9866

Diagram No. 1246

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey: Hydrographic

Field No.: HSB-10-1-80

Office No.: H-9866

LOCALITY

State: Florida

General Locality: Indian River

Locality: Williams Point to Magnolia Point

1980-81

CHIEF OF PARTY
LCDR G.W. Jamerson

LIBRARY & ARCHIVES

DATE: April 1, 1985

☆U.S. GOV. PRINTING OFFICE: 1980—766-230

Area 3 L-284(85)
CHTS
11485 B
11478 INSET
11477
[illegible]
[illegible]

9866

INDEX

*-Removed from the Descriptive Report and filed with survey data.

NOAA FORM 77-28 (11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO.

H-9866

FIELD NO.

HSB-10-1-80

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

State Florida

General locality Indian River

Locality ~~Vicinity of Cocoa~~ Williams Point to Magnolia Point

Scale 1:10,000 Date of survey March 14 - April 2, 1980 Oct. 28, 1980 - 4/20/81

Instructions dated September 22, 1978* Project No. OPR-G207-HSB-78

Vessel Hydrographic Surveys Branch, HFP-2

Chief of party Thomas W. Richards, LCDR, NOAA
George W. Jamerson, LCDR, NOAA

Surveyed by A. Y. Bryson, LCDR, D. Elliott, R. Snow, D. G. Brockhouse, LTJG, E. Martin, AOIC, L. Podleiszek, J. Klinefelter, D. Parris, C. Bush

Soundings taken by echo sounder, hand lead, pole

Graphic record scaled by HFP-2 & 3 personnel

Graphic record checked by HFP-2 & 3 personnel

Protracted by N/A Automated plot by Field sheet-PDP/8e Xynetics 1201 - ADS

Verification by verified AMC Verification Branch

Soundings in ~~fathoms~~ feet at ~~MLW~~ ~~MLLW~~ Low Water Datum

REMARKS: *Change No. 1 dated November 20, 1978

Change No. 2 dated September 28, 1979

Change No. 3 dated October 21, 1980

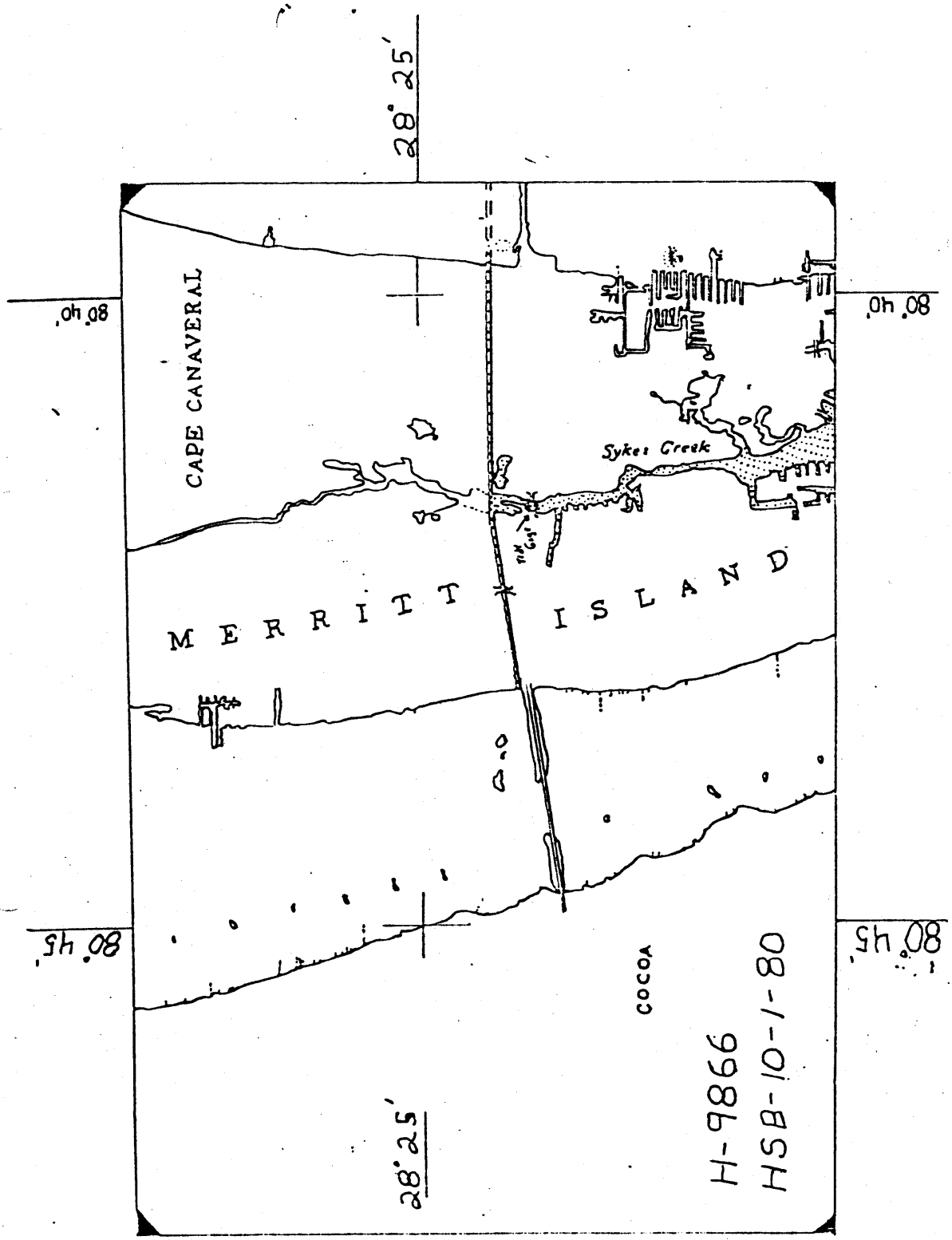
Change No. 4 dated January 12, 1981

Notes in the Descriptive Report were made in red during verification.

AWOIS + SURF Checks GM&M 10/31/85

NOAA FORM 77-28 SUPERSEDES FORM C&GS-537.

☆ U.S. GPO: 1974-0-768-081/1207


28°25'
80°40'
80°40'
CAPE CANAVERAL
Sykes Creek
MERRITT ISLAND
80°45'
80°45'
COCOA
28°25'
H-9866
HSB-10-1-80

DESCRIPTIVE REPORT
TO ACCOMPANY
HYDROGRAPHIC SURVEY H-9866
HSB-10-1-80

Scale: 1:10,000
Chief of Party: Thomas W. Richards, Lt. Cdr., NOAA
George W. Jamerson, Lt. Cdr., NOAA
Officer-in-Charge: A. Y. Bryson, Lt. Cdr., NOAA
Douglas G. Brockhouse, Lt. (jg), NOAA
Hydrographic Surveys Branch
Hydrographic Field Party #2 and #3

Vessels: Launch 1277, 1278, 1279 and 1286

A. PROJECT

This survey was accomplished under Project Instructions OPR-G207, dated September 22, 1978, and the following changes:

Change No. 1, November 20, 1978
Change No. 2, September 28, 1979
Change No. 3, October 21, 1980
Change No. 4, January 12, 1981

B. AREA SURVEYED

The area surveyed was the Indian River adjacent to, and just north of the city of Cocoa in Brevard County, Florida, and was bounded by the following points:

Lat.	~~28°21'.8N~~ 28°-27'-23.18"N	Long.	~~80°40'.3W~~ 80°-45'-38.67"W
Lat.	~~28°21'.8N~~ 28°-27'-23.18"N	Long.	~~80°47'.0W~~ 80°-39'-35.00"W
Lat.	~~28°27'.0N~~ 28°-21'-53.18"N	Long.	~~80°40'.3W~~ 80°-39'-35.00"W
Lat.	~~28°27'.0N~~ 28°-21'-53.18"N	Long.	~~80°47'.0W~~ 80°-45'-38.67"W

Additionally, survey data covering the Canaveral Barge Canal and Sykes Creek are included since it lies within the limits of the survey sheet. Actual survey operations were conducted in this area from March 14, 1980 to April 2, 1980 (J.D. 074 to J.D. 093) inclusive.

The Indian River portion of this survey was conducted from October 28, 1980, to April 20, 1981 (J.D. 302 to J.D. 110) inclusive.

C. SOUNDING VESSEL

All soundings obtained on this survey were obtained from NOAA Launches 1277, 1278, 1286 and 1279 (EDP No. 1277, 1278, 1286 and 1279). All survey records are annotated to indicate clearly which vessel was used. No unusual sounding vessel configurations were used nor problems encountered during the course of this survey.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

The following Raytheon fathometer equipment was used during this survey:

Vessel 1277

J.D. 347-009 Recorder Model 719-B
Serial #5784

Interspace Digitizer Model 412
Serial #037

Vessel 1279

J.D. 014 (1981)

Recorder Model 719-B
Serial #7881

Vessels 1278 and 1279

J.D. 015-110 (1981)

Recorder Model 719-B
Serial #5784

Vessel 1286

J.D. 074-093 (1980)

Recorder Model #719-B
Serial #5881

The only problem encountered with this sounding equipment occurred on J.D. 014 aboard Launch 1279. The chart paper take-up system in recorder Serial #7881 failed to operate correctly causing the paper to "ride-up" on the upper guide spool. The malfunction resulted in a ragged chart output but did not cause any loss in data quality. Recorder Serial #7881 was returned to Atlantic Marine Center and not used again after J.D. 014.

No other problems were encountered with this equipment. The fathometer on all launches was monitored continuously while soundings were being taken and was under constant adjustment to insure that no initial corrections were necessary. When using Vessel 1277 digital depths were considered primary depths, augmented or corrected by analog depths where required.

