9701

in inlet 2K

Diag. Cht. No. 1222-3

NOAA FORM 76-35A

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

# DESCRIPTIVE REPORT
*(HYDROGRAPHIC)*

*Type of Survey* HYDROGRAPHIC

*Field No.* HSB-5-5-77

*Office No.* H-9701

## LOCALITY

*State* VIRGINIA

*General Locality* VIRGINIA BEACH

*Locality* RUDEE INLET

1977

CHIEF OF PARTY
William R. Daniels

LIBRARY & ARCHIVES

DATE August 15, 1978

☆U.S. GOV. PRINTING OFFICE: 1976—669-441

9701

Area 2
CHT
12205 sys Easset 2 (129)
12207 (1227)
12221 (1222)
12208 (3335)

NOAA FORM 77-28
(11-72)

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

# HYDROGRAPHIC TITLE SHEET

REGISTER NO. H-9701

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. HSB 5-5-77

State: Virginia

General locality: Virginia Beach

Locality: Rudee Inlet

Scale: 1:5,000 Date of survey: June 29 - July 13, 1977

Instructions dated: Jan. 21, 1977 Project No.: OPR-516

Vessel: NOAA Skiff 560

Chief of party: LCDR William R. Daniels

Surveyed by: Cdr John O. Rolland

Soundings taken by echo sounder, hand lead, pole: echo sounder & pole

Graphic record scaled by: L. Gilden

Graphic record checked by: J. Klutz

Protracted by: J. Rolland Automated plot by: AMC CALCOMP-618

Verification by: AMC M. Hickson

Soundings in fathoms **feet** at **MLW** MLLW

REMARKS:

Applied to stds 10/26/78

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



☆ U.S. G.P.O. 1972-769-565/519 REG.#6

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY HSB-5-5-77 (H-9701)

Scale: 1:5000, 1977
Lt. Cdr. W. R. Daniels

NOAA Skiff 560
Chief of Party

A. PROJECT ✓

This survey of Rudee Inlet was accomplished under project instructions OPR-516 dated January 21, 1977, Change #1, 2, 3, and 6.

B. AREA SURVEYED ✓

The survey included Rudee Inlet, Lake Rudee, and Lake Wesley.

The survey was begun on June 29 and completed on July 13, 1977.

No prior surveys for comparison or junction were provided.

C. SOUNDING VESSEL ✓

All sounding on this survey was accomplished by NOAA Launch 560. Position numbers 001 thru 471 were inked in blue on the field sheet.

D. SOUNDING EQUIPMENT ✓

A Raytheon 719B, S/N 5881, was used for all sounding on this survey. The initial was maintained at zero. Bar checks were used to obtain corrections to echo soundings and the draft of the transducer is included in the velocity table.

A settlement and squat test was run on Julian Day 189. The data is included on page 13 of sounding volume #2, and a graph is shown in this report.

E. SMOOTH SHEET ✓

The smooth sheet will be plotted at AMC. The Field Sheet projection was plotted at AMC and forwarded to the field party for manual plot of all soundings.

F. CONTROL ✓

Control was established by the Operations Division at AMC. Control was established by a 3rd Order Traverse. A list of stations is included with this report.

## G. HYDROGRAPHIC POSITION CONTROL ✓

Range-azimuth was used to control this survey. No unusual problems occurred. On Day 187 no hydrography was run due to a malfunctioning DMU. The faulty unit (#159) was replaced with unit #172.

| | DMU | Master | Remote |
|---|---|---|---|
| Day 180 | 159 | 217 | 251 |
| 181 | 159 | 217 | 251 |
| 182 | 159 | 217 | 251 |
| 188 | 172 | 217 | 251 |
| 189 | 172 | 217 | 251 |
| 194 | 172 | 217 | 251 |

Calibration was obtained by checking the units against a known distance from stations H-4-VA-77 to Bulkhead, 1977 and/or H-5-VA-77 to Bulkhead, 1977.

## H. SHORELINE ✓

The shoreline was obtained from unverified manuscript TP-00691. Photography was accomplished in October and November of 1975. Corrections are shown in red on the boatsheet.
*The final reviewed TP-00691 is applied to the Smooth Sheet.*

## I. CROSSLINES ✓

Crosslines were run at 13% of the regular system of sounding lines. Crosslines were generally in good agreement.

## J. JUNCTIONS ✓

No junction was made with any surveys.

## K. COMPARISON WITH PRIOR SURVEYS ✓

No prior surveys were provided. *See the Verifier's Report.*

## L. COMPARISON WITH THE CHART ✓

A comparison was made with chart 12205 (C & GS 1295C, edition 11, March 1977). Soundings obtained in Lake Wesley and Lake Rudee were generally up to 10 feet shoaler than the charted depths. The soundings obtained off the inlet jetties were 5-8 feet shoaler than those charted.
*See the Verifier's Report.*

## M. ADEQUACY OF THE SURVEY

This survey is complete and adequate to supersede prior surveys for charting. *See Section 9. of the Verifier's Report.*

## N. AIDS TO NAVIGATION

The buoys located during this survey (positions 108, 109, 213, 214, 215) are not charted or published in the Light list. They are privately maintained and conform to the markings designated in the Coast Guard Uniform State Waterway Marking System.

## O. STATISTICS

| | |
|---|---|
| Nautical miles of hydrography | 15.5 |
| Number of positions | 471 |
| Nautical miles of crosslines | 2.0 |
| Square nautical miles of hydrography | .28 |
| Number of bottom samples | 9 |

## P. MISCELLANEOUS

1. No G.P. for signal #7 was located. An azimuth was obtained for the station by observation. Original data is at AMC, CAM1. A "dummy position" was computed for the tank for use on the signal tape. The station was used only to initial on during the survey. A nonstandard procedure but accepted as valid data.

