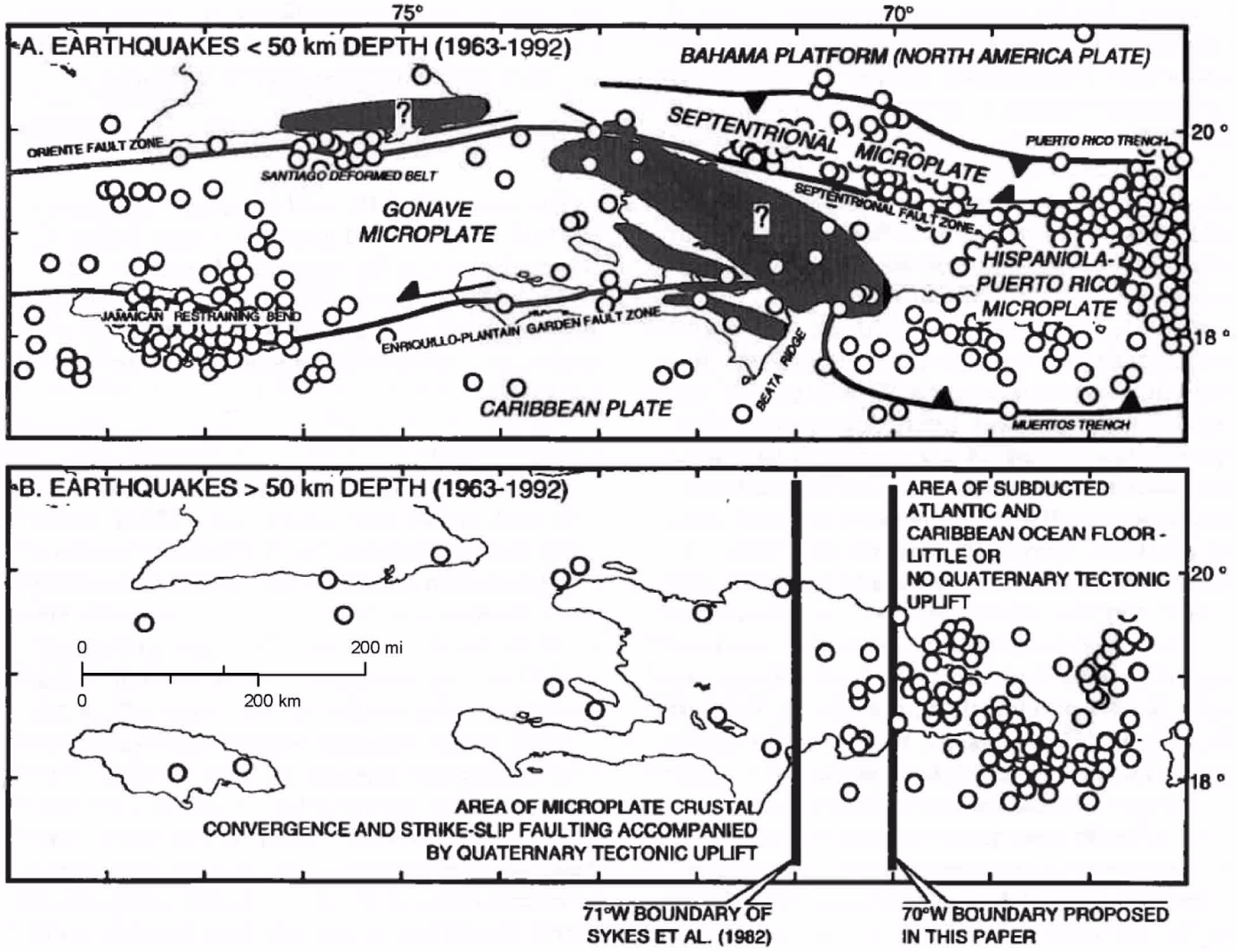
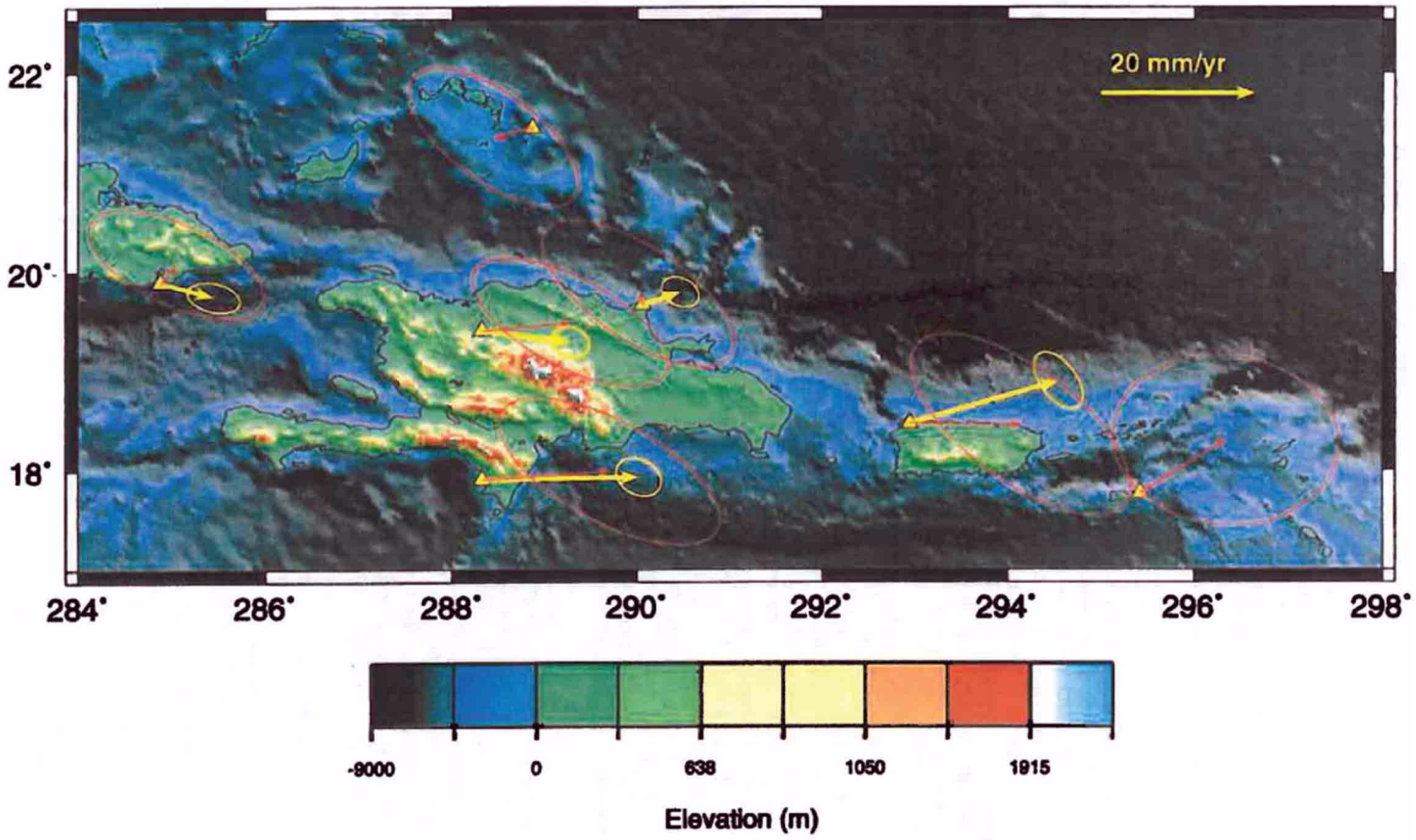
Figure 2.5.1-323 Earthquakes by Depth and Major Plate Boundary Structures in the Northeastern Area of the North America-Caribbean Plate Boundary



