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Diag. Cht. No. 1202-1.

Form 504
U. S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY
DESCRIPTIVE REPORT
Type of Survey <u>Shoreline Manuscripts</u> T-11337, 11337a, T-11338 thru Field No. <u>Ph-103 (52)</u> Office No. <u>T-11351</u>
LOCALITY
State <u>Maine</u>
General locality <u>Mt. Desert Island</u>
Locality <u>Blue Hill Bay and Frenchman</u> <u>Bay.</u>
<u>52</u> 19 ~~44~~ 54
CHIEF OF PARTY
<u>D. F. Romero</u>
LIBRARY & ARCHIVES
DATE <u>May 1963</u>

USCGM-OC 5087

DATA RECORD

T - 11337, (T-11337A) to T-11351 inc.

Project No. (II): **Ph-103 (52)** Quadrangle Name (IV):

Blue Hill, Southwest

Field Office (II): **Harbor, Maine**

Chief of Party: **Ens. David F. Romero**

Photogrammetric Office (III): **Graphic Compilation
Sec., Wash., D.C.** Officer-in-Charge: **David F. Romero**

Instructions dated (II) (III): **12 November 1952
30 December 1953 (Sup.)**

Copy filed in Division of
Photogrammetry (IV)

Method of Compilation (III): **Orienting ratio print under manuscript.
Stereoplanigraph (T-11337A)**

Manuscript Scale (III): **1:10,000** Stereoscopic Plotting Instrument Scale (III): **1:5,000
1:5,000 (T-11337A)**

Scale Factor (III): **about 0.96 for 10,000 scale
about 1.89 for 5,000 scale**

Date received in Washington Office (IV): **1-21-53** Date reported to Nautical Chart Branch (IV):

Applied to Chart No.

Date:

Date registered (IV):

Publication Scale (IV):

Publication date (IV):

Geographic Datum (III):

Vertical Datum (III):

Mean sea level except as follows:

Elevations shown as (25) refer to mean high water

Elevations shown as (5) refer to sounding datum

i.e., mean low water or mean lower low water

Reference Station (III):

Lat.:

Long.:

Adjusted
Unadjusted

Plane Coordinates (IV):

State:

Zone:

Y=

X=

Roman numerals indicate whether the item is to be entered by (II) Field Party, (III) Photogrammetric Office,
or (IV) Washington Office.

When entering names of personnel on this record give the surname and initials, not initials only.

DATA RECORD

Field Inspection by (II):

Date:

Planetable contouring by (II):

Date:

Completion Surveys by (II): **David F. Romero**Date: **April 1953 to Oct. 1953 and Jan 1954**Mean ^{low} ~~high~~ Water Location (III) (State date and method of location):**Office inspection and location by orientation of ratio prints January 1953 to April 1953**Projection and Grids ruled by (IV): **JA (T-11337A)**Date: **April 1953**

Projection and Grids checked by (IV):

Date:

Control plotted by (III): **DFR (T-11337A)**Date: **April 1953**Control checked by (III): **WAK (T-11337A)**Date: **April 1953**

Radial Plot or Stereoscopic

Date:

Control extension by (III):

Stereoscopic Instrument compilation (III): **Planimetry Stanley Trow (T-11337A) revised DFR Contours**Date: **April 1953 Jan. 1954**
Date:Manuscript delineated by (III): **JPB, DFR, SDP**Date: **Jan. 1953 to Dec. 1953**

Photogrammetric Office Review by (III):

Date:

Elevations on Manuscript
checked by (II) (III):

Date:

Camera (kind or source) (III):

PHOTOGRAPHS (III)

Number	Date	Time	Scale	Stage of Tide
52-J-416 to 423	5-13-52		10,000	Approx.
445 to 486	5-13-52		"	Mean Low Water
668 to 825	5-15-52		"	"
1038 to 1068	5-19-52		"	"
1074 to 1076	5-19-52		"	"
1085 to 1088	5-19-52		"	"
2431 to 2471	7-9-52		"	"
2484 to 2504	7-9-52		"	Approx. MLW
44-C-1473 to 1474	5-29-44		5,000	+ 1.0 ft.
1499				+ 1.7 ft.

Tide (III)

Reference Station:
Subordinate Station:
Subordinate Station:

Ratio of Ranges	Mean Range	Spring Range

Washington Office Review by (IV): John H. Frazier
John H. Frazier T-11338 - T-11342
Final Drafting by (IV): John H. Frazier T-11339
John H. Frazier T-11341
John H. Frazier T-11337A
Drafting verified for reproduction by (IV): John H. Frazier T-11337

Date: 8-19-57 9-10-57
Date: 9-25-57
9-3-57
9-11-57
Date: 9- -57

Proof Edit by (IV):

Date:

Land Area (Sq. Statute Miles) (III):
Shoreline (More than 200 meters to opposite shore) (III):
Shoreline (Less than 200 meters to opposite shore) (III):
Control Leveling - Miles (II):
Number of Triangulation Stations searched for (II):
Number of BMs searched for (II):
Number of Recoverable Photo Stations established (III):
Number of Temporary Photo Hydro Stations established (III):

Recovered:
Recovered:

Identified: 3
Identified:

Remarks:

711-aal

12 November 1952

To: Chief, Graphic Compilation Section
Div. of Photogrammetry

From: Chief, Division of Photogrammetry

Subject: Revision of shoreline maps, Mt. Desert Island area, Maine,
Project Ph-103

1. This project comprises the revision of existing shoreline maps in the area outlined in red on the attached index. Work should start on T-8584 and T-8587 and extend westward across the southern half of the project first. About half of this area should be completed prior to 1 April for hydrography by the Ship STIRNI and the balance of the project completed as the hydrographic work progresses.

2. This work comprises the following:

- (a) Revision of foreshore details from new low water photography.
- (b) Study of the existing maps and the preparation of a set of photographs to be used by the field parties for the recovery of hydrographic stations shown on the existing maps and for the location of additional hydrographic stations that may be needed.

3. The following data are being sent over to you:

- (a) File copies and descriptive reports of the existing maps.
 - (b) One set of contact prints of Paton's 1952 low water photographs with an index on Chart 1202.
 - (c) One set of contact prints of the original photographs from which the maps were compiled. The office ratio prints have been discarded and are no longer available though new ratio prints can be made if needed.
 - (d) One set of field inspection photograph records from the original mapping. These are filed in envelopes by map numbers and should be retained in that manner as photographs have been cut up leaving only sections with field inspection notes.
- (3) Mr. Streifler will order prints on acetate of T-8584 to T-8587, inclusive, and will send them to you as soon as available. Please confer with him and decide whether you want these as brown line prints on the reverse side or as black prints on the front side, etc. He will order prints on acetate for the balance of the manuscripts as you request them from him.

- 2 -

4. All map corrections should be made in red ink on the acetate prints to be obtained through Mr. Streifler. These corrected manuscripts will then be sent to the hydrographic party for use of that party.

5. The new low water photographs were taken at contact scale 1:10,000, and show much more detail than was visible on the original photography at about 1:24,000. This check gives us two alternatives between which I have not yet decided.

1. We can limit the work only to the new rock and shoals and extensions of ledges, etc. that will be important to the hydrography and charts, or
2. We can revise all these foreshore details giving all the information provided by the 10,000 scale photographs, in which case we will have to redraw much of the foreshore.

Please start this work on the assumption that we will do a very complete job as follows: Study out each part of the foreshore and shoreline under a stereoscope inking in the shoals, rocks, ledges, and low water limits, and then recompile the map to show all the details. Also revise the maps for new roads and buildings. After you have done this on one sheet or part of a sheet, please talk to me about it. We will either continue this way or reduce the amount of work.

6. The low water photography must be studied very carefully to pick up rocks and shoal spots not previously mapped. The hydrography will provide a field edit of your foreshore corrections shown in red, and the maps will be corrected after hydrography. The maps then probably will be given T numbers and filed as new maps of the area.

7. With reference to paragraph 2 (b), the photographs must be studied with reference to recovery of the hydrographic stations and location of new stations. I think that the low water photographs may serve this purpose better than the old photographs. The new photographs can be ratioed to exact scale for your map revisions and these exact scale copies can be provided the hydrographic party. In all probability most new signals to be located can be identified on these photographs and plotted on the map simply by holding to map features without a radial plot.

8. Mr. Romero shall be assigned to this work and it will probably be necessary to assign at least one other person to work with him on it.

s/ O. S. Reading,
Chief, Div. of Photogrammetry

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON 25

6
IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO NO. 711-aal

30 December 1953

To: Ensign Romero, 73, 731, 734, 735, 76, 78, 79

Subject: Revision of shoreline manuscripts, Mt. Desert area,
Maine, Project Ph-103, Supplement 1

Reference: Office memo to Chief, Graphic Compilation Section,
subject, Revision of shoreline maps, Mt. Desert
Island area, Maine, Project Ph-103 (copy attached).

This supplemental instruction is for completion of the
work called for in the above reference. Refer to the attached
diagram.

New numbers, T-11337 to T-11351, inclusive, are assigned
to maps as shown on the diagram. In each place the existing
shoreline manuscript made in 1944 has been completely, or
nearly entirely, revised from new photography and new inspection.
Ensign Romero will complete all of these manuscripts in January
1954 and will turn them over to the Files Section (734).

Manuscripts.-Each of the manuscripts, T-11337 to T-11351
is a revision on a brown line print. Revised details are shown
in red. Information shown in purple on the manuscripts was
copied from charts for use of the hydrographic party, and is
not to be carried forward on the file copies of the maps, and
should be ignored by the Norfolk Processing Office in applying
details to the smooth sheets.

T-11337 is in two sections and will be registered in two
sections. T-11337 is a 1:10,000 scale map made by revising
the original shoreline map, T-8559. T-11337A covers the Blue
Hill Harbor section at scale 1:5,000 and is limited to shore-
line and offshore details.

Descriptive Report.-One descriptive report will be pre-
pared for the series of maps T-11337 to T-11351. This shall
include one data record form; a copy of the instructions
including this supplement; a copy of the diagram attached to
this instruction; a copy of Ensign Romero's Season's Report;
a statement of the general plan, i.e., the way the work was
done by both field and office if this information is not in
the Season's Report; and pertinent facts about the individual
sheets arranged by sheet numbers.

