AD-A167 247 PUBLIC WORKS CENTER PEARL HARBOR FLEET MOORINGS UNDERWATER INSPECTION REPORT(U) NAVAL FACILITIES ENGINEERING COMMAND WASHINGTON DC CHESAPEAKE DIV 1/3

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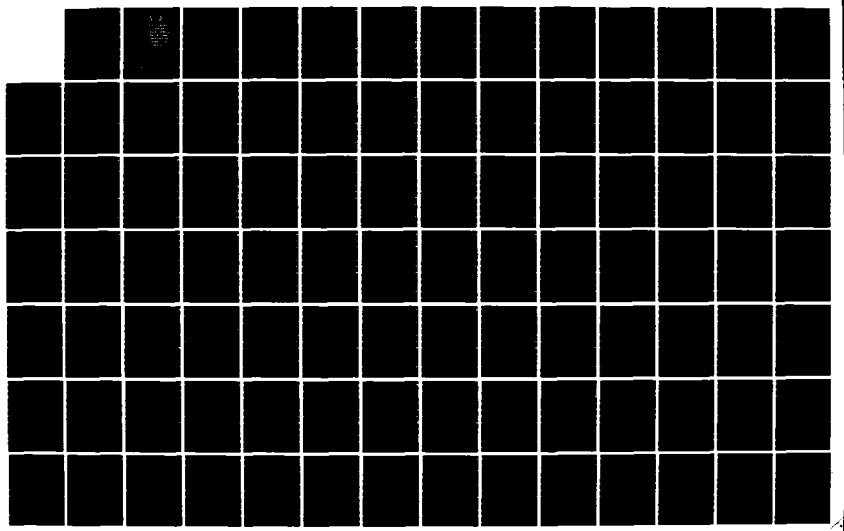

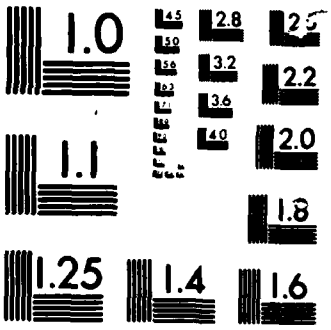

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PUBLIC WORKS CENTER PEARL HARBOR FLEET MOORINGS UNDERWATER INSPECTION REPORT

SEPTEMBER 1983

OCEAN ENGINEERING
AND CONSTRUCTION PROJECT OFFICE
CHESAPEAKE DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON, D.C. 20374

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ABSTRACT

During the period 3 through 13 May 1983, a CHESNAVFACENGCOM Engineer-in-Charge and divers from Underwater Construction Team Two (UCT TWO) conducted an inspection of the 42 fleet moorings operated and maintained by PWC Pearl Harbor. Eighteen of the moorings were found to be in good condition, three should not be used due to major discrepancies, and twenty-one were found to be in satisfactory condition for continued use within the constraints of their load capacities. Key words: Mooring inspection, Underwater inspection, Fleet moorings.

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PEARL HARBOR
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 42 fleet moorings located at Pearl Harbor. The actual underwater portion of the inspection was performed by divers of Underwater Construction Team Two (UCT TWO), which was tasked to conduct the inspection by CINCPACFLT message 210331 2 AUG 82. The inspection of these moorings was conducted during the period 3-13 May 1983.

1.2 General Mooring Descriptions. PWC Pearl Harbor currently operates and maintains 42 fleet moorings. These consist of the following classes of moorings:

Class	Number
A	6
C	6
D	10
F	8
G	12
Total	42

The geographical locations of these moorings in relation to the Pearl Harbor complex are shown in Figure 1. The majority of these moorings are positioned in the Middle Loch, where they are used to moor those inactive ships assigned to the Inactive Ship Maintenance Facility. Enlarged drawings of this Loch showing the intended positions of the moorings are contained in Figures 2 through 4.

As a result of the passage of Hurricane Iwa through Pearl Harbor on 23 November 1982, mooring D8S failed and a number of others were displaced various distances. A number of the moorings in the Middle Loch (D5N, D5M, D5S, D6N, D6M, and D6S) are not currently in the intended positions as shown in Figures 2 through 4. When funds become available, these displaced moorings will be reinstalled in their correct locations. PWC Memorandum 1011 of 30 November 1982, a copy of which is contained in Annex C, is a report on the effects of the hurricane on the positions of the installed fleet moorings.

The designs of the PWC Pearl Harbor mooring systems and their mooring components vary greatly from the standard designs contained in DM-26. For example, the anchors of all of these moorings consist of concrete clumps, concrete anchors, or combinations of both. In addition, the reported classes of most of the moorings are significantly lower than the classes desired when these moorings were initially installed. PWC Pearl Harbor moorings were downgraded in classification as a result of discrepancies noted during a November 1979 underwater inspection.

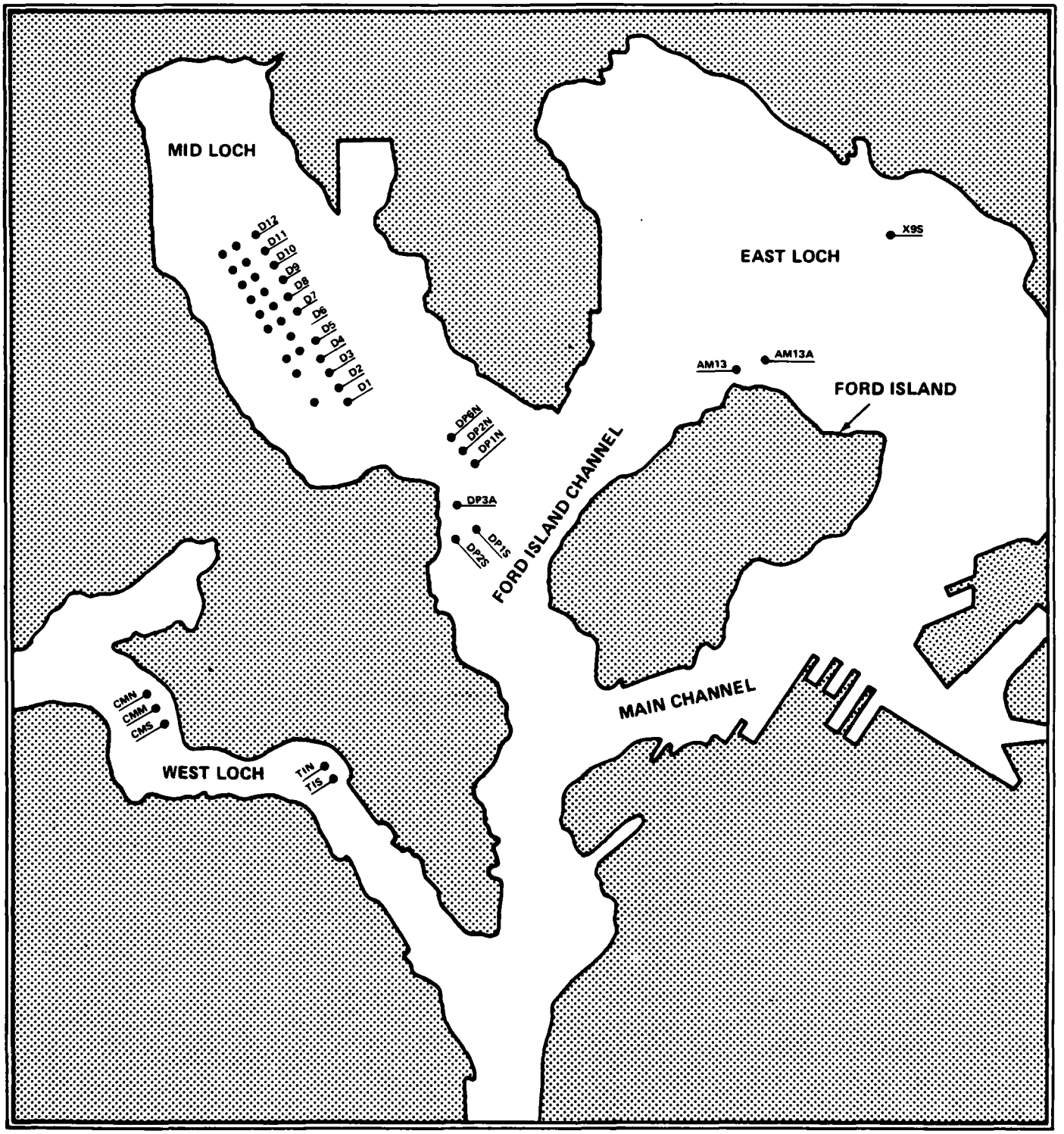


FIGURE 1. PEARL HARBOR FLEET MOORING LOCATION PLAN

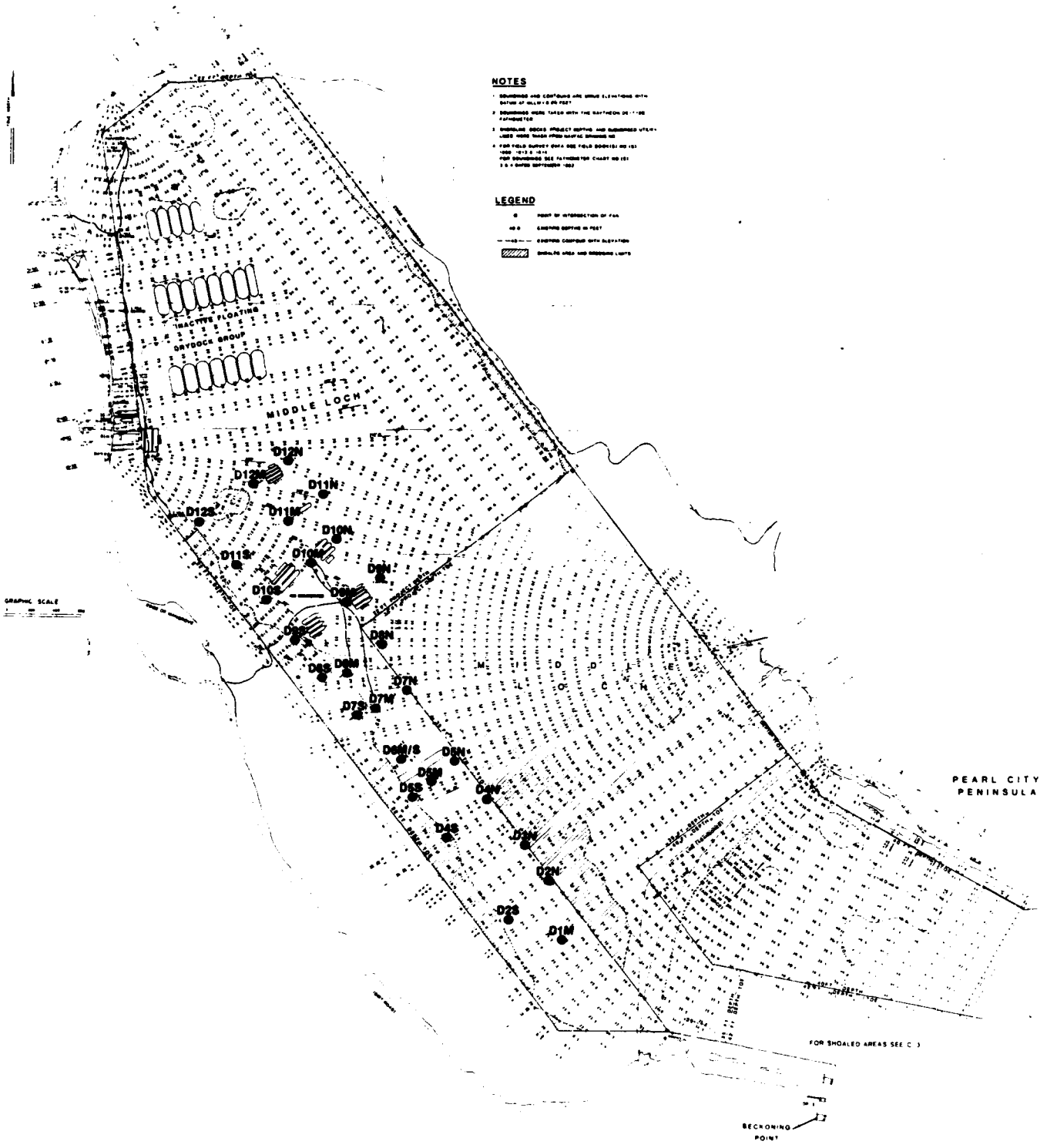


FIGURE 2. FLEET MOORING LOCATIONS IN MIDDLE LOCH

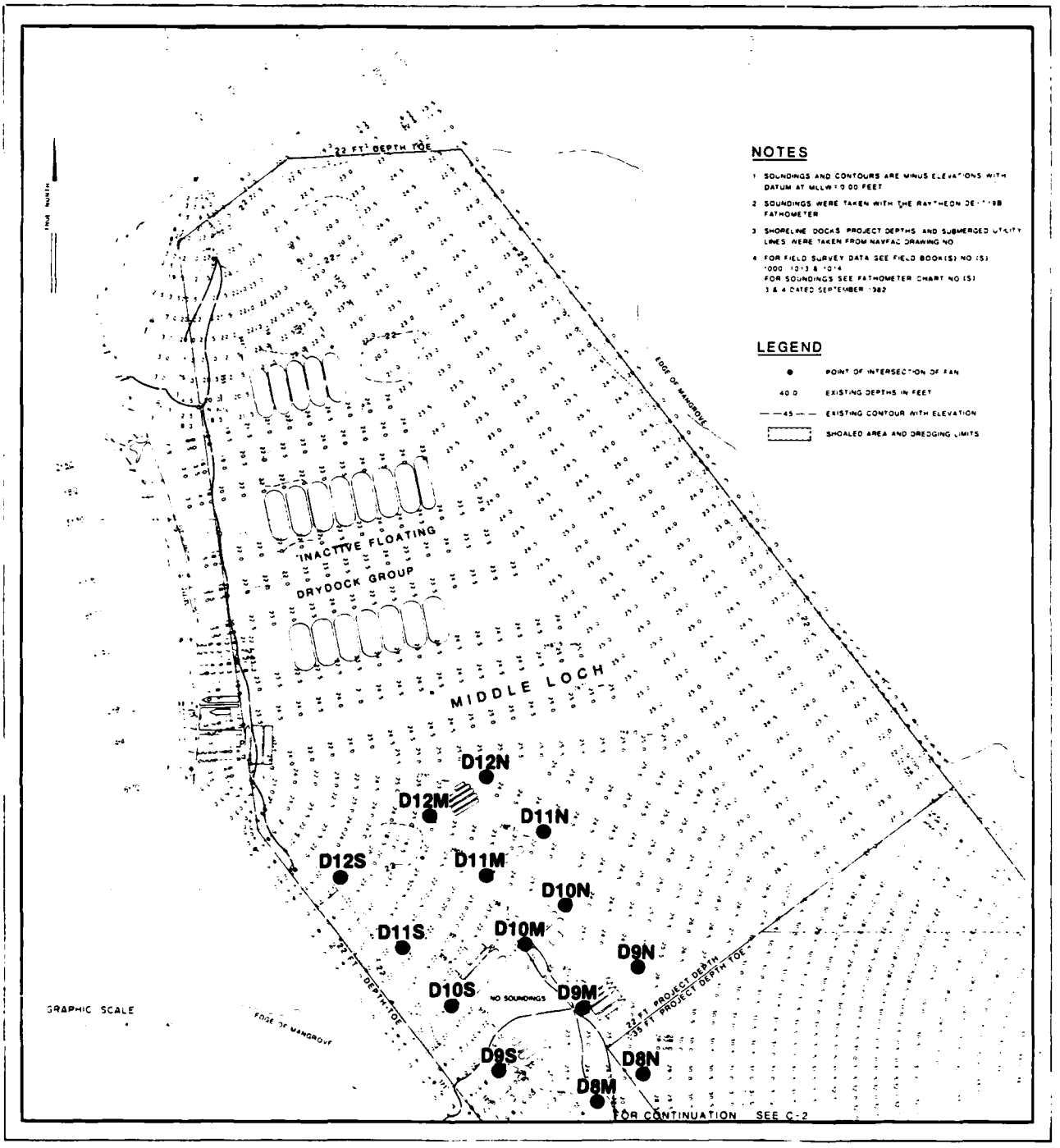


FIGURE 3. FLEET MOORING LOCATIONS IN NORTH MIDDLE LOCH

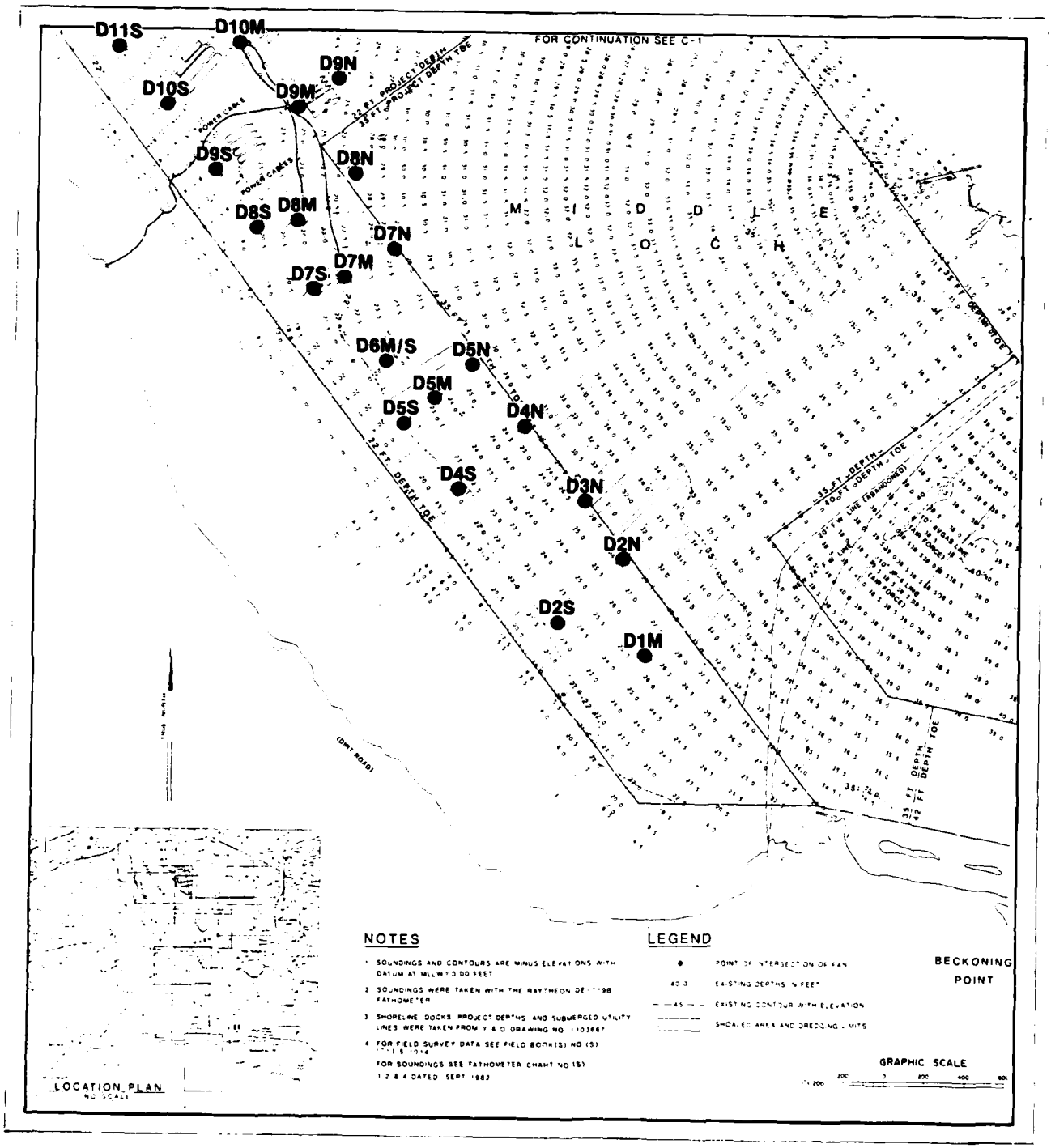


FIGURE 4. FLEET MOORING LOCATIONS IN SOUTH MIDDLE LOCH

2.0 INSPECTION PROCEDURES

2.1 General. The purpose of the mooring inspections was to determine the general physical condition of buoys and chain assemblies and, when possible, 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 were taken where chain was slack to detect corrosion loss. "Double link" measurements were taken where two links connect under tension to detect the combined effects of corrosion and wear. Chain links 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. Ground legs and risers were observed only to the point at which they became buried; no attempt was made to locate and inspect anchors or other mooring materials which were not readily visible.

2.2 Buoys.

2.2.1 Buoy Geographic Position. PWC Pearl Harbor has contracted for a commercial survey of the moorings due to hurricane caused damage and displacement. In view of this impending survey, the inspection team did not attempt to determine the geographic positions of the buoys. However, the EIC requested PWC Pearl Harbor personnel to forward a copy of the survey results to CHESNAVFACENGCOM.

2.2.2 Buoy Topside. Each 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. Physical damage such as holes, dents, or listing was described. Figerglass-coated buoys were inspected for cracks, wear, peeling, or rust-bleeding.

Buoy fenders and chafing rails 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.

2.2.3 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 or fiberglass, and the condition of the paint or fiberglass was noted.

2.3 Risers. To determine chain wear, each riser chain was inspected by taking three consecutive measurements, using 2 3/4-inch go/no-go gauges. When the riser deviated from 2 3/4 inches, calipers were used to determine the actual wire diameter of the riser.

2.4 Ground Rings. When visible, ground rings were examined for general and localized wear. Caliper measurements were made of the wire size in the region of suspected wear. The depth of water at the ground ring was recorded by the divers.

2.5 Ground Legs. In cases where ground legs were visible, three consecutive double link measurements were attempted at the ends and near the center of each leg. During this inspection, however, only portions of a small number of legs were visible.

2.6 Anchors/Sinkers. Most anchors and sinkers were buried. The hairpins of the few that were partially visible were measured, and the results reported by the divers.

3.0 . INSPECTION SUMMARY

An in-depth discussion of the inspection results is presented in Annex A. Annex B contains photographs, and Annex C contains a copy of the preliminary report of the results of the inspection.

The data gathered during the inspection indicates the following:

- Of the 42 mooring systems inspected, 18 were found to be in good condition, 3 are now considered unusable due to major discrepancies, and 21 were found to be in satisfactory (fair) condition. Table 1 presents the current status of the Pearl Harbor fleet moorings.

Table 1. PWC Pearl Harbor Fleet Mooring Status

Mooring Number	Current Mooring Class	Good Condition	Fair Condition (Downgrade)	Poor Condition (Unusable)	Comments
AM13	D			X	Ground legs displaced/ anchors side by side
AM13A	C			X	Riser worn to 55% of original size
CMN	G	X			Good condition
CMM	G			X	Riser worn to 25% of original size
CMS	G		X		Riser badly worn but satisfactory for G class
D1M	G		X		Riser badly worn but satisfactory for G class
D2N	D		X**		Riser badly worn-downgrade to F class
D2S	G		X		Riser worn but satisfactory for G class
D3N	G		X		Riser worn but satisfactory for G class

Table 1. PWC Pearl Harbor Fleet Mooring Status (Continued)

Mooring Number	Current Mooring Class	Good Condition	Fair Condition (Downgrade)	Poor Condition (Unusable)	Comments
D4N	G		X		Riser worn but satisfactory for G class
D4S	G		X		Riser badly worn but satisfactory for G class
D5N	F		X		Buoy listing badly-needs repair
D5M	G		X		Riser badly worn but satisfactory for G class
D5S	G		X		Riser badly worn but satisfactory for G class
D6M/6S	D	X			Good condition
D7N	D	X*			Good condition
D7M	C	X*			Good condition
D7S	D	X*			Good condition
D8N	D	X*			Good condition
D8M	C	X*			Good condition
D8S	D	X*			Good condition
D9N	A	X*			Good condition
D9M	A	X*			Good condition
D9S	A	X*			Good condition
D10N	F		X		Riser badly worn but satisfactory for F class
D10M	F		X		Riser badly worn but satisfactory for F class
D10S	F		X		Riser badly worn but satisfactory for F class
D11N	D		X		Riser badly worn but satisfactory for D class
D11M	D		X		Buoy needs repair. Top jewelry detach needs replacement
D11S	D		X		Riser worn but satisfactory for D class
D12N	F		X		Buoy needs refurbishment
D12M	F		X		Riser worn but satisfactory for F class
D12S	F		X		Riser worn but satisfactory for F class
DP1N	A	X*			Good condition
DP1S	A	X*			Good condition
DP2N	C	X*			Good condition
DP2S	C	X*			Good condition
DP3A	F		X		Measurements not taken. Satisfactory for F class
DP6N	C		X		Riser worn but satisfactory for C class

Table 1. PWC Pearl Harbor Fleet Mooring Status (Continued)

Mooring Number	Current Mooring Class	Good Condition	Fair Condition (Downgrade)	Poor Condition (Unusable)	Comments
T1N	G	X			Riser worn but satisfactory for G class
T1S	G	X			Anchor hairpin worn but satisfactory for G class
X9S	A	X*	—	—	Good condition
Totals:		18	21	3	

*Mooring overhauled during the past 18 months.

**Riser worn to 1 1/4 inches from original 2 3/4 inches (45 percent). Downgrading to F class mooring recommended.

- Of the 18 moorings found to be in good condition, 14 were overhauled during the past 18 months.
- Of the 21 moorings found to be in fair condition, only one should be downgraded. Mooring D2N has excessive riser chain wear and should be downgraded from a class D to a class F moooring. The other 20 moorings reveal significant chain wear, but because oversize chain was used in the as-built configurations, they still meet the requirements set forth in DM-26 for their particular class designations.
- Buoy D11S is the only one which was found to have a tension bar. The other 41 buoys contained hawsepipes.
- The exterior of Buoy D5N shows evidence of damage, and the buoy is riding on its side (a 90-degree list). The internal watertight integrity of this buoy is highly questionable.
- The top link of the riser chain in Mooring D12N is worn to less than 75 percent of its original wire diameter. This mooring buoy has a 60-degree list, and its chafing rail has rusted away.
- The chafing rail and top deck plate of Buoy D12M are about 50 percent rusted away and a detachable link in its top jewelry is worn to less than 80 percent of its original wire diameter.
- The ground legs of all but portions of three moorings were completely buried in the bottom.
- Although the exterior of Buoy D11N appears to be in satisfactory condition, its internal integrity is questionable since the buoy is floating on its side.
- The fenders of five mooring buoys (AM13A, D5N, D6M/6S, D11M, and D12S) are either damaged, loose, or missing sections.

- Three moorings (AM13, AM13A, and CMM) were found to be in poor condition with each having at least one major deficiency.

- Cathodic protection systems are not installed on any of the moorings.

- All of the moorings are in relatively shallow water with the majority being in 30 feet of water or less.

- Six of the buoys (AM13, D2N, D3N, D10M, D12N, and D12M) have medium-to-heavy rust on their top deck plates.

- The riser chains of 11 moorings were measured to be less than 80 percent of their original wire diameters.

Detailed information concerning the inspection of each mooring can be found in Annex A.

4.0 COMMENTS/RECOMMENDATIONS

As a result of the evaluation of the data gathered during the inspection, the following comments/recommendations are pertinent:

- The three mooring systems found to be in poor condition (AM13, AM13A, and CMM) should be scheduled for removal and overhaul at the earliest practical time. Until these actions can be accomplished, these moorings should not be utilized.

- Fleet Mooring D2N has excessive riser chain wear and should be downgraded from a class D to a class F mooring.

- Buoys D5N, D11N, and D12N should be thoroughly examined and checked in order to determine the causes of their abnormal lists.

- The worn top link of the riser chain in Mooring D12N should be replaced with a new link.

- Buoy D12M should be recovered and brought ashore for refurbishment.

- The fender systems of five of the mooring buoys (AM13A, D5N, D6M/6S, D11M, and D12S) should be repaired/replaced as required.

- Although the 21 moorings which were determined to be in fair condition should have sufficient capacity to withstand the maximum loads of their current mooring class designations, these moorings should be overhauled and upgraded as soon as feasible in order to meet the original mooring class requirements as shown in the PWC Pearl Harbor Fleet Mooring Data Sheets contained in Annex A.

ANNEX A

MOORING INSPECTION RESULTS

This Annex contains the following information for each mooring:

- o A summation of inspection data obtained by the CHESNAVFACENGCOM EIC and UCT TWO divers;
- o A diver data reporting form;
- o A Fleet Mooring Data Sheet which was provided to CHESNAVFACENGCOM by PWC Pearl Harbor in April 1983; and
- o A schematic drawing of the mooring.

INSPECTION RESULTS

AM 13

Buoy

This is a 12-foot-diameter drum-type buoy with 6-foot-high side plating. The top and bottom fenders and the chafing rail are made of timber and are all in good condition. The buoy has a hawsepipe through which passes 2 3/4-inch riser chain. The top of the buoy is moderately rusted, and the buoy has a slight list which could indicate a leak in its watertight integrity.

Riser

The riser chain measured betwen 80 and 90 percent of its original 2 3/4-inch wire diameter. The ground ring was located at a depth of 20 feet, and its wire diameter measured to be 2 5/8 inches or only 73 percent of its initial 3 1/2-inch diameter. In addition to two ground legs, the ground ring has a 20,000-pound concrete sinker attached to it with a connecting link.

Ground Legs

This mooring has two ground legs each of which was measured to be greater than 90 percent of original wire diameter. Although both legs are partially buried, their upper and lower ends were visible.

Anchors

The two 60,000-pound concrete anchors are located side by side in 2 to 3 feet of water near Ford Island and bear about 135°M, 85 feet from the buoy. Each ground leg is joined to a concrete anchor hairpin by a detachable link. The top sections of both anchors are above the surface of the water. The hairpin of one anchor is worn to 1 7/8 inches from its original size of 2 1/4 inches.

Recommendations

This mooring is in unsatisfactory condition for continued fleet use because the anchors and buoy are displaced, and the ground ring measures below 80 percent of its original wire diameter. Recommend that the mooring be recovered, inspected, overhauled, and reinstalled in its proper location.

MOORING NO.: AM13 CLASS: C/D LOCATION: FORD IS. LAT: 21°22'30.5" LONG: 157°57'58"

WATER DEPTH: 18' ANCHOR SIZE/TYPE: 2-60K# CONC. BUOY TYPE: 12'φ X 6' HAWSEPIPE

BOTTOM TYPE: ☐ SAND ☒ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility ~6' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION							D	COMMENT
			NEW	SINGLE LINK %			DOUBLE LINK %				
				90+	80+	80-	90+	80+	80-		
BUOY HARDWARE											TOP OF BUOY RUSTED - HATCHES OK
JOINING LINK		✓									NO FIBERGLASS
GROUND RING		✓									WOOD FENDER: GOOD
(NO VISIBLE WEAR)											RUB RAIL: GOOD
											SLIGHT LIST ON BUOY
RISER	NEAR BUOY		2¾"					LL		TOP	2¾ GO/NO-GO GAUGE
	MIDDLE									8	
	NEAR GRD RG				LL			LL		15	
GROUND RING								✓		20	2⅝" DIA. FROM LARGEST 3½" DIA.
GROUND LEG NO. A	UPPER END			2¾"			5¾"				
	MIDDLE										ANCHORS ARE AWASH, SIDE -
	ENTERS BOTTOM			2½"							BY SIDE IN ~2' OF WATER @
GROUND LEG NO. B	UPPER END										85' FROM BUOY BEARING 135°T
	MIDDLE			2¾"			5¾"	5½"			HAIRPIN ON ANCHOR MEASURED
	ENTERS BOTTOM			2¾"			5⅞"				AT 1⅜" FROM GR16. 2¼"
GROUND LEG NO. C	UPPER END										
	MIDDLE										
	ENTERS BOTTOM										
GROUND LEG NO. D	UPPER END										
	MIDDLE										
	ENTERS BOTTOM										

DATE: 5·5·83 ENGINEER IN CHARGE: THOMAS DIVERS: AUSTIN / REIST

FLEET MOORING DATA SHEET

MRG ID = AM13 GENERAL LOC = Ford Island (Near F-13) DES CLASS = C (*)

DATE ESTAB = 1943 DEPTH = 31.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-30.5" LONG. COORD. (W) = 157°-57'-38.0"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12' ϕ x 6' hi

FENDER = Wood FIBERGLASS COATING = No

CHAIN SIZE = 2¾"

SINKER = 1 WT. OF SINKER = 20,000 # PADEYE SIZE = 2¼" ϕ

OF ANCHORS = 2

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2¼" ϕ
ANCHOR 2 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 3 WT =	—	PADEYE SIZE =	—
ANCHOR 4 WT =	—	PADEYE SIZE =	—

USAGE DURING PAST YEAR = 0 days

TYPE OF SHIPS MOORED = CV

DATE OF LAST REPAIR/COST = 1977 / $4,050

DATE OF LAST OVERHAUL/COST = ?/?

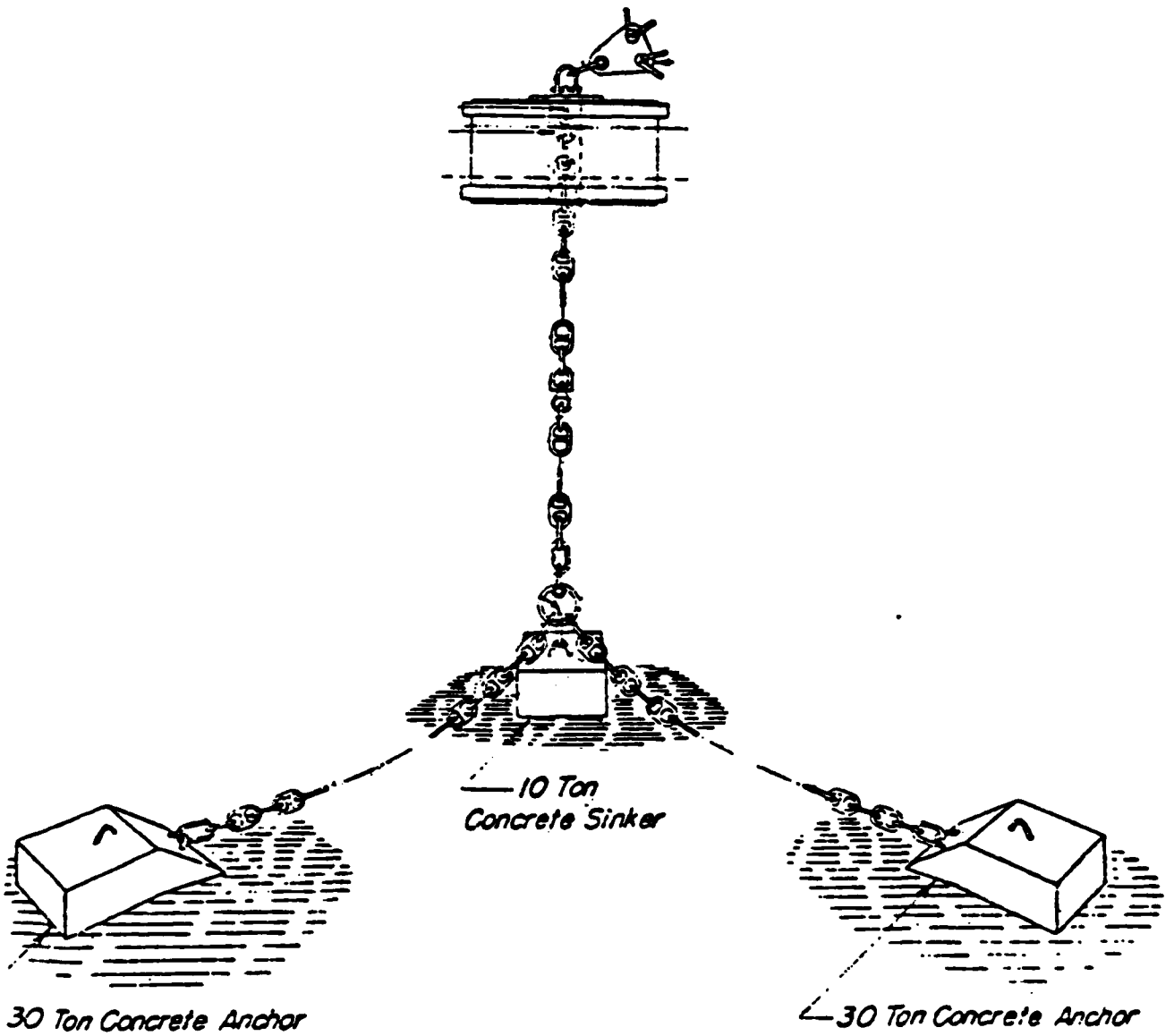
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESSIV (UCT Two)

NEXT SCHED. REPAIR = 1985

NEXT SCHED. OVERHAUL = 1987

DATE SHEET COMPILED = 8-82/MS

(*) Down-graded to Class D after 1979 U/W Insp.



MOORING AM13
SCHEMATIC DRAWING

INSPECTION RESULTS

AM 13A

Buoy

The buoy is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. One section of the top wooden fender is missing but the lower fender and chafing rail are in good condition. Above the water line, the buoy is moderately rusted and some pitting is evident. Below the water line the buoy's hull is covered with moderate marine growth. Top jewelry consists of a shackle and an anchor joining link.

Riser

Just above the mud line, the riser chain is badly worn. One single link measurement in this area showed that the chain was worn to about 55 percent of its initial size while a double link measurement was 3 3/8 inches, about 61 percent of the original 2 3/4-inch wire diameter of the chain. The riser is covered with about 2 inches of marine growth and enters the bottom about 39 feet below the surface of the water.

Anchor

This mooring consists of only a buoy, riser chain, and anchor. The anchor was not visible and could not be inspected.

Recommendations

Due to the badly worn riser chain, this mooring is in unsatisfactory condition for continued fleet usage. Recommend that the mooring be recovered and overhauled and replaced with new material.

MOORING NO.: AM13A CLASS: C LOCATION: FORD IS. LAT: 21°22'31.8" LONG: 157°57'34.3"

WATER DEPTH: 39' ANCHOR SIZE/TYPE: 1-60K# CONC. BUOY TYPE: 12'ϕX6 HAWSEPIPE

BOTTOM TYPE: ☐ SAND ☒ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 6' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION							COMMENT
			NEW	SINGLE LINK %			DOUBLE LINK %			D	
				90+	80+	80-	90+	80+	80-		
BUOY HARDWARE											WOOD FENDER: SECTION BROKEN
SHACKLE		✓									NO FIBERGLASS; HATCHES OK
GROUND RING		✓									RUB RAIL: OK
(NO VISIBLE WEAR)											MODERATE RUST & PITTING AT
											WATERLINE & BELOW
RISER	NEAR BUOY		2¾"	✓✓			✓✓			TOP	
	MIDDLE		↓		✓✓			✓✓		20'	2¾" GO/NO-GO GAUGE
	NEAR GRD RG		↓			✓			✓	39'	ONE MEASUREMENT S/L 1½" / DL 3⅜"
GROUND RING		✓									BURIED
GROUND LEG NO. A	UPPER END	N/A									
	MIDDLE	↓									
	ENTERS BOTTOM										
GROUND LEG NO. B	UPPER END										
	MIDDLE										
	ENTERS BOTTOM										
GROUND LEG NO. C	UPPER END										
	MIDDLE										
	ENTERS BOTTOM										
GROUND LEG NO. D	UPPER END										
	MIDDLE										
	ENTERS BOTTOM	↓									

DATE: 5.5.83 ENGINEER IN CHARGE: THOMAS DIVERS: AUSTIN/REIST

CHESNAVFACENGCOM REPORT FPO-1-83, "PWC PEARL HARBOR FLEET MOORINGS INSPECTION REPORT."

FLEET MOORING DATA SHEET

MRG ID = AM13A GENERAL LOC = Ford Island (Nr. F-13) DES CLASS = C

DATE ESTAB = 1945 DEPTH = 38.0 ft. (Avg) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-31.8" LONG. COORD. (W) = 157°-57'-34.3"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6'hi

FENDER = Wood FIBERGLASS COATING = No

CHAIN SIZE = 2¾"

SINKER = 1 WT. OF SINKER = 60,000 # PADEYE SIZE = 2¼"

OF ANCHORS = —

ANCHOR 1 WT =	—	PADEYE SIZE =	—
ANCHOR 2 WT =	—	PADEYE SIZE =	—
ANCHOR 3 WT =	—	PADEYE SIZE =	—
ANCHOR 4 WT =	—	PADEYE SIZE =	—

USAGE DURING PAST YEAR = 0 days

TYPE OF SHIPS MOORED = CV

DATE OF LAST REPAIR/COST = 1977 / $4,050

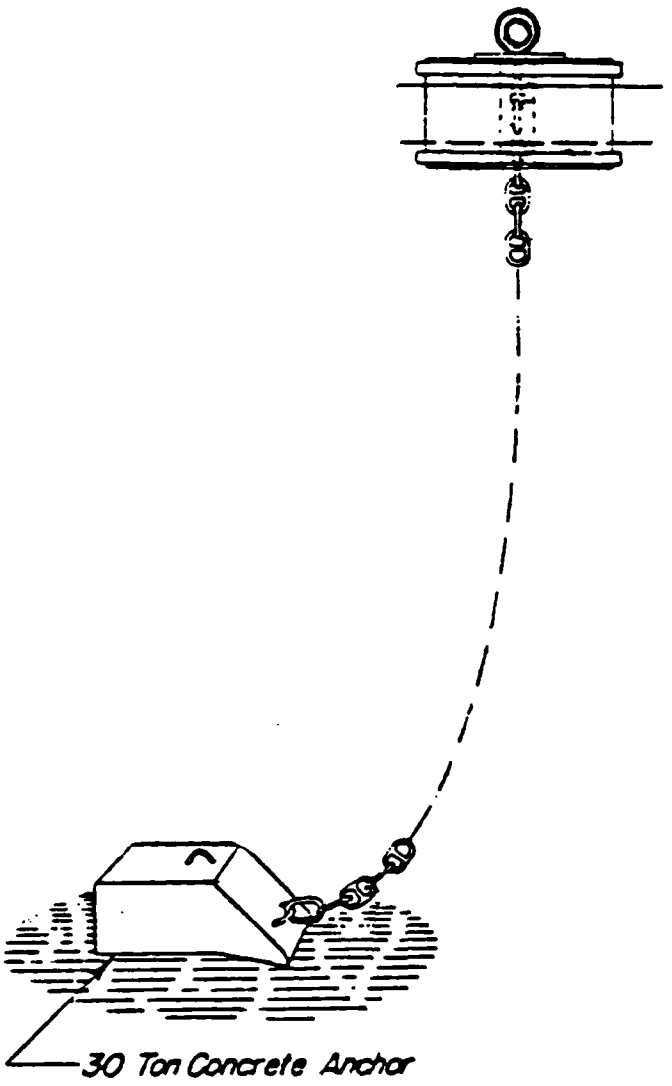
DATE OF LAST OVERHAUL/COST = ? / ?

DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT TWO)

NEXT SCHED. REPAIR = 1985

NEXT SCHED. OVERHAUL = 1987

DATE SHEET COMPILED = 8-82/MS



MOORING AM13A
SCHEMATIC DRAWING

INSPECTION RESULTS

CMN

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. It is fiberglass coated and has two rubber fenders and a 2-inch pipe chafing rail. The buoy is in good condition.

Riser

Although the Fleet Mooring Data Sheet obtained from PWC Pearl Harbor lists the riser chain as being 2 3/4 inches in diameter, the actual wire diameter of the riser is 2 inches. The riser, which is comprised of Dilok chain, enters the bottom at 40 feet. All double link measurements were greater than 90 percent of original wire diameter.

Anchor

This mooring consists of only a buoy, riser, and anchor. The anchor was not visible and could not be inspected.

Recommendation

This mooring is in satisfactory condition for continued use as a class G mooring.

MOORING NO.: CMN CLASS: G LOCATION: WEST LOCH LAT: 21°21'26.8" LONG: 157°59'34.3"

WATER DEPTH: 40' ANCHOR SIZE/TYPE: 1-34K# CONC BUOY TYPE: 12'ϕ X 6' HAWSEPIPE

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK (IN USE)

Visibility 2' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION NEW	SINGLE LINK % 90+	SINGLE LINK % 80+	SINGLE LINK % 80-	DOUBLE LINK % 90+	DOUBLE LINK % 80+	DOUBLE LINK % 80-	D	COMMENT
BUOY HARDWARE											RUBBER FENDER: GOOD
DETACH LINK		✓									FIBERGLASS: GOOD
P.S. LINK		✓									
(NO VISIBLE WEAR)											RISER CHAIN IS 2" PER AS-BUILTS
											VICE 2¾" ON 1982 DATA SHEET
RISER	NEAR BUOY		2"		✓✓		✓✓		✓	TOP	D/L 3 1/16", 3 5/8", 3 5/8" / S/L 1¾", 1¾", 1¾"
	MIDDLE		↓	✓✓	✓		✓✓		✓	20'	D-L 3", 4 1/8", 4 1/8" / S-L 1 5/8", 1¾", 1¾"
	NEAR GRD RG		↓		✓✓		✓✓	✓		40'	D-L 3½", 3 3/8", 3 5/8" / S-L 1¾", 1 11/16", 1¾"
GROUND RING		✓									ANCHOR BURIED
GROUND LEG NO. A	UPPER END		N/A								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. B	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. C	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. D	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								

DATE: 5·5·83 ENGINEER-IN-CHARGE: THOMAS DIVERS: SPEER/TEUCANOW

FLEET MOORING DATA SHEET

MRG ID = CMN GENERAL LOC = West Loch DES CLASS = G

DATE ESTAB = 1943 DEPTH = 39.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-21'-26.8" LONG. COORD. (W) = 157°-59'-34.3"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6' hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = (2¾") *

SINKER = 1 WT. OF SINKER = 34,000 ± PADEYE SIZE = 2¼" ϕ

OF ANCHORS = 0

ANCHOR 1 WT =	—	PADEYE SIZE =	—
ANCHOR 2 WT =	—	PADEYE SIZE =	—
ANCHOR 3 WT =	—	PADEYE SIZE =	—
ANCHOR 4 WT =	—	PADEYE SIZE =	—

USAGE DURING PAST YEAR = 365 days

TYPE OF SHIPS MOORED = caisson

DATE OF LAST REPAIR/COST = 1977 / $2,750

DATE OF LAST OVERHAUL/COST = 5-70 / ?