2. A dredge is permanently moored in the inlet and constantly dredging.

A sounding of 3 feet was obtained at 36°49'46.5", 75°58'16.5". This does not agree with either of the charted 3 foot soundings at 36°49'46.5", 75°58'15.0" or 36°49'46.0", 75°58'16". Concur

No indication of the one foot charted at 36°49'44", 75°-58'16.4" was found. Concur

## Q. RECOMMENDATIONS

None See Section 9. of the Verifiers Report.

## R. AUTOMATED DATA PROCESSING

No automated data processing was done in the field. Tapes were logged and reformatted at AMC by the use of a logger and the following programs:

| Program name | Number | Version |
|---|---|---|
| Elinore | AM602 | 5/20/75 |
| Reformat & data Check | RK330 | 5/04/76 |

## S. REFERENCES TO REPORTS

No input.

TIDE NOTE

The temporary gage at Sandbridge, Virginia (863-9428) provided local control for this survey. The gage was checked for proper operation on June 23. Levels were run to 5 bench marks on June 23 and July 8, 1977. Soundings on the field sheet were reduced using reference station Hampton Roads and secondary station Virginia Beach (#2441). Three bubbler gages were installed in the Rudee Inlet Area as follows:

| | |
|---|---|
| Inside channel (#863-9207) | Lat 36°49'52" |
| | Long 75°58'21" |
| Lake Wesley (#863-9217) | Lat 36°49'37" |
| | Long 75°58'25" |
| Lake Rudee (#863-9215) | Lat 36°49'41" |
| | Long 75°58'55" |

Tide gage # 863-9207 was established on June 21 and was removed on July 13. The records from this gage are adequate. Problems occurred with the gage gaining time (approx. 1 to 2 minutes/hour) and with the paper feed holes being torn.

Tide gage #863-9217 was established on June 28 and removed on July 8. The records are adequate for the intended purpose of this gage. (It was a 9 hour station).

Tide gage #863-9215 never operated satisfactorily. After removal of the gage it was found to have a leak in the inner workings. The staff at this gage was read directly during all periods of hydrography.

The tide curve in this area is not the normal, smooth sine wave. It has numerous irregularities. This was verified by observations and by discussions with local residents.

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

August 15, 1977 CAM11/JMN

TO: Chief, Tides Branch, C331

FROM: for/ Jerome M Nahas
William R. Daniels, CAM11
Chief, Hydro. Surveys Branch

SUBJECT: Request for Tidal Data

Please furnish Tide reducer data to AMC Processing Division for Survey H-9701 (HSB 5-5-77), Project OPR-516-HSB-77.

Three bubbler gages were installed, as follows:

| STATION | PERIOD | LOCATION |
|---|---|---|
| Inside Channel (863-9207) | June 21 - July 13, 77 | 36°49'52" 75°58'21" |
| Lake Wesley (863-9217) | June 28 - July 8, 77 | 36°49'37" 75°58'25" |
| Lake Rudee (863-9215) | June 28 - July 8, 77 | 36°49'41" 75°58'55" |

The following times of hydrography include 2 hours before and after actual times:

| JULIAN DAY (1977) | HYDRO BEGINS (GMT) | HYDRO ENDS (GMT) |
|---|---|---|
| 180 | 1200 | 2000 |
| 181 | 1100 | 2200 |
| 182 | 1000 | 1900 |
| 188 | 1100 | 2100 |
| 189 | 1000 | 2100 |
| 194 | 1100 | 1700 |

U.S. DEPARTMENT OF COMMERCE
January 17, 1978 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for Form 362

Tide Station Used (NOAA Form 77-12): 863-9207 Inside Channel, Va.

Period: June 29-July 13, 1977

HYDROGRAPHIC SHEET: H-9701

OPR: 516

Locality: Lake Rudee and Wesley Lake, Virginia

Plane of reference (mean ~~XXXXXX~~ low water): 0.9ft.

Height of Mean High Water above Plane of Reference is 3.4ft.

Remarks: Zone direct.

Don Spalhon
as Chief, Tides Branch

9a.

NOAA FORM 76-155
(11-72)

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

# GEOGRAPHIC NAMES / FIELD

SURVEY NUMBER
H-9701
HSB 5-5-77

| Name on Survey | A ON CHART NO. 12205 | 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 | |
|---|---|---|---|---|---|---|---|---|---|---|
| RUDEE INLET | | | | | | | | | | 1 |
| LAKE RUDEE | | | | | | | | | | 2 |
| LAKE WESLEY | | | | | | | | | | 3 |
| ATLANTIC OCEAN | | | | | | | | | | 4 |
| OWL CREEK | | | | | | | | | | 5 |
| RUDEE HEIGHTS | | | | | | | | | | 6 |
| VIRGINIA BEACH (TITLE) | | | | | | | | | | 7 |
| | | | | | | | | | | 8 |
| | | | | | | | | | | 9 |
| | | | | | | | | | | 10 |
| | | | | | | | | | | 11 |
| | | | | | | | | | | 12 |
| | | | | | | | | | | 13 |
| | | | | | | | | | | 14 |
| | | | | | | | | | | 15 |
| | | | | | | | | | | 16 |
| | | | | | | APPROVED | | | | 17 |
| | | | | | | Chas. E. Harrington | | | | 18 |
| | | | | | | CHIEF GEOGRAPHER — C3x8 | | | | 19 |
| | | | | | | 6 Sept. 1978 | | | | 20 |
| | | | | | | | | | | 21 |
| | | | | | | | | | | 22 |
| | | | | | | | | | | 23 |
| | | | | | | | | | | 24 |
| | | | | | | | | | | 25 |