Settlement and squat tests were not run during this survey work period. The data from settlement and squat tests on Launch 1277 run on January 18, 1980 (J.D. 018) was considered accurate for use in this survey since no physical changes were made to the launch. The tests run January 18, 1980, were run just south of the SR 520 causeway which has approximately the same water and bottom characteristics as those encountered during this survey.

Settlement and squat tests on Launch 1286 were run on November 9, 1979.

A considerable amount of hydrography was run in very shallow water (1-5 feet). For this reason, two sets of tests (shallow and deep water) were conducted. The two data sets were significantly different from one another. Rather than attempt to apply corrections depending on water depth, the two curves were meaned, plotted and then examined at the normal operating speed of 1500 RPMs. The resultant corrector of 0.2 foot should be applied to all soundings for Vessel 1277. - Curves examined - concur with the hydrographer's ✓ solution

Settlement and squat test data for Launch 1278 from April 18, 1980, (J.D. 099) was considered accurate for use during this period. The April 18, 1980 tests were run just beyond the southern limits of this survey area. All tests were run using the staff and level technique.

Both the shallow water and the deep water curves are provided in the Appendix, as well as the mean curve from which corrections were applied. All survey sounding data was obtained at approximately 1500 RPM which requires a correction of 0.2 foot to be applied.

Launch 1279 was used only in shallow water and only operated at idle speed. No settlement and squat tests were performed on this vessel nor are any corrections necessary.

Settlement and squat corrections will be applied via the TC/TI tape during plotting of the smooth sheet at the Atlantic Marine Center and were not applied to the field sheet.

Velocity and instrument corrections were determined by barcheck. The lengths of the chain on the bar were checked and were determined to be of proper length and, therefore, did not need to be corrected.

E. HYDROGRAPHIC SHEETS

The field sheets were prepared in the field using a PDP8/e computer and a DP-3 complot plotter. Work sheets, semi-smooth sheets, smooth field and overlay sheets are included with this survey. All mainscheme and crossline soundings are plotted on the smooth field sheet while bottom samples, prior survey soundings, DP's, junction soundings, developments, and aids to navigation are shown on the overlay sheet. The chart blow-up was used as an overlay for charted soundings. Projection and electronic control parameters for the field sheet are included in the Appendix of this report. The final smooth sheet and verification of this survey will be accomplished at the Atlantic Marine Center on the Harris/7 computer and the ~~Xyninetics~~ Xynetics 1201 plotter.

F. CONTROL STATIONS

Control stations used during this survey were either existing geodetic control stations published by NGS or were established by AMC Coastal Mapping Division, Photo Party No. 61 to third order or better standards.

Additionally, two new stations were also established to third order specifications for use during this survey by the hydrographic field party. All stations are referred to the North American 1927 datum. A list of all control stations used during this survey is included in the Appendix of this report. Photo Party 61 stations, while meeting third order accuracy standards, were not monumented according to current requirements and are designated by the lesser cartographic code 254.

G. HYDROGRAPHIC POSITION CONTROL

The method used to control this survey was electronic range-range and range-azimuth positioning provided by a Del Norte Trisponder system with a "See Field Sheet" and T-1 azimuths used as supplements.

The Del Norte equipment used was as follows:

Distance Measuring Unit (DMU), S/N 172 & 517
Master Transponder, S/N 620 & 278
Distance Measuring Unit (DMU), S/N 432
Master Transponder, S/N 199

Remote Transponders, S/N 249
S/N 927
S/N 247
S/N 220

The DMU-Master pairs were initially calibrated prior to the beginning of hydrographic operations by a baseline calibration. The baseline distance of 4914 meters was the computed inverse distance between the two third order control stations Loop 1976 and BENNETT WEST 1976. The master transponder was placed over station Loop 1976 while the remote transponders were placed over station BENNETT WEST 1976. After an initial warm-up period ten distance readings were taken and recorded for each remote transponders. These readings were then averaged and compared to the actual distance. The DMU was adjusted by setting the pots on the front panel to eliminate any differences in distance readings. Ten more distance readings were taken to insure that the DMU was set properly.

A second baseline calibration check was performed at the completion of the project to insure that the DMU-Master pair settings had not drifted during the survey period. No changes were detected during this check in the operating units and all survey data is considered accurate.

Daily calibration checks were made at the beginning and end of each survey day when possible. The check was made by placing the boat alongside a day beacon with third order positional accuracy. A series of readings were taken, averaged, and then compared to a computed inverse distance.

Two positioning equipment failures occurred during the time period of this project. Both failures occurred on J.D. 086 while survey operations were being conducted in a special project area in the Banana River for NASA. DMU-Master pair (S/N 172-620) failed to operate prior to the beginning of hydrographic operations on that day. The (s/n 172-620) pair was replaced by the other calibrated pair (s/n 432-199) and operations continued. The second failure, a 50 meter rate increase in Remote Code 82, S/N 249 was detected during the morning calibration check. The remote code 82 was replaced by Remote Code 86, S/N 247 before operations continued. Neither piece of faulty equipment was used for positioning in the Indian River after J.D. 086.

H. SHORELINE

Shoreline detail for this survey was obtained from Coastal Zone Maps:

TP-00133, Registered Copy, Date of Issue 1973
TP-00134, Registered Copy, Date of Issue 1973
TP-00137, ~~Registered~~ Unregistered Copy, Date of Issue 1973
~~TP-00138~~

Field edit was performed by Coastal Mapping Division personnel in 1971. No additional field edit was conducted during this survey period.

Photogrammetric locations of rocks and other salient features from the manuscripts were checked by hydrographic means with the following results and recommendations: Agreement was excellent with natural features but a number of man-made objects differed. All piers, piles, etc. on the manuscript were visually verified during hydrography, but many additional similar items were located hydrographically and added to the field sheet.

There is positive evidence that a general retreat of the Indian River shoreline is occurring. This continuing shoreline erosion and construction along the shore makes revisory photography desirable. The hydrographer, though, feels that with the changes noted on the field sheet, current manuscripts could be used for preparation of the chart.

In Sykes Creek photogrametric locations of salient features from the manuscript were checked by hydrographic range/azimuth means with the following results and recommendations:

1. Lat. $28^{o}22'.1$, Long. $80^{o}41'.1$ - This wooden bridge has been dismantled in the center. D.P.'s #81-#82 mark the remaining ends. (See photos)

Sykes Creek
Merritt Is. FLA.

OPR-G207
H-9866
HSB-10-1-80

EAST Side of Bridge IN Ruins ON Audubon Rd. over Sykes Cr.
Pos #81

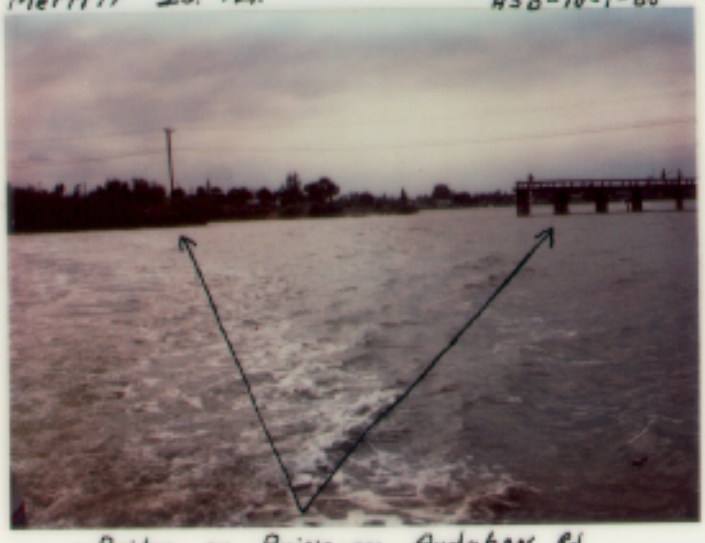
Sykes Creek
Merritt Is. FLA.

OPR-G207
H-9866
HSB-10-1-80

WEST Side of Bridge IN Ruins ON Audubon Rd. over Sykes Cr.
Pos. #82

Sykes Creek
Merritt Is. Fla.

OPR-G207
H-9866
HSB-10-1-80



Bridge in Ruins on Audubon Rd.
on Sykes Creek
Pos #s 81-82

Sykes Creek
Merritt Island, Fla.

OPR-G207
H-9866
HSB-10-1-80

NOTE:
BRIDGE ON T-SHEET,
BUT NOT DELINEATED.

45 m. N of Pos# 125

2. Lat. 28°24.1, Long. 80°41.8 - Bridge across the canal at this location has been removed.

Shoreline corrections were necessary at:

1. Lat. 28°22.2, Long. 80°41.6 - Several bulkheaded canals, located on the T-sheet but not delineated, were transferred from the chart blow-up in brown and confirmed in the field. A fixed bridge across the entrance. (See photo)

2. Lat. 28°22.8, Long. 80°41.5 - Two canals have been dredged and bulkheaded in this area.

3. Lat. 28°22.8, Long. 80°41.7 - Lat. 28°23.2, Long. 80°41.4 - This shoreline has been bulkheaded.

4. Lat. 28°23.2, Long. 80°41.6 - Entrance to this lagoon has been closed off with dirt fill.

5. Lat. 28°23.6, Long. 80°41.7 - Two canals have been dredged and bulkheaded in this area as shown by the chart blow-up.

6. Lat. 28°23.75, Long. 80°41.75 - Lat. 28°23.95, Long. 80°-41.75 - All shoreline in this area has been bulkheaded.

7. Lat. 28°24.9, Long. 80°42.6 - A dredged marina basin, not located on the T-sheet but not delineated, was transferred from the chart blow-up in brown and confirmed in the field. (See photo)

I. CROSSLINES

Crosslines constitute 12.4% of the mainscheme hydrography. 100% of the crosslines agree within one foot of the mainscheme hydrography.