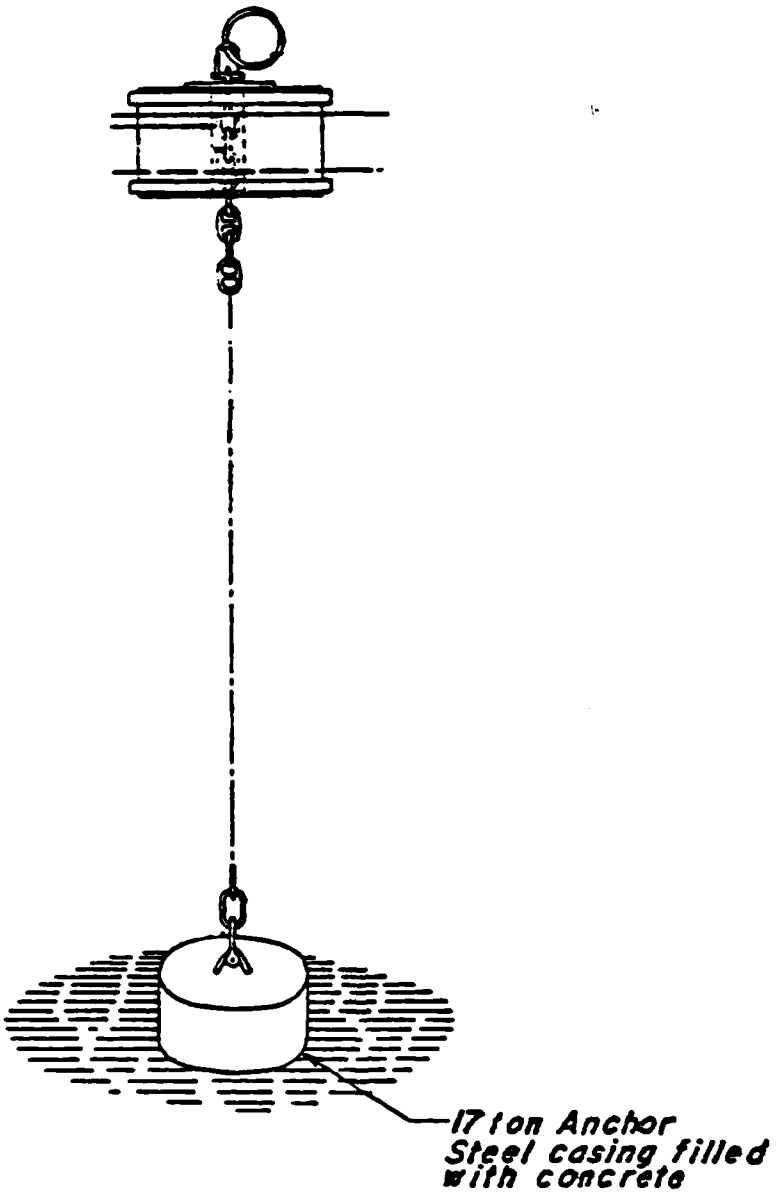
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT TWO)

NEXT SCHED. REPAIR = 1988

NEXT SCHED. OVERHAUL = 1985

DATE SHEET COMPILED = 8-82/MS

* RISER CHAIN SIZE MEASURES 2" (5/83)



MOORING CMN

SCHEMATIC DRAWING

INSPECTION RESULTS

CMM

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. It has two rubber fenders and a steel pipe chafing rail. The buoy is fiberglass coated and is in good condition. Top jewelry consists of an anchor joining link and a shackle.

Riser

The original wire size of the riser chain was measured to be 2 inches vice the 2 3/4 inches reported on the Fleet Mooring Data Sheet. This chain is badly worn, measuring as small as 1/2 inch (25 percent of original diameter) in some areas. The riser enters the bottom at a depth of 40 feet.

Anchor

This mooring consists of only a buoy, riser, and anchor. The anchor was not visible and could not be inspected.

Recommendation

Due to the badly worn riser chain, this mooring is in unsatisfactory condition for continued fleet usage. Recommend tht the mooring be recovered and its component material overhauled/replaced.

MOORING NO.: CMM CLASS: G LOCATION: WEST LOCH LAT: 21°21'24.8" LONG: 157°59'33.2'

WATER DEPTH: 40' ANCHOR SIZE/TYPE: 1-34 K# CONC BUOY TYPE: 12'ϕ x 6' HAWSEPIPE

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK (IN USE)

Visibility 2' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION: NEW	SINGLE LINK % 90+	SINGLE LINK % 80+	SINGLE LINK % 80-	DOUBLE LINK % 90+	DOUBLE LINK % 80+	DOUBLE LINK % 80-	D	COMMENT
BUOY HARDWARE											LINK MODIFIED - CROSSBAR
JOINING LINK		✓									REMOVED.
SHACKLE		✓									FIBERGLASS, RUB RAIL: GOOD
DETACH LINK		✓									RUBBER FENDER: GOOD
(NO VISIBLE WEAR)											*(RISERCHAIN 2" AS PER AS-BUILTS,
RISER	NEAR BUOY		*2"		✓✓✓					TOP	VICE 2¾ PER 1982 DATA SHEET.)
	MIDDLE		↓		✓✓				✓	17'	ONE LINK WORN TO ½" THICK
	NEAR GRD RG		↓		✓✓✓					40'	
GROUND RING		✓	BURIED								(MEASUREMENTS ON OTHER LINKS
GROUND LEG NO. A	UPPER END		N/A								1¾" TO 1⅞")
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. B	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. C	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. D	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								

DATE: 5-5-83 ENGINEER-IN-CHARGE: THOMAS DIVERS: SPEER/TRUCANOW

FLEET MOORING DATA SHEET

MRG ID = CMM GENERAL LOC = West Loch DES CLASS = G

DATE ESTAB = 1943 DEPTH = 39.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-21'-24.6" LONG. COORD. (W) = 157°-59'-33.2"

BUOY TYPE = Riser-chain NJ hawsepipe SIZE = 12'ϕ x 6' hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2 3/4" *

SINKER = 1 WT. OF SINKER = 34,000 # PADEYE SIZE = 2¼" ϕ

OF ANCHORS = 0

ANCHOR 1 WT =	–	PADEYE SIZE =	–
ANCHOR 2 WT =	–	PADEYE SIZE =	–
ANCHOR 3 WT =	–	PADEYE SIZE =	–
ANCHOR 4 WT =	–	PADEYE SIZE =	–

USAGE DURING PAST YEAR = 365 days

TYPE OF SHIPS MOORED = caisson

DATE OF LAST REPAIR/COST = 1977 / $2,750

DATE OF LAST OVERHAUL/COST = 5-70 / ?

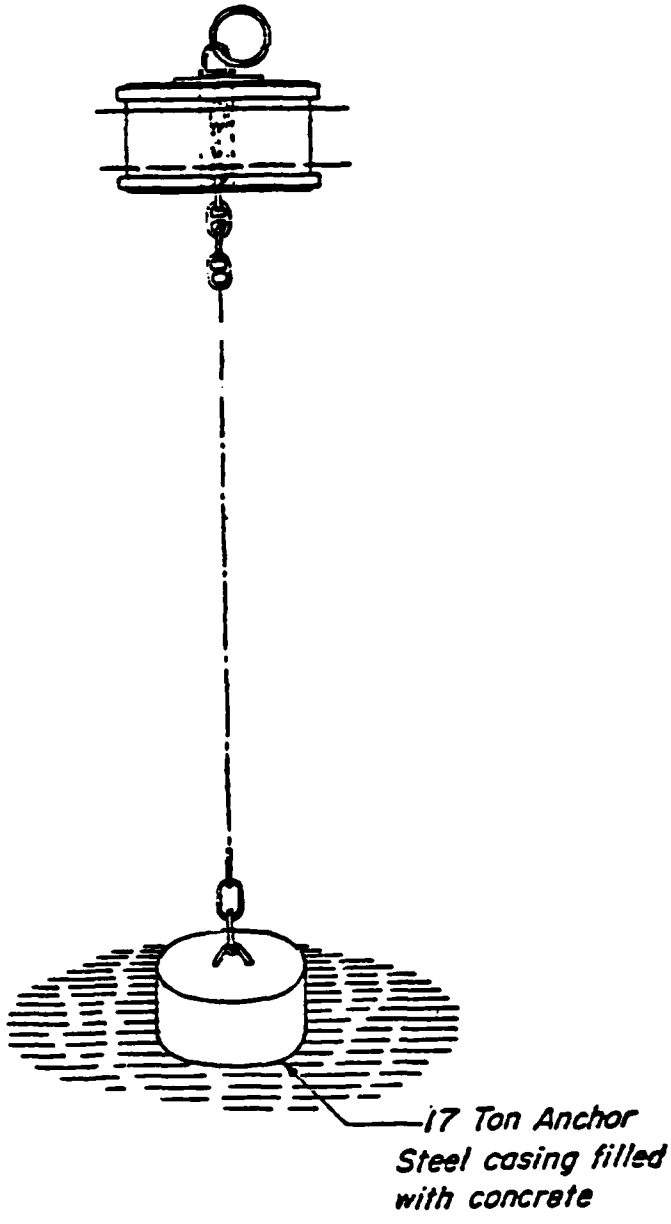
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT TWO)

NEXT SCHED. REPAIR = 1988

NEXT SCHED. OVERHAUL = 1985

DATE SHEET COMPILED = 8-82/MS

* RISER CHAIN SIZE MEASURES 2" (5/83)



MOORING CMM

SCHEMATIC DRAWING

INSPECTION RESULTS

CMS

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. It has two rubber fenders, a 2-inch pipe chafing rail, and it is fiberglass coated. The buoy is in good condition.

Riser

The riser chain is badly worn. Double link measurements of the chain in three locations were all less than 80 percent of the original diameter. One double link measurement was only 2 1/2 inches, about 45 percent of the measured original link diameter of 2 inches. The riser enters the bottom at a water depth of 40 feet.

Anchor

This mooring consists of only a buoy, riser, and anchor. The anchor was not visible and could not be inspected.

Recommendation

A measurement of less than 80 percent of any mooring component is normally cause for a mooring to be removed from service until an overhaul is performed. However, in the case of mooring CMS, the double link measurements of even the most badly worn chain links (2 1/2 inches) are almost 1 inch larger than the 1 1/2-inch double link measurement of the 3/4-inch-diameter chain required for a G class mooring. Therefore, the mooring should still be capable of withstanding G class mooring loads. However, it is recommended that this mooring never be subjected to loads in excess of the G class load limits as defined in NAVFACENGCOM Design Manual DM-26.

MOORING NO.: CMS CLASS: G LOCATION: WEST LOCH LAT: 21°21'22.9" LONG: 157°59'33.1"

WATER DEPTH: 40' ANCHOR SIZE/TYPE: 1-34K# CONC BUOY TYPE: 12'ϕ X 6' HAWSEPIPE

BOTTOM TYPE: ☐ SAND ☒ MUD ☐ CLAY ☐ CORAL ☐ ROCK

(NOT IN USE)

Visibility 2' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION								COMMENT
			NEW	SINGLE LINK %			DOUBLE LINK %			D	
				90+	80+	80-	90+	80+	80-		
BUOY HARDWARE											RUBBER FENDER: GOOD
SHACKLE		✓									FIBERGLASS: GOOD
GROUND RING		✓									RUB RAIL: GOOD
(NO VISIBLE WEAR)											
RISER	NEAR BUOY		2"			✓			✓	TOP	RISER CHAIN IS 2" PER AS-
	MIDDLE		↓			✓			✓	20'	BUILTS VICE 2 3/4" PER 1982 DATA
	NEAR GRD RG		↓			✓			✓	40'	ONE LINK MEASURES 2 1/2" DL
GROUND RING		✓	NA								SINGLE ANCHOR BURIED
GROUND LEG NO. A	UPPER END		NA								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. B	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. C	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. D	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								

DATE: 5-5-83 ENGINEER-IN-CHARGE: THOMAS DIVERS: SPEER/TZUCANOW

CHESNAVFACENGCOM REPORT FPO-1-83, "PWC PEARL HARBOR FLEET MOORINGS INSPECTION REPORT."

FLEET MOORING DATA SHEET

MRG ID = CIAS GENERAL LOC = West Loch DES CLASS = G

DATE ESTAB = 1940 DEPTH = 42.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-21'-22.9" LONG. COORD. (W) = 157°-59'-33.1"

BUOY TYPE = Riser-chain w/ hansepipe SIZE = 12'φ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = (2 3/4") *

SINKER = 1 WT. OF SINKER = 34,000 # PADEYE SIZE = 2 1/4"

OF ANCHORS = 0

ANCHOR 1 WT =	—	PADEYE SIZE =	—
ANCHOR 2 WT =	—	PADEYE SIZE =	—
ANCHOR 3 WT =	—	PADEYE SIZE =	—
ANCHOR 4 WT =	—	PADEYE SIZE =	—

USAGE DURING PAST YEAR = 365 days

TYPE OF SHIPS MOORED = caisson

DATE OF LAST REPAIR/COST = 1977/$2,750

DATE OF LAST OVERHAUL/COST = 5-70/ ?

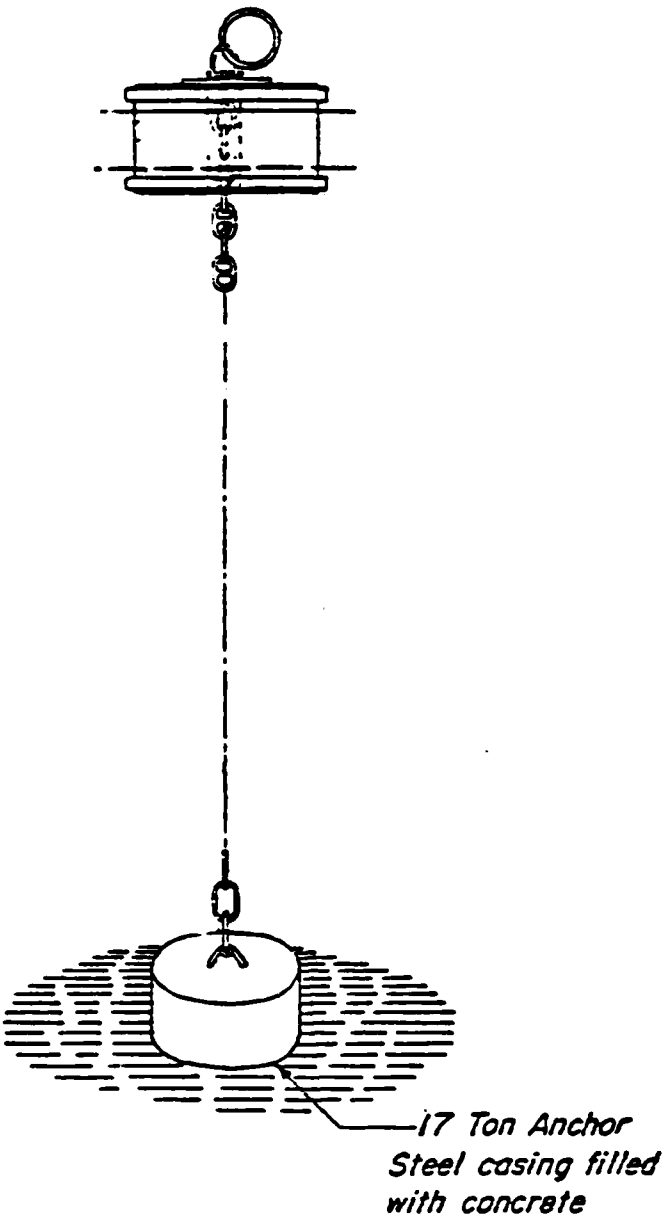
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT TWO)

NEXT SCHED. REPAIR = 1988

NEXT SCHED. OVERHAUL = 1985

DATE SHEET COMPILED = 8-82/MS

* RISER CHAIN SIZE MEASURED 2" BY DIVERS (5/83)



MOORING CMS
SCHEMATIC DRAWING

INSPECTION RESULTS

D1M

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. It has two wooden fenders and a wooden chafing rail, all of which are in good condition. Although the buoy top is in good condition, there is some rusting and pitting of the side plating. The buoy's top jewelry is in good condition. The buoy floats in 23 feet of water.

Riser

The original size of the riser chain was 2 inches vice the 2 3/4 inches listed in the Fleet Mooring Data Sheet. Single link measurements of the riser were less than 80 percent of the original wire diameter in the areas near the mudline. The riser chain disappeared into the bottom at a water depth of 23 feet.

Anchor

This mooring consists of only a buoy, riser and concrete anchor. The anchor was not visible and could not be inspected.

Recommendations

A measurement of less than 80 percent of any mooring component is normally cause for a mooring to be removed from service until an overhaul is performed. However, in the case of mooring D1M, the single link measurements of even the most badly worn chain links (1 1/2 inches) are almost twice as large as the 3/4-inch diameter chain required for a G class mooring. Therefore, the mooring should still be capable of withstanding G class mooring loads. However, it is recommended that this mooring never be subjected to loads in excess of the G class load limits as defined in NAVFACENGCOM Design Manual DM-26.

MOORING NO.: DIM CLASS: C/G LOCATION: MID. LOCH LAT: 21°22'19.2" LONG: 157°59'0.6"

WATER DEPTH: 23' ANCHOR SIZE/TYPE: 1-60K# CONC. BUOY TYPE: 12'ϕ X 6' HAWSEPIPE

BOTTOM TYPE: ☐ SAND ☐ MUD ☐ CLAY ☐ CORAL ☐ ROCK (NOT IN USE)

Visibility _____ D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION NEW	SINGLE LINK % 90+	SINGLE LINK % 80+	SINGLE LINK % 80-	DOUBLE LINK % 90+	DOUBLE LINK % 80+	DOUBLE LINK % 80-	D	COMMENT
BUOY HARDWARE											TOP OF BUOY, RUB RAIL, WOOD
SHACKLE		✓									FENDERS GOOD.
GROUND RING		✓									SOME RUST & PITTING ON SIDES
											OF BUOY — NO FIBERGLASS.
											NO VISIBLE WEAR ON TOP HARDWARE
RISER	NEAR BUOY	*	2"		✓✓			✓✓		TOP	
	MIDDLE		↓		✓✓					11'	
	NEAR GRD RG		↓			✓✓✓		✓✓		23'	DL $3\frac{3}{4}$", $3\frac{3}{4}$", $3\frac{1}{4}$" / SL $1\frac{7}{16}$", $1\frac{5}{8}$", $1\frac{1}{2}$"
GROUND RING		✓									SINKER NOT VISIBLE
GROUND LEG NO. A	UPPER END		N/A								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. B	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. C	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. D	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								

DATE: 5.9.83 ENGINEER-IN-CHARGE: THOMAS DIVERS: ELSASSER/SPEER

* VICE $2\frac{3}{4}$" SHOWN ON AS-BUILTS

FLEET MOORING DATA SHEET

MRG ID = D1M GENERAL LOC = Middle Loch (ISMF) DES CLASS = C (*)

DATE ESTAB = 1950 DEPTH = 34.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-19.2" LONG. COORD. (W) = 157°-59'-00.6"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'φ x 6'hi

FENDER = Wood FIBERGLASS COATING = No

CHAIN SIZE = 2 3/4" (***)

SINKER = 1 WT. OF SINKER = 60,000 # PADEYE SIZE = 2¼"

OF ANCHORS = —

ANCHOR 1 WT =	—	PADEYE SIZE =	—
ANCHOR 2 WT =	—	PADEYE SIZE =	—
ANCHOR 3 WT =	—	PADEYE SIZE =	—
ANCHOR 4 WT =	—	PADEYE SIZE =	—

USAGE DURING PAST YEAR = 0

TYPE OF SHIPS MOORED = ?

DATE OF LAST REPAIR/COST = 1977 / $4,850

DATE OF LAST OVERHAUL/COST = 3-78 / ?

DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT TWO)

NEXT SCHED. REPAIR = 1985

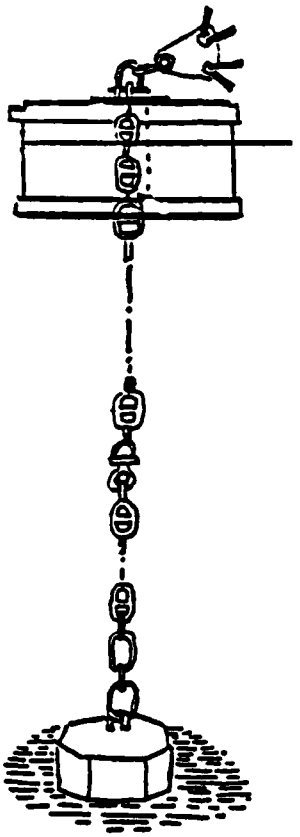
NEXT SCHED. OVERHAUL = ~~1982~~ (**)

DATE SHEET COMPILED = 4-83 ~~8-82~~ / NS

(*) Down-graded to class G after 1979 U/W Insp.

(**) Overhaul expected to be accomplished by Contr. N62471-82-C-2164 in 1982; However, DBS substituted vice this mooring in contract work.

(***) MEASUREMENTS INDICATE THIS WAS PROBABLY 2 "CHAIN ORIGINALLY



MOORING D1M
SCHEMATIC DRAWING

INSPECTION RESULTS

D2N

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. It has two rubber fenders and a 2-inch pipe chafing rail. The buoy is fiberglass coated, and the hull appears to be in good condition. However, the steel plating on top of the buoy and the top hardware are badly rusted. The buoy's bottom is covered with thick marine growth.

Riser

Although double link measurements of the riser chain taken near the buoy and halfway down were all over 90 percent of original wire diameter, single link measurements taken near the mud line were as small as 1 1/4 inches (45 percent of original diameter). The riser enters the bottom at a water depth of 25 feet.

Ground Ring

Buried

Ground Legs

Buried

Anchors/Sinkers

Not visible for inspection

Recommendations

A measurement of less than 80 percent of any mooring component is normally cause for a mooring to be removed from service until an overhaul is performed. However, the riser chain in this case is worn to 1 1/4 inches which is the size chain requirement for a class F mooring. Recommend that this mooring be downgraded from a class D to a class F mooring.

MOORING NO.: DZN CLASS: A/D LOCATION: MID. LOCH LAT: 21°22'23.9" LONG: 157°59'1.0"

WATER DEPTH: 25' ANCHOR SIZE/TYPE: 4-60K# CONC. BUOY TYPE: 12'ϕ X 6' HAWSEPIPE

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK (IN USE)

Visibility 3' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION: NEW	SINGLE LINK % 90+	SINGLE LINK % 80+	SINGLE LINK % 80-	DOUBLE LINK % 90+	DOUBLE LINK % 80+	DOUBLE LINK % 80-	D	COMMENT
BUOY HARDWARE											BUOY SHOWS 45° LIST
SHACKLE		✓									TOP & TOP HARDWARE: HEAVY
SPIDER		✓									RUST. FENDERS, FIBERGLASS: OK
											NO VISIBLE WEAR IN TOP HDWE.
RISER	NEAR BUOY		2 3/4"				VVV			TOP	
	MIDDLE		↓				VVV			18'	2 3/4" GO/NO-GO GAUGE
	NEAR GRD RG		↓			VV			✓	25'	DL 3 1/4" / SL 1 1/4" (CALIPERS)
GROUND RING		✓									(REPORTED & REPEATED BY
GROUND LEG NO. A	UPPER END	✓									DIVERS, BUT CONSIDERED
	MIDDLE	✓									DOUBTFUL)
	ENTERS BOTTOM	✓									
GROUND LEG NO. B	UPPER END	✓									ANCHORS & GROUND LEGS NOT
	MIDDLE	✓									VISIBLE
	ENTERS BOTTOM	✓									
GROUND LEG NO. C	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. D	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									

DATE: 5.9.83 ENGINEER-IN-CHARGE: THOMAS DIVERS: SUTTON/PLATT

FLEET MOORING DATA SHEET

MRG ID = D2N GENERAL LOC = Middle Loch (ISMF) DES CLASS = A (*)

DATE ESTAB = 1943 DEPTH = 33.0 ft./MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-23.9" LONG. COORD. (W) = 157°-59'-01.0"

BUOY TYPE = Riser-chain WJ hawsepipe SIZE = 12'ϕ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2 3/4"

SINKER = 1 WT. OF SINKER = 60,000 # PADEYE SIZE = 2 1/4" ϕ

OF ANCHORS = 4

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2 1/4" ϕ
ANCHOR 2 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 3 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 4 WT =	(Do.)	PADEYE SIZE =	(Do.)

USAGE DURING PAST YEAR = 365 days

TYPE OF SHIPS MOORED = YO/YCV/OTEC

DATE OF LAST REPAIR/COST = 1976/$2,000

DATE OF LAST OVERHAUL/COST = ?/?

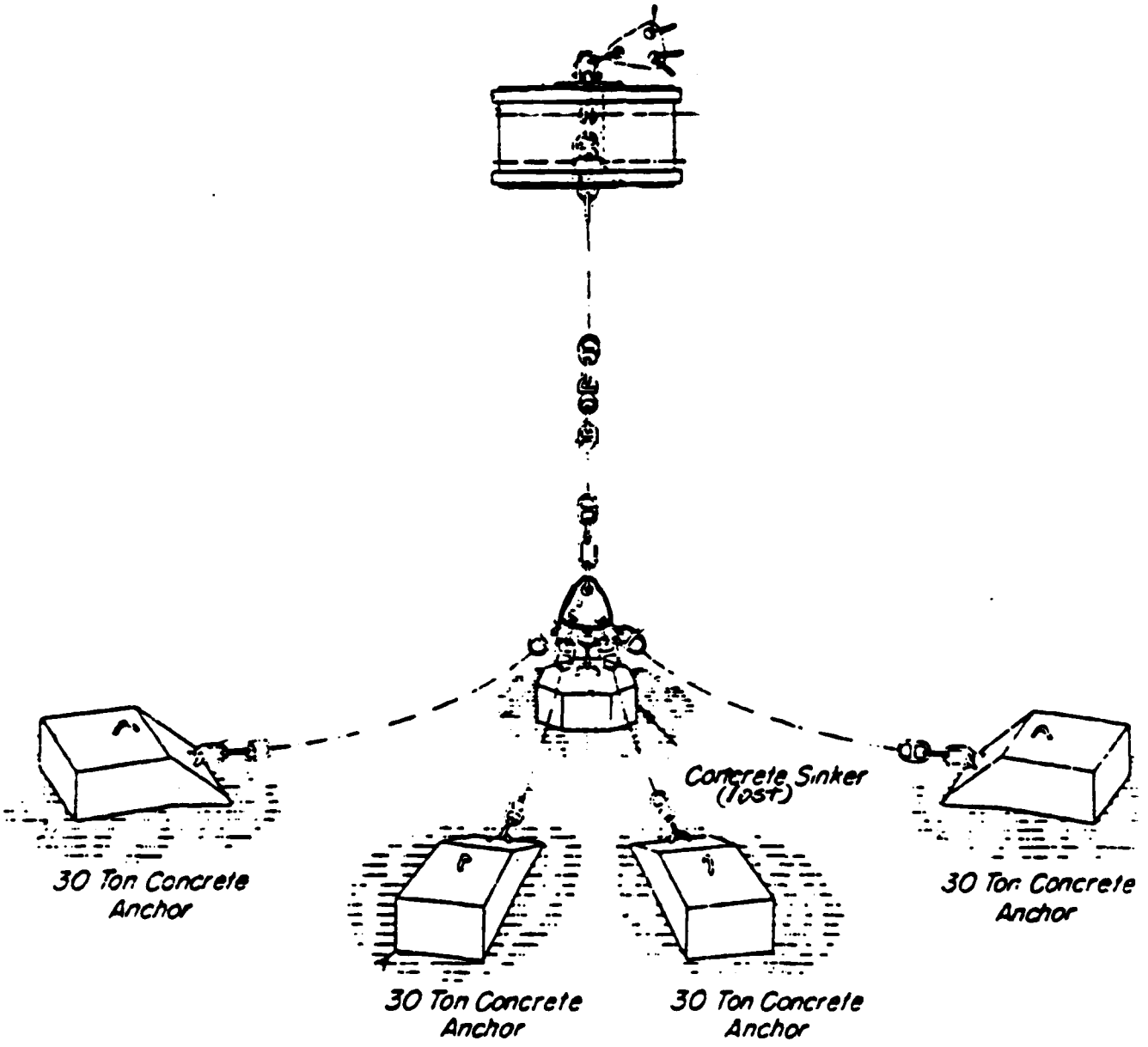
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT Two)

NEXT SCHED. REPAIR = 1987

NEXT SCHED. OVERHAUL = 1984

DATE SHEET COMPILED = 8-82/MS

(*) Down-graded to class D after 1979 U/W Insp.



MOORING D2N
SCHEMATIC DRAWING

INSPECTION RESULTS

D2S

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with hawsepipe. It has two rubber fenders and a 2-inch pipe chafing rail. The buoy is fiberglass coated and its hull is in good condition. The topside hardware components are heavily rusted but measure greater than 90 percent of their original wire diameter.

Riser

The original wire diameter of the riser chain was measured to be 4 inches vice the 2 3/4 inches reported on the Fleet Mooring Data Sheet. The chain was measured to be greater than 90 percent of its original wire diameter. The riser enters the bottom at a depth of 20 feet.

Ground Ring

Buried

Ground Legs

Buried

Anchors/Sinkers

Buried

Recommendations

This mooring is in satisfactory condition for continued use as a class G mooring.

MOORING NO.: D25 CLASS: A/G LOCATION: MID. LOCH LAT: 21°22'20.8" LONG: 157°59'5.2"

WATER DEPTH: 20' ANCHOR SIZE/TYPE: 4-60K# CONC. BUOY TYPE: 12'ϕ X 6' HAWSEPIPE

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK (IN USE)

Visibility 3' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION NEW	SINGLE LINK % 90+	SINGLE LINK % 80+	SINGLE LINK % 80-	DOUBLE LINK % 90+	DOUBLE LINK % 80+	DOUBLE LINK % 80-	D	COMMENT
BUOY HARDWARE											FIBERGLASS, DECK PLATE,
SHACKLE		✓									RUB RAIL, RUBBER FENDERS: OK
DETACH. LINK		✓									
SPIDER W. 4		✓									TOP HARDWARE: HEAVY RUST
P.S. LINKS		✓									BUT NO VISIBLE WEAR.
RISER	NEAR BUOY	*	4"	✓✓✓			✓✓✓			TOP	DL 7 1/2", 7 5/8", 7 3/4" / SL 4 1/16", 4 3/16", 4 1/8"
	MIDDLE		↓	✓✓✓			✓✓✓			10'	DL 7 1/2", 7 5/8", 7 3/4" / SL 4 1/8", 4 1/8", 4 1/8"
	NEAR GRD RG		↓	✓✓✓			✓✓✓			20'	DL 7 9/16", 7 5/8", 7 1/2 / SL 4 5/16", 4 1/16", 4 1/16"
GROUND RING		✓									ANCHORS & GROUND LEGS
GROUND LEG NO. A	UPPER END	✓									NOT VISIBLE
	MIDDLE	✓									
	ENTERS BOTTOM	✓									(SINGLE- AND DOUBLE-LINK
GROUND LEG NO. B	UPPER END	✓									MEASUREMENTS MADE WITH
	MIDDLE	✓									CALIPERS BY DIVERS)
	ENTERS BOTTOM	✓									
GROUND LEG NO. C	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. D	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									

DATE: 5·9·83 ENGINEER-IN-CHARGE: THOMAS DIVERS: ELSASSER/SPEER

* VICE 2 3/4" SHOWN ON AS-BUILTS

CHESNAVFACENGCOM REPORT FPO-1-83, "PWC PEARL HARBOR FLEET MOORINGS INSPECTION REPORT."

FLEET MOORING DATA SHEET

MRG ID = D2.S GENERAL LOC = Middle Loch (ZSMF) DES CLASS = A (*)

DATE ESTAB = 1943 DEPTH = 25.0 ft./MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-20.8" LONG. COORD. (W) = 157°-59'-05.2"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = (2¾") **

SINKER = 1 WT. OF SINKER = 60,000 # PADEYE SIZE = 2¼"ϕ

OF ANCHORS = 4

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2¼"ϕ
ANCHOR 2 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 3 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 4 WT =	(Do.)	PADEYE SIZE =	(Do.)

USAGE DURING PAST YEAR = 365 days

TYPE OF SHIPS MOORED = YO/YCV/OTEC

DATE OF LAST REPAIR/COST = 1976/$2,000

DATE OF LAST OVERHAUL/COST = ?/?

DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT Two)

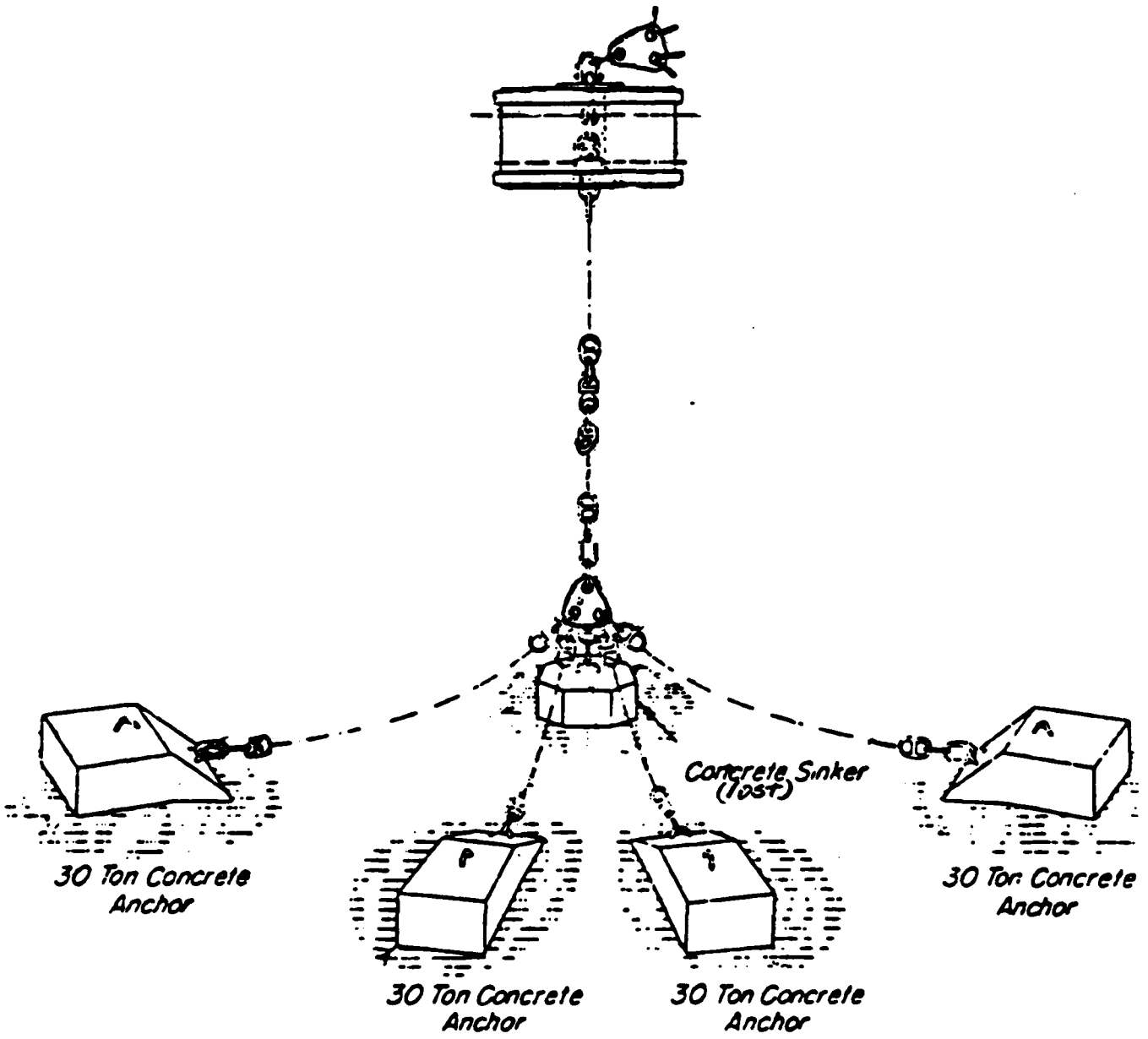
NEXT SCHED. REPAIR = 1987

NEXT SCHED. OVERHAUL = 1984

DATE SHEET COMPILED = 8-82/MS

(*) Down-graded to class G after 1979 U/W Insp.

** RISER CHAIN MEASURED 4" BY DIVERS (5/83)



MOORING D2S

SCHEMATIC DRAWING

INSPECTION RESULTS

D3N

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. It has two rubber fenders and a galvanized pipe chafing rail. The buoy is fiberglass coated and the hull appears to be in good condition. However, the steel top plate is moderately rusted. The topside hardware is in good condition.

Riser

The original diameter of the riser chain is 2 3/4 inches and double link measurements were between 80 and 90 percent of this wire size. The riser enters the bottom at a water depth of 25 feet.

Ground Ring

Buried

Ground Legs

Buried

Anchors/Sinker

Buried

Recommendations

A measurement between 80 and 90 percent of any mooring component is normally cause for downgrading the mooring to the next lower classification. However, in the case of Mooring D3N, the double link measurements of even the most badly worn chain links are more than 3 inches larger than the 1 1/2-inch double link measurement of the 3/4-inch diameter chain required for a G class mooring. Therefore, the mooring should be capable of withstanding G class mooring loads. However, it is recommended that this mooring never be subjected to loads in excess of the G class load limits as defined in NAVFACENGCOM Design Manual DM-26.

MOORING NO.: D3N CLASS: A/G LOCATION: MID LOCH LAT: 21°22'27" LONG: 157°59'3.6"

WATER DEPTH: 25' ANCHOR SIZE/TYPE: 4-60K# CONC BUOY TYPE: 12'ϕ X 6' HAWSEPIPE

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK (IN USE)

Visibility 3' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION NEW	SINGLE LINK % 90+	SINGLE LINK % 80+	SINGLE LINK % 80-	DOUBLE LINK % 90+	DOUBLE LINK % 80+	DOUBLE LINK % 80-	D	COMMENT
BUOY HARDWARE											FIBERGLASS: GOOD
SHACKLE		✓									FENDERS & RUB RAIL: GOOD
SHACKLE		✓									DECK PLATE: MODERATE RUST
SPIDER W.4		✓									
P.S. LINKS		✓									NO VISIBLE WEAR ON TOP HARDWARE
RISER	NEAR BUOY		2 3/4"	✓✓✓			✓✓✓			TOP	
	MIDDLE		↓	✓✓✓			✓✓✓			20'	2 3/4 GO/NO-GO GAUGE
	NEAR GRD RG		↓		✓✓✓			✓✓✓		25'	
GROUND RING			N/A								ANCHORS & GROUND LEGS NOT
GROUND LEG NO. A	UPPER END	✓									VISIBLE
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. B	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. C	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. D	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									

DATE: 5.9.83 ENGINEER IN CHARGE: THOMAS DIVERS: SUTTON/PLATT

FLEET MOORING DATA SHEET

MRG ID = DSN GENERAL LOC = Middle Loch (ISMF) DES CLASS = A (*)

DATE ESTAB = 21°-22'-27.0" DEPTH = 34.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-27.0" LONG. COORD. (W) = 157°-59'-03.6"

BUOY TYPE = River-chain NJ hawsepipe SIZE = 12'ϕ x 6' hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2 3/4"

SINKER = 1 WT. OF SINKER = 60,000 # PADEYE SIZE = 2 1/2" ϕ

OF ANCHORS = 4

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2 1/4" ϕ
ANCHOR 2 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 3 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 4 WT =	(Do.)	PADEYE SIZE =	(Do.)

USAGE DURING PAST YEAR = 0 days

TYPE OF SHIPS MOORED = ? / OTEC

DATE OF LAST REPAIR/COST = 1977 / $13,000

DATE OF LAST OVERHAUL/COST = 10-75 / ?

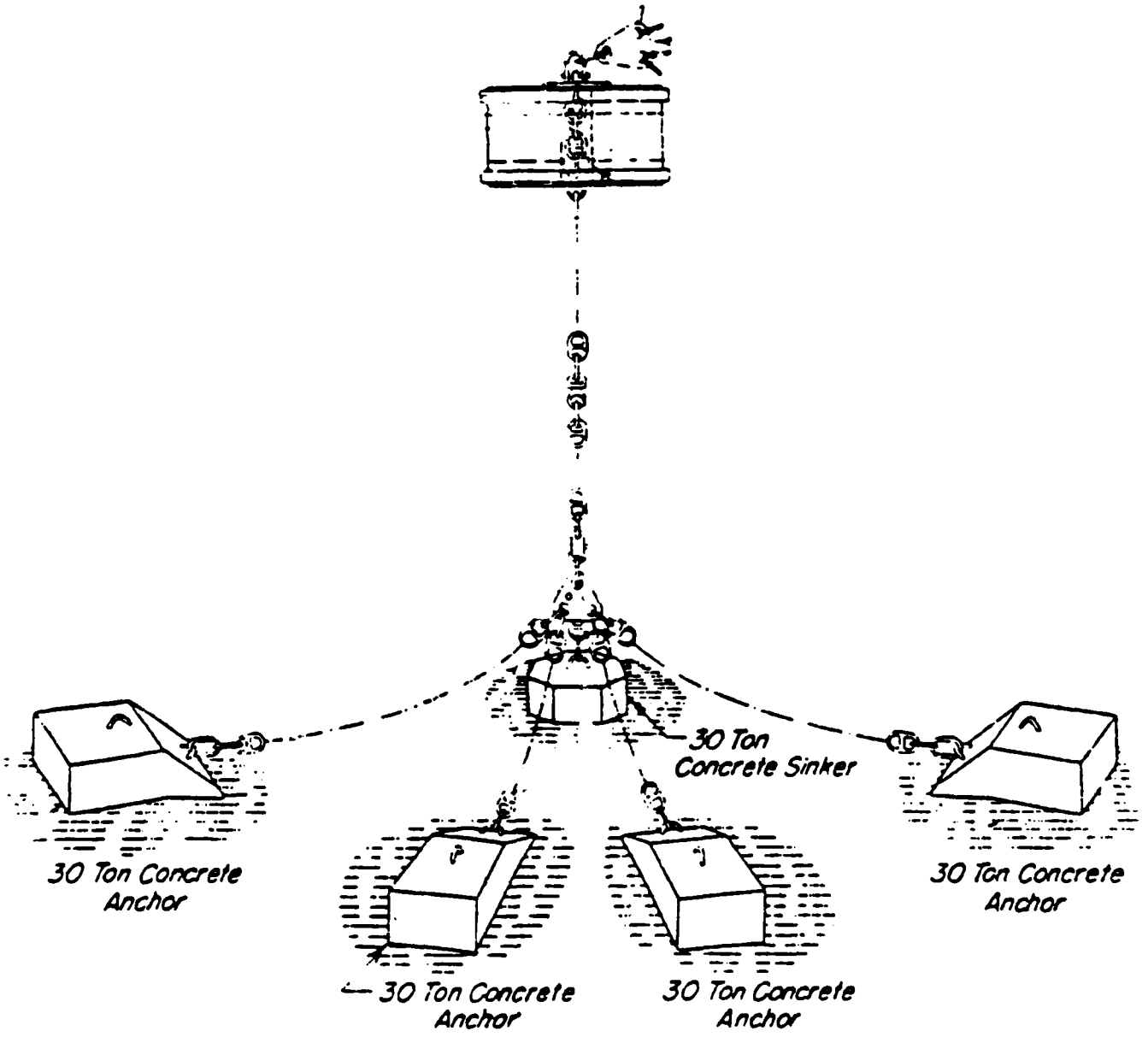
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (NFT THIS)

NEXT SCHED. REPAIR = 1986

NEXT SCHED. OVERHAUL = 1983

DATE SHEET COMPILED = 8-82 / MS

(*) Down-graded to class C after 1979 U/W Insp.



MOORING D3N
SCHEMATIC DRAWING

INSPECTION RESULTS

D4N

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. It has two rubber fenders and a pipe chafing rail. The buoy is fiberglass coated and is in good condition. The top jewelry showed no visible wear.

Riser

The wire diameter of the riser chain was greater than 90 percent except near the mud line where it was measured to be between 80 and 90 percent. The riser enters the bottom at a water depth of 30 feet.

Ground Ring

Buried

Ground Legs

Buried

Anchors/Sinker

Buried

Recommendation

Measurements between 80 and 90 percent of original wire diameter are normally cause for a mooring to be downgraded one classification. However, in the case of Mooring D4N, the double link measurements of even the most badly worn chain links are larger than the 1 1/2-inch double link measurement of the 3/4-inch diameter chain required for a G class mooring. Therefore, the mooring should still be capable of withstanding G class mooring loads. However, it is recommended that this mooring never be subjected to loads in excess of the G class load limits as defined in NAVFACENGCOM Design Manual DM-26.

MOORING NO.: D4N CLASS: A/G LOCATION: MID. LOCH LAT: 21°22'30.1" LONG: 157°59'6.2"

WATER DEPTH: 30' ANCHOR SIZE/TYPE: 4-60K# CONC BUOY TYPE: 12'ϕ X 6' HAWSEPIPE (IN USE)

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 3' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION								COMMENT
			NEW	SINGLE LINK %			DOUBLE LINK %			D	
				90+	80+	80-	90+	80+	80-		
BUOY HARDWARE											FIBERGLASS: GOOD
SHACKLE		✓									DECK PLATE, RUB RAIL,
SHACKLE		✓									RUBBER FENDERS OK.
SPIDER W.4		✓									
P.S. LINKS		✓									(NO VISIBLE WEAR ON TOP HARDWARE)
RISER	NEAR BUOY		2 3/4"	✓✓			✓✓			TOP	
	MIDDLE		↓	✓✓			✓✓			15'	2 3/4" GO/NO-GO GAUGE
	NEAR GRD RG		↓	✓	✓		✓✓			30'	
~~GROUND RING~~		*	2 1/4"								ANCHORS & GROUND LEGS
GROUND LEG NO. A	UPPER END	✓									NOT VISIBLE.
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. B	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. C	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. D	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									

DATE: 5.9.83 ENGINEER IN CHARGE: THOMAS DIVERS: ELSASSER/SPEER *EYE ON CLUMP PER AS-BUILTS.

CHESNAVFACENGCOM REPORT FPO-1-83, "PWC PEARL HARBOR FLEET MOORINGS INSPECTION REPORT."

FLEET MOORING DATA SHEET

MRG ID = P4N GENERAL LOC = Middle Loch (ISMF) DES CLASS = A (*)

DATE ESTAB = 1943 DEPTH = 32.0 ft/MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-30.1" LONG. COORD. (W) = 157°-59'-06.2"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2¾"

SINKER = 1 WT. OF SINKER = 60,000 # PADEYE SIZE = 2¼" ϕ

OF ANCHORS = 4

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2¼" ϕ
ANCHOR 2 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 3 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 4 WT =	(Do.)	PADEYE SIZE =	(Do.)

USAGE DURING PAST YEAR = 365 days

TYPE OF SHIPS MOORED = DER/ASR/YFN/OTEC

DATE OF LAST REPAIR/COST = 1979/#980

DATE OF LAST OVERHAUL/COST = 3-78/ ?

