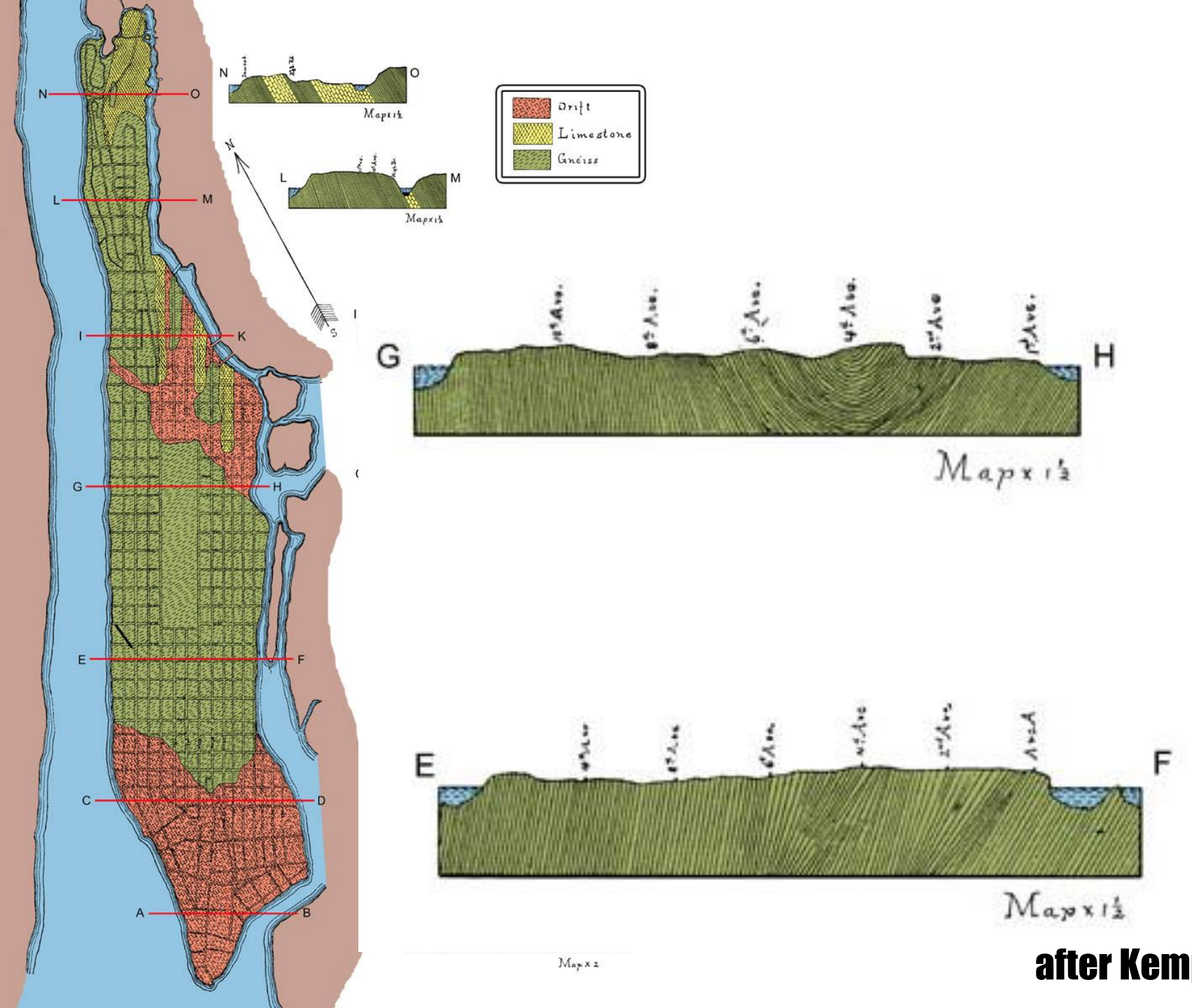
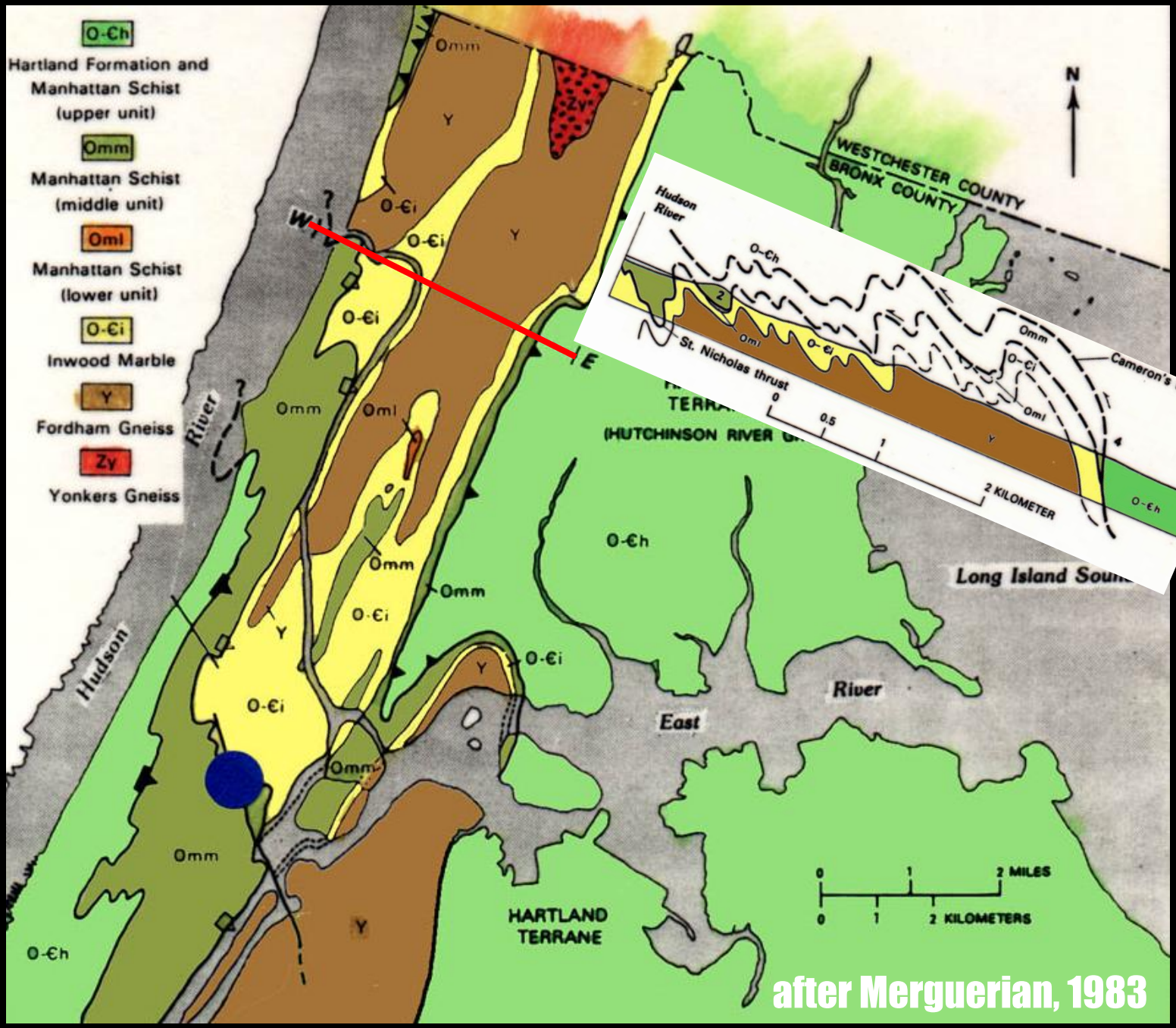
Long Island Geologists

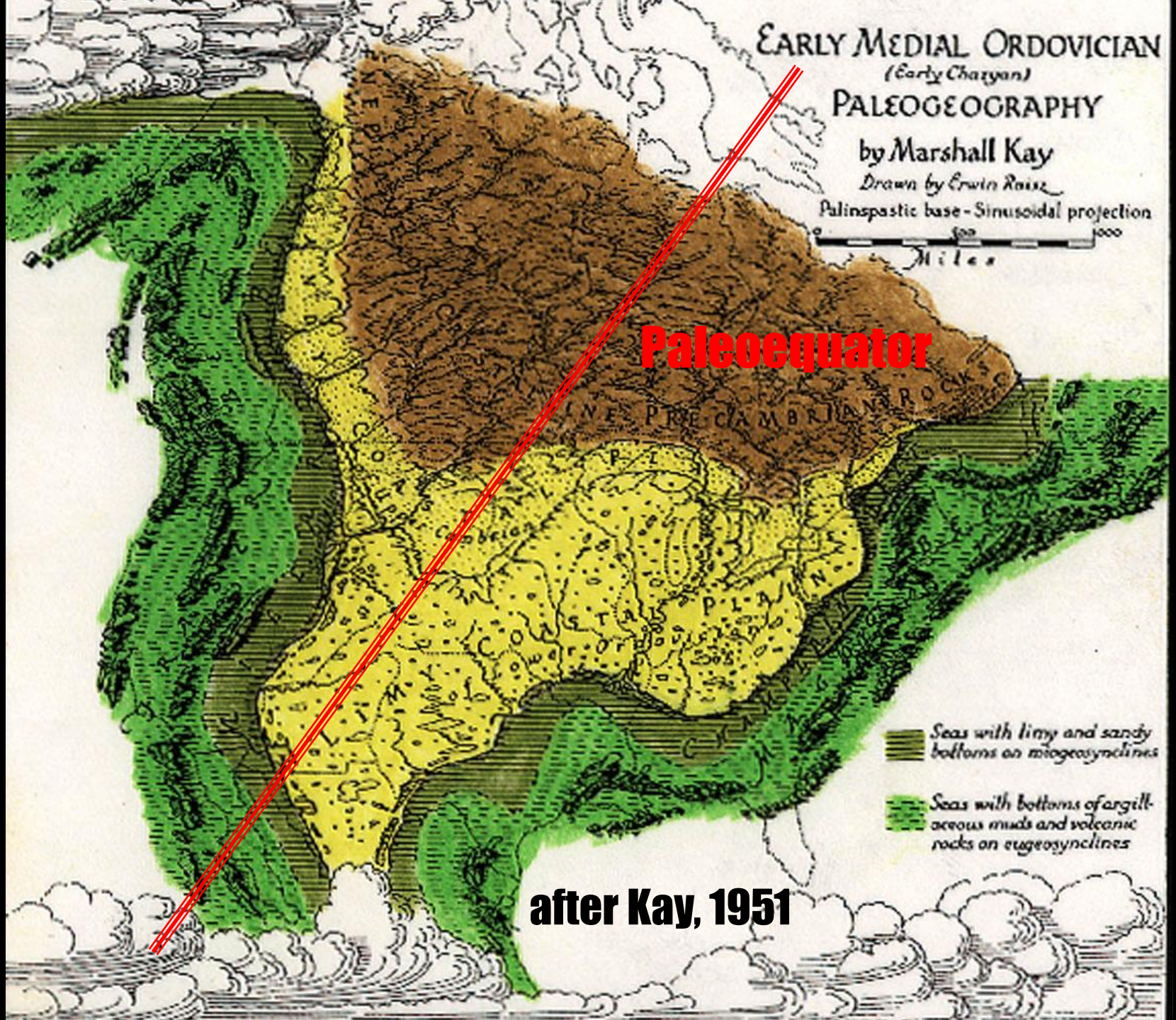
Geology of Central Park - From Rocks to Ice

