10454

Diagram No. 1265-3

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey: Hydrographic

Field No.: AHP2-10-3-93

Registry No.: H-10454

LOCALITY

State: Florida

General Locality: Pensacola Bay

Sublocality: Redfish Cove to White Point

1993

CHIEF OF PARTY
LT J. Waddell

LIBRARY & ARCHIVES

DATE: November 5, 1993

☆U.S. GOV. PRINTING OFFICE: 1987—756-980

10454

CR5
11383
11378 'A',
11385 'B' + ext.

11382 N.C.

NOAA FORM 77-28 (11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO. H-10454

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. AHP-2-10-3-93

State: Florida

General locality: Pensacola Bay

Locality: Redfish Cove to White Point

Scale: 1:10,000 Date of survey: March 4, 1993 - May 17, 1993

Instructions dated: September 25, 1992 Project No.: OPR-J223/AHP

Vessel: NOAA Launch 0517

Chief of party: LT James Waddell, NOAA

Surveyed by: Atlantic Hydrographic Party

Soundings taken by echo sounder, ~~hand lead~~, ~~pole~~: Innerspace Model 448

Graphic record scaled by: MJM, GDH, LAM, JLB

Graphic record checked by: MJM, GDH, LAM, JLB

Verification by: ~~Protracted by~~ R. Davies Automated plot by: PHS Xynetics Plotter

Evaluation by: ~~Verification~~ R. Davies

Soundings in ~~fathoms~~ meters ~~feet~~ at ~~MLW~~ MLLW and decimeters

REMARKS: Time in UTC. Revisions and marginal notes in black were generated during office processing. All separates are filed with the hydrographic data, as a result page numbering may be interrupted or non-sequential. All depths listed in this report are referenced to MEAN Lower Low WATER unless otherwise noted.

SURF/AWOLS check
11/23/93 MCR

SN 1-6-97
RWW 7/19/94

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

U.S. GOVERNMENT PRINTING OFFICE: 1986 - 652-007/41215

SOUNDINGS IN FEET

UNITED STATES - GULF COAST
FLORIDA - ALABAMA

PENSACOLA BAY AND APPROACHES

OPR-J223-AHP
PENSACOLA AND PERDIDO BAYS, FL & AL
SHEET LAYOUT AND PROJECT LIMITS SKETCH

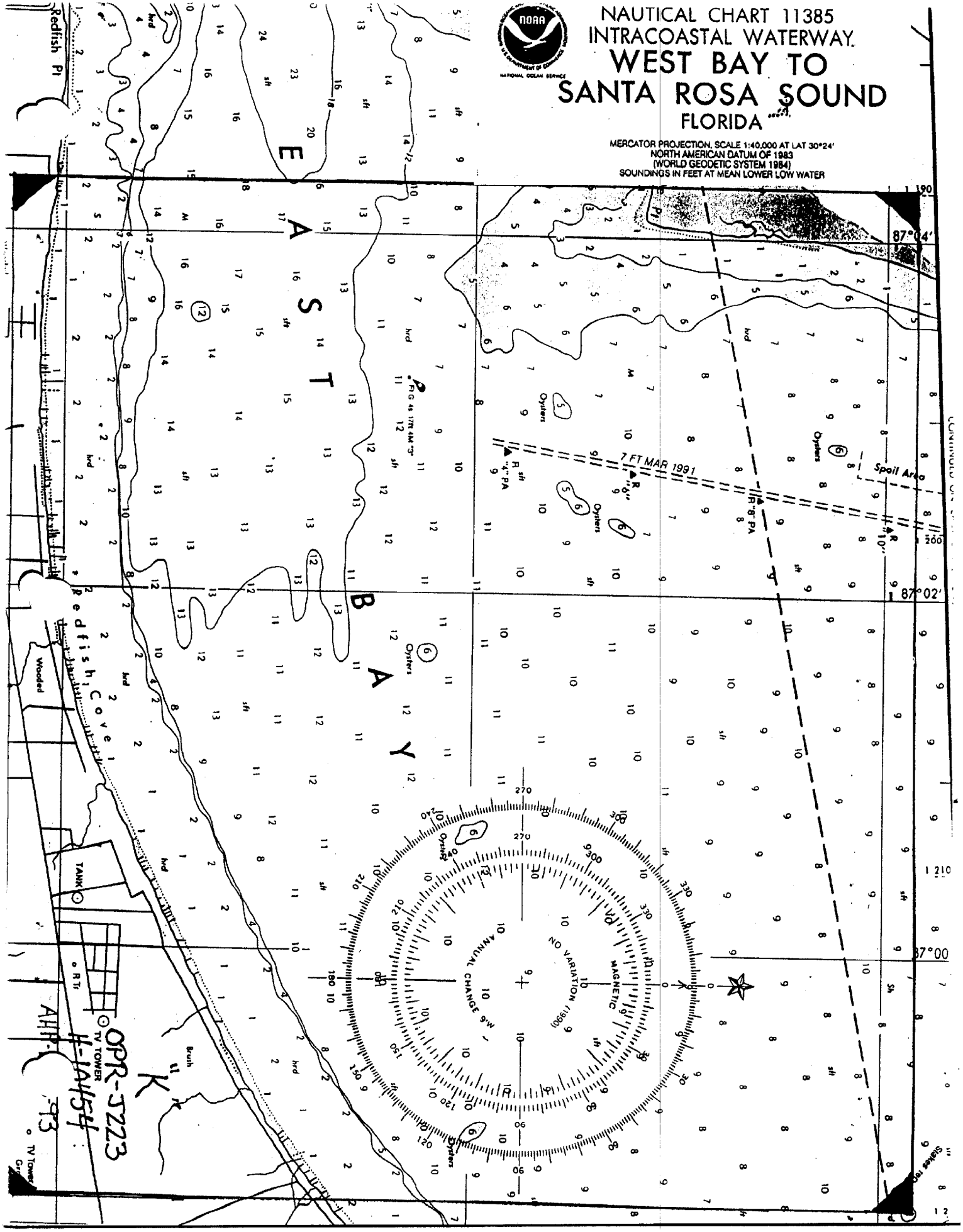
UNITS OF HYDROGRAPHY SHOWN
ALL SHEETS ARE 1:10,000 SCALE
SHEETS B,D,G ARE 76 CM X 76 CM
SHEETS A,C,J,P ARE 76 CM X 90 CM
SHEETS E-F, H,I, L-N ARE 76 CM X 122 CM

