

8510

Diag. Cht. No. 1201

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT (HYDROGRAPHIC)

HYDROGRAPHIC

Type of Survey HYDROGRAPHIC
Field No. WA-HI-2259
Office No. H-8510

LOCALITY

State MAINE
General Locality GULF OF MAINE
Locality NASH ISLAND TO MISTAKE ISLAND

1959

CHIEF OF PARTY
J.R. Plaggmier

LIBRARY & ARCHIVES

DATE December 16, 1960

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-8510

Field No. (H-8509) (WAIL-2159) & 2259

State MAINE

General locality GULF
EAST OF MAINE

Locality NASH I. to MISTAKE I.
NARRAGANSETT BAY

Scale 1:20,000 Date of survey 7/16/59 - 9/16/59 - H-8510

Instructions dated 19 DECEMBER 1959

Vessel WAINWRIGHT & HILGARD

Chief of party John R. Plaggmier

Surveyed by John R. Plaggmier; Vello Kiisk; K. R. Anderson; P.T. Redden
& John T. Maldari

Soundings taken by fathometer, graph recorder, hand test, scope

Fathograms scaled by Personnel Ships WAINWRIGHT & HILGARD

Fathograms checked by Personnel Ships WAINWRIGHT & HILGARD

Protracted by J. R. Plaggmier; V. Kiisk; K. R. Anderson; P. Redden; J. Maldari

Soundings penciled by Karl R. Anderson, Pat T. Redden

Soundings in fathoms feet at MLW MLW and are true depths

REMARKS:

DESCRIPTIVE REPORT

* * *

Hydrographic Survey H-8510

Field Number WAHL-2259-2259

* *

PROJECT CS-408

COAST OF MAINE

* * *

SCALE 1:20,000

* * * * * * * * *

John R. Flaggmier Chief of Party

A. PROJECT:

Instructions dated 19 December 1958 and revised instructions dated 18 February 1959. ✓

B. SURVEY LIMITS AND DATES:

These sheets cover an area from longitude $67^{\circ} 33'$ to longitude $67^{\circ} 55'$. The outer limits were established by visibility, usually between 8 to 9 miles from the signals. The inshore limit was followed as described in the instructions. These sheets make junctions with WAHL-2156 on its western limit and with WAHL-2359 on its eastern limit. ✓
H-8504 their 16 July H-8556 their 16 Sept

Field work began on 6 June 1959 and ended on 10 September 1959.

FOR
H-8510
JUNCTIONS
See
Review
Part 5

G. VESSELS AND EQUIPMENT:

H-8509
The Ship HILGARD was used for work on the eastern one-half of sheet 2159 and the western one-third of sheet 2259. The Ship WAINWRIGHT was used for work on the western one-half of sheet 2159 < H-8509 and the eastern two-thirds of sheet 2259. Launch CS-181 was operated from the HILGARD and used for special investigations.

H-8510
Fathometer 57-33 was used by the HILGARD for all work on sheet 2259 and for A, B, E, F, G, H, J days on sheet 2159 and by launch CS-181 for all work on sheet 2159 and sheet 2259. Fathometer 58S was used by the HILGARD for B & C days on sheet 2159 and by the WAINWRIGHT for E through P days on sheet 2159 and for all work on sheet 2259. Fathometer 139-SP was used by the WAINWRIGHT for A & B days on sheet 2159. Fathometer 139-SP was used by the WAINWRIGHT for C & D days on Sheet 2159.

D. TIDE AND CURRENT STATIONS:

H-8509
Portable automatic tide gages were installed on a tripod in a shallow cove between Green Island and Petit Manan Island and on a platform on Steele Harbor Island. Tide reducers for sheet 2159 were obtained from the Green Island gage and reducers for sheet 2259 were obtained from the Steele Harbor Island gage. H-8510
For HILGARD's A day and WAINWRIGHT's D & L days on sheet 2259 < H-8510 the tide gage did not function properly and hourly heights were furnished by the Washington Office.

There are no current stations within the limits of either sheet.

E. SMOOTH SHEET:

H-8509
The smooth sheet for 2159 was projected in the Washington Office by machine. The smooth sheet for 2259 was projected by personnel of WAINWRIGHT and HILGARD. Shoreline and signals were transferred by conventional methods. The transfer has been verified by personnel of WAINWRIGHT and HILGARD.

F. CONTROL STATIONS:

All control was located by conventional methods. The signals employed are tabulated in Attachment No. 2.