Charles and J. Mickey Merguerian

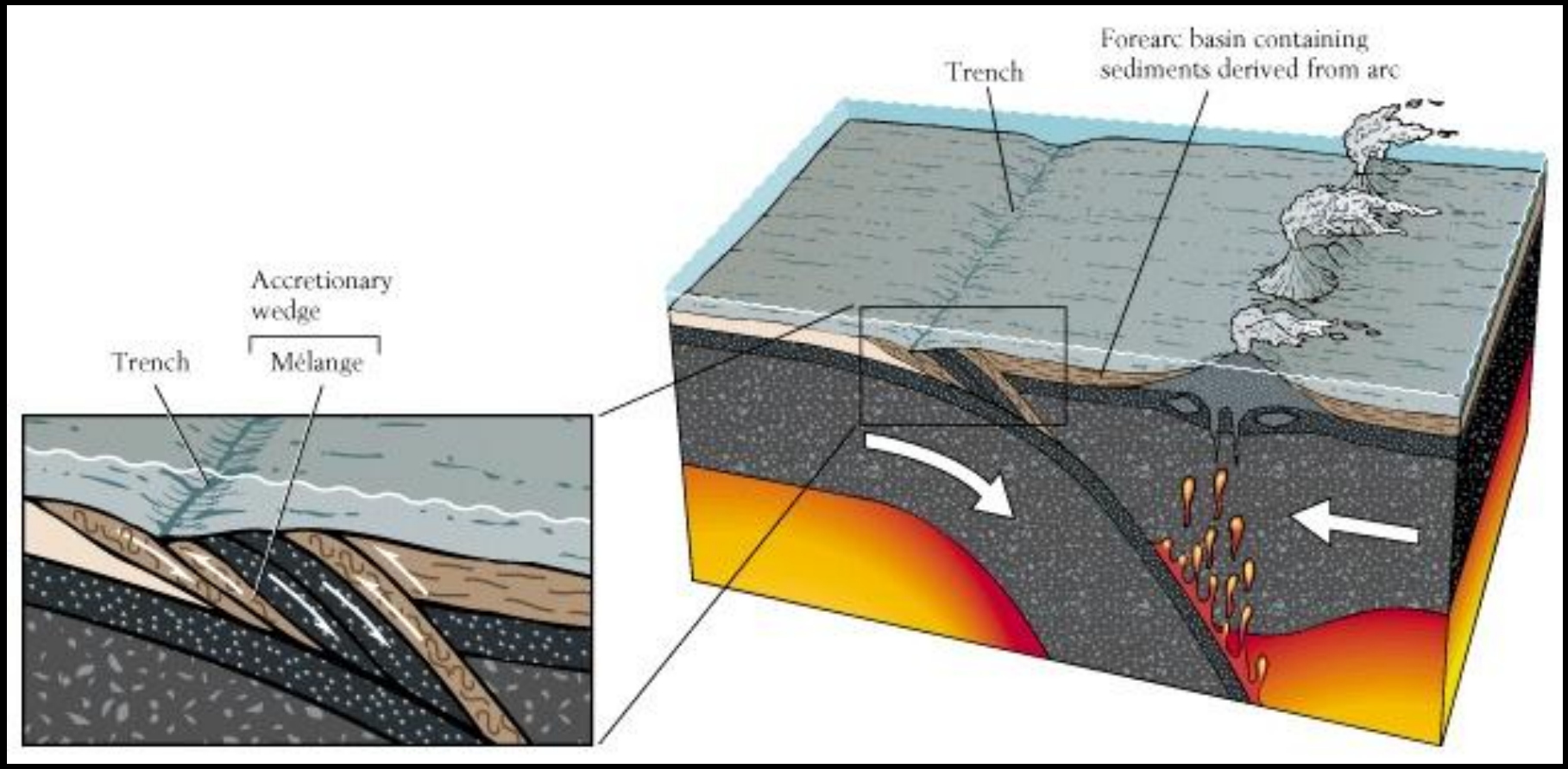


after Kemp, 1887


O-Ch
Hartland Formation and Manhattan Schist (upper unit)
Omm
Manhattan Schist (middle unit)
Oml
Manhattan Schist (lower unit)
O-Ei
Inwood Marble
Y
Fordham Gneiss
Zy
Yonkers Gneiss
N
WESTCHESTER COUNTY
BRONX COUNTY
Hudson River
O-Ch
Oml
O-Ei
St. Nicholas thrust
Omm
Cameron's Line
0
0.5
1
2 KILOMETER
W
E
TERRA
(HUTCHINSON RIVER G
Long Island Sou
River
East
HARTLAND TERRANE
0
1
2 MILES
0
1
2 KILOMETERS
after Merguerian, 1983

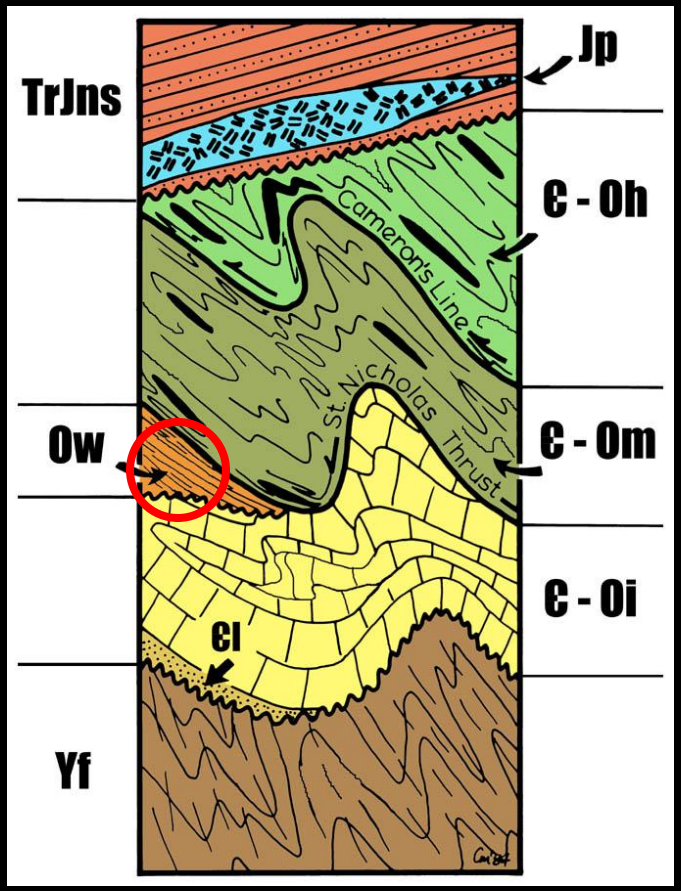

EARLY MEDIAL ORDOVICIAN
(Early Chazyan)
PALEOGEOGRAPHY
by Marshall Kay
Drawn by Erwin Raisz
Palinspastic base - Sinusoidal projection
Miles
Paleoequator
Seas with limy and sandy bottoms on miogeosynclines
Seas with bottoms of argillaceous muds and volcanic rocks on eugeosynclines
after Kay, 1951

Accretionary Wedge

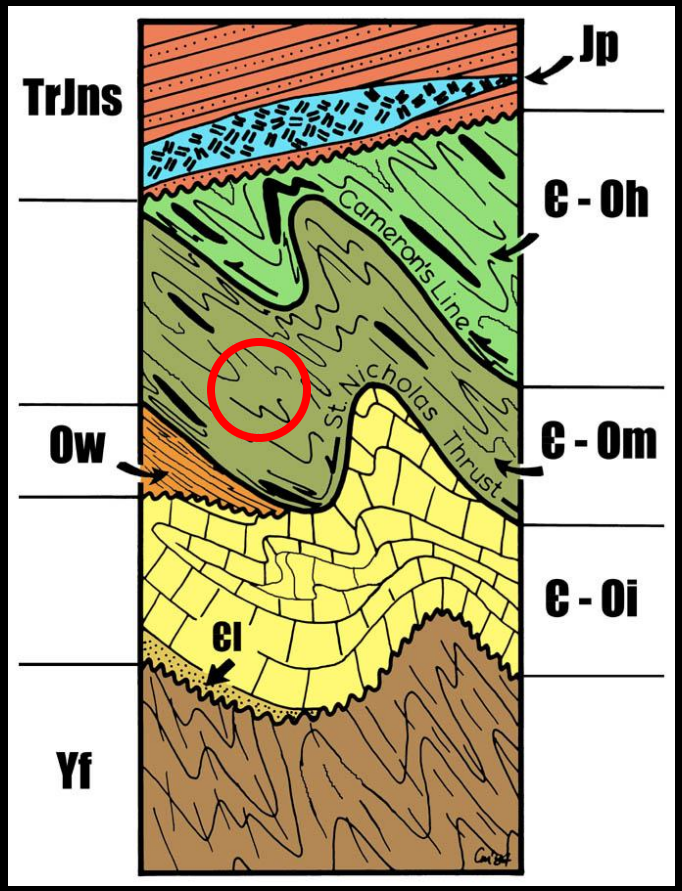



N290 F_2 Fold in Inwood Marble

TrJns
Jp
Є - Oh
Cameron's Line
Nicholas Thrust
Ow
Є - Om
Є - Oi
Cl
Yf



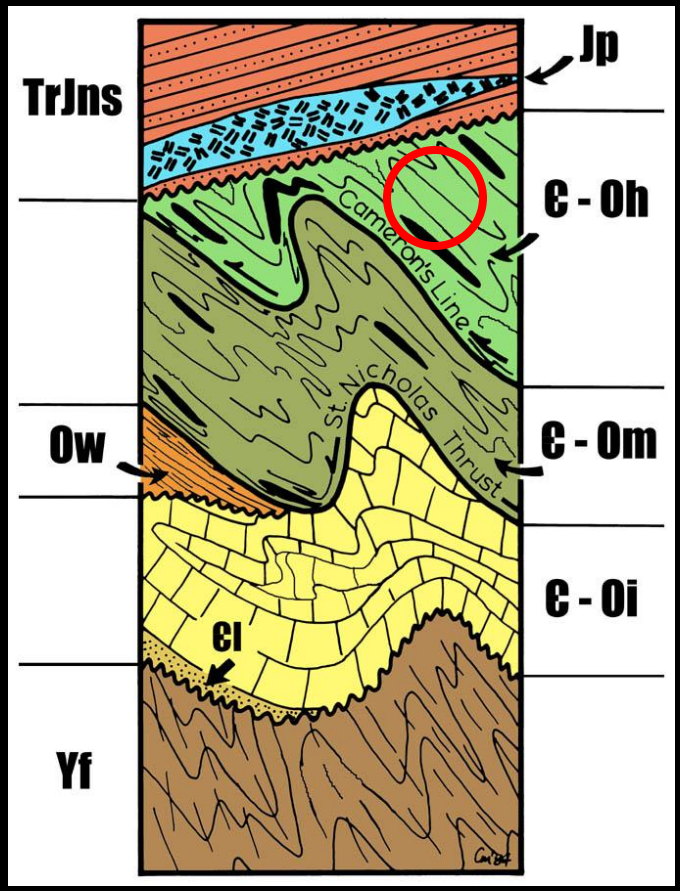
Walloomsac "Balmville" Contact, Grand Concourse, Bronx, NY