APPROVED: 7/22/92

REVISED 11/17/92
APPROVED:

SOUNDINGS IN FEET

(Pensacola Bay and Approaches)


NAUTICAL CHART 11385
INTRACOASTAL WATERWAY
WEST BAY TO
SANTA ROSA SOUND
FLORIDA
MERCATOR PROJECTION, SCALE 1:40,000 AT LAT 30°24'
NORTH AMERICAN DATUM OF 1983
(WORLD GEODETIC SYSTEM 1984)
SOUNDINGS IN FEET AT MEAN LOWER LOW WATER
NOAA
NATIONAL OCEAN SERVICE
Redfish Pt
Redfish Cove
Spoil Area
7 FT MAR 1991
Oysters
Wooded
TANK
TV TOWER
Brush
NO VARIATION (1990)
MAGNETIC
ANNUAL CHANGE 9'W
87°04'
87°02'
87°00'
OPR-J223
H-14454
AHP-93

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H-10454
FIELD NO. AHP2-10-3-93
SCALE: 1:10,000
1993
ATLANTIC HYDROGRAPHIC PARTY
CHIEF OF PARTY: Lt. James E. Waddell, Jr.

A. PROJECT

This survey was conducted in accordance with Hydrographic Project Instructions OPR-J223-AHP, Pensacola and Perdido Bays, Florida and Alabama, dated September 25, 1992 and amended by Change No. 1 dated January 4, 1993. This survey is designated as Sheet K on the revised sheet layout dated November 17, 1992.

The purpose of this project is to provide contemporary hydrography for the maintenance of existing charts. The area was last surveyed in 1935 by the U. S. Coast and Geodetic Survey using predominately lead line methods.

B. AREA SURVEYED

See Evac Report, section 1

The area surveyed for H-10454 covers southern East Bay from Redfish Cove to White Pt. The survey limits are as follows:

North - Latitude 30°28'10"N
South - Latitude 30°23'~~45~~ 34"N
East - Longitude 086°58'~~30~~ 22"W
West - Longitude 087°04'15"W

This survey was conducted from March 4, 199~~2~~ 3 (DN 063) to May 17, 1993 (DN 137).

C. SURVEY VESSELS

Vessel 0517 (EDP No. 0517) a 21-foot MonArk was the sounding vessel used to collect all survey data. There were no unusual vessel configurations nor problems encountered.

D. AUTOMATED DATA ACQUISITION AND PROCESSING

The Hydrographic Data Acquisition and Processing System (HDAPS) was used to process all hydrographic data for this survey. PC-DAS based HDAPS version 4.03 was used

for on-line data acquisition. A listing of HDAPS programs used for data processing and their corresponding version numbers is appended to this report.*

The following non-HDAPS computer programs were used:

VELOCITY (IBM PC)	Ver. 2.0 (12/18/92)
NADCON (IBM PC)	Ver. 1.01
WORDPERFECT (IBM PC)	Ver. 5.1

E. SONAR EQUIPMENT ✓

Not Applicable.

F. SOUNDING EQUIPMENT ✓

An Innerspace model 448 depth sounder, serial number 1087 was used to collect all soundings for this survey.

A standard lead line calibrated in meters, serial number 0517, was used during this survey for comparison readings with the echo sounder. A 5 meter long wooden sounding pole, marked according to Hydrographic Survey Guideline (HSG) No. 69, was used to obtain any pole soundings. There were no pole soundings taken during this survey.

G. CORRECTIONS TO SOUNDINGS ✓

Soundings were recorded using the Innerspace model 448 depth sounder. It was adjusted for an assumed speed of sound through water of 1500 meters/second. Corrections for the speed of sound through water were computed from data obtained with Odom Hydrographic Systems, Inc. DIGIBAR electronic probe serial number 154. Data quality assurance tests were performed in accordance with Field Procedures Manual (FPM) 2.1.3.2, prior to each cast. Program VELOCITY, version 2.0, was used to compute speed of sound through water corrections. Copies of the velocity tables and cast data are in the "Survey Separates."*

No correctors resulted from the casts taken during this survey. This survey's casts are listed below:

Cast	Table	DN	Date	Latitude	Longitude	Depth Actual/Extended	
1	--	063	03/04/93	30°23'00"N	087°11'00"W	8.0/10.4	Plot outside the survey area.
2	--	127	05/07/93	30°28'00"N	087°00'00"W	3.3/3.3	

* Filed with the hydrographic data.

The Innerspace model 448 depth sounder does not require adjustments for the tides, launch draft, or speed of sound. Changes to the gain and/or chart speed were noted on the echogram. Digitized soundings agreed with the analog trace within 0.1 meter. Necessary corrections were made while scanning the echogram.

