

5637

1217-2

Form 504  
Rev. Dec. 1933  
DEPARTMENT OF COMMERCE  
U.S. COAST AND GEODETIC SURVEY  
R. S. PATTON, DIRECTOR

**DESCRIPTIVE REPORT**

Field 4  
Topographic } Sheet No. Reg. No. 5637  
Hydrographic }

State New Jersey

LOCALITY  
New Jersey Coast Atlantic Coast  
Absecon Inlet and Vicinity  
Atlantic City and Vicinity

193 5

CHIEF OF PARTY  
E. H. Kirsch

U.S. GOVERNMENT PRINTING OFFICE: 1934

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DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO.

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. 4

**T5637**

REGISTER NO. T-5637

State New Jersey

General locality N. J. Coast *Atlantic Coast*

Locality Absecon Inlet and Vicinity *Atlantic City and Vicinity*

Photographs - 8-1-32 & 4-20-32

Scale 1:10,000 Date of ~~survey~~ 19

Compilation - 8-15-35

Vessel Air Photo Compilation Party No. 21

Chief of party E. H. Kirsch

Surveyed by See data sheet in descriptive report.

Inked by R. G. Hickson

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

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

Instructions dated May 16, 1935., 19

Remarks: None

PHOTO NOS.	DATE
66-55 4 to 9	August 1, 1932
66-11 91 to 94	April 20, 1932
66-12 38 to 48	April 20, 1932
66-12 76 to 78	April 20, 1932
PROJECTION BY	<u>Discharged</u> L. C. Ripley 4-23-35
PROJECTION CHECKED BY	<u>Discharged</u> T. E. Nutting 4-23-35
CONTROL PLOTTED BY	<u>On leave</u> E. J. Anderson
CONTROL CHECKED BY	<u>On leave</u> P. W. Hund
CONTROL PLOTTED ON PHOTOS BY	<u>Discharged</u> J. F. Richardson
CONTROL CHECKED ON PHOTOS BY	<u>Discharged</u> W. W. King
SMOOTH RADIAL PLOT BY	<u>On leave</u> E. J. Anderson 7-12-35
RADIAL PLOT CHECKED BY	<u>R. G. Hickson</u> R. G. Hickson 7-13-35
TOPOGRAPHY TRANSFERRED BY	<u>R. G. Hickson</u> R. G. Hickson 7-27-35
TOPOGRAPHY CHECKED BY	<u>Discharged</u> W. W. King 7-28-35
DETAIL INKED BY	<u>R. G. Hickson</u> R. G. Hickson 8-15-35

DETAIL INKED: 24.5 Square statute miles (land Area).

LENGTH OF COASTLINE: 7.4 statute miles.

LENGTH OF SHORELINE: 34 statute miles (more than 200 meters wide).

LENGTH OF STREAMS: 37 statute miles (less than 200 meters wide).

Datum Sta.: Absecon Light, 1867

Datum : N.A. 1927

N. J. Grid  
~~39° 25' 07.42" (220.5 m)~~ x = 2,071, 282.87  
~~74° 24' 53.81" (200.2 m)~~ y = 194, 178.94  
 39° 21' 58.343" (1799.2 m)  
 74° 24' 52.376" (1253.8 m) (adjusted)

## GENERAL INFORMATION

### Statistics:

This sheet covers a land area of 24.5 square statute miles. There are 7.4 statute miles of coastline, 34.0 statute miles of shoreline as measured along streams and bays more than 200 meters wide, and 37.0 statute miles of streams less than 200 meters in width.

### General Report:

This sheet covers all of Atlantic City, N. J., a small part of Ventnor City, Brigantine, and West Atlantic City. The remainder of the sheet consists of low wet marsh, known locally as "meadow", part of which is drained by many small shallow ditches dug by the Mosquito and Pest Control.

A wide sand beach runs along the entire outer coast and in most places it is protected from erosion by rock jettys extending from the high to the low water line. The southwest end of Brigantine Beach, forming the northeast shore of Absecon Inlet is an exception to the above as there are no jettys on this point. Consequently its shape is constantly changing.

### Photographs:

This sheet was compiled from parts of five flights of single lens, 1:10,000 scale Aerial photos, taken by the Aero Service Corp. of Philadelphia:

Photos No. 66-55 4 to 9 run parallel to the coastline, approximately southwest, and were taken August 1, 1932.

