5468

~~SUPPLEMENTAL T-5468~~

369-4

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton, *Director*

State: _New Jersey_

DESCRIPTIVE REPORT

Topographic
~~Hydrographic~~ } Sheet No. T 5468

LOCALITY

~~Bay 9~~ BAYONNE

LOWER PART

19_____

Photographs taken in 1934 and 1935
(Supplemental) " " July 1940

CHIEF OF PARTY

J. C. Partington Jr. H. & G. E.

U. S. GOVERNMENT PRINTING OFFICE: 1450

Applied to Chart 541- Oct 27, 1937- L. M. Z.

Applied to Chart 285 Dec 7, 1937 Chas. W. Bush Jr.

Transcribed Applied to Cht 285 Jan 23. 1941 P.B.C.

" " " " 369 Mar 24 41 P.B.C.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

TOPOGRAPHIC TITLE SHEET

The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. _T-5468_____ **T5468**

REGISTER NO. T-5468

State _____New Jersey_____

General locality _____New York Harbor_____ *Bayonne*

Locality _____Bayonne_____ *Lower Part*

Scale __1:5000____ Date of ~~Survey~~ Photographs _____Nov. 25, 1934_____
Mar. 27, 1935

Vessel ___Photo Compilation Party #25_____

Chief of party _____J.C. Partington_____

Surveyed by Field Inspection - D.B.Bennett,D.R.Bogart & J.B.Moreland
Compilation _____J.C.Partington_____

Inked by _____E.L.Jones_____

Heights in feet above ___--___ to ground   to tops of trees

Contour, Approximate contour, Form line interval __--_ feet

Instructions dated _____March 14___, 19_34_

Remarks: _____

_____

GPO

AIR PHOTO COMPILATION REGISTER NO. T-5468.

Photograph No.	Date	time	tide				
				high		low	
			locality	time	hts.	time	hts.
V 137-139 (870N-8)	3-27-35	11:30A	Constable Pt.	0:26a	4.6	7:19a	0.5
				0:53p	3.6	6:46p	0.6
V 140-143 (870N-8)	3-27-35	11:35A	Bergen Pt.	0:46a	4.7	7:39a	0.5
				1:13p	3.7	7:06p	0.6
V 92-94 (870N-8)	11-25-34	1:00P	Constable Pt.	10:29a	4.4	4:17a	0.3
				11:22p	3.6	5:04p	0.0

SCALE FACTOR (1.000)   R.C.Bolstad   (Previously determined)

Projection   Ruling machine   Jan. 28,1937

Projection checked   E.L.Jones   Feb. 17,1937

Control plotted   J.C.Partington *J.C.P.* Feb. 23,1937

Control checked   E.L.Jones   Mar. 2,1937

Smooth radial line plot   J.C.Partington *J.C.P.* Mar. 2 to Mar.10,1937

Radial line plot checked   E.L.Jones   Mar. 28,1937

Detail inked   E.L.Jones   Mar. 29 to Apr. 22,1937

Preliminary Review of sheet   J.C.Partington *J.C.P.* Apr. 26 to Apr. 28,1937

Area of detail inked (land area)   3.5 square statue miles
Area of detail inked (shoals)   0.0   "   "   "

Length of shoreline (more than 200 m. from opposite shore)   11.8 statue miles
Length of shoreline (rivers & sloughs less than 200 m.)   0.0 "   "

Length of streets, roads, railroads & trails   80.8 "   "

General location   New Jersey

Location   Bayonne   *Lower Part*

Datum   North American 1927

Station: Best, 1931, N.J.   Latitude 40° 39' 06.027"   185.9 meters
                              Longitude 74° 08' 23.283"   547.0   "

N.J. Grid $\{$ *x = 2,146,196.12 FT.*
              y = 662,776.22 FT.   *Adjusted*
                                                       J.W.P.

L.I. Grid $\{$ *x = 1,961,206.79 FT.*
                y = 155,288.71 FT.

COMPILER'S REPORT
for
AIR PHOTO TOPOGRAPHIC SHEET, REGISTER NO. T-5468

GENERAL INFORMATION

The air photo field inspection report for the area covered on
this sheet is included with the descriptive report of Air Photo Sheet
No. T-5448 (Field No. 80) submitted to the office by Lt.(j.g.) R.C.
Bolstad in 1935.

This sheet has been compiled from single lens photographs listed
on page 2 of this report. Photographs V 137 - 139 (870N-8) and V 140 -
143 (870N-8) were taken at approximately one hour before high water.
Photographs V 92-94 (870N-8) were taken at approximately two and one-
half hours after high water. *The water is lower on #137-139 photos than
on #92-94 photos according to the pictures themselves. This may be
due to wind seen on latter photos.* *photos than* *T.M.P.*
The photographs were taken by the U.S.Army Corp at Mitchell Field,
Long Island, N.Y. with a special camera developed by the Fairchild
Camera Corporation, 62-10 Woodside Ave., Woodside, New York City and
with the cooperation of the Air Corp. This camera is known as the "K-7C"
by the Army and as the "K-7A" by the Fairchild Corporation.

The Army plane was piloted by Lieut. Cullen at an altitude very close
to 15,000 feet; the photographer was Sergeant Cates. A 24 inch cone
(focal length 24") was used which placed the original negatives on a scale
of 1:7500. Contact prints were furnished the field party for inspection
purposes and the original negatives were used to enlarge a set of office
prints to a 1:5000 scale in the Washington Office. These office prints
were furnished this party and were used for the compilation of this sheet.

CONTROL
(a) Sources.
Twenty-five triangulation stations control the radial plot on
this sheet; twenty-four of which are from Lieut. R.W.Woodworth 1930-31
triangulation; one station, St. Mary's Catholic Ch. Spire, was from
1913 triangulation and was corrected to the 1927 North American datum.

Recoverable topographic stations previously located and U.S.E.
coordinate stations were not used in controling the radial plot and
are shown on this sheet by circles $2\frac{1}{2}$ mm in diameter.

(b) Errors.
No errors were found in the position of any of the triangulation
stations.

COMPILATION
(a) Method.
The usual radial line method of plotting was used in the com-
pilation of this sheet.

(b) Adjustment of Plot.
No great difficulty was encountered in running the radial line
plot and no unusual adjustment of the plot was necessary.
The radial points along the nothern side of Kill Van Kull were
intersected by the flight of photographs(V231-250) taken along the
south shore of Kill Van Kull.

Radial lines gave slim intersections on the eastern tip of Constable Point and on the western side of Bergen Point due to insufficent overlaping of flights.

Photographs V137-139 were very closely to scale.

Photographs V140-143 and V92-94 were badly off scale and caused considerable trouble in adjusting the detail to the radial plot.

(c) Recoverable Topographic Stations (Card Form 524)

In all cases where U.S.E. coordinates were available geographic positions were computed and the station plotted on the sheet. Where there were no U.S.E. coordinates available and where the radial plot gave good intersections of three or more radials the air-photo position was given preference over the plane-table position and plotted on the sheet.

The following table affords a comparison between the air-photo, plane-table and U.S.E. positions of recoverable topographic stations. The underlined distances in meters are shown on the sheet.

STATION	LATITUDE				LONGITUDE				REMARKS
		AIR PHOTO	USE	PLANE TABLE		AIR PHOTO	USE	PLANE TABLE	
At	40° 39'	1101.		1097	74° 07'	1386		1387	
* Chalk	40° 38'	1277	1278.0	1278	74° 07'	745	748.4	749	
* Gulf	40° 38'	1410	1410.3	1411	74° 07'	241	242.2	245	
Green	40° 39'	122		119	74° 08'	685		684	2 radials
* Homestead	40° 38'		1259.0		74° 07'		1000.9		2 radials, poor inters.
Hock	40° 38'			1765	74° 08'			1174	no radials
* Ferry	40° 38'		1282.0		74° 07'		1213.4		2 radials
Koo	40° 39'			524	74° 08'			312	Also triangulation sta.
* K-2	40° 39'		169.9		74° 05'		702.3		1 radial
* K-3	40° 39'			30	74° 05'			881	no radials
* K-4	40° 38'			1829	74° 05'			992	no radials
* K-7	40° 38'			1440	74° 07'			364	no radials
* K-8	40° 38'			1304	74° 07'			925	no radials
* K-9	40° 38'			1307	74° 07'			1014	2 radials
Lug	40° 38'	1567		1567	74° 08'	805		808	3 radials

* U.S.E. station

⊙ Lehigh Valley (U.S.E.)

As The position as located by U.S.E. as plotted on compilation differed 4.5 m. in Lat from the radial plot location, and the plane table location (of pier corner). It appears some of this error was due to faulty plotting on sheet, but since the two C&GS surveys by different methods agree fairly closely it is believed the U.S.E. location should not be used in this case.

⊙ S.O. Fill Sub. (U.S.E.)

Agreement of radial plot by photos and planetable location indicate U.S.E. position is in error. Radial plot was checked same condition as at ⊙ Lehigh Valley (U.S.E.) but plotting was correct in this case. . . .

                                                                    T.M.P.

⊙ Tydol (U.S.E.)

Photo radial plot indicates position by planetable is 2 m. too far west.

