

The Narrows Flood - Post-Woodfordian Meltwater Breach of the Narrows Channel

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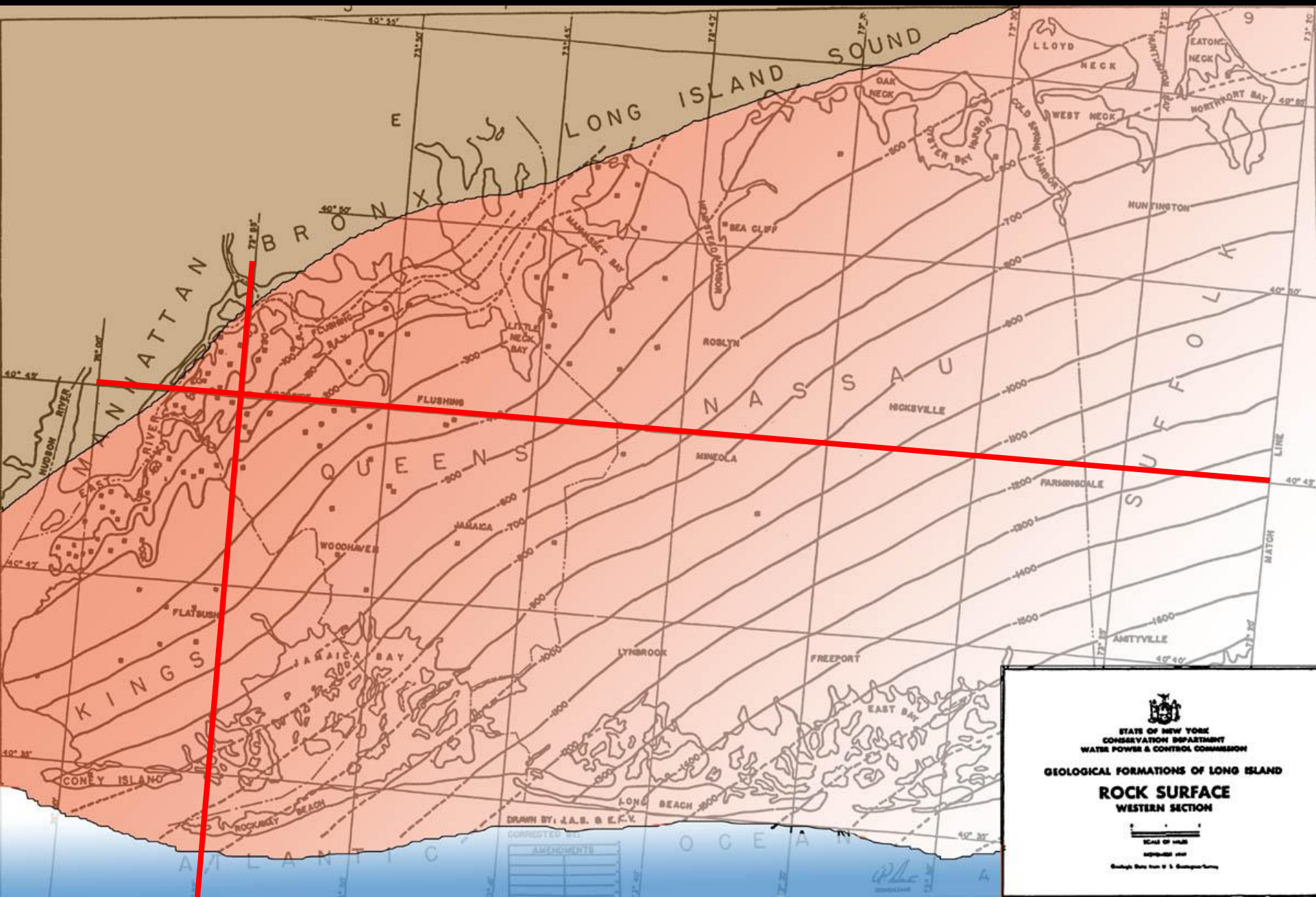


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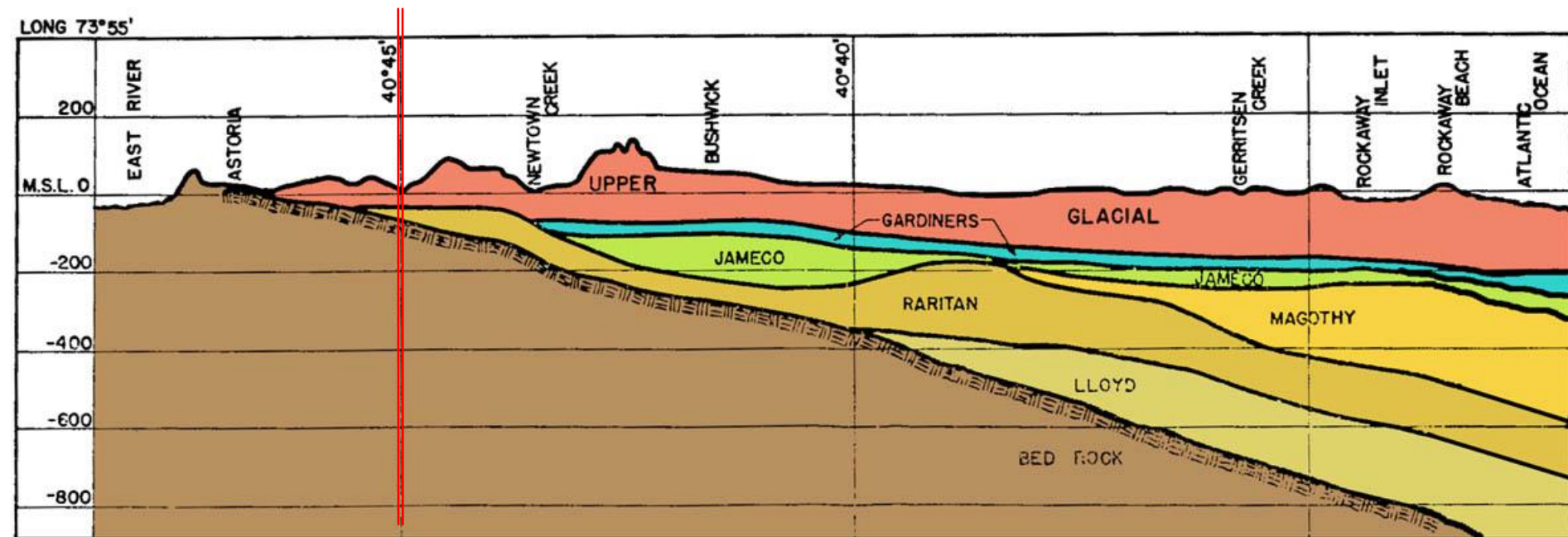
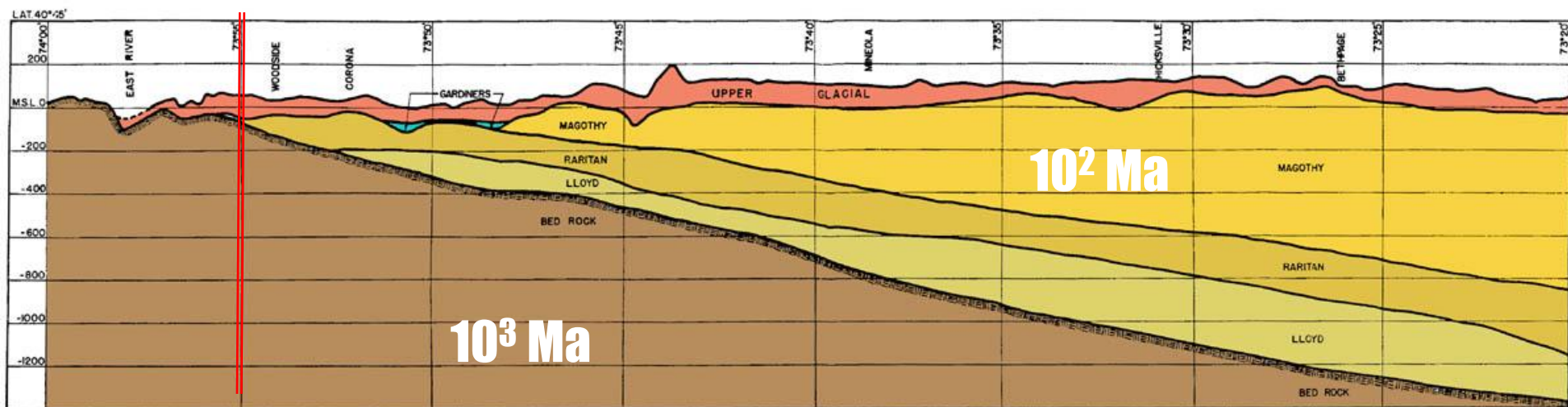
An aerial photograph showing a large body of water, likely a bay or harbor, with a narrow channel or strait. The water is a deep blue, and the surrounding land is a mix of brown and tan, indicating a mix of vegetation and bare earth. The land features a grid-like pattern of roads or fields. The text "Lon Gisland" is overlaid in white, bold, sans-serif font in the upper center. The text "The Narrows" is overlaid in white, bold, sans-serif font in the lower center.