Weather permitting, lead line comparisons were conducted each day in accordance with FPM 2.1.3.1. No instrument error was detected from these comparisons. The lead line comparison form can be found in the "Survey Separates."*

A static draft of 0.3 meter was applied to the on-line data. The draft was measured by subtracting the difference from a punch mark on the side of Launch 0517, 0.6 meters above the transducer, to the water surface.

Settlement and squat measurements were performed on May 15, 1992 (DN 136), at Shalimar, Florida, using Zeiss level S/N 08754. Settlement and squat correctors and the static draft corrector were applied on-line through the offset table. Copies of the field data, the graphs of the settlement and squat correctors vs. speed, and the offset table are included in the "Survey Separates."*

The Pensacola, Florida tide station (872-9840) served as control for datum determination. This station is also the reference station for the predicted tides which were applied to the final field sheet. This survey required a +0 hr 30 min time corrector and a x1.10 range ratio be applied to the predicted tides. Approved hourly heights were applied to soundings on the smooth sheet. See FUAK Report, section 1

The final field sheet was plotted after reapplying the correctors to each data record using the program REAPPLY.

Approved tides were requested from the Sea and Lake Levels Branch, N/OES231, in a letter dated June 25, 1993. A copy of the letter is appended to this report.*
Approved tide NOTE is attached to this report.

H. CONTROL STATIONS ✓

The horizontal control datum for this project is the North American Datum of 1983. One station was used to control this survey. A copy of the Control Station List is appended to this report.

The Atlantic Hydrographic Party used the Global Positioning System (GPS) to establish horizontal control for this project. The horizontal control report titled "GPS Traverse, Pensacola and Escambia Bays, Florida" was written and submitted by AHP in October 1992 for OPR-J223 to N/CG23322.

* Filed with the hydrographic data

I. HYDROGRAPHIC POSITION CONTROL ✓

Differential GPS was used as the method of positioning for all hydrographic data on this survey. An Ashtech model XII receiver, serial number 700157E1076 was used for the reference station. An Ashtech sensor, serial number 700417A1065 was used as the remote station on vessel 0517. Maxon VHF radios, using frequency 170.200 Mhz, were used as the datalink between reference and remote stations. This equipment met or exceeded third-order, class I standards.

Program MONITOR was run for 24 hours on November 12, 1992 to test the reference site for multi-path. The GPS availability at this site was determined to be better than 99% from this test. A copy of the "Plot of Radial Error in Position" and the "Outlier File" are included in the "Survey Separates."*

Performance checks were conducted daily by resting the launch alongside Blackwater Channel Light 30, Light List No. 4685, Volume IV, Gulf of Mexico, 1993. The raw record and the abstract of these checks are included in the "Survey Separates." AHP located this light with GPS to third-order, class I standards. The data was not included in the Horizontal Control Report. Copies of the "Vector Summary" and "Forward Computation" are included in the "Survey Separates."*

Hydrographic operations ceased whenever the horizontal dilution of precision (HDOP) exceeded 3.8. This was calculated in accordance with FPM 3.4.2. High HDOP values occurred during periods of poor satellite geometry. There were 207 positions in which the HDOP values exceeded 3.8. All positions were reviewed and found acceptable.

Occasionally, a good position misplotted on the raw track plot. This problem was attributed to good DGPS data following a period of questionable DGPS data. These positions were reviewed, then edited or rejected as necessary. See note above.

J. SHORELINE

See EVAL Report, section 2

Shoreline shown on the final field sheet was transferred by hand from TP-00548 and TP-00541 and TP-00549. These manuscripts were compiled using NAD 1927 at 1:20,000 scale and enlarged to 1:10,000. Cartographic revision surveys (CRS) were supplied after this survey was begun. The shoreline west of 086° 59' 30"W, was drawn using CRS blueprint number 147635 (TP-00548). TP-00549 was used for shoreline east of 086° 59' 30"W. This explains detached positions being taken on items that are accurately shown on CRS blueprint number 14Ø8731. The only shoreline change noted on the CRS blueprints was the addition of piers. The above CRS blueprints were used as the shoreline source for Survey H-10454.

Shoreline verification was conducted using mainscheme hydrography that junctioned at shore, detached positions, or by visual inspection. Verified shoreline is shown in black ink on the final field sheet. Existing piers which agreed with the shoreline manuscript were

* Filed with the hydrographic data.

given reference numbers, while piers not shown were located by detached positions and are shown in red on the final field sheet.

Recommendation: The hydrographer recommends that details seaward of the HWL from this survey be used to supersede TP-00548 and TP-00549 and TP-00541 in the common area.** Concur

The following features were identified on this survey and did not appear on TP-00548 or TP-00549:

**TP-00548 (CRS blueprint 147635)
TP-00549 (CRS blueprint 148731)
TP-00541 (CRS blueprint 149096)

Position	Latitude	Longitude	Description
2142	30°25'25.28"N	086°58'27.65"W	Pier
~~2143~~	~~30°25'24.99"N~~	~~086°58'28.84"W~~	~~Pier~~
~~2144~~	~~30°25'23.58"N~~	~~086°58'33.09"W~~	~~Piles~~
~~2146~~	~~30°25'15.71"N~~	~~086°58'40.42"W~~	~~Pier~~
~~2150~~	~~30°25'07.85"N~~	~~086°58'54.10"W~~	~~Pier~~
~~2152~~	~~30°25'06.64"N~~	~~086°58'55.35"W~~	~~Pier~~
2153	30°24'52.32"N	086°59'23.19"W	Pier
2154	30°24'47.26"N	086°59'35.48"W	Pier
2155	30°24'30.74"N	087°00'11.78"W	Pier
2156	30°24'32.62"N	087°00'13.24"W	Pipe
~~2157~~	~~30°24'04.47"N~~	~~087°01'23.56"W~~	~~Pier~~

A pier shown on TP-00549 was found in ruins at 30°25'19.50"N, 086°58'38.51"W (Pos. No. 2145).