STATION	LATITUDE				LONGITUDE			REMARKS
		AIR PHOTO	U.S.E.	PLANE TABLE		AIR PHOTO	U.S.E.	PLANE TABLE	
		m	m	m		m	m	m	
✓ *Lehigh Valley	40° 39'	560.5	562.3	cks. air photo	74° 05'	148.0	148.2	cks air photo	see opposite page 3 radials, poor inters. use Air photo location
✓ Mac	40° 39'			513	74° 08'			1363	2 radials
✓ N. Abutment	40° 38'		1169.3	1169	74° 08'		698.4	699	3 radials poor inters.
✓ Pale	40° 39'			149	74° 08'			664	Also triangulation sta.
✓ Pole	40° 38'			1788	74° 08'			1163	no radials
✓ *Port Johnson	40° 38'		1702.2		74° 06'		1098.7		no radials
✓ Rust	40° 39'	1713		1715	74° 06'	124		122	7 radials
✓ *Socony	40° 38'		1734.5	1733	74° 06'		328.3	329	3 radials poor inters.
✓ *Sta. S.O. Fill Sub.	40° 39'	520	524.8	522	74° 05'	329	329.1	326 T.M.P.	use plane table location. see opposite page 3 radials.
✓ *Sta. White Dock	40° 39'		5.5	10	74° 05'			702.5	702	3 radials poor inters.
✓ *Sta. Tydol	40° 38'			1756	74° 06'	see opposite page	911		3 radials poor inters.
✓ *Sta. Socony #3	40° 39'		161.8	165	74° 05'		530.2	531	2 radials
✓ *Sta. NW Bulkh'd	40° 39'		1764.6	1768	74° 07'		1224.3	1387	no radials, planetable sheet scaled in error.
			see Page 6						
		disregarded on plane table sheet. Removed from Compilation. Noted to be Card 24 intentionally destroyed							
✓ *Socony #4	40° 39'		264.9		74° 05'		340.7		no radials

* U.S.E. stations

   In several cases in the above table no radial lines were drawn to recoverable topographic station due to insufficient data furnished by the field inspection party.

   Recoverable topographic station "PALE" is identical with △ NEWARK BAY, PALE CHIMNEY, (N.J.) 1931. The triangulation position is shown on the sheet.

N.W. Bulkhead, U.S.E.

Plane table location (when properly scaled)
differs about 16 m. from U.S.E. location. Since
this station was not located on the photos in
the field there is no check on which location
is right. Station consists of nail in pile.
Description distances do not fit plane table
location or U.S.E. location when plotted on
compilation. For these reasons this
station has been removed from form 524 file
and taken off compilation + noted erroneous
on plane table sheet.

Recoverable topographic station "KOO" is identical with △ NEWARK BAY, ELECTRIC-DYNAMIC CO., TANK, 1931. The triangulation position is shown on the sheet.

The seconds in meters in longitude have been incorrectly scaled from topographic sheet # 6124 for recoverable topographic station "STA. N.W. BULKHEAD, U.S.E." and should be scaled from the original sheet in the Washington Office. The measurements given in the description of this station by the U.S.E. does not check the topography on air-photo compilation or the film negative of topographic sheet #6124. It is believed that the topography in this area may have changed since the station was described. *see opposite page*

Numerous sketches were placed on Form 524 cards from the air-photo compilation. *distances given appear to be from ground measurements however.*

The following Form 524 cards submitted in 1934 by Lt.(j.g) Rittenburg have geographic positions as computed from U.S.E. coordinates and given in the back of this report:

Sta. Socony #3 (USE)	Sta. S.O.Fill Sub. (USE) *card*
Sta. Socony (USE)	~~Sta. N.W.Bulkhead (USE)~~ *destroyed. location H.G.*
~~Sta. Tydol (USE)~~	Gulf (USE)
Sta. White Dock (USE)	Chalk (USE)
	North Abutment (USE)

It is recommended that the geographic positions as computed from the USE coordinates be shown on Form 524 cards for the above stations. *Done. T.M.P.*

The following Form 524 cards are submitted by this party and give geographic positions as computed from U.S.E. coordinates:

Socony #4 (USE)	Homestead (USE)
Socony (USE)	Lehigh Valley (USE)
K-2 (USE)	Ferry (USE)
	Port Johnson (USE)

Above cards filed under T 5468. Other cards filed under plane table surveys No. T 6124, 6125, 6126, 6127.

(d) **Interpretation.**

No attempt has been made to show street car tracks on this sheet.

The outside railroad tracks of the freight yards are shown in their true position; the interior tracks have been generalized to show approximately every third track.

The double full line has been used to show all first class roads and streets (curb to curb); the double dashed line to show second class roads; and the single dashed line to show trails.

An attempt has been made to show all buildings of any importance along the waterfront and a few of the more important buildings inland. The stereoscope has been used freely in determining the shapes of buildings. *All houses + bldgs between water front + first street back have not been shown, but almost all of the largest ones have been. T.M.P.*

No difficulty was experienced in interpreting the photographic detail, except in a few places where more explicit field inspection notes were desired.

Wrecks are shown in true size and shape with a full line, except where they appear submerged or partly submerged at high water, they are shown by a dashed line.

(e) **Information from other sources.**

      1. Control from sources as stated on page 3 of this report.

      2. Recoverable topographic stations as stated on pages 4,5 & 6.

      3. Names from U.S.C.& G.S. charts.

      4. Bridge clearances from U.S. Coast Pilot. *checks U.S.E. data.*

      5. A few wrecks, piling, rocks and etc. from topographic
         Sheets No. 6125, 6126 and 6127. Where detail has been trans-
         ferred to the air-photo compilation from the topographic
         sheets it has been so labeled on the overlay.

      Except as mentioned above all information shown on the sheet
was taken from the photographs.

(f) **Names.**

      A list of geographic names shown on this sheet is given on
Form M234 included in this report.

      The names of a few of the streets may be obtained from
the Map of the City of New York, Board of Estimate and Apportion-
ment. Additional names of streets are not available at this
field office. *A blue print showing street names is filed in the air photo section.*

JUNCTIONS.

      Joins T5106 on West
      This sheet is bounded on the west by Newark Bay and on
the east by New York Bay. It forms a junction with sheet T-5469
on the north along latitude 40°40'00". On the south it joins
T-5466 along Kill Van Kull.
    and T-5467

COMPARISON WITH OTHER SURVEYS.

      This sheet has been compared with topographic surveys
No. 6125, 6126 and 6127 executed by the party of Lt. (j.g))
Rittenburg in 1934. The original survey was made on a scale
of 1:10000. Film negatives enlargements on a scale of 1:5000
were used in making the comparison.

      A detailed comparison is as follows:
Sheet 6127.
    (a) A descrepancy of 40 meters in the high water line in the
       back side of a small bight in Latitude 40°40.0, longitude
       74°06.5. The field inspection notes were followed on the
       compilation. This shoreline is relative unimportant to
       navigation due to the mud flat extending offshore and may
       have been sketched by the topographer.

    (b) A descrepancy of 12 meters in the shoreline on both sides
       of the point at ⊙ RUST (latitude 40°39.9, longitude 74°06.1)

Sheet 6126.

(c) The outer end of a dock (lat. 40°38.9', long. 74°05.6) has been removed according to field inspection notes on photograph V92-870N-8.

(d) The outer ends of two small docks (lat. 40°38.9, long. 74°05.8) were shifted 10 meters in azimuth from their position on the topographic sheet.

(e) A maximum descrepancy of 14 meters was noted in the shoreline in lat. 40°38.9, long. 74°06.0. This descrepancy is probably due to the difference of interpretation between the topographer and the air-photo field inspector of the high water line, since this area is foul with wreckage. The field inspection notes have been followed on the compilation.

(f) A descrepancy of 11 meters in the shoreline was noted at the inshore end of docks in lat. 40°39.0, long. 74°06.4.

(g) Small descrepancies were found in cases in the inshore end of docks in lat. 40°39.0, long. 74°06.6', and lat. 40°39.0, long. 74°06.6.

(h) A maximum disagreement of 40 meters was noted at the inshore end of docks in lat. 40°39.2, long. 74°07.0'

(i) Aside from the above descrepancies the detail shown on Sheet 6126 agrees very closely with the compilation.

Sheet 6125.

(j) A maximum descrepancy of 10 meters in the shoreline was noted in lat. 40°38.7, long. 74°07.8', and lat. 40°38.7, long. 74°08.4.

(k) A difference in bridge width is noted for the Bayonne Bridge. The compilation shows the road width; the topographic sheet shows the superstructure width.

(l) Due to bulkheading a section of Bergen Point (lat. 40°38.7, long. 74°08.8') the two sheets show a difference of 9 meters in the shoreline.

(m) A maximum descrepany of 25 meters exist in lat. 40°38.9, long. 74°08.8. It is believed that changes in the docks account for the larger part of this descrepancy.

(n) The section of shoreline between lat. 40°39.0, long. 74°08.6 and lat. 40°39.3, long 74°08.4 show large differences between the two surveys. The field inspection notes were followed on the compilation.

(o) A descrepancy of 17 meters in the shoreline was noted in lat. 40°39.9, long. 74°08.1.

probably should be 39.4' TM?

Sheets 6127, 6126 & 6125.

Since nearly two hundred wrecks appear on the compilation no

comparison between the compilation and the topographic sheets will be made in this report. All wrecks field inspected and appearing on the photographs were placed on the compilation. An attempt was made to identify on the photographs any wrecks shown on the topographic sheets and charts, and place them on the compilation. Where wrecks could not be identified on the photographs they were transferred from the topographic sheets to the compilation unless they were hulks grounded. Since the photographs were taken at a later date than the topography it is reasonable to believe that hulks grounded and not covered at any stage of the tide, and not appearing on the photographs have been removed.

Where piling and rocks awash are shown on the topographic sheets but not indicated on the field inspection notes they were transferred to the compilation and so noted on the overlay. In two cases piling was transferred to the compilation but adjusted to fit the docks in that vicinity. Where the position was adjusted it was so noted on the overlay.

COMPARISON WITH CHARTS.

Chart 285.

Due to the difference of scale between this chart and the compilation no direct comparison was made. However, a visual comparison indicates that the descrepancies are similar to those noted under the comparison of this sheet and the topographic sheets.

A few additional descrepancies are as follows:

(p) The piling indicated around the north abutment of the Bayonne Bridge and shown on topographic sheet 6125 as a dashed line but not labeled, was not indicated on the field inspection notes as a continuous line of piling. No line of piling was shown on the compilation.

(q) The line of piling shown on the chart in the small boat harbor just north of the C.R.R.of N.J. bridge over Newark Bay and shown on topographic sheet 6125 as a dashed line but not labeled, was not so indicated on the field inspection notes as a line of piling. The compilation shows the piling as it was field inspected.