J. JUNCTIONS - See also Evaluation Report, section 5.

This survey junctions with the following survey: H-9860 (HSB-10-3-79) to the south, H-9633 to the south in Sykes Creek, H-9665 to the east in the Canaveral Barge Canal.

100% of the junction soundings agree within one foot.

It is recommended that in the junction area the soundings from the present survey be charted.

K. COMPARISON WITH PRIOR SURVEYS - See also Evaluation Report, section 6.

This survey was previously covered by the following prior surveys:

Registry No.	Scale	Year Surveyed
H-1293	1:20,000	1876
~~H-1380~~	~~1:20,000~~	~~1876 to 1877~~ - does not apply
H-6664	1:10,000	1941

Sykes Creek
Merritt Is. Fla.

OPR-G207
H-9866
HSB-10-1-80

New Marina on Chart 11485, but not on TP-00137

Pos # 247

Comparison of the results of this survey with those shown on the two prior surveys would be of only historical value. Extensive changes have occurred throughout the area during the past 100 years, which include widespread dredging and filling. Aside from the major changes resulting from dredging and dredge spoil dumping, the present contours are similarly shaped to those of the two prior surveys.

Since there have been extensive man-made changes to the area, it is recommended that the soundings from the present survey entirely supersede those of the prior survey.

L. COMPARISON WITH THE CHART - See also Evaluation Report, section 7.

The Tolomato River to Palm Shores ~~Intercoasta~~ Intracoastal Waterway Nautical Chart No. 11485 is the largest scale chart covering the survey area. Chart No. 11485 is in the 18th Edition, and is dated June 28, 1980.

Throughout the area, this survey was in very close agreement with the chart. The following changes were the only ones detected:

1. All spoil piles have flattened out and have a slightly larger north-south extent than charted.

2. Both shorelines ~~boarding~~ bordering the river have become heavily populated areas. Almost every residence along the shoreline has some sort of small pier or other developed area for securing a small pleasure craft. Hydrographic positions were obtained on each pier, piling, or other such device used and that information placed on the smooth sheet. Specifically mentioning each one here would be of no real value for changes to the area were being made by the residents on a daily basis.

The following changes in the chart were detected in Sykes Creek:

1. Lat. 28°22:1, Long. 80°41:1 - The OVHD PWR CAB crosses Sykes Creek as shown by D.P.'s #293-294.

2. Lat. 28°22:1, Long. 80°41:7 - The canal extends westward from this point as delineated on the T-sheet.

3. Lat. 28°22:9, Long. 80°41:5 - This lagoon has been filled and a new canal has been dredged and bulkheaded in this area as shown on the smooth field sheet.

4. Lat. 28°23:2, Long. 80°41:6 - The entrance to the lagoon at this point has been closed off with dirt fill.

5. Lat. 28°23:2, Long. 80°41:7 - An extensive network of canals extend westward from this point as delineated on the T-sheet.

6. Lat. 28°24:1, Long. 80°41:8 - The bridge across the canal at this location has been removed.

7. Lat. 28°24!45, Long. 80°42!35 - The easternmost of two OVHD PWR CABS is 100 meters east of its charted position as shown on the smooth field sheet.

The following presurvey review items were investigated during this survey:

PSR Item #29 (originating with C/L 865 of 1974) was searched for on JD 80. The pipe, PA was reported in 1974 to be 4-5 inches in diameter; 4 feet above water. The pipe at Lat. 28°24'21.2"N, Long. 80°42'59.9"W, (Pos. #292), was located by SFS. A distance from the center of the south edge of the north abutment of State Road 3 bridge over the Canaveral Barge Canal was measured to the pipe with a geodimeter. The pipe, in 0.6 ft. of water, is one foot offshore from MHW line. This pipe is not large enough to be a landmark nor located in a position to be a hazard to navigation. (See photo)

Relocated PIPE

The hydrographer recommends that this feature be deleted.
Recommend charting pipe at geographic position shown above.

PSR Item #30 was searched for on JD 80. The visible wreck was reported in 1974 to be a large work barge with A-frame protected by a barricade of heavy piles, each marked by an orange X at the top.

Water clarity at the time of investigation was 2-3 feet.

The wreck at Lat. 28°24'27.7"N, Long. 80°41'36.8"W (Pos. #291) was located by SFS. A distance from BM 210, at the northwest corner of the westbound bridge of State Road 528 over Sykes Creek was measured to the dredge with a geodimeter.

The hydrographer recommends that this item be charted as a visible wreck at Pos. 291. - Concur

PSR Item #31 was searched for visually and by recon hydro on JD 80 for one hour with no indications of wreckage. The dangerous sunken wreck was reported in 1971 to be a sunken dredge marked by a series of red flags.

Water clarity at the time of the investigation was 2-3 feet.

Local knowledge from several sources has confirmed that PSR 30 and 31 are the same wreck. Mr. Loren T. Newton (CL 1600 of 1971) confirmed by phone on March 25, 1980, that the wreck at PSR 30 was the same one that he reported at PSR 31. Mr. John Faull, owner of the boat from which the report (CL 1393 of 1973) of the wreck at PSR 30 was made confirmed by phone on March 24, 1980 that it had been moved ~~to~~ from the location of PSR 31.

The wreck reported at PSR 31 was moved under the supervision of the U.S. Corps of Engineers (see memo) to the location reported for PSR 30. Mr. Shepardson, Corps of Engineers, Jacksonville District, reported by phone on March 26, 1980 that all records pertaining to the moving of the wreck had been destroyed.

The hydrographer recommends that this wreck be deleted. - Concur

PSR #29

Canaveral Barge Canal
Merritt Is. Fla.
Pos # 292

OPR-G207
H-9866
HSB-10-1-80

PSR #30

Sykes Creek
Merritt Is. Fla.
Pos # 291

OPR-G 207
H-9866
HSB-10-1-80

PSR #30

Sykes Creek
Merritt Is. Fla.
Pos # 291

OPR-G207
H-9866
HSB-10-1-80

Memo for the Record.

Subject: Sunken Dredge - Canaveral Barge Canals 26 Mar 1980

In the latter half of 1973 while I was working as Chief, Permits & Inspections Section, Palatka Area Office, Jacksonville District, U.S. Army Corps of Engineers, Mr William T. Lynch, Engr. Tech., reported a small sunken dredge in the Canaveral Barge Canal near the junction of Sikes Creek.

The report was forwarded to Jacksonville District Office. at which point District Regulator Branch took over the enforcement action.

In the spring of 1974 it was agreed the sunken dredge would be moved to the far edge of sikes Creek and well marked. William T. Lynch made an inspection of the area, He reported the dredge was out of the channel of both Sikes Creek and Canaveral Barge Channel, he also reported he obseved the sweeping of the channels and found both to be clear of ony and all parts of the dredge.

He reported also that the dredge was well marked a agreed.

The above is a true account to the best of my memory.

Artice B. Parker

Artice B. Parker.
Construction Representive
Palatka Area Office.
U.S. Army, Corp of Engineers

Ten(10)

PSR Item #43 - Submerged piles shown on the ~~manuscript~~ chart at Lat. 28°23'12", Long. 80°44'18". A close examination of the fathograms for main scheme lines and crosslines run through the area covered by this PSR item resulted in no indication that the piles existed. Additionall, an extensive visual 30-minute search with the bottom visible was made in the area which also proved negative. The area was characterized by heavy grass and shallow depths and was, therefore, not conducive to chain drag. Private markers, small piers and boat houses exist on the edge of the PSR area, all of which were located during this survey. It is recommended that the PSR Item #43 (submerged piles) symbol remain on the charts since a positive existence or non-existence could not be established during this survey.-Concur Source TP-00137 of 1969/70-1971-CL-713 of 1978 revised to subm.

M. ADEQUACY OF SURVEY

This survey is complete and adequate to warrant its use to supersede prior surveys for charting in the common areas.

N. AIDS TO NAVIGATION - See also Evaluation Report, section 7.c.

All floating and fixed aids to navigation in the survey area were located and comparisons between their charted, Light List (Vol. II, 1980), and surveyed positions and descriptions were made. All aids were found to adequately serve the apparent purpose for which they were established.

Clearances for the SR 528 bridge and adjacent power cable were checked and found to be accurately charted.

O. STATISTICS

Total Number of Positions	~~2365~~ 2466
Lineal Nautical Miles of Sounding Line	160
Lineal Nautical Miles of Crossline	20
Lineal Nautical Miles of Development	43
Total Lineal Nautical Miles of Hydrography	225
Total Square Miles of Hydrography	9
Number of Bottom Samples	56

P. MISCELLANEOUS

Four (4) vessels were used in this survey. Position numbers were not grouped by vessel. Positions are consecutive by day except for a break when switching vessels after J.D. 009. Separate volumes were used for each vessel.

Q. RECOMMENDATIONS

See Sections H, J, K, and L for specific recommendations.

R. AUTOMATED DATA PROCESSING

Programs used during field data acquisition and field processing of this survey are as follows:

PROGRAM	DESCRIPTION	VERSION DATE
RK111	Range-Range Real Time Hydroplot	1/30/76
RK201	Grid, Signal, and Lattice Plot	4/18/75
RK211	Range-Range Non-Real Time Plot	1/15/76
RK212	Visual Station Table Load	4/01/74
RK216	Range-Azimuth Non-Real Time Plot	2/05/76
RK300	Utility Computations	2/05/76
RK330	Reformat and Data Check	5/04/76
RK401	Transverse Mercator State Plane Coordinates	2/02/76
RK407	Geodetic Inverse/Direct Computation	9/25/78
RK561	H/R Geodetic Calibration	2/19/75
RK562	Geodetic Calibration	9/10/74
AM602	Elinore-Line Oriented Editor	5/20/75

S. REFERENCE TO REPORTS

Control Report for OPR-499, dated August, 1976.
Supplemental Control Report for OPR-499 dated March, 1978.
Supplemental Control Report for OPR-G207 dated March, 1978.

