12221 (formerly C&GS 222)
LORAN-A/C OVERPRINTED

Nautical Miles
Yards

SUPPLEMENTAL INFORMATION
Consult U.S. Coast Pilot 3 and 4 for important supplemental information.

NEW CHART NUMBERING SYSTEM
The National Ocean Survey, in cooperation with the Defense Mapping Agency Hydrographic Center, is in the process of adopting a new national chart numbering system. See Notice to Mariners No. 19, May 11, 1974, or Nautical Chart Catalog for cross references of old and new chart numbers.

Chart Number

New System	Old System	New System	Old System	New System	Old System
12205	129-SC	12224	563	12245	400
12206	829-SC	12226	564	12248	529
12222	562	12238	494	12253	452
12223	562-SC	12241	492	12254	481

1st Ed., Mar. 1913 G-1952-784

SOUNDINGS IN FEET

Nautical Chart Catalog No. 1, Panels D, E

76° 25' (CONTINUED ON CHART 12238) (formerly C&GS 494) 20' 15' 10' (JOINS CHART 12225) (formerly C&GS 223) 05' 76° 55' 50' 45' 40' (JOINS CHART 12210) (formerly C&GS 220) 35' 75° 30'
37° 20' 15' 10' 05' 55' 50' 36° 50'

LORAN-C GENERAL EXPLANATION

LORAN-C FREQUENCY ..... 100kHz.
PULSE REPETITION INTERVAL
9930 ..... 99,300 Microseconds
STATION TYPE DESIGNATORS: (Not individual station letter designators)
M ..... Master
W ..... Secondary
X ..... Secondary
Y ..... Secondary
Z ..... Secondary
EXAMPLE: 9930-X

RATES ON THIS CHART
• 9930-W 9930-Y 9930-Z

This chart has been prepared for use with ground wave signals. Sky wave corrections are not provided. The Loran-C lines of position on this chart are compensated for propagation delay.

*Group repetition interval 9930 was formerly desig. nated SS7.

LORAN LINEAR INTERPOLATOR

NOTE B
YORK SPIT CHANNEL*
Depths entering from seaward
Surveys to July 1975

Left inside quarter	43.1 ft
Left outside quarter	41.8 ft
Right inside quarter	40.6 ft
Right outside quarter	40.0 ft

*The use of this channel shall be restricted to vessels and other watercraft passing up or down Chesapeake Bay, and vessels or other watercraft shall cross the channel or enter it at any point other than at its ends and in the direction of its axis. Any vessel having entered the channel shall follow the course thereof for its entire length.

CAUTION
Mariners are warned to stay clear of the protective spray surrounding navigational light structures shown thus: ⊛

LORAN-A SOUTH BAY GENERAL EXPLANATION

FREQUENCY CHANNEL (preceding M) ..... 1950 kHz
BASIC PULSE RECURRENCE RATE
Single ..... 33.3 pulses per second
SPECIFIC RECURRENCE RATES assigned for station identification (following M)
4
EXAMPLE: 3H4

RATES ON THIS CHART
3H4 3H5

CAUTION
Skywaves should not be used in determining loran lines of position on this chart.

SAND SHOAL INLET
The channel is subject to continual change. Entrance buoys are not charted because they are shifted frequently in position.

LYNNHAVEN INLET
Lynnhaven Inlet is subject to continual change.

CAUTION
Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

CAUTION
Temporary changes or defects in aids to navigation are not indicated on this chart. See Notice to Mariners.
During some winter months or when endangered by ice, certain aids to navigation are replaced by other types or removed. For details see U.S. Coast Guard Light List.

For Symbols and Abbreviations see Chart No. 1.

HEIGHTS
Heights in feet above Mean High Water

AUTHORITIES
Hydrography and topography by the National Ocean Survey (formerly the Coast and Geodetic Survey) with additional data from the Corps of Engineers and U.S. Coast Guard.

CAUTION
FISH TRAP AREAS AND STRUCTURES
Mariners are warned that numerous uncharted duck blinds and fishing structures, some submerged, may exist in the fish trap areas. Such structures are not charted unless known to be permanent.
Regulations to assure clear passage to and through dredged and natural channels and to established landings are prescribed by the Corps of Engineers in the Code of Federal Regulations. Definite limits of fish trap areas have been established in some areas and those limits are shown thus:
Where definite limits have not been prescribed the location of fishing structures is restricted only by the regulations.

NOTE A
Navigation regulations are published in Chapter 2, U.S. Coast Pilot 3 and 4, or weekly Notice to Mariners which include new or revised regulations. Information concerning the regulations may be obtained at the Office of the District Engineer, Corps of Engineers in Norfolk, Virginia.
Anchorage regulations may be obtained at the Office of the Commander, 5th Coast Guard District in Portsmouth, Virginia. Refer to section numbers shown with area designation.