Photos 66-11 91 to 94 run northward along Long.  $74^{\circ} 23'$ . No. 66-12 38 to 43 run southward along Long.  $74^{\circ} 25'$ . No. 66-12 44 to 48 run northward along Long.  $74^{\circ} 28'$ . All of these photos were taken April 20, 1932. The time at which they were taken is not available.

Practically all the photos are good scale and free of excessive tilt. The streets of the towns, the highways, docks, ect., showed clearly but the high and low water lines in some areas were very indefinite and even appeared to be entirely different on different photos.

## CONTROL

### Sources:

Triangulation by C. D. Meaney, 1931-32, B. H. Rigg, 1935. fourth order triangulation by R. C. Bolstad, 1935 (shown on compilation by black circles such as are used to show marked topographic stations). *N.J. Geod. Survey* E.R.A. traverse by the State of New Jersey graphic control sheets "U" Reg. No. T 6502.6 "W" Reg. No. T 6503A, and "Y" Reg. No. T 6503.8, B. H. Rigg, 1935.

### Errors:

No errors in the control was found.



Discrepancies:

*N.J. Geod. C. Survey.*  
 The ~~traverse~~ traverse was the only control used that was established by other organizations and no discrepancies were found.

COMPILATIONMethod:

The usual radial line method as described in "Notes on the Compilation of Planimetric Line Maps from 5-lens Aerial Photographs" was used in compiling this sheet.

Adjustment of Plot:

No unusual adjustments of the plot were necessary.

Interpretation:

As stated in the paragraph under Photographs the parts of the photos that covered the towns and street systems were very clear and no difficulty was experienced in tracing this detail. However, some of the photos covering the marsh area were very blurred and indistinct. It was questionable in several places whether the line showing on the photo was the high or the low water line. The fact that the time at which the pictures were taken, and therefore the stage of tide at the time, was not available also made differentiation difficult. In cases where there was some doubt the portions that had been field inspected were used as a guide and it is believed that a good degree of accuracy was obtained in every case.

All the houses that had been built in the town of Brigantine at the time the photos were taken are shown on the compilation. there are no houses in that part of the suburb known as west Atlantic City that appears on this sheet. Only the important or out standing buildings are shown in Atlantic City.

The street car tracks have been shown as a single solid line in order to leave the streets as clear as possible..

In some cases where there are several railroad tracks running parallel to each other only the two outside tracks were shown and the number of tracks between these two were put on the over-lay sheet. The tracks are so close together that it is almost impossible to show every one without exaggerating the distance between them so they will print clearly.

There are numerous small rock jettys along the beach at Atlantic City. These usually extend from the high water line to about the low water line and have been shown by a single solid line approximating their width.

Special attention is called to the point of sand that forms the Northeast shore of Absecon Inlet. The shoreline of this point was obtained from Graphic Control Sheet "U" Reg. No. *T6502 B*. There

is a definite high water line along the front beach but it is very indefinite on the back beach. The extreme or storm high water line and low water line were rodged in. This point is subject to continual change while the southwest shoreline of the Inlet is protected by jettys and remains practically the same at all times.

#### Information from other Sources:

In all cases where it was determined that changes had been made in docks, piers, shore line of inlets, etc., since the photos were taken in 1932, the present shape and condition of these was obtained from Graphic Control sheets "U" Reg. No. ~~T6502 B~~ <sup>T6502 B</sup>, "W" Reg. No. ~~T6503 A~~ <sup>T6503 A</sup>, and "Y" Reg. No. ~~T6503 B~~ <sup>T6503 B</sup>, B. H. Rigg, 1935.

~~The railroad system was put in by blue prints obtained from the Pennsylvania-Reading Seashore Lines. Information was also obtained from field inspection by Lt. R. C. Bolstad, 1934-1935, and by the compiler.~~

#### Conflicting Names:

All names in ink on the overlay sheet were taken from Chart No. 1217, U. S. Geological Survey Maps, were obtained from the U. S. Engineers. All names in pencil were obtained from field inspection notes by Lt. R. C. Bolstad. Some of these conflict with the names on the present chart. Refer to "Air Photo Field Inspection Report for East Coast of New Jersey, Metedeconk River to Townsend Inlet" (page 12), March 25, 1935 - Lt. R. C. Bolstad, Chief of Party, for his verification of these names. Mr. French, boatman for the N. J., Board of Commerce and Navigation and a native of this section, has also verified these names. Therefore it is believed that they are correct and should be charted as such.

