7140

Diag. Cht. No. 1206-2 & 1000-3

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. LY-4147 *Office No.* H-7140

LOCALITY

State MASSACHUSETTS

General locality GULF OF MAINE

Locality VICINITY OF CAPE ANN

194 7

CHIEF OF PARTY

J. C. Sammons

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DATE June 29, 1948

B-1870-1 (1)

7140

Form 537
(Ed. Nov. 1941)

REG. NO. H-7140

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-7140

Field No. LY-4147

State Massachusetts

General locality ~~Coast of Massachusetts~~ Gulf of Maine

Locality Vicinity of Cape Ann

Scale 1:40,000 Date of survey 3 June 1947 to 29 September 1947

Instructions dated Original Instructions 8 March 1940, Supp. Inst. 27 March 1946

Vessel Ship LYDONIA

Chief of party Jack C. Sammons

Surveyed by Ship's Officers

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

Protracted by W.W.F.

Soundings penciled by W.W.F.

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

REMARKS:

KWW 8/27/92

U. S. GOVERNMENT PRINTING OFFICE 428975

ZERO SETTINGS FOR SHORAN INDICATORS

SHIP LYDONIA — Jack C. Sammons, Comdg.

PROJECT HT-248

1947

INDICATOR NO. 898

GULL	ROCK
99.818	99.818

INDICATOR NO. 900

99.820	99.820

The above values were obtained from a comparison of sextant fixes and SHORAN distances and also from an analysis of the minimum SHORAN distances obtained when the ship was on range between GULL and ROCK. These minimum SHORAN distances were obtained by determining the mimimum point on the parabola as determined from observations taken before and after crossing the range. The sum of the two readings were compared with the true distance between GULL and ROCK. From this comparison a mean value of the true zero setting was determined that would give the true distance between the two stations. This value was in close agreement with that determined by comparison of sextant fixes and SHORAN distances.

STATISTICS - SHEET 4147 (FIELD) CS-248, MAINE 1947

DATE 1947	DAY	VOL	POS	STAT MILES SDG	STAT MILES TOTAL
6/3	A	1	45	30.1	60.9
6/9	B	1	62	29.6	75.7
6/18	C	1	55	33.6	69.6
6/23	D	1	41	25.2	62.3
6/29	E	2	181	84.3	108.9
6/30	F	2&3	208	85.1	112.3
7/2	G	3	102	50.3	97.0
7/7	H	4	38	22.6	75.4
7/8	J	4&5	217	100.9	123.0
7/11	K	5	177	80.9	98.3
7/12	L	5&6	238	109.3	124.3
7/13	M	6&7	269	117.2	131.2
7/14	N	7&8	295	96.3	119.3
7/15	P	8	50	11.9	47.2
7/22	Q	8&9	37	16.0	55.7
7/23	R	9&10	225	90.0	104.8
7/24	S	10&11	260	111.1	120.3
7/25	T	11	223	102.7	129.6
7/26	U	12	169	75.4	78.3
7/27	V	12&13	257	108.0	128.5
7/28	W	13&14	237	105.6	122.7
7/29	X	14&15	263	106.8	122.8
7/30	Y	15&16	248	117.0	118.3
7/31	Z	16	56	12.6	47.1
8/4	AA	16	99	37.0	81.2
8/5	BA	17	255	105.0	114.2
8/6	CA	18	165	85.5	92.6
8/8	DA	18&19	226	94.6	97.4
8/9	EA	19&20	221	84.3	98.7
8/10	FA	20&21	251	105.3	117.2
8/11	GA	21&22	250	110.4	116.9
8/12	HA	22&23	290	122.2	125.1
8/13	JA	23	111	48.2	83.9
8/18	KA	24	99	31.3	72.2
8/19	LA	24&25	223	100.7	110.7
8/20	MA	25	118	54.0	72.0
8/21	NA	25&26	256	107.8	117.4
8/22	PA	26&27	264	114.3	118.7
8/23	QA	27&28	238	98.6	103.5
8/24	RA	28&29	267	114.8	121.3
8/25	SA	29&30	116	51.6	58.1
8/26	TA	30	206	86.1	108.1
9/3	UA	30&31	201	79.2	116.9
9/4	VA	31&32	262	110.7	119.3

(Cont'd.)

STATISTICS - SHEET 4147 (FIELD) CS-248, MAINE 1947

DATE 1947	DAY	VOL	POS	STAT MILES SDG	STAT MILES TOTAL
9/5	WA	32&33	255	93.1	108.9
9/6	XA	33&34	216	63.1	68.6
9/7	YA	34	118	45.8	50.2
9/8	ZA	34&35	226	91.1	101.4
9/9	AB	35&36	249	103.4	112.1
9/10	BB	36&37	137	57.3	103.4
9/15	CB	37	97	36.6	82.3
9/16	DB	37&38	225	85.5	102.4
9/17	EB	38&39	258	105.1	119.6
9/18	FB	39&40	271	103.3	119.7
9/19	GB	40	146	57.4	92.0
9/20	HB	40&41	213	77.8	107.2
9/21	JB	41&42	210	71.8	103.8
9/23	KB	42	144	61.1	88.2
9/29	LB	42&43	63	29.6	101.5
		TOTALS	10,869	4,546.0	5,891.6

AREA SQ. STAT. MILES 840 ~~377~~

SIGNAL STATIONS USED ON SHEET LY-4147

SHORAN STATIONS

GULL	Lat. 43° 13' 18.832" Long. 70° 36' 40.089"
ROCK	Lat. 42° 39' 24.101" Long. 70° 38' 05.797"

TRIANGULATION STATIONS

ANN	Annisquam Harbor L.H. 1902, 1940
BOAR	Great Boars Head Standpipe 1917, 1943
CAPE	Cape Ann North L. H. 1902, 1940
HAM	Hampton Municipal Standpipe 1941, 1943
ISLE	Isle of Shoals L. H. 1886, 1941
LANE	Lanesville Church Spire 1902, 1935
LIG	Straitsmouth L. H. 1902, 1940
NEW	Newburyport Water Tank 1943
PIG	Rockport, Pigeon Hill Standpipe 1940
PLUM	Plum Island Coast Guard Cupola 1943
ROCK	Pool Hill 1849, 1940 (SHORAN Station)
STACK	Newburyport Power Plant Stack 1943
STAR	Star Island Church Spire 1851, 1928
THAT	Thatcher's Island South L. H. 1940
TIC	Atlantic Water Tank 1928, 1941
WAT	Rockport Water Tower 1902, 1940

DESCRIPTIVE REPORT

To Accompany

Hydrographic Survey Sheet H-7140 LY-4147

Project HT-248

Ship LYDONIA — Jack C. Sammons, Comdg.

