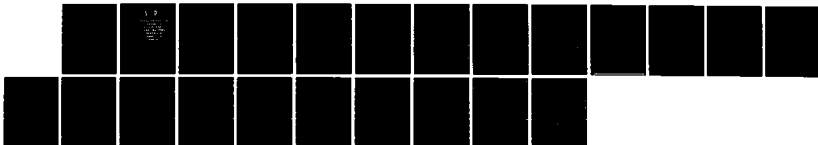
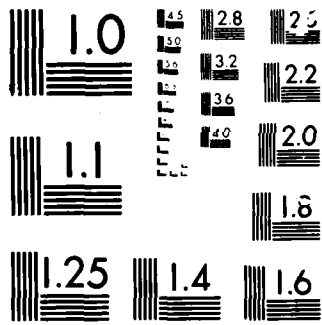


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NAVAL AIR STATION SIGONELLA (AUGUSTA BAY) FLEET MOORING 1/1
UNDERWATER INSPECTION REPORT(U) NAVAL FACILITIES
ENGINEERING COMMAND WASHINGTON DC CHESAPEAKE NOV 83
CHES/NAVFAC-FPO-1-81(45) F/G 13/2 NL

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NAVAL AIR STATION SIGONELLA (AUGUSTA BAY) FLEET MOORING UNDERWATER INSPECTION REPORT

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Distribution Unlimited

NOVEMBER 1983

OCEAN ENGINEERING
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CHESAPEAKE DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON, D.C. 20374

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19. ABSTRACT (Continue on reverse if necessary & identify by block number)
This report contains the results of the inspection of the fleet mooring
located in Augusta Bay, Sicily. A CHESNAVFACENGCOM-assigned
Engineer-in-Charge and divers from Underwater Construction Team One conducted
the inspection from 27-29 September 1983. (Con't)

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22a. NAME OF RESPONSIBLE INDIVIDUAL
Jacqueline B. Riley
DD FORM 1473, 84MAR

22b. TELEPHONE 22c. OFFICE SYMBOL
202-433-3881

SECURITY CLASSIFICATION OF THIS PA

BLOCK 19 (Con't)

This mooring was found to be in satisfactory condition for continued use as a class CC fleet mooring. Specific comments concerning the current condition of the mooring are contained herein.

ABSTRACT

This report contains the results of the inspection of the fleet mooring located in Augusta Bay, Sicily. A CHESNAVFACENGCOM-assigned Engineer-in-Charge and divers from Underwater Construction Team One conducted the inspection from 27-29 September 1983.

This mooring was found to be in satisfactory condition for continued use as a class CC fleet mooring. Specific comments concerning the current condition of the mooring are contained herein.

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Unannounced	<input type="checkbox"/>
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NAVAL AIR STATION SIGONELLA
AUGUSTA BAY
FLEET MOORING UNDERWATER INSPECTION REPORT

1.0 INTRODUCTION

1.1 Background. Under the COMNAVFACENGCOM Fleet Mooring Maintenance (FMM) Program, CHESNAVFACENGCOM has been assigned the responsibility to plan for and conduct periodic diver inspections of fleet moorings worldwide. In carrying out this responsibility, CHESNAVFACENGCOM designated an Engineer-in-Charge (EIC) to provide inspection planning and onsite technical direction for the underwater inspection of the fleet mooring located in Augusta Bay, Sicily. The actual underwater portion of the inspection was performed by the EIC and divers of Underwater Construction Team One (UCT ONE). The inspection of this mooring was conducted during the period 27-29 September 1983.

1.2 General Mooring Description. NAS Sigonella currently operates and maintains a single CC class mooring. The geographical location of Sigonella and Augusta are shown in Figure 1, while the location of the fleet mooring (number A-3) in Augusta Bay is depicted in Figure 2.

The mooring was installed in about 85 feet of water and was last overhauled in October 1980. Figure 3 is a schematic drawing of the mooring design while Figure 4 depicts the latest known as-built configuration of the mooring. In April of 1981, a Yugoslavian freighter struck the buoy while maneuvering to leave port and damaged it below the water line. Italian Navy personnel repaired the damage. There are no available maintenance records and verbal reports indicate that the mooring has not been used during the past two years. The Italian Navy provided two boats with crews for use by the inspection team as diving platforms. The Italian Navy also placed their recompression chamber on standby in event of a diving casualty.