#### COMPARISON WITH OTHER SURVEYS

##### Junctions:

Satisfactory junctions were made with sheet No. 2, Reg. No. 5635, on the Northeast, and with Sheet No. 3, Reg. No. 5636 on the Northwest. Sheet No. 5, Reg. No. 5638 on the southwest has ~~not been completed at this time but a satisfactory junction between the radial plots has been made.~~

##### Landmarks:

A list of landmarks and recoverable topographic stations will be submitted with Graphic Control Sheets "U" Reg. No. ~~T6502 B~~ <sup>T6502 B</sup>, "W" Reg. No. ~~6503 A~~ <sup>6503 A</sup>, "Y" Reg. No. ~~T6503 B~~ <sup>T6503 B</sup>, B. H. Rigg - 1935. & J.A. Bond 1936

##### Bridges:

The following data obtained from Field Inspection Report of Lt. R. C. Bolstad.

LOCALITY	LAT.	LONG.	TYPE	VERTICAL CLEARANCE (Above M.H.W.)	HORIZONTAL CLEARANCE
Absecon Inlet	39°23.1'	74° 25.4'	2 Leaf B <sup>2</sup> scule	11.6ft.	75 ft. ✓
✓ Atlantic City	39 22.7	74 27.2	2 Leaf B <sup>2</sup> scule	10 ft.	50 ft. ✓
✓ Atlantic City most northerly of 4 RR Bridges No. A	39 22.1	74 26.8	R.R. Swing- Not in use left open.	1.9ft.	Both Chan. 35.5ft. ✓
✓ Atlantic City No. B	39 21.9	74 26.8	R.R. Swing	1.75 ft.	Both Chan. 36. <sup>3</sup> / <sub>5</sub> ft. ✓
✓ Atlantic City No. C	39 21.85	74 26.8	R.R. Swing	2.7 ft.	West Chan. 48 ft. ✓ East Chan. 49ft.
✓ Atlantic City No. D - most southerly one	39 21.8	74 26.8	R.R. Swing	5.65 ft.	West Chan. 37.67ft ✓ East Chan. 38.5 ft
✓ Atlantic City No. E Florida Ave	39 21.7	74 26.8	Hwy Swing	4.32 ft.	Both Chan. 35.5 ft. ✓
✓ Inside Thoro. Albany Ave. Chelsea "F"	39 21.2	74 27.5	2 leaf Hwy. B <sup>2</sup> scule <sup>a</sup>	10.5 ft.	50 ft. ✓
✓ Beach Thoro. Albany Ave. Chelsea	39 21.7	74 27.8	Fixed Trestle	5.2 ft.	11 ft.
✓ Great Thoro Hwy No. 40.	39 22.2	74 28.6	Fixed Trestle	5.2 ft.	11 ft.

The letters of the four R.R. Swing Bridges refer to designating letters on the over lay sheet of this compilation. Since field inspection by Lt. Bolstad bridge "D" has been put back in use by the Atlantic City and Shore electric trolleys. Bridge "A" is no longer in use and is left open at all times.

*above bridges agree with  
U.S.E. 1935 Bridge Book.*

#### RECOMMENDATIONS FOR FURTHER SURVEYS

This compilation is believed to have a probable error of not more than .3mm in position of well defined detail of importance for charting purposes, and of not more than .6 mm for other data.



To the best of my knowledge this sheet is complete  
in all detail of importance for charting, within the accuracy stated  
above and no additional surveys are necessary.

Assisted by,

*E. H. Kirsch*  
E. H. Kirsch,  
Chief of Party.

Submitted by,

*R. G. Hickson*  
R. G. Hickson.

REVIEW OF AIR PHOTO COMPILATION T-5637  
Scale 1:10,000

Data Record

Triangulation to 1935  
Photographs to 1932  
Planetable surveys to 1936  
Hydrography to 1936  
Field inspection to 1936

The detail of this compilation is that of the date of the photographs except for outer coast high water line and a few other corrections as determined by field inspection and 1936 planetable surveys. The outer coast mean high water line is from graphic control surveys T-6503A, May 1935 and T-6502B, June 1935.

Comparison with Contemporary Graphic Control Surveys

T-6502a (1935 and 1936), 1:10,000  
T-6502b (1935 and 1936), 1:10,000  
T-6503a (1935 and 1936), 1:10,000  
T-6503b (1935 and 1936), 1:5,000

The triangulation stations N. J. Geod. S. 1828 and N. J. Geod. S. 1829 have been plotted in error on T-6503a by approximately 50.0 meters in latitude from the compilation made by Lieut. Kirsch and filed in Geodesy. These two triangulation stations are shown on the compilation and are correct with Lieut. Kirsch's computations and also agree with the N. J. State coordinates. However, it is felt that these triangulation stations will not in any way reflect on the accuracy of the graphic control survey as it is apparent that neither station was used in the orientation of the graphic control sheet. All other detail on T-6503a in this vicinity checks with the compilation.