A pier located at 30° 25' 15.47"N, 086° 58' 41.07"W (Pos. No. 2147) is shorter than charted. A visual search in the area reveals no piles offshore of the pier.

A pier shown on TP-00549 as being in ruins has been rebuilt and was located at 30° 25' 15.92"N, 086° 58' 42.63"W (Pos. No. 2148).

A charted pier and boat house was located at 30° 25' 13.40"N, 086° 58' 44.89"W (Pos. No. 2149). There was no evidence of a boathouse.

The offshore portion of a pier shown on TP-00549 as intact is a group of 5 piles in ruins at 30° 25' 08.02"N, 086° 58' 55.82"W (Pos. No. 2151). Position 2152 was taken by the offshore end of the remaining pier.

Verified shoreline features are shown in black ink on the final field sheet. Their reference numbers and corresponding heights were hand plotted on the final field sheet. Reference number descriptions, field notes, and explanations of new shoreline features are located on the graphic record. Photographs of the features are in the "Survey Separates*." A complete list of all detached positions by day is included in the accordion file. It lists the

* Filed with the hydrographic data.

position of each feature or item number.

Recommendation: The hydrographer recommends that shoreline changes from this survey be used to supersede prior shoreline information. Concur

K. CROSSLINES ✓

A total of 34.2 nautical miles of crosslines were run, representing 10.0% of the mainscheme hydrography. Crossline soundings agree to within 0.5 meter of the mainscheme soundings.

L. JUNCTIONS See Eval Report, section 5

This survey junctions with H-10455 to the west, H-10460 to the east and H-10450 to the north. H-10455 and H-10460 are currently being completed for OPR-J223-AHP. H-10450 was completed earlier in the season. Junction soundings agree within 0.3 meter with H-10450 and within 0.5 meter with H-10460. Junction soundings from H-10455 are not yet available.

M. COMPARISON WITH PRIOR SURVEYS See Eval Report, section 6

This survey was compared with prior survey H-5834a, 1:20,000, 1935.

Prior survey soundings agree well with the current survey. Sounding agreement is generally within 0.5 meter. A small shoreline change is apparent along the shoreline from White Pt northward.

The largest change from the prior survey is the addition of the Blackwater Bay channel. This channel does not appear on the prior survey but is charted as a dredged channel with a controlling depth of 7 feet. A beacon charted on the prior survey no longer exists. Concur (WHITE POINT LIGHT)

Recommendation: The hydrographer recommends that data from the present survey be used to supersede that of H-5834a within their common areas.

Concur

N. ITEM INVESTIGATION REPORTS ✓

Not Applicable.

O. COMPARISON WITH THE CHART See Eval Report, section 7.

Comparisons were made with Chart No. 11385, 20th Edition, November 23, 1991.

No AWOIS items were assigned to this survey. No dangers to navigation were identified during this survey. One danger to navigation was reported, a 3.1 meter shoal, at lat. 30/25/14.55N, long. 87/02/59.94W. See attached letter.

Current soundings compared well with those charted. Current soundings are slightly deeper near shore, yet within 0.5 meter of those charted.

Discrepancies with the chart are as follows:

An uncharted shoal at 30° 27' ~~40~~ 38.70"N, 087° 03' ~~40~~ 35.64"W, was developed using 25-meter line spacing and has a least depth of 1.6 meters (5.2 feet). Local oystermen have confirmed this as an oyster bar. Chart a 5-ft sounding at the surveyed position.

Several small uncharted shoals were located in the vicinity of 30° 27' ~~25~~ 18.37"N, 087° 03' ~~30~~ 28.19"W, using 25-meter line spacing. Least depths were found to be 1.5 meters (4.9 feet) to 1.7 meters (5.6 feet). Local oystermen frequently harvest oysters from this area. Chart area with a least depth of 5 ft as found by this survey.

A 6 foot shoal charted at 30° 27' ~~45~~ 6.56"N, 087° 02' ~~50~~ 49.80"W, was developed using 25-meter line spacing and has a least depth of 2.~~3~~0 meters (~~7~~6.5 feet). Data collected shows the 6 foot shoal ~~to no longer~~ still exists. Delete charted 6ft sounding, chart a 6ft sounding at the survey position.

One 5 foot and ~~one~~ two 6 foot shoals charted in the vicinity of 30° 26' ~~25~~ 6.70"N, 087° 02' 35 .82"W, to 30° 26' ~~45~~ 59.80"N, 087° 02' ~~25~~ 7.35"W, were developed with 25-meter line spacing. It was found to be along a crescent-shaped oyster bar extending approximately 400 meters north of the charted shoals. The least depths along the ridge of the reef were 2.1 meters (6.9 feet) to 2.~~4~~3 meters (7.~~9~~5 feet). These depths fall outside the 2-meter contour, and are deeper than the charted 5 and 6 foot depths. Delete charted 5 ft. and two 6 ft soundings. Chart this area according to this survey.

A charted 5 foot shoal at 30° 26' ~~25~~ 4.89"N, 087° 03' ~~05~~ 3.80"W, was developed using 25-meter line spacing and has a least depth of 1.7 meters (5.6 feet). Delete 5 ft. charted shoal. Chart 5 ft sounding at the survey position.