Respectfully submitted,

Robert Lewis

Douglas G. Brockhouse
LTJG, NOAA
OIC, HFP-2

Atlantic Marine Center
439 W. York Street
Norfolk, Virginia 23510

April 14, 1980 CAM11/BLD

TO: Chief, Tidal Datum Branch (OA/C233)

FROM: Lt. Cdr. Thomas W. Richards
Chief, Hydrographic Surveys Branch

SUBJECT: Request for Tide Data

Please furnish smooth tide correctors and zoning information to AMC Processing Division, CAM3, for Survey H-9866 (HSB-10-1-80) OPR-G207-HSB-79.

The area surveyed was Sykes Creek and Canaveral Barge Canal, Merritt Island, Florida.

A tide gage (Sykes Creek) was installed in lieu of a staff during the periods of hydrography. The controlling gage is station #872-1456, Titusville, Florida.

The following times of hydrography includes two hours before and after actual on line times:

Julian Day (1980)	Hydro Begins (GMT)	Hydro Ends (GMT)
74	1344	2220
77	1320	2152
78	1237	2139
79	1555	2359
80	1400	2030

Robert's file

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

Hydrographic Surveys Branch
Atlantic Marine Center
439 West York Street
Norfolk, Virginia 23510

July 6, 1981

TO: Chief, Tidal Datum Branch, OA/C233

FROM: George W. Jamerson, Lt. Cdr.
Chief, Hydrographic Surveys Branch

SUBJECT: Request for Tide Data

Please furnish smooth tide correctors and zoning information to Atlantic Marine Center Processing Division, CAM3, for Survey H-9866 (HSB-10-1-80), OPR-G207-HSB-79.

A copy of the Tide Note from the descriptive report and a sketch of the survey area are included.

The following times of hydro includes two hours before and after actual on line times:

Julian Day 1980	Hydro Begins GMT	Hydro Ends GMT
347	1500	2200
350	1300	1800
353	1800	2300
1981		
006	1600	2200
009	1700	2100
014	1400	2100
015	1400	2100
016	1200	2000
019	1300	2200
021	1200	1700
022	1400	2200
026	1300	2000
027	1200	2000
029	1700	2100
030	1200	2200
035	1200	1900
036	1200	2100
037	1200	2000
040	1100	2100

Julian Day 1981	Hydro Begins GMT	Hydro Ends GMT
042	1100	1600
044	1300	1800
049	1200	2000
050	1200	2200
055	1200	1700
056	1200	2200
057	1400	1900
058	1200	1900
068	1400	1900
069	1200	1700
070	1700	2200
071	1200	2200
072	1200	2100
076	1500	1900
078	1200	1700
079	1100	1700
090	1200	2000
092	1500	2100
093	1400	1900
099	1300	1700
104	1200	2000
105	1200	2000
110	1200	

SIGNAL LIST

H-9866

HSB-10-1-80

002	5	28	21	53586	080	43	51938	250	0000	000000	DRIVE 2 1976 (1981)
004	4	28	22	02398	080	42	41462	250	0000	000000	LOOP 1976 (1981)
006	5	28	22	30604	080	43	37151	139	0000	000000	DBN 74 (1981)
008	5	28	22	48288	080	44	07073	254	0000	000000	MAGNOLIA 1976
010	5	28	22	47564	080	44	06621	250	0000	000000	MAGNOLIA 2 1976 (1981)
012	7	28	23	25244	080	44	28012	250	0000	000000	SPATINA 2 1976 (1981)
014	7	28	23	27928	080	43	13487	250	0000	000000	CARL GABLE 1976 (1981)
016	2	28	24	03718	080	44	38753	250	0000	000000	BENNETT WEST 1976 (1981)
018	2	28	24	13984	080	43	25503	139	0000	000000	BENNETT EAST 1976 (1981)
020	0	28	24	27217	080	43	45970	250	0000	000000	BARGE WEST 1976 (1981)
022	1	28	24	25518	080	43	31608	250	0000	000000	BARGE EAST 1976 (1981)
024	6	28	24	15390	080	43	29274	250	0000	000000	PUFF 1976 (1981)
026	6	28	24	13568	080	43	43437	250	0000	000000	ENTER 1976 (1981)
028	6	28	25	24787	080	45	09943	254	0000	000000	SHARPES 1976
030	4	28	27	07925	080	43	37129	254	0000	000000	PASTE 1976
032	7	28	25	40324	080	43	24275	254	0000	000000	SANDERS 1976
034	3	28	27	24154	080	45	42729	254	0000	000000	WILL 1976
036	3	28	27	23258	080	45	34702	254	0000	000000	WILL 2 1976
038	3	28	29	35433	080	46	11712	254	0000	000000	FINGER 1976
040	6	28	30	10450	080	46	45629	254	0000	000000	STRADLEY 1976
042	7	28	29	33956	080	43	59052	254	0000	000000	CABLE 1976
044	0	28	31	35104	080	46	29439	254	0000	000000	NASA WEST 1976
046	2	28	31	34190	080	44	17201	254	0000	000000	NASA EAST 1976
048	4	28	26	26049	080	43	31205	250	0000	000000	MAGGI 1981
050	5	28	24	07979	080	44	19164	250	0000	000000	KIMBERLY M 1981
062	5	28	26	50394	080	44	51091	250	0000	000000	DBN 62 1976 (1981)
064	5	28	25	46298	080	44	33309	250	0000	000000	DBN 64 1976 (1981)
066	5	28	21	27907	080	43	56616	250	0000	000000	TANK (NGS PRIOR TO 76)
068	5	28	21	06018	080	43	39421	250	0000	000000	TOWER MW
070	5	28	21	12064	080	46	45183	250	0000	000000	WKKO
072	5	28	26	45757	080	46	23341	250	0000	000000	SHARPES
074	5	28	28	09378	080	45	50415	250	0000	000000	STACK
076	5	28	21	29720	080	42	38550	243	0000	000000	WWBC
101	3	28	22	23804	080	41	20657	254	0000	000000	PAY 1977
102	2	28	22	09290	080	41	02027	254	0000	000000	POST 1977
103	6	28	22	04340	080	40	58121	254	0000	000000	CHOP 1977
104	7	28	21	54861	080	40	48614	254	0000	000000	CRUST 1976
105	2	28	21	43283	080	40	50343	254	0000	000000	SKI 1976
106	5	28	21	39641	080	41	01524	254	0000	000000	BREEZY 2 1976

Note: All control located by Photo Party 61 and HSB - Position data available at HSB.

Sykes Creek

FORM CD-26 (12.11.46) 1980

U.S. DEPARTMENT OF COMMERCE

OAR-G207
H-9866
HSB-10-1-80

1286

WORKSHEET
Position Data Sheet

J.D.	From Pos.	To Pos.	Cont.	Remote	T-1	Initial		Remarks	
74	01	82	R-Az	101	101	102			
77	83	129	R-Az	102	102	101			
78	130	214	R-Az	101	101	102	SFS		
79	215	279	R-Az	101	101	102	SFS		
80	280	292	R-Az	101	101	102	SFS		
93	293	294	R-AZ	103	103	102	SFS		

☆ U. S. GOVERNMENT PRINTING OFFICE: 1977—766-763

Sykes Creek

FORM CD-26 (12-11-46) 1980

U.S. DEPARTMENT OF COMMERCE

OPR-G207
H-9866
HSB-10-1-80

WORKSHEET

1286 Positions Steered on Arc's

J.D.		Vol.		From Pos.#		To Pos.#			
74		1		01		61			
77		1		83		97			
78		1		N/A		SFS			
79		2		N/A		SFS			
80		2		N/A		SFS			
93		2		N/A		SFS			

☆ U. S. GOVERNMENT PRINTING OFFICE: 1977—760-753

FORM CD-26
(12-11-46)

U.S. DEPARTMENT OF COMMERCE

VGSNO 1277

WORKSHEET

OPR G 207
HSB 10-1-80
H: 9866

POSITION ABSTRACT

DAY	F/POSITION	T/POSITION	CONT	S1	M	S2		REMARKS
347	1000	1060	R/R	014		004	MAIN SCHEME	
350	1061	1094	"	"		"	" "	
353	1095	1142	"	"		"	" "	
006	1143	1194	R/R	018		014	MAIN SCHEME	
	1195	1219	"	"		"	CHANNEL LUXE	
009	1220	1231	"	018		004	CHANNEL LUXE	

☆ U. S. GOVERNMENT PRINTING OFFICE: 1977—706-753

FORM CD-26
(12.11.46)