(r) The underpass at the north approach to Bayonne Bridge is changed from what is shown on the chart.

(s) The rail-road round house as shown on the chart to the north of Port Johnson does not exist.

(t) The street layout on Constable Point is different from that shown on the chart.

(u) Several ponds are shown on the compilation that do not appear on the chart or topographic sheets.

(v) The C.R.R. of N.J. is shown slightly different on the compilation in the vicinity of the east approach to the bridge across Newark Bay.

LANDMARKS.

    The landmarks shown on chart #285 are all in existence and should be shown on future charts. No additional landmarks are recommended.

    The two ~~flashing~~ *Fixed* green range lights on Constable Point were not field inspected. They were not shown on the compilation.

Not on T 6127 (1934)

RECOMMENDATION FOR FURTHER SURVEYS.

    This sheet is believed to be complete in all detail of importance for charting and no additional surveys are required.

    The probable error is not greater than 2 meters in position of well defined objects along the waterfront and not greater than 5 meters for other detail, except along the western edge of Bergen Point and eastern tip of Constable Point where the probale error along the waterfront is not greater than 3 meters.

                       Respectfully submitted,

                       Edmund L Jones

                       Edmund L. Jones

                       Aid, U.S.C. & G.S.

Approved:

J.C. Partington

J.C.Partington
Chief-of-Party

Origin of coordinates: _Δ Bogart, 1885_____

Lat.	40° 36' (223.9 m.)	Coordinate value of origin N. or S. 20350	feet 6202.7 m
Long.	74° 06' (1367.4 m.)	referred to the Zero E. or W. 20250	feet 6172.21 m

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Name of station: Homestead, USE_____

Coordinates: N. or S. 4,809.65 feet= 1465.98 m.

E. or W. 23,675.60 feet= 7216.34 m.

Latitude N. – S. coordinates	Longitude E. – W. coordinates
N. or S. feet = 4736.7 m.	E. or W. feet= 1044.1 m.
+ or − seconds in meters = 223.9 m.	+ or − seconds in meters = 1366.6 m.
N. or S. of 40° 36' = 4960.6 m.	E. or W. of 74° 06'= 2410.7 m.
From table + or − 2 ' = 3701.5 m.	From table + or − 1 '= 1409.8 m.
Lat. (uncorrected) 40° 38' 1259.1 m.	Longitude 74° 07' 10009 m.
Curvature = − 0.1 m.	
★Latitude 40° 38' 1259.0 m.	

Name of station: Ferry   USE_____

Coordinates: N. or S. 4,734.32 feet= 1443.02 m.

E. or W. 24,372.70 feet= 7428.81 m.

Latitude N. – S. coordinates	Longitude E. – W. coordinates
N. or S. feet = 4759.7 m.	E. or W. feet= 1256.6 m.
+ or − seconds in meters = 223.9 m.	+ or − seconds in meters = 1366.6 m.
N. or S. of 40° 36'= 4983.6 m.	E. or W. of 74° 06'= 2623.2 m.
From table + or − 2 '= 3701.5 m.	From table + or − 1 '= 1409.8 m.
Lat. (uncorrected) 40° 38' 1282.1 m.	Longitude 74° 07' 1213.4 m.
Curvature = − 0.1 m.	
★Latitude 40° 38' 1282.0 m.	

Name of station: _____

Coordinates: N. or S.   feet =   m.

E. or W.   feet =   m.

Latitude N. – S. coordinates	Longitude E. – W. coordinates
N. or S. feet = m.	E. or W. feet= m.
+ or − seconds in meters = m.	+ or − seconds in meters = m.
N. or S. of ° '= m.	E. or W. of ° '= m.
From table + or − '= m.	From table + or − '= m.
Lat. (uncorrected) ° ' m.	Longitude ° ' m.
Curvature = m.	
★Latitude ° ' m.	

Computed by _E. L. Jones_____ 193__

Checked by J.C. Partington

★Use in taking out longitude values.

File with history slip of largest scale chart covering this area.

(R-325)

Computation of Geographic Coordinates From Plane Coordinates

Origin of coordinates: __△ Bogart, 1885__

Lat.	40° 36'	(223.9 m.)	Coordinate value of origin N. or S.	20350	feet
Long.	74° 06'	(1367.4 m.)	referred to the Zero E. or W.	20250	feet

Name of station: __S.O. Fill Sub., USE__

Coordinates: N. or S. 1146.4 feet= 349.42 m.

E. or W. 12222.1 feet= 3725.30 m.

Latitude N. – S. coordinates		Longitude E. – W. coordinates	
N. or S. feet = 5853.3 m.		E. or W. feet= 2446.9 m.	
+ or – seconds in meters = 223.9 m.		+ or – seconds in meters = 1366.4 m.	
N. or S. of 40° 36' = 6077.2 m.		E. or W. of 74° 06' = 1080.5 m.	
From table + or – 3' = 5552.0 m.		From table + or – 1' = 1409.6 m.	
Lat. (uncorrected) 40° 39' 525.2 m.		Longitude 74° 05' 329.1 m.	
Curvature = – 0.4 m.			
★Latitude 40° 39' 524.8 m.			

Name of station: __Socony #4 USE__

Coordinates: N. or S. 1998.44 feet= 609.12 m.

E. or W. 12259.71 feet= 3736.77 m.

Latitude N. – S. coordinates		Longitude E. – W. coordinates	
N. or S. feet = 5593.6 m.		E. or W. feet= 2435.4 m.	
+ or – seconds in meters = 223.9 m.		+ or – seconds in meters = 1366.4 m.	
N. or S. of 40° 36' = 5817.5 m.		E. or W. of 74° 06' = (1069.0) m.	
From table + or – 3' = 5552.2 m.		From table + or – ' = m.	
Lat. (uncorrected) 40° 39' 265.3 m.		Longitude 74° 05' 340.7 m.	
Curvature = – .4 m.			
★Latitude 40° 39' 264.9 m.			

Name of station: __Lehigh Valley USE__

Coordinates: N. or S. 1022.27 feet= 311.59 m.

E. or W. 11628.63 feet= 3544.41 m.

Latitude N. – S. coordinates		Longitude E. – W. coordinates	
N. or S. feet = 5891.1 m.		E. or W. feet= 2627.8 m.	
+ or – seconds in meters = 223.9 m.		+ or – seconds in meters = 1366.4 m.	
N. or S. of 40° 36' = 6115.0 m.		E. or W. of 74° 06' = (1261.4) m.	
From table + or – 3' = 5552.2 m.		From table + or – ' = m.	
Lat. (uncorrected) 40° 39' 562.8 m.		Longitude 74° 05' 148.2 m.	
Curvature = – 0.5 m.			
★Latitude 40° 39' 562.3 m.			

Computed by __EL Jones__ __March__ 1937

Checked by J.C. Partington

★Use in taking out longitude values.

File with history slip of largest scale chart covering this area.

(R-325)

Computation of Geographic Coordinates From Plane Coordinates

Origin of coordinates: __A Bogart, 1885_____

    Lat.   40 ° 36 ' (223.9 m.)   Coordinate value of origin N. or S. 20350 feet

    Long. 74 ° 06 ' (1367.4 m.)   referred to the Zero E. or W. 20250 feet

---

Name of station: __Sta. White Dock., USE_____

    Coordinates: N. or S. 2850.6 feet = 868.86 m.

             E. or W. 13447.0 feet = 4098.65 m.

Latitude N. - S. coordinates		Longitude E. - W. coordinates	
N. or S.	feet = 5333.8 m.	E. or W.	feet = 2073.6 m.
+ or − seconds in meters	= 223.9 m.	+ or − seconds in meters	= 1366.4 m.
N. or S. of 40° 36 ' =	5557.7 m.	E. or W. of 74° 06 ' =	707.2 m.
From table + or − 3 ' =	5552.2 m.	From table + or − 1 ' =	1409.7 m.
Lat. (uncorrected) 40 ° 39 '	5.5 m.	Longitude 74 ° 05 '	702.5 m.
Curvature =	0.0 m.		
★Latitude 40 ° 39 '	5.5 m.		

Name of station: __Socony #3, USE_____

    Coordinates: N. or S. 2337.07 feet = 712.34 m.

             E. or W. 12881.33 feet = 3926.24 m.

Latitude N. - S. coordinates		Longitude E. - W. coordinates	
N. or S.	feet = 5490.4 m.	E. or W.	feet = 2246.0 m.
+ or − seconds in meters	= 223.9 m.	+ or − seconds in meters	= 1366.5 m.
N. or S. of 40° 36 ' =	5714.3 m.	E. or W. of 74 ° 06 ' =	879.5 m.
From table + or − 3 ' =	5552.2 m.	From table + or − 1 ' =	1409.7 m.
Lat. (uncorrected) 40° 39 '	162.1 m.	Longitude 74 ° 05 '	530.2 m.
Curvature =	− 0.3 m.		
★Latitude 40° 39 '	161.8 m.		

Name of station: __Socony, USE_____

    Coordinates: N. or S. 3249.48 feet = 990.44 m.

             E. or W. 16843.79 feet = 5134.00 m.

Latitude N. - S. coordinates		Longitude E. - W. coordinates	
N. or S.	feet = 5212.2 m.	E. or W.	feet = 1038.2 m.
+ or − seconds in meters	= 223.9 m.	+ or − seconds in meters	= 1366.5 m.
N. or S. of 40° 36 ' =	5436.1 m.	E. or W. of 74° 06 ' =	328.3 m.
From table + or − 2 ' =	3701.5 m.	From table + or − 0 ' =	0.0 m.
Lat. (uncorrected) 40° 38 '	1734.6 m.	Longitude 74 ° 06 '	328.3 m.
Curvature =	− 0.1 m.		
★Latitude 40 ° 38 '	1734.5 m.		

Computed by ____JC Burlington____ Mar. 4 1937

★Use in taking out longitude values.

File with history slip of largest scale chart covering this area.