A charted 12 foot shoal at 30° 24' ~~40~~ 1.80"N, 087° 03' ~~30~~ 1.66"W, was developed using 25-meter line spacing and has a least depth of 4.~~4~~3 meters (14.~~4~~1 feet). Delete charted 12ft sounding. Chart area according to this survey.

A charted 6 foot shoal at 30° 25' 45"N, 087° 01' 40"W, was developed using 25-meter line spacing and has a least depth of 2.1 meters (6.9 feet). Delete 6ft. charted shoal and chart a 7ft sounding at the survey position.

The 8 foot sounding at 30° ~~25~~ 11' ~~00~~ 58.23"N, 087° 00' ~~30~~ 29.06"W was investigated for shoaling using 25-meter line spacing. A least depth of 2.~~8~~6 meters (~~9.2~~ 8.5 feet) was found. Delete charted 8ft shoal. Chart 8 ft sounding at the survey position.

A charted 6 foot shoal at 30° 26' ~~00~~"N, 087° 00' ~~40~~ 39.32"W was developed using 50-meter

line spacing. A least depth of 2.~~1~~0 meters (6.~~9~~5 feet) was found. Delete charted 6 ft sounding and chart 6 ft shoal as found on this survey.

Recommendation: The hydrographer recommends sounding data from this survey be used to ~~update~~ supersede the chart. Concur

P. ADEQUACY OF SURVEY

This survey is complete and adequate to supersede all prior surveys within the common area. See Exec Report, sections 3, 7.c and 9. Do not concur

Q. AIDS TO NAVIGATION

There are four aids to navigation in the survey area. One is a light, while three are red daybeacons with radar reflectors. R "6" and R "8" do not have published positions in the U.S.C.G Light List, Volume IV, Gulf Of Mexico, 1993. The surveyed position for Blackwater Approach Light 3, U.S.C.G. Light List, Volume IV, 1993, No. 4610, is 30°25'38.8"N, 087°03'15.5"W. This is 100m SW of its light list position of 30°25.7'N, 087°03.2'W. R "8" has a surveyed position of 30°27'26.4"N, 087°02'33.4"W. This position is approximately 100 meters north of its charted position.

Detached positions were taken on all aids to navigation. The comparison of the surveyed position with the charted location was:

Lt. List No.	NAVAID	PN	Comparison Results
4610	Lt "3"	2158	100 meters SW of charted position
4615	R "4"	2159	On station
4620	R "6"	2160	On station
4625	R "8"	2161	100 meters N of charted position

Chief Lewis from the U.S.C.G. Aids to Navigation Office in Pensacola, Florida (phone 904-455-2354) was contacted regarding the differences between charted and surveyed positions. He stated that the aids have never been moved and that those in Blackwater Channel were originally placed by locating the channel edge with an echo sounder and positioned by "seaman's eye." The U.S.C.G.'s positioning techniques explain the differences found. The aids serve their intended purpose though should be re-charted using current surveyed positions. Concur, see attached 76-40 forms.

No landmarks, bridges, overhead cables, pipelines, submerged cables nor ferry routes

exist within the survey area. Concur

R. STATISTICS ✓

Description	Quantity
Total Number of Positions	2188
Total Lineal Nautical Miles of Hydrography	342.9
Square Nautical Miles of Hydrography	19
Days of Production	16
Detached Positions	20
Bottom Samples	55
Tide Stations	3
Velocity Casts	2

R. MISCELLANEOUS ✓

No anomalous currents or tides were observed during this survey.

Fifty-five bottom samples were taken and submitted to the Smithsonian Institution in accordance with the project instructions. Bottom sample positions are plotted on the overlay and are listed on the Oceanographic Log Sheet-M, NOAA Form 75-44, which may be found in the "Survey Separates." *

Position numbers were duplicated once during this survey. This happens when an on-line system crash occurs and no position number is assigned at the end of that line. The beginning fix number is sometimes duplicated when survey operations are resumed.

The "assign fix" function of the program QUICK EDIT, was used to assign position numbers to the beginning or ending of a line as needed.

T. RECOMMENDATIONS This recommendation was forwarded to the Chief, Hydrographic Survey Branch, See attached letter, dated 9-10-93

Future chart editions should have printed on them a reordering address and telephone number so when our customers wish to order the same or adjoining charts, they will not be responsible for obtaining a Chart Catalog. This eliminates a step in getting our product to the market place.

* Filed with the hydrographic data.

U. REFERRAL TO REPORTS

Title	Transmittal Information
Horizontal Control Report for OPR-J223-AHP	October 1992: N/CG23322
Coast Pilot for OPR-J223-AHP	July 1994
User Evaluation for OPR-J223-AHP	July 1994

Submitted by:

Mark J. McMann
Launch Hydrographer In Charge

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HDAPS Pre-Survey Program Version: 7.03        PRE-SURVEY: CONTROL STATION TABLE                  15:13:43   25 Jun 1993

Station No  ?
No  .Type          Lat             Lon      H Cart    Freq    Vel Code  MM/DD/YY          Station Name

              030:19:41.774 087:10:22.533   0    0     0.0       0      10/00/92  TRIS
              030:24:27.633 087:12:27.549   0    0     0.0       0      10/00/92  PITT
003           ~~030:25:13.725 087:11:00.045~~ *   0    0     0.0       0      12/15/92  Blackwater Channel Light 30
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92     * lat. 30/34/03.622
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92       long. 86/59/47.491
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
              000:00:00.000 000:00:00.000   0    0     0.0       0      03/01/92
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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)

- [ ] TO BE CHARTED
- [x] TO BE REVISED
- [ ] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office): AHP
STATE: Florida
LOCALITY: Pensacola Bay
DATE: 5/15/93

