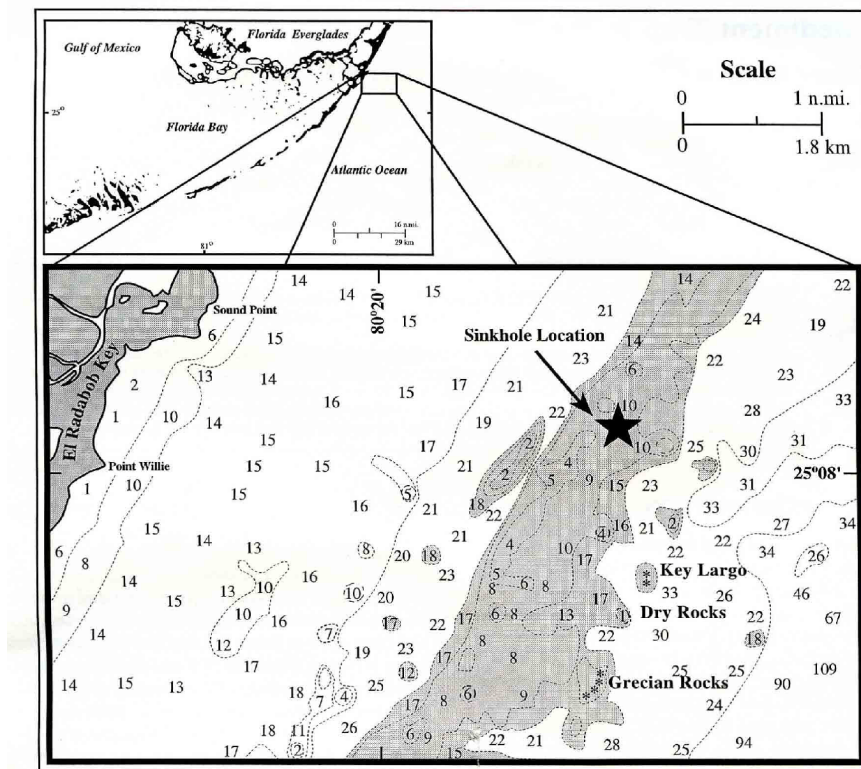
Figure 2.5.1-359 Seismic-Reflection Profile N5 Across a Vertically Stacked Arrangement of Structural Sags



Note: Three zones (1-3) of sags in seismic reflections are shown with each zone of seismic sags having different sag angles. No effects of the collapse are visible above the top of zone 1 (Reference 958).

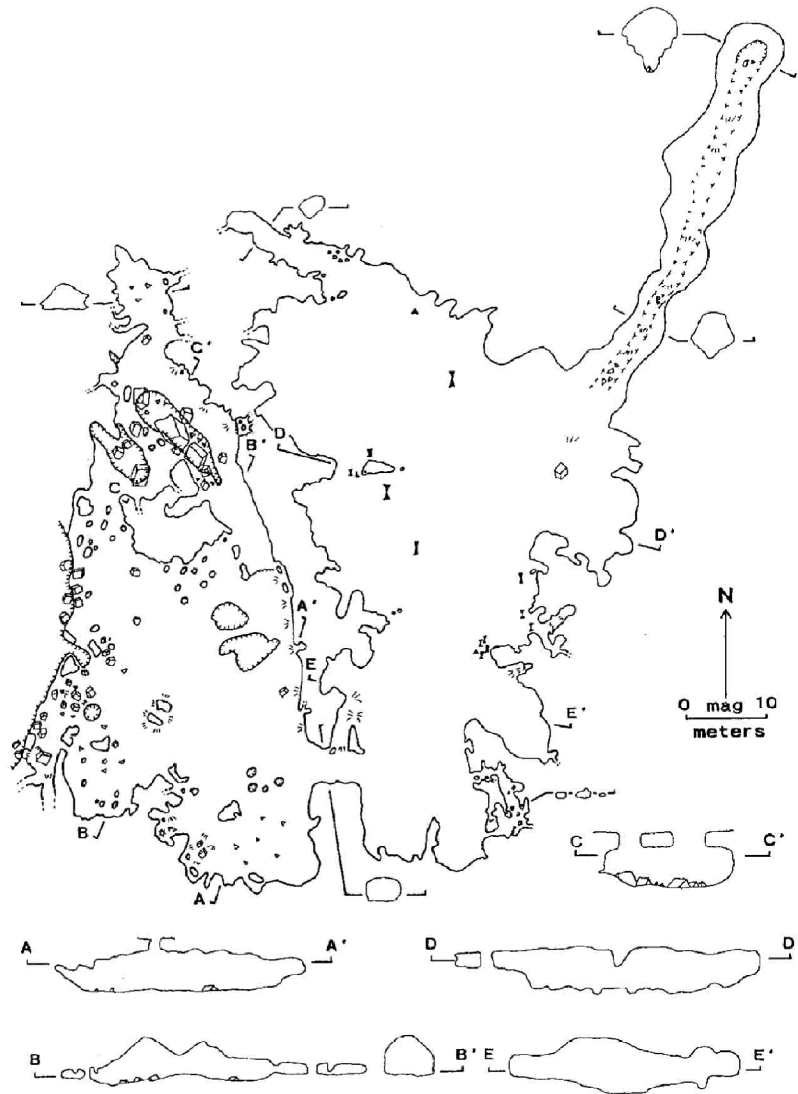
Turkey Point Units 6 & 7
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**Figure 2.5.1-360 Sinkhole in the Key Largo National Marine Sanctuary
About 1 Mile (1.8 km) From Key Largo Dry Rocks Reef**



Source: Reference 959

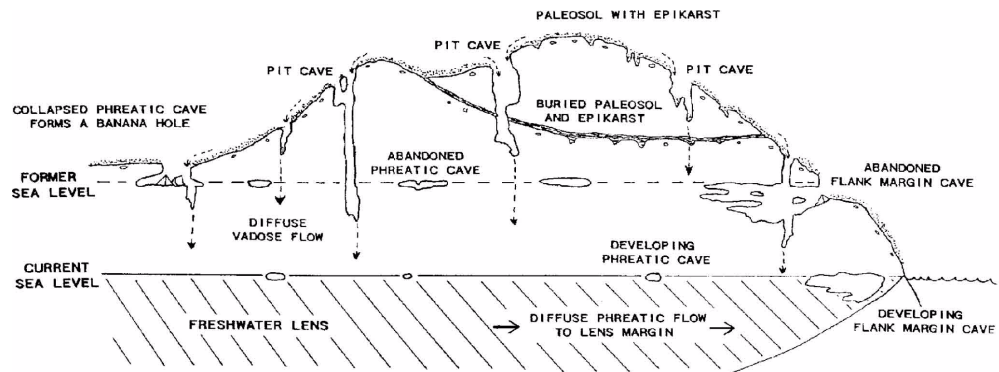
Figure 2.5.1-361 Salt Pond Cave, Long Island, Bahamas, a Flank Margin Cave



Note: The cave has an irregular phreatic morphology and is horizontally extensive but vertically restricted (Reference 263).

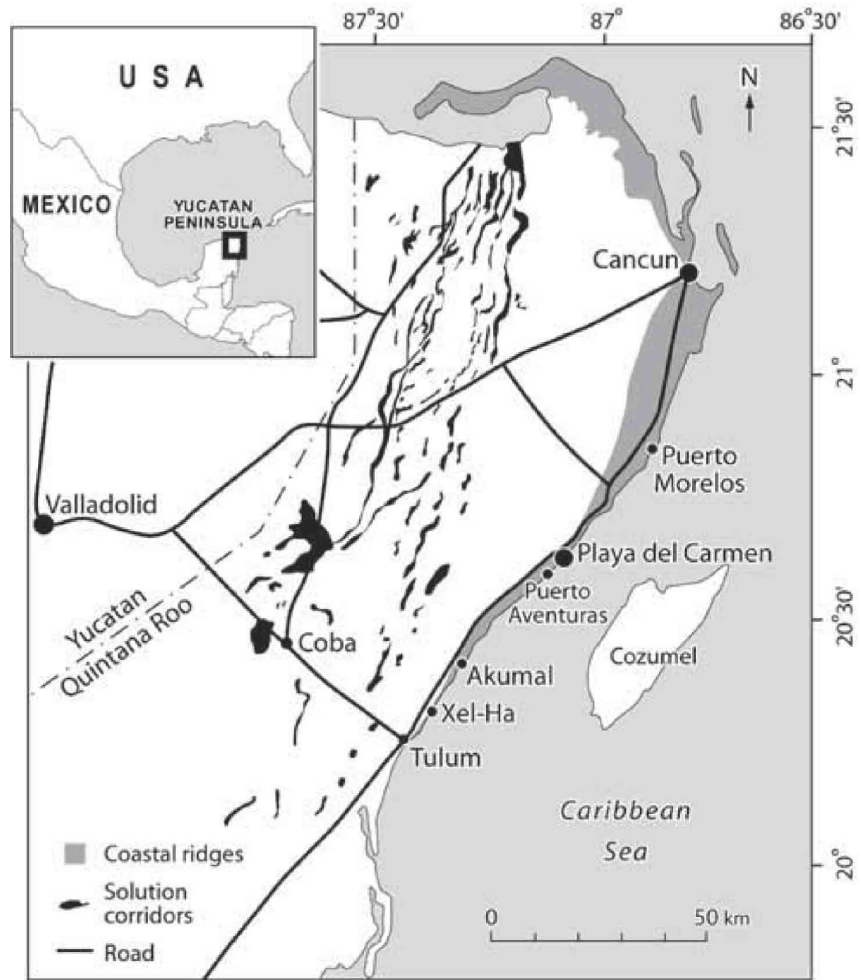
Turkey Point Units 6 & 7
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Figure 2.5.1-362 Diagrammatic Representation of the Main Dissolution Features Found on Carbonate Islands



Note: The features shown are epikarst with paleosol, pit caves, banana holes, phreatic caves, and flank margin caves. Changes in sea level move the position of the karst features ([Reference 263](#)).