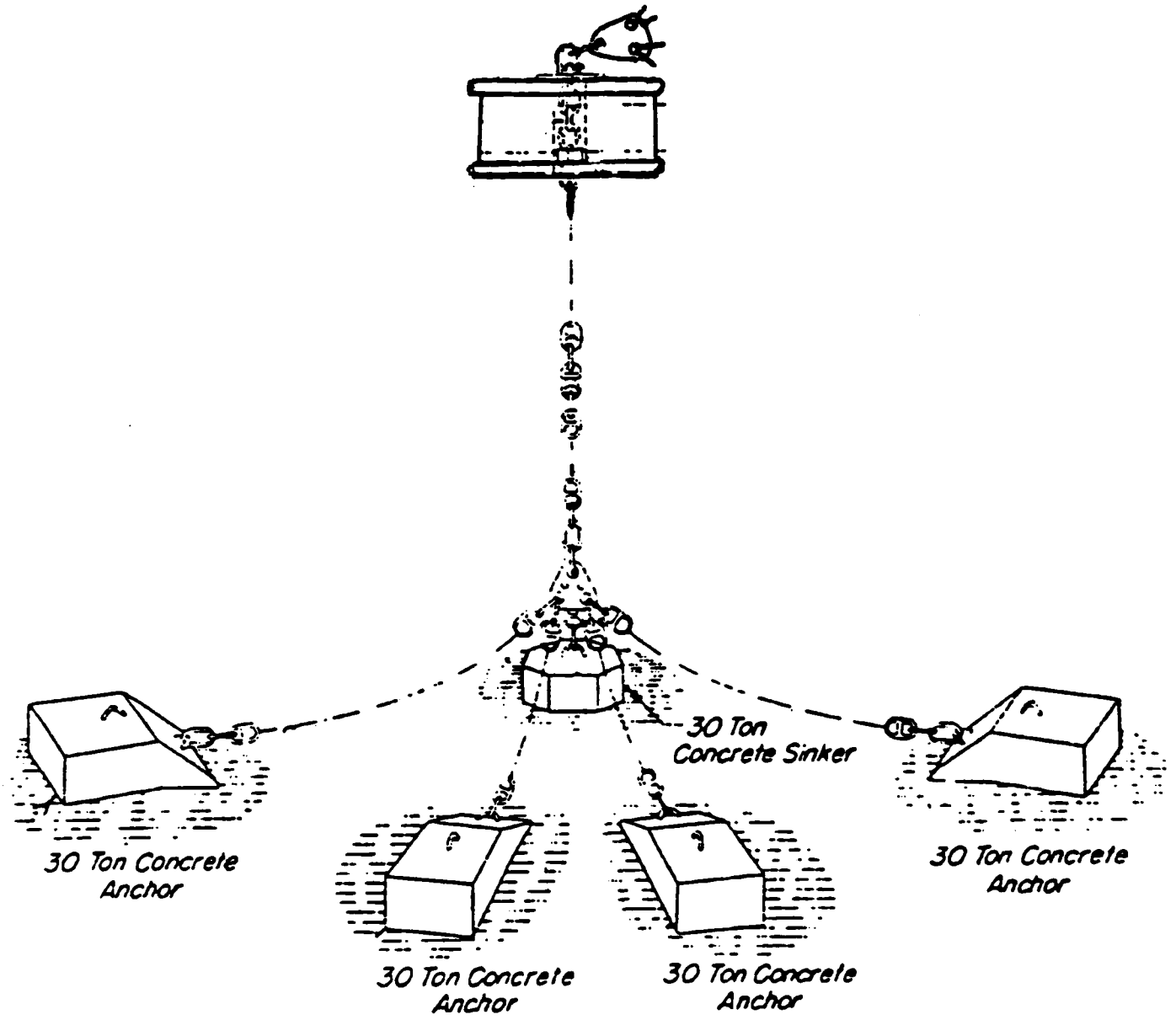
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT Two)

NEXT SCHED. REPAIR = 1988

NEXT SCHED. OVERHAUL = 1985

DATE SHEET COMPILED = 8-82/MS

(*) Down-graded to class G after 1979 U/W Insp.



MOORING D4N
SCHEMATIC DRAWING

INSPECTION RESULTS

D4S

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. It has two rubber fenders and a 2-inch pipe chafing rail. The buoy is fiberglass coated but its top steel plate is badly rusted. The chafing rail is moderately rusted, and the top jewelry is in good condition.

Riser

The riser chain was originally 2 3/4-inch wire diameter. Double link measurements of the riser chain near the mud line were all less than 80 percent of the original wire diameter. The riser entered the bottom at 20 feet of water depth.

Ground Ring

Buried

Ground Legs

About 5 feet of one ground leg was visible but the remainder was buried.

Anchors/Sinker

Buried

Recommendation

A measurement of less than 80 percent of any mooring component is normally cause for a mooring to be removed from service until an overhaul is performed. However, in the case of mooring D4S, the double link measurements of even the most badly worn chain links are larger than the 1 1/2-inch double link measurement of the 3/4-inch diameter chain required for a G class mooring. Therefore, the mooring should still be capable of withstanding G class mooring loads. However, it is recommended that this mooring never be subjected to loads in excess of the G class load limits as defined in NAVFACENGCOM Design Manual DM-26.

MOORING NO.: D45 CLASS: A/G LOCATION: MID. LOCH LAT: 21°22'21.1" LONG: 157°59'10.4"

WATER DEPTH: 20' ANCHOR SIZE/TYPE: 4-60K# CONC. BUOY TYPE: 12'ϕ X 6' HAWSEPIPE (IN USE)

BOTTOM TYPE: ☐ SAND ☒ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 3' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION								COMMENT
			NEW	SINGLE LINK %			DOUBLE LINK %			D	
				90+	80+	80-	90+	80+	80-		
BUOY HARDWARE											FIBERGLASS & RUBBER FENDERS OK
SHACKLE		✓									DECK PLATE SEVERELY RUSTED
SHACKLE		✓									RUB RAIL MODERATE RUST
SPIDER		✓									
4 DETACH. LINKS		✓									(NO VISIBLE WEAR ON TOP HARDWARE)
RISER	NEAR BUOY		2 3/4"	✓✓			✓✓			TOP	
	MIDDLE		↓	✓✓			✓✓			10'	2 3/4" GO/NO-GO GAUGE
	NEAR GRD RG		↓						✓✓	20'	DL 4 1/8", 3 7/8", 3 1/2" / SL 1 7/8", 1 7/8", 1 3/4"
~~GROUND RING~~		*	2 1/4	✓✓							
GROUND LEG NO. A	UPPER END		2 3/4	✓✓							ONE LEG VISIBLE FOR ABT. 5'
	MIDDLE	✓									OTHER LEGS & ANCHORS BURIED
	ENTERS BOTTOM	✓									
GROUND LEG NO. B	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. C	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. D	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									

DATE: 5.9.83 ENGINEER IN CHARGE: THOMAS DIVERS: ELSASSER/SPEER *EYE ON CLUMP

FLEET MOORING DATA SHEET

MRG ID = 04S GENERAL LOC = Middle Loch (ISMF) DES CLASS = A (*)

DATE ESTAB = 1943 DEPTH = 22.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-27.1" LONG. COORD. (W) = 157°-59'-10.4"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'φ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2¾"

SINKER = 1 WT. OF SINKER = 60,000 # PADEYE SIZE = 2¼"φ

OF ANCHORS = 4

ANCHOR 1 WT = 60,000 # PADEYE SIZE = 2¼"φ
ANCHOR 2 WT = (Do.) PADEYE SIZE = (Do.)
ANCHOR 3 WT = (Do.) PADEYE SIZE = (Do.)
ANCHOR 4 WT = (Do.) PADEYE SIZE = (Do.)

USAGE DURING PAST YEAR = 365 days

TYPE OF SHIPS MOORED = DER/ASR/YFN/OTEC

DATE OF LAST REPAIR/COST = 1979/$13,000

DATE OF LAST OVERHAUL/COST = ?/?

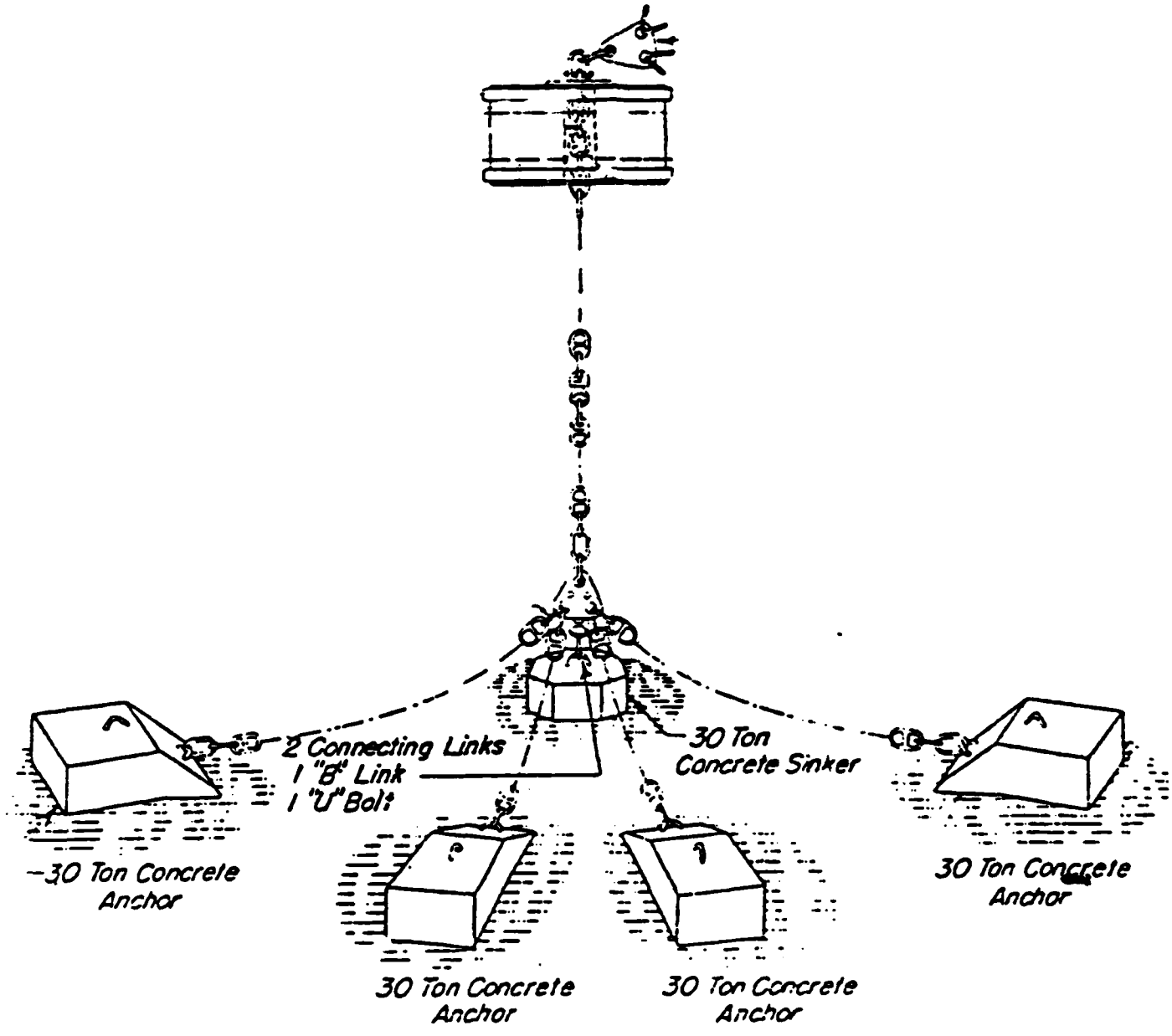
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT Two)

NEXT SCHED. REPAIR = 1988

NEXT SCHED. OVERHAUL = 1985

DATE SHEET COMPILED = 8-82/MS

(*) Down-graded to class G after 1979 U/W Insp.



MOORING D4S

SCHEMATIC DRAWING

INSPECTION RESULTS

D5N

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. It is fiberglass coated and has two rubber fenders and a galvanized pipe chafing rail. The buoy is floating on its side (90° to the vertical) which could indicate a hull rupture. A section of the fiberglass near the bottom is broken, and both fenders have pulled loose from the buoy's hull. The bottom of the buoy is covered with a heavy marine growth. The top jewelry consists of a detachable link and two pear links.

Riser

The riser consists of 2 3/4-inch cast chain, all of which measured greater than 90 percent of its original diameter. The riser enters the bottom about 25 feet below the surface of the water.

Anchor

This mooring consists of only a buoy, a riser, and an anchor. The lower portion of the riser and the anchor were buried and could not be inspected.

Recommendation

The buoy should be recovered, and the cause of its list (condition of its watertight integrity) investigated. The loose fenders and broken fiberglass should be repaired or replaced as required. Use of this mooring should be restricted until buoy repairs are accomplished.

MOORING NO.: DSN CLASS: D/E LOCATION: MID. LOCH LAT: DISPLACED LONG: _____

WATER DEPTH: 25' ANCHOR SIZE/TYPE: 1-60K# CONC. BUOY TYPE: 12'ϕ X 6' HAUSEPIPE (NOT IN USE)

BOTTOM TYPE: ☐ SAND ☒ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 4' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION NEW	SINGLE LINK % 90+	SINGLE LINK % 80+	SINGLE LINK % 80-	DOUBLE LINK % 90+	DOUBLE LINK % 80+	DOUBLE LINK % 80-	D	COMMENT
BUOY HARDWARE											BUOY HAS 30° LIST
DETACH LINK		✓									FIBERGLASS BROKEN AT BOTTOM
2 P.S. LINKS		✓									RUBBER FENDERS PULLED LOOSE
(SUBMERGED)											
RISER	NEAR BUOY		2¾"	✓✓			✓✓			TOP	
	MIDDLE		↓	✓✓			✓✓			15	2¾" GO/NO-GO GAUGE
	NEAR GRD RG		↓	✓✓			✓✓			25	
~~GROUND RING~~		✓*	2¼"								ANCHOR BURIED
GROUND LEG NO. A	UPPER END		N/A								
	MIDDLE		↓								(BUOY DISPLACED DURING
	ENTERS BOTTOM		↓								HURRICANE "IWA".)
GROUND LEG NO. B	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. C	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. D	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								

DATE: 5·9·83 ENGINEER IN CHARGE: THOMAS DIVERS: ELSASSER / SPEER

* EYE ON ANCHOR PER AS-BUILTS

CHESNAVFACENGCOM REPORT FPO-1-83, "PWC PEARL HARBOR FLEET MOORINGS INSPECTION REPORT."

FLEET MOORING DATA SHEET

MRG ID = JSM GENERAL LOC = Middle Loch (ISMF) DES CLASS = D (*)

DATE ESTAB = 1944 DEPTH = 37.0 ft. (MLLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-33.3" LONG. COORD. (W) = 157°-59'-08.6"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2¾"

SINKER = — WT. OF SINKER = — PADEYE SIZE = —

OF ANCHORS = 1

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2¼" ϕ
ANCHOR 2 WT =	—	PADEYE SIZE =	—
ANCHOR 3 WT =	—	PADEYE SIZE =	—
ANCHOR 4 WT =	—	PADEYE SIZE =	—

USAGE DURING PAST YEAR = — —

TYPE OF SHIPS MOORED = ? / OTEC

DATE OF LAST REPAIR/COST = 1979 / $9,060

DATE OF LAST OVERHAUL/COST = ? / ?

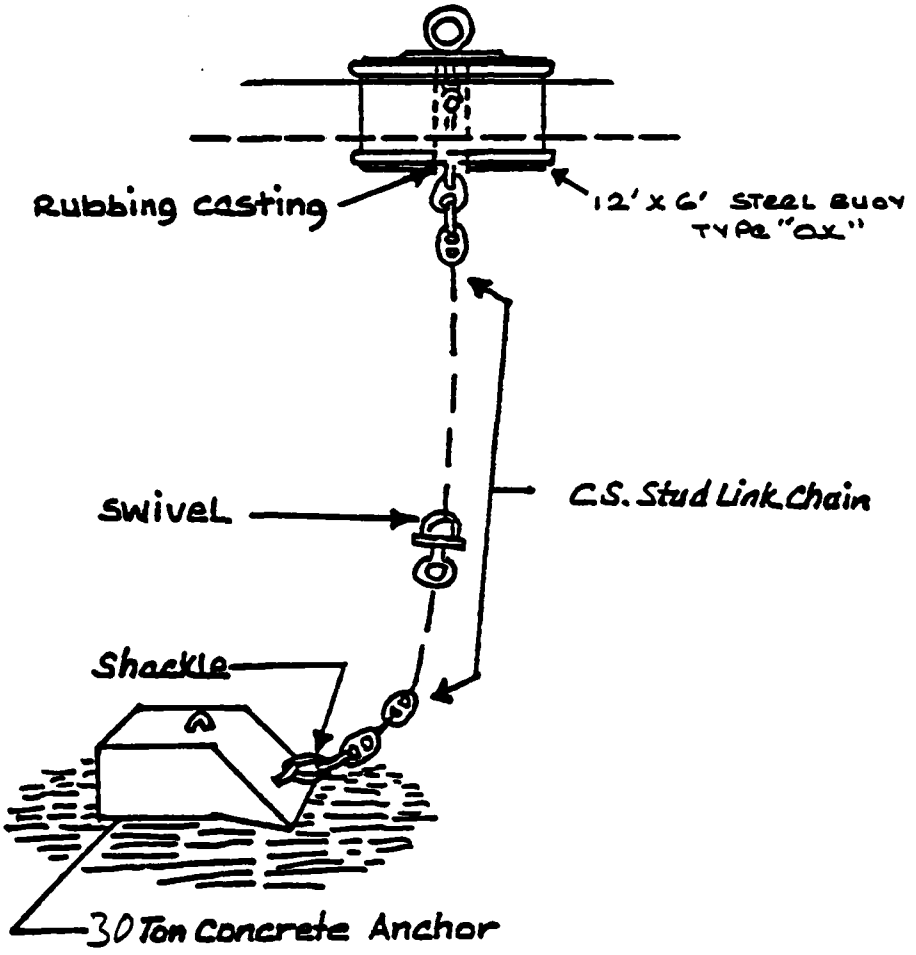
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT Two)

NEXT SCHED. REPAIR = 1986

NEXT SCHED. OVERHAUL = 1993

DATE SHEET COMPILED = 8-82 / MS

(*) Down-graded to class E after 1979 U/W Insp.



MOORING D5N

SCHEMATIC DRAWING

INSPECTION REPORT

D5M

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. It is fiberglass coated, has two rubber fenders and a galvanized pipe chafing rail. The overall condition of the buoy is good. Top jewelry consists of a shackle, spider plate, and four pear links.

Pier

Double link measurements of the 2 3/4-inch riser chain revealed that in many instances the chain is worn to less than 80 percent of the original wire diameter. The riser enters the bottom about 20 feet below the surface of the water.

Anchor

The mooring consists of only a buoy, a riser, and a concrete anchor. The anchor was not visible and could not be inspected.

Recommendation

A measurement of less than 80 percent of any mooring component is normally cause for a mooring to be removed from service until an overhaul is performed. However, in the case of Mooring D5M, the double link measurements of even the most badly worn chain are larger than the 1 1/2-inch double link measurement of the 3/4-inch diameter chain required for a G class mooring. Therefore, the mooring should still be capable of withstanding G class mooring loads. However, it is recommended that this mooring never be subjected to loads in excess of the G class load limits as defined in NAVFACENGCOM Design Manual DM-26.

DISPLACED

MOORING NO.: DEM CLASS: C/G LOCATION: MID. LOCH LAT: _____ LONG: _____

WATER DEPTH: 20' ANCHOR SIZE/TYPE: 1-60K# CONC. BUOY TYPE: 12'ϕ X 6' HAWSEPIPE (NOT IN USE)

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 4' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION								COMMENT
			NEW	SINGLE LINK %			DOUBLE LINK %			D	
				90+	80+	80-	90+	80+	80-		
BUOY HARDWARE											FIBERGLASS/DECK PLATE/
SHACKLE		✓									RUB RAILS/FENDERS: GOOD
SPIDER W.		✓									
4 P.S. LINKS		✓									
(NO VISIBLE WEAR)											
RISER	NEAR BUOY		2¾"		✓✓			✓	✓	TOP	
	MIDDLE		↓		✓✓			✓✓		10	2¾" GO/NO-GO GAUGE
	NEAR GRD RG		↓	✓✓					✓✓	20	
~~GROUND RING~~		*	2¼"								ANCHOR BURIED
GROUND LEG NO. A	UPPER END		N/A								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								(MOORING DISPLACED BY
GROUND LEG NO. B	UPPER END		↓								HURRICANE "IWA".)
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. C	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. D	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								

DATE: 5-9-83 ENGINEER IN CHARGE: THOMAS DIVERS: ELSASSER/SPEER

* EYE ON ANCHOR PER AS-BUILT

FLEET MOORING DATA SHEET

MRG ID = D5M GENERAL LOC = Middle Loch (ISMF) DES CLASS = C (+)

DATE ESTAB = 1950 DEPTH = 24.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-31.8" LONG. COORD. (W) = 157°-59'-10.9"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6' hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2¾"

SINKER = 1 WT. OF SINKER = 60,000 # PADEYE SIZE = 2¼" ϕ

OF ANCHORS = 0

ANCHOR 1 WT = — PADEYE SIZE = —
ANCHOR 2 WT = — PADEYE SIZE = —
ANCHOR 3 WT = — PADEYE SIZE = —
ANCHOR 4 WT = — PADEYE SIZE = —

USAGE DURING PAST YEAR = ~~0 days~~

TYPE OF SHIPS MOORED = ?/?/OTEC

DATE OF LAST REPAIR/COST = 1976/$2,000

DATE OF LAST OVERHAUL/COST = ?/?

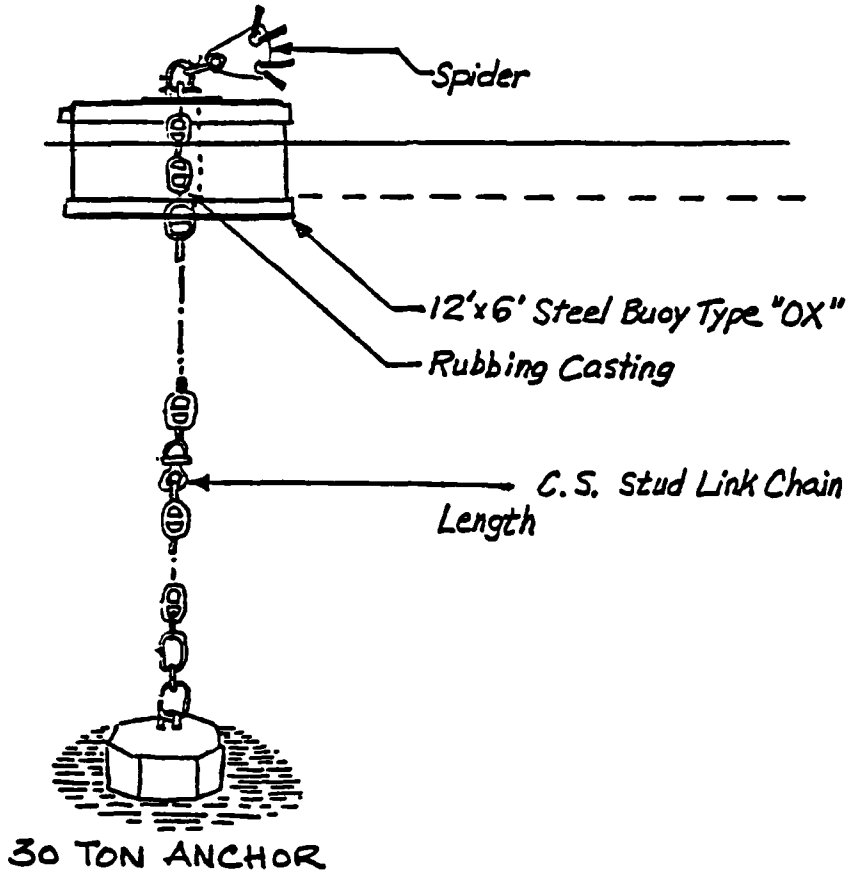
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT Two)

NEXT SCHED. REPAIR = 1986

NEXT SCHED. OVERHAUL = 1993

DATE SHEET COMPILED = 8-82/MS

(+) Down-graded to class G after 1979 U/W Insp.



MOORING D5M

SCHEMATIC DRAWING

INSPECTION REPORT

D5S

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The buoy is fiberglass coated, has two rubber fenders and a 2-inch pipe chafing rail. The overall condition of the buoy and its top jewelry is good.

Riser

Although the upper portion of the riser chain measured greater than 90 percent of its original wire, one double link measurement near the center of the riser was less than 80 percent. The riser enters the bottom at a depth of 20 feet.

Anchor

The mooring consists of only a buoy, a riser chain, and a concrete anchor. The anchor was not visible and could not be inspected.

Recommendation

A measurement of less than 80 percent of any mooring component is normally cause for a mooring to be removed from service until an overhaul is performed. However, in the case of mooring D5S, the double link measurements of even the most badly worn chain are larger than the 1 1/2-inch double link measurement of the 3/4-inch diameter chain required for a G class mooring. Therefore, the mooring should still be capable of withstanding G class mooring loads. However, it is recommended that this mooring never be subjected to loads in excess of the G class load limits as defined in NAVFACENGCOM Design Manual DM-26.

MOORING NO.: D55 CLASS: D/G LOCATION: MID. LOCH LAT: DISPLACED LONG: _____

WATER DEPTH: 20' ANCHOR SIZE/TYPE: 1-60K# CONC. BUOY TYPE: 12'ϕ X 6' HAWSEPIPE (NOT IN USE)

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 4' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION NEW	SINGLE LINK % 90+	SINGLE LINK % 80+	SINGLE LINK % 80-	DOUBLE LINK % 90+	DOUBLE LINK % 80+	DOUBLE LINK % 80-	D	COMMENT
BUOY HARDWARE											FIBERGLASS
DETACH. LINK		✓									RUBBER FENDERS } GOOD
GROUND RING		✓									RUB RAIL
(NO VISIBLE WEAR)											
RISER	NEAR BUOY		2 3/4"	✓✓			✓✓			TOP	
	MIDDLE		↓		✓✓		✓	✓	✓	10	2 3/4" GO/NO-GO GAUGE
	NEAR GRD RG		↓							20	
~~GROUND RING~~		*	2 1/4"								ANCHOR BURIED
GROUND LEG NO. A	UPPER END		N/A								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								(MOORING DISPLACED BY
GROUND LEG NO. B	UPPER END		↓								HURRICANE "IWA")
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. C	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. D	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								

DATE: 5.9.83 ENGINEER IN CHARGE: THOMAS DIVERS: ELSASSER/SPEER

*EYE ON ANCHOR PER AS-BUILTS

FLEET MOORING DATA SHEET

MRG ID = DES GENERAL LOC = Middle Loch (ISMF) DES CLASS = D (*)

DATE ESTAB = 1944 DEPTH = 24.0-ft (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-30.3" LONG. COORD. (W) = 157°-59'-13.0"

BUOY TYPE = Riser chain w/ hawsepipe SIZE = 12'ϕ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2 3/4"

SINKER = — WT. OF SINKER = — PADEYE SIZE = —

OF ANCHORS = 1

ANCHOR 1 WT =	60,000 ±	PADEYE SIZE =	2 1/4" ϕ
ANCHOR 2 WT =	—	PADEYE SIZE =	—
ANCHOR 3 WT =	—	PADEYE SIZE =	—
ANCHOR 4 WT =	—	PADEYE SIZE =	—

USAGE DURING PAST YEAR = 365 days

TYPE OF SHIPS MOORED = CTEC-1

DATE OF LAST REPAIR/COST = 1979 / ¤4,680

DATE OF LAST OVERHAUL/COST = 1-71 / ?

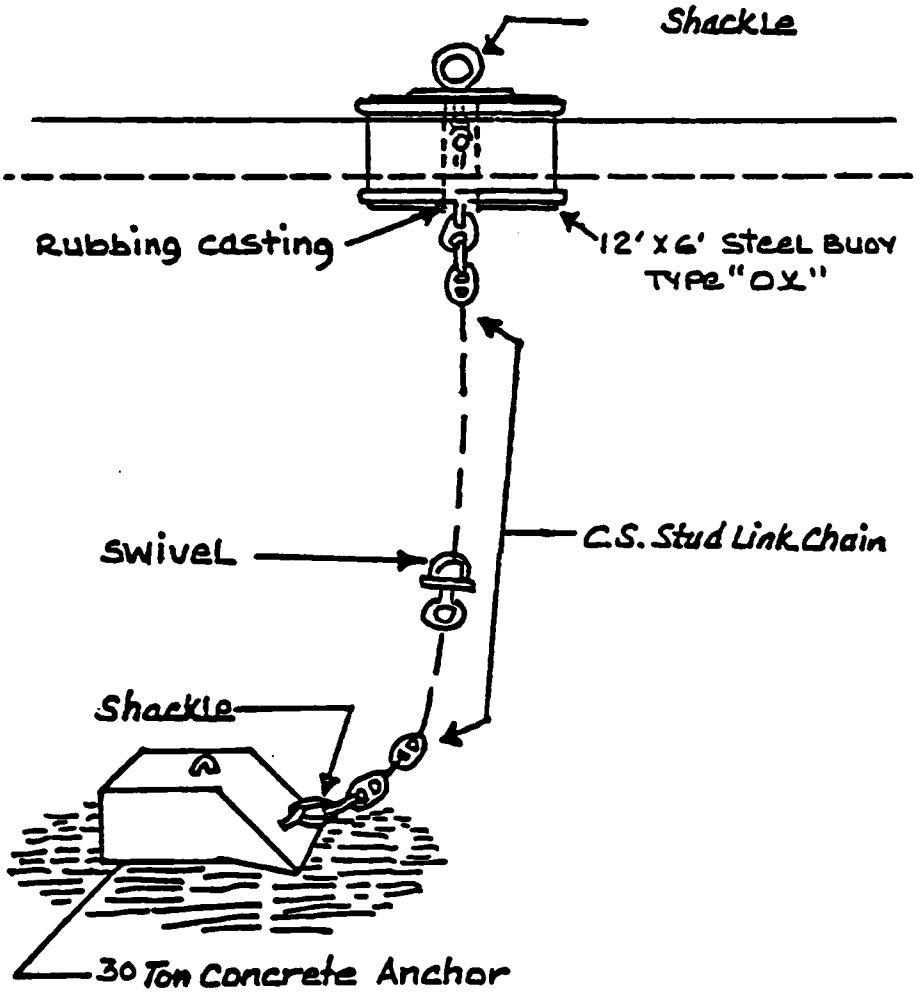
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT TWO)

NEXT SCHED. REPAIR = 1986

NEXT SCHED. OVERHAUL = 1983

DATE SHEET COMPILED = 8-82/MS

(*) Down-graded to class G after 1979 U/W Insp.



MOORING D5S
SCHEMATIC DRAWING

INSPECTION REPORT

D6M/D6S

Buoy

The identity of this mooring is questionable. The buoy is not numbered, and as it is located between the planned positions of D6M and D6S, this could be either D6M or D6S. The buoy is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. It is fiberglass coated and has two rubber fenders, although about 50 percent of the upper fender is missing. The top plate and the pipe chafing rail are in good condition.

Riser

The riser chain was measured to be greater than 90 percent of its original 2 3/4-inch diameter. The riser enters the bottom at a water depth of 22 feet.

Anchor

This mooring consists of only a buoy, a riser, and a concrete anchor. The anchor was not visible and could not be inspected.

Recommendation

This mooring is in satisfactory condition for continued use as a class D mooring.

IDENTIFICATION UNCERTAIN *

MOORING NO.: D6 ? CLASS: D/C LOCATION: MID. LOCH LAT: DISPLACED LONG: _____

WATER DEPTH: 22' ANCHOR SIZE/TYPE: 1-60K# CONC. BUOY TYPE: 12'ϕ X 6' HAWSEPIPE (NOT IN USE)

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 4' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION NEW	SINGLE LINK % 90+	SINGLE LINK % 80+	SINGLE LINK % 80-	DOUBLE LINK % 90+	DOUBLE LINK % 80+	DOUBLE LINK % 80-	D	COMMENT
BUOY HARDWARE											DECK PLATE }
DETACH. LINK		✓									RUBRAIL } OK
GROUNDRING		✓									HALF OF RUBBER FENDER
											MISSING.
(NO VISIBLE WEAR)											
RISER	NEAR BUOY		2 3/4"	✓✓			✓✓			TOP	
	MIDDLE		↓	✓✓			✓✓			11	2 3/4" GO/NO-GO GAUGE
	NEAR GRD RG		↓	✓✓			✓✓			22	
~~GROUND RING~~		**	2 1/4								ANCHOR NOT VISIBLE
GROUND LEG NO. A	UPPER END		N/A							*	(PROBABLY D6M, BUT
	MIDDLE		↓								MARKINGS NOT VISIBLE.)
	ENTERS BOTTOM		↓								
GROUND LEG NO. B	UPPER END		↓								MOORING WAS DISPLACED BY
	MIDDLE		↓								HURRICANE "IWA".
	ENTERS BOTTOM		↓								
GROUND LEG NO. C	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. D	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								

DATE: 5·9·83 ENGINEER IN CHARGE: THOMAS DIVERS: ELSASSER/SPEER **EYE ON ANCHOR PER AS-BUILT

FLEET MOORING DATA SHEET

MRG ID = DGM GENERAL LOC = Middle Loch (ISMF) DES CLASS = C

DATE ESTAB = 1950 DEPTH = 35.0 ft./MLW BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-35.4" LONG. COORD. (W) = 157°-59'-13.4"

BUOY TYPE = Riser-chain "J" hausepipe SIZE = 12'ϕ x 6' hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2¾"

SINKER = — WT. OF SINKER = — PADEYE SIZE = —

OF ANCHORS = 1

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2¼" ϕ
ANCHOR 2 WT =	—	PADEYE SIZE =	—
ANCHOR 3 WT =	—	PADEYE SIZE =	—
ANCHOR 4 WT =	—	PADEYE SIZE =	—

USAGE DURING PAST YEAR = ~~[illegible]~~

TYPE OF SHIPS MOORED = ? /OTEC/DD948

DATE OF LAST REPAIR/COST = 1976/$2,000

DATE OF LAST OVERHAUL/COST = ?/?

DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT TWO)

NEXT SCHED. REPAIR = 1987

NEXT SCHED. OVERHAUL = 1984

DATE SHEET COMPILED = 8-82/MS

FLEET MOORING DATA SHEET

MRG ID = P65 GENERAL LOC = Middle Loch (ISMF) DES CLASS = D

DATE ESTAB = 1944 DEPTH = 24.0 ft. (MLLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-33.4" LONG. COORD. (W) = 157°-59'-15.5"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2 3/8"

SINKER = — WT. OF SINKER = — PADEYE SIZE = —

OF ANCHORS = 1

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2 1/4" ϕ
ANCHOR 2 WT =	—	PADEYE SIZE =	—
ANCHOR 3 WT =	—	PADEYE SIZE =	—
ANCHOR 4 WT =	—	PADEYE SIZE =	—

USAGE DURING PAST YEAR = ~~0 days~~

TYPE OF SHIPS MOORED = ? / OTEC / DD948

DATE OF LAST REPAIR/COST = 1979 / $8,780

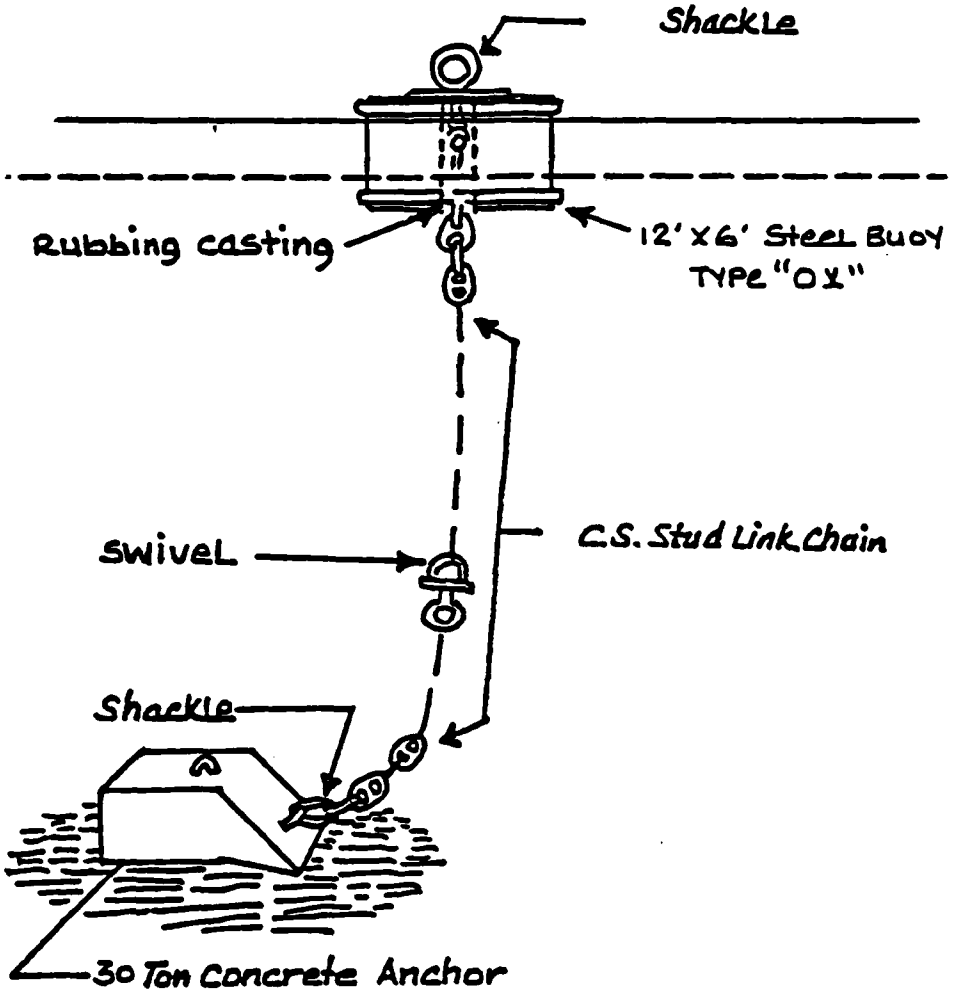
DATE OF LAST OVERHAUL/COST = ? / ?

DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT TWO)

NEXT SCHED. REPAIR = 1987

NEXT SCHED. OVERHAUL = 1984

DATE SHEET COMPILED = 8-82 / MS



MOORING D6M OR D6S
SCHEMATIC DRAWING

INSPECTION RESULTS

D7N

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The buoy is fiberglass coated, has two rubber fenders and a 2-inch pipe chafing rail. The top hardware and the buoy are in good condition.

Riser

The riser is comprised of 2 3/4-inch chain in good condition. The chain enters the bottom at a depth of 30 feet.

Anchor

The anchor was not visible and could not be inspected.

Recommendations

The mooring was overhauled in August 1982 and is in satisfactory condition for continued use as a class D mooring.

MOORING NO.: D7N CLASS: D LOCATION: MID. LOCH LAT: 21°22'39.6" LONG: 157°59'13.9"

WATER DEPTH: 30' ANCHOR SIZE/TYPE: 1-110K# CONC. BUOY TYPE: 12'ϕ X 6' HAWSEPIPE (NOT IN USE)

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 4' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION NEW	SINGLE LINK % 90+	SINGLE LINK % 80+	SINGLE LINK % 80-	DOUBLE LINK % 90+	DOUBLE LINK % 80+	DOUBLE LINK % 80-	D	COMMENT
BUOY HARDWARE											MOORING OVERHAULED 8-82
SHACKLE		✓									BUOY IN ESSENTIALLY NEW COND.
GROUND RING		✓									
(NO VISIBLE WEAR)											
RISER	NEAR BUOY		2¾"	✓			✓			TOP	
	MIDDLE		↓	✓			✓			15	2¾" GO/NO-GO GAUGE
	NEAR GRD RG		↓	✓			✓			30	
~~GROUND RING~~		*	3"	(HAIRPIN ON ANCHOR PER AS-BUILTS)							ANCHOR NOT VISIBLE
GROUND LEG NO. A	UPPER END		N/A								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. B	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. C	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. D	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								

DATE: 5·6·83 ENGINEER IN CHARGE: THOMAS DIVERS: AUSTIN/TZUCANOW *EYE ON ANCHOR PER AS-BUILTS

FLEET MOORING DATA SHEET

MRG ID = D7N GENERAL LOC = Middle Loch (ZSMF) DES CLASS = D

DATE ESTAB = 1944 DEPTH = 34.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21° 22'-39.6" LONG. COORD. (W) = 157°-59'-13.9"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6' hi

FENDER = Rubber (8"D) FIBERGLASS COATING = Yes

CHAIN SIZE = 2¾"

SINKER = — WT. OF SINKER = — PADEYE SIZE = —

OF ANCHORS = 1

ANCHOR 1 WT =	110,000 # (*)	PADEYE SIZE =	3" ϕ
ANCHOR 2 WT =	—	PADEYE SIZE =	—
ANCHOR 3 WT =	—	PADEYE SIZE =	—
ANCHOR 4 WT =	—	PADEYE SIZE =	—

USAGE DURING PAST YEAR = ~~0 days~~

TYPE OF SHIPS MOORED = ? / DD 34

DATE OF LAST REPAIR/COST = 1979 / $9,280

DATE OF LAST OVERHAUL/COST = 8-82 / Remove & replace mooring - $25,000 (*)

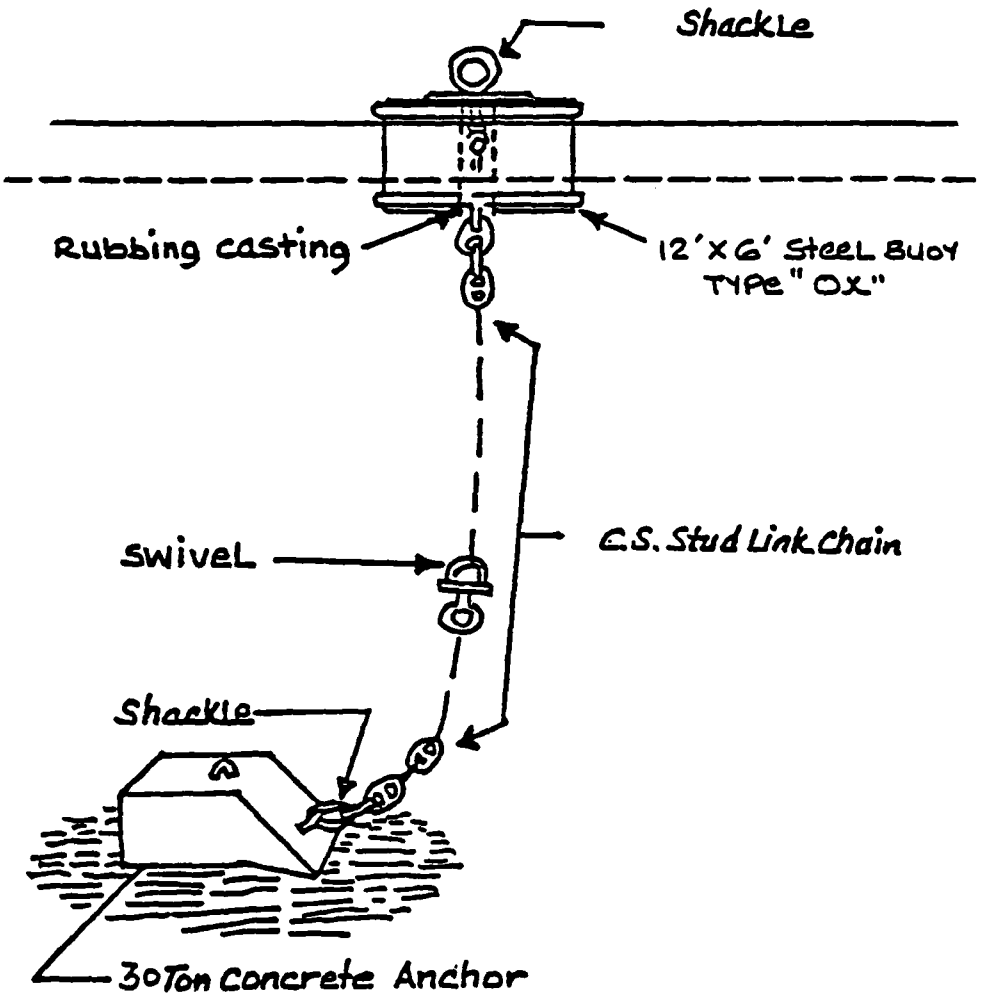
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT TWO)

NEXT SCHED. REPAIR = 1984

NEXT SCHED. OVERHAUL = 1986

DATE SHEET COMPILED = 8-82; MS

(*) Overhaul finally accomplished under J.O. 186-8161 (FY 79 Funds) with funds expiring 9-30-82; only 110,000 # anchor available (removed from Supporting Facility on 8-82); accomplished by PHNSY floating crane & PWC shop forces



MOORING D7N
SCHEMATIC DRAWING

INSPECTION REPORT

D7M

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. It is fiberglass coated, has two rubber fenders, and a 2-inch galvanized pipe chafing rail. The buoy and its top hardware are in good condition.

Riser

All double link measurements of the riser chain were greater than 90 percent of its original wire diameter. The riser is in good condition and enters the bottom at a water depth of 20 feet.

Anchor

The anchor was not visible and could not be inspected.

Recommendations

This mooring was overhauled in August, 1981 and is in satisfactory condition for continued use as a class C mooring.

MOORING NO.: D7M CLASS: C LOCATION: MID-LOCH LAT: 21°22'38.2" LONG: 157°59'16"

WATER DEPTH: 20' ANCHOR SIZE/TYPE: 1·60K# CONC. BUOY TYPE: 12'ϕ X 6' HAWSEPIPE (NOT IN USE)

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 4' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION								COMMENT
			NEW	SINGLE LINK %			DOUBLE LINK %			D	
				90+	80+	80-	90+	80+	80-		
BUOY HARDWARE											MOORING OVERHAULED 1-81
SHACKLE		✓									BUOY IN ESSENTIALLY NEW COND.
DETACH. LINK		✓									
END LINK		✓									
(NO VISIBLE WEAR)											
RISER	NEAR BUOY		2¾	✓			✓			TOP	
	MIDDLE		↓	✓			✓			10'	2¾" GO/NO-GO GAUGE
	NEAR GRD RG		↓	✓			✓			20'	
~~GROUND RING~~		*	2¼	(HAIRPIN ON ANCHOR PER AS-BUILTS)							ANCHOR NOT VISIBLE
GROUND LEG NO. A	UPPER END		N/A								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. B	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. C	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. D	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								

DATE: 5·6·83 ENGINEER IN CHARGE: THOMAS DIVERS: AUSTIN/TZUCANOW *EYE ON ANCHOR PER AS-BUILTS

CHESNAVFACENGCOM REPORT FPO-1-83, "PWC PEARL HARBOR FLEET MOORINGS INSPECTION REPORT."

