8512

Diag. Cht. No. 1236-2.

Form 504

U. S. DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. PBS-2256 *Office No.* H-8512

LOCALITY

State NORTH CAROLINA

General locality CAPE FEAR

Locality FRYING PAN SHOALS

19 56

CHIEF OF PARTY

K.S. ULM

COMM-DC 61300

8512

Form 537
(Ed. June 1946)

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

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

REGISTER No. H-8512

Field No. PBS-2256

State NORTH CAROLINA

General locality CAPE FEAR

Locality FRYING PAN SHOALS

Scale 1:20,000 Date of survey 8 Aug. to 4 Oct. 1956

Instructions dated 17 Feb. 1956

Vessel SHIPS PARKER, BOWEN & STIRNI

Chief of party K.S. ULM

Surveyed by R.C. DARLING, W.R. KACHEL, C.R. REED, D.G. RUSHFORD, O.L. DOSTER, E.R. SCYOC, W.M. LEE & L.L. SEAL

Soundings taken by [illegible] graphic recorder, h[illegible]

Fathograms scaled by SHIP PERSONNEL

Fathograms checked by NORFOLK PROCESSING OFFICE

Protracted by FRED BEAN (NORFOLK PROCESSING OFFICE)

Soundings penciled by FRED BEAN (" " ")

Soundings in [illegible] feet at MLW [illegible]

REMARKS:

U. S. GOVERNMENT PRINTING OFFICE 16—66520-1

NORFOLK PROCESSING OFFICE
DESCRIPTIVE REPORT
TO ACCOMPANY

HYDROGRAPHIC SURVEY H-8511 FIELD NO. PBS-2156
HYDROGRAPHIC SURVEY H-8512 FIELD NO. PBS-2256

FRYING PAN SHOALS -- CAPE FEAR, NORTH CAROLINA

SHIPS PARKER, BOWEN & STIRNI K.S. ULM, COMDG.

A-PROJECT

The field work accomplished during the 1956 season at Frying Pan Shoals was authorized by supplemental instructions, Project 1377, dated 17 February 1956.

B-SURVEY LIMITS AND DATES

These two survey cover part of the area of Frying Pan Shoals, extending from approximate Lat. 33-54' on the North to approximate Lat. 33-37' on the South. There are no junctions with contemporary surveys. Work was done concurrently on the two surveys, beginning on 8 August 1956 and ending on 4 October 1956.

C-VESSELS AND EQUIPMENT

Hydrography was accomplished by Ship Parker using 808 fathometers numbers 112S and 117S, by Ship Bowen using 808 fathometer 160SPX, and by Ship Stirni using 808 fathometer number 151SPX and EDO number 21S. The three vessels operated at speeds varying from 400 to 1000 RPM, depending on water depths and sea conditions.

D-TIDE AND CURRENT STATIONS

See copy of letter from Chief, Tide and Currents Division, No. 36-61-267, dated 18 Feb. 1960, concerning tide stations used. Tide reducers were entered in the volumes from hourly heights requested from Washington Office, by personnel of the Norfolk Processing Office.

No current stations were occupied with-in the limits of these surveys.

E-SMOOTH SHEET

The smooth sheet projection was made by hand and all shoran arcs, shoreline, etc., were plotted by personnel of the Processing Offic

F-CONTROL STATIONS

Both surveys were shoran controlled using stations KURE and HOLD.

Station KURE was located on the municipal water tank at Kure Beach, N.C., at Latitude 33-59' (1747 M) and Longitude 77-54' (659 M). This station was located by photogrammetric methods.

Station HOLD was a standard shoran antennae located by a short traverse from triangulation station Holden, 1934. It's position is as follows: Lat. 33-55' (437.2 M), Long. 78-15' (1056.5 M)

G-SHORELINE AND TOPOGRAPHY

The shoreline for survey H-8511 was transferred from Corps of Engineers Quadrangles Snow Marsh, Cape Fear and Southport. H-8512 is an off-shore survey.

H-SOUNDINGS

Soundings were taken in the conventional manner using 808 and EDO fathometers. Velocity, tide, and index corrections where necessary, wereapplied to the soundings to the nearest 0.2 foot. Settlement and squat corrections were applied to the nearest 0.5 foot to simplify the processing operation.