(R - 325)

Computation of Geographic Coordinates From Plane Coordinates

Chart No. ___

Origin of coordinates: ___Bogart, 1885___

Lat.. 40 ° 36 ' (223.9 m.) Coordinate value of origin N. or S. 20350 feet
Long. 74 ° 06 ' (1367.4 m.) referred to the Zero E. or W. 20250 feet

---

Name of station: ___Chalk., U.S.E___

Coordinates: N. or S. 4,747.56 feet= 1447.06 m.
E. or W. 22,847.04 feet= 6963.97 m.

Latitude N. – S. coordinates

N. or S. feet = 4755.63 m.
+ or − seconds in meters = 223.9 m.
N. or S. of 40 ° 36 '= 4979.5 m.
From table + or ∕ 2 '= 3701.5 m.
Lat. (uncorrected) 40 ° 38' 1278.0 m.
Curvature = 0.0 m.
★Latitude 40 ° 38' 1278.0 m.

Longitude E. – W. coordinates

E. or W. feet= 791.8 m.
+ or − seconds in meters = 1366.4 m.
E. or W. of 74 ° 06 '= 2158.2 m.
From table + or − 1 '= 1409.8 m.
Longitude 74 ° 07' 748.4 m.

Name of station: ___Gulf, U.S.E___

Coordinates: N. or S. 4,313.68 feet= 1314.81 m.
E. or W. 21,186.59 feet= 6457.68 m.

Latitude N. – S. coordinates

N. or S. feet = 4887.9 m.
+ or − seconds in meters = 223.9 m.
N. or S. of 40 ° 36 '= 5111.8 m.
From table + or ∕ 2 '= 3701.5 m.
Lat. (uncorrected) 40 ° 38' 1410.3 m.
Curvature = 0.0 m.
★Latitude 40 ° 38' 1410.3 m.

Longitude E. – W. coordinates

E. or W. feet= 285.5 m.
∕ or − seconds in meters = 43.3 m.
E. or W. of 74° 07 '= 242.2 m.
From table + or − 0 '= 0.0 m.
Longitude 74° 07' 242.2 m.

Name of station: ___North Abutment, USE___

Coordinates: N. or S. 5,103.30 feet= 1555.49 m.
E. or W. 27,309.51 feet= 8323.96 m.

Latitude N. – S. coordinates

N. or S. feet = 4647.2 m.
+ or ∕ seconds in meters = 223.9 m.
N. or S. of 40 ° 36 '= 4871.1 m.
From table + or − 2 '= 3701.5 m.
Lat. (uncorrected) 40 ° 38' 1169.6 m.
Curvature = − 0.3 m.
★Latitude 40 ° 38' 1169.3 m.

Longitude E. – W. coordinates

E. or W. feet= 2151.8. m.
∕ or − seconds in meters = 43.3 m.
E. or W. of 74 ° 07'= 2108.5 m.
From table + or − 1 '= 1409.8 m.
Longitude 74 ° 08' 698.7 m.

Computed by ___J.C.Partington Mar.3,1937___

★Use in taking out longitude values.

File with history slip of largest scale chart covering this area.

(R-325)

Computation of Geographic Coordinates From Plane Coordinates

Origin of coordinates: _A. Bogart, 1885_____

Lat..	40° 36'	(223.9 m.)	Coordinate value of origin	N. or S. 20350	feet
Long.	74° 06'	(1367.4 m.)	referred to the Zero	E. or W. 20250	feet

Name of station: _Port Johnson , USE_____

Coordinates: N. or S. 3355.98 feet = 1022.90 m.

E. or W. 19371.22 feet = 5904.36 m.

Latitude N. - S. coordinates		Longitude E. - W. coordinates	
N. or S. feet = 5179.8 m.		E. or W. feet = 267.8 m.	
+ or − seconds in meters = 223.9 m.		+ or − seconds in meters = 1366.5 m.	
N. or S. of 40° 36' = 5403.7 m.		E. or W. of 74° 06' = 1098.7 m.	
From table + or − 2' = 3701.5 m.		From table + or − ___' = _____ m.	
Lat. (uncorrected) 40° 38' 1702.2 m.		Longitude 74° 06' 1098.7 m.	
Curvature = .0 m.			
★Latitude 40° 38' 1702.2 m.			

Name of station: _K-2 USE_____

Coordinates: N. or S. 2311.7 feet = 704.6 m.

E. or W. 13446.14 feet = 4,098.4 m.

Latitude N. - S. coordinates		Longitude E. - W. coordinates	
N. or S. feet = 5498.1 m.		E. or W. feet = 2073.8 m.	
+ or − seconds in meters = 223.9 m.		+ or − seconds in meters = 1366.4 m.	
N. or S. of 40° 36' = 5722.0 m.		E. or W. of 74° 06' = 707.4 m.	
From table + or − 3' = 5552.2 m.		From table + or − 1' = 1409.7 m.	
Lat. (uncorrected) 40° 39' 169.8 m.		Longitude 74° 05' 702.3 m.	
Curvature = 0.$\overset{3}{0}$ m.			
★Latitude 40° 39' 169.$\overset{3}{8}$ m.			

Name of station: _Sta. NW Bulkhead_____

Coordinates: N. or S. 23,270.85 feet = m.

E. or W. 24,408.54 feet = m.

Latitude N. - S. coordinates		Longitude E. - W. coordinates	
N. or S. 23,270.85 feet = 7093.0 m.		E. or W. 4,158.54 feet = 1267.5 m.	
+ or − seconds in meters = 223.9 m.		+ or − seconds in meters = 1366.1 m.	
N. or S. of 40° 36' = 7316.9 m.		E. or W. of 74° 06' = 2633.6 m.	
From table + or − 3' = 5552.2 m.		From table + or − 1' = 1409.3 m.	
Lat. (uncorrected) ° ' 1764.7 m.		Longitude 74° 07' 1224.3 m.	
Curvature = − 0.1 m.			
★Latitude 40° 39' 1764.6 m.			

Computed by __E.L. Jones. March 1937__

Checked . by J.C. Partington

★Use in taking out longitude values.

File with history slip of largest scale chart covering this area.

(R-325)

This is the state grid and has no relation to the preceding computations on the first w.se. grid. Bgg

PLANE COORDINATE GRID SYSTEM

Positions of grid intersections used for fitting the grid to this compilation were computed by Division of Geodesy and the computation forms are included in this report.

Positions plotted by ___R. E. Ask___

Positions checked by ___R. E. Ask___

Grid inked on machine by ___R. E. Ask___

Intersections inked by ___Frank R Dille___

Points used for plotting grid:

x 2,160,000 ft   x 2,152,000
y 668,000   y 664,000

x 2,160,000   x
y 660,000   y

x 2,146,000   x
y 660,000   y

x 2,146,000   x
y 668,000   y

Triangulation stations used for checking grid:

X=2,146,196.12   Y=663,776.22

1. Ref Sta.: Best 1931   5. _____
2. B+W 1931   6. _____
3. Bergen Point Lighthouse 1908 7. _____
4. _____   8. _____

Form No. 743
DEPARTMENT OF COMMERCE
U. S. Coast and Geodetic Survey
Ed. May 1925

GEODETIC POSITIONS FROM TRANSVERSE MERCATOR COORDINATES

State N. J.   Station_____

x	2,160,000.00	$\log S_o$	5.20411575
K	2,	$\log (1200/3937)$	9.48401583
$x'\ (=x-K)$	+160,000.00	$\log (1/R)$	1086
$x'^3/(6\rho_o^2)_o$	— 1.56	$\log S_m$	4.68814244
S_o	159,998.44	cor. arc to sine	— 422
		$\log S_1$	4.68813822
$3 \log x'$	15.61235994	$\log A$	8.50910153
$\log 1/(6\rho_o^2)_o$	4.58102l3	$\log \sec \phi$	0.12003093
$\log x'^3/(6\rho_o^2)_o$	0.19338l2	$\log \Delta\lambda_1$	3.31727058
		cor. sine to arc	+ 734
$\log S_m^2$	9.37628488	$\log \Delta\lambda$	3.31727792
$\log C$	1.338569	$\Delta\lambda$	2076.2418
$\log \Delta\phi$	0.71494		
y	668,000.00		
ϕ' (by interpolation)	40 40 01.9736	λ (central mer.)	74 40
$\Delta\phi$	— 5.1855	$\Delta\lambda$	34 36.2418
ϕ	40 39 56.7881	λ	74 05 23.7582

165.26 mm   111.61 mm

Explanation of form:

$$x' = x - K$$

$$S_o = x' - \frac{x'^3}{(6\rho_o^2)_o}$$

$$S_m = \frac{1}{R}\left(\frac{1200}{3937}\right) S_o$$

R = scale reduction factor

ϕ' is interpolated from table of y

$\Delta\phi = C\,S_m^2$

$\phi = \phi' - \Delta\phi$

$\Delta\lambda_1 = S_1 A \sec \phi$

$\log S_1 = \log S_m$ — cor. arc to sine

$\log \Delta\lambda = \log \Delta\lambda_1 +$ cor. arc to sine

$\lambda = \lambda$ (central mer.) $- \Delta\lambda$

Form No. 743
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Ed. May 1925

GEODETIC POSITIONS FROM TRANSVERSE MERCATOR COORDINATES

STATE _N. J_   STATION _____

x	2,160, 0 0 0.00	$\log S_0$	5. 2 0 4 1 1 5 7 5
K	2,	$\log (1200/3937)$	9 . 4 8 4 0 1 5 8 3
$x' (=x-K)$	+ 1 6 0, 0 0 0.0 0	$\log (1/R)$	1 0 8 6
$x'^3/(6\rho_0{}^2)_0$	− 1. 5 6	$\log S_m$	4 . 6 8 8 1 4 2 4 4
S_0	1 5 9, 9 9 8.4 4	cor. arc to sine	− 4 2 2
		$\log S_1$	4 . 6 8 8 1 3 8 2 2
$3 \log x'$	1 5.6 1 2 3 5 9 9 4	$\log A$	8 . 5 0 9 1 0 2 0 9
$\log 1/(6\rho_0{}^2)_0$	4.5 8 1 0 2 1 3	$\log \sec \phi$	0. 1 1 9 8 8 7 9 0
$\log x'^3/(6\rho_0{}^2)_0$	0. 1 9 3 3 8 1 2	$\log \Delta\lambda_1$	3 . 3 1 7 1 2 8 2 1
		cor. sine to arc	+ 7 3 3
$\log S_m{}^2$	9 . 3 7 6 2 8 4 8 8	$\log \Delta\lambda$	3 . 3 1 7 1 3 5 5 4
$\log C$	1.3 3 8 1 7 5	$\Delta\lambda$	2 0 7 5.5 6 1 2
$\log \Delta\phi$	0. 7 1 4 4 6 0		
y	6 6 0, 0 0 0. 0 0		
ϕ' (by interpolation)	4 0 3 8 42.9 2 0 6	λ (central mer.)	7 4 4 0
$\Delta\phi$	− 5.1 8 1 6	$\Delta\lambda$	− 3 4 3 5.5 6 1 2
ϕ	4 0 3 8 3 7.7 3 9 0	λ	7 4 0 5 2 4.4 3 8 8