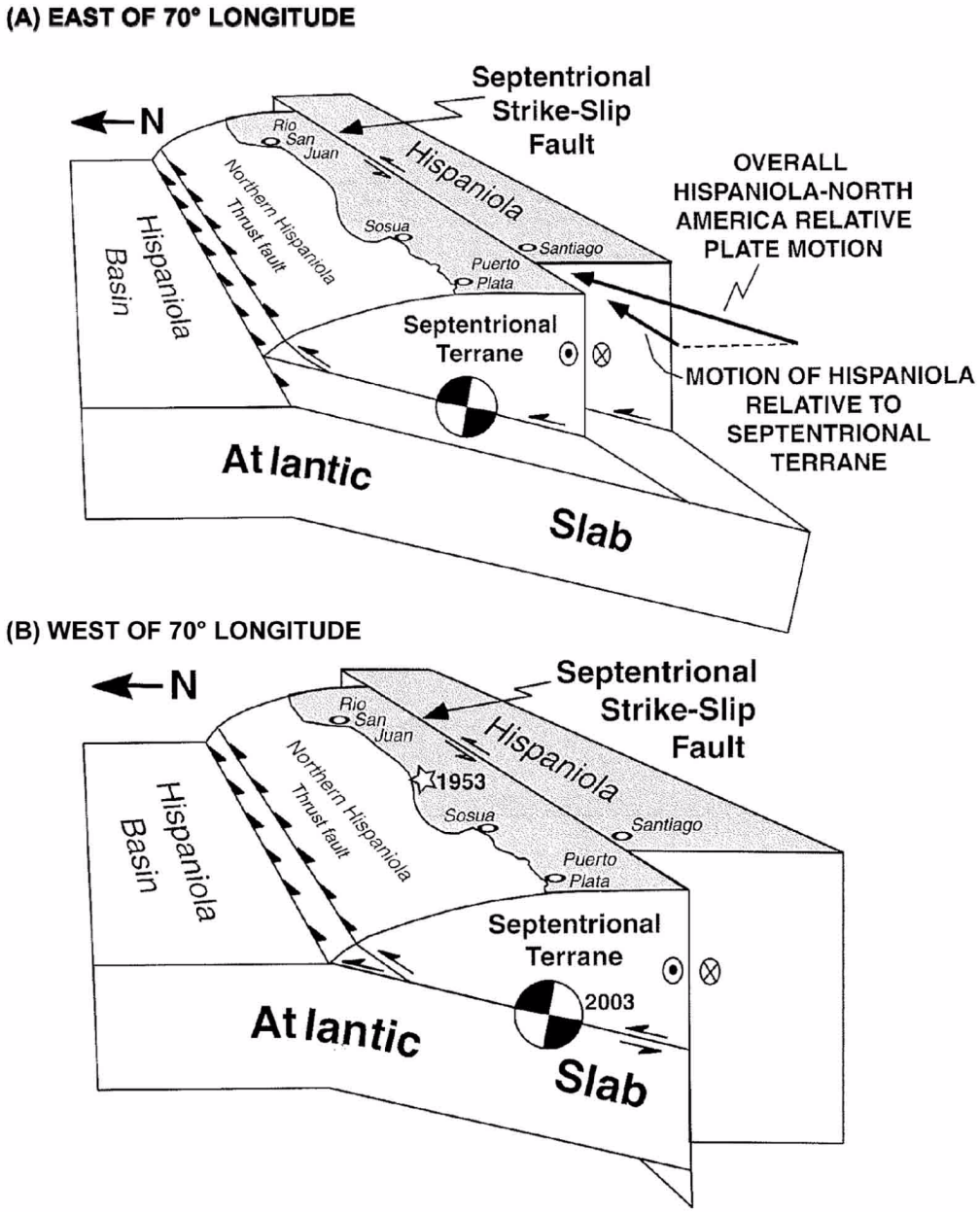
Source: Reference 639

Figure 2.5.1-324 GPS Site Velocities with Respect to North America



Source: Reference 780

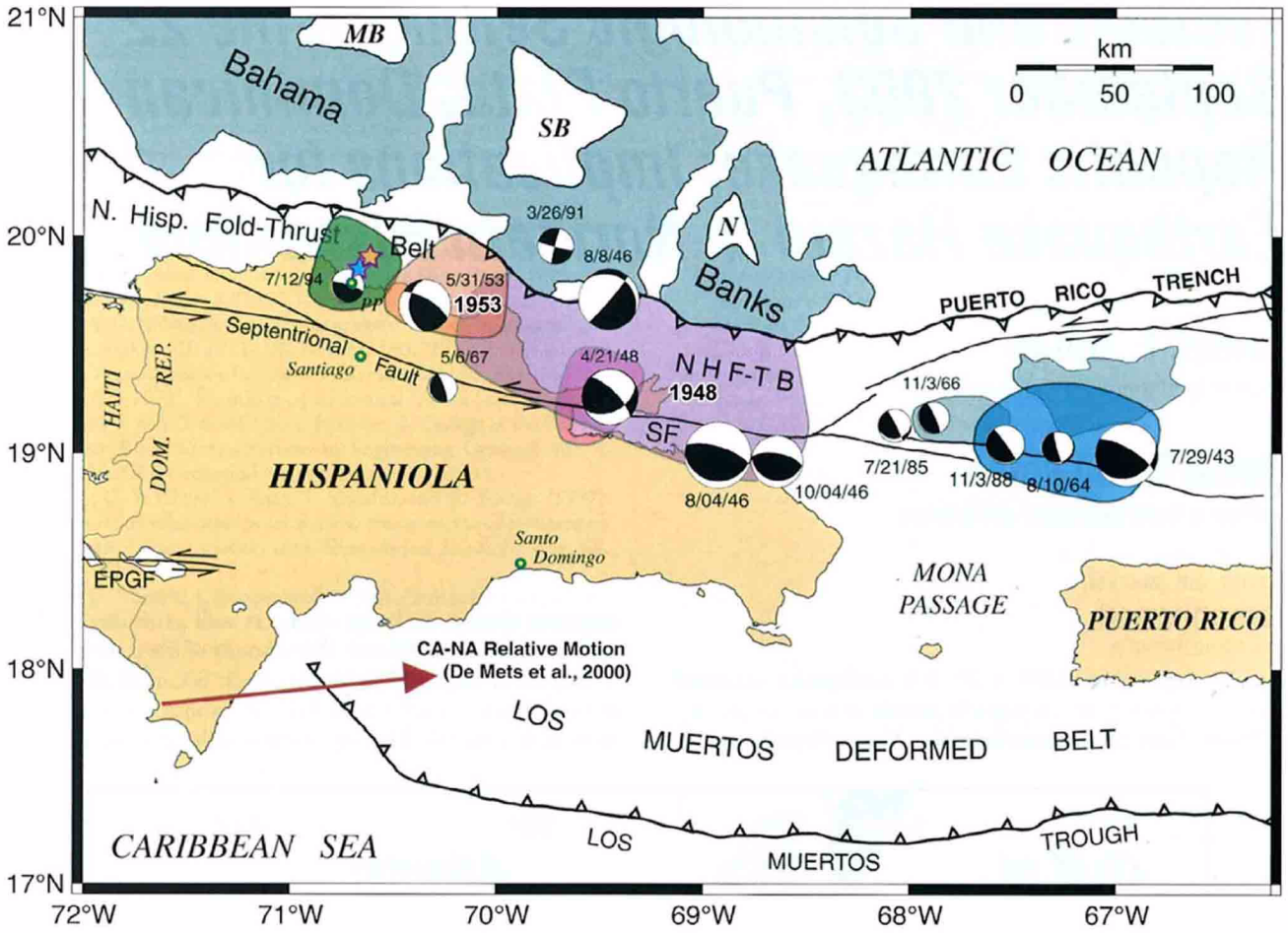
Figure 2.5.1-325 Kinematic Illustrations Showing Interactions of Septentrional and Northern Hispaniola Faults at Depth



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

Source: Reference 638

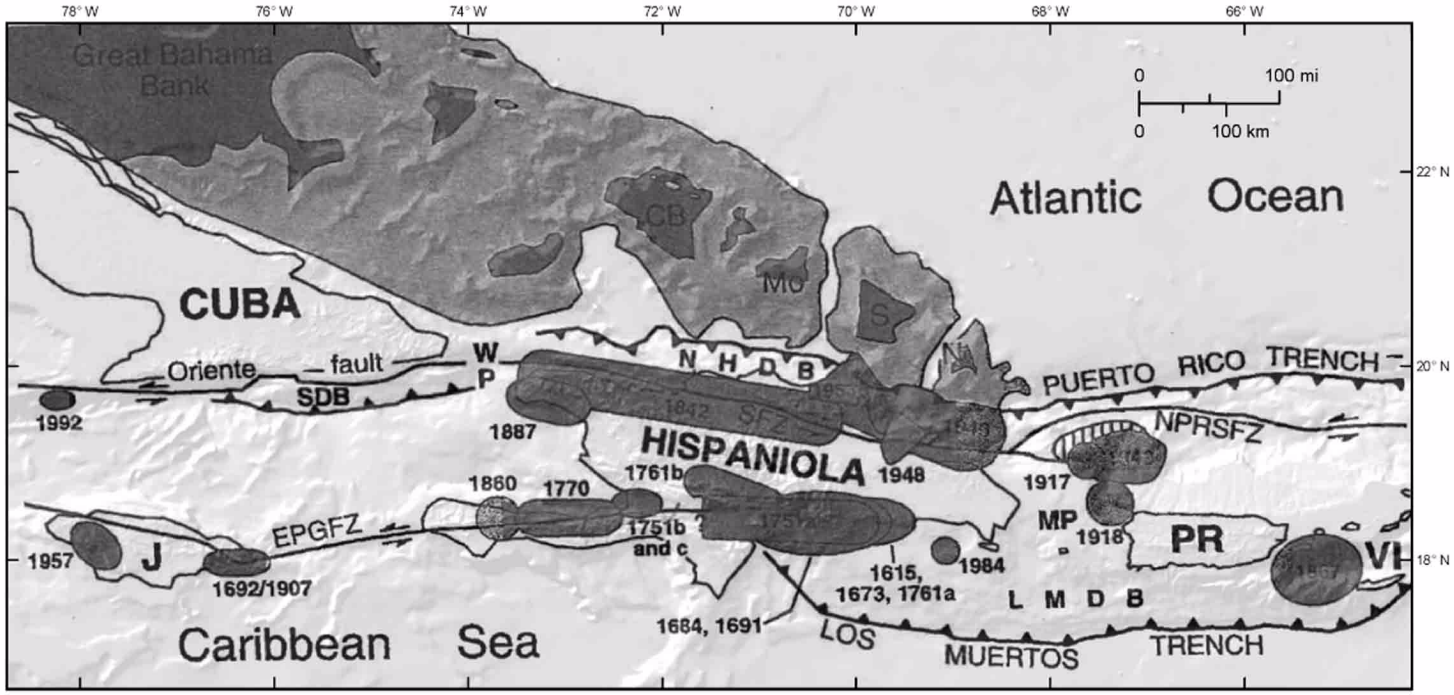
Figure 2.5.1-326 Focal Mechanisms for Major Earthquakes in the North Hispaniola Subduction Zone