NOAA FORM 76-155 SUPERSEDES C&GS 197



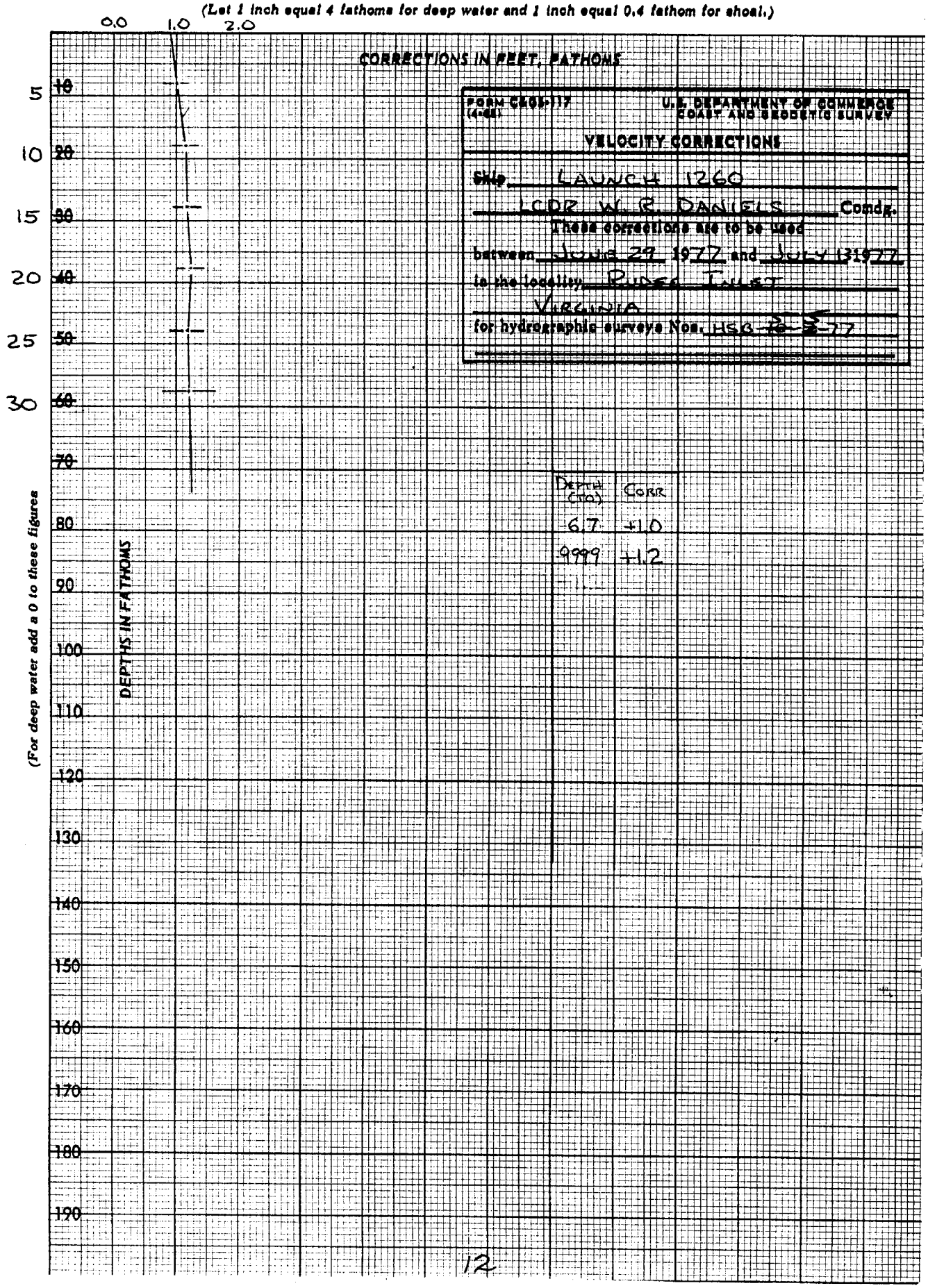
U.S. G.P.O. 1972-769-565/516 REG.#6

# ABSTRACTS OF DAILY BAR CHECKS

| J.D. | 5 | 10 | 15 | 20 | 25 | 30 | | | |
|---|---|---|---|---|---|---|---|---|---|
| 180 | 4.0 | 8.9 | 13.8 | 18.6R* | 23.5R | 28.3R | | | |
| | 4.0 | 8.8 | 13.7 | 18.5R | 23.5R | 28.4R | | | |
| 180 | 4.1 | 9.0 | 14.0 | 19.1R | 24.1R | 29.3R | | | |
| | 4.0 | 9.0 | 14.0 | 19.1R | 24.2R | 29.1R | | | |
| 181 | 4.0 | 8.7 | 13.9 | 18.9 | 24.0 | 29.0 | | | |
| | 4.0 | 8.9 | 13.9 | 18.9 | 24.0 | 29.0 | | | |
| 181 | 4.0 | 8.9 | 13.9 | 18.8 | 23.9 | | | | |
| | 4.0 | 8.9 | 13.8 | 18.8 | 23.9 | | | | |
| 182 | 3.8R | 8.8R | 13.3R | 18.2R | 23.9R | (initial off) | | | |
| | 3.8R | 8.4R | 13.3R | 18.1R | 22.9R | | | | |
| 188 | 4.2 | 8.9 | 14.0 | 19.0 | 24.0 | 29.0 | | | |
| | 4.2 | 9.0 | 14.0 | 19.0 | 24.0 | 29.0 | | | |
| 189 | 3.9 | 8.8 | 13.7 | 18.6 | 23.6 | 28.5R | | | |
| | 3.9 | 8.7 | 13.6 | 18.6 | 23.6 | 28.4R | | | |
| 194 | 3.9 | 8.8 | 13.7 | 18.6 | 23.6 | | | | |
| | 3.9 | 8.7 | 13.7 | 18.6 | 23.6 | | | | |
| sum | 56.1 | 124.0 | 193.7 | 187.8 | 238.2 | 288.0 | | | |
| r | 4.0 | 8.85 | 13.83 | 18.78 | 23.82 | 28.8 | | | |
| corr | 1.0 | 1.15 | 1.17 | 1.22 | 1.18 | 1.2 | | | |