G. SHORELINE AND TOPOGRAPHY:

Shoreline was transferred to sheets from blue line manuscripts. Due to the fact that this is an off-shore survey only the mean high water line was inked and no topography was included.

MANUSCRIPTS
LISTED IN
Review
Part 2.

H. SOUNDINGS:

All soundings were obtained by conventional methods with 808 fathometers on A scale and in fathoms.

I. CONTROL OF HYDROGRAPHY:

Control was visual using the three-point fix with signals on shore. In the area near the junction of the two sheets and near the offshore limit of visibility control was difficult and infrequent weak fixes were the only fixes available, however due to the extreme depth in this area the soundings and spacing of sounding lines that were obtained are considered adequate.

J. ADEQUACY OF SURVEY:

This survey is considered adequate and no additional field work is necessary. The junction with the prior survey (Field No. 2156) to the westward is adequate. The spacing of the area described in "I" Control of Hydrography" above is in accordance with the project instructions, and as stated above is considered adequate.

← DOES NOT
JOIN H-8510

K. CROSSLINES:

Crosslines are in good agreement with longitudinal sounding lines.

L. COMPARISON WITH PRIOR SURVEYS:

Previous surveys covering this area are H-1398, 1878; H-1835, and H-1576 1888; and H-4032, ^{wb}1918. Generally good agreement was noted. There were slight discrepancies discovered over shoal areas by special investigation. Note Attachment No. 1.

M. COMPARISON WITH CHART:

In general good agreement with the chart was noted. The most flagrant disagreement was the discovery of a shoal in the vicinity of latitude $44^{\circ} 18.70'$; longitude $67^{\circ} 50.35'$. See attachment No. 1, item 3.

NOT
ON
H-8510

N. DANGERS AND SHOALS:

The only important newly found shoal was the one mentioned in "M. Comparison with Chart" above and listed as 3. in Attachment No. 1.

O. AIDS TO NAVIGATION:

No fixed aids to navigation were located as all in the vicinity had been done so previously.

Floating aids to navigation are as follows:
(Fms.)

		<u>Latitude</u>	<u>Longitude</u>	<u>Depth</u>	<u>Pos. No.</u>	<u>Date</u>
2159	H-8509					
Black Can #1		$44^{\circ} 20.41'$	$67^{\circ} 51.22'$	17.5	WAM 40	7/27/59
RB Nun		$44^{\circ} 23.19'$	$67^{\circ} 47.18'$	4.6	WA 88	9/9/59
RB Nun		$44^{\circ} 22.55'$	$67^{\circ} 46.52'$	8.7	WA 89	9/9/59
BW Bell		$44^{\circ} 21.03'$	$67^{\circ} 51.63'$	23.0	WA 22	9/14/59
Red Nun #2		$44^{\circ} 21.55'$	$67^{\circ} 51.77'$	9.4	WA 23	9/14/59
Red Whistle #6A		$44^{\circ} 19.87'$	$67^{\circ} 48.43'$	28.9	HI 6&7	7/20/59
2259	H-8510					
Red Bell #6		$44^{\circ} 25.74'$	$67^{\circ} 38.61'$	20.4	WA 56E	7/28/59

See D.R.
for H-8509

P. SILTED AREAS:

No extreme silted areas are in evidence.

Submitted,
John R. Plaggmier
John R. Plaggmier
Lt. Commander, C&GS
Commanding WAINWRIGHT
& HILGARD

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EXCESSIVE DISCREPANCIES IN PREVIOUS SURVEYS

AND CHARTED SOUNDINGS OVER SHOAL AREAS

* See D.R. for
H-8509

Name	Latitude	Longitude	Previous Depth	Present Depth	Remarks
* 1. "Simms' Rock"	44° 20.35'	67° 50.90'	3 1/2 fms.	3.2 fm.	Symbol on chart indicates unknown depth
* 2.	44° 20.45'	67° 51.20'	6 ft.	2.3 fm.	
* 3.	44° 18.70'	67° 50.35'		6.6 fm.	No previous sdgs. in this area
* 4.					
* 5. "Southeast Rock"	44° 19.95'	67° 48.70'	5 ft.	0.6 fm.	
6.	44° 23.55'	67° 42.80'	42 ft.	5.8 fm.	✓ ← H-8510

* H-1398, 1878

Charted depth for
M 1938

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LIST OF SIGNALS ✓

<u>Triangulation:</u>	<u>Name</u>	<u>Source</u>
H-8510	COR	Corea Church Spire, 1902
	DAN	Jordans Delight Ledge Beacon, 1913
	LIGHT	Narraguagus Lighthouse, 1861
	MAN	Petit Manan Lighthouse, 1860
	MOOSE	Moose Peak Lighthouse, 1862
	NASH	Nash Island Lighthouse, 1902
	RUM	Crumple, 1862
	TON	Keaton, 1946