T-6503b has rodded in detail in the vicinities of lat. 39° 22.5', long. 74° 25.5' and lat. 39° 21.5', long. 74° 27' showing the Atlantic City Yacht Club race course and shoreline. Although it is in agreement with the compilation the planetable survey should be referred to for detail, as it has been shown on a scale of 1:5,000 whereas the compilation is to a scale of 1:10,000.

The date of location of stations and detail on the graphic control surveys is not entirely clear. These surveys were <sup>partially</sup> made in 1935 and additional work was accomplished in 1936. All of the outer coast high water line on T-6503a and T-6502b was done in May 1935 and June 1935.

Part of the aids to navigation were located in 1935 with additional locations and with relocations in 1936. Dates of location are not shown on the graphic control surveys <sup>but</sup> are given in chart letter No. 832 (1936).

Instructions are to be prepared to the effect that additional work on graphic control surveys made after the surveys are registered shall be shown in a different color.

All detail and information shown on the above graphic control surveys has been shown on the compilation except for temporary topographic signals and magnetic meridians.

Comparison with Contemporary Hydrographic Surveys

H-6144 (1936), 1:10,000  
H-6196 (1936), 1:10,000

The shoreline shown on the above hydrographic surveys was taken from the compilation and agrees with the soundings.

Comparison with Former Topographic Surveys

T- 142 (1841), 1:20,000  
T- 952 (1864), 1:10,000  
T-1166 (1869), 1:20,000  
T-2054 (1891), 1:20,000  
T-2455 (1899), 1:20,000

T-1166 at lat.  $39^{\circ} 23.6'$ , long.  $74^{\circ} 23.1'$  shows a channel dividing the south end of Brigantine Beach from the mainland. This channel is now nonexistent. The compilation is more complete in detail than the former surveys.

The compilation is complete and adequate to supersede those portions of the above surveys which it covers except for form lines on T-1166.

Comparison with Charts 1217 and 3243

A visual comparison between the above charts and the compilation shows no large changes. The compilation is more complete in detail.

Lights and beacons shown on this compilation as topographic stations were located by the graphic control surveys in 1935 and 1936. The dates of location are not shown on the graphic control surveys nor on this compilation but are given in chart letter No. 832 (1936).

*R. C. Handy*  
*By Jones*

June 3, 1937.

## Remarks

## Decisions

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2		GN5-1937
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26		
27		GN5-1937



## GEOGRAPHIC NAMES

Survey No. T-5637

Name on Survey	A On Chart No. 1217 - 3243	B On previous survey No. T-1442	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List B.P. 14914	K
✓ <u>Reed Bay</u>	✓	Reed's Bay	Reed's Bay					Reed's Bay	1
✓ <u>Oyster Thorofare</u>		✓						✓	2
✓ <sup>steelman</sup> <u>Skapp Thorofare</u>		✓	Stelman's Thoro		Stelman's Thoro				3
✓ <u>Absecon Bay</u>	✓		✓					✓	4
✓ <u>Wills Thorofare</u>									5
✓ <u>Absecon Channel</u>								B.P. 14959 ✓	6
✓ <u>Middle Thorofare</u>	✓		✓		✓				7
✓ <u>Big Fish Thorofare</u>									8
✓ <u>Little Fish Thorofare</u>									9
✓ <u>Main Channel</u>	✓		✓						10
✓ <u>Deas Thoro</u>	✓		✓		✓				11
✓ <u>Stake Thorofare</u>									12
✓ <u>Eagle Bay</u>	✓	T142	✓					✓	13
✓ <u>Gull Island Thorofare</u>			✓		Gull Thoro			✓	14
✓ <sup>Hammock</sup> <u>Golden Thoro.</u>		Golden Hammock	✓		Golden Hammock Thoro			Golden Hammock	15
✓ <u>Wading Thorofare</u>	✓		✓						16
✓ <u>Bonita Tideway</u>					✓				17
✓ <u>New Found Thorofare</u> (no word)	new found Thoro	✓ no word			Part of it Back Thoro			✓ no word	18
✓ <u>Duck Thorofare</u>					✓			✓	19
✓ <u>Doles Point</u>									20
✓ <u>Mankiller Bay</u>		✓							21
✓ <u>Beach Thorofare</u>	✓		✓					✓	22
✓ <u>Mankiller Island</u>		✓						B.P. 14959 ✓	23
✓ <u>Clam Thorofare</u>					✓			✓	24
✓ <u>Low Water Thorofare</u>	✓		✓		✓			✓	25
✓ <u>Rum Point</u>	✱		✓		✓			✓	26
✓ <u>Sunflower Island</u>									27

