

9457

Car

Diag. Cht. No. 1213-2

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-20-1-74 Office No. H-9457

LOCALITY

State FLORIDA

General locality ~~INSHORE~~ EAST COAST

Locality AMELIA ISLAND

19 74

CHIEF OF PARTY

Ronald M. Buffington, Commander, NOAA

LIBRARY & ARCHIVES

DATE _____

USCOMM-DC 87022-P66

9457

Area 3

coll

1243

1111

8415c A & B

569NC

1

HYDROGRAPHIC TITLE SHEET

H-9457

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-20-1-74

State FloridaGeneral locality Inshore East CoastLocality Amelia IslandScale 1 : 20,000Date of survey 7-28-74 to 8-20-74Instructions dated 10-24-73Project No. OPR-436-MI-74Vessel NOAA Ship MT MITCHELL MSS-22 Launches MI-4 & MI-5Chief of party Ronald M. Buffington, Commander, NOAA, Commanding OfficerSurveyed by See Remarks:Soundings taken by echo sounder, ~~handstamped~~ DE-723BGraphic record scaled by Ship's PersonnelGraphic record checked by R.G. Roberson (AMC)Protracted by AMC-Calcomp 618 PlotterAutomated plot by AMC-Calcomp 618 PlotterSoundings ^{verified} penciled by R.G. Roberson (AMC)Soundings in ~~XXXXXX~~ feet at MLW ~~XXXXXX~~REMARKS: CDR Richard J. DrRycke, LT Martin R. MulhernLTJG Paul B. Loiseau, LTJG Robert J. PawlowskiENS David Pasciuti, ENS Dennis M. KuhlENS Thomas G. Russel, ENS Karen L. O'DonnellENS Michael E. Ziolko, ENS Evelyn J. FieldsENS Richard E. Marriner, IIApplied to stds 11/19/76
Notes in red by R.G. Roberson

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✓ = Items filed in cahier with field records

DESCRIPTIVE REPORT

To Accompany

HYDROGRAPHIC SURVEY MI-20-1-74

Registry Number H-9457

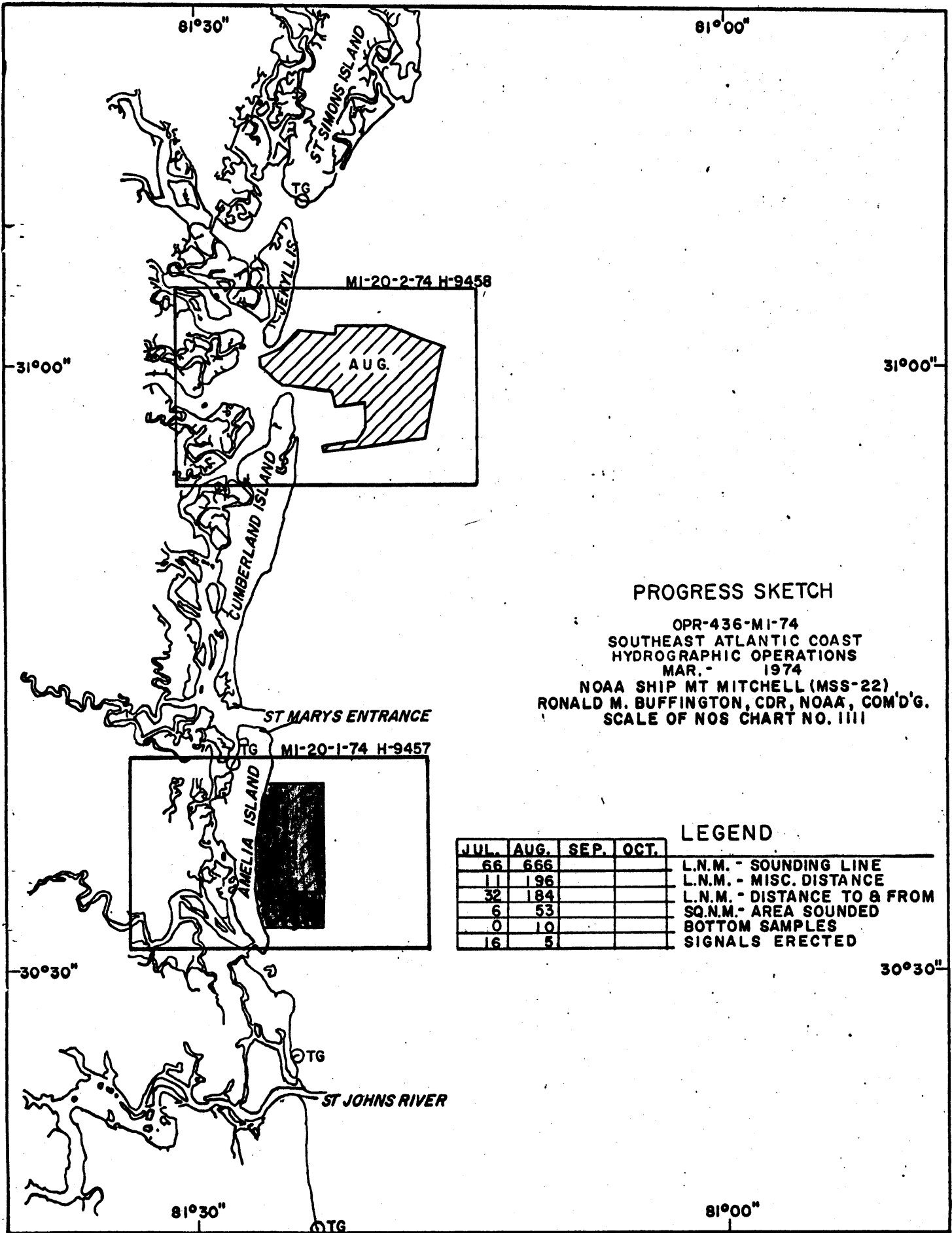
OPR-436-MI-74

Coast of Florida, Amelia Island

1974 FIELD SEASON

NOAA Ship MT MITCHELL MSS-22

Ronald M. Buffington
Commander, NOAA
Commanding Officer



PROGRESS SKETCH

OPR-436-MI-74
 SOUTHEAST ATLANTIC COAST
 HYDROGRAPHIC OPERATIONS
 MAR. - 1974
 NOAA SHIP MT MITCHELL (MSS-22)
 RONALD M. BUFFINGTON, CDR, NOAA, COM'D'G.
 SCALE OF NOS CHART NO. 1111

LEGEND

JUL.	AUG.	SEP.	OCT.
66	666		
11	196		
32	184		
6	53		
0	10		
16	5		

L.N.M. - SOUNDING LINE
 L.N.M. - MISC. DISTANCE
 L.N.M. - DISTANCE TO & FROM
 SQ.N.M. - AREA SOUNDED
 BOTTOM SAMPLES
 SIGNALS ERECTED

A. Project

This survey was an inshore portion of OPR-436-MI-74, Southeast Atlantic Coast, and Project SCOPE, Southern Coastal Plains Expedition, and was conducted in accordance with SCOPE guidelines and project instructions dated 24 October 1973 as amended by Change 1, dated 6 December 1973; Change 2, dated 8 February 1974; Change 3, dated 12 April 1974; and Change 4, dated 8 July 1974. The registry number is H-9457.