FLEET MOORING DATA SHEET

MRG ID = D7M GENERAL LOC = Middle Loch (ISMF) DES CLASS = C

DATE ESTAB = 1950 DEPTH = 29.0 ft.(MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-38.2" LONG. COORD. (W) = 157°-59'-16.0"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2¾"

SINKER = — WT. OF SINKER = — PADEYE SIZE = —

OF ANCHORS = 1

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2¼" ϕ
ANCHOR 2 WT =	—	PADEYE SIZE =	—
ANCHOR 3 WT =	—	PADEYE SIZE =	—
ANCHOR 4 WT =	—	PADEYE SIZE =	—

USAGE DURING PAST YEAR = ~~0 hours~~

TYPE OF SHIPS MOORED = ? / DD 34

DATE OF LAST REPAIR/COST = 1975 / $7,000

DATE OF LAST OVERHAUL/COST = 1-81 / $25,000 (*)

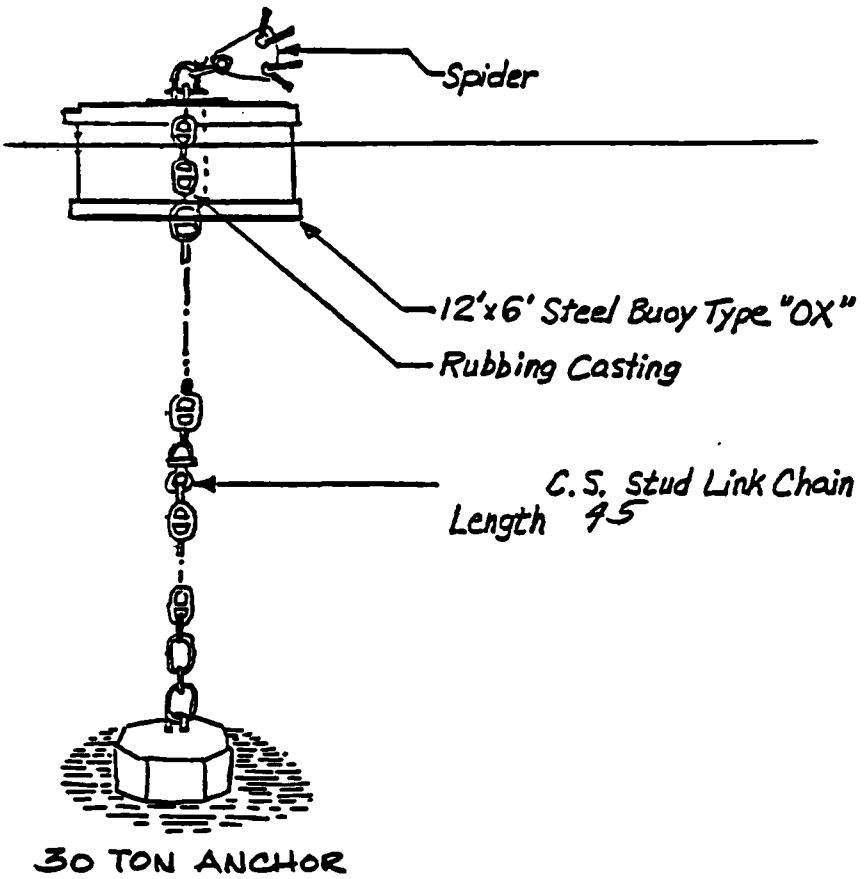
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT Two)

NEXT SCHED. REPAIR = 1984

NEXT SCHED. OVERHAUL = 1986

DATE SHEET COMPILED = 8-82/MS

(*) Contr. N62471-80-C-1422 (Healy-Tibbets) : Remove & replace mooring and refurbish buoy.



MOORING D7M
SCHEMATIC DRAWING

INSPECTION REPORT

D7S

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The buoy is fiberglass coated and has two rubber fenders and a galvanized pipe chafing rail. The buoy was overhauled in January, 1981 and is in good condition. The top hardware all measured greater than 90 percent of original wire diameter.

Riser

The riser chain which was replaced during overhaul in 1981 is in good condition. The riser enters the bottom at a water depth of 20 feet.

Anchor

The anchor was not visible and could not be inspected.

Recommendation

This mooring is in satisfactory condtion for continued use as a class D mooring.

MOORING NO.: D7S CLASS: D LOCATION: MID. LOCH LAT: 21°22'36.6" LONG: 157°59'18.1"

WATER DEPTH: 20' ANCHOR SIZE/TYPE: 1-60K# CONC. BUOY TYPE: 12'ϕ X 6' HAWSEPIPE (NOT IN USE)

BOTTOM TYPE: ☐ SAND ☒ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 6' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION: NEW	SINGLE LINK % 90+	SINGLE LINK % 80+	SINGLE LINK % 80-	DOUBLE LINK % 90+	DOUBLE LINK % 80+	DOUBLE LINK % 80-	D	COMMENT
BUOY HARDWARE											MOORING OVERHAULED 1-81
DETACH. LINK		✓									BUOY IN ESSENTIALLY NEW
GROUND RING		✓									CONDITION.
(NO VISIBLE WEAR)											
RISER	NEAR BUOY		2 3/4"	✓			✓			TOP	
	MIDDLE			✓			✓			10'	2 3/4" GO/NO-GO GAUGE
	NEAR GRD RG			✓			✓			20'	
~~GROUND RING~~		*	2 1/4"								ANCHOR NOT VISIBLE
GROUND LEG NO. A	UPPER END		N/A ↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. B	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. C	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. D	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								

DATE 5.6.83 ENGINEER IN CHARGE: THOMAS DIVERS: AUSTIN/TZUCANOW

*PADEYE ON ANCHOR - PER

FLEET MOORING DATA SHEET

MRG ID = D7S GENERAL LOC = Middle Loch (ISMF) DES CLASS = D

DATE ESTAB = 1944 DEPTH = 23.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-36.6" LONG. COORD. (W) = 157°-59'-18.1"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2¾"

SINKER = — WT. OF SINKER = — PADEYE SIZE = —

OF ANCHORS = 1

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2¼" ϕ
ANCHOR 2 WT =	—	PADEYE SIZE =	—
ANCHOR 3 WT =	—	PADEYE SIZE =	—
ANCHOR 4 WT =	—	PADEYE SIZE =	—

USAGE DURING PAST YEAR = ~~0 days~~

TYPE OF SHIPS MOORED = ? / DD 34

DATE OF LAST REPAIR/COST = 1976 / $2,000

DATE OF LAST OVERHAUL/COST = 1-81 / $25,000 (*)

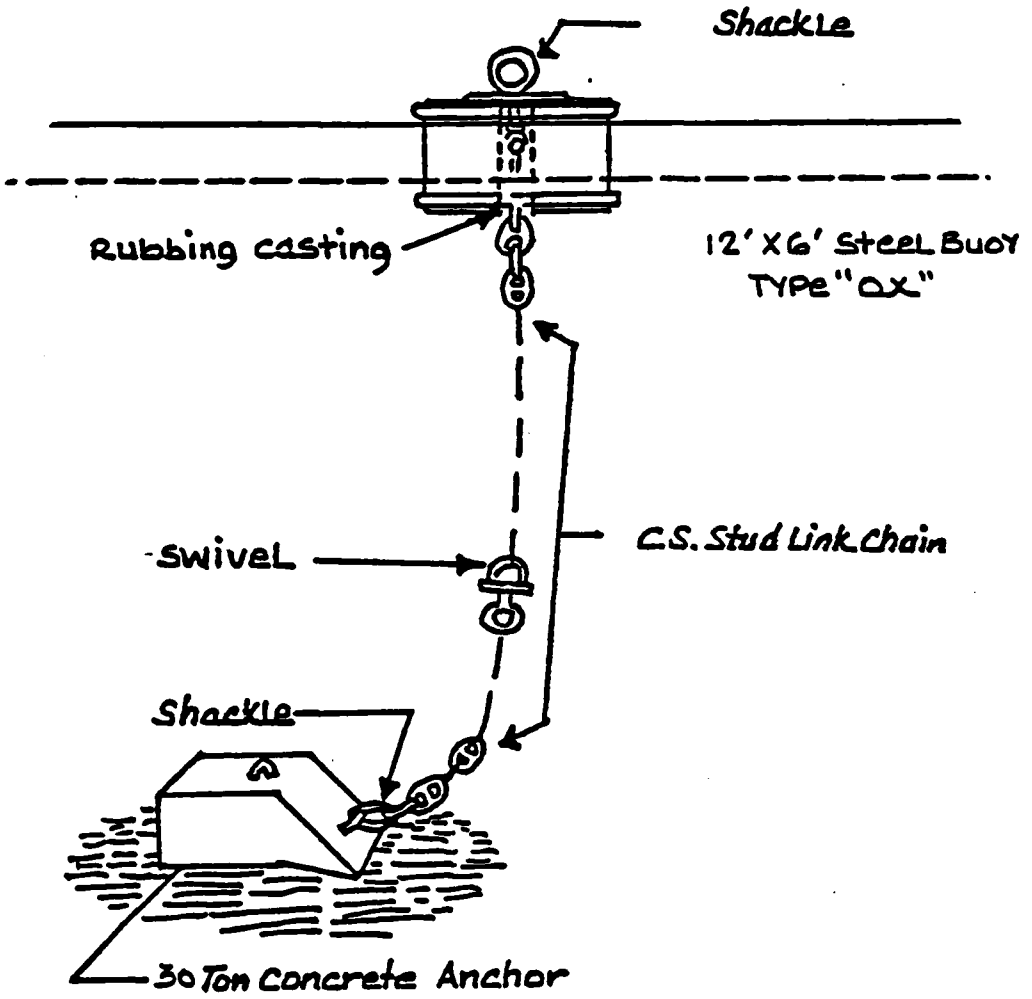
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT Two)

NEXT SCHED. REPAIR = 1984

NEXT SCHED. OVERHAUL = 1986

DATE SHEET COMPILED = 8-82/MS

(*) Contr. N62471-80-C-1422 (Healy Tibbets): Remove & replace mooring and refurbish buoy



MOORING D7S
SCHEMATIC DRAWING

INSPECTION RESULTS

D8N

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The buoy is fiberglass coated and has two rubber fenders and a galvanized pipe chafing rail. The mooring was overhauled in January 1981, and the buoy is in good condition. The top jewelry wire diameter measurements were all greater than 90 percent of their original diameter size.

Riser

The riser chain and accessories were replaced during the 1981 overhaul. The riser is in good condition with all wire size measurements greater than 90 percent of original diameter. The riser enters the bottom at a water depth of 30 feet.

Anchor

The anchor was not visible and could not be inspected.

Recommendation

This mooring is in satisfactory condition for continued use as a class D mooring.

MOORING NO.: D8N CLASS: D LOCATION: MID. LOCH LAT: 21°22'47.7" LONG: 157°59'16.5"

WATER DEPTH: 30' ANCHOR SIZE/TYPE: 1·60K# CONC. BUOY TYPE: 12'ϕ X 6' HAWSEPIPE (IN USE)

BOTTOM TYPE: ☐ SAND ☒ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 6' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION NEW	SINGLE LINK % 90+	SINGLE LINK % 80+	SINGLE LINK % 80-	DOUBLE LINK % 90+	DOUBLE LINK % 80+	DOUBLE LINK % 80-	D	COMMENT
BUOY HARDWARE											MOORING OVERHAULED 1-81
DETACH LINK		✓									BUOY IN ESSENTIALLY NEW COND.
GROUND RING		✓									
(NO VISIBLE WEAR)											
RISER	NEAR BUOY		2¾"	✓			✓			TOP	
	MIDDLE		↓	✓			✓			15'	2¾" GO/NO-GO GAUGE
	NEAR GRD RG		↓	✓			✓			30'	
~~GROUND RING~~		N/A *	2¼"	(HAIRPIN ON CLUMP-PER AS-BUILTS)							CLUMP BURIED
GROUND LEG NO. A	UPPER END		N/A								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. B	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. C	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. D	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								

DATE: 5·6·83 ENGINEER IN CHARGE: THOMAS DIVERS: AUSTIN/TEMCANOW

*PADEYE ON CLUMP PER AS-BUILTS

CHESNAVFACENGCOM REPORT FPO-1-83, "PWC PEARL HARBOR FLEET MOORINGS INSPECTION REPORT."

FLEET MOORING DATA SHEET

MRG ID = D8N GENERAL LOC = Middle Loch (ISMF) DES CLASS = D

DATE ESTAB = 1945 DEPTH = 35.0 ft.(MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-42.7" LONG. COORD. (W) = 157°-59'-16.5"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2¾"

SINKER = — WT. OF SINKER = — PADEYE SIZE = —

OF ANCHORS = 1

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2¼"
ANCHOR 2 WT =	—	PADEYE SIZE =	—
ANCHOR 3 WT =	—	PADEYE SIZE =	—
ANCHOR 4 WT =	—	PADEYE SIZE =	—

USAGE DURING PAST YEAR = ~~0 days~~

TYPE OF SHIPS MOORED = ?

DATE OF LAST REPAIR/COST = 1977/$2,750

DATE OF LAST OVERHAUL/COST = 1-81/$25,000 (*)

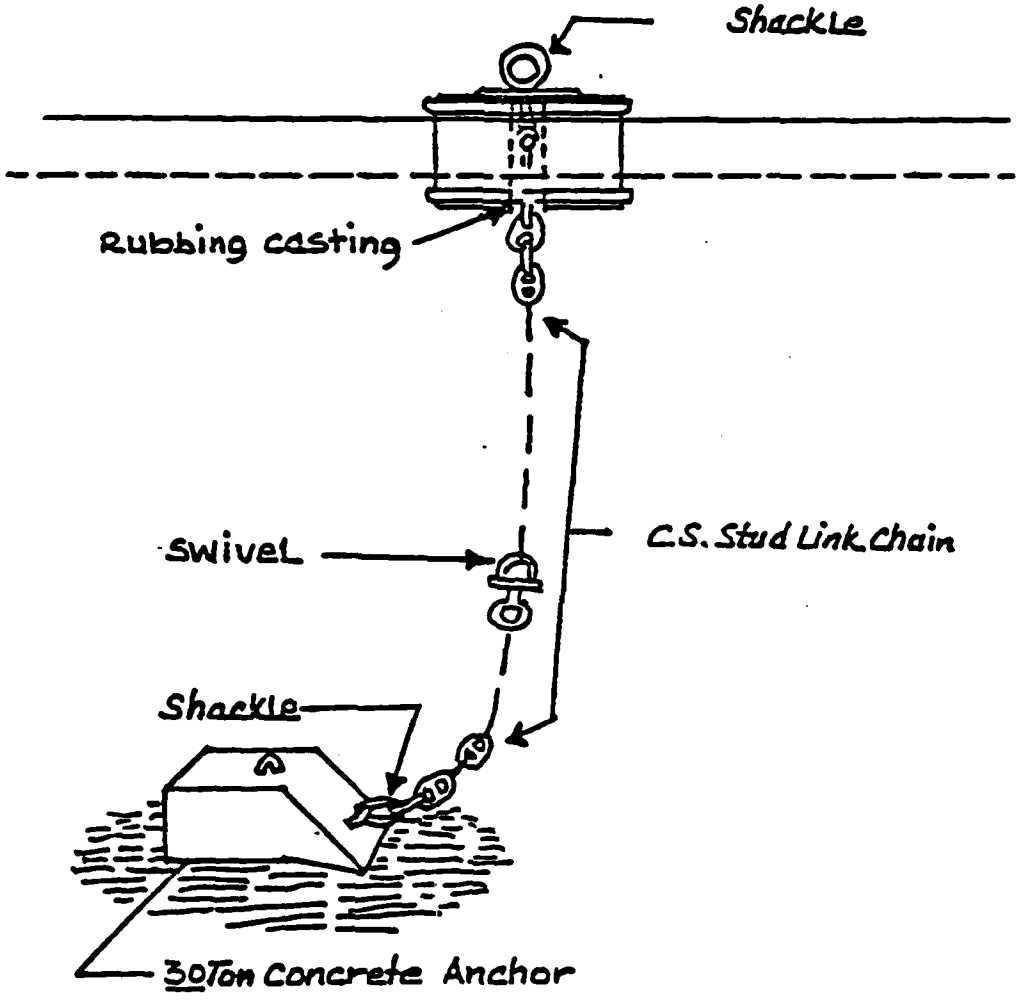
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT TWO)

NEXT SCHED. REPAIR = 1984

NEXT SCHED. OVERHAUL = 1986

DATE SHEET COMPILED = 8-82/MS

(*) Contr. N62471-80-C-1422 (Healy Tibbets): Remove & replace mooring and refurbish buoy



MOORING D8N

SCHEMATIC DRAWING

INSPECTION RESULTS

D8M

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The buoy is fiberglass coated and has two rubber fenders and a galvanized pipe chafing rail. The mooring was overhauled in January 1981, and the buoy is in good condition. The top jewelry wire diameter measurements were all greater than 90 percent of their original diameter size.

Riser

The riser chain and accessories were replaced during the 1981 overhaul. The riser is in good condition with all wire size measurements greater than 90 percent of original diameter. The riser enters the bottom at a water depth of 30 feet.

Anchor

The anchor was not visible and could not be inspected.

Recommendation

This mooring is in satisfactory condition for continued use as a class C mooring.

MOORING NO.: D8M CLASS: C LOCATION: MID. LOCH LAT: 21°22'41.2" LONG: 157°59'18.6"

WATER DEPTH: 30' ANCHOR SIZE/TYPE: 1-60K# CONC BUOY TYPE: 12"ϕ X 6' HAWSEPIPE (NOT IN USE)

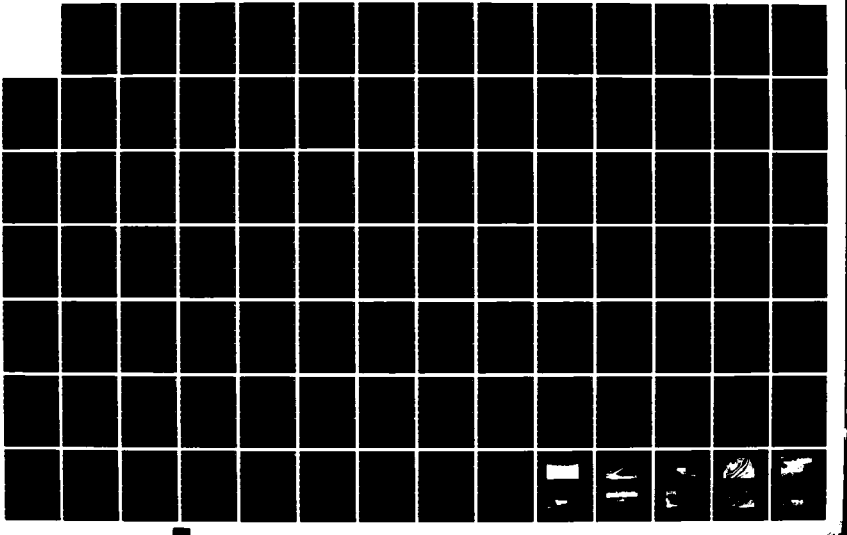
BOTTOM TYPE: ☐ SAND ☒ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 6' D = depth NI = not inspected, inaccessible

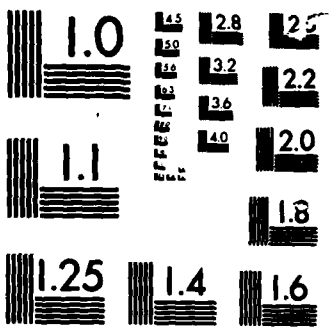
COMPONENTS		NI	CONDITION							COMMENT
			NEW	SINGLE LINK %			DOUBLE LINK %			D	
				90+	80+	80-	90+	80+	80-		
BUOY HARDWARE											MOORING OVERHAULED 1-81
DETACH. LINK		✓									BUOY IN ESSENTIALLY NEW COND.
GROUND RING		✓									
(NO VISIBLE WEAR)											
RISER	NEAR BUOY		2 3/4	✓			✓			TOP	
	MIDDLE		↓	✓			✓			15'	2 3/4" GO/NO-GO GAUGE
	NEAR GRD RG		↓	✓			✓			30'	
~~GROUND RING~~		*	2 1/4"	(HAIRPIN ON ANCHOR - PER AS-BUILTS)							
GROUND LEG NO. A	UPPER END		N/A								ANCHOR BURIED
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. B	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. C	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. D	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								

DATE 5·6·83 ENGINEER IN CHARGE: THOMAS DIVERS: AUSTIN / TZUCANOW * EYE ON CLUMP PER AS-BUILTS

CHESNAVFACENGCOM REPORT FPO-1-83, "PWC PEARL HARBOR FLEET MOORINGS INSPECTION REPORT

AD-A167 247 PUBLIC WORKS CENTER PEARL HARBOR FLEET MOORINGS 2/3
UNDERWATER INSPECTION REPORT(U) NAVAL FACILITIES
ENGINEERING COMMAND WASHINGTON DC CHESAPEAKE DIV
UNCLASSIFIED SEP 83 CHES/NAVFAC-FPO-1-83(22) F/G 13/2 NL





FLEET MOORING DATA SHEET

MRG ID = DBM GENERAL LOC = Middle Loch (ISMF) DES CLASS = C

DATE ESTAB = 1950 DEPTH = 34.0 ft.(MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-41.2" LONG. COORD. (W) = 157°-59'-18.6"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6' hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2 3/4"

SINKER = — WT. OF SINKER = — PADEYE SIZE = —

OF ANCHORS = 1

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2¼"ϕ
ANCHOR 2 WT =	—	PADEYE SIZE =	—
ANCHOR 3 WT =	—	PADEYE SIZE =	—
ANCHOR 4 WT =	—	PADEYE SIZE =	—

USAGE DURING PAST YEAR = ~~0 days~~

TYPE OF SHIPS MOORED = ? / YW101 / YW83 / YOG-68

DATE OF LAST REPAIR/COST = 1977 / $2,750

DATE OF LAST OVERHAUL/COST = 1-81 / $25,000 (*)

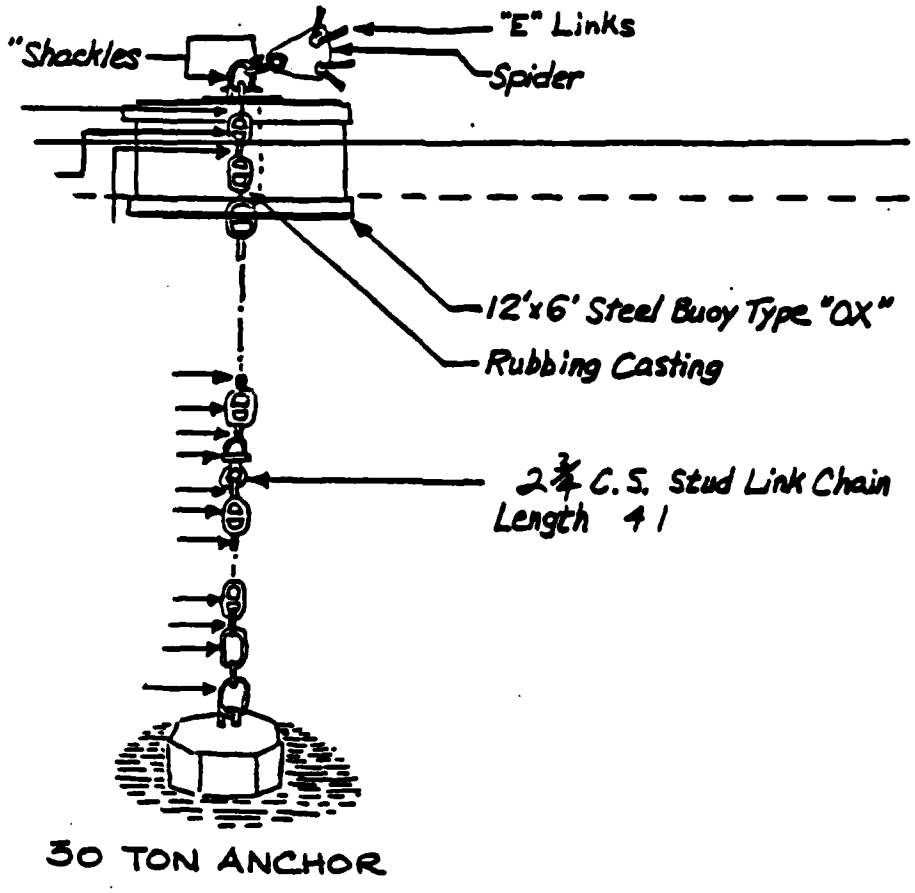
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT TWO)

NEXT SCHED. REPAIR = 1984

NEXT SCHED. OVERHAUL = 1986

DATE SHEET COMPILED = 8-82/MS

(*) Contr. N62471-80-C-1422 (Healy-Tibbets): Remove & replace mooring and refurbish buoy



MOORING D8M
SCHEMATIC DRAWING

INSPECTION RESULTS

D8S

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The buoy is fiberglass coated and has two rubber fenders and a galvanized pipe chafing rail. The mooring was overhauled in December, 1982, and the buoy is in good condition.

Riser

The riser chain and accessories were replaced during the 1982 overhaul. The riser is in good condition with all wire size measurements greater than 90 percent of original diameter. The riser enters the bottom at a water depth of 20 feet.

Anchor

The anchor was not visible and could not be inspected.

Recommendation

This mooring is in satisfactory condition for continued use as a class D mooring.

MOORING NO.: D85 CLASS: D LOCATION: MID. LOCH LAT: 21°22'39.7" LONG: 157°59'20.7"

WATER DEPTH: 20' ANCHOR SIZE/TYPE: 1-60K# CONC BUOY TYPE: 12'ϕ x 6' HAWSEPIPE

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 6' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION							D	COMMENT
			NEW	SINGLE LINK %			DOUBLE LINK %				
				90+	80+	80-	90+	80+	80-		
BUOY HARDWARE											MOORING OVERHAULED 12·82
SHACKLE		✓									BUOY IN ESSENTIALLY NEW COND.
DETACH. LINK		✓									
P.S. LINK		✓									
SHACKLE		✓									(NO VISIBLE WEAR)
RISER	NEAR BUOY		2 3/4"	✓			✓			TOP	
	MIDDLE			✓			✓			10'	2 3/4" GO/NO-GO GAUGE
	NEAR GRD RG			✓			✓			20'	
~~GROUND RING~~		*	2 3/4"								ANCHOR NOT VISIBLE
GROUND LEG NO. A	UPPER END		N/A								
	MIDDLE										
	ENTERS BOTTOM										
GROUND LEG NO. B	UPPER END										
	MIDDLE										
	ENTERS BOTTOM										
GROUND LEG NO. C	UPPER END										
	MIDDLE										
	ENTERS BOTTOM										
GROUND LEG NO. D	UPPER END										
	MIDDLE										
	ENTERS BOTTOM										

DATE: 5·6·83 ENGINEER IN CHARGE: THOMAS DIVERS: AUSTIN/TEUCANOW *PER AS-BUILT

CHESNAVFACENGCOM REPORT FPO-1-83, "PWC PEARL HARBOR FLEET MOORINGS INSPECTION REPORT."

FLEET MOORING DATA SHEET

MRG ID = DBS GENERAL LOC = Middle Loch (ISMF) DES CLASS = D

DATE ESTAB = 1945 DEPTH = 23.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-39.7" LONG. COORD. (W) = 157°-59'-20.7"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2¾"

SINKER = — WT. OF SINKER = — PADEYE SIZE = —

OF ANCHORS = 1

ANCHOR 1 WT =	60,000 ±	PADEYE SIZE =	~~2¼"ϕ~~ 2¾"ϕ
ANCHOR 2 WT =	—	PADEYE SIZE =	—
ANCHOR 3 WT =	—	PADEYE SIZE =	—
ANCHOR 4 WT =	—	PADEYE SIZE =	—

USAGE DURING PAST YEAR = ~~0 days~~

TYPE OF SHIPS MOORED = ? / YW 101 / YW 83 / YOG-68

DATE OF LAST REPAIR/COST = 1977 / $2,750

DATE OF LAST OVERHAUL/COST = ~~1-81 / $85,000 (*)~~ 12-82 / $31,000 (*)

DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT TWO)

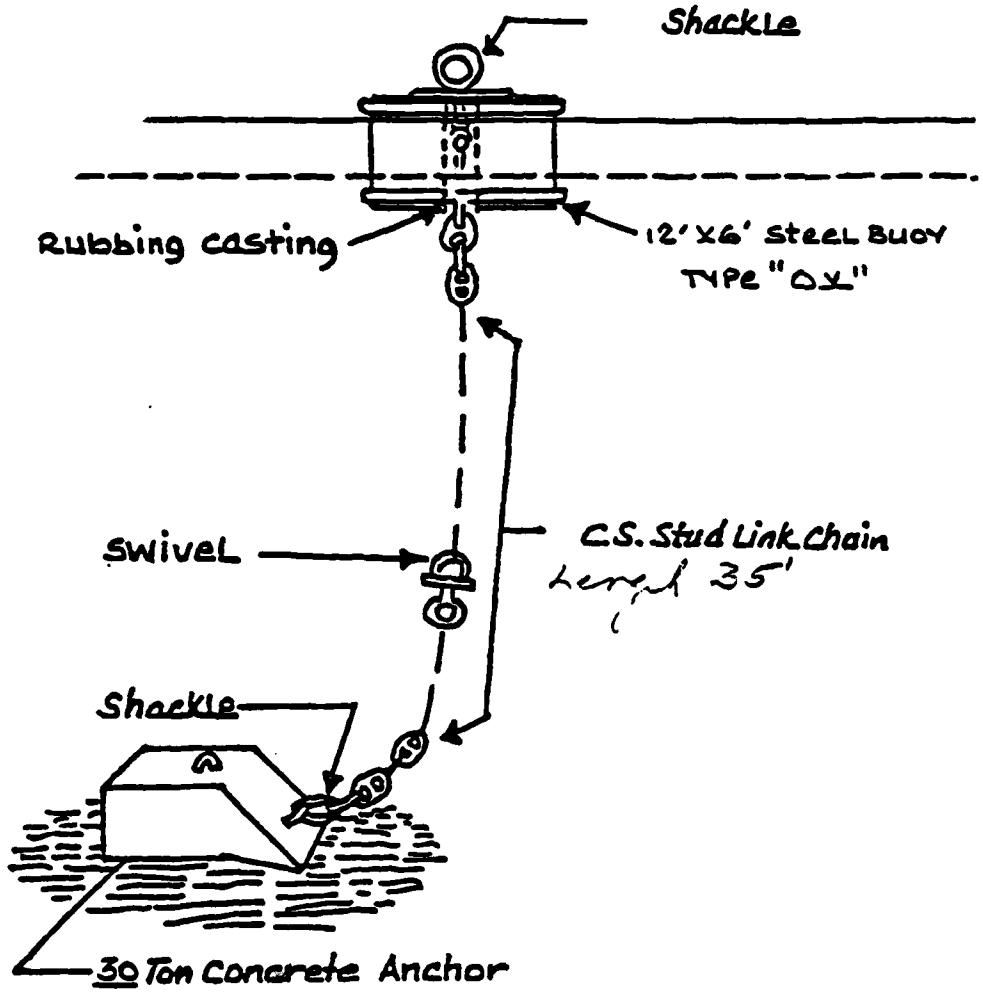
NEXT SCHED. REPAIR = 1984

NEXT SCHED. OVERHAUL = 1986

DATE SHEET COMPILED = ~~8-82~~ 4-83 / MS

~~(*) Contr. N62471-80-C-1422 (Healy-Tibbetts): Remove & replace mooring and refurbish buoy~~

(*) Overhaul accomplished by Contr. N62471-82-C-2164;
Necessitated when mooring failed due to high winds during passage of Hurricane Iwa 11/23/82;
This mooring done vice DIM of original contract.



MOORING D8S
SCHEMATIC DRAWING

INSPECTION RESULTS

D9N

Buoy

This buoy is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawse-pipe. The buoy is fiberglass coated and has two rubber fenders and a galvanized pipe chafing rail. The mooring was overhauled in 1982, and the buoy is in good condition. The top jewelry appeared to consist of new components.

Riser

The riser chain and accessories were replaced during the 1982 overhaul. The riser is in good condition with all measurements greater than 90 percent of original wire size.

Ground Ring

The ground ring was located about 10 feet below the buoy and was found to be in good condition.

Ground Legs

Although the representative schematic drawing of this mooring shows the mooring to have four legs and four 30-ton concrete anchors, both the 1979 and this current inspection indicate only three chain legs attached to the ground ring. Since the mooring was removed and overhauled in December of 1982, it must be assumed that the original design was modified and only three legs were installed. Three chain legs enter the bottom about 10 feet below the ground ring. All three legs are in good condition.

Anchors/Concrete Sinker

None were visible for inspection.

Recommendations

This mooring is in satisfactory condition for continued use as a class A mooring.

MOORING NO.: D9N CLASS: A LOCATION: MID. LOCH LAT: 21°22'45.9" LONG: 157°59'19.1"

WATER DEPTH: 20' ANCHOR SIZE/TYPE: 3-60K# CONC BUOY TYPE: 12'ϕ X 6' HAWSEPIPE (IN USE)

BOTTOM TYPE: ☐ SAND ☒ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 6' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION							COMMENT
			NEW	SINGLE LINK %			DOUBLE LINK %			D	
				90+	80+	80-	90+	80+	80-		
BUOY HARDWARE											MOORING OVERHAULED 12·82
SHACKLE		✓									BUOY IN ESSENTIALLY NEW COND.
DETACH. LINK		✓									
P.S. LINK		✓									
(NO VISIBLE WEAR)											
RISER	NEAR BUOY		2¾"	✓✓			✓✓			TOP	
	MIDDLE		↓	✓✓			✓✓			10'	2¾" GO/NO·GO GAUGE
	NEAR GRD RG		↓	✓✓			✓✓			20'	
~~GROUND RING~~			2¾"	✓							
GROUND LEG NO. A	UPPER END		2¾"	✓✓			✓✓				
	MIDDLE	✓									GROUND LEGS ENTER
	ENTERS BOTTOM	✓									BOTTOM @ 10' FROM CLUMP.
GROUND LEG NO. B	UPPER END			✓✓			✓✓				ANCHORS NOT VISIBLE
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. C	UPPER END			✓✓			✓✓				
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. D	UPPER END		N/A								
	MIDDLE		↓								
	ENTERS BOTTOM										

DATE: 5·6·83 ENGINEER IN CHARGE: THOMAS DIVERS: AUSTIN/TRUCANOW

FLEET MOORING DATA SHEET

MRG ID = D9N GENERAL LOC = Middle Loch (ISMF) DES CLASS = A ~~(*)~~

DATE ESTAB = 1946 DEPTH = 27.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-45.9" LONG. COORD. (W) = 157°-59'-19.1"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'4 x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2 3/4"

SINKER = 1 WT. OF SINKER = 60,000 # PADEYE SIZE = ~~2 1/4"~~ 2 3/4" ϕ

OF ANCHORS = 3

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	~~2 1/4"~~ 2 3/4" ϕ
ANCHOR 2 WT =	(Do.)	PADEYE SIZE =	(Do.) ✓
ANCHOR 3 WT =	(Do.)	PADEYE SIZE =	(Do.) ✓
ANCHOR 4 WT =	—	PADEYE SIZE =	— ✓

USAGE DURING PAST YEAR = 365 days

TYPE OF SHIPS MOORED = YWN/YOG/YO/YOG/YON

DATE OF LAST REPAIR/COST = 1977/$2,450

DATE OF LAST OVERHAUL/COST = ~~1971/?~~ 12-82/$51,000 (**)

DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT Two)

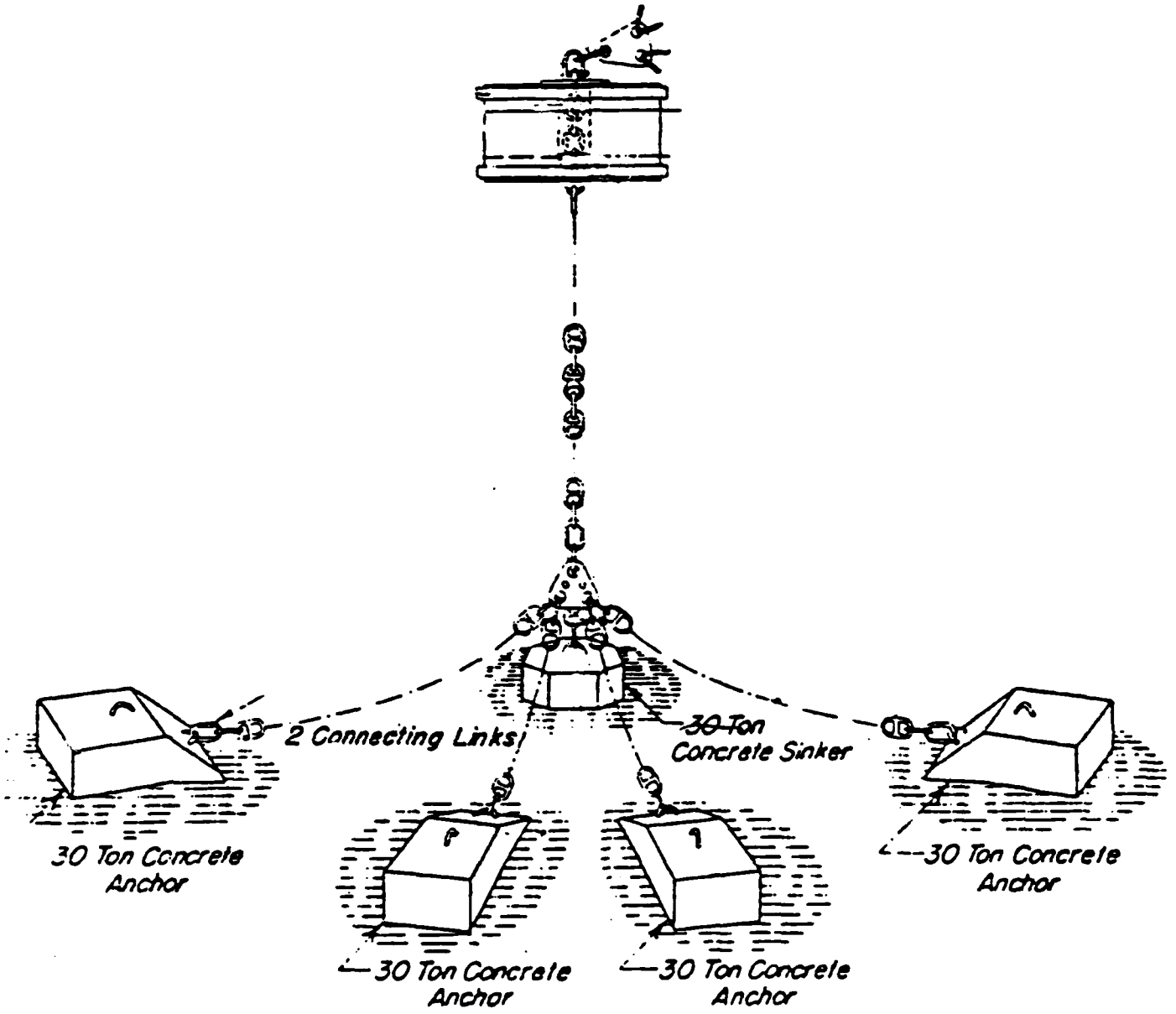
NEXT SCHED. REPAIR = 1984

NEXT SCHED. OVERHAUL = 1982 (**)

DATE SHEET COMPILED = ~~8-82~~ 4-83/MS

~~(*) Down graded to class F after 1979 U/W insp.~~

(**) Overhaul ~~expected to be~~ accomplished by Contr. N62471-82-C-2164



MOORING D9N

SCHEMATIC DRAWING

INSPECTION RESULTS

D9M

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The buoy is fiberglass coated and has two rubber fenders and a galvanized pipe chafing rail. The mooring was overhauled in December 1982, and the buoy is in good condition.

Riser

The riser chain and accessories were replaced during the 1982 overhaul. The riser is in good condition with all wire size measurements greater than 90 percent or original diameter. The riser enters the bottom at a water depth of 20 feet.

Ground Ring

The ground ring was also replaced in the 1982 overhaul and is partially buried in the bottom. The ground ring is in good condition.

Ground Legs/Anchors/Concrete Sinkers

Not visible for inspection.

Recommendation

This mooring is in satisfactory condition for continued use as a class A mooring.

MOORING NO.: D9M CLASS: A LOCATION: MID. LOCH LAT: 21°22'44.4" LONG: 157°59'19.1"

WATER DEPTH: 20' ANCHOR SIZE/TYPE: 4-60K# CONC. BUOY TYPE: 12'ϕ X 6' HAWSEPIPE (IN USE)

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 6' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION							COMMENT
			NEW	SINGLE LINK %			DOUBLE LINK %			D	
				90+	80+	80-	90+	80+	80-		
BUOY HARDWARE											MOORING OVERHAULED 12-82
SHACKLE		✓									BUOY IN ESSENTIALLY NEW
DETACH. LINK		✓									CONDITION.
END LINK		✓									
(NO VISIBLE WEAR)											
RISER	NEAR BUOY		2¾"	✓✓			✓✓			TOP	
	MIDDLE		↓	✓✓			✓✓			10'	2¾" GO/NO-GO GAUGE
	NEAR GRD RG		↓	✓✓			✓✓			20'	
~~GROUND RING~~			2¾	✓							
GROUND LEG NO. A	UPPER END		2¾	✓							4 GROUND-LEG LINKS &
	MIDDLE	✓									HAIRPIN VISIBLE ON CLUMP
	ENTERS BOTTOM	✓									
GROUND LEG NO. B	UPPER END			✓							GROUND LEGS & ANCHORS
	MIDDLE	✓									BURIED
	ENTERS BOTTOM	✓									
GROUND LEG NO. C	UPPER END			✓							
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. D	UPPER END			✓							
	MIDDLE	✓									
	ENTERS BOTTOM	✓									

DATE: 5·6·83 ENGINEER IN CHARGE: THOMAS DIVERS: AUSTIN/TRUCANOW

FLEET MOORING DATA SHEET

MRG ID = D9M GENERAL LOC = Middle Loch (ISMF) DES CLASS = ~~A-Temp~~

DATE ESTAB = 1950 DEPTH = ~~26.0 ft~~ 20.0 (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-44.4" LONG. COORD. (W) = 157°-59'-21.2"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2¾"

SINKER = 1 WT. OF SINKER = 60,000 ℔ PADEYE SIZE = ~~2¼"ϕ~~ 2¾"ϕ

OF ANCHORS = 4

ANCHOR 1 WT =	60,000 ℔	PADEYE SIZE = ~~2¼"ϕ~~	2¾"ϕ
ANCHOR 2 WT =	(Do.)	PADEYE SIZE = (Do.)	✓
ANCHOR 3 WT =	(Do.)	PADEYE SIZE = (Do.)	✓
ANCHOR 4 WT =	(Do.)	PADEYE SIZE = (Do.)	✓

USAGE DURING PAST YEAR = 365 days

TYPE OF SHIPS MOORED = YWN/YOG/YO/YOG/YON /// 4-YW's

DATE OF LAST REPAIR/COST = 1979/$450

DATE OF LAST OVERHAUL/COST = ~~4-81/CG~~ 12-82/$51,000 (**)

DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT TWO)

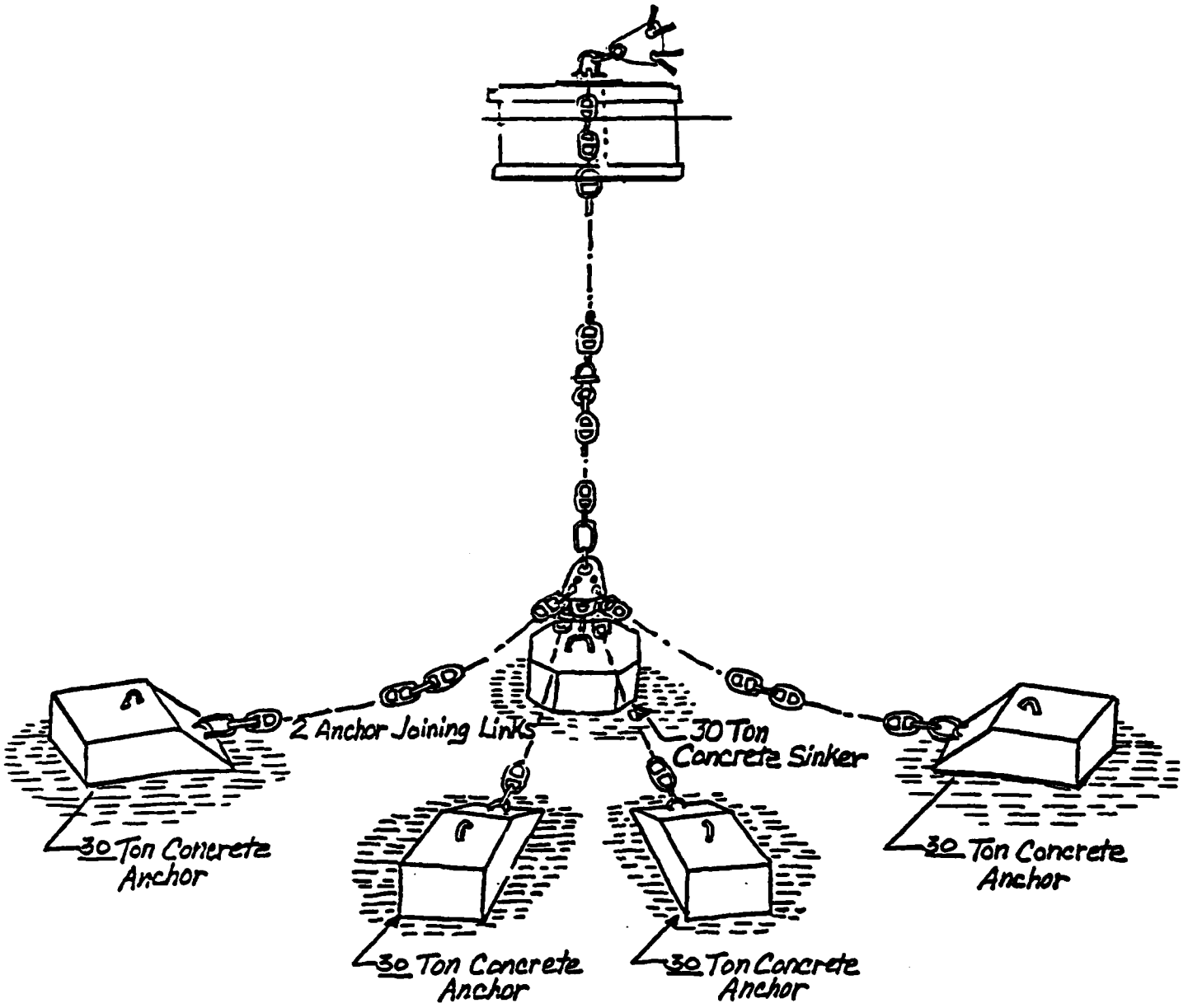
NEXT SCHED. REPAIR = 1984

NEXT SCHED. OVERHAUL = ~~1982 (new)~~ 1987

DATE SHEET COMPILED = ~~3-82~~ 1-83/MS

~~(*) Downgraded to class F after 1979 U/W Insp.~~

(**) Overhaul ~~expected to be~~ accomplished by Contr. N62471-82-C-2164



MOORING D9M
SCHEMATIC DRAWING

INSPECTION RESULTS

D9S

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The buoy is fiberglass coated and has two rubber fenders and a galvanized pipe chafing rail. The mooring was overhauled in December 1982, and the buoy is in good condition.

Riser

The riser chain and accessories were replaced during the 1982 overhaul. The riser is in good condition with all wire size measurements greater than 90 percent or original diameter. The riser enters the bottom at a water depth of 20 feet.

Ground Ring/Ground Legs/Anchors/Concrete Sinker

Not visible for inspection.

Recommendation

This mooring is in satisfactory condition for continued use as a class A mooring.