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

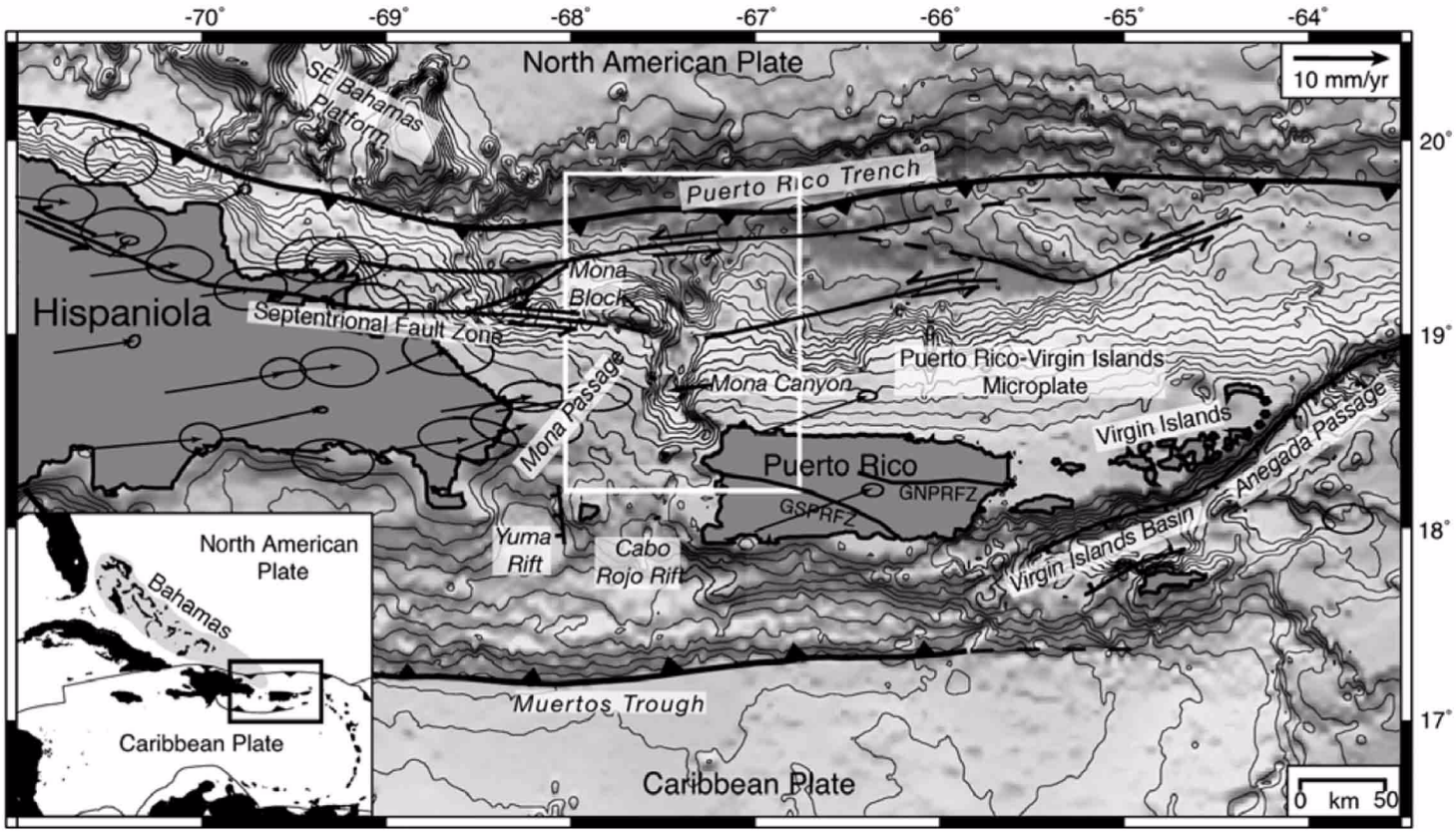
Source: Reference 638

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



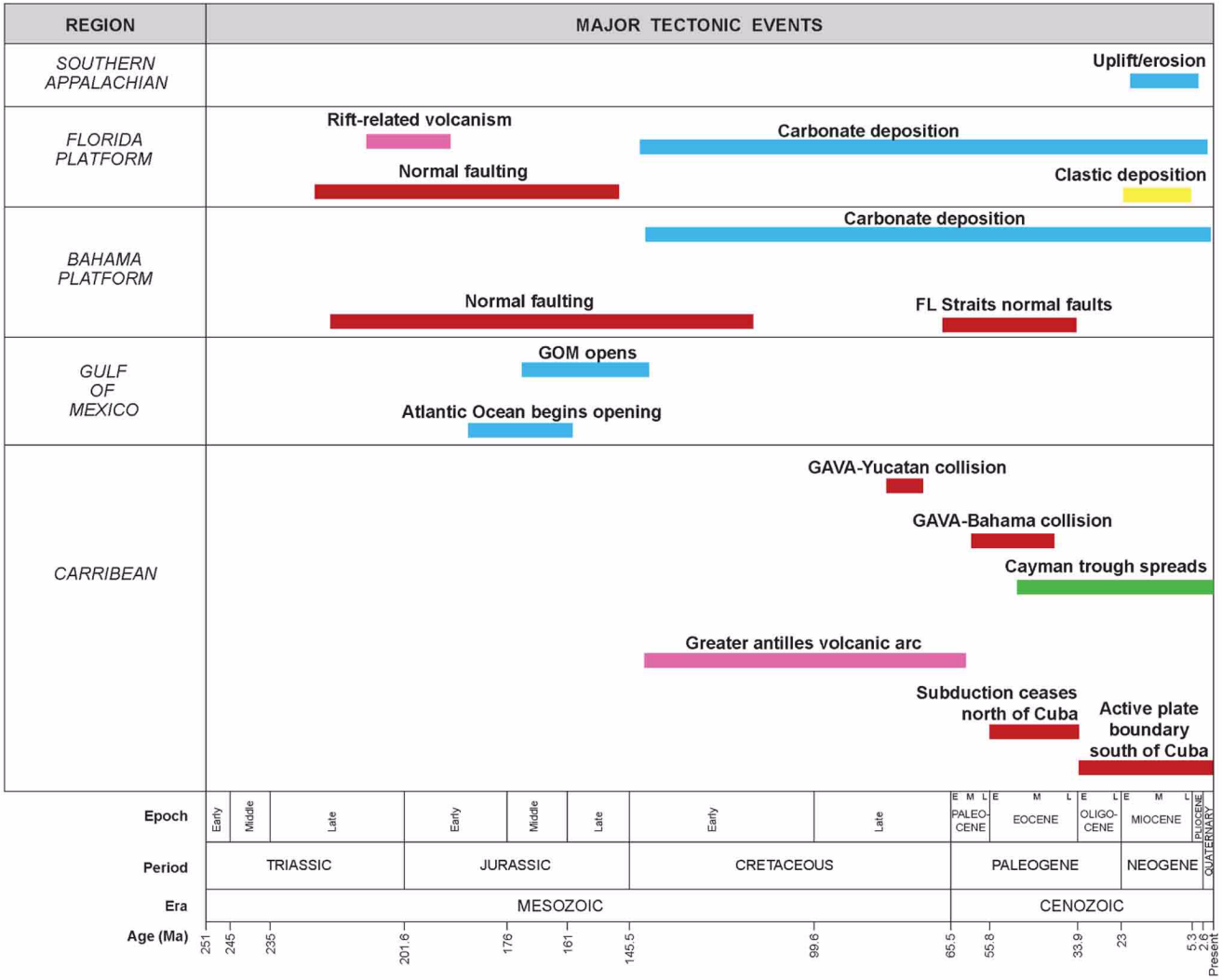
Source: Reference 591

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



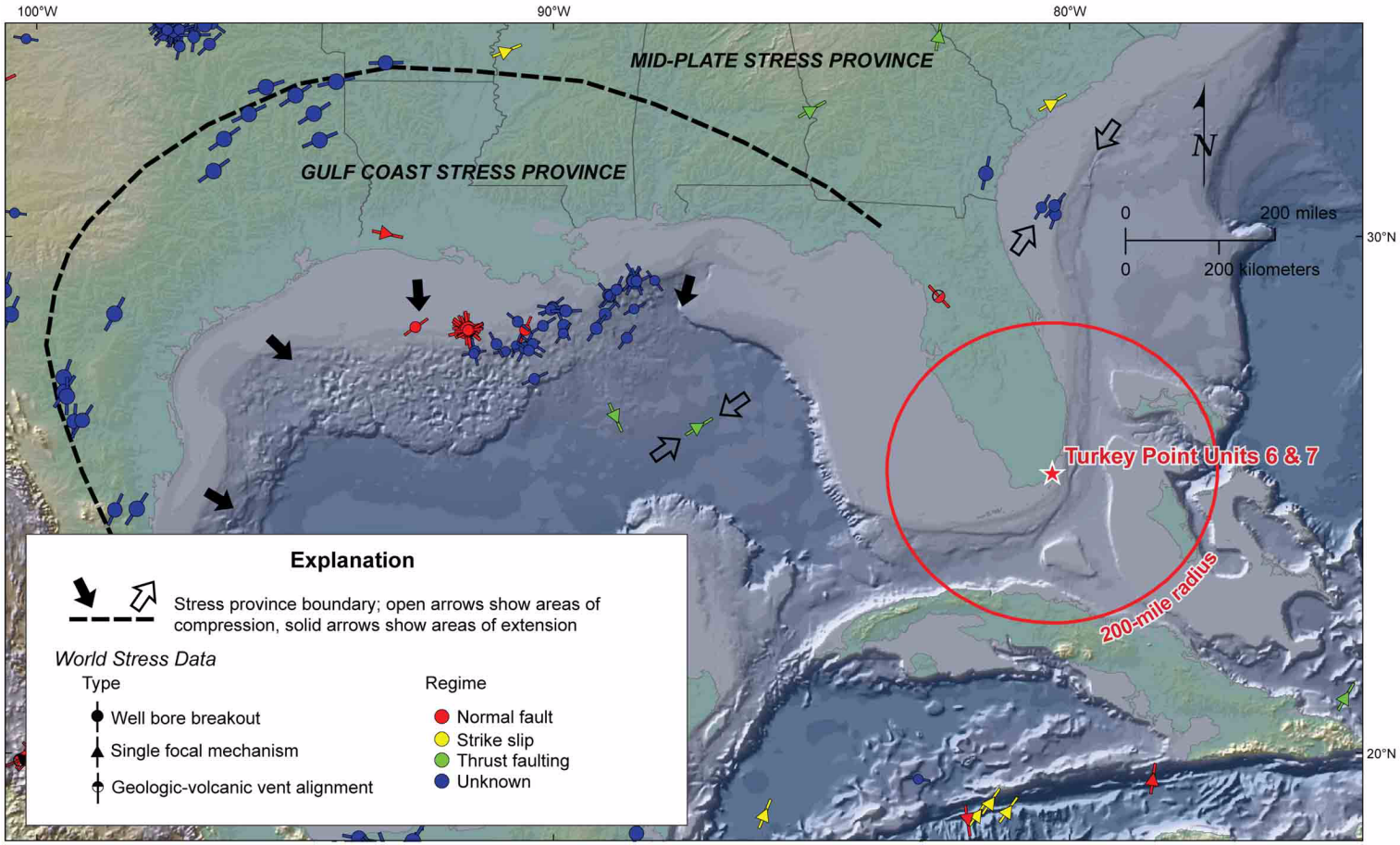
Source: Reference 585

Figure 2.5.1-329 Timeline of Regional Tectonic and Geologic Events



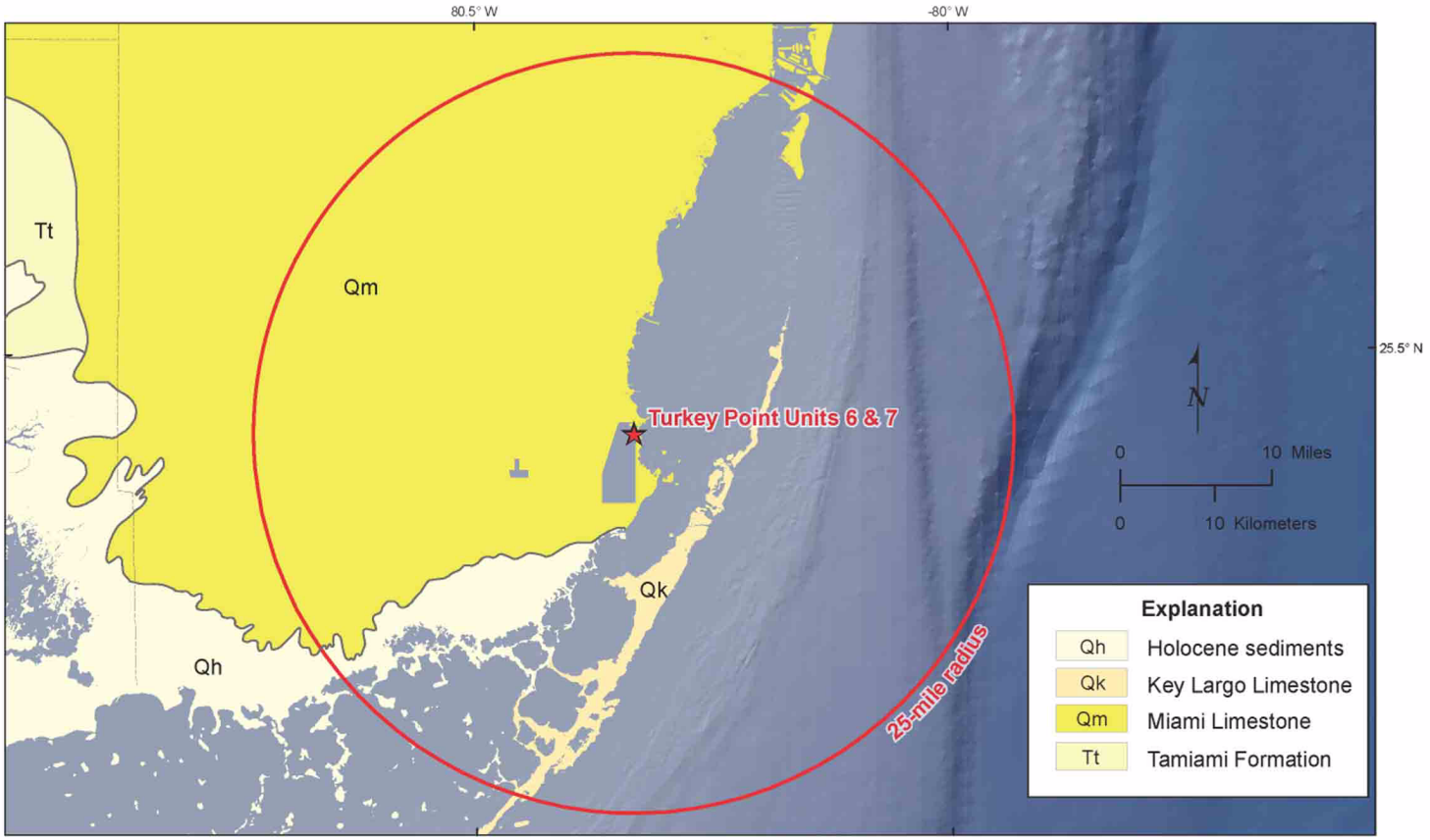
Sources: References 307, 368, and 639

Figure 2.5.1-330 North America Stress Provinces



Base Source: Reference 822
Source of world stress data: Reference 731

Figure 2.5.1-331 Site Vicinity Geologic Map



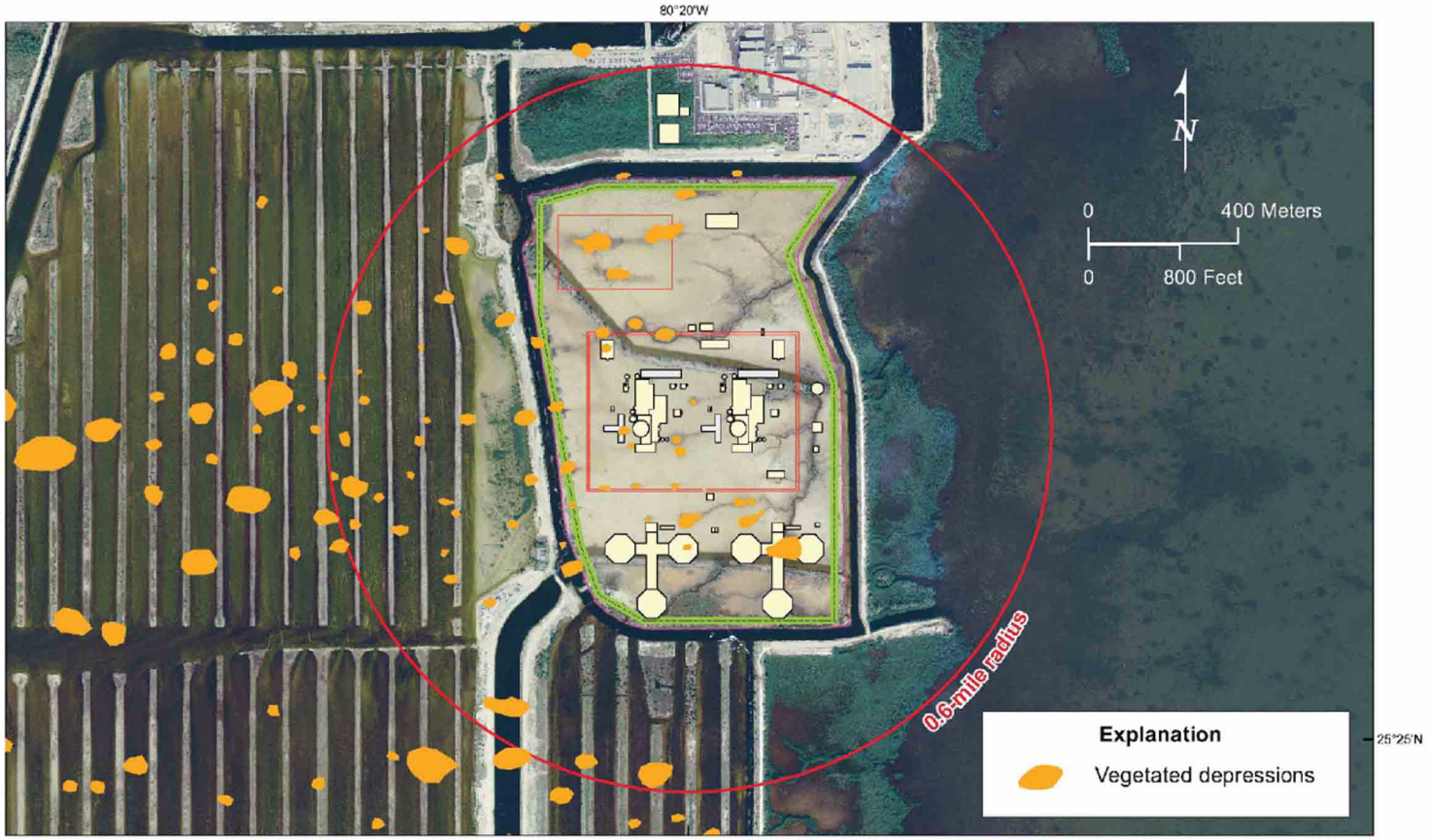
Base sources: Reference 435
Source of geologic information: Reference 827