<u>Marked Topographic:</u>	<u>Name</u>	<u>Year</u>	<u>Manuscript</u>
H-8510	CRIS	1945	T-8647 S/2
	FREE	1946	T-8650 N/2
	HIGH	1946	T-8650 N/2
	RED	1944	T-8587
	TOW	1944	T-8587

<u>Topographic:</u>	<u>Name</u>	<u>Manuscript</u>	<u>Method of Location</u>
H-8510	EEL	T-8648 S/2	Angle & distance from triangulation station
	INK	T-8649 N/2	Angle & distance from triangulation station
	PET	T-8647 S/2	Angle & distance from triangulation station

<u>Photo-Hydro:</u>	<u>Name</u>	<u>Manuscript</u>
H-8510	ANT	T-8587
	BAT	T-8647 S/2
	JOR	T-8648 N/2
	OUT	T-8649 N/2
	TAN	T-8587

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STATISTICS

Sheet 2159

<u>Volume Number</u>	<u>Day Letter</u>	<u>Date</u>	<u>Number of Positions</u>	<u>Nautical Miles</u>
HILGARD 1	A	6/25/59	99	31.0
1	B	6/30/59	111	33.0
2	C	7/1/59	138	47.0
2 & 3	D	7/8/59	87	33.5
3	E	7/9/59	78	40.0
3	F	7/17/59	48	9.0
4	G	7/20/59	122	28.5
4	H	7/27/59	114	22.0
5	J	8/24/59	50	12.5
Launch 1	a	8/26/59	6	1.0
1	b	9/9/59	76	9.5
1	c	9/10/59	15	2.0
WAINWIT 1	A	6/24/59	75	25.5
1	B	6/25/59	123	41.9
1	C	6/30/59	107	37.0
2	D	7/1/59	117	39.6
2	E	7/8/59	103	34.5
3	F	7/9/59	155	55.5
3	G	7/16/59	6	2.3
4	H	7/20/59	50	15.5
4	J	7/27/59	71	20.5
5	K	8/19/59	53	24.6
5	L	8/24/59	15	5.4
5	M	9/9/59	124	32.0
6	N	9/14/59	55	14.0
6	P	9/23/59	30	4.5

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STATISTICS - Continued

Sheet 2259

Volume Number	Day Letter	Date	Number of Positions	Nautical Miles
HILGARD 1	A	7/27/59	25	9.0
1	B	7/28/59	173	53.0
2	C	8/3/59	70	23.0
2 & 3	D	8/4/59	146	50.0
3	E	8/5/59	119	42.5
3 & 4	F	8/6/59	117	40.5
4	G	8/7/59	51	16.5
4	H	8/19/59	48	16.0
4 & 5	J	8/20/59	98	33.0
5	K	8/24/59	113	21.7
			160	
Launch 1	a	9/9/59	45	4.6
WADEWIT 1	A	7/16/59	21	7.0
1	B	7/17/59	45	14.5
1	C	7/20/59	69	23.5
1 & 2	D	7/27/59	73	25.3
2	E	7/28/59	153	60.3
3	F	7/29/59	14	1.5
3	G	8/3/59	154	53.2
3 & 4	H	8/4/59	212	73.5
5	J	8/5/59	109	38.0
5	K	8/6/59	101	31.0
6	L	8/12/59	15	5.3
6	M	8/14/59	78	24.0
6	N	8/19/59	35	12.5
6 & 7	P	8/24/59	152	49.6
7	Q	8/26/59	11	3.7
7	R	9/10/59	21	8.1
7	S	9/14/59	37	7.4
8	T	9/15/59	88	20.0
8	U	9/16/59	147	46.0

1535

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FATHOMETER CORRECTIONS

Bar checks taken to depths of ten (10) fathoms. Temperature and salinity observations were made to depth of fifty (50) fathoms at beginning and ending of field season and found to be in good agreement consequently average was taken. Bar checks were averaged and combined with temperature and salinity observations represented by a smooth curve.

Following corrections were then scaled from this curve:

WAINWRIGHT A through D days - 2159, HILGARD B & C Days

<u>Depth</u>	<u>Correction</u>
0.0 to 7.4 fms.	+0.1 fms.
7.5 to 8.4 fms.	0.0 fms.
8.5 to 16.3 fms.	-0.1 fms.
16.4 to 26.5 fms.	-0.2 fms.
26.6 to 34.3 fms.	-0.4 fms.