Lon Gisland

The Narrows

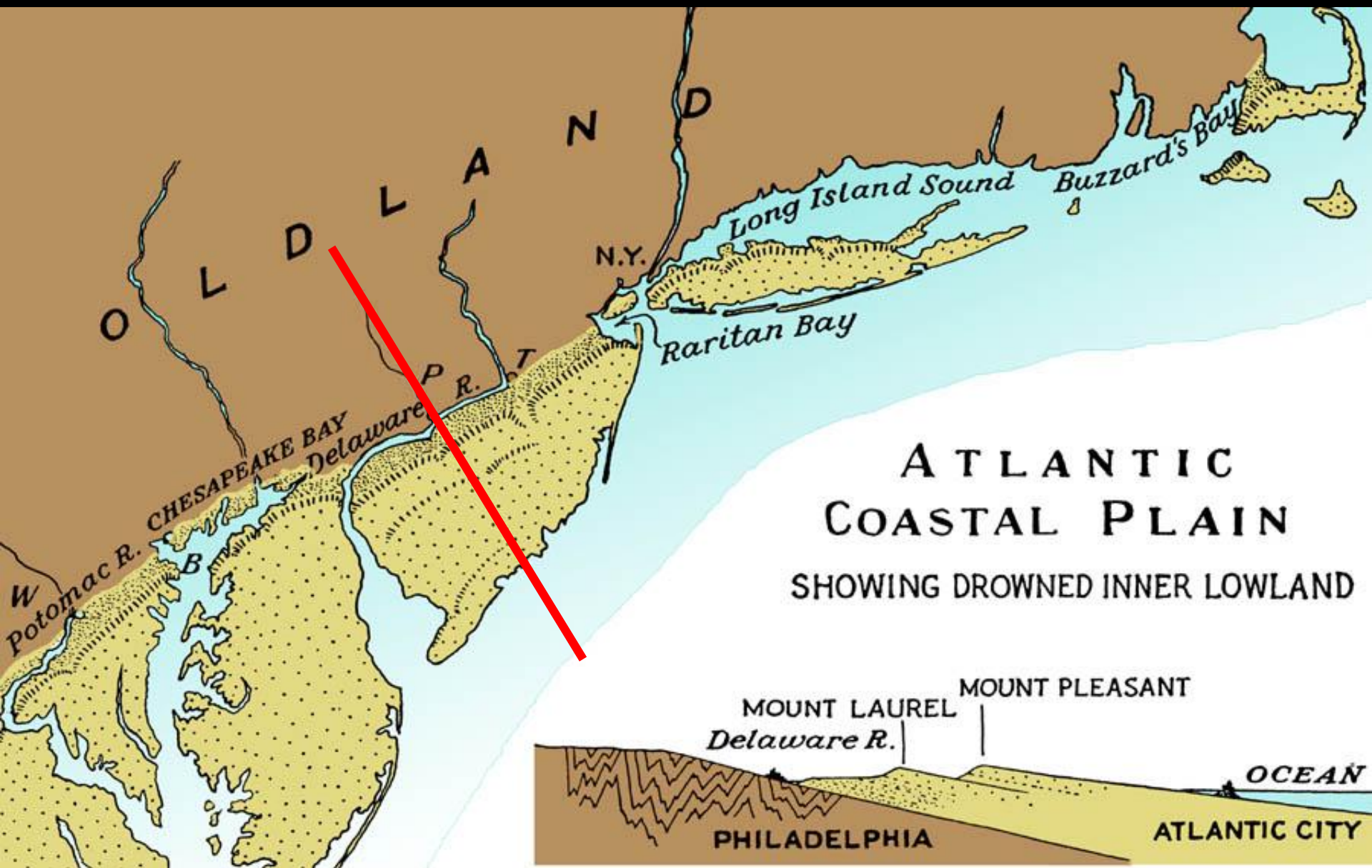


after Suter et al, 1949



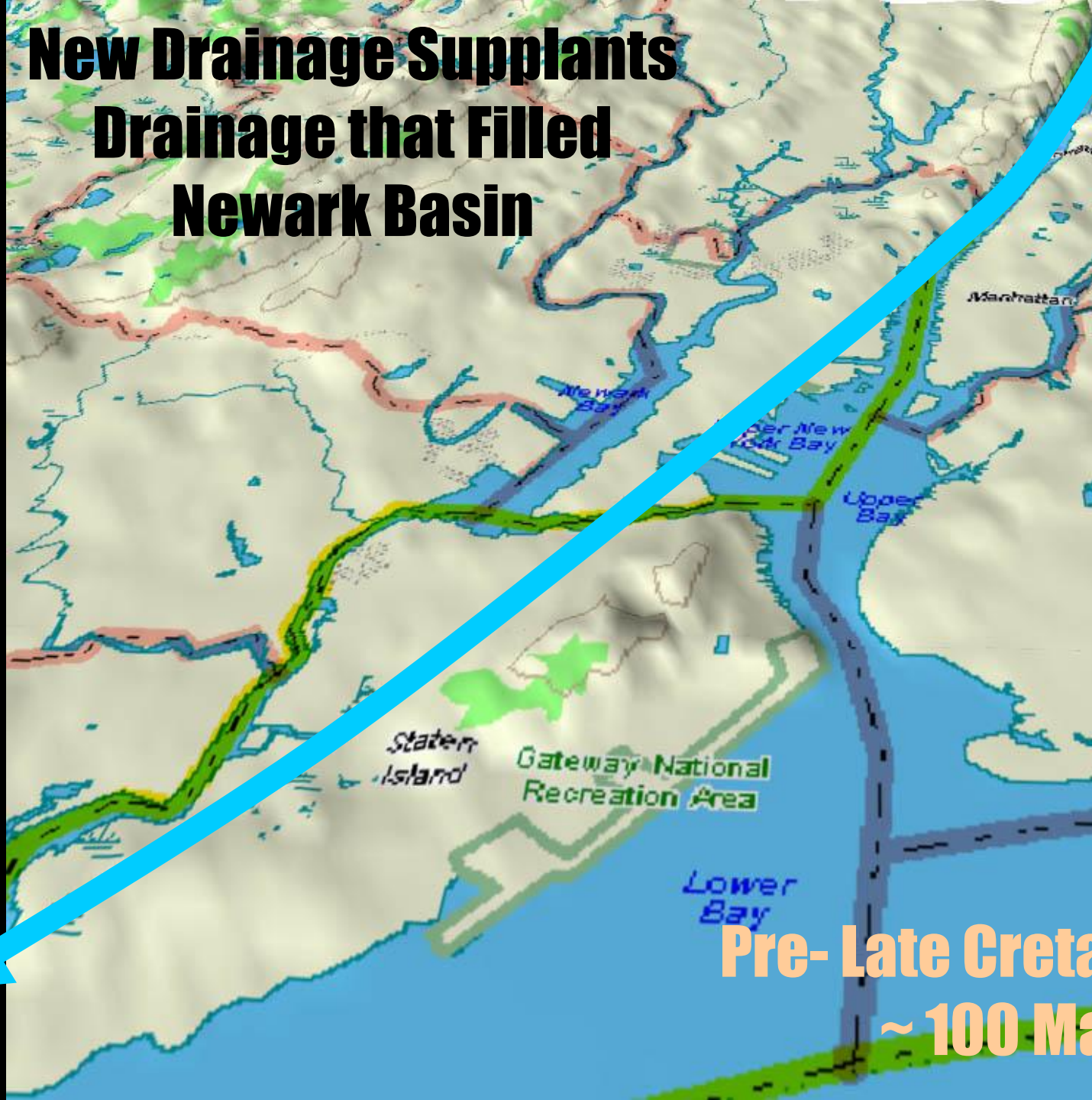
LONG. 73°=55' W