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			organic muck		organic soil and silt	0	3
		PLEISTOCENE	Surficial aquifer system	Biscayne aquifer	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	Tamiami Formation		sand and silt with calcarenitic limestone	-115	105
		MIOCENE	Intermediate confining unit		Hawthorn Group	Peace River Formation	silty calcareous sand and silt	*formation contact based on natural gamma signature* -220	235
						Arcadia Formation	calcareous wackestone with indurated limestones, sandstone, and sand	-455	>160
								drilling ended at -616.5 ft	

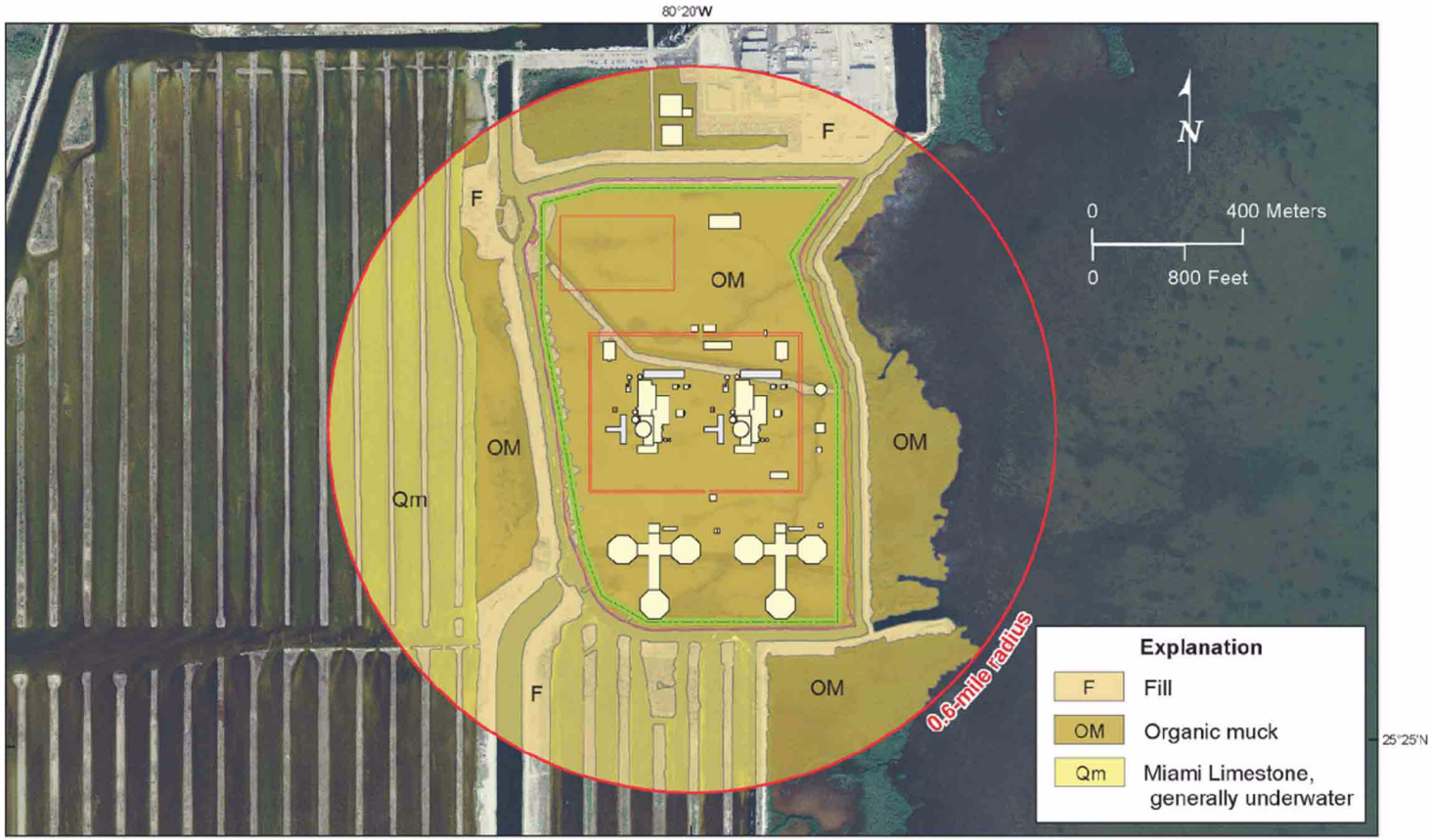
Note: see Figures 2.5.1-338, 2.5.1-339, 2.5.1-340, and 2.5.1-341 for site geologic cross sections.

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



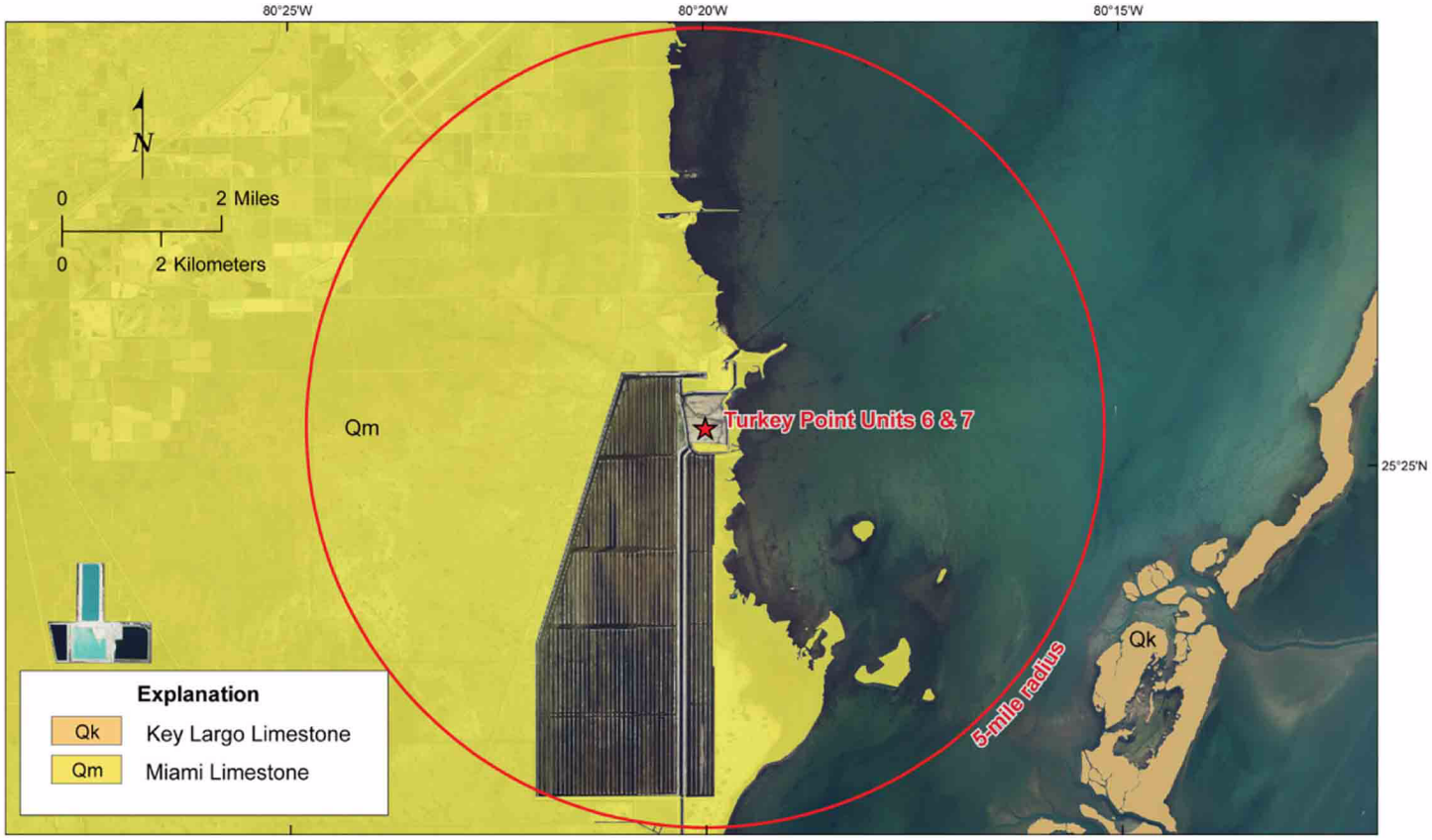
Note: Reconnaissance mapping performed using 1940s 1:40,000 scale panchromatic stereo aerial photography (Reference 386), but shown on 2004 imagery (Reference 435) of the Units 6 & 7 site for reference.

Figure 2.5.1-334 Site Geologic Map



Base sources: References 829, and 435
Source of geologic information: Reference 827