2.0 INSPECTION PROCEDURES

2.1 General. The purpose of the mooring inspection was to determine the general physical condition of the buoy and chain assemblies and to verify or update existing as-built and maintenance records. Divers inspected only a portion of the submerged buoy hull and chain assemblies in order to compile a general description of the mooring's condition. The existence of fairly consistent measurements during this inspection provides a good indication of the mooring's overall condition. It should be kept in mind that periodic underwater inspections are intended as an expedient and relatively inexpensive supplement to accurate maintenance records. As such, they cannot fully substitute for a complete inspection involving recovery of the mooring and the measurement and evaluation of each component.

Chain wire diameter measurements are used to evaluate the condition of a mooring. After cleaning to bare metal, a selective sampling of the wire diameter of chain links and connecting hardware was taken in order to determine the amount of deterioration due to corrosion and wear. "Single link" measurements are taken where chain is slack to detect corrosion loss. "Double link" measurements are taken where two links connect under tension to detect the combined effects of corrosion and wear. Since only the vertical riser assembly was visible, only double link measurements were taken during this inspection. Chain links

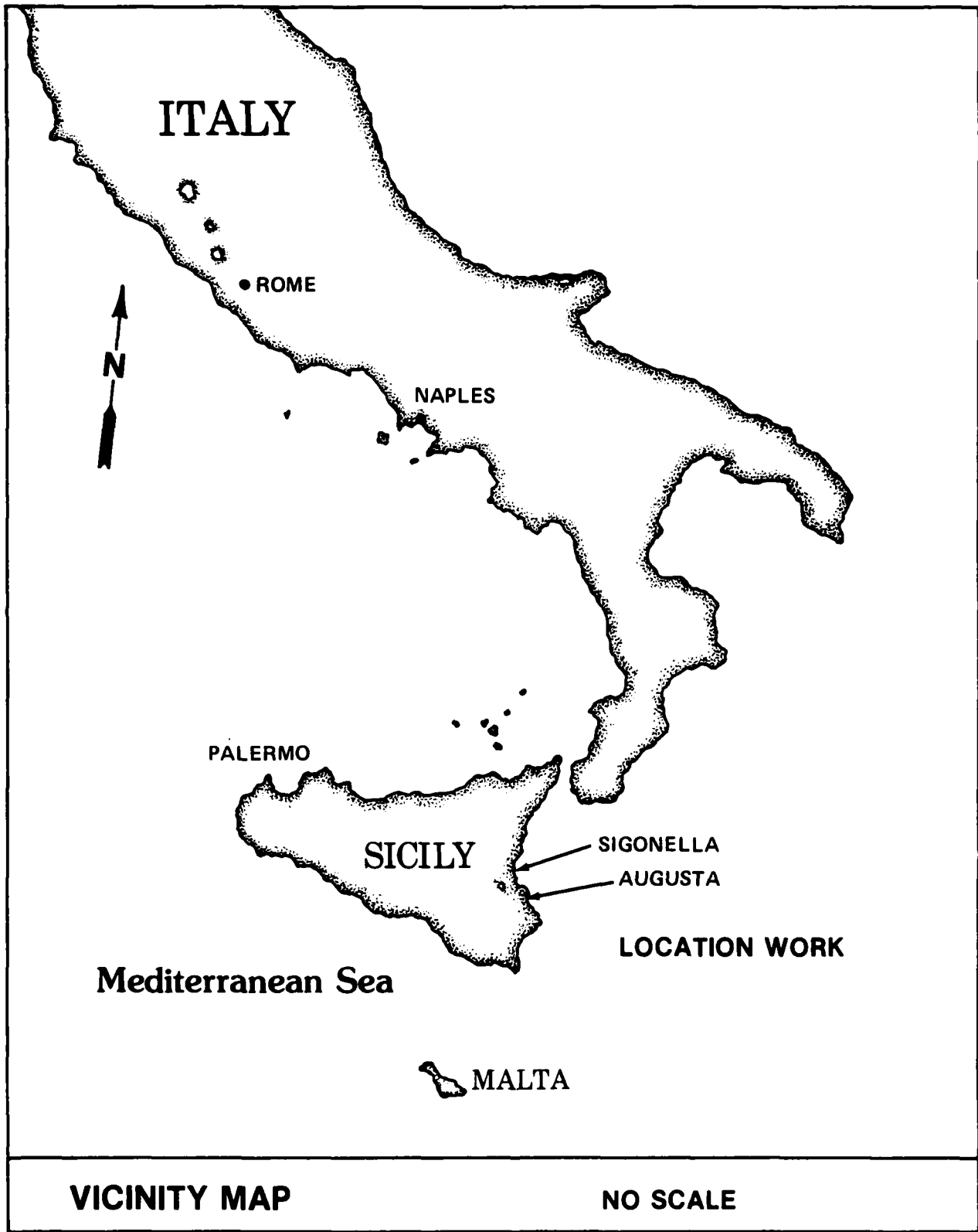
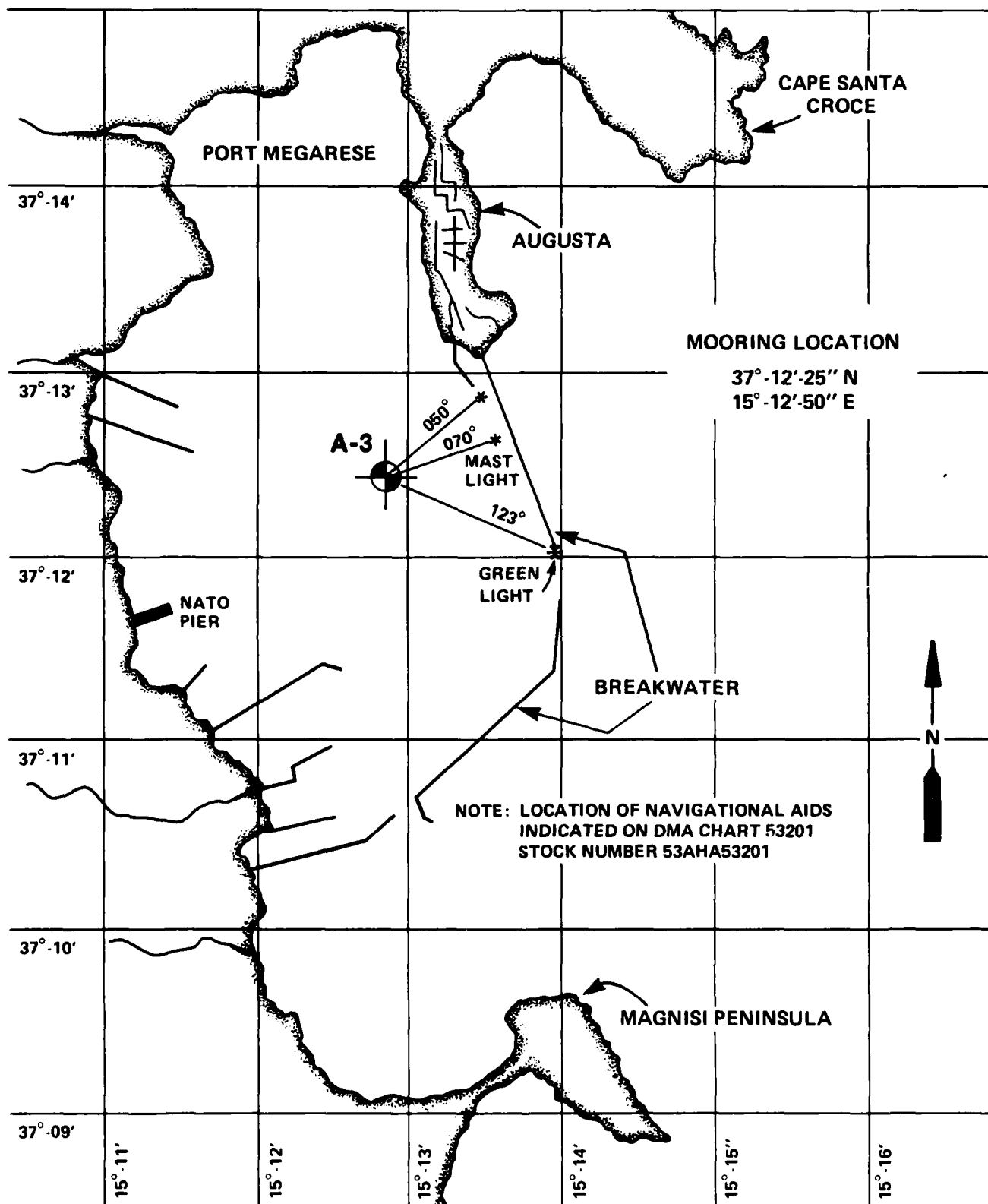
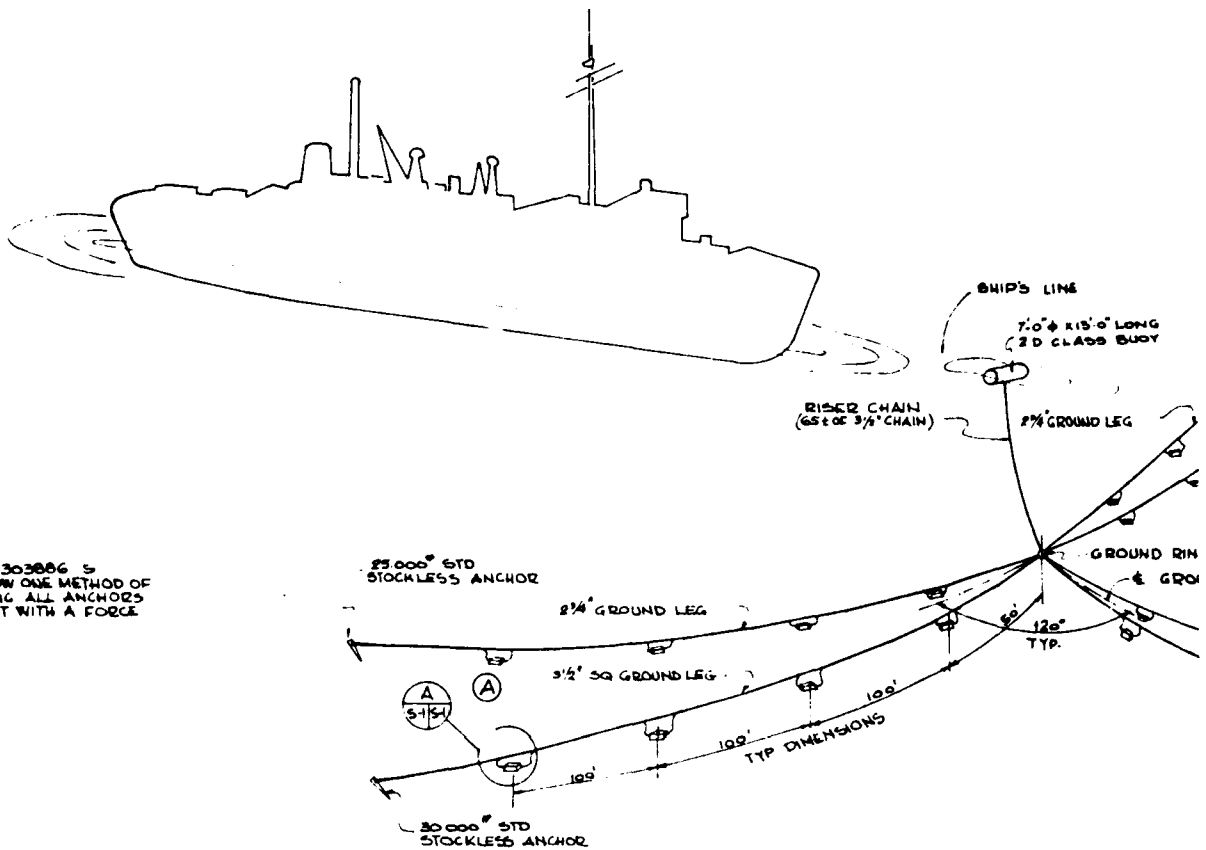