WAINWRIGHT E through P days 2159 & A through U days 2259

0.0	to	7.5 fms.	+0.1 fms.
7.6	to	12.4 fms.	+0.2 fms.
12.5	to	17.2 fms.	+0.1 fms.
17.3	to	22.4 fms.	0.0 fms.
22.5	to	27.9 fms.	-0.2 fms.
28.0	to	34.3 fms.	-0.4 fms.
34.4	to	42.0 fms.	-0.6 fms.
42.1	ON		-0.8 fms.

HILGARD A, D through J days 2159

Launch a, b, & c days 2159

Launch a days 2259

HILGARD A through K days 2259

0.0	to	7.5 fms.	+0.4 fms.
7.6	to	12.4 fms.	+0.3 fms.
12.5	to	16.4 fms.	+0.2 fms.
16.5	to	20.6 fms.	+0.1 fms.
20.7	to	24.3 fms.	0.0 fms.
24.4	to	27.9 fms.	-0.2 fms.
28.0	to	34.3 fms.	-0.4 fms.
34.4	to	42.0 fms.	-0.6 fms.
42.1	ON		-0.8 fms.

SMOOTH PLOTTER'S NOTES

(Sheet H-8510)

1. Hydrography performed by the HILGARD is indicated by blue position dots and numbers. The work of the WAINWRIGHT is shown by red position dots and numbers.
2. Cross lines are in good general agreement with longitudinal sounding lines; the greatest difference being one fathom.
3. Hydrography was plotted by Mr. Pat T. Redden, Ensign; soundings were penciled by Mr. John T. Maldari, Ensign. Office work on smooth sheet H-8510 started on 27 July 1959 and was completed in December, 1960, with no work accomplished during the 1960 Field Season. Buckling of the sheet is due to this time lag. ← SMOOTH PLOTTING
4. Shoals plotted on the Smooth sheet agree with charted shoals. SEE REVIEW

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Survey~~

27 January 1961

Division of Charts: R.H. Carstens

Plane of reference approved in
14 volumes of sounding records for

HYDROGRAPHIC SHEET 8510

Locality Narraguagus Bay, Maine

Chief of Party: J.R. Plaggmier (1959)

Plane of reference is mean low water reading.

2.5 ft. on tide staff at Steele Harbor Island, Maine

21.6 ft. below B. M. 1 (1959)

4.3 ft. on tide staff at Green Island, Maine

19.1 ft. below B.M. 1 (1959)

Height of mean high water above plane of reference is:

11.6 ft. at Steele Harbor Island

10.6 ft. at Green Island

Condition of records satisfactory except as noted below:

C. M. Symons

Acting Chief, Tides and Currents Branch

CHIEF, DIVISION OF TIDES AND CURRENTS.

GEOGRAPHIC NAMES

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 GRAND MCNALLY ATLAS	H U.S. LIGHT LIST	K
BATSON LEDGES ✓		✓							1
BIG NASH ISLAND ✓		✓							2
BLACK LEDGES ✓		✓							3
BLACK ROCK ✓		✓							4
BOIS BUBERT ISLAND ✓		✓							5
BROWNEY ISLAND ✓		✓							6
CHANNEL ROCK ✓		✓							7
CRUMPLE ISLAND ✓		✓							8
CURLEW ROCK ✓		✓							9
DOUGLAS ISLANDS ✓		✓							10
DROWN BOYS LEDGE ✓		✓							11
EGG ROCK ✓		✓							12
EGG ROCK ✓		✓							13
FISHERMAN ISLAND ✓		✓							14
FLAT ISLAND ✓		✓							15
FREEMAN ROCK ✓		✓							16
GREAT WASS ISLAND ✓		✓							17
GREEN ISLAND ✓		✓							18
GULF OF MAINE ✓		✓							19
INNER SAND ISLAND ✓		✓							20
JORDANS DELIGHT ✓		✓					APPROVED		21
LITTLE BOIS BUBERT ISLAND ✓		✓					Chas. E. Harrington		22
LITTLE POND HEAD ✓		✓				STAFF GEOGRAPHER - C5142			23
MISTAKE ISLAND ✓		✓				12 Dec 1977			24
NASH ISLAND ✓		✓							25

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8510....

