FE243
WIRE DRAG

Diagram No.s 1278 & 1279

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Wire Drag

Field No. R/H-20-1-83

Office No. FE-243WD

LOCALITY

State Louisiana

General Locality Gulf of Mexico

Locality Approach to Calcasieu Pass

1983

CHIEF OF PARTY
LCDR R.C.Arnold

LIBRARY & ARCHIVES

DATE February 12, 1985

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

FE243
WIRE DRAG

Area 4
CHT
11347 & AY
11345
11344
11341
11340
11330
CACTOG
SIGN OFF ON
FM. IN BACK
OF BOOK

NOAA FORM 77-28 (11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO.

FE-243WD

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.

RH-20-01-83

State LOUISIANA

General locality GULF OF MEXICO

Locality APPROACH TO CALCASIEU PASS

Scale 1:20,000 Date of survey MAY 4 to MAY 5, 1983

Instructions dated JANUARY 6, 1983 Project No. OPR-K667-RU/HE-83

Vessel NOAA SHIPS RUDE (9040) & HECK (9140)

Chief of party LCDR RUSSELL C. ARNOLD

Surveyed by R.C. ARNOLD, D.D. WINTER, J.W. BAILEY, T.G. CALLAHAN

Soundings taken by echo sounder, ~~hand lead, pole~~ DE-719B (RAYTHEON)

Graphic record scaled by J.W. BAILEY, T.G. CALLAHAN, G.L. ANDERSEN

Graphic record checked by J.W. BAILEY, T.G. CALLAHAN, G.L. ANDERSEN

Protracted by _____ Automated plot by (Hydrography Only) Xynetics 1201 Plotter (AMC)

Verification by Evaluation And Analysis Group, Atlantic Marine Center

Soundings in fathoms (feet) at MLW (MLLW) Smooth Tides ~~GULF COAST LOW WATER DATUM REDUCED FOR PREDICTED TIDES~~

REMARKS: ALL TIMES RECORDED FOR THIS SURVEY ARE G.M.T.

STANDARDS CK'D 2-20-85
C.Loy

AWOIS + SURF ✓ RWD 12/85

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

☆ U.S. GPO: 1974-0-768-081/1207

CONTENTS

DESCRIPTIVE REPORT
To Accompany
WIRE DRAG SURVEY ~~H~~ FE-243 WD
Field Number RH-20-01-83

A. AUTHORITY

This survey is part of OPR-K667-RU/HE-83, Calcasieu Pass and Sabine Bank, Louisiana and Heald Bank, Texas. This project was conducted in accordance with project instructions dated 6 January 1983, issued by the Chief, Nautical Charting Division, and forwarded via the Director, Atlantic Marine Center. There were no changes issued during this survey.

B. CHARACTER AND LIMITS OF THE WORK

The purpose of this survey was to determine the status of the submerged pilings charted just east of the red buoy line of Calcasieu Pass Channel. The following area was covered by wire drag survey:

29°39'39"N 093°19'33"W	352° True to	29°44'29"W 093°20'20"W
29°44'29"N 093°20/20"W	260° True to	29°44'30"N 093°20'12"W
29°44'30"N 093°20'12"W	172° True to	29°39'41"N 093°19'22"W
29°39'41"N 093°19'22"W	085° True to	29°39'39"N 093°19'33"W

NOS Charts 11341, 11344, 11345, and 11346 are affected by this survey.

C. CONTROL AND SHORELINE

Control for this survey was accomplished with ARGO electronic position control equipment. The ARGO was operated on a frequency of 1646.7 KHz in the range-range mode.

Datum used was NAD 1927. All electronic and visual control stations used during this survey were of Third Order, Class I positional accuracy standards or better. – See section 4. of the Evaluation Report.

D. DATE OF SURVEY

This survey was begun on 4 May 1983 (JD124) and completed on 5 May 1983 (JD125).

E. TIDAL REDUCERS – Smooth Tides have been applied to this survey - See the Approved Tide Note attached to this report.

The Galveston (Galveston Channel), Texas tide station served as a reference for predicted tides. The operating station at Galveston Pleasure Pier, Texas (877-1510) provided datum control for reduction of soundings. The predicted tide record used

for this survey was generated by the Predicted Tides Program, provided by AMC, on the ship's PDP 11/34 computer. Correctors applied to generate predicted tides were as follows:

Time Correctors

High Water	Low Water	Height Ratio
-2 hrs 00 min.	-1 hr 30 min.	X1.71

F. JUNCTIONS AND SPLITS

Not Applicable.

G. Same as F. above.

H. INCOMPLETE ITEMS — See the Evaluation Report.

All items assigned were completed.

I. CURRENTS AND WINDS

Currents encountered during the time of survey were slight, generally less than 1.0 kt., and had no real effect upon drag operations. Winds were less than 10 kts. and seas were less than 2 feet on both days. Conditions were therefore very favorable for wire drag during this survey.

J. EQUIPMENT AND TECHNIQUES

1. Survey Operations

Survey operations consisted of standard ship wire drag and testing. Drags were small and allowed to ground out as the purpose of the drags were to locate or disprove the existence of the charted submerged pilings. No groundings were noted on any of the strips except the rejected strip.

2. Diving Operations

No diving was done during this survey.

K. DISCREPANCIES AND COMPARISONS WITH RECENT CHARTS

There was only one hang encountered during wire drag coverage of the survey area. This hang was determined to be in the position of the submerged piling charted at 29°43'25"N, 093°22'07"W. This hang was cleared by subsequent wire drags to a least depth of 13.5 feet, reduced for predicted tides. See Attachment 6 for additional information. See the Evaluation Report — Sections 1. & 7.

L. PERSONNEL

The officers participating in this survey were: LCDR Russell C. Arnold, LCDR Donald D. Winter, LTJG Jonathan W. Bailey, and ENS Thomas G. Callahan.

APPENDIX K

See section 4. of the Evaluation Report.

OPR-K667-RU/HE-83

Buoy No.	Fix No.	Light List Volume II (1980)	R/R ARGO Position
36	~~60~~ 590	Lat and Long not listed	29°41'37.6"N 093°19'52.1"W
34	~~61~~ 591	Lat and Long not listed	29°40'32.7"N 093°19'42.4"W
32	~~62~~ 592	29°39.8'N 093°19.6'W	29°39'36.1"N 093°19'33.0"W
30	~~63~~ 593	29°38.7'N 093°19.4'W	29°38'41.3"N 093°19'23.5"W
29	~~64~~ 594	Lat and Long not listed	29°38'38.0"N 093°19'35.9"W
31	~~65~~ 595	29°39.6'N 093°19.6'W	29°39'36.9"N 093°19'44/2"W
33	~~66~~ 596	Lat and Long not listed	29°40'32.4"N 093°19'52.7"W
35	~~67~~ 597	Lat and Long not listed	29°41'33.7"N 093°20'02.9"W
37	~~68~~ 598	Lat and Long not listed	29°42'34.4"N 093°20'12.8"W
38	~~69~~ 599	Lat and Long not listed	29°42'37.4"N 093°20'01.8"W
40	~~70~~ 600	Lat and Long not listed	29°43'32.4"N 093°20'11.4"W
39	~~71~~ 601	Lat and Long not listed	29°43'32.2"N 093°20'21.2"W
41	~~72~~ 602	Lat and Long not listed	29°44'32.5"N 093°20'30.9"W
42	~~73~~ 603	Lat and Long not listed	29°44'31.7"N 093°20'21.2"W

See the computed positions in the automated data file.