FIGURE 1. GEOGRAPHICAL LOCATION OF SIGONELLA AND AUGUSTA



LOCATION MAP

FIGURE 2. LOCATION OF AUGUSTA BAY FLEET MOORING A-3



(A) NOTE

REFERENCE DWG # 303886 IS INCLUDED TO SHOW ONE METHOD OF LAYING THE MOORING. ALL ANCHORS SHALL BE PRESET WITH A FORCE OF 25,000 LBS.

MOORING SCHEMATIC

NOT TO SCALE

DESIGN CRITERIA

SITE CONDITIONS (MAX)

WIND	65 KNOTS
CURRENT	2 KNOTS
WAVE	2 FEET
TIDE	1 FOOT
BOTTOM	SOFT CLAYEY SILT 12 METERS DEEP ABOVE A LAYER OF SANDY CLAY
WATER DEPTH	75 FEET

SPECIAL NOTE

THE 3/4" SQUARE CROSS SECTION, RECTANGULAR LINK CHAIN AND THE ASSOCIATED JOINING SHACKLES FURNISHED FROM SURPLUS ARE NOT OF AMERICAN MANUFACTURE BECAUSE ENOUGH DETAILED INFORMATION WAS NOT AVAILABLE AN ACCURATE DETERMINATION OF THE EXACT STRENGTH OF THESE TWO ITEMS WAS NOT POSSIBLE. HOWEVER, COMPARISON OF THE CROSS SECTIONAL AREAS OF THE SQUARE LINK CHAIN WITH A 2 1/4" DIE-LOCK CHAIN (THE STANDARD GROUND CHAIN FOR A CLASS C-C MOORING) INDICATES THAT ADEQUATE STRENGTH IS AVAILABLE.

DESIGN ASSUMPTION

THE MOORING WAS DESIGNED TO ACCOMMODATE A TENDER (PUGET SOUND AD-38) WITH A CGM MOORED ALONG SIDE.

NOTE

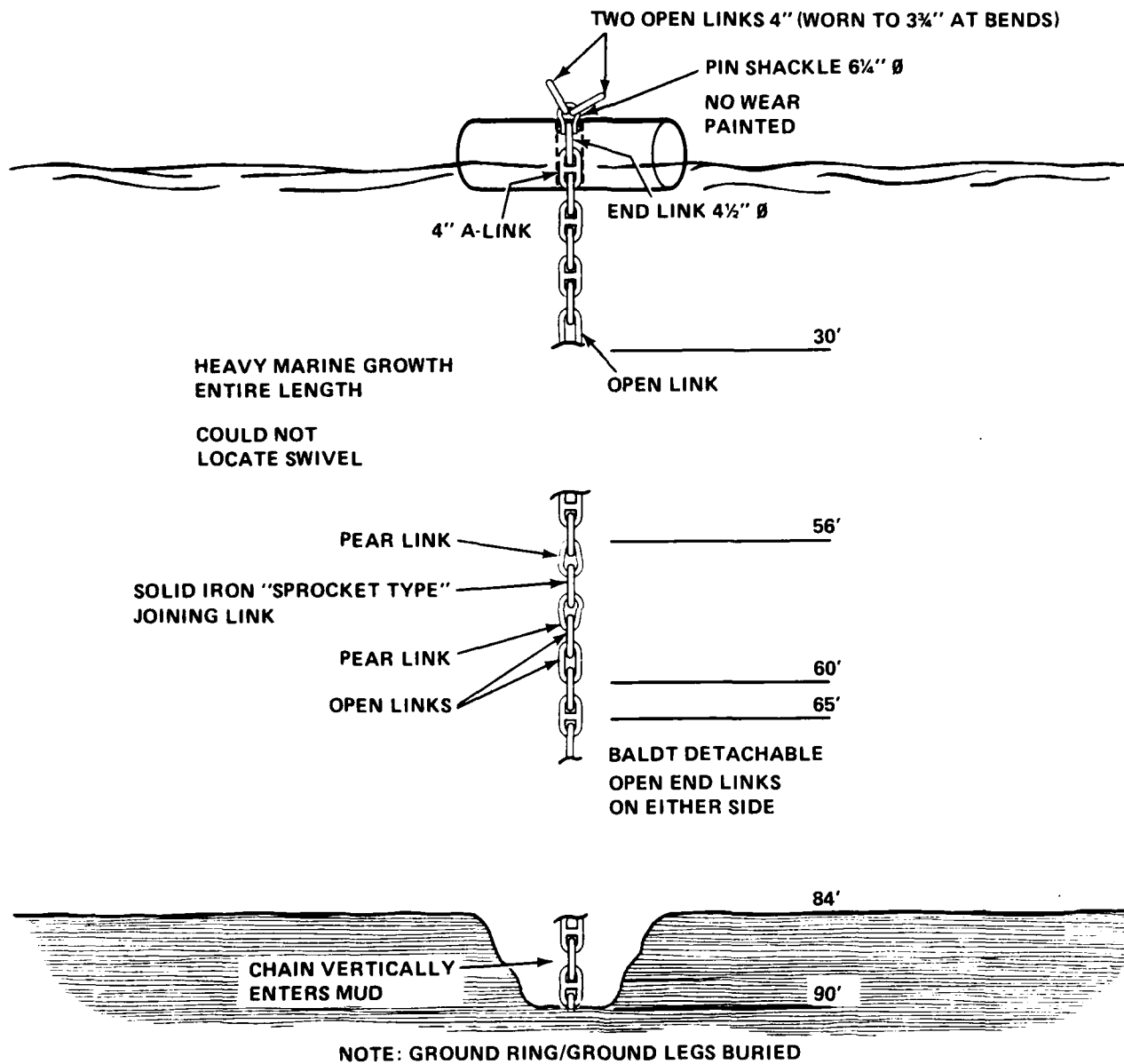
THE MOORING SELECTED IS BASED ON A STANDARD FREE SWINGING RISER TYPE CLASS C-C (CAPABLE OF RESISTING A HORIZONTAL FORCE OF 20,000 LBS) WITH THE FOLLOWING EXCEPTIONS:
 1. THE EXISTING LEGS (RISER CHAIN), BUOYS & ANCHORS WERE SIZED TO UTILIZE EXISTING SURPLUS NAVY STOCK ITEMS LOCATED AT AUGUSTA BAY TARY, HEATHAM ANNE WILLIAMSBURG VIRGINIA, BOTA SPAIN AND JULESBOT MISSISSIPPI.

