

8029

and

Additional work

Diag. Cht. No. 1202-2.

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. ST-1253 Office No. H-8029 & Ad. Wk.

LOCALITY

State Maine

General locality Mt. Desert Island

Locality Somes Sound, Southwest Harbor

Northeast Harbor, and Western Way

19~~53~~-54-56

CHIEF OF PARTY

J. S. Morton & R. A. Marshall

LIBRARY & ARCHIVES

DATE November 12, 1954

B-1870-1 (1)

8029

and

Additional work

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. H-8029 *& Add WK*

Field No. *St-1253*

State *MAINE*

General locality *MT. DESERT ISLAND*

Locality *SOMES SOUND, SOUTHWEST HARBOR, NORTHEAST HARBOR, & WESTERN WAY*

Scale *1:10,000* Date of survey *14 July to 13 Oct. 1953*
27 April to 25 June 1954
28 Aug. to Sept. 10, 1956

Instructions dated *6 FEBRUARY 1953*

Vessel *STIRNI*

Chief of party *J.S. MORTON & R.A. Marshall*

Surveyed by *SHIP'S OFFICERS*

Soundings taken by ~~FAUSTHELD~~, graphic recorder, hand lead, ~~WES~~

Fathograms scaled by *SHIP'S PERSONNEL*

Fathograms checked by *SHIP'S PERSONNEL & NORFOLK PROCESSING OFFICE*

Protracted by *GEO. L. FERNANDES*

Soundings penciled by *GEO. L. FERNANDES*

Soundings in ~~XXXXXX~~ feet at MLW ~~XXXXXX~~
and are true depths

REMARKS: *This folder contains separate reports for the 1953 and 1954 field seasons, and Additional Work for 1956.*

H-8029 (1953-54)

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 Somes Sound, Southwest Harbor, Northeast Harbor, and Western Way. Southern limit at Lat. $44^{\circ} 13.0'N$ from Long. $68^{\circ} 15.0'W$ and Long. $68^{\circ} 20.0'W$, eastern limit at Long. $68^{\circ} 15.0'W$ south of Great Cranberry Island, ~~Great Cranberry Island Long. $68^{\circ} 15.7'W$~~ north of Great Cranberry Island, Sutton Island, and Long. $68^{\circ} 15.7'W$ north of Sutton Island to Pierce Head. Western and northern limits are bounded by shoreline from Bass Harbor Head to Southwest Harbor, around Somes Sound, Northeast Harbor to Pierce Head.

The area north of Lat. $44^{\circ} 18.4'N$ in Somes Sound is incomplete. *completed in 1954*

Field work began on 14 July 1953, and was completed on 13 October 1953.

Minor delays occurred when the launch personnel were used on the STIRNI for continuous hydrography on sheet ST-4153. ^{H-8029} Several delays were due to inclement weather. Actually, this survey and that on sheets H-7151 and H-8030⁽⁵³⁾ were surveyed at the same time to take advantage of the good weather to work on the exposed coast of sheets H-7151 and H-8030, and during windy weather when seas and swells were impossible to work in on sheets H-7151 and H-8030, work was accomplished on this survey. ⁸¹⁰⁹

The survey makes a junction with H-7153 (1946), scale 1:20,000 on the south and H-8030, 1953, scale 1:10,000 on the east. ^{H-8109 (53)} on S.W.

C. VESSEL AND EQUIPMENT:

Motor launch 101 was used for the entire survey with the exception of 9 and 13 October when the Ship STIRNI was used. The launch was operated from the USC&GSS STIRNI tied up alongside the U. S. Coast Guard pier at Southwest Harbor, Maine.

Four 808 fathometers, nos. 151-SPX, 155-SPX, 65, and 145-SP were used. Fathometer 65 gives a stray on the "B" scale at about 62 feet. Hand lead soundings were taken in most cases 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. $44^{\circ} 16.49'$ and Long. $68^{\circ} 18.80'$ at Southwest Harbor, Maine, 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, and 1908. Party Chiefs were A.D.B., S.C.McC., F.P.W., G.A.F., J.W.D., AND N.H.H. respectively. Additional control was furnished by the U. S. Coast and Geodetic Survey in 1934 by K.G.C. ✓

Photogrammetric control was used exclusively as shown on the manuscripts RS-473 (T-11343), 1953, (upper Somes Sound), RS-474 (T-11344), 1953, (lower Somes Sound), RS-462 (T-11351), 1953, RS-475 (T-11345), 1953, (Western Way), and RS-463 (T-11350), 1953. All are on the 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:

T-11345

The shoreline and topography were located by means of photogrammetric plots shown on T-11343, T-11344, T-11351, and T-11350, 1953, scale 1:10,000. Some low water 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 coming under this classification, 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 discrepancies are noted between the photogrammetric and hydrographic location of mean low water line with the exception of the "flat" areas in the inner reaches of Somes Sound, Southwest Harbor, and Northeast Harbor. Here, a difference of one foot of tide will move the low water line almost 30 meters or more, which accounts for any discrepancies in those areas.

H. SOUNDINGS:

Depths were measured by use of the 808 fathometer. In most cases, 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 continuous use during this operation and notes were made on the fathograms and in the record book.

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.

J. ADEQUACY OF SURVEY:

The survey is complete and adequate to supersede prior surveys for charting up to latitude $44^{\circ} 18.4'N$ in Somes Sound with the exception of Flyns Ledge at Lat. $44^{\circ} 14.45'N$ and Long. $68^{\circ} 17.70'W$. This rock was searched for on three different occasions at MLW or a lower stage of the tide. On each investigation, the water was calm and clear. A marker buoy was placed at the transferred position from the old survey and extensive circling and soundings were undertaken with no visual or fathogram indications of the existence of this ledge. Regardless of the fact that the ledge was found on the old survey, it is recommended that the ledge be further investigated at such time Somes Sound is completed or wire drag proves otherwise. The only explanation that can be offered is that the ledge is out of position more than 100 meters on the old survey. Even so, it does not bare at low water as the one foot reef to the northeast was showing during one of the investigations. The old records on this sounding should be checked. *Review, par. 5.*

The section of Somes Sound north of Lat. $44^{\circ} 18.4'N$ is incomplete. *See report of three or four days hydrography should complete this area. 1954 work*

The junctions with the adjoining surveys ~~are~~ satisfactory and depth curves can be adequately drawn at these junctions.

K. CROSSLINES:

4% crosslines were run with no discrepancies. This includes the development mileage in the main scheme of soundings. *Review, par. 2.*

L. COMPARISON WITH PRIOR SURVEYS:

The overall survey agrees with the prior surveys H-1122, 1871, scale 1:10,000, H-1121, 1902, scale 1:10,000, H-1424, 1879, scale 1:20,000, H-1120, 1871, scale 1:10,000, and H-2765, 1905, scale 1:10,000.

In several shoal areas, ^{however} ~~lower~~, shoaler depths were found. These soundings are listed in paragraph N. The prior surveys were made by hand lead alone which probably accounts for these discrepancies. Also, very little development was undertaken in the prior survey. 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 when applicable.

One new rock was found and ^{*}two rocks were not found - one at Lat. 44° 14.45' N Long. 68° 17.70' W and the other to the SW at Lat. 44° 14.08' N Long. 68° 18.30' W. 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 at these junctions. **See Review, par. 5*

M. COMPARISON WITH CHART:

The survey was compared with charts 306 & 307, scale 1:40,000. The pier in Somes Sound at Lat. 44° 18.3', Long. 68° 18.2' no longer exists and should be removed from the chart. The three rocks at ^{*}Lat. 44° 16.72', Long. 68° 18.58' and Lat. 44° 17.1', Long. 68° 19.0', and Lat. 44° 17.0', Long. 68° 18.8' were searched for and not found, at a -1 foot stage of the tide. The first two were from the result of one report sent in by the Coast Guard Station in Southwest Harbor. It was confirmed to be the same rock and also confirmed to be at the tip of the ledge at Lat. 44° 16.98', Long. 68° 18.80'. C.W.O. Drinkwater in charge of the Coast Guard Station further confirmed that the Clark Point Beacon was placed in the same position as the old light. This fact will eliminate the ^{*}rock position at Lat. 44° 16.72', Long. 68° 18.58'.

Rocks have been removed from chart

It is recommended that these reported rocks be removed from the chart. ** previously removed from chart in accordance with C.L. 988 (1953)*

All piers, roads, and other topographic changes shown on the photogrammetric manuscripts will supersede the present charted features.

The overall soundings compare favorably with the chart except the soundings listed in paragraph N.