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

CPR PROJECT NO.: OPR-J223
JOB NUMBER:
SURVEY NUMBER: H-10454
DATUM: NA 1983

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station name, when applicable, in parentheses.)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
Lt List #4610	Blackwater Approach Lt 3	30 25	38.8	87 03	15.5		DGPS Hydro	11385
Lt List #4625	Blackwater Channel Daybeacon 8	30 27	26.4	87 02	33.4		DGPS Hydro	11385

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	NAME	DESIGNATOR
OBJECTS INSPECTED FROM SEAWARD		☐ PHOTO FIELD PARTY ☐ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER (Specify)
POSITIONS DETERMINED AND/OR VERIFIED	Positions determined by hydro-DGPS	FIELD ACTIVITY REPRESENTATIVE
	Launch0517 M. McMann, L. Martinez	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-4-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.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Coast and Geodetic Survey
Seattle, Washington 98115-0070

September 24, 1993

Commander (OAN)
Eighth Coast Guard District
Hal Boggs Federal Building
501 Magazine Street
New Orleans. LA 70130-3396

Dear Sir:

During office review of hydrographic survey H-10454, Florida, Pensacola Bay, Redfish Cove to White Point, one shoal sounding was found that is considered a potential danger to navigation affecting the following chart.

Chart	Edition/date	Datum
11385	20th ed., 11/23/91	NAD 83

It is recommended that the enclosed Report of Dangers to Navigation be included in the Local Notice to Mariners.

Questions concerning this report should be directed to the Pacific Hydrographic Section at (206) 526-6853.

Sincerely,

Douglas G. Hennick

Douglas G. Hennick
Commander, NOAA
Chief, Pacific Hydrographic Section

Enclosure

cc: DMA/TC
N/CG221

REPORT OF DANGERS TO NAVIGATION

Hydrographic Survey Registry Number: H-10454
Survey Title: State: FLORIDA
Locality: PENSACOLA BAY
Sub locality: REDFISH COVE TO WHITE POINT
Project Number: OPR-J223-AHP

All features reduced to Mean Lower Low Water using approved tides.

Affected nautical chart:

Chart	Edition/date	Datum
11385	20th Ed., 11/23/91	NAD 83

DANGER TO NAVIGATION	LATITUDE(N)	LONGITUDE(W)
10 FT Sounding	30/25/14.55	87/02/59.94

Questions concerning this report should be directed to the Pacific Hydrographic Section at (206) 526-6853.

FILE COPY

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Coast and Geodetic Survey
Seattle, Washington 98115-0070

September 10, 1993

MEMORANDUM FOR: Captain Dean R. Seidel, NOAA
Chief, Hydrographic Survey Branch

FROM: Commander Douglas G. Hennick, NOAA
Chief, Pacific Hydrographic Section

SUBJECT: Recommendation submitted with survey H-10454

The attached recommendation, Section T of the Descriptive Report, was submitted with survey H-10454 by Atlantic Hydrographic Party.

exist within the survey area.

R. STATISTICS

Description	Quantity
Total Number of Positions	2188
Total Lineal Nautical Miles of Hydrography	342.9
Square Nautical Miles of Hydrography	19
Days of Production	16
Detached Positions	20
Bottom Samples	55
Tide Stations	3
Velocity Casts	2

R. MISCELLANEOUS

No anomalous currents or tides were observed during this survey.

Fifty-five bottom samples were taken and submitted to the Smithsonian Institution in accordance with the project instructions. Bottom sample positions are plotted on the overlay and are listed on the Oceanographic Log Sheet-M, NOAA Form 75-44, which may be found in the "Survey Separates."

Position numbers were duplicated once during this survey. This happens when an on-line system crash occurs and no position number is assigned at the end of that line. The beginning fix number is sometimes duplicated when survey operations are resumed.

The "assign fix" function of the program QUICK EDIT, was used to assign position numbers to the beginning or ending of a line as needed.

T. RECOMMENDATIONS

Future chart editions should have printed on them a reordering address and telephone number so when our customers wish to order the same or adjoining charts, they will not be responsible for obtaining a Chart Catalog. This eliminates a step in getting our product to the market place.

APPROVAL SHEET

HYDROGRAPHIC SURVEY
OPR-J223-AHP2
AHP2-10-03-93
H-10454
1993

This hydrographic survey was conducted in accordance with the project instructions for OPR-J223-AHP2, the hydrographic manual, the hydrographic survey guidelines, and the field procedures manual. The survey data and reports were completed under frequent supervision. All boat sheets and final field sheets were reviewed in their entirety and all supporting records were also checked.

This survey is a complete hydrographic survey for the area described in Section B of this report.

LT. NOAA

Lt. James E. Waddell, Jr.
Chief, Atlantic Hydrographic Party Two

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Office of Ocean and Earth Sciences
Silver Spring, Maryland 20910

ORIGINAL

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: September 10, 1993

MARINE CENTER: Pacific

OPR: J223

HYDROGRAPHIC SHEET: H-10454 (Revised)

LOCALITY: Florida, Pensacola Bay, Redfish Cove to White Point

TIME PERIOD: March 4 - May 17, 1993

TIDE STATION USED: 872-9840 Pensacola, Florida
Lat. 30° 24.2'N Lon. 87° 12.8'W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): = 8.28 feet
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: = 1.2 feet

REMARKS: RECOMMENDED ZONING

Times are direct and apply a X1.18 range ratio to all heights using Pensacola, Fl. (872-9840).

NOTE: Hourly heights are tabulated on Central Standard Time.