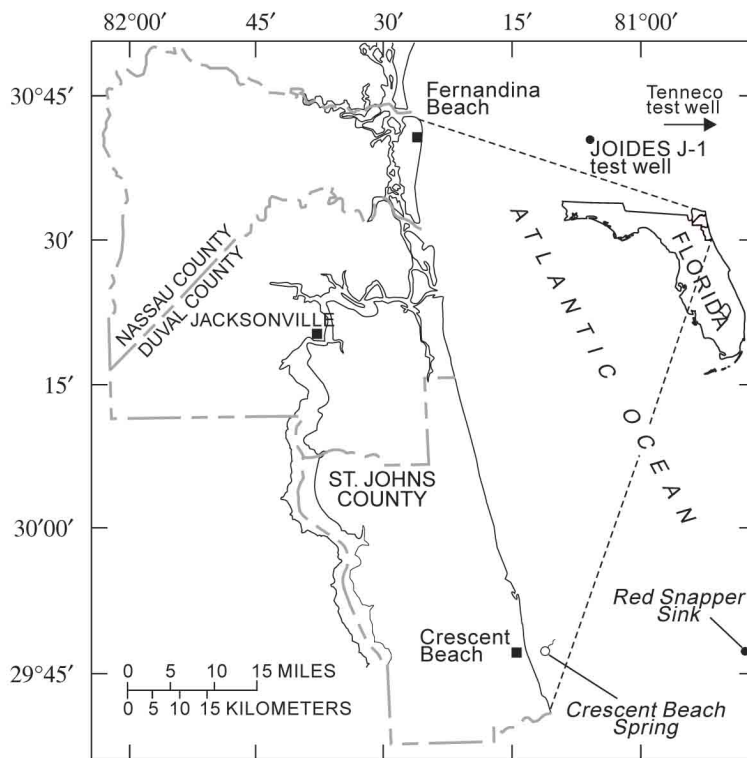
Figure 2.5.1-363 Location of the Quintana Roo Caves



Source: Reference 965

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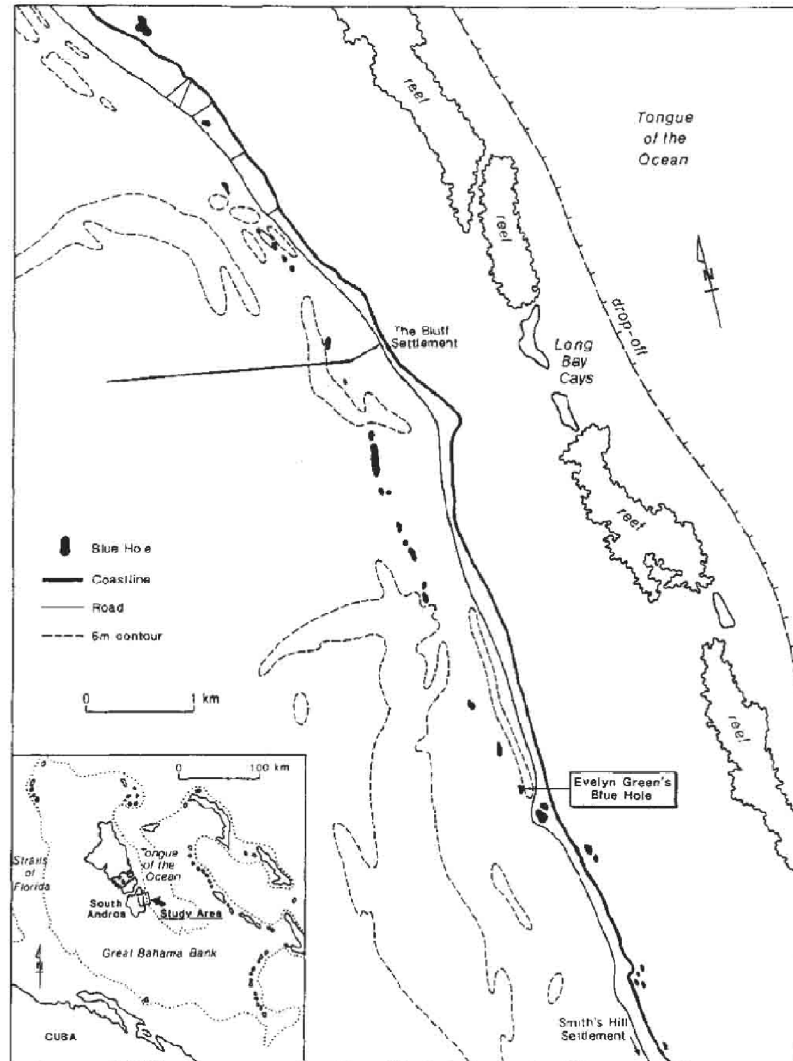
Figure 2.5.1-364 Locations of Crescent Beach Spring and Red Snapper Sink



Source: Reference 966

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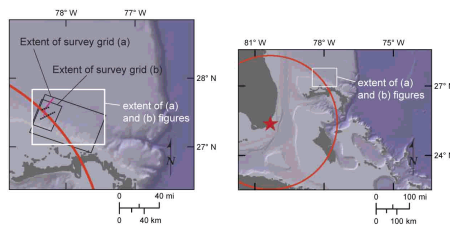
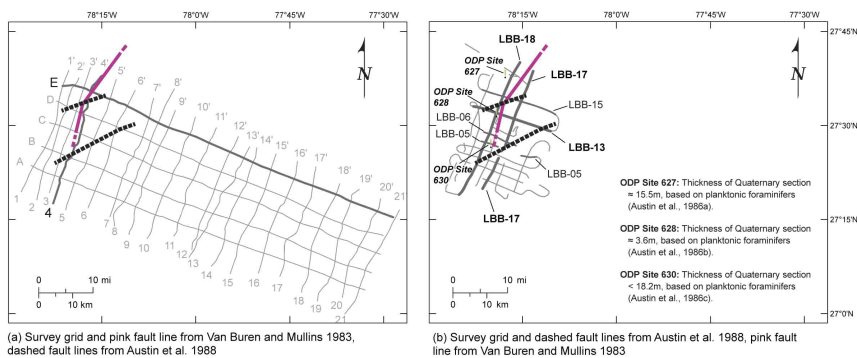
Figure 2.5.1-365 Location Map of the Bahamas Showing a Chain of Fracture-Controlled Blue Holes on South Andros Island



Source: Reference 950

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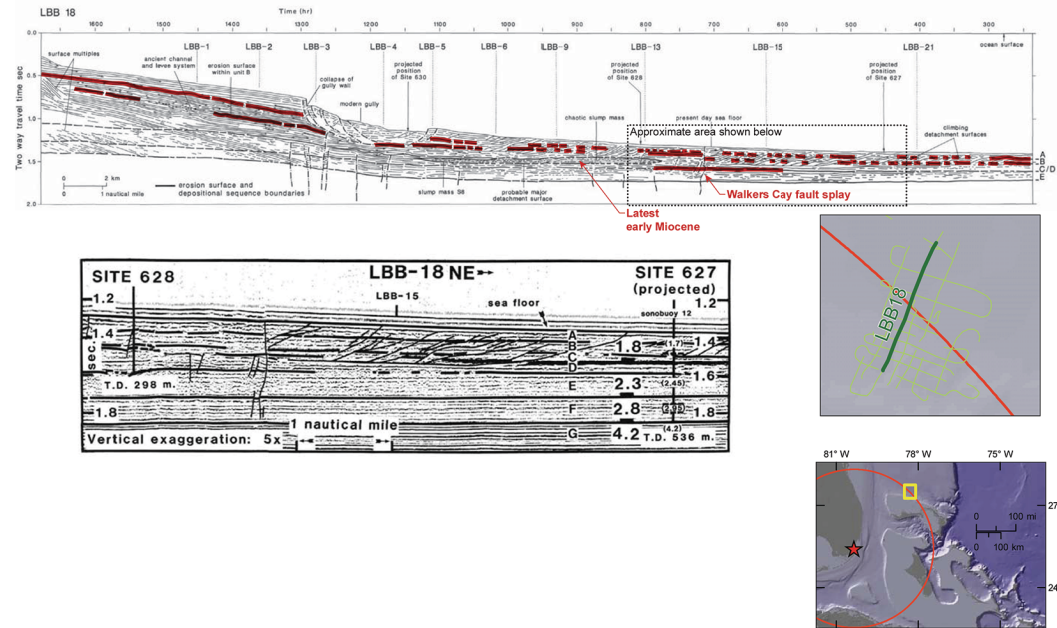
Figure 2.5.1-366 Mapped Depictions of the Walkers Cay Fault Based on Seismic Data



Source: [References 474, 785, and 791](#)