F_3 Folds of S_2
Manhattan Schist
Central Park, NYC


Society for Sedimentary Geol
SEPM


N569 Mylonitic C0m



SW-Plunging F_3 Folds
Hartland Formation
Riverside Park, NYC


N296 COh Granofels

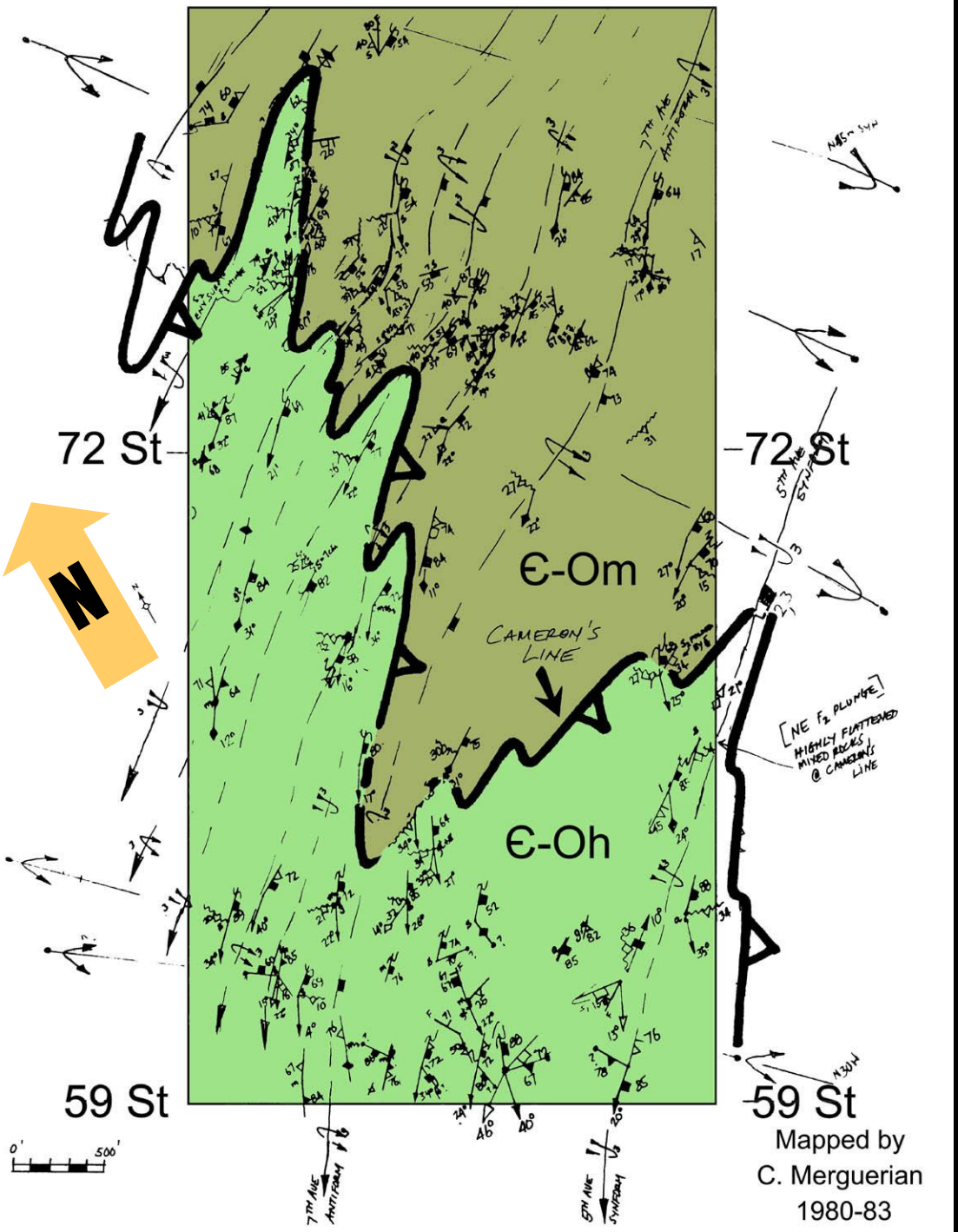

N343 COh Granofels

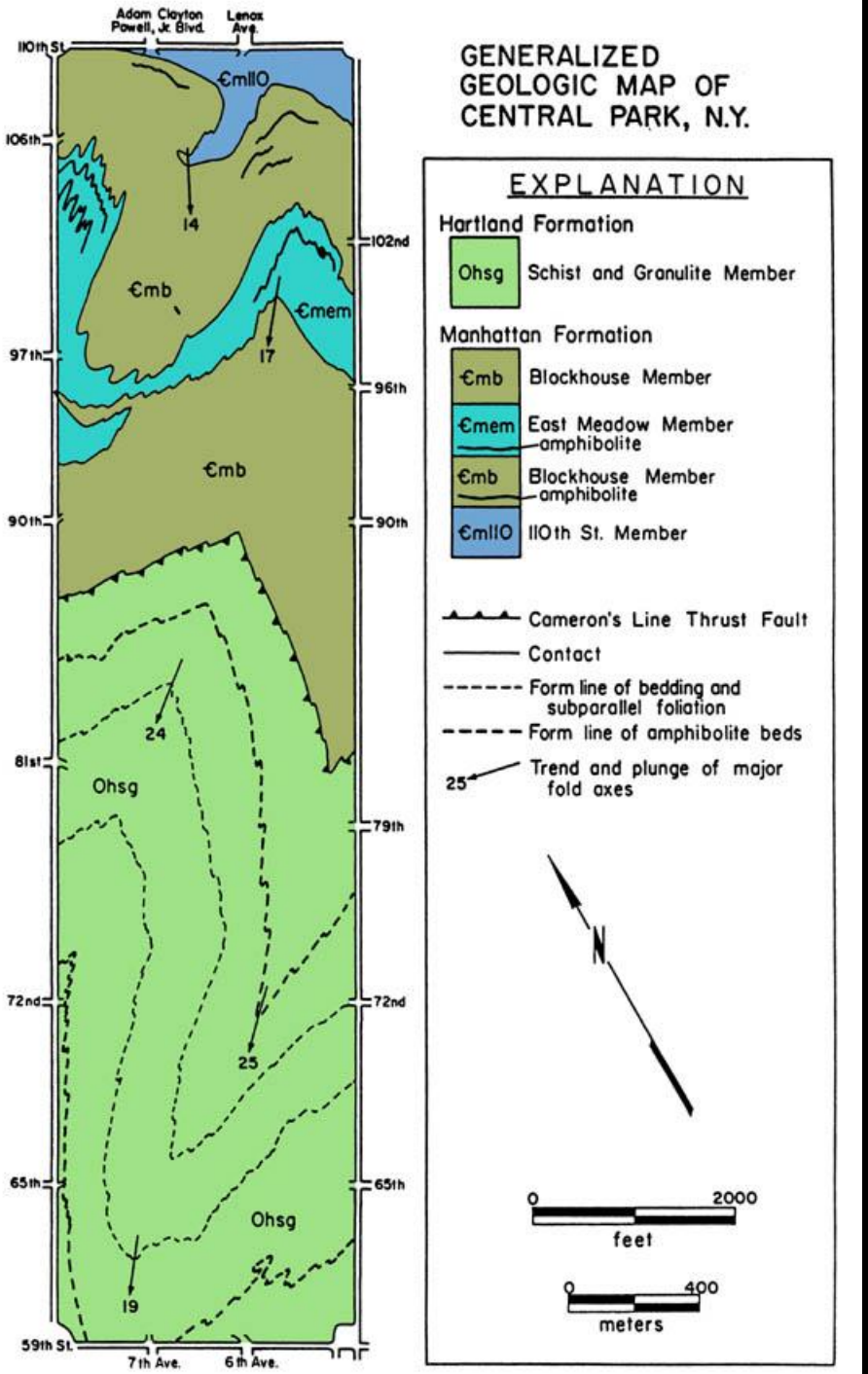
SW-Plunging F_3 Folds Refolding Isoclinal F_2 Hartland Formation Central Park, NYC

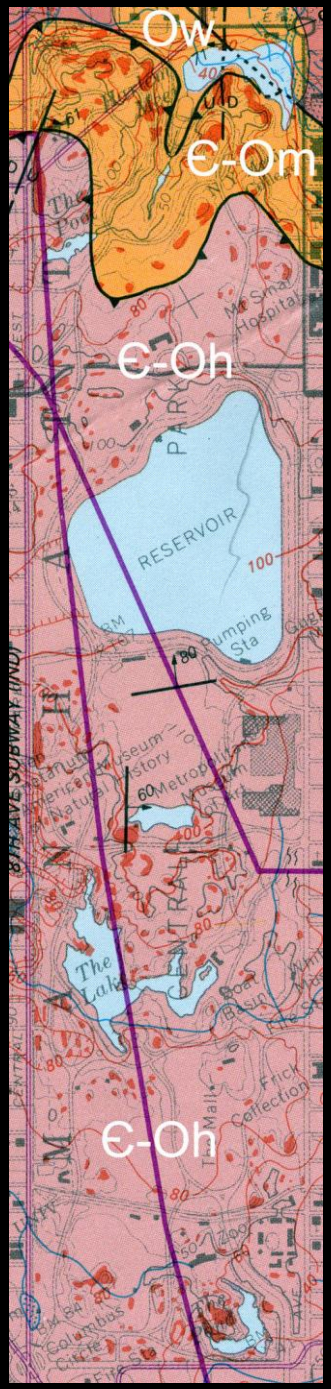
Tell them about the new mapping!

