10086

Diagram No. 1251-3

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Navigable Area Hydrographic

Field No. HFP-5-1-84

Office No. H-10086

LOCALITY

State Florida

General Locality Gulf of Mexico

Locality Northwest Channel and Approaches to Key West

1984

CHIEF OF PARTY
LCDR R.W. Jones

LIBRARY & ARCHIVES

DATE April 25, 1986

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

HPG

CHTS:
11441
11442
11446B
11434
11420

} to sign off see Record of Application

NOAA FORM 77-28 (11-72)

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

REGISTER NO.

H-10086

HYDROGRAPHIC TITLE SHEET

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

FIELD NO.

HFP 5-1-84

State: Florida

General locality: Gulf of Mexico

Locality: Northwest Channel and Approaches to Key West

Scale: 1:5000 Date of survey: Feb 15-Nov 28, 1984

Instructions dated: 7 November 1984 Project No.: OPR-H373-HFP-83

Vessel: Hydrographic Field Party 2

Chief of party: LCDR R.W. Jones

Surveyed by: LT J.W. Humphrey, Jr., OIC, J.M. Robinett, M.J. McMann, T.A. Taylor, T.R. Owens

Soundings taken by echo sounder, ~~hand lead, pole~~: Raytheon Model 719C S/N9955

Graphic record scaled by: JWH, JMR, MJM, TAT, TRO

Graphic record checked by: JWH, JMR

Verification by: M. Sanders Automated plot by: PMC Xynetics Plotter

Evaluation by: A. Luceno

Soundings in ~~fathoms~~ feet at ~~MLW~~ MLLW

REMARKS: Marginal notes in black by Evaluator. Separates are filed with the hydrographic data.

STANDARDS CK'D 4-29-86
C. Clay

SD54-97 AWOIS and SURF ✓ 4/87 RWD

☆ U.S. GOVERNMENT PRINTING OFFICE: 1978-665-010-1174

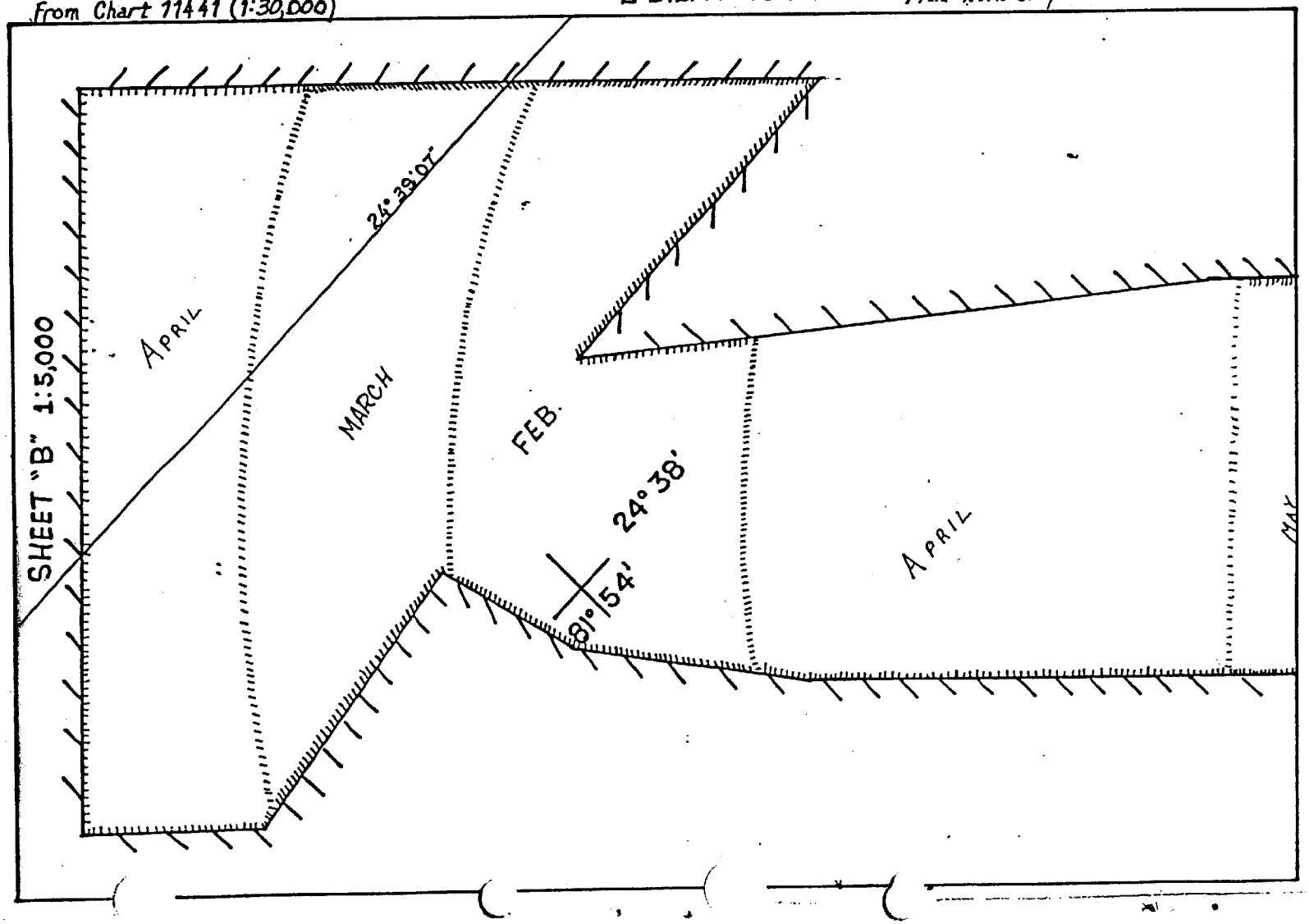
PROGRESS SKETCH
OPR- H373-HFP-83
KEY WEST, FLORIDA
FEB 1-
NOAA-HFP2
RONALD W. JONES, LCDR.
COMDG
From Chart 11441 (1:30,000)

LEGEND

LNM SOUNDING LINE
BOTTOM SAMPLES
CONTROL STA. SET/REC.
BM SET/REC.
TIDE GAGES
□ ITEM RESOLVED

	FEB.	MAR	APR.	MAY
LNM SOUNDING LINE	45.6	44.9	76.0	11.2
BOTTOM SAMPLES	0	0	0	6
CONTROL STA. SET/REC.	%	%	%	%
BM SET/REC.	%	%	%	%
TIDE GAGES	0	0	0	%

Field Work Completed



(2.)

Descriptive Report to Accompany

Hydrographic Survey H-10086

HFP-5-1-84

Scale: 1:5,000
Chief of Party: Ronald W. Jones, LCDR, NOAA
Officer in Charge: John W. Humphrey Jr. LT, NOAA
Hydrographic Field Party Section
Hydrographic Field Party Two

A. PROJECT

This survey was carried out in accordance with project instructions for OPR-H373-HFP-83 dated November 7, 1983 and amended by change No. 1 dated November 10, 1983. Change No 1 was the AWOIS printout to supplement the project instructions.

B. AREA SURVEYED

This survey was conducted in the Northwest Channel, Gulf of Mexico. The channel leads northwest from the island of Key West, Florida.

