

7056

Diag'd. on Diag. Ch. No. 1203-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. LY-2145 Office No. H-7056

LOCALITY

State Maine

General locality Approach to W. Penobscot Bay

Locality

194 5

CHIEF OF PARTY

L. P. Raynor

LIBRARY & ARCHIVES

Oct. 3, 1946

DATE

7056

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-7056

Field No. LY- 2145

State MAINE

General locality Approach to W. Penobscot Bay.

Locality Westward from Matinicus Island Group to Isle Au Haut.

Scale 1 : 20,000. Date of survey 25 May 1945 to 16 Oct. 1945

Instructions dated 7 May, 1941; 11 March 1944; 23 May 1945

Vessel Ship LYDONIA; Launches 82 and 79

Chief of party L.P. Baynor

Surveyed by Lieut. Comdr's. L.C. Johnson; E.B. Latham and P.L. Bernstein

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

Protracted by B.M. Jones, A. Kaupa and W.W. Feazel

Soundings penciled by W.W. Feazel

Soundings in ~~fathoms~~ feet at MLW ~~MLW~~

REMARKS: This survey was processed in the Hydrographic Section of the S. F.
District, Norfolk, Va.

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H- 7056 Field No. LY-2145)

COAST OF MAINE, APPROACHES TO WEST PENOBSCOT BAY
WESTWARD FROM THE MATINICUS ISLAND GROUP TO ISLE AU HAUT

Project CS-265 1945 Scale 1 : 20,000

Ship LYDONIA L. P. Raynor, Comdg.

Surveyed by: Lieut. Comdr. L. C. Johnson
Lieut. Comdr. E. B. Latham
Lieut. Comdr. P. E. Bernstein

A. PROJECT:

Project CS-265 Original Instructions dated 7 May 1941, Supplemental Instructions dated 11 March 1944. Preliminary survey of Three Fathom Ledge was authorized by telephone and your letter 21-sro 1995 LY 4, 23 May 1945, and executed on F.E. No. 6 (1945) ✓

B. SURVEY LIMITS AND DATES:

This survey includes a part of the approaches to West Penobscot Bay, Maine, westward from the Matinicus Island Group to Isle au Haut. Field work was begun 25 May 1945 and completed on 16 October 1945. This survey joins and somewhat overlaps WD 3527 (1913) and WD 3528 (1913) ✓ on the west, WD 3023 (1909-10), LY 2345^(H-7058) on the east and H 1051 on the south to limits indicated by instructions and on chart 1203 and 1202. It includes parts of H 943, H 1051 and H 1074, and joins Sheet LY 1245 around Seal Island and Woodenball Island. (H-7055)

C. VESSEL AND EQUIPMENT:

Soundings on this survey were obtained by the Ship LYDONIA using Dorsey Model III Fathometer No. 36, supplemented by soundings from Launches 79 ✓ and 82 using 808 portable depth recorders Nos. 75 and 76 in areas in the vicinity of Three Fathom Ledge and between Woodenball and Seal Islands where the depth was too shoal for the ship.

D. TIDE AND CURRENT STATIONS:

No current stations were occupied.

Reducers were obtained from a portable automatic tide gage maintained ✓ at Matinicus, Maine (Wheaton Island). No corrections for time or height were applied.

E. SMOOTH SHEET

The smooth sheet is to be plotted by the Norfolk Processing Office. ✓

F. CONTROL STATIONS:

A complete list of control stations is attached to this report. The triangulation stations were included in the 1934 second order triangulation by K. G. Crosby, Chief of Party. Origin of other stations is indicated on above list.

G. SHORELINE AND TOPOGRAPHY:

The hydrography on this survey was entirely offshore. There is no low-water line and no shore line details were surveyed.

H. SOUNDINGS:

Soundings were obtained by standard methods. On the ship the Dorsey #III Fathometer was used and when possible checked for gross errors by comparison with the graph of the 808 depth recorder operated simultaneously with it and on which the record was in fathoms. All depths were read in feet from the Dorsey #III fathometer. For the work by the ship's launches soundings were obtained with the 808 portable depth recorder, checked with the hand lead in the development of all shoals. For the ship's work the customary corrections for temperature and salinity, draft, squat and instrumental index were determined and have been furnished the Norfolk Processing Office. Corrections to the soundings of the 808 portable depth recorder were obtained from bar check curves extended when necessary from the temperature and salinity observations.

