

100 ✓

# 9367

Diag. Cht. Nos. 1001-3, 1243-2 & 1244.

FORM C&GS-504

U.S. DEPARTMENT OF COMMERCE  
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION  
COAST AND GEODETIC SURVEY

## DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. MI-80-1-73 Office No. E-9367

### LOCALITY

State Florida

General locality Offshore Florida East Coast

Locality Off St. Augustine

1973

CHIEF OF PARTY

R. M. Buffington

LIBRARY & ARCHIVES

DATE 7-17-73

USCOMM-DC 37022-P66

*Charts*

*1111 ✓*

*1001 ✓*

*1243 ✓*

*1244 ✓*

*1007*

*1002 ✓*

# 9367

HYDROGRAPHIC TITLE SHEET

H-9367

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.

MI-80-1-73

State Florida

General locality Offshore Florida E. Coast  
~~Southeast Atlantic Coast~~

Locality Vicinity of St. Augustine - Flagler Beach (10-100 fathom curve)  
~~Vicinity of St. Augustine - Flagler Beach~~

Scale 1:80,000 Date of survey 2-21-73 to 3-24-73

Instr. dtd. Feb. 8, 1973  
Instructions dated Ch. #1 dtd. Feb. 15, 1973 Project No. OPR-436-MI-73  
Ch. #2 dtd. Mar. 1, 1973

Vessel NOAA Ship MT MITCHELL (MSS-22)

Chief of party Ronald M. Buffington, CDR, NOAA, Commanding Officer

Surveyed by Ship's Personnel (ENS W.E. George, Officer-in-Charge)

Soundings taken by echo sounder, ~~XXXXXX~~

Graphic record scaled by Ship's Personnel

Graphic record checked by B.J. Stephenson, B.T. Davis (AMC)

Protracted by CALCOMP <sup>618</sup> Plotter Automated plot by EDP., AMC.

Soundings penciled by \_\_\_\_\_

Soundings in fathoms ~~XXX~~ at MLW ~~XXXXXX~~

REMARKS: This survey is a continuation of HYDROGRAPHER survey H-8937 started in 1966.

Attention invited to the information on the page titled "Addendum"

*Applied to state 1-10-74*

*CRB.*

## Index

	<u>Page</u>
Progress Sketch	
Hydrographic Title Sheet	
A. Project -----	1
B. Area Surveyed -----	1
C. Sounding Vessel -----	1 - 2
D. Sounding Equipment -----	2 - 4
E. Smooth Sheet -----	4 - 5
F. Control -----	5
G. Shoreline -----	6
H. Crosslines -----	6
I. Junctions with Prior Surveys -----	6
J. Comparison with Prior Surveys -----	6 - 7
K. Comparison with the Charts -----	7
L. Adequacy of Survey -----	7
M. Aids to Navigation -----	7
N. Statistics -----	7 - 8
O. Miscellaneous -----	8 - 9
P. Recommendations -----	9
Q. Reference to Reports -----	9
Addendum -----	10
Projection Parameters -----	11
Electronic Control Parameters -----	12
Computer Parameter Tape Printout (Sheet A) -----	13
Computer Parameter Tape Printout (Sheet B) -----	14
Actual Times of Hydrography -----	15
Descriptive Tide Note -----	16
Tide Note (Jacksonville Beach, Florida) -----	17
Tide Note (Daytona Beach, Florida-temporary) -----	18
CO MT MITCHELL Memo requesting tidal data -----	19 - 20
Horizontal Control (Calibration Stations) -----	21 - 22
Electronic Control Abstract -----	23 - 24
Graph (Serial Temperature Cast #3) -----	25
Graph (Serial Temperature Cast #4) -----	26
Graph (Serial Temperature Cast #5) -----	27
Graph & Abstract (Velocity Corrections) -----	28
Settlement and Squat Abstract -----	29
TRA Correction Abstract -----	30
TC/TI Tape Printout -----	31
Oceanographic Log Sheet M -----	32 - 33
Approval Sheet -----	34

DESCRIPTIVE REPORT

NOAA Ship MT MITCHELL

A. PROJECT

This survey is part of Project OPR-436-MI-73, Southeast Atlantic Coast, in accordance with project instructions dated 8 February 1973, change #1 dated 15 February 1973, and change #2 dated 1 March 1973.

On 28 February 1973, the Data Coordinator, Processing Division, AMC, advised that a new registry number should be requested. On 5 March 1973, the registry number was requested and on 7 March the ~~new~~ registry number was assigned by Chief, Hydrographic Data Section, Marine Charting Division. The registry number was changed from H-8937 to H-9367.

B. AREA SURVEYED (HYDROGRAPHER Survey of 1966) (1973 work)

The survey was conducted between the 12° fathom curve and the 110 fathom curve, off the East Coast of Florida, Southeast of St. Augustine. The work began on 21 February 1973 and terminated on 24 March 1973.

This survey junctions to the south with prior surveys H-8879 and H-8937 of the HYDROGRAPHER, 1966 (1:80,000).

The complete limits of the survey can be described by connecting the following points, starting from the southeastern corner and proceeding counterclockwise:

<u>LATITUDE</u>	<u>LONGITUDE</u>
29°-28.5' N ✓	80°-09.0' W ✓
30°-01.7' N ✓	80°-12.0' W ✓
30°-03.7' N ✓	81°-10.0' W ✓
29°-47.8' N ✓	81°-06.6' W ✓
29°-47.8' N ✓	80°-54.5' W ✓
29°-59.8' N ✓	80°-45.5' W ✓
29°-28.5' N ✓	80°-26.8' W ✓
29°-28.5' N ✓	80°-09.0' W ✓

C. SOUNDING VESSEL

The NOAA Ship MT MITCHELL (MSS-22) was used to obtain all data

↑  
(EDP ship identification No. 15 222)

for this survey. The HYDROPLOT SYSTEM on board consists of a PDP-8E computer, a HYDROPLOT CONTROLLER, and a COMLOT DP-3 ROLL PLOTTER. The HYDROPLOT SYSTEM was used to record and plot all positions and soundings.

#### D. SOUNDING EQUIPMENT

All soundings were recorded to the nearest tenth of a fathom. The sounding instruments used were the ROSS FINELINE echo sounder (Model #5000, Serial #1050), ROSS DIGITIZER (Model #6000, Serial #86092), and the ROSS TRANSCEIVER (Model #4000, Serial #1052). The transducer that was used exclusively is located on the ship's skeg, 107.6 feet aft of the Hi-Fix antenna. Therefore, all soundings are 107.6 feet from where the Hi-Fix control indicates they are located.

*See Review Paragraph 4b*

All soundings were automatically entered into the HYDROPLOT SYSTEM via the ROSS DIGITIZER, ROSS TRANSCEIVER, and the HYDROPLOT CONTROLLER.

*Section 1-34*

The graphic records were scanned by trained personnel in accordance with the requirements specified in the HYDROGRAPHIC MANUAL (Publication 20-2) and spot checked by the officer-in-charge of the survey and the Commanding Officer. Erroneous soundings and insert soundings were corrected or placed in the records by entering them on the Range-Range Corrector Tapes. It should also be noted that any error in the initial on the ROSS FINELINE was corrected during scanning of the fathograms and soundings were corrected using the Range-Range Corrector Tape. A Range-Range Corrector Tape accompanies the Master Range-Range Tapes for each day of this survey.

Prior to the commencement of this survey a complete calibration of the echo sounder, including a check of the belt length, was made by the electronic technicians and appears at the beginning of the first fathogram (Day 052). Upon completion of this survey a second calibration of the echo sounder was performed. No error was found in calibration of the echo sounder for this survey.

Phase checks were made frequently during the survey. Any phase error found was due to the initial being off. Such error was removed by trained personnel during the scan.

A two-point-two (2.2) fathom draft correction was applied to all on-line soundings. This two-point-two fathom draft correction appears in the corrector words on the Range-Range Master Tape and printout for each day of this survey. The final draft correctors were obtained as follows: The ship's

draft was obtained by use of a straight-line linear interpolation method. The final draft correctors were obtained by taking the difference between the interpolated draft and the two-point-two fathom draft correction which appears on the Range-Range Master Tape.

The survey area was divided into two zones for application of velocity correctors. The zone boundary was determined by surface water-temperature observations. The boundary can be described by connecting the following points:

<u>LATITUDE</u>	<u>LONGITUDE</u>
30-02.6 N	80-45.4 W
29-53.0 N	80-37.0 W
29-28.0 N	80-27.5 W

The zone to the west of this boundary is designated Zone #1, and velocity table #1 shall be used for all soundings within this zone. Zone #2 shall be used for all soundings to the east of the boundary, and velocity table #2 shall be applied.

The STDV (serial temperature) casts were made at the following locations:

<u>LATITUDE</u>	<u>LONGITUDE</u>	<u>DATE</u>
STDV #1 29-29.6 N	80-58.3 W	14 February 1973
STDV #2 29-31.5 N	80-09.1 W	14 February 1973 (REJECTED)

The Nansen bottle (serial temperature) casts were made at the following locations:

	<u>LATITUDE</u>	<u>LONGITUDE</u>	<u>DATE</u>
Ser. Temp. #3	29-48.5 N	80-13.0 W	6 March 1973
Ser. Temp. #4	29-46.0 N	80-03.0 W	11 March 1973
Ser. Temp. #5	30-02.0 N	80-17.4 W	13 March 1973

The STDV analog records and the Nansen cast work sheets are forwarded on completion of the Report on Corrections to Echo Sounder. An abstract of each velocity table will be included in this report. *See Page 28 of This report.*

Settlement and squat correctors were obtained from data gathered on 7 March 1973, for standard speed (175 RPM, 10 feet of pitch, both engines) and half speed (105 RPM, 10 feet of pitch, both engines)

for the skeg transducer. Linear interpolation between the two values was used to determine correctors for intermediate speeds. An abstract of settlement and squat corrections is included in this report.

Two vertical casts (hand lead comparisons) comparisons with the ✓  
Ross Echo Sounder were made in calm water near the project area on 7 March 1973 and 2 April 1973. Information from these comparisons, taking into account velocity corrections, and the ship's draft resulted in the determination of instrument error. This correction is applied to all soundings by means of the TC/TI Tape.

Tide corrections to be applied to all soundings will be obtained ✓  
from data recorded by a bubbler tide gage temporarily installed at Daytona Beach, Florida, and a Bubbler tide gage at Jacksonville Beach, Florida (see Descriptive Tide Note included in this report). Predicted tides were applied to all soundings on the COMLOT sheets using St. Augustine, Florida as a reference point.

#### E. SMOOTH SHEET

The smooth sheet for this survey will be produced at the ✓  
Atlantic Marine Center, Norfolk, Virginia. The following tapes, with their respective printouts, are furnished for this purpose:

Range-Range Master Tapes: These tapes were produced on-line by ✓  
the HYDROLOT SYSTEM. Data on these tapes consist of time (GMT), raw soundings, position numbers, Julian day, raw Hi-Fix readings for each sounding, Hi-Fix lane correctors (used only for the on-line plot), and ship's draft correctors (2.2 fathoms for each sounding).

Range-Range Corrector Tapes: These tapes were produced off line, ✓  
on board. Data on these tapes include final Hi-Fix lane correctors for the off-line plot, correctors for mis-read soundings, and insert soundings which are considered worthy of noting during the scanning of the graphic records.

Velocity Corrector Tape: The velocity corrector tape was ✓  
prepared on board, off-line. It contains the necessary information to correct the soundings for changes in sound velocity.

Parameter Tapes (Roll Plotter): These tapes were prepared on ✓  
board. They provide the necessary information for plotting both the basic Latitude/Longitude grid and the on-line/off-line plots of soundings on the 22 inch wide roll plotter COMLOT sheets.

TRA Correction/Table Indicator (TC/TI) Tape: This tape is prepared on board and contains the draft correctors, phase correctors, instrument correctors, and settlement and squat correctors. The TC/TI Tape is provided for the input to the Atlantic Marine Center's Electronic Data Processing System.

ASCII Signal Tape: This tape was prepared on board and contains the Latitude/Longitude, and identity numbers of all of the signals that were used for Hi-Fix calibration. A list of those signals, including their identity numbers, names, and geographic positions are included in this report.

Binary Signal Tape: This tape was prepared on board. The tape contains the same data as the ASCII Signal Tape. However, the format of this tape is such that it can be read into the computer whereas this is not possible with the ASCII Tape. NOTE: This is the only tape submitted that does not have a printout accompanying it.