DESCRIPTIVE REPORT
To Accompany
HYDROGRAPHIC SURVEY ~~H~~ FE-243 WD
Field Number RH-20-01-83

A. PROJECT

This survey is part of OPR-K667-RU/HE-83, Calcasieu Pass, Sabine Bank, Louisiana and Heald Bank, Texas. This project was conducted in accordance with project instructions dated 6 January 1983, issued by the Chief, Nautical Charting Division and forwarded via the Director, Atlantic Marine Center. There were no changes issued during this survey.

B. AREA SURVEYED

This survey was conducted in the Gulf of Mexico, vicinity of the Discontinued Dumping Ground, west of the approach to Calcasieu Pass, Louisiana. The limits of the area surveyed are as follows:

29°39'34"N 093°19'56"W	352° True to	29°44'24"N 093°20'40"W
29°44'24"N 093°20'40"W	092° True to	29°44'24"N 093°20'27"W
29°44'24"N 093°20'27"W	172° True to	29°39'38"N 093°20'27"W
29°39'38"N 093°19'43"W	229° True to	29°39'34"N 093°19'56"W

There was no coastline contained within the above mentioned survey limits. Hydrography was conducted on 5 May 1983, JD125.

C. SOUNDING VESSEL

Hydrography was performed by the NOAA Ship HECK (S591), Vesno 9140. Data acquisition was accomplished by hand logging data while on line.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

All soundings for this survey were obtained by the NOAA Ship HECK (S591). The fathometer used for this survey was the Raytheon portable fathometer, Model DE719B, S/N 5799.

The fathometer was maintained at a zero initial setting during survey operations and a static draft of 7.0 feet being added to all correcor tapes. Soundings were reduced for predicted tides and rough plotted on the field sheet. Reduced soundings ranged from 16 to ~~38~~ 46 feet. (Smooth Tides applied)

The velocity of sound corrections will be based upon a T.D.C. cast taken by the NOAA Ship HECK (S591). The T.D.C. cast was performed on 26 April 1983, JD116, at 29°02'36"N, 094°14'24"W, to a depth of 18 meters. The instrument used was a

Martek Mark VII, model #167, S/N 126. This unit was calibrated by Atlantic Marine Center, Acoustic Branch, during the 1982-83 winter inport period. A copy of those calibrations will be forwarded with this report. The velocity table, graph and correctors will be computed and applied to all field work by AMC. - See section 4. of the Evaluation Report.

A vertical cast was taken on 2 May 1983, JD122, for both vessels, NOAA Ships RUDE (9040) and HECK (9140). Both vessels installed and checked all three fathometers (S/N 5799, 5499, 6212) for possible instrument error. This cast revealed that a 0.7 foot difference exists between the two vessels. The NOAA Ship RUDE (9040) records 0.7 foot deeper on all fathometers than those on the NOAA Ship HECK (9140). These errors are to be applied to all soundings by AMC via the TC/T1 tape. Only Ship HECK was used for hydrography.

Settlement and squat corrections were determined on 25 January 1983, JD025, by AMC and ship personnel at Port Norfolk Reach Channel. A copy of settlement and squat results are appended to this report. (Supplemental Data File).

Speed changes were noted in daily sounding records and settlement and squat correctors were entered on sounding correction abstracts. The Sounding Corrector Abstract is appended to this report. (Appendix D).

E. HYDROGRAPHIC SHEETS

The field sheet used while on line was constructed anddrawn onboard the NOAA Ship RUDE (9040). This sheet was prepared by the Digital PDP 11/34 computer and Houston Instruments roll bed plotter.

All soundings and positions were hand plotted on the field sheets with cross-lines and splits plotted on overlays.

F. CONTROL STATIONS

Datum used was NAD 1927. All electronic and visual control stations used during this survey were of Third Order, Class I positional accuracy standards or better. A complete list of signals is found in Appendix F. - See the Evaluation Report - Sections 2. & 4.

G. HYDROGRAPHIC POSITION CONTROL

Vessel positioning for all work was accomplished with ARGO, medium range positioning system, in the range/range mode at a frequency of 1646.7 KHz. The following is a list of equipment and serial numbers used:

Vessel	Vesno	Equipment	S/N
NOAA HECK (S591)	9140	RPU	RO47864
		CDU	CO37940
		ALU	AO980310
		Power Supply	VO478106
		Thermal Printer	2126A06914
		Strip Chart	00146
Shore Station 01		RPU	RO47843
H-24-TX		ALU	AO47853
		Power Supply	VO478107
Shore Station 02		RPU	RO379107
CHAN		ALU	AO379106
		Power Supply	VO379131

Vessel calibrations were performed using a fixed point calibration scheme. A fixed point alongside the Coast Guard Pier at Monkey Island, Cameron, Louisiana, was selected as the calibration point. The azimuth and taped distance from this fixed point and the Cameron GCG radio tower were determined and this information was fed into the HP-9815 computer Geodetic Package. The distances from the fixed point to the two shore stations were then computed and these values converted into lanes. These computed lane values were the basis for the opening calibration set and closing calibration checks. – The fixed point at Monkey Island, Cameron, La. was not submitted in the survey control data. The position of this point is unknown and is therefore not in the signal list. See section 4. of the Evaluation Report.

A complete file of daily calibrations and the compution of the pre-computed calibration values is appended to this report. (Supplemental Data File).

H. SHORELINE

There was no shoreline contained within the survey limits.

I. CROSSLINES

Throughout this survey 3.2 NM of crosslines were run. This constitutes 11% of the total mainscheme agreement. Crossline agreement was very good throughout this survey. Crossline soundings were all within 1 foot of adjacent mainscheme soundings.

J. JUNCTIONS

N/A

K. COMPARISONS WITH PRIOR SURVEYS – See the Evaluation Report, Sections 4. and 6.

N/A

L. COMPARISON WITH THE CHART – See the Evaluation Report, Sections 4. and 7.

There was no evidence found by this survey that any spoil material still remains in the charted Discontinued Dumping Grounds. Fathograms show a very flat bottom with depth increasing away from shore and toward the main channel.

M. ADEQUACY OF SURVEY

This survey completely covers the Discontinued Dumping Grounds and is considered adequate for charting. – See the Evaluation Report, Section 9.

N. AIDS TO NAVIGATION – List of aids (floating) can be found in wire drag section of this report.

A list of all U.S. Coast Guard maintained Aids to Navigation in the survey area and vicinity is appended to this report.

The positions obtained for these Aids to Navigation were in good general agreement with the charts and light list and did adequately mark the edge of the channel. See sections 4. and 7. of the Evaluation Report.

O. STATISTICS

Category	
Total Number of Positions	90
NM of Soundings	30.0
Sq. NM of Hydrography	1.0
Bottom Samples	-

P. MISCELLANEOUS

N/A

Q. RECOMMENDATIONS

It is recommended that the area surveyed no longer be shown as a "Discontinued Dump Site" and that soundings be charted as found by this survey. See the Evaluation Report Section 7.

R. AUTOMATED DATA PROCESSING

N/A

S. REFERENCE TO REPORTS

Supplemental data file contains ARGO station values, daily calibrations, Settlement and Squat data.

APPROVAL SHEET

RH-20-01-83

Field operations contributing to the accomplishment of this survey were conducted under my supervision with frequent personal checks of progress and adequacy. This report and field sheet have been closely reviewed. See Attachment 6 for charting recommendation.