N. DANGERS AND SHOALS:

Listed below are the important newly found shoals:

<u>Latitude</u>	<u>Longitude</u>	<u>Least Depth</u>	<u>Position No.</u>
*44-18.10N	68-18.39W	4'	37 y - charted
*44-15.02N	68-16.88W	12'	3 K + 1 - charted
44-14.06N	68-18.43W	Rock bares 2'	28 t charted
*44-13.93N	68-16.88W	16'	40 B charted
*44-15.58N	68-17.14W	23 + 27'	55-56 K - charted
*44-16.32N	68-19.30W	1/2' (ledge)	192 y charted

* Reported to U. S. Coast Guard via the Washington Office.

About one hour was spent searching for the 4 foot sounding at Lat. $44^{\circ} 17.30'N$, Long. $68^{\circ} 16.47'W$ on the chart. The shoalest sounding obtained was 6^5 feet. It is recommended that the 4 foot sounding be retained until disproved by wire drag. (4 ft. carried fwd. to present survey)

About one hour was spent searching for the 2 foot sounding at Lat. $44^{\circ} 14.6'N$, Long. $68^{\circ} 17.3'W$ on the chart. The shoalest sounding obtained was 7^6 feet. However, it is recommended that the 2^* foot sounding be retained until disproved by wire drag. An investigation in the old records should be made to see if this sounding is 2 feet. Strong currents prevented a complete and adequate investigation. * 2 ft. carried fwd. to pres. survey

The present survey did not uncover the 37^* foot and 34 foot depths at $44^{\circ} 13.58'N$, Long. $68^{\circ} 16.5'W$ and Lat. $44^{\circ} 13.45'N$, Long. $68^{\circ} 16.8'W$. As there is no development on the new survey in this area, it is recommended that the old soundings be retained. Rock awash symbols should be changed to ledge symbols as shown on the manuscripts. The Rocks in the vicinity of Clark Point and Flyⁿ's Ledge are discussed under paragraph J of this report. *verified by 33 ft. on pres. survey*
* 37 ft. carried fwd. to pres. survey

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

O. COAST PILOT INFORMATION:

Several marine railways are in operation at Southwest Harbor for hauling small boats and vessels around 80 feet in length. Marine supplies can be obtained at this port, as can gasoline, diesel fuel and hardware.

There ~~is~~^{are} good anchorages in the upper reaches of Somes Sound, Southwest Harbor, and Northeast Harbor. However, the latter harbors are open to southeasterly weather and offer poor protection under these conditions. Large vessels have a good anchorage area between Sutton Island and Greening Island.

P. AIDS TO NAVIGATION:

Floating Aids:

Light List Name	Latitude	Longitude	Depth of Water	Pos. No.	Date
Somes Hbr. Buoy 11	$44-21.4362$	$68-19.70$	9' 15'	29h	8/10/53
Bar Ledge Buoy 9	$44-21.28$	$68-19.48$	23' 22'	104v	9/18/53
Myrtle Ledge Buoy 8	$44-21.03$	$68-19.29$	26'	100v	9/18/53
Middle Rock Buoy 7	$44-17.58$	$68-18.43$	25'	185y	10/8/53
Greening I. Buoy 5	$44-17.02$	$68-18.33$	18'	191y	10/8/53
Greening I. Buoy 6	$44-16.42$	$68-17.56$	26'	1u	9/14/53
Greening I. Buoy 8	$44-16.48$	$68-18.41$	35'	179z	10/12/53
Gilpatric Cove B.	$44-17.15$	$68-17.55$	12'	122y	10/8/53
Northeast Hbr B.6	$44-17.56$	$68-16.77$	17'	175u	9/14/53
Northeast Hbr B.2	$44-17.10$	$68-16.55$	13'	171u	9/14/53
Northeast Hbr B.4	$44-17.28$	$68-16.48$	24'	169u	9/14/53

<u>Light List Name</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Depth of Water</u>	<u>Pos.No.</u>	<u>Date</u>
Northeast Hbr. B.1	44-17.14 ✓	68-16.48 ⁸	22' ✓	170u ✓	9/14/53
Spurling Pt. B.4A	44-15.74 ✓	68-16.64 ⁶	43' ✓	44z ✓	10/12/53
Cow Idg. B. 4	44-15.36 ✓	68-16.81 ✓	34' ✓	18r ✓	8/27/53
Spurling Pt. B.	44-15.52 ✓	68-17.11 ✓	42' ✓	6g q ✓	8/25/53
Flymms Idg B. 3	44-14.40 ✓	68-17.08 ✓	22' ✓	1t ✓	8/31/53
Cranberry I Idg. B.2	44-14.25 ✓	68-17.09 ✓	33' ✓	2t ✓	8/31/53
Lghtd. Bell B. WW	44-14.18 ⁶ ✓	68-17.18 ⁸ ✓	42' ✓	3t ✓	8/31/53
Long. Idg. Lghtd.					
Gong Buoy 1	44-13.37 ✓	68-18.62 ✓	60' ✓	63t ✓	8/31/53

It is recommended that a red spar be placed to the west of the ⁴ foot rock at Lat. 44-18.10N, Long. 68-18.39W.

There are several cable areas in the area. One runs from the east shore of Northeast Harbor to Bear Island to the ~~northeast~~^{west} shore of Sutton Island. Another cable goes from ~~Pierce~~^{west} Head to Bear Island and to the ~~northeast~~ shore of Sutton Island. A third cable goes from an area between Southwest Harbor and Sea Wall Point to Spurling Point on Great Cranberry Island. A report by the photogrammetric division is submitted on the cable areas in more detail.

A fishing boat serves as a ferry for carrying supplies and personnel from Southwest Harbor (2nd pier west of C.G. pier) to the pier at Islesford on Little Cranberry Island.

Q. LANDMARKS FOR CHARTS:

See separate report submitted on Form 567.

U. STATISTICS:

Totals for Sheet.

Launch: No. Pos. 3359, Stat. Mi. of Sdgs. 431.6, H. L. Sdgs. 84,
Area, Sq. Stat. Mi. 10.4

Ship: No. Pos. 126, Stat. Mi. of Sdgs. 24.9.

V. TIDE NOTE:

The portable automatic gage located in Southwest Harbor, Lat. 44-16.49, Long. 68-18.80, furnished tidal data used in reducing soundings for the entire sheet. Mean low water falls at 3.5 feet on the Southwest Harbor tide staff. No correction for time or height was applied to the Southwest Harbor readings. Hourly heights were scaled by ship personnel, and the plane of reference was furnished by the Washington Office.

W. ABSTRACT OF VELOCITY CORRECTIONS:

Velocity corrections were applied using one set of corrections through 4 September 1953, and a different set after 4 September 1953 for the remainder of the season.

Bar checks were taken for each fathometer to 75-100 ft. depths. Below this, velocity corrections were based on temperature and salinity observations.

VELOCITY CORRECTIONS THROUGH 4 SEPTEMBER 1953 - LAUNCH 101.

FATH. 155-SPX			FATH. 151-SPX			FATH. 65		
From 0ft.	To 10ft.	Corr. 0.0ft.	From 0ft.	To 9ft.	Corr. 0.0ft.	From 0ft.	To 37ft.	Corr. 0.0ft.
10	21	-0.2	9	16	-0.2	37	57	-0.2
21	31.5	-0.4	16	23	-0.4	57	67	-0.4
31.5	41	-0.6	23	29.5	-0.6	67	78	-0.6
41	49.5	-0.8	29.5	37.5	-0.8	78	95	-0.8
49.5	57	-1.0	37.5	43.5	-1.0	95	114.5	-1.0
57	64	-1.2	43.5	50	-1.2	114.5	133.5	-1.2
64	70	-1.4	50	57	-1.4	133.5	153	-1.4
70	76	-1.6	57	64	-1.6	153	173	-1.6
76	84	-1.8	64	71	-1.8			
84	96.5	-2.0	71	83	-2.0		FATH. 145-SP	
96.5	114	-2.2	83	101	-2.2	0	52	0.0
114	134	-2.4	101	120.5	-2.4	52	65	-0.2
134	153	-2.6	120.5	140	-2.6	65	75.5	-0.4
153	160	-2.8	140	160	-2.8	75.5	89	-0.6
						89	107	-0.8
						107	126.5	-1.0
						126.5	146.5	-1.2
						146.5	166	-1.4
						166	186	-1.6

