8109

Diag. Cht. No. 1202-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. So-1246 *Office No.* H-8109

LOCALITY

State MAINE

General locality MOUNT DESERT ISLAND

Locality BASS HARBOR & APPROACHES

19 50 & 53

CHIEF OF PARTY

W.F. MALNATE & J.S. MORTON

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DATE AUG 19 1954

B-1870-1 (1)

8109

Form 537
(Ed. June 1946)

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

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

REGISTER No. H8109

Field No. So-1246

State MAINE

General locality MOUNT DESERT ISLAND

Locality BASS HARBOR AND APPROACHES

Scale 1:10,000 Date of survey 19 June to 31 Aug. 1953; 27 Sept. to 7 Oct. 1950

Instructions dated 24 February 1950

Vessel GILBERT & STIRNI

Chief of party W.F. MALNATE & J.S. MORTON

Surveyed by SHIP'S OFFICERS

Soundings taken by ~~echometer~~, graphic recorder, hand lead, wire

Fathograms scaled by SHIP'S PERSONNEL

Fathograms checked by SHIP'S PERSONNEL & NORFOLK PROCESSING OFFICE

Protracted by A.K. SCHUGELD

Soundings penciled by A.K. SCHUGELD

Soundings in ~~fathoms~~ feet at MLW ~~MLLW~~ and are true depths

REMARKS: This survey was smooth plotted in the Hydrographic Section of the Norfolk Processing Office.

U. S. GOVERNMENT PRINTING OFFICE 777032

~~SUPPLEMENT TO~~ DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SHEET ~~H-7151~~ 8109 (Boat Sheet of H-7151 (1946) was used in the field plotting for a portion of the area covered by H-8109)

MAINE

BASS HARBOR BAR AND APPROACHES

USC&GS SHIP GILBERT — W. F. Malnate, Comdg.
PROJECT CS-265 — SCALE 1:10,000

- -

A. PROJECT:

This survey was accomplished in accordance with Supplemental Instructions to the Commanding Officer, Ship GILBERT, 22/MEK, S-2-GI, dated 24 February 1950.

B. SURVEY LIMITS AND DATES:

The purpose of this survey is to continue the hydrographic survey by the Ship SOSBEE, on H-7151 (1949). The northern limit of this survey is at Latitude 44° 13.5' and the southern limit is at Latitude 44° 11.9'. The western limit is at Longitude 68° 22.0' and the eastern limit is at Longitude 68° 17.9'. area extended in 1953

The hydrographic survey was accomplished between 27 September and 7 October 1950. See supplemental report covering 1953 work

C. VESSEL AND EQUIPMENT:

The Ship GILBERT was used for the offshore areas and Launch 101 was used on the inshore areas and Bass Harbor Bar operating from the ship.

808 type fathometers were used, No. 53 on the ship and No. 122-S was used on the launch. Inboard tranceivers were used on both vessels.

The turning raduis of the Ship GILBERT is approximately 180 meters at sounding speed and that of Launch 101 is Approximately 25 meters.

D. TIDES AND CURRENTS:

One tide gage, portable automatic, No. H-299, was installed by this party on 25 August 1950 in Mackerel Cove, Swans Island, Maine, Latitude 44° 10.16', Longitude 68° 26.06' and was operated for the remainder of the field season. Does not fall on present survey

All tide reducers were from hourly heights and no correction for time or range was made for any part of the survey.

The Washington Office determined the tidal datum plane. Hourly heights as noted above were scaled from the marigrams by the personnel of the Ship GILBERT.

E. SMOOTH SHEET:

Shore line for the smooth sheet ~~will be made~~ is from Air-Photo Compilations ~~T-8568, T-8570, T-8572, and T-8573.~~ T-11345 (53) and T-11346 (53)

F. CONTROL STATIONS:

No new triangulation was accomplished in this area during the 1950 survey. Three triangulation stations were used on this sheet. BASS HARBOR HEAD LIGHTHOUSE and HORSESHOE LEDGE BEACON are from K. G. Crosby in 1934. SCRAG ISLAND is from J.W.D. IN 1911.

Topographic signals were obtained from Air-Photo Compilation sheets T-8572 (44) and T-8573. (44) These signals were positively identified before being used with sextant checks taken when necessary. See Processing Office Addendum

Numerous signals were located by sextant angles, and are indicated as being of Hydrographic accuracy.

Control was accurate and adequate.

G. SHORELINE AND TOPOGRAPHY:

See paragraph "E" of this report.

H. SOUNDINGS:

Standard sounding methods were used throughout. Lead and bar lines were checked with adequate frequency. A sheave test was made prior to the beginning of the season. One Temperature and Salinity serial was obtained.

Soundings taken on the Ship GILBERT were on the foot scale. with an initial setting of five (5.0) feet. The initial setting on Launch 101 was one (1.0) feet and soundings were on the foot scale. Deviations from these settings were taken into account and indicated under the Index Correction Column of the Sounding Volumes.

Settlement and Squat were considered negligible and no correction for same was applied.

Sounding lines were spaced in accordance to instructions.

Shoal areas were developed with closely spaced sounding lines and drifting. The hand lead was used in kelp covered areas to verify and supplement fathometer soundings.

A systematic coverage with respect to bottom samples was made with a Snapper Cup.

The low water line was developed whenever possible.

I. CONTROL OF HYDROGRAPHY:

Standard sextant fixes were used throughout. All positions were plotted without difficulty on the Boat Sheet.

J. ADEQUACY OF SURVEY:

This survey is complete and adequate in the area covered. The sheet is not* complete and it is recommended that it be completed when operations are resumed in this area. No holidays exist in the work. * completed in 1953

Junctions with the survey adjacent to this area are satisfactory

K. CROSSLINES:

Crosslines comprise about three percent of the total miles of hydrography. Crossings are considered satisfactory for the type of bottom encountered.