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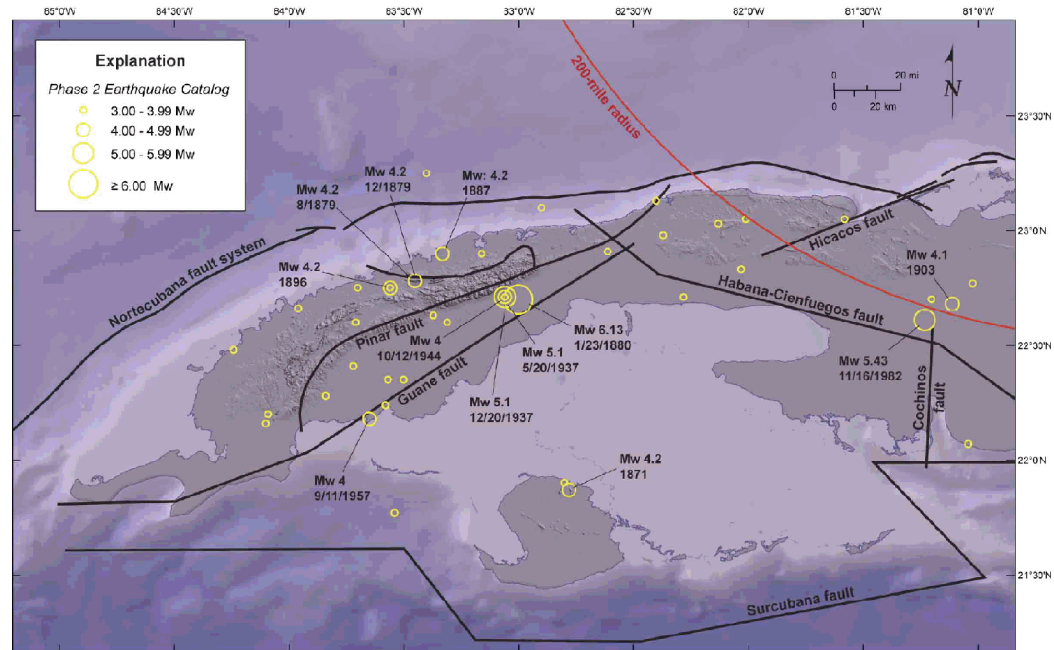
Figure 2.5.1-367 Interpretation of the Walkers Cay Fault in Seismic Line LBB-18



Source: References 476 and 785

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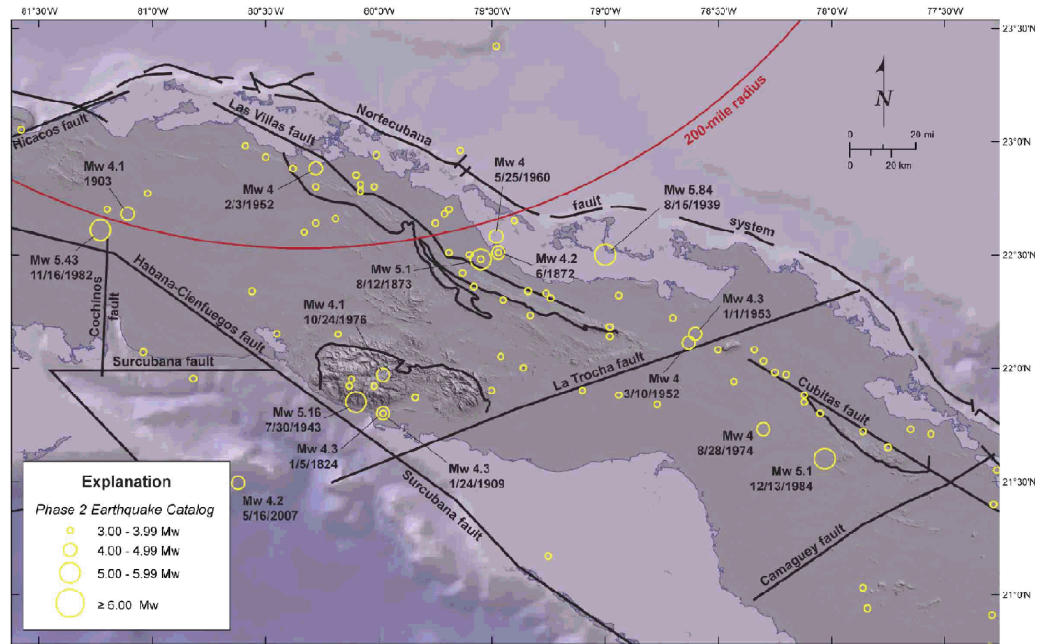
Figure 2.5.1-368 Fault Map of Cuba Showing Earthquakes From the Phase 2 Earthquake Catalog (Sheet 1 of 3)



Multiple sources were used to compile this map, including [References 439, 448, 492, and 494](#).

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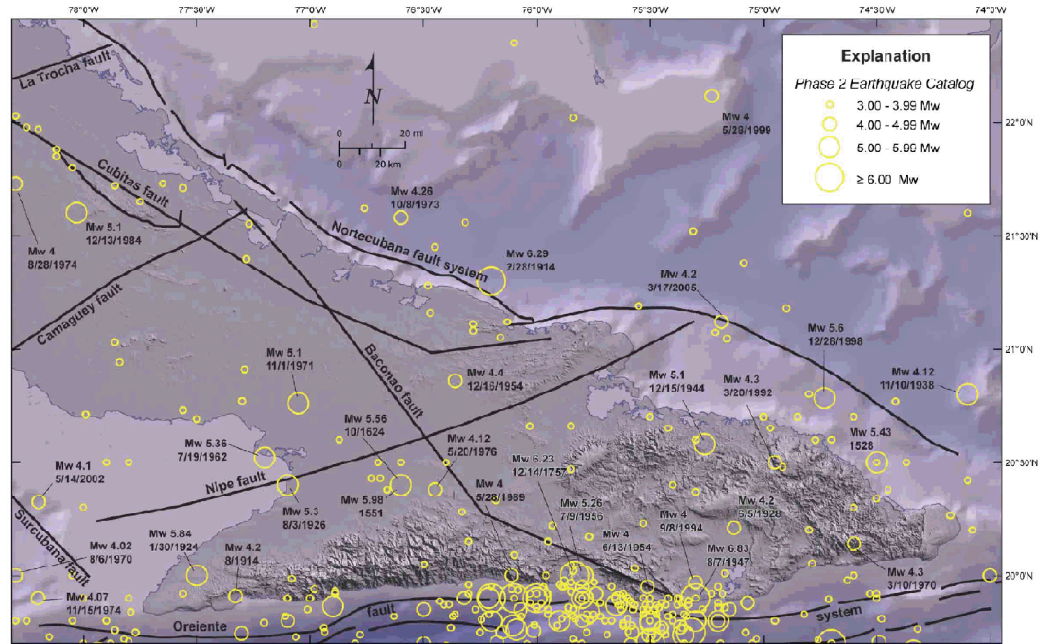
Figure 2.5.1-368 Fault Map of Cuba Showing Earthquakes From the Phase 2 Earthquake Catalog (Sheet 2 of 3)



Multiple sources were used to compile this map, including [References 439, 448, 492, and 494](#).

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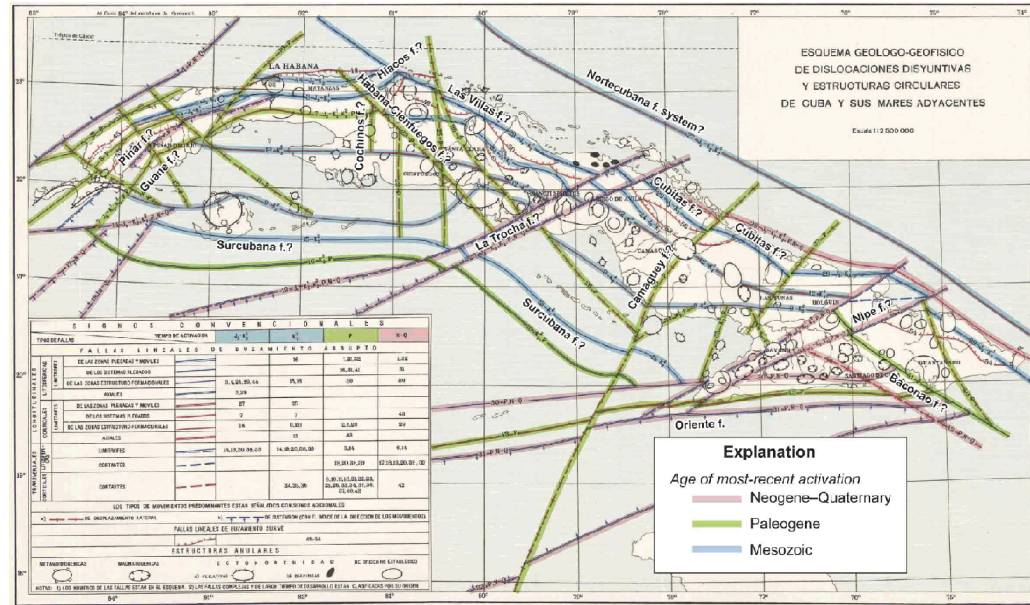
Figure 2.5.1-368 Fault Map of Cuba Showing Earthquakes From the Phase 2 Earthquake Catalog (Sheet 3 of 3)



Multiple sources were used to compile this map, including [References 439, 448, 492, and 494](#).