U.S. DEPARTMENT OF COMMERCE

VESNO 1278

WORKSHEET

OPR G207
HSB 10-1-80
H 9866

POSITION ABSTRACT

DAY	F/POSITION	T/POSITION	CONT	S_1	M	S_2		REMARKS
027	6375	6409	R/R	014		008	DEVELOPMENT	
	6410	6417					CROSSLINK	
	6418	6429		004		002	CROSSLINK	
029	6430	6432		036		048	MAIN SCHEME	
030	6433	6515		036		048	MAIN SCHEME	
035	6516	6596		036		048	MAIN SCHEME	
036	6597	6722		036		048	MAIN SCHEME	
037	6723	6817		036		048	MAIN SCHEME	
040	6818	6832		014		008	DEVELOPMENT	
	6833	6851		014		008	SPLIT	
	6852	6929		014		008	DP	
042	6930	6939		004		002	DP	
044	6940	6961		002		016	DP	
049	6962	7067		048		050	MAIN SCHEME	
050	7068	7194		048		050	MAIN SCHEME	
055	7195	7223		050		036	MAIN SCHEME	
056	7224	7276		036		048	DEVELOPMENT	
	7277	7282		036		048	MAIN SCHEME	
	7283	7301		048		050	DEVELOPMENT	
057	7302	7327		036		048	DEVELOPMENT	
058	7328	7395		036		048	CROSSLINK	
070	7441	7444		004		002	BS	
	7445	7451		004		002	DEVELOPMENT	
		7452		004		002	DP	
071	7453	7488		036		048	BS	
072	7489	7522		036		048	DEVELOPMENT	
	7523	7533		036		048	CROSSLINK	
	7534	7538		050		036	BS	
	7539	7544		050		036	CROSSLINK	
		7545		050		036	DP	
	7546	7555		050		036	MAINSCHEME	
076	7556	7575		014		008	DEVELOPMENT	
078	7576	7597		048		050	DEVELOPMENT	
	7598	7600		048		050	MAIN SCHEME	
079	7601	7645		048		050	MAIN SCHEME	
090	7646	7656		036		048	DP	
093	7704	7745		036		048	DEVELOPMENT	
099	7746	7761		048		050	DEVELOPMENT	
	7762	7778		048		050	CHANNEL LINE	
104	7779	7799		050		036	CHANNEL LINE	
	7800	7802		050		036	DP	
	7803	7815		050		036	MAINSCHEME	
	7816	7818		050		036	SPLIT	
	7819	7823		050		036	MAINSCHEME	
	7824	7838		050		036	SFS	

FORM CD-26
(12.11.46) VESNO 1279

U.S. DEPARTMENT OF COMMERCE

WORKSHEET

OPR G207
HSB 10-1-80
14-9866

POSITION ABSTRACT

DAY	F/POSITION	T/POSITION	CONT	S_1	M	S_2		REMARKS
014	6000	6065	R/R	004		002	MAIN SCHEME	
015	60066	6108	"	002		016	" "	
016	6109	6128	"	"		"	" "	
	6129	6152	"	014		008	" "	
019	6153	6190	"	"		"	" "	
	6191	6210	"	016		014	" "	
021	6211	6241	"	"		"	" "	
022	6242	6261	"	004		002	" "	
	6262	63305	"	"		"	DEVELOPMENT	
026	63306	63372	"	"		"	"	
068	7396	7412	R/Az	050		—	MAIN SCHEME	
069	7413	7440	"	"		—	"	
092	76057	7703	R/R	050		036	"	
05	7839	7908	"	036		048	DP	
		7909	"	"		•	REJECTED	
	7910	7911	"	"		"	DP	

(67.)

☆ U. S. GOVERNMENT PRINTING OFFICE: 1977—706-753

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY
- [X] HYDROGRAPHIC PARTY
- [ ] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [ ] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

[X] TO BE CHARTED [ ] TO BE REVISED [ ] TO BE DELETED	REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
	HFP-2	Florida	Indian River	5/81

The following objects HAVE [X] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
G-207	HSB-10-1-80	H-9866	N. A. 1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
DAYBEACON	DAYBEACON 62 TRIANGULAR RED DAYMARK ON PILE	28 26	50.394	80 44	51.091		HFP-2 3rd Order Positioning	11485
DAYBEACON	DAYBEACON 63 SQUARE GREEN DAYMARK ON PILE	28 26	13.718	80 44	38.143		"	"
LIGHT	LIGHT 64 L.L. #4007 TRIANGULAR RED DAYMARK ON PILE	28 25	46.298	80 44	33.310		"	"
DAYBEACON	DAYBEACON 65 SQUARE GREEN DAYMARK ON PILE	28 25	20.840	80 44	23.845		"	"
DAYBEACON	DAYBEACON 66 TRIANGULAR RED DAYMARK ON PILE	28 24	56.092	80 44	20.033		"	"
LIGHT	LIGHT 67 L.L. #4008 SQUARE GREEN DAYMARK ON PILE	28 24	27.572	80 44	09.826		"	"
LIGHT	LIGHT 12 L.L. #4009 TRIANGULAR RED DAYMARK ON PILE	28 24	20.959	80 43	56.784		"	"
LIGHT	LIGHT 10 L.L. #4010 TRIANGULAR RED DAYMARK ON PILE	28 24	20.452	80 43	23.805		"	"
DAYBEACON	DAYBEACON 9 SQUARE GREEN DAYMARK ON PILE	28 24	18.407	80 43	23.415		"	"
LIGHT	LIGHT 68 L.L. #4024 TRIANGULAR RED DAYMARK ON DOLPHIN	28 23	50.576	80 44	02.572		"	"

(72.) A-284(85)

RESPONSIBLE PERSONNEL

TYPE OF ACTION	NAME	ORIGINATOR
OBJECTS INSPECTED FROM SEAWARD	DOUGLAS G. BROCKHOUSE LTJG, NOAA	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	DOUGLAS G. BROCKHOUSE, LTJG, NOAA	FIELD ACTIVITY REPRESENTATIVE
		OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		☐ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS

Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.

EXAMPLE: 75E(C)6042
8-12-75

FIELD

I. NEW POSITION DETERMINED OR VERIFIED

Enter the applicable data by symbols as follows:

F - Field	P - Photogrammetric
L - Located	Vis - Visually
V - Verified	
1 - Triangulation	5 - Field identified
2 - Traverse	6 - Theodolite
3 - Intersection	7 - Planetable
4 - Resection	8 - Sextant

A. Field positions* require entry of method of location and date of field work.

EXAMPLE: F-2-6-L
8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

FIELD (Cont'd)

B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.

EXAMPLE: P-8-V
8-12-75
74L(C)2982

II. TRIANGULATION STATION RECOVERED

When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.

EXAMPLE: Triang. Rec.
8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH

Enter 'V-Vis.' and date.

EXAMPLE: V-Vis.
8-12-75

**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

☆ U.S.GPO:1975-0-665-080/1155

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY
- [XX] HYDROGRAPHIC PARTY
- [ ] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [ ] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

[X] TO BE CHARTED
[ ] TO BE REVISED
[ ] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
HFP-2	Florida	Indian River	5/81

The following objects HAVE [X] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
G-207	HSB-10-1-80	H-9866	N.A. 1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	POSITION LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	POSITION LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	METHOD AND DATE OF LOCATION FIELD	CHARTS AFFECTED
DAYBEACON	DAYBEACON 69 SQUARE GREEN DAYMARK ON PILE	28 23	50.675	80 43	59.950		HFP-2 3rd Order Positioning	11485
DAYBEACON	DAYBEACON 71 SQUARE GREEN DAYMARK ON PILE	28 23	27.433	80 43	52.470		"	"
DAYBEACON	DAYBEACON 72 TRIANGULAR RED DAYMARK ON PILE	28 22	59.872	80 43	46.687		"	"
LIGHT	LIGHT 73 L.L. #4025 SQUARE GREEN DAYMARK ON DOLPHIN	28 22	31.730	80 43	34.788		"	"
DAYBEACON	DAYBEACON 74 TRIANGULAR RED DAYMARK ON PILE	28 22	30.605	80 43	37.151		"	"

(73) 4-28-(85)

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	**NAME**	**ORIGINATOR**
OBJECTS INSPECTED FROM SEAWARD	DOUGLAS G. BROCKHOUSE, LTJG, NOAA	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	DOUGLAS G. BROCKHOUSE, LTJG, NOAA	FIELD ACTIVITY REPRESENTATIVE
		OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		☐ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS

Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.

EXAMPLE: 75E(C)6042
8-12-75

FIELD

I. NEW POSITION DETERMINED OR VERIFIED

Enter the applicable data by symbols as follows:

F - Field	P - Photogrammetric
L - Located	Vis - Visually
V - Verified	
1 - Triangulation	5 - Field identified
2 - Traverse	6 - Theodolite
3 - Intersection	7 - Planetable
4 - Resection	8 - Sextant

A. Field positions* require entry of method of location and date of field work.

EXAMPLE: F-2-6-L
8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

FIELD (Cont'd)

B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.

EXAMPLE: P-8-V
8-12-75
74L(C)2982

II. TRIANGULATION STATION RECOVERED

When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.

EXAMPLE: Triang. Rec.
8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH

Enter 'V-Vis.' and date.

EXAMPLE: V-Vis.
8-12-75

**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

☆ U.S.GPO:1975-0-665-080/1155

APPROVAL SHEET
SURVEY H-9866(HSB-10-1-80)

The hydrographic records transmitted with this report are complete and adequate to supersede prior surveys for charting with no additional field work recommended.

Direct daily supervision was not given by me during the field work.

Approved and forwarded,

Robert Lewis

George W. Jamerson
Lt. Cdr. NOAA
Chief, Hydrographic Surveys Branch

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NO.: H-9866

Number of positions	2405
Number of soundings	8619
Number of control stations	17

	TIME-HOURS	DATE COMPLETED
Preprocessing Examination	15	15 AUG 1981
Verification of Field Data	342	5 JAN 1984
Quality Control Checks	109	
Evaluation and Analysis	143	6 MAR 1984
Final Inspection	40	2 MAR 1984
TOTAL TIME	649	
Marine Center Approval		6 MAR 1984

Transmittal letter of survey and survey records will be included in the Descriptive Report to identify the records accompanying the survey.