1947

PROJECT:

This survey was accomplished in accordance with Original Instructions dated 8 March 1940 and Supplemental Instructions dated 27 March 1946, Project HT-248.

SURVEY LIMITS AND DATES:

This survey covers the area between Latitude 42° 59.7' and Latitude 42° 36.6' from Longitude 70° 47.0' to Longitude 70° 04.0'. It joins Sheet ~~H-7148~~ H-7127(1947) on the north and Survey H-6564(1940) on the east.

Field work on this sheet began 3 June 1947 and ended 29 September 1947.

VESSEL AND EQUIPMENT:

This survey was made by the Ship LYDONIA using ~~the Dorsey Fathometer, Type 3, and~~ the 808 Depth Recorders.

TIDE AND CURRENT STATIONS:

No tide or current stations were maintained by the LYDONIA during the field season.

Tide reducers for the boat sheet were obtained from the predicted tides at Isles of Shoal, N. H. No correction was applied to the predictions.

Final tide reducers and time difference (if any) should be obtained from the Division of Tides and Currents.

SMOOTH SHEET:

The smooth sheet is to be plotted by the Hydrographic Section, Southeastern District Office.

CONTROL STATIONS:

A list of signals used and the geographic positions of the two SHORAN Stations used on this sheet is attached herewith.

The position of SHORAN Station "ROCK" is identical with triangulation station "Pool Hill, 1849, 1940".

The position of SHORAN Station "GULL" was determined from the distance and direction to triangulation station "Aero Beacon Me., 1940". The antenna at this station was mounted on this aero beacon but slightly offset from its center.

SHORELINE AND TOPOGRAPHY:

None.

SOUNDINGS:

~~Most of~~ The soundings on this sheet were obtained with the 808 Depth Recorders Nos. 75 and 76. The Dorsey Type 3 Fathometer was used on the first portion of the sheet but this fathometer failed completely and could not be used with any dependency. Standard methods for obtaining the fathometer soundings were employed. To facilitate plotting soundings on the boat sheet, a foot scale was attached to the fathometer and the depths recorded directly in feet, although the soundimgs were obtained on the fathom scale.

Abstracts of temperature and salinity corrections, instrumental error and squat, have been furnished to the Hydrographic Section, Southeastern District Office.

Attention is directed to the fact that the transceiver depths for the Dorsey Fathometer and the 808 Recorder are different. Consequently, the corrections to soundings for the draft of the vessel will be different for the two types of fathometers.

Dorsey Soundings were not used.

CONTROL OF HYDROGRAPHY:

Practically all the hydrography on this sheet was controlled by SHORAN. In cases where the SHORAN did not furnish control, three point fixes were used. In other cases where the angle of intersection of the SHORAN distance arcs were greater than 150°, the SHORAN distances were supplemented by one angle. This was done when visibility was sufficient to obtain sextant angles and the remainder of the time, the lines had to plotted on SHORAN distance and time. However, an additional point on these lines can be obtained when the ship passes on the range between GULL and ROCK. This point can be determined graphically by finding the

CONTROL OF HYDROGRAPHY: (CONTINUED)

minimum point on a parabola constructed from the sum of the two SHORAN readings before and after crossing the range.

SHORAN Indicator No. 898 was used almost exclusively. Indicator No. 900 was used at short intervals when No. 898 was out of order. The indicator in use was noted in the sounding volume. Zero settings for both of the indicators were determined by making simultaneous observations with SHORAN and sextant fixes while the ship was stopped. The position of the ship was computed from the sextant angles and the true distances to each SHORAN station determined. A comparison of the true distance and the SHORAN distance gave the correct setting. In addition, an analysis of the minimum SHORAN distances obtained when the ship was on range between GULL and ROCK gave a comparison between the true distance between the two stations and the summation of the two SHORAN distances. This was also used to obtain a correct zero setting which was in fairly close agreement with the value determined by the former method.

A table of zero settings is attached herewith.

For plotting SHORAN positions on the boat sheet, distance circles at 2 statute miles spacing were drawn on the sheet in a different color for each station. Distances falling between two adjacent circles were scaled by use of the "Odessey" Protractor.

The actual zero readings for the indicator in use were made every hour and recorded in the sounding volume. While slight fluctuations were noticed, the variations were not of sufficient amount to warrant applying the corrections on the boat sheet. For smooth sheet plotting, the corrections as determined by the hourly zero readings should be applied to all SHORAN readings. (The corrections referred to are differences between correct zero settings as determined by tests and the actual zero readings.)

ADEQUACY OF SURVEY:

The survey is considered adequate. No holidays exist and depth curves are sufficiently delineated. No launch work was done in the area adjacent to the Isles of Shoals.

CROSS LINES:

A sufficient number of cross lines were run to check the regular system of sounding lines and comply with the Instructions. Crossings in general were in satisfactory agreement.

COMPARISON WITH PRIOR SURVEYS:

This survey makes a satisfactory junction with prior surveys. Although some differences occur, they are thought to be due to the irregular bottom. None of the differences are great enough to cause concern.

COMPARISON WITH CHARTS:

Numerous isolated soundings on Charts 1206 and 330 do not agree with depths determined on this survey. The differences found on Chart 1206 are enumerated below:

1. Charted 318' Lat. 42° 51.2', Long. 70° 31.5'.
   Least depth obtained ~~327~~ ~~319~~ 324 feet.
2. Charted 384' Lat. 42° 51.2', Long. 70° 30.6'.
   Least depth obtained ~~336~~ 328 feet.
3. Charted ~~336'~~ 366 Lat. 42° 51.4', Long. 70° 28.5'.
   Least depth obtained ~~372~~ ~~357~~ 363 feet.
4. Charted 378' Lat. 42° 50.5', Long. 70° 24.0'.
   Least depth obtained ~~442~~ 438 feet.
5. Charted 108' Lat. 42° 51.3', Long. 70° 21.5'.
   Least depth obtained ~~368~~ ~~362~~ 372 feet.
6. Charted 156' Lat. 42° ~~57~~ 51.2', Long. 70° 18.3'.
   Least depth obtained ~~203~~ 201 feet.
7. Charted ~~195'~~ 198 Lat. 42° 51.7', Long. 70° 08.2'.
   Least depth obtained ~~300~~ 291 feet.
8. Charted 186' Lat. 42° 51.1', Long. 70° 08.7'.
   Least depth obtained ~~334~~ 323 feet.
9. Charted 192' Lat. 42° 50.4', Long. 70° 08.8'.
   Least depth obtained ~~359~~ 349 feet.
10. Charted 204' Lat. 42° 50.1', Long. 70° ~~00~~ 08.4'.
    Least depth obtained ~~382~~ 380 feet.
11. Charted 229' Lat. 42° 53.8', Long. 70° 36.9'.
    Least depth obtained ~~236~~ 235 feet.
12. Charted ~~318'~~ 288 Lat. 42° 53.3', Long. 70° 32.~~4~~5'.
    Least depth obtained ~~290~~ 279 feet.
13. Charted 168' Lat. 42° 52.3', Long. 70° 18.6'.
    Least depth obtained ~~370~~ 369 feet.