VELOCITY CORRECTIONS AFTER 4 SEPTEMBER 1953 - LAUNCH 101

FATH. 155-SPX			FATH. 151-SPX			FATH. 65		
From 0ft.	To 10ft.	Corr. 0.0ft.	From 0ft.	To 9ft.	Corr. 0.0ft.	From 0ft.	To 10ft.	Corr. 0.0ft.
10	21	-0.2	9	16	-0.2	10	34.5	-0.2
21	31.5	-0.4	16	23	-0.4	34.5	43.5	-0.4
31.5	41	-0.6	23	29.5	-0.6	43.5	50	-0.6
41	49.5	-0.8	29.5	37.5	-0.8	50	55	-0.8
49.5	57	-1.0	37.5	43.5	-1.0	55	59.5	-1.0
57	64	-1.2	43.5	50	-1.2	59.5	66	-1.2
64	70	-1.4	50	57	-1.4	66	80	-1.4
70	76	-1.6	57	64	-1.6	80	121	-1.6
76	87	-1.8	64	71.5	-1.8	121	166.5	-1.8
87	122.5	-2.0	71.5	90.5	-2.0			
122.5	170	-2.2	90.5	136.5	-2.2		FATH. 145-SP	
170	---	-2.4	136.5	183	-2.4	0ft.	52ft.	0.0ft.
						52	65	-0.2
						65	76	-0.4
						76	101.5	-0.6
						101.5	149	-0.8
						149	192	-1.0

VELOCITY CORRECTIONS AFTER 4 SEPTEMBER 1953 - SHIP STIRNI
 FATHOMETER 145-SP

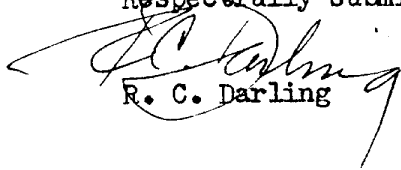
From	To	Corr.
0ft.	27ft.	0.0ft.
27	46	-0.2
46	60.5	-0.4
60.5	72.5	-0.6
72.5	81	-0.8
81	91	-1.0
91	115.5	-1.2
115.5	160	-1.4

Phase corrections are as follows:

Fathometer	A to B	A to C	A to D
SP-145	+1.2 ft.	+2.2 ft.	+2.8 ft.
151SPX	-0.4	-3.1	-5.4
155-SPX	-1.6	-2.2	-4.2
65	-1.4	-1.6	-1.8

Velocity corrections and phase corrections were combined under the echo correction column of the sounding volume.

Respectfully submitted,


 R. C. Darling

Approved and forwarded,


 J. S. Morton

Supplemental Descriptive Report covering the 1954 work

A. PROJECT:

As before.

B. SURVEY LIMITS AND DATES:

This supplemental survey completed prior work in Somes Sound, north of Lat. 44-18.4 N. to the head of Somes Sound and up to the entrance to Somes Harbor at Lat. 44-21.3 N. Long. 68-19.4 W.

Field work began on 27 April 1954 and was completed 29 April 1954. One additional day, 25 June 1954, was needed to complete shoal investigation and to run several supplemental lines. ✓

Progress of the field work was satisfactory during April. The press of other field work made it impractical to return to the area prior to 25 June for the additional day's work.

C. VESSEL AND EQUIPMENT:

Motor launch No. 101 was used for the survey during April, and was operated from the USC&GS Ship STIRNI, tied up alongside the U. S. Coast Guard pier at Southwest Harbor, Maine. Work on 25 June was conducted from a 16' skiff equipped with an outboard motor. ✓

808 Fathometer no. 155-SPX was used for the survey in April. Hand lead soundings were taken in most cases when locating reefs, rocks, and shoals dangerous to navigation. The work of 25 June was done by hand lead.

D. TIDE AND CURRENT STATIONS:

As before.

E. SMOOTH SHEET: As before.

F. CONTROL STATIONS:

As before.

The 1953 boat sheet was not available at the time of the supplemental survey, therefore, another boat sheet was made to cover only Somes Sound. Hydrographic stations were transferred from a bromoil of photogrammetric manuscript RS-473(T-11343) 1953. The 1953 hydrography was transferred to the boat sheet by means of a projector and is shown in red. ✓

G. SHORELINE AND TOPOGRAPHY:

The shoreline and ⁽¹⁹⁵³⁾topography were located by means of photogrammetric plots shown on T-11343, scale 1:10,000. Because of the steepness of the topography along the major portion of Somes Sound, soundings could not be run over the LWL, even at high tide without undue danger to launch and personnel. The photogrammetric LWL is believed to be quite adequate and should be used in this case. ✓

The photogrammetric LWL was spot checked by detached positions taken at low water, and the hydrographic ledge locations are shown in black. Excellent agreement with photogrammetric LWL was found. One discrepancy between photogrammetric and hydrographic LWL was found at the entrance to Sargent Cove, Lat. 44-20.9 N. Long. 68-18.4 W. Here a difference of one foot of tide will move the LWL a considerable distance. ✓

H. SOUNDINGS:

As before.

I. CONTROL OF HYDROGRAPHY:

As before.

J. ADEQUACY OF SURVEY:

An investigation was made of Flynn's Ledge, Lat. 44-14.45 N. and Long. 68-17.70 W., as called for in the 1953 descriptive report. A marker buoy was placed at the charted position of the rock and the area was extensively circled with no visual or fathogram indications of this ledge. Soundings agreed with those obtained in 1953. It is believed that this investigation, and those conducted in 1953, are adequate to disprove the existence of the rock in question. The old records on this sounding should be checked. It is recommended that the rock symbol be removed from the chart. ✓ By inquiry of the Coast Guard and local fisherman in Southwest Harbor, it was found that the name Flynn's Ledge actually applies to the rock ledge extending southeast from Seawall Point, Lat. 44-14.8 N, Long. 68-17.4 W. and not to the rock symbol shown. ✓

The survey is complete and adequate to supersede prior surveys. The junctions with the 1953 survey are satisfactory, and depth curves can be adequately drawn at these junctions. No holidays exist at these junctions.

In general, crosslines with the 1953 survey were in agreement. Several crosslines (96b to 101b) and two development lines (29b to 30b and 61c to 62c) were 3 to 5 feet deeper (about 10%) than the 1953 soundings. It is believed this can be attributed in part, to an incomplete knowledge of the tide in the upper reaches of Soges Sound. It is believed that the narrow constricted neck of the sound, with the wider, deeper fiord behind, would result in some tide delay as compared to Southwest Harbor. The gently sloping upper reaches of the sound afford the only good place for checking crosslines, and it is this area where the discrepancies occur. } Review par. 2

K. CROSSLINES:

10% crosslines were run with the only discrepancies being as discussed under sub heading J. ✓

Review,
par. 2

L. COMPARISON WITH PRIOR SURVEYS:

The copy of the prior surveys had been turned over to the Norfolk Processing Office and was not available at the time of this supplemental survey. Critical soundings had been transferred in green to the boat sheet and were used for comparisons. Agreement was generally good, except as noted in paragraph N.

M. COMPARISON WITH CHART:

The survey was compared with charts 306 and 307, scale 1:40,000. The rock awash symbol, Lat 44-21.10⁶ Long. 68-18.28⁶⁰, should be shown by a ledge symbol.

The overall soundings compare favorably with the chart except the soundings listed in paragraph N.

N. DANGERS AND SHOALS:

Listed below are the important newly found shoals.

<u>Latitude</u>	<u>Longitude</u>	<u>Least Depth</u>	<u>Position No.</u>
44-21.22 N.	68-18.72 W.	4' ✓	Id ✓
44-21.16 N.	68-19.30 W.	11' ✓	72c ✓ (10-ft. sdg. close by retained from H-1122 (1871))

About 20 minutes was spent searching for the 3 ft. sounding (old survey) at Lat. 44-21.08² N. Long. 68-18.48⁸ W. Bottom was visible at the time of search (low water), and no indications were found. It appears this 3 ft. may have been an 8 ft. transferred in error, and the old survey should be consulted. *Review, pars 5 (3)*

O. COAST PILOT INFORMATION:

There are 3 small marine railways at Lat. 44-21.65, Long. 68-18.55 capable of handling small craft.

There is a good small craft anchorage at lat. 44-21.5, long. 68-18.6, well protected from all but the most severe southerly storms.

P. AIDS TO NAVIGATION:

<u>Light List Name</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Depth of Water</u>	<u>Pos.No.</u>	<u>Date</u>
Somes Cove Buoy 10	44-21.16	68-18.78	35'	46b	4/26/54

Q. LANDMARKS FOR CHARTS:

As before.

U. STATISTICS:

<u>No. Pos.</u>	<u>Stat. Mi. Sdgs.</u>	<u>H.L. Sdgs.</u>	<u>Area, Sq. Stat. Mi.</u>
298	41.0	97	0.75

V. TIDE NOTE:

As before.

W. ABSTRACT OF VELOCITY CORRECTIONS:

Velocity corrections are based on one bar check taken by the Ship STIRNI with fathometer No. 155-SPX, on 29 April. Launch bar checks were used only to determine that the fathometer was operating properly, and were not considered in the final velocity correction. The drafts of the ship and launch were taken into consideration in the final abstract. All sounding was done on the A scale.