SPECIAL D ANCHOR WEIGHT 300 LBS

* 1 AWG CP CABLE LENGTH = 30'

FIGURE 3. MOORING A-3 SCHEMATIC

1 of 2



MOORING A-3 RISER AS-BUILT

FIGURE 4. MOORING A-3 AS-BUILT CONFIGURATION

and other components which measure 90 percent or greater of original wire diameter are considered to be in "good" condition; a measurement between 80 and 90 percent of original diameter is considered "fair" condition and is cause for the mooring to be downgraded in classification; any measurement less than 80 percent is considered "poor" and is cause for the mooring to be declared unsatisfactory for fleet use.

Standard underwater inspection procedures do not call for the inspection of any part of the mooring which has been buried. The riser was observed only to the point at which it became buried; no attempt was made to locate and inspect the ground legs, anchors, or other mooring materials which were not visible.

2.2 Buoy

2.2.1 Buoy Topside. The buoy was inspected to determine its general condition. The buoy markings were checked for conformance to those noted in applicable charts. The diameter and freeboard of the buoy were recorded.

The buoy's fenders were checked for integrity and secure connection to the buoy. Buoy top jewelry was measured with calipers to find the overall outside dimensions and areas of most severe reduction in wire size.

2.2.2 Buoy Lower Portion. Divers inspected the buoy below the waterline. The thickness of marine growth was recorded, 1-foot-square areas were selected and cleared of growth without damaging the paint and the condition of the paint was noted.

2.3 Riser. In order to check for corrosion and wear, double link measurements were taken near the top of the riser, close to the mudline, and about halfway in between.

2.4 Ground Ring. Not visible for inspection.

2.5 Ground Legs. Not visible for inspection.

2.6 Anchors. Not visible for inspection.

3.0 INSPECTION SUMMARY

Detailed information concerning the inspection results is contained in Annex A. Annex B contains reference material including a copy of the preliminary report of the results of the inspection.

The data gathered during the inspection indicates the following:

- o There is no record of mooring usage since 1981.
- o The riser consists of various sizes of oversized chain and accessories which indicates that available vice designed mooring material components were used during the installation of the mooring. All measurements were greater than 90 percent of the original wire diameter.
- o The ground ring, ground legs, and anchors are buried in the bottom and their condition could not be ascertained.

4.0 COMMENTS AND RECOMMENDATIONS

- o Due to lack of usage, the requirement to operate and maintain this mooring should be reviewed.
- o The mooring is in satisfactory condition for continued use as a class CC mooring.

ANNEX A
INSPECTION RESULTS

A-1

MOORING A-3
INSPECTION RESULTS AND RECOMMENDATIONS

Buoy

This is a 7-foot diameter, 13-foot long cylindrical-type buoy with a hawsepipe. The buoy is painted and shows no sign of damage. The top jewelry is painted and shows no evidence of usage. The fenders are in good condition.