TABULATED SIGNAL CHANNEL DEPTHS
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS/SURVEYS TO FEB. 1975

NAME OF CHANNEL	CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOW WATER (MLW)					PROJECT DIMENSIONS		
	LEFT HALF (FEET)	LEFT QUARTER	RIGHT QUARTER	RIGHT HALF	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH (FEET)
TWOMILE SIGNAL CHANNEL	45.0	45.0	45.0	45.0	12-74,2-75	1000	9.9	45
NORTH AUXILIARY CHANNEL	30.0	30.1	31.0	30.0	12-74,2-75	450	9.9	30
SOUTH AUXILIARY CHANNEL	27.5	28.3	30.1	32.3	12-74,2-75	450	9.9	30

#1: THE CHANNEL IS RESTRICTED TO EXCLUDE VESSELS AND TOWS DRAWING LESS THAN 25 FEET. THERE IS NO RESTRICTION TO PASSENGER SHIPS.
NOTE: CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION
PRODUCED BY COMPUTER ASSISTED METHODS

NOTE C
HAMPTON ROADS TUNNEL
APPROACH SPANS
VOR CL. 45 FT.
AUTH.
VERT. CL. 45 FT.

AIDS TO NAVIGATION
Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.

VHF WEATHER BROADCASTS FOR MARINERS
FM Station with frequency of 162.55 megahertz and call sign WXJ-39 broadcasts a continuous weather report on 24 hours daily broadcasting weather warnings, forecasts and reports from the NATIONAL WEATHER SERVICE Office as follows:
KHB-37 Norfolk, Va

CAUTION
Only marine radiobeacons have been calibrated for surface use. Limitations on the use of certain other radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and Defense Mapping Agency Hydrographic Center, Publication 117 (A&B).
Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.
Station positions are shown thus:
⊙(Accurate location) ⊕(Approximate location)

STORM WARNINGS
The National Weather Service displays storm warnings at the following approximate locations:
Chesapeake Light (36°54.3'-75°42.8')
Weather Service Building Cape Henry (36°55.6'-76°00.4')
Fort Monroe (37°00.1'-76°18.5')
Oyster (37°17.2'-75°55.5')
Little Creek Va. (36°55.0'-76°10.5')

NOTE D
DANGER AREA
Area is open to unrestricted surface navigation but all vessels are cautioned neither to anchor, dredge, trawl, lay cables, bottom, nor conduct any other similar type of operation because of residual dangerous explosives per mines on the bottom.

NOTE E
Chesapeake Bay Bridge & Tunnel
(Privately maintained light)
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. The main navigation span consists of a group of 3 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.

NOTE F
CAUTION
The Chesapeake Bay Bridge Tunnel complex has on several occasions suffered damage from vessels adrift 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 Forecast is transmitted at approximate times at 0100, 0700, 1300, and 1900. Additional 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
TRAFFIC SEPARATION SCHEME
The RECOMMENDED route for entering and departing from Chesapeake Bay is marked by a tinted purple line centered on a line of fairway buoys which separates the courses of inbound and outbound vessels. Vessels should leave all buoys on their port hand.
The pilotage area is marked by a tinted purple band.
The traffic separation scheme has been designed to aid in the prevention of collisions at the approaches to Chesapeake Bay but is not intended in any way to supersede or alter the applicable Rules of the Road.

WARNING
The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

LOCAL MAGNETIC DISTURBANCE
Differences of as much as 6° from the normal variation have been observed 5 to 17 nautical miles offshore from Cape Henry to Currituck Beach Light.

UNITED STATES — EAST COAST
VIRGINIA
CHESAPEAKE BAY ENTRANCE

Mercator Projection
Scale 1:80,000 at Lat. 37°05'
North American 1927 Datum
SOUNDINGS IN FEET
AT MEAN LOW WATER

TIDAL INFORMATION
Height referred to datum of soundings (MLW)

Place	Mean High Water	Mean Tide Level	Mean Low Water	Extreme Low Water
	feet	feet	feet	feet
Great Machipongo Inlet	3.9	1.9	0.0	−2.5
Cape Charles	3.0	1.5	0.0	−2.5
Old Point Comfort	2.5	1.3	0.0	−1.5
Tue Marshes Light	2.2	1.1	0.0	−1.0
Wolf Trap Light	1.6	0.8	0.0	−1.0

(1174)

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

Nautical Miles
Yards

FATHOMS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
FEET	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102
METERS	2	4	5	7	9	11	13	15	16	18	20	22	24	26	27	29	31

(Chesapeake Bay Entrance)
SOUNDINGS IN FEET - SCALE 1:80,000

12221 (formerly C&GS 222)
LORAN-A/C OVERPRINTED

42nd Ed., Oct. 16/75

CAUTION
This chart has been corrected from the Notice to Mariners published weekly by the Defense Mapping Agency Hydrographic Center and the Local Notice to Mariners issued periodically by each U.S. Coast Guard district to the print date shown in the lower left hand corner.

SOUNDINGS IN FEET

FILE COPY
LITIGATION COPY