47.74 mm   114.85 mm

Explanation of form:

$x' = x - K$

$S_0 = x' - \dfrac{x'^3}{(6\rho_0{}^2)_0}$

$S_m = \dfrac{1}{R}\left(\dfrac{1200}{3937}\right) S_0$

$R = $ scale reduction factor

ϕ' is interpolated from table of y

$\Delta\phi = C S_m{}^2$

$\phi = \phi' - \Delta\phi$

$\Delta\lambda_1 = S_1 A \sec \phi$

$\log S_1 = \log S_m - $ cor. arc to sine

$\log \Delta\lambda = \log \Delta\lambda_1 + $ cor. arc to sine

$\lambda = \lambda$ (central mer.) $- \Delta\lambda$

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GEODETIC POSITIONS FROM TRANSVERSE MERCATOR COORDINATES

STATE _N. J_ STATION _____

x	2,146,000.00	$\log S_g$	5.16434932
K	2,	$\log (1200/3937)$	9.48401583
$x'\ (=x-K)$	+146,000.00	$\log (1/R)$	1086
$x'^3/(6\rho_o^2)_g$	— 1.19	$\log S_m$	4.64837601
S_g	145,998.81	cor. arc to sine	— 351
		$\log S_1$	4.64837250
3 log x'	15.4930 5858	$\log A$	8.50910208
$\log 1/(6\rho_o^2)_g$	4.5810 213	$\log \sec \phi$	0.11984946
$\log x'^3/(6\rho_o^2)_g$	0.0740759	$\log \Delta\lambda_1$	3.27736404
		cor. sine to arc	+ 610
$\log S_m^2$	9.29675202	$\log \Delta\lambda$	3.27737014
$\log C$	1.33817 4	$\Delta\lambda$	1893.9571
$\log \Delta\phi$	0.634926		
y	660 000.00		
ϕ' (by interpolation)	40 38 42.9206	λ (central mer.)	74 40
$\Delta\phi$	— 4.3145	$\Delta\lambda$	31 33.9571
ϕ	40 38 38.6061	λ	74 08 26.0429

53.09 ^{mm} 122.38 ^{mm}

Explanation of form:

$x' = x - K$

$S_g = x' - \dfrac{x'^3}{(6\rho_o^2)_g}$

$S_m = \dfrac{1}{R}\left(\dfrac{1200}{3937}\right) S_g$

$R =$ scale reduction factor

ϕ' is interpolated from table of y

$\Delta\phi = C\,S_m^2$

$\phi = \phi' - \Delta\phi$

$\Delta\lambda_1 = S_1 A \sec \phi$

$\log S_1 = \log S_m -$ cor. arc to sine

$\log \Delta\lambda = \log \Delta\lambda_1 +$ cor. arc to sine

$\lambda = \lambda$ (central mer.) $- \Delta\lambda$

Form No. 743
DEPARTMENT OF COMMERCE
U. S. Coast and Geodetic Survey
Ed. May 1935

GEODETIC POSITIONS FROM TRANSVERSE MERCATOR COORDINATES

State __N. J.__   Station _____

x _____	2,146,000.00	$\log S_g$ ___	5.16434932
K _____	2,146,c	$\log (1200/3937)$ _____	9.48401583
$x' (=x-K)$ _____	146,000.00	$\log (1/R)$ _____	1086
$x'^3/(6\rho_o^2)_g$ _____	− 1.19	$\log S_m$ _____	4.64837601
S_g _____	145,998.81	cor. arc to sine _____	− 351
		$\log S_1$ _____	4.64837250
$3 \log x'$ _____	15.49305858	$\log A$ _____	8.50910153
$\log 1/(6\rho_o^2)_g$ _____	4.58162.13	$\log \sec \phi$ _____	0.12063240
$\log x'^3/(6\rho_o^2)_g$ _____	0.0740799	$\log \Delta\lambda_1$ _____	3.27756643
		cor. sine to arc _____	+ 611
$\log S_m^2$ _____	9.29675202	$\log \Delta\lambda$ _____	3.27751254
$\log C$ _____	1.338509	$\Delta\lambda$ _____	1894.5782
$\log \Delta\phi$ _____	0.634281		
y _____	668000.00		
ϕ' (by interpolation) _____	40 40 01.9736	λ (central mer.) _____	74 40
$\Delta\phi$ _____	− 4.3178	$\Delta\lambda$ _____	− 31 34.5782
ϕ _____	40 39 57.6558	λ _____	74 08 25.4218

170.62 mm   119.42 mm

Explanation of form:

$x' = x - K$

$S_g = x' - \dfrac{x'^3}{(6\rho_o^2)_g}$

$S_m = \dfrac{1}{R}\left(\dfrac{1200}{3937}\right) S_g$

$R =$ scale reduction factor

ϕ' is interpolated from table of y

$\Delta\phi = C S_m^2$

$\phi = \phi' - \Delta\phi$

$\Delta\lambda_1 = S_1 A \sec \phi$

$\log S_1 = \log S_m -$cor. arc to sine

$\log \Delta\lambda = \log \Delta\lambda_1 +$cor. arc to sine

$\lambda = \lambda$ (central mer.) $- \Delta\lambda$

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Form No. 743
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Ed. May 1935

GEODETIC POSITIONS FROM TRANSVERSE MERCATOR COORDINATES

STATE _N. J._____ STATION_____

x	2,152,000.00	$\log S_g$	5.18183976
K	2,	$\log (1200/3937)$	9 . 4 8 4 0 1 5 8 3
$x'\ (=x-K)$	+ 152,000.00	$\log (1/R)$	10 86
$x'^3/(6\rho_0{}^2)_g$	— 1.34	$\log S_m$	4.66586645
S_g	151,998.66	cor. arc to sine	— 381
		$\log S_l$	4.66586264
$3 \log x'$	15.545 53 077	$\log A$	8.509 101 81
$\log 1/(6\rho_0{}^2)_g$	4.581 02 13	$\log \sec \phi$	0.119 660 26
$\log x'^3/(6\rho_0{}^2)_g$	0.126 55 21	$\log \Delta\lambda_1$	3.294 92 471
		cor. sine to arc	+ 662
$\log S_m{}^2$	9.331 73 290	$\log \Delta\lambda$	3.29493133
$\log C$	1.338 342	$\Delta\lambda$	1972.1109
$\log \Delta\phi$	0.670 675		
y	664 000.00		° ′ ″
ϕ' (by interpolation)	40 39 22.4471 (° ′ ″)	λ (central mer.)	74 40
$\Delta\phi$	— 4.6782	$\Delta\lambda$	— 32 52.1109
ϕ	40 39 17.7689	λ	74 07 07.8891

109.62 mm   37.07 mm

Explanation of form:

$x'=x-K$

$S_g=x'-\dfrac{x'^3}{(6\rho_0{}^2)_g}$

$S_m=\dfrac{1}{R}\left(\dfrac{1200}{3937}\right)S_g$

R=scale reduction factor

ϕ' is interpolated from table of y

$\Delta\phi=C\,S_m{}^2$

$\phi=\phi'-\Delta\phi$

$\Delta\lambda_1=S_1A\sec\phi$

$\log S_1=\log S_m-$cor. arc to sine

$\log \Delta\lambda=\log \Delta\lambda_1+$cor. arc to sine

$\lambda=\lambda$ (central mer.)$-\Delta\lambda$

PLANE COORDINATE GRID SYSTEM

Positions of grid intersections used for fitting the grid to this compilation were computed by Division of Geodesy and the computation forms are included in this report.