L. COMPARISON WITH PRIOR SURVEYS:

No direct comparison has been made with prior surveys, since all prior surveys are old enough to be incorporated in the chart. Review, par. 5

M. COMPARISON WITH CHART:

See Review, par. 6

Comparison with Chart 308 (Corrected to 8 May 1950) reveals the following differences;

Latitude	Longitude	Remarks
44° 12.55'	68° 20.08'	A new rock uncovering 4 ft. at MLW was located here, which should be charted. now charted
44 12.56	68 20.01	A new rock uncovering ~~2½~~ 2 ft. at MLW was located here, which should be charted.
44 12.62	68 19.98	A new rock uncovering ~~2½~~ 2 ft. at MLW was located here, which should be charted. now charted It is recommended that the rock at Latitude 44° 12.63; Longitude 68° 20.0~~5~~3' be deleted. Review, par. 5
44 12.33	68 20.28	A new rock uncovering ~~5½~~ 5 ft. at MLW was located here, which should be charted.

The depth of water over Bass Harbor Bar agreed with the charted depths and it is recommended that the notation "Two to three feet less water over bar reported" be deleted. Note deleted from chart

The three rocks off the Northwest end of Great Gott Island are all inside the ~~high~~ low water line.

N. DANGERS AND SHOALS:

All dangers and shoals are discussed in paragraph "M" above.

O. COAST PILOT INFORMATION:

No changes to report.

P. AIDS TO NAVIGATION:

See copy of Form 567 dated 11 October 1950, attached to this report

Q. TO Z.

Nothing to report under these headings.

This report prepared by direction of and in consultation with the Commanding Officer, Ship GILBERT.

Respectfully submitted

Merlyn E. Natto

Merlyn E. Natto
Ensign, USC&GS

"FIELD"

LIST OF SIGNALS

HYDROGRAPHIC SURVEY ~~H-7151~~ 8109 (Boat Sheet of H-7151 (1946) was used in the field plotting for a portion of the area covered by H-8109)

BASS HARBOR BAR AND APPROACHES

TRIANGULATION STATIONS

BASS HARBOR HEAD LIGHTHOUSE, 1861, 1934.

HORSESHOE LEDGE BEACON, 1935.

SCRAG ISLAND, 1875, 1911.

TOPOGRAPHIC SIGNALS

Name	Source	Name	Source
Black	1330 (T-8572)	Pla	1055 (T-8572)
Bon	1038 (T-8572)	Pot	1332 (T-8573)
Dim	1030 (T-8572)	Ram	1058 (T-8572)
Eel	1029 (T-8572)	Rig	1031 (T-8572)
End	1106 (T-8573)	Rio	1036 (T-8572)
Got	1024 (T-8572)	Rot	1059 (T-8572)
Nod	1357 (T-8572)	Sob	1053 (T-8572)
Pier	1335 (T-8572)	Wit	1034 (T-8572)
Pit	1032 (T-8572)	Yet	1061 (T-8572)
		Zig	1060 (T-8572)

RECOVERABLE TOPOGRAPHIC SIGNALS

Name	Source	Name	Source
Act	1033 (T-8572)	Tank	1348 (T-8572)
Bob	1043 (T-8572)	Tax	1023 (T-8572)
Con	2265 (T-8572)	Tog	1037 (T-8572)
		Van	1050 (T-8572)

SPOTTED FROM PHOTOGRAPH

Name	Source	Name	Source
Sol	(Silver chimney) (T-8572)		

HYDROGRAPHIC SIGNALS

Name	Source	Name	Source
Ann	H-7774	Nil	Vol. 1 , P. 6
Cat	1946 Descriptive Report, H-7151	Quo	Vol. 1, p. 4
		Tap	Vol. 1, p. 3,4
Ked	Vol. 1, P. 6	Wig	Vol. 1, p. 5,6
Liz	Vol. 1, p. 7	Woo	Vol. 1, p. 5
Mag	Vol. 1, p. 7	Yam	Vol. 1, p. 6

STATISTICS TO ACCOMPANY

HYDROGRAPHIC SHEET ~~H-7151~~ H-8109

Ship GILBERT

Date (1950)	Day Ltr.	Vol.	H. L. & Wire Sdgs.	Pos.	Stat. Mi.
Sept. 27	A	1	2	227	38.1
Sept. 28	B	1,2	2	232	41.2
Oct. 4	C	2	7	157	25.3
		Totals	11	616	104.6

Launch 101

Oct. 3	a	1	--	214	25.5
6	b	1,2	13	211	24.0
7	c	2	--	85	10.1
		Totals	13	510	59.6

Total Sq. Stat. Mi. for Launch 101 1.02
" " " " " Ship GILBERT 0.36
Total 1.38

FATHOMETER CORRECTIONS

CORRECTIONS FOR LAUNCH NO. 101
FATHOMETER 122-S (FOOT SCALE)

Dates: 27 June to 9 October

A range:

0.0' to 55.0' = 0.0'

B range:

35.0 to 52.7 = 0.8
52.8 to 62.1 = 0.6
62.2 to 90.0 = 0.5

Dates: 13 August to 9 October

C range:

70.0 to 128.0 = -1.5
128.5 to 160.0 = -2.0

D range:

105.0 to 128.0 = -4.5
128.5 to 160.0 = -5.0

CORRECTIONS FOR SHIP GILBERT
FATHOMETER 53 (FOOT SCALE)

Date: 21 July to 6 October

A range:

14.0 to 17.0 = 0.8
17.1 to 21.0 = 0.6
21.1 to 27.0 = 0.4
27.1 to 55.0 = 0.2

B range:

35.0 to 60.0 = 1.0
60.1 to 74.0 = 1.0
75.0 to 90.0 = 0.0

C & D range; (13 Aug. to 6 Oct)

70.0 to 142.0 = 0.0
143.0 to 160.0 = -1.0

APPROVAL SHEET

TO ACCOMPANY

HYDROGRAPHIC SURVEY H-~~7151~~ 8109

The records and Boat Sheet for Survey H-7151 are herewith approved. This survey is considered adequate and complete and no other additional work is recommended in the area covered.