The survey area is bounded by the following geographic points connected in a counter clockwise manner:

1) Lat. 24°27'26.00" N, Lon. 81°52'09.00" W
2) Lat. 24°38'27.00" N, Lon. 81°53'30.00" W
3) Lat. 24°38'29.00" N, Lon. 81°52'22.00" W
4) Lat. 24°40'01.00" N, Lon. 81°53'59.00" W
5) Lat. 24°38'36.00" N, Lon. 81°55'34.00" W
6) Lat. 24°38'12.00" N, Lon. 81°55'09.00" W
7) Lat. 24°38'19.00" N, Lon. 81°54'14.00" W
8) Lat. 24°37'54.00" N, Lon. 81°54'07.00" W
9) Lat. 54°37'22.00" N, Lon. 81°53'33.00" W
10) Lat. 24°36'52.00" N, Lon. 81°53'11.00" W

The jetty to the west of the channel in the vicinity of Lat. 24°38'00.00" N, Lon. 81°54'09.00" W is completely submerged at all stages of tide. The jetty was verified during survey operations by crossing it with hydrographic survey lines. One survey line was run directly over the jetty from the southern end to its northern limit. Water clarity was very good in this area and the outline of the jetty was visible from the launch. The limits of the exposed portion of the jetty on the east side of the channel were also verified during survey operations. Detached Positions (DPs) were obtained on the southern end of this jetty.

The survey area is characterized by a tidal range of 1.3 ft, but is influenced by the prevailing northwest and southeast winds. Bottom composition is fine to medium sand, broken shell and organic matter. Depths in the survey area range from 6½ to 36⅛ ft. The channel is primarily used by small commercial fishing vessels and recreational craft.

This survey was conducted from February 15 to November 28, 1984.

C. SOUNDING VESSEL

NOAA Launch 0519 was used to collect all data for this survey.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

A Raytheon Fathometer Model 719C, S/N 9955, was the only echo sounding equipment used aboard VESNO 0519:

All graphic records were scanned and checked by trained field survey personnel. Peaks and deeps considered significant that occurred between soundings were inserted on the generated master tapes.

Fathometer calibration checks were made at frequent intervals on each day of hydrography. Any necessary adjustments were made and noted on the fathogram. Any departure of the trace from the initial zero was corrected during the scanning process. Velocity correctors were derived from bar check data (See Appendix D for velocity correction printout). Bar checks were taken on each day of hydrography, with two obtained whenever possible using Launch 0519. Bar check chains were measured prior to the start and at the end of the project No correction was needed. A transducer draft of 1.2 ft was applied to all Fathometer soundings. Settlement and Squat correctors were determined on November 17, 1983 and October 22, 1984 using the level method. A copy of the field data and graphs of Settlement and Squat Correctors vs. RPM for Launch 0519 are appended to this report in Appendix "D". Settlement and squat correctors will be applied via the TC/TI Tape during the final processing of data at Atlantic Marine Center.

Refer to Sect. I of Eval. Report

This survey was plotted using actual tides (unverified) reduced to Mean Low Water values based on the gage in Key West Harbor (Station 872-4580). Smooth tides were requested from Tides and Water Levels Branch N/OMS12 in letters dated June 26, 1984 and January 8, 1985. A preliminary velocity table was used to plot the field sheet.

E. HYDROGRAPHIC FIELD SHEETS

All work is plotted on 8 mylar field sheets as follows:

# of Sheets	Type	Skew
2 (north-south)	Mainscheme, Signal	134,21,60
2 (north-south)	Crosslines, DPs, Signals, Bottom samples, PSR Items	134,21,60
2 (north-south)	Crosslines, Developments	134,21,60
2 (north-south)	Bottom samples	134,21,60

Presurvey Review items numbers 3103 and 3104 are plotted on a south field sheet overlay. Soundings on the final field sheets are corrected for draft, unverified actual tides and sound velocity. All field records and the following tapes have been forwarded to the Atlantic Marine Center and subsequently forwarded to the Pacific Marine Center.

Generated Master Tapes
Electronic Corrector Tapes
Velocity Corrector Tapes
Parameter Tapes
ASCII Signal Tapes
TC/TI Tape

F. Control Stations

Five control stations of third-order accuracy were used for the survey. Sta. 103 is an aid to navigation.

Signal # & Name	Latitude	Longitude
102 Northwest Channel RR Eqc, 1983	24°37'31.680"N	81°53'43.974"W
103 ~~Range Rear Light~~ Northwest Channel Entrance Range Front Light, 1983	24°37'54.378"N	81°53'50.248"W
104 Northwest Channel Jetty Light, 1983	24°38'27.626"N	81°53'32.510"W
110 Cut A Range Rear Lt., 1983	24°33'34.451"N	81°50'21.269"W
114 Northwest Channel Light 15A, 1983	24°34'53.457"N	81°50'25.777"W
116 Northwest Channel Light 12, 1983	24°36'09.780"N	81°51'46.798"W

All signals were locate by personnel from the AMC Geodetic Control Group.

G. HYDROGRAPHIC POSITION CONTROL

Range/azimuth position control was used with Del Norte electronic positioning equipment and a Nikon NT-2D, 20 second theodolite for all days of hydrography. ✓

The following equipment was used:

EQUIPMENT	SERIAL #
DMU/Master	123/263
DMU/Master	188/1060
Remote	222
Remote	1322
Remote	253

✓

An eccentric setup was used for surveying north of signal 102 (Northwest Ch. RR Lt.). Signal 102 served as the azimuth station and signal 116 (Northwest Ch.Lt "12") the site for the Del Norte station, due to lack of space for the Del Norte on signal 102. The angle of intersection between the azimuth and the arc varied as the vessel moved along the range arc. The weakest fix intersection angles are found east and west of a line connecting signal 102 and 116 extending to the northern survey limit. There was no alternative setup that would improve this situation.

Refer to sect. 1 of Eval. Report

Baseline calibration sheets are located in the fan folder with the survey support data. Abstracts of corrections to electronic control, baseline calibrations and daily checks are included ~~in Appendix B of this report~~ with the hydrographic data. Final correctors were determined in accordance with AMC Op-Order 79. ✓

Baseline distances were determined by repetitive observations with a Hewlett-Packard 3808A (modified with theodolite yoke) EDM. Distances for daily system checks were determined through geodetic inverse. Daily system checks were made laying alongside lights in the survey area. ✓

H. SHORELINE

There is no shoreline within the survey limits of survey H-10086. ✓

I. CROSSLINES

Crosslines were run at a minimum of 45° to 90° to mainscheme hydrography and accounted for 13% of the total hydro mileage. Crossline comparison is broken down by north and south field sheets. ✓

On the north field sheet, excellent agreement is seen between mainscheme and crossline comparison. The range in differences in compared soundings is 0 to 1 ft. On the north field sheet south of 28°38'00" a small number of crossline soundings show a range of difference of up to 2 ft. Again the majority of soundings compare to within 1 ft. The area where some comparison shows a 2 ft difference is between the black (green) side of the channel and the east survey limit.

Refer to sect. 3 of Eval. Report

The southern field sheet shows good agreement with most soundings agreeing to 1 ft of the mainscheme soundings. Again some soundings in the marked channel show differences of 2 ft, while offshore comparisons show better agreement.