FATHOMETER 155-SPX

FEET			FATHOMS		
<u>From</u>	<u>To</u>	<u>Corr.</u>	<u>From</u>	<u>To</u>	<u>Corr.</u>
3	10	0.8	2.8	8.3	0.00
10	13	0.6	8.3	10.0	-0.1
13	17	0.4	10.0	12.7	-0.2
17	22	0.2	12.7	15.3	-0.3
22	30	0.0	15.3	17.8	-0.4
30	50	-0.2	17.8	20.3	-0.5
50	54	-0.4	20.3	22.8	-0.6
54	--	-0.6	22.8	25.5	-0.7
			25.5	28.0	-0.8
			28.0	---	-0.9

Respectfully submitted,

David F. Romero

David F. Romero
Lt. (jg), USC&GS

Approved and forwarded,

Robert A. Marshall

Robert A. Marshall
Commander, USC&GS
Commanding Ship STIRNI

LIST OF SIGNALS
H-8029

TRIANGULATION STATIONS

BASS BASS HARBOR HEAD LIGHTHOUSE, 1861-1934
 BEAR BEAR ISLAND LIGHTHOUSE, 1902-34
 SPI SOMESVILLE, CHURCH SPIRE, 1863-1934

DESCRIBED TOPOGRAPHIC STATIONS

Aco ✓ BEACON, 1944 (T-11351) ✓
 Blac ✓ BLACK LEDGE BEACON, 1944 (T-11344) ✓
 Bunk ✓ SOUTH BUNKER LEDGE BEACON, 1944 (T-11345) ✓
 Cab ✓ CHIMNEY, 1944 (T-11345) ✓
 Day ✓ S.W. GABLE, 1944 (T-11344) ✓
 Fog ✓ S.W. GABLE, 1944 (T-11344) ✓
 Gil ✓ GILPATRICK COVE BEACON, 1944 (T-11344) ✓
 Key ✓ S.E. GABLE, 1944 (T-11344) ✓
 Lar ✓ CLARK POINT BEACON, 1944 (T-11344) ✓
 Pat ✓ GILPATRICK LEDGE BEACON, 1944 (T-11344) ✓
 Tax ✓ WESTERLY CHIMNEY, 1944 (T-11344) ✓ - RED BRICK CHIM.
 Thy ✓ BRICK CHIMNEY, 1944 (T-11344) ✓
 Mad ✓ CHIMNEY, 1944 (T-11345) ✓
 XIM - S. GAB, large wh. Ho. (T-11350)

TOPOGRAPHIC STATIONS (SOURCE T-11343)

Aim	Alp	Bib	Bob	Box	Cat	Cat	Cop	Cup	Dix	Doc
Dog	Eva	Fit	Fix	Foe	Get	Gig	Gin	Hod	Hoe	How
Imp	Job	Joe	Jug	Leg	Leo	Liz	Moo	Mop	Nig	Oil
Old	Ora	Pap	Pet	Pie	Pod	Rim	Rip	Rot	Rus	Sir
Sop	Sue	Try	Vim	Wam	Was	Max	Yet	1472		

(SOURCE T-11344)

Ace	Act	Add	Amp	Ann	Azo	Bag	Bed	Big	Boa	Bum
Caw	Cod	Cry	Cub	Dif	Don	Dud	Ebb	Eel	Egg	Era
Erg	Fat	Fed	Few	Fez	Gag	Hal	Gam	Got	Hat	Hem
Her	Hex	Hun	Ida	Irk	Its	Ivy	Jib	Joy	Ken	Kid
Led	Lam	Let	Mag	Man	Mob	Mug	Nay	Ned	Nit	Nor
Obi	Odd	Orb	Pal	Par	Pin	Pol	Poo	Rag	Rat	Red
Rev	Roy	Sag	Sam	Sax	Set	Tap	Tub	Val	Van	Via
Wag	Wan	Wed	Who	Yam	Yea	Zig	Zoo			

(SOURCE T-11345)

Abe	Bah	Cam	Daw	Ear	Eat	Far	Gad	Hag	Ice	Jap	Kea
Lop	Mal	Mud	Nat	Oak	Pad	Quo	Ram	Sad	Tan	Yak	Zag

(SOURCE T-11350)

Con	Dim	Fig	Fop	Gem	Gus	Hid	Jaw	Kim	Neo	Off	Roc
Tom	Tow	Vex	War								

(SOURCE T*11351)

Amy	Bar	Bon	Coo	Cow	Dip	Dot	Elf	Kon	Fin	Fly	Geo
Gob	His	Hop	Jim	Lay	Max	New	Ohm	Peg	Rio	Sic	Wee
Yes											

HYDROGRAPHIC STATIONS

Say (Transferred from boat sheet-No fix given)

STATISTICS
H-8029
LAUNCH 101 - 1953 SEASON

<u>VOL. NO.</u>	<u>DAY LTR.</u>	<u>DATE</u>	<u>H.L. SDGS.</u>	<u>POSITIONS</u>	<u>STAT. MI. SDGS.</u>
1	a (red)	7-14-53	0	154	16.8
1	b	7-15-53	0	81	11.8
2	c	7-21-53	0	64	10.2
2	d	7-23-53	0	181	27.3
3	e	7-24-53	0	205	33.6
3&4	f	7-27-53	0	210	26.7
4	g	8- 3-53	5	169	20.7
5	h	8-10-53	1	87	9.8
5&6	j	8-12-53	0	255	36.0
6	l	8-14-53	0	66	5.3
6	m	8-17-53	61	183	23.4
7	k	8-13-53	0	139	18.6
7	n	8-18-53	2	115	15.1
8	p	8-19-53	4	110	12.2
8	q	8-25-53	3	108	11.9
8	r	8-27-53	0	44	3.2
9	s	8-28-53	0	90	8.6
9	t	8-31-53	8	131	20.0
10	u	9-14-53	2	207	23.1
10&11	v	9-18-53	0	175	24.7
11	x	9-25-53	2	151	16.7
12	w	9-26-53	0	62	7.9
12&13	z	10-12-53	0	179	31.1

STIRNI - 1953 SEASON

14	A	10- 9-53	0	71	17.2
14	B	10-13-53	0	55	7.7

LAUNCH 101 - 1954 SEASON

15	a (blue)	4-27-54	0	31	5.3
15	b	4-28-54	1	146	26.0
15	c	4-29-54	10	94	8.2
15	d	6-25-54	86	27	1.5

TOTALS		185		3590	480.6
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SQUARE STATUTE MILES AREA SOUNDED - 11.15

ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8029 (Field No. St-1253)

GENERAL

This folder contains the descriptive report for the 1953 field season and a supplemental report to cover the additional work done in Somes Sound during the 1954 season.

This appears to be an excellent basic survey and no unusual problems were encountered during the smooth plot. Minor crossing discrepancies, mentioned in paragraph J of the supplemental report, occur at positions 89 to 90b, 47 to 48b and 91 to 92b (blue). *Review, par. 2*

An overlay tracing, showing a comprehensive chart comparison, is included with the smooth sheet. *(subsequently destroyed)*

Respectfully submitted,

Hugh L. Proffitt
Hugh L. Proffitt
Cartographer.

Norfolk, Va.
28 Oct. 1954

GEOGRAPHIC NAMES

Survey No. H-8029

Name on Survey	On Chart No.		On previous survey No.		On U. S. quadrangle Maps		From local information		On local Maps		P. O. Guide or Map		Rand McNally Atlas		U. S. Light List	
	A	B	C	D	E	F	G	H	K							
<u>Maine</u>														B.G.M.	1	
<u>Mt. Desert Island</u>															2	
<u>Pierce Head</u> ✓															3	
<u>Northeast Harbor</u> ✓															4	
<u>Gilpatrick Cove</u> ✓															5	
<u>Somes Sound</u> ✓															6	
<u>Valley Cove</u> ✓															7	
<u>Fernald Cove</u> ✓														B.G.M.	8	
<u>Southwest Harbor</u> ✓															9	
<u>Greening Island</u> ✓														B.G.M.	10	
<u>Bear Island</u> ✓															11	
<u>Sutton Island</u> ✓														R.F.M.	12	
<u>Great Cranberry Island</u> ✓															13	
<u>Spurling Point</u> ✓														B.G.M.	14	
<u>Spurling Cove</u> ✓														"	15	
<u>Preble Cove</u> ✓														"	16	
<u>Western Way</u> ✓														"	17	
<u>Seawall Point</u> ✓															18	
<u>Flynns ledge</u>															19	
<u>Somes Harbor</u> ✓															20	
															21	
<u>Ship Harbor</u> ✓														R.F.M.	22	
<u>Bass Harbor Head</u> ✓															23	
															24	
															25	
															26	
															27	

(correct application is as indicated on per. J of 1954 report - main ledge off Seawall Pt.)

Names approved 11-15-54. L. Heck (see chart 306)

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-8029...