It should be noted that this report was made prior to the plotting of the Smooth Sheet and is subject to minor revisions.

W. F. Malnate
Commander, USC&GS
Comdg. Ship GILBERT

A. PROJECT:

Project CS-265 (1953), Supplemental Instructions 222/MEK, S-2-ST from the Director dated 4 February 1953 for this project supersedes all previous instructions. Letter 223/MEK S-1-ST from Chief, Division, Hydrographic Section dated 6 February 1953 with corrections to original instructions.

B. SURVEY LIMITS AND DATES:

The survey includes the two separate areas. The northern area includes Bass Harbor from Lat. 44-13.4 N, Long. 68-20.5 W, and Lat. 44-13.4 N, 68-22.0 W to Lat. 44-15.2 N, Long. 68-21.1 W. at the north end of the harbor. The east, west, and north is bounded by the shoreline of Bass Harbor.

The second section is in the area around Great Gott, Little Gott, Black, Little Black, and Placentia Islands, limit on the east at Long. 68-18.6 W, from Lat. 44-09.8 N. to Lat 44-12.2 N, on the north at Lat. 44-12.0 N, from Long. 68-18.6 W to Long. 68-21.1W, on the south at Lat. 44-09.7 N from Long. 68-18.6 W. to 68-20.7 W., and on the southwest at Lat. 44-09.6 N, Long. 68-20.7 W. to Lat. 44-10.7 N., Long 68-23.0 W. The western limit is the east shore of Placentia Island.

Field work began on 19 June 1953, and was completed on 31 August 1953.

Several delays were encountered when surveying this area. From 1 July to 16 July, time was spent erecting a shoran tower. The metal tower blew down in a storm and a wooden tower was erected. From 7 August to 29 August, the weather was unsuitable to work in the open areas. This time was spent on sheet H-8029. Two days were lost when the shaft was bent when striking a rock and a new shaft was inserted.

The survey makes a junction with H-7774, 1949, scale 1:10,000 on the south and southwest; and H-7153, 1946, scale 1:20,000 on the east. The west junction ~~at Bass Harbor~~ is with H-7151, 1948, scale 1:10,000. ~~and this survey also joins the northern limit of the new survey north of the islands and a small section at the southwest of Placentia Island~~.

C. VESSEL AND EQUIPMENT:

Motor launch 101 was used for the entire survey. The launch was operated from the USC&GSS STIRNI tied up alongside the U. S. Coast Guard Pier at Southwest Harbor, Maine.

Three 808 fathometers, nos. 151-SPX, 155-SPX, and 65 were used. Fathometer 65 gives a stray on the B scale at about 62 feet.
" 151 " " " " " " " " " " 73 "

Hand lead soundings were taken when locating reefs, rocks, and shoals dangerous to navigation.

D. TIDE AND CURRENT STATIONS:

All soundings on the boat sheet were reduced to MLW by use of the tidal data taken from the tide tables for Portland, Maine and applying a ratio correction of 1.1 and a time correction of -15 minutes. A portable automatic tide gage was in operation at Lat. 44-14.43' and Long. 68-21.13' at Bass Harbor throughout the survey. The marigrams from this tide station will be used for reducing soundings with no time or range corrections.

No current stations were occupied.

E. SMOOTH SHEET:

The smooth sheet ~~will be~~ was plotted by the Norfolk Processing Office.

F. CONTROL STATIONS:

Triangulation control for the photogrammetric control can be found in description no. 536. The Maine Geodetic Survey established control in the years 1856, 1859, 1863, 1870, 1875, 1908. Party Chiefs were ADB; SCMcC; FPW; GAF; JWD; and NHH respectivly. Additional control was furnished by the U. S. Coast and Geodetic Survey in 1934 by KGC.

Photogrammetric control was used exclusively as shown on the manuscripts RS-475 (T-11345) 1953, (Bass Harbor), and RS-476 (T-11346) 1953, (Island group). Both at a scale of 1:10,000.

The methods used in securing the control will be furnished in a separate report by the photogrammetric party chief.

An officer was assigned by the Photogrammetric Division to work in conjunction with the ship to supply and oversee the adequacy of the control. He prepared the boat sheets, built the signals, and supplemented the control where necessary. His knowledge of hydrography and photogrammetry made this practice extremely profitable and with very accurate results. Control points selected in the office that were found unsuitable in the field were moved to favorable locations. Areas with insufficient control were supplied with control by means of radial plots in the field. The entire survey was thereby furnished with control of third order accuracy or better.

G. SHORELINE AND TOPOGRAPHY:

The shoreline and topography were located by means of photogrammetric plots shown on RS-475 (T-11345) and RS-476 (T-11346) 1953, scale 1:10,000.

Some low water line soundings could not be taken by normal operation of the launch because the reefs and ledges were too steep and could not be negotiated even at high water. In areas of this category, the low water line was located by spot sextant fixes and intermediate points were sketched in by the hydrographer at the time the fixes were taken. Some estimations were made at the beginning or ending of the sounding lines. The record books will show where these were made.

The photographs for the area were taken at approximately the low water stage of the tide. The manuscripts were compiled showing the low water line. The transfer of this line was made on the boat sheet in blue ink. The location made by the hydrographer is shown in black ink.