B. Area Surveyed

This survey was conducted East of Amelia Island, Florida, from the mean low water line to Longitude 81° 23' 15" W. The northern limit was Latitude 30° 38' 24" N, and the southern Latitude 30° 32' 18" N. These limits were based on junctions with hydrographic surveys H-8179 (1955), northern junction; H-8108 (1953-54), southern junction; and H-9428 (1974), eastern junction. The offshore limit from 30° 34' 42" N to 30° 32' 24" N does not junction with a contemporary survey. Work began on 28 July 1974 and completed on 20 August 1974.

junctions with H-9474 (1974)

C. Sounding Vessels

All soundings were obtained by two Pacific Plastics' Launches (Plastic Pigs), #1204 (2225) and #1205 (2224). Data was logged and recorded on the launches, with final processing completed on the MT MITCHELL.

D. Sounding Equipment

The two launches included the following sounding equipment:

<u>Equipment</u>	<u>MI-4 (2224)</u>	<u>MI-5 (2225)</u>
Raytheon DE-723 Survey Fathometer	Type B #1280	Type B #1285
Decca Sea-Fix Receiver Type 9435	#002	#008
Panalogic Navigation Interface	PMC#6	PMC#5
Epsco Strip Chart Recorder		
Climatronics Model DL-10 Logger and Teletype	# 9	# 7

The initial was set at zero on all echo sounders. Initial drift was reset to zero. Any variance from zero was applied when the graphic records were scanned.

The following checks were made frequently on the Raytheon Fathometers: A-F Scale Check (with fine arc), Speed Count, MRV, Initial and Paper Alignment. Corrections were applied as necessary. The graphic records were scanned and checked by trained personnel, with additional spot checks for errors by the Officer-in-Charge of the particular launch. These checks insured that the data was correctly interpreted in accordance with Paragraphs 1-34, 5-121 and 5-122 of the Hydrographic Manual (20-2). Velocity corrections and instrument error for the launches were determined by bar checks and leadline comparisons. These were taken at least once per day if weather and sea condition permitted. An abstract of velocity corrections is included in this report.

Settlement and Squat data for both launches was collected on 19 August 1974. An abstract of this data is included in this report.

E. Boat Sheet and Smooth Sheet

The smooth sheet will be prepared by the Atlantic Marine Center, Norfolk, Virginia. The following tapes were supplied to them, along with printouts:

1. Hyper-Visual Master Tapes (Launch 2224)
2. Hyper-Visual Corrector Tapes
3. Visual Master Tapes (Launch 2225)
4. Visual Corrector Tapes
5. Velocity Correction Tapes
6. TC/TI Tapes
7. ASCII Signal Tapes
8. Computer Parameter Tapes

All data was originally recorded manually on line in logger format, and was later edited and converted off line to the appropriate hydroplot master tape format using program RK337. Printouts of the original logger format records are forwarded as well as listings of the hydroplot format master tapes.

This was the first survey to utilize the revised format hydroplot programs. The principal programs utilized and their respective version dates were:

- RK337 Unscrambler 8/8/74
- RK212 Visual Station Table Load and Plot 4/1/74
- RK213 Hypervisual Position and Sounding Plot 5/3/74
- RK215 Visual Position and Sounding Plot 5/3/74
- AM201 Grid and H/R Lattice Plot 11/10/72
- PM360 Electronic Corrector Abstract 3/21/74

F. Control

Control for this survey involved Hyper-Visual for 2224 and Visual, with a hyperbolic steering arc, for 2225. The electronic control was Hyperbolic Sea-Fix, at a frequency of 1618.650 KHz. The electronic control stations were as follows:

MASTER, SIMON 1974	Latitude 31° 08' 27.120" N Longitude 81° 22' 33.110" W
SLAVE 1, MAYPORT 1973	Latitude 30° 23' 40.366" N Longitude 81° 23' 41.056" W
SLAVE 2, RADD 2 1974	Latitude 32° 01' 12.300" N Longitude 80° 50' 35.220" W

Pattern 1 was the primary survey line arc, with Pattern 2 findings use in crosslines.

The visual control and Sea-Fix calibrations were from stations located by at least third order methods on Amelia Island. Signals 005-111 were traverse stations established by Photo Party 62 on traverse Ferna-Melia, 1974. Signals 210-290 are published triangulation stations. Signal list for programs RK 212-215 and RK 561 are included in this report.

Calibrations for the Sea-Fix pattern were taken from the mean of the daily calibrations, using three point visual fixes, with a check angle. A sawtooth strip chart was maintained on launch 2224 to monitor lane count while surveying. This was scanned for lane jumps while surveying and appropriate corrections applied.

For further information on Sea-Fix related control, refer to Electronic Control Report, MI-20-1-74.

G. Shoreline

Shoreline was established by three point sextant fixes, with check angles from the established signals, during a period of mean low water. Position data applied was #6000-6017. Two sounding lines were run at high water to develop the surf zone. Positions used were #512-544, #5399-5409, and #5411-5424. TP-00658 was used for shoreline.

H. Crosslines

Crosslines were run (5.2% of the sounding lines) using Pattern 2 arcs for control. Comparison was good, with soundings rarely exceeding 1 ft difference from the regular sounding line.

Pattern two was used as a reference for steering only. The control recorded was the same as for the remainder of the survey.

I. Junctions

This survey junctions with H-8179 (1955), 1 : 10,000, to the north. Junction is good, generally within one foot after velocity corrections are applied. This survey junctions with H-8108, (1953-54), 1 : 10,000, to the south. Junction is good, generally within one foot. A small shoal area, from 30° 32.5' N to 30° 32.6' N, along 81° 23.5' W, apparently has shifted to the south, giving a consistent two to three foot difference.

This survey junctions with H-9428 (1974), 1 : 40,000 to the east. Junction is good, generally within one foot. A series of 38 foot depths between 30° 36.3' and 30° 37.0' N, along 81° 23.5' W, does not junction with the 33 to 35 foot depths found in this survey.

J. Comparison with Prior Surveys

This area was previously surveyed by H-4376 (1924), 1 : 20,000, and H-3770 (1915), 1 : 80,000. Junction with these surveys is good, generally within one to two feet.