F. CONTROL

Decca Hi-Fix, operating at a frequency of 1618.650 Khz, was used in the Range-Range mode for all position and sounding control during this survey. The Hi-Fix station locations were as follows:

<u>STATION</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>
Flagler R.M. 4, 1966 Slave 1	29°-29'-18.733 N	81°-07'-55.204 W
St. John's Raydist 1971, Slave 2	30°-23'-09.287 N	81°-23'-52.891 W

The Hi-Fix station locations were furnished by the Atlantic Marine Center, Norfolk, Virginia. All calibrations were made by three point sextant fixes, with a check angle. The Hi-Fix dials were read and the values recorded at the instant that the mark for the visual fix was given. Hi-Fix values were then computed from the visual fix using the HYDROPLOT SYSTEM Calibration Program (AM 560). Comparing the observed Hi-Fix value with the mean of the two computed values yields the appropriate correctors with the proper algebraic sign. These correctors were then dialed into the HYDROPLOT CONTROLLER. The Hi-Fix was calibrated before commencing operations on the first day of every work period. It was not recalibrated until either the lane count became unreliable, or until the ship returned to port at the end of the work period, whichever occurred first. An abstract of Hi-Fix correctors is included in this report. For more detailed information refer to "Report on Calibration of Hi-Fix, OPR-436, 1973."



G. SHORELINE

There is no shoreline within area of this survey. ✓

H. CROSSLINES

The percentage of crosslines run was 5.9% of the regular system of sounding lines. The agreement between the crosslines and the sounding lines can be described as good to excellent. ✓

I. JUNCTIONS WITH PRIOR SURVEYS

This survey junctions to the south with two prior surveys, H-8879 and H-8937 of the HYDROGRAPHER, 1966, (1:80,000). Soundings obtained from the present survey are in excellent agreement with differences on the average of less than one (1) fathom. The plotted depths of this survey were not corrected for sound velocity or TRA, but predicted tides were used to reduce all soundings to the mean low water datum. Upon application of sound velocity corrections and TRA corrections (abstracts included in this report) the discrepancies between this survey and the prior surveys available for comparison appear to be nil. In this comparison it is assumed that the sound velocity corrections and TRA corrections have been applied to the prior surveys. ✓

J. COMPARISON WITH PRIOR SURVEYS

The following pre-survey review items were investigated by developments. The results were: ✓

Pre-Survey Reveiw Item 1:

<u>POSITION</u>		<u>CHARTED DEPTH</u>	<u>OBSERVED DEPTH</u>
Lat. 29-44.1 N ✓	Long. 80-12.2 W ✓	60 Fm. ✓	Approx. 120 153 Fm. ✓ DISPROVED
Lat. 29-50.0 N ✓	Long. 80-10.2 W ✓	60 Fm. ✓	Approx. 180 Fm. ✓ DISPROVED

Pre-Survey Review Item 2:

<u>POSITION</u>		<u>CHARTED DEPTH</u>	<u>OBSERVED DEPTH</u>
Lat. 29-56.3 N ✓	Long. 80-11.9 W ✓	90 Fm. ✓	NONE

This Pre-Survey Item was erroneously investigated, charted area was not covered, sounding to remain as charted.

*see page 10 of this D.R. and Paragraph 7A5 of the review*

Pre-Survey Review Item (un-numbered):

<u>POSITION</u>	<u>CHARTED DEPTH</u>	<u>OBSERVED DEPTH</u>
Lat. 29-55.5 N ✓ Long. 81-02.0 W ✓	9 Fm.	9 Fm. ✓ VERIFIED

No other prior surveys were provided.

K. COMPARISON WITH THE CHART

A comparison with NOS Chart 1111 (16th Edition, 1972, and corrected through Notice To Mariners 49, December 2, 1972) indicates excellent agreement, except as noted in Section J. ✓

L. ADEQUACY OF SURVEY

This survey is complete. Adequate crosslines, bottom samples, and developments have been obtained. All soundings are in good agreement. ✓

The 90 fathom sounding (Pre-Survey Review Item 2) was not completed. (See Section J.) *see page 10 of this D.R. and Paragraph 745 of the review* ✓

M. AIDS TO NAVIGATION

There are no floating or fixed aids to navigation in the survey area. ✓

N. STATISTICS ✓

	TOTAL
Linear Nautical Miles, sounding lines	3204 ✓
Total Square Miles, area sounded	816 ✓
Position Numbers Used	0001-2112 ✓
Position Numbers Rejected	4, 5, 302, 303, 409
Position Numbers Duplicated	4, 5, 302, 303
Bottom Samples	32
STDV Casts	2
Nansen Bottle Casts (serial Temperature Casts)	3
Vertical Casts	2

	TOTAL
Water Samples Analyzed	29
XBT Observations	3
Crosslines, linear NM	191
Crosslines, %	5.9%

O. MISCELLANEOUS

The COMPLIT sheets plotted on board plus the COMPLIT overlay sheets containing crosslines, developments, and bottom samples forwarded to the Atlantic Marine Center have predicted tides and assumed draft applied. No velocity or TRA corrections were applied. All positions do reflect Hi-Fix corrections. ✓

Using the HYDROPLIT System, all soundings except insert soundings are fixed positions. Insert soundings are plotted on time and course between (regularly) spaced soundings. ✓

A total of 16 developments were run during the survey in addition to the investigations listed in the Pre-Survey Review. Developments verified the sounding lines that were run during this survey. ✓

All times and dates used during this survey were Greenwich Mean Times ✓

A "Hydrographic Operations Log" (sounding volume) was used for recording remarks and supplementary data appropriate to the survey. ✓

Bottom samples were obtained using a Shipek grab sampler. The samples were forwarded to Dr. J. W. Pierce, Division of Sedimentology, Smithsonian Institute, Washington, DD.C., 20560, as per standing instructions. Form 733M "Bottom Sediment Data" was completed and the original is included in this report. A copy of the form was forwarded with the samples.

The ship towed a thermistor for the purpose of delineating the ship's passage from cold to warm surface (water) masses. A Rustrak recorder was used to record the thermistor variations. A surface water sample was obtained periodically and the sample temperature entered on the Rustrak recorded. The traces are forwarded with the survey records. ✓

An escarpment, in the area of the 25 to 30 fathom curve, was noted during the survey. It is marked on the fathograms and on the Range-Range Master tape printout. ✓

P. RECOMMENDATIONS

It is recommended that an investigation of Pre-Survey Review Item 2 be conducted at the time of resumption of the project in June/July 1973. This investigation should be titled "Additional Work." *This item covered on Junctional Survey H-9373 U73,*

Q. REFERENCE TO REPORTS

The reports which are listed below are necessary for a complete evaluation and understanding of this survey. ✓

Report on Corrections to Echo Soundings, OPR-436, 1973 ✓

Report on Calibration of Hi-Fix, OPR-436, 1973

Respectfully Submitted:

*William E. George*  
William E. George  
ENS, NOAA

Approved and Forwarded:

*Ronald M. Buffington*  
Ronald M. Buffington  
CDR, NOAA  
Commanding Officer

Addendum

June 1973

Sections J, L, and P of this report refer to an oversight in the investigation of Pre-Survey Review Item No. 2. This item is a charted 90 fathom sounding, (NOS Charts 1001 and 1111), east of the 100 fathom curve, at Latitude 29°56.3'N. Longitude 80°11.9'W. ✓

The 90 fathom sounding<sup>(1973)</sup> was investigated while conducting operations on survey H-9373 (Boatsheet MI-80-2-73). This sheet junctions to the north of H-9367. (1973) ✓

The development was run on June 26, 1973 (Julian Day 177), Position No. 1029 (T:183600) to Position No. 1052 (T:211300). No trace of the sounding was found. ✓

The area<sup>(1973)</sup> of investigation does not appear in the limits of H-9373. A separate parameter tape and boatsheet (COMLOT sheet) are included with the H-9373 survey records. The position and sounding data are included on the master and corrector tapes for the day. (1973) ✓

- 11 -  
ATLANTIC MARINE CENTER

PROJECTION PARAMETERS

POLYCONIC OR MODIFIED TRANSVERSE MERCATOR

- 1. Project No. OPR-436-MI-73 4. Requested by LT C. Berman
- 2. Registry No. H- 9367 5. NOAA Ship MT MITCHELL (MSS-22)
- 3. Field No. MI-80 - 1-73 6. Date Required ASAP, 1973

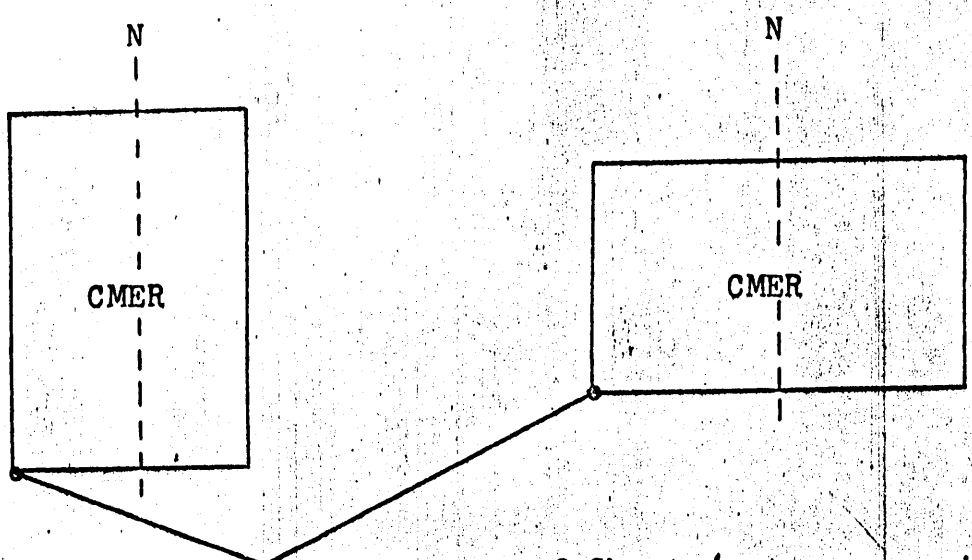
7. Polyconic  Modified Transverse Mercator

8. Central Meridian of Projection 80° 41' 00"W.

9. Survey Scale: 1: 80,000

10. Size of Sheet (check one)  
36 x 54  36 x 60  Other  Specify \_\_\_\_\_

11. Sheet Orientation (check one)  
NYX = 1  NYX =  $\emptyset$



12. Plotter Origin: S.W. Corner of Sheet (not necessarily a grid intersection)  
Latitude 29° 26' 00"N.  
Longitude 81° 15' 00"W.

13. G.P.'s of triangulation and/or signals attached,

14. Material Desired: Tracing Paper  Mylar   
Smooth Sheet  Other  Specify \_\_\_\_\_

15. Remarks: \_\_\_\_\_

14

AM3-2  
1-6-71

ATLANTIC MARINE CENTER

ELECTRONIC CONTROL PARAMETERS

- 1. Project # OPR-436      2. Reg. # H-9367      3. Field # MI-80-1-73
- 4. Type of Control Hi-Fix (Hi-Fix, Raydist, EPI, etc.)
- 5. Frequency 1618.650 KHz (for conversion of electronic lanes to meters)
- 6. Mode of Operation (check one):

Range-Range

Range-Visual

Range One (R<sub>1</sub>) FLAGLER RM4  
 Station I.D. 1874-1934-1966  
 Range Two (R<sub>2</sub>) ST JOHNS RAYDIST  
 Station I.D. 1971

Lat. 29° 29' 18.733" N.  
 Long. 81° 07' 55.204" W.  
 Lat. 30° 23' 09.287" N.  
 Long. 81° 23' 52.891" W.

Hyperbolic (3-station)

Hyper-Visual

Slave One  
 Station I.D. \_\_\_\_\_  
 Master  
 Station I.D. \_\_\_\_\_  
 Slave Two  
 Station I.D. \_\_\_\_\_

Lat. \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ " "  
 Long. \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ " "  
 Lat. \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ " "  
 Long. \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ " "  
 Lat. \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ " "  
 Long. \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ " "

7. Location of Survey:

Range-Range

Imagine an observer is standing at R<sub>1</sub> Station and looking directly at R<sub>2</sub> (check one):

Survey area is to observer's Right  A=0

Survey area is to observer's Left  A=1

Hyperbolic

Looking from survey area toward Master Station:

Slave One must be to observer's Left.

Slave Two must be to observer's Right.

8.  This form is submitted as an aid in preparing a boat sheet.

This form applies to all data on this survey.