I. CONTROL OF HYDROGRAPHY:

The three-point fix method of horizontal control of the survey unit, employing sextant angles and shore signals was used exclusively for this survey.

J. ADEQUACY OF SURVEY:

The survey is complete and adequate for charting purposes. The retention of some of the soundings of prior surveys if falling between sounding lines on this survey may well be retained.

K. CROSSLINES:

Sufficient crosslines were run to check the regular system of sounding lines and comply with the instructions. Due to the irregularities of the bottom they can serve only as rough checks.

L-M. COMPARISON WITH PRIOR SURVEYS AND CHARTED SOUNDINGS:

In general the charted soundings agreed with those obtained on this survey. The greater intensity of this survey has more adequately developed the bottom contours in this area and a few knolls were found that were not shown on prior surveys. None of these are dangerous to surface navigation.

A least depth of ⁴⁶48 feet was found in Latitude 43 - 51.68', Longitude 68 - 45.73' after considerable time was spent in its development. There is no indication of this depth on the prior surveys. The area and extent of THREE FATHOM LEDGE, northeast of Seal Island, was adequately determined. The least depth ^{17ft}on this ledge was determined by the Wire Drag Parties during the past field season on F.E. No. 6 (1945). The charted soundings of 39 feet in Latitude 43 - 52.58, Longitude 68 - 45.70 and 54 feet in Latitude 43 - 52.65, Longitude 68 - 45.50 were verified and the shoals adequately developed. *Least depth - 40 ft.* The area and extent of Frenchman Ledge, east of Woodenball Island was adequately determined. No attempt was made to verify the least depth charted of 46 feet as this area had been previously wire dragged. (WD 3527- 1913). *46 ft. retained.*

N. DANGERS OR SHOALS:

No new shoals dangerous to surface navigation were found, although the least depth of ⁴⁶48 feet found in Latitude 43- 51.68', Longitude 68 - 45.73' should be avoided since the wire drag may disclose lesser depths.

O. COAST PILOT INFORMATION:

No additional Coast Pilot Information was obtained from this survey.

P. AIDS TO NAVIGATION :

There are no floating aids to navigation in the area covered by this survey.

Q. LANDMARKS FOR CHARTS:

There are no objects suitable for charting as landmarks within the area covered by this survey.

R. GEOGRAPHIC NAMES:

No new geographic names are recommended for charting in this area. *814*

S-Z.

These subheadings do not apply.

Respectfully Submitted:

Ector B Latham

E.B.Latham,
Lieut. Comdr. USC&GS

P.L. Bernstein

P.L. Bernstein,
Lieut. Comdr. USC&GS

Approved and Forwarded:

L.P. Raynor

L.P. Raynor,
Commander, USC&GS

APPROVAL SHEET LY-2145 H-7056

The boat sheet was inspected daily, and the sounding records frequently. Both are approved.



L. P. Raynor, Comdr., USC&GS
Commanding Ship LYDONIA

STATISTICS, SHEET LY 2145

H-7056
STAT. MI.
SNDGS.

<u>DATE</u>	<u>VESSEL</u>	<u>DAY</u>	<u>VOL.</u>	<u>POSITIONS</u>	<u>SNDGS.</u>	<u>TOTAL STAT. MI.</u>
5/25	Launch 82	a	1-2	150	22.3	62.2
5/30	LYBONIA	A	3	56	20.1	56.1
5/31	"	B	3	136	38.5	84.9
8/18	"	C	3	87	30.2	50.2
8/20	"	D	3-4	247	84.1	118.1
9/3	"	E	4-5	211	70.7	114.4
9/16	"	F	5-6	254	84.6	120.2
9/18	"	G	6-7	258	181.0	106.8
9/26	"	H	7	97	33.6	89.0
9/30	"	J	7-8	292	110.7	141.2
10/4	"	K	8-10	224	72.1	112.0
10/4	Launch 79	a	9	27	17.2	17.1
10/11	"	b	9	30	27.7	12.9
10/11	LYDONIA	L	10	47	13.5	32.0
10/12	"	M	10	78	25.0	69.8
10/13	"	N	10	104	27.7	78.5
10/14	"	P	11	51	17.6	68.2
10/14	Launch 79	c	9	65	14.0	18.2
10/15	"	d	9	54	9.4	10.6
10/15	LYDONIA	Q	11	46	14.8	63.1
10/16	"	R	11	49	11.6	72.4