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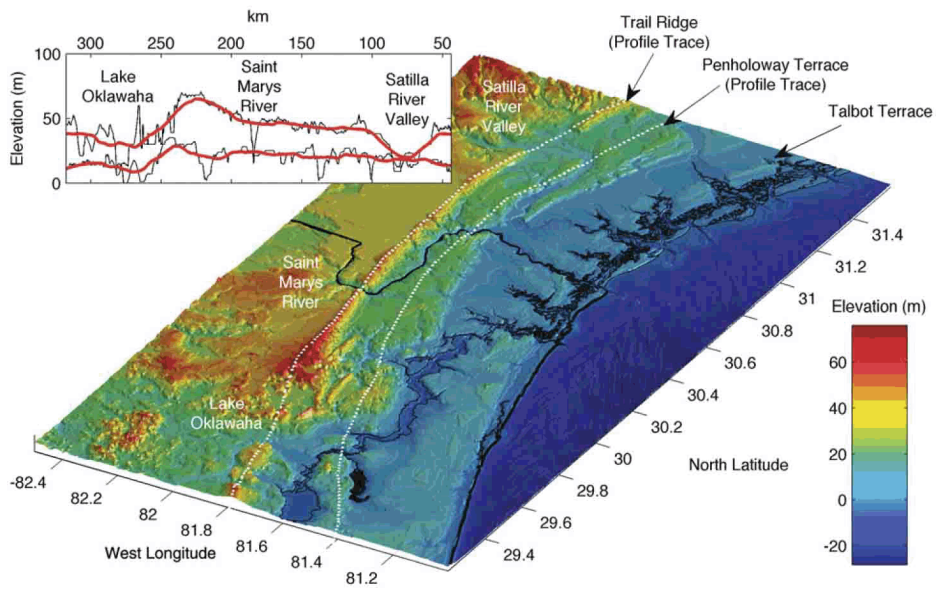
Figure 2.5.1-369 Map of Estimated Ages of Faults in Cuba



Note: Modified after [Reference 848](#).

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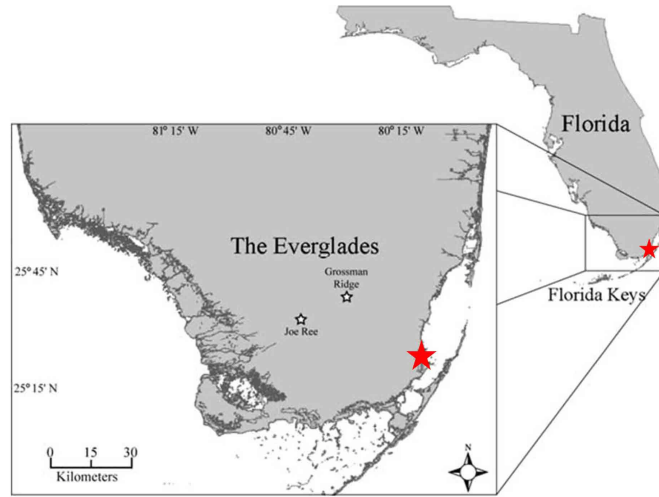
Figure 2.5.1-370 Locations of the Trail Ridge, Penholoway Terrace, and Talbot Terrace in Northern Florida and Southern Georgia



Note: Oblique hill shade image of northern Florida and southern Georgia showing Trail Ridge, modern shoreline, and karstified central Florida. The inset is a profile along Trail Ridge axis showing spatial variation in uplift, which agrees with spatial variation in karstification and/or lithology (Reference 927).

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Figure 2.5.1-371 Joe Ree Rock Reef and Grossman Ridge Rock Reef Locations in South Florida in Relation to the Turkey Point Units 6 & 7 Site



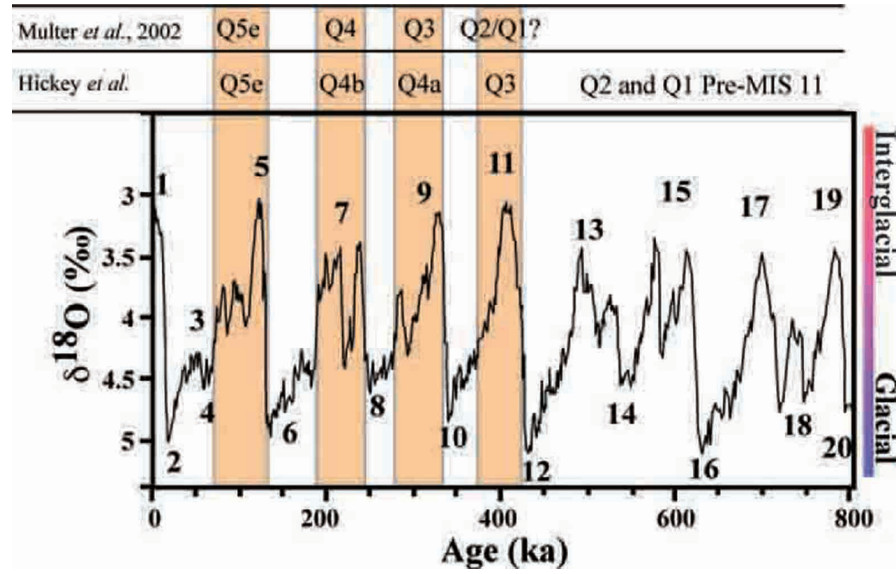
Source: Modified from [Reference 928](#)

Figure 2.5.1-372 Correlation of Marine Sequences of the Fort Thompson Formation and Miami Limestone

Epoch	Formation	Hoffmeister & Multer (1964, 1968)	Perkins (1977)	Harrison <i>et al.</i> (1984)	Multer <i>et al.</i> (2002)	Cunningham <i>et al.</i> (2006)	Everglades Rock Reefs (this study)				
Pleistocene	Miami Limestone	Key Largo Limestone	Q5	Q5	Q5e	HFC5e	Q5e				
	Fort Thompson Formation		Q4	Q4b	Q4b	HFC4	Q4b				
				Q4a	Q4a		Q4a				
				Q3	Q3		Q3	Q3a			
	Q2		Q2	Q2	Q2	Q2	HFC3b	Q2d			
							HFC3a		Q2c		
							HFC2h			Q2b	
							HFC2g3				Q2a
							HFC2g2				
							HFC2g1				
							HFC2e2				
	HFC2d										
	HFC2c										
	Q1		Q1	Q1	HFC2b	Q1a					
					HFC2a						

Source: Reference 928

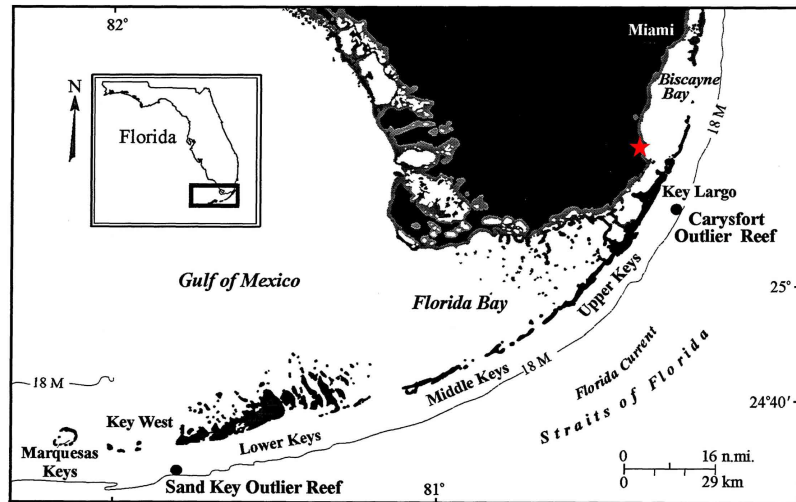
Figure 2.5.1-373 Interpreted Correlation of South Florida Pleistocene Sea Level Record



Source: [Reference 928](#)

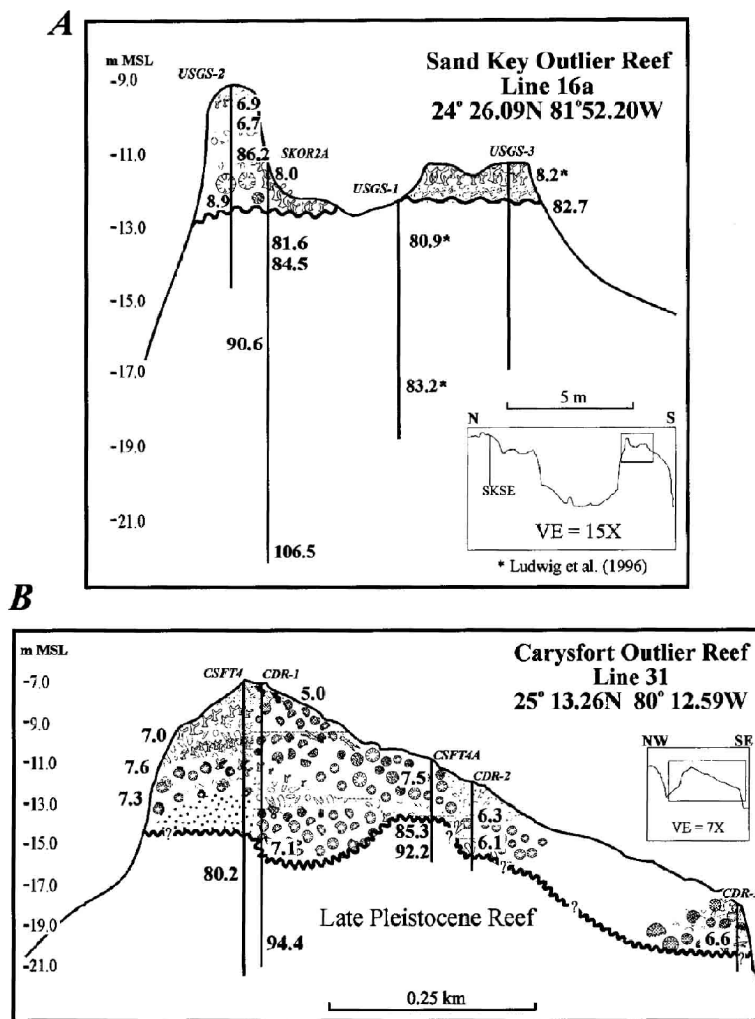
Turkey Point Units 6 & 7
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**Figure 2.5.1-374 Carysfort Outlier Reef and Sand Key Outlier Reef
Locations in South Florida in Relation to the Turkey Point Units 6 & 7 Site**