Records accompanying survey:

Boat sheets ~~1~~(2 Parts) sounding vols. ¹⁵.....; wire drag vols.; bomb vols.; graphic recorder rolls ¹³ Eny. special reports, etc. 1 Cahier-Fathometer Corrections; 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		3657.
Number of positions checked		37
Number of positions revised		51
Number of soundings revised (refers to depth only)		9
Number of soundings erroneously spaced		20
Number of signals erroneously plotted or transferred		34
Topographic details	Time	5
Junctions	Time	66
Verification of soundings from graphic record	Time	25
Verification by <i>Partial Verif. D.R. Engle</i>	Time	1
Verification by <i>F.P. SAULSEURY (Partial Verif.)</i>	Time	2
Total time		175
Date		Oct 10, 1955
Reviewed by <i>J.A. Dinsmore</i>	Time	233
<i>Dinsmore</i>	Time	50
Date		22 June 1956
		24
		3 Aug 1956

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8029

FIELD NO. ST-1253

Maine, Mt. Desert Island, Somes Sound, S. W. Harbor, N. E.
Harbor and Western Way

Project No. CS-265

Surveyed - July - October, 1953 and
April - June, 1954

Scale 1:10,000

Soundings:

Control:

808 Fathometer
Hand lead

Sextant fixes on
shore signals

Chief of Party - J. S. Morton and R. A. Marshall
Surveyed by - Ships Officers
Protracted by - G. L. Fernandes
Soundings plotted by - G. L. Fernandes
Verified and inked by - D. R. Engle and F. P. Saulsbury
Reviewed by - T. A. Dinsmore 3 August 1956
Inspected by - R. H. Carstens

1. Shoreline and Signals

*Compared with reviewed
surveys 7/63*

The shoreline originates with the unreviewed manuscripts of air-photographic surveys T-11343, T-11344, T-11345, T-11350 and T-11351 of 1953.

The source of the signals is given in the Descriptive Report.

2. Sounding Line Crossings

Discrepancies amounting to as much as 4 ft. between the 1954 crossline soundings of fathometer 155 and the 1953 soundings of fathometers 65 and 145, were eliminated during verification by deleting from the smooth sheet sections of the 1954 crosslines on which amplification of the echo was not sufficient to register the sedimentary bottom in depths of 35 to 70 ft. in the upper part of Somes Sound.

In other areas, the development lines of 1954 cover areas of less than 40 ft. in depth and appear to be in adequate

agreement with the depths obtained in 1953. Other crossline soundings are in adequate agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated except in a few inshore localities where protruding 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 islands are almost entirely fringed with rock ledge with the exception of a few sandy bights. Numerous offlying reefs contribute to the bottom irregularities.

4. Junctions with Contemporary Surveys

Adequate junctions were effected with H-8030 (1953) on the east, H-7153 (1946) on the south and with H-8109 (1953) on the southwest.

5. Comparison with Prior Surveys

H-1120 (1871), 1:10,000
H-1121 (1871-02), 1:10,000
H-1122 (1871, 1:10,000)

H-1424 (1879), 1:20,000
H-2765 (1905), 1:10,000

These prior surveys taken together cover the area of the present survey. A comparison of the prior and present surveys 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 close development on the present survey. The following discrepancies are noted:

(1) The minus 2-ft. sounding previously charted (as a rock) in lat. $44^{\circ}14.45'$, long. $68^{\circ}17.71'$, from H-1121 should be disregarded. Investigation of the records of the prior survey reveals this sounding to be a single unsupported shoal sounding between 5-fm. depths. Adequate investigation of the locality during minus tides on the present survey disproves the existence of the low-water feature in the above position. The 4-ft. (Rk) sounding about 80 meters northwestward and the reef to the northeastward adequately reveal the dangers to navigation in this inshore area.

(2) The rock awash previously charted in lat. $44^{\circ}14.08'$, long. $68^{\circ}18.30'$ from a minus sounding on H-1120 should be disregarded. The prior survey information is considered to be erroneous. Air photos of 1952 taken at M.L.W. and visual investigation and sounding of the locality at low water on the present survey failed to reveal the existence of a low-water feature in the above position. The prior information is considered disproved.

(3) The 3-ft. sounding (uncharted) in lat. $44^{\circ}21.02'$, long. $68^{\circ}18.48'$, on H-1122 should be disregarded. Falling in depths of 7-8 ft. on the present survey, an intensive search was made during the present survey at low water and at a time when the bottom was visible. The present investigation failed to reveal any depth less than 7 ft. The prior sounding is considered to be erroneous or out of position. Comparable depths occur about 100 meters closer inshore on the present survey.

(4) The 21-ft. sounding charted in lat. $44^{\circ}15.58'$, long. $68^{\circ}16.72'$, from H-1121 should be disregarded. Falling in depths of 40 ft. on the present and prior surveys, the prior sounding is probably recorded in error. Comparable present depths fall about 60 meters eastward.

Although the delineation of bottom features is more complete on the present survey, many prior soundings have been carried forward to supplement present depths. Several of the prior soundings represent the least depth in their respective localities. Numerous 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.

6. Comparison with Chart 206 (Drwg. 1st Ed. May 16, 1956)
Chart 306 (Buff Drawing No. 9, 1956)

A. Hydrography

Chart 206

Charted hydrography originates entirely with the present survey after verification and review. No discrepancies are noted.

Chart 306

Charted hydrography originates principally with the previously discussed surveys which need no further consideration. Critical information from the present survey after verification and review has been applied to the chart. No important discrepancies are noted.

The 9-ft. sounding charted in lat. $44^{\circ}17.58'$, long. $68^{\circ}18.49'$, since 1906 from an undetermined source should be retained on the charts. There is no assurance that the 11 ft. obtained on the present survey is the least depth in the above locality.

Except as noted in the preceding paragraph, the present survey supersedes the charted information on Chart 306.

B. Aids to Navigation

The beacon charted in lat. $44^{\circ}17.15'$, long. $68^{\circ}17.28'$, was not located on the present survey.

The buoy charted in lat. $44^{\circ}21.21'$, long. $68^{\circ}18.80'$, is about 100 meters northward of the survey position. The charted buoy better marks the feature intended.

Except as noted, the aids to navigation located on the present survey are in substantial agreement with the charted aids and adequately serve the purpose intended.

7. Condition of Survey

- a. The sounding records are complete; the Descriptive Report covers all matters of importance.
- b. The smooth plotting was accurately done.
- c. The elimination of discrepancies in crossline soundings is discussed in paragraph 2.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work

This is a good basic survey and no additional hydrography is recommended. It is presumed that current wire-drag surveys will cover portions of the navigable areas. As a matter of record, shoaler depths may exist in the area of the following shoal indications:

- (1) Undeveloped 11 ft. in lat. $44^{\circ}14.05'$, long. $68^{\circ}17.95'$. ✓
- (2) Undeveloped 7 ft. in lat. $44^{\circ}14.42'$, long. $68^{\circ}17.8'$. ✓
- (3) Undeveloped 17 ft. in lat. $44^{\circ}14.45'$, long. $68^{\circ}16.97'$. ✓
- (4) Undeveloped 29 ft. in lat. $44^{\circ}13.88'$, long. $68^{\circ}15.53'$. ✓

Examined and Approved:

H. R. Edmonston

H. R. Edmonston
Chief, Nautical Chart Branch

J. B. Bull

J. B. Bull
Chief, Hydrography Branch

Charles A. Schanck
Charles A. Schanck
Chief, Chart Division

Samuel B. Grenell

Samuel B. Grenell
Chief, Division of Coastal Surveys

RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~

23 November 1954

Division of Charts: R. H. Carstens

Plane of reference approved in
15 volumes of sounding records for

HYDROGRAPHIC SHEET

8029

Locality Mount Desert Island, Maine

Chief of Party: J. S. Morton in 1953; R. A. Marshall in 1954
Plane of reference is mean low water, reading
3.5 ft. on tide staff at Southwest Harbor
17.9 ft. below B. M. 2 (1879)

Height of mean high water above plane of reference is 10.2 feet.

Condition of records satisfactory except as noted below:

E. C. McKay
Tides Branch

Chief, Division of Tides and Currents.