One apparent discrepancy offshore occurs at position 555, 6 ft plotted, and the second out of position 2330, 9 ft plotted. Comparing the Fathograms from each day shows that there is a rise between the first and second outs of position 2330 and the 6 ft sounding at position 555 falls at this location. This is not the 3 ft difference that comparison of the mainscheme and overlay field sheets appears to show.

Differences between the mainscheme and crossline hydrography in the area of the marked channel in the north end of the Northwest Channel may be attributed in part to changes in conditions over the period of a survey day. During the course of survey operations on any given day, a period of at least 2 hours would be during contrary tide and winds conditions. The majority of hydro days were run with wind conditions of 12-18 Kts. When the tide turned against the wind seas of 1 to 3 ft were seen.

Refer to sect. 2 of Eval. Report

J. JUNCTION SOUNDINGS

This survey junctions with contemporary survey H-10125, also part of project OPR-H373-HFP-83.

AREA OF JUNCTION	FIELD #	REGISTER #	SCALE	DATE
~~North~~ South	HFP-5-2-84	H-10125	1:5000	Mar-May 84

Data for surveys H-10086 and H-10125 were collected with Launch 0519 and both surveys were conducted in 1984.

The junction between surveys H-10086 and 10125 is consecutive arcs controlled from the same station setup. The range and azimuth station were located on signal # 110 (Cut A Range Rear Lt.) and initialed on signal # 114 (Northwest Ch. Lt "15A").

Survey H-10125 ends with the 7700 meter arc on JD 122 at it's northern limit. The 7750 meter arc starts at the southern end of survey H-10086 and was run on JD 109. The area of the junction from Julian Days 109 and 122 shows good agreement when the two surveys are joined together.

K. COMPARISON WITH PRIOR SURVEYS

Three Presurvey Review items were addressed on this survey. Items 3103 and 3104 are plotted on the south final field sheet overlay (Positions 2545 and 2546 respectively) Item 3105, one of ten Navy radar reflectors was searched for and not found. Although they are charted as Navy maintained they are no longer kept up by the Navy and the majority of the reflectors are missing and the pipe supports are in disrepair. Items 3101,3102 and 3163 were not addressed during this project due to lack of time caused by weather conditions and electronic failure. Individual item investigation reports are appended to this report.

Refer to sect. 6 of Eval. Report & AWOIS item investigation form.

The following prior surveys were used for sounding comparison:

Survey	Scale	Date
H-5935	1:10,000	Dec '34-June'35
H-1925	1:10000	May 1889

H-5935 was used for the majority of the sounding comparison. The area covered in H-1925 was not incorporated into H-5935, but was supplied on a separate sheet.

On the south field sheet, north of Latitude 24°38'30"N, contemporary soundings range from agreement to 1 to 2 ft deeper and shoaler with no pattern in either direction. South of 24°39'30N" to the southern limit of the sheet, contemporary soundings show a consistent 1 to 2 ft difference from the prior soundings in the depth range of 13 to 36 ft. In the area of shoaler depths, a greater discrepancy is seen (up to 6 ft) between the contemporary and the prior with the current soundings showing deeper.

Where the marked channel begins at the Northwest Jetty Light and red nun "2", the soundings from the current survey appear to be consistently deeper than the prior soundings. South of the Northwest Channel Jetty Light and west of the Northwest Channel east jetty, comparison of soundings show the range of depth differences to be 0 to 4 ft. Contemporary soundings are both deeper and shoaler than the prior soundings. The depths in the area range from 7 to 31 ft.

North and east of the Northwest Channel Jetty Light, compared soundings show the range of depth difference to be 0 to 2 ft. The majority of contemporary soundings are deeper and also agree to within 1 ft of the prior soundings. ✓

The offshore, open areas of the north field sheet, which are away from the marked channel, are similar to the south field sheet. The deeper, 18 to 36 ft soundings show closer agreement than those in the channel. ✓

L. COMPARISON WITH THE CHART

CHART	EDITION	DATE	SCALE
11441	31st	5 July 1980	1:30,000

Refer to Sect. 7 of Eval. Report

In comparing the chart and the current survey, some contour changes are noted. The 18 ft contour around the hole south of Green Can "5" and to the east of Daybeacon "8", is seen extending further to the northwest than charted. It reaches to within 20 meters of the Northwest Ch. Front R Lt., and extends further south to join the 18 ft contour beginning at Lat. 24°37′28.00" N, Lon.81°52′28.00"W, instead of being two separate contours as charted.

The 12 ft contour centered at Lat. 24°38′12.00" N, Lon. 81°53′49.00" W has migrated to Lat. 24°28′21.00" N, Lon. 81°53′53.00" W and maintained the same size with a length of 120 meters. The isolated 12 ft shoals at Lat. 24°38′00.00" N, Lon. 81°53′40.00" W, Lat. 24°38′04.00" N, Lon. 81°53′33.01" W, Lat. 24°38′02.00" N, Lon. 81°53′29.09" W and Lat. 24°38′07.00" N, Lon. 81°53′46.00" W are not in evidence on the current survey. The entrance to the Northwest Channel shows a deepening in the center between the jetties. The deepening in the vicinity of black cans "3" & "5" is oriented parallel to the marked channel. ✓

The 18 ft contour to the north of the jetties shows a pronounced curve to the south at Lon. 81°54′00". The indentation in the 18 ft contour has extended from it's southern most point of Lat. 24°38′21.00" N, Lon. 24°38′14.05" W. A small isolated hole centered at Lat. 24°38′07.05" N, Lon.81°53′57.00"W is seen on the current survey, but is not charted. ✓

The 12 ft contour originating at the west jetty and continuing east between the Northwest Channel Front and Rear Range Lights, shows only minor change from the charted 12 ft contour in this area. Little change is also seen in the 12 ft contour on the east side of the survey area. This contour originates at the north end of the exposed east jetty. ✓

M. ADEQUACY OF THE SURVEY

This survey is considered complete and adequate to supersede prior surveys for charting. ✓

N. AIDS TO NAVIGATION

There are six floating aids to navigation within the limits of the survey. All floating aids were positioned by range-azimuth hydrographic methods. All aids listed are in the Northwest Channel.

AID NAME	LL #	LATITUDE	LONGITUDE	Pos. number
Entrance Lighted Bell Buoy"1"	931	24°38'50.81"N	81°53'58.48"W	2465
Red Nun "2"	933.1	24°38'18.18"N	81°54'04.78"W	2466
Red Nun "4"	933.1	24°38'05.36"N	81°53'58.60"W	2468
Black Can "3"	933.1	24°38'10.55"N	81°53'51.55"W	2467
*Green Can "5"	933.1	24°37'56.84"N	81°53'40.90"W	2469
Black Can "9"	934.1	24°37'30.44"N	81°52'58.02"W	2550
Red Daybeacon "8"	934.1	24°37'38.74"N	81°53'32.25"W	2606

*Note: Can "5" is presently charted as a black can.

Northwest Channel Lt "10" (plots on H-10125), Northwest Ch. Front and Rear Range Lights and the Northwest Ch. Jetty Lt. were positioned to third-order standards in the fall of 1983 by the AMC Geodetic Control Group. See NOAA Form 76-40 appended to this report for updated positions.

The following landmarks and fixed navigation aids were inspected from seaward and verified as presently charted:
(All listed landmarks falls outside sheet's limits)

LANDMARK (charting name)	LATITUDE (N)	LONGITUDE (W)
Aero R Bn	24°32'52.417"	81°47'11.700"
Main Channel ~~Rear R Light~~ Range Rear Light (CGLL # 907, Vol 2)	24°32'52.610"	81°48'26.473"
Main Channel ~~Front R Light~~ Range Front Light (CGLL #906, Vol 2)	24°32'15.908"	81°48'23.663"
Key West Naval Station Tank	24°32'56.609"	81°48'26.917"
Key West ~~Lt Ho (ABAND)~~ Tower (Abnd Lt Ho)	24°33'00.630"	81°48'03.860"
Key West Courthouse Cup	24°33'14.79"	81°48'14.69"

LANDMARK (charting name)	LATITUDE (N)	LONGITUDE(W)
Radio TWR	24°33'22.71"	81°48'23.33"
Stack (Ctr of 3)	24°33'43.72"	81°47'52.73"
Key West Cut B ~~Rge R Lt~~ Range Rear Light (CGLL #912.20,Vol 2)	24°33'44.92"	81°48'51.93"
Key West Cut B ~~Rge Fr LT~~ Range Front Light (CGLL #912.10, Vol 2)	24°33'36.06"	81°48'52.44"
Tank	24°34'42.37"	81°46'19.65"
Sigsbee Park Tank	24°34'48.416"	81°46'27.348"
Key West ~~Hrbr Rge R Lt~~ Harbor Range Rear Light (CGLL #~~(1&~~17,Vol 2)	24°35'05.071"	81°47'49.715"
Airport ~~VOR~~ Cupola	24°35'07.63"	81°48'02.36"

All USCG Light List numbers are from Volume II, 1984 Edition.

The positions of landmarks listed above from the FFA printout are for identification purposes only and should not supersede any existing position of higher accuracy.

O. STATISTICS

Linear Nautical Miles of Hydrography.....209.3
Linear Nautical Miles of Crosslines.....25.9
Linear Nautical Miles of Hydrography(total).....235.2
Number of Position.....~~2607~~ 2641
Bottom Samples.....77
Bar Checks.....26
Preasurvey Review Investigations.....3

P. MISCELLANEOUS

When Julian Day 121 part II (pos.1816-1941) was plotted, the computer had a mind of it's own. In some cases it would drop the tide reducer, but on other soundings it is not obvious how it calculated the number plotted. On some occasions it appears to have ignored the corrector tape. It is impossible to say how much this happens during the plotting of any one particular survey, without manually reducing each sounding for tide, draft and velocity (settlement and squat are not applied on the field sheet). ✓

The example listed below is obvious because they are common positions on both the north and south field sheets:

	Pos #1864	Pos #1879
Sounding:	17.3	16.4
TRA:	+1.2	+1.2
Tide:	-1.2	-1.0
Velocity:	+10.6	+0.6
	17.9 = 18′	17.2 = 17′
Plotted as:	16 ft	16 ft.

This discrepancy occurred during a replot of the north final field sheet. This replot was necessary because the original plotting had incorrect tides applied to the data. ✓

These types of uncontrollable, automated errors were observed throughout the plotting of all three surveys on OPR-H373-HFP-83. ✓

Northwest Channel Can "5" is green with a green reflector. This is shown on chart 11441 as a block can. ✓

Currents in the vicinity of Key West were observed and compared with the 1984 Tidal Current Tables. No anomalies were observed. ✓

The sublocality for this survey is Key West, Northwest Channel and Approaches as shown on NOAA Form 77-44 on the sounding volumes. The pages of the sounding volumes show Key West, Northwest Channel. ✓

Q. RECOMMENDATIONS

See descriptions of individual Presurvey Review Items for specific recommendations for each item (descriptions are appended to this report). *Refer to sect. 9 of Eval. Report*

#3104 The hydrographer recommends deleting the "PA", position approximate, notation on the exposed wreck at Lat. 24°36′15.00" N, Lon. 81°53′21.00" W and charting it at Lat. 24°36′10.16" N, Lon. 81°53′13.63" W. *on the chart* *concur* *This wreck off sheet's limits. See AWOIS item investigation form.*

The recommended position was obtained by a hydro range/azimuth position. Survey position number 2546.

R. AUTOMATED DATA PROCESSING

Program	Version
RK 210 Grid, Signal and Lattice Plot	4/18/75
RK 212 Visual Table Load	4/01/74
RK 216 R/Az Non Real Time Plot	2/09/81
RK 300 Utility Computations	2/05/76
RK 330 Data Reformat and Check	5/04/76
AM 500 Predicted Tide Generator	11/10/72
AM 602 ELINORE	5/20/75

S. REFERRAL TO REPORTS

Descriptive Report for survey H-10120
Descriptive Report for survey H-10125
Horizontal Control Report for OPR-H373-HFP-83.

Respectfully Submitted,

John W. Humphrey, Jr.
LT, NOAA
Officer-in-Charge
Hydrographic Field Party Two

APPROVAL SHEET

For

SURVEY H-10086 (HFP-5-1-84)

The hydrographic records transmitted with this survey are complete and adequate.

No direct supervision was given by me during the field work.

The survey is complete and adequate, with no additional field work recommended.

Ronald W. Jones, LCDR, NOAA
Chief, Hydrographic Field Parties Section

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Atlantic Marine Center
Hydrographic Field Parties Section (MOA233)
439 W. York St.
Norfolk, VA 23510

Date : 2 November 1984

To : Chief, Chart Information Section, N/CG222

Thru : LCDR Ronald W. Jones, Chief, Hydrographic Field Parties Section

From : LT John W. Humphrey Jr., OIC, Hydrographic Field Party #2

Subject : Danger to Navigation report for OPR-H373-HFP-84, Calda and Northwest Channels, Key West, FL; Registry # ~~H-10120~~ ~~and~~ H-10086.

The attached letter and chart section was sent to the Commander of the Seventh Coast Guard District, Miami, FL for inclusion in the Local Notice to Mariners, concerning two uncharted dangers to navigation. The ~~coral shoal was located on H-10120 and the~~ wreck was located on H-10086.

Information on the wreck was called into USCG Miami via USCG Key West on 31 October 1984. USCG Miami was informed of the shoal via telephone on 31 July 1984 by the Hydrographic Field Parties Section office, Norfolk, VA.

CC: N/CG24
N/MOA2X1

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Atlantic Marine Center
Hydrographic Field Parties Section
439 W. York St. (MOA 233)
Norfolk, VA 23510
804-441-6593

Date : 2 November 1984

To : Commander, 7th Coast Guard District, Miami, Florida

From : LT John W. Humphrey Jr., OIC Hydrographic Field Party #2

Subject : Danger to Navigation report for Chart 11441 (Key West Harbor and Approaches)

The following coral shoal and wreck have been found and positioned while conducting survey operations in the vicinity of the Calda and Northwest Channels. These obstructions are not charted and pose a danger to navigation.

~~o Coral shoal submerged 4.1' at Mean Low Water~~ at
~~position: 24°38'38.62"N~~
~~81°50"16.07"W~~
~~Depth of surrounding water is 13'.~~

H-10187

o Wreck, commercial fishing vessel approximately 60'x15' oriented northwest-southeast. The wreck is submerged 22.2' at Mean Low Water at position: 24°39'22.26"N
81°53'03.95"W
Depth of surrounding water is 30'

2922

All positions were obtained using range/azimuth control, third-order horizontal control stations, Nikon NT2D theodolite and Del Norte electronic range equipment. The least depth measurement on the coral shoal and the wreck were obtained by NOAA divers. Soundings were reduced using unverified actual tides from the Key West tide station, Key West Harbor.

Preliminary information regarding the wreck, relayed in person to QM1 Stansberry, USCG Key West and forwarded to USCG Miami on 31 October 1984 should be superseded by the above geographic position and least depth.

The geographic position and least depth on the coral shoal listed above should supersede preliminary information sent to USCG Miami from LCDR Ronald W. Jones, Chief, Hydrographic Field Parties Section, Atlantic Marine Center, Norfolk, Virginia in a letter dated 6 August 1984.

* INFORMATION SUBJECT TO OFFICE VERIFICATION*

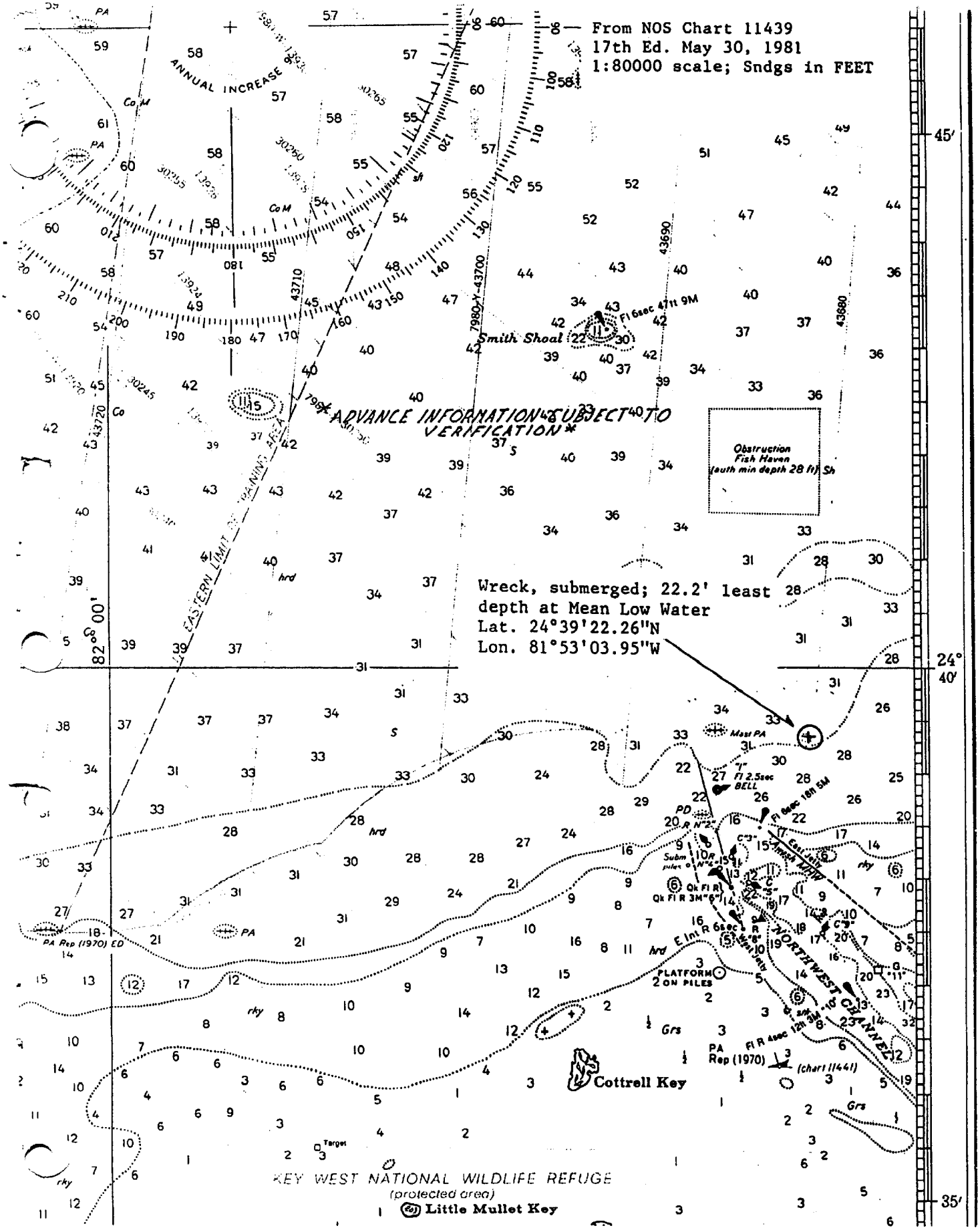

From NOS Chart 11439
17th Ed. May 30, 1981
1:80000 scale; Sndgs in FEET
ANNUAL INCREASE
EASTERN LIMIT OF TRAINING AREA
ADVANCE INFORMATION SUBJECT TO VERIFICATION
Smith Shoal
Fl 6sec 47ft 9M
Obstruction
Fish Haven
(auth min depth 28 ft)
Wreck, submerged; 22.2' least depth at Mean Low Water
Lat. 24°39'22.26"N
Lon. 81°53'03.95"W
82° 00'
24° 40'
45'
35'
Fl 2.5sec BELL
Fl 6sec 18M 5M
Fl R 4sec 12M 3M
PLATFORM 2 ON PILES
NORTHWEST CHANNEL
(chart 11441)
Cottrell Key
KEY WEST NATIONAL WILDLIFE REFUGE
(protected area)
Little Mullet Key
PA Rep (1970)
Target

CHART # 11441

PRE-SURVEY REVIEW ITEM # 3103
PLATFORM - OLD ABANDONED LIGHTHOUSE DESTROYED BY FIRE.

SOURCE CL 907/75-- CAS 11441 (1975)

INVESTIGATION DATE 21 MAY 1984 TIME 154400 VESSEL LAUNCH 0519

OIC LT. (jg) JOHN W. HUMPHREY

REFERENCE

POSITION # 2545 VOLUME: 8 PAGE: 68

CORRECTORS APPLIED:

VELOCITY: XX TRA CORRECTORS: XX

PREDICTED TIDES: ACTUAL TIDES: XX (UNVERIFIED)

GEODETIC POSITION:	LATITUDE	LONGITUDE
CHARTED:	24/37/06.61	81/53/57.57
OBSERVED:	24/37/06.6X	81/53/57.45

POSITION DETERMINED BY: RANGE (DEL-NORTE) - AZIMUTH (NIKON NT2D)

METHOD OF ITEM INVESTIGATION: CHARTED PLATFORM ON PILES FOUND VISUALLY. 4 PLATFORM 10 MHW X 10M DIAMETER (AT BASE) AT MLW. IN 4.X' WATER (AT ~~MLW.~~ MLLW) EXPOSED AT ALL STAGES OF TIDE. A HYDRO DETACHED POSITION WAS TAKEN AT CENTER OF PLATFORM.
Platform bores 32 feet above MHW.

CHARTING RECOMMENDATIONS: RETAIN MARKER SYMBOL AND PLATFORM ON PILES NOTATION AND CHART AT ABOVE OBSERVED POSITION.

concur

COMPILATION USE

CHART	APPLIED AS

CHART # 11441

PRE-SURVEY REVIEW ITEM # 3104
WRECK, SHRIMP BOAT

SOURCE CL 907/75 CAS 11441 (1975)

INVESTIGATION DATE TIME 160100 VESSEL LAUNCH 0519

OIC LT (jg) JOHN W. HUMPHREY

REFERENCE

POSITION # 2546 VOLUME: 8 PAGE: 69

CORRECTORS APPLIED:

VELOCITY: XX TRA CORRECTORS: XX

PREDICTED TIDES: ACTUAL TIDES: XX

GEODETIC POSITION:	LATITUDE	LONGITUDE
CHARTED:		
OBSERVED:	24/36/15.00	81/53/21.00
	24/36/10.16	81/53/13.64

POSITION DETERMINED BY: RANGE (DEL-NORTE) - AZIMUTH (NIKON NT2D)

METHOD OF ITEM INVESTIGATION: EXPOSED DEBRIS FROM WRECK FOUND VISUALLY. HYDROGRAPHER VERIFIES DEBRIS FROM WRECKED SHRIMP BOAT. OUTRIGGER ARM SUBMERGED IN 2.0' OF WATER AT ~~MLW~~ MLLW. A HYDRO. DETACHED POSITION WAS TAKEN ON AN EXPOSED METAL BOX THAT BARES ~~4.4~~ 3.6' AT ~~MLW~~. MHW
(Falls outside sheet's limits)

CHARTING RECOMMENDATIONS: HYDROGRAPHER RECOMMENDS DELETING PA (POSITION APPROXIMATE) NOTATION FROM CHART AND CHARTING AS EXPOSED WRECK AT ABOVE OBSERVED POSITION.
concur

COMPILATION USE

CHART	APPLIED AS

SIGNAL LIST

H-10086

OPR-H373-HSB-83

102	0	24	37	31685	081	53	43988	250	0000	000000	Northwest Ch RR Ecc, 1983
104	0	24	38	27626	081	53	32510	139	0000	000000	Northwest Channel Jetty Light, 1983
110	0	24	33	34451	081	50	21269	250	0000	000000	Cut A Range Rear ~~Light~~ Lt., 1983
114	0	24	34	53457	081	50	25777	139	0000	000000	Northwest Channel Light 15A, 1983
116	0	24	36	09780	081	51	46798	250	0000	000000	Northwest Channel Light 12, 1983

Above control located by AMC Geodetic Control Group to third order class 1 in 1983.

APPENDIX "I"

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
Hydro Field Party 2	Florida	Key West	7/84

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

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
H373-HFP-83		H-10086	North American 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
LIGHT	Northwest Channel Jetty Light (Sig.104) (USCG Light List #934, p94 Vol II, '84)	24 38	27.626	81 53	32.510		F-3-6-L 11/83	11441
LIGHT	Northwest Channel Entrance Range Front Light (USCGLL #932 p.94 Vol II, '84)	24 37	54.378	81 53	50.248		F-3-6-L 11/83	11441
LIGHT	Northwest Channel Entrance Range Rear Light (USCGLL #933 p.94 Vol II, '84) (Sig.102)	24 37	31.689 → 5	81 53	43.974 → 88	THESE AIDS REVISED THROUGH L-95 (85) NOS P.S. 10/7/86	F-3-6-L 11/83	11441
LIGHT	Northwest Channel Light "10" (USCGLL #936 p.94 Vol II, '84) ~~(Sig.102)~~	24 36	53.057	81 52	34.916		F-3-6-L 11/83	11441
DAYBEACON	Northwest Channel DBn "8"	24 37	38.74	81 53	32.25		Hydro Detached Pos. 11/84	

(41) NC 1-95 (85)

RESPONSIBLE PERSONNEL

TYPE OF ACTION	NAME	ORIGINATOR
OBJECTS INSPECTED FROM SEAWARD	John W. Humphrey Jr., OIC-HFP-2	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	John W. Humphrey Jr., OIC-HFP-2	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. GOVERNMENT PRINTING OFFICE: 1974-665-073/1030 Region 6

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
- [ ] TO BE REVISED
- [XX] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
Hydro Field Party 2	Florida	Key West	12/84

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
Opr-H373-HFP-83		H-10120, 10125	North American 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
TANK	No value as a navigational landmark Not visible from seaward	24 33	40.87	81 48	49.98	THESE AIDS DELETED THROUGH L-95(85) NOS P.S. 10/1/86		[redacted] 11441
TANK	No value as a navigational landmark Not visible from seaward	24 33	38.38	81 48	50.98			11441

(38.) NC 1-95(85)

RESPONSIBLE PERSONNEL

TYPE OF ACTION	NAME	ORIGINATOR
OBJECTS INSPECTED FROM SEAWARD	John W. Humphrey Jr., OIC-HFP-2	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	John W. Humphrey Jr., OIC-HFP-2	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. GOVERNMENT PRINTING OFFICE: 1974-665-073/1030 Region 6

DATE: 02/12/85

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Marine Center: Atlantic

OPR: H 373

Hydrographic Sheet: H-10086

Locality: NW Channel, Key West, Florida

Time Period: October 29-November 28, 1984

Tide Station Used: 872-4580 Key West, FL

Plane of Reference (Mean Lower Low Water): 4.33 ft.

Height of Mean High Water Above Plane of Reference: 1.6 ft.

Remarks: Recommended Zoning:

Zone Direct

James R. Hubbard
Chief, Tidal Datums Section

DATE: 7/11/84

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Marine Center: Atlantic

OPR: H373

Hydrographic Sheet: H-10086

Locality: NW Channel, Key West, Florida

Time Period: February 15 - May 24, 1984

Tide Station Used: 872-4580 Key West, Florida

Plane of Reference (Mean Lower Low Water): 4.33 ft.

Height of Mean High Water Above Plane of Reference: 1.6 ft.

Remarks: Recommended Zoning:

Zone Direct

James R. Hubbard
Chief, Tidal Datums Section

FIELD TIDE NOTE

OPR-H373-HSB-83

Field tide reduction of soundings was based on unverified actual heights from the Key West Harbor tide gage (Station #872-4580), and were interpolated using Program AM-500 on a PDP/8e computer. Tide records were recorded in Eastern Standard Time (EST), while the computer output was in GMT.

SITE	LATITUDE	LONGITUDE	PERIOD
Key West	24°33.2'N	81°48.5'W	Entire period of survey

The gage in Key West is under contract to Chapin & Associates, Tallahassee, FL. Chapin & Associates was contacted upon arrival of the field party in Key West and on several other occasions when their gage observer failed to check the gage. Intermittent problems with the contractor's observer did not hinder surveying work by the field party due to the fact that personnel from HFP-2 checked the gage and made separate observation on the days of hydrography. Weekly tide station reports recorded by HFP-2 are contained in the fan folder with other survey material. (Survey H- 10120)

Although field party personnel checked the gage on these days, separate weekly tide station reports did not begin until January 15, 1984. On January 9, 1984, the gage battery failed and was replaced by HFP-2. In the process of restarting the gage, the digital counter slipped one foot, making the difference between the staff and the gage 11 feet instead of 10 feet. This extra foot remained unchanged for the entire project. The Chapin representative responsible for the Key West gage was informed of the situation as soon as possible.