TOTALS: 2563 796.4 1497.9

Area(Square St. Miles) 96.0
Cross Lines, St. Miles 28.5 % Cross Lines 3.6%

LIST OF SIGNALS, SHEET LY 2145

TRIANGULATION

BACK (Saddleback Ledge Light House, 1861 - 1934)
CUP (Congregational Church Cupola, 1913)
MAT (Matinicus Rock Light House, South, 1859 - 1934)
NO (No Mans Land, 1913 - 1934) No
SEAL (Seal Island, 1913 - 1934)
WOO (Woodenball Island, 1858 - 1934)
HER (Heron Neck Light House, 1868 - 1934)

T-8028

HYDROGRAPHIC

TRIANGULATION (Computed, 4th order)

JIM
LAN

BEA (LY 2345)
BED H-7058 (1945)
DOT
TREE (LY 2345)
H-7058 (1945)

BOMB
EAST

Copy ✓ RHR.

A D D E N D U M

to accompany

HYDROGRAPHIC SHEET H-7056 (Field Number Ly-2145)

Discrepancies:

Latitude 43° 55.75' and longitude 68° 41.70', 208-209 J (red) day,
Sounding 215 ft.

This ^{Dorsey} sounding appears to be 100 ft. too shoal - Verified by 808-Recorder

Latitude 43° 54.70' and longitude 68° 41.90'. Development.
54-55 A(red), 44-46 A(red), 47-48 K(red) and 57-58 K(red)

Apparent depth discrepancies of about 20 ft. occur in this area.

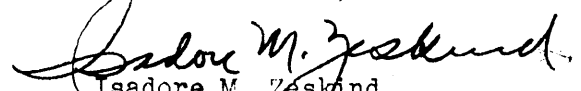
Control on A day is poor. Steep slope here - unimportant.

General:

It was necessary to extend the left arm of a double extension protractor by means of a straight edge in order to plot that area which extends roughly east of longitude 68° 41' and south of latitude 43° 57'. However, the locations of the positions so plotted were spot checked by geodetic computations. Those positions checked were in very good agreement with the plotted positions.

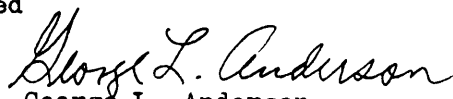
In order to obviate the use of additional extensions to the double extension protractor, the use of circles on this sheet was investigated and it was found not feasible because of extreme length of beam arm (approximately 16 ft.) required to draw the circles where the angles were extremely small.

Respectfully submitted,


Isadore M. Zeskind
Cartographic Engineer

Norfolk, Va.
October 1, 1946

Approved & Forwarded


George L. Anderson
Supervisor, S.E. District

TIDE NOTE FOR HYDROGRAPHIC SHEET

November 19, 1946

~~Division of Hydrography and Topography~~

Division of Charts: H. W. MURRAY

Plane of reference approved in
11 volumes of sounding records for

HYDROGRAPHIC SHEET 7056

Locality Approaches to Penobscot Bay, Maine.

Chief of Party: L. P. Raynor in 1945
Plane of reference is mean low water, reading
2.9 ft. on tide staff at Matinious Island
11.5 ft. below B. M. 2

Height of mean high water above plane of reference is 9.1 feet.