Riser

The riser is heavily encrusted with marine growth. Several areas were cleaned and double link measurements taken. The riser consists of various sizes of chain and accessories all of which were larger than the 3 1/2 inches required for a class CC mooring. Sizes ranged from 3 5/8 inches to 4 1/8 inches and all measurements were greater than 90 percent of the links' original wire diameter. The riser swivel was not located but could be hidden beneath the heavy mussel growth. The riser drops vertically into the bottom.

Ground Ring/Ground Legs/Anchors

None visible for inspection.

Comments/Recommendations

On the basis of the good condition of the buoy and riser chain, this mooring is considered to be in satisfactory condition for continued use as a CC class mooring.

MARKING NO. A-3 CLASS CC LOCATION: SICILY AUGUSTA BAY LAT: 37°12'-22" LONG: 15°12'-50"E (SEE NOTE BELOW)
 WATER DEPTH: 84' ANCHOR SIZE/TYPE: NI BUOY TYPE: BUOY WITH HAWSEPIPE

BOTTOM TYPE: SAND MUD CLAY CORAL ROCK VISIBILITY 5' NI = not inspected, inaccessible

COMPONENTS	NI	NEW	CONDITION				COMMENT
			SINGLE LINK %	DOUBLE LINK %	D		
BUOY HARDWARE			90+	80+	80+	80-	
SHACKLE		6 1/4"					7' DIAMETER / 13' LONG CYLINDER TYPE
OPEN LINK		4"					BUOY WITH HAWSEPIPE, GOOD CONDITION
OPEN LINK		3 3/4"					TOP JEWELRY PAINTED - GOOD CONDITION LITTLE WEAR.
RISER				VVV	10'		HEAVY MARINE GROWTH ON RISER. SEVERAL
				VVV	56'		DIFFERENT SIZES OF CHAIN AND CONNECTING
				VVV	84'		LINKS. ALL GREATER THAN 3 1/2" CHAIN.
GROUND RING							DUE GROWTH, SWIVEL NOT LOCATED.
UPPER END							GROUND RING / GROUND LEGS BURIED
MIDDLE							IN BOTTOM, NO ANCHORS VISIBLE
ENTERS BOTTOM							
UPPER END							
MIDDLE							
ENTERS BOTTOM							
UPPER END							
MIDDLE							
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ENTERS BOTTOM							
UPPER END							
MIDDLE							
ENTERS BOTTOM							

NOTE: LAT/LONG DETERMINED FROM
 SIGHTINGS ON THREE FIXED
 LOCATIONS

DATE: 29 SEPT 83 ENGINEER IN CHARGE: LTDR G. SELTZER DIVERS: SELTZER/PEACOCK/DEEN/HILNITKILVICZ

ANNEX B

REFERENCES

CHESNAVFACENGC COM WASHINGTON DC
 NAS SIGONELLA IT
 INFO CINCUSNAVEUR LONDON UK
 COMFAIRMED NAPLES IT
 COMNAVFACENGC COM ALEXANDRIA VA
 CINCLANTFLT NORFOLK VA
 LANTNAVFACENGC COM NORFOLK VA
 LANTNAVFACENGC COM BRO NAPLES IT
 UCT ONE

UNCLAS //N11000//

SUBJ: FLEET MOORING INSPECTION, AUGUSTA BAY, IT

1. AS DISCUSSED IN A MEETING BETWEEN LCDR TERRY {NAS APW03} AND
 LCDR SELTZER {CHESNAVFACENGC COM} ON 29 SEP 83, A CHESNAVFACENGC COM/UCT-
 ONE UNDERWATER INSPECTION OF THE A-3 MOORING AT AUGUSTA BAY WAS CON-
 DUCTED ON 28-29 SEP 83. THIS IS A PRELIMINARY REPORT OF THE INSPEC-
 TION RESULTS TO PROVIDE SIGNIFICANT FINDINGS.

A. MOORING A-3: OVERSIZED CHAIN FOUND TO BE IN GOOD CONDITION.
 BUOY IN GOOD CONDITION.

BUOY LOCATED IN EXACT

POSITION INDICATED ON DMA CHART 53201.

DISTR

ORIGINATOR'S NAME (TYPE OR PRINT NAME)

G. H. SELTZER

FPO-1PM

SPECIAL INSTRUCTIONS

COPY TO: FPO-1PM DAILY...