This form applies to part of the data on this survey.

Vessel EDP #	From Time Day	To Time Day	Position Numbers (inclusive)
_____	_____	_____	_____ to _____
_____	_____	_____	_____ to _____
_____	_____	_____	_____ to _____

Boatsheet MI-80-1-73

H-9367 (1973)

Computer Parameter Tape Printout

(Sheet A of A, B)

FEST	=	70000
CLAT	=	3209000
CMER	=	80/49/30
GRID	=	5/00
PLSCL	=	80000
PLAT	=	29/25/30
PLON	=	81/10/00
S1LAT	=	29/29/18.73
S1LON	=	81/07/55.20
S2LAT	=	30/23/09.29
S2LON	=	81/23/52.89
Q	=	1618.650
VESNO	=	2220
YR	=	73



Boatsheet MI-80-1-73

H-9367 (1973)

Computer Parameter Tape Printout

(Sheet B of A, B)

FEST = 70000  
 CLAT = 3209000  
 CMER = 80/49/30  
 GRID = 5/00  
 PLSCL = 80000  
 PLAT = 29/41/00  
 PLON = 81/10/00  
 S1LAT = 29/29/18.73  
 S1LON = 81/07/55.20  
 S2LAT = 30/23/09.29  
 S2LON = 81/23/52.89  
 Q = 1618.650  
 VESNO = 2220  
 YR = 73

Boatsheet MI-80-1-73

H-9367 (1973)

Actual Times of Hydrography

<u>Julian Day</u>	<u>Date (GMT)</u>	<u>Pos. No.</u>	<u>Pos. No.</u>	<u>Time (GMT)</u>	<u>Time (GMT)</u>
052	2-21	0001	0096	015612	235900
053	2-22	0097	0254	000000	235900
054	2-23	0255	0328	000000	123401
065	3-6	0329	0409	020000	140500
066	3-7	0410	0501	002330	235900
067	3-8	0502	0596	000000	144300
068	3-9	0597	0651	014200	235959
069	3-10	0652	0801	000059	235900
070	3-11	0802	0968	000000	235900
071	3-12	0969	1149	000000	235900
072	3-13	1150	1314	000000	235944
073	3-14	1315	1484	000044	235959
074	3-15	1485	1543	000059	084300
079	3-20	1544	1651	003700	235931
080	3-21	1652	1812	000031	235900
081	3-22	1813	1949	000000	193900
082	3-23	1950	2100	020930	233500
083	3-24	2101	2112	005729	021601

Boatsheet MI-80-1-73

Registry Number H-9367 (1973)

Descriptive Tide Note

OPR-436-MI-73

Southeast Atlantic Coast

The Control Tide Station for this survey was the pressure recording (bubbler) tide gage temporarily installed at Daytona Beach, Florida. The pressure recording (bubbler) tide gage at Jacksonville Beach, Florida will also be used for tidal zoning. (CAM3-3 Forms "Tide Note" for each gage included in this report).

Hourly heights, time and height corrections, and datum information (height of MLW on staff) have been requested from Tides Section, National Ocean Survey, Rockville, Md. (copy of CO MT MITCHELL memorandum dated April 9, 1973 included in this report).

Tides for this survey are to be zoned by the automated zoning method. This will be accomplished by the Processing Division, Atlantic Marine Center, Norfolk, Va. in accordance with standing instructions. *Review item 4 C.*

Each tide gage was inspected prior to the start of hydrographic operations and the observers were questioned upon completion of the survey to verify proper operation of the gages throughout the survey. The observers reported no malfunctions.

The pressure recording (bubbler) tide gage at Daytona Beach was a temporary installation and a new gage was being installed during the time of the survey. However, it was not operational. For this reason, the Control Tide Station at Mayport, Florida was also inspected and its continuous operation verified.

CAM3-3  
3-25-71

19

- 17 -  
ATLANTIC MARINE CENTER

TIDE NOTE

NOAA Ship  
MT MITCHELL (MSS-22)  
Gages in  
GMT (75°W Time Zone)

1. Project No: OPR- 436      2. Vessel/~~Field Station~~: MT MITCHELL (MSS-22)
3. Year: 1973      4. Meridian Time Zone: GMT (75°W Time Zone)
5. Tide Station Name: Jacksonville Beach, Florida
6. Position: Lat. 30° 17.0' N. Long. 81° 23.1' W.

7. Plane of Reference:  MLW,  MLLW corresponds to \_\_\_\_\_ feet on the tide staff for the period \_\_\_\_\_.

8. Hourly Heights:  Pressure Recording (Bubbler) ~~Standard~~ Gauge, furnished from Rockville.  
 Scaled and logged from field marigrams.

9. Tidal Zoning:  Not applicable.  
 By two or more gauges automatically zoned. (Daytona Beach & Jacksonville Beach, Fla.)  
 By applying tidal differences and constants

for the area(s): a. \_\_\_\_\_

TIME (Hour, Minute)		HEIGHT (Feet)		HEIGHT RATIO (If Applicable)	
High Water	Low Water	High Water	Low Water	High Water	Low Water

b. \_\_\_\_\_

TIME (Hour, Minute)		HEIGHT (Feet)		HEIGHT RATIO (If Applicable)	
High Water	Low Water	High Water	Low Water	High Water	Low Water

c. Include additional areas on separate sheet(s).

10. Remarks: All Times and Dates used on the survey are Greenwich Mean Time

CAM3-3  
3-25-71

20

- 18 -  
ATLANTIC MARINE CENTER

TIDE NOTE

1. Project No: OPR-436      2. Vessel/~~Field Station~~: NOAA Ship MT MITCHELL (MSS-22)  
 3. Year: 1973      4. Meridian Time Zone: (GMT) Gages in 75°W. Time Zone  
 5. Tide Station Name: Daytona Beach, Florida (temporary)  
 6. Position: Lat. 29° 08.8' N. Long. 80° 57.8' W.  
 7. Plane of Reference:  MLW,  MLLW corresponds to \_\_\_\_\_ feet on the tide staff for the period \_\_\_\_\_.  
 8. Hourly Heights:  Pressure Recording (Bubbler) Tide Gage  
~~Standard Gauge~~ furnished from Rockville.  
 Scaled and logged from field marigrams.  
 9. Tidal Zoning:  Not applicable.  
 By two or more gauges automatically zoned.  
 (Daytona Beach & Jacksonville Beach, Fla.)  
 By applying tidal differences and constants for the area(s): a. \_\_\_\_\_

TIME (Hour, Minute)		HEIGHT (Feet)		HEIGHT RATIO (If Applicable)	
High Water	Low Water	High Water	Low Water	High Water	Low Water

b. \_\_\_\_\_

TIME (Hour, Minute)		HEIGHT (Feet)		HEIGHT RATIO (If Applicable)	
High Water	Low Water	High Water	Low Water	High Water	Low Water

c. Include additional areas on separate sheet(s).

10. Remarks: All Times and Dates used on the survey are Greenwich Mean Time



U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SURVEY

Date : April 9, 1973

Reply to Attn. of:

To : Director, National Ocean Survey  
Attn: C331

From : Commanding Officer  
NOAA Ship MT MITCHELL (MSS-22)

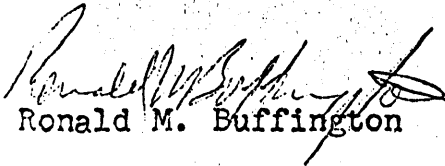
Subject: Tidal Data

It is requested that verified hourly heights of tides (using Greenwich Mean Time) from the tide gages at Daytona Beach, Florida and Jacksonville Beach, Florida be forwarded to the Atlantic Marine Center, Norfolk, Virginia, Processing Division (CAM22) for the dates listed below. Verified time and height correctors and datum information (height of MLW on the staff) for each tide gage is also requested.

This <sup>(1973)</sup> data is to be used for processing Hydrographic Survey H-9367 (MI-80-1-73). Tides will be zoned by the automated zoning method.

Date (1973)	Julian Day	Start Time (GMT)	End Time (GMT)
Feb. 21	052	015612	235900
Feb. 22	053	000000	235900
Feb. 23	054	000000	123401
Mar. 6	065	020000	235900
Mar. 7	066	000000	235900
Mar. 8	067	000000	235900
Mar. 9	068	000000	235900
Mar. 10	069	000000	235900
Mar. 11	070	000000	235900
Mar. 12	071	000000	235900
Mar. 13	072	000000	235900
Mar. 14	073	000000	235900
Mar. 15	074	000000	084300

<u>Date</u> <u>(1973)</u>	<u>Julian</u> <u>Day</u>	<u>Start Time</u> <u>(GMT)</u>	<u>End Time</u> <u>(GMT)</u>
Mar. 20	079	000000	235900
Mar. 21	080	000000	235900
Mar. 22	081	000000	235900
Mar. 23	082	000000	235900
Mar. 24	083	000000	030000

  
Ronald M. Buffington

Copy to: CAM22

10/3/73

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

23

TIDE NOTE FOR HYDROGRAPHIC SHEET H-9367

Processing Division: Atlantic Marine Center

Hourly heights are approved for

Tide Station Used (NOAA form 7(-12): Daytona Beach, Fla.  
Jacksonville Beach, Fla.

Period: February 21 - March 24, 1973

HYDROGRAPHIC SHEET: H-9367

OPR: 436

Locality: Northern east coast of Florida

Plane of reference (<sup>on navigram</sup> mean ~~lower~~ low water): Daytona Beach 1.8 ft.  
Jacksonville Beach 6.1 ft.

Height of Mean High Water above Plane of Reference is  
Daytona Beach 4.0 ft.  
Jacksonville Beach 5.2 ft.

Remarks:

A check was made at various positions on the smooth printout <sup>manua</sup> and reducers were found to agree to within  $\pm 0.2$  fms with present zoning methods.

*Robert A. Gemminge*

Chief, Tides Branch



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

4/27/73

24

TIDE NOTE FOR HYDROGRAPHIC SHEET H-9367

Processing Division: Atlantic Marine Center

Hourly heights are approved for

Tide Station Used (NOAA form 7(-12): Daytona Beach, Fla.  
Jacksonville Beach, Fla.

Period: February 21 - March 24, 1973

HYDROGRAPHIC SHEET: H-9367

OPR: 436

Locality: Northern east coast of Florida

Plane of reference (mean ~~high~~ low water): Daytona Beach 1.8 ft.  
Jacksonville Beach 6.1 ft.

Height of Mean High Water above Plane of Reference is

Daytona Beach 4.0 ft.

Jacksonville Beach 5.2 ft.

Remarks:

Tides zoning by automatic method is approved for this sheet.

	Greenwich	
	<u>Time Interval</u>	
	<u>HWI</u>	<u>LWI</u>
Daytona Beach	0.44	6.62
Jacksonville Beach	0.38	6.76

*C. D. Thurston*  
for Chief, Tides Branch

(25)

Boatsheet MI-80-1-73

H-9367 (1973)

Horizontal Control  
Calibration Stations

<u>Sig. No.</u>	<u>Station Description</u>	<u>Latitude</u>	<u>Longitude</u>
ØØØ	PONCE DE LEON TOWER (not the lighthouse)	29°04'49.305"N.	80°55'41.809"W. *
Ø7Ø	DAYTONA MAIN WATER TANK	29°12'26.579"N.	81°01'29.152"W. *
Ø9Ø	HOLLY HILL RADIO STATION WNDB TOWER	29°13'44.372"N.	81°03'02.924"W. *
16Ø	HOLLY HILL TANK	29°14'43.540"N.	81°02'20.035"W. *
2ØØ	ORMOND HOTEL, CHIMNEY	29°17'26.097"N.	81°02'47.999"W. *
3ØØ	NAVAL RESERVE TANK (South of lighthouse)	29°53'04.68 "N.	81°17'14.52 "W. *
3Ø4	ST AUGUSTINE LIGHTHOUSE	29°53'06.704"N.	81°17'19.580"W. *
3Ø8	WEST AUGUSTINE MUNICIPAL TANK (downtown at sewage plant)	29°53'27.883"N.	81°19'50.606"W. *
312	ST AUGUSTINE FLAGLER MEMORIAL CHURCH (dome with cross on top)	29°53'36.738"N.	81°19'01.331"W.
316	ST AUGUSTINE FLORIDA EAST COAST RAILROAD TANK (northernmost tank - abandoned)	29°55'46.013"N.	81°19'56.352"W. *
5ØØ	STEEPLE (located in Halifax Es- tates-Chart 843-SC)	29°09'27.40 "N.	80°58'33.60 "W.
5Ø1	WELE RADIO TOWER (150' tower with two sets of double lights)	29°09'35.00 "N.	80°59'41.00 "W.