731 and 734.-Original manuscripts Nos. T-11337, T-11343, T-11344, T-11345, T-11346, T-11350, and T-11351 shall be forwarded to the Norfolk Processing Office for use in preparing smooth hydrographic sheets. Blue line copies on vinylite of these manuscripts shall also be furnished to the Norfolk Office for transferring details. (The Norfolk Office will need the original manuscripts in this case so that they can distinguish the information shown in purple that is not pertinent to the smooth hydrographic sheets.) Each of these manuscripts will be reported to the Nautical Chart Branch.

A note must be made in our records to show that each of the manuscripts supersedes the R.S. number assigned to it in the spring of 1953 when the work was started. This information should also be given to 83.

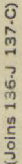
78.-Most of the new work on these manuscripts consists of a revision of low water line and alongshore details. This has been done from field examination in conjunction with the hydrography. There are very few field inspection records. Consequently, little if any review ~~is to~~ be needed except to see that the format of the sheets is complete, and that there are no discrepancies left ~~on~~ the smooth hydrographic sheets when those are received from Norfolk.

79.-Shoreline manuscripts are to be prepared by revising the existing maps, either by drafting on vinylite or by engraving.

735.-Please prepare a progress report for map Nos. T-11337 to T-11351. Show all the maps in the stage, "manuscript complete", as of 10 January 1954.



L. W. Swanson, Asst. Chief,
Div. of Photogrammetry



NOTE: Remittances for maps or advance photogrammetric prints should accompany orders and be made payable to the Treasurer of the United States.

Ph-103 (52)
January 1954Descriptive Report

These sheets are copies of older T-sheets revised from 1952 low water photos and field inspected during the course of signal building and hydrography in the summer of 1953. The T-sheet numbers supercede the RS numbers temporarily assigned to the sheets in 1953. (See status sheet of this report).

Foreshore and offlying shoal corrections and additions were added from low-water single lens photographs taken in May 1952, with the "J" camera, and are shown in red on the brown line acetate reproductions of the manuscripts. The photographs were ratio printed to scale permitting detail to be added without further radial plotting. Whenever possible recoverable photo-hydro signals previously located were used in applying the new additions, however, it was necessary to apply corrections by holding to identifiable features previously compiled.

Details shown in purple were taken from charts 306 and 307 for use of the hydrographic party and will not be shown on the registered copy.

The Season's Report gives a general account of office and field procedures. Details of office revision and field revision for each sheet are included after the Season's Report.

Respectfully submitted,

David F. Romero
David F. Romero
Ensign, USC&GS

Status of Ph-103 Jan. 1954

New T-sheet No. (sup. codes RS No)	RS No.	Old T-sheet No.	Field Recov. Photos Prepared	Foreshore corrected from 1952 photos	Building & Road Revision completed	Hydrographic Field surveys completed	Report written
T-11337	RS-483	T-8559	✓	✓	✓	1953	Field
T-11337A	RS-491	T-8559	✓	✓	None	1953	Field
T-11338	RS-479	T-8567	✓	✓	✓	No	RS
T-11339	RS-478	T-8568	✓	✓	✓	No	RS
T-11340	RS-470	T-8578	✓	✓	✓	No	Field ~~RS~~
T-11341	RS-471	T-8577	✓	✓	✓	No	Field
T-11342	RS-472	T-8576	✓	✓	✓	No	RS
T-11343	RS-473	T-8575	✓			Partial 1953	Field
T-11344	RS-474	T-8574	✓			Partial 1953	Field
T-11345	RS-475	T-8573	✓			1953	Field
T-11346	RS-476	T-8572	✓		Partial photo coverage	1953	Field
T-11347	RS-466	T-8582	✓	Partial photo coverage	Partial photo coverage	No	RS
T-11348	RS-465	T-8583	✓	Partial photo coverage	Partial photo coverage	Partial 1947	RS
T-11349	RS-464	T-8584	✓	✓	Partial photo coverage	Partial 1948	Field
T-11350	RS-463	T-8585	✓	✓	✓	1953	Field
T-11351	RS-462	T-8586	✓	✓	✓	1953	Field
	RS-459	T-8587	✓			Partial 1948	RS
	RS-460	T-8588				Partial 1948	
	RS-461	T-8589				No	
	RS-467	T-8581	✓	✓	✓	No	RS
	RS-468	T-8580				No	
	RS-469	T-8579				No	
	RS-477	T-8569				partial	

RS-480	T-8566				No
RS-481	T-8565				No
RS-482	T-8564				No
RS-485	T-8557				No
RS-486	T-8556				No
	T-8570				partial

Season's Report (Ph-103 (52)) for 1953

Since several new and hitherto untied methods were used during the progress of the work, this report deals primarily with their application, and only incidentally with field progress.

1. Background

Firstly, the area had been adequately flown, field inspected and compiled in 1944 and 1945. The planimetric maps generally contained adequate hydrographic control. Unfortunately hydrography contemplated at that time did not fully materialize with only scattered sections being completed every few years. Thus the photo-hydro stations originally chosen to be recovered within 2 or 3 years were now to be recovered after 9 years. To further complicate matters, the original field inspection photographs had been discarded, leaving only a description (often one word) and a manuscript location for recovery. Project instructions requested a complete foreshore and low water revision to be made from low water photographs flown in May 1952.

2. Scaling and Ratio Printing

To facilitate the recovery of old photo-hydro stations from map manuscript position and to make accurate delineation of foreshore and low water corrections, the 1952 photographs were ratioed to exact scale. In this particular case, ratioing was made from measurements taken between detail points on the photographs and on the acetate manuscript. Although direct measurements on the negatives would have been preferable, they were not used because of the awkward handling. Where the shoreline was straight, measurements were taken along that particular line, otherwise measurements were made whenever possible on a diagonal across the center of the photograph in order to distribute the error due to tilt. It was felt that every third photograph could be measured assuming the scale change between was constant. As it turned out, this system left a number of photographs of improper scale. The photographic plane was light, and updrafts and down-drafts were the rule during the time of photography. Also, many photographs contained considerable tilt which could be only partially counteracted by the method of scaling. In a few cases of badly tilted photographs scaling was done on 2 different photo diagonals, and 2 ratio prints of different scales were made. The uncorrected discrepancies in tilt and scale made location of new photo-hydro stations subject to hidden errors of unknown amounts, and considerable judgement and care had to be exercised in the office recovery and the location of new stations. The photogram-metric work in this area must be done by experienced personnel and should in no case be attempted by personnel not fully cognizant

of photogrammetric procedures and probable errors. It is felt that in this area, where photographs are so subject to tilt, experimentation with the single lens rectifier might prove well worth while, particularly if field work is to be done by semi-experienced personnel.

3. Office Recovery of Photo-hydro Stations

The ratio prints were made on low distortion paper, however, at that time the laboratory was experiencing some difficulty with the focus on the ratio printer and most of the ratio prints are not as clear as the contact prints. This made it necessary to do some of the field work on the contact prints despite the uncorrected scale. All field photographs containing useful information have been inserted in manila envelopes with the T-sheet number stamped on the outside.

Office recovery of old photo-hydro stations was made by orienting a ratio print under brown or black line copies of the manuscript, and holding to shoreline, detail, or nearby control. It is believed that the best type manuscript copy for use with this work is a brown line on the reverse side. This can then be covered with a thin sheet of acetate to prevent detail from rubbing off, and additions can be made in red ink on the top surface of the manuscript copy. This method allows the revisor to make corrections and additions prior to destroying the previous detail. Since the original field inspection photographs had been destroyed, and many descriptions consisted only of one word, the office recovery of photo-hydro stations amounted in many cases to an educated guess. This worked much better than could have been expected, since during the 1953 field season only 4 jumps from all causes (original field identification, radial plot, drafting, 1953 office recovery, ratio print or stereoplanigraph location, field recovery, and boat sheet location) were detected by the hydrographer. These will be discussed later. Over the entire area, recovery and use of photo-hydro stations identified in 1944 were possible for about 2/3 of the original stations. Though this was not done over the entire project, it is recommended in the future, that stations positively identifiable from office inspection be circled with Craftint or washable ink to assist in orienting under the manuscript, and that stations which cannot be office identified have a leader run on the photograph as nearly as possible to the manuscript location. This leader almost always within 1 mm. of correct position and is invaluable in later field recovery of the station. During the course of office recovery of old photo-hydro stations a number of new stations were identified from office inspection only. The results with these stations was disappointing as only about 2/3 of them were suitable for field use. Office identification of photo-hydro stations should be limited to prominent objects such as lone trees, gables of lone houses, lone alongshore boulders, etc. A large percentage of useless stations, or considerable extra field work must be expected with office identified stations.

4. Foreshore Revision

After all office recoverable hydro stations had been identified on the photographs, LWL, foreshore, and offshore additions and corrections were added by orienting the ratio print under the manuscript. Though this method is not quite so accurate as radial plotting it saves a great amount of office time and still adequately serves the purpose for chart correction and placing the hydrographer on guard for hidden dangers. Close agreement was obtained between this method and hydrographic method of location during the field season. The hydrographer was quite pleased with the location and shape of the alongshore ledge LWL, as it enabled him to position his launch easily and accurately on the inshore ends of lines. The photogrammetric edge LWL was found to be quite close in almost every case (see report for T-11351 for discussion of discrepancies), not only providing the hydrographer with an accurate guide, but providing a good LWL for the smooth sheet plotter in areas where the launch was unable to sound close inshore.

a. LWL in flat bays

The manuscript location of LWL in tide flat areas in bays and shallow inlets differed in some case considerably from hydrographic LWL. This can be attributed to a number of factors: firstly, the office interpretation of the edge of the water is quite difficult since it cannot always be seen, particularly if the photographs are at all fuzzy. In this regard, a photograph with sun glare over the water portion is very helpful. Secondly, predicted tides were used to compute stage of tide at time of photography. Winds or storm blown water on the day of photography could easily raise or lower the water level with a corresponding large displacement along a flat bay bottom. Thirdly, photographs not taken exactly at LW were interpreted only for the stage of tide appearing thereon. Here again 1/2 foot of tide amounts to considerable horizontal displacement in a tide flat area. Photographs taken not at LW could have been interpolated between HWL, however, this involves the assumption that the slope is uniform and would require somewhat more office time. Fourthly, the tide reducers applied to the boat sheet were taken from predicted tides and are subject to errors caused by unusual wind, sea, or current. One other discrepancy between photogrammetric and hydrographic LWL is found in the policy of rounding off soundings to the nearest foot, thus introducing an error of as much as 1/2 foot in the reduced sounding, with the corresponding horizontal displacement. These last two errors will be eliminated by the smooth sheet plotter and better LWL agreement should be obtained.