Records accompanying survey: Smooth sheets 1...;
 boat sheets 2...; sounding vols. 15...; wire drag vols.;
 Descriptive Reports 1...; graphic recorder envelopes 8...;
 special reports, etc.

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

Number of positions on sheet	2540
Number of positions checked	2531
Number of positions revised	Approx 5%
Number of soundings revised (refers to depth only)	15
Number of soundings erroneously spaced	15
Number of signals erroneously plotted or transferred	NONE
Topographic details	Time 16 hrs
Junctions	Time 16 hrs
Verification of soundings from graphic record	Time 28 hrs
Special adjustments soundings in fathoms. It was necessary to carry forward the results of fathoms to the entire job since chart 1201 is compiled in fathoms.	Time 12-12-77
Verification by <u>George A. Kozemczak</u>	Total time 641 Date Sept 11-1964
Reviewed by <u>Dale E. Stettinius</u>	Time 70 hrs Date 4-22-65

Inspected by:

K. W. WellmanJ. R. Engle

45

44 hrs.

12-12-77

8 hrs.

12-22-77

H-8510

Information for Future Presurvey Reviews

Only minor changes should be encountered in this area on a future survey.

Several prior least depths were not adequately verified or disproved on the present survey. A future survey should verify these features and obtain their least depths.

The 76-foot (12.6 fathoms) sounding in latitude 44°24.95', longitude 67°39.75' brought forward to the present survey from H-4032 W.D. (1918) was not subsequently cleared on the wire-drag survey. This sounding could appropriately be included for investigation in a future survey.

<u>Position Index</u>	<u>Lat.</u>	<u>Long.</u>	<u>Bottom Change Index</u>	<u>Use Index</u>	<u>Resurvey Cycle</u>
441		0675	0	1	50 years
441		0674	0	1	50 years
442		0675	2	1	50 years
442		0674	2	1	50 years

H-8510

GEOGRAPHIC NAMES

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
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OUTER SAND ISLAND	✓								1
PETIT MANAN ISLAND	✓								2
POND ISLAND ✓	✓								3
POND POINT ✓	✓								4
RED HEAD ✓	✓								5
SEAL ROCK ✓	✓								6
STANLEY LEDGE ✓	✓								7
THE POND ✓	✓								8
THE SANDS ✓	✓								9
WATER ISLAND ✓	✓								10
WESTERN BAY ✓	✓								11
									12
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									24
									25

OFFICE OF MARINE SURVEYS AND MAPS

MARINE SURVEYS DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8510

FIELD NO. WA-HI 2259

Maine, Gulf of Maine, Nash Island to Mistake Island

SURVEYED: July - September 1959

SCALE: 1:20,000

PROJECT NO.: CS-408

SOUNDINGS: 808 Depth Recorders

CONTROL: Sextant Fixes on
Shore Signals

Chief of Party	J. R. Plaggmier
Surveyed by	J. R. Plaggmier, V. Kiisk
.....	K. R. Anderson, P. T. Redden
.....	J. T. Maldari
Protracted by	J. R. Plaggmier, V. Kiisk
.....	K. R. Anderson, P. T. Redden
.....	J. T. Maldari
Soundings Plotted by	K. R. Anderson, P. T. Redden
Verified and Inked by	G. A. Kozemczak
Reviewed by	D. E. Westbrook
.....	Date: April 22, 1965
Inspected by	K. W. Wellman

1. Description of the Area

This survey covers a portion of the Gulf of Maine between Nash Island and Mistake Island and includes the area between approximately 0.5 to 7.0 miles offshore.

Most of the survey area contains general depths of about 10-60 fathoms. However, in the general vicinity of Black Rock, to about 3 miles southward, several features exist which are considerably shoaler.

In latitude 44°23.58', longitude 67°42.81', for example, a rocky knoll having a least depth of 35 feet (5.8 fathoms) rises from general depths of about 150 feet (25 fathoms).

Except for numerous rocky ridges and knolls, most of the bottom is composed of soft brown mud sediments particularly in the deeper portions of the area. In lesser depths, some sand, gravel, and broken shells can be found.

The bottom configuration in the survey area is quite stable and is subject to very little change with the passage of time.

2. Control and Shoreline

The control is adequately described in section I of the Descriptive Report.

The shoreline originates with reviewed photogrammetric manuscripts T-8648 (1944-48), T-8649 (1948), and T-8650 N/2 (1948). This survey is considered to be an offshore survey. The various topographic features, i.e., islands and ledges, are shown for orientation and guidance purposes only; the true position being shown on the photogrammetric manuscripts previously mentioned.