\* Denotes station actually used during calibration

Horizontal Control - Calibration Stations (continued)

<u>Sig. No.</u>	<u>Station Description</u>	<u>Latitude</u>	<u>Longitude</u>
502	OLD DAYTONA SHORES TANK (just north of steeple- tank has 4 legs and center column)	29°09'45.30 "N.	80°58'37.70 "W.
503	WMFJ RADIO TOWER (in Daytona Beach)	29°13'37.40 "N.	81°01'30.20 "W.
504	LOOKOUT TOWER (near Space Needle in Daytona Beach)	29°13'37.40 "N.	81°00'31.60 "W. *
505	WESH T.V. TOWER, 300'	29°13'51.40 "N.	81°02'32.80 "W.
508	ORMOND BY THE SEA TANK	29°21'04.80 "N.	81°04'07.60 "W. *
900	MAYPORT TANK	30°23'14.142"N.	81°24'41.678"W. *
910	ST JOHNS LIGHTHOUSE	30°23'09.292"N.	81°23'53.520"W. *
920	ST JOHNS RIVER LIGHT- HOUSE	30°23'35.989"N.	81°25'34.220"W. *
930	CALIBRATION BUILDING (center of triangular frame atop a white building)	30°23'44.303"N.	81°23'42.265"W. *
998	FLAGLER R.M. 4 HI-FIX	29°29'18.733"N.	81°07'55.204"W.
999	ST JOHNS RAYDIST HI-FIX	30°23'09.287"N.	81°23'52.891"W.

Note - Signals 020 through 200 are intersection stations. The 500 series signals are photo points determined by Rockville. The 900 series were previously used calibration signals - positions furnished by the Atlantic Marine Center

\* Denotes station actually used during calibration

Boatsheet MI-80-1-73

H-9367 (1973)

Electronic Corrector Abstract

Day 052

<u>Time (GMT)</u>	<u>P1</u>	<u>P2</u>
015612	- 0.10	- 0.28
023613	- 0.10	- 0.28
093130	- 0.05	- 0.19
230100	- 1.05	- 0.19
230200	- 0.05	- 0.19
235959	- 0.05	- 0.19

Day 053

000000	- 0.05	- 0.19
050615	+ 0.95	- 0.19
050715	- 0.05	- 0.19
221600	+ 0.95	- 0.19
221700	- 0.05	- 0.19
235959	- 0.05	- 0.19

Day 054

000000	- 0.05	- 0.19
001900	+ 0.95	- 0.19
002000	- 0.05	- 0.19
005000	+ 0.95	- 0.19
005100	- 0.05	- 0.19
010000	+ 0.95	- 0.19
010100	- 0.05	- 0.19
015900	- 1.05	- 0.19
020000	- 0.05	- 0.19
033500	+ 0.95	- 0.19
033600	- 0.05	- 0.19
050200	- 1.05	- 0.19
050300	- 0.05	- 0.19
051900	- 1.05	- 0.19
052000	- 0.05	- 0.19
060330	+ 0.95	- 0.19
060430	- 0.05	- 0.19
065230	+ 0.95	- 0.19
065330	- 0.05	- 0.19
104700	+ 0.95	- 0.19
104800	- 0.05	- 0.19
235959	- 0.05	- 0.19

Day 065

<u>Time (GMT)</u>	<u>P1</u>	<u>P2</u>
020000	- 0.21	- 0.29
235959	- 0.21	- 0.29

Day 066

002330	- 0.07	- 0.28
062001	+ 1.93	+ 1.72
214700	- 0.22	- 0.36
221200	- 0.22	- 1.36
235959	- 0.22	- 1.36

Day 067

000000	- 0.22	- 1.36
010300	+ 0.78	- 1.36
010400	- 0.22	- 1.36
135000	- 2.22	- 1.36
135400	- 3.22	- 1.36
135500	- 4.22	- 1.36
135700	- 3.22	- 1.36
135900	- 2.22	- 1.36
140000	- 1.22	- 2.36
140100	- 2.22	- 1.36
140200	- 2.22	- 2.36
235959	- 2.22	- 2.36

Day 068

014200	+ 4.01	- 1.18
030500	+ 6.01	- 1.18
171601	+ 0.09	- 0.15
235959	+ 0.09	- 0.15

Day 069

000059	+ 0.09	- 0.15
235959	+ 0.09	- 0.15

Day 070

000000	+ 0.09	- 0.15
--------	--------	--------

Electronic Corrector Abstract (continued)

Day 070 (cont'd.)

<u>Time (GMT)</u>	<u>P1</u>	<u>P2</u>
033502	+ 0.09	- 0.15
073401	+ 0.09	+ 0.85
235959	+ 0.09	+ 0.85

Day 081

<u>Time (GMT)</u>	<u>P1</u>	<u>P2</u>
000000	+ 0.14	- 0.12
113600	+ 0.14	- 0.12
235959	+ 0.14	- 0.12

Day 071

000000	+ 0.09	+ 0.85
054600	+ 0.09	+ 0.85
235959	+ 0.09	+ 0.85

Day 082

000000	+ 0.14	- 0.12
022240	+ 0.14	+ 1.88
022745	+ 0.14	+ 2.88
040005	+ 0.14	+ 3.88
104135	+ 0.14	+ 4.88
235959	+ 0.14	+ 4.88

Day 072

000000	+ 0.09	+ 0.85
195600	+ 0.09	+ 0.85
235959	+ 0.09	+ 0.85

Day 083

000000	+ 0.14	+ 4.88
235959	+ 0.14	+ 4.88

Day 073

000000	+ 0.09	+ 0.85
024000	+ 0.09	+ 0.85
235959	+ 0.09	+ 0.85

Day 074

000000	+ 0.09	+ 0.85
235959	+ 0.09	+ 0.85

Day 079

003730	+ 0.14	- 0.12
235959	+ 0.14	- 0.12

Day 080

000031	+ 0.14	- 0.12
235959	+ 0.14	- 0.12

0.5 1.0 1.5 2.0  
(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

30

CORRECTIONS IN FEET FATHOMS

Serial Temperature Cast #3

FORM C&GS-117  
(11-65)

U.S. DEPARTMENT OF COMMERCE  
ESSA  
COAST AND GEODETIC SURVEY

VELOCITY CORRECTIONS

Ship NOAA Ship MT MITCHELL

Ronald M. Buffington, CDR, Comdg.

These corrections are to be used

between March 6 1973 and      19    

in the locality Lat. 29°48.5'N.

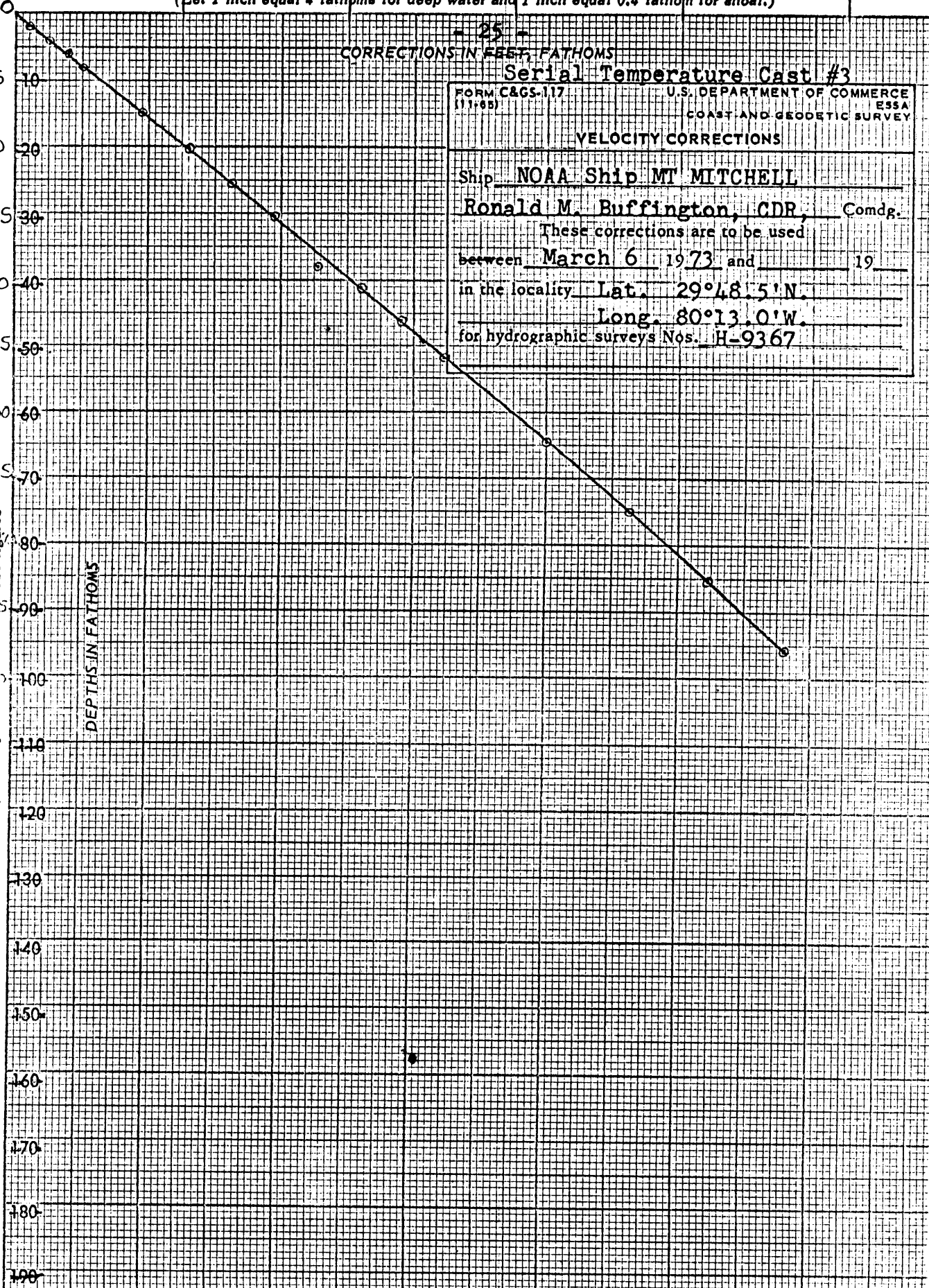
Long. 80°13.0'W.

for hydrographic surveys Nos. H-9367

(For deep water add a 0 to these figures)

DEPTHS IN FATHOMS

0  
5  
10  
15  
20  
25  
30  
35  
40  
50  
60  
70  
80  
90  
100  
110  
120  
130  
140  
150  
160  
170  
180  
190



CORRECTIONS IN FEET, FATHOMS

Serial Temperature Cast #4

FORM C&GS-117 (11-65) U.S. DEPARTMENT OF COMMERCE ESSA COAST AND GEODETIC SURVEY

VELOCITY CORRECTIONS

Ship NOAA Ship MT MITCHELL  
Ronald M. Buffington, CDR, Comdr.  
These corrections are to be used  
between March 11 1973 and 19  
in the locality Lat. 29°46.0'N  
Long. 80°03.0'W  
for hydrographic surveys Nos. H-9367

(For deep water add a 0 to these figures

DEPTHS IN FATHOMS

10  
20  
30  
40  
50  
60  
70  
80  
90  
100  
110  
120  
130  
140  
150  
160  
170  
180  
190

4.0 5.0 6.0 7.0 8.0

160  
170  
180  
190  
200  
210  
220

0.5 (Let 1 inch equal 4 fathoms for deep water and 1.5 inch equal 0.4 fathom for shoal.) 1.0 2.0