## Remarks

## Decisions

1		
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3		D.G.N. 1/27/37
4		OK for Air Photo compilation
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## GEOGRAPHIC NAMES

Survey No. T-5637

Name on Survey	A On Chart No.	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K
✓ Peter Beach		Peter Beach	✓					Peter Beach	1
✓ Brigantine	✓		✓					✓	2
✓ Lake <sup>s</sup> Bay*	✓	Lake's Bay	✓					Lake's Bay	3
✓ West Atlantic City									4
✓ Great Thorofare	✓	Flat Thoro	✓					✓	5
✓ Jonathan's Thorofare		✓			✓				6
Fredericks Little									7
May Creek									8
Fredericks Big							✓		9
May Creek									10
✓ Great Island					✓				11
✓ Venice <del>Canal</del> <sup>Park Cana</sup>					Venice Canal			Venice Park Canal	12
✓ Penrose Canal					✓			✓	13
✓ Clam Creek	✱	✓			✓			✓	14
✓ Atlantic City	✓		✓						15
✓ Gardner's Basin					✓			✓	16
✓ Delta Basin					✓			✓	17
✓ Snug Harbor					X				18
✓ Absecon Inlet	✓	✓	✓		✓			✓	19
✓ Atlantic Ocean									20
✓ Inside Thorofare					✓			✓	21
✓ Chelsea Slip <sup>Hbr</sup>					Chelsea Slips				22
✓ Ventnor City	Ventnor							Ventnor	23
✓ Grassy Bay	✓		✓					✓	24
✓ Mud Creek								✓	25
✓ Point Bar Thorofare								✓	26
									27

## Remarks

## Decisions

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# GEOGRAPHIC NAMES

Survey No. T-5637

Name on Survey	A On Chart No.	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K
<del>Flat Thero</del>	see	H-	6144						1
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Names underlined in red approved

by gfe on 2/18/37

## 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 H. H. Schleuter

Points used for plotting grid:

x 2,055,000  
y 195,000

x  
y

x 2,070,000  
y 195,000

x  
y

x 2,070,000  
y 215,000

x  
y

x 2,055,000  
y 205,000

x  
y

Triangulation stations used for checking grid:

- $x=2,071,282.87'$   $y=194,178.94'$
1. Absecon Light 1867 (ref. sta.)
  2. Ritz 1931
  3. Atlantic City, Claridge Hotel, dome 1932
  4. Circle 1932
  5. Atlantic 1932
  6. N.J. Geod. S. No. 1801
  7. Hotel 1931
  8.

T-5637.

17

# GEODETIC POSITIONS FROM TRANSVERSE MERCATOR COORDINATES

STATE N. J.

STATION \_\_\_\_\_

$x$	<u>2,055,000.00</u>	$\log S_1$	<u>4.74036222</u>
$K$	<u>2,000,000.00</u>	$\log (1200/3937)$	<u>9.48401583-10</u>
$x' (=x-K)$	<u>+ 55,000.00</u>	$\log (1/R)$	<u>10.86</u>
$x'^3/(6\rho_0^2)_0$	<u>0.06</u>	$\log S_m$	<u>4.22438891</u>
$S_0$	<u>+ 54,999.94</u>	cor. arc to sine	<u>50</u>
		$\log S_1$	<u>4.22438841</u>
$3 \log x'$	<u>4.22108807</u>	$\log A$	<u>8.50913439</u>
$\log 1/(6\rho_0^2)_0$	<u>4.5810213</u>	$\log \sec \phi$	<u>0.11177464</u>
$\log x'^3/(6\rho_0^2)_0$	<u>8.4021094</u>	$\log \Delta \lambda_1$	<u>2.84529744</u>
		cor. sine to arc	<u>+ 84</u>
$\log S_m^2$	<u>8.44877782</u>	$\log \Delta \lambda$	<u>2.84529828</u>
$\log C$	<u>1.318348</u>	$\Delta \lambda$	<u>704.3228</u>
$\log \Delta \phi$	<u>4.767176</u>		
$y$	<u>195,000.00</u>		
$\phi'$ (by interpolation)	<u>39 22 07.4414</u>	$\lambda$ (central mer.)	<u>74 40 00.0000</u>
$\Delta \phi$	<u>5850</u>	$\Delta \lambda$	<u>11 40.3228</u>
$\phi$	<u>39 22 06.8564</u>	$\lambda$	<u>74 28 19.6772</u>
	<u>21.15 mm</u>		<u>47.10 mm</u>