Russell C. Arnold
LCDR, NOAA
Commanding Officer
NOAA Ships RUDE & HECK

B. FIELD OPERATIONS

Prevailing southeasterly winds of 20-plus knots finally moderated near the end of April, and good progress was made on survey work during this reporting period. OPR-K667-RU/HE-83 was divided into four work areas per project instructions, with field sheet numbers and titles as follows:

Area 1 (Per Project Inst.)	Field Number	Field Title
1 FE-243 WD	R/H-20-01-83	Approach to Calcasieu Pass
~~2~~	~~R/H-20-02-83~~	~~Heald Bank~~
~~3~~	~~R/H-20-03-83~~	~~South of Calcasieu Pass~~
~~4~~	~~R/H-20-04-83~~	~~South of Sabine Bank~~

Results from ~~these~~ this survey~~s~~ ~~are~~ is summarized below:

Area 1, - R/H-20-01-83, Approach to Calcasieu Pass

This sheet involved wire drag investigation of 15 charted submerged piles east of the Calcasieu Pass Channel between Buoys R"32" and R"42". The ships contacted the U.S. Army Corps of Engineers and the Calcasieu Pass Pilots, both of whom claimed that the piles no longer existed. As no "hard copy" evidence could be obtained from either group, the ships conducted wire drag operations, clearing all of the piles within 2 feet of the bottom except for the first pile south of Buoy R"40". The ships either hung this pile or an obstruction of some sort at the same position on 2 occasions before clearing to an effective depth of 13½ feet (Note: divers were not available to investigate this hang). Drags between Buoys R"30" and R"40" were literally through the soft mud, evidence of which was the number of "TOB's" obtained by the testers. – See the Evaluation Report.

Hydrography was run on the west side of the channel between Buoys "31" and "41" in the Discontinued Spoil Area, as indicated on Chart 11347.

Charting Recommendation

Remove the submerged piles from the charts of the area. Chart a submerged obstruction, cleared to 13½ feet at Latitude 29°43.42'N, Longitude 93°20.13"W (See attached Notice to Mariners on this item). Do not concur – See sections 6. and 7. of the Evaluation Report.

Soundings from the hydrography run in the Discontinued Spoil area west of the channel should also be charted. Hydrography revealed a gently sloping bottom from north to south, with depths very similar to those directly across the channel on the east side. – Do not concur – See sections 6. and 7. of the Evaluation Report.

Area 2, R/H-20-02-83, Heald Bank

This sheet involved hydrographic investigation of two shoal areas in the Galveston Safety Fairway southwest of Heald Bank. The first area, a 34-foot shoal reported in 1981, 0.95 nautical mile south of Buoy R"2", was run at 180-meter spacing and later split to 90-meter spacing. No evidence of this shoal was found. Soundings obtained by the ships in this area agreed with soundings on Chart 11332 within 1-4 feet, reduced for predicted tides, settlement and squat, velocity of sound, and instrument corrections. RUDE & HECK soundings were always deeper than charted soundings.

2 - Not applicable to this report

The second area, several soundings in the mid to upper 30-foot range, was run at 180-meter spacing. RUDE & HECK reduced soundings were again deeper than soundings obtained by the MT MITCHELL in 1978 (H-9775) in this area by 0-3 feet. No evidence of the reported shoaling was found.

LORAN C comparisons were run by the ships while transiting between Galveston and Heald Bank, Galveston to Sabine Bank, Sabine Bank to Calcasieu Channel and Heald Bank to Sabine Bank. These comparisons show LORAN C fixes using W and X rates, plotting consistently to the northwest of ARGO positions by 0.15 to 0.40 nautical miles. Using the prescribed X and Y rates, there is good agreement between ARGO and LORAN C.

Charting Recommendation

The 34-foot reported at 29°04'N, 094°13'54"W, would be difficult to miss, as it would represent an 18-foot rise above the next shoalest charted sounding in the area. This command is confident that no such shoal exists. Remove this reported sounding from the charts.

The area of soundings in the mid to upper 30-foot range was surveyed by the MT MITCHELL in 1978, and no such shoal was evident then. The RUDE and HECK confirmed the MT MITCHELL survey of this area. It is recommended that soundings from the MT MITCHELL's survey, which are slightly shoaler than RUDE & HECK soundings, be reapplied to the chart.

Area 3, R/H 20-03-83, South of Calcasieu Pass

This sheet involved hydrographic investigation of shoaling in the center of the Safety Fairway south of Calcasieu Pass. Main scheme hydrography was run at 180-meter spacing and split to 90-meter spacing. RUDE and HECK soundings on this sheet were 1-3 feet deeper than prior survey H-8738, which was conducted in 1963. The shoalest sounding obtained by the RUDE and HECK in the center of the Fairway was 42 feet.

Charting Recommendation

Prior survey H-8738 indicates shoals of 38 feet on the west side of the Fairway and 36 feet on the east side, with 40 feet in the middle. The RUDE and HECK got 40 feet on the west side, 38 feet on the east side, and 42 feet in the middle. The best water in this section of Fairway is still up the middle. Remove the 38 foot reported 1976 from the chart. Continue to chart soundings from H-8738 as they are shoaler than RUDE and HECK soundings.

Remove the platform at Latitutde 29°22'47"N, Longitude 93°14'54"W. This platform no longer exists at that location.

Area 4, R/H-20-04-83, South of Sabine Bank

This sheet involved hydrographic investigation of reported shoaling in the Sabine Safety Fairway. Two spikes reported by the WHITING in 1982 were also investigated and side scanned. Basic hydrography was run at 180-meter spacing and then split to 90-meter spacing in the reported areas for the spikes and shoaling.

3- not applicable to this report

Soundings obtained by the RUDE and HECK were deeper by 2 to 4 feet than the prior survey, H-8738 and Chart 11341.

Charting Recommendation

Soundings from prior survey H-8738 should be reapplied to the chart as they are consistently shoaler than RUDE and HECK soundings. No further evidence of shoaling was obtained.

The WHITING spikes were investigated with side scan sonar with negative results. The southern spike is within 0.20 NM of the 40-foot sounding from H-8738 (WHITING got 41.3 feet) and the northern spike is within 0.20 NM of a 42-foot sounding obtained by the RUDE and HECK (WHITING got a 38.5 that was extremely conservative; this command believes that the spike was wake-induced; see attached copy of fathogram). This command considers the WHITING spikes resolved; no charting action is warranted.

The wreck of the GULF TIDE at Latitude 29°15.8'N, Longitude 93°39.4'W, was investigated by the RUDE and HECK in 1973 and cleared to an effective depth of 40 feet, (see attached copy of draft instructions, item underlined in bold black), yet 10 years later the charts of the area still carry the wreck symbol with "40 ft rep". As this 40-foot sounding is the controlling depth for this portion of the Safety Fairway, NOS should correct the wreck symbol to reflect the RUDE and HECK's 1973 work.

OPR-J657-RU/HE-83, was begun on 12 May 1983, with the installation of an ARGO electronic control station on Egmont Key, Florida (TAMPA PILOTS). A second ARGO station was established in Venice, Florida (LORAN) on 14 May 1983. Field work for this project consisted of side scan sonar investigation. Operations on item AW015 #02671 began and were completed on 16 May 1983. Operations on item AW015 #00174 begain on 18 May 1983 and were completed on 19 May 1983. Side scan sonar coverage of 400% revealed no indication of either wreck and resolved that neither wreck remains or is a hazard to navigation. It is therefore recommended that the corresponding wreck symbols be deleted from Charts 11400 and 11424. ARGO station TAMPA PILOTS was taken down on 20 May 1983 and station LORAN was taken down on 23 May 1983.

PROJECT:

KGCZ

SIGNALS/STATIONS

H24TX

ID NBR	1
LAT	293513.603
LON	941717.965
FREQ	1646.70 KHZ
FILE	1

CHAN

ID NBR	2
LAT	294556.168
LON	932051.826
FREQ	1646.70 KHZ
FILE	2

BOLIVAR L.H.