Since there are so many uncertainties in photogrammetric delineation of LWL in flat areas, it is believed that the office photogrammetrist should not spend a great deal of time in office delineation. The hydrographer should be cognizant of photogrammetrist's difficulties and realize that LWL can only be approximate in flat tidal areas.

b. Photo Interpretation of shoals

An attempt was made during the office inspection of the low water photographs to delineate all offshore shoals, reefs, rocks, and breakers. In general, the office interpretation of ledges bare at low water was quite good, however, the interpretation of shoal, shallow, rocks awash, and breakers quite often gave results not substantiated by hydrography. Photo interpretation of shoals is dependent upon so many non-related factors that results cannot be relied upon. During this field season interpretation varied from the accurate delineation of an uncharted 7 foot shoal, to the interpretation that a light-colored grassy spot in 12 feet of water was a reef just under the surface. Delineation of alongshore shallow lines is felt to be a waste of time, since on gradually sloping bottom shallow lines add no new information, and their underwater interpretation is more subject to change in color of the bottom than to the depth, and usually does not agree with the soundings. Shallow lines are recommended only for definite and photographically obvious changes in depth such as the edges of channels. The office interpretation of rocks awash and breakers was disappointing and cannot be relied upon for chart correction. Though each rock awash or breaker was examined on at least two photographs under a stereoscope, they were found in many cases in the field to have been only foam. With so many uncertainties in interpretation of offshore features, it is recommended that they serve only as a guide for the hydrographer, who should make a thorough investigation of each underwater detail.

5. Field Procedure

For this project the photogrammetrist recovered each office identified station in the field, and with the aid of ship personnel built the signal at the same time. Although this procedure slows the photogrammetrist a little, it does result in considerable overall savings in field effort and provides certainty that the signal was built at the proper site. Having the photogrammetrist build the signals left the hydrographic party with enough officers

to enable the ship and the launch to conduct hydrographic operations simultaneously. Access to stations was generally obtained by 14 ft. aluminum skiff and outboard, though a 16 ft. aluminum skiff was used for offshore islands, and in several instances along exposed coasts, access was made by truck or foot packing. Though the aluminum skiffs are quite satisfactory along sheltered areas, the stern is too low for work along exposed sea coast, since even small breakers curl in over the stern and tend to swamp and drown the outboard. A dory with a built up motor well at the stern and a long shanked motor would have been preferred.

During the nine years since the original field inspection, considerable change has taken place in the area; therefore, many stations were lost and only 2/3 of the stations used during the season were old stations. The other 1/3 were located in the field during the course of the work. This location was generally made by orienting a ratio print under the manuscript, holding to adjacent control or shoreline detail and pricking through. Some stations where excessive tilt or elevation was present were located by radial cuts from photographs, still others by short traverse from an old photo-hydro station or by multiple sextant angles. Eight stations on RS-463 were located by planetable methods, with radial photo cuts as a check. T-11350

6. Errors in Control

T-11337A

Of about 540 signals used by the hydrographic party during the season only 4 mislocated signals were found. Stations Tap (596) and Sub (597) on RS-491 were found to be 1 mm. out of position. These were located by stereoplanigraph, and the error may have been caused by a warped model or by operator error. These stations were relocated in the field by radial photo cuts. Clark Point Beacon, 1944, was probably mis-identified during the original field inspection. The image of the beacon could not be seen on either the 1952 or the 1944 photographs during office inspection in 1953. The hydrographic party relocated the beacon by means of multiple sextant cuts. This same type error was discovered in 1948 in the vicinity of Winter Harbor. In this regard, since aids to navigation are of such importance to the navigator, it is recommended that they be located by ground control methods whenever possible. One other station, 1652 on RS 463, was mis-identified during field recovery and was relocated by the hydrographic party. T-11350

7. Field Office Procedure

On this project all office preparation of boat sheets was done by the photogrammetrist. He was best equipped to prepare them and by doing so he could free personnel to conduct simultaneous hydrographic operations with the launch and ship.

a. Manuscript location of stations

Manuscript location of stations was generally made by circling on the photograph an old station on either side of the station to be identified, orienting the ratio print under the manuscript and pricking through. Ordinarily the old photo-hydro stations were about 2 inches apart on the manuscript and 4 inches was the maximum distance attempted to hold between old photo-hydro stations. In some instances shoreline detail could be held where old photo-hydro stations were not located nearby. Whenever possible, the edges of the photographs were not used, as the effect of tilt and image distortion is greatest there. In several cases with photographs of poor scale, the portable projector was used to bring the photograph to exact scale.

Stations elevated above HWL were located by radial cuts. Though this method is quite accurate, it is excessively time consuming. Since photo centers were not left on the manuscript, each photograph had to be oriented by holding a number of radial cuts to previous photo-hydro stations, involving considerable office preparation on each of three photographs.

Multiple sextant angles were plotted on tracing paper and held to manuscript positions as well as possible. Since photogrammetric tolerance is ± 0.5 mm. all stations could not be held exactly. In one area on RS 463, photographic coverage was weak, and no signals had been located for over a mile along the shore. Location was made by planetable cuts from two triangulation stations, a short traverse from an old photo-hydro station and planetable cuts. Because of narrow planetable intersections of cuts, photo cuts were used to supplement the planetable cuts. T-11350

b. Boat sheet preparation

Photo-hydro stations were transferred to boat sheets by orienting the manuscript over the boat sheet and pricking through. On RS 491, HWL and foreshore detail was transferred to the boat sheet by means of a bromoil, and made permanent by inking the bromoil markings with india inks. (Blue was used for offshore details and was quite satisfactory). Bromoils for other sheets would not transfer. As a field expedient, a bromoil was placed in a portable desk projector, scale being held by means of photo-hydro stations already inked on the boat sheet and by manuscript and boat sheet projection lines. With this method inking could be done in the first operation (permitting a savings in time) and the final result was neater, since bromoils tend to smudge and transfer excessive detail. T-11337A

Shoreline transfer was done by projector method for the remainder of the field season, and is highly recommended for future use. The projector was also used extensively for transfer of soundings of prior surveys, junction soundings, and chart data. Had there been facility for a two time enlargement the portable projector would have been ideal for this type of work.

8. Special Cases

Three shoran stations were located on manuscripts during the course of the field season. All were located to within ± 0.5 mm. by holding to nearby photo-hydro stations and detail. The probable accuracy of location is better than the shoran readings and no difficulty was experienced by the hydrographic party in their use. Since to our knowledge, no large scale survey has ever been made of Mt. Desert Rock, the area was field inspected during the field season and a 5,000 scale compilation will be submitted on a chart letter to Nautical Chart section. A field inspection photo and pricking card will be submitted to the Division of Photogrammetry.

9. Cable Crossings

Twenty cable crossing takeoff points were field identified and located on the manuscript within ± 0.5 mm. For various reasons 5 other sites were not visited. Ordinarily the final pole along a cable line was identified, though in some instances a house or tree over the line was used. All underwater submarine cable locations are approximate with local verbal information and the outdated sketches being the only sources for delineation.

The submarine cable from Lopaus Point to Swan Island is a telephone line maintained by the people on Swans Island. It has recently been renewed and now joins the New England Telephone Company line about 550 meters NW of the position shown on Chart 307. The Swans Island end of the cable was not investigated.

The submarine cable from Bass Harbor Head is a Coast Guard telephone line to Grest Duck Island. According to the Coast Guard base at Southwest Harbor, all Coast Guard cables in the area were renewed in the spring of 1952. If more complete information is desired on Coast Guard cables in this area, write to Commandant, 1st Coast Guard District, 1400 Custom House, Boston 9, Massachusetts. The new location plots about 500 meters NE of the position shown on Nautical Chart 307. Two cables, one for Bangor Hydro-Electric Company and one for New England Telephone Company, parallel from north of Seawall Point to south of Spurling Point, thence down Great Cranberry I.

*no reported change from Dept of Army
Helmer 1/6/62*

to east of The Pool where they cross to the southwest corner of Little Cranberry Island. Both lines are relatively new and now furnish all power and phone communication for both islands. The old telephone line from Sutton Island to north of Isleford has been disconnected and serves only as a standby.

The submarine cable from Bear I. to the western side of Sutton I. now runs to the western extremity of the island about 350 meters west of the position shown on Nautical Chart 306. This cable runs diagonally across the island to the SE Corner. The new Coast Guard cable to Baker Island joins into the old telephone cable somewhere between Sutton I. and Little Cranberry I., runs around Little Cranberry I. to again join the old cable in the vicinity of the Thrumcap. The remainder of the old cable has been abandoned. This information is verbal from the Coast Guard base at Southwest Harbor.

The cable from Little Harbor Brook to Bear I. is Bangor Hydro-Electric Co. line, serves one family there, and continues to Sutton Island.

The cable leaving from Schooner Head is Coast Guard telephone and now plots about 50 meters south of the position shown on Nautical Chart 306.

10. Statistics

Old hydrographic and topographic stations recovered and used...	353
Old hydrographic and topographic stations marked.....	200
New hydrographic stations located.....	158
New hydrographic stations marked.....	106
Planetable location of hydrographic stations.....	8
Multiple sextant angle location of hydrographic stations.....	3
Shoran stations located.....	3
Triangulation stations recovered.....	13
Triangulation stations lost.....	1
Cable crossings located.....	20
Landmarks for charts located.....	10
Tide gages located.....	3

11. Recommendations

During original field inspection, inconspicuous trees should be marked (nail, blaze, or small broken branch) to facilitate future recovery.

Manuscript copies should be printed in brown on the reverse side to facilitate changes and reduce rubbing off of detail.

Ratio print method of location should again be used in this area.

Some experiments should be conducted on photographs in this area with single lens rectification to obtain ratio prints without tilt.

Positively identifiable stations should be circled with craftint or other removable ink during office inspection, and stations not positively identifiable should have a leader run to them on the photograph.

The office photogrammetrist should not take too much time with LWL in tide flat areas.

Experienced photogrammetric personnel, preferably with a knowledge of hydrography, should be used on this type project.

Office photo-hydro stations should be picked only on prominent objects such as lone trees, wall corners, etc., and in only sufficient quantity to control the photographs.

Stations should be recovered and signals built at the same time.

Aids to navigation in water areas should be located by ground survey methods.

Photo-hydro stations should be retained in the files on some type copy of the manuscript and original field inspection photos should be retained if at all possible.

Hydrographic parties should be furnished with chart copies and copies of prior surveys to the same scale as the present survey.

Small ships doing this type of work should have a shore office where photogrammetric work and boat sheet work can be conducted.

The projector method of shoreline transfer should be utilized whenever possible.

All hydrographic stations on a boat sheet should have a short description alongside.

Offshore details below HWL should be shown in blue on the boat sheet until verified by the hydrographic party.

All offshore details should be investigated by the hydrographic party.

A dory should be used for landings along exposed coast, a skiff for sheltered coast in this area.

Compilation Report

T- 11337A

~~R.S. 463~~
~~(T-9559)~~
Ph-103 (52)

Foreshore and offlying shoal corrections and additions were added from low-water single lens photographs taken in May, 1952, with the "J" camera, and are shown in red on the brown line acetate reproduction of the manuscript. The photographs were ratio printed to scale permitting detail to be added without further radial plotting. Whenever possible, recoverable photo-hydro signals previously located were used in applying the new additions, however it was necessary to apply corrections by holding to identifiable features previously compiled.

* { A 1:5000 scale acetate manuscript was made for the inner Blue Hill Harbor area north and west of lat. $44^{\circ} - 23' - 40''$ and lon. $68^{\circ} - 32' - 30''$ and that work supercedes the corresponding area on this sheet.

In addition to those new photo-hydro stations located on RS 491, five (5) new stations were located on this sheet.

Building and read revision was made over the entire sheet, but was not shown on ~~RS 491~~.

All the above additions and corrections are believed to be within required mapping accuracy.

No evidence was found on ^{25"} photographs of a reef shown at lat. $44^{\circ} 22' - 50''$, lon. $68^{\circ} - 33' - 50''$ on the brown line copy, though ratio photographs indicate it should be plotted about 90 meters WSW.
 Andis developed 12 3' in the area.

There appears to be some datum change between the nautical chart position of certain offshore detail and the radial plot (and ratio print) locations. This is particularly marked in the area from "The Nub" to "Parker Point" and should be resolved in the field in 1953.

Respectfully submitted,

David F. Romero
David F. Romero
Ensign USC&GS

Approved by:

L. C. Lande
L. C. Lande, Chief,
Graphic Compilation section
Division of Photogrammetry

* Not to be registered as
a separate Survey
Filed with T/11337

1944 photographs should be prepared and used for field recovery in place of photographs of the J-1000 series which are blurred.

Cable crossing takeoff points should be identified on Mt. Desert Rock, Great Duck Island (2), Egg Rock, and both ends of a private line to Bartlett Island.

Respectfully submitted,

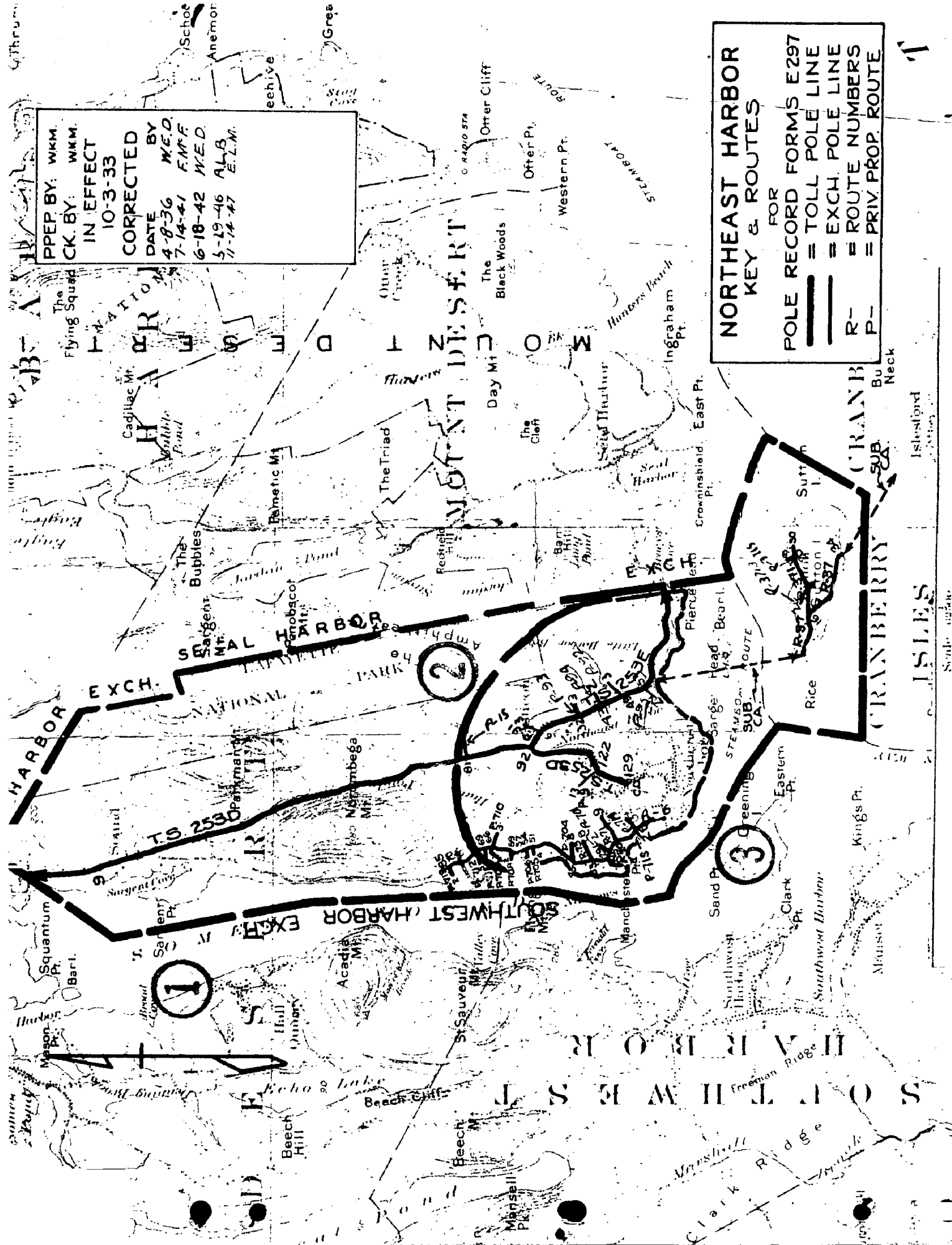
David F. Romero

David F. Romero
Ensign, USC&GS

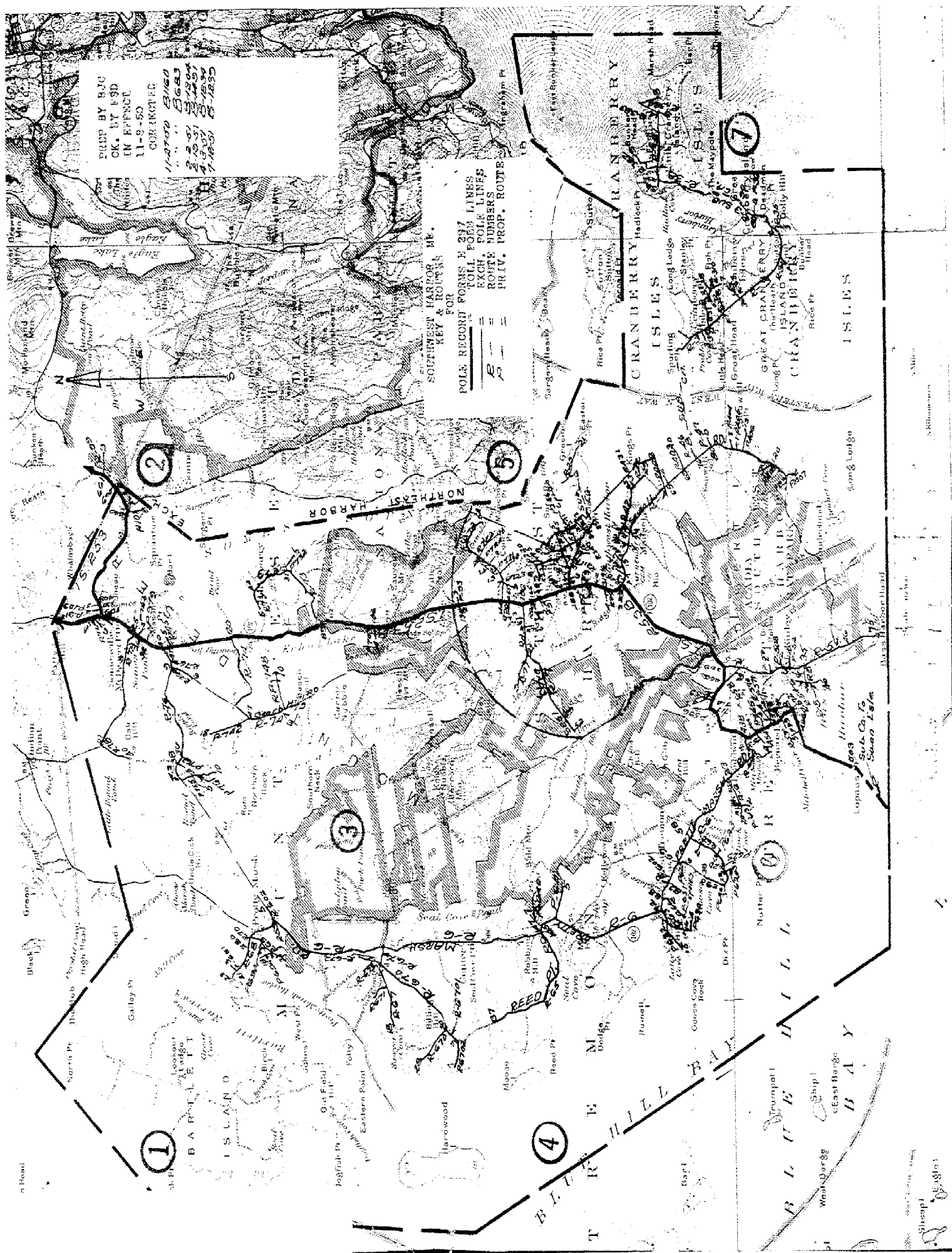
PPEP BY: WKM.
 CK BY: WKM.
 IN EFFECT
 10-3-33
 CORRECTED
 DATE BY
 4-8-36 WED.
 7-14-41 FMF
 6-18-42 WED.
 5-29-46 ALB
 11-14-47 E.L.M.

NORTHEAST HARBOR KEY & ROUTES

FOR
 POLE RECORD FORMS E297
 = TOLL POLE LINE
 = EXCH. POLE LINE
 = ROUTE NUMBERS
 = PRIV PROP. ROUTE



Scale 1:25,000



FIELD REPORT

All stations used by the hydrographic party on boat sheet ST-1853 are located on this manuscript, with the exception of three stations which fall on sheet RS-484 to the south. No jumps were detected in the hydrography.

LWL along the ledge areas is in close agreement with the boat sheet, though the photogrammetric shapes are believed to be better. The purple soundings and rock awash symbols were scaled from nautical chart 307 and are subject to displacements of up to 2 to 3 mm. in a NW direction. The symbols of prime importance to the hydrographer were corrected in the field (as shown by lavender) ink, while the others which serve only as a general guide were left uncorrected. The datum change mentioned in the office revision report was due to poorly transferred symbols and was resolved in the field.

The reef shown at latitude $44^{\circ} 22' 50''$, longitude $68^{\circ} 33' 50''$ (and mentioned in the office revision report) was disproved by the hydrography and has been removed from the manuscript. H-8/10

Landmarks to charts and magnetic stations in this immediate vicinity and reported by the Ship STIRNI were located on this manuscript and on RS-491. T11337A

No hydrography was done north or east of Slavens Wharf (just north of Woods Point) and there has been no field check of detail or photo-hydro stations to the NE of here and around Long Island.

A supplemental investigation of geographic names was made at this time and is pending final decision of the Geographic Names Branch.

Geographic Names - Blue Hill Harbor, Maine

T11337
While working and living in Blue Hill, it was noted that several areas in the vicinity were called locally by names differing with or not shown on Chart 307 or map manuscript RS-483 (T-8559). In investigation of this, three long time residents of the area were contacted. The results are shown on page 2 and indicated on the attached section of Chart 307.

Captain Harry Conary was raised in the Blue Hill area, has sailed for over 50 years, is a retired captain of a large yacht which operated in the area, now has a lobster boat which is moored in "Conarys Cove", and lives at Blue Hill Falls. He is probably the best of the three sources.

Victor Anderson has resided in the area for thirty years during which time he has taken active part in small boat handling, mostly for pleasure. He resides in Blue Hill.

Captain Ralph B. Long has resided in East Blue Hill for 75 years. For about 25 years he owned and ran coastwise sailing vessels to New York City, Philadelphia and vicinity, and to Nova Scotia. He has sailed locally since he was a young boy and in the past 10 years has captained yachts for summer residents in this area.

H. Conary-V. AndersonR.B. LongRecommended
Name

Mill Island

Mill Island

Mill Island

Mill Island

Mill Pond

-

Mill Pond

Mill Pond

Conarys Cove

Conarys Cove

Conarys Cove

Conarys Cove

The Hub

-

The Hub

The Hub*

Sand Island

Sand Island

Sand Island

Sand Island

Cemetery Point

Cemetery Point

-

Cemetery Point

Slavens Wharf

Slavens Wharf

Slavens Wharf

Slavens Wharf

Yorks Head

-

Yorks Head

Yorks Head

Mink Island

-

Mink Island

Mink Island

* Differs from charted
name.

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T-11337A
RS-491
(T-8559) 5,000
Ph-103 (52)
December 1953

FIELD REPORT

All stations used for hydrography in the inner harbor and to the limit of the 5,000 scale hydrography were taken from manuscript T-11337A. Several stations on the sheet were not used, however, they are left on the manuscript since they may be of some assistance at some future date.

During the course of the hydrography, jumps were detected on two stations, No. 596 $\frac{1}{2}$ and No. 597. Each of them cut in from four field photos, and both stations moved 1 mm. NE from stereoplanigraph position. This location was satisfactory for subsequent hydrography and is the position shown on the manuscript.

T11337

The hydrographer needed a wider "spread" for some of the fixes, so No. 638 and No. 585 were pricked through from the 5,000 scale enlargement of RS-483. These were carefully checked by sextant fixes prior to hydrography and were found to be sufficiently accurate.

An attempt was made by the hydrographer to investigate all offshore rocks and shoals shown on the sheet. His location with the exception of shape is thought to be slightly better than the photogrammetric interpretation since much of the photogrammetric work was done in the office.

The LWL on the ledge areas gave close agreement with the boat sheet results. However, in the sand tide flats, the boat sheet showed $1\frac{1}{2}$ to $3\frac{1}{4}$ ft. of water of the photogrammetric LWL.

This can be attributed to the fact that the stage of tide at the time of photography was -0.5 ft. It is felt that the hydrographer's LWL is better in areas of flat bottom and that in general the ledge LWL is in such close agreement that either photogrammetric or hydrographic location can be used.

For
The the 1944 plot, the position of Blue Hill Congregational Church Spire, 1863 had been plotted 0.2 mm. SE of the correct location on T-11337. The 2x enlargement of the inner harbor enlarged this to 0.4 mm., making the photo-hydro stations in the immediate vicinity out of position by a like amount. Since the spire was not used for scaling the stereo-planigraph model, the error in plotting was not discovered until the field work had been completed. Since no jumps were detected due to this cause,

Page 2
T-11337A

and ³since the error is less than 0.5mm. it is felt that the T-1137A locations should be retained even though in error in this immediate vicinity by 0.4 mm. The spire is plotted correctly on T-11337A.

In December 1953, an adjustment was made to photo-, hydro station location in the area from latitude $44^{\circ}23'5''$ to latitude $44^{\circ}24'$ and smooth sheet hydrographic positions might change slightly from boat sheet hydrographic positions. A new HWL interpretation was made at that time.

Compilation Report

T-11338

29

Ph-103(52)

Foreshore and offlying shoal corrections and additions were added from low-water single lens photographs taken in May 1952, with the "J" camera, and are shown in red on the black line acetate reproductions of the manuscript. The photographs were ratio printed to scale permitting detail to be added without further radial plotting. Whenever possible recoverable photo-hydro signals previously located were used in applying the new additions, however, it was necessary to apply corrections by holding to identifiable features previously compiled.

It is believed that the above revisions and additions are of standard map accuracy.

Representative photos were chosen from each of the two day's flights and tide level computations made. Photo 481 had a tide level of +0.8 feet and photo 757 had a tide level of -0.4 feet.

On Long Island, on the western side of T-8567, ^(T 11339) only old photos were available. No LWL changes were made here. All office identifiable hydro stations were blue circled on the photographs.

No building or road revision was made, nor were any new photo-hydro stations added at this time.

Building and road revision completed on Bartlett I. and eastward, January 1954.

David F. Romero

Compilation Report T 11339

~~R.S. 479~~
(T-8567)
Ph-103(52)

Foreshore and offlying shoal corrections and additions were added from low-water single lens photographs taken in May, 1952, with the "J" camera, and are shown in red on the black line acetate reproductions of the manuscript. The photographs were ratio printed to scale permitting detail to be added without further radial plotting. Whenever possible recoverable photo-hydro signals previously located were used in applying the new additions, however, it was necessary to apply corrections by holding to identifiable features previously compiled.

It is believed that the above revisions and additions are of standard map accuracy.

Representative photos were chosen from each of the two day's flights and tide level computations made. Photo 481 had a tide level of +0.8 feet and photo 757 had a tide level of -0.4 feet.

On Long Island, on the western side of T-8567, ^(T 11339) only old photos were available. No LWL changes were made here. All office identifiable hydro stations were blue circled on the photographs.

No building or road revision was made, nor were any new photo-hydro stations added at this time.

Building & Road revision completed on Bartlett I. and eastward Jan. 1954
DTR

Respectfully submitted:

Samuel D. Parkinson DTR
Samuel D. Parkinson
Lieutenant, U.S.C. & G.S.
Mar. 1953

Approved by:

L. C. Lande
L. C. Lande, Chief,
Graphic Compilation Section
Division of Photogrammetry

T-11339

Ph-103(52)

Foreshore and offlying shoal corrections and additions were added from low-water single lens photographs taken in May, 1952, with the "J" camera, and are shown in red on the black line acetate reproduction of the manuscript. The photographs were ratio printed to scale permitting detail to be added without further radial plotting. Wherever possible recoverable photo-hydro signals previously located were used in applying the new additions, however, it was necessary to apply corrections by holding to identifiable features previously compiled.

The stage of tide for the 400 series of photos was +0.6 feet, for the 2400 series +0.2 feet, and for the 700 series -0.7 ft. With such variation, the LWL can only be considered approximate.

No new photo-hydro stations were located nor was any building or road revision made at this time.

Building and road revision completed January 1954 except on Seal Cove Pond where no new photographs exist.

David F. Romero

T-11340
~~RS-470~~
(T-8578)
Ph-103 (52)
December 1953

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FIELD OFFICE REPORT

Foreshore and offlying shoal corrections and additions were added from low-water single lens photographs taken in May 1952, with the "J" camera, and are shown in red on the ~~brown~~ black line acetate reproduction of the manuscript. The photographs were ratio printed to scale permitting detail to be added without further radial plotting. Whenever possible recoverable photo-hydro signals previously located were used in applying the new additions, however, it was necessary to apply corrections by holding to identifiable features previously compiled.

A set of field recovery photographs was prepared showing a circled location of the station (craftint III), When it could be identified from manuscript location, description, and office inspection. When the actual image could not be identified, a leader was drawn to the equivalent manuscript location (probably to within 1 mm), and can be closely relied upon for field recovery. These photographs are blurred due to oil smear on the taking camera. It is recommended that 1944 photographs be used for field recovery.

Building and road revision was made over the entire sheet, though few changes were made. The principal one ~~being~~^{was} the re-alignment and relocation of US 1, northwest of Hancock. The older route is now an alternate.

The stage of tide computed for Bar Harbor was + 0.1 ft. and numerous corrections were made to the LWL, particularly in the flat areas near the head of bays and rivers. So many variables are concerned that LWL must be considered only approximate. In the Sullivan River area the delineated LWL extended offshore of the line which could be determined by office inspection of the 1952 LW pictures. It was decided not to move this delineated LWL inshore as reasonably close LWL information may have been furnished by the original field inspection party. It is suggested that the hydrographic party take sextant locations at the LW extremities of prominent ledges in this area.

FIELD REPORT

During the course of the 1953 field season, it was noticed that the photo-hydro station symbols had been removed from this manuscript. Since at that time hydrography was contemplated in this area during the 1953 field season, some new identification of photo-hydro stations was made and a new radial plot was laid. Details follow.

T11341
A 13 photo radial plot was laid for ~~RS-471~~ in order to reestablish hydrographic control which had been removed from the manuscript. Twenty five hydrographic stations were field identified (by truck inspection since no personnel to operate the skiff could be spared from the ship at that time), 31 other stations were identified from old field inspection photos, and 16 others were identified in the office. Topographic stations and triangulation stations which had been left on the manuscript as well as some hydrographic stations on ~~RS-471~~ were held as control for the plot. The 1952 photographs of the J-1000 series were of very poor image definition (I believe these are the 2X enlargements taken with an oil smered lens) and only 2 were used in the plot where they were necessary to provide reasonable inter-section angles. I strongly recommend that the 1944 photographs be used for station recovery rather than the blurred J-1000 series. ~~Building and shoreline revision was completed on the entire sheet.~~

Foreshore and offlying shoal corrections and additions were added from low-water single lens photographs taken in May, 1952, with the "J" camera, and are shown in red on the brown black line acetate reproduction of the manuscript. The photographs were ratioed printed to scale permitting detail to be added without further radial plotting. Whenever possible recoverable photo-hydro signals previously located were used in applying the new additions, however, it was necessary to apply corrections by holding to identifiable features previously compiled.

Tide level at the time of photography was -0.6 ft.

Building and road revision was completed over the entire sheet in September 1953.

Hydrographic surveys were not conducted in this area in 1953 therefore, there is no check on the accuracy of location of LWL and of offlying shoals and reefs.

COMPILATION REPORT

Hydrographic Station Descriptions

<u>Number</u>	<u>Photo</u>	<u>Method of Iden.</u>	<u>Description</u>
001	44-C-1283	Field	lone busy 18ft. pine.
002	"	"	Top center of large white granit boulder
003a	44-C-1283	Office	Evgrn. on end of pt.
003	"	Field	Top of white granite boulder
003b	42-J-419	Office	Top of bldr. which bares 6 ft. at MHW.
004	44-C-1283	Field	NW corner of shack on beach
005	44-C-1282	Field	SW end of top of large white granite bldr.
006	"	"	large evergreen
007	"	"	Group of 5 birch trees clumped together on point. (There are 2 smaller ones about 10 ft. north).
008	44-C-1282	"	Ventilator on barn
009	44-C-1281	Office	Large lone evgrn.
010	"	"	Large lone evgrn.
011	44-C-1281	Office	More northerly of 2 large evgrns.
012	--	--	--
013	44-C-1281	Office	Large lone evgrn near stream
014	"	Field	Tall sparse, most s'ly evgrn.
015	"	Field	S. gable of large green barn with maroon roof.
016	"	Field	Very large full evgrn. (about 30 ft. tall)
017	"	Field	Bushy, even-shaped evergreen.
018a	44-C-1282	Office	largest tree of group
018	52-J-419	Field	N. Gable of shack
019	52-J-418	Field	SW gable of shack
019a	52-J-418	Field	West gable of shack
020	44-C-1283	Office	Most easterly large tree among scrub.
021	"	Office	SE'ly one of tree group on pt.
022	44-C-1220	Office	Very large evgrn. on end of pt.
023	"	"	Evgrn. on bend of bank
024	"	"	Most s'ly of row of trees
025	"	"	Most E'ly of row of trees
026	44-C-1219	"	E gable of shack
027	"	"	SW corner of wood lobster pond
028	"	"	Large lone evgrn.
029	"	"	lg. evgrn last on pt.
030	44-C-1220	"	lg. evgran at end of path
031	"	Field	Sml. scrubby dead evgrn alone on bare point
032	"	"	Well-shaped evgrn. SW of house
033	"	"	Gable of boathouse at head of skidway.
034-038	44-C-1219	Office	Evgrns.

Compilation Report

T-11342

R.S. 472
(T-8576)
Ph-103(52)

Foreshore and offlying shoal corrections and additions were made from low-water single lens photographs taken in May 1952 with the "J" camera and are shown in red on the brown line acetate reproductions of the manuscript. A number of photographs, from Thomas Bay south and west, were taken at minus 0.5 feet tide, therefore the added low water line is only approximate. The photographs were ratio printed to scale, permitting detail to be added without further radial plotting.

No new hydrographic stations were located, since it is believed this could best be done in the field. No building or road revision was made at this time.

Building + road revision completed Jan 1954

DRR Respectfully submitted;

David F. Romero

David F. Romero
Ensign, U.S.C. & G.S.
Mar. 1953

Approved by:

L. C. Lande

L. C. Lande, Chief
Graphic Compilation Section
Division of Photogrammetry

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T-11342

Ph-103(52)

Foreshore and offlying shoal corrections and additions were made from low-water single lens photographs taken in May 1952 with the "J" camera and are shown in red on the brown line acetate reproductions of the manuscript. A number of photographs, from Thomas Bay south and west, were taken at minus 0.5 feet tide, therefore the added low water line is only approximate. The photographs were ratio printed to scale, permitting detail to be added without further radial plotting.

No new hydrographic stations were located, since it is believed this could best be done in the field. No building or road revision was made at this time.

Building and road revision completed January 1954.

David F. Romero

T-11343
RS-473
(T-8575)
Ph-103 (52)
December 1953

35

FIELD REPORT

During 1953 hydrography was completed over only the western part of the area covered by this sheet. Photogrammetric ledge LWL agreed closely with hydrographic LWL, although there are some differences in the mud flat areas of Somes Harbor where hydrographic LWL should be used. No jumps were detected by the hydrographer.

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T-11344
(RS-474) (T-8574)
Ph-103 (52)
December 1953

FIELD REPORT

All the hydrographic stations used in this area are located on this manuscript. Clark Point Beacon was found to have been incorrectly located on the manuscript. The hydrographic location is now shown and the erroneous photogrammetric location has been removed, though the hole was left for checking.

The purple note just north of the beacon was found by local inquiry of the harbor master to refer to the beacon itself. The difference in location may be attributed to displacement caused by the 4 time enlargement of Nautical Chart 306.

With the exception of Clark Point Beacon no jumps were detected in the hydrography.

One submarine cable takeoff point was located and is believed to be within ± 0.5 mm. The new location falls about 30 meters west of the chart location.

Hydrographic and photogrammetric LWL agreed very closely along the ledge areas, however, there is some disagreement in the tide flat areas and hydrographic location should be used.

FIELD REPORT

Locations of all photo-hydro stations used by the hydro party in this area are shown on the manuscript. At one station, the wrong pole was marked and the error was not discovered until after completion of hydrography. The station is at latitude $44^{\circ} 15.4'$, longitude $68^{\circ} 17.7'$ and should be the more southerly of the two circles rather than the northerly one. No jumps were detected in the hydrography.

In general the photogrammetric LWL was in close agreement with the hydrographic LWL with the exception of the flats of inner Bass Harbor where hydrographic LWL should be used for the smooth sheet. Four submarine cable crossing takeoff points were field identified and located on the manuscript within ± 0.5 mm. The cable takeoff just east of Bass Harbor Head, and the cable takeoff NW of Lopaus Point differ by several hundred meters from charted position.

Several recoverable topographic and temporary hydrographic stations in the area $1/2$ mile SW of Seawall Point have been destroyed and were removed from the manuscript. Topographic recovery cards were submitted to the division of photogrammetry. The shoals and breakers south of Seawall Point were somewhat in disagreement with the hydrography, and the boat sheet results should be used for the smooth sheet.

The purple soundings and symbols were taken from 40,000 scale nautical chart 306 and are subject to displacement due to the enlargement.

Building and road revision was completed in August 1953.

FIELD REPORT

The majority of the signals used by the hydrographic party are located on this manuscript. Several were located by multiple sextant angles which are recorded in the sounding volume. Others had been located in 1950 on the old boat sheet (H-7151)(completed this field season), by hydrographic means. Whenever possible their location was checked by photogrammetric means, however, in a few cases where photogrammetric identification was not practicable, the 1950 station and boat sheet were accepted without question.

Two stations 1024a (Nil) and 1022a (Liz) (NE shore of Great Gott I.) were found to have been incorrectly located on the boat sheet. New location was made by photogrammetric means and checked by sextant angles which are recorded in the sounding volume. Location by each method plotted in a point. Station Liz moved 1.1 mm. bearing 295° (T) and station Nil moved 0.8 mm. bearing 063° (T). The correct location is shown on this manuscript.

No jumps were detected with any stations located on this manuscript.

A field location of Horseshoe Ledge Beacon was made to within ± 0.5 mm. and was used in detailing LWL on the manuscript. The field identification was made by measuring to somewhat indefinite points on the bare rock (since the station itself was not visible on the photographs) and is of sufficient accuracy only for detailing of LWL.

In general the hydrographic and photogrammetric LWL were in close agreement. The smooth plotter may find some disagreement in the shoal area between Great Gott and Little Gott Islands and should use the hydrographic LWL.

The hydrographic party attempted to investigate all offshore rocks and shoals, and their location is probably better than photogrammetric location, though photogrammetric shapes are generally better.

No office ^{or} ~~of~~ field work was done on Great Duck or Little Duck Island. The two islands are too far offshore for skiff access, and the ship was not available for that purpose so the cable crossing point from Duck Island Lighthouse to Mt. Desert Island Lighthouse were not identified. This should be done during the next field season in the area.

Building and road revision was made over the western half of the sheet, though few changes were made.

Foreshore and offlying shoal corrections and additions were added from low-water single lens photographs taken in May 1952, with the "J" camera, and are shown in red on the brown line acetate reproduction of the manuscript. The photographs were ratio printed to scale permitting detail to be added without further radial plotting. Whenever possible recoverable photo-hydro signals previously located were used in applying the new additions, however, it was necessary to apply corrections by holding to identifiable features previously compiled.

The photos on the west shore of Wankeg Neck (nos. 1066-1069) were of too poor scale for use in shoreline delineation. Great relief displacements were evident due to tilt and/or because the areas are too near the edge of the photo. No LWL changes were made in this area.

There is no LW photo coverage of Eastern Flanders Bay nor of Southern Preble Island, Calf Island, Long Ledge and Half Tide Ledge. No changes were made in these areas.

The Small Wood Elevated Tank (No. 1871 $\frac{1}{2}$) appears to have been moved or incorrectly located on manuscript. Old photo 936 and new photos 493 and 494 show this tank about 30 meters NE of the manuscript location. The New location is circled on the brown line manuscript.

The stage of tide was 0.0 feet on the 1000 series of photos, and +0.8 feet on the 400 series. LWL located with this latter group of photos is approximate. No building or road revision was made on this sheet. No new photo-hydro stations were located on this sheet.

Building and road revision completed January 1954 except photo-coverage was not adequate for Waukeag Neck.

David F. Romero

T-11348

Ph-103(52)

Foreshore and offlying shoal corrections and additions were added from low-water single lens photographs taken in May 1952, with the "J" camera, and are shown in red on the brown line acetate reproduction of the manuscript. The photographs were ratio printed to scale permitting detail to be added without further radial plotting. Whenever possible recoverable photo-hydro signals previously located were used in applying the new additions, however, it was necessary to apply corrections by holding to identifiable features previously compiled.

Very few corrections were made on this sheet because of (a) poor photo coverage and (b) tide level at time of photos was well above MLW, ranging from +0.5 feet on photo 1043 to +1.3 feet on photo 501.

No new photo-hydro stations were located at this time, nor was any building or road revision made.

Building and road revision completed January 1954. Many trees in the SW corner of the sheet were destroyed by fire and have been removed from the manuscript.

David F. Romero

T-11349
RS-464
(T-8584)
Ph-103 (52)
December 1953

41

FIELD REPORT

No hydrography was done in the area covered by this sheet during the 1953 field season, however, two signals were located and built prior to hydrography and are described below.

The Cranberry Hill Submarine Cable takeoff point was field identified and located on the manuscript within ± 0.5 mm. The Egg Rock take off point was not identified and should be identified during the next field season in the area.

Tree symbols in the burned area along the eastern shore of Mt. Desert I. Have been removed from the manuscript.

<u>Number</u>	<u>Photo</u>	<u>Description</u>
1692a	44-C-1692	Right angle corner of high straight-faced jutting ledge projection. WW in 1953.
2442a	C-1692	15' evergreen on crest of point. Nail placed at 5 ft. elevation on seaward side in 1953.

2 Naval Rad. Towers shown on T-11349 could not be found on photo 585-7133, therefore were NOT added to charts 205 or 306
Helmert 6/14/62

T-11350
(RS-463)
(T-8585)
Ph-103 (52)
December 1953

42

FIELD REPORT

All hydro-stations used by the hydrographic party in this area are located on the manuscript with the exception of one station near 1652 located by sextant cuts. These cuts are recorded in the sounding volume and should be used in place of 1652. Jumps were detected only on signal 1652 and this was resolved in the field at that time. All hydrographic signals were described briefly on the boat sheet.

Otter, 1944 and Otter FIP have been destroyed but are left on the manuscript because an old photograph with their identification was used in locating OTTER (shoran). OTTER (shoran) was located by orienting a ratio print containing the identifications of OTTER, 1944, OTTER FIP and 1645 and pricking through. It is felt to be within ± 0.5 mm. of true position.

Eight hydrographic stations from East Point to just east of Hunters Brook were located by planetable cuts from Bunker Ledge Monument, a short planetable traverse from 2433 and planetable cuts. Additional cuts were made from the photographs to obtain stronger intersections. Photographic coverage and control spacing was not adequate to make these locations by photogrammetric methods alone.

Inshore hydrography during the 1953 field season did not extend NE of Otter Point. Some signals were located and built in advance of hydrography and are described below.

Six submarine cable takeoff points have been identified on this sheet and are located to within ± 0.5 mm. The cable takeoff on the western end of Sutton Island differs by several hundred meters with the one shown on nautical chart 306.

The photogrammetric LWL and the hydrographic LWL are in good agreement over the entire sheet.

Descriptions of Photo-hydro stations

<u>Number</u>	<u>Photograph</u>	<u>Description</u>
1644a	indicated on C-1699	Smooth round boulder about 4 ft. in diameter. WW in 1953.
1642a	C-1691	Sharp V ledge projection about 8 ft. high with smooth face to NE and SE and flat top. WW in 1953.
1640a	C-1699	Large bushy evergreen SW of intersection of trails.
1640b	C-1699	Ledge face 6 meters west of center of stagnant pond. WW in 1953.
1638a	J-677	Small, most SE tree on top of rounded bluff. Ban. nailed to tree in 1953
1638b	C-1691	More westerly of 2 high points on semi-detached rock ledge which bares 3 ft. at MHW. WW in 1953.
1638c	C-1691	Approx. centered on high part of rock ledge, about 1 meter north of drop off in ledge. 2 loose pieces of rock (only ones on ledge) were used to brace one tripod leg in a water-filled hole about 1 1/2 ft. in diameter and may still remain. Tripod in 1953.
1690b	C-1691	On corner of rocky point where ledge running East down to water meets ledge running south down to water. About 3 ft. above MHW.
1690a	Pond on C-1691	Rounded vertical face of rock 18 meters SE of center of large pond on ledge. About 20 feet above MHW. WW in 1953.

44
T-11351
(RS 462)
(T-8586)
Ph-103 (52)
December 1953

FIELD REPORT

All hydrographic stations in this area are located on the manuscript. The station on Thrumcap Island was located by planetable resection as well as by orienting a ratio print under the manuscript and pricking through. Though each method provided a weak location, they checked each other by 0.2 mm. and are considered good. No jumps were detected by the hydrographic party while using these signals.

In general the LWL ledge symbol was in good agreement with the hydrographic LWL. However, at 2 points on Great Cranberry Island and one on Little Cranberry Island the hydrographic LWL fell offshore of the photogrammetric LWL (in one case 25 meters). On checking the photographs, the error was found to be caused by faulty photo interpretation of breaker areas, and the manuscript has been corrected accordingly. Disagreement was found also along the south shore of Baker Island. In this case the hydrographic LWL fell 20 meters offshore of the photogrammetric LWL. Inspection of the photographs does show the error in photo interpretation which has been corrected, but does not disclose an error of the magnitude disclosed by the hydrography. Though the boat sheet LWL is somewhat generalized the manuscript has been changed to agree with it. The LWL in "The Pool" is difficult to delineate due to the flatness of the area, and some disagreements between Photogrammetric and Hydrographic LWL were found. These should be resolved by the smooth sheet plotter. Several spots, office interpreted as shoals, were found to be discolorations on the bottom and have been removed from the manuscript.

It is felt that the hydrographic location of offshore reefs is generally better, but that the photogrammetric shapes are more nearly correct and should be used.

Eight cable crossing take off points were field identified and located on the manuscript within ± 0.5 mm. For more complete information see cable crossing section of (Ph-103) season's report for 1953. The entire cable, joining north of Little Cranberry I. and ending at Baker I., is drawn only from memory of Coast Guard personnel at Southwest Harbor.

An investigation was made of station E-1 (USE) on Great Cranberry Island, and the f.i.p. was found to have been misidentified. The field identification had been made on another small evergreen 4.0 meters to the east of the one used for measurements. The 1953 identification was made on photo 52-J-713, and a note was made on the old identification card. Both were placed in the manila envelope containing photo data for RS-462.

The grid position of E-1 for the Maine Transverse mercator grid was obtained from the Army Map Service in Washington, and was converted to polyconic coordinates and checked. The position plotted about 2.5 mm. SSE of the manuscript position. A representative of the AMS had stated that the positions of Army Engineers Stations in this area were in doubt. With this uncertainty, the error in original field identification, and since the station wasn't held anyhow, it has been removed from the manuscript.

An investigation was made of station E-9 (USE) on Great Cranberry Island. The field identification appears to have been correctly made, however the photograph used in 1944 contained considerable sun glare and the point was near the edge of the photo. A rough radial plot was made with tilted 1952 photographs, and an intersection from 3 weak cuts indicates that the position of the triangle is correct (The cuts all fell in N'ly-S'ly directions 0.1 mm. west of the triangulation position.). The triangulation position was used for hydrographic purposes, and no jumps were detected.

The Cranberry Id. Coast Guard Station on Bar Point is now a private home and the name was removed from the manuscript.

Building and road revision was completed over the entire sheet in July 1953.

GEODETIC POSITIONS FROM TRANSVERSE MERCATOR COORDINATES (CALCULATING MACHINE COMPUTATION)

STATE - ZONE MAINE - East

Station X

X	<u>500,000</u>	Y	
C	<u>-</u>	$P(\frac{X'}{10,000})^2 + d$	<u>-</u>
X'		Y_0	
P		Approx. $\Delta\lambda = X' \div H$	"
d		$\Delta\lambda = (X' \div ab) \div H$	"
H		$\Delta\lambda$	"
a	b	Central Meridian	
ϕ		$\lambda = C.M. - \Delta\lambda$	"

Station

X	<u>564 993.19</u>	Y	<u>154,335.42</u>
C	<u>- 500,000</u>	$P(\frac{X'}{10,000})^2 + d$	<u>- 98.19</u>
X'	<u>+ 64,993.19</u>	Y_0	<u>154 237.23</u>
P	<u>2.32434</u>	Approx. $\Delta\lambda = X' \div H$	<u>893"</u>
d	<u>0.01</u>	$\Delta\lambda = (X' \div ab) \div H$	<u>893.076"</u>
H	<u>72.774 722</u>	$\Delta\lambda$	<u>+ 0 - 14 - 53.076</u>
a	b	Central Meridian	<u>68 30 00</u>
ϕ	<u>44-15-23.316</u>	$\lambda = C.M. - \Delta\lambda$	<u>68 - 15 - 06.924</u>

Station

X		Y	
C	<u>-</u>	$P(\frac{X'}{10,000})^2 + d$	<u>-</u>
X'		Y_0	
P	<u>64,993.358</u>	Approx. $\Delta\lambda = X' \div H$	"
d	<u>158</u>	$\Delta\lambda = (X' \div ab) \div H$	"
H		$\Delta\lambda$	"
a	b	Central Meridian	
ϕ		$\lambda = C.M. - \Delta\lambda$	"

Station

X		Y	
C	<u>-</u>	$P(\frac{X'}{10,000})^2 + d$	<u>-</u>
X'		Y_0	
P		Approx. $\Delta\lambda = X' \div H$	"
d		$\Delta\lambda = (X' \div ab) \div H$	"
H		$\Delta\lambda$	"
a	b	Central Meridian	
ϕ		$\lambda = C.M. - \Delta\lambda$	"

When ab is $\frac{+}{-}$, decrease/increase X' numerically

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION
(Condensed form for calculating-machine computation)

State Maine Zone East Central meridian 68-30-00

Station				
ϕ	44-15-23.316			
λ	68-15-06.924			
$\Delta\phi$ (Excess of ϕ over even 10' expressed as minutes and decimal)				
$\Delta\lambda$ = Central mer. - λ	+0-14-53.076			
$\Delta\lambda''$	893.076			
$\left(\frac{\Delta\lambda''}{100}\right)^2$	79.758			
H	72.774722			
V	1.231337			
a	-0.254			
b	+0.158			
$x' = H \cdot \Delta\lambda \pm ab$	64,993.20			
$V \left(\frac{\Delta\lambda''}{100}\right)^2 \pm c$	98.19			
Tabular y	154237.26			
x	564,993.20			
y	154335.45			
$\Delta\alpha''$				
$\Delta\alpha$				
Geod. Az. to Az. Mk.				
Grid Az. to Az. Mk.				

GPO 83-100191

M. 2450-2

$$x = x' + 500,000$$

$$y = \text{Tab. } y + V \left(\frac{\Delta\lambda''}{100}\right)^2 \pm c$$

$$\Delta\alpha'' = \Delta\lambda'' \sin \phi + g$$

$$\text{Grid Az.} = \text{Geod. Az.} - \Delta\alpha$$

H and V = Tab. H and Tab. V + 2nd. diff. corr'n.

When ab is - , decrease $H \cdot \Delta\lambda$ numerically
+ , increase

g increases $\Delta\lambda'' \cdot \sin \phi$ numerically

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Review Report
Shoreline Manuscripts
T-11337, T-11337A, T-11338, T-11339, T-11341 and T-11342
July 1956

61. General Statement:

* See note on page 3 of this report

These are six of 14⁶ similar shoreline compilations of project 8103. These 6 maps include shoreline along the NW side of Mt. Desert Island, Blue Hill Harbor and Jordan River. Except for T-11337A, these maps are copies of the 1944 shoreline manuscripts numbered T-8559 (T-11337), 8567 (T-11338), T-8568 (T-11339), T-8577 (T-11341) and T-8576 (T-11342) revised to 1952 by photographs taken at approximate low tide. **The revisions are by office interpretation only; no additional field work preceded the revisions. These maps were compiled for use as bases for hydrographic surveys. The Blue Hill Harbor area of T-11337 and T-11337A were used for that purpose in 1953 (hydrographic survey H-8110); otherwise, no contemporary hydrographic surveys have been made within the limits of these maps. Following this review, the maps are to be smooth-sailed ^{smooth-sailed} drafted and registered. The revisions should be considered as preliminary pending a field check by H surveys before being applied to charts (except for the shoreline used on H-8110--see 64).

62. Comparison with Registered Topographic Surveys:

None made during this review since these maps are essentially revisions of the 1944 series. See review reports on the 1944 maps.

63. Comparison with Maps of Other Agencies:

None made during this review (see reports covering the 1944 series).

64. Comparison with Contemporary Hydrographic Surveys:

None, except for the Blue Hill Harbor area of T-11337 and T-11337A

H-8110 1:5,000 and 1:10,000 1953

Differences with T-11337 and T-11337A have been resolved by this review. Sunken rock at 44°-24.11' / 68°-33.51' mentioned in Report on H-8110 was deleted from T-11337A.

65. Comparison with Nautical Charts:

307	1:40,000	1943 (56-2/27)
306	1:40,000	1942 (54-8/16)

Some differences that should be investigated by the next hydrographic survey are listed as follows:

*** The field inspection information has been applied to the manuscripts*

T-11338:

Rock on chart at 44-20.23/68-26.77 appears to be out of position. It is about 4 mm SSW of one shown on T-11338 that shows clearly in the 1952 photographs. The one shown on the chart cannot be identified in the photographs at that position.

T-11339:

Rocks appearing on the chart at the following approximate locations: 44-14.66/68-23.44; 44-15.87/68-24.73, 44-15.28/68-27.31 cannot be positively identified in the photographs and have been omitted from T-11339.

T-11341 and T-11342:

No significant differences noted; however, many rocks shown on the chart by standard symbol (*) are included within the ledge symbol used extensively on all these maps to better indicate the extent of these rocky areas. It is assumed that the outer limits of these areas will be proven or disproved by hydrographic surveys before application to charts.

66. Adequacy of Results and Future Surveys:

These maps comply with all instructions and are believed to be of adequate accuracy for use as bases for hydrographic surveys, the purpose for which they were prepared.

67. Control for Future Hydrographic Surveys:

Most of the fourth-order control established by the 1944 series has been carried forward on these maps and a few new stations have been selected by office study of the 1952 photographs and plotted on the maps. Descriptions of these stations will be found as indicated in the following list:

T-11337 and T-11337A

H-8110 and Descriptive report of T-8559

T-11338

Descriptive Report and forms 524 filed under T-8567

T-11339

Descriptive report of T-8568

T-11341

Compilation report filed herewith and Descriptive report of T-8577

T-11342

Descriptive report T-8576

Names of some stations have been replaced by numbers to simplify drafting and reference to the descriptions.

Reviewed by:

John M. Neal
John M. Neal

APPROVED:

L. C. Hardy
Chief, Review and Drafting Section
Photogrammetry Division

Lewis G. Taylor
Chief, Nautical Chart ~~Branch~~
~~Charts~~ Division

J. E. W. Ang 12/12/62
Chief, Photogrammetry Division

Chief, Coastal Surveys Division
operations

* Hydro and Topo station symbols in the area common to the two surveys (T-11337 & T-11337A) have been removed from T-11337. The shoreline (MHW), foreshore & offshore features on T-11337 were removed subsequent to review, then recompiled from T-11337A

REVIEW REPORT
of Shoreline Manuscripts T-11340, T-11343 thru T-11351
November 1962

61. General Statement

These are 10 of 16 similar shoreline manuscripts project PH-103 of Mt. Desert Island and vicinity. These maps are copies of the 1944 shoreline manuscripts numbered T-8578 (T-11340), T-8575 (T-11343), T-8574 (T-11344), T-8573 (T-11345), T-8572 (T-11346), T-8582 (T-11347), T-8583 (T-11348), T-8584 (T-11349), T-8585 (T-11350) and T-8586 (T-11351) revised from photographs taken in 1952. These maps were used as bases for hydrographic surveys.

62. Comparison with Registered Topographic Surveys

There was none made during the review, as these maps are reproductions from the 1944 series with shoreline and foreshore additions and deletions from the 1952 photography.

63. Comparison with Maps of Other Agencies

See the reports covering the 1944 Manuscripts

64. Comparison with Contemporary Hydrographic Surveys

H 8029	1953, 54 and 56	1:10,000
H 8030	1953 and 55	1:10,000
H 8109	1950 and 53	1:10,000

Shoreline and control of subject surveys was applied prior to the hydrography, and as no changes of importance have been made there is good agreement.

65. Comparison with Nautical Charts

205	1:10,000	Aug. 1949 revised to Oct. 1962
206	1:10,000	Aug. 1956 revised to Aug. 1961
306	1:40,000	Feb. 1962
307	1:40,000	June 1962

There are no major differences between the charts and the subject manuscripts.

66. Adequacy of Results and Future Surveys

These surveys were prepared according to project instructions and are within the required accuracy for Nautical Charting.

Respectfully Submitted:

L. C. Lande
L. C. Lande

Approved:

Chas. Theurer
Chas. Theurer
Chief, Cartographic Branch

Lucas G. Taylor
Chief, Nautical Chart Division

J. E. Waugh 12/12/62
Chief, Photogrammetry Division

Norace G. Connelley
Chief, Operations Division

NAUTICAL CHARTS BRANCH

SURVEY NO.'S T-11337A, 11337, 11338, 11339, 11340,
11341, 11342.

Record of Application to Charts

[illegible]

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

NAUTICAL CHARTS BRANCH

SURVEY NOS. T-11340, 11343, 11344, 11345, 11346

Record of Application to Charts

[illegible]

M.2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.