

FE202

Diagram No. 1238-2 & 1239-2

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT (HYDROGRAPHIC)

Type of Survey ... Field Examination

Field No. PE-40-1-64

Office No. FE-202

LOCALITY

State South Carolina

General Locality .. Atlantic Ocean

Locality Approaches to Charleston

..... Harbor

1964

CHIEF OF PARTY

..... R.F. Lanier

LIBRARY & ARCHIVES

DATE December 1965

☆ U.S. GOV. PRINTING OFFICE: 1976-669-441

NOTE: A new system for registering Field Examinations (FE's) was established in 1980. All FE's are now consecutively numbered as shown hereon. The date shown in the new format is the actual date of survey. This material was previously registered as;

FE No.5 1965

FE202

F E No. 5
1965

FE-202

Diag. Cht. Nos. 1238-2 & 1239-2.

Form 504

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. PE 40-1-64 Office No. F.E. No. 5-1965

LOCALITY

State South Carolina

General locality Atlantic Ocean

Locality Approaches to Charleston

Harbor

1964

CHIEF OF PARTY

R. F. Lanier

LIBRARY & ARCHIVES

DATE December 1965

USCOMM-DC 5087

F E No. 5
1965

HYDROGRAPHIC TITLE SHEET

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

FIELD NO.

PE 40-1-64

State SOUTH CAROLINA

General locality ATLANTIC OCEAN

Locality APPROACHES TO CHARLESTON HARBOR

Scale 1:40,000 Date of survey May 23 to June 9, 1964

Instructions dated April 7, 1964 Project No. OPR-436

Vessel PEIRCE

Chief of party ROGER F. LANIER

Surveyed by SHIPS OFFICERS

Soundings taken by echo sounder, ~~hand lead~~

Graphic record scaled by SHIP PERSONNEL & NORFOLK HYDRO. PROCESSING BRANCH

Graphic record checked by " " " " " "

Protracted by FRED BEAN " " " "

Soundings penciled by FRED BEAN

Soundings in ~~XXXX~~ feet at MLW ~~XXX~~

REMARKS: _____

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
USC&GS Ship PEIRCE

August 4, 1964

FE 5 (1965)

REPORT TO ACCOMPANY SHEET PE 40-1-64, OPR-436, USC&GSS PEIRCE
1964

FE 5 (1965)

Sheet PE 40-1-64 (no assigned registry number) was utilized by the USC&GSS PEIRCE to conduct an investigation of a reported wreck and to investigate several preliminary review items.

Authority to undertake a search for the reported wreck was contained in Supplemental Instructions -- OPR-436, Cape Romain to Charleston, South Carolina, dated April 7, 1964, reference 211-S-2-PE.

The search was conducted on May 27, June 5, June 6 and June 9, 1964, by the ship using Hi-Fix control from slave stations "College" and "Salvo".

A systematic series of parallel lines were run on "Salvo" arcs at a final spacing of $\frac{1}{2}$ lane (about $43\frac{1}{2}$ meters). The area covered was rectangular in shape and centered at $\phi 32^{\circ} 30.6'N$ and $\lambda 79^{\circ} 38'W$. The northwest corner of the area covered was $\phi 32^{\circ} 31' 40''N$ and $\lambda 79^{\circ} 39' 25''W$, the northeast corner was at $\phi 32^{\circ} 31' 25''N$ and $\lambda 79^{\circ} 36' 40''W$, the southeast corner was at $\phi 32^{\circ} 29' 25''N$ and $\lambda 79^{\circ} 36' 50''W$, the southwest corner was at $\phi 32^{\circ} 30' 00''N$ and $\lambda 79^{\circ} 39' 50''W$.

Ship position fixes were taken at 3-minute intervals and soundings recorded at 1-minute intervals. A close watch was maintained on the fathogram profile during operations and sounding corrections were not applied to the recorded soundings in the volumes. The fathometer used was a Raytheon DE-723, Serial No. 246.

*349 f. processed
by
Branis*

The results of the search for the alleged wreck were negative.

The remainder of Sheet PE 40-1-64 contains preliminary review items for OPR-436. These items were investigated with hydrographic launch No. 2 using Hi-Fix control.

PSR ITEM:

1. On survey covered by hydrographic field party #220.

PSR ITEM:

2. P. D. sunken wreck charted at $\phi 32^{\circ} 46.8'N$ and $\lambda 79^{\circ} 43.5'W$ was not found there. What is believed to be a sunken wreck was discovered at $\phi 32^{\circ} 45.72'N$ and $\lambda 79^{\circ} 44.33'W$.

*Not investigated
on present
sheet*

A least depth of ^(14 ft. by fmr) 16 ft. by hand-lead was found at this position. (This wreck is on Sheet PE 20-1-64, Reg. No. 8781, Vol. 8 of 14, page 64.)

3. Taken care of by hydrographic field party #220 in 1963.

4a. 36-foot sounding, ^{charted} $\phi 32^{\circ} 44.45'N$ and $\lambda 79^{\circ} 31.8'W$ developed on June 8, 1964 and a least depth of 35' found by fathometer.

4b. 34-foot sounding, ^{charted} $\phi 32^{\circ} 42.45'N$ and $\lambda 79^{\circ} 37.45'W$ developed on May 23, 1964 and a least depth of 35 feet ^{was} determined by fathometer. ^{was found}

4c. 34-foot sounding, ^{charted} $\phi 32^{\circ} 38.0'N$ and $\lambda 79^{\circ} 43.5'W$ developed on May 23, 1964 and a least depth of ~~33.8~~ feet determined by fathometer.

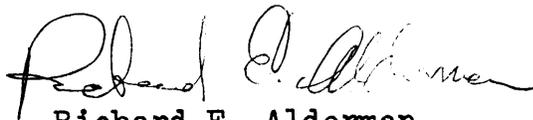
4d. Dredging operations by the Corp of Army Engineers, Ship Gerig were in progress during April-May, 1964. Shoal #1 was surveyed and least depths of 35'-40' found. Two 38 foot soundings were investigated by fathometer in $\phi 32^{\circ} 39.6'N$ and $\lambda 79^{\circ} 41'W$ and at $\phi 32^{\circ} 39.8'N$ and $\lambda 79^{\circ} 39.6'W$ respectively, and least depths of 40' and ~~39.0'~~ respectively were observed.

4e. Two ^{charted} obstructions were searched for by launch and fathometer with negative results. It is recommended that wire-drag equipment be used to prove or disprove their existence. A 32' sounding, ^{charted} in the vicinity of $\phi 32^{\circ} 37' 05''N$ and $\lambda 79^{\circ} 48' 25''W$, developed on May 24, 1964 by fathometer with least depth of ~~34.5.0'~~ ^{35.0'}. Two 35' and one 36' shoal soundings were developed on May 24, 1964 in the vicinity of $\phi 32^{\circ} 37' 40''N$ and $\lambda 79^{\circ} 46' 50''W$ by fathometer and a least depth of ~~35.0'~~ ^{36'} was found.

*Shoalst depth
in area
34 ft.*

All field records in connection with Sheet Pe-40-1-64 are being sent to the Norfolk District Officer.

Respectively submitted

A handwritten signature in cursive script, appearing to read "Richard E. Alderman".

Richard E. Alderman
LCDR, USC&GS
Executive Officer
USC&GS Ship PEIRCE

Memorandum - ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION

TO : The Director
Atlantic Marine Center

ATTN: Hydro Branch

FROM : Commanding Officer
USC&GS Ship PEIRCE

DATE: Nov. 8, 1965

In reply refer to:

SUBJECT: Processing, Survey PE 40-1-64

In reference to your letter of September 22, 1965, the following data is given for processing Survey PE 40-1-64, the investigation of a reported 20 ft. obstruction off Charleston, S. C.

FINAL VELOCITY CORRECTIONS:

27 ft. - 37 ft.	= + 1.5 ft
38 " - 47 "	= + 2.0 "
48 " - 57 "	= + 2.5 "
58 " - 67 "	= + 3.0 "
68 " - 77 "	= + 3.5 "

These corrections were determined from temperature and salinity observations taken in August 1964 in the vicinity of Georgetown, S. C., and are the best values we can supply. The fathometer corrections for the DE-723 stated in memorandum from Chief, Instrument Division, dated October 1, 1962 is included in the above set of corrections.

Initial for draft should be set at 9.5 ft. and the settlement and squat correction is zero for the PEIRCE.



Ronald M. Buffington
Ronald M. Buffington

*Recd 11/15/65
Feazel*



Memorandum ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION

┌
: Norfolk Regional Officer
Coast and Geodetic Survey
439 W. York Street
Norfolk, Virginia 23510
└

┐
DATE: September 23, 1965

In reply refer to:
└ 2321-181-RFO 2

FROM : Chief, Marine Data Division

SUBJECT: Tidal data for project OPR-436

✓ A copy of hourly heights of the tide observed at Charleston for requested days is enclosed.

✓ Tides in the area of Lat. $32^{\circ} 30' .6$ N; Long. $79^{\circ} 38' .0$ W occur 1 hour earlier than at Charleston. A range factor of 0.8 should be applied to the Charleston heights.

William D. Barbee
William D. Barbee

Enclosures

*Rec'd 11/10/65
Feazel*



NORFOLK HYDROGRAPHIC PROCESSING BRANCH
ADDENDUM
To Accompany

HYDROGRAPHIC FIELD INVESTIGATION Pe 40-1-64

GENERAL

In compliance with a memo from Ship Peirce this survey was treated as a field investigation and no registry number was requested.

SMOOTH SHEET

Processing of the soundings on the investigation of the reported 20 foot obstruction at Lat. 32-30.6' and Long. 79-38.0', was accomplished by this Branch.

Velocity corrections were applied in accordance with the enclosed letter from Ship Peirce, dated Nov. 8, 1965. An initial correction of -0.5 foot was also applied as the initial carried on the field work was 10.0 feet and the velocity corrections were compiled for 9.5 feet.

Tide corrections were compiled from hourly heights furnished by Washington Office. The reference station was the standard gage at Charleston, S.C., with a minus one hour time correction and a range factor of 0.8 applied to the Charleston heights.

All soundings on this item were reduced with templates at one minute intervals using the above mentioned corrections.

Most of the soundings on C day, and all of those on D day, are being submitted on a smooth overlay to avoid congestion on the smooth sheet.

Respectfully submitted,

Hugh L. Proffitt
Hugh L. Proffitt
Carto. Tech.

Norfolk, Va.
Nov. 23, 1965

TIDE NOTE FOR HYDROGRAPHIC SHEET

Nautical Chart Division:

Plane of reference approved in
3 volumes of sounding records for FE 5 1965

HYDROGRAPHIC SHEET

Locality: Charleston, South Carolina

Chief of Party: R. F. Lanier in 1964

Plane of reference is mean low water

Tide Station Used (Form C&GS-681): Charleston

Height of Mean High Water above Plane of Reference is as follows:

Vicinity of Lat. $32^{\circ}30'.6W$; Long. $79^{\circ}38'.0 W$ is 4.2 feet
Balance of sheet is 5.2 feet.

Remarks

L. C. Wharton

for / Chief, Tides and Currents Branch

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. F.E.No. 5-1965

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		1	BOAT SHEETS		1	
DESCRIPTIVE REPORT		1	OVERLAYS		2	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES	<i>3 photographs</i>					
CAHIERS						
VOLUMES	3					
BOXES						
T-SHEET PRINTS (<i>List</i>)						
SPECIAL REPORTS (<i>List</i>)						

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				
POSITIONS CHECKED				
POSITIONS REVISED				
DEPTH SOUNDINGS REVISED				
DEPTH SOUNDINGS ERRONEOUSLY SPACED				
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED				
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS				
JUNCTIONS				
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS				
SPECIAL ADJUSTMENTS				
ALL OTHER WORK				
TOTALS		60	20	80
PRE-VERIFICATION BY	BEGINNING DATE		ENDING DATE	
VERIFICATION BY <i>W. K. Roberts</i>	4-5-66		4-14-66	
REVIEW BY <i>W. K. Roberts</i>	4-15-66		4-19-66	

FE 5 (1965)

The 20 ft. Obstr. charted in lat $32^{\circ}30.8'$ long $79^{\circ}38.0'$ ^{from CL 559 (1955)} could have been a submerged mine inasmuch as the reported position fell in a Mine Test Field as indicated by message R-05L808Z from the Comdr, Naval Base, Charleston to USCGC Peirce.

It is considered unlikely that such an obstruction would be detected by the sounding lines of this investigation, the sonar of the U.S.S. Nimbus or the sounding lines of survey PE-40-1-65.

It is not recommended that the charted feature be removed from the chart on the basis of present information. A wire-drag investigation should be made at the earliest opportunity. Consideration could well be given to indicate on the chart the Navy Mine Test Field

R.H. Cantano 12/3/65

Review Field Examination No. 5, 1965

South Carolina

Approaches to Charleston Harbor

1. The field examination was made in compliance with Instructions for Project OPR-436 dated April 7, 1964.
2. The purpose of the examination was to conduct an investigation of a reported wreck and to investigate several preliminary review items.
3. The results of the examination are shown on sections of the smooth sheet and a cloth tracing.
4. F.E. 5 (1965) has been compared with survey H-7172 (1946-47) and reveals little change in the bottom. Except as indicated in the following paragraph the present soundings should supplement this basic survey for charting the area.
5. A comparison between the field examination and chart 1239, 6th edition 7/27/64, indicates the following:
 - a. The 36-ft. sounding (preliminary review para. 4a) charted in Lat. $32^{\circ}44.4'$, Long. $79^{\circ}31.8'$ from H-7172 (1946-47) was investigated and a least depth of 35 ft was found.
 - b. The 34-ft. sounding (preliminary review para. 4b) charted in Lat. $32^{\circ}42.45'$, Long. $79^{\circ}37.45'$ from H-7172 (1946-47) was investigated and a least depth of 36 ft. was found. Present depths should supplement H-7172 in this area.
 - c. The 34-ft. sounding (preliminary review para. 4c) charted at Lat. $32^{\circ}38.0'$, Long. $79^{\circ}43.5'$ was investigated and a least depth of 33 ft. was found.
 - d. Two 38' soundings (preliminary review 4d), one charted from H-3216 (1910) and the other from an unknown source were investigated in lat. $32^{\circ}39.6'$, long. $79^{\circ}41'$ and at lat. $32^{\circ}39.8'$, long. $79^{\circ}39.6'$ respectively and least depths of 40 ft. were obtained. The present development is adequate to supersede these early depths.

- e. The 32' charted from Bp. 52289 in Lat. $32^{\circ}40.3'$, long. $79^{\circ}41.8'$ should be retained because it is not considered disproved. Nearby to the southwest of this sounding a channel has been dredged through the shoal shown here on H-7172.
- f. A 32 ft. sounding (Preliminary review para. 4e) charted in the vicinity of lat. $32^{\circ}37.0'$, long. $79^{\circ}48.2'$ from survey H-3926 (1915-16) was investigated and a least depth of 35 ft. was found. Present depths should supplement prior depths in charting the area.
- g. Two 35-ft. soundings charted from H-3926 and one 36-ft. sounding charted from H-7172 were investigated in the vicinity of lat. $32^{\circ}37.6'$, long. $79^{\circ}46.7'$ and a least depth of 36 ft. was found. Present depths should supplement the prior depths in charting the area.
- h. Reported obstructions charted in lat. $32^{\circ}39.5'$, long. $79^{\circ}45.7'$ and lat. $32^{\circ}36.8'$, long. $79^{\circ}47.7'$ from chart letter 698 and 856 (1953) were investigated by sounding lines with negative results. The charted obstructions are not considered disproved and should be retained on the chart.
- i. The 20-ft. obstr. charted in lat. $32^{\circ}30.6'$, long. $79^{\circ}38.0'$ from chart letter 559 (1955) was not found. It could be a submerged mine inasmuch as the reported position fell in a Mine Test Field as indicated by message R-05L808 Z from the Commander Naval Base, Charleston to USC&GS PIERCE.

It is considered unlikely that such an obstruction would be detected by the sounding lines of this investigation, the sonar of the USS NIMBUS or the sounding lines of survey PE-40-1-65.

It is not recommended that the charted feature be removed from the chart on the basis of present information. Consideration could well be given to indicate on the chart the Navy Mine Test Field. Present depths should be used to supplement charted depths in this area.

5. The descriptive report adequately covers all matters pertaining to the examination. No further discussion is considered necessary.

Reviewed by W. K. Roberts

Inspected by R. H. Carstens

Approved:

Don A. Jones

DON A. Jones
Associate Director
Office of Hydrography &
Oceanography

Approved:

Lorne G. Taylor

LORNE G. TAYLOR
Captain, USESSA
Chief, Marine Chart Division

HI-FIX COLLEGE

HI-FIX SALVO

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400

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FIELD EXAMINATION
SOUTH CAROLINA
APPROACHES TO CHARLESTON HARBOR
ATLANTIC OCEAN
APPNOACHES TO CHARLESTON HARBOR
SOUNDINGS IN FEET
of Mean Low Water
R. F. Lanier
May - June 1964
Scale of Survey 1 : 40,000
Date of Survey
Chief of Party

400

79° 30'

440

28'

320 48'

46'

FIELD EXAMINATION No.5 - 1965

SOUTH CAROLINA

ATLANTIC OCEAN

APPROACHES TO CHARLESTON HARBOR

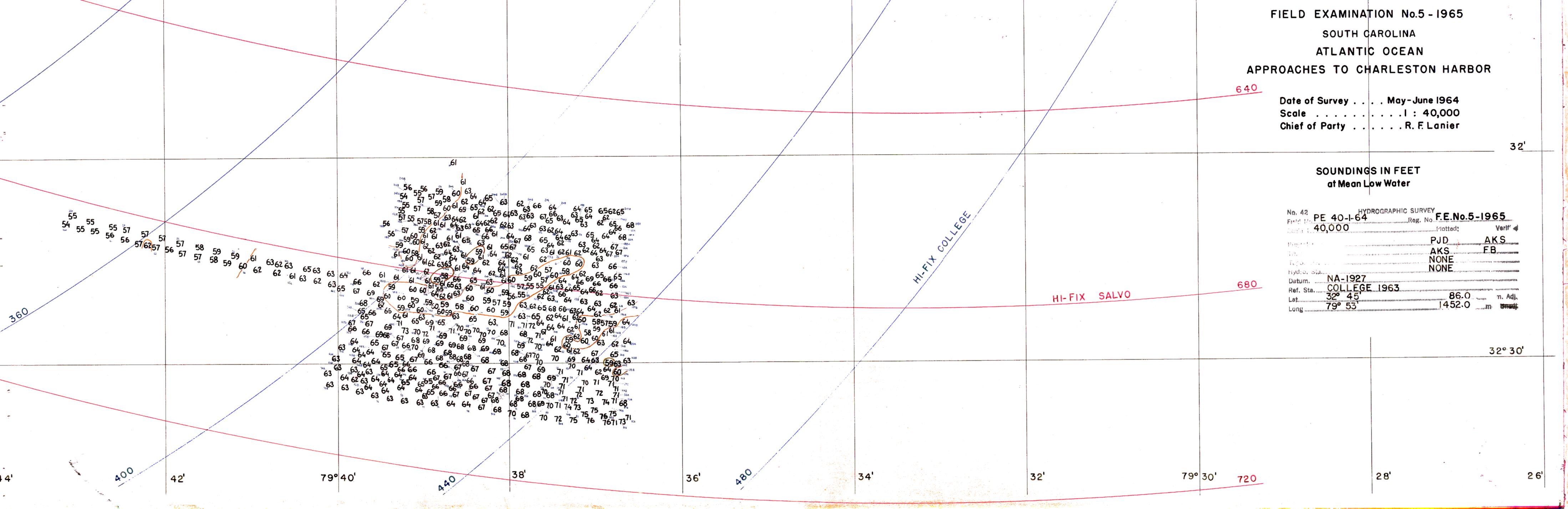
Date of Survey May-June 1964

Scale 1 : 40,000

Chief of Party R. F. Lanier

SOUNDINGS IN FEET
at Mean Low Water

No. 42 HYDROGRAPHIC SURVEY
 Field No. PE 40-1-64 Reg. No. F.E.No.5-1965
 Scale 40,000 Plotted: Verif'
 Projector PJD AKS
 Date AKS F.B.
 Hydro. Sta. NONE
 Datum NA-1927
 Ref. Sta. COLLEGE 1963
 Lat. 32° 45' 86.0 n. Adj.
 Long. 79° 53' 1452.0 m. ~~W. Adj.~~



32'

32° 30'

26'

400

42'

79° 40'

440

38'

36'

480

34'

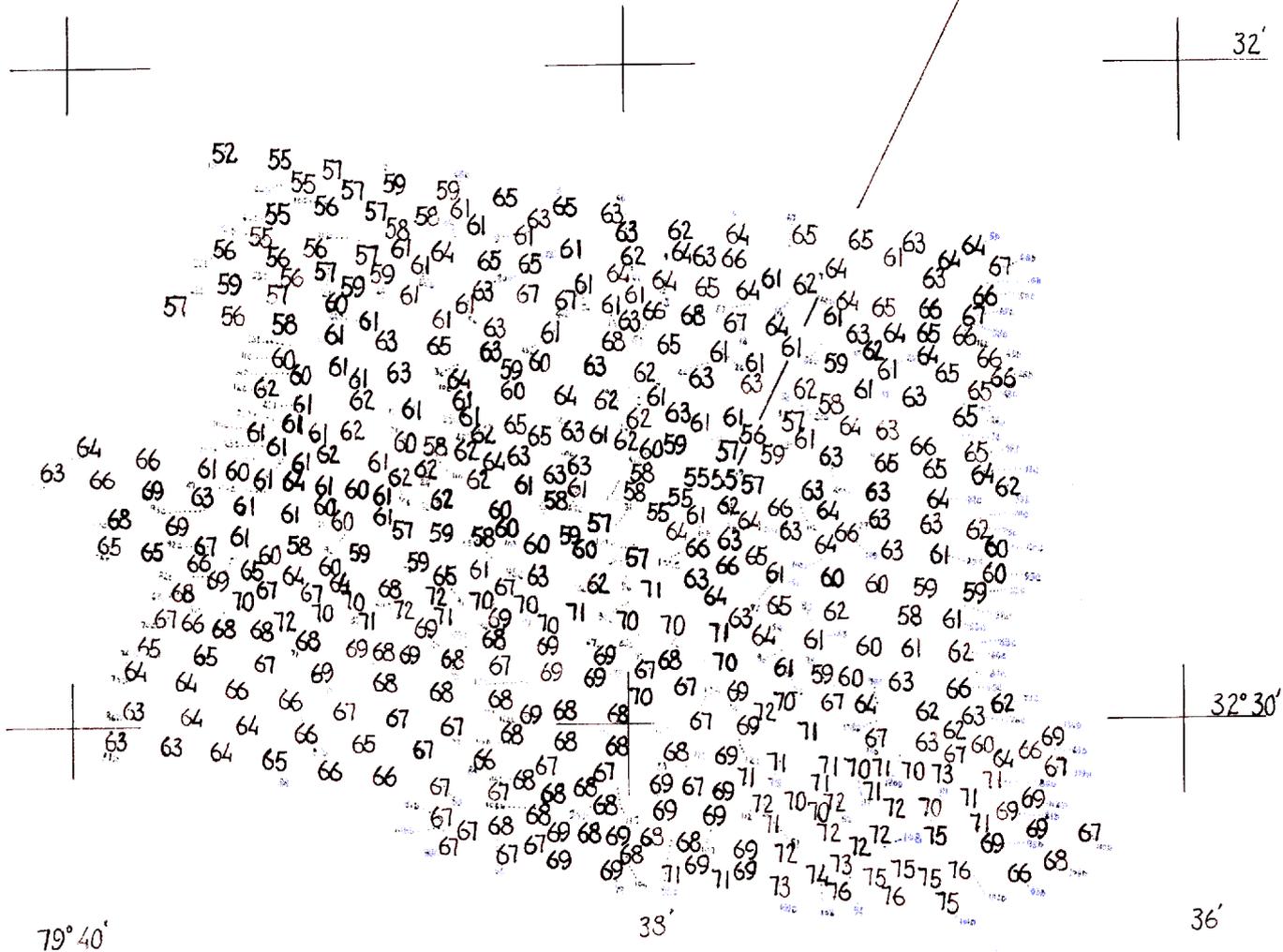
32'

79° 30'

720

28'

least depth 55ft.
(transferred to smooth sheet.)



Overlay TO ACCOMPANY

PE-40-1-64

NO Rec. No. assigned.

SHIP PEIRCE

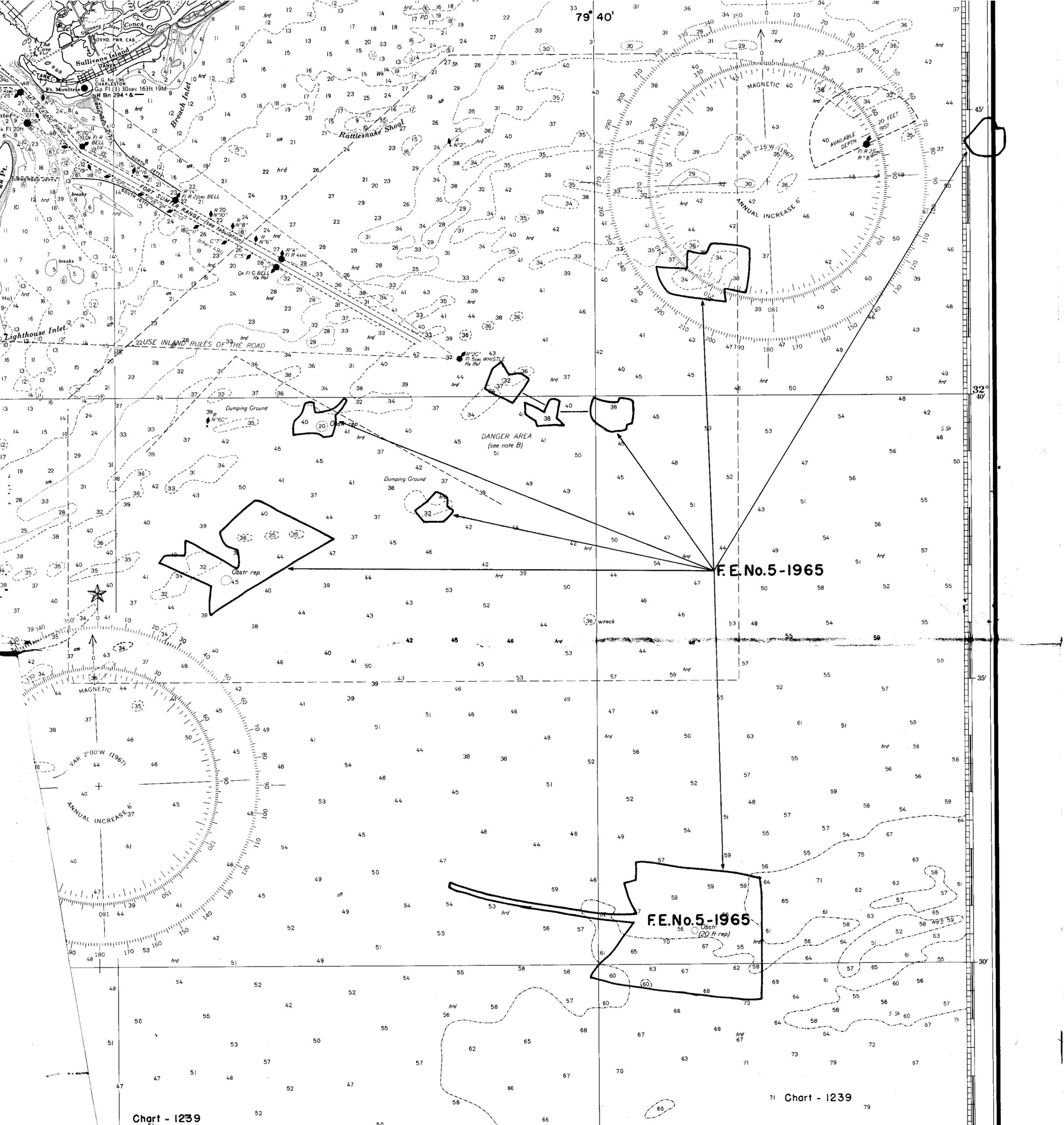
thru' 34c
19c

To 46c
20c

thru' 1150
transferred to smooth sheet to show shallowest depth.
thru' 1250

6/6/64
6/9/64

Posns 34c thru' 46c Plotted on smooth sheet.



79° 40'

45'

32° 40'

35'

30'

F.E.No.5-1965

F.E.No.5-1965

DANGER AREA
(see note B)

Chart - 1239

71 Chart - 1239