MOORING NO.: D05 CLASS: A LOCATION: MID. LOCH LAT: 21°22'42.9" LONG: 157°59'23.3"

WATER DEPTH: 20' ANCHOR SIZE/TYPE: 4-60K# CONC BUOY TYPE: 12'ϕ X 6" HAWSEPIPE (IN USE)

BOTTOM TYPE: ☐ SAND ☒ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 6' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION: NEW	SINGLE LINK % 90+	SINGLE LINK % 80+	SINGLE LINK % 80-	DOUBLE LINK % 90+	DOUBLE LINK % 80+	DOUBLE LINK % 80-	D	COMMENT
BUOY HARDWARE											BUOY OVERHAULED &
SHACKLE		✓									REPLACED IN 12.82
DETACH. LINK		✓									ESSENTIALLY NEW CONDITION
(NO VISIBLE WEAR)											
RISER	NEAR BUOY		2¾"	✓✓			✓✓			TOP	
	MIDDLE		↓	✓✓			✓✓			10'	2¾" GO/NO-GO GAUGE
	NEAR GRD RG		↓	✓✓			✓✓			20'	
~~GROUND RING~~		N/A*	2¾"	(HAIRPIN ON CLUMP)							CLUMP & GROUND LEGS /
GROUND LEG NO. A	UPPER END	✓*	2¾"								ANCHORS BURIED
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. B	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. C	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. D	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									

DATE: 5·6·83 ENGINEER IN CHARGE: THOMAS DIVERS: DIEST/SPEER *PER AS-BUILTS

FLEET MOORING DATA SHEET

MRG ID = D9S GENERAL LOC = Middle Loch (ISMF) DES CLASS = A

DATE ESTAB = 1946 DEPTH = 21.0 (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-42.9" LONG. COORD. (W) = 157°-59'-23.3"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6' hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2¾"

SINKER = 1 WT. OF SINKER = 60,000 # PADEYE SIZE = 2¾" ϕ

OF ANCHORS = 4

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2¾" ϕ
ANCHOR 2 WT =	(Do.)	PADEYE SIZE =	(Do.) ✓
ANCHOR 3 WT =	(Do.)	PADEYE SIZE =	(Do.) ✓
ANCHOR 4 WT =	(Do.)	PADEYE SIZE =	(Do.) ✓

USAGE DURING PAST YEAR = 365 days

TYPE OF SHIPS MOORED = 4-YW's

DATE OF LAST REPAIR/COST = 1977 / $3,275

DATE OF LAST OVERHAUL/COST = 12-82 / $51,000 (**)

DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT Two)

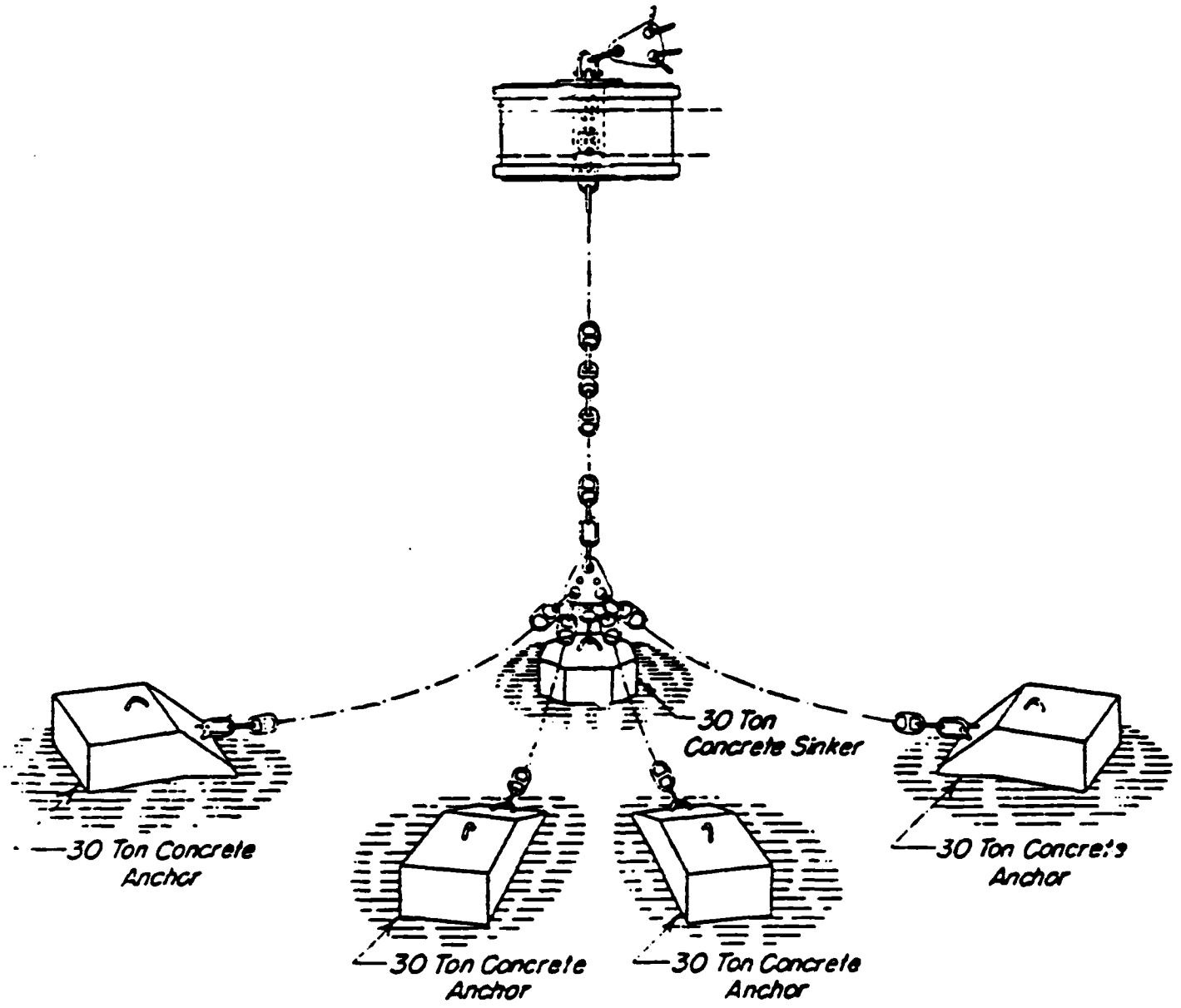
NEXT SCHED. REPAIR = 1984

NEXT SCHED. OVERHAUL = 1987

DATE SHEET COMPILED = 4-83 / MS

~~(*) Down-graded to class 5 after 1979 U/W Insp.~~

(**) Overhaul ~~expected to be~~ accomplished by Contr. N62471-82-C-2164



MOORING D9N
SCHEMATIC DRAWING

INSPECTION RESULTS

D1ON

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The buoy has two rubber fenders in good condition. The galvanized pipe chafing rail is partially rusted. The rubbing casting is in good condition.

Riser

The 2 3/4-inch riser chain wear increases significantly with depth, from over 90 percent of original wire diameter just under the buoy to less than 80 percent near the mud line. A swivel was noted in the riser at a water depth of 17 feet.

Ground Ring

The ground ring was partially buried in the mud bottom at a depth of 20 feet. It was measured by calipers and found to be greater than 90 percent of its original wire size.

Ground Legs/Anchors/Concrete Sinkers

Not visible for inspection.

Recommendation

A measurement of less than 80 percent of any mooring component is normally cause for a mooring to be removed from service until an overhaul is performed. However, in the case of Mooring D1ON, the double link measurements of even the most badly worn chain are larger than the 2 1/2-inch double link measurement of the 1 1/4-inch-diameter chain required for an F class mooring. Therefore, the mooring should still be capable of withstanding F class mooring loads. However, it is recommended that this mooring never be subjected to loads in excess of the F class load limits as defined in NAVFACENGCOM Design Manual DM-26.

MOORING NO.: DION CLASS: A/F LOCATION: MID LOCH LAT: 21°22'49.1" LONG: 157°59'21.7"

WATER DEPTH: 20' ANCHOR SIZE/TYPE: 4-60K# CONC. BUOY TYPE: 12'ϕ X 6' HAWSEPIPE (IN USE)

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 6' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION NEW	SINGLE LINK % 90+	SINGLE LINK % 80+	SINGLE LINK % 80-	DOUBLE LINK % 90+	DOUBLE LINK % 80+	DOUBLE LINK % 80-	D	COMMENT
BUOY HARDWARE											FIBERGLASS: GOOD
SINKER SHACKLE		✓									RUBBER FENDERS: GOOD
GROUND RING		✓									RUBRAIL RUSTED
(NO VISIBLE WEAR)											RUBBING CASTING OK
RISER	NEAR BUOY		2 3/4"	✓✓			✓✓			TOP	
	MIDDLE		↓	✓✓	✓			✓✓		10'	2 5/4" GO/NO-GO GAUGE
	NEAR GRD RG		↓			✓✓			✓✓	20'	
~~GROUND RING~~		*	2 1/4"								CLUMP & GROUND LEGS BURIED
GROUND LEG NO. A	UPPER END	✓*	2 3/4"								
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. B	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. C	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. D	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									

DATE: 5-6-83 ENGINEER IN CHARGE: THOMAS DIVERS: RIEST/SPEER * PERAS-BUILTS

FLEET MOORING DATA SHEET

MRG ID = D10N GENERAL LOC = Middle Loch (ISMF) DES CLASS = A (*)

DATE ESTAB = 1946 DEPTH = 24.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-49.1" LONG. COORD. (W) = 157°-59'-21.7"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2 3/4"

SINKER = 1 WT. OF SINKER = 60,000 # PADEYE SIZE = 2 1/4" ϕ

OF ANCHORS = 4

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2 1/4" ϕ
ANCHOR 2 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 3 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 4 WT =	(Do.)	PADEYE SIZE =	(Do.)

USAGE DURING PAST YEAR = 365 days

TYPE OF SHIPS MOORED = YFN / 3-YFRN's

DATE OF LAST REPAIR/COST = 1977 / $10,240

DATE OF LAST OVERHAUL/COST = 9-71 / ?

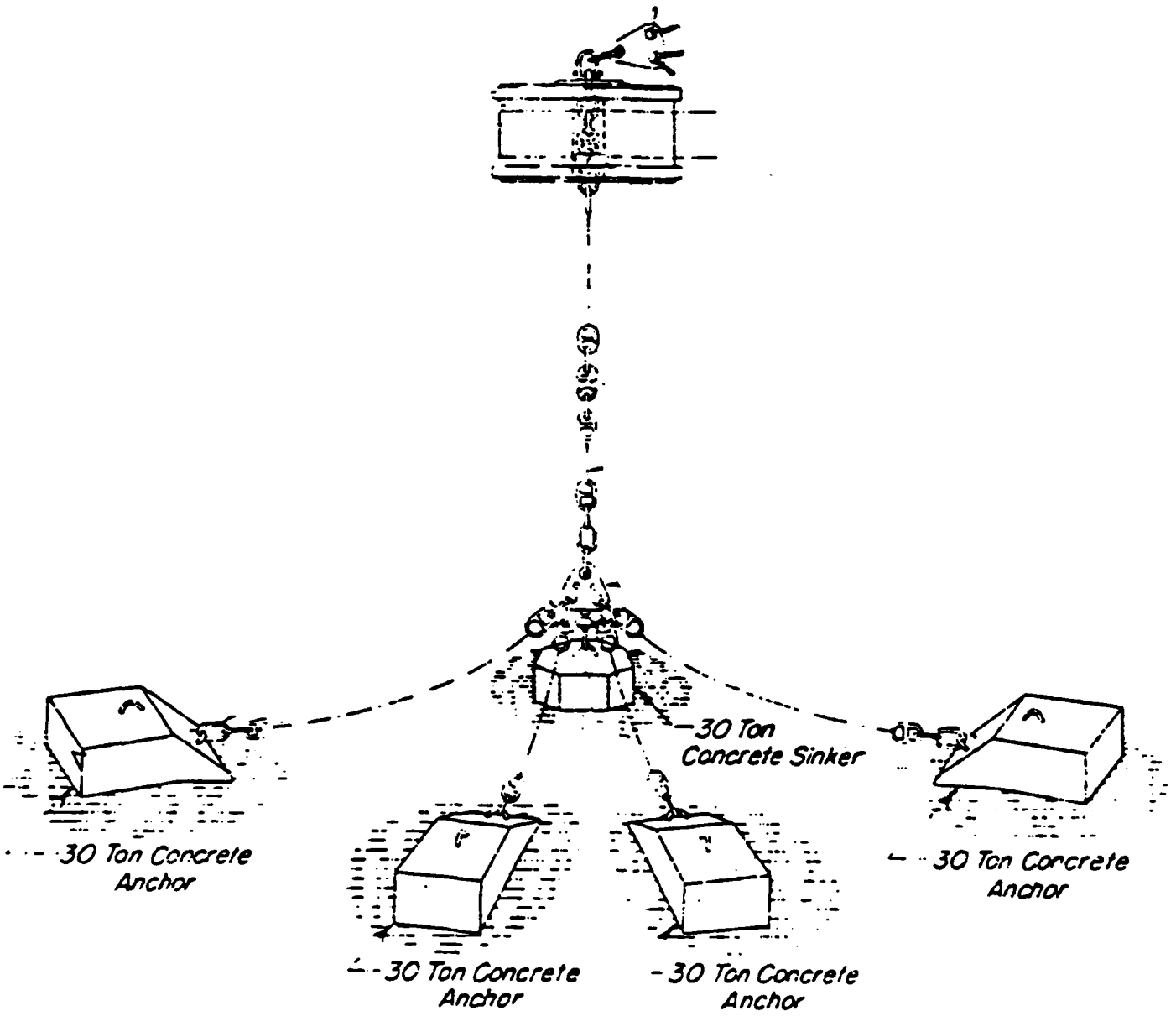
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT Two)

NEXT SCHED. REPAIR = 1986

NEXT SCHED. OVERHAUL = 1983

DATE SHEET COMPILED = 8-82/MS

(*) Down-graded to class F after 1979 U/W Insp.



MOORING D10N
SCHEMATIC DRAWING

INSPECTION RESULTS

D10M

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The buoy is fiberglass coated and has two rubber fenders, both in good condition. The buoy's top steel plate and galvanized pipe chafing rail are only partially rusted, but the top jewelry is severely rusted. About half of the buoy's top was covered with 1 1/2 inches of marine growth, which would indicate that the buoy may have been partially submerged at some time due to being pulled over by a large load. The buoy is currently upright.

Riser

For the most part, the riser chain was measured to be between 80 and 90 percent of its original wire diameter; however, one measurement near the mud line was less than 80 percent. The riser enters the bottom at a depth of 20 feet. The upper chain has about one-half inch of marine growth.

Ground Ring/Ground Legs/Anchors/Concrete Sinker

Not visible for inspection.

Recommendation

A measurement of less than 80 percent of any mooring component is normally cause for a mooring to be removed from service until an overhaul is performed. However, in the case of mooring D10M, the double link measurements of even the most badly worn chain are larger than the 2 1/2-inch double link measurement of the 1 1/4-inch-diameter chain required for an F class mooring. Therefore, the mooring should still be capable of withstanding F class mooring loads. However, it is recommended that this mooring never be subjected to loads in excess of the F class load limits as defined in NAVFACENGCOM Design Manual DM-26.

MOORING NO.: D10M CLASS: A/F LOCATION: MID. LOCH. LAT: 21°22'47.5" LONG: 157°59'23.8"

WATER DEPTH: 20' ANCHOR SIZE/TYPE: 2-60K# CONC. BUOY TYPE: 12'ϕ X 6' HAWSEPIPE (NOT IN USE)

BOTTOM TYPE: ☐ SAND ☒ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 6' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION								COMMENT
			NEW	SINGLE LINK %			DOUBLE LINK %			D	
				90+	80+	80-	90+	80+	80-		
BUOY HARDWARE											DECK PLATE RUSTED
SHACKLE		✓									FIBERGLASS INTACT
SPIDER W.		✓									BUOY HAS BEEN HALF SUB-
4 P.S. LINKS		✓									MERGED AT ONE TIME; HALF OF
(HEAVY RUST/NO VISIBLE WEAR)											TOP COVERED WITH GROWTH. NOW
RISER	NEAR BUOY		2¾"		✓✓	✓		✓✓		TOP	FLOATING LEVEL. RUBBER
	MIDDLE		↓	✓✓	✓			✓✓		10'	FENDERS INTACT
	NEAR GRD RG		↓		✓	✓✓		✓✓	✓	20'	2¾" GO/NO-GO GAUGE
~~GROUND RING~~		*	2¼"								CLUMP & GROUND LEGS BURIED
GROUND LEG NO. A	UPPER END	✓*	2¾"								
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. B	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. C	UPPER END										
	MIDDLE										
	ENTERS BOTTOM										
GROUND LEG NO. D	UPPER END										
	MIDDLE										
	ENTERS BOTTOM										

DATE: 5.6.83 ENGINEER IN CHARGE: THOMAS DIVERS: RIEST/SPEER

*PER AS BUILTS

CHESNAVFACENGCOM REPORT FPO-1-83, "PWC PEARL HARBOR FLEET MOORINGS INSPECTION REPORT."

FLEET MOORING DATA SHEET

MRG ID = DIOM GENERAL LOC = Middle Loch (ISMF) DES CLASS = A-(*)

DATE ESTAB = 1950 DEPTH = 24.0 ft.(MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-47.5" LONG. COORD. (W) = 157°-59'-23.8"

BUOY TYPE = Riser-chain w/ hansepipe SIZE = 12'ϕ x 6'hi

FENDER = Rubber FIBERGLASS COATING = yes

CHAIN SIZE = 2 3/4"

SINKER = 1 WT. OF SINKER = 60,000 # PADEYE SIZE = 2 1/4"

OF ANCHORS = 2

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2 1/4"
ANCHOR 2 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 3 WT =	—	PADEYE SIZE =	—
ANCHOR 4 WT =	—	PADEYE SIZE =	—

USAGE DURING PAST YEAR = 365 days

TYPE OF SHIPS MOORED = YFN/3-YFRN's /// YFND/YFNB/YR/YO

DATE OF LAST REPAIR/COST = 1979 / $1,280

DATE OF LAST OVERHAUL/COST = 9-71 / ?

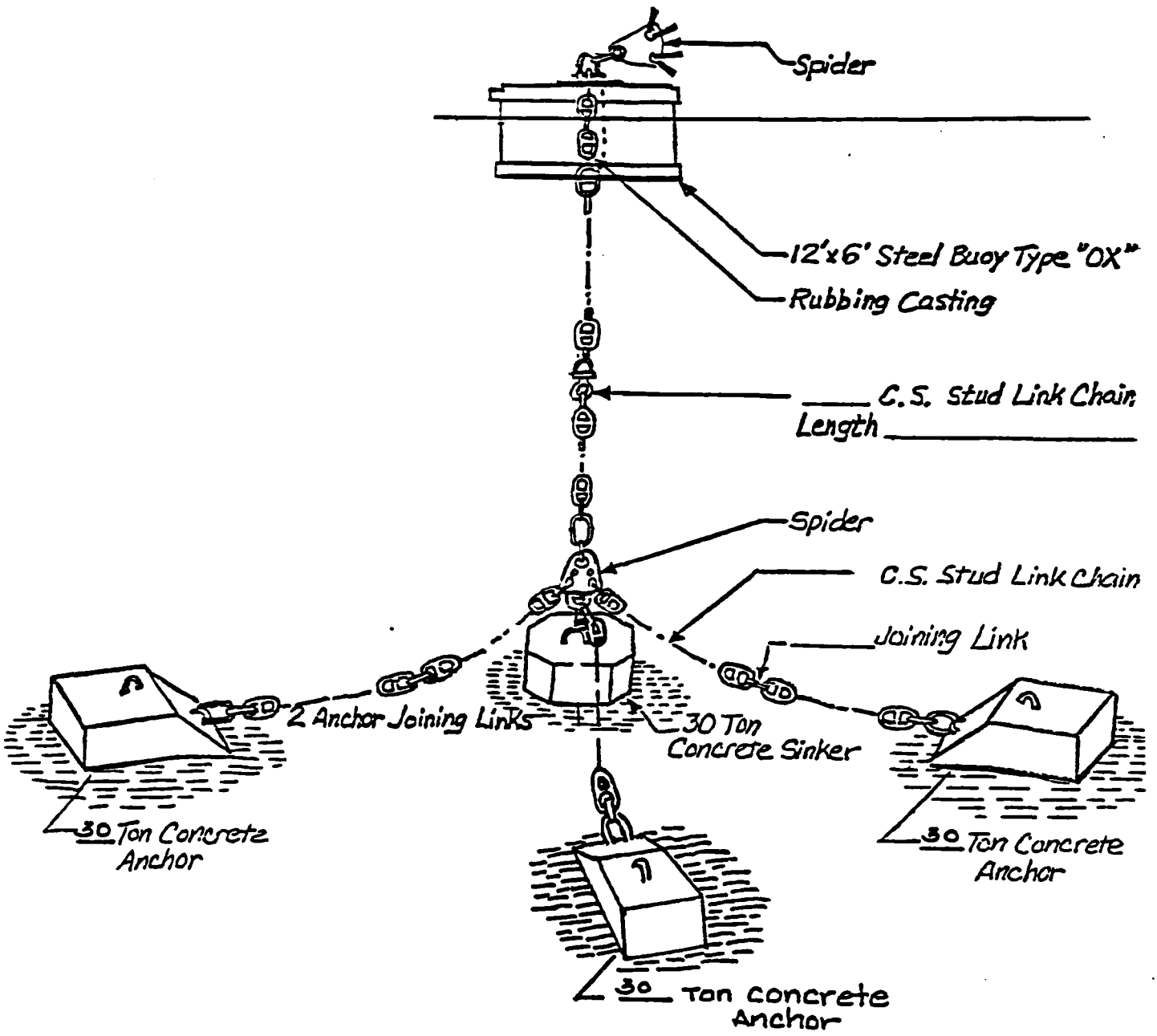
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT Two)

NEXT SCHED. REPAIR = 1986

NEXT SCHED. OVERHAUL = 1983

DATE SHEET COMPILED = 8-82/ MS

(*) Down-graded to class F after 1979 U/W Insp.



MOORING D10M
SCHEMATIC DRAWING

INSPECTION RESULTS

D10S

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The buoy is fiberglass coated and has two rubber fenders, both in good condition. There is about 1 inch of marine growth on the buoy bottom. The rubbing casting and buoy top are in good condition, as is the top jewelry. About half the top is covered with light marine growth, which indicates that the buoy had been pulled over on its side for a period of time. The buoy is now upright.

Riser

The upper portion of the riser chain is covered with about 2 inches of marine growth. A double link measurement near the middle of the riser was less than 80 percent of original wire diameter. The riser enters the bottom at a water depth of 20 feet.

Ground Ring/Ground Legs/Anchors/Concrete Sinker

Not visible for inspection.

Recommendation

A measurement of less than 80 percent of any mooring component is normally cause for a mooring to be removed from service until an overhaul is performed. However, in the case of mooring D10S, the double link measurements of even the most badly worn chain are larger than the 2 1/2-inch double link measurement of the 1 1/4-inch-diameter chain required for an F class mooring. Therefore, the mooring should still be capable of withstanding F class mooring loads. However, it is recommended that this mooring never be subjected to loads in excess of the F class load limits as defined in NAVFACENGCOM Design Manual DM-26.

MOORING NO: D105 CLASS: A/F LOCATION: MID LOCH LAT: 21°22'46" LONG: 157°59'25.9"

WATER DEPTH: 20' ANCHOR SIZE/TYPE: 4-60K# CONC. BUOY TYPE: 12'ϕ X 6' HAWSEPIPE (NOT IN USE)

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 6' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION: NEW	SINGLE LINK % 80+	SINGLE LINK % 80+	SINGLE LINK % 80-	DOUBLE LINK % 80+	DOUBLE LINK % 80+	DOUBLE LINK % 80-	D -	COMMENT
BUOY HARDWARE				↓ (UNABLE TO MEASURE, BUT APPEARS)							
SHACKLE		✓			✓	✓					HALF OF BUOY HAS BEEN SUB-
GROUND RING		✓									MERGED. DECK PLATE & RUB
3 P.S. LINKS		✓									RAIL SEVERELY RUSTED. FENDERS
											GOOD/FIBERGLASS GOOD.
RISER	NEAR BUOY		2 3/4"	✓✓	✓		✓✓	✓		TOP	RUBBING CASTING OK
	MIDDLE		↓	✓✓		✓	✓✓		✓	10'	2 3/4" GO/NO-GO GAUGE
	NEAR GRD RG			✓✓			✓✓			20'	
GROUND RING		*	2 1/4"								ONE LINK AT 10' WORN TO S/L 1 1/16"
GROUND LEG NO. A	UPPER END	✓*	2 3/4"								D/L 2 1/8"
	MIDDLE	✓									
	ENTERS BOTTOM	✓									CLUMP & GROUND LEGS/ANCHORS
GROUND LEG NO. B	UPPER END	✓									BURIED.
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. C	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. D	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									

DATE: 5·6·83 ENGINEER IN CHARGE: THOMAS DIVERS: REIST/SPEER *PER AS-BUILTS

FLEET MOORING DATA SHEET

MRG ID = D10S GENERAL LOC = Middle Loch (ISMF) DES CLASS = A (*)

DATE ESTAB = 1946 DEPTH = 27.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-46.0" LONG. COORD. (W) = 157°-59'-25.9"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6' hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2¾"

SINKER = 1 WT. OF SINKER = 60,000 # PADEYE SIZE = 2¼" ϕ

OF ANCHORS = 4

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2¼" ϕ
ANCHOR 2 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 3 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 4 WT =	(Do.)	PADEYE SIZE =	(Do.)

USAGE DURING PAST YEAR = 365 days

TYPE OF SHIPS MOORED = YFND/YFNB/YR/YO

DATE OF LAST REPAIR/COST = 1977/ *3,275

DATE OF LAST OVERHAUL/COST = 9-71 / ?

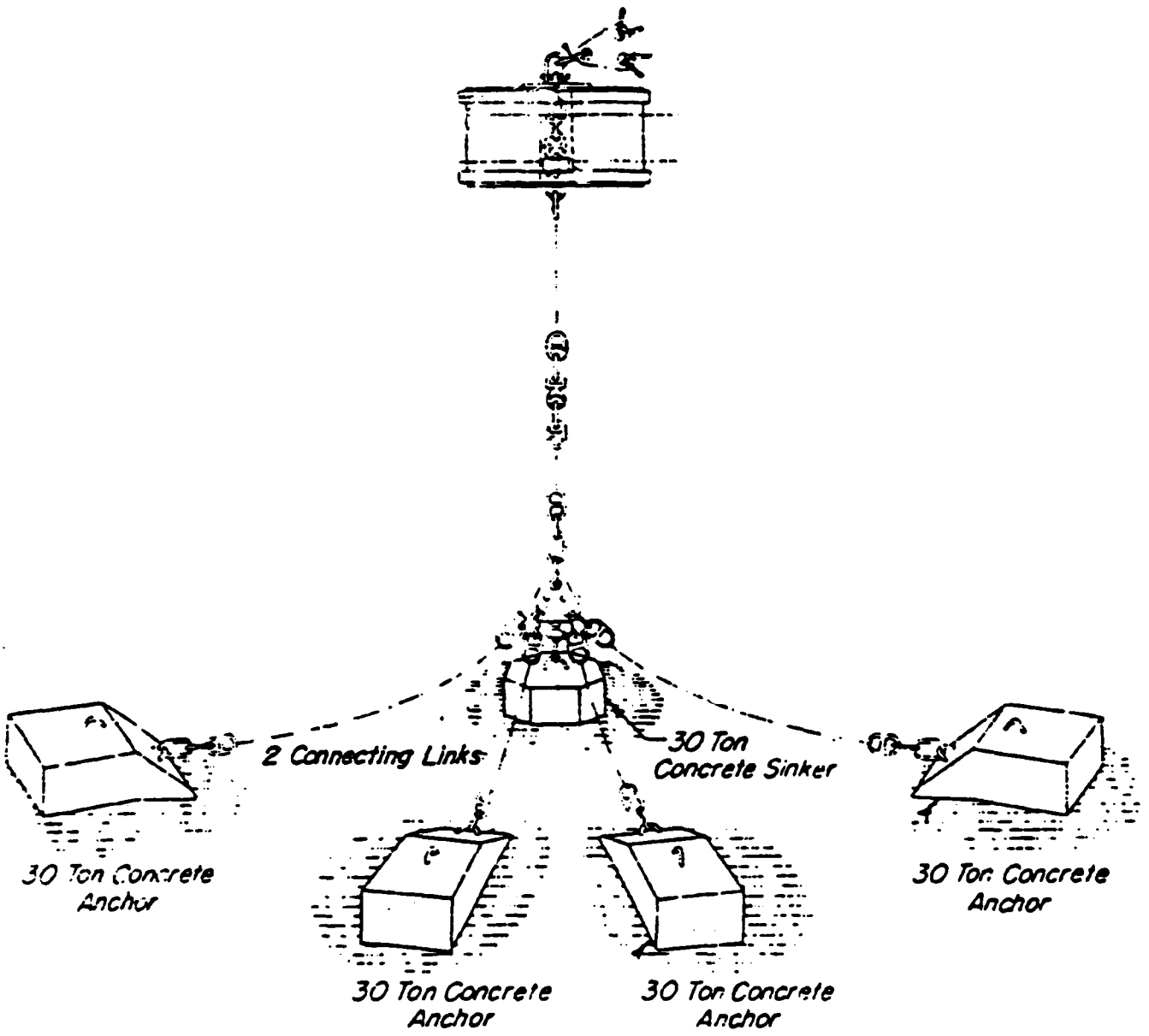
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT Two)

NEXT SCHED. REPAIR = 1986

NEXT SCHED. OVERHAUL = 1983

DATE SHEET COMPILED = 8-82/MS

(*) Down-graded to class F after 1979 U/W Insp.



MOORING D10S
SCHEMATIC DRAWING

INSPECTION RESULTS

D11N

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The buoy is fiberglass coated and has two rubber fenders. The buoy is listing about 90 degrees, and its top jewelry is in the water. From what can be seen of the exterior, the buoy appears to be in satisfactory condition. Even though three yardcraft were tied up to this mooring during the inspection, the excessive list could indicate that the buoy's watertight integrity has been ruptured.

Riser

The riser measured between 80 and 90 percent of its original wire diameter in most areas. The riser enters the bottom at a 20-foot water depth.

Ground Ring/Ground Legs/Anchors/Concrete Sinker

Not visible for inspection.

Recommendations

- o A measurement between 80 and 90 percent of any mooring component is normally cause for a mooring to be downgraded to the next lower mooring classification. However, in the case of Mooring D11N, the double link measurements of even the most badly worn chain are larger than the 4-inch double link measurement of the 2-inch-diameter chain required for a D class mooring. Therefore, the mooring should still be capable of withstanding D class mooring loads. However, it is recommended that this mooring never be subjected to loads in excess of the D class load limits as defined in NAVFACENGCOM Design Manual DM-26.

- o Due to the extreme list of the buoy, recommend that use of this buoy be restricted until after the buoy has been recovered, the cause of its list determined, necessary repairs completed, and the buoy reinstalled.

MOORING NO.: D11N CLASS: A/D LOCATION: MID LOCH LAT: 21°22'52.2" LONG: 157°59'24.2"

WATER DEPTH: 20' ANCHOR SIZE/TYPE: 4-60K# CONC. BUOY TYPE: 12'ϕ X 6' HAWSEPIPE (IN USE)

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 6' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION NEW	SINGLE LINK % 90+	SINGLE LINK % 80+	SINGLE LINK % 80-	DOUBLE LINK % 90+	DOUBLE LINK % 80+	DOUBLE LINK % 80-	D	COMMENT
BUOY HARDWARE											BUOY HAS 90° LIST
SHACKLE		✓									TOP JEWELRY IN WATER
GROUND RING		✓									FIBERGLASS & TOP PLATE GOOD
(NO VISIBLE WEAR)											RUBBER FENDER INTACT
RISER	NEAR BUOY		2¾"	✓✓✓			✓✓✓				
	MIDDLE		↓					✓✓✓			2¾" GO/NO·GO GAUGE
	NEAR GRD RG							✓✓✓			
GROUND RING		✓*	2¼"								CLUMP & GROUND LEGS
GROUND LEG NO. A	UPPER END	✓*	2¾								NOT VISIBLE
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. B	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. C	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. D	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									

DATE: 5·6·83 ENGINEER IN CHARGE: THOMAS DIVERS: REIST/SPEER *PER AS-BUILTS

CHESNAVFACENGCOM REPORT FPO-1-83, "PWC PEARL HARBOR FLEET MOORINGS INSPECTION REPORT."

FLEET MOORING DATA SHEET

MRG ID = DIIN GENERAL LOC = Middle Loch (ISMF) DES CLASS = A (*)

DATE ESTAB = 1946 DEPTH = 23.0 ft. (MLN) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-52.2" LONG. COORD. (W) = 157°-59'-24.2"

BUOY TYPE = Riser-chain NJ hawsepipe SIZE = 12'6 x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2¾"

SINKER = 1 WT. OF SINKER = 60,000 # PADEYE SIZE = 2¼"

OF ANCHORS = 4

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2¼"
ANCHOR 2 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 3 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 4 WT =	(Do.)	PADEYE SIZE =	(Do.)

USAGE DURING PAST YEAR = 365 days

TYPE OF SHIPS MOORED = YRDH/YRDH

DATE OF LAST REPAIR/COST = 1979 / $1,730

DATE OF LAST OVERHAUL/COST = 5-70 / ?

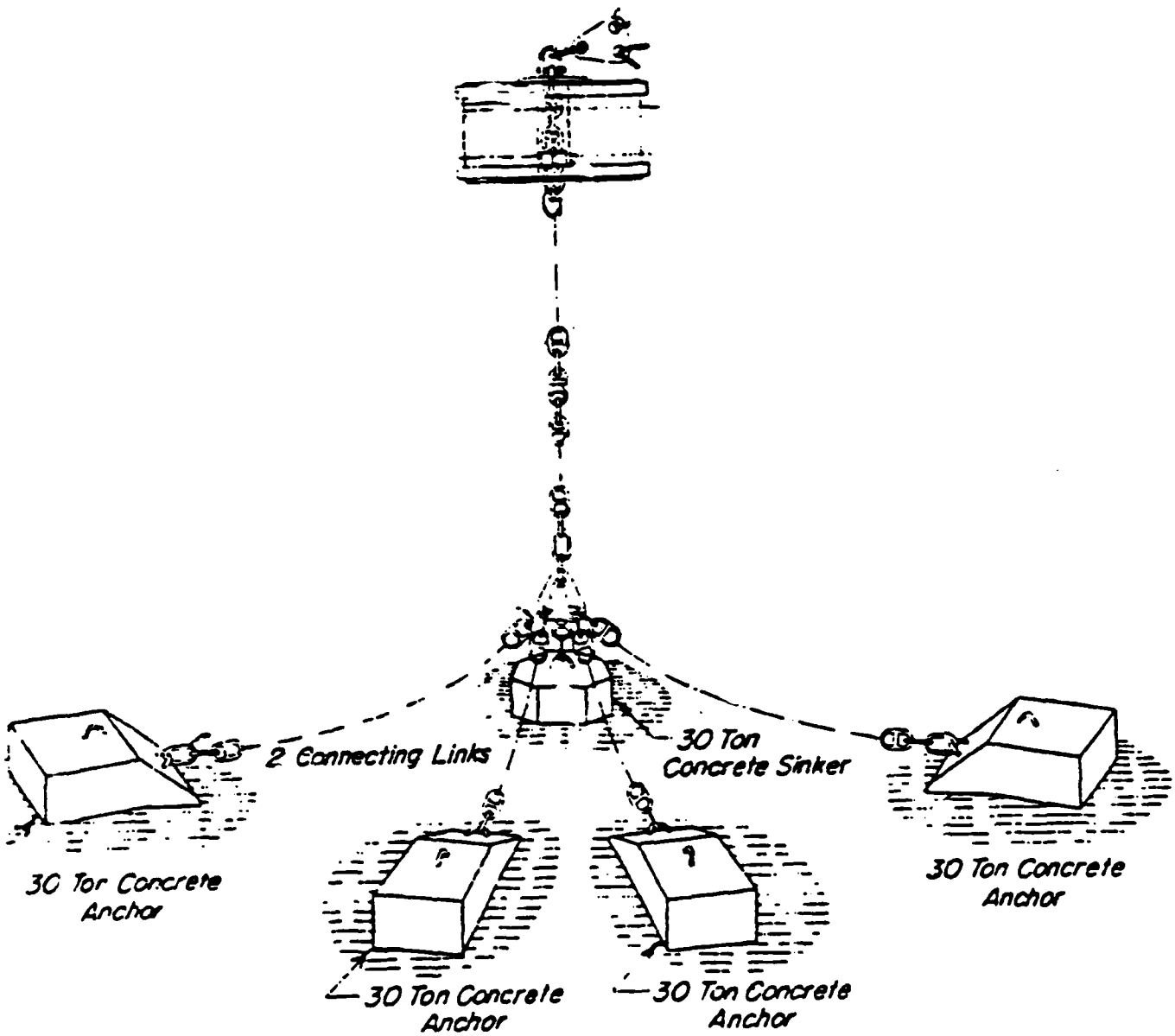
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT Two)

NEXT SCHED. REPAIR = 1988

NEXT SCHED. OVERHAUL = 1985

DATE SHEET COMPILED = 8-82/MS

(*) Down-graded to class D after 1979 U/W Insp.



MOORING D11N
SCHEMATIC DRAWING

INSPECTION RESULTS

D11M

Buoy

This buoy is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The rubbing casting within the hawsepipe is broken. The buoy has a painted surface (no fiberglass) and shows some light rusting around the side and top. It has two wooden fenders which are partially broken and in need of repair. The 2-inch galvanized pipe chafing rail is covered with light rust. A 2 3/4-inch detachable link in the top jewelry has its diameter worn to within 80 and 90 percent of the original wire size.

Riser

The riser measured to be above 90 percent of original diameter in all areas. The riser enters the bottom at a depth of 23 feet.

Ground Ring/Ground Legs/Anchors/Concrete Sinker

Not visible for inspection.

Recommendations

The worn detachable link in the top jewelry should be replaced. In addition, the rubbing casting is broken and the buoy is rusted and has broken fenders. The buoy needs to be refurbished. Otherwise this mooring is in satisfactory condition for continued use as a class D mooring.

MOORING NO.: D11M CLASS: A/D LOCATION: MID. LOCH LAT: 21°22'50.7" LONG: 157°59'28.4"

WATER DEPTH: 23' ANCHOR SIZE/TYPE: 3-60K# CONC. BUOY TYPE: 12'ϕ X 6' HAWSEPIPE (IN USE)

BOTTOM TYPE: ☐ SAND ☒ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 6' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION NEW	SINGLE LINK % 90+	SINGLE LINK % 80+	SINGLE LINK % 80-	DOUBLE LINK % 90+	DOUBLE LINK % 80+	DOUBLE LINK % 80-	D	COMMENT
BUOY HARDWARE											NO FIBERGLASS
DETACH. LINK			2 3/4"	·	✓						LIGHT RUST ON ABOVE-WATER
GROUND RING			4"	✓							PORTIONS OF BUOY
DETACH. LINK/SHACKLE											RUBBING CASTING BROKEN
SHACKLE/E. LINK/SHACKLE											
RISER	NEAR BUOY		2 3/4	✓✓			✓✓			TOP	
	MIDDLE		↓	✓✓			✓✓			10'	2 3/4" GO/NO-GO GAUGE
	NEAR GRD RG			✓✓			✓✓			23'	
~~GROUND RING~~		NA*	2 1/4"								CLUMP & GROUND LEGS
GROUND LEG NO. A	UPPER END	✓*	2 3/4"								NOT VISIBLE
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. B	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. C	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. D	UPPER END										
	MIDDLE										
	ENTERS BOTTOM										

DATE: 5.6.83 ENGINEER IN CHARGE: THOMAS DIVERS: KRUSE/TORRENS *PER AS-BUILTS

FLEET MOORING DATA SHEET

MRG ID = D11M GENERAL LOC = Middle Loch (ISMF) DES CLASS = A(*)

DATE ESTAB = 1950 DEPTH = 27.0 ft.(MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-50.7" LONG. COORD. (W) = 157°-59'-26.2"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'φ x 6'hi

FENDER = ~~Rubber~~ Wood FIBERGLASS COATING = ~~Yes~~ No

CHAIN SIZE = 2¾"

SINKER = 1 WT. OF SINKER = 60,000 # PADEYE SIZE = 2¼"φ

OF ANCHORS = 3

ANCHOR 1 WT = 60,000 # PADEYE SIZE = 2¼"φ
ANCHOR 2 WT = (Do.) PADEYE SIZE = (Do.)
ANCHOR 3 WT = (Do.) PADEYE SIZE = (Do.)
ANCHOR 4 WT = — PADEYE SIZE = —

USAGE DURING PAST YEAR = 365 days

TYPE OF SHIPS MOORED = YRDH/YRDH

DATE OF LAST REPAIR/COST = 1977/$4,850

DATE OF LAST OVERHAUL/COST = 5-70/ ?

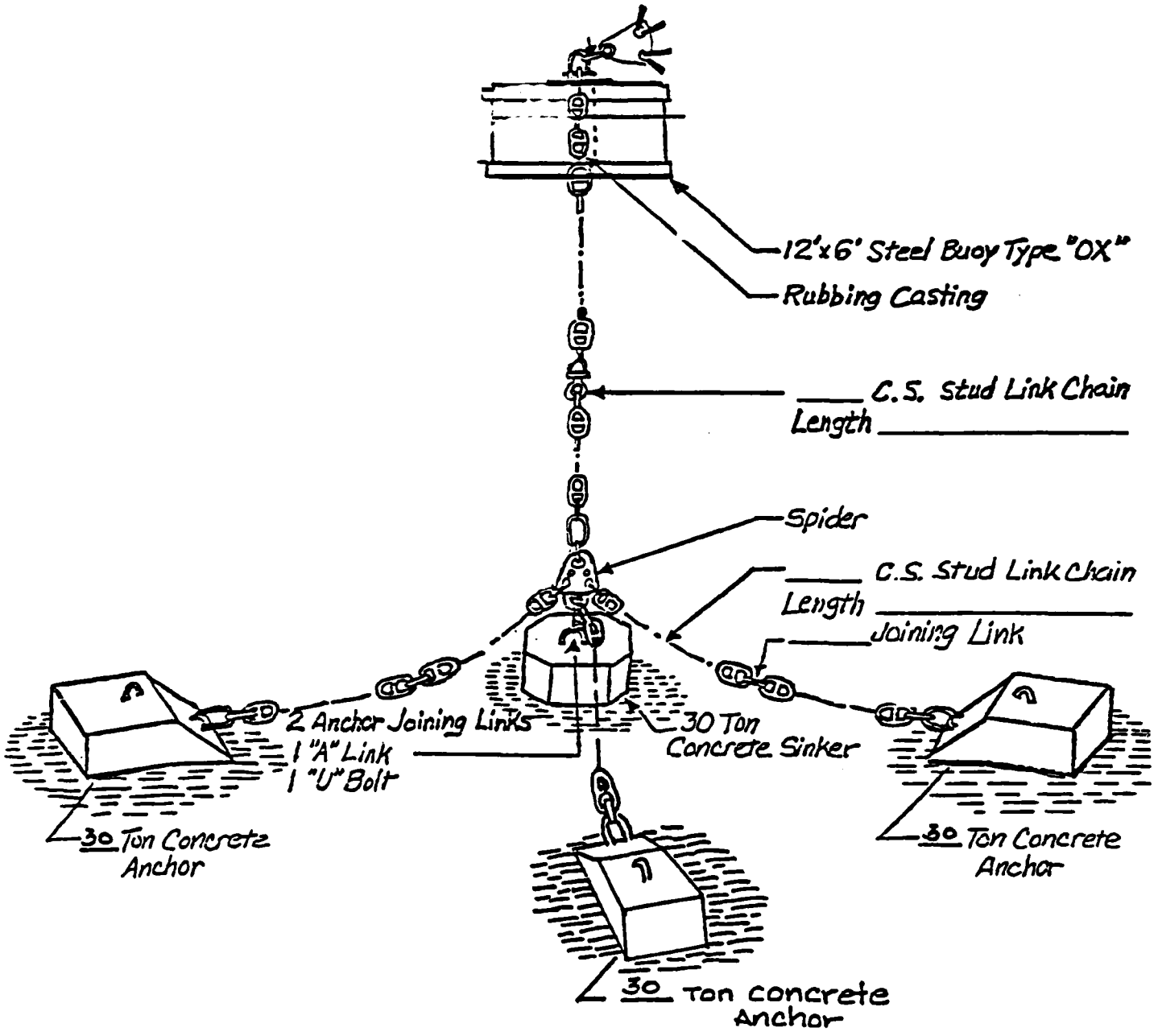
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT TWO)

NEXT SCHED. REPAIR = 1988

NEXT SCHED. OVERHAUL = 1985

DATE SHEET COMPILED = 8-82/MS

(*) Down-graded to class D after 1979 U/W Insp.



MOORING D11M
SCHEMATIC DRAWING

INSPECTION REPORT

D11S

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a tension bar. The buoy is fiberglass coated and has two rubber fenders, both in good condition. A wooden chafing rail is broken and part of it has been carried away.

Riser

Although measurements near the center and upper end of the riser chain were greater than 90 percent, the measurements dropped to between 80 and 90 percent near the mudline. The riser has a swivel near the mudline and enters the bottom 20 feet below the surface.

Ground Ring/Ground Legs/Anchors/Concrete Sinker

Not visible for inspection.

Recommendation

A measurement between 80 and 90 percent of any mooring component is normally cause for the mooring to be downgraded to the next lower classification. However, in the case of Mooring D11S, the double link measurements of even the most badly worn chain are larger than the 4-inch double link measurement of the 1-inch-diameter chain required for a D class mooring. Therefore, the mooring should still be capable of withstanding D class mooring loads. However, it is recommended that this mooring never be subjected to loads in excess of the D class load limits as defined in NAVFACENGCOM Design Manual DM-26.

MOORING NO.: D115 CLASS: A/D LOCATION: MID. LOCH LAT: 21°22'49.2" LONG: 157°59'28.4"

WATER DEPTH: 20' ANCHOR SIZE/TYPE: 4-10K# CONC. BUOY TYPE: 12'ϕ X 6" W. TENSION BAR

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK (IN USE)

Visibility 6' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION								COMMENT
			NEW	SINGLE LINK %			DOUBLE LINK %			D	
				90+	80+	80-	90+	80+	80-		
BUOY HARDWARE											RUBBER FENDERS: GOOD
PAD EYE (ON				✓							FIBERGLASS: GOOD
TENSION BAR)		*	5 11/16"								WOOD RUB RAIL PARTIALLY BROKEN
3 P.S. LINKS		✓									AWAY. PADEYE WORN TO 5 1/4" FROM
SHACKLE		✓									LARGEST MEASURED ϕ OF 5 11/16" *
RISER	NEAR BUOY		2 3/4"	✓✓			✓✓			TOP	
	MIDDLE		↓	✓✓			✓✓			10'	2 3/4" GO/NO-GO GAUGE
	NEAR GRD RG		↓	✓✓				✓✓		20'	SWIVEL AT BOTTOM OF RISER
GROUND RING			N/A								CLUMP & GROUND LEGS/ANCHORS
GROUND LEG NO. A	UPPER END	✓									BURIED
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. B	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. C	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. D	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									

DATE: 5.6.83 ENGINEER-IN-CHARGE: THOMAS DIVERS: KRUSE/TORRENS

CHESNAVFACENGCOM REPORT FPO-1-83, "PWC PEARL HARBOR FLEET MOORINGS INSPECTION REPORT."