CORRECTIONS IN FEET, FATHOMS

VELOCITY CORRECTIONS Bar Check

U.S. Coast and Geodetic Survey

Ship STIRN - Launch 101

J. S. Morton Comdg.

These corrections are to be used
between 27 April 1954 and 25 June 1954
in the locality Somes Sound

for hydrographic surveys Nos. ST-1253e

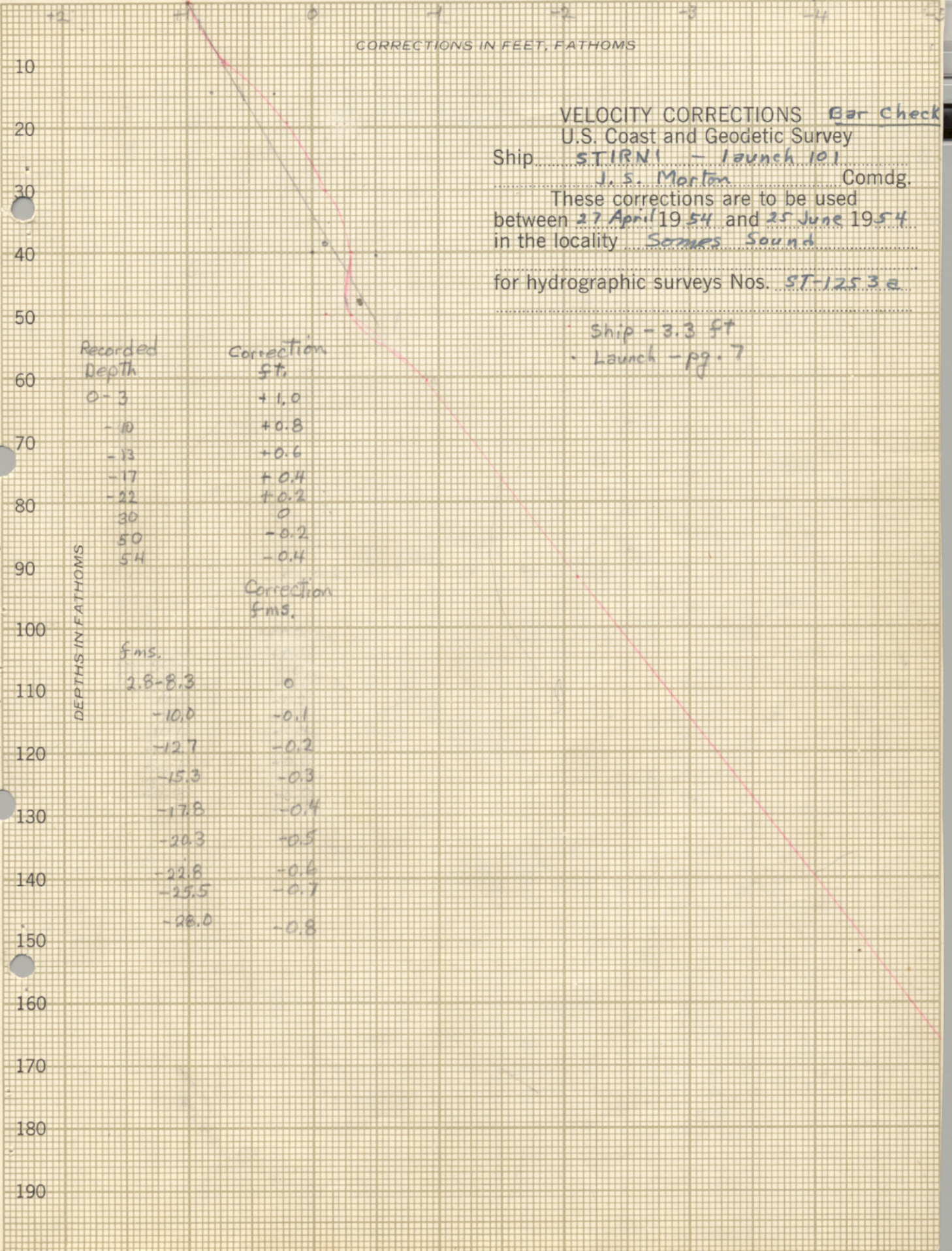
Ship - 3.3 ft
Launch - pg. 7

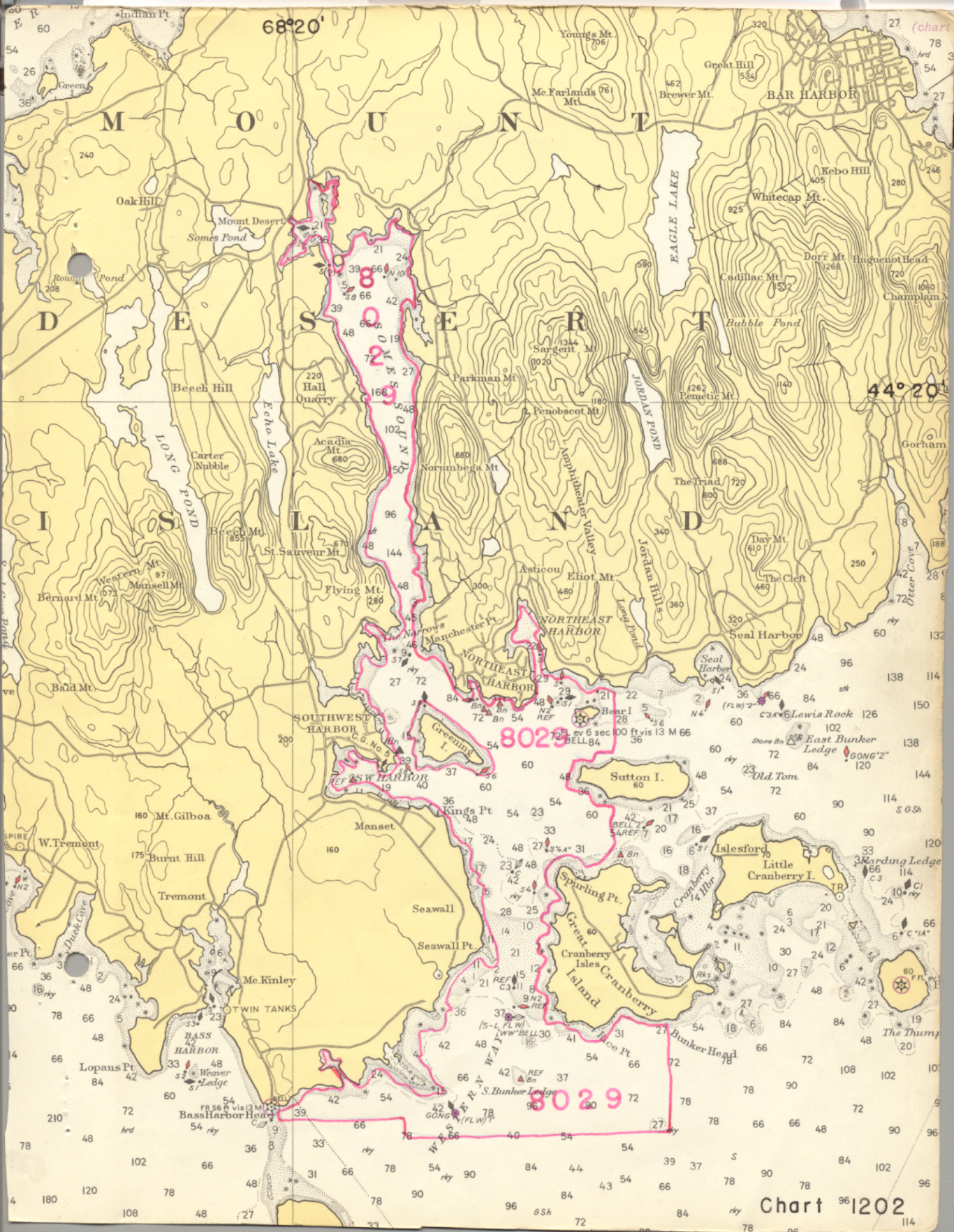
Recorded Depth	Correction ft.
0-3	+1.0
-10	+0.8
-13	+0.6
-17	+0.4
-22	+0.2
30	0
50	-0.2
54	-0.4

DEPTHS IN FATHOMS

fms.	Correction fms.
2.8-8.3	0
-10.0	-0.1
-12.7	-0.2
-15.3	-0.3
-17.8	-0.4
-20.3	-0.5
-22.8	-0.6
-25.5	-0.7
-28.0	-0.8

(For deep water add a 0 to these figures)





68°20'

44°20'

Chart 961202

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8029 *1953-54 work*

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
12/27/54 <i>Nov.</i>	308 Reconst.	<i>EHE</i>	Before After Verification and Review
Nov. '54	1202	<i>Samuels</i>	Before After Verification and Review <i>Partially</i>
3/17/55	206	<i>S.A. McGinn</i>	Before After Verification and Review <small>H. 8029 about 3/4 in hand used to verify chart 206</small>
8/2/55	308	<i>S.A.M.</i>	Before After Verification and Review <i>Part. applied.</i>
10-27-55	307	<i>R.K. DeLander</i>	<i>Partially applied during before</i> Before After Verification and Review <i>Area south of</i> <i>Lat 44° 17' 20" applied thru Chd 308.</i>
5-11-56	306	<i>J.W. Walker</i>	Before After Verification and Review <i>Partially</i>
6-26-56	306	<i>F.M. Albert</i>	<i>Made a few changes as called for in review.</i> Before After Verification and Review
6-26-56	206	<i>F.M.A.</i>	<i>Made a few changes as called for in review</i> Before After Verification and Review <i>and revisions in low water line per H.R.E.</i>
4/15/57	³⁰⁸ 206	<i>J.W. Walker</i>	Before After Verification and Review <i>Completely -</i> <i>but not Ad. Wk #1956 (Add. wk. of 1956 was applied before V. & R. thru L-783(56) by H.W.B.)</i>
3-25-59	206	<i>R.E. Ekins</i>	Before After Verification and Review <i>Partly applied - More revisions made on new print applied. The 1953-54 work not yet completely applied after ver. and rev. is to fully applied at next printing when the 1956 work is to be fully applied.</i>
4/18/60	206	<i>J.W. Walker</i>	<i>Completely applied after V & R</i>
6-28-61	307	<i>G.R. Johnson</i>	After V & R. <i>Completely Applied. Portion of Survey South of 44° 18' Applied through Chts. 206 & 308</i>
7-3-61	306	<i>G.R. Johnson</i>	After V & R. <i>Completely Applied Thru Chts. 307, 308, & 206</i>
3/26/62	306 Reconst.	<i>Effelmer</i>	After V & R thru chart 306. <i>Dwg #12. Added 60' x 120' curve</i>

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.