K. Comparison with Charts

This survey area occurs on NOS Charts: #11009 (1001), #11480 (1111), #11488 (1243), and #11489 (841-SC). No comparison can be made with #11009, due to chart scale, showing this area only as a blue tint. Junction with #11480 was good, when depths were computed from feet to fathoms, for comparison. Comparison with #11488 was generally good, within one to two feet. A charted sounding of 21 feet, at 30° 37.0' N, 81° 24.7' W was not found, with the shoalest depth being 27 feet.

A charted sounding of 22 feet, at 30° 36.6' N, 81° 25.0' W was not found, with 25 feet as the shoalest depth. A charted sounding of 19 feet, at 30° 36.7' N, 81° 25.6' W, was not found, with 23 feet as the shoalest depth.

A pre-survey review sounding of 25 feet, at 30° 35.3' N, 81° 23.8' W, was not found. The bottom is smooth in this area, with shoalest depth being 31 feet. ~~Posn 675-676, 5431-5432. Recommended deletion not sufficiently developed to improve.~~

A pre-survey review sounding of 26 feet, at 30° 34.9' N, 81° 23.7' W, was not found. However, 0.1 mile south, a shoal of 27 feet does exist. ~~Posn 742-743. Posn 286. Recommended deletion.~~ 26-28

A pre-survey review sounding of 25 feet, at 30° 34.4' N, 81° 24.1' W was not found. The bottom is smooth in this area, with shoalest depth being 31 feet. ~~Posn 648-649. 28' sounding between posn 5431-5432. Recommended deletion.~~ 29

Chart #11489, also showed a good comparison, with soundings generally within one to two feet. The same corrections, as for #11488, apply to this chart.

A pre-survey review sounding of 18 feet, at 30° 37.3' N, 81° 25.9' W, was not found. The bottom is smooth in this area, with shoalest depth being 21 feet. ~~Posn 5125. Recommended 18' sounding be deleted from chart. As this area appears to be a large shoal area on the chart.~~

Changeable area - Disregard recommendations. See Quality Control Report - item 8

L. Adequacy of the Survey

This survey is complete and adequate to supersede all previous surveys.

M. Aids to Navigation

There were no aids to navigation within the survey area.

N. Statistics

	2224	2225	TOTAL
Linear Nautical Miles, Sounding Lines	118	179.2	297.2
Square Nautical Miles Area Surveyed			17.90
Number of Positions	521	865	1386
Number of Bottom Samples	6	4	10
Linear Nautical Miles Crossline (5.2%)	5.5	9.8	15.3

O. Miscellaneous

The fishing pier at Fernandina Beach was located by a three point sextant fix, with a check angle, from the offshore center (Position #6014). Several broken pilings which were apparently support for a destroyed section of the pier extend for approximately 20 yards offshore from the pier end. Further development of this pier is not necessary, due to the nature of its usage.

Due to the depth of the water, the area is out of normal shipping lanes. Many shrimp boats have been observed working in this area.

Sounding volumes labelled "Hydrographic Operations Log" (4Volumes) were used by both launches to record pertinent data for this survey. The boat-sheet comprises one Roll Plotter (Complot) sheet.

A mylar sheet, covering the area surveyed, containing prior junction soundings, prior survey soundings, and pre-survey review items is forwarded as part of the records.

P. Recommendations

None.

Q. Reference to Reports

For complete evaluation of this survey, reference should be given to the following reports:

Report on Corrections to Echo Soundings, MI-20-1-74, H-9457
Report on Electronic Control, MI-20-1-74, H-9457

Respectfully submitted,



Robert J. Pawlowski
LTJG, NOAA

1/31/74

ATLANTIC MARINE CENTER

PROJECTION PARAMETERS

POLYCONIC OR MODIFIED TRANSVERSE MERCATOR

- 1. Project No. OPR-436 4. Requested By Verification
- 2. Reg. No. H-9457 5. Ship or Office. _____
- 3. Field No. MI-20-1-74 6. Date Required _____

7. Polyconic Modified Transverse Mercator

8. Central Meridian of Projection 81 ° 25 ' 00 "

9. Survey Scale: 1: 20,000

10. Size of Sheet (check one):

36 x 54 36 x 60 Other Specify 36 X 36

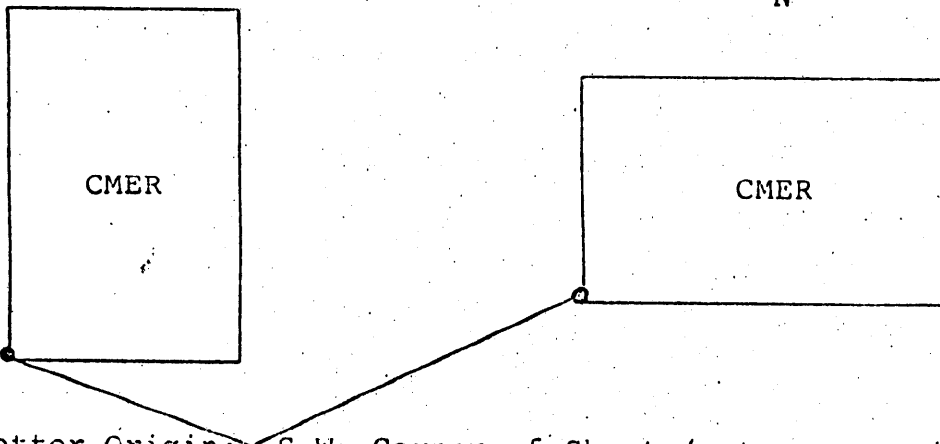
11. Sheet Orientation (check one):

NYX = 1

NYX = 0

N

N



12. Plotter Origin: S.W. Corner of Sheet (not necessarily a grid intersection)

Latitude 30 ° 29 ' 55 "

Longitude 81 ° 28 ' 55 "

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

14. Material Desired: Tracing Paper Mylar

Smooth Sheet Other Specify _____

15. Remarks: _____

Atlantic Marine Center

Electronic Control Parameters

Project OPR-436-MI-74 Reg. No. H-9457 Field No. MI-29-1-74

Type of Control Sea-Fix (Sea-Fix, Hi-Fix, Raydist, etc.)

Frequency 1618.650 KHz (for conversion of lanes to meters)

Mode of Operation (check one)

Range-Range

Range-Visual

Range One (R1)	Lat. _____° _____'	_____ "N.
Station I.D. _____	Long. _____° _____'	_____ "W.
Range Two (R2)	Lat. _____° _____'	_____ "N.
Station I.D. _____	Long. _____° _____'	_____ "W.

Hyperbolic (3-station)

Hyper-Visual

Slave One	Lat. 30° 23' 40.366 "N.
Station I.D. <u>Mayport, 1973</u>	Long. 81° 23' 41.056 "W.
Master	Lat. 31° 08' 27.120 "N.
Station I.D. <u>Simon, 1974</u>	Long. 81° 22' 33.110 "W.
Slave Two	Lat. 32° 01' 12.300 "N.
Station I.D. <u>RADD 2, 1974</u>	Long. 81° 50' 35.220 "W.