FLEET MOORING DATA SHEET

MRG ID = D11S GENERAL LOC = Middle Loch (ISMF) DES CLASS = A(*)

DATE ESTAB = 1946 DEPTH = 27.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-44.2" LONG. COORD. (W) = 157°-54'-28.4"

BUOY TYPE = Riser-chain w/ tension bar SIZE = 12'φ x 6'hi

FENDER = Rubber (top & side) FIBERGLASS COATING = Yes

CHAIN SIZE = 2¾"

SINKER = 1 WT. OF SINKER = 60,000 # PADEYE SIZE = 2¼" φ

OF ANCHORS = 4

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2¼" φ
ANCHOR 2 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 3 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 4 WT =	(Do.)	PADEYE SIZE =	(Do.)

USAGE DURING PAST YEAR = 0 days

TYPE OF SHIPS MOORED = ?

DATE OF LAST REPAIR/COST = 1977/ $3,275

DATE OF LAST OVERHAUL/COST = 4-68/ ?

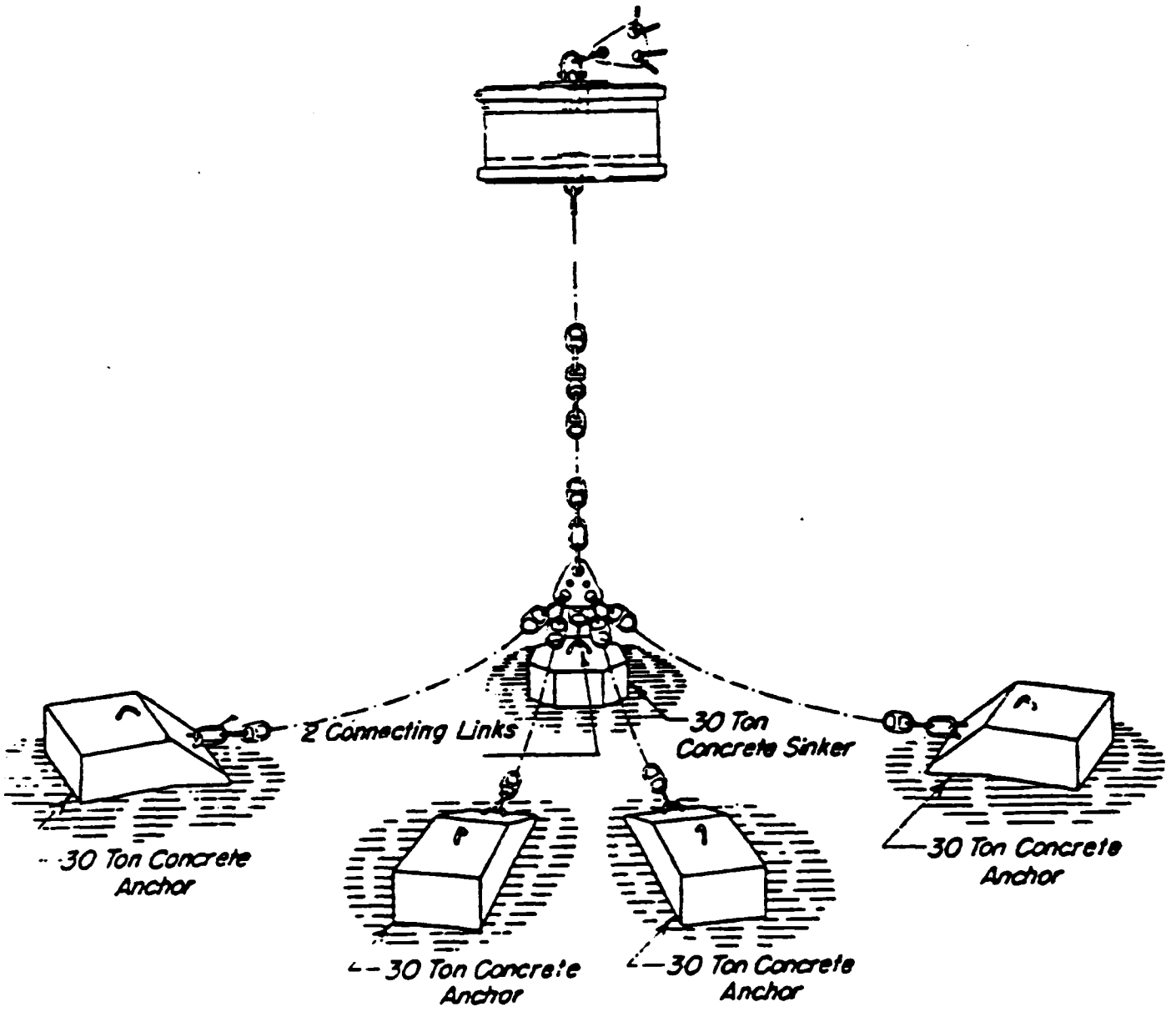
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT Two)

NEXT SCHED. REPAIR = 1988

NEXT SCHED. OVERHAUL = 1985

DATE SHEET COMPILED = 8-82/MS

(*) Down-graded to class D after 1979 U/W Insp.



MOORING D11S
SCHEMATIC DRAWING

INSPECTION REPORT

D12N

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. It has a fiberglass coating and two rubber fenders in good condition. The top metal plate is badly rusted and the galvanized pipe chafing rail has rusted away. The buoy lists about 60 degrees which may be caused by a loss of its watertight integrity. As the chain comes out of the top of the hawsepipe, the top link is badly worn (about 75 percent of its original wire diameter).

Riser

All double link measurements of the riser chain were greater than 90 percent of the chain's original wire size. The riser enters the bottom at 20-foot water depth.

Ground Ring

The ground ring was located partially buried in the mud and close to the lower portion of the riser chain.

Ground Legs

The top few links of two ground legs were visible and entered the bottom on bearings of 095°M and 330°M from the ground ring. Measurements taken at the top of the two legs showed the legs to be greater than 90 percent of their original wire sizes. The other two ground legs were not visible.

Anchors/Concrete Sinker

Not visible for inspection.

Recommendations

- o The buoy should be recovered and the cause of its list determined and repaired. The top plate and chafing rail should be refurbished or replaced as required. At the same time the buoy is recovered, the worn top link of the riser chain should be removed. The use of this mooring should be restricted until buoy repairs are completed.

- o Other than the buoy refurbishment noted above, the mooring is in satisfactory condition for continued use as a class F mooring.

MOORING NO.: D12N CLASS: A/E LOCATION: MID. LOCH LAT: 21°22'55.5" LONG: 157°59'26.5"

WATER DEPTH: 20' ANCHOR SIZE/TYPE: 4-60K# CONC. BUOY TYPE: 12'ϕ X 6' HAWSEPIPE (IN USE)

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 6' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION								COMMENT
			NEW	SINGLE LINK %			DOUBLE LINK %			D	
				90+	80+	80-	90+	80+	80-		
BUOY HARDWARE											DECK PLATE BADLY RUSTED
JOINING LINK		✓									RUBBER FENDER - GOOD
SHACKLE		✓									FIBERGLASS: GOOD
4" GROUND RING		✓									RUB RAIL PARTLY RUSTED AWAY
(NO VISIBLE WEAR)											TOP LINK OF CHAIN GROOVED TO <75%
RISER	NEAR BUOY		2¾"	✓✓			✓✓				BUOY HAS LIST OF ABOUT 60°
	MIDDLE			✓✓			✓✓				
	NEAR GRD RG			✓✓			✓✓				2¾" GO/NO-GO GAUGE
~~GROUND RING~~				✓			✓				CLUMP HAIRPIN ABOVE BOTTOM
GROUND LEG NO. A	UPPER END			✓			✓				DIVERS ABLE TO LOCATE ONLY
	MIDDLE	✓									TWO GROUND LEG CONNECTIONS.
	ENTERS BOTTOM	✓									BOTH ENTER BOTTOM AT ONCE
GROUND LEG NO. B	UPPER END			✓			✓				ONE @ 095° MAG. / ONE @ 330° MAG.
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. C	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. D	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									

DATE: 5·6·83 ENGINEER IN CHARGE: THOMAS DIVERS: KRUSE/TORRENS

FLEET MOORING DATA SHEET

MRG ID = D12N GENERAL LOC = Middle Loch (ISMF) DES CLASS = A(*)

DATE ESTAB = 1946 DEPTH = 24.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-55.3" LONG. COORD. (W) = 157°-59'-26.8"

BUOY TYPE = Riser-chain w/hawsepipe SIZE = 12'ϕ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2 3/4"

SINKER = 1 WT. OF SINKER = 60,000 # PADEYE SIZE = 2 1/4" ϕ

OF ANCHORS = 4

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2 1/4" ϕ
ANCHOR 2 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 3 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 4 WT =	(Do.)	PADEYE SIZE =	(Do.)

USAGE DURING PAST YEAR = 365 days

TYPE OF SHIPS MOORED = YTM/YTM/YFR/YF

DATE OF LAST REPAIR/COST = 1977/$2,750

DATE OF LAST OVERHAUL/COST = 2-74/ ?

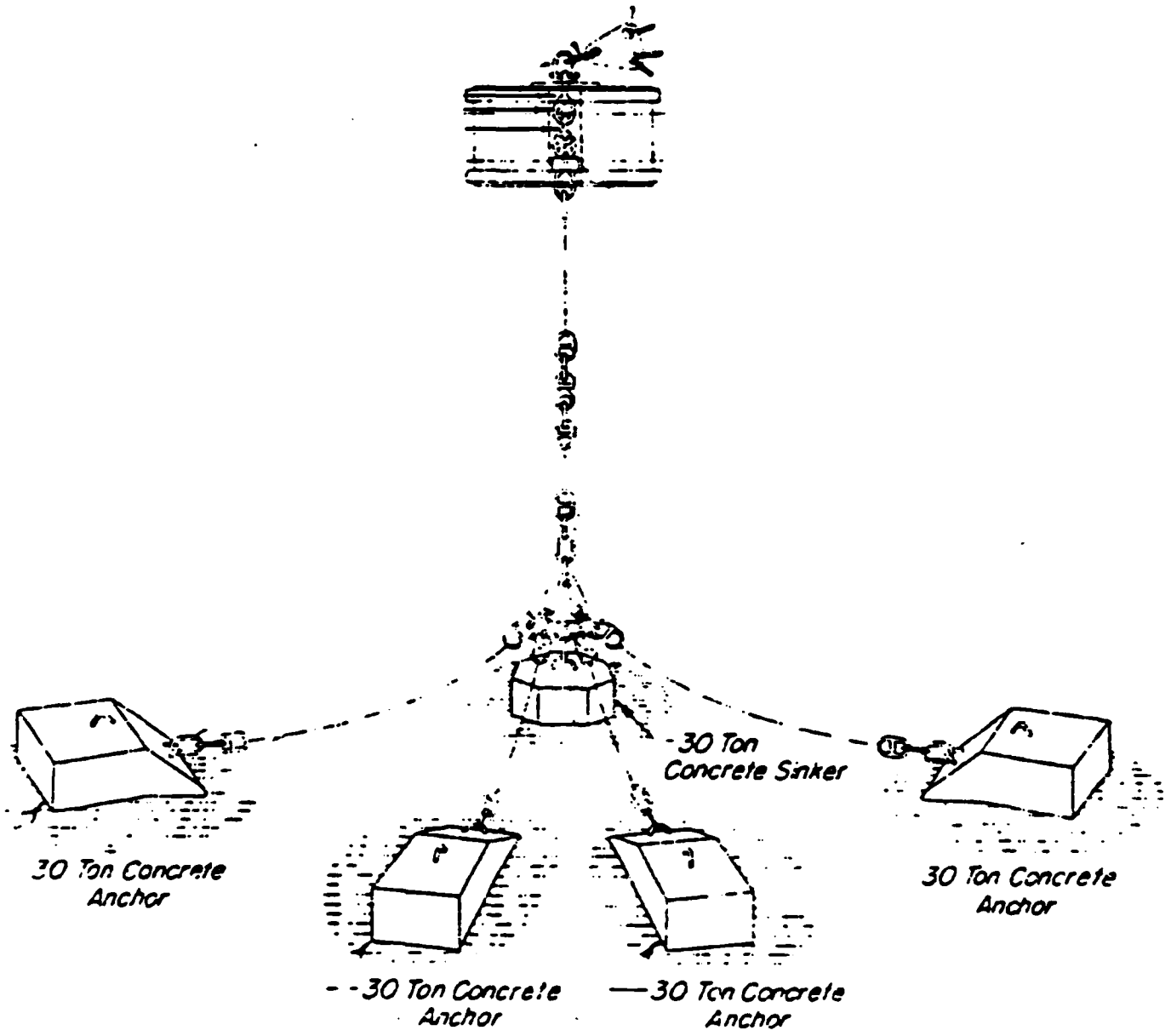
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT TWO)

NEXT SCHED. REPAIR = 1987

NEXT SCHED. OVERHAUL = 1984

DATE SHEET COMPILED = 5-82/MS

(*) Down-graded to class E after 1979 U/W Insp.



MOORING D12N
SCHEMATIC DRAWING

INSPECTION REPORT

D12M

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The buoy is fiberglass coated and has rubber fenders in good condition. The top metal plate and galvanized pipe chafing rail are about 50 percent rusted away and the top jewelry is lightly rusted. The top chain link is worn to less than 80 percent of its original wire diameter. The rubbing casting is in good condition.

Riser

The riser chain measured between 80 and 90 percent along its exposed length. The riser enters the bottom near the ground ring at a depth of 20 feet.

Ground Legs

The top links of two ground legs were visible. The two legs enter the bottom near an almost completely buried concrete sinker. The third leg was not visible.

Anchors

Not visible for inspection.

Recommendation

The buoy needs to be refurbished and the worn top riser chain link removed. Otherwise, the mooring is in satisfactory condition for continued use as a class F mooring.

MOORING NO.: DRM CLASS: A/F LOCATION: MID. LOCH LAT: 21°22'53.8" LONG: 157°59'28.9"

WATER DEPTH: 20' ANCHOR SIZE/TYPE: 2-60000# CONC BUOY TYPE: 12φ X 6' HAWSEPIPE (IN USE)

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 6' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION							COMMENT
			NEW	SINGLE LINK %			DOUBLE LINK %			D	
				90+	80+	80-	90+	80+	80-		
BUOY HARDWARE											BUOY DECK PLATE & RUB RAIL
SHACKLE		✓									50% RUSTED AWAY.
SHACKLE		✓									TOP LINK OF CHAIN WORN TO <80%
SPIDER		✓									AT SHACKLE.
3 DETACH. LINKS		✓									NO VISIBLE WEAR ON TOP HARDWARE
RISER	NEAR BUOY		2¾"	✓✓	✓		✓	✓✓		TOP	2¾" GO/NO-GO GAUGE
	MIDDLE				✓✓			✓✓		10'	
	NEAR GRD RG				✓✓			✓✓		20'	
GROUND RING		✓									
GROUND LEG NO. A	UPPER END	✓									TWO LEGS ENTER BOTTOM
	MIDDLE	✓									AT CLUMP
	ENTERS BOTTOM	✓									
GROUND LEG NO. B	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. C	UPPER END										
	MIDDLE										
	ENTERS BOTTOM										
GROUND LEG NO. D	UPPER END										
	MIDDLE										
	ENTERS BOTTOM										

DATE: 5·6·83 ENGINEER IN CHARGE: THOMAS DIVERS: KRUSE/TORRENS

FLEET MOORING DATA SHEET

MRG ID = D12M GENERAL LOC = Middle Loch (ZSMF) DES CLASS = A (*)

DATE ESTAB = 1950 DEPTH = 26.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-53.8" LONG. COORD. (W) = 157°-59'-28.9"

BUOY TYPE = Riser-chain w/hawse pipe SIZE = 12'ϕ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2 3/4"

SINKER = 1 WT. OF SINKER = 60,000# PADEYE SIZE = 2 1/4" ϕ

OF ANCHORS = 2

ANCHOR 1 WT =	60,000#	PADEYE SIZE =	2 1/4" ϕ
ANCHOR 2 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 3 WT =	—	PADEYE SIZE =	—
ANCHOR 4 WT =	—	PADEYE SIZE =	—

USAGE DURING PAST YEAR = 365 days

TYPE OF SHIPS MOORED = YTM/YTM/YFR/YP

DATE OF LAST REPAIR/COST = 1977/ $3,275

DATE OF LAST OVERHAUL/COST = 2-74/ ?

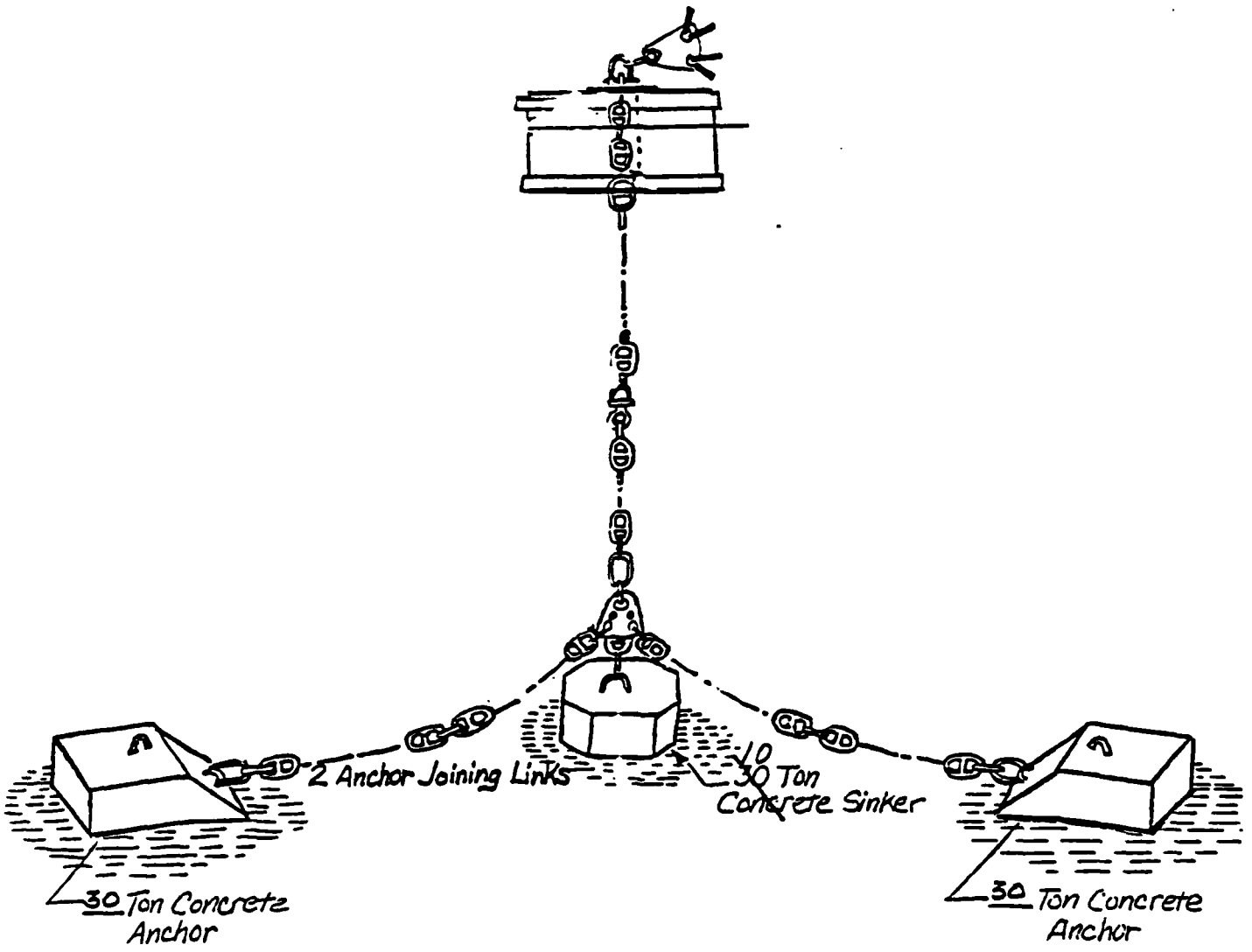
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT Two)

NEXT SCHED. REPAIR = 1987

NEXT SCHED. OVERHAUL = 1984

DATE SHEET COMPILED = 6-82/MS

(*) Down-graded to class E after 1979 U/W Insp.


2 Anchor Joining Links
10
30 Ton
Concrete Sinker
30 Ton Concrete
Anchor
30 Ton Concrete
Anchor

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The buoy is fiberglass coated and has two rubber fenders. Sections of the fenders are missing. The bottom is covered with about 1 inch of marine growth. The top metal plate, the galvanized pipe chafing rail, and the top hardware are all in good condition. The rubbing casting is in fair condition.

Riser

Except for the upper portion of the riser chain, which is in good condition, the remainder measures between 80 and 90 percent of original wire diameter. The riser enters the bottom at a depth of 20 feet.

Ground Legs/Anchors/Concrete Sinkers

Not visible for inspection.

Recommendation

A measurement between 80 and 90 percent of any mooring component is normally cause for the mooring to be downgraded to the next lower classification. However, in the case of Mooring D12S, the double link measurements of even the most badly worn chain are larger than the 2 1/2-inch double link measurement of the 1 1/4-inch diameter chain required for an F class mooring. Therefore, the mooring should still be capable of withstanding F class mooring loads. However, it is recommended that this mooring never be subjected to loads in excess of the F class load limits as defined in NAVFACENGCOM Design Manual DM-26.

MOORING NO.: D125 CLASS: A/F LOCATION: MID. LOCH. LAT: 21°22'52.3" LONG: 157°59'31"

WATER DEPTH: 20' ANCHOR SIZE/TYPE: 4 60K# CONC. BUOY TYPE: 12'ϕ X 6' HAWSEPIPE (IN USE)

BOTTOM TYPE: ☐ SAND ☒ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 6' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION								COMMENT
			NEW	SINGLE LINK %			DOUBLE LINK %			D	
				90+	80+	80-	90+	80+	80-		
BUOY HARDWARE											FIBERGLASS & DECK PLATE
											IN GOOD COND. SECTIONS OF
DETACH. LINK		✓									RUBBER FENDER MISSING
											BOTTOM FIBERGLASS GOOD
(NO VISIBLE WEAR)											RUBBING CASTING OK
RISER	NEAR BUOY		2 3/4"	✓✓✓						TOP	
	MIDDLE		↓	✓✓✓			✓	✓✓		15	2 3/4" GO/NO-GO GAUGE
	NEAR GRD RG		↓		✓✓✓			✓✓✓		20	
GROUND RING			N/A								CLUMP NOT VISIBLE
GROUND LEG NO. A	UPPER END	✓	2 3/4"								GROUND LEGS & ANCHORS BURIED
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. B	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. C	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. D	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									

DATE: 5.6.83 ENGINEER IN CHARGE: THOMAS DIVERS: KRUSE/TORRENS

CHESNAVFACENGCOM REPORT FPO-1-83, "PWC PEARL HARBOR FLEET MOORINGS INSPECTION REPORT."

FLEET MOORING DATA SHEET

MRG ID = D12S GENERAL LOC = Middle Loch (ZSMF) DES CLASS = A (*)

DATE ESTAB = 1946 DEPTH = 28.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-52.3" LONG. COORD. (W) = 157°-59'-31.0"

BUOY TYPE = Riser-chain w/ hausepipe SIZE = 12'ϕ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2 3/4"

SINKER = 1 WT. OF SINKER = 60,000# PADEYE SIZE = 2 1/4" ϕ

OF ANCHORS = 4

ANCHOR 1 WT =	60,000#	PADEYE SIZE =	2 1/4" ϕ
ANCHOR 2 WT =		PADEYE SIZE =	—
ANCHOR 3 WT =		PADEYE SIZE =	—
ANCHOR 4 WT =		PADEYE SIZE =	—

USAGE DURING PAST YEAR = 0 days

TYPE OF SHIPS MOORED = ?

DATE OF LAST REPAIR/COST = 1977/$3,275

DATE OF LAST OVERHAUL/COST = 9-71/ ?

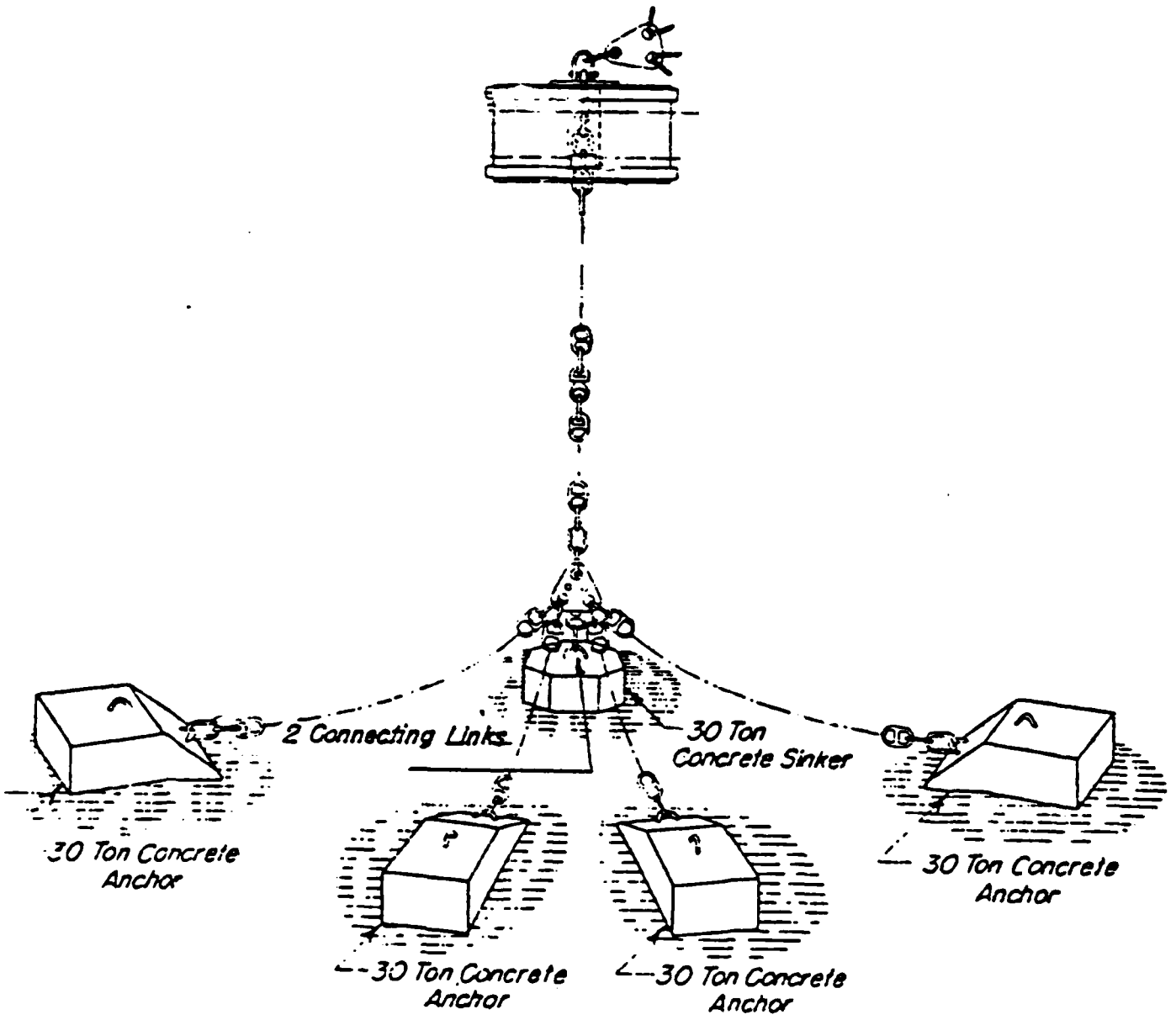
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT Two)

NEXT SCHED. REPAIR = 1987

NEXT SCHED. OVERHAUL = 1984

DATE SHEET COMPILED = 8-82/MS

(*) Down-graded to class F after 1979 U/W Insp.



MOORING D12S
SCHEMATIC DRAWING

INSPECTION RESULTS

DP1N

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The buoy is fiberglass coated and has two rubber fenders and a galvanized pipe chafing rail. The mooring was overhauled in March 1982, and the buoy is in good condition. The top jewelry wire diameter measurements were all greater than 90 percent of their original diameter size. There is some light rust on the top hardware and 2 inches of marine growth on the buoy's bottom.

Riser

The riser chain and accessories were replaced during the 1982 overhaul. The riser is in good condition with all wire size measurements greater than 90 percent of original diameter. The riser enters the bottom at a water depth of 40 feet.

Ground Ring/Ground Legs/Anchors/Concrete Sinker

Not visible for inspection.

Recommendation

This mooring is in satisfactory condition for continued use as a class A mooring.

MOORING NO.: DPIN CLASS: A LOCATION: DP FAC LAT: 21°22'12" LONG: 157°58'33.6"

WATER DEPTH: 40' ANCHOR SIZE/TYPE: 4-60K# CONC. BUOY TYPE: 12'ϕ X 6' HAWSEPIPE

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK (INTERMITTENT USE)

Visibility _____ D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION								D	COMMENT
			NEW	SINGLE LINK %			DOUBLE LINK %					
				90+	80+	80-	90+	80+	80-			
BUOY HARDWARE												OVERHAULED 3-82
SHACKLE		✓										FIBERGLASS, DECK PLATE, RUB
GROUND RING		✓										RAIL, FENDERS: OK
CHAIN CLAMP		*										MODERATE RUST ON HARDWARE
											*	CHAIN CLAMP CRACKED AT BOLT HOLES.
RISER	NEAR BUOY		2¾"	✓✓							TOP	
	MIDDLE		↓	✓✓							20'	2¾" GO/NO-GO GAUGE
	NEAR GRD RG		↓	✓✓							40'	
GROUND RING			N/A									ANCHORS & GROUND LEGS NOT
GROUND LEG NO. A	UPPER END	✓										VISIBLE
	MIDDLE	✓										
	ENTERS BOTTOM	✓										
GROUND LEG NO. B	UPPER END	✓										
	MIDDLE	✓										
	ENTERS BOTTOM	✓										
GROUND LEG NO. C	UPPER END	✓										
	MIDDLE	✓										
	ENTERS BOTTOM	✓										
GROUND LEG NO. D	UPPER END	✓										
	MIDDLE	✓										
	ENTERS BOTTOM	✓										

DATE: 5-11-83 ENGINEER-IN-CHARGE: THOMAS DIVERS: ELSASSER/SUTTON

FLEET MOORING DATA SHEET

MRG ID = DP1N GENERAL LOC = Deperming Fac. DES CLASS = A (*)

DATE ESTAB = 1942 DEPTH = 40.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-12.0" LONG. COORD. (W) = 157°-58'-33.6"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'φ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2¾"

SINKER = 1 WT. OF SINKER = 60,000 # PADEYE SIZE = 2¼" φ

OF ANCHORS = 4

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2¼" φ
ANCHOR 2 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 3 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 4 WT =	(Do.)	PADEYE SIZE =	(Do.)

USAGE DURING PAST YEAR = 10 days

TYPE OF SHIPS MOORED = LHA/CC/CV

DATE OF LAST REPAIR/COST = 1977/$3,000

DATE OF LAST OVERHAUL/COST = 3-82/ Installation cost = $22,000 (**)

DATE OF LAST UNDERWATER INSPECTION = —
CONDUCTED BY = —

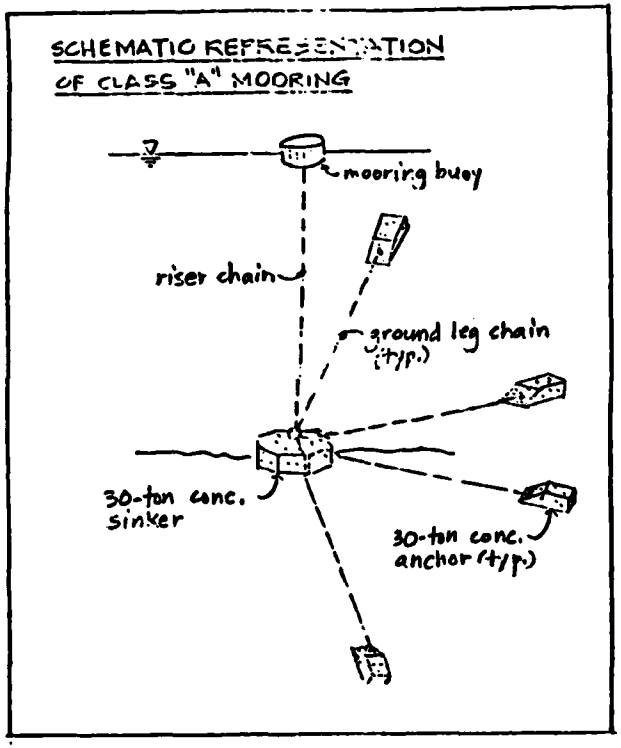
NEXT SCHED. REPAIR = 1985

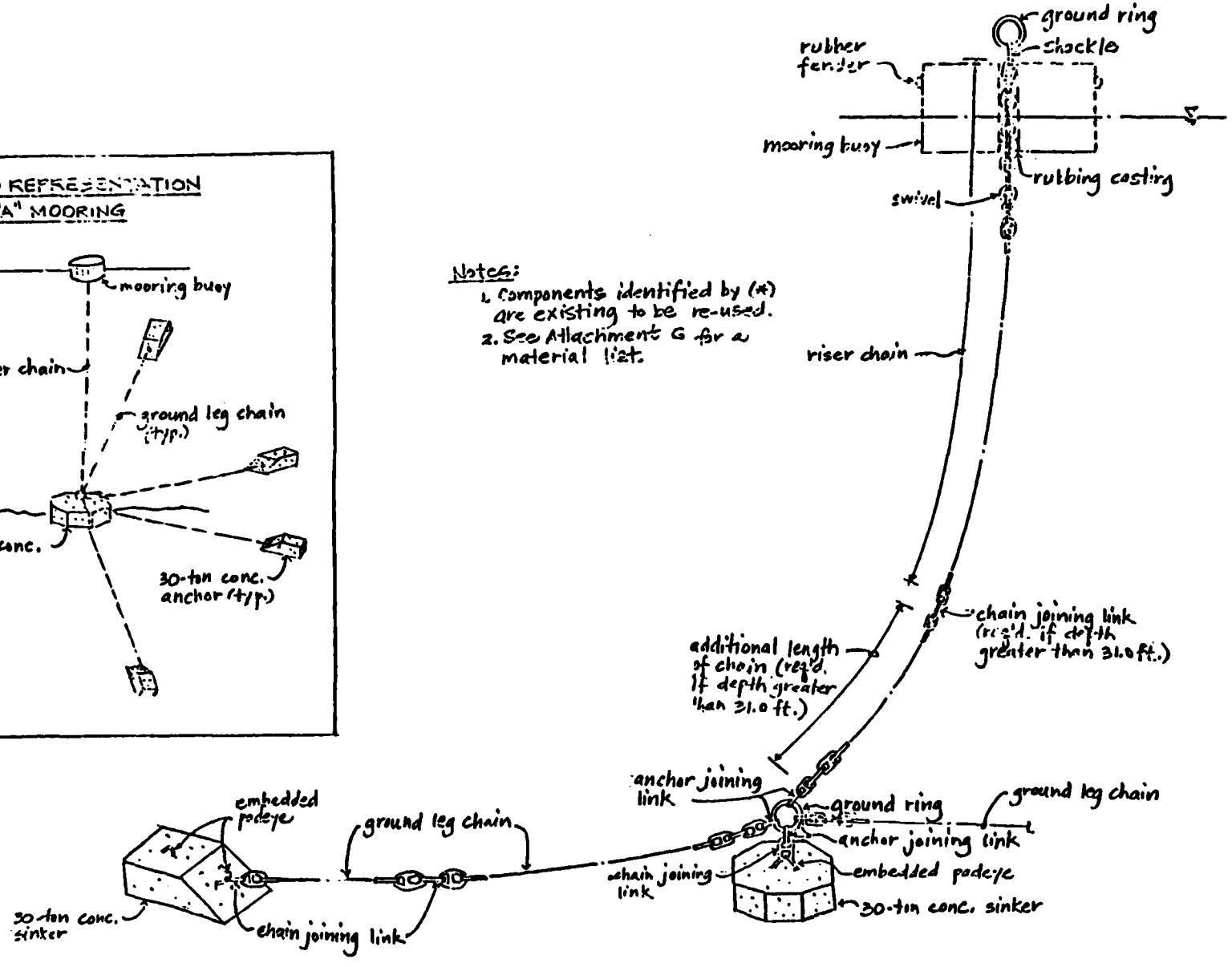
NEXT SCHED. OVERHAUL = 1987

DATE SHEET COMPILED = 8-82/MS

(*) Mooring was Class C prior to 3/82; was relocated from DIN 4/81

(**) PWC J.O. 190-6626, completed 3/82; PHNSY floating crane and diver services & PWC shop forces; super URGENT accomplishment for LHA deperming 4/82.





MOORING DP1N
SCHEMATIC DRAWING

INSPECTION RESULTS

DP1S

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The buoy is fiberglass coated and has two rubber fenders and a galvanized pipe chafing rail. The mooring was overhauled in March 1982, and the buoy is in good condition. The top jewelry wire diameter measurements were all greater than 90 percent of their original diameter size. The bottom is covered with 2 inches of marine growth.

Riser

The riser chain and accessories were replaced during the 1982 overhaul. The riser is in good condition with all wire size measurements greater than 90 percent of original diameter. The riser enters the bottom at a water depth of 40 feet.

Ground Ring/Ground Legs/Anchors/Concrete Sinker

Not visible for inspection.

Recommendation

This mooring is in satisfactory condition for continued use as a class A mooring.

MOORING NO.: DP15 CLASS: A LOCATION: DP FAC. LAT: 21°22'ϕ" LONG: 157°58'35.7"

WATER DEPTH: 40' ANCHOR SIZE/TYPE: 4-60K# CONC. BUOY TYPE: 12'ϕ x 6' HAWSEPIPE

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK (INTERMITTENT USE)

Visibility _____ D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION NEW	SINGLE LINK % 90+	SINGLE LINK % 80+	SINGLE LINK % 80-	DOUBLE LINK % 90+	DOUBLE LINK % 80+	DOUBLE LINK % 80-	D	COMMENT
BUOY HARDWARE											FIBERGLASS, DECK PLATE,
SHACKLE		✓									RUBBER FENDERS, RUB RAIL: OK
GROUND RING		✓									MOORING OVERHAULED 3-82
CHAIN CLAMP		✓									
(NO VISIBLE WEAR)											
RISER	NEAR BUOY		2 3/4"	✓✓			✓✓			TOP	
	MIDDLE		↓	✓✓			✓✓			20'	2 3/4" GO/NO-GO GAUGE
	NEAR GRD RG		↓	✓✓			✓✓			40'	
GROUND RING			N/A								ANCHORS & GROUND LEGS
GROUND LEG NO. A	UPPER END	✓									NOT VISIBLE
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. B	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. C	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. D	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									

DATE: 5-11-83 ENGINEER-IN-CHARGE: THOMAS DIVERS: ELSASSER/SUTTON

FLEET MOORING DATA SHEET

MRG ID = DP1S GENERAL LOC = Deperming Fac. DES CLASS = A (*)

DATE ESTAB = 1942 DEPTH = 40.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-00.0" LONG. COORD. (W) = 157°-58'-35.7"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2¾"

SINKER = 1 WT. OF SINKER = 60,000 # PADEYE SIZE = 2¼" ϕ

OF ANCHORS = 4

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2¼" ϕ
ANCHOR 2 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 3 WT =	(Do.)	PADEYE SIZE =	(Do.)
ANCHOR 4 WT =	(Do.)	PADEYE SIZE =	(Do.)

USAGE DURING PAST YEAR = 10 days

TYPE OF SHIPS MOORED = LHA/CC/CV

DATE OF LAST REPAIR/COST = —

DATE OF LAST OVERHAUL/COST = 3-82/ Installation cost = $22,000 (**)

DATE OF LAST UNDERWATER INSPECTION = —
CONDUCTED BY = —

NEXT SCHED. REPAIR = 1985

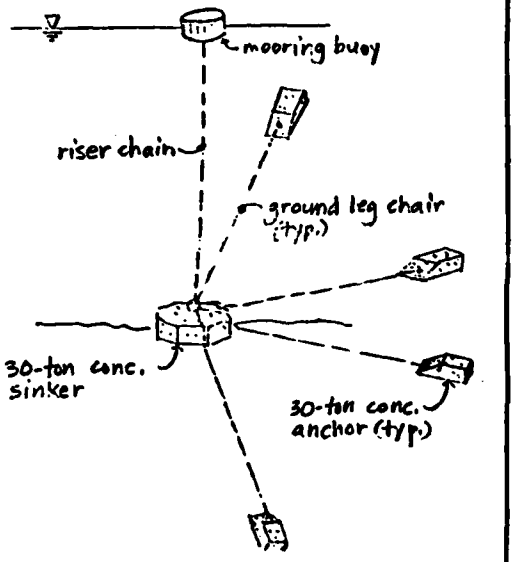
NEXT SCHED. OVERHAUL = 1987

DATE SHEET COMPILED = 8-82/MS

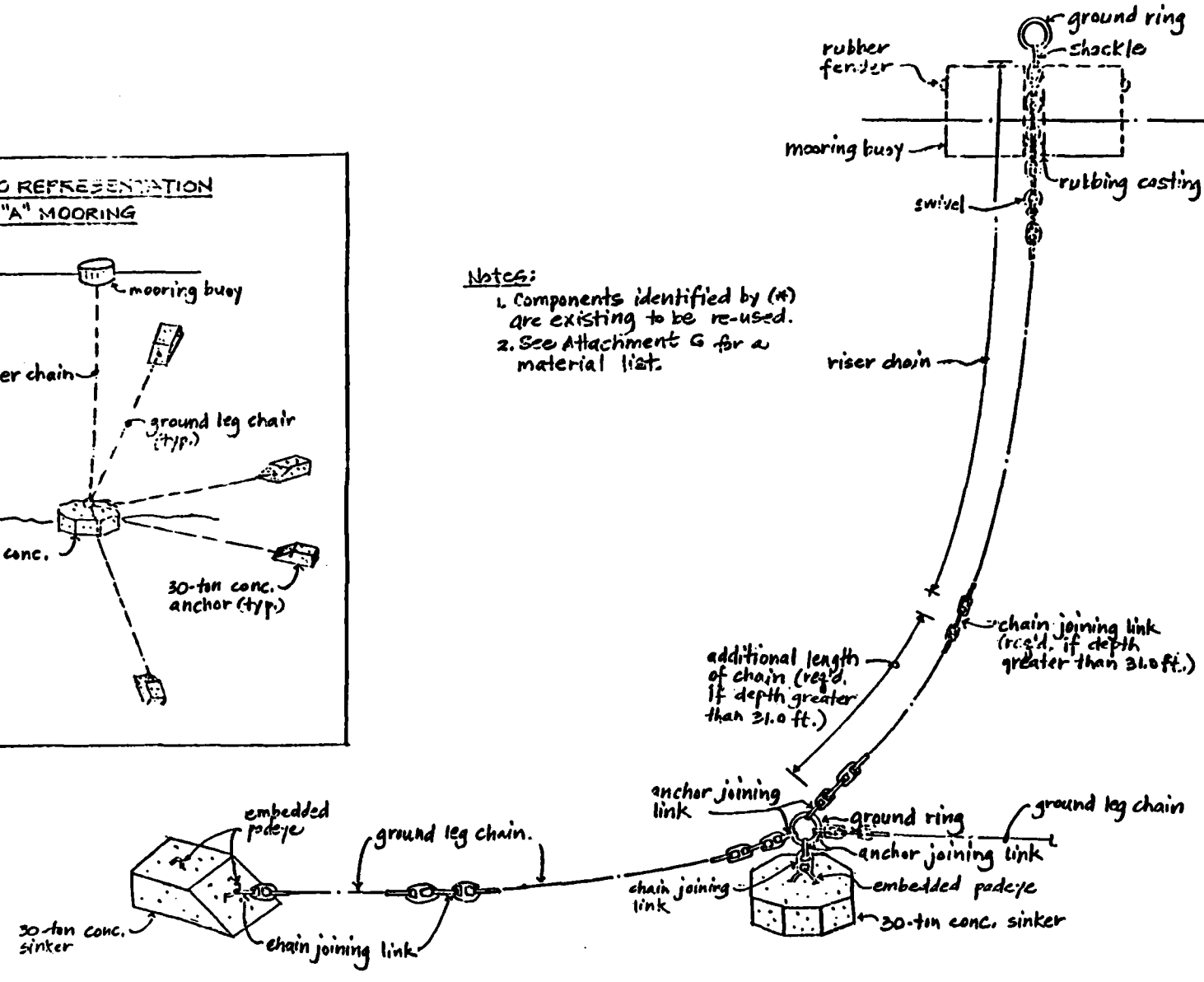
(*) Mooring was Class C prior to 3/82; was relocated from DLS 4/81

(**) PWC J.O. 190-6626, completed 3/82; PHNSY floating crane and diver services & PWC shop forces; super URGENT accomplishment for LHA deperming 4/82.

SCHEMATIC REPRESENTATION OF CLASS "A" MOORING



Notes:
1. Components identified by (*) are existing to be re-used.
2. See Attachment G for a material list.



INSPECTION RESULTS

DP2N

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The buoy is fiberglass coated and has two rubber fenders and a galvanized pipe chafing rail. The mooring was overhauled in March 1982, and the buoy is in good condition. The top jewelry wire diameter measurements were all greater than 90 percent of their original diameter size. The chafing rail is lightly rusted, and the bottom is covered with 2 inches of marine growth.

Riser

The riser chain and accessories were replaced during the 1982 overhaul with oversized 4-inch chain in order to moor LHA/CV class ships. The riser is in good condition with all wire size measurements greater than 90 percent of original diameter. The riser enters the bottom at a water depth of 40 feet.

Anchor

The anchor was not visible and could not be inspected.

Recommendation

This mooring is in satisfactory condition for continued use as a class C mooring.