DESCRIPTIVE REPORT

ADDITIONAL INVESTIGATION OF SHOALS ON HYDRO SHEET H-8029 *Add WK*

WIRE DRAG FIELD SHEET NO. WA-HI 1356, WD

COAST OF MAINE - 1956

SCALE 1:10,000

John C. Ellerbe, Chief of Party

1956

A. PROJECT:

Refer to Attachments Nos. 4 and 5 of this report.

B. SURVEY LIMITS AND DATES:

Special Hydrographic Investigation of shoals in vicinity of Latitude $44^{\circ} 13'$ Longitude $68^{\circ} 16'$. Field work began 28 August and was completed 10 September 1956.

C. VESSELS & EQUIPMENT:

The WAINWRIGHT, Launch CS-181, and the Hired Launch were used to develop these shoals. The WAINWRIGHT was equipped with fathometer No. 58S, the Hired Launch with No. 139 SP, and Launch CS-181 having a fathometer with no serial number.

D. TIDE STATION:

Hourly heights for the reduction of soundings were obtained from a portable automatic tide gage at Bass Harbor, Maine.

E. CONTROL STATIONS:

All control stations for the hydrographic development on 1356-WD were located by conventional methods. The signals used are tabulated individually on attachment sheet.

F. SOUNDINGS:

All soundings were obtained by using the 808 fathometers.

G. ADEQUACY OF SURVEY:

This survey is considered adequate and no further field work is considered necessary.

H. COMPARISON WITH PREVIOUS SURVEYS:

Refer to Attachment No. 5 of this report.

J. DANGERS AND SHOALS:

Refer to Attachment No. 5 of this report.

K. FATHOMETER CORRECTION:

(a) Bar Checks

Fathometer No. 58S was used on the WAINWRIGHT. The bar check of 4 September was used to draw a curve and scale off the corrections. See Attachment No. 3.

Fathometer No. 139 SP was used on the Hired Launch. Two bar checks of 31 August 1956 and 13 August 1956 were used to draw a curve and scale off the corrections. See Attachment No. 3.

Fathometer (no serial number) was used in Launch CS-181. Two bar checks were taken on 10 September 1956 and were used to draw a curve and scale off corrections. See Attachment Sheet No. 3.

(b) Initial

A new role of paper was started at position 53A on B scale. Between positions 62A and 63A, "A" scale was used and shows an initial correction of 45.0 feet, however it is believed this excessive initial correction was caused by improper setting of the phasing head, in this instance, when shifting from "B" to "A" scale. This correction should not be applied to "B" scale. To bear out this assumption, the stray initial shown on "B" scale is in the approximate correct position, and, the crossings obtained check when this excessive correction is not applied to "B" scale.

L. TIME:

Standard time, 60th Meridian, was used.

ATTACHMENTS:

- No. 1 Statistics
- No. 2 List of Signals
- No. 3 Fathometer Corrections
- No. 4 Asst. Directors letter, 3 August 1956, 22-sro S-1-W&H, Subject: Additional Investigation Hydro Sheet H-8029.
- No. 5 Chief of Party's letter dated 12 September. Subject: Additional investigations on shoals on Hydrographic Sheet H-8029.
- No. 6 Asst. Director's letter dated 19 September 1956, 22/MEK S-1-WA&HI. Subject: Records for additional development on survey H-8029.

Submitted,

Jack E. Guth
Jack E. Guth
Lieutenant, C&GS

Approved and Forwarded:

John C. Ellerbe
John C. Ellerbe, CDR, C&GS
Chief of Party

per Don A. Jones

STATISTICS

<u>Vol. No.</u>	<u>Day Letter</u>	<u>Date</u>	<u>Number of Positions</u>	<u>Statute Miles</u>
1	A	28 Aug. 1956	96	6.6
1a	a	28 Aug. 1956	63	6.2
2a	b	10 Sept. 1956	30	2.3
		TOTALS	189	15.1

LIST OF SIGNALS

<u>Name</u>	<u>Source</u>
EON	Photo (film positive prick)
FLO	Photo (film positive prick)
GUN	Photo (film positive prick)
PED	Photo (film positive prick)
RAW	Photo (film positive prick)
SIC	Photo (film positive prick)
WAD	Topographic station

FATHOMETER CORRECTIONS

Ship WAINWRIGHT - Fathometer No. 58S - Initial Set at 2.0 ft.

<u>Depth</u>	<u>Correction</u>
"A" Scale	0.2 ft.
"B" Scale	-1.0 ft.
"C" Scale	-3.0 ft.

Hired Launch - Fathometer No. 139SP - Initial Set at 0.0 ft.

<u>Depth</u>	<u>Correction</u>
0 - 10.0 ft.	0.2 ft.
10.1 - 20.0 ft.	0.4 ft.
20.1 - on	0.5 ft.

Launch CS-181 - Fathometer No. (not numbered) Initial Set 0.0 ft.

<u>Depth</u>	<u>Correction</u>
"A" Scale	-0.4 ft.
"B" Scale	0.0 ft.

C O P YC O P Y

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

22-sro
 S-1-W&H

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

3 August 1956

EXPRESS ADDRESS:

To: Commanding Officer
 USC&GSS WAINWRIGHT and HILGARD
 P. O. Box 54
 Southwest Harbor, Maine

Subject: Additional investigation, Hydrographic Sheet H-8029.

A review of the smooth sheet H-8029 reveals three shoals which require wire-drag investigation and two others which require additional development. The areas to be investigated are indicated on the accompanying boat sheet by red squares.

The areas to be wire dragged are:

1. The 11-foot sounding 0.85 mile southwest of Sewall Point. This shoal shall be cleared to an effective depth of 8 feet, or within 3 feet of the least depth found.
2. The 29-foot sounding 0.4 mile southeast of Rice Point, Great Cranberry Island. This shoal shall be cleared to an effective depth of 26-feet or within 3 feet of the least depth found.
3. The 37-foot sounding 0.4 mile east of Bunker Ledge Beacon. This sounding is believed to be in error, therefore, the area shall be dragged to an effective depth of 47 feet. If this shoal exists it shall be cleared within 3 feet of the least depth found.

The areas which require additional development are:

1. The 17-foot 0.14 mile south of Bunker Ledge Beacon.
2. The 7-foot shoal 0.45 mile southwest of Sewall Point.

These two areas shall be thoroughly developed to insure the least depth has been found.

Since the signals which appear on the boat sheet are probably not in existence this season, the investigations should be plotted on the wire-drag sheets. The boat sheet is furnished primarily for use in showing the location of the areas to be investigated and for determining the direction of the drag strips.

/s/ Robert W. Knox

Assistant Director

SHIPS WAINWRIGHT & HILGARD

C O P YU. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEYC O P Y102 W. Olney Road,
Norfolk 10, Va.

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

12 September 1956

EXPRESS ADDRESS:

To: Director
Coast and Geodetic Survey
U. S. Dept. of Commerce
Washington 25, D. C.

Subject: Additional investigations of shoals on Hydrographic Sheet H-8029.

Returned under separate cover is Hydrographic Boat Sheet H-8029. Attached thereto is a tracing covering the development and dragging requested in your letter of 3 August 1956, above subject.

In view of the abundance of soundings ^{H 8339} on Boat Sheet H-8029, the actual field work involved was done on Boat Sheet 1356-WD, WAINWRIGHT and HILGARD, 1956. Records have been incorporated into the regular seasons records for the sheet, and, unless otherwise desired, will be turned into the Norfolk Processing Office as part of the Wire Drag records of the party. It is believed that the tracing attached will furnish all necessary information regarding the hydrographic survey.