R* (Reject)

(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)




FORM C&GS-117 (4-44)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

VELOCITY CORRECTIONS

Ship LAUNCH 1260

LCDR W. R. DANIELS Comdr.

These corrections are to be used

between June 27 1977 and July 13 1977

in the locality RUDEE INLET VIRGINIA

for hydrographic surveys Nos. HSG-76-3-77

| Depth (ft) | Corr |
|---|---|
| 6.7 | +1.0 |
| 9999 | +1.2 |



K&E 20 X 20 TO THE INCH 35R-10½ KEUFFEL & ESSER CO. U.S.A.

SKIFF # 570 TC/T1 OPR 516, H-9701, HSB 5-5-

```
140300 0 0000 0001 180 000570 001977
170427 0 0000 0000 181 000570 001977
171200 0 0000 0001 181 000570 001977
192430 0 0000 0000 181 000570 001977
192700 0 0000 0001 181 000570 001977
150900 0 0000 0000 182 000570 001977
150907 0 0000 0001 182 000570 001977
151136 0 0000 0000 182 000570 001977
154400 0 0000 0001 182 000570 001977
161700 0 0000 0000 182 000570 001977
161707 0 0000 0001 182 000570 001977
162201 0 0000 0000 182 000570 001977
162207 0 0000 0001 182 000570 001977
162900 0 0000 0000 182 000570 001977
134400 0 0000 0001 188 000570 001977
141400 0 0000 0000 188 000570 001977
141407 0 0000 0001 188 000570 001977
141427 0 0000 0000 188 000570 001977
141430 0 0000 0001 188 000570 001977
125027 0 0000 0000 189 000570 001977
125300 0 0000 0001 189 000570 001977
132500 0 0000 0000 189 000570 001977
132615 0 0000 0001 189 000570 001977
133810 0 0000 0000 189 000570 001977
133815 0 0000 0001 189 000570 001977
125422 0 0020 0001 194 000570 001977
125500 0 0000 0000 194 000570 001977
125507 0 0000 0001 194 000570 001977
140300 0 0000 0000 194 000570 001977
142000 0 0000 0001 194 000570 001977
```