No descrepancies are noted between the photogrammetric and hydrographic location of the mean low water line with the exception of the "flat" areas in the northern reaches of Bass Harbor. Here a difference of one foot of tide will move the low water line 50 meters or more which accounts for any descrepancies in those places.

H. SOUNDINGS:

Depths were measured by use of the 808 fathometer. Shoals dangerous to navigation were sounded with the hand lead by drifting and circling a marker buoy placed at the shoalest sounding. The fathometer was in continous use during this operation and notes were made on the fathogram and in the record books.

I. CONTROL OF HYDROGRAPHY:

Standard hydrographic sextants were used to obtain three point fixes throughout the survey. A courts three arm protractor with extended celluloid arms was used for all plotting with the exception of the southwest section of the survey at the southwest end of Placentia Island. A three arm steel protractor with extension arms was used for the plotting in this area.

J. ADEQUACY OF SURVEY:

The survey is complete and adequate to supersede prior surveys for charting. The junction with the adjoinning surveys is satisfactory and depth curves can be adequately drawn at these junctions.

K. CROSSLINES:

6 % crosslines were run with no descrepancies. This includes the development mileage in the main scheme of soundings.

L. COMPARISON WITH PRIOR SURVEYS: *See Review, par. 5*

The survey agrees very well with the prior surveys H-1164, 1872 (Bass Harbor) scale 1:10,000, and H-1453, 1905, scale 1:10,000, and H-1372, 1877, scale 1:40,000 (Island Group).

In several shoal areas, however, shoaler depths were found. These soundings are listed in paragraph N. The prior survey was made by hand-lead alone which probably accounts for these discrepancies. It is noted that the old survey showed ledge and reefs by "rock awash" symbols. The limits of these ledges and reefs were carefully located and should supersede the rock awash symbols.

Several new rocks were located and two rocks were not found in Bass Harbor. These discrepancies will be shown in paragraph N and the procedure for investigation is described in paragraph H.

All junctions with prior surveys are adequate and no holidays exist.

M. COMPARISON WITH CHART:

The survey was compared with Chart 308, scale 1:40,000. Any topographic changes such as piers, roads, etc. are clearly shown on the photogrammetric manuscripts.

The overall soundings compare favorably with the chart with the exception of those listed in paragraph N.

N. DANGERS AND SHOALS:

Listed below are the important newly found shoals:

Latitude	Longitude	Least Depth	Position No.
44-10.12	68-19.39	24 ft.	118 m
44-09.92	68-20.72	35	25-26 p
44-09.98	68-20.05	12	89-90 e
44-11.54	68-19.00	38	5 m
44-11.45	68-19.45	49	46 m
44-11.52	68-19.80	17	56 m c7 l
44-11.74	68-19.83	Rock bares 1 ft.	2 p
44-11.80	68-19.38	Rock bares 1 ft.	1 p
44-13.80	68-20.92	23	22-23 f

The rock symbol (southerly of three), at Lat. 44-14.20, Long. 68-21.13 was searched for and not found. Two patches of seaweed were found near this position and soundings were taken on each. The area is actually a ledge and should be shown as such. The rock at Lat. 44-14.43, Long. 68-20.85 offshore from the village of McKinley is out of position and is located at the position shown on the boat sheet. The tide was low, leaving the whole area bare at the time this rock's position was taken on foot.

The northeasterly rock of eight was searched for and not found between Little and Big Gott Islands. The water was about 6 feet deep and very clear at the time the search was made. The light sandy bottom also aided visibility in the water. All the area as shown by the rock awash symbols is a ledge. The outer rock may have been a misplot of this ledge. There are no rocks outside the ledges shown on the boat sheet and in the record volumes. It is recommended that the rock symbol be removed from the chart and the ledge symbol substituted for the other seven rock symbols.

The rock awash symbols at Outer Dawes Ledge are to be replaced by the ledge symbol as shown on the boat sheet and recorded in the sounding volume.

With the above exceptions, all charted dangers, shoals, and bare rocks were found as charted.

O. COAST PILOT INFORMATION:

A marine railway is located at Lat. 44-14.02, Long. 68-20.92 for hauling small boats.

There are facilities for obtaining supplies, gasoline, etc. at McKinley.

There is a good anchorage in the 21 foot area between McKinley and Bernard, however the swinging room is limited and numerous fishing vessels use this anchorage.

There are tide rips between Little Gott and Black Islands, close aboard the southeastern end of Placentia Island, and the southwest of Little Black Island.

P. AIDS TO NAVIGATION:

Floating Aids:

Light List Name	Latitude	Longitude	Depth of Water	Pos.No.	Date
Weaver Ledge Buoy 1	44-13.56	68-21.223	21 ft.	58 h	7/22/53
Weaver Ledge Buoy 2	44-13.62	68-21.39	21	57 h	7/22/53
Bass Harbor Buoy 3	44-13.10	68-21.27	20	56 h	7/22/53
Bass Harbor Buoy 5	44-14.25	68-21.00	17	55 h	7/22/53
" " Bar Buoy	44-13.18	68-20.30			

There are two cable areas, one terminating at Lopaus Point, and the other terminating at Bass Harbor Head. A report by the photogrammetric division is submitted on the cable areas with more detail.

A fishing boat serves as a ferry for carrying supplies and passengers around to the islands, from McKinley. There are no special routes and none should be shown.

Q. LANDMARK FOR CHARTS:

See separate report submitted on Form 567.

U. STATISTICS:

No. Pos. 1,720, Stat. mi. Sdgs. 219.7, No. H.L. Sdgs. 32, Area, Sq. Stat. Mi. 6.7

V. TIDE NOTE:

The portable automatic tide gage in Bass Harbor, at Lat. 44-14.43, Long. 68-21.13, furnished tidal data for reduction of soundings on the entire sheet. Mean Low Water is at 2.6 feet on the Bass Harbor tide staff. This plane of reference was furnished by the Washington Office. No time or height corrections were applied.

W. ABSTRACT OF VELOCITY CORRECTIONS:

Phase corrections are as follows:

Fath. No.	A to B Ft. or Fm.	A to C Ft. or Fm.	A to D Ft. or Fm.
65	-1.4	-1.6	-1.8
151-SPX	-0.4	-3.1	-5.4
155-SPX	-1.6	-2.2	-4.2

These phase corrections were combined with the following velocity corrections under the echo correction column in the sounding volumes. Bar Checks were taken to 75 feet with fathometer no. 65, and to 70 feet with nos. 151-SPX and 155-SPX. Below this, temperature and salinity measurements were used to get corrections.

FATH 151-SPX

From 0 ft.	To 9 ft.	Corr. 0.0 ft.
9	16	-0.2
16	23	-0.4
23	29.5	-0.6
29.5	37.5	-0.8
37.5	43.5	-1.0
43.5	50	-1.2
50	57	-1.4
57	64	-1.6
64	71	-1.8
71	83	-2.0
83	101	-2.2
101	120.5	-2.4
120.5	140	-2.6
140	160	-2.8

FATH 151-SPX

From 0 fm.	To 6 fm.	Corr. 0.0 fm.
6	13	-0.2
13	29.5	-0.4
29.5	47	-0.6
47	65	-0.8
65	82.5	-1.0
82.5	100	-1.2
100	118	-1.4
118	135.5	-1.6

FATH 155-SPX

From 0 ft.	To 10 ft.	Corr. 0.0 ft.
10	21	-0.2
21	31.5	-0.4
31.5	41	-0.6
41	49.5	-0.8
49.5	57	-1.0
57	64	-1.2
64	70	-1.4
70	76	-1.6
76	84	-1.8
84	96.5	-2.0
96.5	114	-2.2
114	134	-2.4
134	153	-2.6
153	160	-2.8

FATH 65

From 0 ft.	To 37 ft.	Corr. 0.0 ft.
37	57	-0.2
57	67	-0.4
67	78	-0.6
78	95	-0.8
95	114.5	-1.0
114.5	133.5	-1.2
133.5	153	-1.4
153	173	-1.6

FATH 65

From 0 fm.	To 9 fm.	Corr. 0.0 fm.
9	26	-0.2
26	46.5	-0.4
46.5	67	-0.6

Respectfully submitted,
David F. Romero
for
R. C. Darling
LCDR, USC&GS

Approved and forwarded,

J. S. Morton
J. S. Morton
Commander, USC&GS
Commanding Ship STIRNI

STATISTICS 1953 SEASON
To Accompany

H-8109

VOL. NO.	DAY LTR.	DATE	H.L. SDGS	POSITIONS	STAT. MI. SDG. LINES
5	a	6/19/53	-	126	19.4
5	b	6/25/53	-	152	28.8
5&6	c	6/29/53	-	151	27.6
6	d	6/30/53	-	125	16.0
6	e	7/ 1/53	-	140	21.6
7	f	7/16/53	-	117	13.1
7	g	7/17/53	-	107	10.3
7&8	h	7/22/53	6	96	9.9
8	j	7/28/53	-	97	11.1
8	k	7/29/53	-	133	16.0
9	l	8/ 4/53	5	110	8.8
9	m	8/6/53	4	118	12.9
9&10	n	8/ 7/53	6	86	10.0
10	p	8/29/53	7	143	13.6
10	q	8/31/53	4	19	0.7
	TOTALS		32	1720	219.8

LIST OF SIGNALS
To Accompany

H-8109

TRIANGULATION STATIONS

BASS	BASS HARBOR HEAD L.H., 1861-1934
CENT	PLACENTIA ISLAND, 1908-34
HORSE	HORSESHOE LEDGE BEACON, 1934
SCRAG	SCRAG ISLAND, 1875-1934

MARKED TOPOGRAPHIC STATIONS

BOB	BOB, 1944	T-11346
BLACK	BLACK, 1944	"
GOT	GOT, 1944	"
PLA	PLA, 1944	"

DESCRIBED TOPOGRAPHIC STATIONS

Act	T-11346	Bag	T-8570	Con	T-11346	Sam	T-11345
Tank	T-11345	Tax	T-11346	Van	T-11346		

TOPOGRAPHIC STATIONS FROM T-8570

Abe

TOPOGRAPHIC STATIONS FROM T-11346

Ace	Aha	Art	Boa	Bon	Bus	Can	Coo	Cod	Day	Deb	Dim	Egg
Fez	Gad	Hem	Ice	Ivy	Jay	Kim	Lad	Liz	Mum	Nil	Obi	Pal
Pit	Rag	Ram	Rig	Rio	Rot	Sax	Ski	Sky	Sob	Tan	Tog	Vex
Wee	Why	Wit	Yet	Zig								

TOPOGRAPHIC STATIONS FROM T-11345

Add	Ank	Cat	Cor	Cry	Cul	Cup	Den	Dip	Ear	Eel	End	Far
Fox	Gal	Gas	Her	Hut	Irk	Jaw	Kid	Lack	Lax	May	Mob	Ned
Nod	Owl	Pier	Pot	Pro	Rum	Tub	Via	Win	Yea	Zag		

HYDROGRAPHIC STATIONS

Ann	H-7774
Bed	Vol. 1, pg. 5
Dif	H-7151
Jig	Vol. 5, pg. 25
Ked	Vol. 1, pg. 6
Mag	Vol. 1, pg. 7
Quo	Vol. 1, pg. 4
Tap	Vol. 1, pg. 3&4
Wig	Vol. 1, pg. 5&6
Woo	Vol. 1, pg. 5
Yam	Vol. 1, pg. 6

PHOTOGRAMMETRIC POINTS

Sol	T-11346
Sty	T-11346

ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8109 (Field No. So-1246)

GENERAL

The smooth sheet for survey H-8109 comprises the work done by Ship Gilbert in 1950 (red) and Ship Stirni in 1953 (green). In addition to the work of the Gilbert and Stirni, the boat sheet shows hydrography done by Ship Sosbee in 1948. The Sosbee work has already been smooth plotted and registered as H-7151.

This appears to be an excellent basic survey and the only unusual condition encountered is covered in the following paragraph.

CONTROL

The use of this boat sheet for so many seasons has resulted in some confusion so far as the control is concerned. A close examination of the boat sheet will show some of the original positions of stations used in 1950 have been erased. As some of the stations used in 1950 were located on azmuths and short distances from photo-grammetric points, it is believed the photo-grammetrist on the 1953 re-compilation thought these points were displaced air-photo stations. This would seem a logical conclusion as this information was recorded in the 1950 sounding volumes on file in the Norfolk Office.

With the 1950 descriptive report and records as a guide, all control used that season was plotted on the smooth sheet from original compilations T-8572 (1944) and T-8573. After this operation had been completed the 1953 control was transferred from the 1953 revised compilations T-11345 & T-11346 (1953). It was found that most of the points, located in 1950 on azimuths and distances, had been recovered

and re-located in 1953 by photo-grammetric methods. The agreement was excellent so the 1953 locations were used and topographic symbols were assigned the stations.

Respectfully submitted,

Hugh L. Proffitt

Hugh L. Proffitt
Cartographer.

Norfolk, Va.
18 Aug. 1954

GEOGRAPHIC NAMES

Survey No. H-8109

Name on Survey	A On Chart No.	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K	
Maine			(title)						B.G.N.	1
Mt. Desert Island										2
Bass Harbor			(title)							3
Little Black Island										4
Black Island										5
Grindstone Ledge										6
Outer Dawes Ledge										7
Inner Dawes Ledge										8
Placentia Island										9
Little Gott Island									B.G.N.	10
Great Gott Island									"	11
Bass Harbor Bar										12
Bass Harbor Head										13
Weaver Ledge									B.G.N.	14
Lopaus Point									"	15
Bernard										16
McKinley										17
										18
					Names approved 12-14-51 L. Hecht					19
			(See chart 308 for best placement of names)							20
Mackerel Cove Swans I.			(location of one tide station)							21
										22
										23
										24
										25
										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-8109

Records accompanying survey:

Boat sheets returned to field; sounding vols. 10; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls 10 Env.

special reports, etc. 1 Smooth Sheet; 1 Descriptive Report;.....

.....

The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet		2826
Number of positions checked		140
Number of positions revised		50
Number of soundings revised (refers to depth only)		65
Number of soundings erroneously spaced		18
Number of signals erroneously plotted or transferred		—
Topographic details	Time	20
Junctions	Time	20
Verification of soundings from graphic record	Time	2

Verification by D.L. Engle Total time 360 Date Nov 24, '54

Reviewed by J.A. Dinsmore Time 48 Date 13 Dec. 1954

M-2232-1

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8109 FIELD NO. SO-1246

Maine, Mount Desert Island, Bass Harbor & Approaches

Project CS-265

Surveyed - Sept.-Oct., 1950 & June-Aug. 1953 Scale 1:10,000

Soundings:

808 Fathometer
Hand lead

Control:

Sextant fixes on shore signals

Chief of Party - W. F. Malnate and J. S. Morton
Surveyed by - W. F. Malnate, L. F. Woodcock and R. C. Darling
Protracted by - A. K. Schugeld
Soundings plotted by A. K. Schugeld
Verified and inked by - D. R. Engle
Reviewed by - T. A. Dinsmore 13 Dec. 1954
Inspected by - R. H. Carstens

1. Shoreline and Signals

compared with reviewed surveys 7/24/63

The shoreline originates with unreviewed photogrammetric manuscripts T-11345 and T-11346 of 1953.

The origin of the signals is given in the Descriptive Report. Attention is particularly directed to the discussion of control in the Processing Office Addendum.

2. Sounding Line Crossings

Depths at crossings are in very good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated except in a few inshore localities where protuding ledge or the abrupt slope of the bottom prevented development to the low-water line.

The bottom for the most part is irregular. Submerged pinnacles,

knolls and ridges are prevalent throughout the area. The most conspicuous pinnacle rises abruptly from depths of 60-100 ft. to within 12 ft. of the surface in lat. 44°09.98', long. 68° 20.05'. The most important submarine feature in the area is Bass Harbor Bar which connects Great Gott Island and Bass Harbor Head blocking deep-water passage from the east and west. Although general depths are 8-12 ft. across the narrow bar, 14 ft. can be carried at the buoy.

4. Junctions with Contemporary Surveys

Adequate junctions were effected with H-7153 (1946) on the east and H-7151 (1948) on the west. The junctions with H-8029 (1953) on the northeast and H-7774 (1949) on the south will be considered in the reviews of those surveys.

5. Comparison with Prior Surveys

a. H-1120 (1871) 1:10,000
H-1164 (1872) 1:10,000
H-1372 (1877) 1:40,000
H-1453 (1879-1905) 1:10,000

These prior surveys taken together cover the area of the present survey. A comparison of the prior and present depths indicates that no appreciable changes in bottom have taken place. The old sounding lines are widely spaced, however, and fail to show many shoaler indications revealed by the closer development on the present survey. The following discrepancies are noted:

(1) The 25-ft. sounding charted in lat. 44°12.09', long. 68°21.49', from H-1164 should be disregarded. Falling in 55-ft depths on the present survey, the prior sounding is considered to be out of position due to faulty spacing of soundings on a line running normal to the shoreline. The 25 should actually fall on the slope about 80 meters closer inshore where comparable depths were obtained on the present survey.

(2) The rock awash charted in lat. 44°12.62', long. 68° 20.05', from a minus 2-ft. sounding on H-1120 is recommended for deletion by the hydrographer. A detached investigation in the above locality at low tide did, however, reveal a rock about 70 meters eastward of the above position. The prior rock is probably out of position and is actually the one located on the present survey. The hydrographer's recommendation is concurred in and the present survey information is considered adequate for charting.

(3) The 24-ft. sounding charted in lat. 44°11.48', long. 68°19.93', from H-1453 should be disregarded. Falling in 34-ft. depths on the present survey, the prior sounding is

probably 10 ft. in error or out of position. Comparable depths on the present survey occur on the slope about 40 meters northwestward. Present development is adequate to disprove the prior depth in its charted position.

(4) The 57-ft sounding charted in lat. 44°10.09', long. 68°19.15', from H-1372 should be disregarded. Falling in depths of 80 ft. on the present survey, the prior sounding is considered to be out of position and should actually fall about 100 meters eastward where comparable depths were obtained by close development on the present survey.

Several prior soundings and rocks have been carried forward to supplement present depths. A number of bottom characteristics were also transferred from the prior surveys. With the indicated additions, the present survey is adequate to supersede the prior surveys within the common area.

b. H-2965 W. D. (1908-11) 1:20,000

This wire-drag survey covers two small areas on the present survey. The deep water area immediately south and southwest of Placentia Island has been dragged to effective depths of 35-37 ft. with no conflicts noted between present survey depths and the effective drag depths.

Across the northern part of Bass Harbor Bar, a narrow strip has been dragged to effective depths of 8-10 ft. with only minor conflicts of 1 ft. noted. In this area, two 9-ft. soundings have been retained from the wire-drag survey.

6. Comparison with Chart 308 (Latest print date 8/23/54)

A. Hydrography

Charted hydrography originates principally with the previously discussed surveys which need no further consideration. A few critical soundings and rocks have been applied to the chart from the present survey through blueprint 49566 (copy of boat sheet) and information reported in H. O. Notice to Mariners Nos. 2 and 8 (1953) and 38 (1954). Critical soundings charted from advance information of the present survey which have been revised in depth during verification are listed as follows:

Latitude	Longitude	Charted Depth	Survey Depth
44°12.45'	68°20.42'	4	5
44°12.27'	68°20.54'	25	24
44°11.96'	68°18.76'	11	12

The present survey supersedes the charted information.

B. Aids to Navigation

Aids to navigation located on the present survey are in substantial agreement with the charted aids and adequately mark the features intended.

7. Condition of Survey

a. The sounding records and Descriptive Report are complete and comprehensive.

b. The protracting of positions was generally accurate except in Bass Harbor where about 50 positions required replotting during verification because the smooth plotter had erroneously used signal ANK instead of TANK although the latter was clearly recorded in the sounding volumes.

In many instances, the smooth plotter did not plot the shoalest soundings in areas of kelp although the scanner had correctly scanned and recorded solid-bottom soundings. Numerous shoal soundings were added to the smooth sheet during verification.

Many rocks were incorrectly symbolized on the smooth sheet. Submerged rocks were shown as rocks awash and rocks awash were shown as submerged rocks.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work

This is an excellent basic survey. However, when wire-drag operations are extended into this area it would be desirable to have the least depths determined on the shoals, 23 ft. at lat. 44°11.69', long. 68°19.03' and 18 ft. at lat. 44°11.31', long. 68°21.25', which are undeveloped on the present survey.

Examined and Approved:

H. R. Edmonston
Chief, Nautical Chart Branch

E. R. McCarthy
Acting Chief, Division of Charts

G. R. Fish
Chief, Hydrography Branch

Earl O. Heaton
Chief, Division of Coastal Surveys

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. June 1937

839

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~ 3 September 1954

Division of Charts: R. H. Carstens GFJ.

Plane of reference approved in
10 volumes of sounding records for

HYDROGRAPHIC SHEET 8109

Locality Bass Harbor, Mount Desert Island, Maine

Chief of Party: (W. F. Malnate in 1950
(J. S. Morton in 1953
Plane of reference is mean low water, reading
3.0 ft. on tide staff at Mackerel Cove (1950)
13.6 ft. below B. M. 5 (1911)

2.6 ft. on tide staff at Bass Harbor (1953)
10.8 ft. below B. M. 3 (1911)

Height of mean high water above plane of reference:

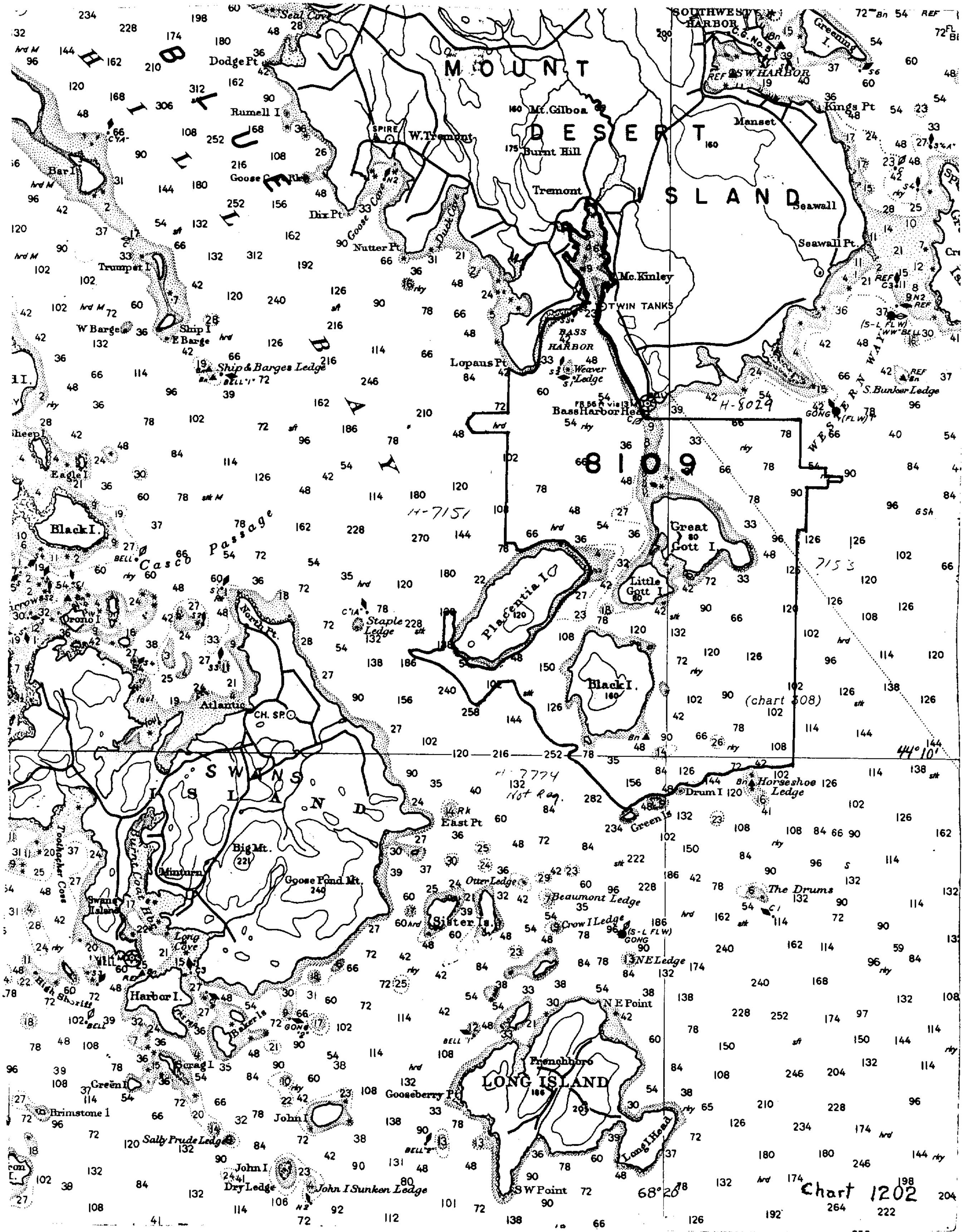
Mackerel Cove	=	10.0 ft.
Bass Harbor	=	9.9 ft.

Condition of records satisfactory except as noted below:

E. C. McKay
Tides Branch

Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE 756675


MOUNT DESERT ISLAND
SOUTHWEST HARBOR
SW HARBOR
Greening I.
Kings Pt
Manset
Seawall
Seawall Pt.
Mt. Gilboa
Burnt Hill
Tremont
W. Tremont
Mc. Kinley
TWIN TANKS
BASS HARBOR
Weaver Ledge
Bass Harbor Head
Lopaus Pt
Seal Cove
Dodge Pt
Rumell I
Goose Cove
Dix Pt
Nutter Pt.
Duck Cove
BLUE HILL BAY
Bar I
Trumpet I
W Barge
Ship I
E Barge
Ship & Barges Ledge
Casco Passage
Sheep I
Eagle I
Black I.
Orono I
North Pt.
Staple Ledge
Atlantic
CH. SP.
Placentia I
Great Gott I.
Little Gott I
Black I.
8109
(chart 308)
H-8029
H-7151
H-7774
Not Req.
7153
WESTERN WAY
S. Bunker Ledge
Drum I
Horseshoe Ledge
Greens I
East Pt
SWANS ISLAND
Big Mt.
Goose Pond Mt.
Minturn
Toothacher Cove
Burnt Coat Hbr
Swans Island
Long Cove
Harbor I.
High Sheriff
Baker Is
Scrag I
Green I
Brimstone I
Sally Prude Ledge
John I
Dry Ledge
John I Sunken Ledge
Otter Ledge
Beaumont Ledge
Crow I Ledge
Sister Is.
NE Ledge
The Drums
N E Point
Frenchboro
LONG ISLAND
Gooseberry Pt
Long I Head
S W Point
44°10'
68°20'
Chart 1202

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8109

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
12/31/54	308 Reconst	GHE	~~Before~~ After Verification and Review
1/6/55	1202	H.E. MacEwen	~~Before~~ After Verification ~~and Review~~ and review. & atex
			This was a fairly complete application but should be re-applied thru Ch 308 Reconst when 1202 is reconstructed - JPW 1/19/55
10-26-55	307	R.K. DeLander	Partially applied ~~Before~~ After Verification and Review. Chart 308
			reconstr. not available at this time.
5-11-56	306	JPWalker	~~Before~~ After Verification and Review Partially
4/20/62	306 Reconstr	Helmer	~~Before~~ After Verification and Review Fully app thru
			chart 308. Remainder (N. of 44°14.5') fully app.
5-2-62	307 Recon	T.K. Rogers	Fully applied ~~Before~~ After Verification and Review thru chart 308.
			North of 44°14.5' appl'd thru overlap of chart 306
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

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.