Source: Modified from [Reference 931](#)

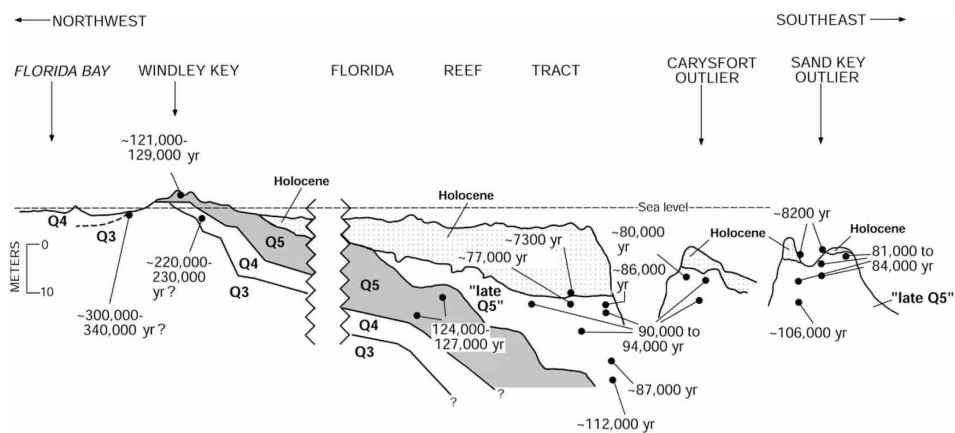
Figure 2.5.1-375 Schematic Cross Sections of the Sand Key Outlier Reef and the Carysfort Outlier Reef



Note: Interpreted cross sections for Sand Key (main outlier reef) and Carysfort Outlier Reef. All dates were determined via the high-precision TIMS U-Th technique. Unconformities were placed using the U-Th dates and stable isotope data differentiating marine units from subaerial exposure horizons (Reference 932). All Pleistocene U-Th dates indicate in situ post-Substage 5e reef growth. A: Sand Key Cross Section — One Pleistocene date of 86.2 ka in core SKOR2A is considered to be reworked into the associated rubble-pinnacle feature. B: Carysfort Cross Section — All cores are shown. An *A. palmata* reef crest occurs in core CSFT4A (Reference 932).

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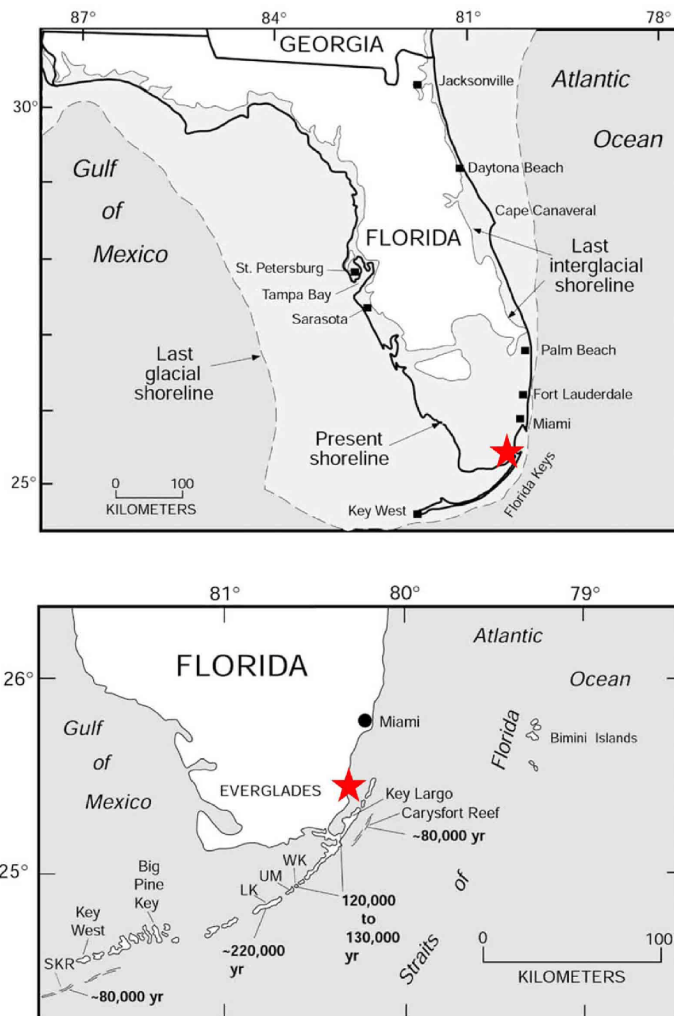
Figure 2.5.1-376 Composite Cross Section of the Florida Keys from Northwest to Southeast and U-Series Ages of Corals From Quaternary Reefs



Source: Reference 933

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Figure 2.5.1-377 State of Florida Showing Modern Last Glacial and Last Interglacial Shorelines and Uranium Series Age Dates of Pleistocene Reefs in South Florida in Relation to the Turkey Point Units 6 & 7 Site

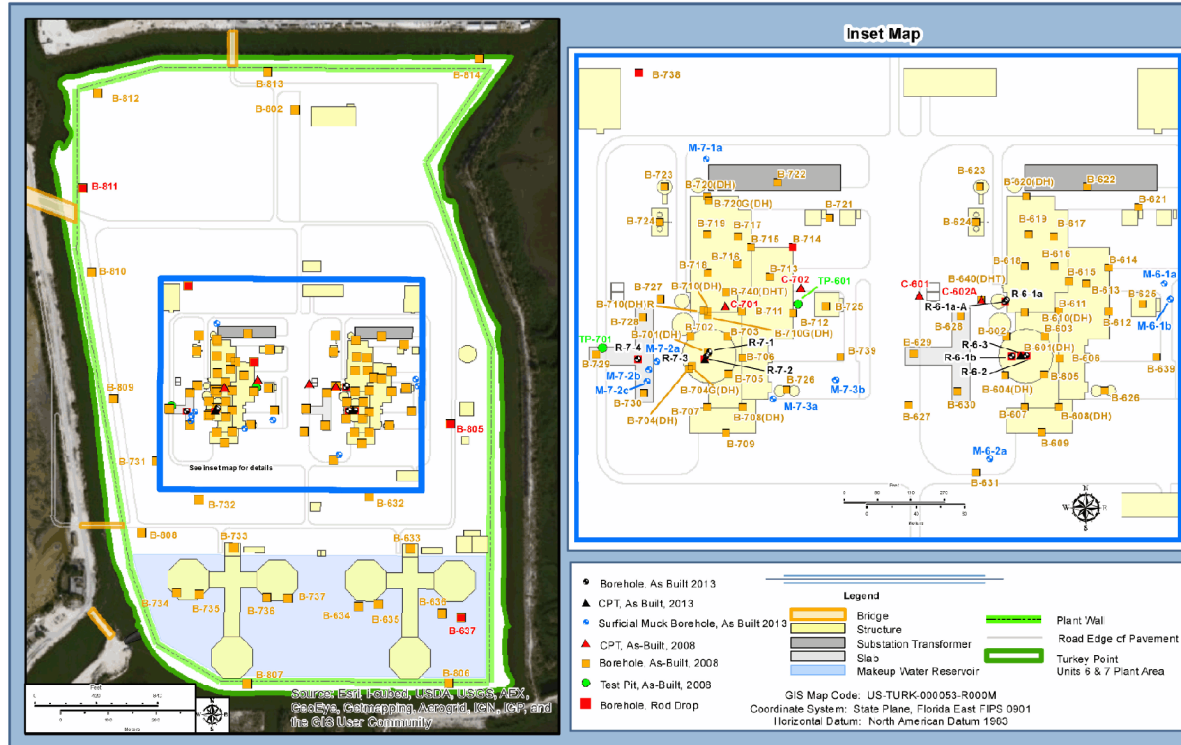


Notes:

- (a) Upper: Map of the state of Florida showing the modern, last glacial (~21,000 years), and last interglacial (~120,000 years) shorelines.
- (b) Lower: Detail of southern Florida, including the Florida Keys and U-series ages of emergent or shallow-submerged Pleistocene reefs.
- (c) Abbreviations: WK—Windley Key, UM—Upper Matecumbe Key, LK—Long Key, SKR—Sand Key Reef (Reference 933).