Location of Survey:

Range-Range

Imagine an observer is standing at R1 station and looking directly at R2 (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

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.

More than one set of stations used to control hydrography on this boat sheet: Yes No (If Yes: See additional copy of this form)

From: T:175700 Jul. Day 210 to T:142130 Jul. Day 233

Remarks: _____

AMELIA ISLAND SIGNAL LIST

MI-20-1-74, RK-561

005	30 38' 1251"	081°26' 1246"
006	30 37 1613	081 26 2421
007	30 36 2615	081 26 3173
008	30 35 3355	081 26 3702
009	30 34 4340	081 26 3853
010	30 33 4781	081 26 3710
011	30 32 5861	081 26 3135
012	30 31 2864	081 26 0768
041	30 38 3776	081 26 0708
051	30 37 4671	081 26 1727
061	30 36 5285	081 26 2784
066	30 37 1591	081 26 2238
071	30 35 5884	081 26 3544
081	30 35 0951	081 26 3817
091	30 34 1718	081 26 3866
101	30 33 2423	081 26 3512
111	30 32 0991	081 26 4184 - incorrect G.P. See page 16 for correct position.
210	30 46 4316	081 28 0754 Δ
220	30 43 2945	081 32 5010
230	30 40 5548	081 27 2019
240	30 40 5405	081 27 2154

AMELIA ISLAND SIGNAL LIST

(CONT.)

250	30° 40' 5233"	081° 27' 2505"
260	30 40 2254	081 26 3360
263	30 40 1446	081 28 2019
265	30 40 1432	081 27 4209
270	30 39 4533	081 28 1569
280	30 39 4294	081 28 1909
290	30 39 4018	081 28 1995 Δ
310	30 23 4037	081 23 4106
320	31 08 2712	081 22 3311
330	32 01 1230	080 50 3522

AMELIA ISLAND SIGNAL LIST
MI-20-1-74, RK 212-215
ELECTRONIC CONTROL STATIONS

SLAVE 1, MAYPORT, 1973

310 1 30° 23' 40366" 081° 23' 41056" 000 0000 161865 kHz.

MASTER, SIMON, 1974

320 1 31 08 27120 081 22 33110 000 0000 161865

SLAVE 2, RADD 2, 1974

330 1 32 01 12300 080 50 35220 000 0000 161865

AMELIA ISLAND SIGNAL LIST

MI-20-1-74, RK 212-215

PUBLISHED TRIANGULATION STATIONS

GREYFIELD TANK, 1932

210 1 30° 46' 43.163" 081° 28' 07.540" 000 0000 000000

ST. MARY'S MUNICIPAL TANK, 1954

220 1 30 43 29447 081 32 50095 000 0000 000000

FERNANDINA, AMERICAN CONTAINER CORPORATION, NORTH STACK, 1954

230 1 30 40 55478 081 27 20190 000 0000 000000

FERNANDINA, AMERICAN CONTAINER CORPORATION, SOUTH STACK, 1954

240 1 30 40 54050 081 27 21544 000 0000 000000

FERNANDINA, AMERICAN CONTAINER CORPORATION, TANK, 1954

250 1 30 40 52326 081 27 25046 000 0000 000000

AMELIA ISLAND LIGHTHOUSE, 1905

260 1 30 40 22536 081 26 33600 000 0000 000000

FERNANDINA MUNICIPAL TANK, 1954

263 1 30 40 14456 081 28 20190 000 0000 000000

FERNANDINA, NASSAU COUNTY COURTHOUSE CUPOLA, 1932

265 1 30 40 14319 081 27 42091 000 0000 000000

FERNANDINA, RAYONIER CORP., MIDDLE SIZE TANK, 1954

270 1 30 39 45328 081 28 15689 000 0000 000000

FERNANDINA, RAYONIER CORP., STACK, 1954

280 1 30 39 42942 081 28 19091 000 0000 000000

FERNANDINA, RAYONIER CORP., TALLEST TANK, 1954

290 1 30 39 40176 081 28 19950 000 0000 000000

AMELIA ISLAND SIGNAL LIST

MI-20-1-74, RK 212-215

TRAVERSE STATIONS

9	041	1	30° 38'	37.757"	081°	26'	07.078"	000	0000	000000	FM-04AS	
1	005	1	30	38	12505	081	26	12455	000	0000	000000	FM-05S
10	051	1	30	37	46711	081	26	17269	000	0000	000000	FM-05AS
12	066	1	30	37	15905	081	26	22384	000	0000	000000	
2	006	1	30	37	16131	081	26	24210	000	0000	000000	FM-06S
11	061	1	30	36	52854	081	26	27838	000	0000	000000	FM-06AS
3	007	1	30	36	26147	081	26	31731	000	0000	000000	FM-07
13	071	1	30	35	58843	081	26	35443	000	0000	000000	FM-07AS
4	008	1	30	35	33549	081	26	37015	000	0000	000000	FM-08
14	081	1	30	35	09506	081	26	38174	000	0000	000000	FM-08AS
5	009	1	30	34	43399	081	26	38534	000	0000	000000	FM-09S
15	091	1	30	34	17176	081	26	38657	000	0000	000000	FM-09AS
6	010	1	30	33	47805	081	26	37101	000	0000	000000	FM-10S
16	101	1	30	33	24225	081	26	35122	000	0000	000000	FM-10AS
7	011	1	30	32	58610	081	26	31351	000	0000	000000	FM-11
17	111	1	30	32	09979	081	26	20417	000	0000	000000	
8	012	1	30	31	28641	081	26	07678	000	0000	000000	FM-12

2/7/75

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): Little Talbot Island, Florida

Period: July 29 - August 21, 1974

HYDROGRAPHIC SHEET; H-9457

OPR: 436

Locality: Off Coast of Northern Florida

Plane of reference (mean ~~lower~~ low water): 27.6 feet

Height of Mean High Water above Plane of Reference is 5.4 feet

Remarks: Recommended zoning:

Use Little Talbot Island applying a ratio of 1.06.