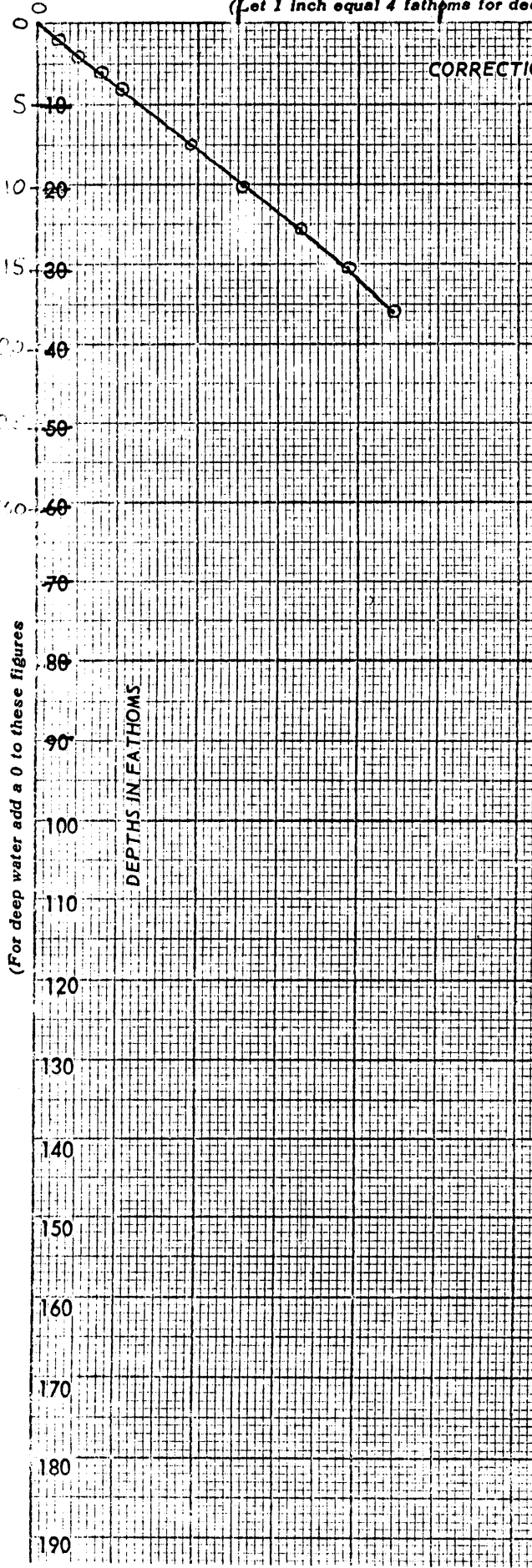
CORRECTIONS IN FEET, FATHOMS

Serial Temperature Cast #5

FORM C&GS-117 (11-65) U.S. DEPARTMENT OF COMMERCE ESSA COAST AND GEODETIC SURVEY

VELOCITY CORRECTIONS

Ship NOAA Ship MT MITCHELL  
Ronald M. Buffington, CDR, Comdg.  
 These corrections are to be used  
 between March 13 1973 and      19      
 in the locality Lat. 30°02.0'N.  
Long. 80°17.4'W.  
 for hydrographic surveys Nos. H-9367



(For deep water add a 0 to these figures)

DEPTHS IN FATHOMS



CORRECTIONS IN FEET, FATHOMS

53

FORM C&GS-117 (11-65) U.S. DEPARTMENT OF COMMERCE  
 COAST AND GEODETIC SURVEY

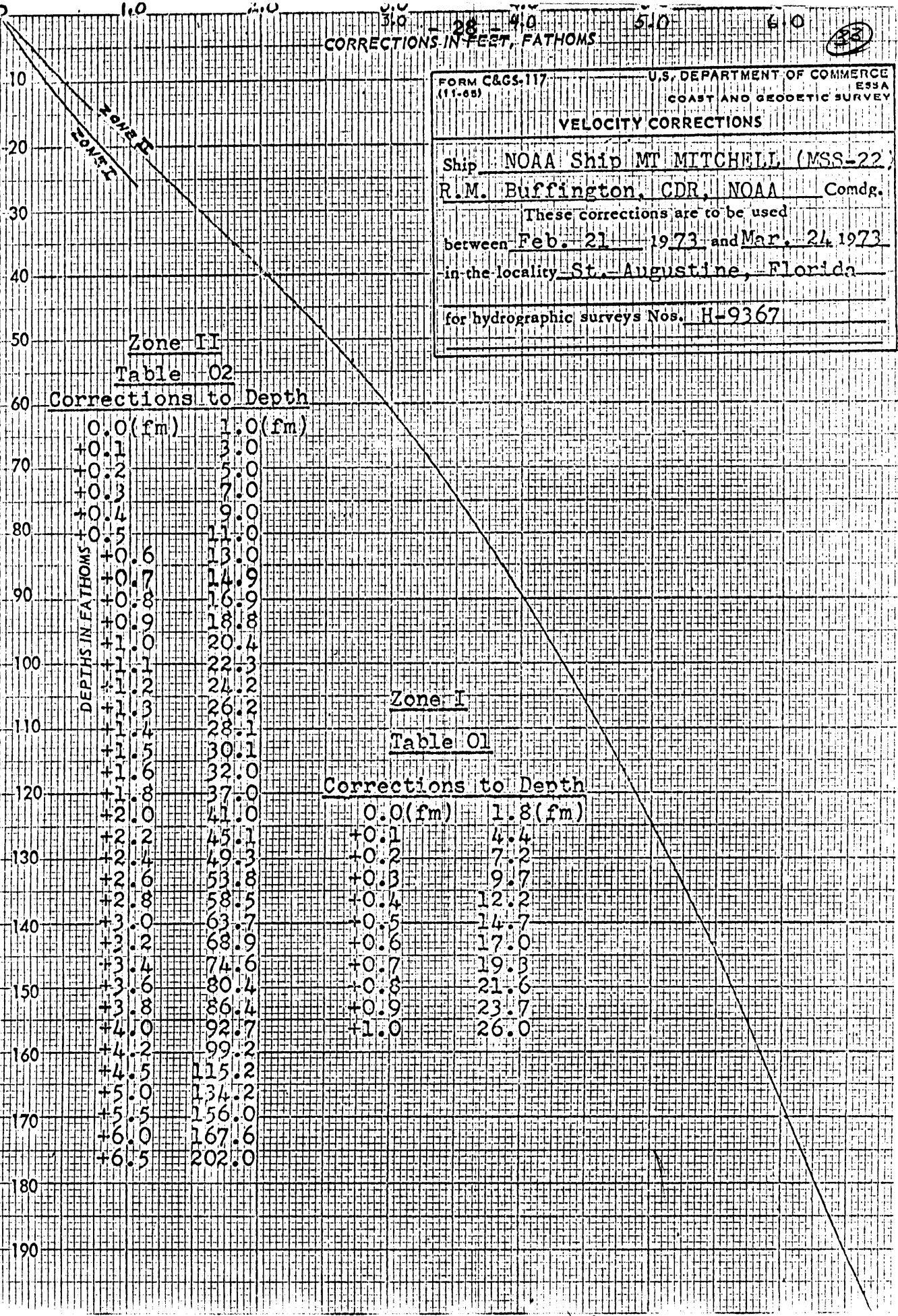
**VELOCITY CORRECTIONS**

Ship NOAA Ship MT MITCHELL (MSS-22)  
 R.M. Buffington, CDR, NOAA Comdg.

These corrections are to be used  
 between Feb. 21 1973 and Mar. 24 1973  
 in the locality St. Augustine, Florida

for hydrographic surveys Nos. H-9367

(For deep water add a 0 to these figures)



Zone II  
 Table 02

Corrections to Depth

DEPTHS IN FATHOMS	0.0 (fm)	1.0 (fm)
0	0.0	1.0
1	0.1	2.0
2	0.2	3.0
3	0.3	4.0
4	0.4	5.0
5	0.5	6.0
6	0.6	7.0
7	0.7	8.0
8	0.8	9.0
9	0.9	10.0
10	1.0	11.0
11	1.1	12.0
12	1.2	13.0
13	1.3	14.0
14	1.4	15.0
15	1.5	16.0
16	1.6	17.0
17	1.7	18.0
18	1.8	19.0
19	1.9	20.0
20	2.0	21.0
21	2.1	22.0
22	2.2	23.0
23	2.3	24.0
24	2.4	25.0
25	2.5	26.0
26	2.6	27.0
27	2.7	28.0
28	2.8	29.0
29	2.9	30.0
30	3.0	31.0
31	3.1	32.0
32	3.2	33.0
33	3.3	34.0
34	3.4	35.0
35	3.5	36.0
36	3.6	37.0
37	3.7	38.0
38	3.8	39.0
39	3.9	40.0
40	4.0	41.0
41	4.1	42.0
42	4.2	43.0
43	4.3	44.0
44	4.4	45.0
45	4.5	46.0
46	4.6	47.0
47	4.7	48.0
48	4.8	49.0
49	4.9	50.0
50	5.0	51.0
51	5.1	52.0
52	5.2	53.0
53	5.3	54.0
54	5.4	55.0
55	5.5	56.0
56	5.6	57.0
57	5.7	58.0
58	5.8	59.0
59	5.9	60.0
60	6.0	61.0
61	6.1	62.0
62	6.2	63.0
63	6.3	64.0
64	6.4	65.0
65	6.5	66.0
66	6.6	67.0
67	6.7	68.0
68	6.8	69.0
69	6.9	70.0
70	7.0	71.0
71	7.1	72.0
72	7.2	73.0
73	7.3	74.0
74	7.4	75.0
75	7.5	76.0
76	7.6	77.0
77	7.7	78.0
78	7.8	79.0
79	7.9	80.0
80	8.0	81.0
81	8.1	82.0
82	8.2	83.0
83	8.3	84.0
84	8.4	85.0
85	8.5	86.0
86	8.6	87.0
87	8.7	88.0
88	8.8	89.0
89	8.9	90.0
90	9.0	91.0
91	9.1	92.0
92	9.2	93.0
93	9.3	94.0
94	9.4	95.0
95	9.5	96.0
96	9.6	97.0
97	9.7	98.0
98	9.8	99.0
99	9.9	100.0
100	10.0	101.0
101	10.1	102.0
102	10.2	103.0
103	10.3	104.0
104	10.4	105.0
105	10.5	106.0
106	10.6	107.0
107	10.7	108.0
108	10.8	109.0
109	10.9	110.0
110	11.0	111.0
111	11.1	112.0
112	11.2	113.0
113	11.3	114.0
114	11.4	115.0
115	11.5	116.0
116	11.6	117.0
117	11.7	118.0
118	11.8	119.0
119	11.9	120.0
120	12.0	121.0
121	12.1	122.0
122	12.2	123.0
123	12.3	124.0
124	12.4	125.0
125	12.5	126.0
126	12.6	127.0
127	12.7	128.0
128	12.8	129.0
129	12.9	130.0
130	13.0	131.0
131	13.1	132.0
132	13.2	133.0
133	13.3	134.0
134	13.4	135.0
135	13.5	136.0
136	13.6	137.0
137	13.7	138.0
138	13.8	139.0
139	13.9	140.0
140	14.0	141.0
141	14.1	142.0
142	14.2	143.0
143	14.3	144.0
144	14.4	145.0
145	14.5	146.0
146	14.6	147.0
147	14.7	148.0
148	14.8	149.0
149	14.9	150.0
150	15.0	151.0
151	15.1	152.0
152	15.2	153.0
153	15.3	154.0
154	15.4	155.0
155	15.5	156.0
156	15.6	157.0
157	15.7	158.0
158	15.8	159.0
159	15.9	160.0
160	16.0	161.0
161	16.1	162.0
162	16.2	163.0
163	16.3	164.0
164	16.4	165.0
165	16.5	166.0
166	16.6	167.0
167	16.7	168.0
168	16.8	169.0
169	16.9	170.0
170	17.0	171.0
171	17.1	172.0
172	17.2	173.0
173	17.3	174.0
174	17.4	175.0
175	17.5	176.0
176	17.6	177.0
177	17.7	178.0
178	17.8	179.0
179	17.9	180.0
180	18.0	181.0
181	18.1	182.0
182	18.2	183.0
183	18.3	184.0
184	18.4	185.0
185	18.5	186.0
186	18.6	187.0
187	18.7	188.0
188	18.8	189.0
189	18.9	190.0
190	19.0	191.0

Zone I

Table 01

Corrections to Depth

	0.0 (fm)	1.8 (fm)
+0.1	4.4	
+0.2	7.2	
+0.3	9.7	
+0.4	12.2	
+0.5	14.7	
+0.6	17.0	
+0.7	19.3	
+0.8	21.6	
+0.9	23.7	
+1.0	26.0	

34 ✓

NOAA Ship MT MITCHELL (MSS-22)

Settlement and Squat

March 7, 1973

Settlement and Squat determinations were made, using both engines, with the results as follows:

	<u>Standard Speed</u> (175 RPM)	<u>Half Speed</u> (105 RPM)
Skeg Transducer	+0.2 feet	+0.3 feet

The determinations were made under the following conditions:

Draft Forward: 13'02" Aft: 13'07" State of Sea - Calm

Depth of Water 45 feet

Launches MI-5 and MI-6 were not on board

Linear Interpolation Graph Abstract

Skeg Transducer

<u>RPM</u>	<u>Correction in Feet</u>
105 to 135	+0.3
135 to 175	+0.2

Determinations were last made on October 29, 1969. At that time, the ship was fully loaded and the draft was as follows:

Draft Forward: 13'10" Aft: 14'00"

The 1973 determinations were conducted with the ship's difference in draft being eight inches forward and five inches aft. Such a difference in draft and trim of the ship will produce a markable change in the hydrostatic properties for a ship when underway. Therefore, the difference in the two determinations can be attributed to the draft differential.