COMPARISON WITH CHARTS: (CONTINUED CHART NO. 1206)

14. Charted 600' Lat. 42° 53.5', Long. 70° 14.0'.
Least depth obtained ~~470~~ 414 409 feet.

15. Charted 360' Lat. 42° 52.5', Long. 70° 11.3'.
Least depth obtained ~~185~~ 181 feet.

16. Charted 210' Lat. 42° 52.7', Long. 70° 06.5'.
Least depth obtained ~~278~~ 277 feet.

17. Charted 96' Lat. 42° 50.1', Long. 70° 43.0'.
Least depth obtained ~~134~~ X38 137 feet.

18. Charted 139' Lat. 42° ~~51~~ 50.1', Long. 70° 42.0'.
Least depth obtained 148 feet.

19. Charted 225' Lat. 42° 51.6', Long. 70° 39.~~5~~ 4'.
Least depth obtained ~~188~~ 186 feet.

20. Charted 360' Lat. 42° 50.4', Long. 70° 34.0'.
Least depth obtained 320 feet.

21. Charted 318' Lat. 42° 50.0', Long. 70° 32.5'.
Least depth obtained ~~378~~ 370 feet.

22. Charted 444' Lat. 42° 54.3', Long. 70° 19.0'.
Least depth obtained ~~502~~ 494 499 feet.

23. Charted 336' Lat. 42° 54.7', Long. 70° 09.7'.
Least depth obtained ~~208~~ X28 196 feet.

24. Charted 138' Lat. 42° 52.1', Long. 70° 42.0'.
Least depth obtained ~~150~~ 147 feet.

25. Charted 120' Lat. 42° 52.1', Long. 70° 43.7'.
Least depth obtained ~~127~~ 126 feet.

26. Charted 169' Lat. 42° 52.1', Long. 70° 41.0'.
Least depth obtained ~~179~~ 187 feet.

27. Charted 201' Lat. 42° 53.1', Long. 70° 39.5'.
Least depth obtained ~~211~~ 209 feet.

28. Charted 202' Lat. 42° 52.1', Long. 70° 39.8'.
Least depth obtained ~~211~~ 2XX 211 feet.

29. Charted 540' Lat. 42° 56.3', Long. 70° 11.1'.
Least depth obtained 412 feet.

COMPARISON WITH CHARTS: (CONTINUED CHART NO. 1206)

30. Charted 35' Lat. 42° 54.5', Long. 70° 46.0'.
Least depth obtained ~~37~~ 38 feet.

31. Charted 61' Lat. 42° 55.0', Long. 70° 42.3'.
Least depth obtained ~~57~~ 58 feet.

32. Charted 153' Lat. 42° 55.0', Long. 70° 40.3'.
Least depth obtained ~~178~~ XXX 150 feet.

33. Charted 175' Lat. 42° 55.4', Long. 70° 38.4'.
Least depth obtained ~~153~~ 152 feet.

34. Charted 184' Lat. 42° 54.9', Long. 70° 38.1'.
Least depth obtained ~~202~~ 200 feet.

35. Charted 86' Lat. 42° 55.8', Long. 70° 37.6'.
Least depth obtained ~~109~~ XXX 102 feet.

36. Charted 198' Lat. 42° 54.9', Long. 70° 34.1'.
Least depth obtained ~~250~~ 251 feet.

37. Charted 270' Lat. 42° 55.9', Long. 70° 33.5'.
Least depth obtained ~~223~~ 209 193 feet.

38. Charted 228' Lat. 42° 55.6', Long. 70° 31.8'.
Least depth obtained ~~262~~ 236 feet.

39. Charted 348' Lat. 42° 54.9', Long. 70° 28.1'.
Least depth obtained ~~244~~ 233 feet.

40. Charted 174' Lat. 42° 44.1', Long. 70° 29.7'.
Least depth obtained ~~282~~ 280 287 feet.

41. Charted 252' Lat. 42° 45.5', Long. 70° 18.7'.
Least depth obtained ~~174~~ 171 feet.

42. Charted 168' Lat. 42° 44.2', Long. 70° 22.7'.
Least depth obtained ~~274~~ 260 feet.

43. Charted 324' Lat. 42° 45.1', Long. 70° 20.5'.
Least depth obtained 161 feet.

44. Charted ~~102'~~ 192' Lat. 42° 42.9', Long. 70° 35.4'.
Least depth obtained ~~191~~ XXX 192 feet.

45. Charted 210' Lat. 42° 43.1', Long. 70° 29.4'.
Least depth obtained ~~255~~ 249 feet.

COMPARISON WITH CHARTS: (CONTINUED CHART NO. 1206)

46. Charted 222' Lat. 42° 43.2', Long. 70° 26.1'.
Least depth obtained ~~255~~ 254 266 feet.

47. Charted ~~256~~ 156' Lat. 42° 42.4', Long. 70° 23.4'.
Least depth obtained 148 feet.

48. Charted 210' Lat. 42° ~~43.1'~~ 42.6, Long. 70° 22.1'.
Least depth obtained ~~157~~ 154 feet.

49. Charted 156' Lat. 42° 42.3', Long. 70° 20.6'.
Least depth obtained ~~179~~ 175 feet.

50. Charted 288' Lat. 42° 43.8', Long. 70° 21.6' 3.
Least depth obtained ~~165~~ 164 feet.

51. Charted 168' Lat. 42° ~~42.9'~~ 43.0, Long. 70° 19.0'.
Least depth obtained 184 feet.

52. Charted 156' Lat. 42° 41.1', Long. 70° 30.7'.
Least depth obtained ~~143~~ 142 feet.

53. Charted 132' Lat. 42° 40.4', Long. 70° 25.5' 6.
Least depth obtained ~~124~~ 125 feet.

54. Charted 156' Lat. 42° 41.0', Long. 70° 23.8'.
Least depth obtained 113 feet.

55. Charted 168' Lat. 42° 41.1', Long. 70° 21.1'.
Least depth obtained ~~230~~ 225 feet.

56. Charted 270' Lat. 42° 41.~~3~~ 2', Long. 70° 17.5'.
Least depth obtained ~~461~~ 457 feet.

57. Charted 210' Lat. 42° 38.9', Long. 70° 30.0' 8.
Least depth obtained ~~271~~ 265 feet.

58. Charted ~~198~~ 168' Lat. 42° 39.7', Long. 70° 27.3'.
Least depth obtained ~~141~~ 142 feet.

59. Charted 162' Lat. 42° 39.3', Long. 70° 23.1'.
Least depth obtained 218 219 feet.

60. Charted 186' Lat. 42° 38.7', Long. 70° 23.3'.
Least depth obtained ~~236~~ 231 feet.

61. Charted 192' Lat. 42° 39.~~8~~ 4', Long. 70° 21.2'.
Least depth obtained ~~239~~ 238 feet.

62. Charted 204' Lat. 42° 38.~~5~~ 4', Long. 70° 21.6'.
Least depth obtained ~~238~~ 236 235 feet.

COMPARISON WITH CHARTS: (CONTINUED CHART NO. 1206)

63. Charted 60' Lat. 42° 48.4', Long. 70° 46.4'.
Least depth obtained ~~50~~ 51 feet.

64. Charted 252' Lat. 42° 46.6', Long. 70° 22.0'.
Least depth obtained ~~277~~ 275 292 feet.

65. Charted 354', Lat. 42° 47.9', Long. 70° 19.2'.
Least depth obtained ~~164~~ 157 feet.

66. Charted 88', Lat. 42° 44.2', Long. 70° 41.7'.
Least depth obtained ~~103~~ 102 feet.

67. Charted 207', Lat. 42° 56.1', Long. 70° 35.4' 3.
Least depth obtained ~~168~~ 166 feet.

68. Charted 216', Lat. 42° 57.1', Long. 70° 31.0'.
Least depth obtained ~~251~~ 236 feet.

69. Charted 498', Lat. 42° 56.5', Long. 70° 16.4'.
Least depth obtained ~~563~~ 551 feet.

70. Charted 498', Lat. 42° 57.5', Long. 70° 16.6' 5.
Least depth obtained ~~541~~ ~~533~~ 535 feet.

71. Charted 36', Lat. 42° 59.5' 4, Long. 70° 42.8'.
Least depth obtained ~~45~~ 44 feet.

72. Charted 49', Lat. 42° 59.5', Long. 70° 41.6'.
Least depth obtained ~~47~~ 48 feet.

73. Charted 129', Lat. 42° 59.4', Long. 70° 33.4'.
Least depth obtained ~~128~~ 125 feet.

74. Charted 172', Lat. 42° 58.4', Long. 70° 27.7' 8.
Least depth obtained ~~182~~ 179 feet.

75. Charted ~~49~~ 40', Lat. 42° 57.8', Long. 70° 44.6'.
Least depth obtained ~~43~~ 41 feet.

76. Charted 184', Lat. 42° 48.9', Long. 70° 39.7' 8.
Least depth obtained ~~214~~ ~~212~~ 216 feet.

77. Charted 330', Lat. 42° 48.3', Long. 70° 32.1'.
Least depth obtained ~~370~~ 361 feet.

78. Charted 354', Lat. 42° 49.5', Long. 70° 27.1'.
Least depth obtained ~~378~~ 370 feet.

79. Charted 168', Lat. 42° 48.7' 6, Long. 70° 17.4' 3.
Least depth obtained ~~186~~ 182 feet.

COMPARISON WITH CHARTS: (CONTINUED CHART NO. 1206)

80. Charted 156', Lat. 42° 48.6', Long. 70° 16.4'. Least depth obtained ~~209~~ 201 feet.

81. Charted 192', Lat. 42° 49.1', Long. 70° ~~07.9'~~ 08.0. Least depth obtained ~~410~~ 390 feet.

82. A 19' and a 21' sounding are charted in approximately Lat. 42° 53.4', Long. 70° 45.1'. It was not considered safe to take the ship over this shoal at this depth on this type bottom. This area was not developed. ~~50~~ 32 feet was obtained about 0.15 miles south.

The difference found on Chart No. 330 is 107 feet charted in Lat. 42° 57.2', Long. 70° 37.1' where the least depth found was 68 feet.

The following uncharted soundings were obtained on this survey:

1. A ~~99~~ reduced to 138 (see note in margin) sounding was obtained in Lat. 42° 56.4', Long. 70° 41.8'.

2. A ~~113~~ 103 sounding was obtained in Lat. 42° 56.1', Long. 70° 38.~~3~~2'.

3. A ~~202~~ 228 sounding was obtained in Lat. 42° 56.~~8~~6', Long. 70° 29.~~8~~5'.

4. A ~~114~~ 115 sounding was obtained in Lat. 42° 40.2', Long. 70° 26.6'.

5. A ~~98~~ 99 sounding was obtained in Lat. 42° 49.~~7~~5', Long. 70° 45.0'.

6. A ~~44~~ 43 sounding was obtained in Lat. 42° 47.1', Long. 70° 46.~~7~~6'.

7. A shoal area was found in Lat. 42° 47.1', Long. 70° 44.7' with a least depth obtained of ~~56~~ 55 feet.

8. A shoal area with a least depth of ~~174~~ 164 feet was found in Lat. 42° 47.~~7~~6', Long. 70° 33.~~7~~6'.

9. A ~~274~~ 273 sounding was obtained in Lat. 42° 47.0', Long. 70° 25.3'.

10. A shoal area with a least depth of ~~101~~ 97' was found in Lat. 42° 46.5', Long. 70° 14.~~6~~4'.

11. A shoal area with a least depth of ~~100~~ 101' was found in Lat. 42° 45.~~4~~3', Long. 70° 13.2'.

omit

COMPARISON WITH CHARTS: (CONTINUED)

12. A ~~54'~~ 55 sounding was obtained in Lat. 42° 49.0', Long. 70° 45.5'.

13. A depth of ~~177'~~ 179 was obtained in Lat. 42° 58.7', Long. 70° 31.8'.

14. A wreck is charted in Lat. 42° 56.2', Long. 70° 44.2'. The shoalest depth in vicinity is ~~96'~~ 95 at Lat. 42° 56.~~0'~~ 2, Long. 70° ~~44.0'~~ 43.9.

DANGERS AND SHOALS:

No additional dangers were found on this survey.

COAST PILOT INFORMATION:

None

AIDS TO NAVIGATION:

The positions of all buoys within the surveyed area were determined. The position of the two portions of the wreck off Cape Ann was also determined.

Remaining sub-headings are not applicable.

Respectfully submitted,

s/ Percy L Bernstein

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

APPROVED AND FORWARDED:

s/ Jack C. Sammons

Jack C. Sammons, Lt. Comdr., USC&GS.,
Commanding Ship LYDONIA.

ADDENDUM
to accompany

Hydrographic Survey H-7140 (Field No. Ly-4147)

SHORELINE: Omitted, see letter dated 10-20-47 Ref: 839 bdh.

POSITIONS: The following positions fall off the northern limits of the smooth sheet. These were plotted on an accompanying tracing ~~and may be transferred to H-7127 (1947) upon receipt of that sheet.~~ (beyond limit H-7127) (Soundings not needed - tracing destroyed)
1-F, 1-M, 1-N thru 8-N, 1-T, 237-W, 1-NA, 63-LB.

SOUNDINGS: The Dorsey fathometer was used on A, B, C and D days and the 808 fathometer was run on all but A-day. As the Dorsey was apparently giving erratic results, B, C and D day were scanned from the 808 fathograms and reduced in volume 1 (duplicate). The reduced soundings were transferred to vol. 1 and entered opposite the Dorsey soundings. All soundings entered on the smooth sheet were scanned from the 808 fathograms with the exception of A-day, for which, an 808 fathogram was not available. Dorsey soundings taken on A day were used, with the following exceptions, which could not be reconciled with the 808 soundings.

Erratic Dorsey not needed and not inked.

3 soundings after Pos. 5-A to 6 soundings after Pos. 6A.
8 soundings after Pos. 13A to Pos. 24A.

DISCREPANCIES: Lat. 42°-37.6' Long. 70°-27.4' Pos. 141 to 142 KB, soundings disagree by 12 and 13 feet on crossing DB and CB days. (Adjusted by phase correction.

Respectfully submitted,

Hugh L. Proffitt

Hugh L. Proffitt
Engr. Draftsman

Norfolk, Va.
June 24, 1948

Approved and Forwarded:

George L. Anderson

George L. Anderson
Supervisor, S.E. District

7149

1. compile from 6706 + 6708 in north central
2. Mark 6706, 6708, 6564 with superseded lines & notes
3. W.D. surveys - No conflict: H-6707, H-4800, 3974, 3975, 3977, 3947, 3948, 3949, 3980
4. Junct. H-7127 OK. - prominent ridge between 70°02' - 04' - N & S
5. Ad Wk. - 40 ft on H-3974 WD not cleared - 42° 57.8' long. 70° 44.6'
51 " " " " " " - 42° 57.2' " 70° 44.0'
86 " " " " " - 42° 55.8 " 70° 37.6'
58 (p.s.) 61' " " " " - 54.9 " 42.4'
40 (p.s) 48 " " " " - 53.7 " 44.0
35 " " " " - 54.6 " 46.0' west limit drag.

6. Prior:
4822a - Reconn. - 1 line - no critical sdgs.
4805 - few sdgs carried forward (overlaps on north)
3032 } Combined cover NW tip of sheet - O.K. - none carried
2361 }
677 - slight overlap on north central - no critical sdgs.
See below 627 - on west - a few sdgs plus ~~development~~
594 - on SW - " " "
See below { 574 - " " - none carried 2-beam lines on this survey.
294 - " NW very bad ~~poor~~ control - sdgs more than ½ mile from comparable depths " on 3 lines overlapping - example 51 ft (Chart 1206) falling in 91 ft on p.s. ~~should plot~~ and other sdgs on same line would be comparable if moved 1200 meters inshore - only one of numerous sdgs considerably shoaler than p.s. depths.
597 - on SW - sporadic soundings in about 20 fms, causing discrepancies where prior depths are as much as 40 ft shoaler in general vicinity of 42°/34' - one sdg 114 ft. (19 fm) in 41.2/31.4 is considered a 10 fm error 19 between 25 and 29 should be 29 fm ~~174 fm~~ falls in 174 ft on p.s. - no indication of shoal on p.s.
292 - on W - OK
516 - slight overlap on S -
1305 - (400,000) Jeffries Ledge 1-3 miles from pos. on p.s. -
Disregard following sdgs retained on Chart 1206

336 -	51.15 / 04.45	in 400 ft on p.s.	
330 -	50.6 / 05.0	"	390
384	49.45 / 05.4		410
360	49.0 / 05.9		390
354	48.8 / 04.25		425
360	44.9 / 10.7		380
168	43.25 / 19.6		176
156	48.35 / 20.6		172

138	41.05/22.5	168 ft
156	40.0/22.9	168 ft
120	40.1/26.1	130 ft
498	57.5/16.5	535 ft

H-574 — some poorly lines without survey —
33 in 42 ft and 39 in 44 to 50 ft depths — 33 at 42.05/43.53
39 200 meters NE — disregard (chart 243)

H-574 — Some poorly controlled lines cause discrepancies with p-s., as for example 33 in 42.05/43.53 and 39 ft 200 meters NE (chart 243) fall in 42 to 50 ft depths and should be disregarded

Chart 1206 -

Sdgs in error before verification

99	56.4/41.8	138 ft	Stray
199	55.1/32.3	229 ft.	poor fathom. - erroneous scaling
243	54.7/29.9	340	100 fm errors in reducing or plotting
225	54.2/29.8	322	
217	54.0/29.8	318	
298	56.1/08.0	315	Stray
97	45.7/41.1	117	reduction error 20 ft

Chart 1206 - wreck? 42 56.1/70 44.2 — N.M #34, 1944 wreck #817

H-627 — 105 at 57.5/40.0 in 130 ft m.p.s. disproved by depths m.p.s. and 104 ft depths nearby are adequate for charting

GEOGRAPHIC NAMES
Survey No. H7140

Name on Survey	On Chart No. A	On previous survey No. B	On U. S. quadrangle Maps C	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
Massachusetts			(for title)						USGB	1
Cape Ann			"	"						2
										3
Note that the names of three stations do not agree with approved usage on charts:										4
										5
Thacher Island		(not Thatcher's)							USGB	6
Annisquam		(Not Annisquam)								7
Pools Hill		(not Pool Hill)								8
										9
				Names underlined in red are approved. 7/14/48.						10
										11
										12
Portland, Maine		(location of tide staff)							USGB	13
										14
Names added 1-25-51: JH										15
Jeffreys Ledge									USGB	16
Jeffreys Basin										17
Scantum Basin										18
Hampton Shoal Ledge										19
										20
										21
										22
										23
										24
										25
										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H7140

Records accompanying survey:

Boat sheets .1...; sounding vols. 44....; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls .57 & 1 (initial & Phase Tests)

special reports, etc. 3 T. & S. corr., 3 I.D.S., 1 Shoran Indicator Corr.), 9 Tides, Corrections; 3 Shoran, Zero Checks; 6 Tides, Hourly Heights; 4 Pos. Computations.

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

Number of positions on sheet		10869
Number of positions checked		170
Number of positions revised		—
Number of soundings revised (refers to depth only) (plotted sheet)		210
Number of soundings erroneously spaced		0
Number of signals erroneously plotted or transferred		0
Topographic details	Time	0
Junctions	Time	16 hr
Verification of soundings from graphic record	Time	304 hr

Verification by Roy E. Elkins Total time 928 hrs (116 days) Date 12-22-50

Reviewed by P. F. Jordan Time 76 hrs Date Jan 11 1951

M-2232-1

VERIFIER'S REPORT OF HYDROGRAPHIC SURVEY NO. H- H7140

The verifier should deal with the present hydrographic survey only, as the reviewer considers its relation to previous surveys and published charts. He should be thoroughly familiar with Chapters 3, 7 and 9 of the Hydrographic Manual.

1. The descriptive report was consulted and appropriate notes were made in soft pencil regarding action taken.

2. Soundings originating with the survey and mentioned in the descriptive report have been verified, including latitude and longitude.

All reference to survey sheets mentioned in the descriptive report include the registry number and year.

Geographic names of hydrographic features if on sheet are in slanting lettering and of topographic features in vertical lettering.

5. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken.

6. All positions verified instrumentally were check marked in the sounding records.

7. All critical soundings are clear and legible and are a little larger than the adjacent soundings.

8. The metal protractor has been checked within the last three months.

9. The protracting and plotting of all bad crossings were verified.

10. All detached positions locating critical soundings, rocks or buoys were verified.

11. The boat sheet was compared with the smooth sheet.

H7140

12. The spacing of soundings as recorded in the records was closely followed.

13. The bottom characteristics were shown on outstanding shoals.

14. The reduction and plotting of doubtful soundings were checked.

15. The transfer of contemporary topographic information was carefully examined.

16. All junctions were transferred and overlapping curves made identical.

17. The notation "JOINS H- (19--)" was added in ink for all contemporary adjoining or overlapping sheets now registered. Those not verified are shown in pencil.
North - H-7127 (1947)
East - H-6564 (1940)

18. The depth curves have been inspected before inking.

19. All triangulation stations and transfer of topographic and hydrographic signals were checked.

20. Heights of rocks were checked against range of tide. None

21. Rocks transferred from topographic surveys have a dotted curve where shown thereon. Rocks located accurately by hydrographer are encircled by dotted red curve. None

22. Unnecessary pencil notes have been removed.

23. Objects on which signals are located and which fall outside of the low water line have been described on the sheet. None

24. The low water line and delineation of shoal areas have been properly shown. None

25. Degree and minutes values and symbols have been checked.

26. Questionable soundings have been checked on the fathograms.

H7140

27. Source of shoreline and signals (when not given in report).

28. All notes on sheet are in accordance with figure 171 in the Hydrographic Manual.

29. All aids located, with those on contemporary topographic sheets, have been shown on survey.

30. Depth curves were satisfactory except as follows:

see attached sheets

31. Sounding line crossings were satisfactory except as follows:

see attached sheets

32. Junctions with contemporary surveys were satisfactory except as follows:

a limit junction was made with H-6564(1940)
Junctional treatment of H-6706(1941) and H-6708(1941) is to be completed by Reviewer.

33. Condition of sounding records was satisfactory except as follows:

see attached sheets

34. The protracting was satisfactory except as follows:

very good-

35. The field plotting of soundings was satisfactory except as follows:

very good-

36. Notes to reviewer:

808 fathometer used, Dorey soundings, "A"day were not inked.

Verified by Roy E. Elkins Date 12-21-50

30. Ridges and troughs running almost parallel to the sounding lines, east of Jeffrey Ledge at the bottom of the sheet and west of Jeffrey Ledge at the top of the smooth sheet, presented somewhat of a problem to curve delineation. Curve sketching was also difficult in rugged bottom in the north west section of the sheet.

31. Over the more level portions of the bottom, some sounding lines appear to consistantly differ with other lines by about two feet.

This may be the result of slightly inaccurate scanning. The depths as recorded from the fathograms may be in error by one foot at any time, and errors of two feet are not uncommon and must be tolerated.

33. Phase Corrections: The one phase determination covering the three months period of field work proved to be inadequate. The fathograms clearly indicate that determinations should have been made daily.

In addition to the phase corrections recorded, additional corrections ranging from -7 to +14 feet were applied during verification, which effected 15 % of the soundings.

Eccentricity of Fathogram: While eccentricity corrections did not materially affect the soundings, references to lines affected are listed only because this is the first time such corrections have been used. Depths of S, T, U, and RA days were affected by eccentricity ranging from -2 to +2 feet.

33. Cont'd. "U" day: The rectification of "U" day presented an unusual problem in which four separate corrections, scanning, phasing, initial, and eccentricity were required in order to obtain harmony with adjacent hydrography.

T & S Curves: Although T & S corrections appear satisfactory, the Records of Observations and correction curves could not be found.

It is possible that these were never transmitted as they are not mentioned in transmittal letters, Ships to Processing Office or Processing Office to Washington.

Large Smooth Sheets: Large survey sheets make an impressive picture but present a problem in all phases of processing and subsequent use.

The layout or planning of sheets of this size should be condemned.

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY REGISTRY NO. H-7140

FIELD NO. LY-4147

Massachusetts, Gulf of Maine, Vicinity of Cape Ann
Surveyed from June to September 1947 Scale 1:40,000
Project No. CS-248

Soundings:	Control:
808 Fathometer	Shoran and visual fixes on shore signals

Chief of Party - J. C. Sammons
Surveyed by - P. L. Bernstein, E. B. Lewey, A. L. Powell and G. E. Russell, Jr.
Protracted by - W. W. Feazel
Soundings plotted by - W. W. Feazel
Verified and inked by - R. E. Elkins
Reviewed by - G. F. Jordan, 10 January 1951
Inspected by - R. H. Carstens

1. Control

The Shoran control for this survey is described in the Descriptive Report. Visual fixes were obtained on previously established triangulation stations.

Inasmuch as contemporary air photographic surveys cover only a portion of the shoreline falling within the limits of the smooth sheet, no shoreline is shown on this offshore survey.

2. Bottom Configuration and Depth Curves

The bottom covered by this survey extending over approximately 840 square statute miles is largely irregular. This is especially true in the northwestern portion of the survey in 40-to 300-ft. depths in the vicinity of Isles of Shoals. Jeffreys Ledge, which extends northeastward across the survey at fairly regular depths of 160 to 200 feet, rises abruptly from irregular 300-to 500-ft. depths. Several knolls were found, such as the one in lat. 42° 45.5', long. 70° 13.2', which is more than 250 feet high. The bottom extending 12 miles northward from Cape Ann is in general very smooth in depths greater than 120 feet.

The usual depth curves were supplemented by curves at 30-ft. intervals in order to adequately delineate the bottom relief.

3. Crosslines

The depths at sounding line crossings are in very good agreement.

4. Adjoining Surveys

Adequate junctions were effected with H-7127 (1947), H-6706 (1941) and H-6708 (1941) on the north and with H-6564 (1940) on the east. Soundings were transferred from H-6706 and H-6708 to complete undeveloped areas on the present survey. Those surveys can now be disregarded for charting purposes in the common area. There are no contemporary surveys on the south at the present time, but extended coverage is planned under the present project.