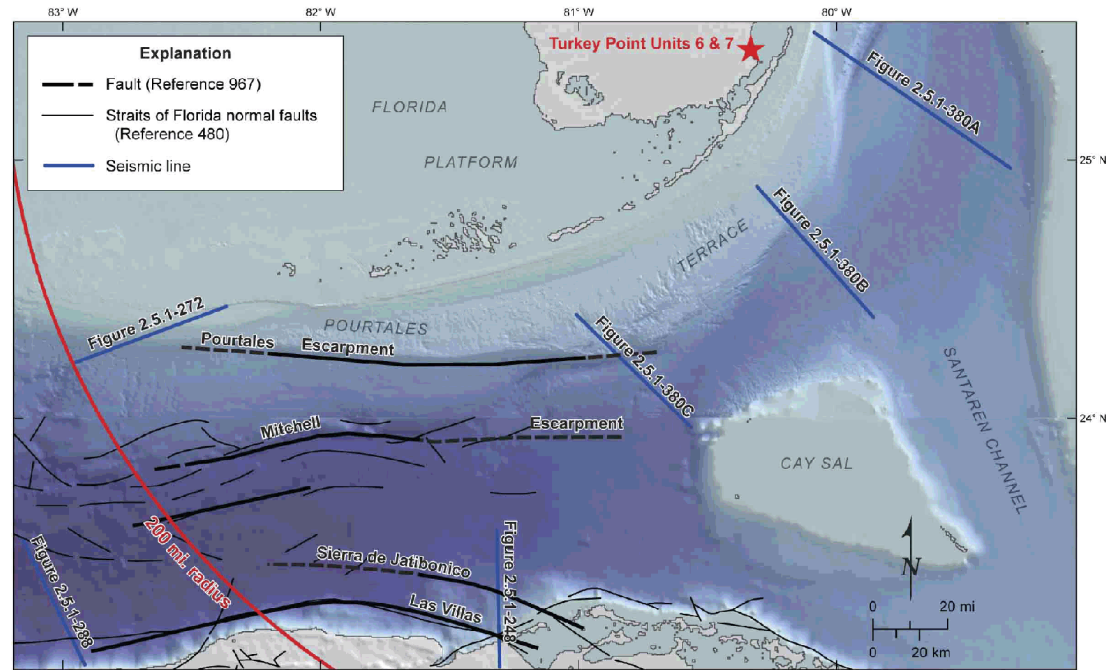
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Figure 2.5.1-378 Locations of Borings With Rod Drops at the Turkey Point Units 6 & 7



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Figure 2.5.1-379 Map of Selected Seismic Lines in the Straits of Florida



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Figure 2.5.1-380 Profiles Across the Miami/Pourtales Escarpment Illustrating the Variation in Geomorphology and Stratigraphy

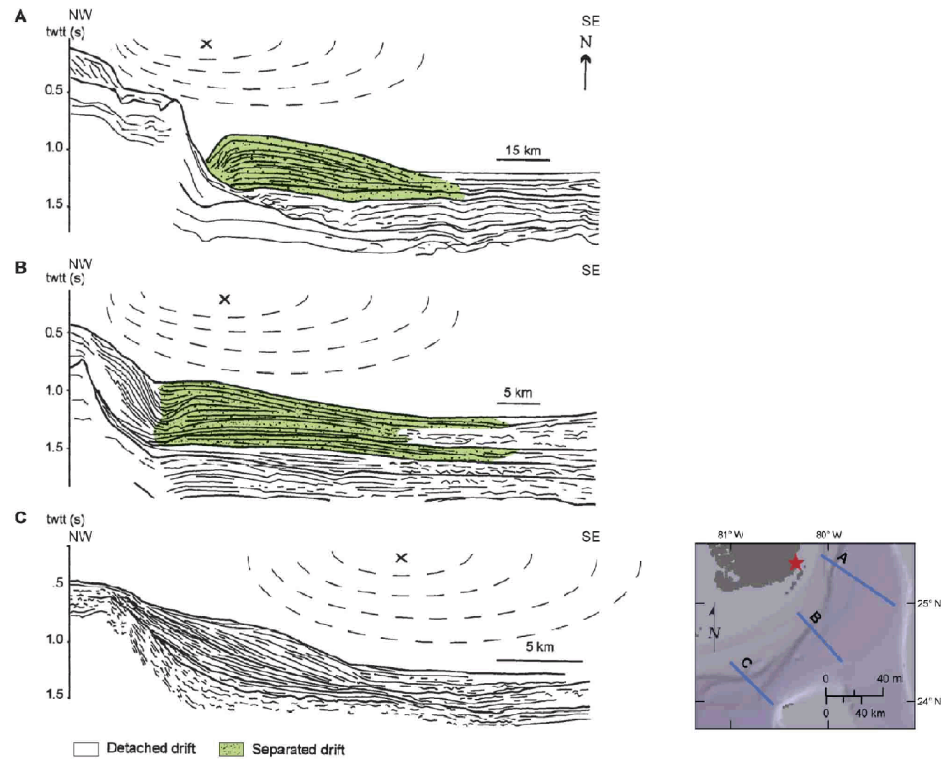
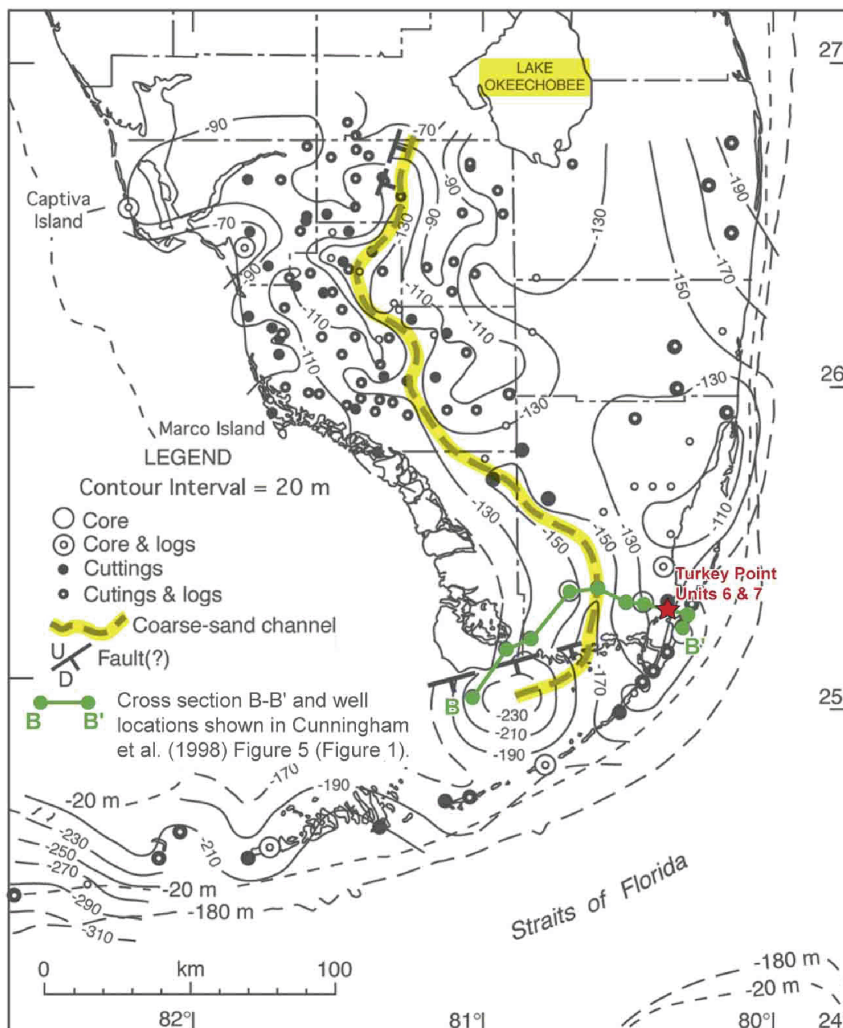
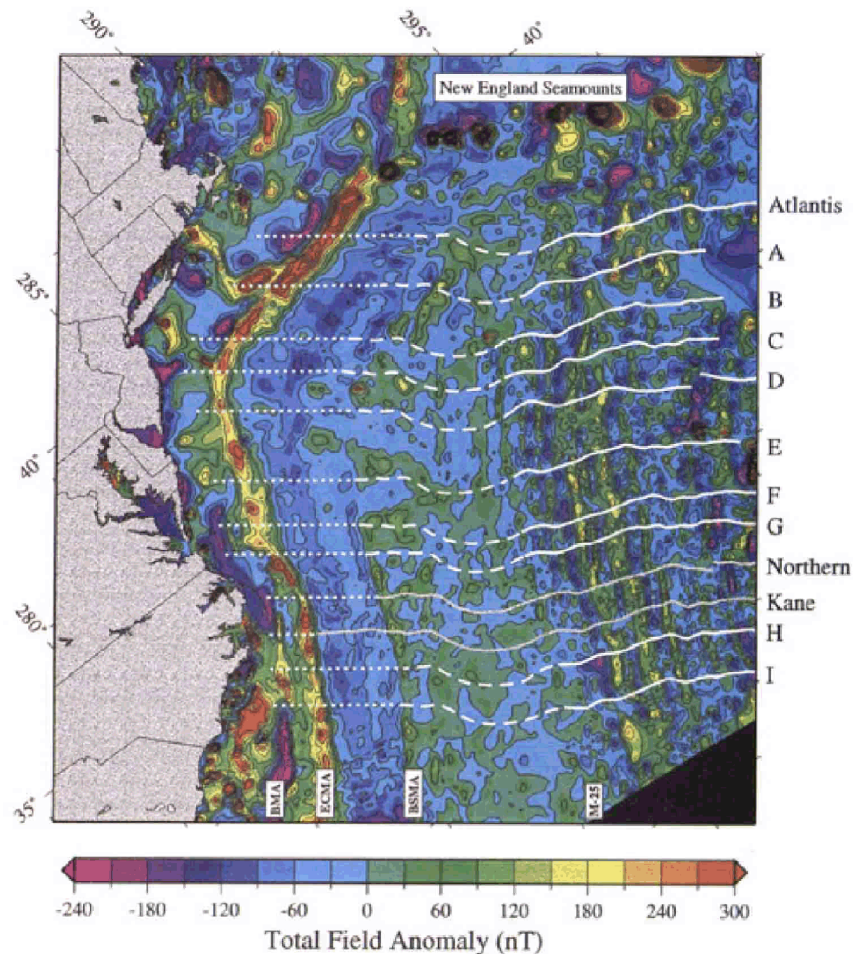


Figure 2.5.1-381 Structure Contour Map of the Top of the Oligocene-Miocene Arcadia Formation



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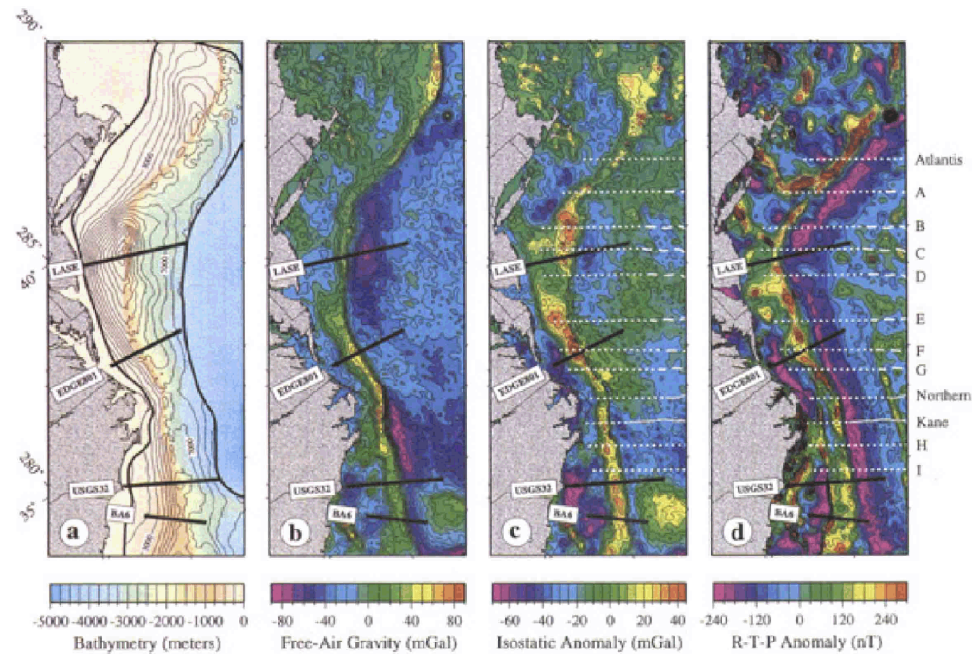
Figure 2.5.1-382 Total Field Magnetic Anomaly From the Geological Survey of Canada



Note: Total field magnetic anomaly from the Geological Survey of Canada modified in Behn and Lin, 2000. Areas without adequate data control are masked in black. The segmented magnetic high running parallel to the margin is the ECMA. Solid gray lines show the location of the Kane and Northern fracture zones, white lines show the location of the offset zone traces identified in Behn and Lin (Reference 972), solid lines represent areas where the offset zone traces are constrained by offsets in magnetic lineations; dashed lines are used where the traces are primarily constrained and the dotted lines are used to represent the high uncertainty in the location of the offset zone traces between the BSMA and the East Coast margin. The right hand margin labels are major offset zones (Atlantis, Kane, Northern, and A-I).

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Figure 2.5.1-383 Shaded Bathymetry of the U.S. East Coast, Combining NGDC Ship Track Data and ETOPO5 Digital Bathymetry Data



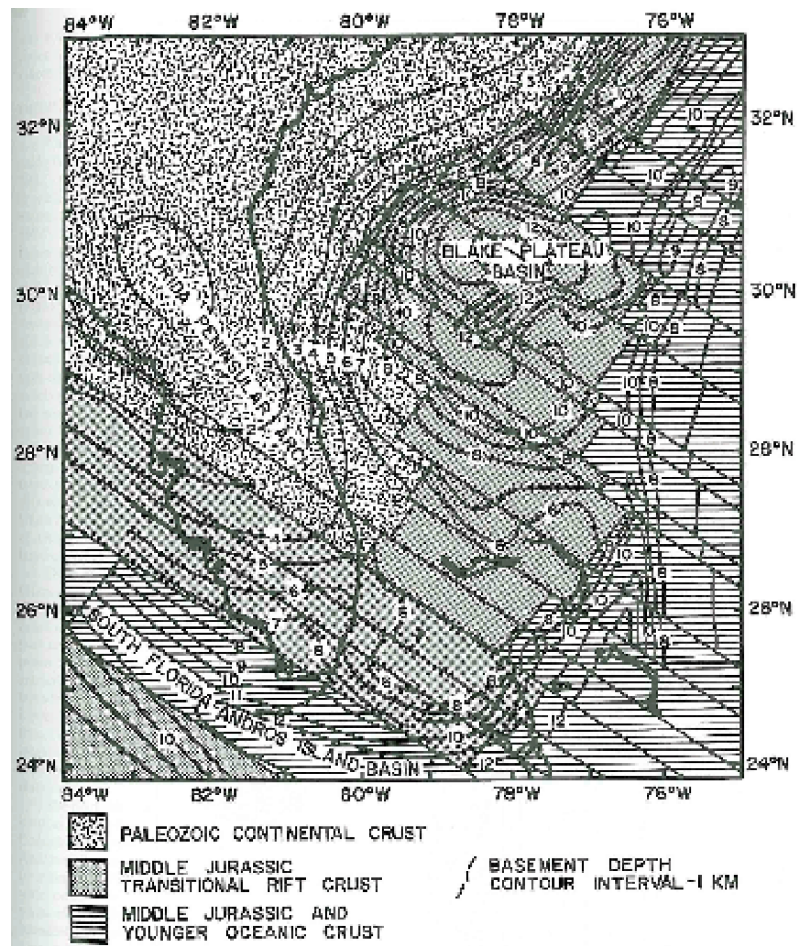
Notes:

- (a) Shaded bathymetry of the U.S. East Coast, combining National Geophysical Data Center (NGDC) ship track data and ETOPO5 (Earth Topography 5-minute) digital bathymetry data. Light black contour lines show sediment thickness from USGS seismic reflection grids and thick black lines show the extent of the USGS data coverage.
- (b) Free-air gravity satellite gravity map.
- (c) Isostatic gravity anomaly map.
- (d) Reduced-to-the-pole (R-T-P) magnetic anomaly along the East Coast margin. LASE (Large Aperture Seismic Experiment), EDGE-801, USGS32 and BA-6 are seismic transect lines.

Source: [Reference 972](#)

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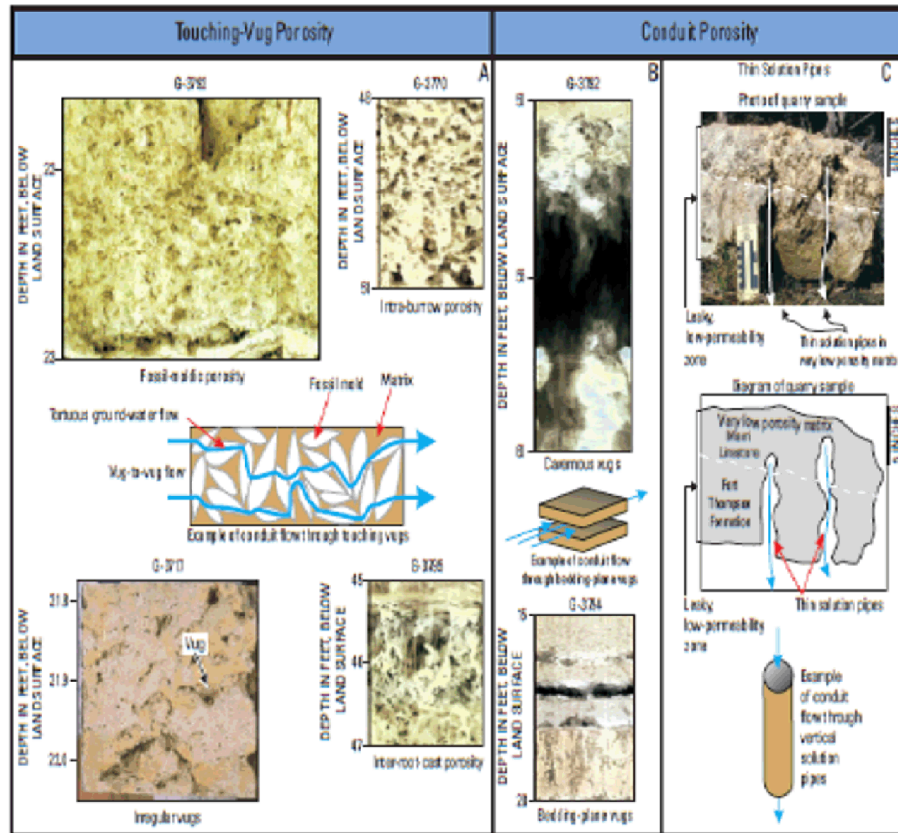
Figure 2.5.1-384 Basement Map of the Florida-Northern Bahamas Region



Note: Basement map of the Florida-northern Bahamas region showing depth in kilometers and basement type (continental, transitional, or oceanic with approximate age ranges).