NOAA Ship MT MITCHELL (MSS-22)

35

boatsheet MT-80-1-73 TPA Correction Abstract Registry Number H-9367

ul ay	Date 1973	Boat No.	Vol No.	To		Velocity		Instr. Corr. & Draft Corr. (Fathoms)	Initial Corr. (fms)	Settlement &		TPA Corr (fms)
				Time GMT	Time GMT	Nearest 0.2 ft	Nearest 1.0 ft			1 Eng	2 Eng	
052	2-21	2220	1	015612	235959			+ 2.2	0.0			+ 2.2
053	2-22	2220	1	000000	235959			+ 2.2	0.0			+ 2.2
054	2-23	2220	1	000000	123401			+ 2.2	0.0			+ 2.2
065	3-6	2220	1	020000	140500			+ 2.2	0.0			+ 2.2
066	3-7	2220	1	002330	235900			+ 2.2	0.0			+ 2.2
067	3-8	2220	1	000000	144300			+ 2.2	0.0			+ 2.2
068	3-9	0220	1	014200	235959			+ 2.2	0.0			+ 2.2
069	3-10	2220	1	000059	235900			+ 2.2	0.0			+ 2.2
070	3-11	2220	1	000000	235900			+ 2.2	0.0			+ 2.2
071	3-12	2220	2	000000	235900			+ 2.2	0.0			+ 2.2
072	3-13	2220	2	000000	235944			+ 2.2	0.0			+ 2.2
073	3-14	2220	2	000044	235959			+ 2.2	0.0			+ 2.2
074	3-15	2220	2	000059	084300			+ 2.2	0.0			+ 2.2
079	3-20	2220	2	003700	235931			+ 2.3	0.0			+ 2.3
080	3-21	2220	2	000031	235900			+ 2.3	0.0			+ 2.3
081	3-22	2220	2	000000	193900			+ 2.3	0.0			+ 2.3
082	3-23	2220	2	020030	233500			+ 2.3	0.0			+ 2.3
083	3-24	2220	2	005029	021601			+ 2.3	0.0			+ 2.3

Boatsheet MI-80-1-73

H-9367 (1973)

TC/TI Tape Printout

015612 0 0000 0000 052 222000 009367  
003700 0 0001 0000 079 222000 009367  
030000 0 0001 0000 083 222000 009367

OCEANOGRAPHIC LOG SHEET - M  
BOTTOM SEDIMENT DATA

Boatsheet MT-80-1-73 H-9367

U.S. DEPARTMENT OF COMMERCE  
COAST AND GEODETIC SURVEY

VESSEL NOAA Ship  
MT MITCHELL

PROJ. NO.  
OPR-436-MT-73 1973

YEAR  
1973

Checked by  
T. McConnell

DATE CHECKED  
date obtained

SERIAL NO.	(GMT) DATE (1973)	SAMPLE POSITION		DEPTH (Fathoms)	WEIGHT OF SAMPLER	AP- PROX- TION	LENGTH OF CORE	COLOR OF SEDI- MENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, core strength, depth of cutter, size of particles, etc.)	OBS. INIT.
		LATITUDE North	LONGITUDE West								
1	March 11	00.4'	42.2'	18	150 lb.	NA	NA	gray	fne gy S Sh	Pos. No. 0829	FL
2	11	54.9'	36.0'	20				gray	fne gy S Sh	Pos. No. 0836	FL
3	11	00.4'	35.9'	21				gray	fne gy S Sh Co	Pos. No. 0841	PS
4	11	00.0'	29.5'	22				-----	Sh	Pos. No. 0848	PS
5	11	54.7'	29.3'	22				brown	fne br S Sh	Pos. No. 0853	PS
6	11	49.4'	28.9'	20				-----	Sh	Pos. No. 0858	PS
7	11	43.9'	28.6'	20				gray	crs gy S Sh	Pos. No. 0863	PS
8	11	37.7'	25.4'	18				gray	crs gy S Sh	Pos. No. 0868	EM
9	11	30.5'	21.7'	23				gray	crs gy S Sh	Pos. No. 0874	EM
10	11	36.2'	21.8'	23				gray	crs gy S Sh	Pos. No. 0879	EM
11	11	41.4'	22.1'	23				black	crs bk S Sh	Pos. No. 0884	EM
12	11	47.0'	22.4'	25				brown	fne br S Sh Co	Pos. No. 0889	EM
13	11	52.4'	22.7'	25				brown	fne br S brk Sh	Pos. No. 0894	EM
14	11	57.8'	23.1'	22				brown	fne lt br S brk Sh bk Spk	Pos. No. 0899	FL
15	11	00.8'	17.3'	29				brown	fne br S brk Sh	Pos. No. 0907	FL
16	11	55.3'	16.8'	34				brown	crs br S Sh	Pos. No. 0912	FL
17	11	50.1'	16.5'	35				brown	fne br S Sh	Pos. No. 0917	FL

Use more than one line per sample if necessary.

OCEANOGRAPHIC LOG SHEET - M  
BOTTOM SEDIMENT DATA

Boatsheet M-80-1-73 H-9367

57

VESSEL **NOAA Ship MT MITCHELL** PROJ. NO. **OPR-436-MT-73** YEAR **1973** **Southeast Atlantic Coast** CHECKED BY **T. McConnell** DATE CHECKED **obtained**

U.S. DEPARTMENT OF COMMERCE  
COAST AND GEODETIC SURVEY  
JMMERCE  
ESSA

SERIAL NO.	(GMT DATE) (1973)	SAMPLE POSITION		DEPTH (Fathoms)	WEIGHT SAMPLER	AP- PROX. TRA- TION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS <small>(Trawl conditions, tow, haul, net, etc.) nature, amount, or location of bottom, etc.)</small>	OBS. INIT.
		NORTH LATITUDE	WEST LONGITUDE								
18	March 11	29° 44.7'	80° 16.0'	35	150 lb.	NA	NA	brown	fine br S Sh Co	Pos. No. 0922	FL
19	11	29° 39.3'	80° 15.7'	35				brown	crs br S Sh	Pos. No. 0927	FL
20	11	29° 34.1'	80° 15.2'	37				brown	fine br S Sh	Pos. No. 0932	FL
21	11	29° 29.4'	80° 14.9'	37				brown	crs br S Sh	Pos. No. 0937	FL
22	13	29° 01.0'	80° 48.5'	18				gray	fine gy S Sh	Pos. No. 1283	EM
23	13	29° 55.7'	80° 48.4'	16				gray	crs gy S Sh	Pos. No. 1288	DR
24	13	29° 48.6'	80° 54.7'	13				----- Sh		Pos. No. 1295	DR
25	13	29° 55.0'	80° 54.6'	13				brown	crs br S Sh	Pos. No. 1300	DR
26	13	29° 00.7'	80° 54.6'	14				gray	crs gy S Sh	Pos. No. 1305	DR
27	13	29° 58.2'	81° 00.2'	11				gray	crs gy S Sh	Pos. No. 1310	DR
28	14	29° 54.8'	81° 00.9'	12				gray	crs gy S Sh	Pos. No. 1317	EM
29	14	29° 48.4'	81° 00.5'	11				brown	crs br S Sh	Pos. No. 1322	EM
30	14	29° 47.5'	81° 04.9'	10				----- Sh		Pos. No. 1327	EM
31	14	29° 54.9'	81° 05.9'	--				brown	fine br S Sh	Pos. No. 1333	EM
32	14	29° 01.0'	81° 06.8'	--				brown	crs br S Sh	Pos. No. 1338	EM

Use more than one line per sample if necessary.

Approval Sheet

Field Number MI-80-1-73

Registry Number H-9367 (1973)

The field work and processing of data from this hydrographic survey was under my daily supervision. The sheet and records have been reviewed and are approved by me. ✓



Ronald M. Buffington  
CDR, NOAA  
Commanding Officer

GEOGRAPHIC NAMES

H-9367

(10)

Name on Survey	Source of Information										
	A	B	C	D	E	F	G	H	K		
	ON CHART NO. 1244	ON PREVIOUS SURVEY NO.	ON U.S. QUADRANGLE MAPS	FROM LOCAL INFORMATION	ON LOCAL MAPS	P.O. GUIDE OR MAP	GRAND McNALLY ATLAS	U.S. LIGHT LIST			
Fogler Beach											1
Atlantic Ocean											2
ST. AUGUSTINE											3
											4
											5
											6
											7
											8
											9
											10
											11
											12
											13
											14
											15
											16
											17
											18
											19
											20
											21
											22
											23
											24
											25

Approved by:  
C. E. Harrington  
Staff Geographer  
11-7-'73



HYDROGRAPHIC SURVEY STATISTICS  
 HYDROGRAPHIC SURVEY NO. H-9367 (MI-80-1-73)

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	16

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES	1					
CAHIERS						
VOLUMES						
BOXES			4			

T-SHEET PRINTS (LIST)

SPECIAL REPORTS (LIST)

Listed in the Descriptive Report

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				2112
POSITIONS CHECKED		200+	7	
POSITIONS REVISED		5	-	
DEPTH SOUNDINGS REVISED		150	81	
DEPTH SOUNDINGS ERRONEOUSLY SPACED			-	
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED			-	
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS			-	
JUNCTIONS		8	16	
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		30	6	
SPECIAL ADJUSTMENTS			8	
ALL OTHER WORK	10	117	49	
TOTALS	10	155	79	

PRE-VERIFICATION BY  
 H.R. Smith - G.F. Trefethen

BEGINNING DATE  
 4/16/73

ENDING DATE  
 4/18/73

VERIFICATION BY G.F. Trefethen  
 B.J. Stephenson - B.T. Davis

BEGINNING DATE  
 4/24/73

ENDING DATE  
 6/22/73

REVIEW BY  
 D. J. Ramesburg

BEGINNING DATE  
 10-9-73

ENDING DATE  
 10-26-73

DESCRIPTIVE REPORT DATA RECORD			
PART I SMOOTH SHEET PREPARATION		PREPARED BY/OPERATOR	DATE
A. PLOTTER OPERATOR			
B. DISTORTION MARKS PLOTTED			
C. PROJECTION <del>INTERSECTIONS</del> PLOTTED		EDAT-AMC	
D. <del>POINTS OF</del> ELECTRONIC CONTROL ARCS PLOTTED		EDAT-AMC	
E. OVERLAYS PREPARED BY			
1. POSITION NUMBER		EDAT-AMC	
2. EXCESS SOUNDINGS		EDAT-AMC	
3. PRELIMINARY SMOOTH PLOT		EDAT-AMC	
4. LIST OTHERS			
A.			
B.			
F. SOUNDING SELECTION BY			
G. PLOTTER INPUT	PREPARED		
H.	CHECKED		
I. DESCRIPTIVE REPORT ADDENDUMS			
PART II SMOOTH SHEET COMPLETION		CARTOGRAPHER	DATE
A. DISTORTION SCALE TICKS IDENTIFIED BY NOTE			
B. PROJECTION <del>INTERSECTIONS</del> VERIFIED BY		BTD	6/14/73
C. PROJECTION LINES RULED BY		EDAT-AMC	
D. ELECTRONIC CONTROL ARCS <del>RULED AND</del> LOCATION VERIFIED		BTD	6/15/73
E. OVERLAYS COMPLETED BY			
1. POSITION NUMBER LEADERS ADDED		BTD	6/21/73
2. EXCESS SOUNDING OVERLAY COMPARED		BTD	6/21/73
3. PRELIMINARY SMOOTH PLOTS COMPARED		BTD	6/22/73
4. OTHERS UTILIZED			
A.			
B.			
F. DESCRIPTIVE REPORT ADDENDUM		WLJ	
G. CONTROL STATIONS VERIFIED		BTD	6/20/73
H. POSITIONS MANUALLY PLOTTED			
I. MANUAL PLOT VERIFIED			
J. SHORELINE APPLIED			
K. BOTTOM CHARACTERISTICS ADDED		BTD	6/19/73
L. NOTES AND DEPTH CURVES ADDED		BTD	6/20/73

VERIFICATION NOTES  
SURVEY H-9367 (1973)

43

GENERAL

This appears to be an excellent basic survey. Soundings are in good agreement at crossings in a bottom containing scarps and many minor irregularities, mainly in the shoaler areas of the survey. The few problems experienced during verification and the methods used to resolve them are listed in the enclosed "plotter notes".