ID NBR	3
LAT	292159.597
LON	944600.263
FILE	3

GALV BAY LWR. RGE FRONT LT.

ID NBR	4
LAT	292043.444
LON	944727.340
FILE	4

GALV. C.G. RADIO MAST

ID NBR	5
LAT	292001.985
LON	944605.559
FILE	5

HOUSTON SHIP CHAN. OUTER RGE FRONT LT.

ID NBR	6
LAT	292008.340
LON	944611.100
FILE	6

ENT. N. SIDE DREDGING RGE

ID NBR	7
LAT	292215.653
LON	944456.929
FILE	7

GALVESTON SOUTH JETTY LT.

ID NBR	8
LAT	291939.258
LON	944132.887
FILE	8

SABINE PASS LIGHTHOUSE

ID NBR	9
LAT	294258.653
LON	935059.985
FILE	9

SABINE RADIO TWR

ID NBR	10
LAT	294253.934
LON	935100.045
FILE	10

SABINE PASS WATER TANK

ID NBR	11
LAT	294405.906
LON	935348.891
FILE	11

SABINE PASS T.V. STATION KBMT MAST

ID NBR	12
LAT	294249.311
LON	935145.719
FILE	12

SABINE PASS C.G. STATION CUPOLA

ID NBR	13
LAT	294221.785
LON	935111.229
FILE	13

SABINE PASS C.G. LIFEBOAT STA. TWR.

ID NBR	14
LAT	294219.953
LON	935114.747
FILE	14

CAMERON LOUIS. MENHADEN CO. STACK

ID NBR	15
LAT	294847.689
LON	932044.755
FILE	15

CAMERON WATER TANK

ID NBR	16
LAT	294742.540
LON	931916.370
FILE	16

CAMERON C.G. RADIO TOWER

ID NBR	17
LAT	294641.408
LON	932033.528
FILE	17

CAMERON J WELL SURVEY, INC. MAST

ID NBR	18
LAT	294725.137
LON	931758.083
FILE	18

CAMERON RADIO STA. KKD 814 MAST

ID NBR	19
LAT	294715.695
LON	931754.756
FILE	19

LANE WIDTH= ~~90.985~~ 99 90.991 m

See the Attached Automated Control File

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NOAA SHIPS RUDE & HECK
439 West York St.
Norfolk, VA 23510

May 7, 1983

To: Commander, Eighth Coast Guard District
Hale Boggs Federal Building
New Orleans, LA 70130

From: LCDR Russell C. Arnold
Commanding Officer

Subj: Notice to Mariners

Recent wire drag operations, conducted out of Cameron, LA, by the NOAA Ships RUDE and HECK revealed the existence of an obstruction outside the Calcasieu Channel. This obstruction, located about 120 yards SSE of Buoy R "40", plotted very close to the charted submerged pile in that area (Latitude 29°43.42'N, Longitude 93°20.13'W. General bottom depths in the vicinity of the obstruction were 18 feet, reduced for predicted tides. The obstruction was cleared to an effective depth of 14 feet, reduced for predicted tides.

Mariners operating outside the Calcasieu Channel should exercise caution in this area.

cc: MOA1
N/CG241

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
NOAA SHIPS RUDE & HECK
439 West York St.
Norfolk, VA 23510

December 20, 1982

To: Director, Atlantic Marine Center
ATTN: MOA1

From: LCDR Russell C. Arnold
Commanding Officer

Subj: Equipping RUDE & HECK for Hydrography

Project Instructions for OPR-K667-RH-83, Calcasieu Pass, Heald Bank, Sabine Bank, Louisiana, require conducting basic hydrographic operations for which the ships are not properly equipped. It is estimated that about 1000 nautical miles of hydrography will need to be run to satisfy project requirements. There are several ways to equip the ships, depending on what type of end product is desired:

1. Data could be collected with the equipment that is presently on board. The survey would be recorded in sounding volumes, using Raytheon DE-719B fathometers and the ARGO positioning system. The final field sheet would display hand plotted position numbers and soundings, reduced for predicted tides.

In this case, the final product submitted by the ships would be sounding volumes and a hand plotted field sheet.

2. If data loggers and teletypes were added to the ships, sounding volumes could be eliminated, with the rest of the data collection process being the same as above.

In this case, the final product submitted by the ships would be annotated teletype printouts, paper punched tape, and a hand plotted field sheet.

3. Full-blown Hydroplot systems could be installed. Complete systems would be needed; no components are aboard at this time.

In this case, the final product would be annotated teletype printouts, paper punched tape and a machine plotted field sheet.

4. Portions of the Hydroplot system could perhaps be installed. The final product would depend upon which components were or were not installed. (e.g., the plotter).

This Command would like to think that the assignment of this hydrographic project to the RUDE & HECK is a one-time-only deal. These vessels are

equipped, staffed and trained to conduct and process wire drag surveys and item investigations. They are not equipped, staffed or trained to conduct and process hydrographic surveys.

The RUDE and HECK can accomplish this project using any of the scenarios outlined above. It will take a tremendous amount of effort on the part of the officer complement to do it. The ships are fortunate at present to have officers with strong hydrographic backgrounds aboard. Six months from now, that will not be the case. This Command would prefer to keep the collection and processing of the data as simple as possible, i.e., Scenario 1.

DATE: September 8, 1983

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): 877-0590 Sabine Pass, Texas

Period: April 7 - May 6, 1983

WIRE DRAG:
~~HYDROGRAPHIC SHEET~~: OPR-K667-RU/HE 83 , FE-243 WD

OPR: K-667

Locality: Offshore Louisiana and Texas Coast

Plane of reference (mean lower low water): 4.2 ft.

Height of Mean High Water above Plane of Reference is 1.8 ft.

REMARKS: Recommended Zoning:

1. AREA 1 - Apply -30 minute time correction and x1.04 range ratio.
2. AREA 2 - Apply -20 minute time correction and x1.04 range ratio.
3. ~~AREA~~ 3 - Apply -30 minute time correction and x1.04 range ratio.
4. AREA 4 - Apply -25 minute time correction and x1.04 range ratio.

James R Hubbard
Chief, Tidal Datums Section, Tides & Water Levels Branch

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

FE 243 WD

Name on Survey	A ON CHART NO. 11347	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	
CALCASIEU PASS (title)	✓									1
GULF OF MEXICO (title)	✓									2
LOUISIANA (title)	✓									3
										4
										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
					Approved					17
					Charles E. Hutchinson					18
										19
					Chief Geographer - N/CG2x5					20
					10 DEC 1984					21
										22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NO.: FE-243WD

Number of positions	222
Number of soundings	477
Number of control stations	19

	TIME-HOURS	DATE COMPLETED
Preprocessing Examination	13	July 15, 1983
Verification of Field Data	0	
Quality Control Checks	0	
Evaluation and Analysis	112	January 24, 1985
Final Inspection	3	January 17, 1985
TOTAL TIME	128	

Marine Center Approval — January 25, 1985

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

ATLANTIC MARINE CENTER
EVALUATION REPORT

REGISTRY NO.: FE-243WD FIELD NO.: R/H-20-1-83

Louisiana, Gulf of Mexico, Approach to Calcasieu Pass

SURVEYED: May 4 through May 5, 1983

SCALE: 1:20,000 PROJECT NO.: OPR-K667-RU/HE-83

SOUNDINGS: Raytheon DE-719B Fathometer, Wire Drag CONTROL: ARGO (Range-Range)

Chief of Party.....R. C. Arnold

Surveyed by.....D. D. Winter
.....J. W. Bailey
.....T. G. Callahan

1. INTRODUCTION

a. The purpose of this survey is adequately described in the Descriptive Report and in the Project Instructions. The results of this survey are discussed in this report and are portrayed on the smooth sheets (both hydrographic and wire drag - A&D) attached to this report.

b. Unusual problems encountered during verification of this survey are addressed in section 4. of this report.

c. Corrections and notes made by the evaluator to the Descriptive Report are denoted in red ink.