After the incident with the dead battery and seeing that the gage observer was not reliable, HFP-2 began keeping their own records.

LEVELS

Inspection levels were run at the beginning and at the end of the project. Closures between the beginning and the end of the project were less than 0.011 ft.

ZONING

Zoning information should be furnished by Tides and Water Levels, N/OMS12, Rockville, MD.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

Date: 26 June 1984

To: Chief, Tides and Water Levels Branch, N/OMS12

From: John W. Humphrey, Lt.jg, NOAA
Officer-in-Charge
Hydrographic field party-2

John W Humphrey Jr.

Subject: Tidal Data for OPR-H373-H8B-84, Northwest Channel, FL. H-10086

It is requested that verified hourly heights of Tides, using Greenwich Mean Time, from the operating tide gage listed below, be forwarded to the Atlantic Marine Center, Norfolk, Va. 23510, MOA/23

GAGE NAME	NUMBER	LATITUDE	LONGITUDE
Key West Harbor, FL.	872-4580	24°33'N	81°48'W

This information is requested for the following Times and Dates:

J.D. 046	Feb.15,'84	1200 GMT - 2200 GMT
J.D. 047	Feb.16,'84	1300 GMT - 2100 GMT
J.D. 053	Feb.22,'84	1300 GMT - 2200 GMT
J.D. 055	Feb.24,'84	1200 GMT - 1730 GMT
J.D. 066	Mar. 6,'84	1200 GMT - 2030 GMT
J.D. 079	Mar.19,'84	1330 GMT - 2100 GMT
J.D. 086	Mar.26,'84	1230 GMT - 2100 GMT
J.D. 102	Apr.11,'84	1230 GMT - 2200 GMT
J.D. 110	Apr.19,'84	1230 GMT - 2300 GMT
J.D. 116	Apr.25,'84	1230 GMT - 1800 GMT
J.D. 121	Apr.30,'84	1100 GMT - 2100 GMT
J.D. 122	May 1,'84	1230 GMT - 2100 GMT
J.D. 136	May 15,'84	1230 GMT - 2200 GMT
J.D. 137	May 16,'84	1200 GMT - 2000 GMT
J.D. 142	May 21,'84	1130 GMT - 1800 GMT
J.D. 145	May 24,'84	1430 GMT - 1800 GMT

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER

OPR-H373
H-10086

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	
Gulf of Mexico	11441									1
Northwest Channel	11441									2
										3
										4
										5
										6
										7
										8
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										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

APPENDIX "C"

NOAA FORM 77-27(H) (9-83) | U.S. DEPARTMENT OF COMMERCE | REGISTRY NUMBER

HYDROGRAPHIC SURVEY STATISTICS

H-10086

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	SMOOTH OVERLAYS: POS., ARC, EXCESS	4
DESCRIPTIVE REPORT	1	FIELD SHEETS AND OTHER OVERLAYS	8

DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/ SOURCE DOCUMENTS	
ACCORDION FILES	1					
ENVELOPES						
VOLUMES	9					
CAHIERS						
BOXES						

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			2641
POSITIONS REVISED			
SOUNDINGS REVISED			218
CONTROL STATIONS REVISED			
	TIME-HOURS		
	VERIFICATION	*EVALUATION*	*TOTALS*
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS	22.5		22.5
VERIFICATION OF SOUNDINGS	85.0		85.0
VERIFICATION OF JUNCTIONS			
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	66.0		66.0
COMPARISON WITH PRIOR SURVEYS AND CHARTS		23.0	23.0
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		50.0	50.0
GEOGRAPHIC NAMES			
OTHER* Digitizing	11.0		11.0
*USE OTHER SIDE OF FORM FOR REMARKS — TOTALS	184.5	73.0	257.5

Pre-processing Examination by	*Beginning Date* 4/4/85	*Ending Date*	4/29/85
Verification of Field Data by M. Sanders	*Time (Hours)* 173.5	*Ending Date*	8/7/85
Verification Check by S. Otsubo, B. Olmstead, J. Green	*Time (Hours)* 33.5	*Ending Date*	3/17/86
Evaluation and Analysis by A. Luceno	*Time (Hours)* 73.0	*Ending Date*	3/17/86
Inspection by D. Hill	*Time (Hours)* 1	*Ending Date*	3/21/86

☆ U.S. GOVT. PRINTING OFFICE 1983: 764-006/6061

PACIFIC MARINE CENTER
EVALUATION REPORT
H-10086

1. INTRODUCTION

H-10086 was accomplished by the Hydrographic Field Party 2 in accordance with the following project instructions:

OPR-H373-HFP-83, dated November 7, 1983
Change No. 1, dated November 10, 1983

This is a navigable area survey of the Northwest Channel and approaches to Key West, Florida. Northwest Channel is the medium draft passage between Key West Harbor and the Gulf of Mexico. The surveyed area covers the northern portion of the channel between the east and west jetties and the offshore approach to the channel between latitudes 24°38'15"N and 24°40'00"N and between longitudes 81°52'15"W and 81°55'45"W.

Unverified actual tides at Mean Low Water based on the Key West Harbor, Florida tide gage were used during field processing. Tide correctors used for reduction of final soundings reflect approved hourly heights at Mean Lower Low Water zoned from the Key West, Florida tide gage.

The field sheet parameters have been revised to center the hydrography on the smooth sheet and to change the projection to polyconic. Electronic correctors determined by baseline calibration were used to plot the smooth sheet. The daily systems checks were well within the ±3 meters rejection limit. TRA correctors were revised to combine the transducer draft with the settlement and squat correctors during office processing. The revised data is listed in the smooth position/sounding printout.

A digital file for this survey has been generated and includes categories of information required to comply with N/CG2 Hydrographic Survey Guideline No. 23, Completion of Digital Hydrographic Surveys, September 7, 1983. Certain descriptive information, however, may not be included 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

Hydrographic control and positioning are adequately discussed in sections F and G of the Descriptive Report and in the Horizontal Control Report for OPR-H373-HFP-83. Horizontal control station positions used during hydrography are either published or field positions based on the North American Datum of 1927. Of the stations listed, only station 103 was not used in the positioning of the survey vessel. Station 103 is a fixed aid to navigation.

Because of the lack of space to set up both the Del Norte electronic positioning equipment and the theodolite on the same station (116), the theodolite was set up at a different station (102) for the range/azimuth positioning control of the survey vessel. This configuration resulted in some indication of geometrically weak positioning of the survey vessel between latitudes 24°37'20"N and 24°38'12"N and between longitudes 81°53'06"W and 81°53'45"W. However, soundings at crossings between the main scheme and the crosslines and a comparison of charted and prior survey depths did not reveal any anomalies in the affected area. The questionable weak positions were accepted during office processing.

There are no photo manuscripts applicable to this survey.