James R. Hubbard
for Chief, Tides Branch

includes draft
velocity & draft

VELOCITY TABLE TAPE LISTING

MI-20-1-74

000019 0 0008 0001 000 222400 009457

000056 0 0010

000095 0 0012

000135 0 0014

000183 0 0016

000231 0 0018

000318 0 0020

000410 0 0022

999999 0 0022

000041 0 0008 0002 000 222500 009457

000089 0 0010

000122 0 0012

000148 0 0014

000169 0 0016

000206 0 0018

000261 0 0020

000327 0 0022

000408 0 0024

999999 0 0024

000050 0 0000 0003 000 222700 009457

999999 0 0000

ABSTRACT OF SETTLEMENT AND SQUAT CORRECTORS

NOAA Ship MT MITCHELL MSS-22

19 August 1974

Launch MI-4 (NOAA 1205)

RPM'S	CORRECTOR
800	.10
900	.10
1000	.10
1100	.10
1200	.10
1300	.10
1400	.20
1500	.20
1600	.20
1700	.20
1800	.20
1900	.30
2000	.20
2100	.20
2200	.20

Launch MI-5 (NOAA 1204)

RPM'S	CORRECTOR
1100	.10
1200	.10
1300	.10
1400	.10
1500	.10
1600	.20
1700	.20
1800	.20
1900	.20
2000	.20
2100	.20
2200	.20
2300	.20
2400	.10

SETTLEMENT AND SQUAT TESTS

LAUNCHES MI-4 and MI-5, NOAA Ship MT MITCHELL

19 August 1974

Settlement and Squat tests for launches MI-4 and MI-5 (NOAA Launch 1204 and NOAA Launch 1205) were run in Terminal Channel on the St. Johns River off the U.S. Army Corps of Engineers Depot on 19 August. Approximate water depth in the area of the run was 22 feet. Correctors to be applied as settlement and squat were determined from readings taken with a Zeiss N-2 level, model #20606, S/N 142936. The level was positioned on the S.E. corner of the Corps of Engineers dock and was sighting on a Philadelphia leveling rod held in position on the centerline of each launch, immediately above the transducer.

Survey launches MI-4 and MI-5 are Pacific Plastics launches which carry, in addition to standard equipment, a D.E. 723 fathometer, teletype, panalogic and seafix receiver, data logger, and sawtooth recorder. For the tests, both launches carried the same crew (4 men) and miscellaneous equipment. Speeds chosen at which to run the settlement and squat tests were as follows: 1500 rpm's, the slowest speed at which data would be retained, 1900 rpm's, and 2200 rpm's (MI-4) or 2400 rpm's (MI-5), full speed. Two runs were made at each speed with a "stop" reading taken at the beginning of the tests, between speed changes and at the end of each test. Mean values were then determined for each speed and for the 'stop' reading.

Tidal data used for these tests was taken from a tide staff positioned on the S.W. corner of a pier immediately adjacent to the Corps of Engineers dock. An arbitrary datum was chosen for the tide staff. Tide readings were taken once each minute for the duration of each test, with an additional reading taken each time the leveling rod was read.

An abstract of the data, graph of the settlement and squat correctors, and a table of recommended settlement and squat correctors is attached.

Karen L. O'Donnell

Karen L. O'Donnell
ENS, NOAA

Settlement and Squat Correctors

Launch MI-5

CORRECTORS (TENTHS of FOOT)