Source: Modified from [Reference 307](#)

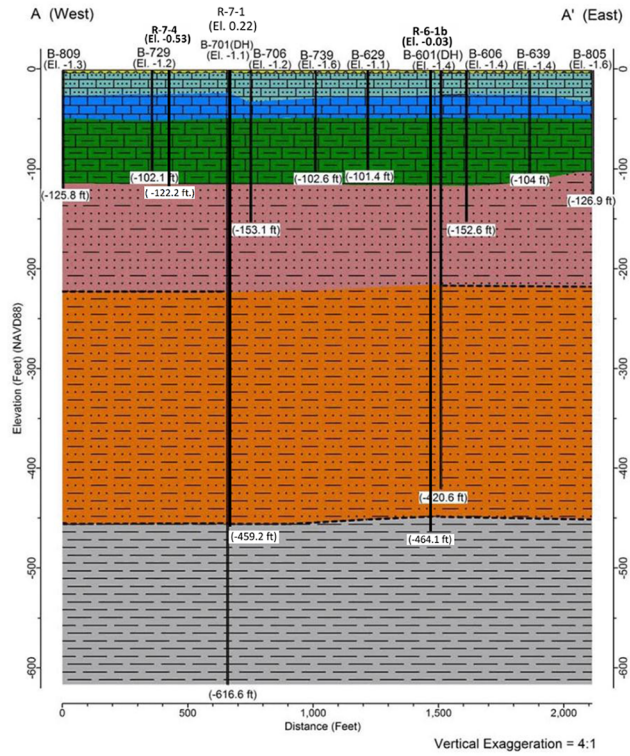
Figure 2.5.1-385 Relation Between Touching-Vug Porosity and Conduit Porosity for the Fort Thompson Formation and Miami Limestone of the Biscayne Aquifer in Cunningham et al. Study Area



Source: Modified from Reference 404

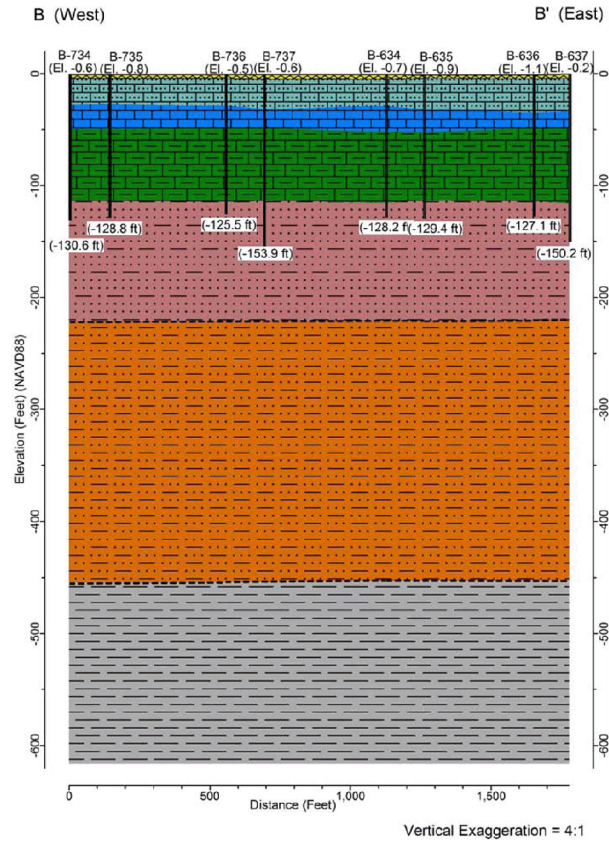
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Figure 2.5.1-386 Cross-Section A-A' (Vertical Exaggeration = 4:1)
 This figure appears in Appendix 2.5AA as Figure 2.5AA-215



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Figure 2.5.1-387 Cross-Section B-B' (Vertical Exaggeration = 4:1)
This figure appears in Appendix 2.5AA as Figure 2.5AA-216

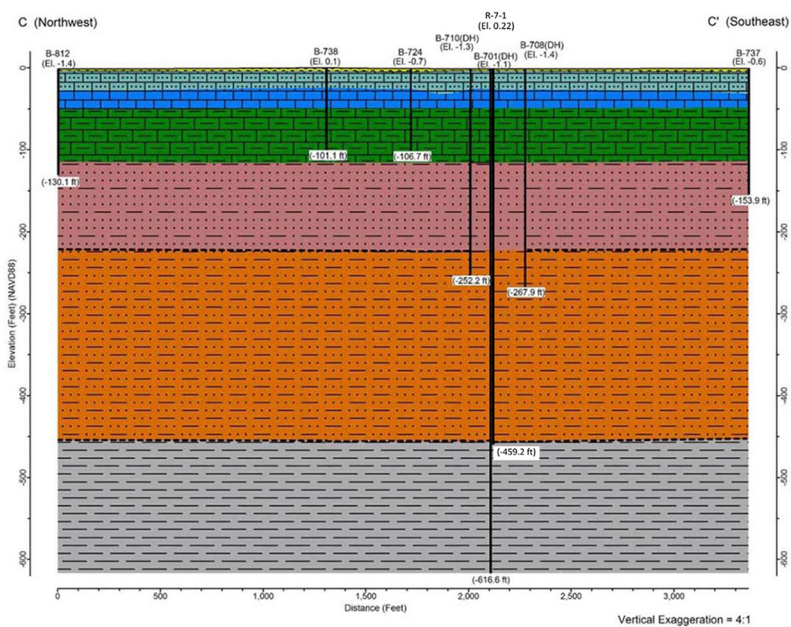


Stratigraphy	
	Muck/Peat
	Miami Limestone
	Key Largo Limestone
	Fort Thompson Fm.
	Tamiami Fm.
	Peace River Fm.
	Arcadia Fm.

Notes.	
---	Stratigraphic contacts are approximate and interpolated from the borings. The dashed line is an extrapolated stratigraphic contact.
	Subsurface data have been obtained only at the actual boring locations. Actual stratification between the borings may differ.
	Elevations (ft) are noted at the base of each boring.

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Figure 2.5.1-388 Cross-Section C-C' (Vertical Exaggeration = 4:1)
This figure appears in Appendix 2.5AA as Figure 2.5AA-217

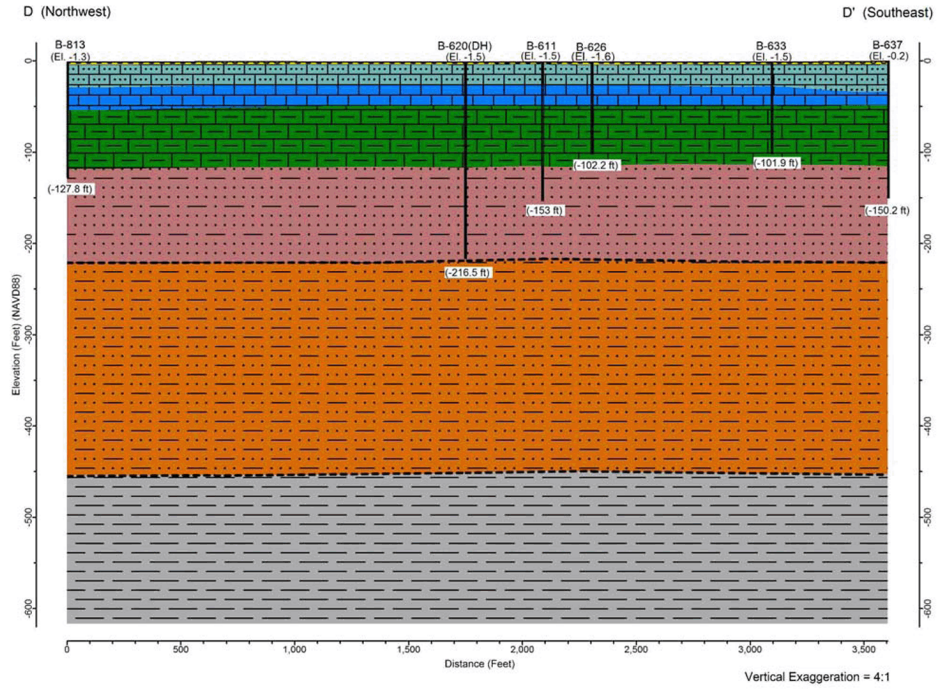


Stratigraphy	
	Muck/Peat
	Miami Limestone
	Key Largo Limestone
	Fort Thompson Fm.
	Tamiami Fm.
	Peace River Fm.
	Arcadia Fm.

Notes.
 --- Stratigraphic contacts are approximate and interpreted from the borings. The dashed line is extrapolated from select borings.
 Subsurface data have been obtained only at the actual boring locations.
 Actual stratification between the borings may differ.
 Elevations (ft) are noted at the base of the borings.

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Figure 2.5.1-389 Cross-Section D-D' (Vertical Exaggeration = 4:1)
 This figure appears in Appendix 2.5AA as Figure 2.5AA-201



Stratigraphy	
	Muck/Peat
	Miami Limestone
	Key Largo Limestone
	Fort Thompson Fm.
	Tamiami Fm.
	Peace River Fm.
	Arcadia Fm.

Notes.
 - - - Stratigraphic contacts are approximate and interpreted from the borings. The dashed line is extrapolated from select borings.
 Subsurface data have been obtained only at the actual boring locations.
 Actual stratification between the borings may differ.
 Elevations (ft) are noted at the base of the borings.