2. CONTROL AND SHORELINE

a. The source of control was not adequately described in sections C. and F. of the combined Descriptive Reports. Section 4. of this report addresses this deficiency. A correct listing of submitted control stations was added to the supplements of the Descriptive Report during verification.

b. There is no shoreline within the area of this survey.

3. HYDROGRAPHY

a. Soundings at crossings are in good agreement. Depths are within one foot.

b. The standard depth curves of 18 and 30 foot are drawn on the smooth sheet. No supplemental curves were necessary to adequately portray the bottom configuration.

c. The development of the bottom configuration and investigation of least depths is not considered adequate due to line spacing (see section 4.c. of this report) and the scheme of hydrography which is not normal to the depth curves within the small area surveyed.

4. CONDITION OF SURVEY

The smooth sheets and accompanying overlays, hydrographic records, wire drag records and reports are adequate and conform to the requirements of the Hydrographic Manual and the Wire Drag Manual with the following exceptions:

a. In reference to LCDR Arnold's letter of December 20, 1982 to the Director, Atlantic Marine Center (see the Supplemental Data section of the Descriptive Report), it is recognized that the vessels and personnel are not properly equipped to conduct hydrography. The effort involved in accomplishing this project is commendable. It is recommended that the RUDE and HECK not be assigned hydrographic projects in the future without being adequately equipped with a data acquisition and processing system.

b. Velocity correctors submitted were in error and were redone during verification. Velocity data gathered by the field was approximately 55 miles from the present survey area.

c. Sounding line spacing within the discontinued dumping area was 80-100 meters whereas section 6.5.3 of the Project Instructions requires line spacing not to exceed 50 meters in the discontinued dumping grounds.

d. The discrepancies noted between fathometers do not apply in this survey as only the ship HECK with fathometer number 5799 was used to gather hydrography.

e. No field tide note was included in the Descriptive Report.

f. Control stations listed in Appendix F of the Descriptive Report were corrected as necessary. An automated listing is attached to the Descriptive Report. The year of establishment was not provided for any of the stations. The names listed on seven stations were not as listed by N.G.S. The source was not provided for any of the stations.

g. Portions of attachment 6 of the Descriptive Report contains information not relevant to this survey and should have been stricken from the report.

h. No bottom samples were taken during this survey. Bottom samples were required by section 8.1 of the Hydrographic Manual.

i. Loran-C comparisons were collected from Galveston, Texas, to Sabine Bank between April 18 through May 6, 1984. The abstracts of the comparison data are contained in the survey records.

j. The fixed point used for daily calibrations at Monkey Island, Cameron, La., was apparently not established as a control station as required by section 3.2.2. of the Project Instructions.

k. Geodetic control stations listed for control were apparently not recovered as required by section 3.2.1. of the Project Instructions. No reference was made as to submission of recovery notes and none were found in the survey records.

l. Several charted features were not investigated or addressed as required by section 4.2.1. of the Project Instructions. Section 7. of this report addresses charted details within the survey area.

m. Landmarks and nonfloating aids and azimuths of all ranges within the project area were not established or confirmed as required by section 4.2.2.1. of the Project Instructions.

n. No investigation was made for charted or uncharted landmarks within the project area as required by section 4.2.2.3. of the Project Instructions.

o. Floating aids within the survey area were positioned but were not described as required by section 4.2.2.3. of the Project Instructions.

p. A blank NOAA Form 76-40 was included in the Descriptive Report. No mention of nonfloating aids to navigation or landmarks was made in section N. of the Descriptive Report as required by section 4.2.2.4. of the Project Instructions.

q. An investigation and Listing of Geographic Names was not conducted and listed as required by section 4.2.3. of the Project Instructions. The Geographic Names List was corrected during Evaluation and Analysis.

r. The obstruction located by this survey was not cleared in an opposing direction and is therefore not considered cleared. No diver investigation was accomplished.

s. A rejected strip on J.D. 124 was rejected because on the second position of the strip it was called grounded. This grounding is in the vicinity of the charted piling at Latitude 29°44'25", Longitude 93°20'18". This piling also appears on prior survey H-8796 (1964). No investigations were accomplished on this grounding.

t. The Project Instructions indicate that side scan sonar was available for this project. No side scan sonar was used during this survey. It may have been useful to have used the side scan sonar in search for the charted obstructions.

u. The Reference to Reports section of the Descriptive Report makes no reference to other required reports such as a Coast Pilot Report which was required by section 8.5 of the Project Instructions.

v. Comparisons with prior surveys in the Descriptive Report was not accomplished as required by section 6.10.1 of the Project Instructions.

w. Comparisons with charts by the hydrographer was not adequately accomplished in the Descriptive Report.

5. JUNCTIONS

There are no junctions on this survey.

6. COMPARISON WITH PRIOR SURVEYS

a. Hydrography

H-8796 (1964) 1:40,000

This prior survey covers 100% of the present survey. In comparisons between present and prior hydrography, it is apparent that the maintained channel has been widened to the west whereas the eastern side of the channel remains relatively the same. Hydrography within the common area outside the channel is generally slightly deeper (up to 6 feet) north of Latitude 29°43'. South of Latitude 29°43' the present soundings are generally shoaler by 1 to 3 feet. The 2-foot shoal (charted) at Latitude 29°44'32", Longitude 93°20'41" on the prior survey was not investigated by the present survey. A marker on the prior survey at approximately Latitude 29°42'35", Longitude 93°20'01" is not charted and is in an area not covered by either hydrography or wire drag on the present survey.

In comparisons between present wire drag effective depths with prior hydrography, no conflicts exist except the obstruction hung at Latitude 29°43'42.7", Longitude 93°20'09.5". Bottom coverage by wire-drag ranged from 0 to 17 feet above prior hydrography. However, generally bottom coverage by wire-drag ranged from 3 to 5 feet off the bottom. An uninvestigated "grounding" occurred in the vicinity of the piling on the prior survey at 29°44'25", Longitude 93°20'18". The area of this prior piling was subsequently cleared in one direction by 14 feet. It is recommended that this piling, which is presently charted as a submerged piling, be retained as charted. Another pile on the prior survey at Latitude 29°44'29", Longitude 93°20'17" is not charted and is outside the area covered by the present survey.

b. Wire Drag

H-9627WD (1976) 1:40,000
H-9549WD (1975) 1:40,000
FE-203WD (F.E. No. 1, 1966) 1:80,000

H-9627WD (1976) is common to only two soundings of the present survey and not common to any of the present wire drag. No conflicts exist between present hydrography and prior effective depths.

H-9549WD (1975) is common to approximately the southern one-third of the present survey. This prior survey is unprocessed and unverified. Comparisons were made with the field drawn A&D sheet. No conflicts exist between present and prior effective depths. The channel buoys hung by this prior survey are significantly different in position and buoy numbers. This prior survey clears the charted five southernmost visible piles charted to the east of the channel leading to Calcasieu Pass; however, since the data is unprocessed and unverified, it is not used to claim clearance but does substantiate the possibility of the existence of submerged piles.

FE-203WD (F.E. No. 1, 1966) is common to only two soundings and a very small portion of present wire drag. There are no conflicts between present hydrography and prior effective depths. There are no conflicts between present and prior effective depths. The present wire drag does not cover the area of the previously charted wreck ("F/V BELLA" originating with N.M. #30, 1960) which was disproved by this prior survey.