Condition of records satisfactory except as noted below:

E. C. McKay
Section
Chief, ~~Division of Tides and Currents.~~

GEOGRAPHIC NAMES

Survey No. H- 7056

Name on Survey												
	A	B	C	D	E	F	G	H	K			
<u>W. Penobscot Bay</u>												1
<u>Matinicus Island</u>		(location of tide staff)										2
<u>Ragged Island</u>												3
<u>Matinicus Rock</u>												4
<u>Isle ^{au} Haut</u>												5
<u>Wooden Ball Island</u>												6
<u>Seal Island</u>												7
<u>Three Fathom Ledge</u>												8
<u>Frenchman Ledge</u>												9
<u>Malcolm Ledge</u>												10
												11
												12
												13
												14
												15
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												20
												21
												22
												23
												24
												25
												26
												27

Names recorded in the survey
by L. Heck on 1/16/47

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7056

Records accompanying survey:

Boat sheets ...2.; sounding vols. 11.....; wire drag vols.; bomb vols.; graphic recorder rolls a,b,c,d days, check fathograms, & fathometer corrections (3 envelopes) special reports, etc.

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

Number of positions on sheet	.....	2563
Number of positions checked	.....	36
Number of positions revised	.....	0
Number of soundings revised (refers to depth only)	.....	11
Number of soundings erroneously spaced	.....	2
Number of signals erroneously plotted or transferred	.....	0
Topographic details	Time	3 hrs.
Junctions	Time	10 hrs.
Verification of soundings from graphic record	Time	30 hrs.

Verification by *C. P. Reed* Total time *192 hrs.* Date *30 Dec 1946*

Reviewed by *J. F. Jordan* Time *35* Date *15 Jan 1947*

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. 7056

FIELD NO. LY-2145

Maine, Approach to West Penobscot Bay
Surveyed in May to October 1945 Scale 1:20,000
Project No. CS-265

Soundings:

Fathometer -
Dorsey III
808-Recorder

Control:

Sextant angles on shore signals

Chief of Party - L. P. Raynor
Surveyed by - L. C. Johnson, E. B. Latham and P. L. Bernstein
Protracted by - B. M. Jones, A. Kaupa and W. W. Feazel
Soundings plotted by - W. W. Feazel
Verified and inked by - C. P. Reed
Reviewed by - G. F. Jordan, January 15, 1947
Inspected by - H. W. Murray

1. Control and Topographic Detail

Control for this survey originates with previous triangulation and with air photographic survey T-8028.

This is an offshore survey and only the high-water line has been transferred from air photographic surveys T-8026, T-8028 and T-8552.

2. Bottom Configuration

This offshore survey covers an area of very irregular bottom. The irregularity is so pronounced that the delineation of some depth curves remains questionable. However, the depth curves are adequate for navigational requirements.

No sedimentation areas were noted on the fathograms accompanying this survey.

3. Sounding Line Crossings

The agreement of soundings at crosslines is satisfactory.

4. Adjoining Surveys

The junctions in the vicinity of Seal and Wooden Ball Islands with H-7055 (1945) and on the northeast with H-7058 (1945) are very good. The northern, southern and western limits of the present survey are the limits of the present project. On the north and west junctions are effected with the limits of wire-drag surveys H-3023 (1909-10), H-3527 (1913) and H-3528 (1913). The junction with H-3023 W.D. is incomplete, contrary to project instructions.

5. Wire Drag Surveys

No conflicts between effective drag depths and depths on the present survey occur in the overlap with wire-drag surveys H-3023, H-3527 and H-3528 noted in the paragraph above.

The small wire-drag survey FE. No. 6 (1945, adequately developed the least depth and clearance on Three Fathom Ledge in lat. $43^{\circ} 54.3'$, long. $68^{\circ} 42.3'$.

6. Comparison with Prior Surveys

H-943 (1866-67); H-1051 (1866-68); H-1074 (1870); scales of 1:20,000

These prior surveys together cover the area of the present survey and, considering the irregularity of the bottom, show a satisfactory agreement of depths except in one area.