Positions plotted by _R. E. Ask_

Positions checked by _R. E. Ask_

Grid inked on machine by _R. E. Ask_

Intersections inked by _Frank R. Gallo_

Points used for plotting grid:

x _1,976,000 ft_   x _1,968,000_
y _160,000_   y _156,000_

x _1,976,000_   x
y _152,000_   y

x _1,960,000_   x
y _152,000_   y

x _1,960,000_   x
y _160,000_   y

Triangulation stations used for checking grid:

X =   y =
1. _Ref. Sta.: Best 1931_   5. _____
2. _____   6. _____
3. _____   7. _____
4. _____   8. _____

Values to be computed

GEODETIC POSITIONS FROM LAMBERT COORDINATES

STATE __L. I._____ STATION_____

x	1,976,000.00	R_b+A	24,462,545.30
C	2,	y	160,000.00
$x'\ (=x-C)$	− 24,000.00	R_b+A-y	24,302,545.30
$\log (x-C)$	4.3802 1124	$\frac{\theta}{2}$ (in secs.)	01′ 41.8485″
$\log (R_b+A-y)$	7.3456 5176	$\log \frac{\theta}{2}$	
$\log \tan \theta$	6.9945 5948	$\log S$	
θ { ° 03′ 23.69692″		$\log \sin \frac{\theta}{2}$	6.693 5 2 67.8
− 203.69692″			
$\log \theta$ (θ in secs.)	2.3089 8447	$\log \sin^2 \frac{\theta}{2}$	3.3 8 7 6 5 3 5 6
$\log l$	9.8156 3226	$\log 2$	0.3010 300
$\log \frac{\theta}{l}$	2.4933 6221	$\log R^*$	7.3 8 56 5176
$\Delta\lambda\ (=\frac{\theta}{l})$	311.42409	$\log y''$	1,073 7 3 5 3 2
		y''	11.85
λ (central mer.)	74 ′ ″		
$-\Delta\lambda$	+ 05 11.4241	R_b+A-y	24,302,545.30
λ	74 05 11.4241	y''	+ 11.85
	53.47 ᵐᵐ	R	24,302,557.15
		y	160,000.00
		y''	− 11.85
		y'	159,988.15
		ϕ (by interpolation)	40 39 52.7698
			140.47 ᵐᵐ

$$\tan\theta = \frac{x-C}{R_b+A-y}$$

$$\Delta\lambda = \frac{\theta}{l}$$

$$\lambda = \lambda \text{ (central mer.)} - \Delta\lambda$$

$$y'' = 2R \sin^2\frac{\theta}{2}$$
$$y' = y - y''$$

C is constant added to x' in computation
of coordinates

R_b is map radius of lowest parallel

A is value of y' for R_b; in most cases it is zero

ϕ is interpolated from table of y'

*Use (R_b+A-y) as an approximate value of R and later correct this value when R is obtained below.

Form No. 742
DEPARTMENT OF COMMERCE
U. S. Coast and Geodetic Survey
Ed. May 1935

GEODETIC POSITIONS FROM LAMBERT COORDINATES

State __L. I.__ Station _____

x	1,976,100.00	R_b+A	24,462,545.30
C	2,	y	152,000.00
$x'\ (=x-C)$	— 24,000.00	R_b+A-y	24,310,545.30
$\log (x-C)$	4.3802 1124	$\frac{\theta}{2}$ (in secs.)	01' 41".8145
$\log (R_b+A-y)$	7.3857 9470	$\log \frac{\theta}{2}$	
$\log \tan \theta$	6.9944 1654	$\log S$	
θ $\{$	° 03' 23".6299	$\log \sin \frac{\theta}{2}$	6.6933 8130
	203.6'2949		
$\log \theta$ (θ in secs.)	2.3088 4153	$\log \sin^2 \frac{\theta}{2}$	3.3867 6360
$\log l$	9.8156 3226	$\log 2$	0.3010 300
$\log \frac{\theta}{l}$	2.4932 0927	$\log R*$	7.3857 9470
$\Delta\lambda\ (=\frac{\theta}{l})$	311.3216	$\log y''$	1.0735 8830
		y''	11.85
λ (central mer.)	74° ' "		
$-\Delta\lambda$	+ 05' 11.3216	R_b+A-y	24,310,545.30
λ	74 05' 11.3216	y''	+ 11.85
	53.21ᵐᵐ	R	24,310,557.15
		y	152,000.00
		y''	— 11.85
		y'	151,988.15
		ϕ (by interpolation)	40 38' 33.7188
			22.94ᵐᵐ.

$\tan \theta = \dfrac{x-C}{R_b+A-y}$

$\Delta\lambda = \dfrac{\theta}{l}$

$\lambda = \lambda$ (central mer.)$-\Delta\lambda$

$y'' = 2R \sin^2 \dfrac{\theta}{2}$

$y' = y-y''$

C is constant added to x' in computation
     of coordinates

R_b is map radius of lowest parallel

A is value of y' for R_b; in most cases it is zero

ϕ is interpolated from table of y'

* Use (R_b+A-y) as an approximate value of R and later correct this value when R is obtained below.

U.S. GOVERNMENT PRINTING OFFICE   11—11624

GEODETIC POSITIONS FROM LAMBERT COORDINATES

STATE __L. I.__   STATION _____

x	1,960,000.00	R_b+A	24,462,545.30
C	2	y	152,000.00
$x'\ (=x-C)$	$-$ 40,000.00	R_b+A-y	24,310,545.30
$\log (x-C)$	4.60 20 59 99	$\frac{\theta}{2}$ (in secs.)	02' 49.6915"
$\log (R_b+A-y)$	7.38 57 94 70	$\log \frac{\theta}{2}$	
$\log \tan \theta$	7.21 62 65 29	$\log S$	
θ \{	05' 39.3430"	$\log \sin \frac{\theta}{2}$	6.91 52 33 30
	339.3"8296		
$\log \theta$ (θ in secs.)	2.53 06 90 03	$\log \sin^2 \frac{\theta}{2}$	3.83 04 66 60
$\log l$	9.81 56 32 26	$\log 2$	0.30 10 30 00
$\log \frac{\theta}{l}$	2.71 50 57 77	$\log R^*$	7.38 57 94 70
$\Delta\lambda\ (=\frac{\theta}{l})$	518.86906	$\log y''$	1.51 72 91 30
		y''	32.91
λ (central mer.)	74° ' "		
$-\Delta\lambda$	$+$ 08 38.8691	R_b+A-y	24,310,545.30
λ	74 08 38.8691	y''	$+$ 32.91
	41.68 ^{mm}	R	24,310,578.21
		y	152,000.00
		y''	$-$ 32.91
		y'	151,967.09
		ϕ (by interpolation)	46 34 33,5107
			21.66 ^{mm}

$$\tan \theta = \frac{x-C}{R_b+A-y}$$

$$\Delta\lambda = \frac{\theta}{l}$$

$$\lambda = \lambda \text{ (central mer.)} - \Delta\lambda$$

$$y'' = 2R \sin^2\frac{\theta}{2}$$
$$y' = y - y''$$

C is constant added to x' in computation of coordinates

R_b is map radius of lowest parallel

A is value of y' for R_b; in most cases it is zero

ϕ is interpolated from table of y'

*Use (R_b+A-y) as an approximate value of R and later correct this value when R is obtained below.

GEODETIC POSITIONS FROM LAMBERT COORDINATES

STATE __LI__ STATION _____

x	1,960,000.00	R_b+A	24,462,545.30
C	2,	y	160,000.00
x' $(=x-C)$	$-$ 40,000.00	R_b+A-y	24,302,545.30
$\log (x-C)$	4.6020 5999	$\frac{\theta}{2}$ (in secs.)	02' 49.7474"
$\log (R_b+A-y)$	7.3856 5176	$\log \frac{\theta}{2}$	
$\log \tan \theta$	7.2164 0823	$\log S$	
θ $\{$	° 05' 39.4947"	$\log \sin \frac{\theta}{2}$	6.9153 7652
	339.4946"		
$\log \theta$ (θ in secs.)	2.5308 3257	$\log \sin^2 \frac{\theta}{2}$	3.8307 5304
$\log l$	9.8156 3226	$\log 2$	0.3010 3000
$\log \frac{\theta}{l}$	2.7152 0071	$\log R*$	7.3856 5176
$\Delta\lambda$ $(=\frac{\theta}{l})$	519.03986	$\log y''$	1.5174 3480
		y''	32.92
λ (central mer.)	74° ' "		
$-\Delta\lambda$	$+$ 08' 39.0399"	R_b+A-y	24,302,545.00
λ	74° 08' 39.0399"	y''	$+$ 32.92
	42.47^{mm}	R	24,302,577.92
		y	160,000.00
		y''	$-$ 32.92
		y'	159,967.08
		ϕ (by interpolation)	40 39 52.5616
			139.19^{mm}

$$\tan \theta = \frac{x-C}{R_b+A-y}$$

$$\Delta\lambda = \frac{\theta}{l}$$

$$\lambda = \lambda \text{ (central mer.)} - \Delta\lambda$$

$$y'' = 2R \sin^2 \frac{\theta}{2}$$
$$y' = y - y''$$

C is constant added to x' in computation
    of coordinates
R_b is map radius of lowest parallel
A is value of y' for R_b; in most cases it is zero
ϕ is interpolated from table of y'

* Use (R_b+A-y) as an approximate value of R and later correct this value when R is obtained below.

Form No. 742
DEPARTMENT OF COMMERCE
U. S. Coast and Geodetic Survey
Ed. May 1935

GEODETIC POSITIONS FROM LAMBERT COORDINATES

STATE L. I.   STATION

x	1,968,000.00	R_b+A	24,462,545.30
C	2,	y	156,000.00
$x'\ (=x-C)$	$-$ 32,000.00	R_b+A-y	24,306,545.30
$\log (x-C)$	4.505 14998	$\frac{\theta}{2}$ (in secs.)	02' 15.77557
$\log (R_b+A-y)$	7.385 72323	$\log \frac{\theta}{2}$	
$\log \tan \theta$	7.119 42675	$\log S$	
θ $\{$	° 04 31.55114	$\log \sin \frac{\theta}{2}$	6.818 39841
	271.55114		
$\log \theta$ (θ in secs.)	2.433 85163	$\log \sin^2 \frac{\theta}{2}$	3.636 78882
$\log l$	9.815 63226	$\log 2$	0.301 03000
$\log \frac{\theta}{l}$	2.618 21937	$\log R^*$	7.385 72323
$\Delta\lambda\ (=\frac{\theta}{l})$	415.16376	$\log y''$	1.323 54205
		y''	21.06
λ (central mer.)	74 ' "		
$-\Delta\lambda$	06 55.1637	R_b+A-y	24,306,545.30
λ	74 06 55.1635	y''	+ 21.06
	118.24 mm	R	24,306,566.36
		y	156,000.00
		y''	− 21.06
		y'	155,978.94
		ϕ (by interpolation)	40 39 13.1533
			81.15 mm

$$\tan \theta = \frac{x-C}{R_b+A-y}$$

$$\Delta\lambda = \frac{\theta}{l}$$

$$\lambda = \lambda \text{ (central mer.)} - \Delta\lambda$$

$$y'' = 2R \sin^2\frac{\theta}{2}$$

$$y' = y - y''$$

C is constant added to x' in computation
of coordinates

R_b is map radius of lowest parallel

A is value of y' for R_b; in most cases it is zero

ϕ is interpolated from table of y'

* Use (R_b+A-y) as an approximate value of R and later correct this value when R is obtained below.