7. COMPARISON WITH CHART 11347 (16th Edition, March 20, 1982)

a. Hydrography

The charted hydrography originates with the previously discussed prior survey and soundings from sources not readily ascertainable. The previously discussed prior survey requires no further consideration. In comparison of charted hydrography of unascertained sources the present hydrography runs generally deeper (2 to 3 feet) than charted hydrography. Since the majority of the present hydrography is in the Discontinued Spoil Area, there are very few charted soundings for comparison. The hydrography conducted by this survey is considered reconnaissance because the sounding correctors are based upon one T.D.C. and one leadline comparison accomplished well away from the survey area. It is recommended that this hydrography not be charted and the Discontinued Spoil Area be retained as charted. In comparison of present effective depths with charted hydrography there are three soundings which are shoaler (1-foot, 4-feet and 5-feet). These conflicts are not considered significant since the eastern side of the channel shows a deepening trend.

Attention is directed to the following:

1) One unidentified obstruction was located by wire drag at Latitude 29°43'24.7", Longitude 93°20'09.5". This obstruction is within 30 meters of the charted pile. This obstruction is not considered cleared as clearance was in one direction only and by insufficient overlap. It is recommended that this obstruction be charted as a dangerous submerged obstruction in the location determined by the present survey.

Part of # 1336

∴ obstr

2) Of all the other remaining piles and submerged piling searched for by wire drag, none were found (except the possibility of the pile noted in section 6.a. of this report). Clearances over the remaining piles and submerged piling were in one direction only and by insufficient overlap for disproval.

3) One pile charted at Latitude 29°41'27", Longitude 93°19'49" was not covered by wire drag.

4) It is recommended that all the charted piling and submerged piling be retained as charted as dangerous submerged piling (this survey adequately disproves the existence of any visible piles) except the one obstruction that was located by this survey. All of these pilings (steel) originated with the U.S. Army Corps of Engineers Blueprint 42984 which generated Chart Letter 290 of 1942. No documentation from the Corps of Engineers or Chart Letters exist that states that any of these piles were removed. The appropriate district was contacted and no documentation exists within the Corps of Engineers about the removal of these piles.

AWOIS #1326

5) The charted Obstruction PA (originating with Local Notice to Mariners 42 of 1967) at Latitude 29°41'45", Longitude 93°20'04" was not located by this survey and is recommended to be retained as charted.

#6994

b. Aids to Navigation

Four fixed aids to navigation are listed in the control file. None of these fixed aids are within the limits of the present survey. Twelve floating aids were located by the present survey. Some minor differences exist between the charted locations and the positions gained by the present survey. All of the fixed aids and all of the floating aids are adequately listed in the U.S. Coast Guard, Volume II, 1983, and appear to adequately serve their intended purposes.

c. Maintained Channels

Hydrography obtained by this survey give no shoaler depths than the tabulated channel depths except north of Latitude 29°43'30" where there is shoaling on the west side of the channel. It is recommended that this shoaling be noted on the chart.

8. COMPLIANCE WITH PROJECT INSTRUCTIONS.

This survey adequately complies with the intent of the Project Instructions OPR-K667-RU/HE-83 dated January 6, 1983 except as noted in this report.

9. ADDITIONAL WORK

This survey attempted to serve the intended purpose; however, both the hydrography and wire drag are not sufficient to accomplish the objectives. Additional hydrography and wire drag work may be desirable at an opportune time to accomplish these objectives.

10. MISCELLANEOUS

a. In wire drag strips containing a hang, the area past the initial contact on the hang was not claimed for effective depth coverage. The program of testing for lift is not considered sufficient to claim effective depths past the point of hang.

b. No splits exist in the area surveyed by wire drag.

Maurice B. Hickson, III
Cartographer
Evaluation and Analysis

Inspection Report
FE-243WD

The completed survey has been inspected with regard to survey coverage, investigation of hangs and clearance depths, cartographic symbolization, and verification or disproval of charted data. The survey complies with National Ocean Service requirements except as noted in the Evaluation Report. The survey records comply with NOS requirements except where noted in the Evaluation Report.

Inspected

R. D. Sanocki
Chief, Hydrographic Surveys
Processing Section
Hydrographic Surveys Branch

David B. MacFarland, Jr., LCDR, NOAA
Chief, Hydrographic Surveys Branch

Approved January 25, 1985

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

NOAA FORM 61-29
(12-71)

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

LETTER TRANSMITTING DATA

REFERENCE NO.
MOA23-06-85

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

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

TO:

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

DATE FORWARDED
February 4, 1985

NUMBER OF PACKAGES
one tube, one box

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

FE-243WD, OPR-K667-RU/HE-83, Field No. R/H-20-1-83, Louisiana, Gulf of Mexico, Approach to Calcasieu Pass

Package 1 of 2 (Tube)

- One original Descriptive Report (included in the Descriptive Report)
- Two final field sheets
- Ten preliminary field sheets
- Five office verified wire drag strips

Package 2 of 2 (Box)

~~Two smooth sheets (included in the D.R.)~~

- One envelope with smooth position overlay and smooth excess overlay
- One accordian folder with echograms and field data printouts
- One sounding volume
- Two wire drag volumes
- One wire drag tester record
- One envelope with data removed from Descriptive Report
- One envelope with smooth tide listings
- One envelope with supplemental data printouts
- One envelope with Loran-C comparison data for Project OPR-K667-RU/HE-83
- One Chart 11347, 16th Edition
- One cahier with: final control printout; final position printout; final sounding printout

FROM: *(Signature)* David MacFarland

D. B. MACFARLAND, JR., LCDR, CHIEF, HYDRO SURVEYS BR

RECEIVED THE ABOVE
(Name, Division, Date)
Dwayne S. Clark
February 12, 1985
N/CG243

Return receipted copy to:

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

ATTN: THERESA HIGH

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
CHARTING AND GEODETIC SERVICES — RADM H. R. LIPPOLD, JR., DIRECTOR

WIRE DRAG FIELD EXAMINATION-243WD
LOUISIANA, GULF OF MEXICO
APPROACH TO CALCASIEU PASS

FIELD SHEET: R/H-20-1-83		PROJECT: OPR-K667	
DATUM: HOR.	NORTH AMERICAN DATUM OF 1927		
SNDG.	MEAN LOWER LOW WATER		
PROJECTION	POLYCONIC	CENTRAL LONGITUDE	93° 19′ 30″ W
SCALE	1:20000	SOUNDINGS IN FEET	
SURVEYED BY	NOAA SHIPS RUDE & HECK LCDR R.C. ARNOLD CMDG.		MAY 1983
VERIFIED BY	M. B. HICKSON	EVALUATION & ANALYSIS BY	M. B. HICKSON
APPROVED BY	RADM W. V. HULL *Wesley V. Hull*	DIRECTOR, ATLANTIC MARINE CENTER	JAN 25, 1985

GONG "41"
BELL "42"
"39"
"40"
"37"
"38"
"35"
"36"
"33"
"34"
"31"
"32"
BELL "30"
"29"
28
28

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
CHARTING AND GEODETIC SERVICES — RADM H. R. LIPPOLD, JR., DIRECTOR

WIRE DRAG FIELD EXAMINATION-243WD
LOUISIANA, GULF OF MEXICO
APPROACH TO CALCASIEU PASS

FIELD SHEET: R/H-20-1-83		PROJECT: OPR-K667	
DATUM: HOR. / SNDG.	NORTH AMERICAN DATUM OF 1927 MEAN LOWER LOW WATER		
PROJECTION	POLYCONIC	CENTRAL LONGITUDE 93° 19′ 30″ W	
SCALE	1:20000	EFFECTIVE DEPTHS IN FEET	
SURVEYED BY	NOAA SHIPS RUDE & HECK LCDR R.C. ARNOLD CMDG.		MAY 1983
VERIFIED BY	M. B. HICKSON	EVALUATION & ANALYSIS BY	M. B. HICKSON
APPROVED BY	RADM W. V. HULL	DIRECTOR, ATLANTIC MARINE CENTER	JAN 25, 1985