Explanation of form:

$$x' = x - K$$

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

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

$R$  = scale reduction factor

$\phi'$  is interpolated from table of  $y$

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

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

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

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

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

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

# GEODETIC POSITIONS FROM TRANSVERSE MERCATOR COORDINATES

STATE N. J. STATION \_\_\_\_\_

$x$	<u>2,070,000.00</u>	$\log S_e$	<u>4.44509723</u>
$K$	<u>2,000,000.00</u>	$\log (1200/3937)$	<u>9.48401583</u>
$x' (=x-K)$	<u>+ 70,000.00</u>	$\log (1/R)$	<u>10.86</u>
$x'^3/(6\rho_0^2)_0$	<u>.13</u>	$\log S_m$	<u>4.32912392</u>
$S_e$	<u>+ 69,999.87</u>	cor. arc to sine	<u>81</u>
		$\log S_1$	<u>4.32912311</u>
$3 \log x'$	<u>4.53529412</u>	$\log A$	<u>8.50913440</u>
$\log 1/(6\rho_0^2)_0$	<u>4.5410213</u>	$\log \sec \phi$	<u>0.11177402</u>
$\log x'^3/(6\rho_0^2)_0$	<u>9.1163154</u>	$\log \Delta\lambda_1$	<u>2.95003153</u>
		cor. sine to arc	<u>+ 135</u>
$\log S_m^2$	<u>8.65824784</u>	$\log \Delta\lambda$	<u>2.95003288</u>
$\log C$	<u>1.314834</u>	$\Delta\lambda$	<u>891.3184</u>
$\log \Delta\phi$	<u>9.976242</u>		
$y$	<u>195,000.00</u>		
$\phi'$ (by interpolation)	<u>39 22 07.4414</u>	$\lambda$ (central mer.)	<u>74 40 00.0000</u>
$\Delta\phi$	<u>0.9483</u>	$\Delta\lambda$	<u>14 51.3184</u>
$\phi$	<u>39 22 06.4934</u>	$\lambda$	<u>74 25 08.6816</u>
	<u>20.02 mm</u>		<u>20.78 mm</u>

Explanation of form:

$$x' = x - K$$

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

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

$R$  = scale reduction factor

$\phi'$  is interpolated from table of  $y$

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

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

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

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

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

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



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# GEODETIC POSITIONS FROM TRANSVERSE MERCATOR COORDINATES

STATE N. J.

STATION \_\_\_\_\_

$x$	<u>2,070,000.00</u>	$\log S_e$	<u>4.44509723</u>
$K$	<u>2,000,000.00</u>	$\log (1200/3937)$	<u>9.48401583</u>
$x' (=x-K)$	<u>+ 70,000.00</u>	$\log (1/R)$	<u>1.46</u>
$x'^3/(6\rho_e^2)$	<u>—</u>	$\log S_m$	<u>4.32912392</u>
$S_e$	<u>—</u>	cor. arc to sine	<u>— 41</u>
$3 \log x'$	<u>4.53529412</u>	$\log S_1$	<u>4.32912311</u>
$\log 1/(6\rho_e^2)$	<u>4.5410213</u>	$\log A$	<u>8.50913301</u>
$\log x'^3/(6\rho_e^2)$	<u>9.1163154</u>	$\log \sec \phi$	<u>0.11211585</u>
$\log S_m^2$	<u>8.65424784</u>	$\log \Delta\lambda_1$	<u>2.95037197</u>
$\log C$	<u>1.319497</u>	cor. sine to arc	<u>+ 125</u>
$\log \Delta\phi$	<u>9.477745</u>	$\log \Delta\lambda$	<u>2.95037332</u>
$y$	<u>215,000.00</u>	$\Delta\lambda$	<u>892.0174</u>
$\phi'$ (by interpolation)	<u>39 25 25.1175</u>	$\lambda$ (central mer.)	<u>74 40 00.0000</u>
$\Delta\phi$	<u>— .9500</u>	$\Delta\lambda$	<u>14 52.0174</u>
$\phi$	<u>39 25 24.1675</u>	$\lambda$	<u>74 25 07.9826</u>
	<u>74.53<sup>mm</sup></u>		<u>19.10 mm</u>