MOORING NO.: DP2N CLASS: C LOCATION: DP FAC. LAT: 21°22'13.6" LONG: 157°58'35.8"

WATER DEPTH: 40' ANCHOR SIZE/TYPE: 1-110K# CONC BUOY TYPE: 12'ϕ X 6' HAWSEPIPE

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK

(INTERMITTENT USE)

Visibility _____ D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION								COMMENT
			NEW	SINGLE LINK %			DOUBLE LINK %			D	
				90+	80+	80-	90+	80+	80-		
BUOY HARDWARE											MOORING OVERHAULED 3-82
SHACKLE		✓									DECK PLATE, RUBBER FENDERS
GROUND RING		✓									FIBERGLASS; GOOD
CHAIN CLAMP		✓									LIGHT RUST ON RUB RAIL
											NO VISIBLE WEAR ON TOP HARDWARE
RISER	NEAR BUOY	*	4"	✓						TOP	SL: $3\frac{7}{8}$" DL: $7\frac{3}{4}$"
	MIDDLE		↓	✓						20'	SL: 4" DL: $7\frac{3}{4}$"
	NEAR GRD RG		↓	✓						40'	SL: $3\frac{5}{8}$" DL: $7\frac{1}{2}$"
GROUND RING		✓	N/A								ANCHORS & GROUND LEGS NOT
GROUND LEG NO. A	UPPER END	✓									VISIBLE
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. B	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. C	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. D	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									

DATE: 5·11·83 ENGINEER-IN-CHARGE: THOMAS DIVERS: ELSASSER/SUTTON

*VICE $2\frac{3}{4}$" AS SHOWN ON AS-BUILTS

FLEET MOORING DATA SHEET

MRG ID = DP2N GENERAL LOC = Deperming Fac. DES CLASS = C

DATE ESTAB = March 1982 DEPTH = 36.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-13.6" LONG. COORD. (W) = 157°-58'-35.8"

BUOY TYPE = Risi-chain w/ hawsepipe SIZE = 12'ϕ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2 3/4" **

SINKER = — WT. OF SINKER = — PADEYE SIZE = —

OF ANCHORS = 1

ANCHOR 1 WT =	110,000 #	PADEYE SIZE =	2 1/2" ϕ
ANCHOR 2 WT =	—	PADEYE SIZE =	—
ANCHOR 3 WT =	—	PADEYE SIZE =	—
ANCHOR 4 WT =	—	PADEYE SIZE =	—

USAGE DURING PAST YEAR = 10 days

TYPE OF SHIPS MOORED = LHA/CG/CV

DATE OF LAST REPAIR/COST = —

DATE OF LAST OVERHAUL/COST = Installation cost - $11,000 (*)

DATE OF LAST UNDERWATER INSPECTION = —
CONDUCTED BY = —

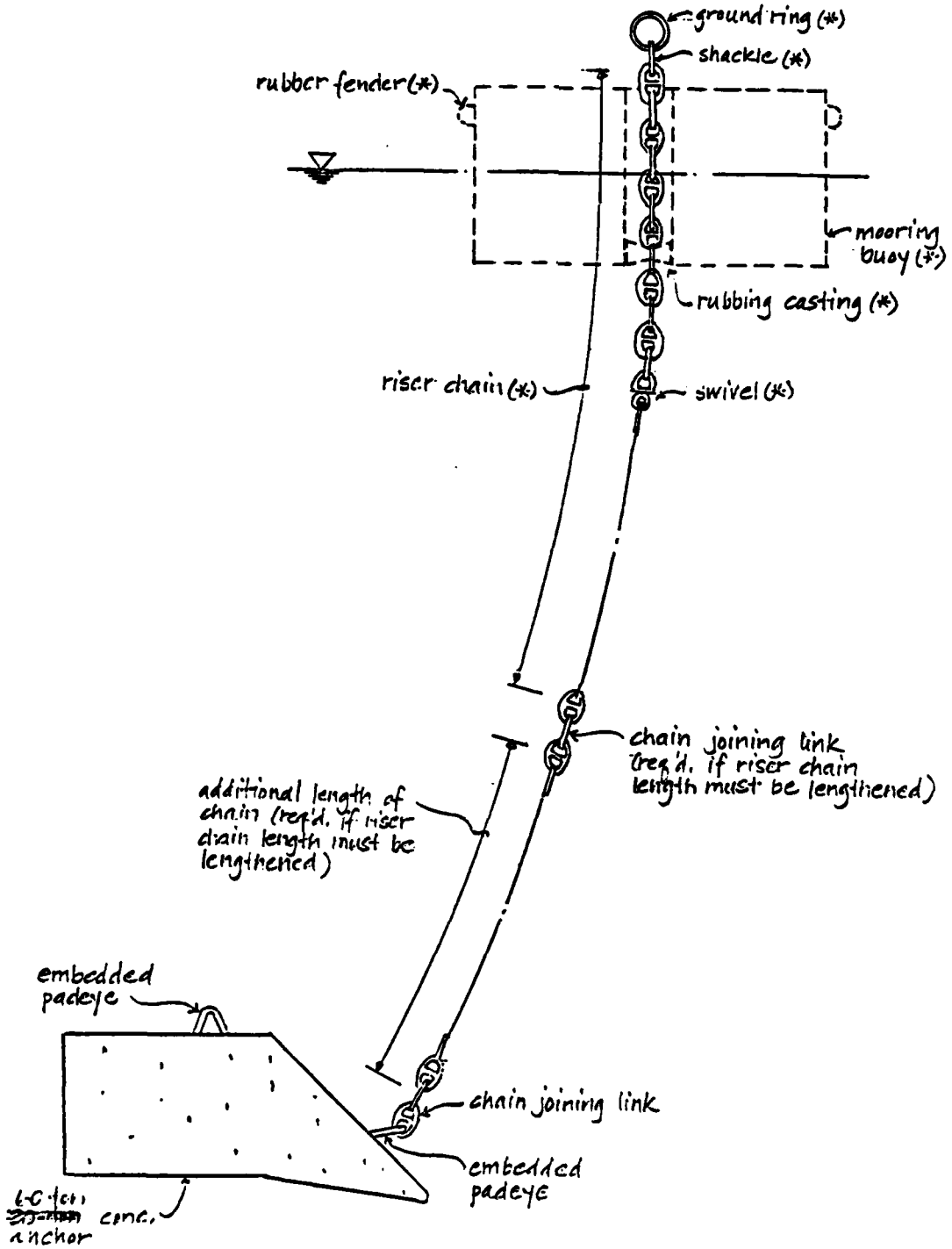
NEXT SCHED. REPAIR = 1985

NEXT SCHED. OVERHAUL = 1987

DATE SHEET COMPILED = 8-82/MS

(*) FWC J.O. 190-6626, completed 3/82; PIJISY floating crane & diver services and FWC shop forces; super URGENT accomplishment for LHA deperming 4/82.

** DIVERS MEASURED 4" 5/83



MOORING DP2N
SCHEMATIC DRAWING

INSPECTION RESULTS

DP2S

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The buoy is fiberglass coated and has two rubber fenders and a galvanized pipe chafing rail. The mooring was overhauled in March 1982, and the buoy is in good condition. The top jewelry wire diameter measurements were all greater than 90 percent of their original diameter size. The bottom is covered with 2 inches of marine growth.

Riser

The riser chain and accessories were replaced during the 1982 overhaul with oversized 4-inch chain in order to moor LHA/CV class ships. The riser is in good condition with all wire size measurements greater than 90 percent of original diameter. The riser enters the bottom at a water depth of 40 feet.

Anchor

The anchor was not visible and could not be inspected.

Recommendation

This mooring is in satisfactory condition for continued use as a class C mooring.

MOORING NO.: DP25 CLASS: C LOCATION: DP EAC. LAT: 21°22'10" LONG: 157°58'38.4"

WATER DEPTH: 40' ANCHOR SIZE/TYPE: 1-110K# CONC BUOY TYPE: 12'ϕ X 6' HAWSEPIPE

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK (INTERMITTENT USE)

Visibility _____ D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION NEW	SINGLE LINK % 90+	SINGLE LINK % 80+	SINGLE LINK % 80-	DOUBLE LINK % 90+	DOUBLE LINK % 80+	DOUBLE LINK % 80-	D	COMMENT
BUOY HARDWARE											MOORING OVERHAULED 3-82
SHACKLE		✓									FIBERGLASS
GROUND RING		✓									FIBERGLASS, DECK PLATE,
CHAIN CLAMP		✓									FENDERS, RUB RAIL: OK
(NO VISIBLE WEAR)											
RISER	NEAR BUOY	*	4"	✓✓			✓			TOP	SL 4 1/16", 4" / DL 7 15/16"
	MIDDLE		↓	✓✓			✓			20'	SL 4 3/8", 4 1/8" / DL 7 13/16"
	NEAR GRD RG		↓	✓✓			✓			40'	SL 4 1/16", 4 1/16" / DL 7 13/16"
GROUND RING			N/A								ANCHOR NOT VISIBLE
GROUND LEG NO. A	UPPER END		N/A								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. B	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. C	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. D	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								

DATE: 5.11.83 ENGINEER-IN-CHARGE: THOMAS DIVERS: ELSASSER/SUTTON

*VICE 2 3/4" SHOWN ON AS-BUILTS

CHESNAVFACENGCOM REPORT FPO-1-83, "PWC PEARL HARBOR FLEET MOORINGS INSPECTION REPORT."

FLEET MOORING DATA SHEET

MRG ID = DP2S GENERAL LOC = Deperming Fac. DES CLASS = C

DATE ESTAB = March 1982 DEPTH = 40.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-01.0" LONG. COORD. (W) = 157°-58'-38.4"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2 3/4" **

SINKER = — WT. OF SINKER = — PADEYE SIZE = —

OF ANCHORS = 1

ANCHOR 1 WT =	110,000 #	PADEYE SIZE =	2 1/2" ϕ
ANCHOR 2 WT =	—	PADEYE SIZE =	—
ANCHOR 3 WT =	—	PADEYE SIZE =	—
ANCHOR 4 WT =	—	PADEYE SIZE =	—

USAGE DURING PAST YEAR = 10 days

TYPE OF SHIPS MOORED = LHA/CC/CV

DATE OF LAST REPAIR/COST = —

DATE OF LAST OVERHAUL/COST = Installation cost = $11,000 (1)

DATE OF LAST UNDERWATER INSPECTION = —
CONDUCTED BY = —

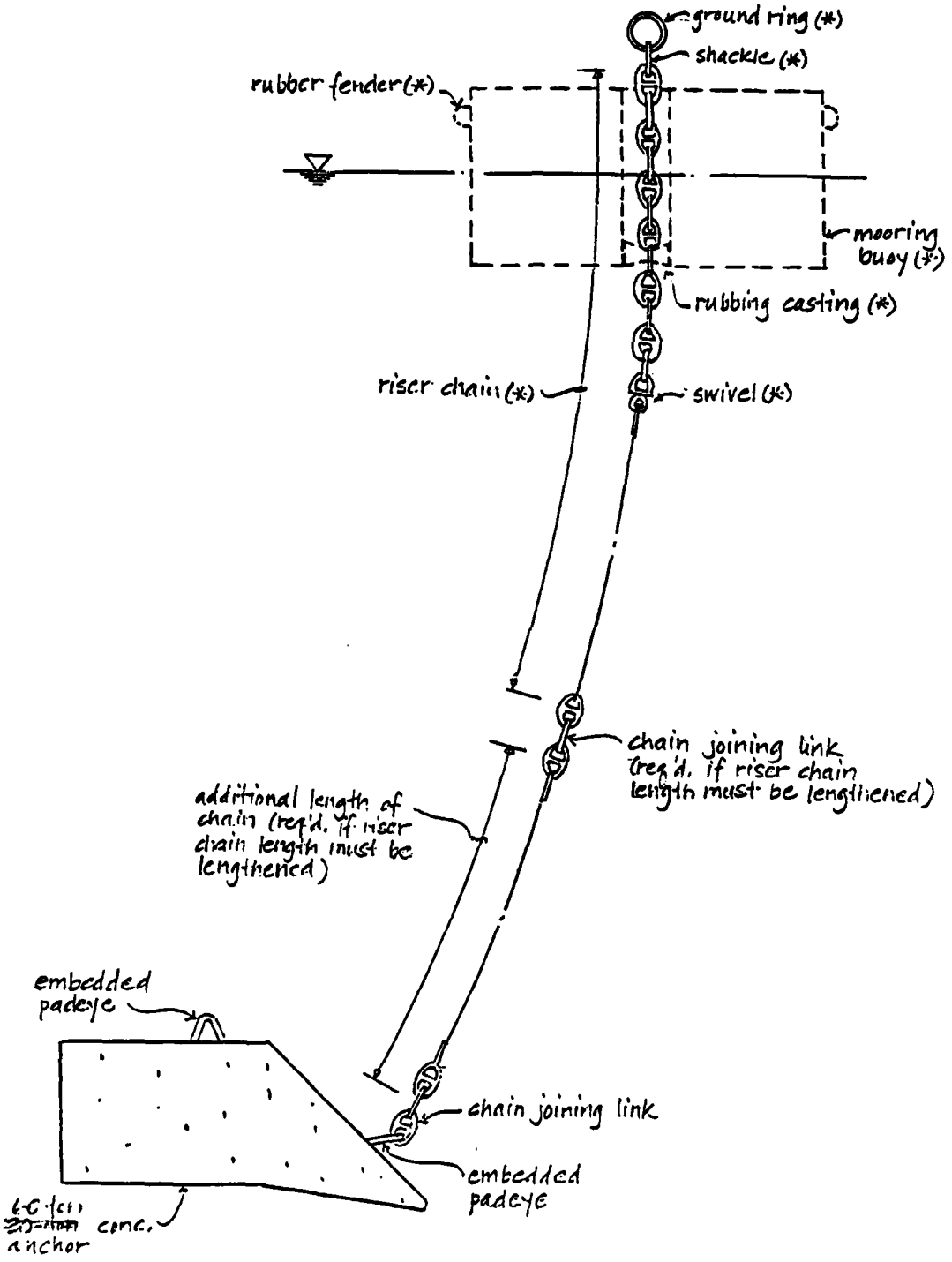
NEXT SCHED. REPAIR = 1985

NEXT SCHED. OVERHAUL = 1987

DATE SHEET COMPILED = 8-82/MS

(1) FWC J.O. 190-6626, completed 3/82; FH-NSY floating crane & diver services and FWC shop forces ; super URGENT accomplishment for LHA deperming 1/82.

** DIVERS MEASURED 4" (5/83)



MOORING DP2S
SCHEMATIC DRAWING

INSPECTION REPORT

DP3A

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The buoy is fiberglass coated and has two rubber fenders and a galvanized pipe chafing rail, all in good condition. The top metal plate and top hardware are also in good condition.

Riser

The riser is 2 3/4-inch chain. Because the riser enters the bottom just 5 feet below the surface, divers were not able to take any accurate measurements of the chain diameter.

Anchor

Not visible for inspection.

Recommendation

Based on visual inspection of the buoy and riser, the mooring appears to be in satisfactory condition for use as a class F mooring.

MOORING NO.: DP3A CLASS: C/F LOCATION: DP FAC. LAT: 21°22'2.9" LONG: 157°58'39.1"

WATER DEPTH: 5' ANCHOR SIZE/TYPE: 1-60K#GONC BUOY TYPE: 12'ϕ X 6' HAWSEPIPE

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK

(INTERMITTENT USE)

Visibility _____ D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION NEW	SINGLE LINK % 90+	SINGLE LINK % 80+	SINGLE LINK % 80-	DOUBLE LINK % 90+	DOUBLE LINK % 80+	DOUBLE LINK % 80-	D	COMMENT
BUOY HARDWARE											DECK PLATE, FIBERGLASS,
SHACKLE		✓									RUBBER FENDERS, RUB RAIL:
GROUND RING		✓									OK
CHAIN CLAMP		✓									
(NO VISIBLE WEAR)											
RISER	NEAR BUOY		2 3/4"							TOP	DL 3 3/4" / SL 1 11/16"
	MIDDLE		↓								2 3/4" GO/NO-GO GAUGE & CALIPERS
	NEAR GRD RG		↓								READINGS REPORTED AND
GROUND RING			N/A								REPEATED BY DIVERS, BUT
GROUND LEG NO. A	UPPER END		N/A								CONSIDERED DOUBTFUL, DUE
	MIDDLE		↓								TO DIFFICULT ACCESS UNDER BUOY.
	ENTERS BOTTOM		↓								RISER ENTERS BOTTOM AT ~5';
GROUND LEG NO. B	UPPER END		↓								ANCHOR NOT VISIBLE.
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. C	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. D	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								

DATE: 5.11.83 ENGINEER-IN-CHARGE: THOMAS DIVERS: ELGASSER/SUTTON

FLEET MOORING DATA SHEET

MRG ID = DP3A GENERAL LOC = Deperming Fac. DES CLASS = C (*)

DATE ESTAB = 1948 DEPTH = 12.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-02.9" LONG. COORD. (W) = 157°-58'-39.1"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2 3/4"

SINKER = — WT. OF SINKER = — PADEYE SIZE = —

OF ANCHORS = 1

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2 1/4" ϕ
ANCHOR 2 WT =	—	PADEYE SIZE =	—
ANCHOR 3 WT =	—	PADEYE SIZE =	—
ANCHOR 4 WT =	—	PADEYE SIZE =	—

USAGE DURING PAST YEAR = 10 days

TYPE OF SHIPS MOORED = LHA/CC/CV

DATE OF LAST REPAIR/COST = 1977/$ 2,750

DATE OF LAST OVERHAUL/COST = 1-72/ ?

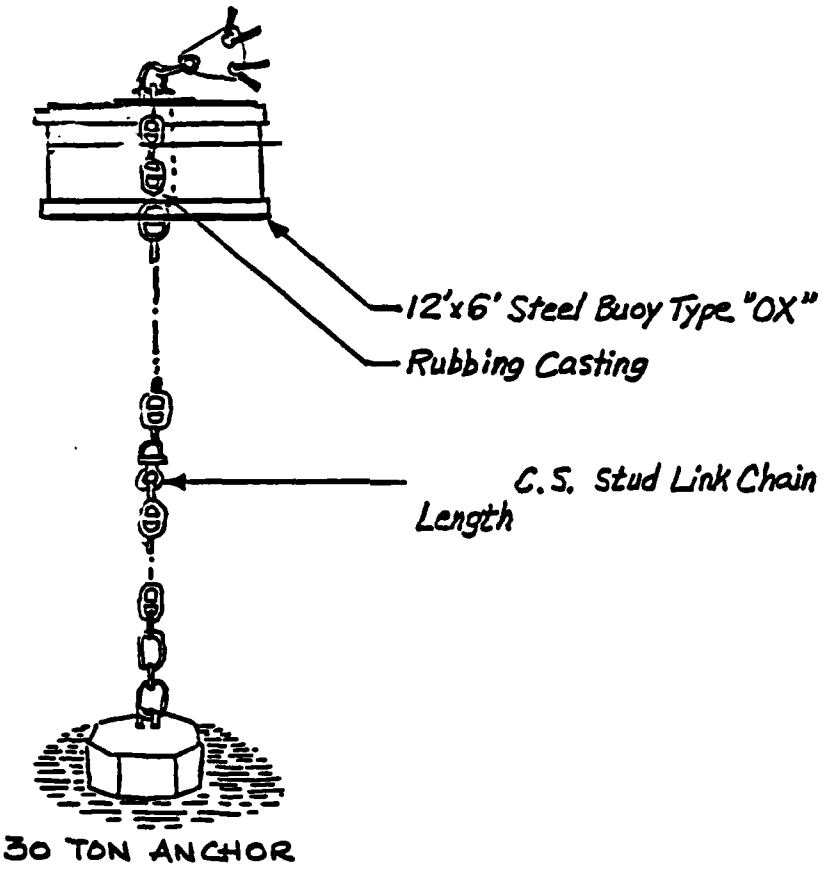
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT Two)

NEXT SCHED. REPAIR = 1985

NEXT SCHED. OVERHAUL = 1987

DATE SHEET COMPILED = 8-82/MS

(*) Down-graded to class E after 1979 U/W Insp.



MOORING DP3A
SCHEMATIC DRAWING

INSPECTION RESULTS

DP6N

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The buoy is fiberglass coated and has two rubber fenders and a galvanized pipe chafing rail. The buoy is in good condition.

Riser

The upper and lower section of the riser chain measured between 80 and 90 percent of the original 2 3/4-inch chain diameter. The riser enters the bottom at 40 feet.

Anchor/Sinker

Not visible for inspection.

Recommendation

A measurement between 80 and 90 percent of any mooring component is normally cause to downgrade the mooring to the next lower classification. However, in the case of Mooring DP6N, the double link measurements of even the most badly worn chain are larger than the 4 1/2-inch double link measurement of the 2 1/4-inch diameter chain required for a C class mooring. Therefore, the mooring should still be capable of withstanding C class mooring loads. However, it is recommended that this mooring never be subjected to loads in excess of the C class load limits as defined in NAVFACENGCOM Design Manual DM-26.

MOORING NO.: DP6N CLASS: C LOCATION: DP EAC. LAT: 21°22'17.8" LONG: 157°58'38.8'

WATER DEPTH: 40' ANCHOR SIZE/TYPE: 1-60K# CONC. BUOY TYPE: 12'ϕ X 6' HAWSEPIPE

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK (INTERMITTENT USE)

Visibility _____ D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION								COMMENT
			NEW	SINGLE LINK %			DOUBLE LINK %			D	
				90+	80+	80-	90+	80+	80-		
BUOY HARDWARE											MOORING OVERHAULED 3-82
SHACKLE		✓									DECK PLATE, RUB RAIL,
GROUND RING		✓									FENDERS, FIBERGLASS: GOOD
CHAIN CLAMP		✓									
(NO VISIBLE WEAR)											
RISER	NEAR BUOY		2¾"	✓	✓✓			✓✓		TOP	
	MIDDLE		↓		✓✓		✓✓			20'	2¾" GO/NO-GO GAUGE
	NEAR GRD RG		↓		✓✓			✓✓		40'	
GROUND RING			N/A								ANCHOR & GROUND LEG NOT VISIBLE
GROUND LEG NO. A	UPPER END		↓								
	MIDDLE										
	ENTERS BOTTOM										
GROUND LEG NO. B	UPPER END										
	MIDDLE										
	ENTERS BOTTOM										
GROUND LEG NO. C	UPPER END										
	MIDDLE										
	ENTERS BOTTOM										
GROUND LEG NO. D	UPPER END										
	MIDDLE										
	ENTERS BOTTOM		↓								

DATE: 5·11·83 ENGINEER-IN-CHARGE: THOMAS DIVERS: ELSASSER/SUTTON

FLEET MOORING DATA SHEET

MRG ID = DPGN GENERAL LOC = Deperming Fac. DES CLASS = C

DATE ESTAB = 1943 DEPTH = 12.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-12.8" LONG. COORD. (W) = 157°-58'-38.8"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6' hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2 3/4"

SINKER = 1 (*) WT. OF SINKER = 60,000 # PADEYE SIZE = 2 1/4" ϕ

OF ANCHORS = 1 (*)

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2 1/4" ϕ
ANCHOR 2 WT =	–	PADEYE SIZE =	–
ANCHOR 3 WT =	–	PADEYE SIZE =	–
ANCHOR 4 WT =	–	PADEYE SIZE =	–

USAGE DURING PAST YEAR = 10 days

TYPE OF SHIPS MOORED = LHA/CC/CV

DATE OF LAST REPAIR/COST = 1977/ #4,050

DATE OF LAST OVERHAUL/COST = Installation cost = #11,000 (**)

DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT Two)

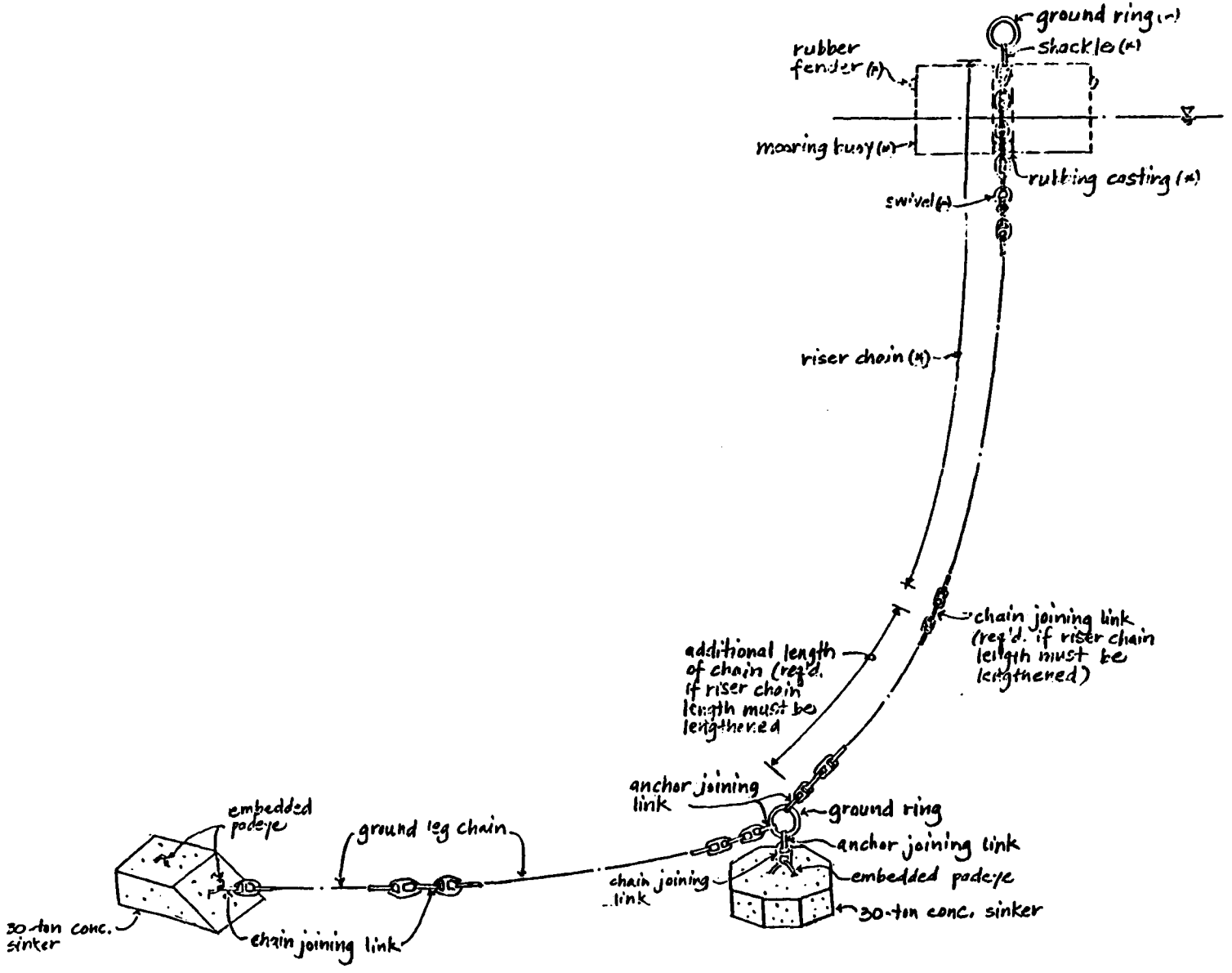
NEXT SCHED. REPAIR = 1985

NEXT SCHED. OVERHAUL = 1987

DATE SHEET COMPILED = 8-82/MS

(*) This class C mooring has 1 sinker & 1 ground leg as directed by Deperming Facility.

(**) PWC J.O. 190-6626, completed 3/82; PHNSY floating crane & diver services and PWC shop forces; super URGENT accomplishment for LHA deperming 4/82.



MOORING DP6N
SCHEMATIC DRAWING

INSPECTION REPORT

T1N

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The buoy is fiberglass coated and has two rubber fenders. The bottom is covered with 2 to 2 1/2 inches of marine growth. The top jewelry measurements were greater than 90 percent of their original wire diameters. The buoy is in good condition.

Riser

The lower portion of the riser measures between 80 and 90 percent of its original 2 3/4-inch chain. The riser enters the bottom at a depth of 50 feet.

Anchors

Not visible for inspection.

Recommendation

A measurement between 80 and 90 percent of any mooring component is normally cause to downgrade the mooring to its next lower classification. However, in the case of Mooring T1N, the double link measurements of even the most badly worn chain are larger than the 1 1/2-inch double link measurement of the 3/4-inch diameter chain required for a G class mooring. Therefore, it is recommended that this mooring never be subjected to loads in excess of the G class load limits as defined in NAVFACENGCOM Design Manual DM-26.

MOORING NO.: T1N CLASS: 6 LOCATION: WEST LOCH LAT: 21°21'13.5" LONG: 157°58'59.7"

WATER DEPTH: 50' ANCHOR SIZE/TYPE: 1-60K# CONC. BUOY TYPE: 12'ϕ X 6' HAWSEPIPE (NOT IN USE)

BOTTOM TYPE: ☐ SAND ☒ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 2' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION								COMMENT
			NEW	SINGLE LINK %			DOUBLE LINK %			D	
				90+	80+	80-	90+	80+	80-		
BUOY HARDWARE											RUBBER FENDER : GOOD
SHACKLE		✓	2 1/4"								FIBERGLASS: GOOD
SMALL GROUND RING		✓	2 7/8"								
(NO VISIBLE WEAR)											TOP OF RISER CHAIN, S/L 2 3/16"
RISER	NEAR BUOY		2 3/4"	✓✓	✓		✓✓			TOP	2 3/4" GO/NO-GO GAUGE
	MIDDLE		↓				✓✓			25'	
	NEAR GRD RG		↓	✓✓				✓✓		50'	
GROUND RING			N/A								SINGLE ANCHOR - NOT VISIBLE
GROUND LEG NO. A	UPPER END		N/A								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. B	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. C	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. D	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								

DATE: 5.5.83 ENGINEER IN CHARGE: THOMAS DIVERS: KRUSE/TORRENS

FLEET MOORING DATA SHEET

MRG ID = T1N GENERAL LOC = West Loch DES CLASS = C (*)

DATE ESTAB = 1957 DEPTH = 29.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-21'-13.5" LONG. COORD. (W) = 157°-58'-59.7"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6' hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2 3/4"

SINKER = — WT. OF SINKER = — PADEYE SIZE = —

OF ANCHORS = 1

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2 1/4" ϕ
ANCHOR 2 WT =	—	PADEYE SIZE =	—
ANCHOR 3 WT =	—	PADEYE SIZE =	—
ANCHOR 4 WT =	—	PADEYE SIZE =	—

USAGE DURING PAST YEAR = 10 days

TYPE OF SHIPS MOORED = Landing craft

DATE OF LAST REPAIR/COST = 1977 / $2,750

DATE OF LAST OVERHAUL/COST = 1-72 / ?

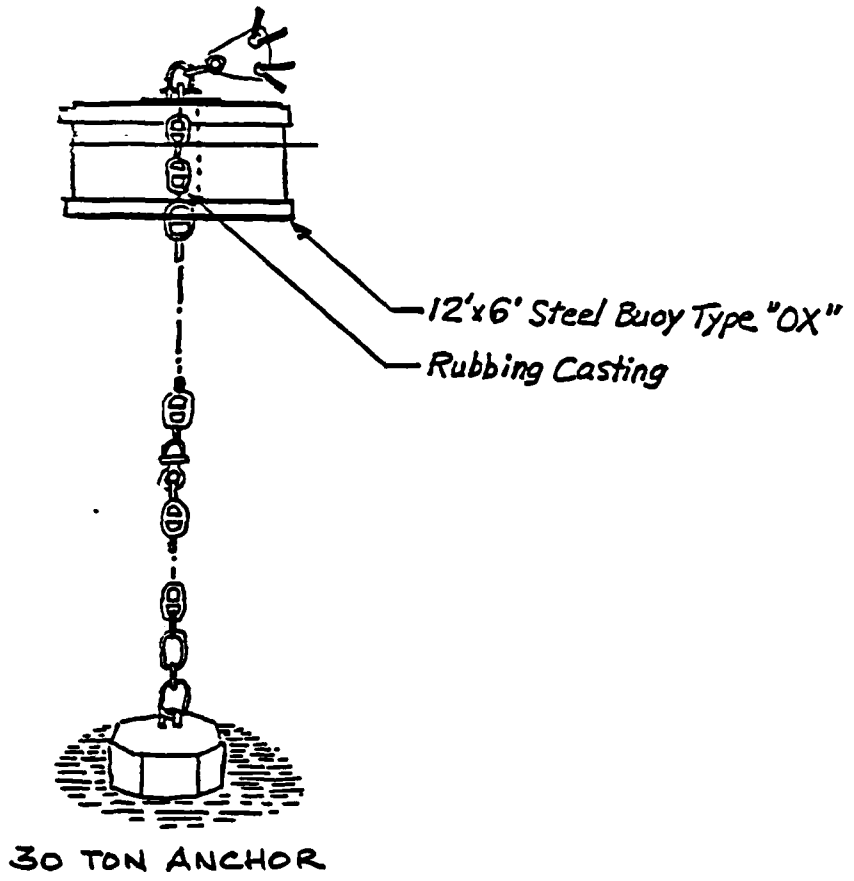
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT TWO)

NEXT SCHED. REPAIR = 1984

NEXT SCHED. OVERHAUL = 1986

DATE SHEET COMPILED = 8-82/MS

(*) Down-graded to Class G after 1979 U/W Insp.



MOORING T1N

SCHEMATIC DRAWING

INSPECTION RESULTS

T1S

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The buoy is fiberglass coated and has two rubber fenders. This buoy is in good condition.

Riser

The riser chain measured between 80 and 90 percent of its original 2 3/4-inch wire diameter. The riser connection to the anchor hairpin was visually identified.

Anchor

The top of the anchor was visually identified and its hairpin measured to be 1 3/4 inches, which is satisfactory for a class G mooring.

Recommendation

A measurement between 80 and 90 percent of any mooring component is normally cause for a mooring to be downgraded to the next lower classification. However, in the case of Mooring T1S, the double link measurements of even the most badly worn chain are larger than the 1 1/2-inch double link measurement of the 3/4-inch diameter chain required for a G class mooring. Therefore, the mooring chain should still be capable of withstanding G class mooring loads. Due to the smaller diameter of the anchor hairpin (1 3/4 inches), it is recommended that this mooring not be subjected to loads in excess of the G class load limits as defined in NAVFACENGCOM Design Manual DM-26.

MOORING NO.: T15 CLASS: G LOCATION: WEST LOCH LAT: 21°21'14.5" LONG: 157°59'0.7"

WATER DEPTH: 50' ANCHOR SIZE/TYPE: 1-60K# CONC. BUOY TYPE: 12'ϕ X 6' HAWSEPIPE (NOT IN USE)

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK Visibility 2' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION								COMMENT
			NEW	SINGLE LINK %			DOUBLE LINK %			D	
				90+	80+	80-	90+	80+	80-		
BUOY HARDWARE											RUBBER FENDER: GOOD
SHACKLE		✓									FIBERGLASS: GOOD
GROUND RING		✓									
(NO VISIBLE WEAR)											
											2 3/4" GO/NO-GO GAUGE
RISER	NEAR BUOY		2 3/4"	✓	✓✓		✓✓✓			TOP	
	MIDDLE		↓	✓✓✓			✓✓✓			30'	
	NEAR GRD RG		↓	✓✓✓				✓✓✓		45'	
GROUND RING		*	1 3/4"	✓						45'	*1 3/4" HAIRPIN ON CLUMP
GROUND LEG NO. A	UPPER END		N/A								VICE 2 3/4" ON AS-BUILTS.
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. B	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. C	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								
GROUND LEG NO. D	UPPER END		↓								
	MIDDLE		↓								
	ENTERS BOTTOM		↓								

DATE: 5-5-83 ENGINEER IN CHARGE: THOMAS DIVERS: KRUSE/TORRENS

CHESNAVFACENGCOM REPORT FPO-1-83, "PWC PEARL HARBOR FLEET MOORINGS INSPECTION REPORT."

FLEET MOORING DATA SHEET

MRG ID = T1S GENERAL LOC = West Loch DES CLASS = C(*)

DATE ESTAB = 1957 DEPTH = 28.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 21°-22'-14.5" LONG. COORD. (W) = 157°-59'-00.7"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2¾"

SINKER = — WT. OF SINKER = — PADEYE SIZE = —

OF ANCHORS = 1

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	2¼"ϕ
ANCHOR 2 WT =	—	PADEYE SIZE =	—
ANCHOR 3 WT =	—	PADEYE SIZE =	—
ANCHOR 4 WT =	—	PADEYE SIZE =	—

USAGE DURING PAST YEAR = 10 days

TYPE OF SHIPS MOORED = Landing craft

DATE OF LAST REPAIR/COST = 1977 / $2,750

DATE OF LAST OVERHAUL/COST = '-72/ ?

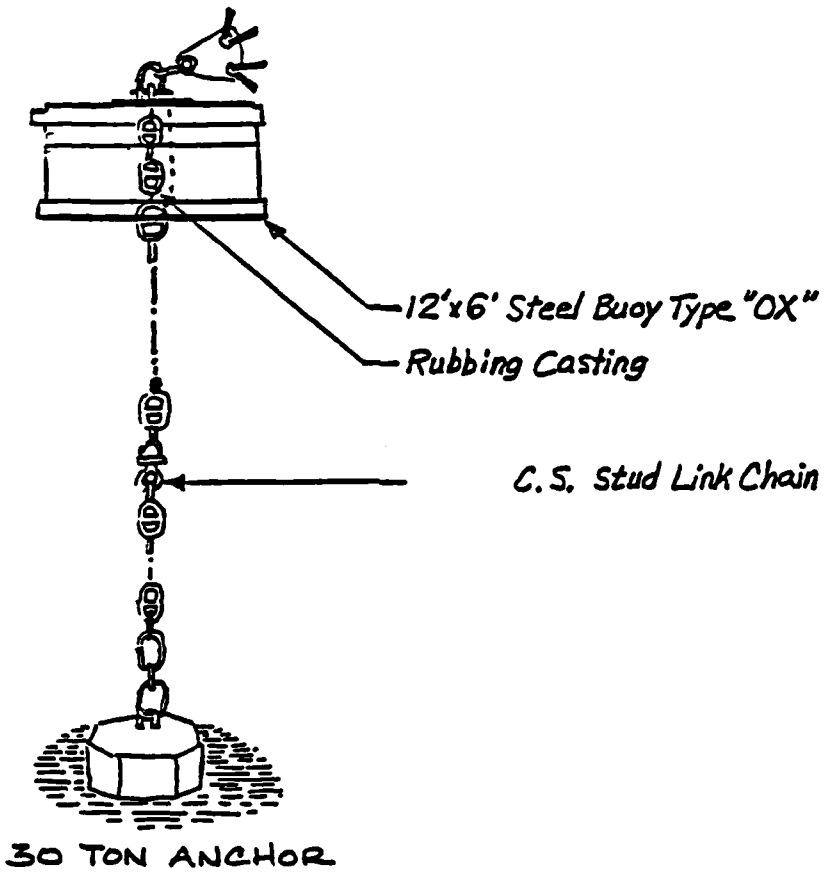
DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT Two)

NEXT SCHED. REPAIR = 1984

NEXT SCHED. OVERHAUL = 1986

DATE SHEET COMPILED = 8-82/MS

(*) Down-graded to Class G after 1979 U/W Insp.



MOORING T1S
SCHEMATIC DRAWING

INSPECTION RESULTS

X9S

Buoy

This is a 12-foot-diameter, 6-foot-high drum-type buoy with a hawsepipe. The buoy is fiberglass coated and has two rubber fenders and a galvanized pipe chafing rail. The mooring was overhauled in December 1982, and the buoy is in good condition. The jewelry showed no sign of wear. The buoy bottom is covered with medium marine growth.

Riser

The riser chain and accessories were replaced during the 1982 overhaul. The riser is in good condition with all wire size measurements greater than 90 percent of original diameter. The riser enter the bottom with the ground ring at 42-foot water depth.

Ground Ring

The ground ring was located partially buried in the bottom at a depth of 42 feet.

Ground Legs/Anchors/Sinker

Not visible for inspection.

Recommendation

This mooring is in satisfactory condition for continued use as a class A mooring.

MOORING NO.: X95 CLASS: A LOCATION: EAST LOCH LAT: 22°22'48" LONG: 157°57'16.5"

WATER DEPTH: 42' ANCHOR SIZE/TYPE: 4-60K# CONC BUOY TYPE: 12'ϕ X 6' HAWSEPIPE

BOTTOM TYPE: ☐ SAND ☑ MUD ☐ CLAY ☐ CORAL ☐ ROCK (NOT IN USE)

Visibility 1'-3' D = depth NI = not inspected, inaccessible

COMPONENTS		NI	CONDITION NEW	SINGLE LINK % 90+	SINGLE LINK % 80+	SINGLE LINK % 80-	DOUBLE LINK % 90+	DOUBLE LINK % 80+	DOUBLE LINK % 80-	D	COMMENT
BUOY HARDWARE											MOORING OVERHAULED 12-82
DETACH. LINK		✓									FIBERGLASS: OK
SHACKLE		✓									RUBBER FENDER, RUB RAIL,
DETACH. LINK		✓									DECK PLATE: OK
P.S. LINK		✓									NO VISIBLE WEAR ON TOPSIDE HARDWARE
RISER	NEAR BUOY		2¾"	✓			✓			TOP	
	MIDDLE		↓	✓			✓			20'	2¾" GO/NO-GO GAUGE
	NEAR GRD RG		↓	✓			✓			40'	
~~GROUND RING~~		*	2¾								ANCHORS & GROUND LEGS
GROUND LEG NO. A	UPPER END	✓									NOT VISIBLE.
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. B	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. C	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									
GROUND LEG NO. D	UPPER END	✓									
	MIDDLE	✓									
	ENTERS BOTTOM	✓									

DATE: 5·5·83 ENGINEER-IN-CHARGE: THOMAS DIVERS: REIST/AUSTIN

* EYE ON CLUMP, 2¾" PER AS-BUILTS

CHESNAVFACENGCOM REPORT FPO-1-83, "PWC PEARL HARBOR FLEET MOORINGS INSPECTION REPORT."