In reducing the soundings at the 11-foot spot near Seawall Point and the 7-foot spot 1/2 mile southwest of the point, actual tides were applied as determined at the Bass Harbor Gage. At the other three spots, Bass Harbor predicted tides were used; these, however, have been checked against actual tides from the marigrams, and no appreciable difference found.

It was deemed advisable to further develop by hydrography the three areas to be dragged before the dragging was done. Work was done in each as follows:

1. The area was developed with the chartered launch and fathometer. A system of closely spaced lines, supported by cross-lines was run over the spot. A least depth of ¹² feet was found 25 meters to the north ^{W NW} of the ¹⁴ 12-foot shoal, ^{smooth} shown on Boat Sheet H-8029. A second shoal sounding of ¹³ feet ^(45-46 a year) was found ²⁸ meters to the north ^{smooth}. A 27-foot sounding fell on the indicated 12-foot spot (11-foot on smooth sheet). No attempt was made to wire drag the area since moving the necessary lobster traps out of the way would have involved labor out of all proportion to the results to be gained. It is thought that perhaps the difference in position of the shoal spot on the Wire Drag and hydrographic sheets is due to the use of a different set of signals located by different means.

31

2. A very closely spaced system of development was run with the WAINWRIGHT. A least depth of ~~32~~ feet was obtained (this is the finally reduced figure). The 29-foot sounding could not be checked. The area was cleared with a drag, / effective depth 29 feet.

3. The old 37-foot sounding could not be checked by a very closely spaced system of development. A least depth of 53 feet was found. The area, / including the 49-foot sounding from Boat Sheet H-8029, was cleared by drag, / effective depth 47 feet. *37 sq removed from smooth sheet. See Varit. Note.*

The two areas to be additionally developed were covered as follows:

12. The area was thoroughly developed by a closely spaced system of lines supported by cross lines. The work was done with the chartered launch and fathometer. A least depth of ~~5~~₄ feet was found (smooth figure).

13. The area was developed thoroughly, using launch CS-181 and fathometer. / A least depth of ~~15~~₁₃ feet was found (smooth figure).

/s/ John C. Ellerbe

John C. Ellerbe
Commander, C&GS
Chief of Party

JCE/rog

C O P Y

ATTACHMENT NO. 6
C O P Y

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

22/MEK
S-1-WA&HI

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

19 September 1956

To: Commanding Officer
USC&GSS WAINWRIGHT & HILGARD
602 Federal Office Building
90 Church Street
New York 7, N. Y.

Subject: Records for additional development on survey H-8029

The additional development accomplished on boat sheet H-8029 will be plotted on smooth sheet H-8029 in the Washington Office. The sounding volumes, with the final reducers entered and checked, shall be forwarded to this office rather than to the Norfolk processing Office.

The wire-drag done in conjunction with the development should be plotted on the wire-drag sheet for this area. (H-8339 W/D)

/s/ Robert W. Knox

Assistant Director

cc. Chief, Hydrographic Branch, Chart Div.
Chief, Nautical Chart Branch, " "

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8029, Ad. Wk.

Records accompanying survey:

Boat sheets; sounding vols. ..³..; wire drag vols.;
 bomb vols.; graphic recorder rolls 1-Envelope,
 special reports, etc. 1-Descriptive report.....

Other ref. see Chart Letter 783 (1956)

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

Number of positions on sheet	..189..
Number of positions checked	<i>All positions were plotted</i>
Number of positions revised	<i>None.</i>
Number of soundings revised (refers to depth only)	..40..
Number of soundings erroneously spaced	..None..
Number of signals erroneously plotted or transferred	<i>None.</i>
Topographic details	Time
Junctions	Time
Verification of soundings from graphic record	Time ..8...

Verification by *George A. Kozenczak* Total time *84* Date *2 MAR. 59*

Reviewed by *SMZ* Time *16* Date *3 April 1959*

✓DRE

1. The additional work was accomplished in accordance with the Director's letter dated 3 August 1956.
2. The additional work consists of the hydrographic development of the following areas:
 - a. The undeveloped 11-ft. sounding in lat. $44^{\circ}14.05'$ long. $68^{\circ}17.95'$.
 - b. The undeveloped 29-ft. sounding in lat. $44^{\circ}13.88'$ long. $68^{\circ}15.53'$.
 - c. The charted 37-ft. sounding in the vicinity of lat. $44^{\circ}13.53'$, long. $68^{\circ}16.45'$.
 - d. The undeveloped 17-ft. sounding in lat. $44^{\circ}13.45'$ long. $68^{\circ}16.97'$.
 - e. The undeveloped 7-ft. shoal in lat. $44^{\circ}14.42'$ long. $68^{\circ}17.8'$.

In addition to the above hydrographic development, areas listed in paragraph 2a, b and c were to be wire-dragged.

3. The following results were obtained:

Area 2a: A least depth of 13 ft. was found about 25 meters NNW of the 11-ft. sounding obtained during the 1953-54 seasons' work. The Instructions called for the 11-ft. shoal to be cleared by wire drag set to an effective depth of 8 ft. This was not done because the labor involved in removing a number of lobster traps in the vicinity of the shoal would have been out of all proportion to the results obtained. (See attachment No. 5 of D.R.). The 11-ft. shoal is considered to be adequately developed

Area 2b: Close hydrographic development of the area revealed a least depth of 31 ft. about 10 meters NNW of the 29-ft. sounding obtained during the 1953-54 seasons' work. The hydrographer states (pg. 2 Des. Report) that the area was cleared by a wire drag whose effective depth was 29 ft. This work has been plotted on H-8339 WD 1956, (See attachment No. 5, Desc. Report) which has not yet been received in the Washington Office.

Area 2b (cont'd): The consideration of the cleared depth is deferred pending the receipt of H-8339WD.

Area 2c: Close hydrographic development of the area failed to verify the 37-ft. sounding previously obtained here. A least depth of 53 ft. was found. The hydrographer states (pg. 2 Desc. Report) that the area was cleared by a wire drag whose effective depth was 47 ft. The wire drag, as stated in the preceding paragraph, has been plotted on H-8339 WD, 1956, which has not yet been received in the Washington Office. The consideration of the cleared depth is deferred pending the receipt of H-8339 WD.

Area 2d: The shoal was adequately developed. A least depth of 13 ft. was found on the shoal.

Area 2e: The shoal was adequately developed. A least depth of 4 ft. was found on the shoal.

4. The additional work is plotted on a cloth tracing which is attached to the Descriptive Report. Supplementary soundings have been added to the smooth sheet.
5. The additional work has been partially applied to Chart 306, dated 10-7-57. It has also been partially applied to Drawing No. 2, 1957.

Reviewed by:

Inspected by:

I. M. Zeskind

R. H. Carstens

TIDE NOTE FOR HYDROGRAPHIC SHEET

Chart Division: R. H. Carstens

19 Feb. 1957

Plane of reference approved in
volumes of sounding records for

HYDROGRAPHIC SHEET 8029 (Add. Wk.)

Locality Mount Desert Island, Maine

Chief of Party: J. C. Ellerbe

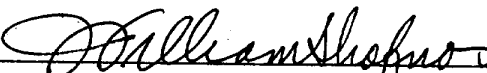
Plane of reference is mean low water, reading

3.7 ft. on tide staff at Bass Harbor

10.9 ft. below B.M. 3 (1911)

Height of mean high water above plane of reference is
9.9 feet.

Condition of records satisfactory except as noted below:


Signature

Chief, Tides Branch

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8029 Add WK of 1956

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
3-24-59	206	R.E. Elkins	Before After Verification ^{before} and Review <i>Partly applied</i> <i>terms available</i>
7/24/59	308	M. Rogers	Before After Verification and Review <i>Completely except for items to be resolved when available (Add. wk. only.)</i>
8-17-59	1202	John Mc Alinden	Before After Verification and Review <i>same as 308 above</i>
4/18/60	206	J. Walker	Before After Verification and Review <i>Completely</i>
6-28-61	307	G.B. Johnson	Before After Verification and Review <i>Completely</i> <i>Applied Through Cht 308</i>
7-3-61	306	G.B. Johnson	Before After Verification and Review <i>Completely</i> <i>Applied Through Chts 307, 308, & 206</i>
9/5/61	1202	J. Hester	Before After Verification and Review <i>Comp app'd. Chan 306 and 307 Reconsider.</i>
12-10-62	1202	R.E. Elkins	Before After Verification and Review <i>(1953-54, 56 wk.)</i> <i>Shoals & along shore details not revised pending reconstruction. REE 12-7-62.</i>
3/26/62	306 Remote	Effner	Before After Verification and Review <i>through chart 306 Aug 12</i> <i>add 60' & 120' curve</i>
			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.