At present, a program is not available for plotting excess sounding overlays when the orientation of the soundings is changed, or when decimal fractions of fathoms are plotted. For this reason, the soundings were excessed manually and the excess sounding overlay was plotted from cards punched during verification.

*William L. Jonns*

William L. Jonns  
Acting Chief,  
Verification Br., AMC

Norfolk, Va,  
July 16, 1973

ATLANTIC MARINE CENTER  
APPROVAL SHEET  
FOR  
AUTOMATED SURVEY H- 9367



A. All revisions and additions made on the smooth sheet during verification have been entered in the magnetic tape records for this survey. A new final position printout has/~~has~~ not been made. A new final sounding printout has/~~has~~ not been made.

Date: July 5, 1973

Signed: W.D. Jones Acting

Title: Chief, Verification Branch

B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic and AMC Manuals. Exceptions are listed in the verifier's report.

Date: 5 July, 1973

Signed: Audrey R. Bass

Title: <sup>Acting</sup> Chief, Processing Division

VERIFICATION BRANCH  
PLOTTER NOTE TO EDP(AMC)SURVEY H-9367, (MI 80-1-73)  
(1973)

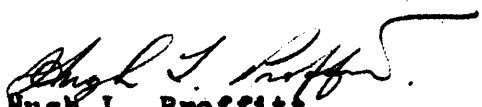
This Branch has completed the verification of the position overlay. Changes needed are listed below and are also marked in the printout in red pencil.

The following records should be deleted as they were rejected by the field. Records numbered 1, 23 thru 32, 2569 thru 2579, 3377 thru 3378 and 5223 thru 5234.

Two positions were numbered 90 - change one to 91.

After the above changes have been made, please furnish a sound-over on a 36" by 60" Mylar sheet. Following the sounding edit, depths on the sounding plot and on the excess overlay should be plotted at 45 degrees from the vertical to allow room for the decimal fathoms.

Decimal fathoms should be plotted to tenths to 31 fathoms, to halves to 101, and to integral fathoms to greater depths.

  
Hugh L. Proffitt  
Chief, Ver. Br., AMC

VERIFIER: B.J. Stephenson

Norfolk, Va. 46  
May 9, 1973

VERIFICATION NOTE TO EDP (AMC)  
SURVEY H-9367 (Mi 80-1-73)  
(1973)

On the original preliminary sounding plots for this survey approximately 50% of the soundings were placed in excess. New plots are needed to obtain better spacing on the sounding overlay.


A study of the original sounding overlays indicates all soundings will plot clearly and without overlap, except for those on cross-lines and on the patches of development. With a separate unedited plot of the soundings on the main scheme lines, and another unedited plot of those on the cross and development lines the edit can be done during the verification process.

Briefly, preliminary sounding overlays are requested as follows:

1. An unedited sounding overlay showing all depths on the main scheme lines. The soundings should be printed at 45 degrees, with decimal fractions plotted to tenth units to 31 fathoms, to half units to 101 fathoms, and to whole units at greater depths.
2. An unedited sounding overlay, with the same depth characteristics, for the records listed below. They comprise all records on the cross and development lines.

7183	thru	8127
9789	"	9806
9946	"	10267
15621	"	16232

3. A new sounding printout. ✓

  
Hugh L. Proffitt  
Chief, Verification Br., AMC

Verifier: Billy J. Stephenson

Norfolk, Virginia  
4 June 1973

Verification Note to EDP(AMC)  
Survey H-9367 (MI 80-1-73)  
↑  
(1973)

The personnel of this office have completed the verification of the preliminary overlay. The overlay was hand edited and there were approx. 2400 edit changes. Along with the edit changes there were approx. 100 sounding changes. Cards have been punched for these changes and the changes made in the printout in purple pencil. When the changes have been made please furnish this office with a smooth sheet, a new excess sheet and a final position overlay. Plot all sounding at 45 degrees. Plot Hi Fix Station Flagler R.M. 4, 1966 at Lat: 29°-29'18.733"N., Long: 81°-07'55.204"W.

*Billy J. Stephenson*  
Billy J. Stephenson  
Verification Group

OFFICE OF MARINE SURVEYS AND MAPS

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY BRANCH

REGISTRY NO. H-9367

FIELD NO. MI-80-1-73

AREA: Florida, Offshore Florida East Coast, Off St. Augustine

SURVEYED: February 21 - March 24, 1973

SCALE: 1:80,000

PROJECT NO: OPR-436

SOUNDINGS: Ross Digital Depth Recorder

CONTROL: Hi-Fix (Range-Range)

Chief of Party.....	R. M. Buffington
Surveyed By.....	W. E. George
.....	R. D. Taylor
.....	A. J. Pickrell
.....	K. F. Freese
.....	M. C. Myer
.....	D. L. Stockwell
Protracted By.....	AMC - CALCOMP 618 Plotter
Soundings Plotted By.....	AMC - CALCOMP 618 Plotter
Verified and Inked By.....	B. T. Davis
Reviewed By.....	D. J. Romesburg
.....	Date: October 26, 1973
Inspected By.....	R. H. Carstens

1. Description of the Area

This survey covers an irregular shaped area off St. Augustine, Florida, Survey limits extend from the 10-fathom curve on the west to the edge of the continental shelf or 100-fathom curve on the east.

The predominately sand and shell covered smooth bottom is broken by sand ridges between the 10 and 20-fathom curves. It slopes moderately between the 20 and 30-fathom curves and somewhat abruptly from the 30 to 100-fathom curves. There are numerous depressions and small ridges and mounds of sand in the eastern portion of the survey area. These sand ridges and mounds are generally 1 to 1½ fathoms shoaler than surrounding depths. Also there appears to be a small escarpment or fault situated along the 30-fathom curve and is most pronounced from Lat. 29° 50' northward to Lat. 30° 01'. Associated with a sharp drop of approximately 5 fathoms along the escarpment are isolated ridges which were probably more resistant than the adjoining materials when exposed to the



erosive forces of the Gulf Stream or to earlier wave erosion when the sea level was lower than its present position.

## 2. Control and Shoreline

The origin of the control is given in the Descriptive Report.

This is an offshore survey and no shoreline is shown.

## 3. Hydrography

A. Depths at crossings are in good agreement.

B. The usual depth curves were adequately delineated. Several dashed and brown curves were added to emphasize certain important bottom features. The non-standard 15.7-fathom depth curve was inked in brown to depict the general northeast-southwest orientation of some sand ridges located between the 10 and 20-fathom curves.

C. The development of the bottom configuration is adequate. However, because of the irregularities on the inshore portion of the survey in the vicinity of the 10-fathom curve, development in this area at a larger scale would have been more effective.

## 4. Condition of the Survey

The survey records, automated plotting, and Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual and the Instruction Manual for Automated Hydrographic Surveys except as follows:

A. The fathogram for Julian Day 82, position 1950-2100 is missing. Hydrography on this day included the development of the isolated ridges along the 30-fathom curve.

B. According to the Descriptive Report, page 2, paragraph D, the transducer on the Mt. Mitchell is located on the ship's skeg, 107.6 feet aft of the Hi-Fix antenna. In this case, all soundings on the survey are misplotted by as much as  $\pm .35$  of a lane depending on the ship's heading. A correction to adjust for this positioning error may not be significant at smaller scales but may have to be considered on larger scale surveying operations.

C. This survey was the first one reviewed having the tide reducers for soundings determined by an automated program utilizing nondiscrete multiple gage zoning. The

Chief, Tides Branch, reports that a comparison of reducers determined by the automated program with reducers determined by conventional methods revealed agreement to be generally within  $\pm 0.2$  fm. This agreement is considered to be adequate for sounding on offshore sheets plotted in fathoms in depths greater than 11 fathoms. On the present survey, soundings at crossings were considered to be in good to excellent agreement and junctional depths were in adequate agreement with surveys of seven years ago.

However, for soundings expressed in feet the 0.2 fm. would represent 1.2 feet which would be excessive as an acceptable error particularly in depths less than 11 fathoms. It would appear that additional testing of this method should be accomplished in areas where soundings are in feet and where larger differences in the ranges and times of tide among multiple gages would occur.

D. The overall quality control on this survey is considered very good. However, a lack of an excess program for canted soundings and soundings with fractions necessitated manual excessing by the smooth plotter.

Areas in depths less than 11 fms. were surveyed at a line spacing of 400 meters which is considered too great to satisfy requirements for least depth determination. Several shoaler soundings from prior surveys consequently have been carried forward.

E. Distortion points were not plotted on the smooth sheet.

5. Junctions

An adequate junction was effected with H-8879 (1966) and H-8937 (1966) on the southeast and south central part of the survey respectively.

At this time no contemporary surveys have been received on the west, north and east. However, present survey depths agree adequately with those charted in these areas.

6. Comparison with Prior Surveys

H-768	1:500,000	1860	Reconnaissance
H-770	1:400,000	1860	Reconnaissance
H-1266	1:40,000	1875	
H-3223	1:400,000	1911	Trackline
H-3549	1:400,000	1910-13	Trackline
H-3964	1:60,000	1917	
H-3965	1:80,000	1917	
H-4300	1:100,000	1923	
H-4434	1:100,000	1924	
H-4451	1:500,000	1925	
H-4803	1:120,000	1928	

These surveys taken together cover the area of the present survey. A comparison between the prior surveys and the present survey reveals only minor differences. Slight curve displacement and bottom configuration changes are evident. Such changes are considered to result from natural causes as the shifting of bottom materials by Gulf Stream currents and numerous storms that have occurred in this area over the years.

Survey depths differed by 1-2 fathoms and less between the 10 and 30-fathom curve. In the greater depths sounding differences increased to 5-25 fathoms and greater. These sounding discrepancies can probably be attributed to the less reliable positioning methods of dead reckoning and astronomical observations employed on the earlier surveys versus the more accurate Hi-Fix control used today. In addition earlier soundings were recorded using wire soundings, leadline and rudimentary fathometers as against recordings by the modern fathometer on the present survey.

With several soundings carried forward from the prior surveys on the features within the 10-fathom curve, the present survey is adequate to supersede the prior surveys within the common area.

7. Comparison with Charts 1243 10th Ed., Jan. 27, 1973  
Chart 1244 6th Ed., Aug. 4, 1973  
Chart 1111 16th Ed., Dec. 2, 1972

A. Hydrography

The charted hydrography originates with the previously discussed prior surveys which require no further consideration. Several soundings along the southern limits of the survey originate with junctional survey H-8879 (1966) and H-8937 (1966).

Attention is directed to the following:

(1) Five soundings from prior surveys, which were shown on the bromide copy of the boat sheet (Bp. 70231) of junctional survey H-8937 (1966) and intended for field use only, were erroneously applied to Chart 1244. They were shown on the boat sheet in integral fathoms and converted to feet for charting. Fractions of fathoms were not considered in the conversion thus introducing errors of as much as four feet.

(2) The 60-ft. sounding and 63-ft. sounding charted in Lat.  $29^{\circ}52'$ , Long.  $80^{\circ}52.7'$  and Lat.  $29^{\circ}49.8'$ , Long.  $80^{\circ}53.1'$  respectively originate with Chart Letter 895 of 1973 subsequent to the date of the present survey and should be retained on the chart.

(3) Pre-survey Review Item #1, the two 60-fathom soundings in Lat.  $29^{\circ}44.1'$ , Long.  $80^{\circ}12.2'$  and Lat.  $29^{\circ}50'$ , Long.  $89^{\circ}10.2'$  originates with a U.S. Navy survey (Bp. 35958) dated 1942. These soundings were investigated with negative results. It is believed that their true positions fall 2-4 miles westward in comparable depths and they should be deleted from the chart.

(4) Pre-survey Review Item #2, the 90-fathom sounding charted in Lat.  $29^{\circ}56.3'$ , Long.  $80^{\circ}11.9'$  originates with H-4551 (1925). Present survey development does not cover the position of this item. However, it is noted in the Descriptive Report, page 10 that this sounding was investigated on the uncompleted junctional survey H-9373 (1973) and no trace of it was found. It is recommended that the 90-fathom sounding remain charted until the review of H-9373 (1973).

