

FE381

Diagram No. 1286-2

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey .. Side Scan Sonar ..
Field No. He-10-3-92 ..
Registry No. ... FE-381SS ..

LOCALITY

State Texas ..
General Locality Gulf of Mexico ..
Sublocality Entrance to Aransas Pass ..

1992

CHIEF OF PARTY
LCDR J.W. Blackwell

LIBRARY & ARCHIVES

DATE March 22, 1994 ..

FE381

HYDROGRAPHIC TITLE SHEET

FE-381SS

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.

HE-10-3-92

State TexasGeneral locality Gulf of MexicoLocality Entrance Aransas Pass
Approach to Corpus Christi, TexasScale 1:10,000Date of survey ⁰⁵~~03~~-09 November 1992Instructions dated 17 September 1992Project No. OPR-K220-HEVessel NOAA Ship HECK (EDP 9140)Chief of party John W. Blackwell, LCDR, NOAASurveyed by ENS M. Williamson, LTJG J.E. Martin, JST K.B. Shaver, LT C.S. Moore
LCDR J.W. BlackwellSoundings taken by echo sounder, ~~hand lead, etc.~~Graphic record scaled by ENS M. Williamson, LTJG J.E. Martin, JST K.B. ShaverGraphic record checked by ENS M. WilliamsonProtracted by N/AAutomated plot by HDAPS* (XNETICS 120
PLOTTER, ATIS)Verification by Atlantic Hydrographic Section (N/CG 244)Soundings in Meters
~~fathoms~~ ~~feet~~ at ~~MLW~~ MLLWREMARKS: All times UTC.Data submitted to Atlantic Hydrographic Section N/CG 244NOTES IN THE DESCRIPTIVE REPORT WERE MADE IN REDDuring Office Processing.AWOIS/SURPV 4/1/94, SJVJ.W.W. 5/23/94

DESCRIPTIVE REPORT TO ACCOMPANY
SURVEY FE-38188
FIELD NUMBER HE-10-3-92
TEXAS
GULF OF MEXICO
~~APPROACHES TO CORPUS CHRISTI, TEXAS~~ Entrance to Aransas Pass
Scale 1:10,000
NOAA SHIP HECK S-591
LCDR John W. Blackwell, NOAA, CMDG

A. PROJECT

1. This survey was conducted in accordance with Hydrographic Project Instructions OPR-K220-HE, SW Texas Coast, Texas.
2. Project Instructions are dated September 17, 1992.
3. No changes to Instructions were issued.
4. The purpose of this project is to investigate AWOIS item 7557, at the entrance to Aransas Pass, Texas. On August 06, 1992, the tanker STENA CONCERTINA ran aground in the area of this obstruction, depth unknown. This investigation is in response to a request by the United States Coast Guard, Eighth District.

B. AREA SURVEYED

1. The survey area lies in the Gulf of Mexico, at the entrance to Aransas Pass, Texas.
2. The area consists of one 200 meter radius search circle, centered at LAT 27° 48' 38.10" N, LON 096° 59' 48.95" W.

3. Survey operations began on November ~~03~~⁰⁵ (DOY ~~308~~³¹⁰), and were completed on November 09, 1992 (DOY 314).

4. All data was gathered and processed using 1:10,000 specifications and submitted on*1:2,000 smooth plots, and 1:2,500 inset page plots.

a 1:10,000 smooth plot in The D.R.

C. SURVEY VESSELS

1. All hydrographic data were collected by NOAA Ship HECK (EDP 9140). All offset and layback information is contained in the offset table located in section IV of the separates.

2. No unusual vessel configurations were used.

D. AUTOMATED DATA ACQUISITION AND PROCESSING

1. Survey data acquisition and processing were accomplished utilizing the HDAPS system hardware and the latest version of the NAVITRONIC NAVISOFT 300 software provided to the ship by N/CG24.

2. A listing of actual programs and versions can be found in appendix VI.

3. Version 1.11 of program VELOCITY was used in determining the sound velocity correctors for this project.

4. No nonstandard automated acquisition or processing methods were used.

E. SONAR EQUIPMENT

1. HECK is equipped with an EG&G model 260 slant range corrected Side Scan Sonar (SSS) recorder and model 272 single frequency towfish. Serial numbers and dates of usage are as follows:

Towfish	S/N 011591	DOY 308 ³¹⁰ - 314
Recorder	S/N 012105	DOY 308 ³¹⁰ - 314

2. The beam width and down angle are not adjustable on this unit.

3. All SSS data was collected using the 50 meter range scale and 100 Khz frequency.

4. a. Line spacing of 50 meters on the 50 meter range scale was used to maintain the required 2mm of adjacent line overlap.

b. Confidence checks were obtained, and annotated on the sonargrams, by towing the side scan unit either past

known items or linear bottom features. A minimum of two confidence checks were obtained on a daily basis as required.

c. 400% side scan coverage was completed in the project area. Required proof of sonar coverage is demonstrated through the included sonar coverage plots. The hydrographer chose this method in lieu of the sonar coverage abstract. The choice of method is left to the hydrographer per Side Scan Sonar Manual section 3.1.3.

d. In general, sonargrams for this project are of fair quality. The depth of water and sea action in the area resulted in some sea return. This was minimized as much as possible by using the 50 meter range scale which allowed us to keep the towfish as close to the bottom as possible while maintaining adequate height off bottom to assure full swath coverage.

e. The side scan towfish was deployed off the stern. All offset and layback information is provided in the offset table located in section IV of the separates.

5. Contacts were investigated using side scan sonar developments. No dives were conducted in support of this survey. One echosounder development was conducted in support of this survey.

6. The sonar contact list (Side Scan Sonar Manual 3.1.1.1.) is provided through the HECK's modified contact abstract table and the automated HDAPS contact table printout. Both are located in the separates.

Three HDAPS contact tables were used during this survey. In order to prevent confusion all items were assigned a unique target number. This number corresponds with the fix position of the contact and is logged in the target number column of the side scan sonar abstracts, and on the contact plot. Some contacts have more than one target number from successive sonar hits and developments.

F. SOUNDING EQUIPMENT

1. The following Raytheon DSF-6000N echosounder was used during this survey:

S/N A107N ³¹⁰
DOY ~~308~~ - 314

Both low and high frequency depths were digitized, but only high frequency depths were plotted.

2. No leadlines were used during this survey.

3. Weather logs for all periods of hydrography have been included in Appendix VI.

G. CORRECTIONS TO ECHOSOUNDINGS

1. a. One velocity cast was conducted using the ODOM Digibar sound velocimeter (S/N 168):

<u>DATE</u>	<u>DOY</u>	<u>POSITION</u>
11/03/1992	DOY 308	LAT 28°37.09'N LON 090 ⁶ °12.54'W

b. The velocity cast data were reduced and velocity corrections calculated using program VELOCITY Version 1.11.

c. The digibar was checked on November 01, 1991 by ODOM and found to be performing within specifications. Field checks using the prescribed fresh water method were conducted prior to the cast and recorded on the velocity cast form.

d. On DOY 115 a dual leadline comparison was conducted. A mean difference of 0.06⁴ meters was obtained resulting in a corrector of 0.0 meters.

e. The computed velocity correctors were applied on line to echosounder depths (both high and low frequency) by entering the correction data into the HDAPS Sound Velocity Table 1.

f. The static draft of 2.10 meters was applied on line to all echosoundings via the HDAPS Offset Table.

g. Settlement and squat correctors for the HECK were determined on March 13, 1991 (DOY 72), in the vicinity of Craney Island fuel pier in Norfolk, Virginia using the level rod method. The correctors are on file at N/CG244. Settlement and squat values were applied on line to hydrographic soundings via the HDAPS offset table.

h. Heave is measured by a Datawell B.V. (S/N 19110-C) heave, roll, and pitch sensor (HIPPY) located midships near the transducer. The sensor gathers on line data which is applied to the soundings in near real time. All data acquired in the echosounder mode have been corrected by applying HIPPY correctors.

2. No unusual instruments or methods were used.

3. No zoning or special correctors were used.

4. Pneumatic depth gages were not used.

5. The data were collected with the DSF-6000 echosounder set at the automatic gain setting. On DOY 310, there was an abnormally high number of "fish hits". Otherwise, there were no unusual problems with the DSF-6000.

6. a. The tidal datum for this survey was mean lower low water (MLLW). The tide station at Bob Hall pier, Corpus Christi, Texas (877-5870) served as the reference station for this survey. The station was observed by Noe Garza. No tide stations were established or leveled by the HECK in support of this survey.

b. All hydrographic depths have been corrected for predicted tides using the zone correctors specified in the project instructions. Tidal correctors were applied on line via the HDAPS Predicted Tide Table 1. *Approved Tides and were applied during office processing.*

H. CONTROL STATIONS *SEE also Section 2.2 of the Evaluation Report.*

1. The horizontal datum for this project is the North American Datum of 1983 (NAD 83).

2. The Coast Guard Differential GPS beacon at Aransas Pass was the primary control station. The Coast Guard Differential GPS beacon at Galveston, TX was the reference control station used in this survey.

3. There were no shore stations established for this project. DGPS was the only positioning system used.

I. HYDROGRAPHIC POSITION CONTROL

1. Position control was Differential Global Positioning System, utilizing an Ashtech OEM GPS receiver and a Magnavox MX-50R beacon receiver.

2. Accuracy requirements were met as specified by the Hydrographic Manual and Field Procedures Manual.

3. Equipment serial numbers appear as part of the header information on the data printout for each day.

4. System checks were conducted by comparing the position from the OEM/MX-50R combination receiving corrector information from the Aransas Pass, TX USCG DGPS beacon with a position from the OEM/MX50R combination receiving corrector information from the Galveston, TX USCG DGPS beacon. The performance checks were in accordance with the Field Procedures Manual and appear on the DGPS Performance Check form.

5. A maximum allowable HDOP of 3.4 and a maximum EPE of 15 meters were computed for this survey. Data not meeting these requirements were examined and high HDOPs or EPES

either smoothed or rejected.

6. All survey offsets, including GPS antenna offsets, were applied on-line using the HDAPS Offset Table number 1 located in section IV of the separates. **Removed from original D.R., filed with Field Records*

J. **SHORELINE** *See also section 2.b. of the Evaluation Report*

Not applicable as per project instructions.

K. **CROSSLINES** *See also section 3.a. of the Evaluation Report*

Not applicable as per project instructions.

L. **JUNCTIONS** *See also section 5. of the Evaluation Report*

Not applicable as per project instructions.

M. **COMPARISON WITH PRIOR SURVEYS** *SEE ALSO EVALUATION REPORT SECTION 6.*

1. The depths of this survey conform well to the most recent survey conducted by the Corps of Engineers. The area was surveyed by NOAA Ship Whiting in 1991. The area was surveyed, dredged and surveyed by the Corps of Engineers after the STENA CONCERTINA grounding. A copy of the survey conducted by the Corps of Engineers accompanies this report.

N. **COMPARISON WITH THE CHART** *SEE ALSO EVALUATION REPORT SECTION 7.a.*

AWOIS

NARRATIVE

7557

This item has been reported as a hang at 42 feet. The item is charted as an obstruction, depth unknown. In 1991, this area was surveyed by NOAA ship WHITING with 400% coverage, nothing found. On August 06, 1992, the tanker STENA CONCERTINA went aground in this area. The ship has a static draft of 45 feet. The Corps of Engineers surveyed the area finding shoal depths of 43 feet. The area was then dredged to the controlling depth of the channel. The Corps of Engineers surveyed the area after dredging, showing no obstructions found and adequate depths. In November, 1992, HECK surveyed the area, finding no significant contacts *and no contacts between survey depths and charted controlling depths in the channel.*

Recommendation: The item, obstruction (depth unknown), charted at LAT 27° 48' 38.10" N, LON 096° 59' 48.95" W, should be removed from the chart. *Concur*

POSITION

NARRATIVE

84.00

During the initial side scan coverage, a contact with height greater than 1 meter was found on

multiple passes. A 1:2,500 inset page track plot of this development is provided in Separates Section I. Upon development of the contact using a star pattern, the contact was found to have no height off the bottom. The contact is therefore insignificant. CONCUR

O. ADEQUACY OF SURVEY See also section 9. of the Evaluation Report

1. This survey meets or exceeds 1:10,000 specifications, and is adequate to supersede all prior surveys for the purposes of charting the depths and hazards to navigation within the survey area.

P. AIDS TO NAVIGATION See also Section 7.b. of the Evaluation Report

There are no aids to Navigation within this project area.

Q. STATISTICS

ITEM	AMOUNT
1. Total Number of Positions	133 Fixes
2. Lineal NM of Soundings	11.0 NMI
3. Square NM Hydrography	0.05 NMI ²
4. Days of Production	2 Days
5. Bottom Samples	None
6. Tide Stations Established	None
7. Current Stations Established	None
8. Velocity Casts Performed	1 Cast
9. Magnetic Stations Established	None
10. Detached Positions	0

R. MISCELLANEOUS

1. No anomalies in tide, current or magnetics were noted.
2. No bottom samples were taken as part of this survey.

S. RECOMMENDATIONS

1. Recommendations concerning specific targets and changes to the chart are located in section N of this report.

T. REFERRAL TO REPORTS

1. This area has been surveyed by the Corps of Engineers just prior to this survey. A copy of the Corps of Engineers survey is included in Appendix VI.

CONTROL STATION TABLE FOR FE-381SS

No	Latitude	Longitude	Cart	Name
100	029:19:45.092	094:44:10.484	250	GALVESTON TX, GPS, 1992
200	027:50:18.156	097:03:32.646	250	PORT ARANSAS TX, GPS, 1992

Respectfully Submitted,



Michael Williamson, ENS, NOAA
Junior Officer
NOAA Ship HECK

Reviewed and Forwarded,



James Martin, LTJG, NOAA
Operations Officer
NOAA Ship HECK

VII. LETTER OF APPROVAL

Field operations contributing to the accomplishment of this survey were conducted under my direct supervision with frequent personal checks of progress and data quality. This report, field sheets, and data records have been closely reviewed and are complete and adequate for charting.

A handwritten signature in black ink, appearing to read "John W. Blackwell". The signature is written in a cursive style with a large initial "J" and a long horizontal stroke at the end.

John W. Blackwell, LCDR, NOAA
Commanding Officer
NOAA Ship HECK



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Office of Ocean and Earth Sciences
Rockville, Maryland 20852

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: February 16, 1993

MARINE CENTER: Atlantic

OPR: K220-HE-92

HYDROGRAPHIC SHEET: FE-381SS

LOCALITY: Texas, Gulf of Mexico, Entrance to Aransas Pass

TIME PERIOD: November 3 - November 10, 1992

TIDE STATION USED: 877-5870 Bob Hall Pier, Corpus Christi, Texas
Lat. 27° 34.8'N Lon. 97° 13.0'W

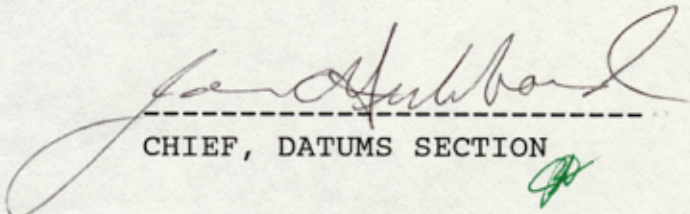
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 20.58 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.6 ft.

REMARKS: RECOMMENDED ZONING

Times and heights are direct on Bob Hall Pier, Corpus Christi, Texas (877-5870).

Note: Times are tabulated in Central Standard Time.



CHIEF, DATUMS SECTION



GEOGRAPHIC NAMES

Name on Survey	A ON CHART NO. 11301 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										
	ARANSAS PASS (title)	X									
MEXICO, GULF OF	X										2
TEXAS (title)	X										3
											4
											5
											6
											7
											8
											9
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											24
											25

Approved:

Charles E. Harrington
Chief Geographer - N/CG 2x5

JUN 28 1993

03/15/94

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NUMBER: FE-381SS

NUMBER OF CONTROL STATIONS		2
NUMBER OF POSITIONS		126
NUMBER OF SOUNDINGS		445
	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	63	08/18/93
VERIFICATION OF FIELD DATA	30	02/08/94
ELECTRONIC DATA PROCESSING	12	
QUALITY CONTROL CHECKS	31	
EVALUATION AND ANALYSIS	9	03/10/94
FINAL INSPECTION	7	03/09/94
TOTAL TIME	152	
ATLANTIC HYDROGRAPHIC SECTION APPROVAL		03/14/94

LETTER TRANSMITTING DATA

N/CG244-18-94

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

- ORDINARY MAIL
- REGISTERED MAIL
- GBL (Give number) _____
- AIR MAIL
- EXPRESS

TO:

CHIEF, DATA CONTROL SECTION, N/CG243
 NOAA/NATIONAL OCEAN SERVICE
 SSMC3, STATION 6815
 SILVER SPRING, MARYLAND 20910

DATE FORWARDED

13 MARCH, 1994

NUMBER OF PACKAGES

1 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-381SS

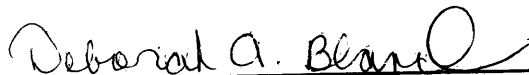
TEXAS, GULF OF MEXICO, ENTRANCE TO ARANSAS PASS

1 BOX CONTAINING:

- 1 ORIGINAL DESCRIPTIVE REPORT FOR FE-381SS
- 1 ENVELOPE CONTAINING MISCELLANEOUS DATA REMOVED FROM THE ORIGINAL DESCRIPTIVE REPORT
- 1 ENVELOPE CONTAINING SOUNDING CORRECTORS (VELOCITY, TIDE AND TRA DATA)
- 1 CAHIER WITH FINAL SOUNDING, POSITION, CONTROL AND LINE FILE LISTINGS
- 1 ACCORDIAN FOLDER CONTAINING FATHOGRAMS AND DAILY PRINTOUTS FOR VESNO 9140 FOR JDs: 310 AND 314
- 3 ENVELOPES CONTAINING SIDE SCAN SONARGRAMS FOR VESNO 9140 FOR JDs: 310 (2), AND 314

FROM: (Signature)

DEBORAH A. BLAND



RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

ATLANTIC HYDROGRAPHIC SECTION, N/CG244
 439 W. YORK STREET
 NORFOLK, VA 23510-1114

**COAST AND GEODETIC SURVEY
ATLANTIC HYDROGRAPHIC SECTION
EVALUATION REPORT**

SURVEY NO.: FE-381SS

FIELD NO.: HE-10-3-92

Texas, Gulf of Mexico, Entrance to Aransas Pass

SURVEYED: 05 Nov through 09 Nov 1992

SCALE: 1:10,000

PROJECT NO.: OPR-K220-HE-92

SOUNDINGS: RAYTHEON DSF-6000N Fathometer, and EG&G Model 260
Side Scan Sonar

CONTROL: ASHTEC OEM Global Positioning System (GPS)
Receiver/MAGNAVOX MX-50R GPS Beacon Receiver

Chief of Party.....J. W. Blackwell

Surveyed by.....C. S. Moore
.....J. E. Martin
.....M. Williamson
.....K. B. Shaver

Automated Plot by.....XYNETICS 1201 Plotter (AHS)

1. INTRODUCTION

a. This is a side scan sonar item investigation survey. A RAYTHEON DSF-6000N fathometer was operated concurrently with the side scan sonar. One fathometer development was conducted in support of this survey. The purpose of this survey was to investigate AWOIS Item 7557, at the entrance to Aransas Pass, Texas. On August 6, 1991, the tanker STENA CONCERTINA ran aground in the area of this charted dangerous submerged obstruction, (depth unknown), with a danger curve. This investigation was in response to a request by the United States Coast Guard, Eighth District. The hydrography acquired by this survey is considered suitable for charting.

b. One 1:10,000 scale page sized plot with accompanying overlays was generated during office processing. This plot is considered the final plot or smooth sheet for this survey. The accompanying overlays are filed with the field records.

c. No unusual problems were encountered during office processing.

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

2. CONTROL AND SHORELINE

a. Control is adequately discussed in sections H. and I. of the Descriptive Report.

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD83). Office processing of this survey is based on these values. The smooth sheet has been annotated with ticks showing the computed mean shift between the survey datum and the North American Datum of 1927 (NAD27).

To place the smooth plot on the NAD27 datum move the projection lines 1.10 seconds (33.877 meters or 3.39 mm at the scale of the survey) north in latitude, and 0.954 seconds (26.118 meters or 2.61 mm at the scale of the survey) west in longitude.

All geographic positions listed in this report are on NAD83 datum unless otherwise specified.

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

3. HYDROGRAPHY

a. Where applicable, soundings at crossings are in excellent agreement and comply with the criteria found in sections 4.6.1. and 6.3.4.3. of the HYDROGRAPHIC MANUAL.

b. The standard depth curve of 15 meters was drawn in the appropriate areas on the smooth sheet. A brown curve was also drawn to delineate the investigation area.

c. The investigation of features and least depths is considered adequate. The development of the bottom configuration was not the intent of this field examination.

4. CONDITION OF SURVEY

The smooth plot and accompanying overlays, hydrographic records and reports conform to the requirements of the HYDROGRAPHIC MANUAL, SIDE SCAN SONAR MANUAL, FIELD PROCEDURES MANUAL, and the Project Instructions.

5. JUNCTIONS

There are no junctional requirements for this survey.

6. COMPARISON WITH PRIOR SURVEYS

a. Hydrographic

H-10392 (1991) 1:20,000

The prior survey listed above is common to the area of AWOIS Item #7557.

1) Prior survey depths from H-10392 (1991) show a general trend of being 0 to 0⁴ meters (0 to 1³ feet) deeper than present survey soundings.

The present survey is adequate to supersede the above prior survey in the common area.

b. Wire Drag

FE-295WD (1973) 1:40,000

Prior survey FE-295WD (1973), formerly survey H-9397WD (1973), was processed using modified methods. Only hangs, groundings, and clearances were verified and evaluated. There was no smooth area and depth sheet depicting clearance depths generated. Therefore, there is no comparison with clearance depths. AWOIS Item #7557, a hang with no clearance depth originating with prior survey FE-295WD (1973), is charted as a dangerous submerged obstruction, (depth unknown), with a danger curve in Latitude 27°48'38.10"N, Longitude 96°59'48.95"W. The fathometer least depth found on the present survey was a 14² meter (46 feet) sounding at Latitude 27°48'40.78"N, Longitude 96°59'47.76"W, 88.69 meters northeast of the charted item. Surrounding depths are 15⁴ meters (50 feet).

It is recommended that the item, dangerous submerged obstruction, (depth unknown), with a danger curve charted in Latitude 27°48'38.10"N, Longitude 96°59'48.95"W be removed from the chart and that the charted soundings in the vicinity of the AWOIS Item be revised to reflect present survey depths.

7. COMPARISON WITH CHART

11300 (29th Ed., 29 Sep 1990)
11307 (32nd Ed., 22 Aug 1992)

a. Hydrography

The charted hydrography originates with the previously discussed prior surveys and requires no further discussion. Charting recommendations concerning AWOIS Item #7557 are adequately discussed in Section 6. of this report and Section N. of the Descriptive Report.

The charted controlling depths in Aransas Pass Channel are 12⁸ to 13⁷ meters (42 to 45 feet), and the present survey depths in the channel are 14⁸ to 15⁵ meters (48 to 51 feet). There is no conflict between the charted controlling depths and present survey depths in the Aransas Pass Channel. The present survey is adequate to supersede the charted hydrography within the common area.

b. Aids to Navigation

No fixed or floating aids to navigation are common to the investigation of the field examination.

c. Dangers to Navigation

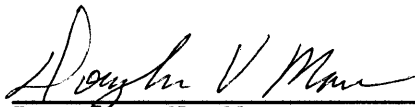
There were no dangers to navigation submitted by the field unit. No dangers were discovered during office processing.

8. COMPLIANCE WITH INSTRUCTIONS

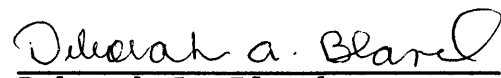
This survey adequately complies with the Project Instructions.

9. ADDITIONAL FIELD WORK

This is an adequate side scan sonar item investigation survey.



Douglas V. Mason
 Cartographic Technician
 Verification of Field Data

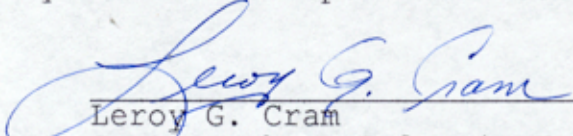


Deborah A. Bland
 Cartographer
 Evaluation and Analysis

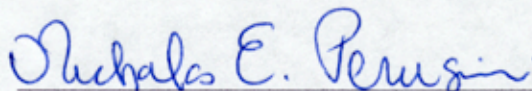
APPROVAL SHEET
FE-381SS

Initial Approvals:

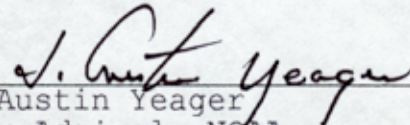
The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disapproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet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


Leroy G. Cram
Cartographer, Atlantic Hydrographic Section
Date: 03/11/94

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


Nicholas E. Perugini, LCDR, NOAA
Chief, Atlantic Hydrographic Section
Date: 03/14/94

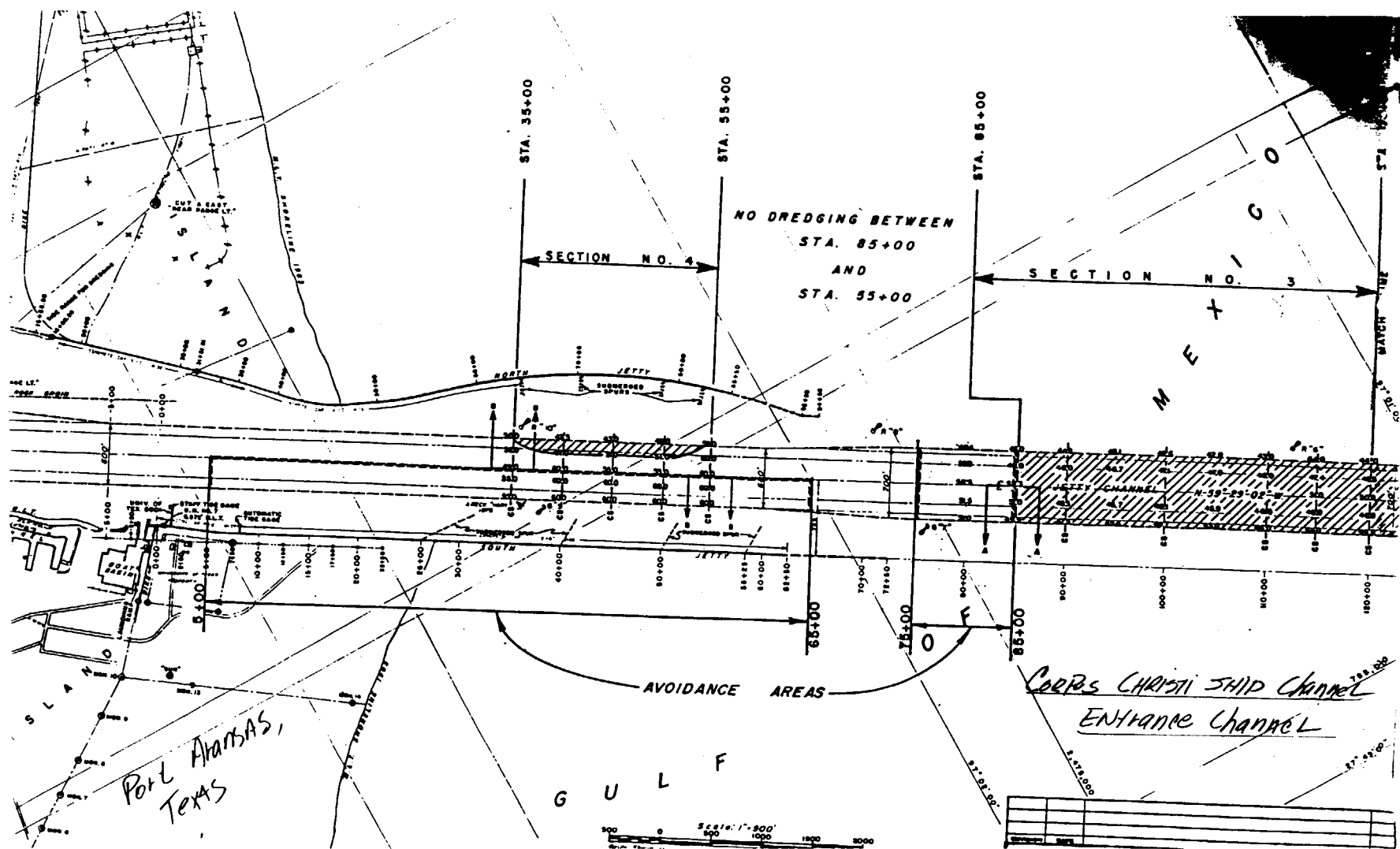
Final Approval:

Approved: 
J. Austin Yeager
Rear Admiral, NOAA
Director, Coast and Geodetic Survey
Date: 5/17/94

ARMY CORPS OF ENGINEERS SURVEY TO ACCOMPANY

DESCRIPTIVE REPORT OF SURVEY FE-38188

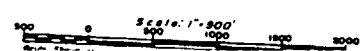
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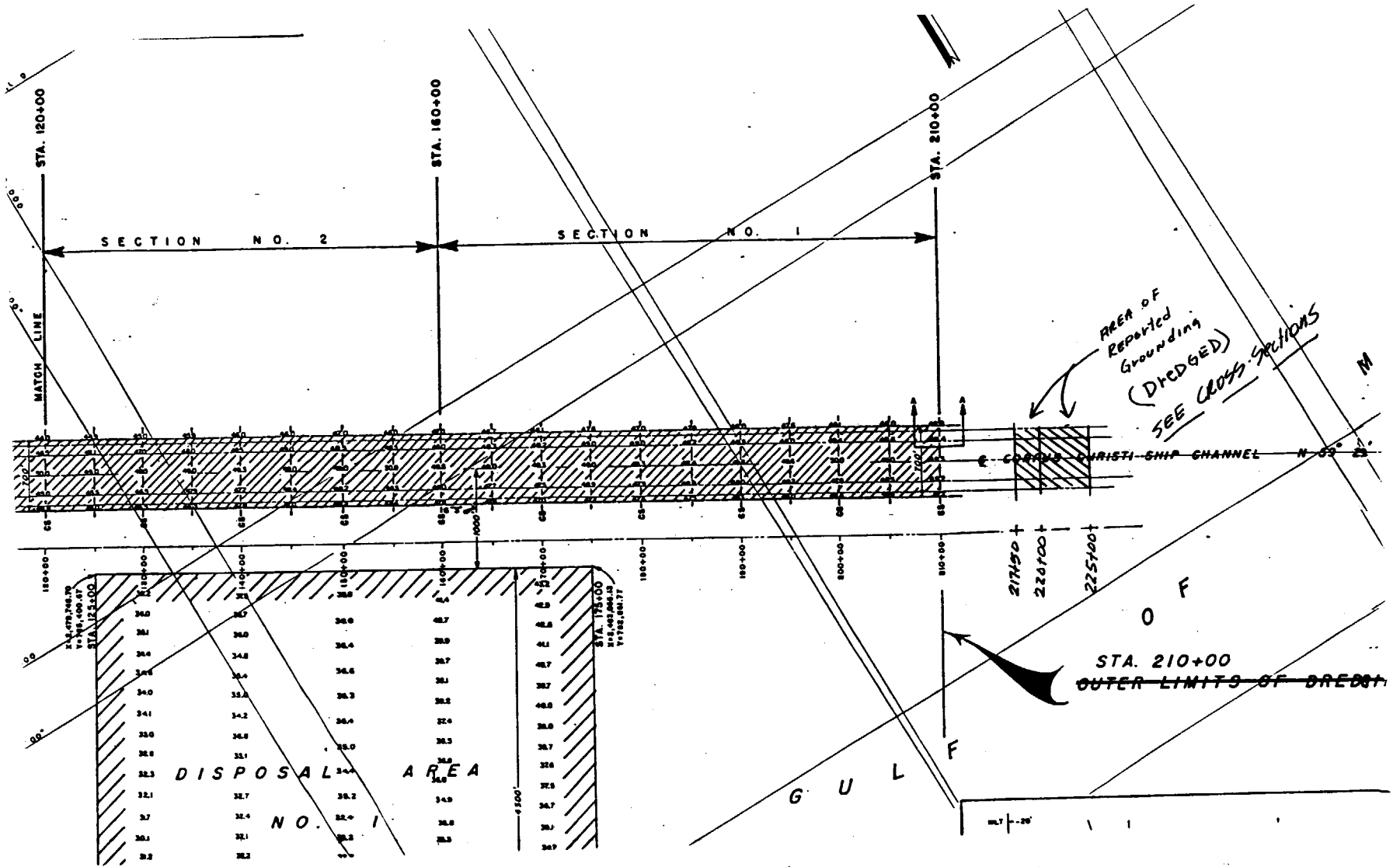


Port of Texas,
 Texas

CORPS CHRISTI SHIP CHANNEL
 ENTRANCE CHANNEL

G U L F

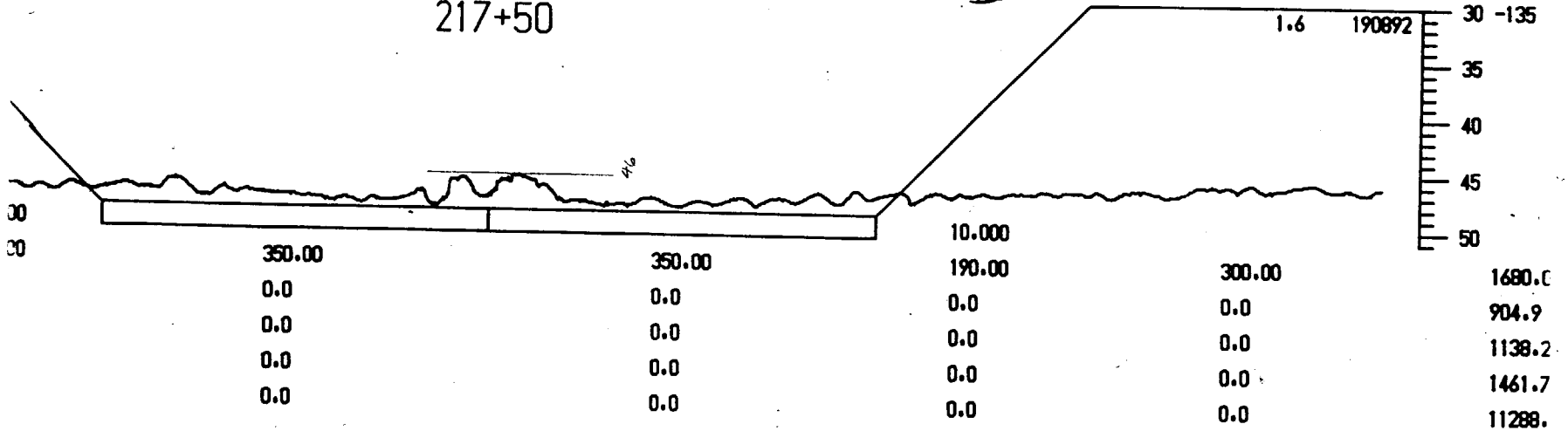




North

217+50

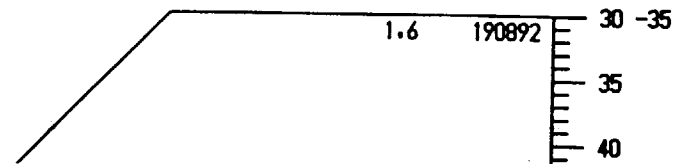
South



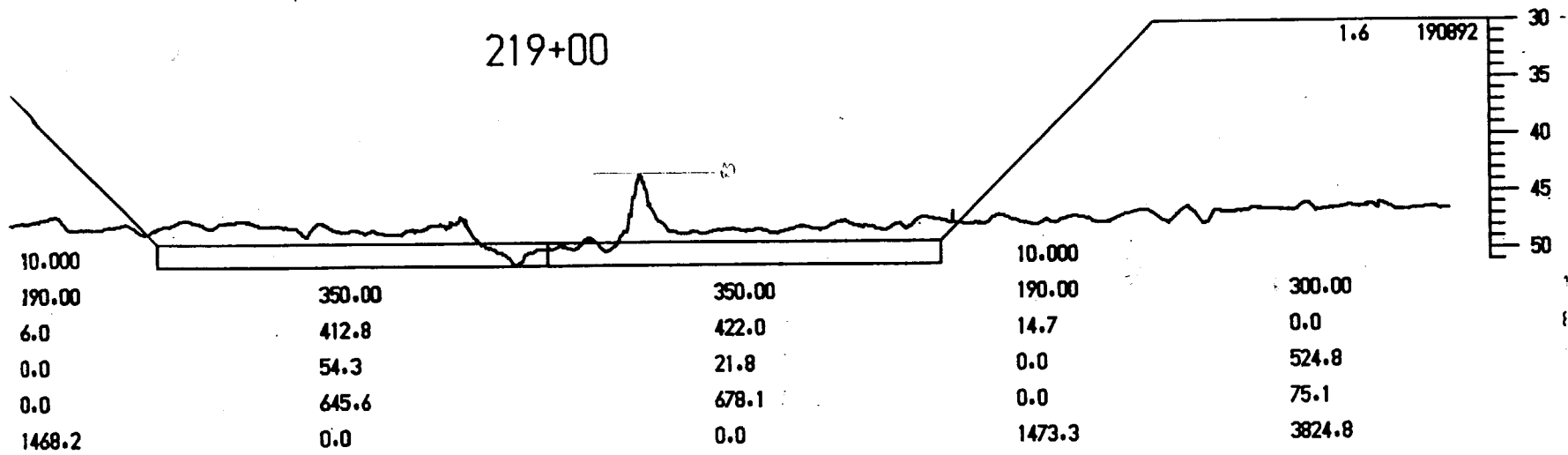
CORDUS CHRISTI SHIP CHANNEL
ENTRANCE CHANNEL

216+00

BEFORE DREDGING

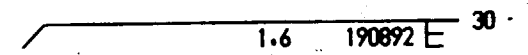


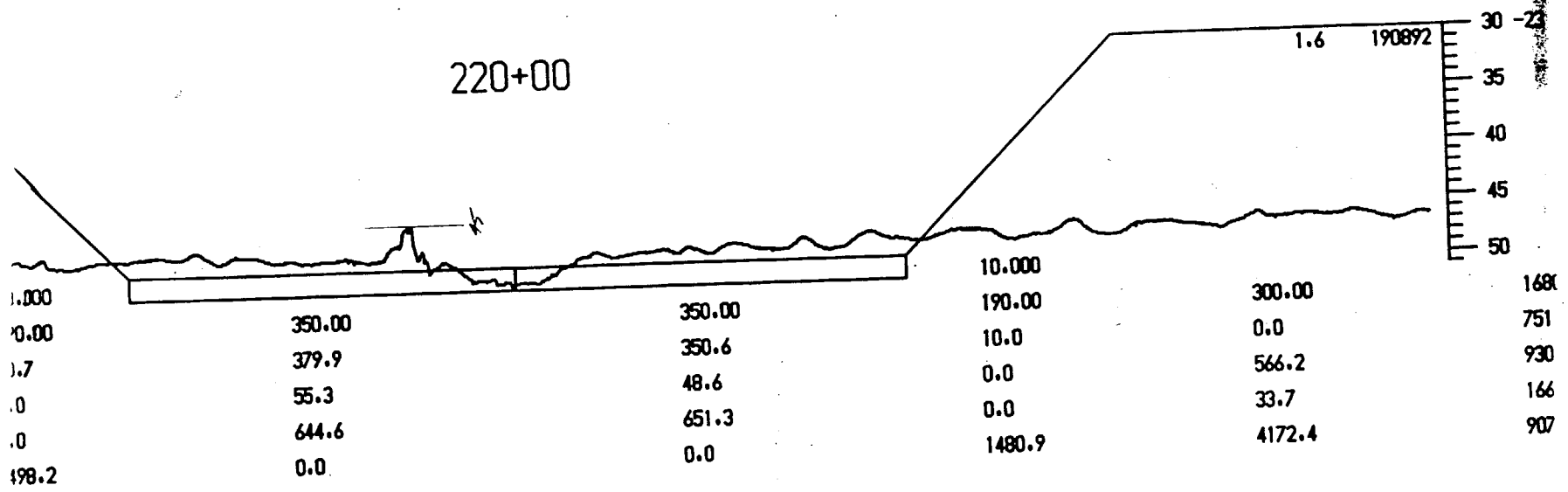
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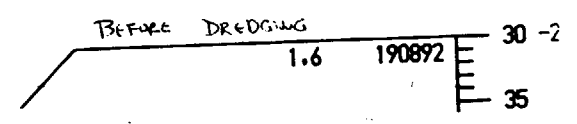
BEFORE DRAINAGE

219+00

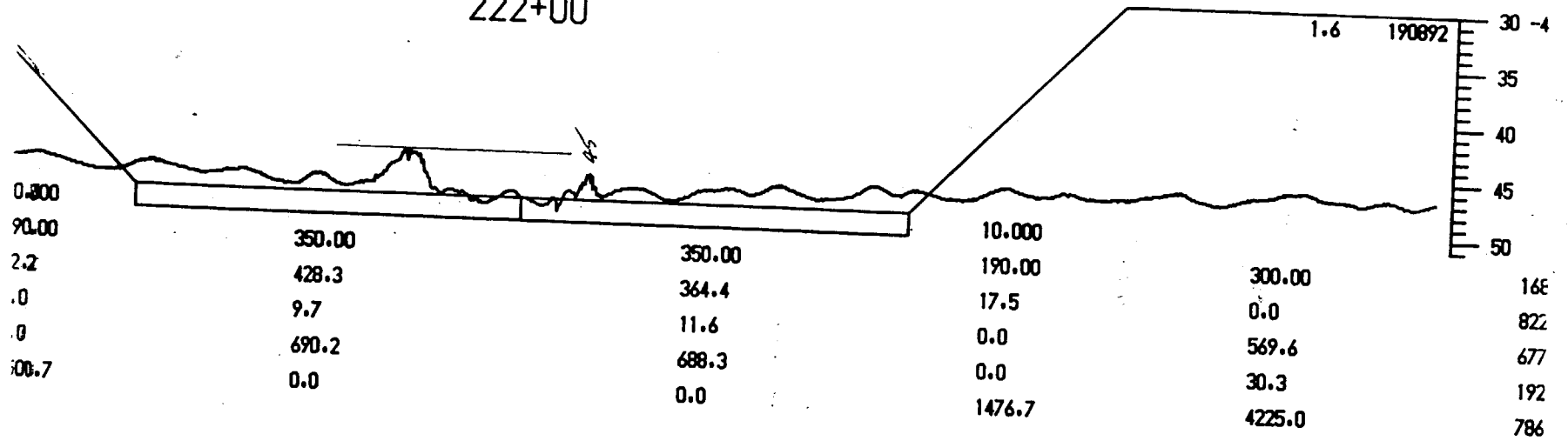




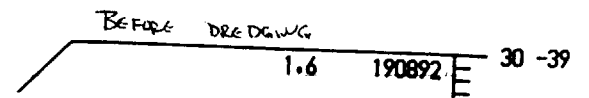
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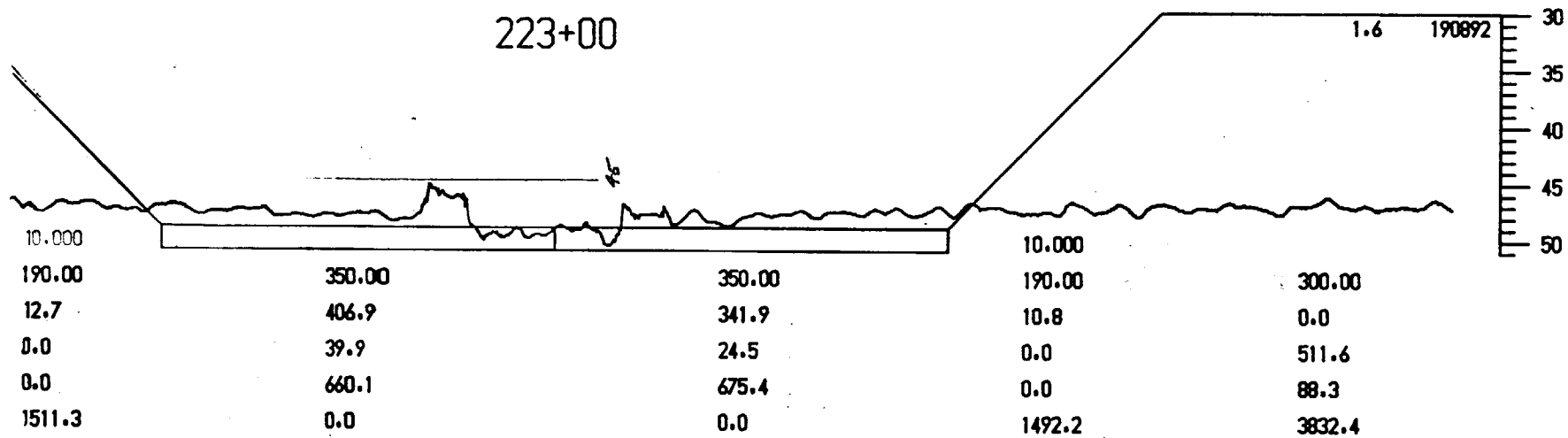


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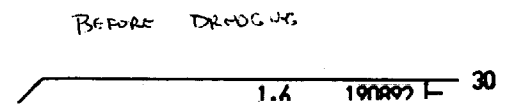


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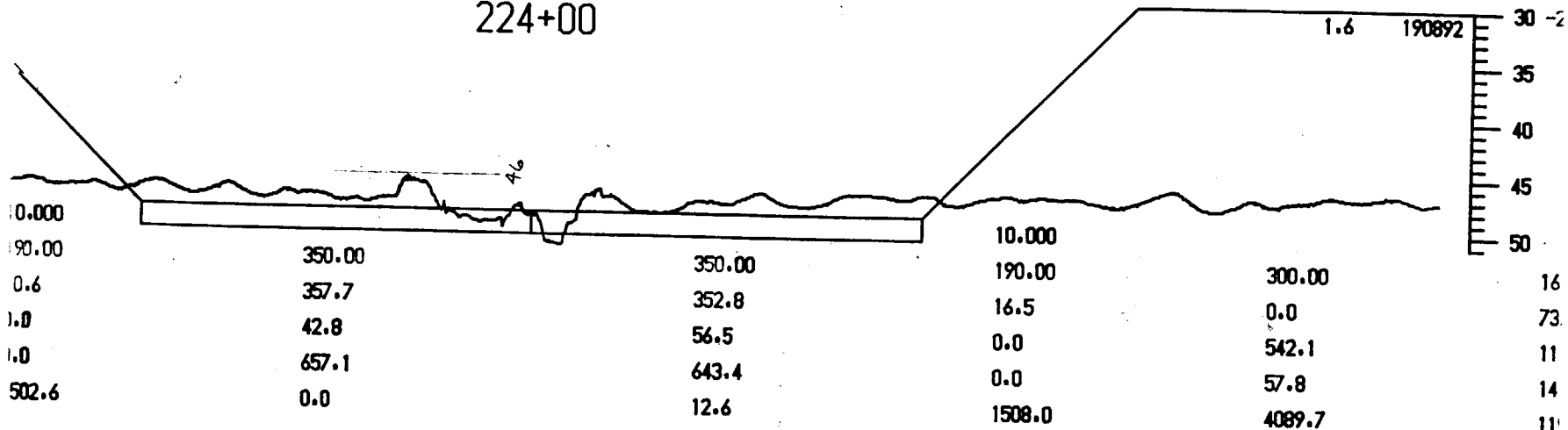




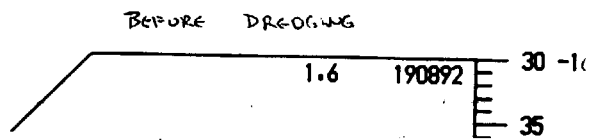
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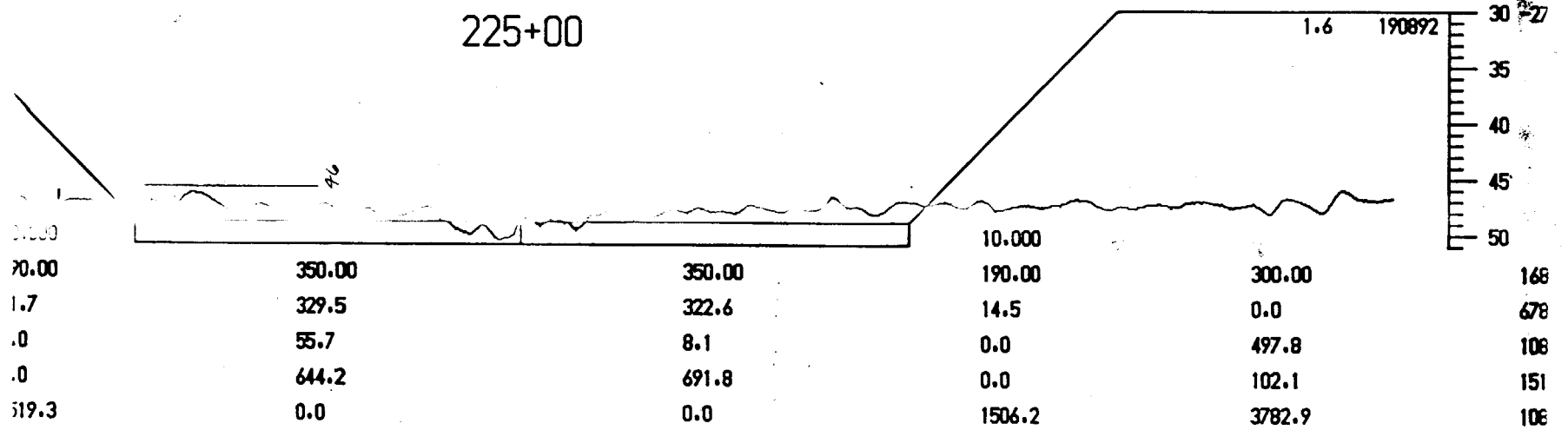
224+00



223+00



225+00

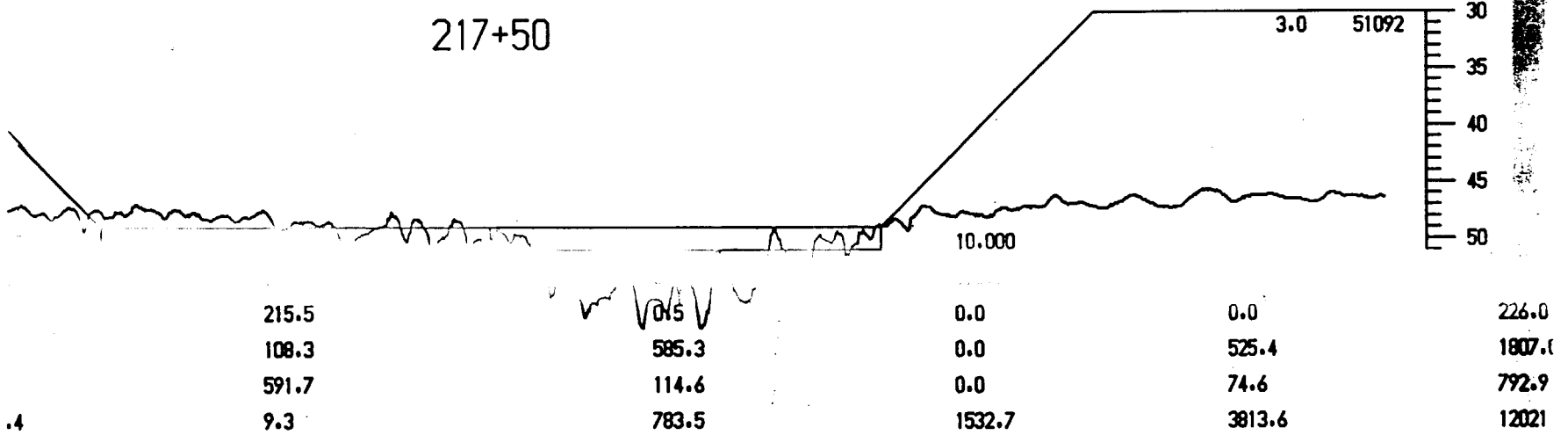


BEFORE DRAWING

South

North

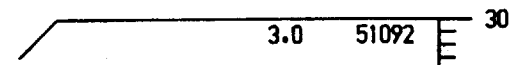
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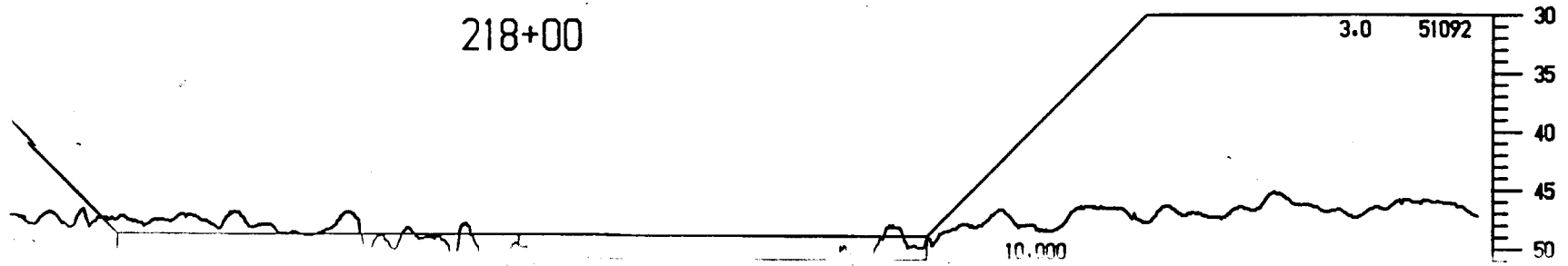
AFTER DREDGING

210+00

CORPUS CHRISTI SHIP CHANNEL
ENTRANCE CHANNEL

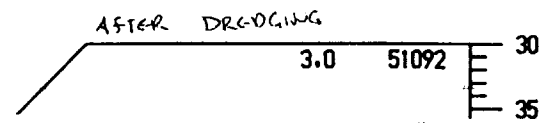


218+00

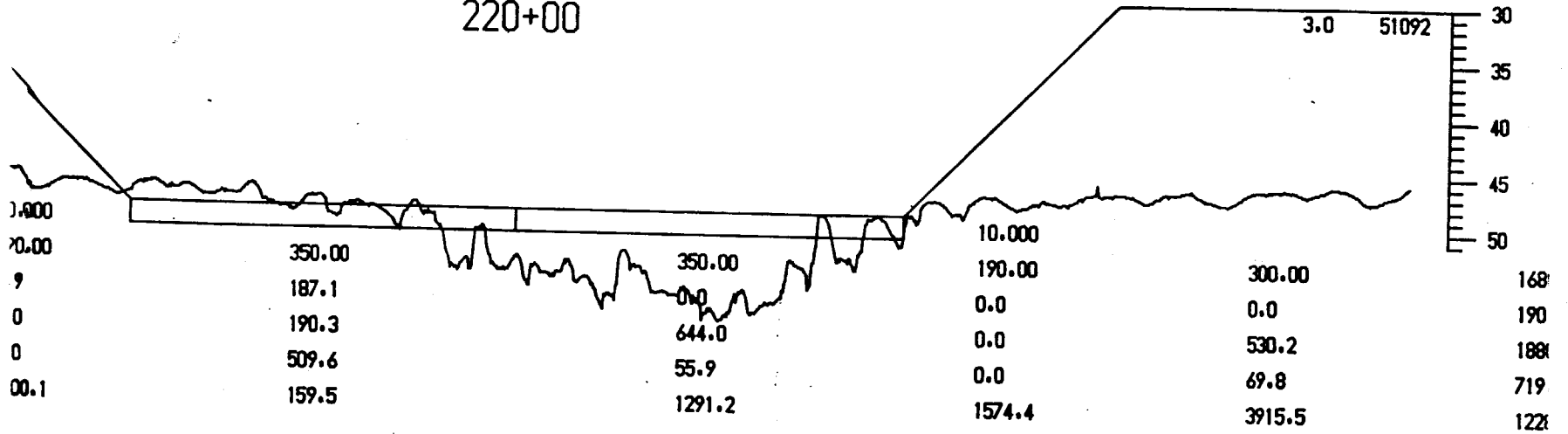


9.4	125.0	574.9	35.3	811.5	88.4	1007.3	0.0	0.0	0.0	1543.8	0.0	573.2	26.8	4155.3	1848.	751.5	1226.
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220+00

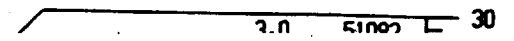


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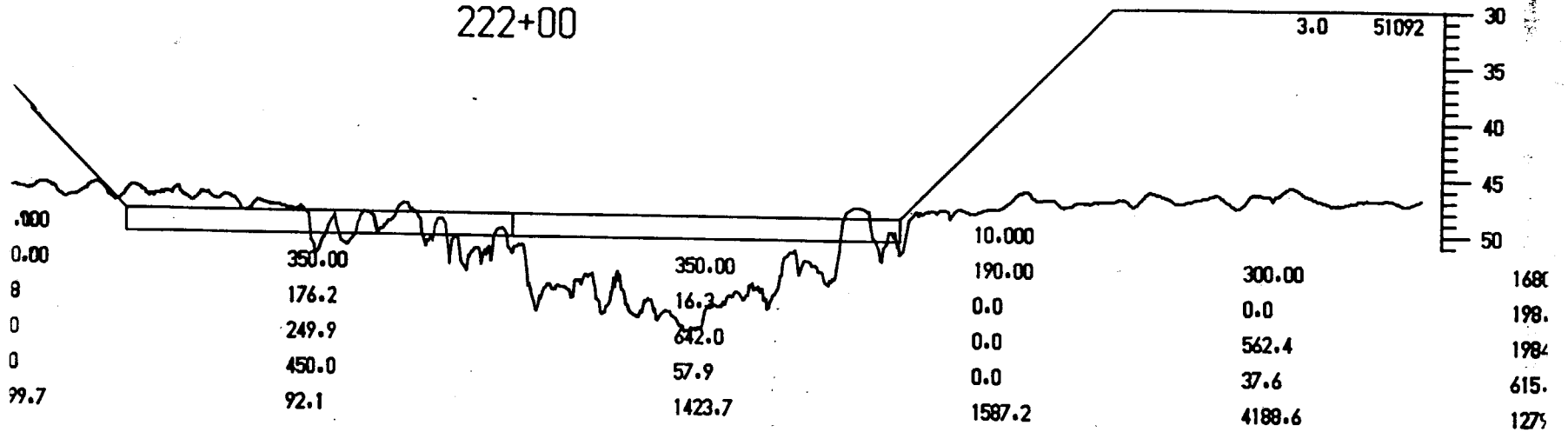


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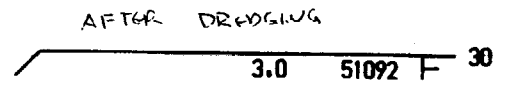
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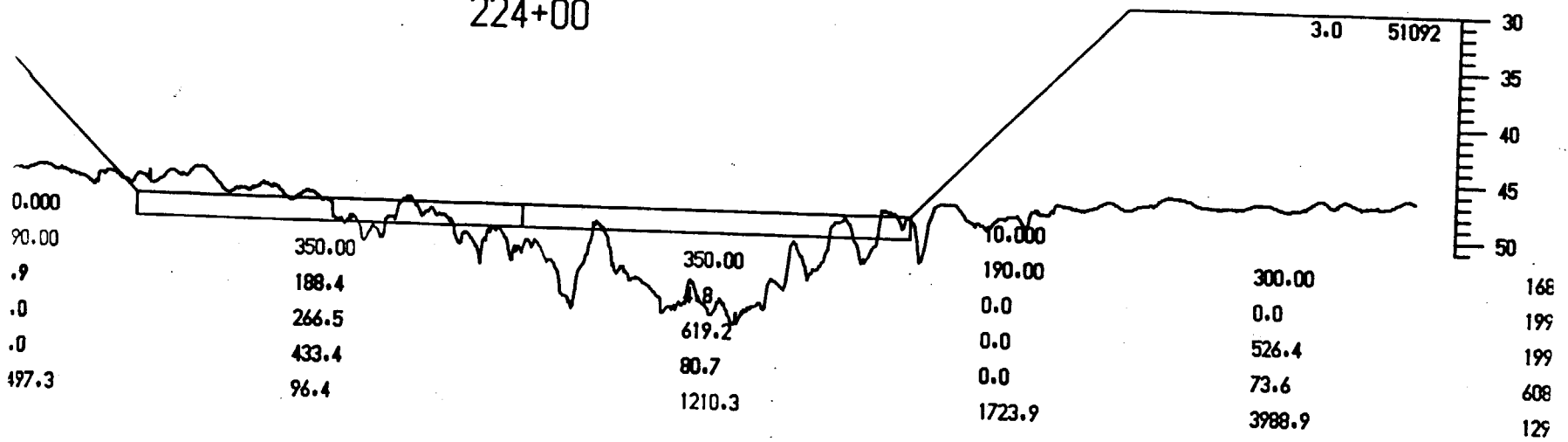
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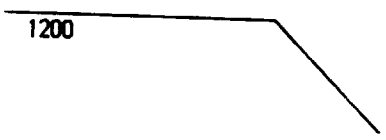
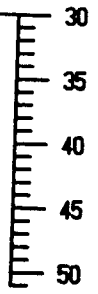
222+00



224+00



3.0 51092



1200

225+00

AFTER DRAWING



97° 00' 00"

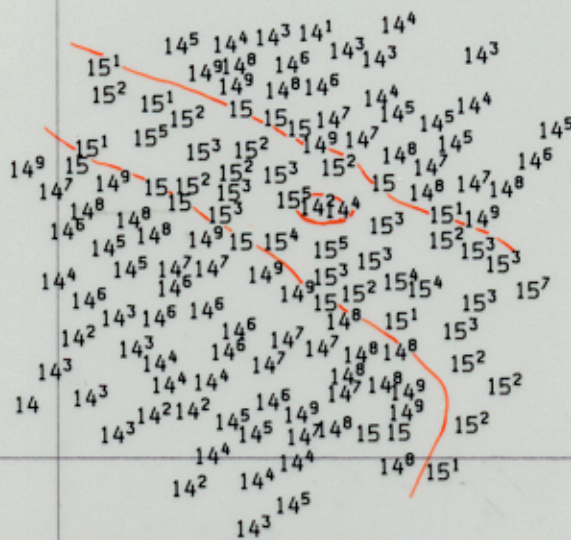
96° 59' 30"

97° 00' 00"

27° 49' 00"

NAD 27
XYNETICS 1201
DAB 2-8-94

27° 49' 00"



27° 48' 30"

FE-381SS
 TEXAS
 GULF OF MEXICO
 ENTRANCE TO ARANSAS PASS
 DATE OF SURVEY: 05 NOV 1992 TO 09 NOV 1992
 SCALE: 1:10000
 SOUNDINGS IN METERS AT MLLW
 HORIZONTAL DATUM: NAD 1983
 SHEET 1 OF 1
 AWOIS ITEM NUMBER 7557

27° 48' 00"

+

MARINE CHART BRANCH
RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. FE-381SS

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
11307	8/15/94	<i>L. Arkman</i>	Full Part Before After Marine Center Approval Signed Via Drawing No. 42
11300	8/15/94	<i>L. Arkman</i>	Full Part Before After Marine Center Approval Signed Via Drawing No. 47 thru chrt 11307
			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.
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