NOAA FORM 61-29
(12-71)

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

REFERENCE NO.
MOA 23 38-85 rgr

LETTER TRANSMITTING DATA

DATA AS LISTED BELOW WERE FORWARDED TO YOU BY *(Check)*:

☐ ORDINARY MAIL ☐ AIR MAIL
☒ REGISTERED MAIL ☐ EXPRESS
☐ GBL *(Give number)* _____

TO:

CHIEF, DATA CONTROL SECTION
HYDROGRAPHIC SURVEYS BRANCH, N/CG243
NATIONAL OCEAN SERVICE, NOAA
ROCKVILLE, MD 20852

DATE FORWARDED
25 MARCH 1985

NUMBER OF PACKAGES
three (3)

NOTE: A separate transmittal letter is to be used for each type of data, as tidal data, seismology, geomagnetism, etc. State the number of packages and include an executed copy of the transmittal letter in each package. In addition the original and one copy of the letter should be sent under separate cover. The copy will be returned as a receipt. This form should not be used for correspondence or transmitting accounting documents.

H-9866 (HSB 10-1-80) OPR-G267-HSB-78
FLORIDA, INDIAN RIVER, WILLIAMS POINT TO
MAGNOLIA POINT

PKG 1: (tube)
1 Smooth Sheet
1 Smooth Position Overlay
2 Excess Overlays (level 1, level 2/3)
3 Final Field Sheets
5 Rough Field Sheets
1 Original Descriptive Report

PKG 2: (box)
10 NOAA Form 77-44 "SOUNDINGS"
5 Chart 11485
3 Accordian files containing echograms, master and corrector printouts for the following vessels:
1277: 347, 350, 353, 046, 049, 014, 015, 016, 019, 021, 022, 026, 027, 029, 034, 035, 036, 037, 040

FROM: *(Signature)*
for David B. MacFarland, LCDR, NOAA

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

HYDROGRAPHIC SURVEYS BRANCH, N/MOA232
ATLANTIC MARINE CENTER
NOAA – NATIONAL OCEAN SERVICE
439 WEST YORK STREET
NORFOLK, VA 23510

NOAA FORM 61-29
(12-71)

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

REFERENCE NO.

MOA 23 38-85 rgr

LETTER TRANSMITTING DATA

DATA AS LISTED BELOW WERE FORWARDED TO YOU BY *(Check)*:

☐ ORDINARY MAIL ☐ AIR MAIL

☑ REGISTERED MAIL ☐ EXPRESS

☐ GBL *(Give number)* _____

TO:

CHIEF, DATA CONTROL SECTION
HYDROGRAPHIC SURVEYS BRANCH, N/CG243
NATIONAL OCEAN SERVICE, NOAA
ROCKVILLE, MD 20852

DATE FORWARDED

25 MARCH 1985

NUMBER OF PACKAGES

three (3)

NOTE: A separate transmittal letter is to be used for each type of data, as tidal data, seismology, geomagnetism, etc. State the number of packages and include an executed copy of the transmittal letter in each package. In addition the original and one copy of the letter should be sent under separate cover. The copy will be returned as a receipt. This form should not be used for correspondence or transmitting accounting documents.

H-9866 (cont'd)

PKG 2: box (cont'd)

1278: ϕ44, ϕ49, ϕ50, ϕ55-ϕ58, ϕ70-ϕ72, ϕ71 (bottom samples), ϕ72, ϕ74 (bottom samples)
ϕ76, ϕ78, ϕ79, ϕ90, ϕ93, ϕ99, 1ϕ4

1279: ϕ68, ϕ69, ϕ92, 1ϕ5

1286: ϕ74, ϕ77, ϕ78, ϕ79, ϕ80, ϕ93 (no echogram)

1 Envelope containing Miscellaneous Data
1 Envelope containing "HYDRO ABSTRACTS"
1 Envelope containing Material Removed from Original Descriptive Report
1 Envelope containing "DIRECT COMPARISON LOGS"
1 Envelope containing Sounding Corrector Abstracts for VESNO's 1278 and 1279

PKG 3: (box)

1 Cahier containing Final Position Listing and Control File Listing
1 Cahier containing Final Sounding Listing and L-File Listing

FROM: *(Signature)*

for David B. MacFarland, LCD, NOAA

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

HYDROGRAPHIC SURVEYS BRANCH, N/MOA232
ATLANTIC MARINE CENTER
NOAA – NATIONAL OCEAN SERVICE
439 WEST YORK STREET
NORFOLK, VA 23510

NOAA FORM 61-29 SUPERSEDES FORM C&GS 413 WHICH MAY BE USED.

☆U.S.GPO:1980-0-665-115/1005

August 7, 1981

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): 872-1456 Titusville, FL

Period: December 12, 1980 - April 19, 1981

HYDROGRAPHIC SHEET: H-9866

OPR: G-207

Locality: Indian River, Florida

Plane of reference (Low Water Datum): 3.03 ft.

Height of Mean High Water above Plane of Reference is

REMARKS: Zone Direct.

James C. Hubbard
Chief, Datums and Information Branch

U.S. DEPARTMENT OF COMMERCE
September 17, 1980 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): 872-1611 - Sykes Creek, FL

Period: March 14-20, 1980

HYDROGRAPHIC SHEET: H-9866

OPR: G207

Locality: Sykes Creek and Canaveral Barge Canal, Merritt Island, Florida

Plane of reference (Low Water Datum): 3.23 ft.

Height of Mean High Water above Plane of Reference is

REMARKS: Zone Direct.

James R Hallmark
Chief, Datums and Information Branch

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER

H-9866

GEOGRAPHIC NAMES

Name on Survey	A ON CHART NO.	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
Banana River	X									1
Bennett Memorial Causeway(cult. feature)	X									2
Canaveral Barge Canal	X									3
City Point (Ppl)	X									4
Courtenay	XX									5
Florida(title)	X									6
Indianola	X									7
Indian River	X									8
Magnolia Point	X									9
Merritt Island	X									10
Sharpes	X									11
Sykes Creek	X									12
Sykes Creek Parkway Bridge (cultural feature)										13
Merritt Island (populated place)										14
Williams Point (Ppl)										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25

Approved:

Charles E. Harrington

Chief Geographer - N/CG2x5

24 Oct. 1983

NOAA FORM 76-155 SUPERSEDES C&GS 197

NOAA FORM 77-27 | U.S. DEPARTMENT OF COMMERCE | REGISTRY NUMBER

HYDROGRAPHIC SURVEY STATISTICS

H-9866

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	SMOOTH OVERLAYS: POS., ARC, EXCESS	3
DESCRIPTIVE REPORT	1	FIELD SHEETS AND OTHER OVERLAYS	8

DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/ SOURCE DOCUMENTS	
ACCORDIAN FILES	3					
ENVELOPES					1	
VOLUMES					1Φ	
CAHIERS				2		
BOXES						

SHORELINE DATA

SHORELINE MAPS(List):

PHOTOBATHYMETRIC MAPS(List):

NOTES TO THE HYDROGRAPHER(List):

SPECIAL REPORTS(List):

NAUTICAL CHARTS(List): 11485

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS		
	VERIFICATION	*EVALUATION*	*TOTALS*
POSITIONS ON SHEET			24Φ6
POSITIONS REVISED			
SOUNDINGS REVISED	2ΦΦ	5	2Φ5
CONTROL STATIONS REVISED			
	TIME-HOURS		
	VERIFICATION	*EVALUATION*	*TOTALS*
PRE-PROCESSING EXAMINATION	6	9	15
VERIFICATION OF CONTROL	16		16
VERIFICATION OF POSITIONS	1Φ5		1Φ5
VERIFICATION OF SOUNDINGS	221		221
VERIFICATION OF JUNCTIONS		11	11
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	319	1Φ	329
COMPARISON WITH PRIOR SURVEYS AND CHARTS			
EVALUATION OF SIDESCAN SONAR RECORDS		26	26
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		7Φ	7Φ
OTHER	17	26	43
DIGITIZING	24		24
TOTALS	7Φ6	152	86Φ

Pre-processing Examination by R.G. Roberson, H.R. Smith	*Beginning Date* 5 AUG 1981	*Ending Date* 6 AUG 1981
Verification of Field Data by J.B. Wilson, J.S. Bradford	*Time(Hours)* 7Φ8	*Ending Date* 14 DEC 1983
Verification Check by L.G. Cram, R.G. Roberson	*Time(Hours)* 71	*Ending Date* 13 JAN 1984
Evaluation and Analysis by R.G. Roberson	*Time(Hours)* 152	*Ending Date* 9 MAR 1984
Inspection by S. Baumgardner	*Time(Hours)* 4Φ	*Ending Date* 2 MAR 1984

ATLANTIC MARINE CENTER
EVALUATION REPORT

REGISTRY NO.: H-9866 FIELD NO.: HSB 10-1-80

Florida, Indian River, Williams Point to Magnolia Point

SURVEYED: 14 March 1980 through 20 April 1981

SCALE: 1:10,000 PROJECT NO.: OPR-G207-HSB-78

SOUNDINGS: Raytheon DE-719B Fathometer, Sounding Pole CONTROL: Del Norte/Theodolite (Range/Azimuth)

Chief of Party.....T. W. Richards
.....G. W. Jamerson
Surveyed by.....A. Y. Bryson
.....D. G. Brockhouse
.....R. Snow
.....D. B. Elliott
.....E. L. Martin
.....L. J. Podleiszek
.....J. K. Kleinfelter
.....D. K. Parris
.....C. F. Bush
Automated Plot by.....Xynetics 1201 Plotter (AMC)

1. INTRODUCTION

a. The sounding datum in this area is a local low water datum and is referred to as LOW WATER DATUM. Tidal conditions are such that Mean Lower Low Water is not definable. Elevations of features seaward of the shoreline such as piles, etc...are referenced to Low Water and the descriptive labels are shown in vertical lettering when they extend one (1) foot or more above LWD and in slanted lettering when the elevations of such features are less than one (1) foot above LWD. Most features a foot or more above LWD are exposed during high water conditions which may occur in this area due to meterological conditions.

b. No unusual problems were encountered during verification of the survey.

c. Notes in the Descriptive Report were made in red during verification.