3. Hydrography

a. Depths at crossings are in good agreement.

b. The usual depth curves are adequately delineated; however, during verification, the 30-fathom depth curve was inadvertently delineated in red violet rather than the standard color of violet for the indicated depths. Numerous features are emphasized by either dashed or solid brown depth curves in accordance with paragraph 6-64 of the Hydrographic Manual.

c. The development of the bottom configuration is considered adequate. However, the investigation of least depths from prior surveys is not considered adequate. As a result several soundings not considered adequately verified or disproved were brought forward from the prior surveys. (See part 6.)

All soundings, regardless of depth, have been inked to the nearest 0.1 fathom to facilitate accurate conversion to feet during application to the charts of the area.

4. Condition of Survey

The field plotting, sounding records, and the Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual except that:

a. MRV (for middle reed vibrating) was entered in the WAINWRIGHT sounding volumes at the top of every page including pages on which no hydrography was recorded. This indicates that the note was routinely entered by the recorder in instances where actual reed checks may not have been made.

b. The sounding records were not signed by the Officer in Charge or the Chief of Party as having been inspected. In most cases, the stamps for this item were improperly filled in by the recorder.

5. Junctions

Adequate junctions were effected with H-8556 (1959-60) on the east and H-8667 (1962) on the south.

The common area between the present survey and H-8667 (1962) to the south is an area of disturbed bottom configuration with significant depth variations generally centered in the vicinity of latitude $44^{\circ}21.00'$, longitude $67^{\circ}34.00'$. Such disturbed bottom configuration in conjunction with the 1:3 scale differential between the present survey and H-8667 precludes a ready and precise reconciliation of the depth curves vis-a-vis the commonly accepted requirement of coincidence of depth curves in the common area; however, appropriate revisions were made to depth curves on the larger scale present survey. Accordingly, some depth curves in the common area on the smaller scale (1:60,000) adjoining survey (H-8667) may not be in coincidence with those on the present survey. The present survey should take precedence in such cases.

Bottom characteristics shown in red on the present survey in proximity to transferred soundings from H-8667 (also in red) are not to be considered to originate with the junctional survey. Such bottom characteristics originate with H-1398 (1878) and were inadvertently shown in red ink during the verification of the present survey.

The junction with H-8509 (1959) on the west is discussed in its Review Report.

No contemporary survey joins the present survey on the north; however, present depths are in general harmony with charted depths in the area.

6. Comparison with Prior Surveys

a.	H-1060	(1870)	1:10,000
	H-1398	(1878)	1:40,000
	H-1576	(1883)	1:40,000
	H-1835	(1888)	1:10,000

Taken together, these surveys comprise the prior coverage of the present survey area.

The present survey is generally in good agreement with the prior surveys. For the most part, the smaller scale and the widely spaced lines on the prior surveys preclude a detailed comparison. However, the bottom configuration in the present survey area appears to be quite stable with scattered indications of depth differences of generally ± 3 fathoms with maximum differences of as much as ± 8 fathoms. The areas of maximum

depth differences, however, are not critical and no further discussion is considered necessary. The noted depth differences are attributed to the less detailed and less accurate methods employed on the prior surveys.

The present survey provides a more complete delineation of the area and reveals numerous features which were not detected on the prior surveys.

A few soundings on the prior surveys are not considered to be adequately verified or disproved by the present survey. Therefore, three soundings from H-1835 (1888), one sounding from H-1576 (1883), and one sounding from H-1398 (1878) were brought forward to supplement the present survey.

Bottom characteristics were added to the present survey from H-1398 (1878) and H-1576 (1883).

With the addition of the above soundings and bottom characteristics, the present survey is adequate to supersede the prior surveys within the common area.

b. H-4032 (1918) W.D. 1:40,000

This wire-drag survey covers a portion of the present survey area. No conflicts exist between the effective drag depths shown thereon and present survey depths.

Two soundings from this wire-drag survey were brought forward to supplement the present survey.

H-4032a (1:40,000) 1918 contains additional soundings obtained during the above wire-drag survey. These soundings are fully superseded by the present survey within the common area.

7. Comparison with Chart 304, 5th Edition, Rev. August 17, 1964
Chart 305, 6th Edition, Rev. March 29, 1965
Chart 1201, 4th Edition, Rev. April 27, 1964

a. Hydrography

Portions of the present survey fall within the areas of the above listed charts. Most of the charted hydrography in the area of the present survey originates with the previously discussed prior surveys which require no further consideration. This charted hydrography is supplemented by several soundings from the unverified smooth sheet of the present survey. The source(s) of several soundings could not be readily ascertained. These soundings do not provide information significant to navigation and are adequately superseded by present depths.