The present survey covers the western limits of the project where the marginal soundings charted from prior surveys are comparable to present depths.

5. Comparison with Prior Surveys

a. H-1305 (1853-74) scale 1:400,000

This reconnaissance survey is composed of several surveys on which the hydrography was controlled by dead reckoning. A comparison with the present survey, particularly on and in the vicinity of Jeffreys Ledge, reveals that large portions of the prior hydrography are as much as 3 miles eastward of their true positions.

b. H-292(1851) scale 1:10,000;H-294(1851) scale 1:20,000; H-516(1854-1905) scale 1:80,000;H-574(1856) scale 1:20,000;H-594(1857) scale 1:20,000;H-597(1857) scale 1:10,000;H-627(1857-85) scale 1:20,000;H-667(1858-1903) scale 1:40,000;H-2361(1898) scale 1:20,000;H-3032(1909) scale 1:20,000

Some of the discrepancies between prior and present depths are attributed to the usual differences between leadline and fathometer soundings on irregular bottom. Other large discrepancies were caused by erroneous control or errors in soundings on the prior surveys, particularly on H-294, H-574 and H-597. The significant discrepancies are as follows:

(1) The 51-ft. sounding on H-294 (Chart 1206) in lat. 42° 58.92', long. 70° 41.5', falling in 91 feet on the present survey, is erroneously positioned and should be disregarded. This sounding and others obtained on a prior line are more than one-half mile offshore from comparable depths.

(2) The 114-ft. sounding on H-597 (Chart 1206) in lat. 42° 41.25', long. 70° 31.4', falling in 174 feet on the present survey, is considered to be erroneous and should be disregarded. This sounding of 19 fms. was probably 29 fms; it was obtained on a slope between 25-and 29-fm. soundings.

(3) Sporadic soundings on H-597 (Chart 243) in the vicinity of lat. 42° 42', long. 70° 34', fall in smooth bottom depths of 120 to 180 feet and are as much as 40 feet shoaler than both prior and present depths. The prior soundings should be disregarded.

(4) The 33-ft. sounding in lat. 42° 42.05', long. 70° 43.53', and the 39-ft. sounding 200 meters northeastward, on a line on H-574 (Chart 243) fall in 42-to 50-ft. depths and should be disregarded. This sounding line and others on the prior survey were erroneously controlled, and the soundings are too far offshore.

(5) The 105-ft. sounding on H-627 (Chart 1206) in lat. 42° 57.5', long. 70° 40.0', falls in 130 feet on the present survey and should be disregarded. The sounding is disproved by present depths; the 104-ft. sounding nearby on the present survey is adequate for charting.

c. H-4805 (1928) scale 1:40,000;H-4822a (1928)scale 1:80,000

There are no discrepancies in depth in the small overlap of these prior surveys with the present survey.

d. The present survey supersedes all these prior surveys except for supplementary soundings and bottom characteristics carried forward.

6. Comparison with Wire Drag Surveys

H-3947(1916)WD, scale 1:80,000;H-3948(1916)WD,scale1:25,000;
H-3949(1916)WD, scale 1:25,000;H-3950(1916)WD,scale 1:10,000;
H-3974(1919)WD, scale 1:40,000;H-3975(1917)WD,scale 1:20,000;
H-3977(1917)WD, scale 1:20,000;H-4800(1928)WD,scale 1:30,000;
H-6707(1941)WD, scale 1:10,000

These wire-drag surveys cover the northwestern portion of the present survey. There are no conflicts between effective drag depths and depths on the present survey.

7. Comparison with Chart 243 (Print of 49-10/10)
Chart 330 (Print of 48-2/2)
Chart 331 (Print of 49-7/4)
Chart 1206 (Print of 50-10/2)
Chart 50 (Print of 50-7/17)

A. Hydrography

(1) The hydrography on Chart 1206 is from the present survey before verification except for some soundings retained from the prior surveys. No revisions in critical depths were made during verification except for the addition of the 43-ft. sounding in 67-ft. depths in lat. 42° 47.1', long. 70° 46.6'. All charted hydrography is superseded by hydrography on the present smooth sheet which includes critical and significant soundings carried forward from prior surveys. The following charted soundings subject to deletion as a result of verification of the present survey are listed as a matter of record:

99 ft. in lat. 42° 56.4', long. 70° 41.8', - stray.
199 ft. in lat. 42° 55.1', long. 70° 32.3', - erroneous scaling.
243 ft. in lat. 42° 54.7', long. 70° 29.9', 100-ft. error.
225 ft. in lat. 42° 54.2', long. 70° 29.8', - 100-ft. error.
217 ft. in lat. 42° 54.0', long. 70° 29.8', - 100-ft. error.
298 ft. in lat. 42° 56.1', long. 70° 08.0', - stray.
97 ft. in lat. 42° 45.7', long. 70° 41.1', - reduction error.

(2) The sunken wreck charted in lat. 42° 56.1', long. 70° 44.2', was reported in H.O. Notice to Mariners No. 34, 1944. The wreck is listed as No. 817 in the H.O. Wreck List, marked by a red float. A penciled notation on the file copy of the Notice states that the wreck is a submarine. The wreck lies in irregular bottom and is not discernible on the fathograms. No information concerning the wreck was obtained on the present survey.

Topped

COMPARISON WITH PRIOR SURVEYS:

This survey makes a satisfactory junction with prior surveys. Although some differences occur, they are thought to be due to the irregular bottom. None of the differences are great enough to cause concern.

COMPARISON WITH CHARTS:

Numerous isolated soundings on Charts 1206 and 330 do not agree with depths determined on this survey. The differences found on Chart 1206 are enumerated below:

(The 6 pages listing comparative depths had no further value and were removed from this report subsequent to verification by the Review Section.)

DANGERS AND SHOALS:

No additional dangers were found on this survey.

COAST PILOT INFORMATION:

None

AIDS TO NAVIGATION:

The positions of all buoys within the surveyed area were determined. The position of the two portions of the wreck off Cape Ann was also determined.

Remaining sub-headings are not applicable.

Respectfully submitted,

/s/ Percy L. Bernstein

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

APPROVED AND FORWARDED:

/s/ Jack C. Sammons,

Jack C. Sammons, Lt. Comdr., USC&GS
Commanding Ship LYDONIA.

B. Aids to Navigation

The floating aids to navigation on the present survey and on the charts are in substantial agreement. The present survey did not reveal any new dangers which might require marking.

8. Condition of the Survey

a. The Descriptive Report is complete; the sounding records conform to general instructions; and the survey was accurately and neatly smooth-plotted. Corrections during verification, however, revealed the following:

(1) Application of a single phase correction covering the three months period of field work was an erroneous procedure. The verifier corrected approximately 15% of the soundings for variations in phasing corrections ranging from minus 7 feet to plus 14 feet.