FLEET MOORING DATA SHEET

MRG ID = X9S GENERAL LOC = East Loch DES CLASS = A ~~(*)~~

DATE ESTAB = 1940 DEPTH = ~~36.0~~ 42.0 ft. (MLW) BOTTOM = Mud

LAT. COORD. (N) = 22°-22'-48.0" LONG. COORD. (W) = 157'-57'-16.5"

BUOY TYPE = Riser-chain w/ hawsepipe SIZE = 12'ϕ x 6'hi

FENDER = Rubber FIBERGLASS COATING = Yes

CHAIN SIZE = 2 3/4"

SINKER = 1 WT. OF SINKER = 60,000 # PADEYE SIZE = ~~2 1/4"ϕ~~ 2 3/4"ϕ

OF ANCHORS = 4

ANCHOR 1 WT =	60,000 #	PADEYE SIZE =	~~2 1/4"ϕ~~ 2 3/4"ϕ
ANCHOR 2 WT =	(Do.)	PADEYE SIZE =	(Do.) ✓
ANCHOR 3 WT =	(Do.)	PADEYE SIZE =	(Do.) ✓
ANCHOR 4 WT =	(Do.)	PADEYE SIZE =	(Do.) ✓

USAGE DURING PAST YEAR = 20 days

TYPE OF SHIPS MOORED = CG/DDG/DD/FF/AO/ARS

DATE OF LAST REPAIR/COST = 1977/$3,075

DATE OF LAST OVERHAUL/COST = ~~--/--~~ 12-82/$51,000 (**)

DATE OF LAST UNDERWATER INSPECTION = 1979
CONDUCTED BY = CHESDIV (UCT TWO)

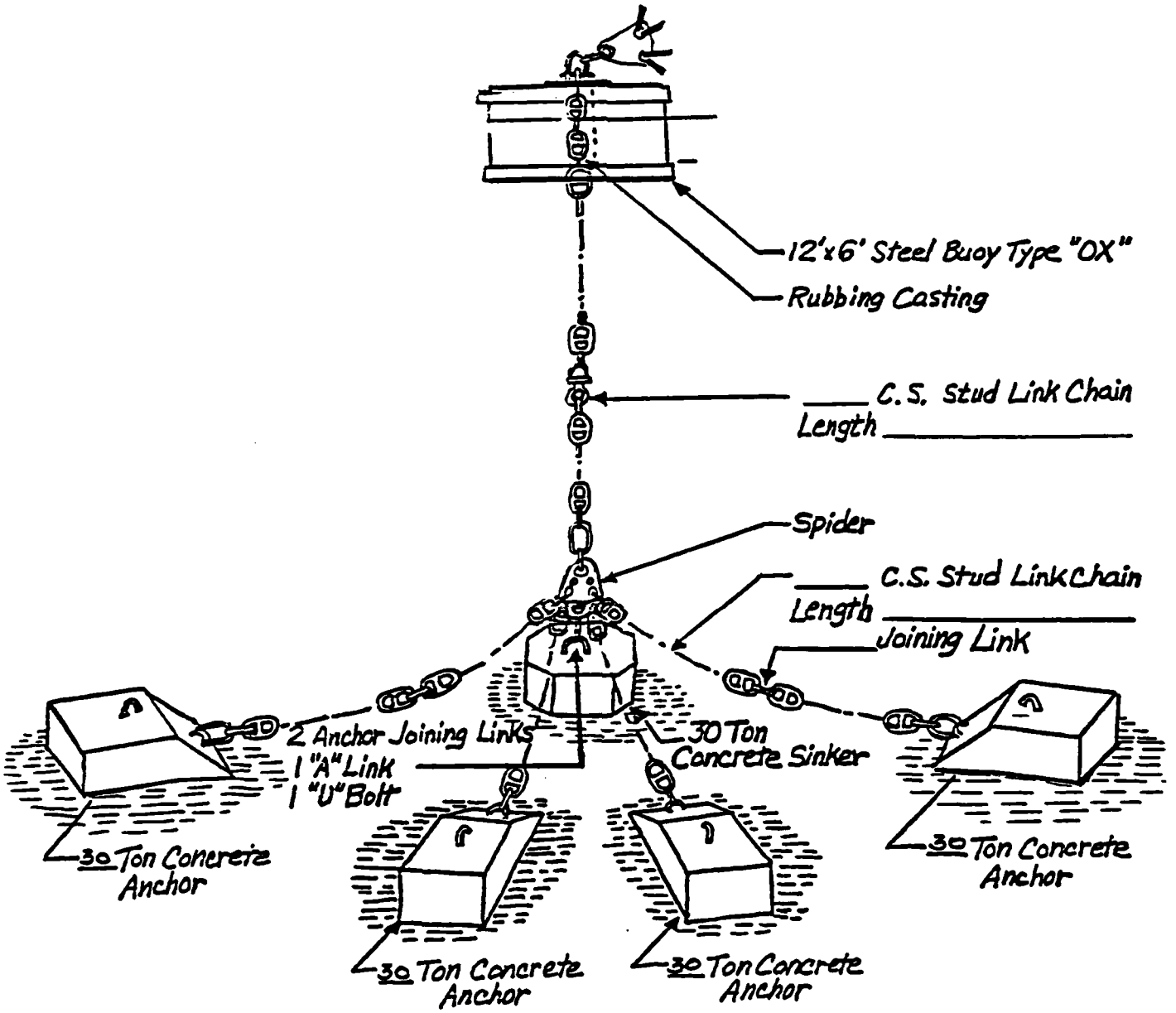
NEXT SCHED. REPAIR = 1985

NEXT SCHED. OVERHAUL = ~~1983 (**)~~

DATE SHEET COMPILED = ~~8-82~~ 4-83/MS

~~(*) Down graded to Class 5 after 1979 U/W Insp.~~

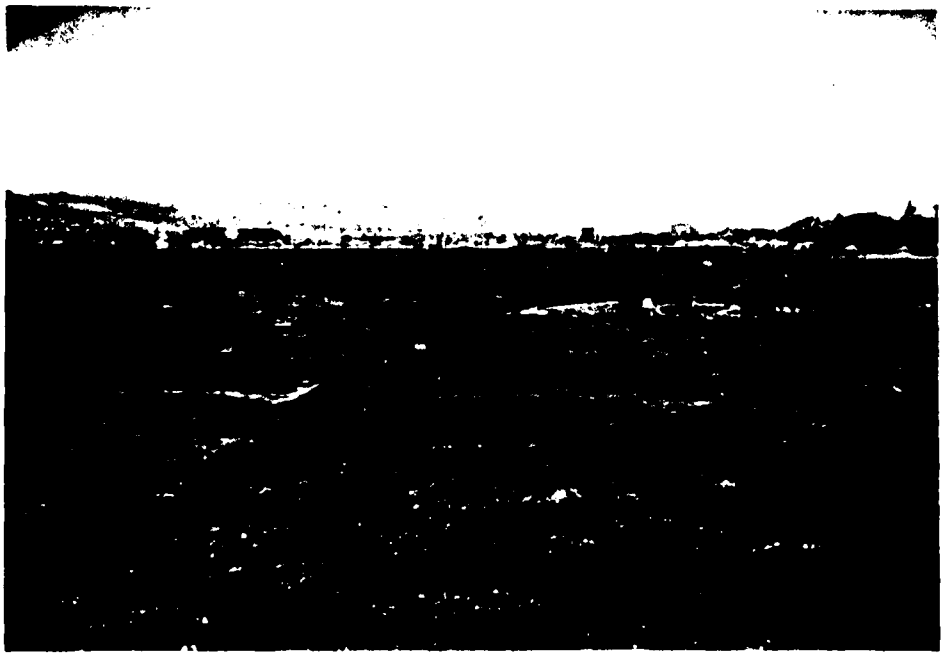
(**) Overhaul ~~expected to be~~ accomplished by Contr. N62471-82-C-2164



MOORING X9S
SCHEMATIC DRAWING

ANNEX B

PHOTOGRAPHS



The Two Anchors of Mooring AM13 Located Side by Side

Damaged Wooden Fender of Buoy AM13A

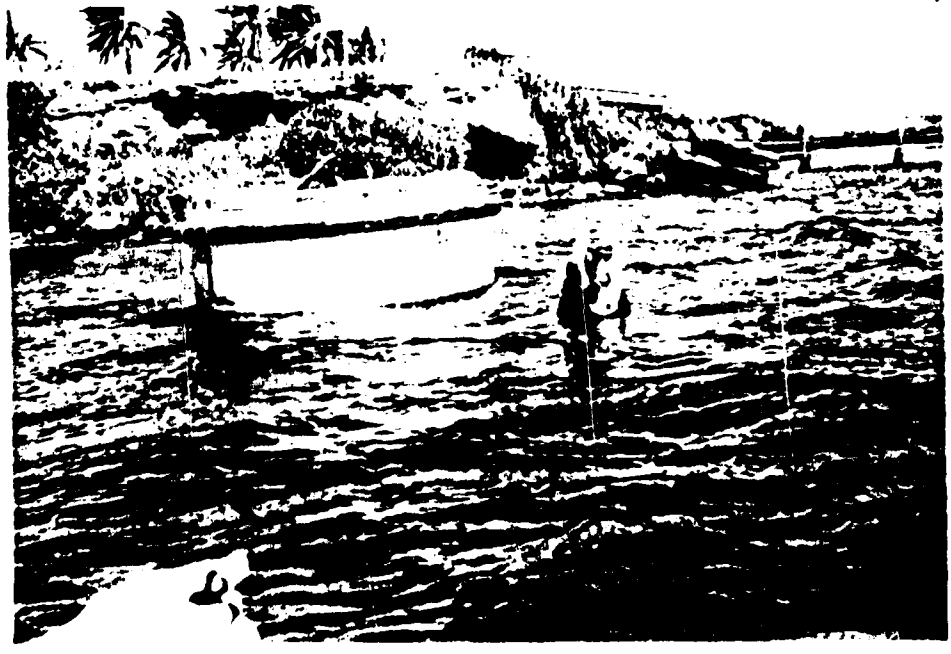
Typical Amount of Marine Growth Below the Water Line

Buoy D5N Floating on its Side

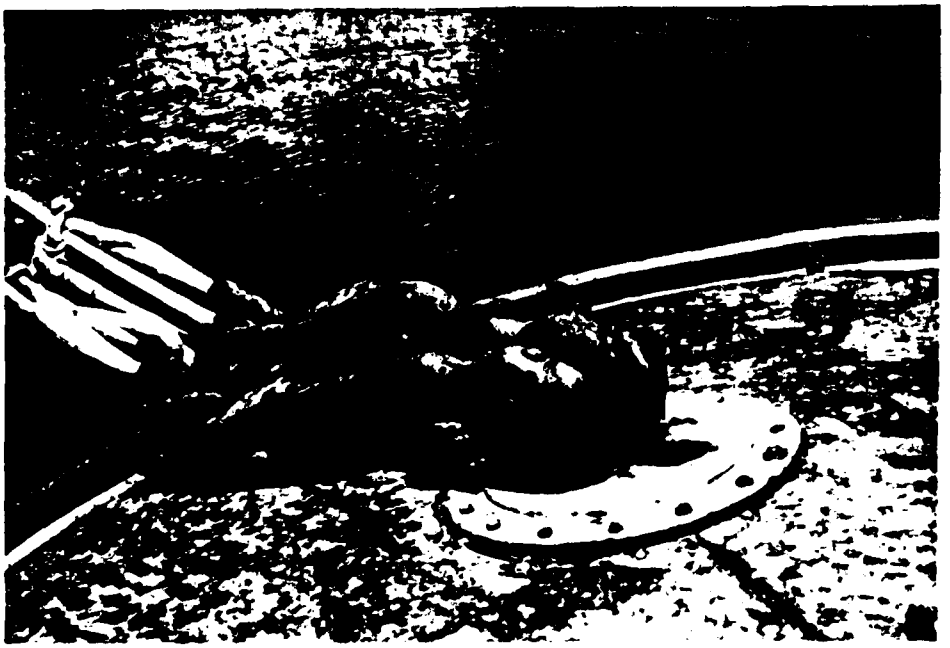
Fender Damage to Buoy D6M/6S

Buoy D12S With Missing Fender

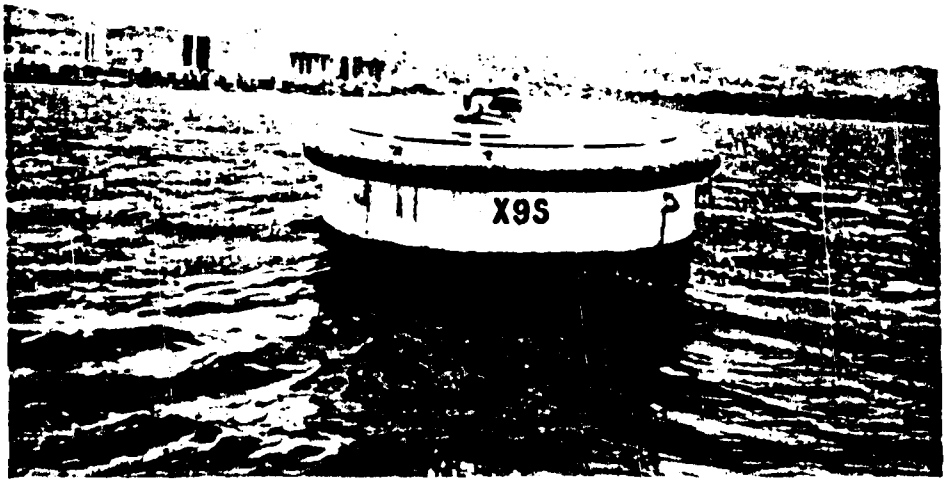
Buoy D11S – An Older Wood Fendered Buoy With a Broken Wooden Chafing Rail



Buoy DP3A Installed in Less than Five Feet of Water

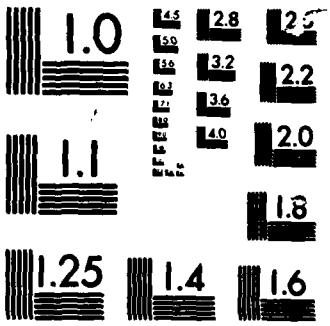


Typical Rusting of Top Deck Plate, Hardware, and Chafing Rail



Typical Condition of Recently Overhauled Buoys

AD-A167 247 PUBLIC WORKS CENTER PEARL HARBOR FLEET MOORINGS 3/3
UNDERWATER INSPECTION REPORT(U) NAVAL FACILITIES
ENGINEERING COMMAND WASHINGTON DC CHESAPEAKE DIV
UNCLASSIFIED SEP 83 CHES/NAVFAC-FPO-1-83(22) F/G 13/2 NL



ANNEX C

REFERENCES

JOINT MESSAGEFORM

PAGE	DTG RELEASER TIME: DATE TIME	MONTH	YR	PRECEDENCE: ACT	INFO	CLASS	SPECAT	LMF	CIC	ORIG MSG IDENT
01 of 02				RR		UUUU				1521405

BOOK | MESSAGE HANDLING INSTRUCTIONS

FROM: CHESNAVFACENGCOM WASHINGTON DC

TO: PWC PEARL HARBOR HI

INFO COMNAVFACENGCOM ALEXANDRIA VA

PACNAVFACENGCOM PEARL HARBOR HI

NAVSTA PEARL HARBOR HI

NAVSHIPYD PEARL HARBOR HI

NAVMAG LUALUALEI HI

INACTSHIP DET PEARL HARBOR HI

UNCLAS //N11000//

SUBJ: FLEET MOORING INSPECTIONS

1. A CHESNAVFACENGCOM/UCT TWO UNDERWATER INSPECTION OF THE MOORINGS LOCATED IN PEARL HARBOR, HI WAS CONDUCTED DURING THE PERIOD 3-12 MAY 1983. THIS IS A PRELIMINARY REPORT OF THE INSPECTION RESULTS TO PROVIDE AN ALERT TO SEVERAL SIGNIFICANT FINDINGS:

A. EAST LOCH:

(1) MOORING AM13: BOTH GROUND LEGS DISPLACED. ANCHORS ARE SIDE BY SIDE IN 2-3 FEET OF WATER NEAR FORD ISLAND. MOORING CONSIDERED UNUSABLE.

DISTR:

DRAFTER TYPED NAME, TITLE, OFFICE SYMBOL, PHONE

James E. McLaughlin

JAMES MCLAUGHLIN, FPO-1C7

433-3681 3 JUNE 1983

SPECIAL INSTRUCTIONS

COPY TO: 09..00..FPO-1C..FPO-1C7..

FPO-1OP2..DAILY..0161

RELEASER — TYPED NAME, TITLE, OFFICE SYMBOL AND PHONE

H. S. STEVENSON, CDR, CEC, USN

SIGNATURE

SECURITY CLASSIFICATION

DATE TIME GROUP

031859Z JUN 83

DD FORM 1 MAR 79 173/2 (OCR) PREVIOUS EDITION IS OBSOLETE S/N 0102-LF-000-1735

JOINT MESSAGE FORM

PAGE	DTG RELEASER TIME			PRECEDENCE		CLASS	SPECAT	EMP	CIC	OPR'S MSG IDENT
	DATE TIME	MONTH	YR	ACT	INFO					
02 OF 02				RR		UUUU				1531405

HOOP | MESSAGE HANDLING INSTRUCTIONS

(2) MOORING AM13A: RISER CHAIN BADLY WORN NEAR GROUND RING, TO 1-1/2 INCH DIAMETER, FROM 2-3/4 INCH. RECOMMEND MOORING BE DOWNGRADED TO CLASS F.

B. MIDDLE LOCH - ISMF (INACTIVE SHIPS MAINTENANCE FACILITY)

(1) MOORING D2N: CHAIN NEAR BOTTOM OF RISER WORN TO 1-1/2 INCH DIAMETER, FROM ORIGINAL 2-3/4 INCH. RECOMMEND MOORING BE DOWNGRADED TO CLASS F.

C. WEST LOCH:

(1) MOORING CMM: SEVERE WEAR IN CHAIN AT 17 FEET DEPTH. CHAIN WORN TO 1/2 INCH DIAMETER FROM ORIGINAL DIAMETER OF 2-INCH. RECOMMEND USE OF MOORING BE DISCONTINUED, AND MOORED CAISSON BE RELOCATED.

2. ALL OTHER MOORINGS APPEAR ADEQUATE FOR USE WITHIN PRESENTLY DESIGNATED CLASSIFICATIONS. IT SHOULD BE NOTED, HOWEVER, THAT MOST MOORINGS HAVE BEEN DOWNGRADED AS A RESULT OF PRIOR INSPECTIONS. IF A REQUIREMENT EXISTS TO USE THE MOORINGS AT ORIGINAL DESIGN CAPACITY, OVERHAULS WILL BE REQUIRED. ABOVE INFORMATION WAS INFORMALLY PASSED TO PWC, PEARL HARBOR PERSONNEL ON 12 MAY 1983.

DISTR

DRAFTER TYPED NAME TITLE OFFICE SYMBOL PHONE	SPECIAL INSTRUCTIONS	
RELEASER: TYPED NAME TITLE OFFICE SYMBOL AND PHONE		
SIGNATURE	SECURITY CLASSIFICATION	DATE TIME GROUP

DD FORM 1, MAR 79 173/2 (OCR) PREVIOUS EDITION IS OBSOLETE S/N 0102-LF-000-1735 * U.S. GPO 1981-335-081

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U U N C L A S S I F I E D U
UUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUU

ROUTINE

R 142348Z APR 83

FM PWC PEARL HARBOR HI

TO CHESNAVFACENGCOM WASHINGTON DC

INFO PACNAVFACENGCOM PEARL HARPOR HI

BT
UNCLAS //N11000//

SUBJ: FLEET MOORING INSPECTIONS

A. CHESNAVFACENGCOM WASHINGTON DC 062031Z APR 83

1. THE MOORING HISTORY AND OTHER INFORMATION REQUESTED BY REF (A) WAS PREVIOUSLY FORWARDED BY MAIL ON 30 MAR 83.

2. PWC PEARL POINT OF CONTACT IS MR. MARK SHIMABUKURO AT THE FACILITIES ENGINEERING DIVISION (CODE 1011), PH NO. (808)474-1172.
BT

DLVR:CHESNAVFACENGCOM WASHINGTON DC(9)...ACT

RTD:000-000/COPIES:0009

607522/105 1 OF 1 M1 0433 105/16:56Z 142348Z APR 83
CSN:RXOY00437 PWC PEARL HARBOR HI

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U U N C L A S S I F I E D U
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UNCLASSIFIED

ROUTINE

R 202057Z APR 83

FM CHESNAVFACENGCOM WASHINGTON DC

INFO NAVSHIPYD PEARL HARBOR HI
INACTSHIPDET PEARL HARBOR HI
COMCRPAC PEARL HARBOR HI
COM THREE-ZERO NCR GUAM
NAVSTA PEARL HARBOR HI
NAVMAG LUALUALEI HI
COM THREE ONE NCR PORT HUENEME CA

R 062031Z APR 83

FM CHESNAVFACENGCOM WASHINGTON DC

TO PWC PEARL HARBOR HI

INFO COMNAVFACENGCOM ALEXANDRIA VA
PACNAVFACENGCOM PEARL HARBOR HI
UCT TWO

BT
UNCLAS //N11000//

SUBJ: FLEET MOORING INSPECTIONS

1. AS DISCUSSED IN TELEPHONE CONVERSATION BETWEEN MR. MARK SHIMABUKURO (PWC PEAR HARBOR) AND MR. TED JONES (CHESNAVFACENGCOM) ON 29 MAR 83, CHESNAVFACENGCOM, WITH SUPPORT FROM UCT TWO, PLANS TO CONDUCT AN UNDERWATER INSPECTION OF THE 45 MOORINGS OPERATED AND MAINTAINED BY PWC PEARL HARBOR AS PART OF THE COMNAVFACENGCOM FLEET MOORING MAINTENANCE (FMM) PROGRAM DURING THE PERIOD 1-21 MAY 83. AVAILABLE DATA INDICATES 21 CLASS A MOORINGS, 16 CLASS C MOORINGS, 5 CLASS D MOORINGS, AND 3 CLASS G MOORINGS, ALL IN 12-42 FEET OF WATER.

2. THE FLEET MOORING INSPECTION TEAM WILL CONSIST OF A CHESDIV ENGINEER-IN-CHARGE (EIC) AND A DET FROM UCT TWO. IN ORDER TO PREPARE A DETAILED INSPECTION PLAN, THE FOLLOWING INFORMATION IS REQUIRED PER MOORING:

A. MAINTENANCE HISTORY - WHEN INSTALLED, WHEN INSPECTED, WHEN OVERHAULED, LAST REPORTED CONDITION, ETC.

B. COPIES OF MOORING DESIGN CALCULATIONS AND DRAWINGS.

C. COPIES OF "AS-BUILT" MATERIALS LIST.

DLVR:CHESNAVFACENGCOM WASHINGTON DC(9)...ORIG

RTD:000-000/COPIES:0009

637256/110 1 OF 2 MI 0522 110/22:04Z 062031Z APR 83
CSN:RXOY00543 CHESNAVFACENGCOM WASHINGTON DC

UNCLASSIFIED

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U UNCLASSIFIED U
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D. FACILITY MAP SHOWING LOCATION OF ALL MOORINGS, WITH SPECIFIC LOCATIONS FOR THOSE CURRENTLY IN USE.

E. ANTICIPATED MOORING USAGE DURING THE INSPECTION PERIOD - TYPES OF SHIPS.

F. PLANNED REPAIRS AND OVERHAULS - PARTICULARLY THOSE BEFORE THIS INSPECTION.

G. TYPES AND CLASSES OF SHIPS USING MOORINGS.

H. WHETHER CATHODIC PROTECTION SYSTEMS ARE INSTALLED AND TYPE OF MATERIAL UTILIZED.

3. PWC, PEARL HARBOR IS REQUESTED TO MAIL THE ABOVE INFORMATION AS SOON AS POSSIBLE TO CHESNAVFACENGCOM (CODE FPO-1C7), BLDG. 212, WASHINGTON NAVY YARD, WASHINGTON, D. C. 20374.

4. ADDITIONALLY, PWC PEARL HARBOR IS REQUESTED TO REPLY BY MESSAGE WITH THE ABOVE INFORMATION EXCEPT FOR DRAWINGS AND MAPS BY 15 APR 83.

5. CHESNAVFACENGCOM POINT OF CONTACT IS MR. J. MCLAUGHLIN OR MR. T. THOMAS AT AUTOVON 288-3881 OR (202) 433-3881.

6. YOUR TIMELY SUPPORT WILL BE GREATLY APPRECIATED.

BT

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ROUTINE

R 062031Z APR 83

FM CHESNAVFACENGCOM WASHINGTON DC

TO PWC PEARL HARBOR HI

INFO COMNAVFACENGCOM ALEXANDRIA VA PACNAVFACENGCOM PEARL HARBOR HI
UCT TWO

BT
UNCLAS //N11000//

SUBJ: FLEET MOORING INSPECTIONS

1. AS DISCUSSED IN TELEPHONE CONVERSATION BETWEEN MR. MARK SHIMABUKURO (PWC PEAR HARBOR) AND MR. TED JONES (CHESNAVFACENGCOM) ON 29 MAR 83, CHESNAVFACENGCOM, WITH SUPPORT FROM UCT TWO, PLANS TO CONDUCT AN UNDERWATER INSPECTION OF THE 45 MOORINGS OPERATED AND MAINTAINED BY PWC PEARL HARBOR AS PART OF THE COMNAVFACENGCOM FLEET MOORING MAINTENANCE (FMM) PROGRAM DURING THE PERIOD 1-21 MAY 83. AVAILABLE DATA INDICATES 21 CLASS A MOORINGS, 16 CLASS C MOORINGS, 5 CLASS D MOORINGS, AND 3 CLASS G MOORINGS, ALL IN 12-42 FEET OF WATER.

2. THE FLEET MOORING INSPECTION TEAM WILL CONSIST OF A CHESDIV ENGINEER-IN-CHARGE (EIC) AND A DET FROM UCT TWO. IN ORDER TO PREPARE A DETAILED INSPECTION PLAN, THE FOLLOWING INFORMATION IS REQUIRED PER MOORING:
A. MAINTENANCE HISTORY - WHEN INSTALLED, WHEN INSPECTED, WHEN OVERHAULED, LAST REPORTED CONDITION, ETC.
B. COPIES OF MOORING DESIGN CALCULATIONS AND DRAWINGS.
C. COPIES OF "AS-BUILT" MATERIALS LIST.
D. FACILITY MAP SHOWING LOCATION OF ALL MOORINGS, WITH SPECIFIC LOCATIONS FOR THOSE CURRENTLY IN USE.
E. ANTICIPATED MOORING USAGE DURING THE INSPECTION PERIOD - TYPES OF SHIPS.
F. PLANNED REPAIRS AND OVERHAULS - PARTICULARLY THOSE BEFORE THIS INSPECTION.
G. TYPES AND CLASSES OF SHIPS USING MOORINGS.
H. WHETHER CATHODIC PROTECTION SYSTEMS ARE INSTALLED AND TYPE OF MATERIAL UTILIZED.

DLVR:CHESNAVFACENGCOM WASHINGTON DC(9)...ORIG

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3. PWC, PEARL HARBOR IS REQUESTED TO MAIL THE ABOVE INFORMATION AS SOON AS POSSIBLE TO CHESNAVFACENGCOM (CODE FPO-1C7), BLDG. 212, WASHINGTON NAVY YARD, WASHINGTON, D. C. 20374.

4. ADDITIONALLY, PWC PEARL HARBOR IS REQUESTED TO REPLY BY MESSAGE WITH THE ABOVE INFORMATION EXCEPT FOR DRAWINGS AND MAPS BY 15 APR 83.

5. CHESNAVFACENGCOM POINT OF CONTACT IS MR. J. MCLAUGHLIN OR MR. T. THOMAS AT AUTOVON 288-3881 OR (202) 433-3881.

6. YOUR TIMELY SUPPORT WILL BE GREATLY APPRECIATED.
BT

550564/096 2 OF 2 M1 0564 096/20:532 062031Z APR 83
CSN:RXOY00568 CHESNAVFACENGCOM WASHINGTON DC

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ROUTINE

R 2103317 AUG 82

FM CINCPACFLT PEARL HARBOR HI

TO CINCPAC PEARL HARBOR HI

INFO CHNAVMAT WASHINGTON DC
COMNAVAIRSYSCOM WASHINGTON DC
COMNAVFACENGCOM ALEXANDRIA VA
COMNAVTELCOM WASHINGTON DC
COMNAVSURFPAC SAN DIEGO CA
COMNAVAIRPAC SAN DIEGO CA
CG FMFPAC
COMOCEANSYSPAC PEARL HARBOR HI
COMNAVMARIANAS GUAM
COMPACMISTESTCEN PT MUGU CA
WESTNAVFACENGCOM SAN BRUNO CA
OICC MIDPAC PEARL HARBOR HI
OICC GUAM
OICC DIEGO GARCIA HOUSTON TX
PWC GUAM
PWC YOKOSUKA JA
PWC SAN FRANCISCO CA
COMTHREE ZERO NCR GUAM
NAVRAL CENTERVILLE BEACH CA
NAVSTA SEAL BEACH CA
NAVSHIPREPFAC SUBIC BAY RP
CTF ATSUGI JA
NAVSHIPYD PUGET SOUND WA
NSC SAN DIEGO CA
COMTHREEFAC HANGOK JA
NSC GUAM
NAVSUPPFAC DIEGO GARCIA
NAVSTA LONG BEACH CA
NSC PEARL HARBOR HI
NAVSHIPYD MARE ISLAND CA
PACMISRANFAC MAKAHA HANKING SANDS HI
COMNAVSEASYSCOM WASHINGTON DC
COMNAVELEXSYSCOM WASHINGTON DC
CNR ARLINGTON VA
COMNAVLOGPAC PEARL HARBOR HI
COMSUBPAC PEARL HARBOR HI
COMTHIRDFLT
COMMARCORBASESPAC CAMP H M SMITH HI
COMNAVFORJAPAN YOKUSUKA JA
COMUSNAVPHIL SUBIC BAY RP
PACNAVFACENGCOM PEARL HARBOR HI
CHESNAVFACENGCOM WASHINGTON DC
OICC SUWESTPAC MANILA RP
OICC FAR EAST YOKOSUKA JA
PWC PEARL HARBOR HI
PWC SUBIC BAY RP
PWC SAN DIEGO CA
COMTHREE ONE NCR PORT HUENEME CA
UCT TWO
NAVOCEANSYSCEN SAN DIEGO CA
NSD SUBIC BAY RP
NCAS IWAKUNI JA
NAVUSEAWARENGSTA KEYPORT WA
NAVMAG LUALUALEI HI
SUBASE BANGOR WA
NAVPHIBASE CORONADO SAN DIEGO CA
NAVSHIPREPFAC GUAM
NAVSTA SAN DIEGO CA
NAVSHIPYD PEARL HARBOR HI
SUBASE PEARL HARBOR HI

BT
UNCLAS //N11000//

SUBJ: UCT TWO FY83 EMPLOYMENT TASKING

PLYMCHESNAVFACENGCOM WASHINGTON DC(9)...INFO

RTD:000-000/COPIES:0009

114776/235 1 OF 3 M1 0308 235/23:21Z 2103317 AUG 82
CSN:RAQY00304 CINCPACFLT PEARL HARBOR HI

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A. CINCPACFLT PEARL HARBOR HI 260654Z JUN 82

1. REF A REQUESTED NOMINATIONS OF PROJECTS FOR UCT TWO ACCOMPLISHMENT FY83-85. FROM THE RESPONSES TO REF A THE FOLLOWING PROJECTS ARE TASKED FOR ACCOMPLISHMENT IN FY83:

A. CENTERVILLE BEACH (CLASSIFIED)
B. ARCTIC WEST (CLASSIFIED)
C. BARKING SANDS, HI, CABLE LANDING AND REPAIRS
D. WPNSTA SEAL BEACH, DEMOLISH ANAHEIM BAY BRIDGE
E. NSD SUBIC, PILE REPAIR POL PIER
F. NSD SUBIC, PILE REPAIR MARINE TERMINAL PIER PHASE I (REPAIR ALL SEVERE AND MAJOR DAMAGE)
G. NAVSHIPREPFAC SUBIC, INSPECT ALAVA WHARF
H. FLEET MOORING INSPECTION - PACIFIC DATA BASE (PEARL HARBOR HI, GUAM, YOKOSUKA, IWAKUNI, SASEBO, INDIAN ISLAND WA, BREMERTON WA)
I. NAVMAG LUALUALEI, INSPECT AMMO PIERS W1-5
J. UNDERWATER INSPECTION PROGRAM (NSC SAN DIEGO)
K. SUBASE, BANGOR WA, UNDERWATER INSPECTION
L. TRIREFFAC BANGOR WA, UNDERWATER MSF RANGE REPAIR
M. DEGAUSSING RANGE SURVEY, SAN FRANCISCO CA
N. NAVPHIBASE CORONADO SAN DIEGO CA, PIER INSPECTIONS

2. THE FOLLOWING PROJECTS ARE TASKED AS FILL IN WORK FOR FY83:

A. UNDERWATER INSPECTION PROGRAM (NAVSTA PEARL HARBOR)
B. NAVUSEAWARENGSTA KEYPORT WA, INDIAN IS PHASE TWO MOORING
C. NSD GUAM, REPAIRS TO SIERRA WHARF GUAM. REQUIRES COORDINATION WITH ON SITE NMCB FOR ACCOMPLISHMENT.

THE FOLLOWING PROJECTS ARE TENTATIVELY TASKED FOR ACCOMPLISHMENT AS INDICATED:

A. FY-84
(1) ARCTIC WEST (CLASSIFIED)
(2) NAVSHIPREPFAC GUAM, REPAIRS TO LIMA WHARF
(3) FLEET MOORING INSPECTION - PACIFIC DATA BASE 9SUBIC BAY, NSF DIEGO GARCIA, PWC SAN DIEGO, NAVSTA SAN DIEGO, WPNGTA SEAL BEACH, NAVSTA LONG BEACH)
(4) NSD SUBIC, WATERFRONT FACILITIES INSPECTION
(5) NSD SUBIC, MONOBUOY FUEL LINE REPAIRS
(6) DEGAUSSING RANGE SAN FRANCISCO, RANGE INSTALLATION
(7) UNDERWATER INSPECTION PROGRAM CNAVSHIPY PEARL HARBOR, NSC PEARL HARBOR, SUBASE PEARL HARBOR)
(8) SCARF REPAIR/INSPECTION
(9) BARKING SANDS, UNDERWATER RANGE REPAIRS
(10) NSD SUBIC, PILE REPAIR MARINE TERMINAL PIER PHASE 2

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(REPAIRS TO MODERATE AND MINOR DAMAGE)

B. FY-85

(1) ARCTIC WEST (CLASSIFIED)

(2) BARKING SANDS, UNDERWATER RANGE WORK

(3) FLEET MOORING INSPECTION - PACIFIC PATH USE PEARL HARBOR HI, GUAM, JAPAN, PUGET SOUND WA)

(4) UNDERWATER INSPECTION PROGRAM (MARE ISLAND CA)

(5) SUBASE PEARL, MCON P-088, REPAIR AND EXTEND SEAWALL THIS PROJECT WILL REQUIRE SEPARATE TASKING OF AN RNMCB, CBU, OR OTHER ORGANIZATION AS "PRIME CONTRACTOR" FOR PILE DRIVING AND TOPSIDE ZONE, WITH UCT ACCOMPLISHING IN WATER SUPPORT.

OPNAV 5216/144 (REV. 8-78)
S/N-0107-LF-778-0095
DEPARTMENT OF THE NAVY

Memorandum

1011:MS:nn
DATE: 30 NOV 1982

FROM: Code 1011

TO: (1) Code 101 (2) Code 100

SUBJ: Fleet Moorings at the Inactive Ship Maintenance Facility, Middle Loch, Pearl Harbor

Ref (a) On-site visit by M. Nakamura (PACNAVFACENGCOM) and M. Shimabukuro (PWC PEARL) on 24 Nov 1982
(b) Conversation btwn K. Mukaigawa (PACNAVFACENGCOM) and M. Shimabukuro (PWC PEARL) on 24 Nov 1982

Encl (1) Fleet Mooring Location Plan at Inactive Ship Maintenance Facility
(2) Plan at Moorings D8N, D8M, D8S
(3) Plan at Moorings D7, D6, & D5

1. Enclosure (1) is a fleet mooring location plan of the moorings presently on record at the Inactive Ship Maintenance Facility.

2. Reference (a) was conducted following the passage of Hurricane Iwa on 23 Nov 1982 and the following items are noted regarding the fleet moorings:

a. Failure of Mooring D8S:

Three nested ships were moored to D8M and D8S in bow-and-stern fashion as shown on enclosure (2). D8M and D8S are classified as Class C moorings, with buoy, 2-1/4" diam. riser chain, and one 30-ton conc. anchor block.

Mooring D8S apparently failed at the riser chain or anchor block padeye because the buoy was still attached to the mooring line from the ships. This failure resulted in the ships being in a free-swinging mooring (i.e., the ships are allowed to swing in any direction and become bow to the wind). Because of this, a timber-pile power dolphin adjacent to D8M was demolished as the ships swung into it.

b. Obvious displacement of moorings D6N, D6M, D6S, D5N, D5M, and D5S:

The destroyers Somers and Morton were moored to D7N, D7M, D7S, D6N, and D6S and the OTEC research vessel moored to D6N, D6M, D6S, D5N, D5M, and D5S, as shown on enclosure (3). All these moorings are Class C or less, with a buoy, riser chain (2-1/4" diam. or less), and one 30-ton concrete anchor or sinker block.

It appears that the three moorings at D7 have been minimally displaced. However, the moorings at D6 and D5 have been displaced to a large extent. The OTEC vessel appears to have dragged the D5 moorings toward line D6 and the vessel has also rotated such that its stern was in contact with the Morton. This rotation has caused the D6 moorings to be displaced. It may be possible that one or two of the moorings at D5 and D6 have failed vice being displaced. See enclosure (3).

1011:MS:hn

Subj: Fleet Moorings at the Inactive Ship Maintenance Facility, Middle Loch, Pearl Harbor

c. Other moorings with ships moored:

(1) D12N and D12M - bow-stern mooring of 5 small ships; minimal displacement, if any.

(2) D11N and D11M - bow-stern mooring of 3 small ships; minimal displacement, if any.

(3) D10N and D10M - bow-stern mooring of 3 small ships; minimal displacement, if any.

(4) D10M and D10S - bow-stern mooring of 2 small ships; minimal displacement, if any.

d. Other moorings with NO ships moored:

(1) D9N, D9M, D9S, and D1M - presently being overhauled under contract N62471-82-C-2164.

(2) D2N, D2S, D3N, D4N, and D4S - no apparent displacement.

3. Other damage or displacements resulting from the storm:

a. Complete destruction of timber-pile dolphin adjacent to mooring D8M from impact by moored ships after failure of one of the ships moorings (listed above as item 2a).

b. Damage to transformers at two timber-pile power dolphins resulting in loss of electrical power to the ships moored in the vicinity.

c. Displacement in position of several floating dyrdock sections moored to bottom anchorages at north end of Middle Loch.

These items are included for information only and are not under the cognizance of the PWC PEARL Fleet Mooring Program.

4. During reference (b), PACNAVFACENGCOM indicated that NAVFAC will be contacted and funds requested to restore the damaged/displaced fleet moorings.

Respectfully,

Mark Shimabukuro

Mark Shimabukuro

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PACNAVFACENGCOM (Code 102)

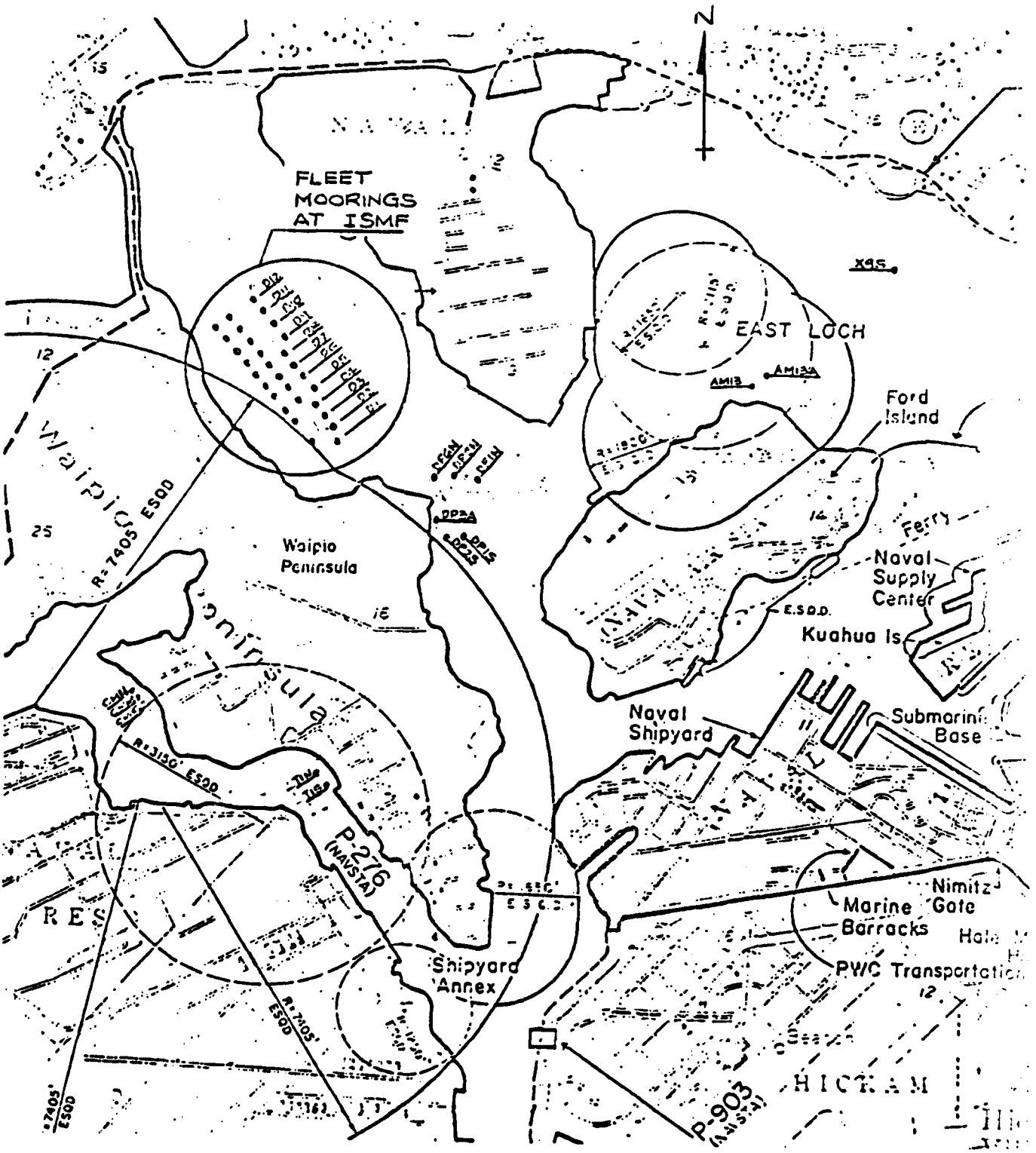


FIGURE 2 - PEARL HARBOR FLEET MOORING LOCATION PLAN

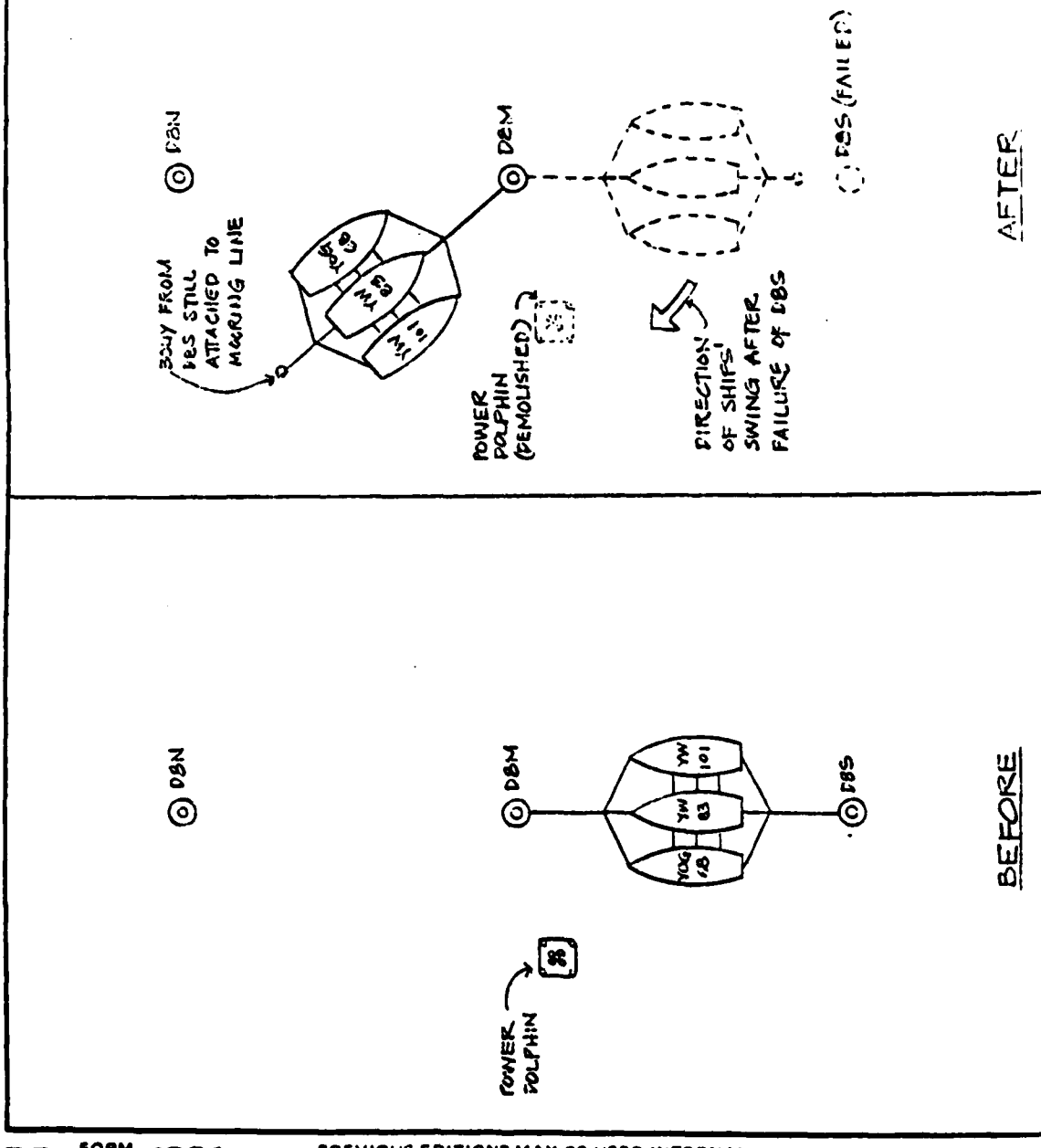
ENCL. (1)

1. COMPONENT	FY 19___MILITARY CONSTRUCTION PROJECT DATA	2. DATE
		29 NOV. 82

3. INSTALLATION AND LOCATION

INACTIVE SHIP MAINTENANCE FACILITY, MIDDLE LOCH

4. [redacted] TITLE	5. PROJECT NUMBER
PLAN AT MCOKING DON, DBM, & DBS	



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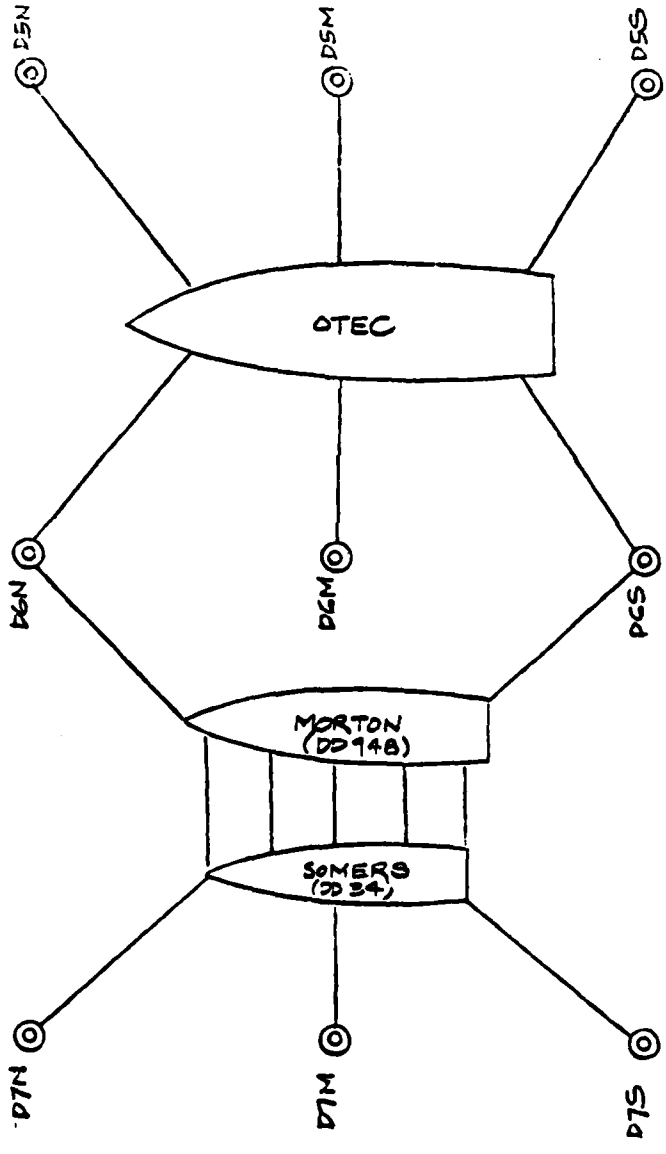
ENCL. (2)

1. COMPONENT	FY 19___MILITARY CONSTRUCTION PROJECT DATA	2. DATE
		29 NOV. 82

3. INSTALLATION AND LOCATION

INACTIVE SHIP MAINTENANCE FACILITY, MIDDLE LOCH

4. [redacted] TITLE	5. PROJECT NUMBER
PLAN AT MOORINGS D5, D6, & D7	



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		29 NOV. 8

3. INSTALLATION AND LOCATION

INACTIVE SHIP MAINTENANCE FACILITY, MIDDLE LOCH

4. [redacted] TITLE	5. PROJECT NUMBER
PLAN AT MOORINGS D5, D6, & D7	

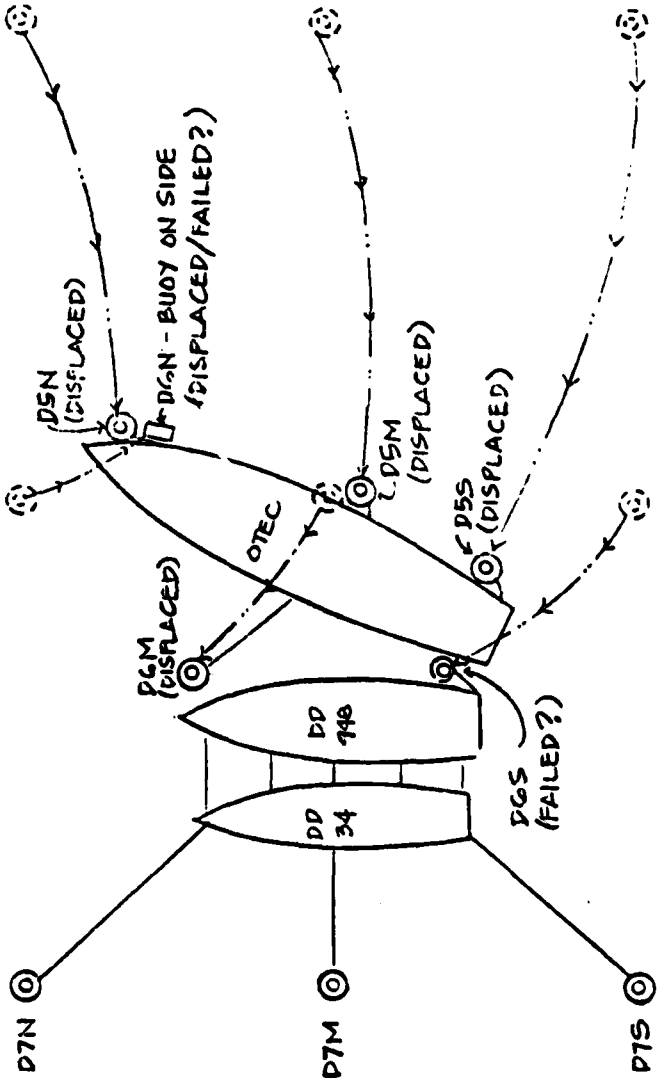

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FIG. (B)

END

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