36608

18 OCT 83

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E. B. SPENCER, ASST HD, OCEAN PRO

UNCLASSIFIED

2419020078

B. PORT LIASON OFFICER REPORTED THAT MOORING HAS NO RECORD OF USAGE SINCE 1981. RECOMMEND REVIEW REQUIREMENT.

2. ANTICIPATE DISTRIBUTION OF DETAILED INSPECTION REPORT IN DECEMBER 1983.

3. CHESNAVFACENGCOM POINT OF CONTACT IS LCDR G. H. SELTZER AT (202) 433-3881 OR A/V 288-6608.

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DISTR:

DRAFTER TYPED NAME TITLE OFFICE SYMBOL AND PHONE

SPECIAL INSTRUCTIONS

TYPED NAME TITLE OFFICE SYMBOL AND PHONE

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SECURITY CLASSIFICATION

UNCLASSIFIED

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NAVAL MISHAP

AUGUSTA PORT AUTHORITY HAS REPORTED THAT ON 17 APRIL 81 AT 0100 THE JUGOSLAVIAN SHIP KRUSEVAC HAS STRUCK AGAINST ALPHA BUOY WHILE MANOUVERING TO LEAVE THE HARBOR. FROM A SURVEY PERFORMED BY ITALIAN NAVY DIVERS IT HAS BEEN ASCERTAINED A 60 CENTIMETERS CUT BELOW THE WATER LINE OF SUBJECT BUOY. A SMALL BUOY WITH CABLE HAS BEEN ATTACHED TO MARK THE POSITION OF THE ALPHA BUOY IN CASE IT SINKS. PORT AUTHORITY HAS ARRANGED TO SECURE A DEPOSIT. BUOY NOT USABLE.

95153634+595153634+95153634+
24/25 29.05
53634 NEPIA G
372188 NAFSIG I

FROM ASSISTANT PUBLIC WORKS OFFICER
NAF SIGONELLA, SICILY
TO TELEX 951-53634 NEPIA G
ATTENTION: MR ECCLESTON AND MR KING

IN REPLY TO YOUR TELEX OF 17 JUNE,

REPAIRS TO THE A-3 BOUY POSITIONED AT AUGUSTA BAY ARE REQUIRED IMMEDIATELY, ALL REPAIRS ARE TO BE PERFORMED UNDER YOUR CARE AND GUIDANCE, IF YOU AGAIN FAIL TO COMMENCE REPAIR OF THE BOUY AS PREVIOUSLY REQUESTED IN OUR 20 MAY LETTER AND AGAIN IN OUR 15 JUNE TELEX, WE WILL DIRECT THE HARBORMASTER TO EFFECT REPAIRS WITH OWNED FUNDS CURRENTLY HELD BY HIS OFFICE.

IT SHOULD BE BROUGHT TO YOUR ATTENTION, THAT THE CONDITION OF THE BOUY HAS DETERIORATED AND IS IN DANGER OF SINKING AND FURTHER DELAY IN REPAIRING THE BOUY WILL SIGNIFICANTLY INCREASE THE REPAIR COST. YOUR REPRESENTATIVE IN AUGUSTA HAS BEEN INFORMED OF ACTIONS.K

53634 NEPIA G
372188 NAFSIG IV
2905

970122 MASSIG I

FROM: ASSISTANT PUBLIC WORKS OFFICER
MAS SICONELLA SICELY

TO: CAPT NICOLO PATRI
ROMPER I
AUGUSTA

REF: ALPHA 3 MOORING BUOY DAMAGED BY M/M ERISEVAC

1. SUBJECT BUOY HAS BEEN RESTORED AND RELOCATED IN ITS PREVIOUS POSITION. REQUEST YOU SURVEY, IN BEHALF OF U.S. NAVY, SAID BUOY AND ADVISE RESULTS OF YOUR INSPECTION. REGRET UNABLE TO HAVE U.S. NAVY REPRESENTATIVE ON SITE. VERY MUCH APPRECIATE YOUR ASSISTANCE EFFORTS OVER THE LAST YEAR.

REGARD, LCDR PIZZANO

SINCERELY, SUSAN JONES

970122 ROMPER I
970122 MASSIG IOWA
0024

END

FILMED

6-86

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