2. CONTROL AND SHORELINE

a. Control is adequately discussed in sections F., G., and S. of the Descriptive Report.

b. Shoreline for this survey originates with registered Coastal Zone Maps TP-00133 and TP-00134 of 1969-71, unregistered Coastal Zone Maps TP-00137 and

TP-00138 of 1969/70-1971, and Chart 11485 (16th Edition, JAN 17/78) enlarged to the scale of the survey and shown in brown on the smooth sheet. Shoreline changes found by the hydrographer are shown with dashed red lines on the smooth sheet. Additional changes found by the hydrographer are addressed in section H of the Descriptive Report.

3. HYDROGRAPHY

a. Soundings at crossings are in excellent agreement. Depths are generally within one (1) foot.

b. The standard depth curves could be adequately delineated. The zero (0) depth curve was not delineated because of extensive shallow areas. Supplemental and dashed curves were added to show additional bottom relief.

c. The development of the bottom configuration and determination of least depths are considered adequate.

4. CONDITION OF SURVEY

The smooth sheet and accompanying overlays, hydrographic records and reports are adequate and conform to the Hydrographic Manual except the following:

a. The Del Norte was operated as close as seventy-two (72) meters from the remote unit in the range/range mode and twenty (20) meters in the range/azimuth mode. OPORDER 18, dated 4 APRIL 1977 said that the system could be operated less than five hundred (500) meters from the remote unit if an antenuator was used. There is no indication in the field records that an antenuator was used.

b. Twice daily bar checks were not taken as required by section 1.5.2 of the Hydrographic Manual. A vessel by vessel breakdown shows that for launch 1277, three (3) out of ten (10) possible bar checks was taken; launch 1278, fifteen (15) out of forty-six (46) possible bar checks were taken; launch 1279, eleven (11) out of twenty-four (24) possible bar checks were taken, and launch 1286, eight (8) out of twelve (12) possible bar checks were taken.

c. Some bar checks were recorded in the sounding volumes submitted with the survey data while other bar check data was not. The Hydrographic Manual states that the bar check data can be recorded in the sounding volume (see section 4.8.3.6) or on a direct comparison log (see section 4.9.5.1.1). Direct comparison logs were submitted for all bar checks, but it is improbable that they were all recorded in the field. This shows an inconsistency in recording methods used by the field.

d. The two (2) daily calibrations (system checks) for the Del Norte were not done as required by section 4.4.3.3 of the Hydrographic Manual.

e. The data for the computation of the height of a power cable (volume 10 of 10, page 47) showed some indications of an error in the zenith distance observations. Additional observations would have provided increased precision.

Times of observation for both bridge and cable clearances were not recorded and the bridge and cable observed were not described (route number, etc.).

f. The hydrographer failed to properly identify and compare the appropriate prior surveys with the present survey. Section K of the Descriptive Report identifies H-1293 (1876) and H-1380 (1876-77) for comparison. H-1380 (1876-77) does not apply and H-6664 (1941) was not used for comparison purposes. H-6664 (1941) was listed in section 6.10.1 of the Project Instructions.

g. The hydrographer did not investigate the two (2) charted submerged piles found in Latitude 28°27'03"N, Longitude 80°43'27"W and two parts of the Presurvey Review Item 32 (submerged pilings-see section 6 of this report). These piles originate with H-6664 (1941) and are found on Chart 11485 (18th Edition).

h. Section 4.5 of the Project Instructions set the requirements for line spacing for the project. For this survey the fifty (50) meter line spacing in dredged or natural narrow channels was not adhered to in the Canaveral Barge Canal or the Intracoastal Waterway.

i. Numerous private markers located by the hydrographer were not mentioned in a general note in section N of the Descriptive Report. See section 5.3.4 (N) of the Hydrographic Manual for specific items requiring discussion in the Descriptive Report.

j. The hydrographer did not accurately locate piles in approximate Latitude 28°25'45"N, Longitude 80°43'39"W. The piles were passed on a main scheme line of hydrography, page 23, volume 5 of 10 with notation, "submerged piles to left of line."

5. JUNCTIONS

H-9633 (1976) to the south

H-9665 (1976) to the east

H-9860 (1979) to the south

H-9988 (1981-82) to the north

An adequate junction was effected with H-9988 (1981-82) to the north.

The smooth sheets and accompanying survey data for H-9633 (1976), H-9665 (1976), and H-9860 (1979) are archived in headquarters and a standard junction was not effected. Comparisons made between copies of H-9633 (1976), H-9665 (1976), and H-9860 (1979) and the present survey smooth sheet show adequate agreement between soundings in the junctional area. The standard depth curves can be completed in the junctional areas.

6. COMPARISON WITH PRIOR SURVEYS

H-1293 (1:20,000) 1876

H-6664 (1:10,000) 1941

The above prior surveys cover the entire area of the present survey with the exception of Sykes Creek and the Canaveral Barge Canal.

H-1293 (1876) covers the present survey from its southern limit to approximate Latitude 28°26'36"N. Generally the present and prior surveys compare well, depths vary one (1) foot with no trend except in the area of the Intracoastal Waterway and spoil banks created by dredging. Along the western shoreline considerable cultural development has occurred. The eastern shoreline has not been as extensively developed as the western shoreline.

H-6664 (1941) covers the present survey area north of Latitude 28°26'36"N. Generally the present and prior surveys compare well, depths vary one (1) foot with no trend. The Intracoastal Waterway and Canaveral Barge Canal and their spoil areas are the exceptions to the one (1) foot variance. Two (2) small islands and a soil bank on the prior survey in Latitude 28°27'06"N, Longitude 80°43'55"W and 28°27'06"N, Longitude 80°44'09"W and Latitude 28°27'06"N, Longitude 80°44'20"W were not found and are superseded by the present survey.

Pilings located in Latitude 28°27'02"N, Longitude 80°43'27"W and Latitude 28°27'05"N, Longitude 80°43'50"W, on the prior survey were neither verified or disproved and were carried forward to the present survey as submerged pilings.

Both the Canaveral Barge Canal and the cultural development in Sykes Creek were completed subsequent to both prior surveys. A telephone conversation with Mr. Gordon Holmes of the Jacksonville District, U.S. Army Corps of Engineers (FTS946-2436) established that the canal was completed in 1965.

With the additions noted above, the present survey is adequate to supersede the above prior surveys within the common area.

7. COMPARISON WITH CHARTS 11478 (9th Edition, SEPT 13/80)
11485 (18th Edition, JUNE 20/80)

a. Hydrography

The charted hydrography originates with the previously discussed prior surveys and U.S. Army Corps of Engineers surveys along the Intracoastal Waterway and Canaveral Barge Canal and requires no additional comment. Charted hydrography in Sykes Creek originates with miscellaneous sources and no further comment is required.

Attention is directed to the following items:

1) Presurvey Review Itmes 29,30, and 31 are adequately discussed in section L of the Descriptive Report.

2) A dolphin charted in Latitude 28°24'03"N, Longitude 80°44'28"W was

identified as piles baring five (5) feet at Low Water Datum in Latitude 28°24'00.30"N, Longitude 80°44'25.21"W. The chart compiler will have to ascertain the source of the dolphin and determine which of the two (2) objects should be charted.

See the accompanying chart markup for the sources of the charted hydrography and shoreline features. Final disposition of charted data from miscellaneous sources is deferred to the chart compiler.

The present survey is adequate to supersede the charted hydrography in the common area.

b. Controlling Depths

There are no conflicts between the present survey and controlling depths in the charted channels in the present survey area.

c. Aids to Navigation

There are two (2) floating and fifteen (15) fixed aids to navigation in the survey area. These aids are adequate to serve their intended purpose.

Numerous private markers are found in the survey area. These markers are used to mark unmaintained channels or narrow natural channels.

8. COMPLIANCE WITH PROJECT INSTRUCTIONS

This survey adequately complies with the Project Instructions except as noted in section 4 of this report.

9. Additional Work

This is an adequate basic survey; no additional field work is recommended.

for Leroy G. Cram
J. Scott Bradford
Cartographic Technician
Verification of Field Data

Robert G. Roberson
Senior Cartographer
Evaluation and Analysis

Leroy G. Cram
Leroy G. Cram
Supervisory Cartographic Technician
Verification Check

INSPECTION
H-9866

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolizations, and verification or disproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet during survey processing have been entered in the magnetic tape record for this survey. The survey complies with the National Ocean Service requirements except as noted in the Evaluation Report. The survey records comply with NOS requirements except where noted in the Evaluation Report.