William M. Wilson
ACTING CHIEF, DATUMS SECTION

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-10454

Name on Survey	A ON CHART NO. 11385 SC	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	
EAST BAY	X									1
FLORIDA (title)	X									2
REDFISH COVE	X									3
WHITE POINT	X									4
										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
				Approved:						15
										16
				Charles L. Harrington						17
				Chief Geographer - NOAA						18
				SEP 23 1993						19
										20
										21
										22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

NOAA FORM 77-27(H)
(9-83)

U.S. DEPARTMENT OF COMMERCE

HYDROGRAPHIC SURVEY STATISTICS

REGISTRY NUMBER
H-10454

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	4

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

SHORELINE DATA

SHORELINE MAPS (List):

PHOTOBATHYMETRIC MAPS (List):

NOTES TO THE HYDROGRAPHER (List):

SPECIAL REPORTS (List):

NAUTICAL CHARTS (List):

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			2188
POSITIONS REVISED			
SOUNDINGS REVISED			
CONTROL STATIONS REVISED			
	TIME-HOURS		
	VERIFICATION	*EVALUATION*	*TOTALS*
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS	26		26
VERIFICATION OF SOUNDINGS	31		31
VERIFICATION OF JUNCTIONS			
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	12		12
COMPARISON WITH PRIOR SURVEYS AND CHARTS		8	8
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		18	18
GEOGRAPHIC NAMES			
OTHER*			
*USE OTHER SIDE OF FORM FOR REMARKS — TOTALS	69	26	95

Pre-processing Examination by D. Haines	*Beginning Date* 7-16-93	*Ending Date* 9-9-93
Verification of Field Data by R. Davies	*Time (Hours)* 69	*Ending Date* 10-4-93
Verification Check by B. Olmstead	*Time (Hours)* 11	*Ending Date* 10-6-93
Evaluation and Analysis by R. Davies	*Time (Hours)* 26	*Ending Date* 10-13-93
Inspection by B. Olmstead	*Time (Hours)* 14	*Ending Date* 10-14-93

EVALUATION REPORT
H-10454

1. INTRODUCTION

Survey H-10454 is a basic hydrographic survey accomplished by the Atlantic Hydrographic Party 2, under the following Project Instructions.

OPR-J223-AHP, dated September 25, 1992
CHANGE NO. 1, dated January 4, 1993

This survey was conducted in Florida and covers a portion of Pensacola Bay known as East Bay. Specifically, the survey area extends from latitude 30/23/54N to latitude 30/28/10N, and from longitude 86/58/27W to longitude 87/04/15W. Redfish Cove, White Point and a small portion of Blackwater Channel reside within the surveyed limits. The shoreline consists of sand and marsh. Numerous private piers exist along the southern shoreline. Generally, depths within the survey area range from 0.4 to 3.5 meters. Deeper depths (4.5 to 5.5 meters) exists one mile north and west of Redfish Cove. The bottom consists of mud and sand.

Of significant climatic note, prevailing winds together with rapidly developing high and low pressure weather systems can have a dramatic effect on the water levels within Pensacola Bay. Specifically during strong northern winds, water levels may be depressed by 1.5 feet (0.5 meters).

Predicted tides for Pensacola, Florida, were used for the reduction of soundings during field processing. Approved hourly heights zoned from Pensacola, Florida, gage 872-9840, were used during office processing.

The field sheet parameters have been revised to center the hydrography on the smooth sheet and to change the projection to polyconic. NAD 83 is used as the horizontal datum for plotting and position computation. The offset values and velocity correctors are adequate. An accompanying computer printout contains the parameters and the correctors.

A digital file has been generated for this survey that includes categories of information required to comply with Hydrographic Survey Guidelines No. 52, Standard Digital Data Exchange Format, April 15, 1986. Certain descriptive information, however, may not be in the digital record due to the restrictions of the presently available cartographic codes. The user should refer to the smooth sheet for complete information.

2. CONTROL AND SHORELINE

Sections H and I of the hydrographer's report contain adequate discussions of horizontal control and hydrographic positioning. Additional detailed information on horizontal control is found in the Horizontal Control Report for OPR-J223-AHP, dated October 1992.

Differential GPS(DGPS) was used to control this survey. A horizontal dilution of precision (HDOP) not to exceed 3.75 was computed for survey operations. The quality of several positions exceeds limits in terms of horizontal dilution of precision (HDOP). A review of the data, however, indicates that none of these fixes are used to position dangers to navigation. The features or soundings located by these fixes are consistent with the surrounding information. These fixes are considered acceptable.

Positions of horizontal control stations used during hydrography are 1992 field values based on NAD 83. These values were used during office processing for the computation of positions. The smooth sheet and accompanying overlays are annotated with NAD 27 adjustment ticks based on values determined with the NGS program NADCON. Geographic positions based on NAD 27 may be plotted on the smooth sheet utilizing the NAD 83 projection by applying the following corrections.

Latitude: 0.713 seconds (21.953 meters)
Longitude: -0.126 seconds (-3.364 meters)

The year of establishment of control stations shown on the smooth sheet originates with the above mentioned horizontal control report.

Blueprints 147635 (TP-00548), 148731 (TP-00549) and 149096 (TP-00541), updated by 1991 NANCI support data, were compiled on NAD 27 and apply to this survey.

Numerous piers along the southern shoreline between longitude 86/58/27W and longitude 87/00/12W, are depicted on the smooth sheet with a red line, and were transferred from the final field sheet with supporting positional information. These revisions are adequate to supersede the common photogrammetrically delineated shoreline.