Hang at 16 ft
Considered not cleared - cleances are in one direction only and by insufficient overlap
Uninvestigated hang

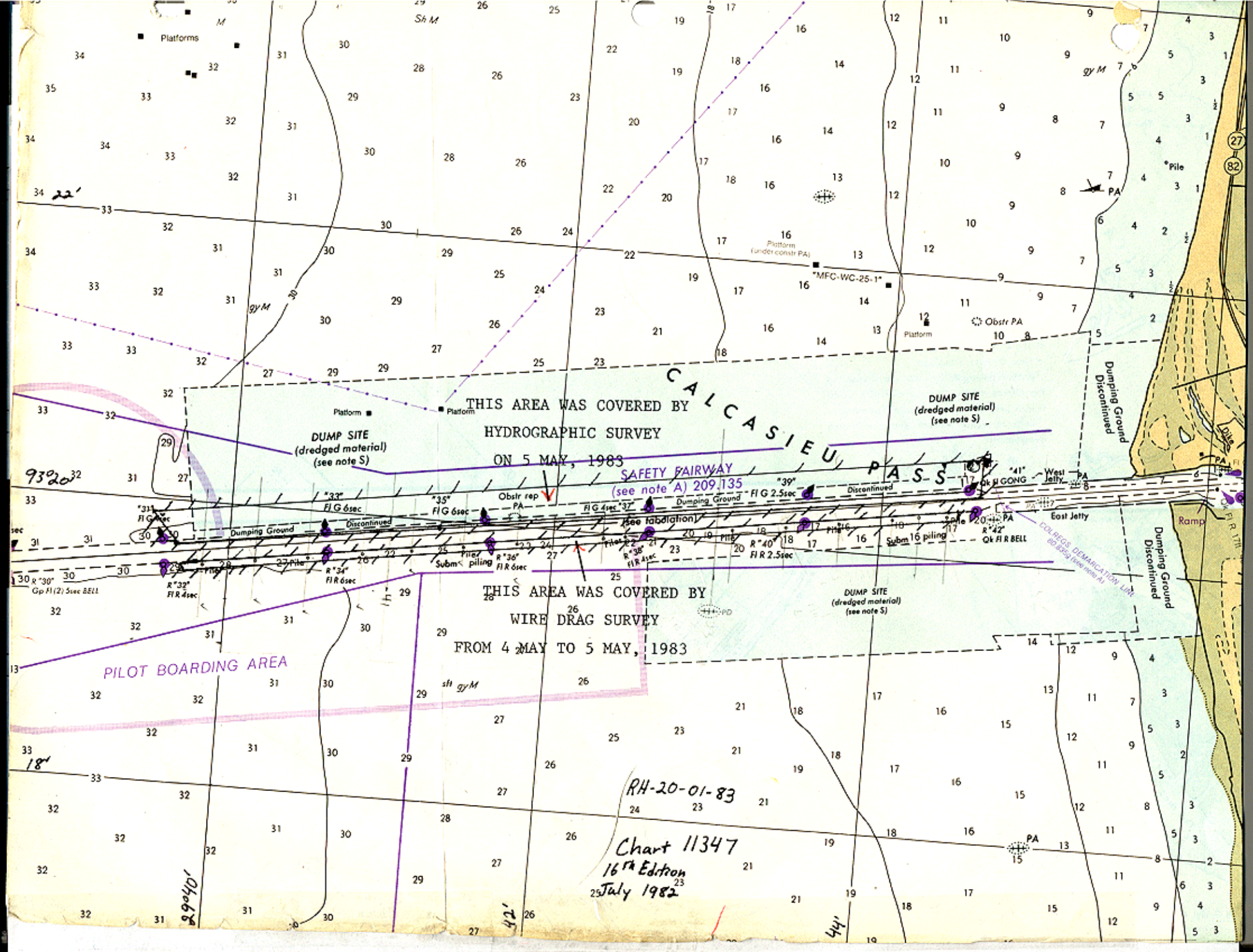
93° 19′ 93° 18′
29° 44′ 29° 43′ 29° 42′ 29° 41′ 29° 40′ 29° 39′
93° 21′ 93° 20′ 93° 19′ 93° 18′