Soundings on H-1074, about one mile north of Seal Island, are 30 to 50 ft. shoaler than present 200 to 300-ft. depths. The discrepancy is considered to be from inaccurate results of part of one days work on the prior survey. The prior soundings here should be disregarded, particularly the 204, 132, 168 and 258-ft. soundings on chart 225 in the vicinity of lat. $43^{\circ} 54.2'$, long. $68^{\circ} 44.8'$.

These prior surveys are superseded except for bottom characteristics and five soundings which have been carried forward.

7. Comparison with Chart 225 (Print date of August 3, 1946)
Chart 1202 (Print date of May 4, 1946)

a. Hydrography

Charted hydrography originates with the aforementioned prior surveys except for soundings on Three Fathom Ledge

which were submitted as advance information of the present survey in Chart Letter 388 (1945).

Particular attention is directed to two charted soundings which are erroneous. The 30-ft. sounding charted from the above chart letter at lat. $43^{\circ} 54.42'$, long. $68^{\circ} 42.22'$, is superseded by 34 ft. The 136-ft. sounding charted from H-1074 (1870) at lat. $43^{\circ} 57.93'$, long. $68^{\circ} 42.2'$, is actually 186 ft. (31 fm. on that survey).

The target at lat. $43^{\circ} 53'$, long. $68^{\circ} 44'$, was charted from H.O. Notice to Mariners No. 52 (1945). According to Local Notice to Mariners No. 101 (1946), the target has been discontinued.

b. Aids to Navigation

No charted aids to navigation are included within the limits of the survey.

8. Condition of the Survey

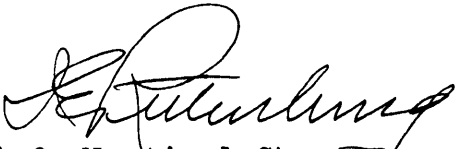
- a. The Descriptive Report and sounding records are complete and comprehensive.
- b. The smooth plotting was excellent.
- c. The survey shows adequate development of the critical shoaler areas. However, the 400-meter spacing of lines does not afford accurate delineation of the 180, 240- and 300-ft. curves in this area of very irregular bottom; as for example in the area between lat. $43^{\circ} 56'-57'$, long. $68^{\circ} 46'-49'$.

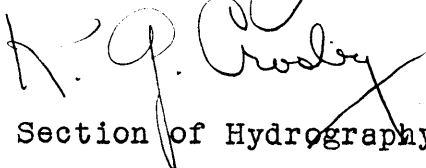
9. Compliance with Project Instructions

The survey adequately complies with the project instructions. Although no bottom characteristics were obtained, contrary to instructions, prior surveys provide adequate coverage of this detail.

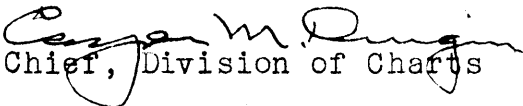
10. Additional Field Work


This is a basic survey and no additional field work is recommended.


Chief, Nautical Chart Branch


Chief, Section of Hydrography

Examined and approved:


Chief, Division of Charts


Chief, Division of Coastal Surveys

NAUTICAL CHARTS BRANCH

SURVEY NO. H-7056

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
2/4/47	225	U.F.R. - JFW	Before After Verification and Review <i>Partially</i> <i>Chart to be reconstructed</i>
4-30-'47	1203	M. Andrews	Before After Verification and Review <i>Partially</i> <i>Applied</i>
8/28/47	1202	J.D. Walker	Before After Verification and Review <i>Completely</i>
1/22/48	70	H. MacEwen	Before After Verification and Review <i>a few critical soundings only.</i>
2/17/48	71	J. Everett	Before After Verification and Review
9/27/48	322	J. Everett	Before After Verification and Review
Nov. '53	1000	H. J. Hegmann	Before After Verification and Review <i>thru chrt. 1106</i>
12/21/54	308 Reconst.	JHE	Before After Verification and Review
Aug 55	1000 1000 L	Michols	Before After Verification and Review <i>complete appl.</i>
5-8-63	Reconst. 1203	M. Rogers	Before After Verification and Review <i>thru chart 322.</i>
8-5-66	1202 Reconst.	G.R. Johnson	<i>Fully Applied after V&R</i>

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.