U. S. GOVERNMENT PRINTING OFFICE   11—11524

Plane coordinates on Lambert projection

State _L. Island_ Station _Best (N.J.)_

$\phi = 40° \ 39' \ 06.027 \quad \lambda = 74° \ 08' \ 23.283$

Tabular difference of R for 1" of $\phi =$ _101.20050_

	For machine computation			For machine computation	
R (for min. of ϕ)		24,307,897.48	y' (for min. of ϕ)		154,647.82
Cor. for sec. of ϕ		− 609.94	Cor. for sec. of ϕ	+	609.94
R		24,307,287.54	y'		155,257.76
			y'' (=2R sin² $\frac{\theta}{2}$)	+	30.96
θ (for min. of λ)		− 5' 13.95941	y		155,288.72
Cor. for sec. of λ		− 15.22899			
θ		− 5' 29.18840	$\frac{\theta}{2}$		2' 44.5942
θ''		''			
log θ''			log θ''		
			colog 2		9.69897000
S for θ			S for $\frac{\theta}{2}$		
log sin θ	sin θ	.0015959497	log sin $\frac{\theta}{2}$	sin $\frac{\theta}{2}$	.0007979751
log R				R sin $\frac{\theta}{2}$	19,396.61
log x'			log sin² $\frac{\theta}{2}$	R sin² $\frac{\theta}{2}$	15.478
x'	R sin θ	− 38,793.21	log R		
		2,000,000.00	log 2		0.30103000
x		1,961,206.79	log y''		

x = 2,000,000.00 + R sin θ

y = y' + 2R sin² $\frac{\theta}{2}$

y'= the value of y on the central meridian for the latitude of the station

S = log of ratio for reducing arc expressed in seconds to sine
(see log tables)

R, y', and θ are given in special tables

GEOGRAPHIC NAMES
Survey No. T-5468
(Air Photo Comp.)

Name on Survey	A. On Chart No. 285, 369	B. On previous survey No. T-18	C. On U.S. quadrangle Maps	D. From local Field information Inspec.	E. Geol. Survey of... On local Maps N.J. 853/164,36/39	F.	G. P.O. Guide or Map B.P. 18955	H. Rand McNally Atlas	K. State of N.J. Dept. Cons & Devel U.S. Light List #26	USCP
Bayonne	✓ appd		✓	✓					✓	1
Bergen ~~Pt~~ Point	✓	T-343	✓	✓		(on P.O.M.) ✓	✓	✓	✓	2
→ (Constable Pt.) *Pt. of Land*	✓ appd	Constable Pt T-18	✓			✓ pt Land	~~(pt Land)~~		✓	3
Newark Bay	✓ appd		✓							4
Kill Van Kull	✓ appd	T-18	✓					✓		5
New York Bay *Upper*	✓	✓					✓			6
Port Johnson	✓	T-751				Port Johnston			✓	7
Platty Kill Cr.	✓					✓				8
Bayonne Bridge										9
~~Upper Bay~~			✓							10
Constable Hook				✓		✓ section	✓ (settlement)		✓	11
~~New York Upper Bay~~										12
~~Centreville~~	~~Centreville T-18~~	Centreville T-18	✓							13
Bergen Pt (Pt of Land)	1215 ✓	Vanhorn Pt T-18								14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

Names underlined in red approved
by *GfE* on 6/4/37

M 234

	Remarks	Decisions
1	●	see T- ~~5469~~ 6125
2	A section of Bayonne - see USGS, Rand McNally	section of Bayonne
3	A part of Bayonne " - USCP. pg 311	see T- 6126 6/5/37 Submullis' to USGB
4		see T- 6125
5		USGB decision
(6)	Note — Upper New York Bay is OK for Planimetric Maps. Called "Upper Bay" on Chart# 541 & 369 + 1215	
7	A part of Bayonne" - USCP Port Johnson - Port series	
8		
9		Not a Geog. Name ok for compil.
10		
11	"Constable Hook" official R.R. Guide " " " Port Series (New York Part I - Sh No.3)	section of Bayonne
12		
13	●	
14	"Bergen Pt" on T-533 Name originally applied to Pt. of land - Now applies to section of City	Use Bergen Point as Section of City
15		
16		
17		
18		
19		
20		
21		
22		
23	●	
24		
25		
26		
27		

M 234

Phelps Stokes

Seth Phelps

Iconography of N.Y.

map division

Vol - Cartography

Vol - History.

Plate 29

Constable Hook

Data Record

Triangulation to 1931
Recoverable stations of less than 3rd order accuracy to 1934
Photographs to November 1934 and March 1935
Planetable topographic surveys to October 1934
Field inspection to spring 1935.

The field inspection was for the interpretation of the photographs. Except for the rocks, rock piles, piles, dolphins, wrecks, recoverable hydrographic and topographic stations, and occasional short sections of shoreline taken from the 1934 planetable surveys, and recoverable hydrographic and topographic stations taken from U. S. Engineers surveys of 1933, the detail of this compilation is of the date of the photographs.

Comparison with Recent Graphic Control Surveys

The following recent surveys are filed as topographic surveys but have been treated as graphic control surveys in this review:

T-6124 (1934), 1:10,000
T-6125   "   "
T-6126   "   "
T-6127   "   "

T-6124

(1) Recoverable hydrographic and topographic station N. W. Bulkhead disagrees considerably with U.S.E. location. Because of temporary nature of mark, the station should be disregarded entirely. The card description has been discarded.

(2) A wreck and several docks appear on compilation which are not on planetable survey. Compilation is correct.

(3) The shoal on the south side of the large bulkheaded area appears clearly on the photographs and the compilation outline should be used in preference to the planetable.

T-6125

(1) Lat. 40° 38.7', long. 74° 07.7'. No indentation in shoreline at cable anchorage.

(2) Triangulation station B. and W. 1931 accidently omitted from planetable sheet.

(3) Lat. 40° 38.8', long. 74° 07.2'. Shoreline differs 30 m. Compilation correct.

(4) Pier on which recoverable station Gulf located now partly burned as shown on compilation.

(5) 3 m. difference in location of dock at recoverable station Chalk and 7 m. difference in shoreline east of here. Compilation correct.

(6) Lat. 40° 38.7', long. 74° 08.2'. Inshore end of slip differs 10 m. In same vicinity there is a difference between the piles and wrecks shown on the planetable survey and the compilation. The compilation is correct.

(7) Pier on which recoverable stations Pole and Hock located and the next pier north, each differ 6 m. from compilation. The compilation is ~~believed~~ correct.

(8) Just north of the Central R. R. of New Jersey bridge the shoreline differs 12 m. The compilation is correct.

(9) Difference in representation of pile area around docks, lat. 40° 39.4', long. 74° 08.3'. Compilation representation is preferable.

(10) Lat. 40° 39.5', long. 74° 08.1'. Shoreline differs 10 m. and there are additional rocks shown on compilation. The compilation is correct.

T-6126

(1) Dock on which recoverable station White Dock (U.S.E.) (d) is located differs by 5 m. Compilation correct.

The detail in the oil catch basin at the southwest end of the above dock does not appear on the compilation and it is not considered of sufficient importance to add.

(2) The wharf southwest of the above is now ruined and there is 5 m. difference in the inshore end of the slip here. Compilation is correct.

(3) Dock just west of H&T station Nat differs 5 m., and there is 5 m. difference in outside piling west of this dock. Compilation ~~believed~~ correct.

(4) Lat. 40° 38.8', long. 74° 05.8'. 15 m. difference in end of wharf. Compilation correct.

(5) Dock at recoverable station Tydol differs 4.5 m. Compilation correct.

(6) Lat. 40° 39.2', long. 74° 06.9'. 10 m. difference in shore on east side of easternmost slip and 7 m. in inshore end of large pier. Compilation correct.

(7) Lat. 40° 38.9', long. 74° 06.8'. Certain wrecks and positions of wrecks differ. Compilation correct.

(8) Lat. 40° 38.8', long. 74° 07.1'. Ruins of docks shown dashed on planetable, and by dotted piles on compilation. Either representation correct.

T-6127

(1) The two rock piles shown offshore appear smaller on the photographs than shown on the planetable sheet. The size is correct on the compilation.

General

Besides the above differences there are a number of others discussed in the descriptive report of this sheet (T-5468). These have been checked and the compilation is accepted as correct.

There are a number of wrecks shown on the compilation not shown on the planetable surveys. These additional wrecks were field inspected and are correct.

Where a dashed line outside the high water line appears on the planetable sheet and no explanation of its meaning can be derived from the planetable survey itself, the field inspection or the photographs, it was not transferred to the compilation.

These planetable sheets were carefully compared with the compilation together with the photographs, recent hydrographic sheets and previous topographic sheets. During the review the compilation was corrected against these sources of information. In general the field inspection is adequate and the photographs show detail clearly. In case of any differences remaining between the planetable sheet and the compilation, the latter should not be taken as correct.

This compilation is on a scale of 1:5,000 whereas the planetable surveys are on a scale of 1:10,000.

All detail on T-6124, T-6125, T-6126 and T-6127 within the area of the compilation is now shown on the compilation except

(a) Detail proved in error or no longer existing as discussed above,

(b) Certain dashed lines outside the high water line which were inexplicable and of no apparent consequence, as mentioned above,

(c) Dashed line limiting area foul with wrecks, piles, etc. when all of the individual dangers are shown on the compilation,

(d) Buoys,

(e) Magnetic declination,

(f) Temporary topographic stations,

(g) The planetable elevations of the rocks in the foul area at Bergen Point were not shown because the recent hydrographic surveys covered them more completely.