Figure 2.5.1-335 Site Area Geologic Map



Base sources: Reference 435
Source of geologic information: Reference 219

Figure 2.5.1-336 Locations of Geologic Cross Sections

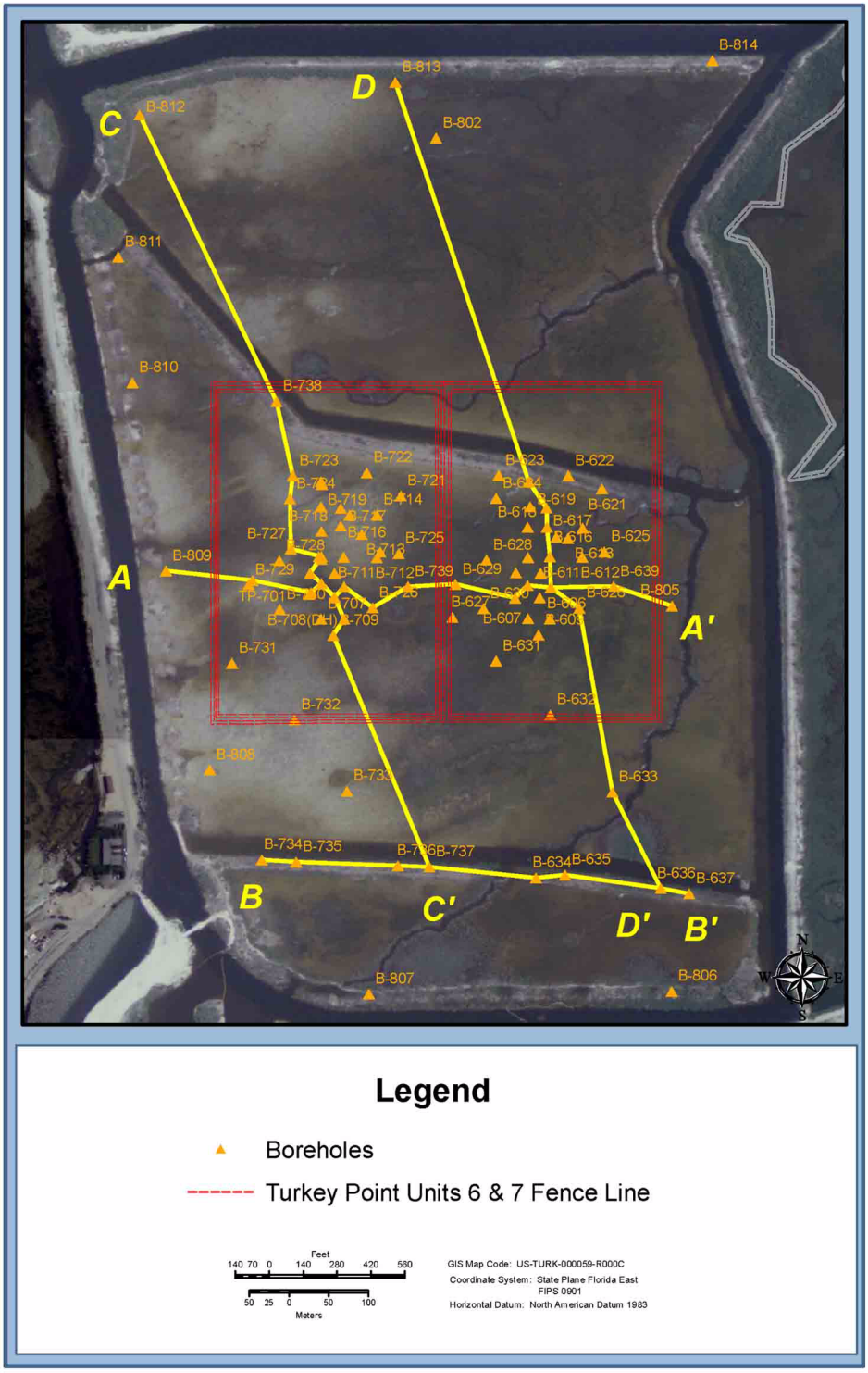
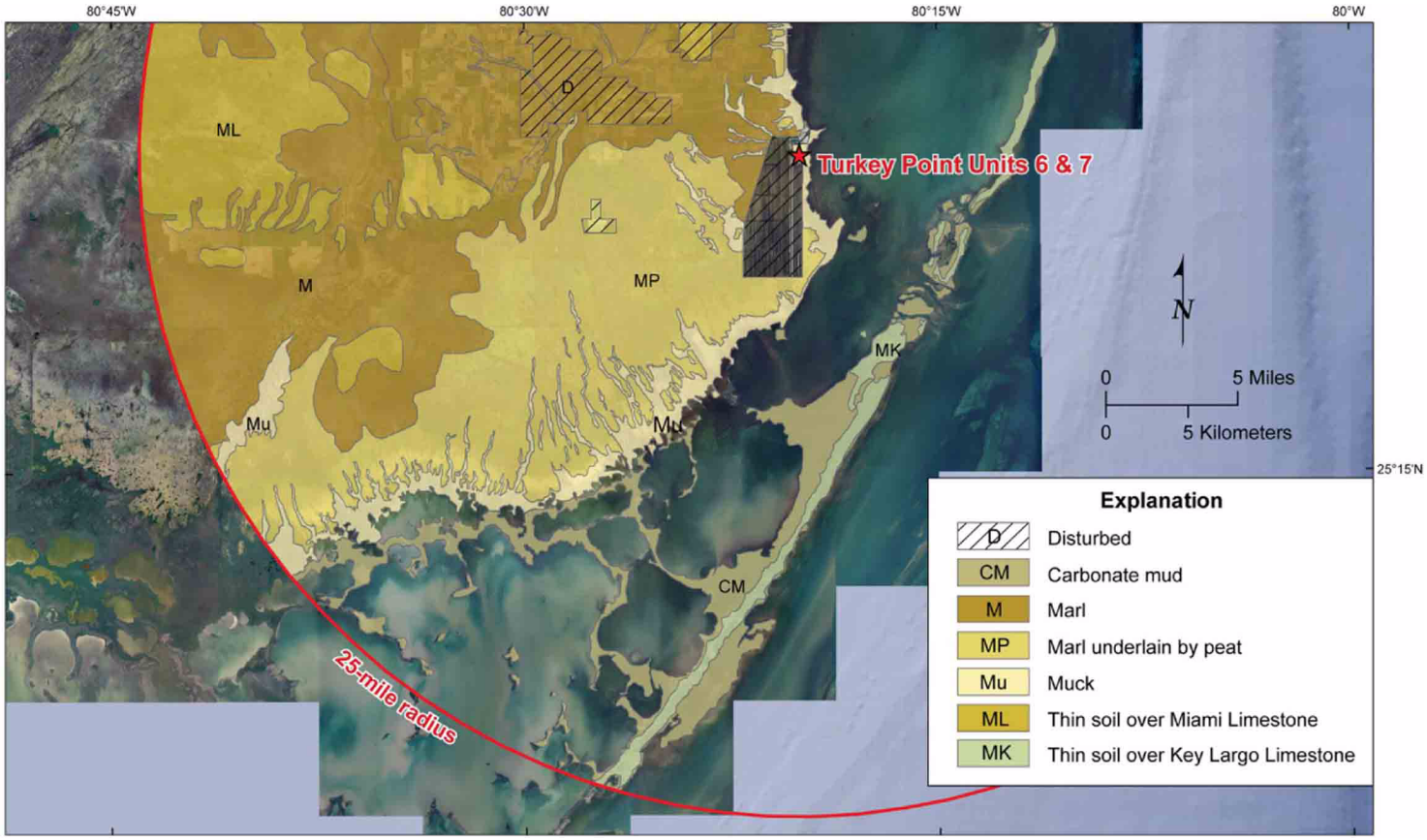
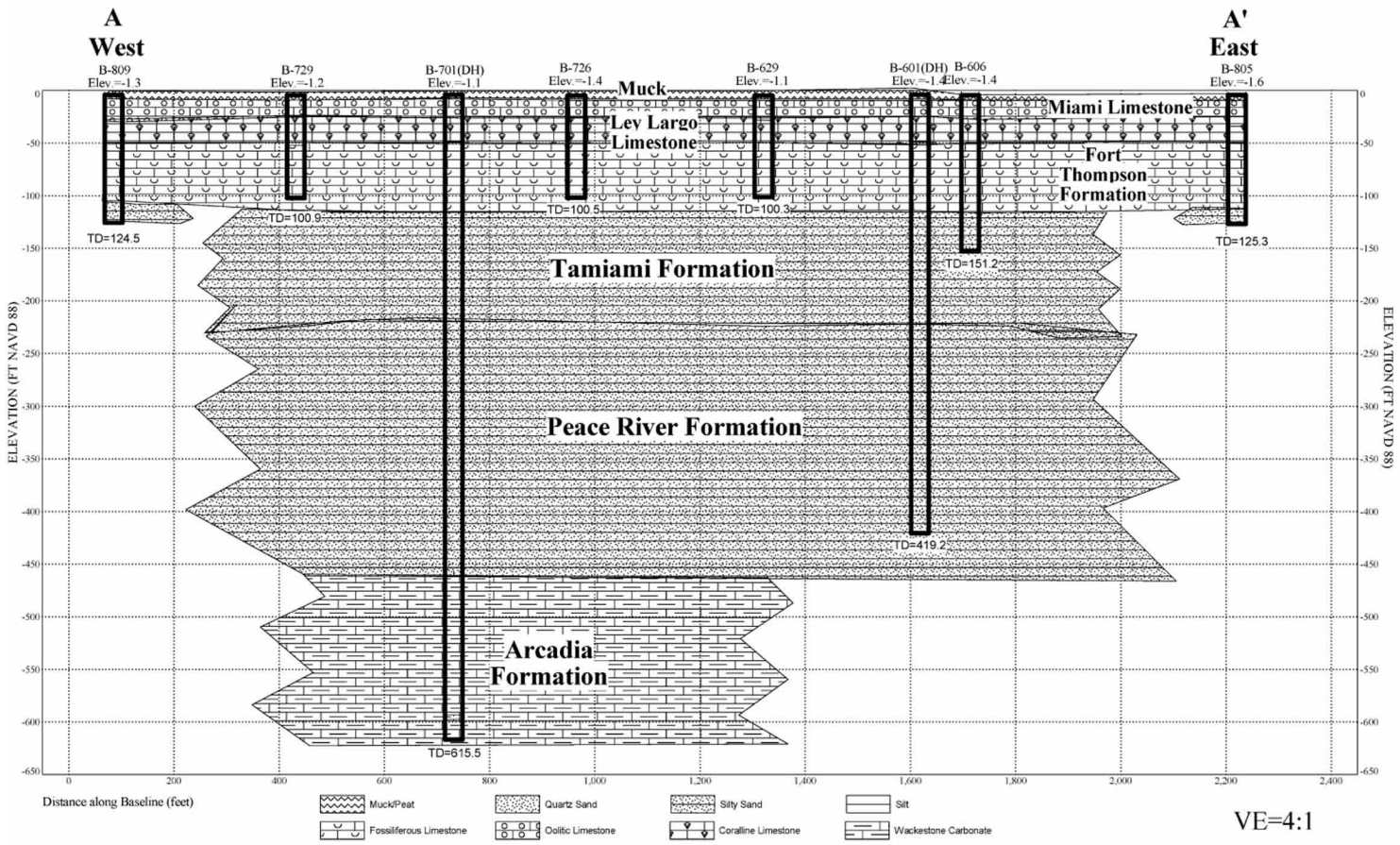


Figure 2.5.1-337 Surficial Deposits Map



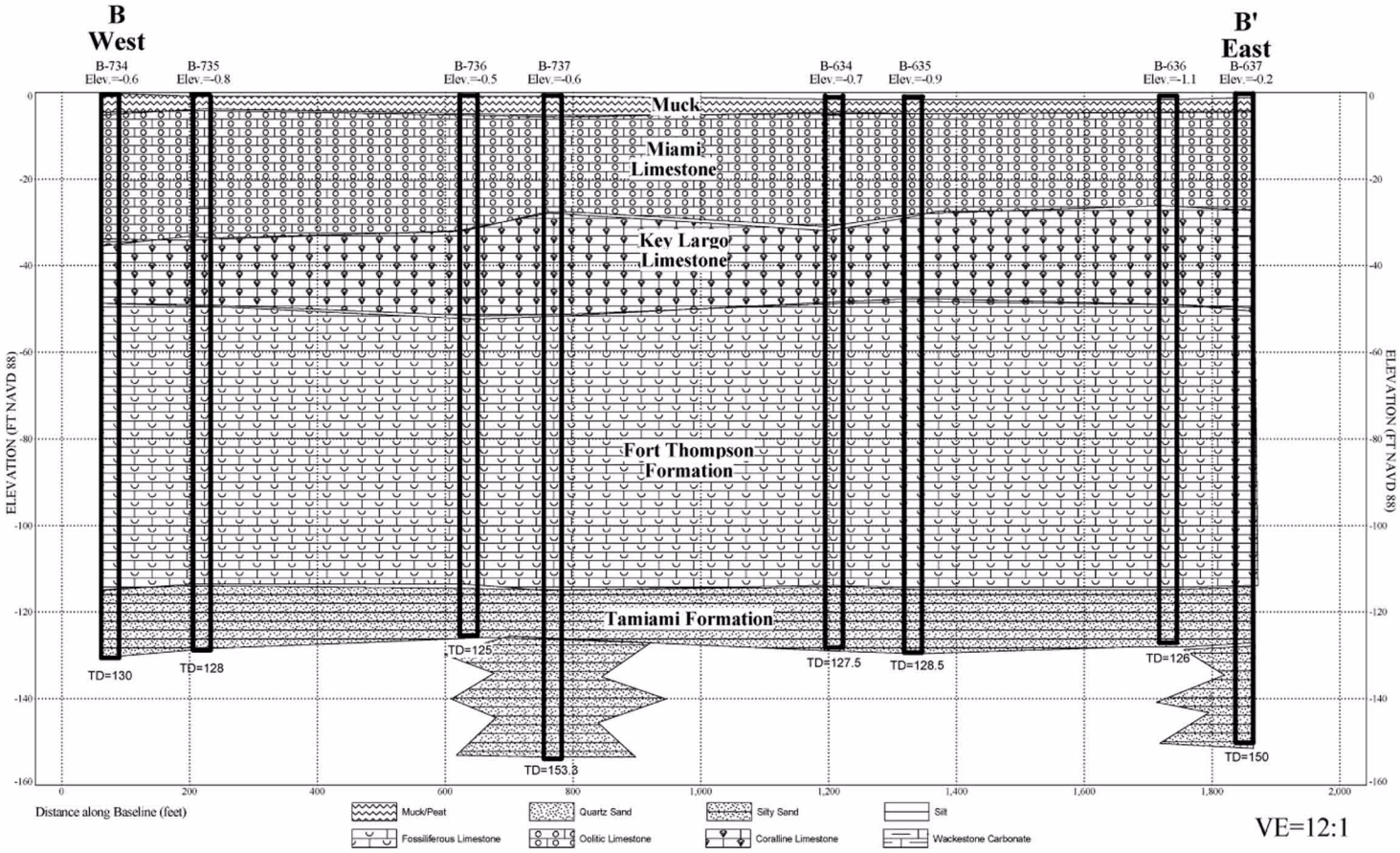
Base sources: Reference 829
Source of geologic information: References 715 and 830

Figure 2.5.1-338 Geologic Cross Section A-A'



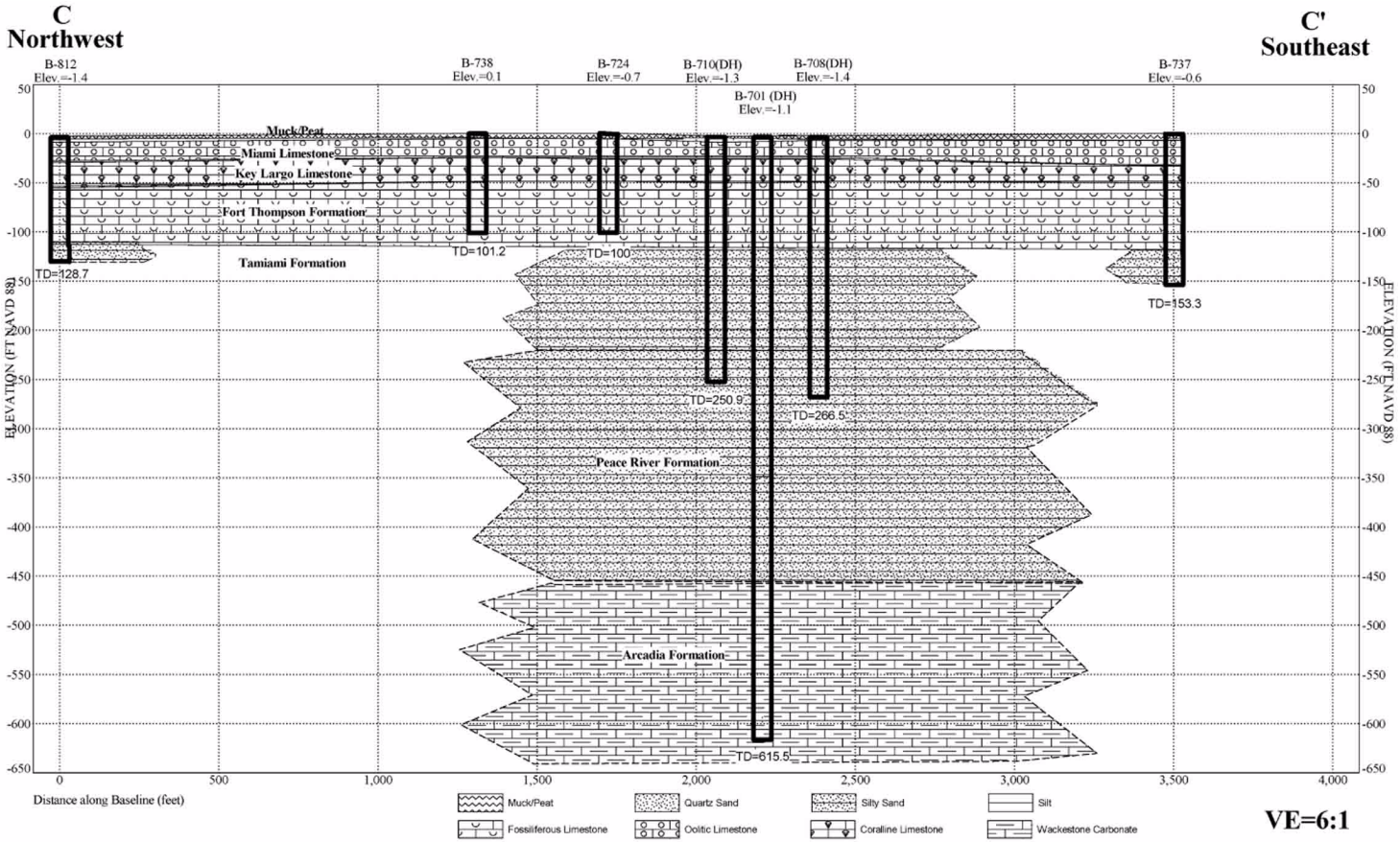
Note: The location of this cross section is shown on Figure 2.5.1-336.

Figure 2.5.1-339 Geologic Cross Section B-B'



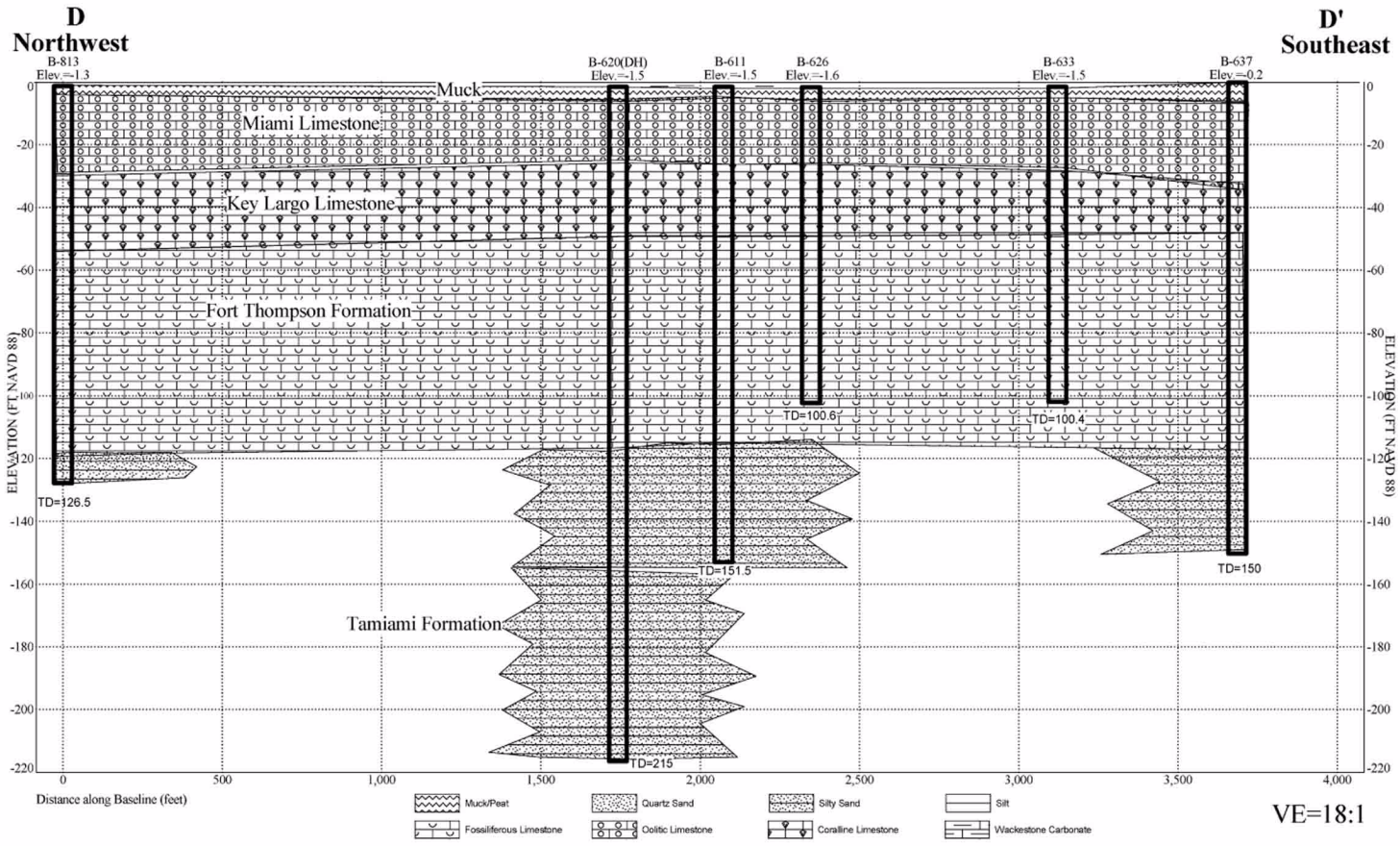
Note: The location of this cross section is shown on Figure 2.5.1-336.

Figure 2.5.1-340 Geologic Cross Section C-C'



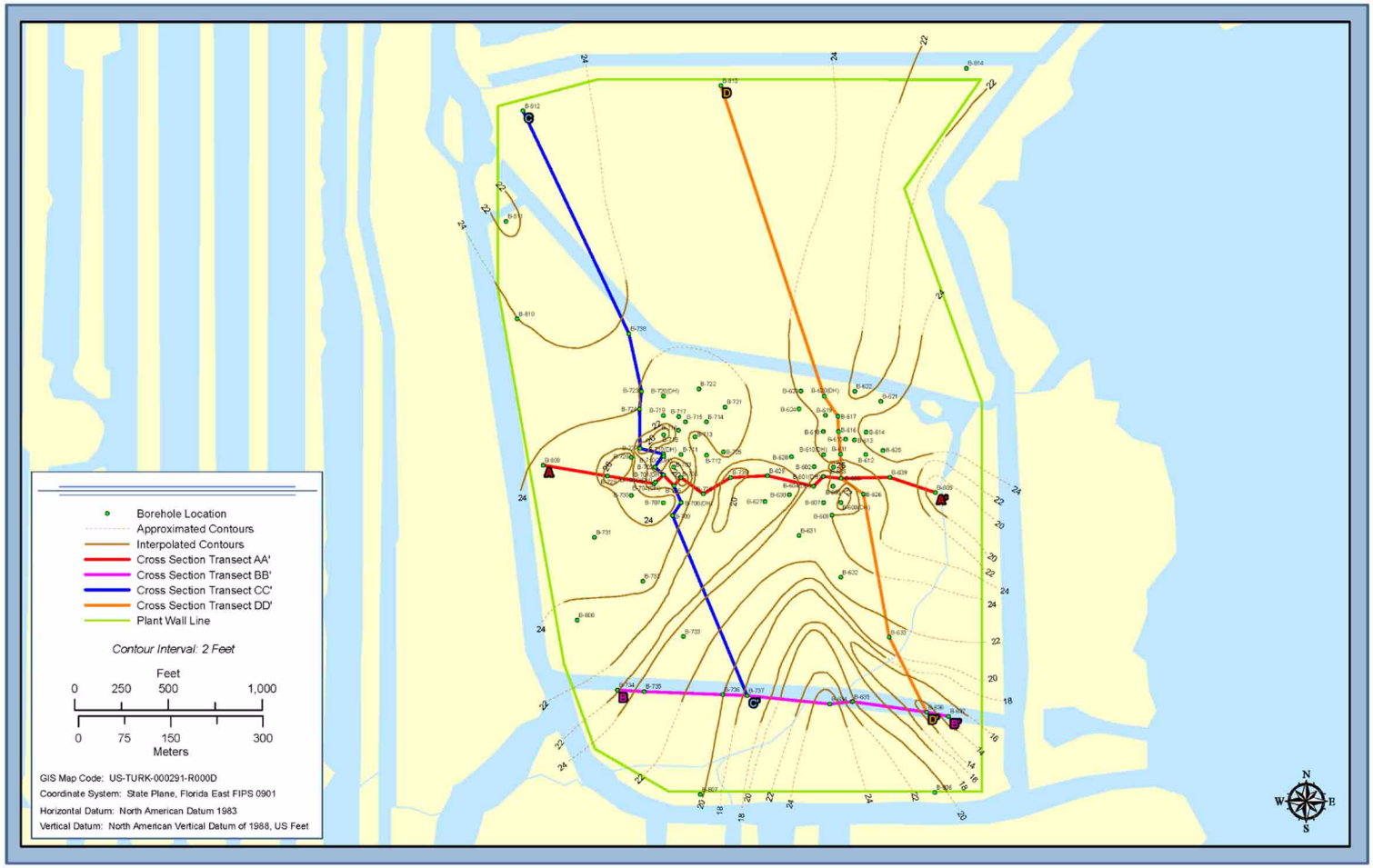
Note: The location of this cross section is shown on Figure 2.5.1-336.

Figure 2.5.1-341 Geologic Cross Section D-D'



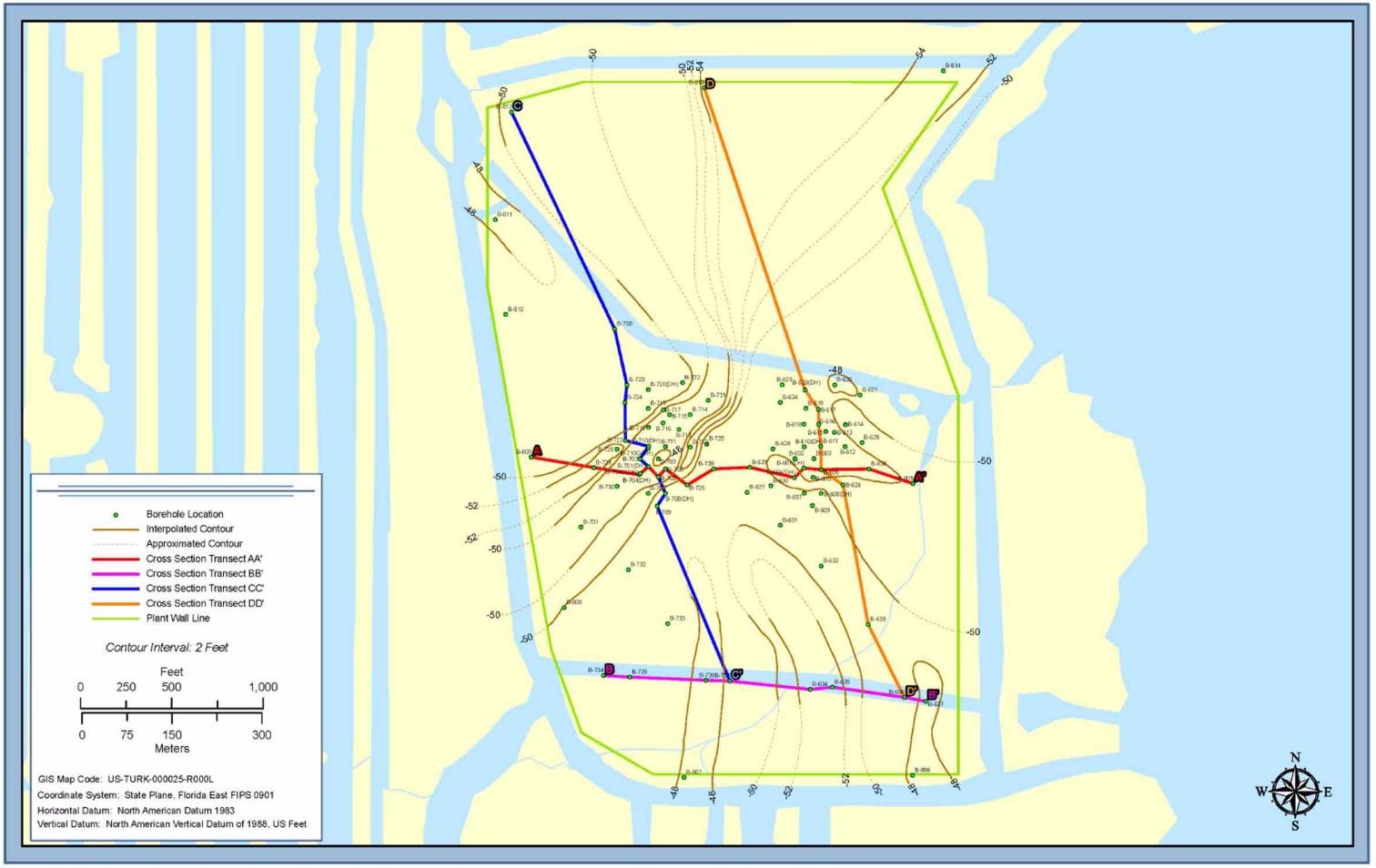
Note: The location of this cross section is shown on Figure 2.5.1-336.

Figure 2.5.1-342 Isopach of the Site: Key Largo Limestone



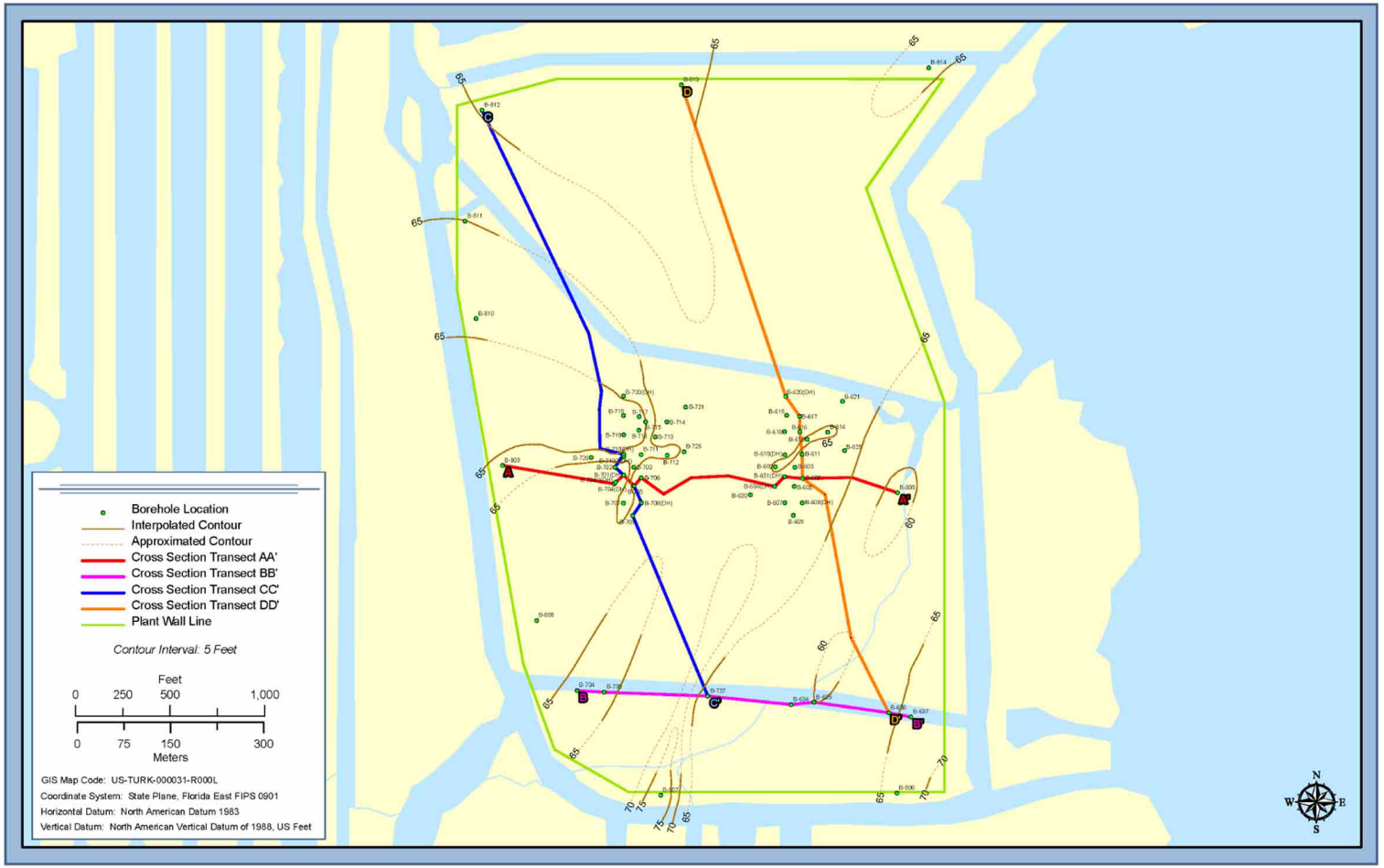
Source: Reference 708

Figure 2.5.1-343 Structure Contour Map: Top of Fort Thompson Formation



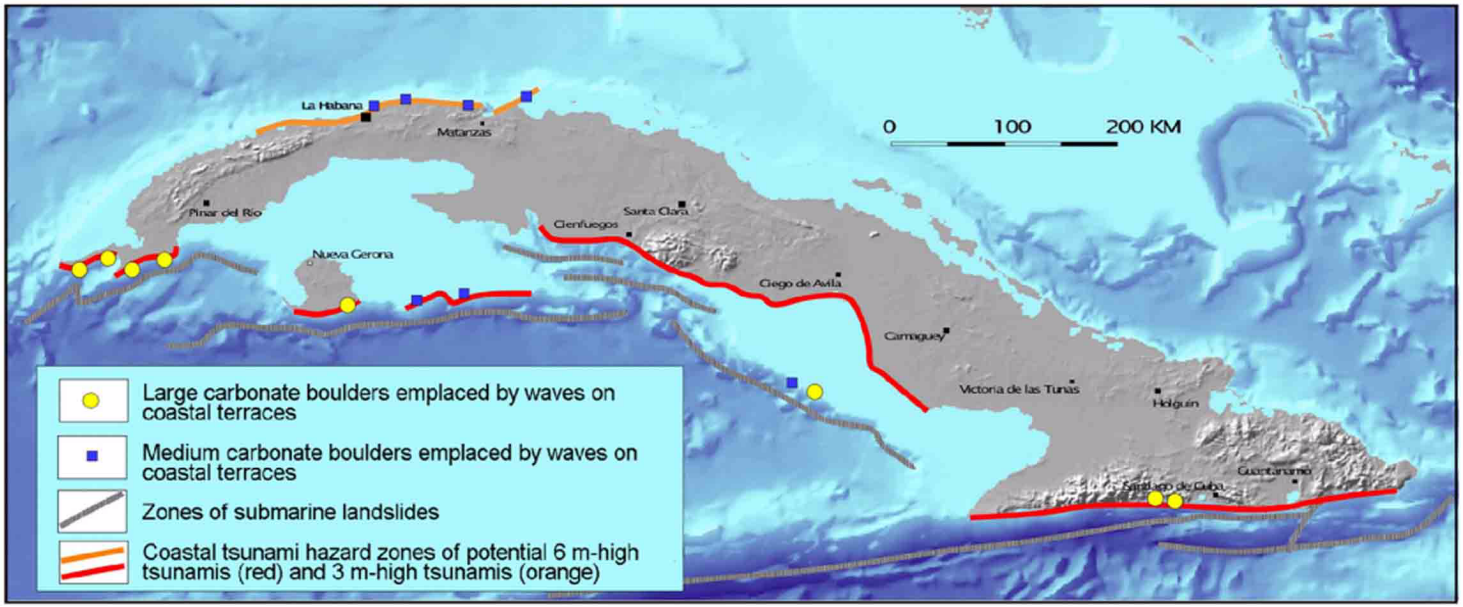
Source: Reference 708

Figure 2.5.1-344 Isopach of the Site: Fort Thompson Formation



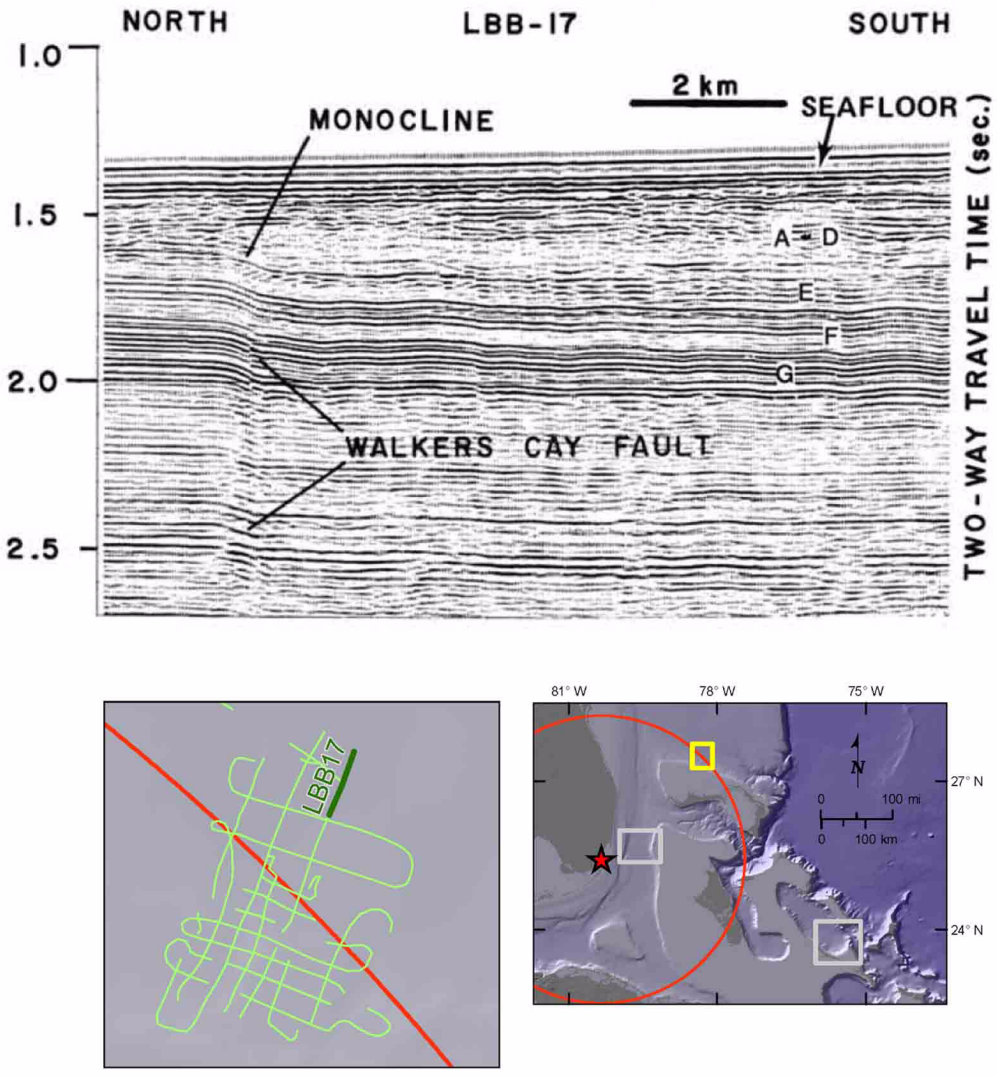
Source: Reference 708

Figure 2.5.1-345 Geologic Hazards for Coastal Zones of Cuba



Modified from: Reference 742

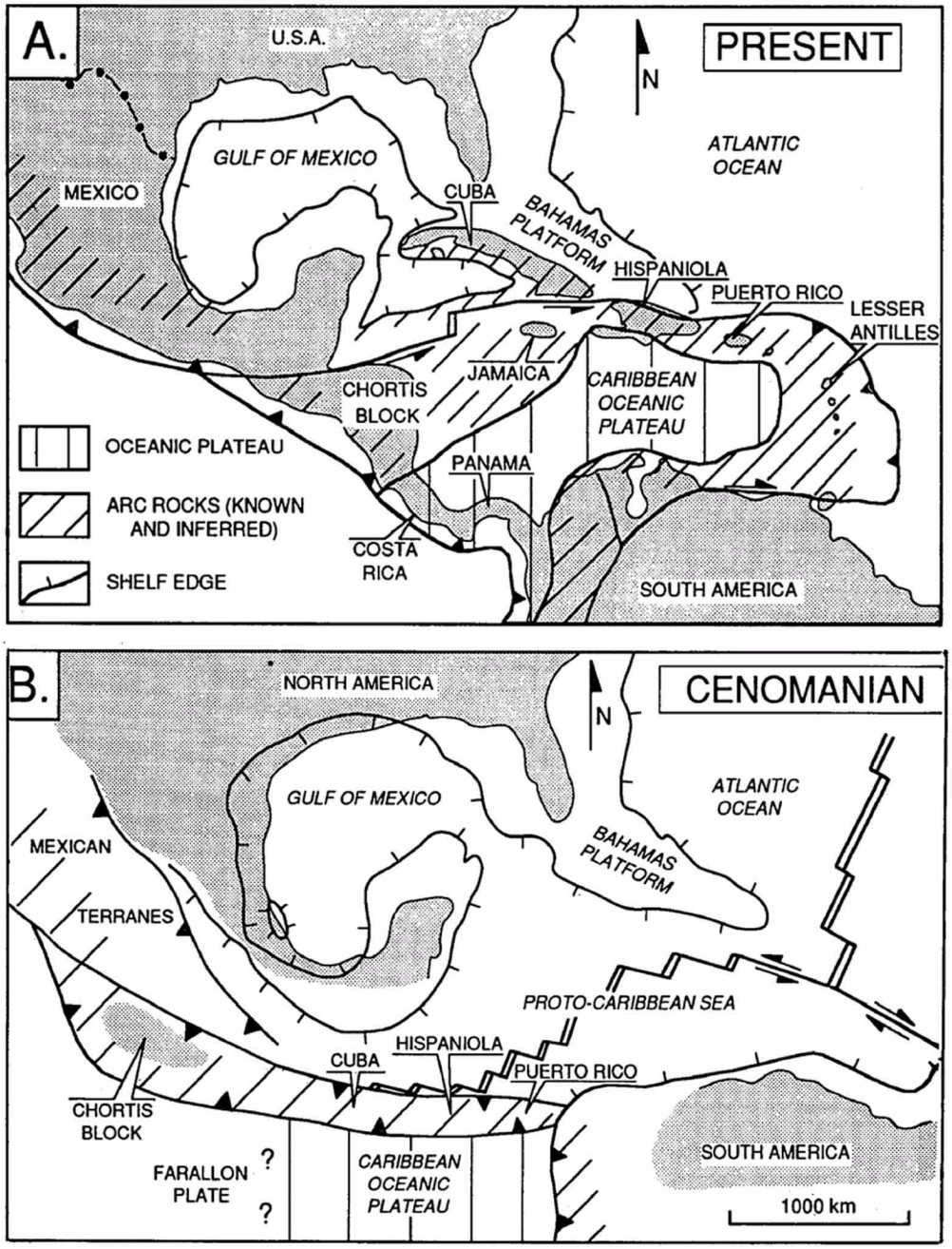
Figure 2.5.1-346 Interpreted Seismic Line across the Edge of the Little Bahama Bank



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

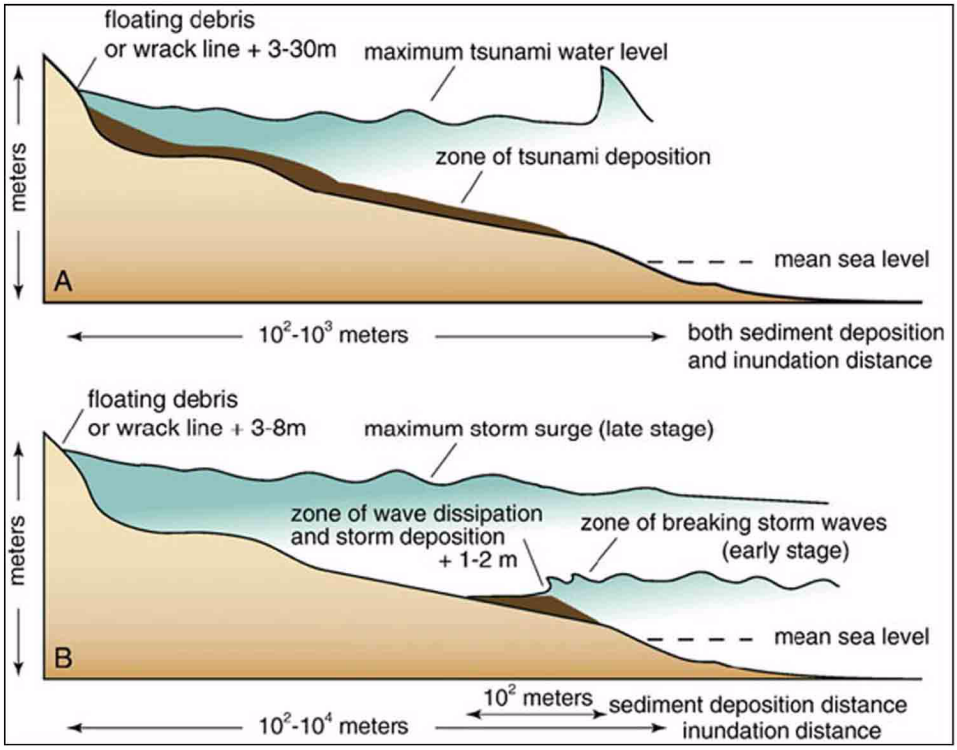
Figure 2.5.1-347 Initiation of the Greater Antilles Arc and Collision with the Caribbean Oceanic Plateau



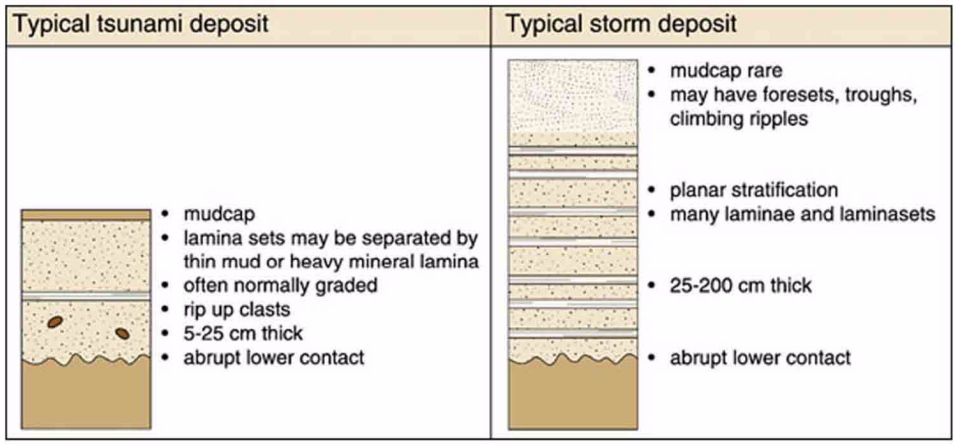
Notes:
A. Present-day distribution of Cretaceous to Recent island arc and late Cretaceous oceanic plateau crust in the Caribbean.
B. Mid-Cretaceous (Cenomanian) reconstruction of the Caribbean island arc and oceanic plateau

Source: Reference 833

Figure 2.5.1-348 Tsunami Sediments



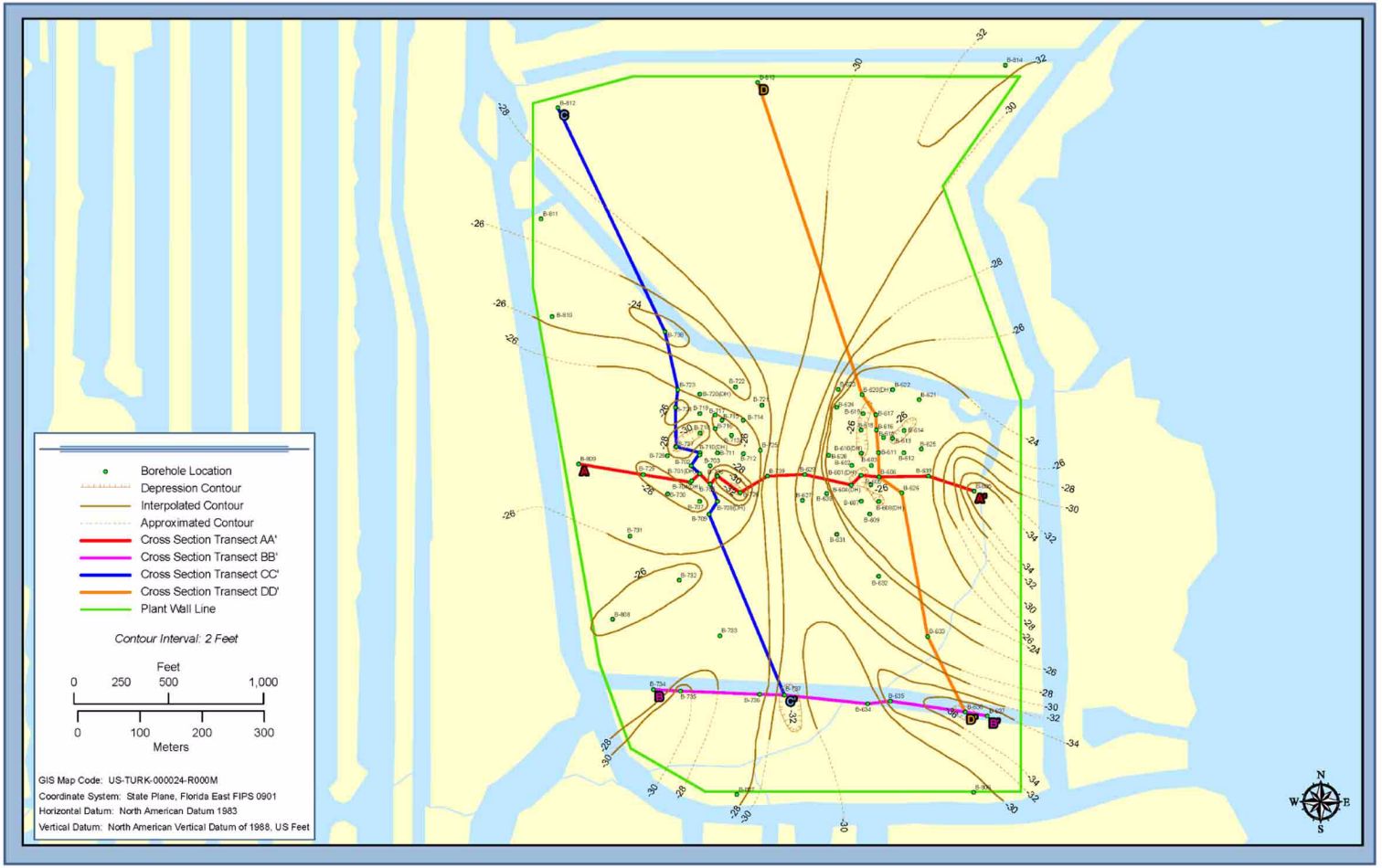
C.



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

Figure 2.5.1-349 Structure Contour Map: Top of Key Largo Limestone



Source: Reference 708