Suter et al, 1949



After Lobeck 1939

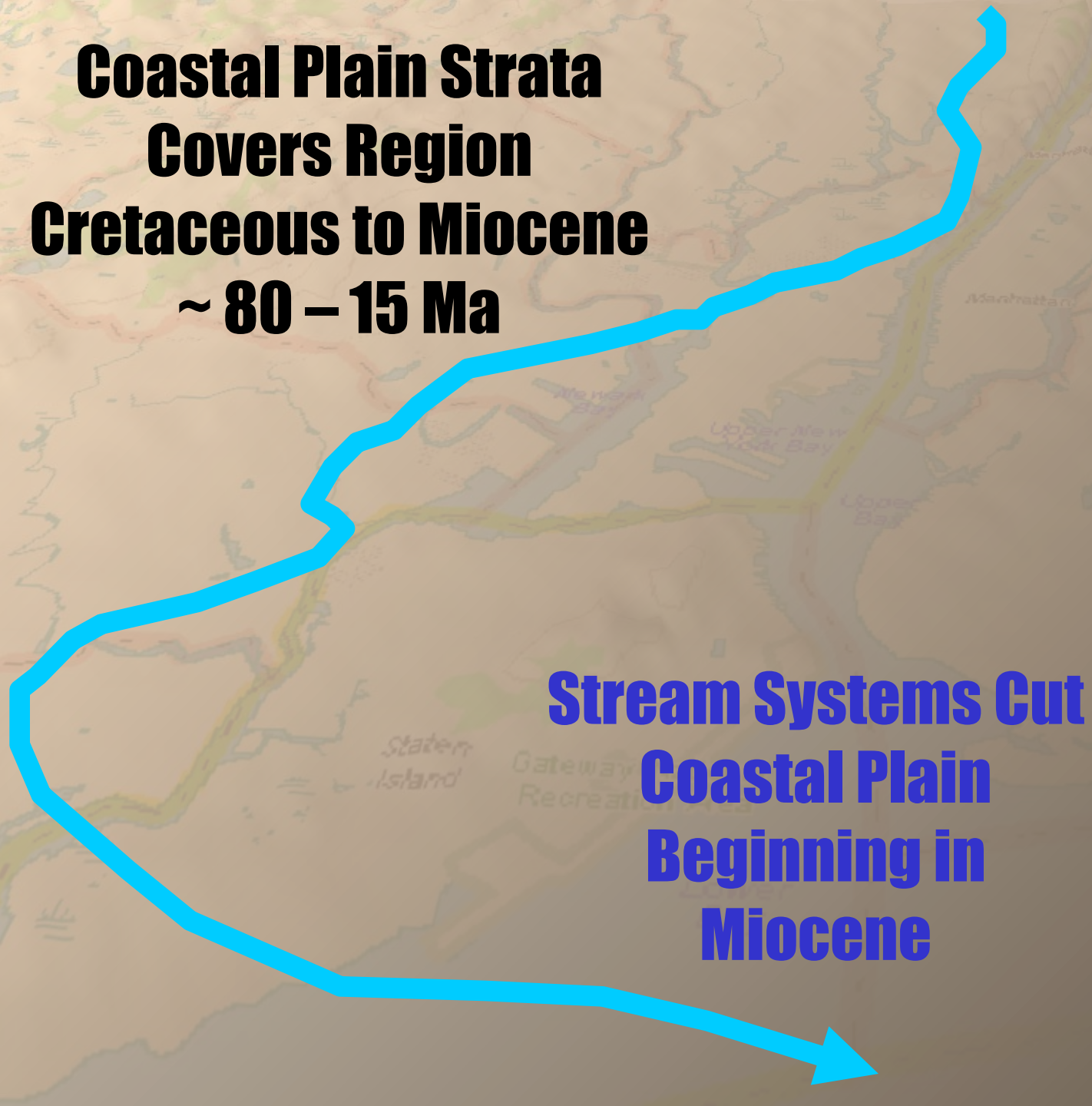
New Drainage Supplants Drainage that Filled Newark Basin

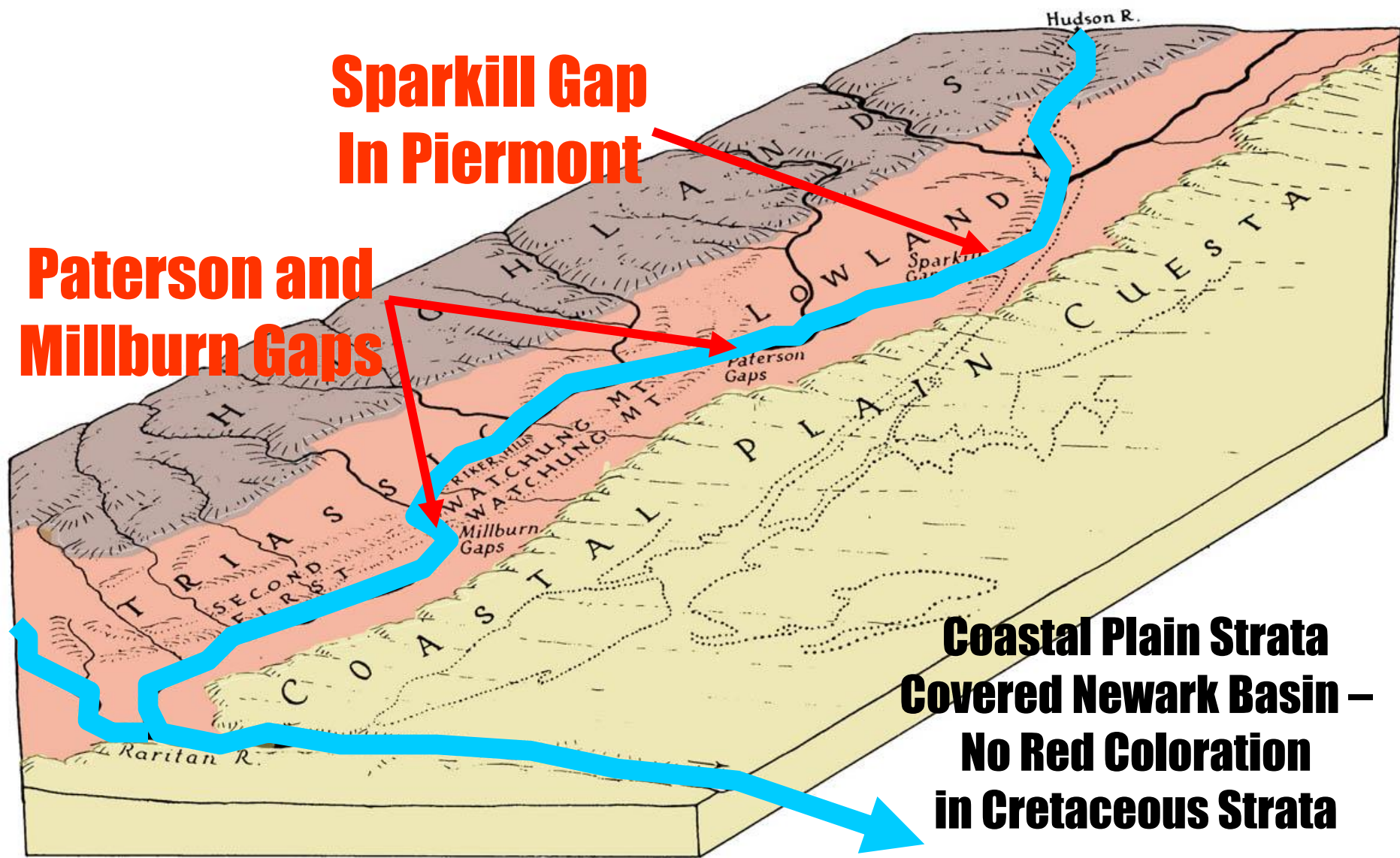


**Pre- Late Cretaceous
~ 100 Ma**

**Coastal Plain Strata
Covers Region
Cretaceous to Miocene
~ 80 – 15 Ma**

**Stream Systems Cut
Coastal Plain
Beginning in
Miocene**

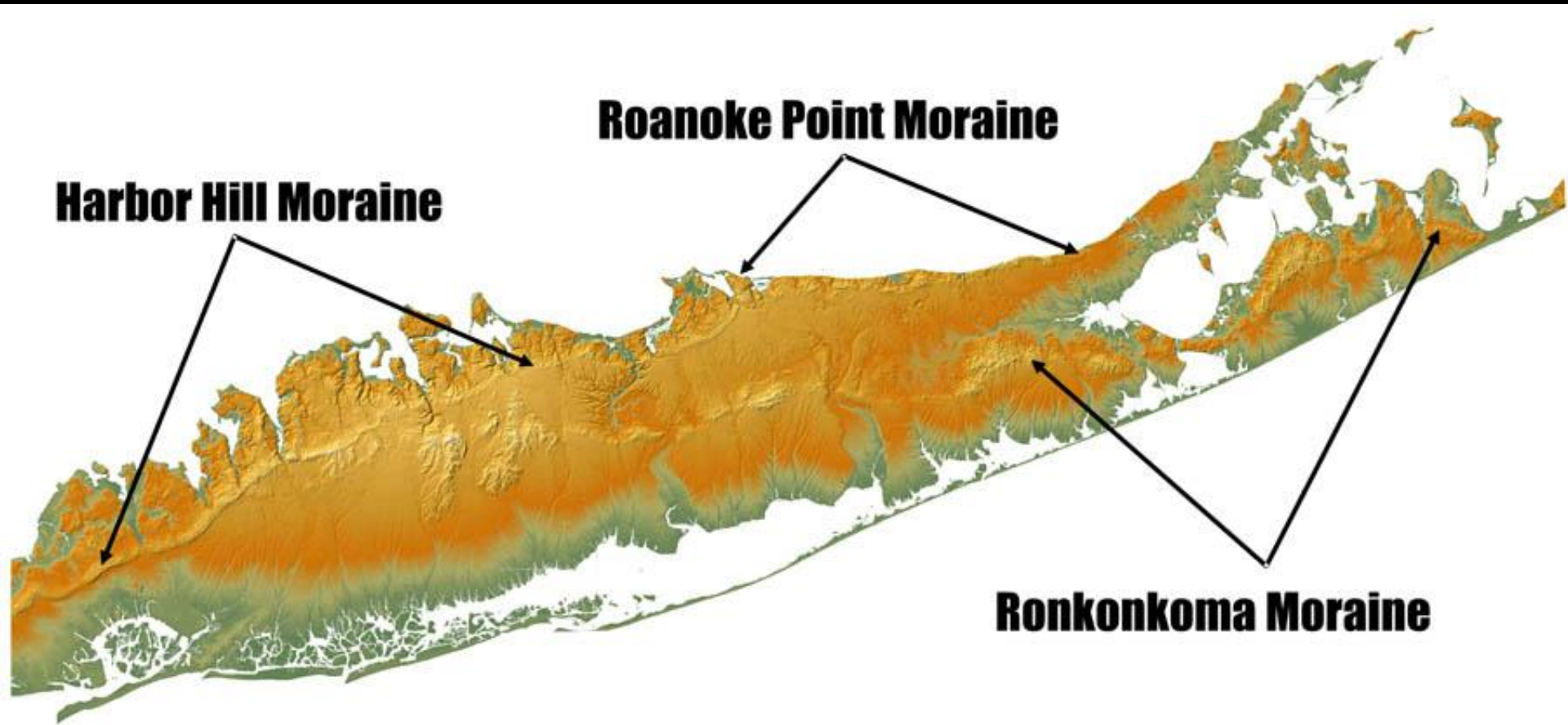




Mio/Pliocene Migration of Coastal Plain

Johnson (1931)

Long Island's Moraines – A Tale of Two Tills



Pre-Woodfordian Glaciation



SE-Directed Glacial Striae, Central Park, NYC

SE-directed Chattermarks, Bear Mtn., NY



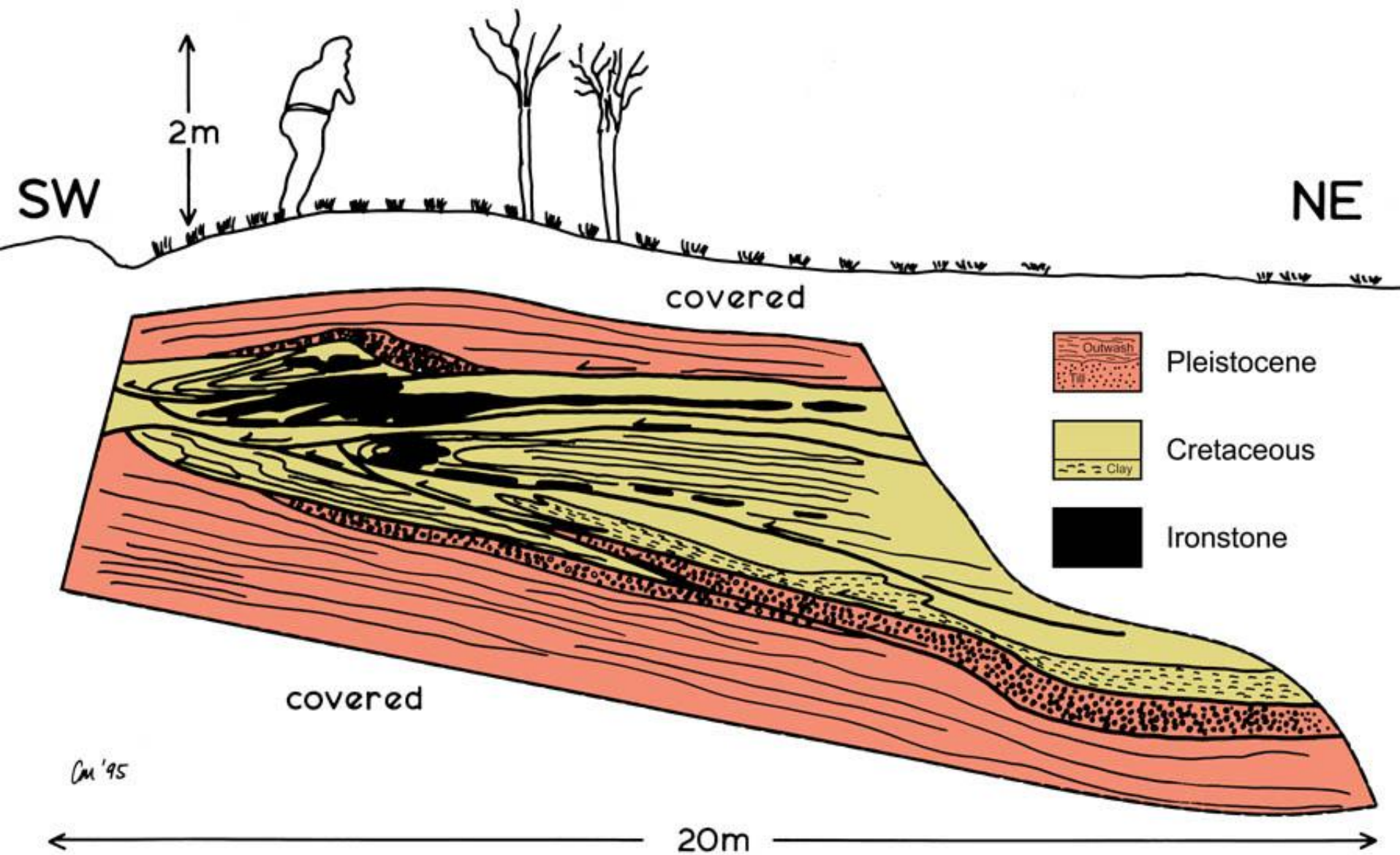
The Big Kahuna Glacial Event

The map illustrates the Big Kahuna Glacial Event in New York Harbor. A large red arrow points from the Hudson River area towards the lower bay. A red label 'Harbor Hill Moraine' is placed over the lower bay area. A black label 'Prince's Bay' is placed over the lower bay area. The map includes labels for Morristown, Newark, Elizabeth, Staten Island, Perth Amboy, Yonkers, Hudson River, MANHATTAN, Upper Bay, Lower Bay, Jamaica Bay, and LONG ISLAND.

Prince's Bay

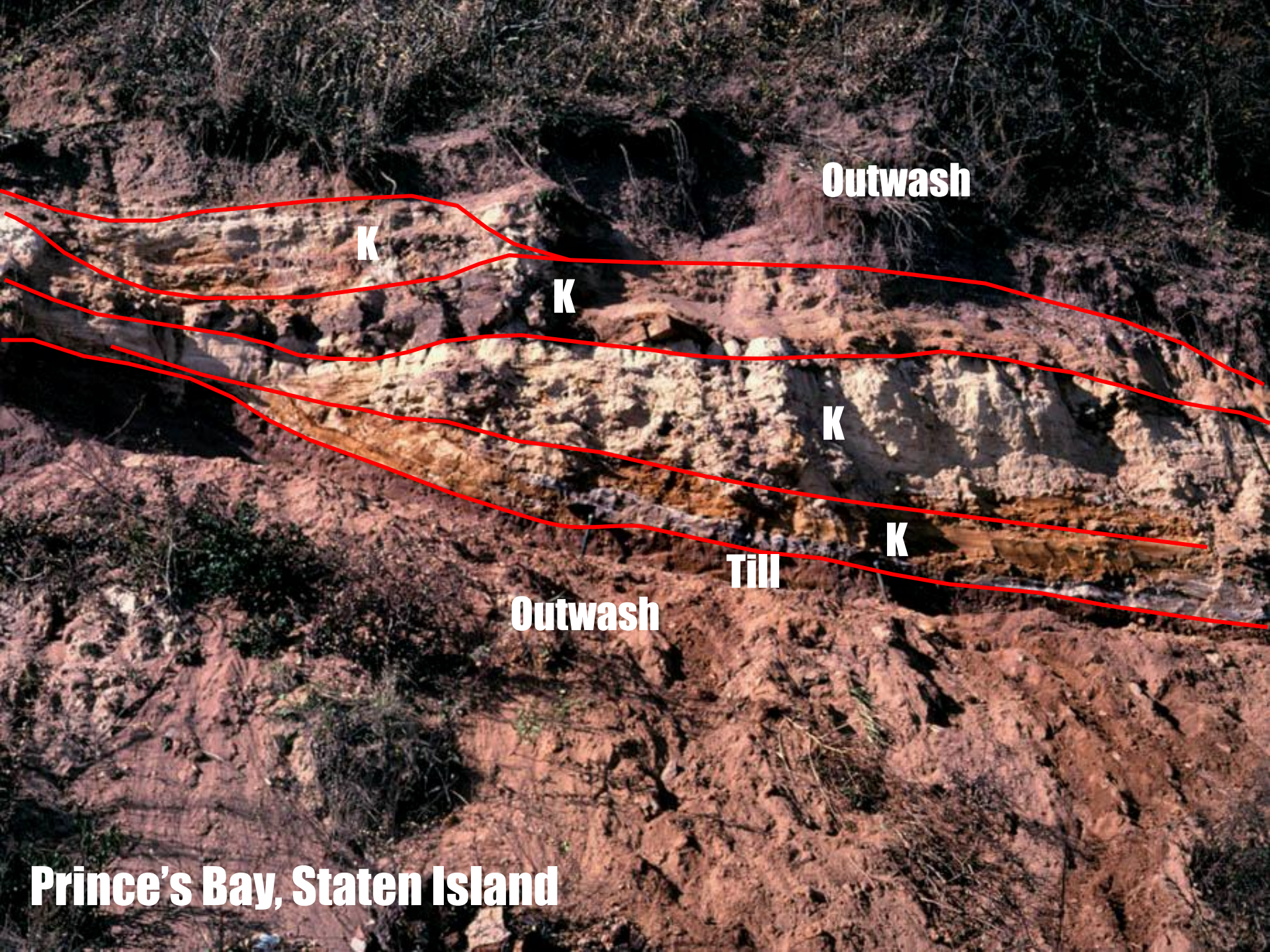


Prince's Bay, Staten Island





Plunge 17° into S 60° W
AP = N 4° E, 20°NW



Outwash

K

K

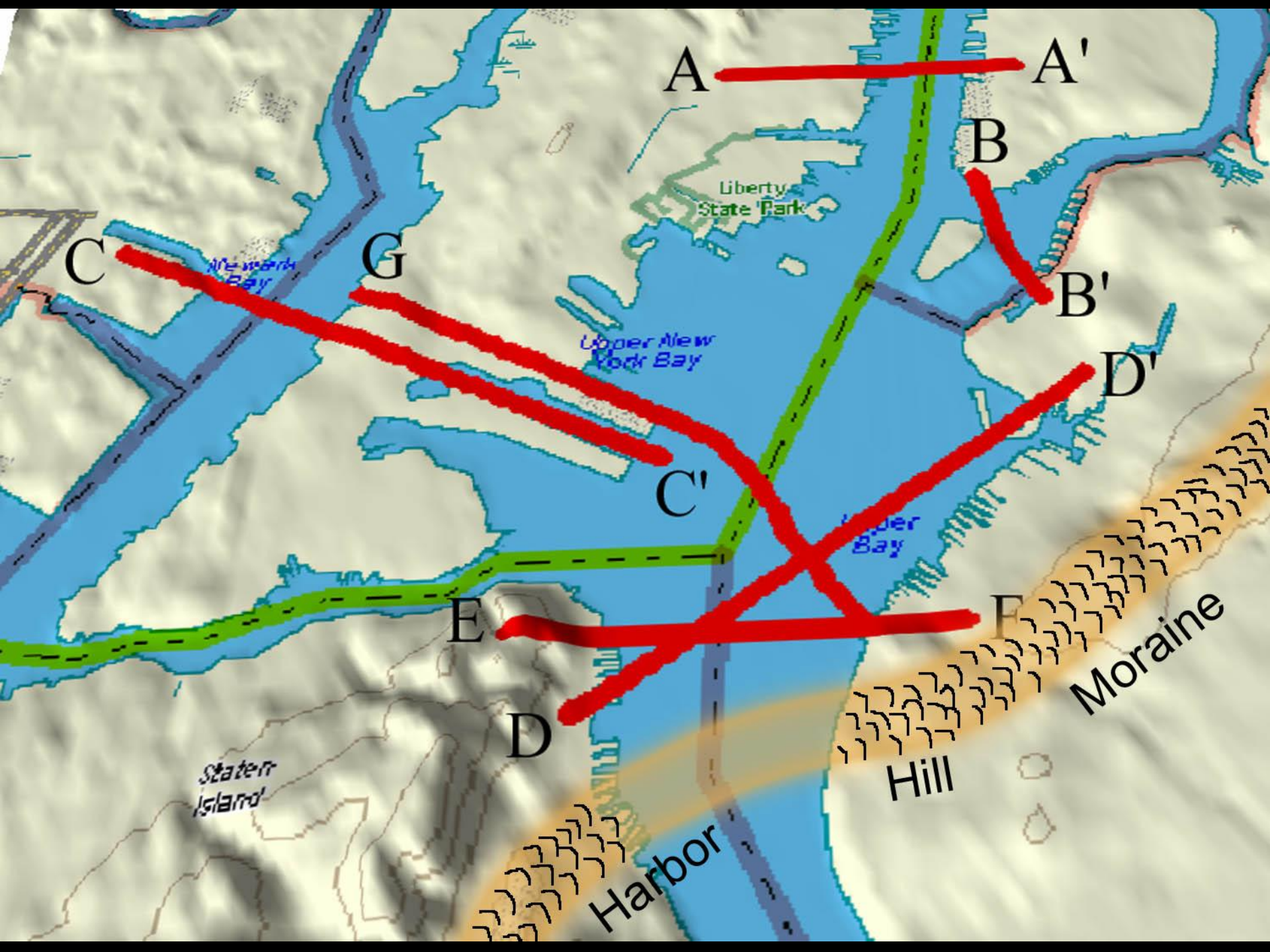
K

K

Till

Outwash

Prince's Bay, Staten Island



A

A'

B

B'

D'

C'

E

F

D

C

G

Staten Island

Harbor

Hill

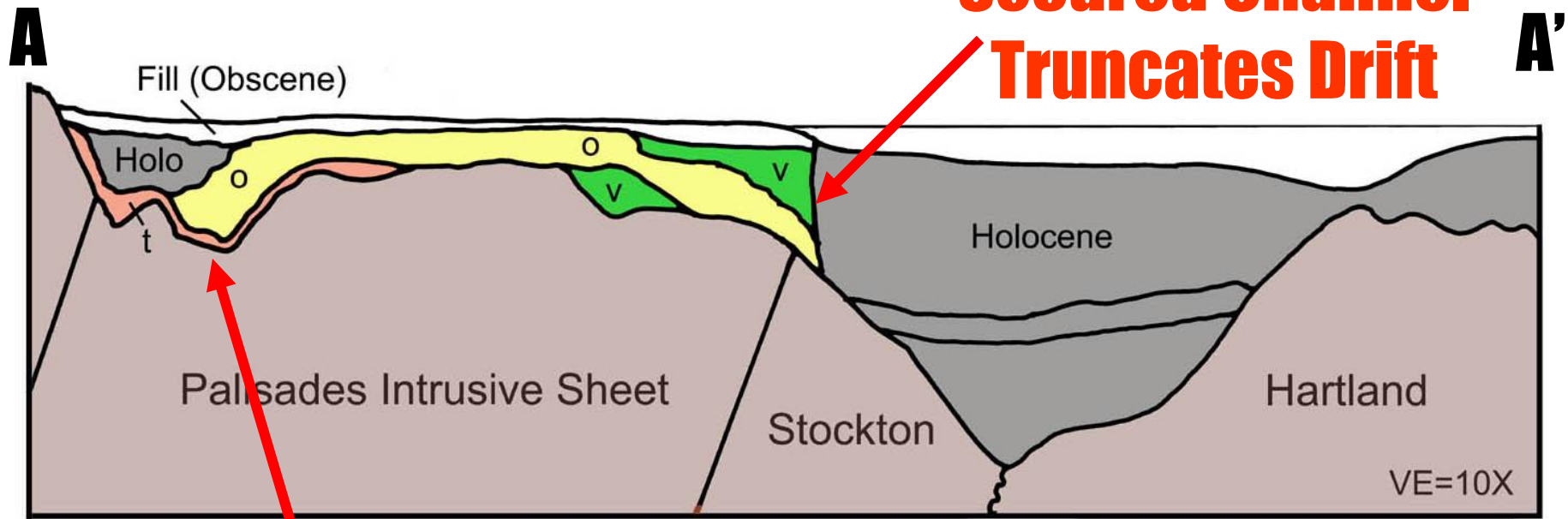
Moraine

Liberty State Park

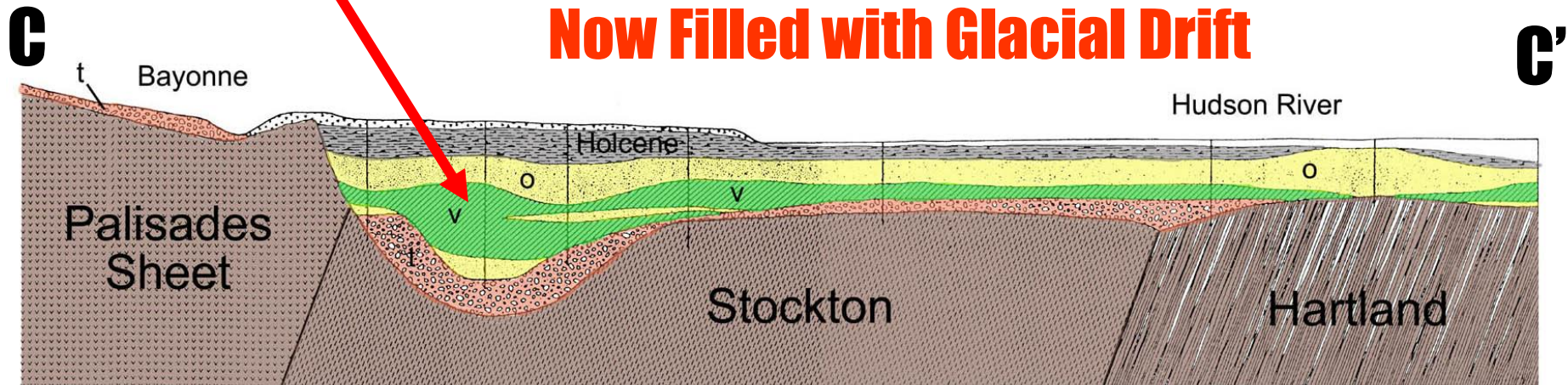
Upper New York Bay

Upper Bay

New York Bay

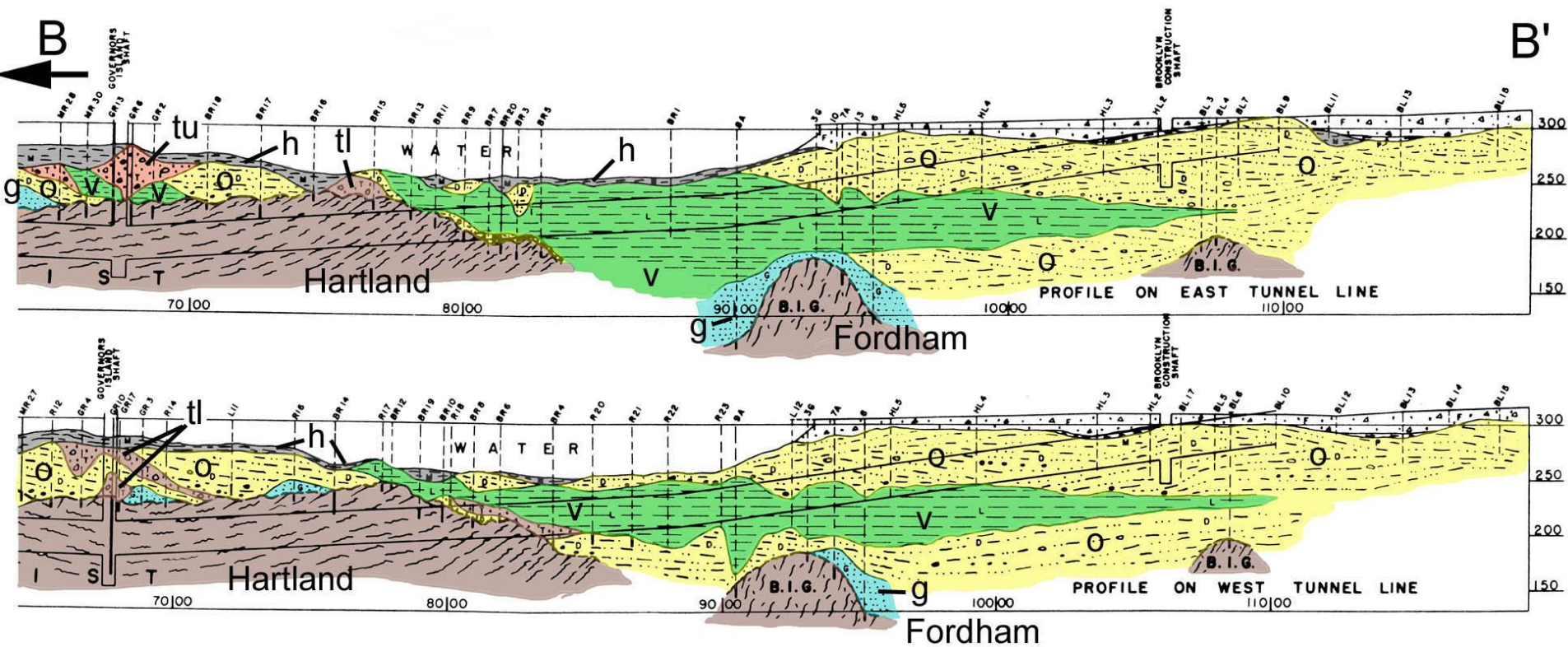


**Buried Channels = Former Hudson Courses
Now Filled with Glacial Drift**



Lovegreen (1974)

Brooklyn Battery Tunnel



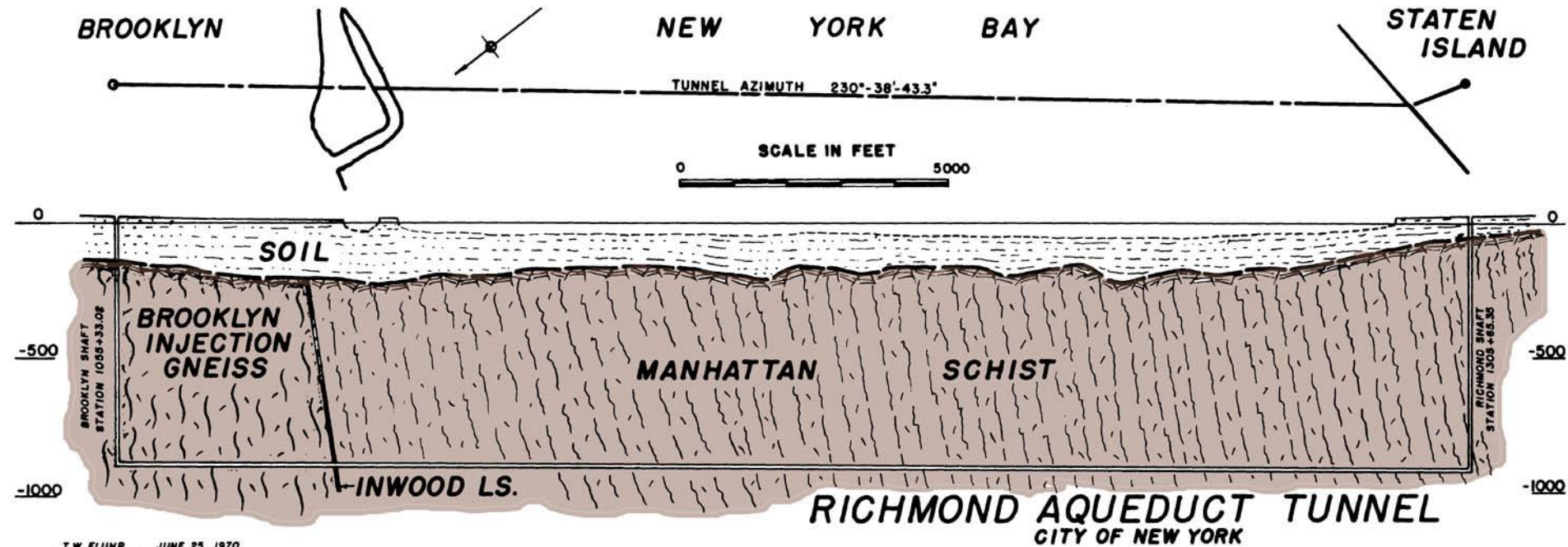
**Extension of East River Channel
Now Filled with Glacial Drift**

Berkey (1948)

Richmond Aqueduct Tunnel

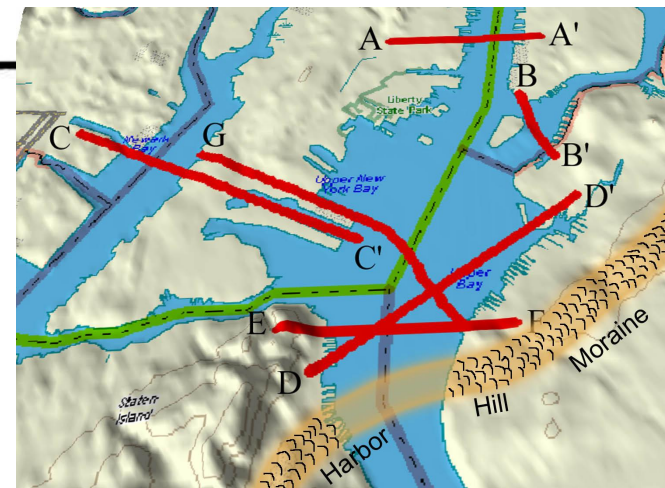
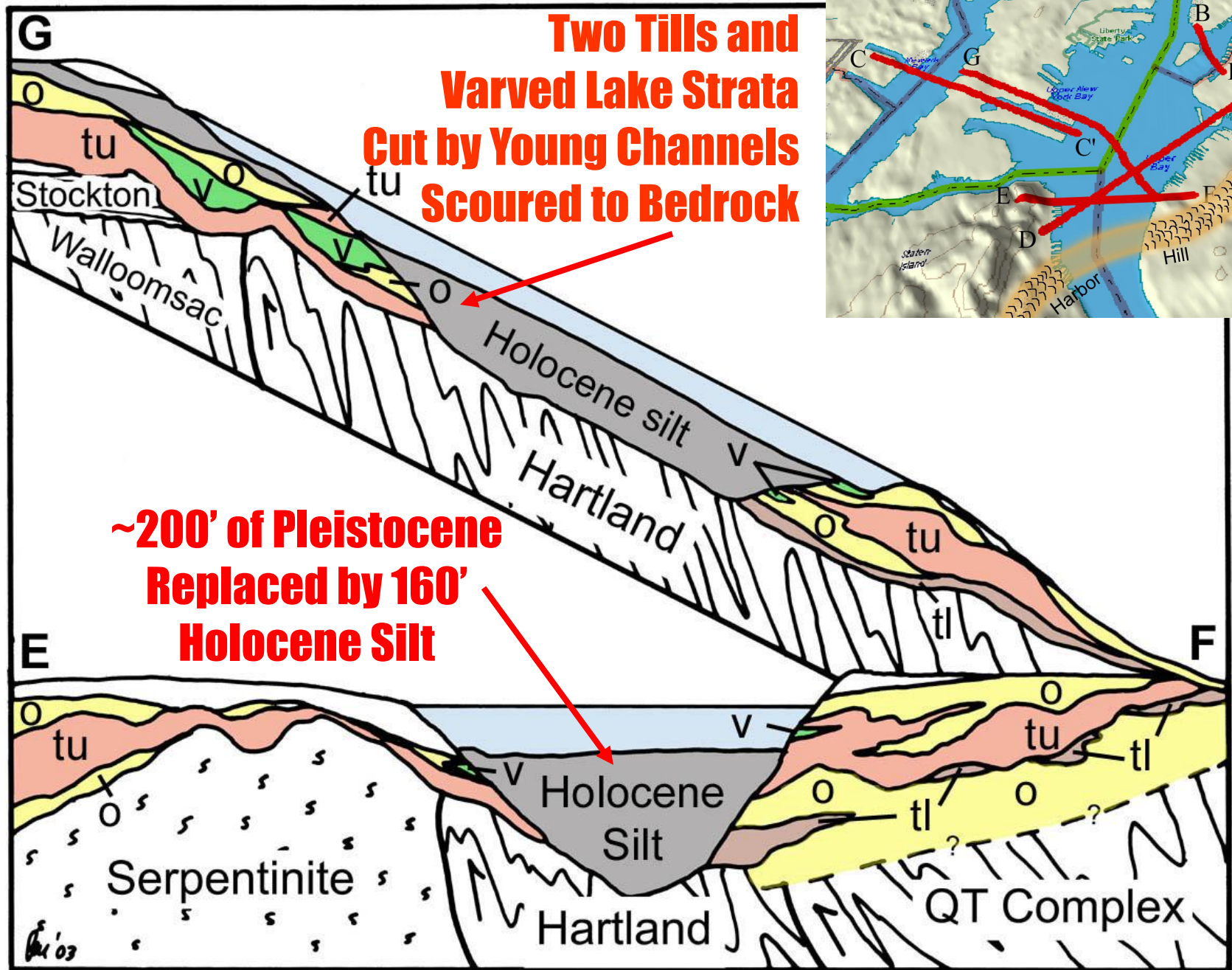
D'

D



NY Bay Scoured to Bare Bedrock

Fluhr (1962)





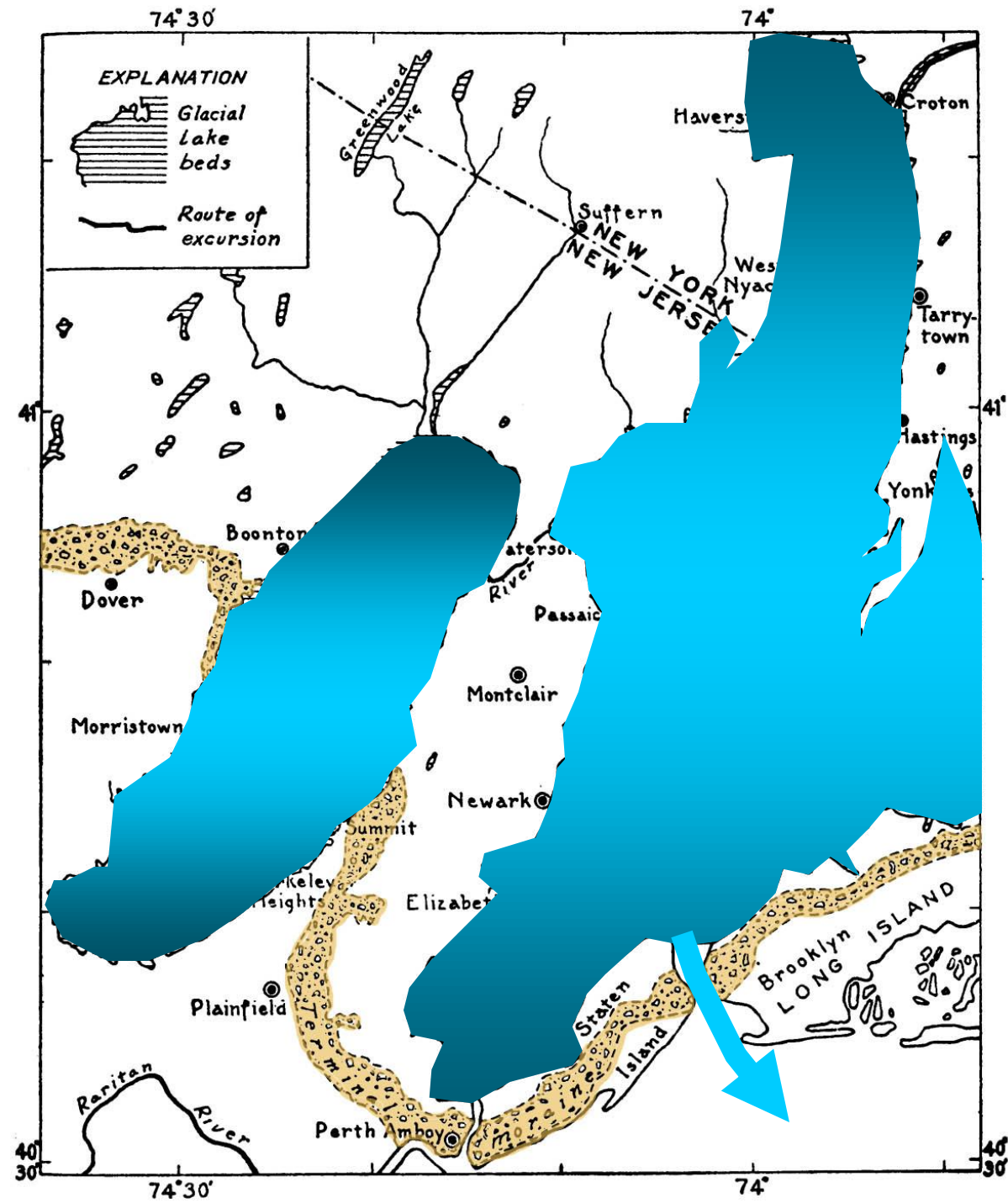
**Hudson
Abandons
Former
Channels –
Floods
Through
Narrows**



Glacial Lake Strata and the Harbor Hill Moraine

Post-
Woodfordian
Drainage
Through
The Narrows

Berkey (1933)





**Ready For
Winter?**