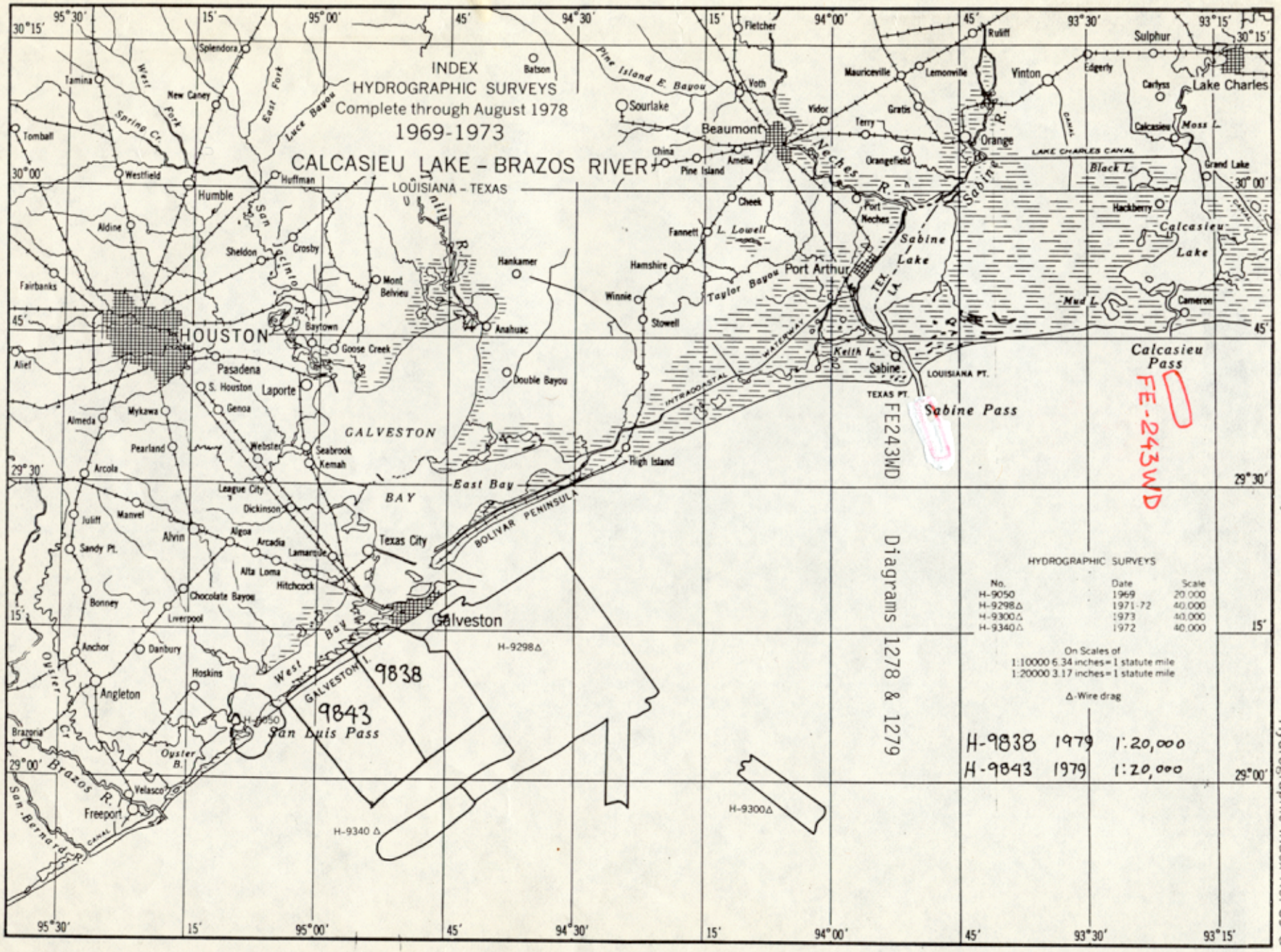
CFE243 01-22-85

RECORD NUMBER	YR	STA NUM	CARTO CODE	LABEL ANGLE	VECTOR DISP.	PLOT CODE	..... NAME	STATION HEIGHT	FREQUENCY (KHZ)	LATITUDE	LONGITUDE
1	83	1	250	307.00	0.60	3	H-24-TX-78,1978	3.0	1646.70	29 35 13.603	94 17 17.965
2	83	2	250	307.00	0.60	3	CHAN,1963	3.0	1646.70	29 45 56.168	93 20 51.826
3	83	3	139	307.00	0.60	3	BOLIVAR POINT LIGHTHOUSE	3.0	0.00	29 21 59.597	94 46 0.263
4	83	3	139	314.88	1.35	3	USE,1900	3.0	0.00	29 21 59.597	94 46 00.263
5	83	5	139	307.00	0.60	3	GALVESTON COAST GUARD	3.0	0.00	29 20 1.985	94 46 5.559
6	83	5	139	314.88	1.35	3	RADIO MAST,1960	3.0	0.00	29 20 01.985	94 46 05.559
7	83	6	139	307.00	0.60	3	HOUSTON SHIP CHANNEL OUTER RANGE	3.0	0.00	29 20 8.340	94 46 11.100
8	83	6	139	314.88	1.35	3	FRONT L.T.,1963	3.0	0.00	29 20 08.340	94 46 11.100
9	83	7	139	7.00	0.60	3	GALVESTON ENTRANCE NORTH SIDE	0.0	0.00	29 22 15.653	94 44 56.929
10	83	7	139	341.12	1.26	3	DREDGING RANGE REAR DAYBEACON,	0.0	0.00	29 22 15.653	94 44 56.929
11	83	7	139	333.57	1.99	3	1963	0.0	0.00	29 22 15.653	94 44 56.929
12	83	8	139	0.00	0.00	3	GALVESTON BAY LOWER RANGE	0.0	0.00	29 20 43.444	94 47 27.340
13	83	8	139	321.06	.76	3	FRONT LIGHT, 1963	0.0	0.00	29 20 43.444	94 47 27.340
14	83	9	139	0.00	0.00	3	SOUTH JETTY LIGHT, 1933	0.0	0.00	29 19 39.258	94 41 32.887
15	83	10	139	0.00	0.00	3	SABINE PASS LIGHTHOUSE, 1874	0.0	0.00	29 42 58.655	93 50 59.985
16	83	11	139	0.00	0.00	3	SABINE PASS RADIO TOWER, 1963	0.0	0.00	29 42 53.934	93 51 0.045
17	83	12	139	0.00	0.00	3	SABINE PASS WATER TANK, 1963	0.0	0.00	29 44 5.906	93 53 48.891
18	83	13	139	0.00	0.00	3	SABINE PASS TV STATION	0.0	0.00	29 42 49.311	93 51 45.719
19	83	13	139	000.00	0.00	3	KBMT MAST, 1963	0.0	0.00	29 42 49.311	93 51 45.719
20	83	14	139	0.00	0.00	3	SABINE PASS COAST GUARD	0.0	0.00	29 42 21.785	93 51 11.229
21	83	14	139	000.00	0.00	3	STATION CUPOLA, 1933	0.0	0.00	29 42 21.785	93 51 11.229
22	83	15	139	0.00	0.00	3	SABINE PASS COAST GUARD	0.0	0.00	29 42 19.953	93 51 14.747
23	83	15	139	000.00	0.00	3	LIFE BOAT STA TWR, 1963	0.0	0.00	29 42 19.953	93 51 14.747
24	83	16	139	0.00	0.00	3	CAMERON LOUISIANA	0.0	0.00	29 48 47.689	93 20 44.755
25	83	16	139	000.00	0.00	3	MENHADEN CO STACK, 1955	0.0	0.00	29 48 47.689	93 20 44.755
26	83	17	139	0.00	0.00	3	CAMERON WATER TANK, 1975	0.0	0.00	29 47 42.540	93 19 16.370
27	83	18	139	0.00	0.00	3	CAMERON COAST GUARD STATION	0.0	0.00	29 46 41.408	93 20 33.528
28	83	18	139	000.00	0.00	3	RADIO TOWER, 1975	0.0	0.00	29 46 41.408	93 20 33.528

29	83	19	139	0.00	0.00	3	CAMERON J WELL SURVEY	0.0	0.00	29 47 25.137	93 17 58.083
30	83	19	139	000.00	0.00	3	INC MAST, 1963	0.0	0.00	29 47 25.137	93 17 58.083
31	83	20	139	0.00	0.00	3	CAMERON RADIO STATION	0.0	0.00	29 47 15.695	93 17 54.756
32	83	20	139	000.00	0.00	3	KKD 814 MAST, 1963	0.0	0.00	29 47 15.695	93 17 54.756

ILE CERTIFIED CORRECT FOR PLOTTING BY:..... DATE:.....


THIS AREA WAS COVERED BY
HYDROGRAPHIC SURVEY
ON 5 MAY, 1983
THIS AREA WAS COVERED BY
WIRE DRAG SURVEY
FROM 4 MAY TO 5 MAY, 1983
CALCASIEU PASS
SAFETY FAIRWAY
(see note A) 209.135
PILOT BOARDING AREA
DUMP SITE
(dredged material)
(see note S)
Dumping Ground
Discontinued
Platforms
"MFC-WC-25-1"
Platform
Obstr PA
Obstr rep
PA
"33" Fl G 6sec
"35" Fl G 6sec
"37" Fl G 4sec
"39" Fl G 2.5sec
"41" West Jetty
Gong
East Jetty
Ramp
"42" Qk Fl R Bell
R "40" Fl R 2.5sec
R "38" Fl R 4sec
R "36" Fl R 6sec
R "34" Fl R 6sec
R "32" Fl R 4sec
R "30" Gp Fl (2) 5sec Bell
Subm piling
Pile
PA
COLREGS DEMARCATION LINE
RH-20-01-83
Chart 11347
16th Edition
July 1982



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

Hydrographic Index No. 89 G

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. FE-243WD

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
11347A	3-12-86	Maria Herrick	~~Full~~ Part ~~Before~~ After Verification Review Inspection Signed Via
~~FE243~~	~~3-12-87~~	~~Jeff Stuart~~	Drawing No. 20 partially applied, added obstruction
11347A	4/14/87	Jeffrey Stuart ww	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 21
11341	10/02/87	Corbett	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 46 Reviewed Stuart 10/6/87
11330	10/6/87	Stuart ww	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 4
11344	10/6/87	Stuart ww	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 36
11345	10/6/87	Stuart ww	
			Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 38
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.

FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975.

USCOMM-DC 8558-P63