Except as noted above the present survey is adequate to supersede the charted information in the common area.

B. Aids to Navigation

There are no aids to navigation within the area of the present survey.

8. Compliance with Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work

This survey is considered to be a very good basic survey. However, at an opportune time it would be desirable to split the 400 meter sounding lines for the development of least depths in depths less than 11 fms.

Examined and Approved:

John D. Boyer  
Chief,  
Marine Chart Division

Robert C. Munson  
Associate Director,  
Office of Marine Surveys and Maps

Information for Future Pre-survey Review

The isolated ridges along the 30-fathom curve mentioned in Paragraph 1 of this review may warrant extra development on a future survey of this area.

<u>Position Index</u> <u>(Lat.) (Long.)</u>	<u>Bottom</u> <u>Change Index</u>	<u>Use Index</u>	<u>Resurvey Cycle</u>
294 0811	3	2	50
295 0811	3	2	50
300 0811	3	2	50
294 0810	3	2	50
295 0810	3	2	50
300 0810	3	2	50
295 0805	3	2	50
300 0805	3	2	50
295 0804	2	2	50
300 0804	2	2	50
292 0803	2	2	50
293 0803	1	2	50
294 0803	1	2	50
295 0803	1	2	50
300 0803	0	2	50
292 0802	0	2	50
293 0802	0	2	50
294 0802	0	2	50
295 0802	0	2	50
300 0802	0	2	50

Reg. No. 9367

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey, the following shall be completed:

CARDS CORRECTED

DATE 9-30-82 TIME REQ'D \_\_\_\_\_ INITIALS JAC

REMARKS:

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. M-9367

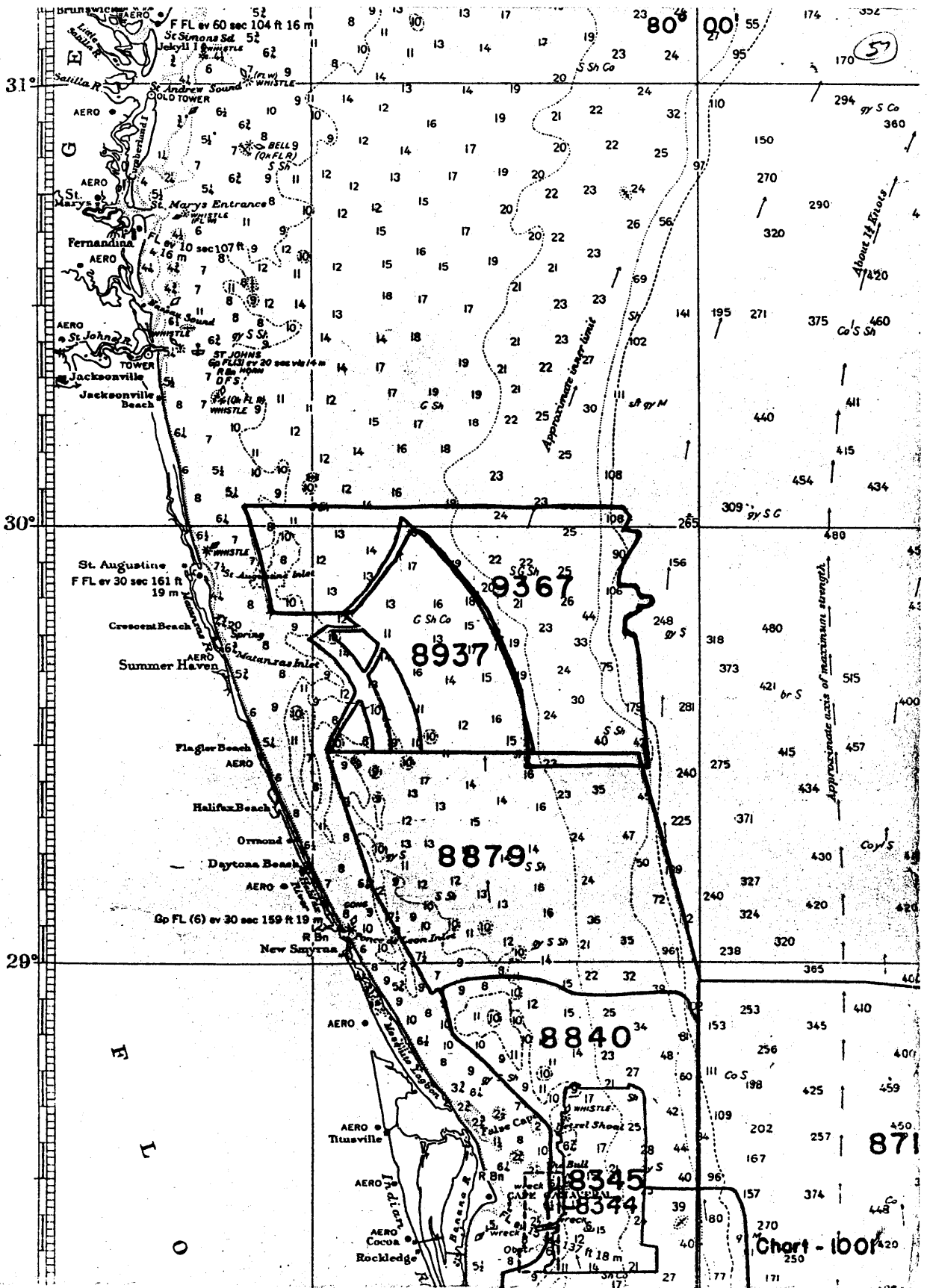
INSTRUCTIONS

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
1243	1/11/74	N. Banks	<del>Full Part Before</del> After Verification Review Inspection Signed Via Drawing No. <i>chge 60' curves; added shoal, 3 sdgs consisted critical</i>
1244	1/11/74	N. Banks	<del>Full Part Before</del> After Verification Review Inspection Signed Via Drawing No. <i>chge 60' curve, added shoal sdgs consisted critical</i>
1111	1/14/74	N. Banks	<del>Full Part Before</del> After Verification Review Inspection Signed Via Drawing No. <i>Applied chges thru chs 1243 + 1244 also chged 100 fm thru hydro sheet.</i>
1001	1/14/74	N. Banks	<del>Full Part Before</del> After Verification Review Inspection Signed Via Drawing No. <i>Applied chges thru chs 1111</i>
1007	1/14/74	N. Banks	<del>Full Part Before</del> After Verification Review Inspection Signed Via Drawing No. <i>Applied chges thru chs 1001</i>
1111	4/26/74 4/27/74	J. Sherman R.O. Lillis	Full <del>Part Before</del> After Verification Review Inspection Signed Via Drawing No. <i>Consider fully appl'd thru 1243, 1244 and directly.</i>
1244	4/27/74	R.O. Lillis	Full <del>Part Before</del> After Verification Review Inspection Signed Via Drawing No.
<del>1243</del>			
1243	4/27/74	R.O. Lillis	Full <del>Part Before</del> After Verification Review Inspection Signed Via Drawing No.
1001	5/14/74	R.O. Lillis	Full <del>Part Before</del> After Verification Review Inspection Signed Via Drawing No.
1002	6-5-74	Norman Banks	Full <del>Part Before</del> After Verification Review Inspection Signed Via Drawing No.
1007	3/26/75	N. Banks	<i>full after Verif. Review Insp. Aug 51 thru chart 1001</i>





57

170

294

360

150

270

320

290

375

460

411

415

454

434

480

45

43

400

457

434

318

480

373

421

br S

515

400

415

457

434

275

371

430

Co's

430

327

240

324

420

420

238

320

365

400

253

345

410

256

400

198

425

459

202

257

450

871

167

374

448

Co

157

374

270

420

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

250

171

277

171

H9367

81°00'

80°30'

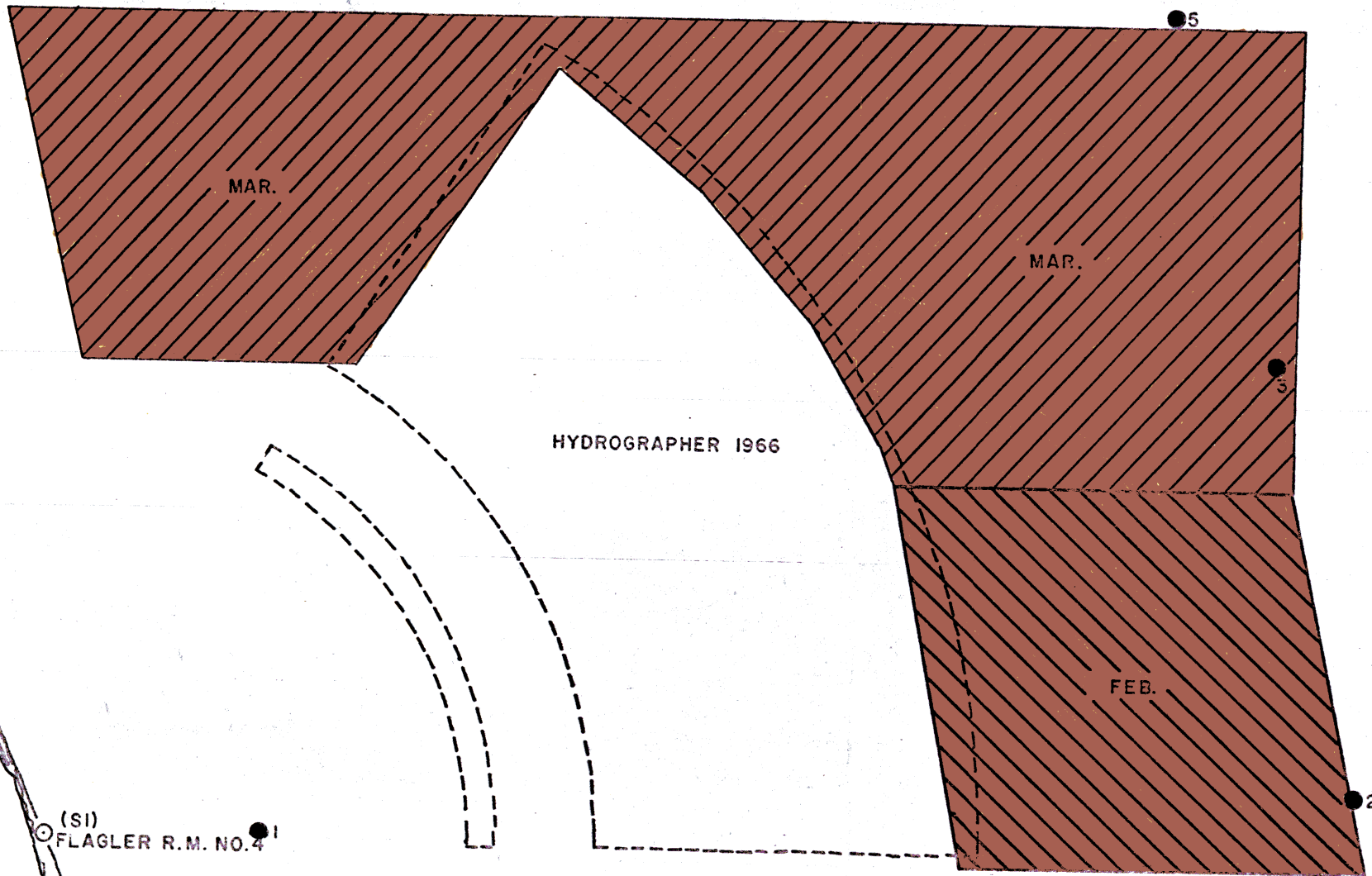
80°00'

(28)

MI-80-1-73 H-9367

30°00'

29°30'



PROGRESS SKETCH  
 OPR-436-MI-73  
 SOUTHEAST ATLANTIC COAST  
 HYDROGRAPHIC OPERATIONS  
 FEB.- 1973  
 NOAA SHIP MT MITCHELL (MSS-22)  
 RONALD M. BUFFINGTON, CDR, NOAA, COM'D'G  
 SCALE OF NOS CHART NO. 1111

FEB.	MAR.	LEGEND
556	2648	L.N.M.-SOUNDING LINE
47	572	L.N.M.-MISC. DISTANCE
281	349	L.N.M.-DISTANCE TO & FROM
223	593	SQ.N.M.-AREA SOUNDED
0	32	BOTTOM SAMPLES
2	0	STDV CAST
0	3	NANSEN BOTTLE CAST
2	27	WATER SAMPLES ANALYZED
1	2	XBT OBSERVATION