STEP 00

0.05

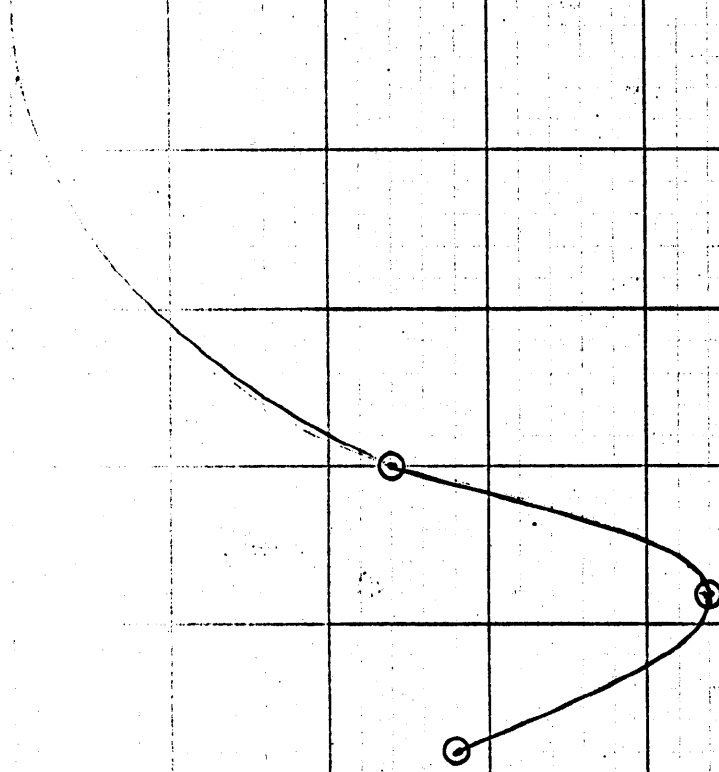
0.10

0.15

0.20

0.25

0.30

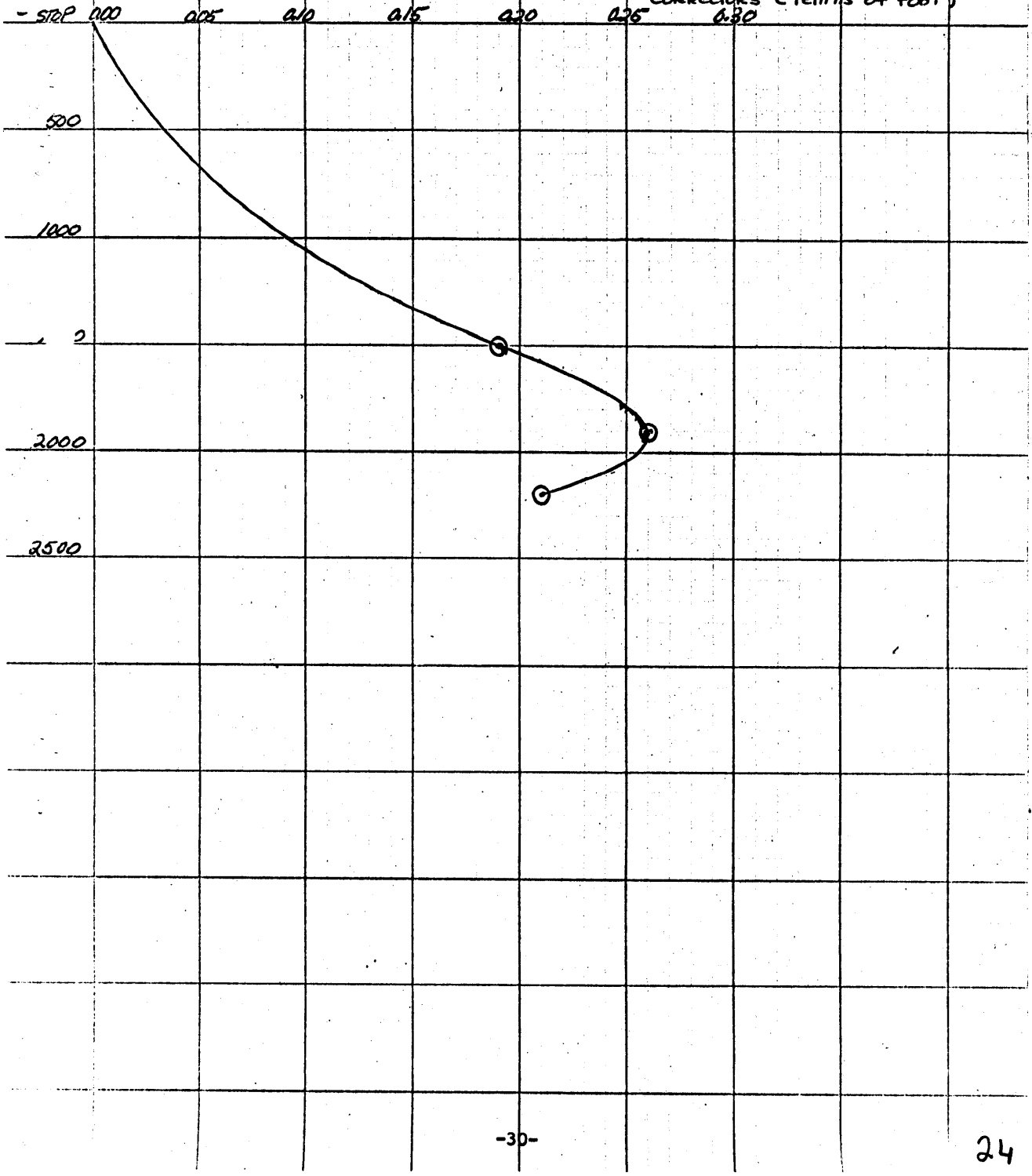


Settlement and Squat Correctors

Launch MI-4

Speed (RPM)

Correctors (Tenths of foot)

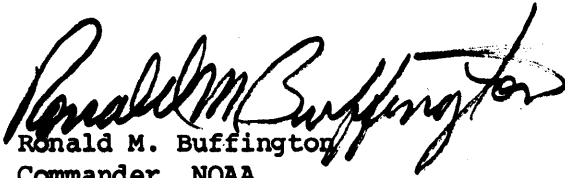


Approval Sheet

Field Number Mi-20-1-74

Registry Number H-9457

The field work on this hydrographic survey was under my daily supervision.
The boat sheet and records have been reviewed and are approved by me.



Ronald M. Buffington
Commander, NOAA
Commanding

GEOGRAPHIC NAMES

H-9457

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

Approved
 Chan E. Harrington
 Staff Geographer - C51x2
 7 OCT 1976

ATLANTIC MARINE CENTER
APPROVAL SHEET
FOR
AUTOMATED SURVEY H- 9457

- 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: April 14, 1976

Signed: *William J. Jones*

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: 14 April 1976

Signed: *C. Alan Smith*

Title: Chief, Processing Division

HYDROGRAPHIC SURVEY STATISTICS

HYDROGRAPHIC SURVEY NO. H-9457

MI-20-1-74

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET & 2 overlays (mylar)		1	BOAT SHEETS (paper)		1	
DESCRIPTIVE REPORT		1	OVERLAYS		XBX 4	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
Accordion ENVELOPES	666-1 & P/O					1
CAHIERS	1 & P/O					
VOLUMES	4					
BOXES						sawtooth rec. 1

T-SHEET PRINTS (List)

TP-00658

SPECIAL REPORTS (List)

Report on Corrections to Echo Soundings, Report on Electronic Control

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				1386
POSITIONS CHECKED		200		
POSITIONS REVISED		71		
DEPTH SOUNDINGS REVISED		163		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		300		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		1		
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		4		
JUNCTIONS		6		
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		60		
SPECIAL ADJUSTMENTS		0		
ALL OTHER WORK		30		
TOTALS		100	26	
PRE-VERIFICATION BY F.L. Saunders	BEGINNING DATE 10/15/74	ENDING DATE 10/22/75		
VERIFICATION BY R.G. Roberson, B.J. Stephenson	BEGINNING DATE 08/11/75	ENDING DATE 11/14/75		
REVIEW BY Hydrographic Inspection Team (AMC)	BEGINNING DATE 05/07/76	ENDING DATE 05/12/76		

QC Wellman 25 hr 6/30/76
Carstens 06 hr 10/5/76
U.S. G.P.O. 1972-769-562/439 REG.#6 28

REGISTR. NO. H-9457

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 _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

Pos. 642: During update check the depth at position 642 on the plotter data tape. The printout indicates that a depth of 37 feet should be plotted. The plotter, however, plotted a 36-foot sounding at the position.

REGISTRY NO. H-9457

The magnetic tape containing the data for this survey has not been corrected to reflect the changes made during evaluation and review.

When the magnetic tape has been updated to reflect the final results of the survey, the following shall be completed:

MAGNETIC TAPE CORRECTED

DATE 10-12-82 TIME REQUIRED _____ INITIALS JAC

REMARKS:

H-9457

Information for Future Presurvey Reviews

This is an area of shifting sand bottom. The shoreline at the southern tip of Amelia Island has receded approximately 700 meters since the 1915 survey of the area.

<u>Position Index</u>		<u>Bottom Change</u>	<u>Use</u>	<u>Resurvey</u>
<u>Lat.</u>	<u>Long.</u>	<u>Index</u>	<u>Index</u>	<u>Cycle</u>
303	0813	4	2	25 years

HYDROGRAPHIC INSPECTION TEAM

ATLANTIC MARINE CENTER

HYDROGRAPHIC SURVEY REVIEW

DATE:

REGISTRY NO.: H-9457

FIELD NO.: MI-20-1-74

GENERAL LOCALITY and SPECIFIC LOCATION:

Florida, East Coast, Amelia Island

SURVEYED: July 28, 1974 through August 20, 1974

PROJECT NO.: OPR-436

SCALE: 1:20,000

SOUNDINGS BY: Raytheon Fathometer
Model DE-723 Type B
s/n 1280 s/n 1285

CONTROL: DECCA Sea-Fix
Hyperbolic Mode
Hyper-visual
Visual Sextant Fixes
on Shore Signals

Chief of Party	CDR R.M. Buffington
Surveyed by	CDR R.J. DeRycke
.....	LT M. ^R Mulhern
.....	LTJG P. ^B Loiseau
.....	LTJG R. ^J Pawlowski
.....	ENS D. Pascuiti
.....	ENS D. ^M Kuhl
.....	ENS T. ^G Russel
.....	ENS K. ^L O'Donnell
.....	ENS M. ^E Ziolk
.....	ENS E. ^J Fields
.....	ENS R. ^E Marriner II
Automated Plot by	Calcomp Plotter #618 (AMC)
Verified and Inked by.....	R.G. Roberson

1. Description of the Area

The area surveyed is along the East coast of Florida, specifically Amelia Island, between St. Mary's Entrance and Nassau Sound. The survey extends seaward from the shoreline to the 36 foot curve. The bottom appears to slope gradually from the shore with a minimum of conspicuous undulation. The bottom is generally composed of fine sand and shells.