(2) On portions of four days work the fathograms traveled outside the sprockets, introducing initial and eccentric errors. The initial error was occasionally removed in the field by reset of the initial, but the eccentric error amounting to as much as 2 feet remained. Numerical corrections for initial, phasing and eccentricity amounting to as much as 17 ft. on a portion of "U" day were applied during verification in the Washington Office.

(3) In drawing the depth curves in the deeper areas it was found that numerous discrepancies were due to erroneous depths scaled from very faint profiles on the B and C (fathom) scales. Curve delineations were improved by rescanning the fathograms involved. A few short sections of lines were rejected where the profile faded out, as for example, in the vicinity of lat. 42° 56', long. 70° 14', in 500-to 600-ft. depths.

(4) With the exceptions noted above, very good graphic records were obtained on this survey.

b. The size of the smooth sheet, 42" x 72", is the maximum allowed by the Hydrographic Manual where it is impracticable to use the standard size. The present survey, using Shoran control, could have been split into two surveys. Large sheets are awkward to handle and are subject to excessive wear.

c. Only a few bottom characteristics were obtained on this survey. Although many have been carried forward from prior surveys, their value is impaired in the vicinity of the extensive Jeffreys Ledge where the control of the

prior surveys was erroneous (par. 5a). The "rky" characteristic applied to Chart 1206 in 300-ft. depth in lat. 42° 50.7', long. 70° 07.6', from H-1305 (1853-74) was actually obtained in 186-ft. depths on Jeffreys Ledge where it has been carried forward on the present survey. No characteristics were obtained on Jeffreys Ledge during the present survey.

9. Compliance with Project Instructions

The survey adequately complies with the project instructions.

10. Additional Field Work Recommended

This is an excellent basic survey and no further hydrography is recommended. Because of splits on prior wire-drag surveys, however, the following shoals are listed as a matter of record for future wire-drag coverage.

40 ft. in lat. 42° 57.8', long. 70° 44.6'
51 ft. in lat. 42° 57.2', long. 70° 44.0'
86 ft. in lat. 42° 55.8', long. 70° 37.6'
58 ft. in lat. 42° 54.9', long. 70° 42.4'
40 ft. in lat. 42° 53.7', long. 70° 44.0'
35 ft. in lat. 42° 54.6', long. 70° 46.0'

Examined and approved:

H. R. Edmonston
Chief, Nautical Chart Branch

R. W. Knox
Chief, Division of Charts

L. S. Hubbard
Chief, Section of Hydrography

W. M. Scaife
Chief, Division of Coastal Surveys

Form 567
Rev. March 1935

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

LANDMARKS FOR CHARTS

TO BE CHARTED } STRIKE OUT ONE
~~TO BE DELETED~~ }

Boston, Mass. 10 September 1947 193

I recommend that the following objects which have (~~have not~~) been inspected from seaward to determine their value as landmarks, be charted on (~~deleted from~~) the charts indicated.

The positions given have been checked after listing.

Jack C. Semmons, Lt. Comdr., C&GS
Chief of Party.

GENERAL LOCALITY / NAME AND DESCRIPTION	POSITION					METHOD OF LOCATION	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
	LATITUDE		LONGITUDE		DATUM						
	° ′	D. M. METERS	° ′	D. P. METERS							
Wreck. Stack on larger portion	42 40	1220 ~~1204~~	70 35	39 ~~32~~	NA 1927	Cuts on Hydro. Sheet	9/1947	243	1206	1106	
of a wrecked ship approximately											
45 ft. above H.W.											
Wreck. Smaller portion of a	42 40	1110 ~~1096~~	70 35	208 ~~"~~	"	"	"	"	"	"	
wrecked ship baring approximately											
10 ft. at H. W.											

This form shall be prepared in accordance with 1934 Field Memorandum, "LANDMARKS FOR CHARTS." The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

U. S. GOVERNMENT PRINTING OFFICE 69675

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

839

RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~ 2 July 1948

Division of Charts: R. H. Carstens

Plane of reference approved in
44 volumes of sounding records for

HYDROGRAPHIC SHEET 7140

Locality - Cape Ann, Coast of Massachusetts

Chief of Party: J. C. Sammons in 1947
Plane of reference is mean low water, reading
3.6 ft. on tide staff at Portland, Maine
19.0 ft. below B. M. 31 (1910)

Height of mean high water above plane of reference is 8.9 feet.

Condition of records satisfactory except as noted below:

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

U. S. GOVERNMENT PRINTING OFFICE 154327

NAUTICAL CHARTS BRANCH

SURVEY NO. 7140

Record of Application to Charts

Review Jan 10, 1951

DATE	CHART	CARTOGRAPHER	REMARKS
7/9/48	1206	L.A. McGann	(Before) After Verification and Review Partially applied
7/24/50	1106	B. Risegari	Partially applied thru cht. 1206. ~~Before~~ Verification and Review
Nov. 53	1000	H.F. Stegman	~~Before~~ After Verification and Review thru 1106
Aug 55	1000 1000-2	Tuchale	~~Before~~ After Verification and Review Complete appl.
June 56	213	H.F. Stegman	~~Before~~ After Verification and Review Completely
21 Oct. 57	211	H.E. MacEwen	[redacted] After Verification and Review Completely
1207	3/23/60	Helmer	~~Before~~ After Verification and Review Fully applied
1206 1207 overlap	3/30/60	Helmer	~~Before~~ After Verification and Review Fully applied thru 1207 in overlap only
6/14/62	1206 #19	O. Svendsen R.E. Elkins	~~Before~~ After Verification and Review Completely applied thru cht 211 drg 1, cht 213 drg 1 and H-7140.
10-31-62	243	R.E. Elkins	~~Before~~ After Verification and Review Partly applied added three sdgs in applying H-7140 to cht 1206.
10-31-62	213	R.E. Elkins	Reapplication of Full application of June 1956. added one sdg in applying H-7140 to cht 1206.
10-31-62	211	R.E. Elkins	Reapplication of Full application of Oct 1957. added five sdgs in applying H-7140 to cht 1206.
11-8-62	1106	G.R. Johnson	After V & R. Fully Applied through cht 1206 drg #19
11-9-62	1207	R.E. Elkins	Reapplication - Revised soundings and curves to agree with cht 1206 drg #19
1-2-62	1107	G.R. Johnson.	Fully Ap'd. after V & R thru cht 1106
7/14/66	71	F.R. Scarcella	Fully App'd After V & R thru cht 1107 drg #17.

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.

4-3-68 613-SC J.B. Powers After V. & R. Fully appld

(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. ______________

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.

CHART	DATE	CARTOGRAPHER	REMARKS
243	9 July 1969	Jeannette M O'Connor	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 18
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
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			Drawing No.

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