Explanation of form:

$$x' = x - K$$

$$S_e = x' - \frac{x'^3}{(6\rho_e^2)}$$

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

$R$  = scale reduction factor

$\phi'$  is interpolated from table of  $y$

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

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

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

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

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

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

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# GEODETIC POSITIONS FROM TRANSVERSE MERCATOR COORDINATES

STATE N.J.

STATION \_\_\_\_\_

$x$	<u>2,055,000.00</u>	$\log S_g$	<u>4.74036222</u>
$K$	<u>2,000,000.00</u>	$\log (1200/3937)$	<u>9.48401583</u>
$x' (=x-K)$	<u>55,000.00</u>	$\log (1/R)$	<u>1086</u>
$x'^3/(6\rho_0^2)_g$	<u>.06</u>	$\log S_m$	<u>4.22438891</u>
$S_g$	<u>54,999.94</u>	cor. arc to sine	<u>50</u>
		$\log S_1$	<u>4.22438841</u>
$3 \log x'$	<u>14.22108807</u>	$\log A$	<u>8.50913370</u>
$\log 1/(6\rho_0^2)_g$	<u>4.5810213</u>	$\log \sec \phi$	<u>0.11194548</u>
$\log x'^3/(6\rho_0^2)_g$	<u>6.8021094</u>	$\log \Delta\lambda_1$	<u>2.44546759</u>
		cor. sine to arc	<u>+ 84</u>
$\log S_m^2$	<u>8.44877782</u>	$\log \Delta\lambda$	<u>2.84546843</u>
$\log C$	<u>1.319075</u>	$\Delta\lambda$	<u>700.5973</u>
$\log \Delta\phi$	<u>9.767453</u>		
$y$	<u>205,000.00</u>		
$\phi'$ (by interpolation)	<u>39 23 46.2797</u>	$\lambda$ (central mer.)	<u>74 40 "</u>
$\Delta\phi$	<u>.5859</u>	$\Delta\lambda$	<u>11 40.5973</u>
$\phi$	<u>39 23 45.6938</u>	$\lambda$	<u>74 51 40.5973</u>
	<u>140.91 mm</u>		<u>38 19.4027</u>
			<u>28 19.4027</u>

Explanation of form:

$$x' = x - K$$

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

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

$R$  = scale reduction factor

$\phi'$  is interpolated from table of  $y$

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

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

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

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

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

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

REVIEW OF AIR PHOTO COMPILATION NO. 5637

Chief of Party: E. H. Kirsch

Compiled by: R.G.Hickson

Project: HT 205

Instructions dated: May 16, 1935

- ✓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 navigation 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)
- ✓4. Blue-prints and maps from other sources which were transmitted by the field party contain sufficient control for their application to the charts. (Par. 28)
- ✓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.
- ✓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 adequate 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 Compilation of Planimetric Line Maps from Five Lens Air Photographs."

- ✓ 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)
- ✓ 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)
- ✓ 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. 1929* *adjusted* 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, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48)

✓✓ 16. No additional surveying is recommended at this time.

✓✓ 17. Remarks:

✓✓ 18. Examined and approved;

E. H. Kirsch  
Chief of Party

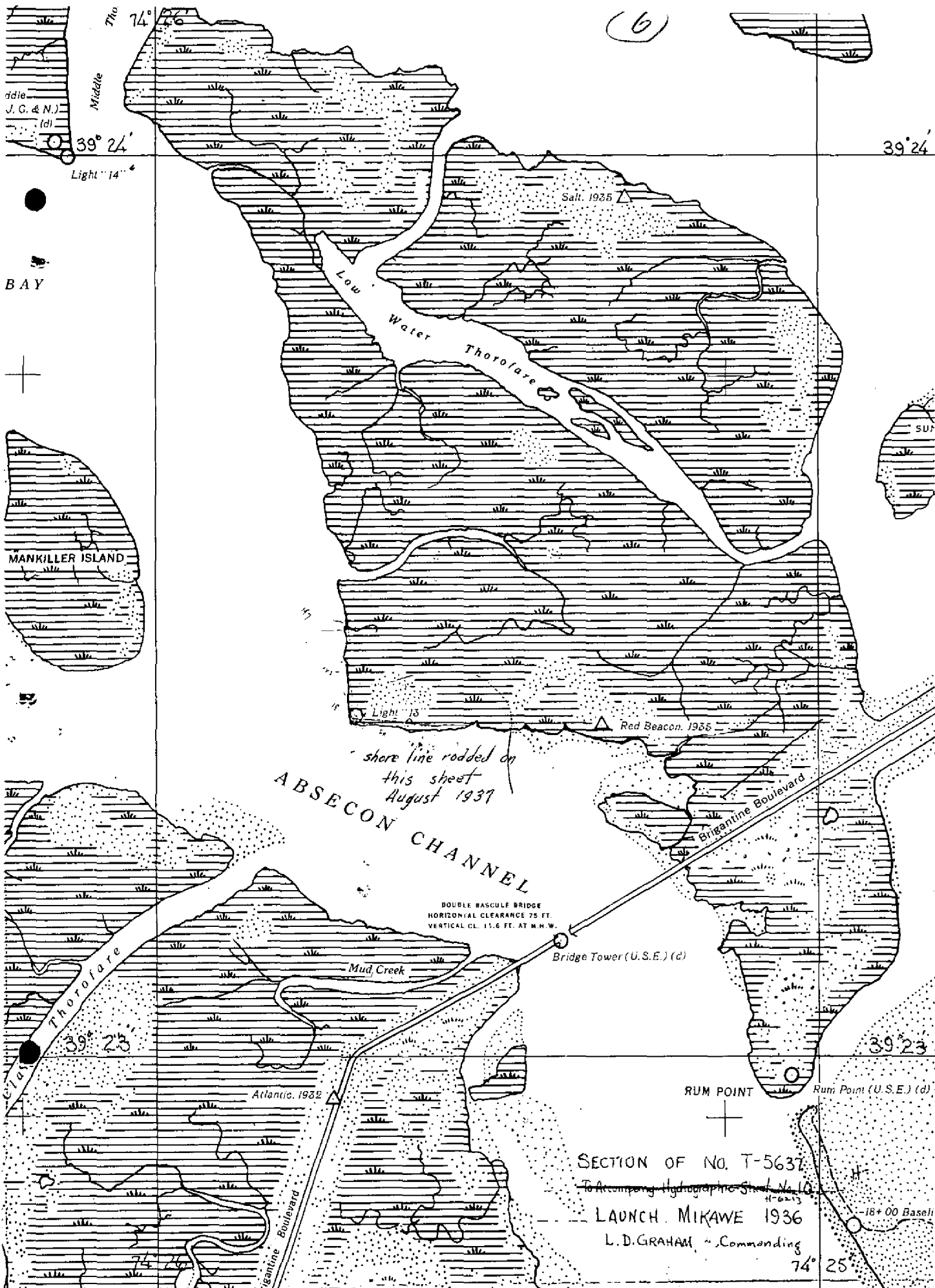
19. Remarks after review in office:

Reviewed in office by: L. C. Landy ✓ B. J. Jones

Examined and approved:

acting. John A. Bond  
Chief, Section of Field Records  
L. C. Lobnitz  
Chief, Division of Charts

Fred. L. Peacock  
Chief, Section of Field Work  
G. H. Hude  
Chief, Division of Hydrography  
and Topography.



## Report T 5637 Supplemental

additions in red by Whitman and checked  
by E. W. Frederick

a. at lat  $39^{\circ}22.5'$  long  $74^{\circ}25.5'$  additions and  
corrections from the original T 5637 at time  
it was reviewed. These are from graphic  
Control Survey T 6503. (applied to Supplemental 11/9/37)

b. at lat  $39^{\circ}22.5'$  long  $74^{\circ}27'$  from desc. report  
H 6214, 1937. (applied to Supplemental 11/9/37)

at lat  $39^{\circ}23.4'$  long  $74^{\circ}25.5'$  from H 6213-1936  
submitted on revision of T 5638. (applied to Supplemental  
5/24/38)

B. G. Jones

c. additions and corrections from 5/24/38  
correction sheet # 146. Field snip. notes on copy of T 5637

## Descriptive Report for Supplemental T5637

1. Corrections noted in red at lot 39<sup>22</sup>'  
long. 74° 27' from Descriptive Report H6214, 1937  
other corrections in red from graphic control  
surveys and are details omitted  
from the original T5637 when it was received

Bggmes 11/9/37