3. HYDROGRAPHY

Soundings at line crossings are generally in good agreement (± 1 foot) except in an area between latitudes 24°37'00"N and 24°37'36"N and between longitudes 81°52'39"W and 81°53'27"W, where some soundings at crossings differ by up to 2 feet. According to the hydrographer, these discrepancies were caused by the varying state of weather conditions during the different days that the main scheme and crosslines were run and not by the malfunctions of the fathometer, errors in the sounding correctors or in errors in the positioning of the survey vessel. Since it appears that the weather conditions during the running of the crosslines had a more severe effect on the sounding data, it is recommended that soundings from the main scheme lines be utilized during chart compilation.

Delineation of the bottom configuration and the determination of the least depths are adequate.

4. CONDITION OF SURVEY

The hydrographic records and reports are adequate and conform to the requirements of the Hydrographic Manual, 4th Edition, revised through Change 3, except as noted in the Preprocessing Examination Report, dated April 26, 1985.

5. JUNCTIONS

H-10086 junctions with H-10125 (1984) scale 1:5,000 to the southeast. Junction was satisfactorily effected with H-10125, soundings and depth curves are in agreement.

There are no contemporary surveys to junction the rest of the surveyed area. However, soundings and depth curves agree with prior survey H-5935 and also with the charted soundings in the extremities of H-10086. Some soundings were transferred from H-5935 to the smooth sheet only to support the 12-foot depth curves.

6. COMPARISON WITH PRIOR SURVEYS

H-1925 (1889) 1:10,000

Common coverage between the two surveys exists in the northern portion of the Northwest Channel between the east and west jetties. These jetties were non-existent at the time of the prior survey. The present survey is 1 to 5 feet deeper, the greatest differences located between the jetties in the vicinity of its northern ends. The prior survey shows the bottom to be generally hard, while the present survey shows the bottom as composed of sand, broken shells, weeds and grass.

H-5935 (1934-35, Add Wk 37) 1:10,000

Common coverage between the two surveys exists south of latitude 24°39'00"N except for the Northwest Channel between the two jetties. Soundings between the surveys are generally in good agreement. Prior survey bottom characteristics were found to be sandy and hard. The present survey shows the bottom to be composed of sand and broken shells. The following lights plotted on the prior survey sheet were no longer in existence during the present survey.

a. Northwest Channel Turn Rear Range Light, 1934 at latitude 24°38'08"N, longitude 81°54'16"W.

b. Northwest Bar Front Range Light, 1934 at latitude 24°37'54"N, longitude 81°53'48"W.

c. Northwest Channel Rear Easterly Turn Range Light, 1934 at latitude 24°37'16"N, longitude 81°52'28"W.

There are no prior surveys north of latitude 24°39'00"N.

Except for the triangular area defined by latitude 24°38'15"N, longitude 81°54'45"W, latitude 24°38'15"N, longitude 81°54'15"W, and latitude 24°37'52"N, longitude 81°54'15"W, H-10086 is adequate to supersede the prior surveys within the areas of common coverage.

7. COMPARISON WITH CHART

Chart 11439, 7th Edition, dated May 20, 1981, scale 1:80,000
Chart 11441, 31st Edition, dated July 5, 1980, scale 1:30,000

a. Hydrography - Soundings in the area between the east and west jetties originate from the Corps of Engineers surveys accomplished in 1935 and in 1977. The present survey is generally 1 to 2 feet deeper than the prior survey. In the vicinity of latitude 24°38'00"N, longitude 81°53'30"W, soundings deeper by 4 to 6 feet were obtained in the present survey.

Other soundings originate from H-5935 (1934-35, Add Wk 37). The present survey soundings and the charted soundings are generally in good agreement.

AWOIS item 03105 is a 3-inch pipe supporting a radar range reflector charted at latitude 24°37'30"N, longitude 81°51'54"W. This feature was searched for but was not found in the present survey. It is recommended that the charted symbol and notes for this feature be deleted from the chart.

AWOIS items 03101, 03102 and 03163 were not investigated during the present survey due to time constraints caused by unfavorable weather conditions and equipment failures. These features should be retained as presently charted.

Geographic names appearing on the smooth sheet originate with these charts.

H-10086 is adequate to supersede the charted hydrography within the common area.

There was one danger to navigation report dated November 2, 1974 (copy attached) that was sent to the 7th Coast Guard District in Miami, Florida by the hydrographer. No additional dangers were identified during office processing.

b. Controlling Depths - There are no controlling depths within the limits of this survey.

c. Aids to Navigation - There are 6 floating aids and 4 fixed aids within the limits of this survey. Charts 11439 and 11441 show two lights colocated at latitude 24°37'54.378"N, longitude 83°53'50.248"W. The 1984 Light List shows these lights as No. 932, Northwest Channel Entrance Range Front Light and No. 935, Northwest Channel Light 6. The 1985 Light List shows this light as No. 1301, Northwest Channel Entrance Range Rear Light 6. The 7th Coast Guard District, Miami, Florida was queried and stated that there is only one light at this location serving a dual purpose. Charted aids to navigation have been located and adequately serve their intended purposes.

8. COMPLIANCE WITH INSTRUCTIONS

H-10086 adequately complies with the project instructions noted in section 1 of this report.

9. ADDITIONAL FIELD WORK

This is a good navigable area survey. Additional work on an opportunity basis is recommended to verify or disprove AWOIS items 03101, 03102 and 03163.

Arsenio A. Luceno
Cartographer

This survey has been examined and it meets Charting and Geodetic Services standards and requirements for use in nautical charting. The survey is recommended for approval.

Bruce Alan Olmstead
for Dennis Hill
Chief, Hydrographic Section

ATTACHMENT TO DESCRIPTIVE REPORT FOR H-10086

I have reviewed the smooth sheet, accompanying data, and reports of this hydrographic survey. Except as noted in the Evaluation Report, the hydrographic survey meets or exceeds Charting and Geodetic Services (C&GS) standards, complies with instructions, and is accurately and completely represented by the smooth sheet and digital data file for use in nautical charting.

Dennis Hill

For Chief, Nautical Chart Branch (Date)

CLEARANCE: SIGNATURE AND DATE:

N/MOP2:LWMordock

After review of the smooth sheet and accompanying reports, I hereby certify this survey is accurate, complete, and meets appropriate standards with only the exceptions as noted above. The above recommendations are forwarded with my concurrence.

Robert L. Sandgut

Director, Pacific Marine Center (Date)

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

Hydrographic Index No. 79 F

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-10086

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
11441	10/6/86	Peter Shuman	Full ~~Part~~ ~~Before~~ After Marine Center Approval Signed Via
			Drawing No. 41
11442	10/6/86	Peter Shuman	Full ~~Part~~ ~~Before~~ After Marine Center Approval Signed Via
			Drawing No. 50
11445B	10/6/86	Peter Shuman	Full ~~Part~~ ~~Before~~ After Marine Center Approval Signed Via
			Drawing No. 26
11434	5-8-90	ELLEN SPENCER	Full ~~Part~~ ~~Before~~ After Marine Center Approval Signed Via
			Drawing No. 35 thru 11441
11420	7-8-94	FClerici	Full ~~Part~~ ~~Before~~ After Marine Center Approval Signed Via
			Drawing No. 33 No correction through chart 11442
			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.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.