All fathograms were check scanned and the soundings reduced with templates at 20 second intervals by personnel of the Processing Office.

I-CONTROL OF HYDROGRAPHY

All hydrographic positioning was done on shoran stations KURE and HOLD. Calibration data was recorded in seperate volumes and the correctionsentered before the sounding volumes were forwarded to the Processing Office.

J-ADEQUACY OF SURVEYS

They are adequate to supersede prior surveys for charting purposes.

K-CROSSLINES

Crosslines comprise approximately 5% of the work accomplished. Any discrepancies at crossings will be discussed in the Processing Office addendum.

L & M-COMPARISON WITH PRIOR SURVEYS AND CHART

These items will be discussed in the Addendum after the smooth sheet has been plotted.

N THRU Z

Not applicable, or else sufficient data is not in hand to furnish requested information.

NOTE: Much of the information in the body of this report was taken from the Seasons Report of 1956. This report should be referred to for back-ground information on these two surveys. It also mentions a Hydrographic Descriptive Report, how-ever, this item is not listed in the Field Inventory of Records nor was one received by this Office.

Norfolk, Va.
11 March 1960

Respectfully submitted,

Hugh L. Proffitt

Hugh L. Proffitt
Cartographer
Norfolk Processing Office

SHIPS PARKER, BOWEN & STIRNI

FATHOMETER VELOCITY CORRECTIONS
SURVEYS H-8511 & H-8512

Transcribed in the Norfolk Processing Office from curves compiled by the Field Party.

SHIP PARKER

FATH. NO. 117S (4.0' INITIAL)
8 AUG. TO 4 OCT. 1956

A-SCALE

5.0	to 55.0	0.0'

B-SCALE

35.0	to 57	-1.0'
58.0	to 78.0	-0.8'
79.0	to 90.0	-0.6'

FATH. NO. 112S (4.0' INITIAL)
10 APR. TO 4 OCT. 1956

A-SCALE

5.0	to 55.0	0.0'

B-SCALE

35.0	to 90.0	0.0'

SHIP BOWEN

FATH. NO. 160SPX (4.0' INITIAL)
8 AUG. TO 3 OCT. 1956

A-SCALE

5.0	to 7.0	∠ 0.2'
8.0	to 12.0	0.0'
13.0	to 23.0	- 0.2'
24.0	to 27.0	- 0.0'
28.0	to 30.0	∠ 0.2'
31.0	to 34.0	∠ 0.4'
35.0	to 37.0	∠ 0.6'
38.0	to 42.0	∠ 0.8'
43.0	to 46.0	∠ 1.0'
47.0	to 51.0	∠ 1.2'
52.0	to 55.0	∠ 1.4'

B-SCALE

35.0	to 37.0	∠ 0.4'
38.0	to 41.0	∠ 0.6'
42.0	to 46.0	∠ 0.8'
47.0	to 51.0	∠ 1.0'
52.0	to 55.0	∠ 1.2'
56.0	to 60.0	∠ 1.4'
61.0	to 65.0	∠ 1.6'
66.0	to 70.0	∠ 1.8'
71.0	to 75.0	∠ 2.0'
76.0	to END	∠ 2.2'

SHIP STIRNI

EDO FATH. 215 (3.0' INITIAL)
23 & 24 AUG. 1956

A-SCALE

5.0	to 18.0	-0.6
19.0	to 29.0	-0.4'
30.0	to 41.0	-0.2'
42.0	to 53.0	0.0'
54.0	to 64.0	∠0.2'
65.0	to 70.0	∠0.4'

(CONTINUED)

SHIP STIRNI

(CONTINUED)

FATH. NO. 151SPX (4.0' INITIAL)
12 & 14 SEPT. 1956

A-SCALE		B-SCALE	
5.0 to 15.0	0.0'	35.0 to 46.0	-0.8'
16.0 to 27.0	∠0.2'	47.0 to 56.0	-1.0'
28.0 to 36.0	∠0.4'	57.0 to 66.0	-1.2'
37.0 to 46.0	∠0.2'	67.0 to 76.0	-1.4'
47.0 to 53.0	0.0'	77.0 to 86.0	-1.6'
54.0 to 55.0	-0.2'	87.0 to 90.0	-1.8'

NORFOLK PROCESSING OFFICE
SETTLEMENT AND SQUAT CORRECTIONS
Ships PARKER, BOWEN & STIRNI
SURVEMS H-8511 & H-8512

The following is a list of settlement and squat corrections entered in the volumes for surveys H-8511 and H-8512. They are listed in increments of 0.5 feet as shown in table 29 of the Hydrographic Manual for exposed waters.

SPEED (RPM)	CORRECTION (FEET) (+)	FROM DEPTH TO DEPTH (FEET)
400	0.0	all depths
500	0.0	all depths
600	+0.5	0.0 to 15.0
	0.0	16.0 and over
700	+0.5	0.0 to 20.0
	0.0	21.0 and over
800	+1.0	0.0 to 15.0
	+0.5	16.0 and over
900	+1.0	0.0 to 20.0
	+0.5	21.0 and over
1000	+1.0	0.0 to 30.0
	+0.5	31.0 and over

STATISTICS FOR
SURVEY H-8512 (PBS-2256)

VOLUME NUMBER	DAY LETTER	DATE	NO. POS.	STAT. MI.
SHIP PARKER				
1 & 2	A(blue)	8 Aug. 56	175	56.2
2 & 3	B	9 "	208	67.6
3 & 4	C	10 "	207	66.4
4 & 5	D	11 "	254	77.7
5 & 6	E	12 "	120	43.9
6 & 7	F	13 "	113	37.0
7	G	20 "	116	30.1
7 & 8	H	21 "	164	38.2
8	J	work rejected		
8,9 & 10	K	24 "	233	64.0
10	L	2 Oct.	51	22.6
10	M	3 "	81	29.0
		TOTALS	1720	532.7
SHIP BOWEN				
11 & 12	A(purple)	8 Aug. 56	223	67.0
12,13 & 14	B	9 "	285	77.6
14 & 15	C	10 "	257	71.0
15,16 & 17	D	11 "	259	91.7
17 & 18	E	12 "	149	65.5
18,19 & 20	F	13 "	245	54.1
20	G	20 "	113	28.6
20 & 21	H	21 "	186	40.3
22	J	22 "	17	4.8
22 & 23	K	24 "	137	34.9
23	L	18 Sept.	34	11.4
23	M	2 Oct.	50	15.8
23	N	3 "	30	6.4
		TOTAL	1985	569.1
SHIP STIRNI				
24	A(green)	24 Aug. 56	41	0.0
		GRAND TOTAL	3748	1101.8

NORFOLK PROCESSING OFFICE
LIST OF
FLOATING AIDS TO NAVIGATION
H-8512

BUOY	LATITUDE	LONGITUDE	DEPTH	POS. NO.	DATE
FRYING PAN SHOALS					
Lighted Whistle Buoy 2PF	33-29.20	77-57.70	42'	41A(gr)	8/24/56
Slue Lighted Buoy 1	33-39.68	77-52.75	44'	29A(gr)	"
Wreck Buoy 2B	33-36.47	77-52.00	53'	81M(bl)	10/3/56

COPY

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

No. 36-61-267

February 18, 1960

To: Norfolk District Officer
Coast and Geodetic Survey
102 West Olney Road
Norfolk 10, Virginia

Subject: Tidal data, Cape Fear, N. C. 1956

As requested in your letter of February 9, 1960, hourly heights referred to mean low water are enclosed. These have been corrected from records for Southport and Wilmington Beach, N. C. for use on surveys H-8511 and H-8512 off Cape Fear, N. C. Tides for this area are assumed to be sufficiently uniform so that separate zones are unnecessary for the reduction of soundings.

K. G. Crosby, Chief
Tides and Currents Division

Enclosures

NORFOLK PROCESSING OFFICE
ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8512 (PBS-2256)

GENERAL

This appears to be an excellent basic survey and no unusual conditions were experienced during the smooth plot. Soundings are in good agreement at crossings considering the extremely irregular and changeable character of the bottom in this exposed area.

COMPARISON WITH CHART 1236

Within the 30 foot curve there is a general shoaling and shifting of shoal areas. Also, preliminary penciled curves show numerous irregularaties in contrast to the gentle contours on the chart. Much of this change may possibly attributed to close fathometer developement on this survey compared to handlead soundings on prior surveys.

With minor variations, usually extensions, the present 30 foot curve follows the same general trend shown on the chart. The only change considered of immediate danger to larger vessels is the shoaling in the vicinity of buoy N "6FP", and in particular, the 29 foot sounding falling in charted depths of 34 feet at Lat. 33-42.3', Long. 78-00.3'.

Norfolk, Va.
7 July 1960

Respectfully submitted,

Hugh L. Proffitt
Cartographer

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. Apr. 1950

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~ 12 Aug. 1960

Division of Charts: R. H. Carstens

Plane of reference approved in
24 volumes of sounding records for

HYDROGRAPHIC SHEET 8512

Locality Cape Fear, N.C.

Chief of Party: K. S. Ulm in 1956
Plane of reference is mean low water, reading
2.0 ft. on tide staff at Wilmington Beach, N.C.
14.7 ft. below B. M. 1 (1956)

Height of mean high water above plane of reference is 4.0 feet.

Condition of records satisfactory except as noted below:

Chief, Tides Branch
~~Chief, Division of Tides and Currents~~

U. S. GOVERNMENT PRINTING OFFICE 877933

FORM 197
(3-16-55)

GEOGRAPHIC NAMES

Survey No. H-8512

Name on Survey	A: On Chart No. 1236	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	
Cape Fear (Title)	✓									1
Frying Pan Shoals	✓									2
										3
										4
										5
										6
				George on Base						7
				Geographic Names Section						8
				25 July 1960						9
										10
										11
										12
										13
										14
										15
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										23
										24
										25
										26
										27

PROJECTION PARAMETERS for DIGITAL PLOTTING 8512

#4

Project No. 2400-1030 Requested by Navy Chuyko

H No. 8512 Ship Rainier Bowditch Sharp

Field No. PB5-2206 Date required ✓

SHEET LIMITS

XKN (SP 5) Distance from CMER to Plotter Origin 13,407.7 Meters

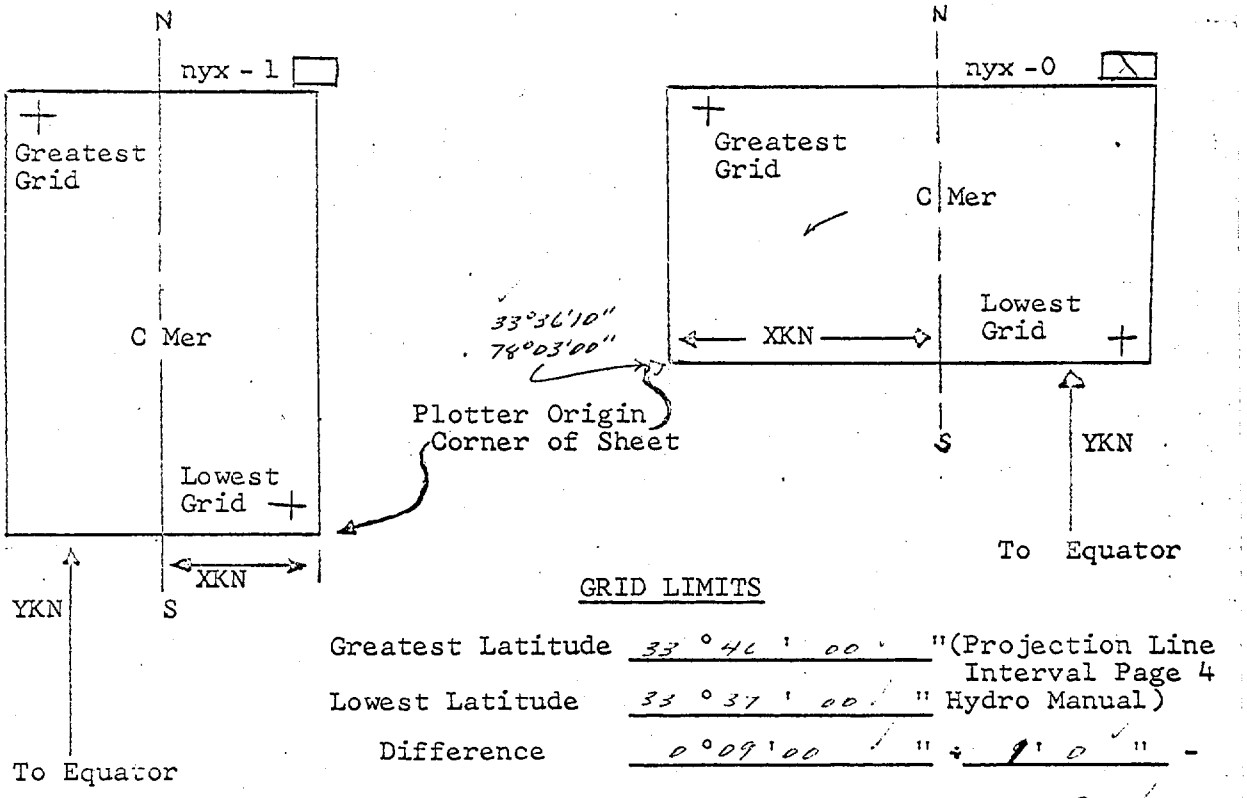
YKN (SP 241) Distance from Equator to Plotter Origin 3,719,408.194 Meters

Control Meridian 77 ° 54 ' 00 "

Survey Scale 1:20,000

Size of Sheet (Check One) 36 x 60 [✓] 42 x 60 [ ]

Orientation of Sheet (Check One)



GRID LIMITS

Greatest Latitude 33 ° 46 ' 00 " (Projection Line Interval Page 4 Hydro Manual)

Lowest Latitude 33 ° 37 ' 00 "

Difference 0 ° 09 ' 00 " ÷ 1 ' 0 " -

9 YSN

Greatest Longitude 78 ° 02 ' 00 "

Lowest Longitude 77 ° 46 ' 00 "

Difference ° 16 ' " ÷ 1 ' 00 " -

16 XSN

H-8512 Overtime verification

Began work on 4-25-75

Week ending

4-30-75	6
5-3-75	7
5-10-75	13
5-17-75	10
5-24-75	8
5-31-75	6
6-14-75	13
6-21-75	13
6-28-75	7
6-30-75	2
	85 hrs

K.W.W.

Total time spent on verification of H-8512 as of 6-30-75 = 85 hrs

Form 946

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8512

Records accompanying survey: Smooth sheets 1;

boat sheets 3; sounding vols. 27; wire drag vols. ;

Descriptive Reports 1; graphic recorder envelopes 19;

special reports, etc. 2-Shoran calibration sheets.
4 Boxes of Printouts & 1 Cahier of Raw Data & Printouts

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

Number of positions on sheet		
Number of positions checked		
Number of positions revised		
Number of soundings revised (refers to depth only)		
Number of soundings erroneously spaced		
Number of signals erroneously plotted or transferred		
Topographic details	Time	
Junctions	Time	
Verification of soundings from graphic record	Time	
Special adjustments	Time	

Starting date 4-28-75

Verification by ..... Total time ..... Date .....

Reviewed by ..... Time ..... Date .....

US COMM C&GS DC

VERIFIER'S REPORT OF HYDROGRAPHIC SURVEY NO. H-8512

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.

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

4. 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.

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.

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.

21. Rocks transferred from topographic surveys have a dotted curve where shown thereon. Rocks located accurately by hydrographer are encircled by dotted red curve.

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.

24. The low water line and delineation of shoal areas have been properly shown.

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

26. Questionable soundings have been checked on the fathograms.

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:

31. Sounding line crossings were satisfactory except as follows:

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

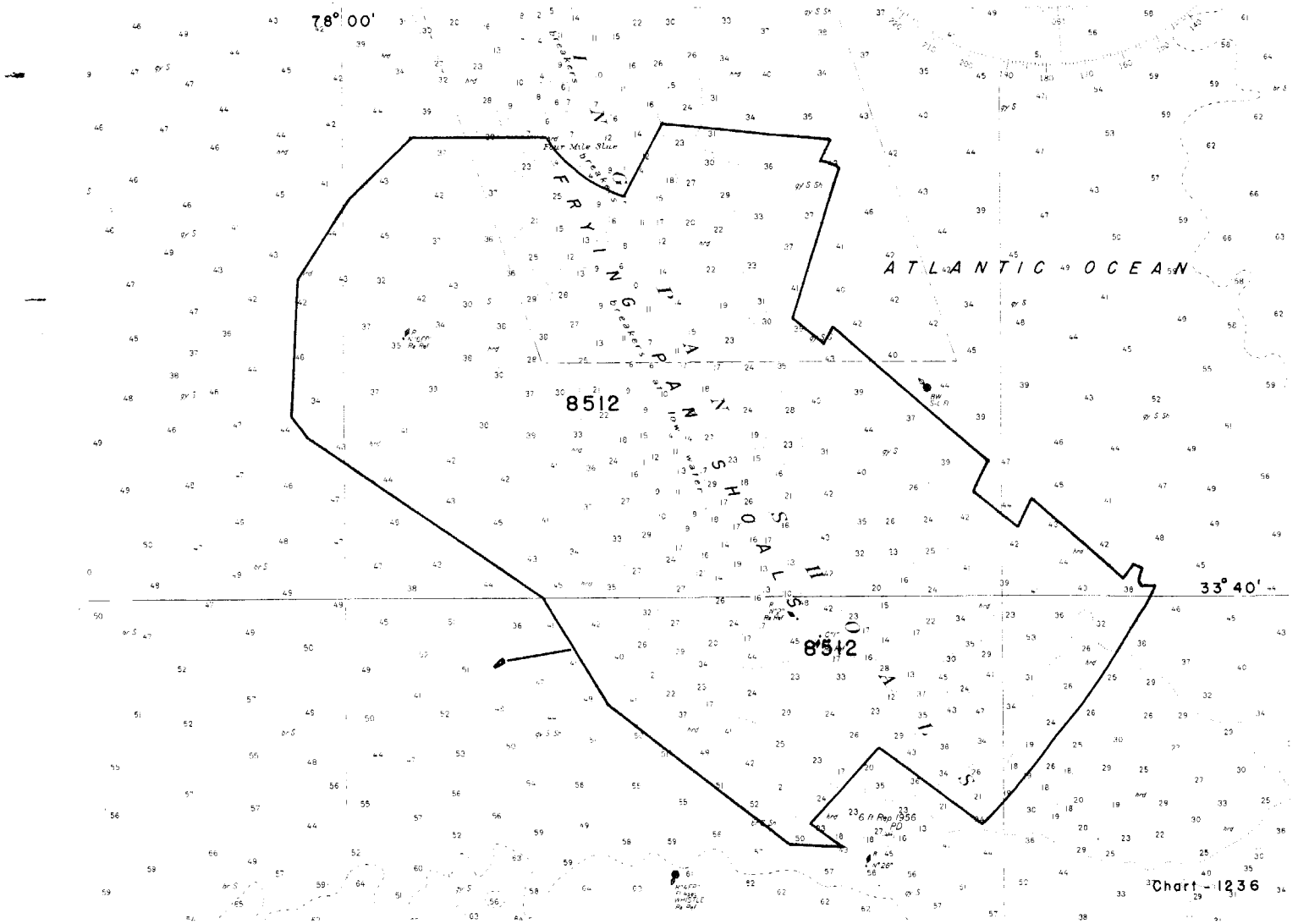
33. Condition of sounding records was satisfactory except as follows:

34. The protracting was satisfactory except as follows:

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

36. Notes to reviewer:

Verified by Date


78° 00'
33° 40'
ATLANTIC OCEAN
FRYING PAN SHOALS
8512
8512
Four Mile Stake
Breakers
Chart - 1236

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8512

Record of Application to Charts

CATEGORY I

DATE	CHART	CARTOGRAPHER	REMARKS
9-22-60	1001	Ellen R. Wittmann	Before ~~After~~ Verification and Review Partial Exam one sm.
10/13/60	426	E Flowers	Revision to Cultural edge only. Before ~~After~~ Verification and Review
1-22-62	1236	John M Knoop	Critical corrections only - Before ~~After~~ Verification and Review
2-1-62	1110	J.J. Streifler	Before ~~After~~ Verification and Review Critical corrections only thru Drawing #12 of 1236
11/30/82	11520	KOEHC	Before After Verification and Review Applied by hand thru clr 11836 VIA 11520 NOAA 41
~~1-18-83~~	~~11009~~	~~RF~~	~~Before After Verification and Review~~
2/18/83	11009	BF	Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.