N361

Cameron's Line in Central Park



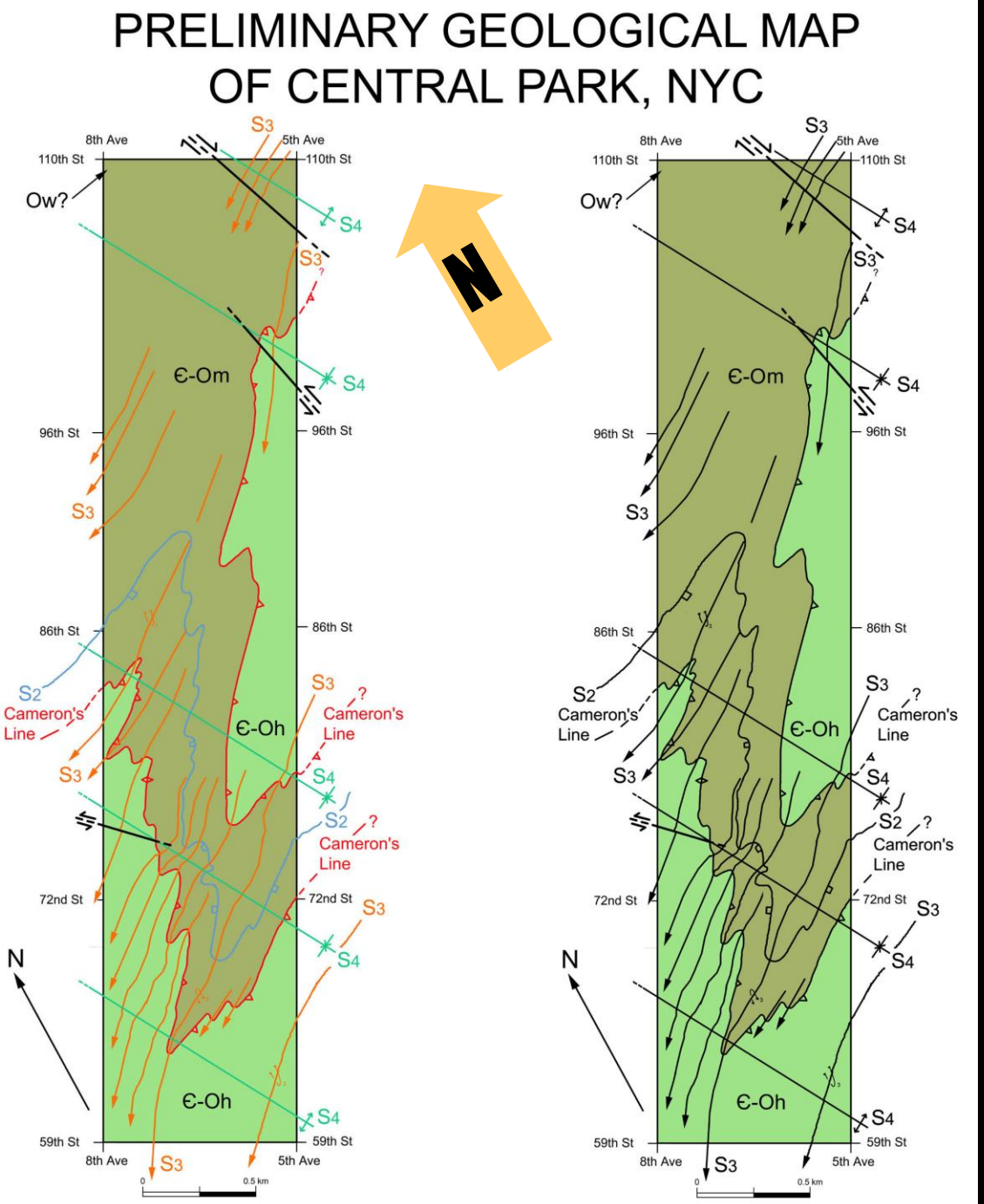




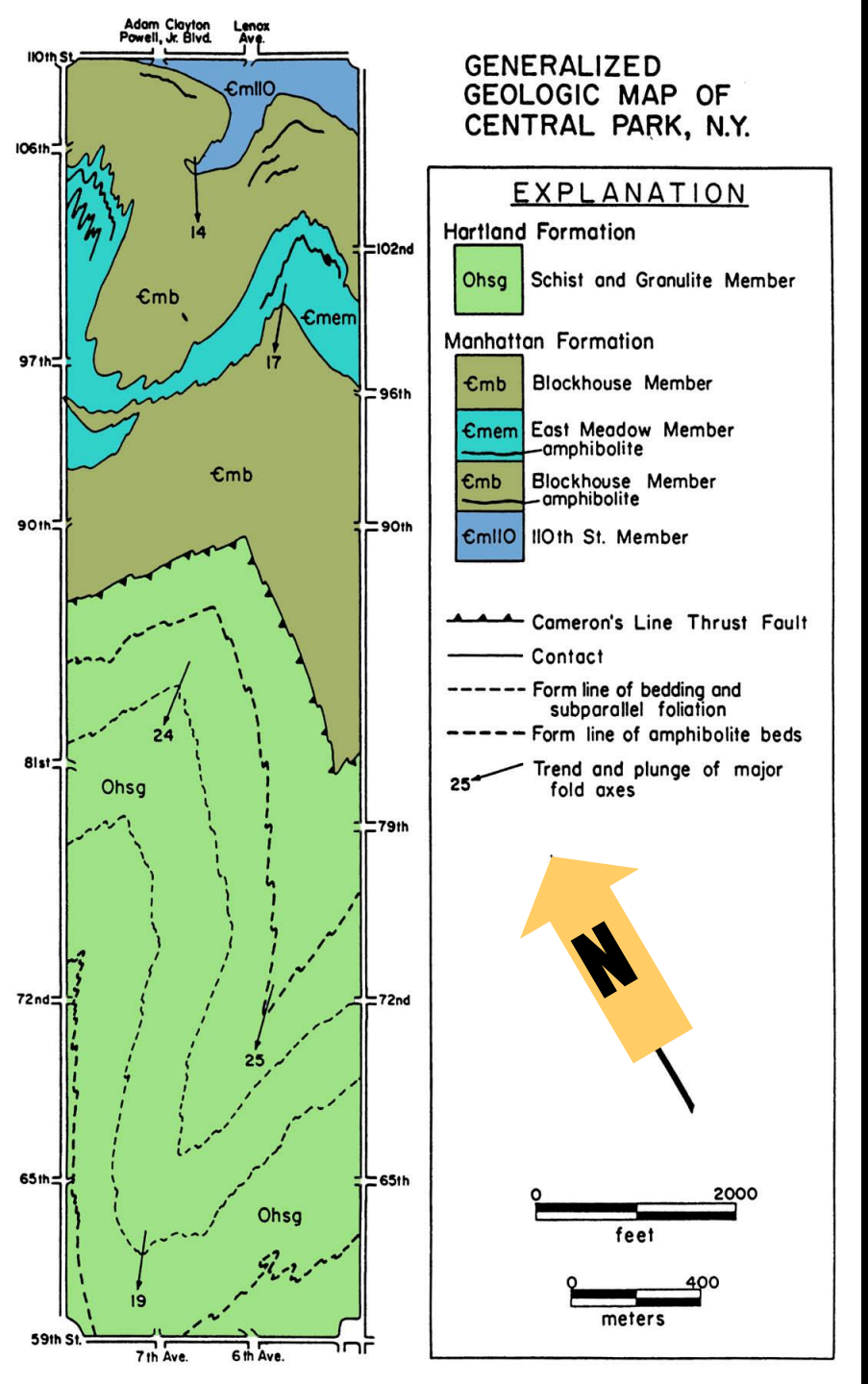
Geologic Maps Of Central Park

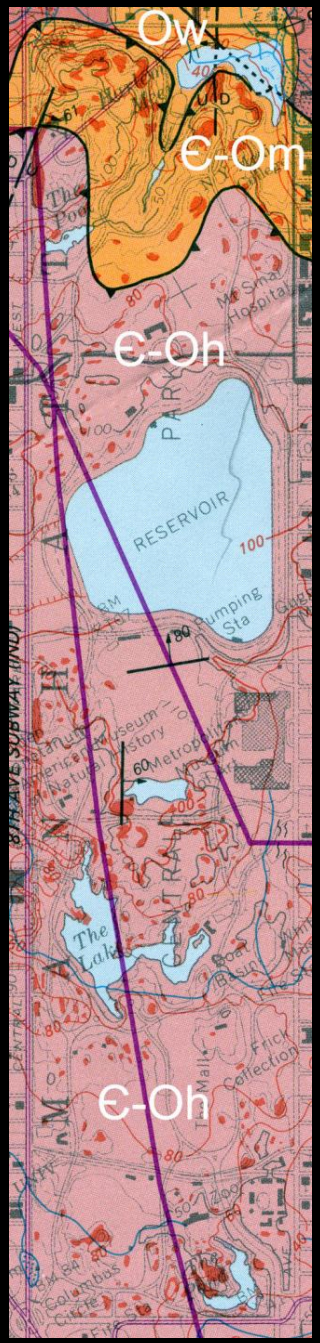
after Taterka, 1987 and Baskerville, 1994

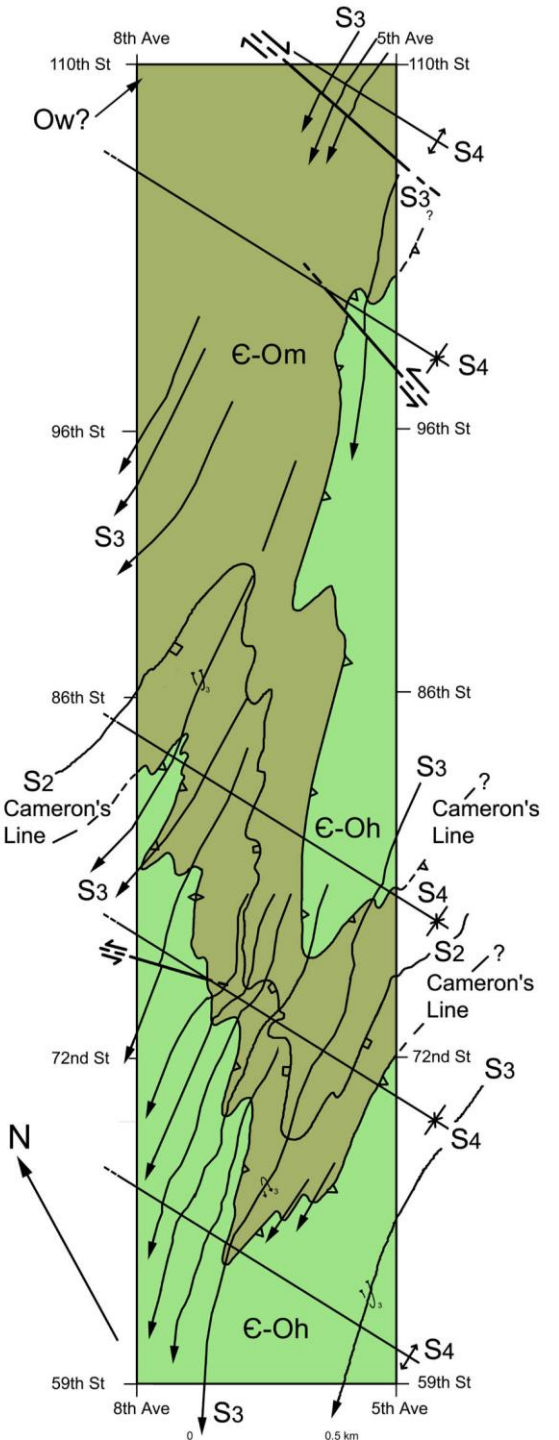
Cameron's Line in Central Park



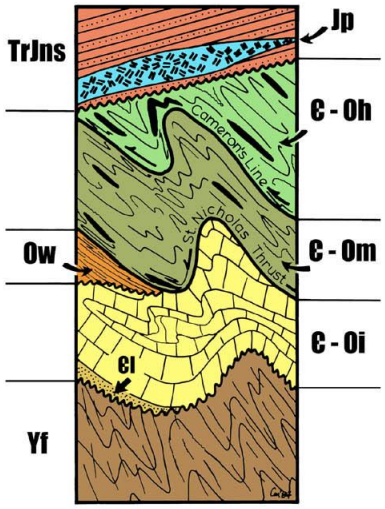
Merguerian and Merguerian, 2004


Adam Clayton Powell, Jr. Blvd.
Lenox Ave.
110th St
106th
102nd
97th
96th
90th
81st
79th
72nd
65th
59th St.
7th Ave.
6th Ave.
Ꞓmll0
Ꞓmb
Ꞓmem
Ohsg
14
17
24
25
19
GENERALIZED GEOLOGIC MAP OF CENTRAL PARK, N.Y.
EXPLANATION
Hartland Formation
Ohsg Schist and Granulite Member
Manhattan Formation
Ꞓmb Blockhouse Member
Ꞓmem East Meadow Member amphibolite
Ꞓmb Blockhouse Member amphibolite
Ꞓmll0 110th St. Member
Cameron's Line Thrust Fault
Contact
Form line of bedding and subparallel foliation
Form line of amphibolite beds
25 Trend and plunge of major fold axes
N
0 2000
feet
0 400
meters


Ow
Ꞓ-Om
Ꞓ-Oh
RESERVOIR
Ꞓ-Oh


8th Ave
5th Ave
110th St
Ow?
S3
S4
Ꞓ-Om
96th St
86th St
S2
Cameron's Line
Ꞓ-Oh
72nd St
N
59th St
0
0.5 km

GEOLOGIC MAP of MANHATTAN Merguerian and Merguerian, 2004



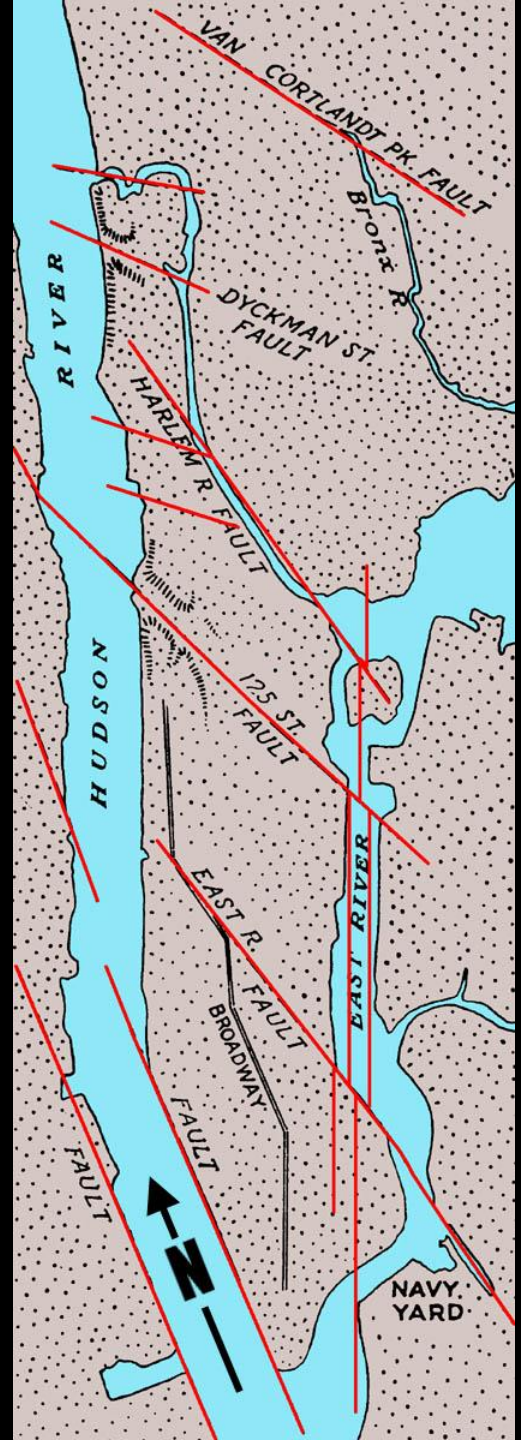
Є-Oh = Hartland Schist

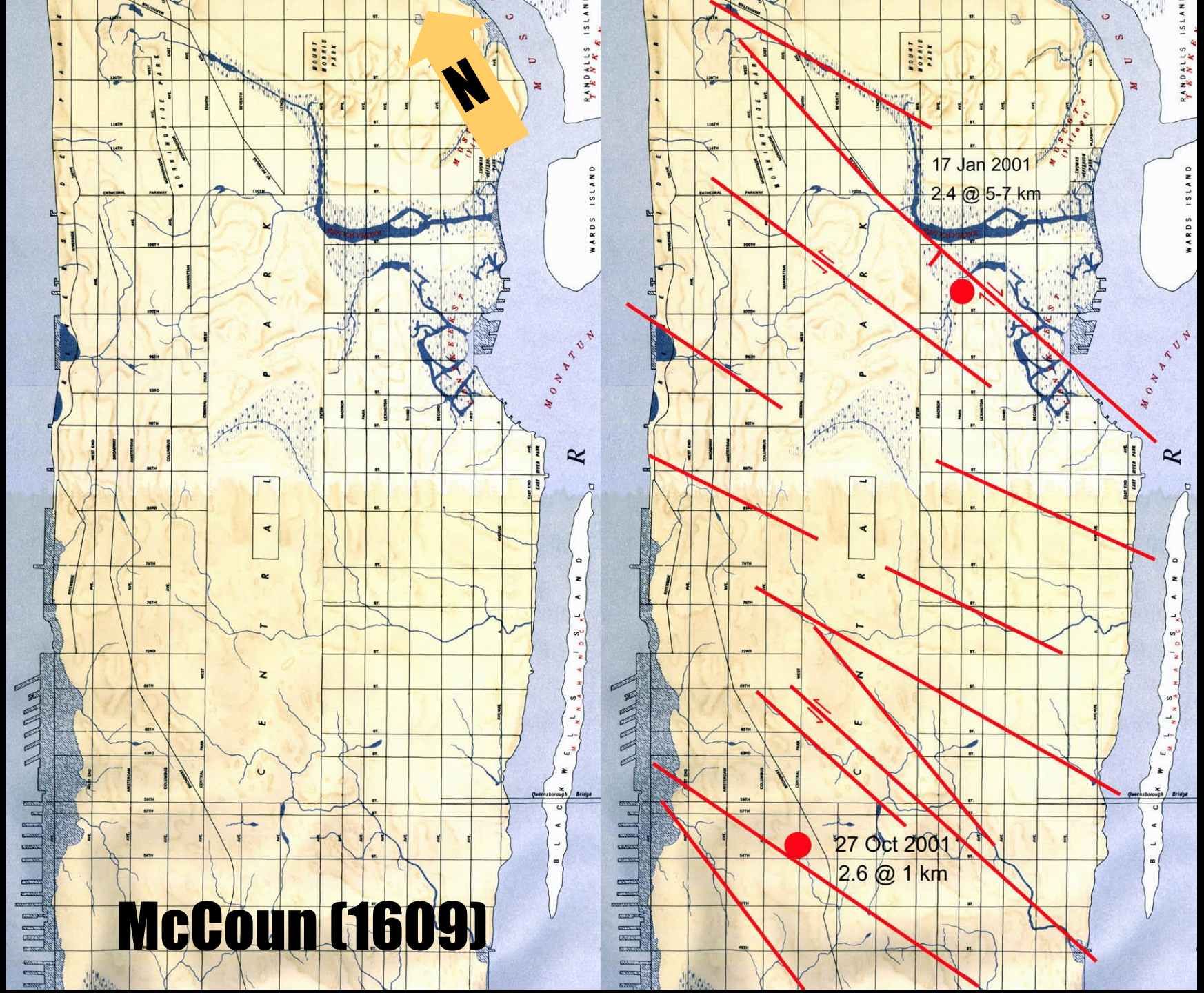
Є-Om = Manhattan Schist

Ow = Walloomsac Schist

Є-Oi = Inwood Marble

Yf = Fordham Gneiss



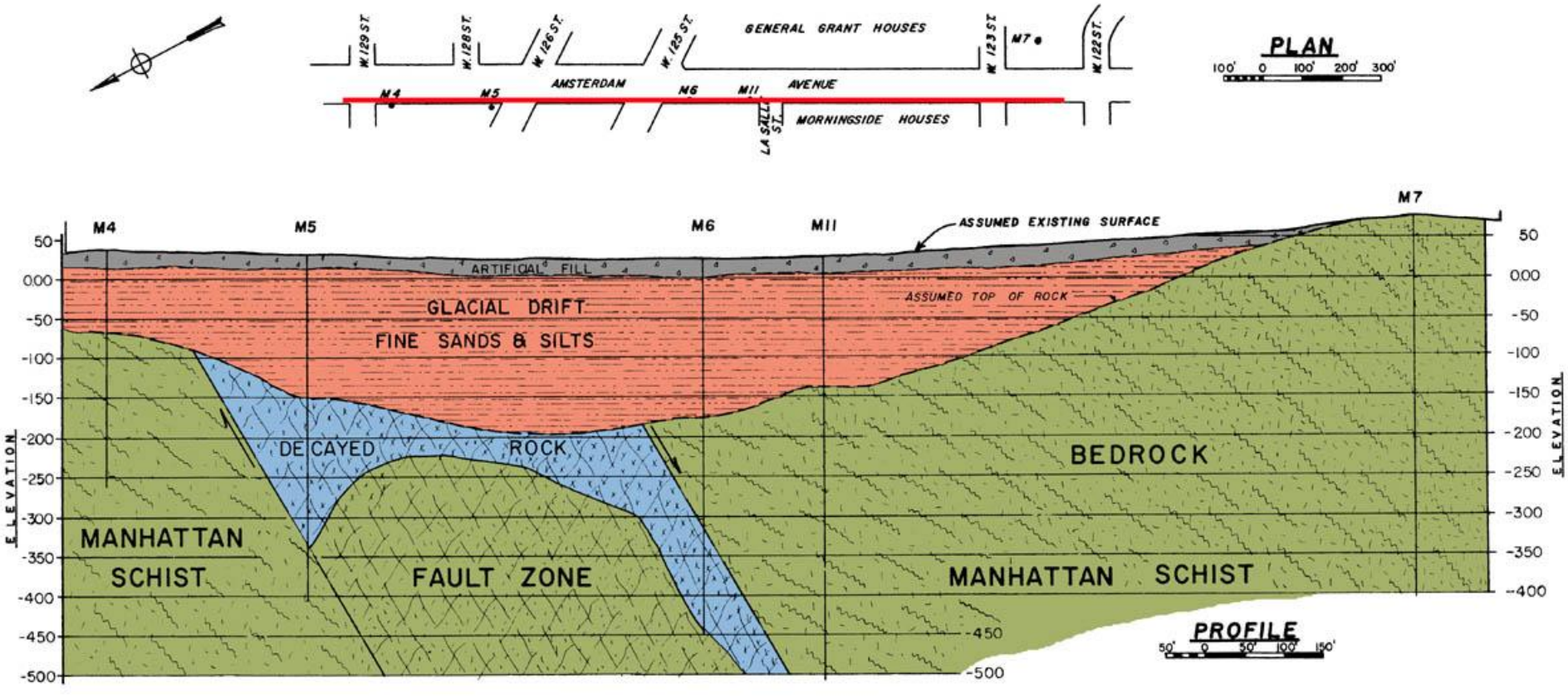

N
17 Jan 2001
2.4 @ 5-7 km
27 Oct 2001
2.6 @ 1 km
McCoun (1609)


It’s Not My Fault! He put me up to this!


Long Island Geologists Field Trip 26 June 2004
W 69 ST
W 68 ST
W 67 ST
W 66 ST
W 65 ST
W 64 ST
W 63 ST
W 62 ST
W 61 ST
E 69 ST
E 68 ST
E 67 ST
E 66 ST
E 65 ST
E 64 ST
E 63 ST
E 62 ST
E 61 ST
E 60 ST
CENTRAL PARK WEST
BUS M10
BUSES M1,M2,M3,M4
FIFTH AV
BROADWAY
COLUMBUS CIRCLE
W 59 ST
7 AV
CENTRAL PARK SOUTH
E 59 ST
GRAND ARMY PLAZA
SHEEP MEADOW
LITERARY WALK
VOLLEYBALL & ROLLER SKATING
EAST DRIVE
PARKING
TAVERN ON THE GREEN
65 ST TRANSVERSE
WEST DR.
CHILDREN'S ZOO
DELACORTE CLOCK
THE DAIRY
CHESS & CHECKERS
ARSENAL
CENTRAL PARK ZOO
HECKSCHER PLAYGROUND
WOLLMAN RINK
POND
MAINE MONUMENT
1
2
3
4
5
6
7
8
9
10
11
12
13

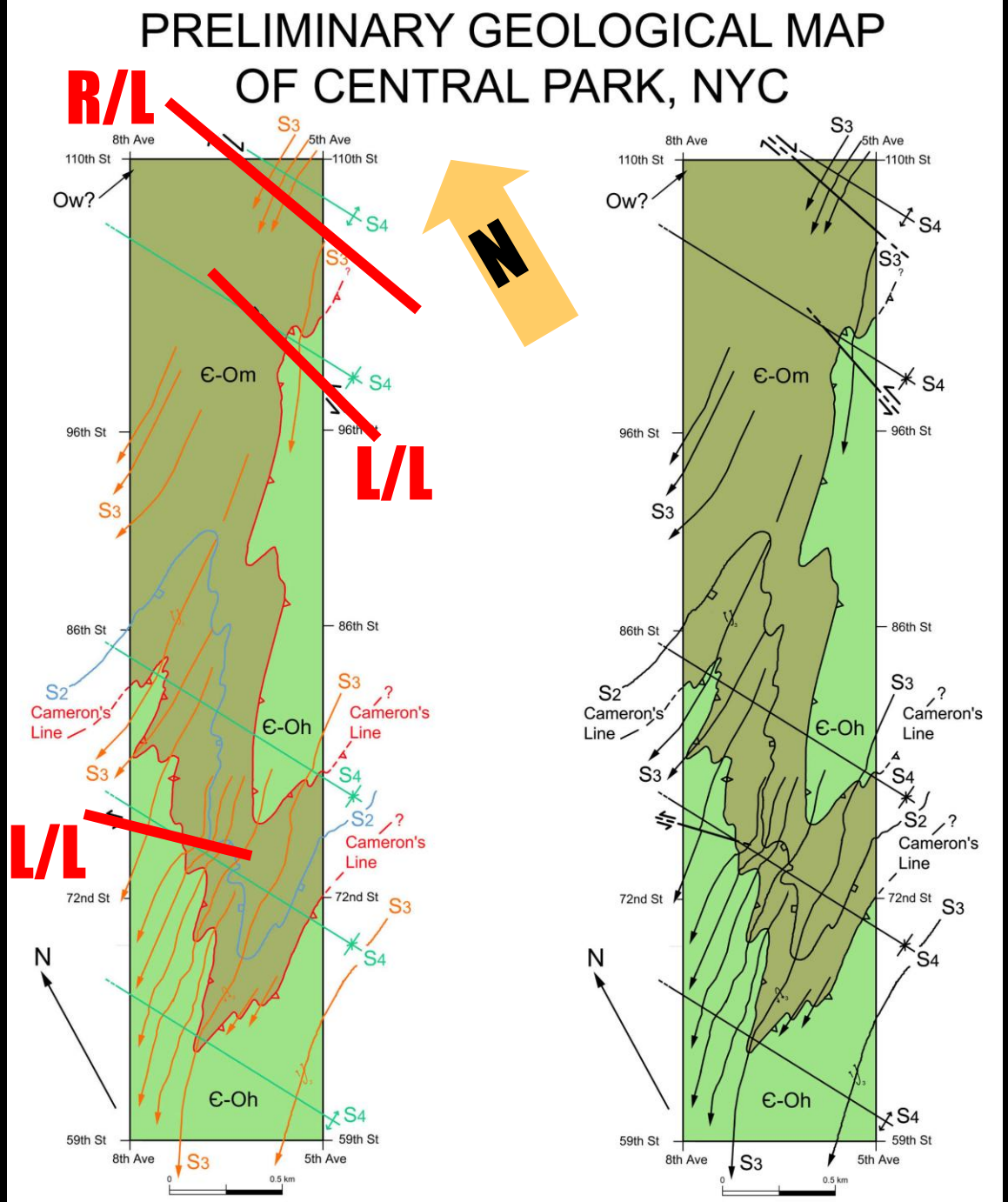

DESPATCH
MOVING & STORAGE

Manhattanville "125th Street" Fault



CT3, Stage 1

after Fluhr, 1969



Group E Faults In Central Park

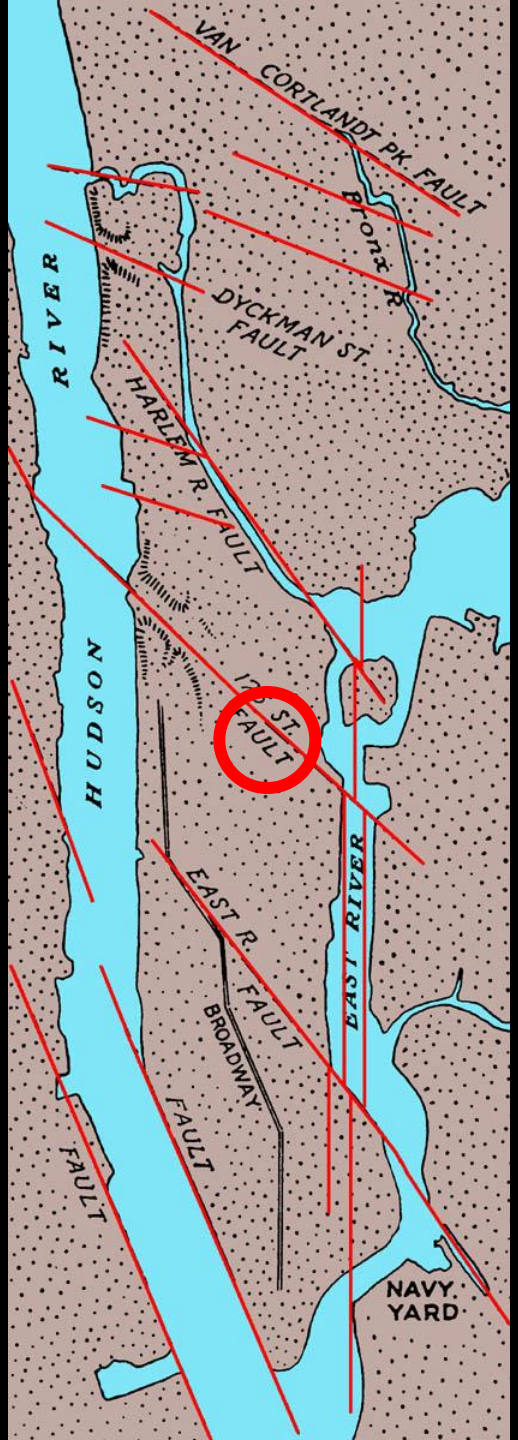
Merguerian and Merguerian, 2004

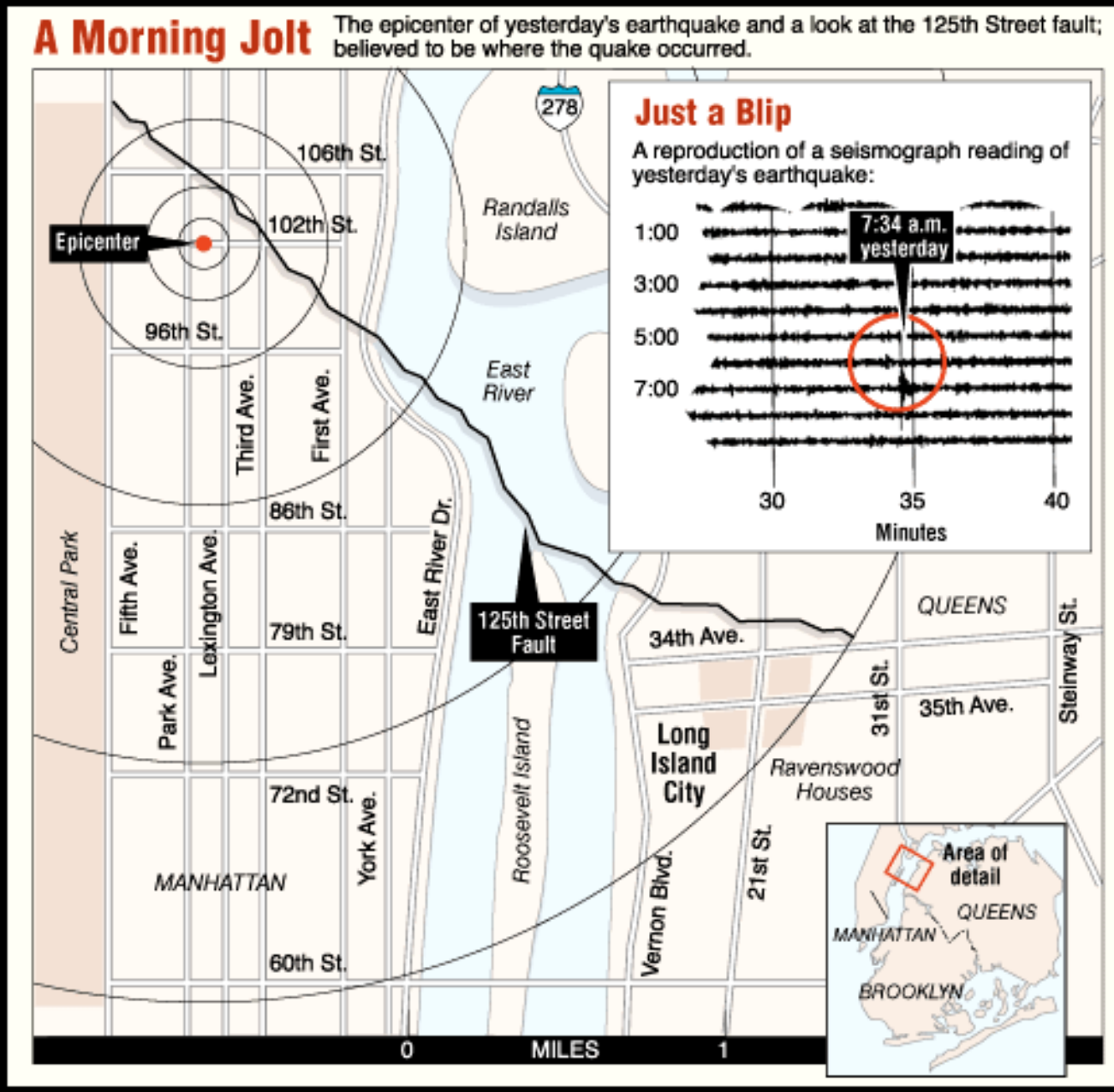
N12°W, L/L Fault

Group E - N45°W, 80°S L/L Fault


N296

17 January 2001, M = 2.4





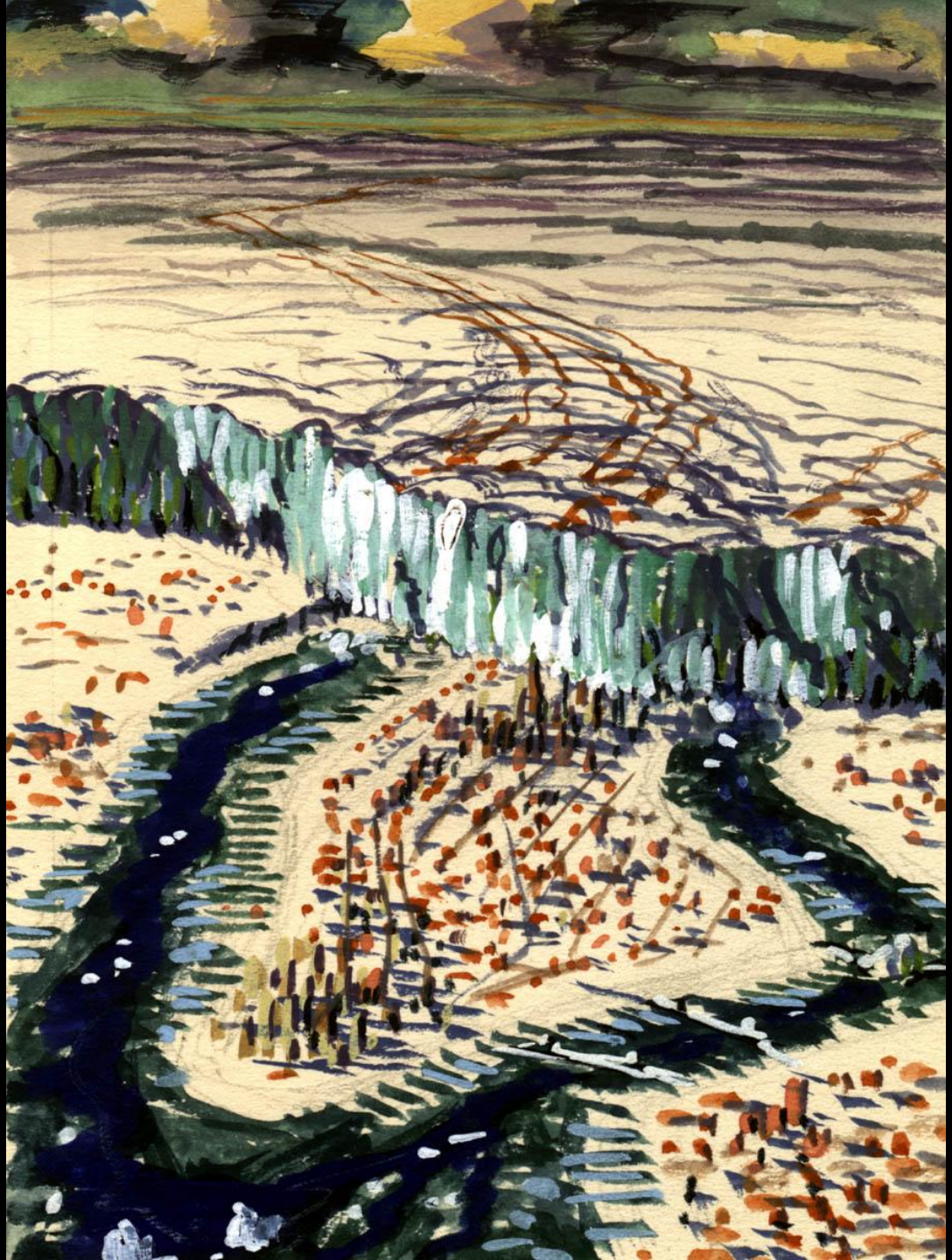
New York City Earthquake Can it Happen Here?

1737 5.2

1783 4.9

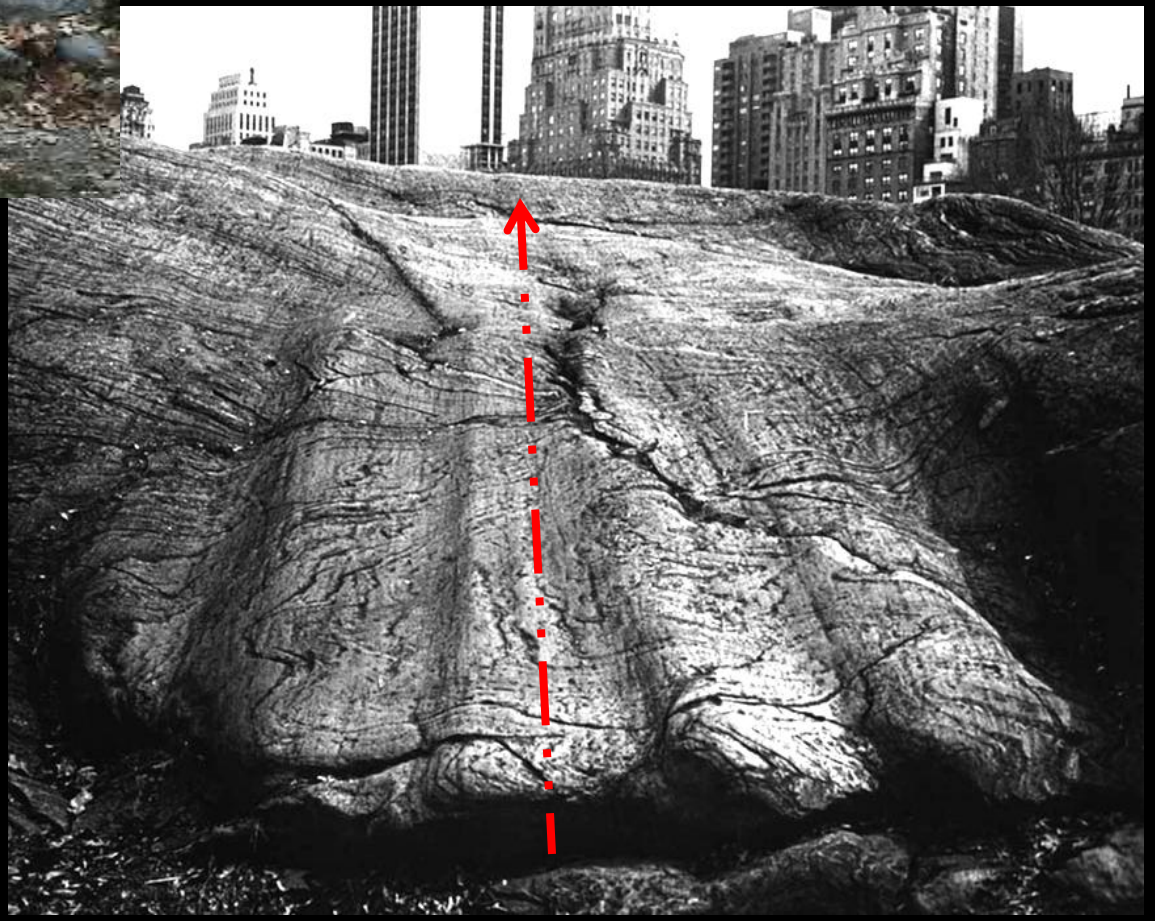
1884 5.2

200? ?



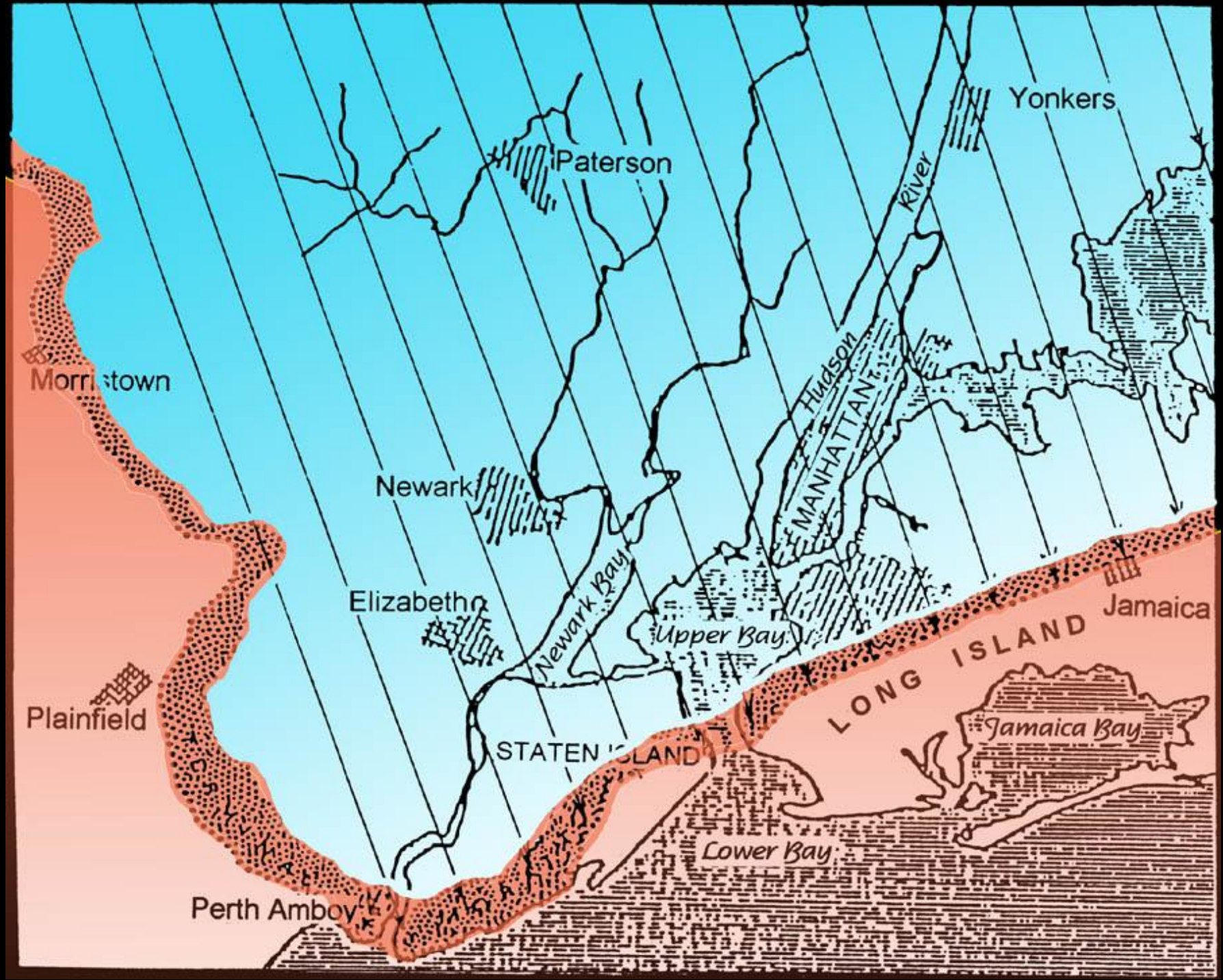
Pegmatite Erratic, Central Park, NYC

SE-Directed Glacial Striae, Central Park, NYC



SE Glacial Grooves, Central Park, NYC

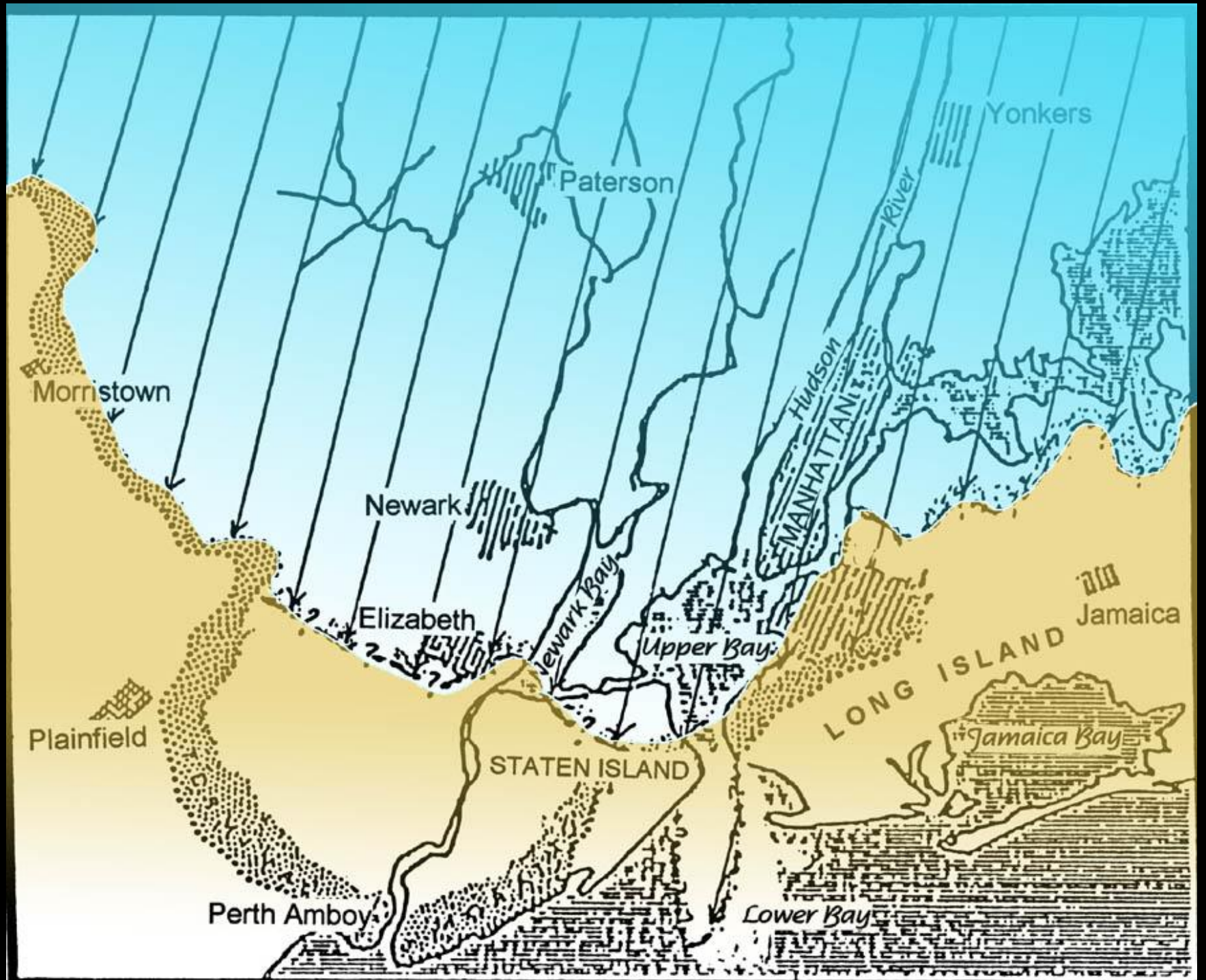
N343


Yonkers
Paterson
Hudson River
Morristown
MANHATTAN
Newark
Newark Bay
Elizabeth
Upper Bay
Jamaica
LONG ISLAND
Plainfield
Jamaica Bay
STATEN ISLAND
Lower Bay
Perth Amboy

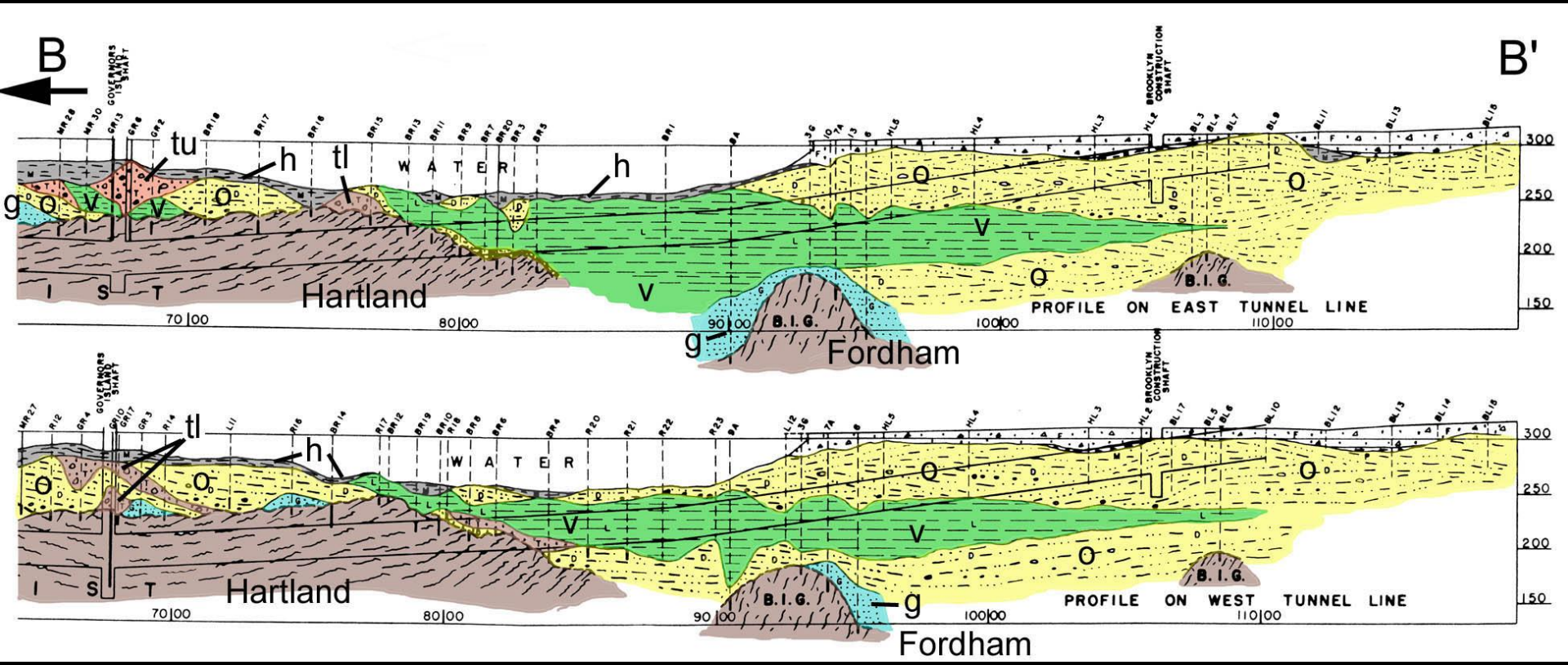

NE-Sculpted Outcrop w/ NW-Striae

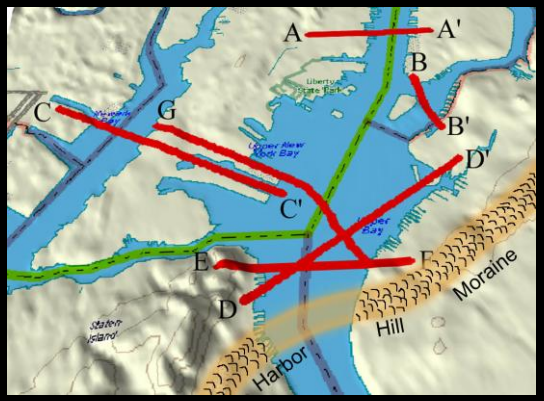
Pegmatite Erratic, Central Park, NYC


NE-Sculpted Outcrop w/ NW-Striae


Yonkers
Paterson
Hudson River
Morristown
MANHATTAN
Newark
Newark Bay
Elizabeth
Upper Bay
Jamaica
LONG ISLAND
Plainfield
Jamaica Bay
STATEN ISLAND
Perth Amboy
Lower Bay

Brooklyn Battery Tunnel





Berkey (1948)