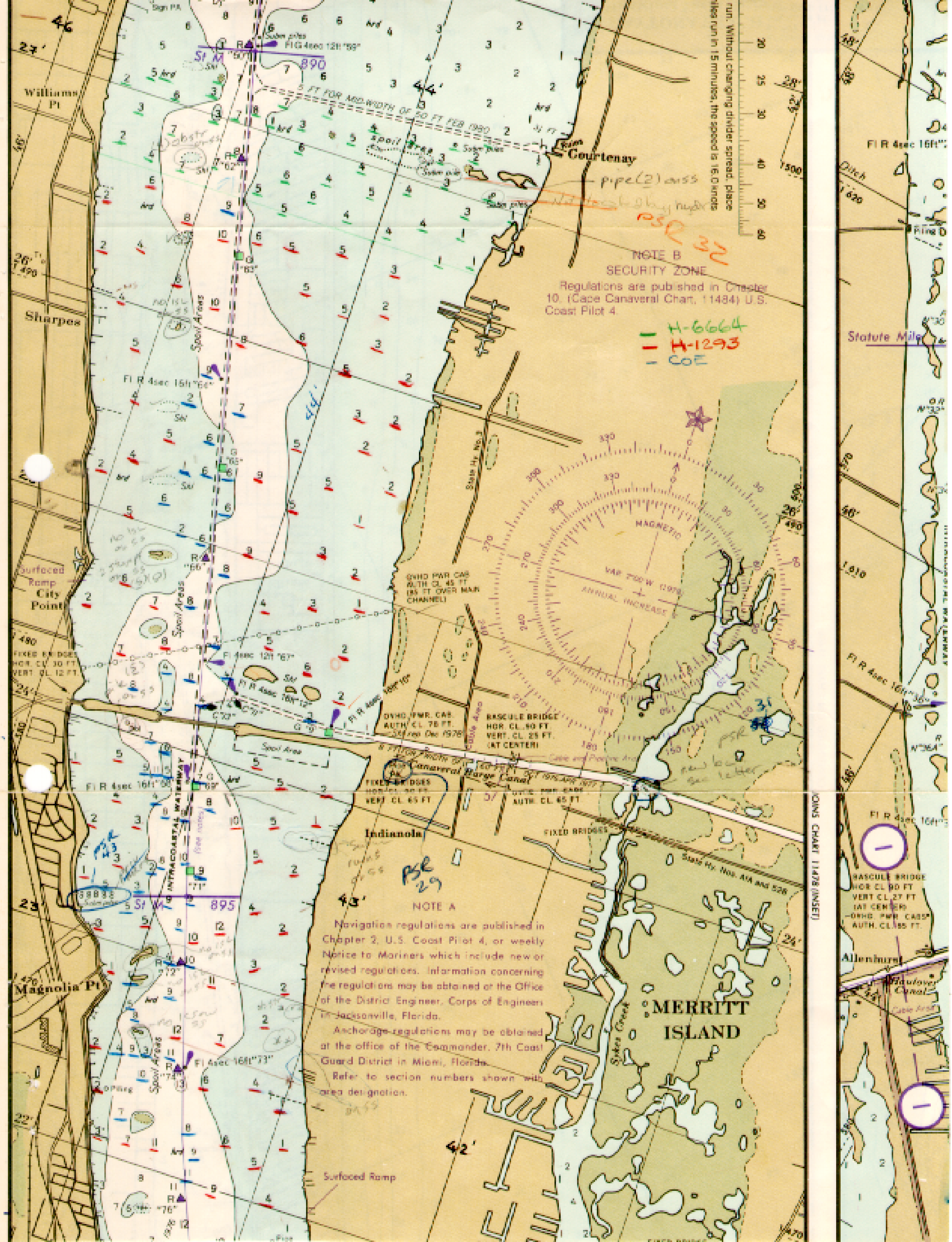
Inspected

for George H. Myers
Stephen Baumgardner
Senior Cartographer
Standards Section

Karl Wm Kieninger
Karl Wm Kieninger, CDR, NOAA
Chief, Hydrographic
Survey Branch

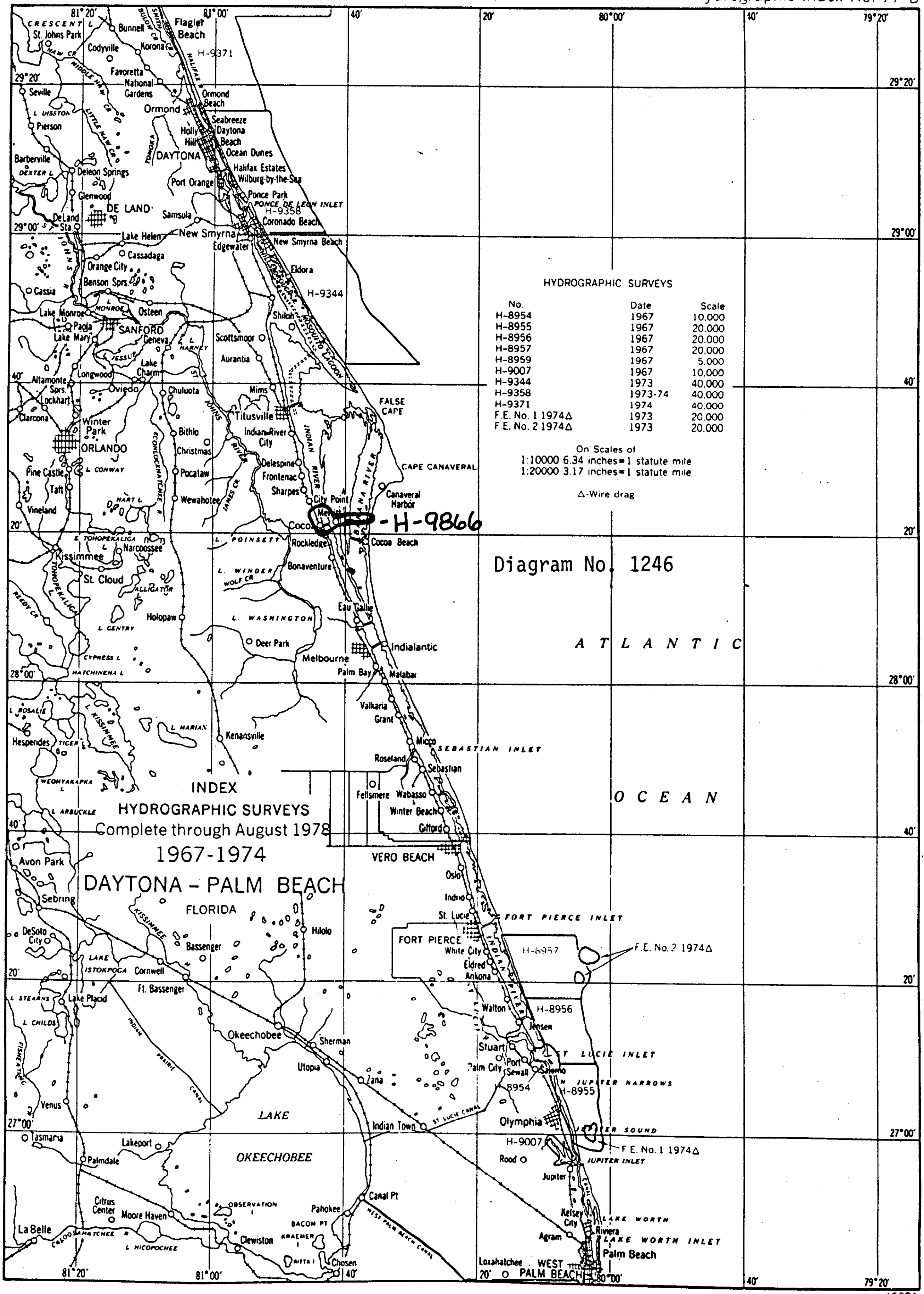
Approved March 6, 1984

Wesley V. Hull
Wesley V. Hull, RADM, NOAA
Director
Atlantic Marine Center


Williams Pt
Sharpes
City Point
Magnolia Pt
Indianola
Courtenay
MERRITT ISLAND
Allenhurst
NOTE B
SECURITY ZONE
Regulations are published in Chapter 10, (Cape Canaveral Chart, 11484) U.S. Coast Pilot 4.
NOTE A
Navigation regulations are published in Chapter 2, U.S. Coast Pilot 4, or weekly Notice to Mariners which include new or revised regulations. Information concerning the regulations may be obtained at the Office of the District Engineer, Corps of Engineers in Jacksonville, Florida.
Anchorage regulations may be obtained at the office of the Commander, 7th Coast Guard District in Miami, Florida.
Refer to section numbers shown with area designation.
5 FT FOR MID-WIDTH OF 50 FT FEB 1980
OVHD PWR CAB AUTH CL 45 FT (85 FT OVER MAIN CHANNEL)
OVHD PWR CAB AUTH CL 75 FT
BASCULE BRIDGE HOR. CL. 90 FT VERT. CL. 25 FT. (AT CENTER)
FIXED BRIDGES HOR. CL. 90 FT VERT. CL. 65 FT
FIXED BRIDGES HOR. CL. 30 FT VERT. CL. 12 FT.
OVHD PWR CABS AUTH. CL. 65 FT
FIXED BRIDGES
Canaveral Barge Canal
State Hy. Nos. A1A and 528
State Hy. No. 3
INTRACOASTAL WATERWAY
Spoil Area
Surfaced Ramp
MAGNETIC
VAR 2°00'W (1978)
ANNUAL INCREASE
Fl R 4sec 16ft "64"
Fl 4sec 12ft "67"
Fl R 4sec 16ft "72"
Fl R 4sec 16ft "68"
Fl G 4sec 12ft "59"
Fl 4sec 16ft "73"
BASCULE BRIDGE HOR CL 90 FT VERT CL 27 FT (AT CENTER) OVHD. PWR CABS AUTH. CL 85 FT.
Statute Mile
CHART 11478 (INSET)
H-6664
H-1293
COE
PSR 32
PSR 29
St M 890
St M 895

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Survey
Rockville, Maryland

Hydrographic Index No. 77 D



NOAA FORM 75-96
(10-83)

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

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9866

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
11478	9.20.85	Cartto	Full ~~Part Before~~ After Marine Center Approval Signed Via Borg Comp only 13
			Drawing No. 12 No Corr Superseded by BP 124415
11477	9-10-87	Herrick	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 7 No corr Superseded by Bp 124415-19
11481	9-10-87	Herrick	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 2 No Corr. Superseded by Bp 124415-19
11485-B-	11-23-88	BARTHEL	~~Full~~ Part ~~Before~~ After Marine Center Approval Signed Via
			Drawing No. 25 Apply critical corrections from DR only.
~~11485B~~	~~6-29-90~~	~~John Pierce~~	~~Full Part Before After Marine Center Approval Signed Via~~
			~~Drawing No. 26~~
11485B	8-14-90	Ed Martin	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 26
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.

Appl'd to [illegible] 4-4-85 [illegible]