Several shoreline changes in the vicinity of White Point, between latitude 30/26/50N and 30/28/02N, are depicted on the smooth sheet with a dashed red line and were transferred from the final field sheet without supporting positional information. These revisions are approximate but adequate to supersede the common photogrammetrically delineated shoreline.

3. HYDROGRAPHY

Except as noted below, hydrography is adequate to:

a. delineate the bottom configuration, determine least depths, and draw the standard depth curves;

b. reveal there are no significant discrepancies or anomalies requiring further investigation; and

c. show the survey was properly controlled and soundings are correctly plotted.

Standard depth curves were adequately drawn and developed with the exception of the zero curve. This was due to the shallowness of some areas and the small range of tide.

A 3.1 meter isolated shoal sounding located at latitude 30/25/14.55N, longitude 87/02/59.94W, and rising one meter above the surrounding depths was not investigated for a least depth. This depth was submitted as a danger to navigation.

4. CONDITION OF SURVEY

The hydrographic records and reports received for processing are adequate and conform to the requirements of the Hydrographic Manual, 4th Edition, revised through Change No. 3, the Hydrographic Survey Guidelines, and the Field Procedures Manual, March 1993 Edition, except as follows.

A danger to navigation letter was generated during office processing. The hydrographer should closely compare the chart and the data from this survey for possible dangers.

The hydrographer did not list the approximate MHWL changes in the vicinity of White Point.

5. JUNCTIONS

Survey H-10454 junctions with the following surveys.

Survey	Year	Scale	Area
H-10450	1992-93	10,000	North
H-10455	1993	10,000	West
H-10460	1993	10,000	East

The junction with survey H-10450 is complete. The junction with surveys H-10455 and H-10460 have not been completed since these surveys are in the field. The junction with these two surveys and survey H-10454 will be addressed in the Evaluation Report for surveys H-10455 and H-10460. A comparison with charted depths in this area shows good agreement.

6. COMPARISON WITH PRIOR SURVEYS

H-5834a(1935) 1:20000

Survey H-5834a covers the entire area of the present survey. Generally, soundings are within 0.5 meters between the prior survey and the present survey, the prior survey being shoaler. Shoreline along the southern portion of East Bay has remained relatively stable. However shoreline erosion up to fifty meters is evident east and north of White Point. Two new shoal areas have appeared and were investigated and found to be oyster beds centered at latitude 30/27/39N, longitude 87/03/36W, and latitude 30/27/24N, longitude 87/03/30W. A maintained channel between latitude 30/26/05N, longitude 87/02/51W and latitude 30/27/51N, longitude 87/02/30W, is also a new addition since the prior survey. All other areas which are common show no significant change.

There are no AWOIS items which originate with this prior survey and fall within the common area.

Survey H-10454 is adequate to supersede the prior survey within the common area.

7. COMPARISON WITH CHART

Chart 11385 20th edition, dated November 23, 1991; scale 1:40,000

a. Hydrography originates with the prior survey mentioned in section 6 of this report and miscellaneous sources.

Survey H-10454 is adequate to supersede charted hydrography within the common area.

b. AWOIS

There are no AWOIS items which fall within this survey area.

c. Controlling Depths

A maintained channel with a controlling depth note, *7 FT MAR 1991*, is charted at latitude 30/26/51N, longitude 87/02/44W. The hydrographer found depths in the channel from latitude 30/26/06N to latitude 30/27/48N of between 2.5 meters and 3.0 meters (8.2 ft to 9.8 ft). A charting recommendation will not be made for the controlling depth of this channel at this time. The channel continues into the adjoining survey H-10450. A charting recommendation for the controlling depth will be discussed in the Evaluation Report for survey H-10450.

d. Aids to Navigation

There are no floating aids to navigation within the survey area.

There are four fixed aids located within the survey area. They were adequately located and serve their intended purpose. See attached NOAA Form 76-40 for the revised positions.

All landmarks within the survey area should be retained as charted.

e. Geographic Names

Names appearing on the smooth sheet and in the survey title have been approved by the Chief Geographer.

f. Dangers to Navigation

There were no dangers to navigation reported by the hydrographer. One danger to navigation was found during office processing and has been reported to the Eighth Coast Guard District, DMATC and N/CG221, see attached letter.

8. COMPLIANCE WITH INSTRUCTIONS

Survey H-10454 adequately complies with the Project Instructions except where noted in this report.

9. ADDITIONAL FIELD WORK

This is an adequate hydrographic survey. Additional field work is recommended on one shoal sounding located at latitude 30/25/14.55N, longitude. 87/02/59.94W.

C. R. Davies
Cartographer

APPROVAL SHEET
H-10454

Initial Approvals:

The completed survey has been inspected with regard to survey coverage, delineation of the depth curves, development of critical depths, cartographic symbolization, comparison with prior surveys and verification or disproval of charted data. The digital data have been completed and all revisions and processing have been entered in the magnetic tape record for this survey. Final control, position, and sounding printouts have been made and are included with the survey records. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

for Bruce A. Armstrong Date: 10/15/93
Dennis J. Hill
Chief, Hydrographic Processing Unit
Pacific Hydrographic Section

I have reviewed the smooth sheet, accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.

Douglas G. Hennick Date: 10/27/93
Commander Douglas G. Hennick, NOAA
Chief, Pacific Hydrographic Section

****

Final Approval

Approved:

J. Austin Yeager Date: 11/29/93
J. Austin Yeager
Rear Admiral, NOAA
Director, Coast and Geodetic Survey

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-10454

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
11383	1/27/94	Dan Hack	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 41
11378A	4/4/94	L. Ackerman	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 27, Thru chT 11383
11385B	7/5/94	L. Ackeran	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 22, Thru chT 11385
			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
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			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED