5286

(This report includes the Air Photo Field Inspection Report for the East Coast of New Jersey, Metedeconk River to Townsend Inlet.)

Diag. Cht. No. 1216-2.

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Topographic

Field No. 72 *Office No.* T-5286

LOCALITY

State New Jersey

General locality Barnegat Bay

Locality Mosquito Cove

19~~4~~ 32

CHIEF OF PARTY

R. C. Bolstad, Jr.

LIBRARY & ARCHIVES

DATE June 12, 1935

B-1870-1 (1)

5286

POST-OFFICE ADDRESS: 330 West 42 Street, New York, N.Y.

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

June 11, 1935

To: The Director,
U.S.Coast and Geodetic Survey,
Washington, D.C.

From: R.C.Bolstad, Jr. H.&.G.E,
U.S.Coast and Geodetic Survey,
330 West 42 St, N.Y.C.

Subject: Topographic Records.

In accordance with my letter dated June 6th. I am herewith forwarding the complete records for the theodolite-observed control stations obtained by my New Jersey field inspection party.

Copies of all this information has previously been forwarded to Lieutenants B.H.Rigg and E.H.Kirsch.

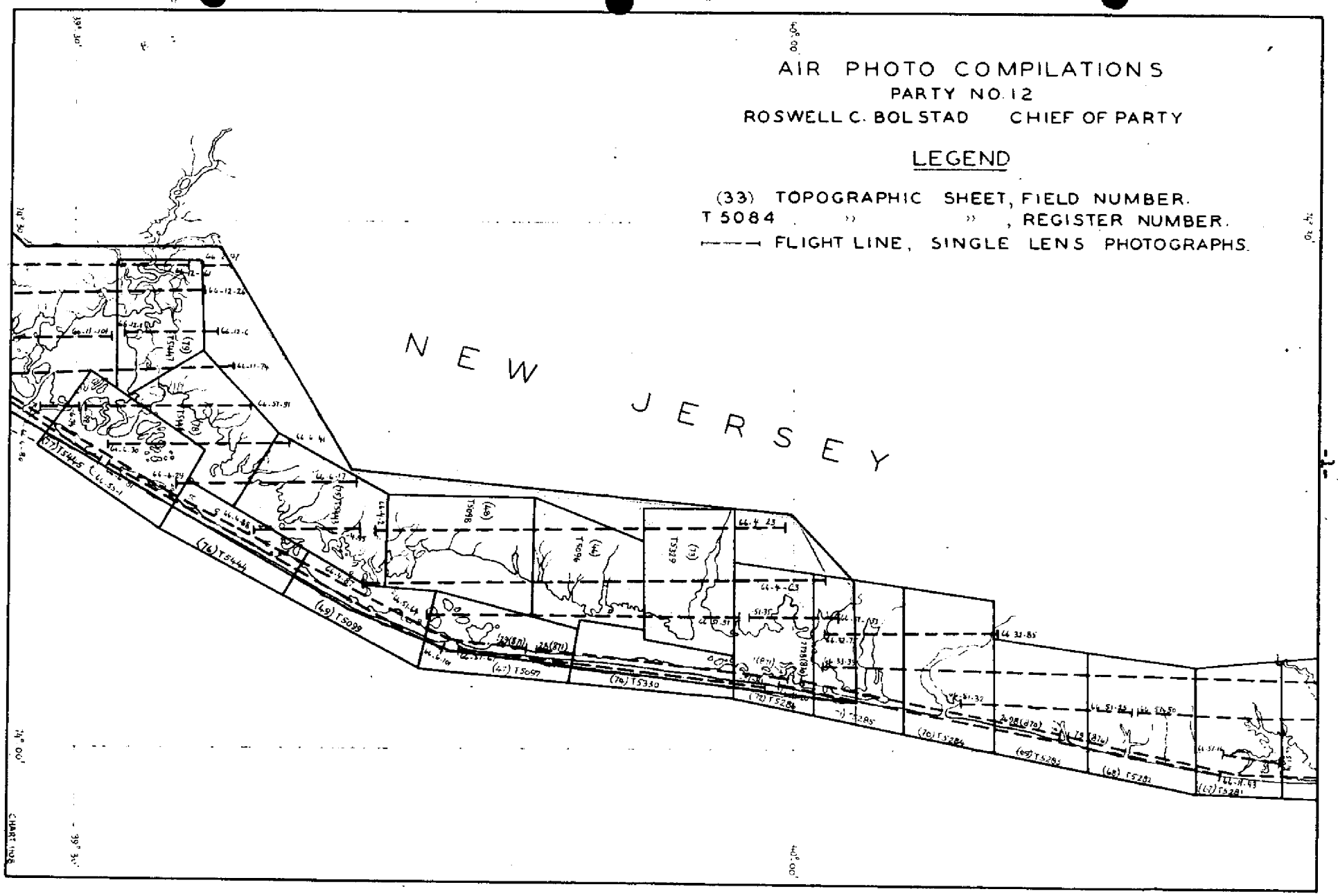
Roswell C. Bolstad,
Chief of Party #12, C.& G.S.

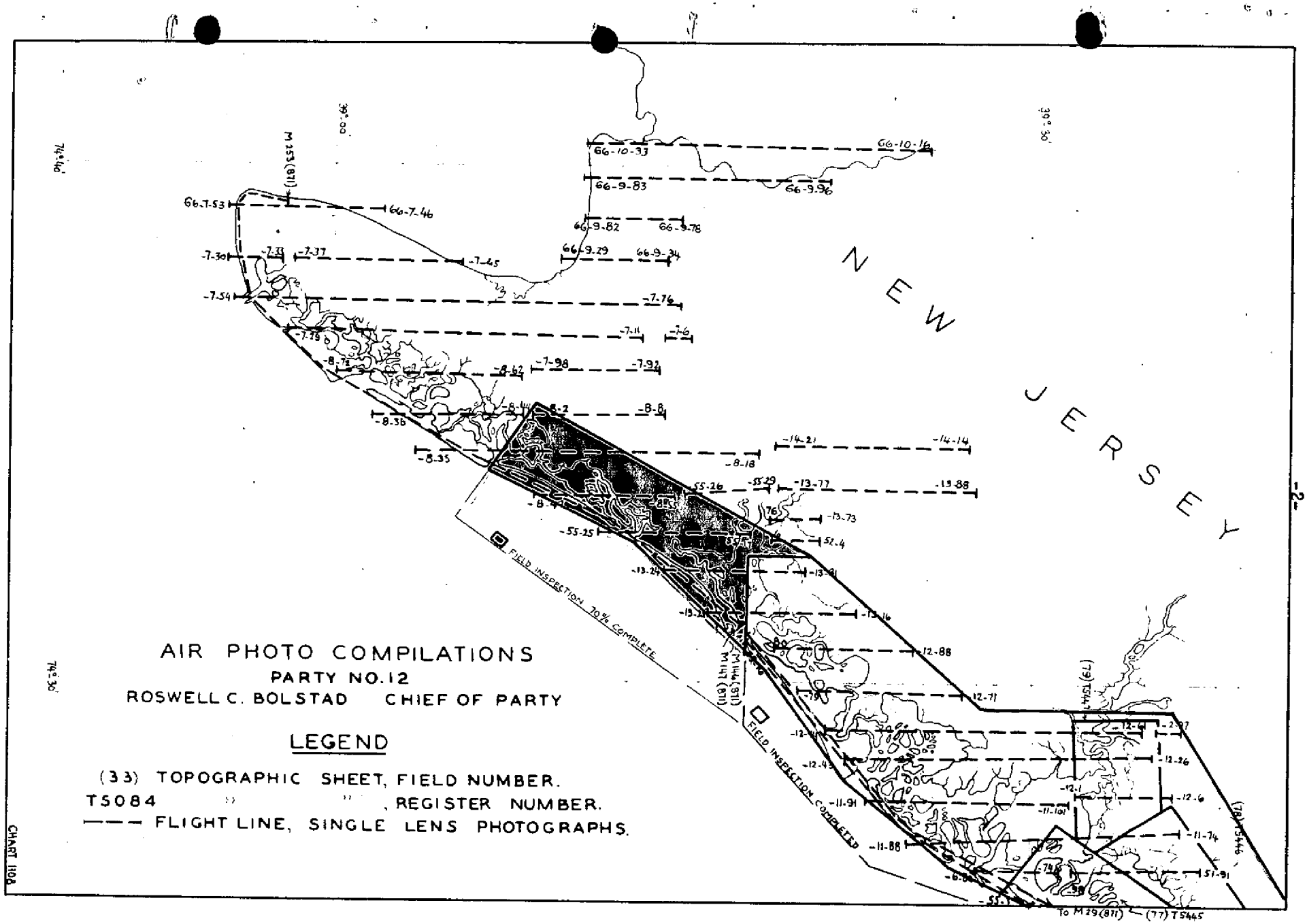
AIR PHOTO FIELD INSPECTION REPORT

for

EAST COAST OF NEW JERSEY

METEDECONK RIVER TO TOWNSEND INLET


AIR PHOTO COMPILATIONS
PARTY NO. 12
ROSWELL C. BOLSTAD CHIEF OF PARTY
LEGEND
(33) TOPOGRAPHIC SHEET, FIELD NUMBER.
T 5084 " " , REGISTER NUMBER.
FLIGHT LINE, SINGLE LENS PHOTOGRAPHS.
NEW JERSEY
(79) T5447
(78) T5446
(77) T5445
(76) T5444
(49) T5098
(47) T5097
(76) T5330
(70) T5284
(69) T5283
(68) T5282
(67) T5281
T5088
T5096
T5329
CHART 1108



AIR PHOTO COMPILATIONS

PARTY NO. 12

ROSWELL C. BOLSTAD CHIEF OF PARTY

LEGEND

(33) TOPOGRAPHIC SHEET, FIELD NUMBER.

T5084 " " , REGISTER NUMBER.

——— FLIGHT LINE, SINGLE LENS PHOTOGRAPHS.

CHART 1108

AIR PHOTO FIELD INSPECTION REPORT

for

EAST COAST OF NEW JERSEY

METEDECONK RIVER TO TOWNSEND INLET

During the interval from the middle of November, 1934 to the middle of March, 1935 a field inspection of aerial photographs was carried on along the east coast of New Jersey (as diagramed on the preceeding index sheets, pages 1 and 2). The area from Metedeconk River to Great Egg Inlet, comprising 380 square statute miles, was 100% field inspected while the area south of Great Egg Inlet to Townsend Inlet (85 square statute miles) was about 70% complete in inspection, there being a few supplementary control stations which were not cut in by theodolite observations. The necessary additional control required in this area will have to be secured by Lieut. E. Kirsch, who is to conduct the compilations in this locality.

PHOTOGRAPHS.

Flight lines of photographs involved are indicated on the preceeding index charts, page 1 and 2. With the exception of the "M" photographs along the outer coast, these photographs are single lens photos taken by the Aero Service Corporation, 1612 Chancellor St., Philadelphia, Pa. in the spring of 1932. They were taken by an eight inch focal length "Orthomessar" lens camera to a scale of approximately 1:21,800. Enlargements were made from these original negatives to a scale of 1:10,000 by using existing topographic sheets of the survey and enlarging the image to coincide. Only one set of prints has been furnished.

The "M" photographs were loaned by the U.S. Beach Erosion Board; they are single lens photos but since they are decidedly off-scale, they can only be used for reference. The clearness of detail makes them invaluable for this purpose.

AREA OF INSPECTION

The area covered by this field inspection embraces the following air photo topographic sheets which are to be compiled by this party (No. 12):-

Field No.	Register No.
71 (lower Half)	T 5285
72	T 5286
73	T 5329
74	T 5330
75	T 5443
76	T 5444
77	T 5445
78	T 5446
79	T 5447
46	T 5096
47	T 5097
48	T 5098
49	T 5099

Air photo topographic sheets south of field Nos. 77 and 79 are to be compiled by the party of Lieut. E. Kirsh.

GENERAL DESCRIPTION OF TOPOGRAPHY

Sufficient and adequate notes relating to the topography were marked directly on the photographic prints.

The general character of the coast is low and sandy, broken by several inlets of importance to small craft only. Low sand dunes extend along the outer coast with marsh lowlands bordering the inland water passage.

CONTROL

(1) Triangulation

The triangulation performed by the following parties forms the basis of control for the compilations in this area:-

(a) Lieut. C.D. Meaney, 1932, first order arc.
(b) Lieut. R.W. Woodworth, 1931.
(c) Lieut. W.H. Bainbridge, 1926, third order.

A search was made for all old triangulation stations (prior to 1926) but very few were recovered. In the cases where they were recovered they had been re-observed on by one of the above parties. Recovery cards are submitted for stations lost, where the original description was found in error, or where additional description was deemed necessary in order to give a complete description of the station ~~of the station~~. Where the original description was complete and adequate no recovery card was submitted.

(2) Topography ~~See offsheet page~~ See also Br. 4 Page 5.

Former topographic sheets of this area are of such an early date as to render them useless for supplementary control of the compilations.

(3)* E.R.A. Traverse Monuments

The Emergency Relief Administration (or C.W.A.) of the State of New Jersey (under U.S.C. & G.S.) has established numerous traverse monuments along the inshore area. These have been spotted on the photographs at intervals and it was originally planned they would furnish the necessary additional control for this area; however, to date no positions for any of these monuments have been received by this party in spite of the fact that promises were made to do so over three months ago. It is not likely that the compilations can be retarded further, and the positions of each of these monuments will have to be radial-line plotted very closely and the positions scaled from the compilations. Final descriptions of all traverse stations will eventually be submitted by the E.R.A. party, Mr. Philip Kissam, in charge, at 20 Nassau Street, Princeton, N.J. However, in order that the party of Lieut. B. Rigg, who will conduct survey operations in the near

* official name for these stations is N.J. Geod. C.S.

BJJ.

Note

The supplementary fourth order control described on the opposite page was put in from November 1934 to March 1935 for control of the compilations and prior to plans for combined operations begun later in the spring of 1935.

The compilations in this area were largely completed when the combined operations, including the scheme of second order triangulation and hydrography were started by Lieutenant Rigg and Sammons in the spring of 1935.

The combined operations parties made plane table control surveys to locate control for hydrography.

To insure coordination of the compilations and the later plane table and hydrographic surveys, all computations and descriptions of the fourth order stations in the scheme discussed on the opposite page were turned over to Lieutenant Rigg.

Some of these fourth order stations were relocated by the second order triangulation. In those cases the Form 524 Descriptions have been discarded and the Rigg's triangulation positions plotted on the compilations.

All the remainder of Bolstad's fourth order stations within the area of the plane table work were plotted on the graphic control surveys and cut in by those surveys.

Cases of difference in location have been taken up between the compilation party and Lieutenants Rigg and Sammons and have been disposed of.

All card 524 Descriptions within the area of the plane table surveys are filed under the graphic control survey numbers.

The cards have been corrected where necessary in disposing of the differences mentioned above and the compilations have been checked against the graphic control surveys by the field compilation party.

B.G. Jones

B. G. Jones. office 6/6/36

future, will have available for his use descriptions of these stations which will be shown on compilations, descriptions are submitted on form 524 by this party.

(4) Theodolit-observed Recoverable Topographic Stations

In the absence of sufficient control for these small-span photos, it was necessary that additional control be secured, especially along the inshore area. Accordingly 3-pt. fixes were observed by theodolite (usually two sets of D and R) at intervals. From each 3-pt. set-up usually 3 or 4 other natural objects (such as house gables and chimneys) were observed on, the purpose being to establish azimuth lines to these objects to aid in the control of the radial line plot. In-as-much as many of these objects were observed from two 3-pt. fix positions it was decided to compute each station in order to eliminate error in laying off the cuts with the protractor. (Results of radial line plots of these stations disclose the accuracy to be well within the plottable limits at the scale, 1:10,000, on which the compilations are being conducted.) The progress sketch for these observations is shown on page 6 following.

In accordance with the Director's letter of Nov. 2, 1934 (ref. 22-AA, 1990, 16) these stations will be shown on the compilation sheets by the usual $2\frac{1}{2}$ millimeter black circle and all records and data pertaining to them will be classified as topographic records. Descriptions are submitted on form 524 for each station (the names of triangulation stations involved in determining their location is shown on the progress sketch, page 6). See opposite page.

(5) N.J. Board of Commerce and Navigation Monuments

Many of the State of New Jersey Board of Commerce and Navigation monuments were spotted on the photographs; the localities where these were available are:-

(a) Toms River
(b) Beachhaven Inlet
(c) Great Bay to Atlantic City
(d) Peck Bay to Ludlam Bay

Most of these stations are well marked, consisting of a $1\frac{1}{2}$ inch diameter hollow iron pipe projecting a few inches above the concrete base. The co-ordinate values have been obtained from their office at 1 Exchange Place, Jersey City, N.J. All of these stations are to be shown on the compilations as recoverable topographic stations by the usual $2\frac{1}{2}$ mm. black circle. Descriptions are submitted on form No. 524.

There are no C. & N. monuments south of Ludlam Bay as it is our knowledge that this is the limit of their field work at the present time.

(6) U.S.E. Stations

All available data regarding U.S.E.D. stations in this locality was obtained from the U.S. Army Engineers located in the Gimbel Bldg. at Ninth and Market Streets

Washington, D. C.

February, 5, 1935

To: Chief Cartographic Section

From: B. G. Jones , Air Photo Unit

[redacted]

Philadelphia, Pa.

These stations have been spotted on the photos in the following localities:-

(a) Toms River
(b) Barnegat Inlet
(c) Tuckerton Creek
(d) Atlantic City

The co-ordinate values have been obtained for these stations. Descriptions are submitted on form 524.

To the south of the area of this field inspection and within the area to be field inspected by the party of Lieut. E.H. Kirsch, two blueprints have been secured of the area from Cape May Pt. to Wildwood. These will be forwarded to Lieut. Kirsch for his use.

(7) Railroad Data

All available railroad data (traverse), within the scope of the photographs, has been obtained from the respective railroad companies and may be plotted up and used for supplementary control. Previous R.R. traverses have proven these traverses valuable and within the required limits of accuracy for the compilations. In most cases where errors were discovered, they were found to originate at deflection points, the pluses on tangent line agreeing very well with the radial plots. All railroad traverses have been tied into U.S.C. & G.S. triangulation stations at the necessary intervals.

LANDMARKS

The following list of landmarks, including those to be expunged, are submitted by this party, (See pages 8,9,10 & 11) for the area of this field inspection. These objects have been viewed from land only by this inspection party; it is suggested the hydrographic party of Lieut. B. Rigg, soon to conduct operations in this locality, check the list and be considered the final authority in this regard.

The position of "Stack (yellow brick 110')" will have to be determined by the radial line plot of Lieut. E. Kirsch, in charge of compilations in this area.

In addition to the landmarks herewith submitted on form 567, there are additional minor landmarks of class "C" nature, (see Descriptive Report for Air-photo Topographic Sheet, Reg. No. T-5059). They have been marked "C" on the photos and will be shown on the various compilation sheets and listed in the descriptive reports for each sheet involved. See offshore page

CHANGES

Since the photographs were taken in the spring of 1932, or three years ago, there have been some changes which have been marked on the photographs. However, Barnegat, Beachhaven, Little Egg, Brigantine, Absecon, Great Egg, Corson and Townsend Inlets are subjected to strong currents and marked changes in the high water line have occurred. It will be necessary for the party of Lt. B. Rigg to run in the high water line at each of these inlets in order that present conditions can be correctly shown on the compilations. The (1932) shoreline obtained from the photographs

will be shown on the compilations by a broken line at each of these inlets, and the present H. W. line (when obtained from Lt. Rigg's aluminum topo sheets) will be shown by the usual full line. The over-lay sheet will show the dates of each shore-line.

[redacted]

(page 38, line 40)- There are two prominent water tanks between Little Egg Inlet and Absecon Inlet.

(page 7, Supplement, for page 38) - The Little Egg Inlet light no longer exists. It has been washed away and no trace remains.

(page 39, line 49)- There is a new highway, with toll bridge, leading from Ocean City to Longport.

(page 40, line 15)- Two nearby standpipes, a black one on the south and to the north an aluminum painted standpipe. The two iron chimneys are not conspicuous.

(page 40, line 17)- There are two standpipes, one at Margate and one at Longport which are prominent. The water tank at Longport is gone.

(page 8, Supplement, for page 39) - The new gas tank at Atlantic City does not appear nearly as prominent as the Claridge Hotel dome and the Ritz-Carlton aero beacon. These two objects, in our estimation, are the first objects visible in approaching Atlantic City by day.

BRIDGES

All bridges of importance to navigation within this inspection area were investigated in the field. In view of the conflicting data obtained from the U.S.E.D. and the New Jersey State Board of Commerce and Navigation, actual field measuremants were made inorder to eliminate any doubt as to

	Affecting Compilation: Field No.	Reg. No.	Locality	Latitude	Longitude	TYPE: U.S.E.	TYPE: N.J.C.&N.	TYPE: Field	VERTICAL CLEARANCE Above M.H.W. (Feet): U.S.E.	VERTICAL CLEARANCE: NJC & N	VERTICAL CLEARANCE: Field	CLEAR WIDTH (Feet): U.S.E.	CLEAR WIDTH: N.J.C.&N.	CLEAR WIDTH: Field
1	71	T5285	Beaver Dam Cr.			Swing		Swing	14.3		14.3	2 @ 40		2 @ 40
2	71	T5285	[illegible]			Swing	Swing	Swing	5.3	5.3	5.3	West 50.5 East 51.0	West 50.5 East 51.0	West 50.5 East 49.6
3	73	T5329	Seaside Heights			Bascule	Swing	1 Leaf Bascule	9.4	5.3	9.4	49.9	West 50.5 East 51.0	49.9
4	73	T5329	Toms River S. Fork Hwy. Bridge			Fixed 2 Span	Fixed 2 Span Concrete	2 Span Fixed Concrete	Both Chan. 3.5	N. Chan. 5.0 S. Chan. 3.6	Both Chan. 3.5	Both Chan. 28.0	N. Chan. 11.6 S. Chan. 28.5	2 @ 28.0
5	73	T5329	Toms River N. Fork Hwy. Route 4			Single Span Fixed Concrete		Single Span Fixed Concrete	5.0		5.0	45.0		45.0
6	73	T5329	Toms River, S. Fork Ocean Co. Bridge			2 Span Fixed Concrete		2 Span Fixed Concrete	Both Chan. 3.5		Both Chan. 3.5	Both Chan. 28.5		North 28.0 South 30.0
7	73	T5329	Toms River C.R.R. of N.J.			11 Spans Timber Trestle		11 Spans Timber Trestle	3.0		3.0	15.0		11.0
8	[illegible]	[illegible]	Toms River, Jakes Branch, Hwy. 4			2 Span Fixed Concrete		2 Span Fixed Concrete	Both Chan. 3.5		Both Chan. 3.5	Both Chan. 29.0		2 @ 15.5
9	73	[illegible]	[illegible]			Swing	Swing	Swing	Both Chan. 4.4	Both Chan. 4.4	Both Chan. 4.6	Both Chan. 77.0	Both Chan. 77.0	2 @ 70.0
10	[illegible]	[illegible]	[illegible]			2 Span Fixed		2 Span Fixed Concrete	Both Chan. 5.44		Both Chan. 5.0	Both Chan. 42.0		2 @ 39.0
	[illegible]	[illegible]	[illegible] River			Single Span Fixed Concrete		Single Span Fixed Concrete	5.5		5.5	2 2		[illegible]
2	[illegible]	[illegible]	[illegible] Creek			Fixed Concrete		2 Span Fixed Concrete	4.9		[illegible]	15.0		2 @ 15.0
	[illegible]	[illegible]	[illegible]			Swing	Swing	Swing	1.0	1.0	[illegible]	Both Chan. [illegible]	Both Chan. 47	[illegible]
	[illegible]	[illegible]	[illegible]			Bascule	Double Leaf Bascule	Single Leaf Bascule	7.8	7.9	[illegible]	[illegible]	[illegible]	[illegible]
	73	[illegible]	[illegible] Hwy. 4			2 Span Fixed Concrete		2 Span Fixed Concrete	Both Chan. 4.05		[illegible]	Both Chan. [illegible]		[illegible]
	73	[illegible]	[illegible]			1 Span Fixed Concrete		1 Span Fixed Concrete	3.5		4.5	[illegible]		[illegible]
7	73	[illegible]	Tuckerton Cr. [illegible]			2 Span Fixed Concrete		Fixed Concrete [illegible]	3.6		[illegible]	[illegible]		[illegible]
8	73	[illegible]	[illegible]			[illegible] Fixed Trestle		Fixed Trestle	3.9		[illegible] 4.7	[illegible]		[illegible]

Approved with the following comments:-

Roswell C. Bolstad, Jr. H. & G.E.,
U.S.C. & G.Survey, Chief of Party No. 12.

(1) E.R.A. (or C.W.A.) Traverse Monuments (see page 4)

In the area between Great Bay and Absecon Inlet no descriptions (on form 524) have been submitted; measurements to locate these stations on the photographs are marked on the back of the prints. It is understood the E.R.A. party will submit the proper descriptions of each station to the Washington Office in the near future.

(2) Theodolite-observed Recoverable Topographic Station (see page 5)

While the time and weather element did not permit a more elaborate scheme of control in this area, it is believed that any appreciable position arrors of these stations can be discovered (watch no-check positions carefully.) See sketch, page 6) and rectified by the radial line plotter.

(3) Bridges

The bridge data, on page 14, in the columns "Field" was obtained by actual field observations and measurements. Due to the uncertainty of the exact mean high water line (measurements were taken to the line of discoloration on the cement or piling marking the usual high water line), where these measurements were within a few tenths of a foot of the U.S.E. or C. & N. data, their information was accepted as being correct.

All data shown in the columns "Field" will, therefore, represent the correct conditions, and is to be used in the compilations.

COMPILER'S REPORT

for

AIR PHOTO TOPOGRAPHIC SHEET, REGISTER NO. T 5286.

Form 537a
Ed. Nov. 1929

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. 72

REGISTER NO. T 5286

State New Jersey

General locality Barnegat Bay ~~(north end)~~

Locality ~~Seaweed Point to Toms River.~~ Mosquito Cove

Date of Photographs --- April to July 1932.

Scale 1:10,000 Date of ~~XXXXX~~ compilation --- April 3, 1935

~~Xxxxx~~ Air Photo Compilation Party No. 12

Reviewed and recommended for approval- Roswell C. Bolstad

Chief of party Roswell C. Bolstad, Jr. H.& G.E.

Surveyed by See Statistics sheet on following page.

Inked by P.A.Kelly

Heights in feet above — to ground to tops of trees

Contour, Approximate contour, Form line interval — feet

Instructions dated November 15, 19 32

Remarks: Compiled on a scale of 1:10,000 and printed by Photo Lithography.

Temporary Black and White Print Sent 1:10 000

* STATISTICS *

on

SHEET, FIELD NO. 72 , Reg. No. T 5286 .
PHOTOGRAPHS AS FOLLOWS:-

66-51-79 to 81 inclusive, taken 7/25/1932.
66-30-39 - - - - - - - - - " 4/15/1932.
66-11-20 to 22 inclusive, " 4/19/1932.
66-32-75 - - - - - - - - - " 5/20/1932.
66-51-33 to 35 inclusive, " 7/25/1932.
66-51-51 - - - - - - - - - " 7/25/1932.
66-4-63 to 68 inclusive, " 4/4/1932.

	BY	DATE From	To	
SCALE FACTOR = 1.000				
PROJECTION	J.P.O'Donnell	10/10/34		
PROJECTION CHECKED	W.Barasch	10/10/34		
CONTROL PLOTTED	W.E.Brown	10/26/34		
CONTROL CHECKED	R.H.Peckworth	10/27/34		
SMOOTH RADIAL LINE PLOT	R.C.Bolstad	1/25/35	2/12/35	int.
RADIAL PLOT CHECKED	P.A.Kelly	2/14/35	2/16/35	
DETAIL INKED	P.A.Kelly	2/17/35	4/3/35	
DETAIL OF H.W.L. CHECKED	J.G.Albert	4/4/35		

AREA OF DETAIL INKED 17.9 sq. Statute Miles (Land Area)

AREA OF DETAIL INKED 0.1 sq. Statute Miles (Shoals in Water Area)

LENGTH OF SHORELINE (more than 200 m. from nearest opposite shore)
27.9 Statute Miles.

LENGTH OF SHORELINE (rivers and sloughs less than 200 m. wide)
62.7 Statute Miles.

LENGTH OF ROADS, STREETS, TRAILS, AND RAILROADS 129.2 Statute Miles.

DATUM North American 1927.

STATION Lavallette 1932

Latitude 39° 58' 07.765" (239.5m.)
Longitude 74° 04' 26.382" (626.1m.)

COMPILER'S REPORT

for

AIR PHOTO TOPOGRAPHIC SHEET. FIELD NO. 72.

GENERAL INFORMATION

The preceeding AIR PHOTO FIELD INSPECTION REPORT, herewith attached, furnished the necessary information for the compilation of this sheet; additional information was obtained from the members of the inspecting party who were attached to the office force upon completion of the inspection.

This sheet has been compiled from single lens photographs taken by the Aero Service Corporation, 1612 Chancellor St., Phil., Pa., with a camera useing a special 8" focal length lense (Orthomessar). The original negatives are on a scale of about 1:21,800. Enlargements were made to a 1:10,000 scale by useing the former topographic sheets on this scale and enlarging the image to coincide.

No information was available from the Aero Service Corporation listing the time of day at which the photographs were taken.

The accompanying STATISTICS sheet lists all information in connection with the compilation of this sheet.

CONTROL

(A) Sources

The following sources of control were used in the compilation of this sheet:-

(a) Triangulation by C.D.Meaney in 1932
(b) " " _____ " 1839 (Stouts N.Chy.)
(c) " " _____ " 1899 (Chadwick L.S.S.)
(d) " " R.C.Bolstad, 1934-35(See preceeding report)
(e) Pennsylvania R.R. track traverse along outer coast.

All control is on the North American 1927 final Office adjusted position list. The triangulation(4th. order) of item (d) above was computed on the N.A. 1927 Datum.

(B) Errors

In making the radial plot no errors were discovered in any of the control stations and the railroad traverse seemed to agree well with the plot.

(C) Discrepancies

The railroad track traverse was fitted in with the plot and no error was apparent.

COMPILATION

(A) Method

The usual radial line method of plotting was used in the compilation of this sheet.

(B) Adjustments of plot

In making the radial line plot for this sheet no irregular or unusual adjustments were necessary.

(C) Interpretation

The usual graphic symbols as approved by the Board of Surveys and Maps (1932) were used and no difficulty was experienced in interpreting the photographic detail.

Good motor roads are shown by a double full line, poor motor roads by a double broken line, and very poor roads and trails by a single broken line.

At Lat. 40° 00.5', Long. 74° 03.6' there exists a temporary dock which is taken up during the winter of each year; it has therefore not been shown on this sheet.

All detail has been adequately labeled by the field inspecting party on the photographs and Mr. J.K.Batchellor, who was on the field party in this area and is fully familiar with the detail, has made a brief inspection of this compilation to ascertain its correctness in accordance with actual ground conditions. Any errors or omissions have been rectified.

(D) Information from Other Sources

The high water line along the outer coast was obtained by direct measurements at intervals (see Inspection Report preceeding.) Page 13

(E) ~~E.R.A. Traverse~~ N.J. Geod. S. Monuments.

As no positions were available for these marked stations (see page 4 of preceeding report) they have been radial - plotted in and the position scaled off from the compilation sheet and listed in the back of this report. Should the positions of these stations be made available at a latter date a comparison may be readily made and if deemed necessary a correction in the plot can be made; it is hoped that no plottable discrepancy will be discovered.

(F) Names

All names shown on this compilation agree with those shown on the U.S.C.& G.S. charts 1216 and 3243. Any additional names shown thereon were obtained from the field inspection notes (see page 12 of preceeding report).

(G) Comparison with Other Surveys

All junctions with adjoining sheets are satisfactory.

No comparison has been made with any of the previous topographic surveys of this area as they are beleived to be of such date as to render them unsatisfactory for comparison.

LANDMARKS

The landmarks for this area have been submitted by the field inspecting party (see page 7 of preceeding report), and have been accordingly shown on this sheet.

RECOVERABLE OBJECTS

All recoverable objects shown on this sheet (by 2½ mm. diam. black circle) have been listed on page 6 following. Descriptions for these stations have been submitted on form 524 by the field inspection party (see preceeding report, pages 4 & 5).

RECOMMENDATIONS FOR FURTHER SURVEYS

This Compilation is beleived to have a probable error of not more than two meters in position of well defined detail of importance for charting and of not more than four meters for other data. It is understood that the widths of roads and similar detail may be slightly expanded in order to keep it clear and from photographing as a solid mass in the photo lithographic process.

To the best of my knowledgethis sheet is complete in all

LIST OF RECOVERABLE TOPOGRAPHIC STATIONS.

This list includes all recoverable objects shown by a small black circle on this sheet and previously described by the field inspection party (see Field Inspection Report attached).

Description (Station name)	Latitude o	'	D.M.	Longitude o	'	D.P.	Method of Determination
~~Seaweed~~	~~40~~	~~00~~	~~1484.4~~	~~74~~	~~06~~	~~596.7~~	***
Green Gable	40	00	144.0	74	07	563.0	***
Bog	39	59	1771.0	74	08	1117.6	***
Cattus	39	59	1205.9	74	06	1240.3	***
W.Gable Boat Ho.	39	59	~~382.~~ 377	74	07	~~837.~~ 834	¢¢¢
Windmill	39	59	91.1	74	07	498.6	***
Apple	39	58	1112.5	74	06	1240.6	***
End	39	58	191.0	74	06	1152.8	***
South Gable	39	57	1830.2	74	07	24.6	***
Cedar Grove M.E. Church	39	58	722.	74	10	201.	@@@
E.R.A. #2250	39	57	1147.	74	10	934.	@@@

Note:- Legend for "Method of Determination"-
*** By theodolite-computed position(see page 5,F.I.Report)
¢¢¢ By single theodolite cut and photo plot.
@@@ By photo plot.

1350

Gillon

T-5286*

M-350

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 _____

Positions checked by _____

Grid inked on machine by _____

Intersections inked by _____

Points used for plotting grid:

x _____ y _____	x _____ y _____
x _____ y _____	x _____ y _____
x _____ y _____	x _____ y _____
x _____ y _____	x _____ y _____

Triangulation stations used for checking grid:

1. _____	5. _____
2. _____	6. _____
3. _____	7. _____
4. _____	8. _____

* This grid was not plotted on celluloid because of poor projection. The attached computations may be used later. R.E.A.sK.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
FORM NO. 744 a
June 1938

Please check. Jeff Berg (482)

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION

(CALCULATING MACHINE COMPUTATION)

State New Jersey Zone single Station Tuckerton Water Tank

λ (Central meridian) 74° 40' 00"

φ 39° 36' 09".614 λ 74 20 20.731

Δφ (Excess of φ over even 10' expressed as minutes and decimal) 0'.616023

Δλ (Central meridian − λ) +19' 39.269

Δλ (in sec.) 1179".269 ✓

		$\left(\frac{\Delta\lambda''}{100}\right)^2$	139.0678 5
Tabular H (even 10')	78.388717 ✓	Tabular V (even 10')	1.208822
Interpolated H (fraction of 10')	− .115547 ✓	Interpolated V (fraction of 10')	+ 836
	78.273170 ✓	Cor. for second dif.	+ 5
Cor. for second dif.	+ ~~80~~ 78	V	1.209663 ✓
H	78.27325 ~~70~~ 48		
	✓	Tabular difference of v for 1" of φ	

[redacted]

Form No. 743
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Ed. May 1935

GEODETIC POSITIONS FROM TRANSVERSE MERCATOR COORDINATES

STATE New Jersey STATION T-5286-1

x	2,140 000.00	$\log S_g$	5.14612478
K		$\log (1200/3937)$	9.48401583
x' $(=x-K)$	+140 000.00	$\log (1/R)$	1086
$x'^3/(6\rho_o^2)_g$	− 1.05	$\log S_m$	4.63015147
S_g	139 998.95 ✓	cor. arc to sine	− 322
		$\log S_1$	4.63014825 ✓
$3 \log x'$	5.43838412	$\log A$	8.50911811

[redacted]

Form No. 743
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Ed. May 1945

GEODETIC POSITIONS FROM TRANSVERSE MERCATOR COORDINATES

STATE New Jersey STATION T-5286-2

x	2,180 000.00	$\log S_g$	5.25526715
K		$\log (1200/3937)$	9.48401583
x' $(=x-K)$	+180 000.00	$\log (1/R)$	1086
$x'^3/(6\rho_o^2)_g$	− 2.22	$\log S_m$	4.73929384
S_g	179 997.78	cor. arc to sine	− 534
		$\log S_1$	4.73928850
$3 \log x'$	5.76581753	$\log A$	8.50911812
$\log 1/(6\rho_o^2)_g$	4.58102130	$\log \sec \phi$	0.11582308
$\log x'^3/(6\rho_o^2)_g$	0.34683883	$\log \Delta\lambda_1$	3.36423970
		cor. sine to arc	+ 910
$\log S_m^2$	9.47858768	$\log \Delta\lambda$	3.36423980
$\log C$	1.328541	$\Delta\lambda$	2313.364
$\log \Delta\phi$	0.807129		
y	+430,000.00		
ϕ' (by interpolation)	40° 00′ 50.0161″	λ (central mer.)	74° 40′ 00″
$\Delta\phi$	− 6.4140	$\Delta\lambda$	38 33.364
ϕ	40 00 43.6021	λ	74 01 26.636

Explanation of form:

$x' = x - K$

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

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

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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U. S. COAST AND GEODETIC SURVEY
Ed. May 1935

GEODETIC POSITIONS FROM TRANSVERSE MERCATOR COORDINATES

STATE New Jersey STATION T-5286-3

x	2,140,000.00	$\log S_g$	5.146 12478
K		$\log (1200/3937)$	9.484 01583
x' $(=x-K)$	+140 000.00	$\log (1/R)$	1086
$x'^3/(6\rho_o^2)_g$	1.05	$\log S_m$	4.630 15147
S_g	139998.95	cor. arc to sine	322
		$\log S_1$	4.630 14825 ✓
3 log x'	5.438 38412	$\log A$	8.509 11 950 ✓
$\log 1/(6\rho_o^2)_g$	4.581 0213	$\log \sec \phi$	0.115479
$\log x'^3/(6\rho_o^2)_g$	0.019 40542	$\log \Delta\lambda_1$	3.254 74
		cor. sine to arc	+550
$\log S_m^2$	9.260 30294 ✓	$\log \Delta\lambda$	3.254 75
$\log C$	1.327701	$\Delta\lambda$	[illegible]
$\log \Delta\phi$	0.588004		
y	410,000.00		
ϕ' (by interpolation)	39° 57′ 32.″3604	λ (central mer.)	74° 40′ 59″
$\Delta\phi$	−3.8726	$\Delta\lambda$	29 57.8455
ϕ	39 57 28.4878	λ	74 10 02.1545

Explanation of form:

$x'=x-K$

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

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

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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GEODETIC POSITIONS FROM TRANSVERSE MERCATOR COORDINATES

STATE New Jersey STATION T-5286-4

x	2,180,000.00	$\log S_\sigma$	5.25526715
K		$\log (1200/3937)$	9.48401583
x' $(=x-K)$	+180 000.00	$\log (1/R)$	1086
$x'^3/(6\rho_o^2)_\sigma$	− 2.22	$\log S_m$	4.73929384
S_σ	179 997.78	cor. arc to sine	− 534
		$\log S_1$	4.73928850 ✓
$3 \log x'$	5.76581753	$\log A$	8.50911952 ✓
$\log 1/(6\rho_o^2)_\sigma$	4.58102130	$\log \sec \phi$	0.11547410
$\log x'^3/(6\rho_o^2)_\sigma$	0.34683883	$\log \Delta\lambda_1$	3.36389247
		cor. sine to arc	+ 910
$\log S_m^2$	9.47858768 ✓	$\log \Delta\lambda$	3.36389157
$\log C$	1.32770 01	$\Delta\lambda$	2311.4857
$\log \Delta\phi$	0.806289		
y	410,000.00		
ϕ' (by interpolation)	39° 57′ 32.6040	λ (central mer.)	74° 40′ 00″
$\Delta\phi$	− 6.4016	$\Delta\lambda$	38 31.4857
ϕ	39 57 26.2024	λ	74 01 28.5143
	25.9588		

Explanation of form:

$x'=x-K$

$S_\sigma=x'-\frac{x'^3}{(6\rho_o^2)_\sigma}$

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

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 New Jersey STATION T-5286-5

x	2,160,000.00	$\log S_g$	5.204115 75
K		$\log (1200/3937)$	9.4840 1583
$x'\ (=x-K)$	+160 000.00	$\log (1/R)$	1086
$x'^3/(6\rho_o^2)_g$	− 1.56	$\log S_m$	4.689 142 44
S_g	159 998.44	cor. arc to sine	−
		$\log S_1$	4.688138
$3 \log x'$	5.612 35994	$\log A$	8.509 11 881
$\log 1/(6\rho_o^2)_g$	4.581 02 13	$\log \sec \phi$	0.115 65 087
$\log x'^3/(6\rho_o^2)_g$	0.193 38 12 4	$\log \Delta\lambda_1$	3.312 90
		cor. sine to arc	+ 719
$\log S_m^2$	9.376 28 488	$\log \Delta\lambda$	3.312 9 15
$\log C$	1.328 121	$\Delta\lambda$	2055.″4
$\log \Delta\phi$	0.704 406		887
y	420,000.00		
ϕ' (by interpolation)	39° 59′ 11.″1886	λ (central mer.)	74° 40′ 00.″
$\Delta\phi$	− 5.0630	$\Delta\lambda$	− 34 15.4887
ϕ	39 59 06.1256	λ	74 05 44.5113

Explanation of form:

$x'=x-K$

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

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

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.)$-\Delta\lambda$

U. S. GOVERNMENT PRINTING OFFICE 11—11521

REVIEW OF AIR PHOTO COMPILATION T-5286

1:10,000.

Refer to pages 1 to 15 at front of this Descriptive Report, T-5286, for data on field inspection and control in this area.

Comparison with Graphic Control Surveys.

See page 5 of the field inspection report at front of this Descriptive Report, T-5286, for a detailed discussion of control and coordination of the graphic control surveys and the compilations in this area.

1935 triangulation stations of Rigg have been plotted on the compilation in this office by B. G. Jones and checked by R. M. Berry. BGJ. R. M. Berry

A number of described topographic stations have been transferred from the graphic control surveys to the compilations in this office by B. G. Jones and checked by R. M. Berry. BGJ. R M Berry

All detail on the following graphic control surveys within the common area is now on the compilation except the magnetic meridian and temporary plane table stations:

T-6396a T-6396b	1:10,000, June 1935
T-6375a T-6375b	1:[illegible],000, ~~May~~ 1935

The compilation has been corrected to agree with T-5396a at latitude 40°00.9', longitude 74°06.2', and with T-5396b at latitude 39°59.7', longitude 74°06.9'. At the latter point the compilation ~~agrees~~ was in agreement with the photographs and the difference ~~is~~ was apparently due to change.

High Water Line.

Field inspection ~~of about~~ from November 1934 to March 1935 for this area was made roughly 2-1/3 years after the date of the photographs. Since the high water line is subject to frequent change it was determined as of the date of field inspection by measuring reference distances from permanent objects along the shore. The high water line determined in this manner and shown on this compilation agrees very closely with the graphic control surveys of May - June 1935. Maximum differences of 10 to 15 meters occur for very short distances where the compilation line shows small indentations as compared with the nearly straight line shown on the control surveys. No change has been made ~~as~~ in the compilation H.W. line. It is noted on the compilation as of November 1934.

Comparison with Previous Topographic Surveys.

T-117, 1839, 1:10,000, covers west shore of Barnegat Bay and interior details. Numerous small changes in shoreline. T-120, 1839, 1:20,000, covers the narrow strip of land between Barnegat Bay and the ocean. Comparison shows extensive changes along the inner shoreline.

T-1407, 1875, 1:20,000, T-1407 is a very detailed survey of both the outer beach and interior as far west as the heads of the creeks. There have been extensive changes due to construction, and many small changes in high water line. T-1407 shows a few contours and numerous fence lines not on this compilation.

T-2458 and T-2459, 1:20,000, 1899. These surveys cover the outer strip of land and show very little detail.

The compilation is complete and adequate to supersede the sections of the above listed surveys which it covers, except for the contours and fence lines on T-1407.

Comparison with Recent Hydrographic Surveys.

This compilation is in agreement with H-5870, 1935.

Comparison with the Charts 1216 and 3243.

Landmarks and lights shown on the present charts and recommended by this compilation and the graphic control surveys are shown on the compilation.

The list of landmarks submitted by the compilation party in this area is filed as Chart Letter ~~56, 1936~~ 567, 1935.

B.G. Jones
6/6/36

REVIEW OF PHOTO TOPOGRAPHIC SURVEY NO. T 5286

Title (Par. 56) (See Title sheet)

Chief of Party Roswell C. Bolstad Compiled by P.A.Kelly

Project New York Air Photo Compilation Instructions dated Nov. 15, 1932.
Party No. 12

✓1. The survey and preparation for it conform to the requirements of the Topographic Manual. (Par. 8; and 16, a, b, c, d, e, g and i.)

✓2. The character and scope of the compilation satisfy the instructions and the "Notes on the Compilation of Planimetric Line Maps from Five Lens Aerial Photographs".

✓3. The control and adjustment of the radial plot were adequate. (Par. 12, 29.)

✓4. There is sufficient control on maps from other sources that were transmitted by the field party for their application to the charts. (Par. 28.)

✓5. High water line on marshy [redacted] coast is clear and adequate for chart compilation. (Par. 16a, 43, 44.)

✓6. The representation of low water lines, [redacted], and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41.)

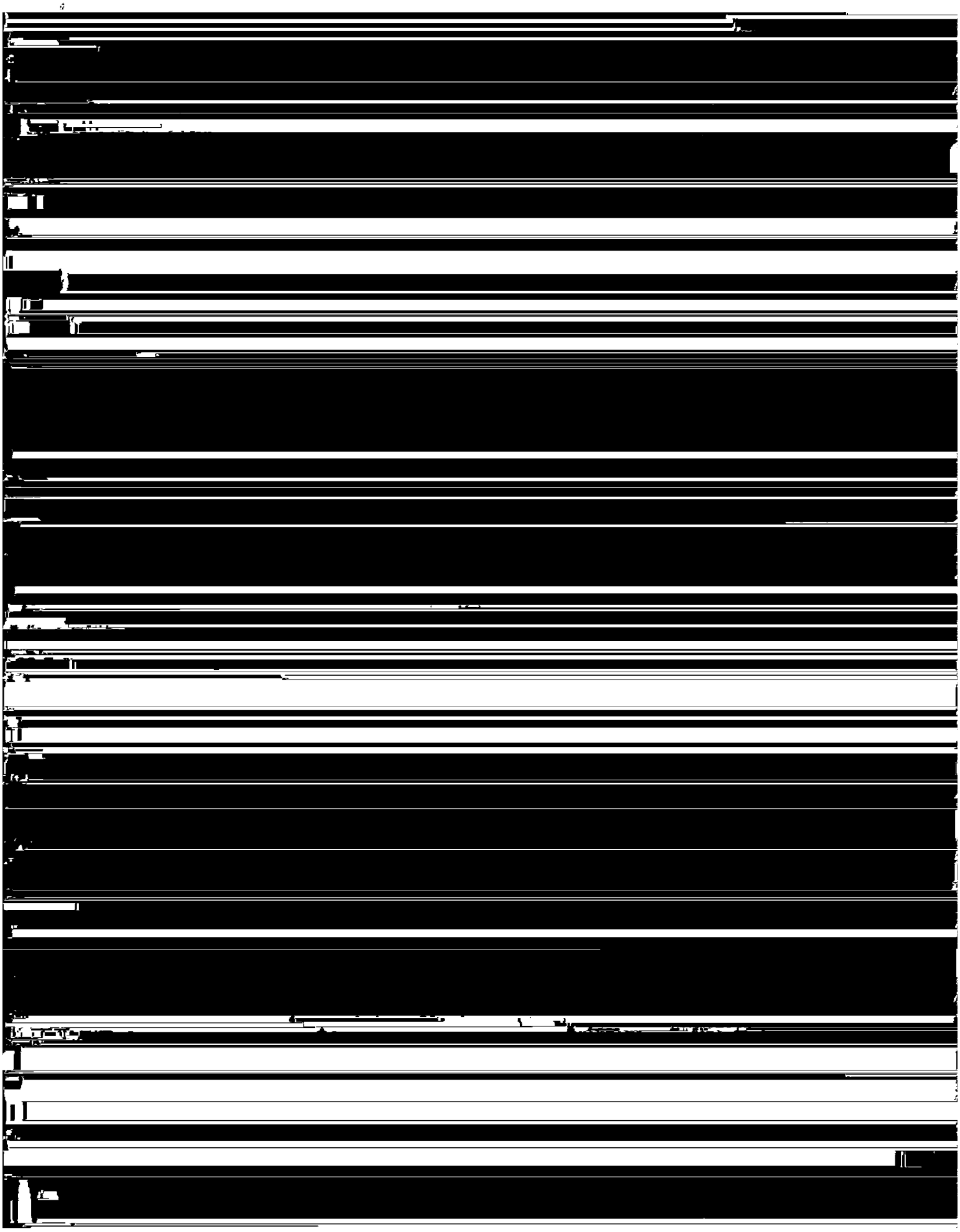
✓7. Important details shown on previous surveys and on the chart have been compared with this sheet and a statement has been entered in the report regarding the removal from the chart or change in position of important detail such as rocks, lights, beacons, prominent objects, bridges, docks, and structures along the water front.

✓8. The span, draw and clearance of bridges are shown. (Par. 16c.)
No bridges of importance to navigation are shown on this sheet.

✓9. The data furnished by the Field Inspection is adequate.

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Use reverse side for extending remarks.

M-10



	Remarks	Decisions
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234		

GEOGRAPHIC NAMES

Survey No.

T-5286

Name on Survey	On Chart No. A	On previous survey No. B	On U. S. quadrangle Maps C	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K R Y Guide K	
Seaweed Point	1216									1
Green Island	1216									2
Andrew Point	1216									3
Tilton Point	1216		✓							4
Goose Creek	1216		✓							5
Barnegat Bay	1216									6
Island Beach	1216									7
Ortley	1216		✓						✓	8
Levallette	1216		✓							9
Chadwick	1216		✓							10
Atlantic Ocean	1216									11
Silverton	1216									12
Mosquito Cove	1216		✓							13
Cedar Grove			✓			✓			✓	14
Applegate Cove	1216		✓							15
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[illegible] on 3/4/26

M 234

Applied to drawing of Chart 1216 - Jan 8, 1937 - J.F.W.

" " compilation " 825 1938 R.L.J.