U.S. GEOLOGICAL SURVEY
CHARLES D. WALCOTT, DIRECTOR

HISTORICAL GEOLOGY SHEET

NEW JERSEY - NEW YORK
STATEN ISLAND QUADRANGLE

(Morristown) 74°15' 40°45' 10' (Paterson) 5' 74°00' 40°45' (Harlem)

LEGEND

SEDIMENTARY ROCKS

(Areas of Sedimentary rocks are shown by patterns of parallel lines. Metamorphism is indicated by short dashes combined with the parallel lines.)

- Kr — **Raritan formation** *(plastic clay and gravel, possibly including clay marl of the Matawan formation in eastern portion.)* — CRETACEOUS
- Jn — **Newark formation** *(red sandstone and shales.)* — JURATRIAS
- Sh — **Hudson schist** *(mica-schist, consisting of biotite and quartz, with garnet, staurolite, fibrolite, and cyanite.)* — SILURIAN

IGNEOUS ROCKS

(Areas of Igneous rocks are shown by patterns of triangles and rhombs.)

- Jp — **Palisade diabase** *(intrusive sheet forming the Palisades and small dikes)* — JURATRIAS
- sp — **Serpentine** *(resulting from local alteration of hornblende, bronzite, and allied minerals in basic dikes and masses)*
- gr — **Granite dike** *(white to reddish granite and pegmatite.)* — SILURIAN OR LATER
- fnd — **Formation not determined** *(areas deeply covered by drift and artificially made land.)*

Faults

⚒ Quarries, clay pits, and mines
TP *Trap rock (diabase and basalt) used for roads*
CL *Cretaceous clay used for firebrick and stoneware*
IRON *Limonite*

(Plainfield) (Brooklyn) (New Brunswick) 40°30' 74°00' (Sandy Hook)

H. M. Wilson, Geographer in charge.
Triangulation by U. S. Coast and Geodetic Survey.
Topography by U. S. Coast and Geodetic Survey.
S. H. Bodfish, Frank Sutton, J. W. Thom, and J. H. Wheat.
Surveyed in 1888-89 and 1897 in cooperation with the State of New York, Campbell W. Adams, State Engineer and Surveyor.

Scale 62500
1 0 1 2 3 4 Miles
1 0 1 2 3 4 5 Kilometers

Contour interval 20 feet.
Datum is mean sea level.
Edition of Dec. 1901.

Darton Merrill Hollick

Geology by Arthur Hollick, N. H. Darton, and Frederick J. H. Merrill.
Surveyed 1883-1900.