A few soundings from the present survey were revised during verification and review, and the charts should be corrected accordingly. In addition, a few soundings were charted as conversions from whole fathoms. During verification, all soundings were inked to the nearest 0.1 fathom because the charts of the area are in feet. All soundings, then, as charted from the present survey should reflect the depth to the nearest foot when the fathoms and tenths are converted. For example, the 108-foot sounding on chart 304 in latitude $44^{\circ}21.70'$, longitude $67^{\circ}34.47'$ should be revised to 109 feet (18.2 fathoms).

Attention is directed to the following:

(1) The 64-foot sounding on charts 304 and 305 in latitude $44^{\circ}23.04'$, longitude $67^{\circ}42.67'$ originates with H-1835 (1888), is discredited by present survey depths, and is thought to be recorded 10 fathoms too shoal. The 64-foot sounding should be deleted from the chart.

(2) The 16.2-fathom (97 feet) sounding brought forward to the present survey from H-1835 (1888) in latitude $44^{\circ}23.10'$, longitude $67^{\circ}42.60'$ has not previously been charted and should be added to the chart.

(3) The 180-foot sounding on chart 304 in latitude $44^{\circ}22.12'$, longitude $67^{\circ}33.82'$ originates with the present survey before verification. This sounding was found to have been reduced in error in the sounding volumes. The revised sounding is 50 fathoms (300 feet) and the chart should be corrected accordingly.

(4) The 97-foot (16.2 fathoms) sounding on chart 304 in latitude $44^{\circ}24.28'$, longitude $67^{\circ}37.92'$ originates with H-4032 W.D. (1918) where it was plotted erroneously. The sounding has been brought forward to the present survey in its correct position (latitude $44^{\circ}24.43'$, longitude $67^{\circ}37.70'$). The charted 97-foot sounding should be moved to its correct position.

The present survey is adequate to supersede the charted hydrography within the common area.

b. Aids to Navigation

The aid shown on the present survey is in substantial agreement with its charted position and adequately marks the feature intended.

8. Compliance with Instructions

The survey adequately complies with the project instructions with the following exceptions:

- a. No bottom characteristics were obtained in the survey area.
- b. A few soundings from the prior survey were not adequately verified or disproved and have been brought forward to supplement the present survey.
- c. A charted 64 feet (10.6 fathoms), falling in present depths of 24 to 25 fathoms, was not addressed by the hydrographer. (See section 7.a.(1) above.)

9. Additional Field Work

This survey is considered to be a good basic survey and no additional field work is recommended; however, several soundings carried forward during review to supplement the present survey should be investigated and verified or disproved during future work in the area.

Examined and Approved:



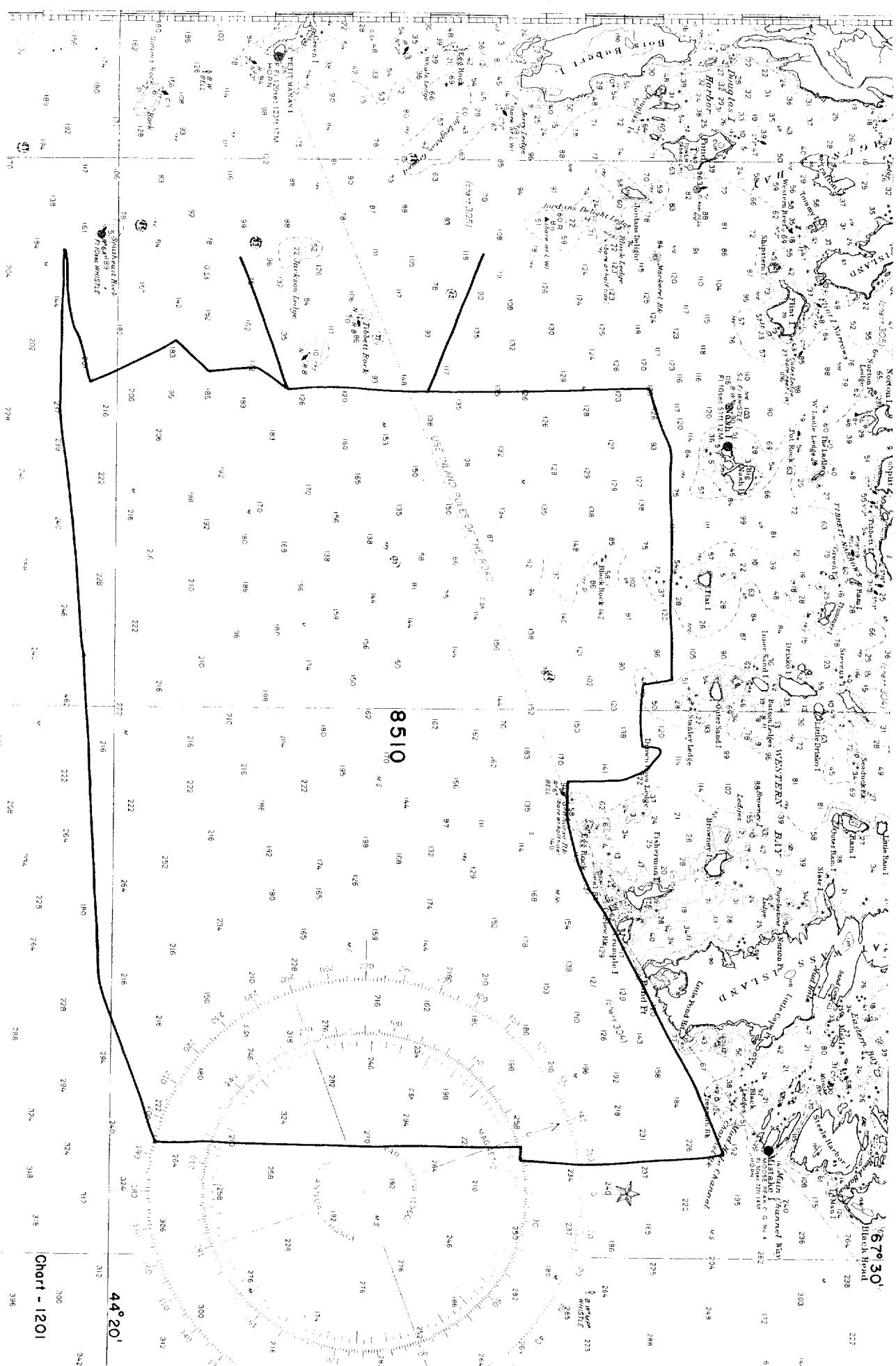
C. J. Farnell

Chief
Marine Surveys Division



R. H. Hunter

Associate Director
Office of Marine Surveys
and Maps



NAUTICAL CHARTS BRANCH

SURVEY NO. H-8510

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
1/19/61	1000	E. Thomas	<i>Exam, Revised one stage, corrected & partially applied Before After Verification and Review</i>
1-24-61	1201	J.M. Albert #16	<i>without going thru the large scale charts. Before After Verification and Review ^{and 3 days to agree} with cht 1000</i>
3-23-61	70	R.E. Elkins	<i>Before After Verification and Review ^{Partly applied} Partly applied thru cht 1201 drg 16. Added two soundings.</i>
5-16-61	304	D.C. Davis #11	<i>Before After Verification and Review; Partially applied</i>
10-26-61	1106	R.E. Elkins	<i>Before After Verification and Review ^{Partly applied} Copied several soundings Applied directly from smooth charts *</i>
10-4-62	305	G.R. Johnson	<i>Before After Verification and Review Partially App'd App'd in part through cht 304 drg #11</i>
11-24-64	305	H.J. Keeler	<i>Before After Verification and Review ^{before} Part. App'd.</i>
2-8-65	304	G.R. Johnson	<i>Before After Verification and Review Part. App'd. Only review corr'st need be considered for full application</i>
3-3-65	305	G.R. Johnson	<i>Before After Verification and Review ^{before} Partially App'd Consider only review corrections for full application</i>
11-18-65	304	G.R. Johnson	<i>Before After Verification and Review ^{before} before insp. Partly app'd.</i>
11-18-65	305	G.R. Johnson	<i>After V&R and before insp. - partly app'd.</i>
12-8-65	1201 Reconstr	G.R. Johnson	<i>After V&R and before insp - partly app'd, thru 304, drg #14; 305, drg #12; & directly.</i>
6-27-70	70	Jeffrey Stuart	<i>After V&R and before insp - Part. App. ^{No} further corr. * - the application of H-8510 to chart 1201 is not considered sufficiently complete for use on chart 1106 - Elkins 10-26-61</i>
8-31-70	304	Jeffrey Stuart	<i>After V&R + before insp. Part App No further ^{M-2168-1} corr.</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.

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO.

H-8510

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.