2. Control and Shoreline Type-Source-Origin

Shoreline for this survey was taken from the reviewed shoreline manuscript TP-00658, dates of photography - October 1973 - April 1974, field edit - January 1975, final compilation - February 1975, and final review - September 1975.

Control for this survey was both visual and hyper-visual. The electronic portion was provided using DECCA SEA-FIX operated in the hyperbolic mode with a frequency of 1618.650 KHz. Control stations were as follows:

Simon, 1974	Mayport, 1973	Radd ² , 1974
Ø-31° 08' 27.120"	Ø-30° 23' 40.366"	Ø-32° 01' 12.300"
λ-81° 22' 33.110"	λ-81° 23' 41.056"	λ-80° 50' 35.220"

3. Hydrography

A. Crossings: Crosslines are in good agreement with the regular scheme of hydrography and comprised 5.2% of the hydrography.

B. Depth Curves: The standard depth curves adequately delineate the bottom topography; however, the thirty-six (36) foot curve was put on to coincide with the thirty-six (36) foot curve on the adjoining survey, H-9474 (1974).

C. Low-water Line: The low-water line was drawn using both the shoreline manuscript, TP-00658 and the hydrography.

D. Developments: Developments run adequately delineated the bottom configuration.

4. Condition of the Survey

The sounding records, automated plotting and the Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual, supplemented by the Atlantic Marine Center Manual,

5. Junctions

Junctions were made with H-9428 (1974) and H-9474 (1974) and are satisfactory. All curves were inked to the limits of the survey. It is recommended that this current data supersede all prior data. H-8108 (1953-54) is generally one (1) to two (2) feet shoaler than H-9457 (1974). A butt junction should be made between H-8179 (1956) and H-9457 (1974).

6. Comparisons

A. Prior Surveys:

(1) H-3770 (1915) 1:80,000 - General agreement between the surveys is good. In the vicinity of 30° 34' to 30° 35' (thirty foot curve)

the shoal area that was extensively developed in the past has deepened about two (2) feet to depths greater than thirty (30) feet. In general the thirty foot curve has shifted to the West about one thousand (1,000) meters. Between $30^{\circ} 32'$ and $30^{\circ} 34'$ the thirty (30) foot curve has moved to the West, but a long slender shoal, with general depths of twenty-five (25) to thirty (30) feet projects to the Northeast in the vicinity of the previous thirty (30) foot curve.

(2) H-4376 (1924) 1:20,000 - Agreement between the surveys is good. A thirty (30) foot depression has developed at approximately latitude $30^{\circ} 34'$ and longitude $81^{\circ} 26'$. Previously this area had been two (2) to three (3) feet shoaler.

B. Published Charts:

(1) Chart 11489 (formerly 841-SC), 13th edition, June 28, 1975 - The thirty (30) foot curve has shifted to the West about one thousand (1,000) meters. An eighteen (18) foot sounding at $30^{\circ} 37.3'$, $81^{\circ} 25.8'$ is in an area of twenty-two (22) foot soundings. In the area between the eighteen (18) and thirty (30) foot curves the new survey is one (1) to two (2) feet shoaler. Along the extreme Northern edge of the sheet the eighteen (18) foot curve has migrated to the West.

(2) Chart 11488 (formerly C&GS 1243), 11th edition, November 23, 1974 - Agreement is good except in the area of the thirty (30) foot curve where the area has deepened, approximately $30^{\circ} 34.5'$, $81^{\circ} 23.8'$. A projecting thirty (30) foot shoal is in the area of the old thirty (30) foot curve with a deep area between the projecting portion and the shifted curve. The charted eighteen (18) foot sounding at $30^{\circ} 37.3'$, $81^{\circ} 25.8'$ is now in an area that is represented by twenty-two (22) foot depths on the survey. A charted twenty-two (22) foot sounding at $30^{\circ} 36.6'$, $81^{\circ} 25.1'$ is in an area of twenty-seven (27) foot soundings. A charted nineteen (19) foot sounding at $30^{\circ} 36.7'$, $81^{\circ} 25.5'$ is in an area where the depths are five (5) to seven (7) feet deeper. A charted twenty-eight (28) foot sounding at $30^{\circ} 37.8'$, $81^{\circ} 24.0'$ is surrounded by thirty-three (33) and thirty-four (34) foot soundings. A charted nineteen (19) foot sounding at $30^{\circ} 36.4'$, $81^{\circ} 26.0'$ is in an area with depths five (5) to seven (7) feet deeper.

C. Recommend:

(1) The Pre-survey Review Item at $30^{\circ} 35.3'N$, $81^{\circ} 23.8'W$, a twenty-five (25) foot sounding, (position numbers 675, 676, 5451, 5452) was not found. It is recommended, however, that this sounding be retained because the area was not sufficiently developed to disprove the shoal depth. Disregard 25-Changeable area. See Q.C. Report-item 8

(2) A Pre-survey Review sounding of twenty-six (26) feet at 30° 34.9'N, 81° 23.7'W, (position numbers 742, 743, and 286) was not found; however, this should be retained on the chart and the extent of the shoal area be charted. *Changeable area - delete 26 from chart*
See Q.C. Report - item 8

(3) A twenty-five (25) foot Pre-survey Review sounding at 30° 34.4'N, 81° 24.1'W, (position numbers 648 and 649) was not found, and it is recommended that this sounding be deleted from the charts.

(4) An eighteen (18) foot Pre-survey Review sounding at 30° 37.3'N, 81° 25.9'W, (position number 5125) was not found. It is recommended that this sounding be deleted from the charts since it appears that the sounding was in a larger shoal area.

It is recommended that H-9457 (1974) supersede the mentioned prior surveys for the common area.

D. Aids to Navigation:

There were no aids to navigation in the survey area.

7. Compliance With Instructions

This survey does comply with the Project Instructions.

8. Additional Field Work

This is a very good basic survey. Additional field work is not recommended.

9. Hydrographic Inspection Team Comments

Hydrographic Inspection Team comments are included within this report and Verification deficiencies found, if any, have been corrected on the Smooth Sheet.