Comparison with Previous Topographic Surveys

Except for those surveys treated above as graphic control surveys, the following list gives the previous topographic surveys in the area covered by the compilation:

```
T-  18 (1837), 1:10,000
T- 489 (1855),      "
T- 533 (1855),      "
T-1579 (1885),      "
T-1719 (1885-6),    "
T-3431 (1913),      "
```

Because of the many changes to be expected in an area of this character since the above surveys were made, only a general comparison was made between the above surveys and the compilation.

This compilation is adequate to supersede the portions of the former topographic surveys which it covers, with ~~no~~ the exceptions *only of contours.* T.M.?.

Comparison with Recent Hydrographic Surveys

```
H-5608 (1934), 1:10,000
H-5609 (1934), 1:10,000
```

The shoreline on the above hydrographic surveys was taken from the recent graphic control surveys and therefore differs with this compilation in the same particulars as discussed under the graphic control survey comparison. These differences are of minor importance and have not been corrected on the hydrographic surveys which have been completed and applied to the charts.

H-5608

No conflicts worthy of individual note. Any very slight conflicts along shore and docks between Central R. R. of N. J. bridge and Bergen Point are due to change of docks or high water line between the times of the hydrographic and planetable surveys, and the photographs. In each case the compilation was checked and found correct.

H-5609 - No conflicts.

Areas on this compilation not included in the above hydrographic surveys have not received hydrographic surveys by the U.S.Coast & Geodetic Survey since 1885 and therefore no comparison was made.

Comparison with Chart 285 (edition 1/21/37), 1:15,000

Because this chart was prepared largely from the 1934 topographic surveys, the differences discussed in connection with those surveys apply also to the chart. The major differences have been summarized on the chart section which accompanies this review.

Other Comparisons

The compilation suggests no corrections or additions to the U.S. Coast Pilot, Atlantic Coast, Section B.

Remarks

Landmarks and Lights

Constable Hook Range Lights exist but are not shown on the compilation because their positions were not available. Except for this, the compilation and chart 285 are in agreement for landmarks.

Recoverable Topographic Stations

It is believed that there is a probable error of 1 - 2 m. in the position of the recoverable topographic stations shown on this sheet.

Descriptions on Form 524 for the recoverable stations are filed under the numbers of the following surveys: T-5468, T-6124, T-6125, T-6126, T-6127.

It is believed that the blueprinted sketches on these descriptions originated with the U. S. Engineers. The other sketches were made by the compilation party from detail on the photographs but the measurements given are apparently all ground measurements.

A full discussion of the difference between the positions of recoverable hydrographic and topographic stations on the compilation and the planetable sheets is given in the report.

Wrecks

On this sheet the term "wreck" includes a large number of grounded abandoned vessels, and hulls and barges aground which are subject to considerable change either by removal, movement or additions. The representation on the compilation is of the date of the latest photographs (March 27, 1935) and the field inspection (to spring 1935).※ Wrecks above high water are outlined with solid line; those above low water with a dashed line.

※Except the sunken wrecks and wrecks slightly above l.w., some of which were transfered from the October 1934 plane table sheets. T.M.P.

Accuracy

The statement of accuracy given in the report appears correct, and the large probable error given for the extreme east and west portions of the sheet should not be underestimated.

General

The following important changes were made to the compilation upon review:

(1) Lat. 40° 38.9', Long. 74° 05.75'
         40° 38.9',   74° 06.0'
Removal of a large number of wrecks which appeared on the compilation. The photographs show objects which could possibly be sunken barges but since the field inspection labeled them as rafts and they do not appear on the graphic control surveys, it is believed that nothing in the nature of a permanent menace to navigation exists.

(2) Lat. 40° 38.9', long. 74° 06.8'.
Removal of a wreck shown on the compilation on the east side, outer end of pier. It is not known whether this object which appears on the photos is a hulk aground or moored but since it does not appear on the graphic control survey and is not marked as a wreck on the field photos, it is believed it is moored afloat.

(3) The dock on which is located recoverable station Lehigh Valley U.S.E. and the shoreline thence to S. O. Fill Sub. U.S.E. was changed 6.5 m. This change was a result of reliance being placed on the photo plot and planetable in preference to the U.S.E. location of the stations mentioned.

(4) A hulk was shown just outside the wreck on which is located recoverable station Rust. The position of the hulk is subject to change as shown by the different flights of photos, so it was removed.

Additional Work

This survey is complete and adequate for chart compilation except for the location of the Constable Hook Range Lights, submerged pipe line and cable crossings.

June 4, 1937.

T. M. Price, Jr.

REVIEW OF AIR PHOTO COMPILATION NO. *T-5468*

Chief of Party: *J. C. Partington*   Compiled by: *E. L. Jones*

Project: *HT-175*   Instructions dated: *Mar. 14, 1934.*

1. The charts of this area have been examined and topographic
    information necessary to bring the charts up to date is shown
    on this compilation. (Par. 16a, b,c,d,e,g and i; 26; and 64)

- 2. Change in position, or non-existence of wharfs, lights, and
    other topographic detail of particular importance to naviga-
    tion which affect the chart, is discussed in the descriptive
    report. (Par. 26; and 66 g,n)

3. Ground surveys by plane table, ~~sextant~~, or theodolite have been
    used to supplement the photographic plot where necessary to
    obtain complete information, and all such surveys are discussed
    in the descriptive report. (Par. 65; and 66 d,e)
    U.S.E. locations, for rec. topo. stations, were probably by theodolite.

4. Blue-prints and maps from other sources which were transmitted
    by the field party contain sufficient control for their applica-
    tion to the charts. (Par. 28)
    No blue-prints or other maps transmitted.
    A blue print showing street names is filed in air photo section.

5. Differences between this compilation and contemporary plane
    table and hydrographic surveys have been examined ~~and rectified~~
    in the field before forwarding the compilations to the office
    and are discussed in the descriptive report.
    Discussed in descriptive report. and review.

6. The control and adjustment of the photo plot are discussed in the
    descriptive report. Unusual or large adjustments are discussed
    in detail and limits of the area affected are stated. (Par.
    12b; 44; and 66 c,h,i)

7. High water line on marshy ~~and mangrove~~ coast is clear and ade-
    quate for chart compilation. (Par. 16a, 43, and 44)

NOTE: Strike out paragraphs, words or phrases not applicable and
modify those requiring it. Paragraph numbers refer to those in the
Topographic Manual. Refer also to the pamphlet "Notes on the Compila-
tion of Planimetric Line Maps from Five Lens Air Photographs."   M-67

8. The representation of low water lines, reefs, ~~coral reefs~~ and rocks, and legends pertaining to them is satisfactory. (Par. 36, 37, (38,) 39, 40, 41) *. heights of*
   →Inadequate notes concerning rocks and wrecks awash by field inspection party. No L.W.L. shown.

9. Recoverable objects have been located and described on Form 524 in accordance with circular 30, 1933, circular letter of March 3, 1933, and circular 31, 1934. (Par. 29, 30, and 57)

10. A list of landmarks was furnished on Form 567 and instructions in the Director's letter of July 16, 1934, Landmarks for Charts, complied with. (Par. 16d, e; and 60)
    No additional landmarks recommended.

11. All bridges shown on the compilation are accompanied by a note stating whether fixed or draw, clearance, and width of draw if a draw bridge. Additional information of importance to navigation is given in the descriptive report. (Par. 16c)

12. Geographic names are shown on the overlay tracing. The accepted local usage of new names has been determined and they are listed in the report, together with a general statement as to source of information and a specific statement when advisable. Complete discussion of place names differing from the charts and from the U. S. G. S. Quadrangles is given in the descriptive report, together with reasons for recommendations made. (Par. 64, and 66k)

13. The geographic datum of the compilation is *N.A. 1927* and the reference station is correctly noted.

14. Junctions with adjoining compilations have been examined and are in agreement. (Par. 66j)

15. The drafting is satisfactory and particular attention has been given the following:

    1. Standard symbols authorized by the Board of Surveys and Maps have been used throughout except as noted in the report.

    2. The degrees and minutes of Latitude and Longitude are correctly marked.

3. All station points are exactly marked by fine ✓
    black dots.

4. Closely spaced lines are drawn sharp and clear ✓
    for printing.

5. Topographic symbols for similar features are of ✓
    uniform weight.

6. All drawing has been retouched where partially ✓
    rubbed off.

7. Buildings are drawn with clear straight lines ✓
    and square corners where such is the case on
    the ground.

(Par. 34, 35, 36, 37, ✗, 39, 40, ✗, 42, 43, 44, 45, 46, 48)

16. No additional surveying is recommended at this time.

17. Remarks:

18. Examined and approved;

J.C. Partington
Chief of Party

19. Remarks after review in office:

Reviewed in office by: *T. M. Price* ✓ *B.G. Jones*
June 5 1937

Examained and approved: *843*

John A Bond
Acting Chief, Section of Field Records

Fred. R. Peacock
Chief, Section of Field Work

Chief, Division of Charts

Chief, Division of Hydrography
and Topography.

CONSTABLE POINT

NEW BRIGHTON

WEST NEW BRIGHTON

BERGEN POINT

PORT RICHMOND

Port Johnson

KILL VAN KULL

SAILORS ATLANTIC HARBOR

Silver Lake

CHURCH TOWER

TALL TANK

SCHOOL CUPOLA

C.R.R. of N.J.

L.V.R.R.

CAUTION
Improved Channels

The side limits of the improvement are shown by broken lines. The controlling depths through the channel, on the date shown, is placed in or alongside the channel, or is separate river, but no depth greater than the project depth is given. Because of possible shoaling particularly at the edges, it must not be inferred that the depth stated existed throughout the entire width of the improvement on the date of the examination unless so stated, or that it has not since been decreased in places across the entire width.

no piling

lotted pile filmed out

additional dolphins

additional rock ledges

Hut ho changed pile

round house gone

street pond layout changed

wreck above HW extends out to place indicated

indentation in shore line

cleaning basins

end of pier gone

timber breakwater single solid line dotted

dolphin and rock wash

Plan dotted B line

Solid dock

dock normal to shore, not at oblique angle

dolphins dredge wreck

line of wreckage

dolphins

piles

dolphin