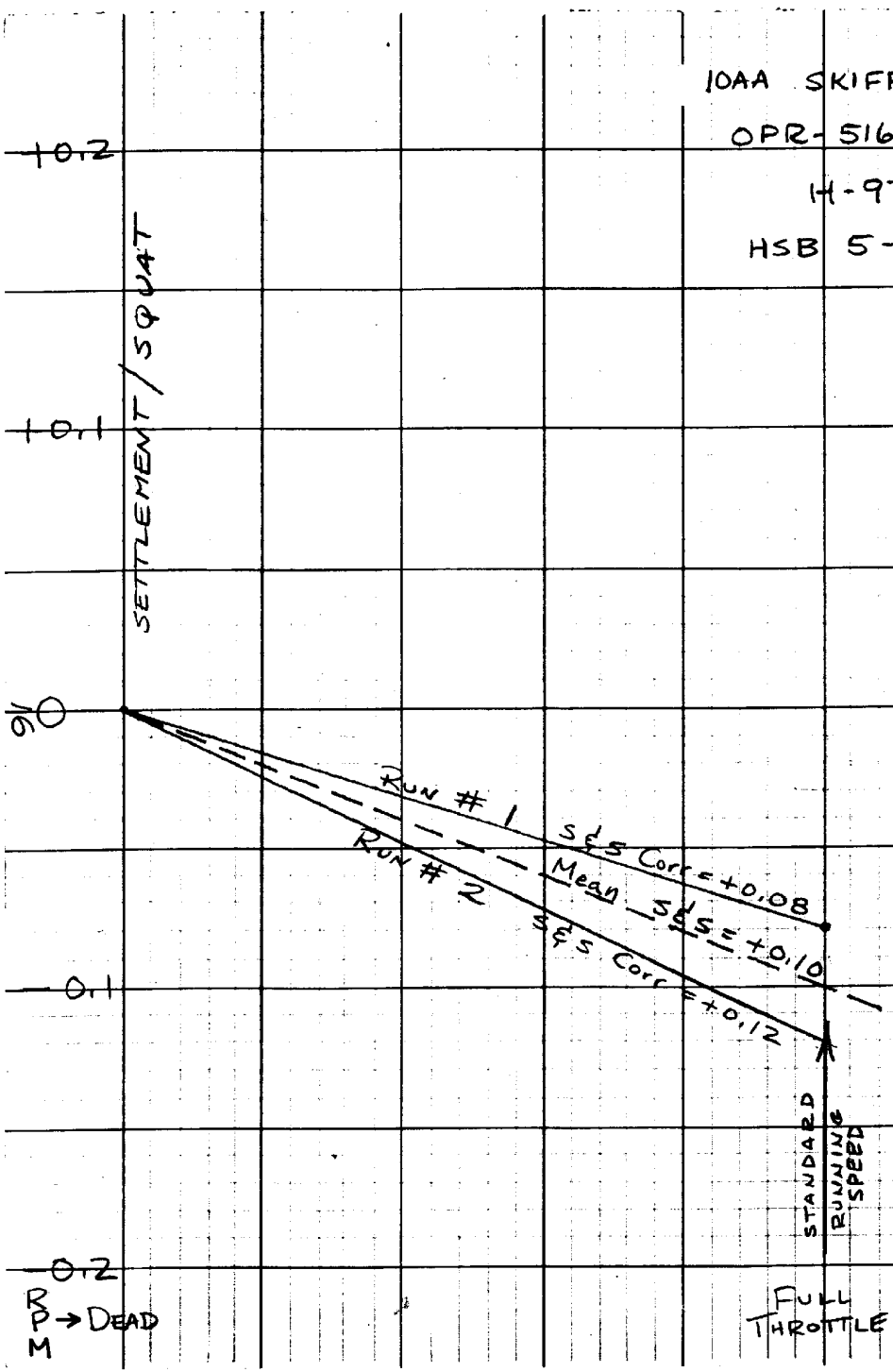
JN

10AA SKIFF 000570

OPR-516-HSB-77

H-9701

HSB 5-5-77




**RUN #1**

| RPM | LEVEL READ | Corr. |
|---|---|---|
| 0 (DEAD) | 7.57 | 0 |
| FULL | 7.65 | +0.08 |

**RUN #2**

| RPM | LEVEL READ | Corr |
|---|---|---|
| 0 (DEAD) | 7.50 | 0 |
| FULL | 7.62 | +0.12 |

NOAA FORM 59-6 (3-72)

IN

SIGNAL TAPE LISTING

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | 4 | 36 | 49 | 38500 | 075 | 58 | 18370 | 250 | 0000 | 000000 | Traverse (AMC) 2-01, 1977 |
| 002 | 7 | 36 | 49 | 37950 | 075 | 58 | 17970 | 139 | 0000 | 000000 | Traverse (AMC) H-2-VA-77, 1977 |
| 003 | 7 | 36 | 49 | 44210 | 075 | 58 | 12350 | 250 | 0000 | 000000 | Traverse (AMC) H-3-VA-77, 1977 |
| 004 | 7 | 36 | 49 | 56060 | 075 | 58 | 21370 | 250 | 0000 | 000000 | Traverse (AMC) H-4-VA-77, 1977 |
| 005 | 0 | 36 | 49 | 40380 | 075 | 58 | 51400 | 250 | 0000 | 000000 | Traverse (AMC) H-5-VA-77, 1977 |
| 006 | 7 | 36 | 49 | 49796 | 075 | 58 | 31697 | 254 | 0000 | 000000 | Traverse (AMC) Bulkhead, 1977 |
| * 007 | 7 | 36 | 47 | 40214 | 075 | 59 | 52306 | 252 | 0000 | 000000 | Dummy Station (Using Fwd Az. from H-5-VA-77 to Tank) |

*This is a nonstandard procedure but accepted as valid data.*

* 007 This station was used only to intial on from Station H-5-VA-77

FROM STATION = H-5-VA-77

LATITUDE = 36/49/40.38
LONGITUDE = 75/58/51.40
DISTANCE = 4000 (DUMMY DISTANCE)
FWD AZIMUTH = 22/10/45 (VALID AZIMUTH)

TO STATION = TANK#7 (DUMMY POSITION)

LATITUDE = 36/47/40.2140

LONGITUDE = 75/59/52.3063

BCK AZIMUTH = 202/10/08.5060

APPROVAL SHEET
HSB-5-5-77

The survey records have been inspected and the survey is adequate to supersede prior surveys for charting.

Lt. Cdr. William R. Daniels
Chief, Hydrographic Surveys Branch

Respectfully Submitted

For/ Jerome M Nahas

John O. Rolland

APPROVAL SHEET
FOR
SURVEY H- 9701

A. All revisions and additions made on the smooth sheet during verification have been entered in the magnetic tape records for this survey. A new final position printout has/~~has not~~ been made. A new final sounding printout has/~~has not~~ been made.

B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic Manual. Exceptions are listed in the Verifier's Report.

Date: 7/24/78

Signed: Henry R. Smith

Title: Chief, Verification Branch

NOAA FORM 77-27 (5-77)

U. S. DEPARTMENT OF COMMERCE NOAA

# HYDROGRAPHIC SURVEY STATISTICS

HYDROGRAPHIC SURVEY NUMBER: H-9701

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

| RECORD DESCRIPTION | AMOUNT | RECORD DESCRIPTION | AMOUNT |
|---|---|---|---|
| SMOOTH SHEET | 1 | BOAT SHEETS & PRELIMINARY OVERLAYS | ~~1~~ 2 |
| DESCRIPTIVE REPORT | 1 | SMOOTH OVERLAYS: POS. ARC, EXCESS | 2 |

| DESCRIPTION | DEPTH RECORDS | HORIZ. CONT. RECORDS | PRINTOUTS | TAPE ROLLS | PUNCHED CARDS | ABSTRACTS/ SOURCE DOCUMENTS |
|---|---|---|---|---|---|---|
| ENVELOPES | | | ~~1~~ | | | 1-misc.* |
| CAHIERS | 1-with Printouts* | | ~~1~~ | | | |
| VOLUMES | 2* | | | | | |
| BOXES | | | 1-Smooth* | | | |

T-SHEET PRINTS (List) TP-00691 *-contained in one box

SPECIAL REPORTS (List)

*OFFICE PROCESSING ACTIVITIES*
*The following statistics will be submitted with the cartographer's report on the survey*

| PROCESSING ACTIVITY | AMOUNTS PRE-VERIFICATION | VERIFICATION | TOTALS |
|---|---|---|---|
| POSITIONS ON SHEET | | | 326 |
| POSITIONS CHECKED | | 146 | |
| POSITIONS REVISED | | 58 | |
| SOUNDINGS REVISED | | 69 | |
| SOUNDINGS ERRONEOUSLY SPACED | | 51 | |
| SIGNALS (CONTROL) ERRONEOUSLY PLOTTED | | 0 | |
| | TIME – HOURS | | |
| CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION) | 6 | 0 | |
| VERIFICATION OF CONTROL | | 2 | |
| VERIFICATION OF POSITIONS | | 100 | |
| VERIFICATION OF SOUNDINGS | | 51 | |
| COMPILATION OF SMOOTH SHEET | | 33 | |
| APPLICATION OF TOPOGRAPHY | | 7 | |
| APPLICATION OF PHOTOBATHYMETRY | | 0 | |
| JUNCTIONS | | 0 | |
| COMPARISON WITH PRIOR SURVEYS & CHARTS | | 7 | |
| VERIFIER'S REPORT | | 7 | |
| OTHER | | 13 | |
| | | | |
| TOTALS | 6 | 220 | ~~0~~ 226 |

| | | |
|---|---|---|
| Pre-Verification by: S. Kelley, H. Smith | Beginning Date: 10/20/77 | Ending Date: 10/20/77 |
| Verification by: S. Kelley, M. Holloway, J. Bradford, M. Hickson | Beginning Date: 11/03/77 | Ending Date: 07/19/78 |
| Verification Check by: B. Stephenson | Time (Hours): 3 | Date: 07/20/78 |
| Marine Center Inspection by: Hydrographic Inspection Team (AMC) | Time (Hours): 7 | Date: 07/26/78 |
| Quality Control Inspection by: G. Myers | Time (Hours): 22 | Date: 9/6/78 |
| Requirements Evaluation by: D.J. Hill | Time (Hours): ~~2~~ 4 | Date: 10/4/78 |

REGISTRY NO. H-9701

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey, the following shall be completed:

CARDS CORRECTED

DATE_____ TIME REQUIRED_____ INITIALS_____

REMARKS:

REGISTRY NO. _____

The magnetic tape containing the data for this survey has not been corrected to reflect the changes made during evaluation and review.

When the magnetic tape has been updated to reflect the final results of the survey, the following shall be completed:

MAGNETIC TAPE CORRECTED

DATE_____ TIME REQUIRED_____ INITIALS_____

REMARKS:

ATLANTIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO. H-9701 FIELD NO. HSB-5-5-77

Virginia, Virginia Beach, Rudee Inlet

SURVEYED: June 29 through July 13, 1977

SCALE: 1:5,000 PROJECT NO.: OPR-516

SOUNDINGS: Raytheon 719B CONTROL: Del-Norte and Theodolite (Range-Azimuth)

Chief of Party ..... W. Daniels
..... J. Rolland
Surveyed by ..... J. Nahas
..... L. Gilden
..... J. Klutz
..... D. MacDougall
Automated Plot by ..... CALCOMP-618 Plotter (AMC)
Verified and Inked by ..... M. Hickson
July 18, 1978

1. Introduction

No unusual problems were encountered. One nonstandard procedure was noted in the use of signal 007 with a "dummy" geographic position. This station was used only for the initial determination from signal 005 and was accepted as valid data after field computations were checked as far as possible. Necessary changes made by the verifier to the Descriptive Report are denoted in red ink.

2. Control and Shoreline

a. The source and use of control is adequately described in Sections F and G of the Descriptive Report; however, the Verification Branch was unable to obtain Form 76-39 to document third order traverse stations as required in Section 3.1.1.3 of the Hydrographic Manual. The only information available to the verifier is contained in Section F and the list of signals in the Descriptive Report.

b. The source of shoreline for this survey is the final reviewed photogrammetric manuscript TP-00691 of 1975-77. The existence of some alongshore features such as a groin, piers, and a feature noted as pipes on the field position sheet, are inconclusive as they are not shown on the "field edited" shoreline manuscript but are shown on the boat sheet. The field edit should be examined to ascertain whether those featues were addressed and adequately disposed of. If not, they should

be shown on the chart or it may be necessary to investigate the existence of those items. See Quality Control Report

3. Hydrography

a. Depths at crossings are in good agreement.

b. Depth contours were drawn at the standard intervals of 0, 6, 12, 18, and 30 feet. The supplemental 3-foot curve was added to one small area in the vicinity of the inlet to better define a shoal and portray a least depth. One brown curve was added to portray a shoal feature not apparent from normal contours.

c. Bottom configurations were adequately developed in general, with the exception of the 0- and 6-foot contours and several small areas lacking in necessary delineation. One such area was the entrance to Lake Rudee which has only one line of hydrography. (See Section 9 of this report.)

4. Condition of Survey

The sounding records, smooth sheet and accompanying overlays, hydrographic records, and the Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual except as noted in Section 2.b of this report.

5. Junctions

The present survey junctions with no other contemporary survey.

6. Comparison With Prior Surveys

H-8724 (1962) 1:10,000

This prior survey covers the majority of the surveyed area. Comparison reveals only very limited agreement as the prior survey shows a significantly deeper trend (5 to 10 feet) in all but the areas of the inlet, the entrance to Lake Wesley, and the entrance to Lake Rudee which are notably shoaler (1 to 6 feet) than found on the present survey.

The present survey is adequate to supersede the prior survey in the common area except as noted in Section 9. of this report. See Quality Control Rep.

7. Comparison With Chart 12205 (11th Edition, February 19, 1977)

a. Hydrography

The charted hydrography originates with the previously discussed prior survey, USPS Letter L-1439 (69), and BP-74255-57 (1968) City of Virginia Beach - L-804 (68). The previously discussed prior survey requires no further consideration. USPS Letter L-1439 (69) and BP-74255-57 (1968) City of Virginia Beach - L-804 (68) were not available for comparison but are source data for charted hydrography.

The present survey differs significantly from the chart in that present survey hydrography is much shoaler (generally 5 to 10 feet) throughout the surveyed area. There are two areas of notable exception: the entrance to Lake Wesley, and the entrance to Lake Rudee, which displays deeper soundings (approximately 1 to 6 feet) than charted. The entire area is subject to rapid and continuous change by dredging, currents, tides, and severe weather; especially the inlet and the lake entrances. A dredge is permanently stationed at the inlet and is continuously dredging to maintain the channel. Dredging reports may be desirable for updating charted data.

The present survey is adequate to supersede the charted hydrography within the common area. A possible exception would be the entrance to Lake Rudee where only one line of hydrography was run; however, all prior data is in conflict and would not prove suitable. (See Section 9. of this report.)

b. Aids to Navigation

No fixed aids to navigation were located by the present survey; however, Rudee Inlet Lights 1 and 2 are plotted on the smooth sheet from the photogrammetric manuscript. Five buoys were located by this survey, they are neither charted nor published in the light list. All five buoys are privately maintained and conform to the markings designated in the Coast Guard Uniform State Waterway Marking System.

8. Compliance With Instructions

This survey adequately complies with the Project Instructions.

9. Additional Field Work

This is an adequate basic hydrographic survey except as noted. Additional field work is recommended in the entrance to Lake Rudee, as one line of hydrography is not sufficient, and during

future surveys of this area the 0- and 6-foot contours should be adequately defined. It would be advantageous for future surveys to be 1:2,500 in scale to avoid congestion and better define bottom configurations.

Inspection Report
H-9701

Any verification errors regarding procedures and presentation of survey data detected during inspection by the Hydrographic Inspection Team have been corrected before submission for administrative approval. HIT comments regarding quality of field work, compliance with instructions, and adequacy of the survey have been incorporated within the Verifier's Report.

Examined and Approved:
Hydrographic Inspection Team
Date: 7-24-78

Robert A. Trauschke, CDR, NOAA
Chief, Processing Division

ABSENT
Charles H. Nixon, CAPT, NOAA
Chief, Operations Division

R. D. Sanocki
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C. Douglas Mason, LT, NOAA
Chief, Electronic Data
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Verification Branch

Approved/Forwarded

Robert C. Munson
RADM, NOAA
Director, Atlantic Marine Center

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

C352/GKM

September 6, 1978

A. J. Patrick

TO: A. J. Patrick
Chief, Marine Surveys Division

G. K. Myers

FROM: G. K. Myers
Chief, Quality Control Branch

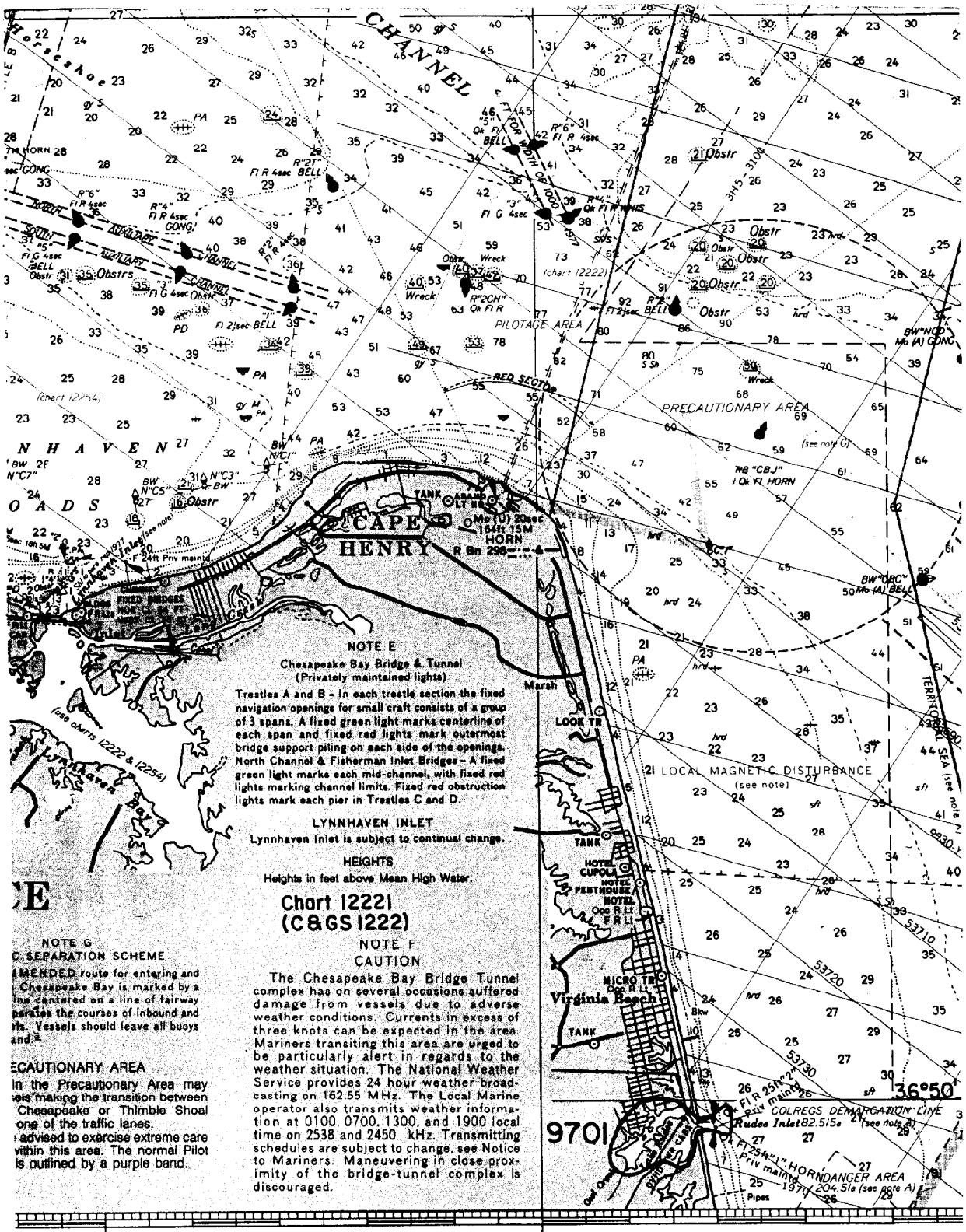
SUBJECT: Quality Control Report for H-9701 (1977), Virginia, Virginia Beach, Rudee Inlet

A quality control inspection of H-9701 was accomplished to monitor the survey for obvious deficiencies with respect to data acquisition, delineation of the bottom, determination of least depths, navigation hazards, junctions and shoreline transfer, sounding line crossings, smooth plotting, decisions and actions taken by the verifier, and cartographic presentation of data. In general, it was found to conform to the National Ocean Survey standards and requirements except as stated in the report by the verifier and Hydrographic Inspection Team and as follows:

1. Present hydrography in the entrance to Lake Rudee is considered adequate to supersede depths from the prior surveys that fall in the common area.

2. The following charted features addressed in the Verifier's Report were determined to be non-existent as noted on an ozalid copy of the field edit sheet.

| Charted Features | Location |
|---|---|
| Groin | Lat. 36°49'44", Long. 75°58'08" |
| Pier | Lat. 36°49'45", Long. 75°58'14" |
| Pier | Lat. 36°49'43", Long. 75°58'14" |
| Overhead Power Cable | Lat. 36°49'47", Long. 75°58'13" |




NOTE E

Chesapeake Bay Bridge & Tunnel
(Privately maintained lights)

Trestles A and B – In each trestle section the fixed navigation openings for small craft consists of a group of 3 spans. A fixed green light marks centerline of each span and fixed red lights mark outermost bridge support piling on each side of the openings. North Channel & Fisherman Inlet Bridges – A fixed green light marks each mid-channel, with fixed red lights marking channel limits. Fixed red obstruction lights mark each pier in Trestles C and D.

LYNNHAVEN INLET

Lynnhaven Inlet is subject to continual change.

HEIGHTS

Heights in feet above Mean High Water.

**Chart 12221**
**(C&GS 1222)**

NOTE F

CAUTION

The Chesapeake Bay Bridge Tunnel complex has on several occasions suffered damage from vessels due to adverse weather conditions. Currents in excess of three knots can be expected in the area. Mariners transiting this area are urged to be particularly alert in regards to the weather situation. The National Weather Service provides 24 hour weather broadcasting on 162.55 MHz. The Local Marine operator also transmits weather information at 0100, 0700, 1300, and 1900 local time on 2538 and 2450 kHz. Transmitting schedules are subject to change, see Notice to Mariners. Maneuvering in close proximity of the bridge-tunnel complex is discouraged.

NOTE G

C. SEPARATION SCHEME

MENDED route for entering and Chesapeake Bay is marked by a line centered on a line of fairway parates the courses of inbound and sh. Vessels should leave all buoys and.

ECAUTIONARY AREA

In the Precautionary Area may vels making the transition between Chesapeake or Thimble Shoal one of the traffic lanes.

advised to exercise extreme care within this area. The normal Pilot is outlined by a purple band.

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

NAUTICAL CHART DIVISION

Charts 129
1227
1222
3335

# RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. 9701

## 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 |
|---|---|---|---|
| 12205 | 10-31-78 | MIKE PANAS | Full ~~Part Before~~ After Verification Review Inspection Signed Via |
| (1295C) | | | Drawing No. FULLY APPLIED |
| | | | |
| 12221 | 12-7-78 | Douglas Harpne | Full ~~Part Before~~ After Verification Review Inspection Signed Via |
| (1222) | | | Drawing No. Fully Applied |
| | | | |
| 12207 | 1-18-79 | Marguerite J Moore | Full ~~Part Before~~ After Verification Review Inspection Signed Via |
| (1227) | | | Drawing No. 22 Fully Applied Thru 12221 |
| | | | |
| 12208 | | | Full ~~Part Before~~ After Verification Review Inspection Signed Via |
| (3335) | 1-19-79 | Marguerite J Moore | Drawing No. 10 Fully Applied |
| | | | |
| | | | Full Part Before After Verification Review Inspection Signed Via |
| | | | Drawing No. |
| | | | |
| | | | Full Part Before After Verification Review Inspection Signed Via |
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FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975.

USCOMM-DC 8558-P63