Approval Sheet for Survey H-9457

Examined and Approved:
Hydrographic Inspection Team
Date: *May 3, 1976*

Ronald M. Buffington
CAPT Ronald M. Buffington, NOAA
Chief, Operations Division

C. Dale North, Jr.
C. Dale North, Jr., LCDR, NOAA
Chief, Processing Division

Jeffrey G. Carlen
CDR Jeffrey G. Carlen, NOAA
Chief, Coastal Mapping Division

Gregory R. Bass
Gregory R. Bass, LT, NOAA
Chief, EDP Branch

William L. Jonns
William L. Jonns
Chief, Verification Branch

Approved/Forwarded

Robert C. Munson
Robert C. Munson
RADM, NOAA
Director, Atlantic Marine Center



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

C352

June 30, 1976

TO: *A. J. Patrick*
A. J. Patrick
Chief, Marine Surveys Division

THRU: G. K. Myers
Chief, Quality Control Branch

FROM: K. W. Wellman *K. W. Wellman*
Quality Evaluator

SUBJECT: Quality Control Report for H-9457 (1974), Florida, East Coast,
Amelia Island

A quality control inspection of H-9457 has been accomplished to evaluate the accuracy and adequacy of the survey with respect to data acquisition, delineation of the bottom, determination of least depths and navigation hazards, shoreline transfer, junctions, decisions and actions by the verifier, and cartographic presentation of data. In general, it was found to conform with National Ocean Survey standards and requirements except as follows:

1. During quality evaluation junctions were completed with the junctional surveys listed in section 5 of the review. Adequate junctions were effected with H-9428 (1974) on the east, H-8179 (1956) on the north, and H-8108 (1953-54) on the south. The latter two were butt junctions necessitated by changes in the bottom configuration during the last 20 years. The junction with H-9474 (1974) on the east is discussed in the quality control report of that survey.
2. The discussion of section 2 of the review was unnecessarily detailed. If the control is adequately discussed in the Descriptive Report it is sufficient to reference the appropriate section of the Descriptive Report rather than reiterate the discussion in the review.
3. The reviewer failed to specify the probable causes of the changes noted during the comparison with prior surveys. [See the provisional manual--section 6.6(11).] The noted differences are attributed to natural changes in the bottom configuration.
4. To supplement the reviewer's discussion of comparison with prior surveys it was noted, during quality control examination, that the shoreline



at the southern tip of Amelia Island has receded approximately 700 meters to the northwest since 1915. This area is charted as subject to frequent change.

5. In the past, standard review procedures have required comparison only with the largest scale chart of the area rather than with all charts which may cover the area. [See the Hydrographic Manual--section 6-104.] Although this practice is not specifically indicated in the corresponding section of the Provisional Hydrographic Manual [section 6.3.10] it is recommended that it become accepted practice, thus obviating unnecessary and time-consuming duplication of effort. Inasmuch as the present survey area is 99 percent contained within the area of chart 11489 (841-SC), the detailed comparison with the smaller scale chart 11488 (1243) is considered unnecessary.

6. The adequacy of the present survey to supersede the charted information was not stated. The present survey is adequate to supersede the charted hydrography within the common area.

7. The verification report (review) format recommended in section 6.6 of the provisional manual should be followed. Section 6 of the present review report fails to conform to this format and the requirements of sections 6.6(11) and 6.6(12) of the provisional manual.

8. This is an area of shifting sand bottom sediments. The charted soundings (Presurvey Review dashed circled items) recommended for retention in section K of the Descriptive Report and in the review (section 6-C) are not considered presently valid. They are superseded by the present survey and should be deleted from the chart.

cc:
C351

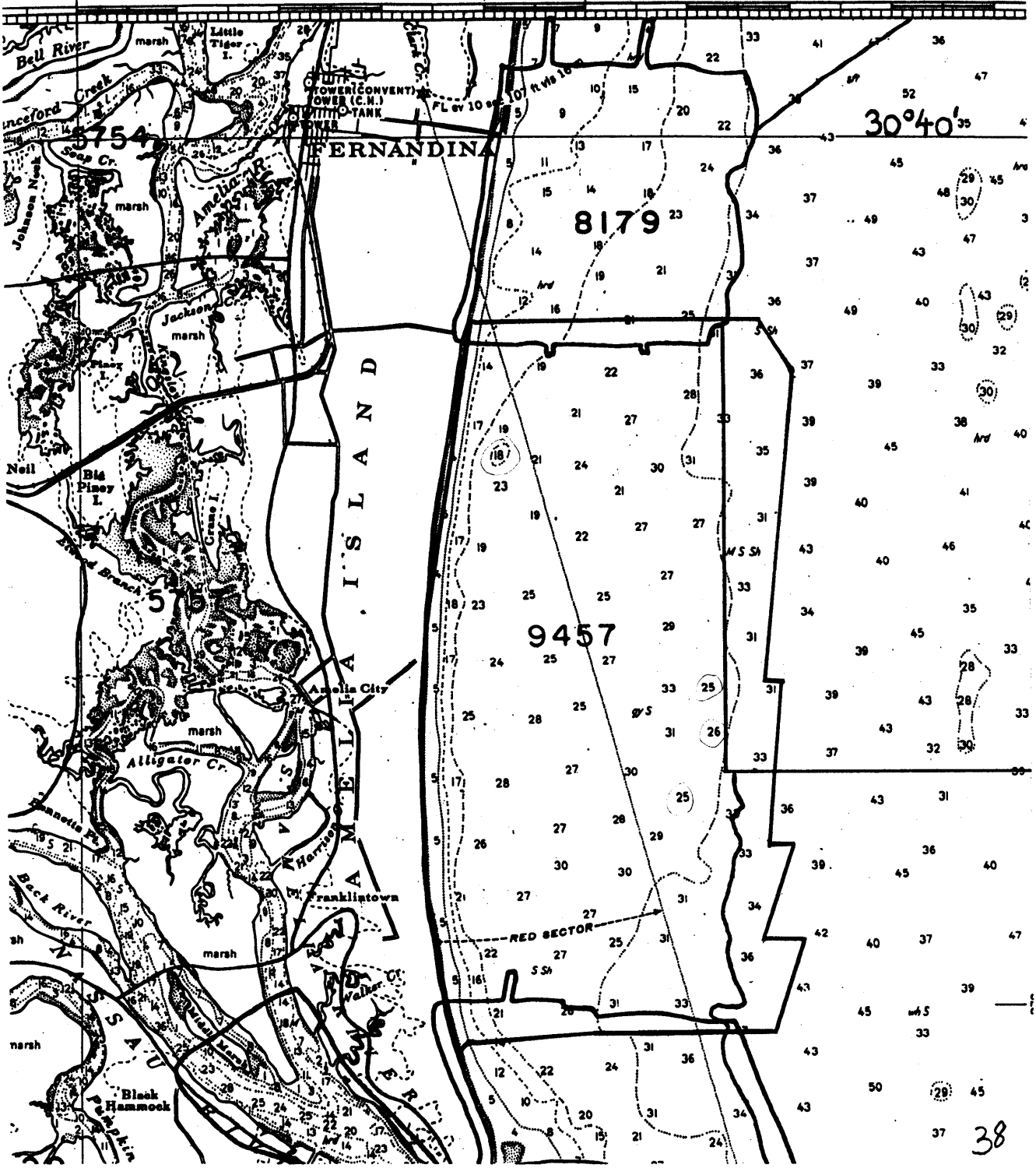
Chart 1243

C-1

81°30'

25'

(JOIN CHART 1242)



30°40'

8179

9457

RED SECTOR

38

